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 distrbution 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)

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

BMT 200 [201.4cm³/rev.]

Pressure (MPa)

Flow (L/min)	4	8	10	12	16	20	24
	124	233	289	340	454	560	669
10	**47**	**46**	**45**	**42**	**39**	**37**	**33**
	125	239	298	347	468	576	696
20	**95**	**94**	**92**	**90**	**87**	**84**	**75**
	120	241	296	352	475	589	716
40	**195**	**193**	**191**	**187**	**183**	**178**	**167**
	116	237	295	352	478	589	718
60	**297**	**295**	**292**	**287**	**282**	**276**	**263**
	108	231	289	350	474	586	716
80	**395**	**393**	**389**	**384**	**377**	**370**	**359**
	99	227	286	344	471	580	712
100	**493**	**490**	**486**	**482**	**475**	**467**	**460**
Max.cont.	84	208	276	333	459	566	697
125	**615**	**611**	**607**	**602**	**595**	**588**	**572**
Max.int.	70	194	260	324	447	554	682
150	**743**	**740**	**735**	**727**	**717**	**706**	**682**

BMT 250 [251.8cm³/rev.]

Pressure (MPa)

Flow (L/min)	4	8	10	12	16	20	24
	138	286	355	419	559	689	824
10	**38**	**38**	**37**	**36**	**34**	**32**	**31**
	143	296	364	432	580	708	853
20	**76**	**75**	**74**	**72**	**70**	**67**	**62**
	139	301	372	440	593	723	884
40	**156**	**154**	**152**	**149**	**146**	**142**	**134**
	132	294	372	441	592	727	888
60	**237**	**236**	**233**	**229**	**224**	**219**	**207**
	128	283	364	433	587	721	887
80	**317**	**316**	**314**	**308**	**303**	**299**	**284**
	126	282	355	427	582	716	879
100	**396**	**394**	**391**	**387**	**381**	**373**	**359**
Max.cont.	116	260	340	414	568	703	864
125	**495**	**492**	**488**	**483**	**476**	**469**	**454**
Max.int.	88	242	320	397	552	686	847
150	**592**	**589**	**585**	**580**	**572**	**565**	**545**

Torque (N•m) 552
Speed (rpm) **572**

BMT 315 [326.3cm³/rev.]

Pressure (MPa)

Flow (L/min)	4	8	10	12	16	20	24
	184	363	453	545	734	891	1062
10	**30**	**29**	**28**	**27**	**26**	**25**	**23**
	189	380	472	562	757	917	1109
20	**60**	**59**	**58**	**56**	**54**	**52**	**50**
	191	381	484	570	774	954	1149
40	**121**	**120**	**118**	**115**	**112**	**109**	**104**
	189	376	493	573	772	962	1154
60	**183**	**181**	**179**	**175**	**172**	**168**	**158**
	179	369	479	565	768	954	1153
80	**244**	**242**	**239**	**236**	**231**	**227**	**217**
	169	357	467	562	758	942	1143
100	**305**	**304**	**301**	**298**	**294**	**289**	**276**
Max.cont.	147	336	447	544	745	920	1127
125	**380**	**378**	**375**	**371**	**367**	**362**	**349**
Max.int.	119	318	432	526	713	894	1097
150	**458**	**456**	**453**	**449**	**444**	**431**	**425**

Performance Data

BMT 400 [410.9cm³/rev.]

Pressure (MPa)

Flow (L/min)	3	6	9	12	15 (Max.cont.)	18	21 (Max.int.)
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**
125 (Max.cont.)	135 **302**	309 **300**	524 **298**	688 **294**	873 **289**	1045 **285**	1221 **278**
150 (Max.int.)	126 **364**	292 **362**	508 **358**	666 **354**	852 **350**	1020 **346**	1197 **339**

BMT 500 [523.6cm³/rev.]

Pressure (MPa)

Flow (L/min)	3	6	9	12	14 (Max.cont.)	16	18 (Max.int.)
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**
125 (Max.cont.)	182 **237**	398 **236**	641 **235**	877 233	1024 **231**	1199 **229**	1352 **225**
150 (Max.int.)	147 **284**	369 **283**	618 **282**	853 280	1004 **278**	1167 **276**	1325 **272**

BMT 630 [629.1cm³/rev.]

Pressure (MPa)

Flow (L/min)	3	6	9	10.5	12 (Max.cont.)	14	16 (Max.int.)
10	233 **14**	520 **14**	795 **13**	902 **13**	1074 **13**	1194 **11**	1363 **11**
20	237 **28**	554 **27**	837 **27**	953 **26**	1117 **26**	1239 **24**	1407 **22**
40	239 **62**	553 **62**	860 **61**	987 **60**	1171 **59**	1308 **56**	1483 **54**
60	223 **94**	544 **94**	863 **92**	978 **91**	1172 **90**	1318 **86**	1498 **82**
80	220 **123**	537 **122**	854 **121**	965 **119**	1172 **118**	1314 **114**	1497 **110**
100	208 **156**	522 **155**	832 **153**	945 **152**	1156 **150**	1303 **147**	1488 **142**
125 (Max.cont.)	201 **196**	499 **196**	810 **194**	931 **192**	1137 **191**	1292 **187**	1472 **183**
150 (Max.int.)	174 **233**	492 **232**	785 **231**	921 **230**	1121 **227**	1277 **223**	1454 **217**

Torque (N•m) 1121
Speed (rpm) **227**

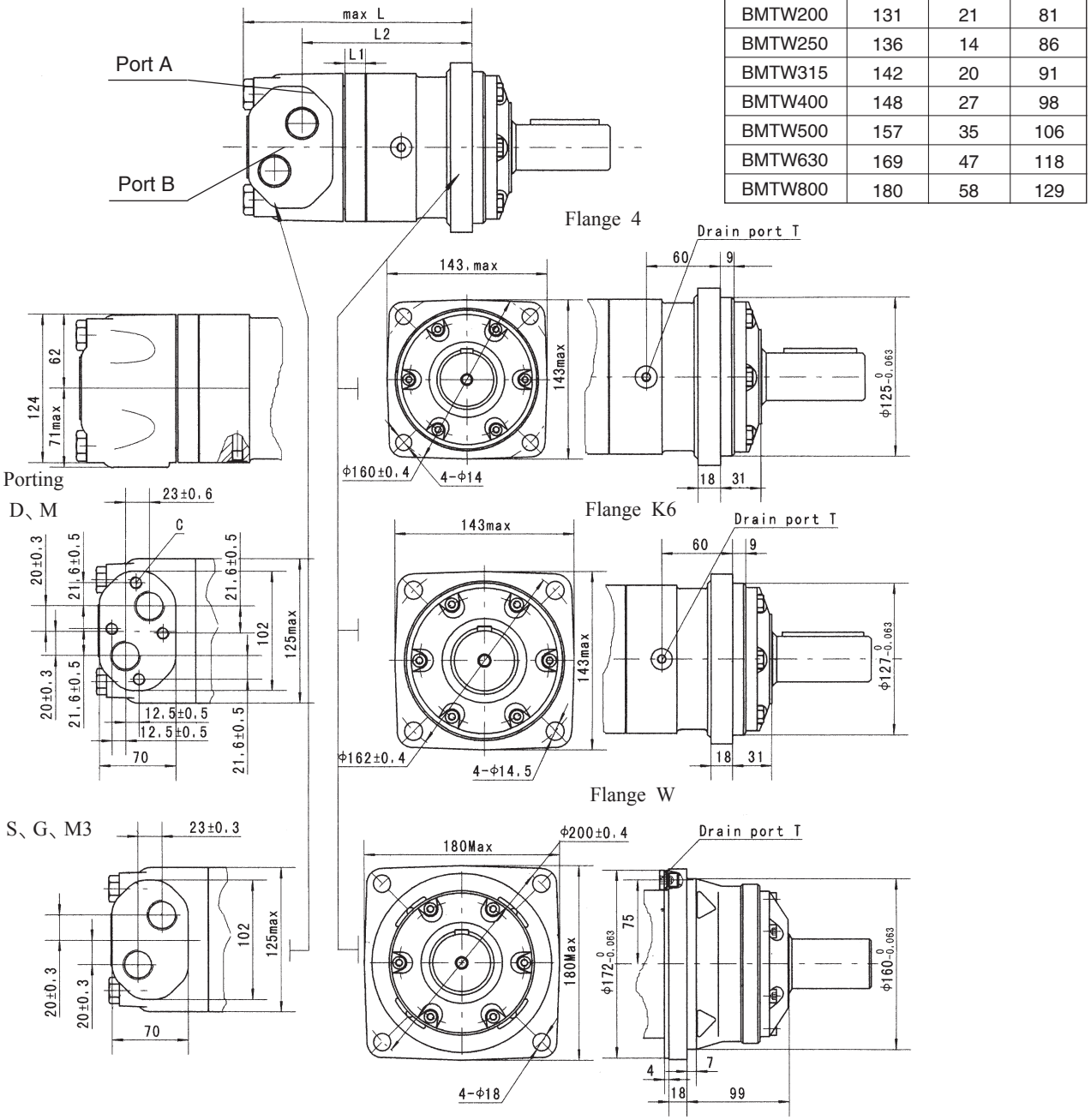
BMT 800 [801.8cm³/rev.]

Pressure (MPa)

Flow (L/min)	3	6	9	10.5	12.5 (Max.cont.)	13 (Max.int.)
10	346 **12**	677 **12**	1003 **11**	1159 **11**	1365 **11**	1390 **10**
20	356 **24**	692 **24**	1034 **24**	1183 **23**	1404 **22**	1458 **18**
40	365 **50**	703 **50**	1066 **49**	1236 **48**	1459 **46**	1516 **40**
60	354 **74**	703 **73**	1060 **71**	1237 **71**	1464 **68**	1520 **63**
80	332 **99**	686 **98**	1050 **98**	1226 **96**	1464 **93**	1514 **86**
100	305 **125**	654 **123**	1025 **123**	1207 **121**	1445 **118**	1506 **110**
125 (Max.cont.)	280 **154**	622 **153**	989 **153**	1181 **150**	1422 **149**	1487 **140**
150 (Max.int.)	247 **185**	590 **184**	953 **183**	1156 **181**	1406 **179**	1476 **172**

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

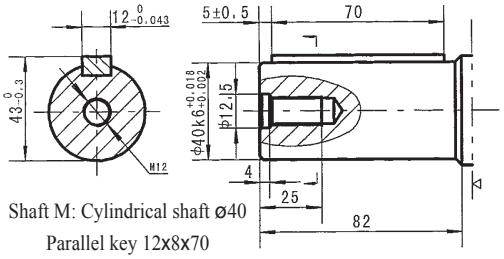


Model	L	L1	L2
BMT160	193	17	142.5
BMT200	197	21	146.5
BMT250	204	14	152.5
BMT315	210	20	158.5
BMT400	217	27	165.5
BMT500	225	35	173.5
BMT630	237	47	185.5
BMT800	248	58	196.5

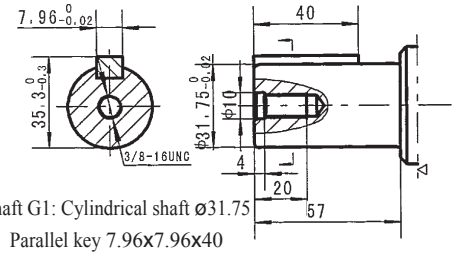
Content / Mounting	Code					
	D (depth)	M (depth)	S (depth)	G (depth)	M3 (depth)	S1 (depth)
P(A,B)	G3/4 (18)	M27 x 2 (18)	1-1/16-12UN (18)	G3/4 (18)	M27 x 2 (18)	1-1/16-12UN (18)
T	G1/4 (12)	M14 x 1.5 (12)	9/16-18UNF (12)	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF (12)
C	4-M10(10)	4-M10(10)	--	--	--	--

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.

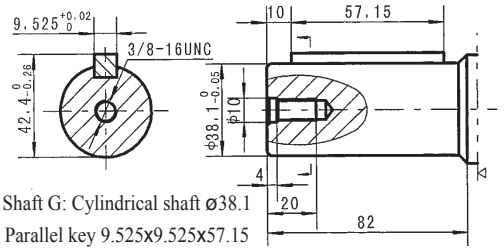
SHAFT EXTENSIONS FOR BMT(E) MOTORS



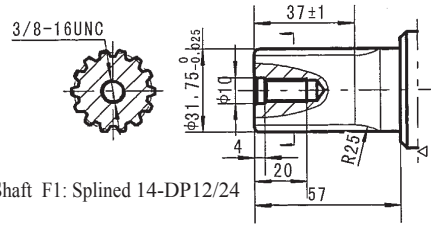
Shaft M: Cylindrical shaft ø40
Parallel key 12x8x70



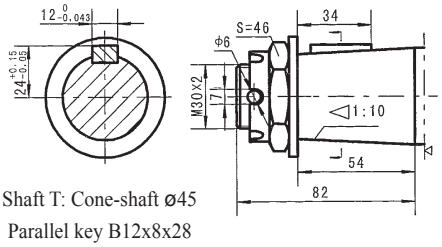
Shaft G1: Cylindrical shaft ø31.75
Parallel key 7.96x7.96x40



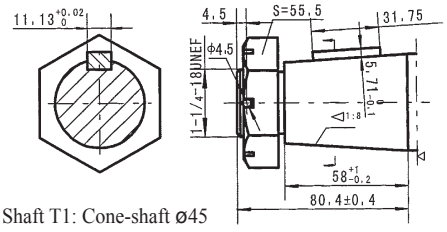
Shaft G: Cylindrical shaft ø38.1
Parallel key 9.525x9.525x57.15



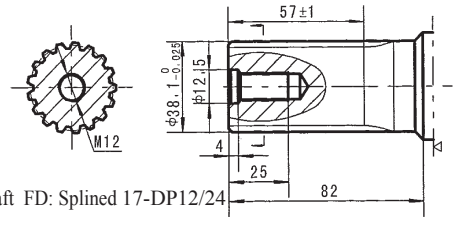
Shaft F1: Splined 14-DP12/24



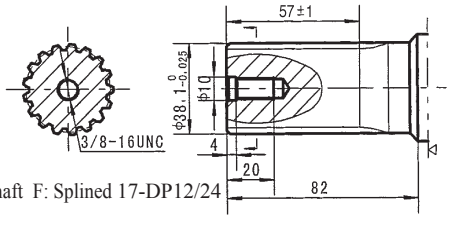
Shaft T: Cone-shaft ø45
Parallel key B12x8x28
Tightening torque:500±10Nm



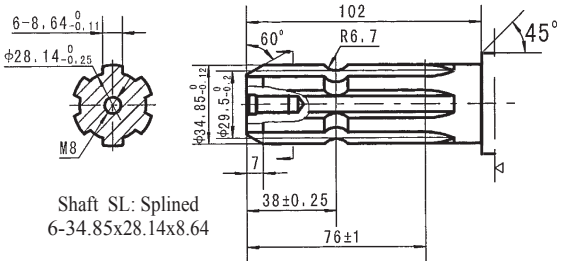
Shaft T1: Cone-shaft ø45
Parallel key 11.13x11.13x31.75
Tightening torque:500±10Nm



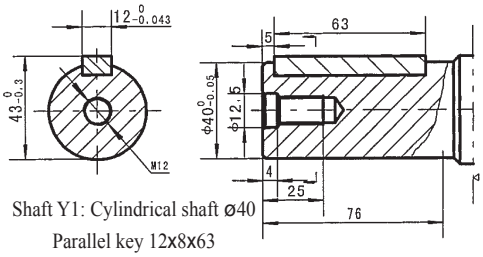
Shaft FD: Splined 17-DP12/24



Shaft F: Splined 17-DP12/24



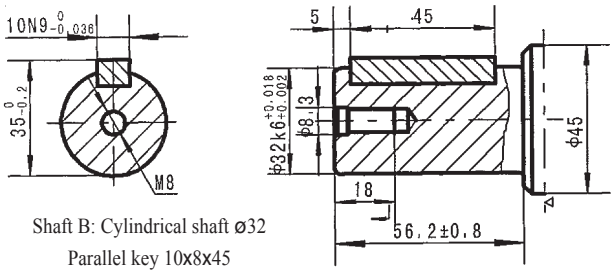
Shaft SL: Splined
6-34.85x28.14x8.64



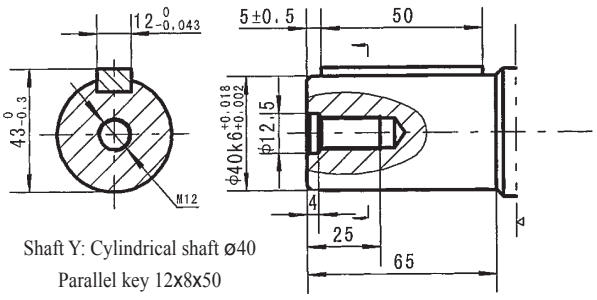
Shaft Y1: Cylindrical shaft ø40
Parallel key 12x8x63

▷ Motor Mounting Surface

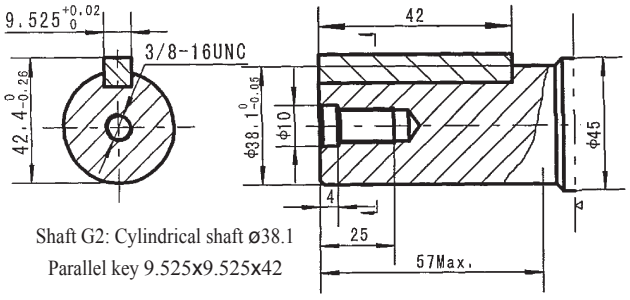
SHAFT EXTENSIONS FOR BMT(E) MOTORS



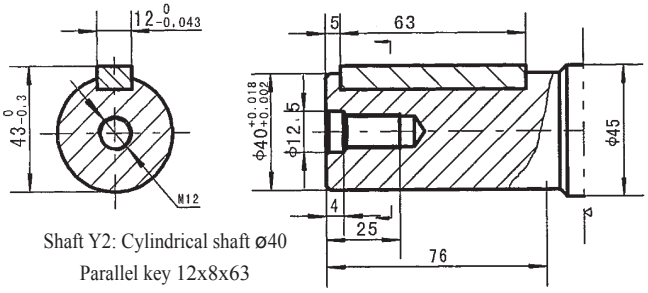
Shaft B: Cylindrical shaft ø32
Parallel key 10x8x45



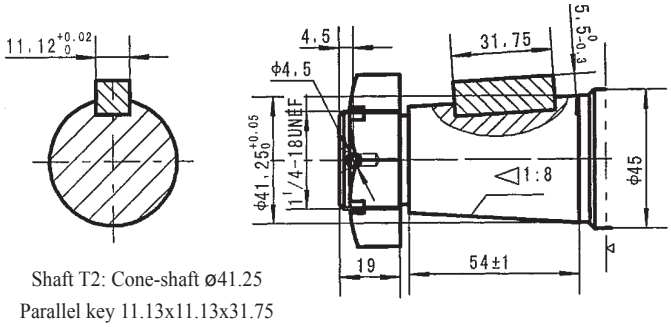
Shaft Y: Cylindrical shaft ø40
Parallel key 12x8x50



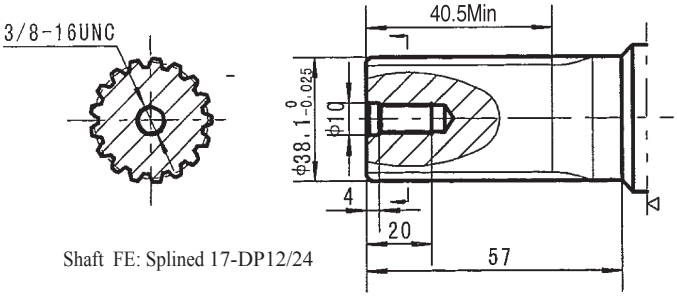
Shaft G2: Cylindrical shaft ø38.1
Parallel key 9.525x9.525x42



Shaft Y2: Cylindrical shaft ø40
Parallel key 12x8x63



Shaft T2: Cone-shaft ø41.25
Parallel key 11.13x11.13x31.75
Tightening torque:500±10Nm

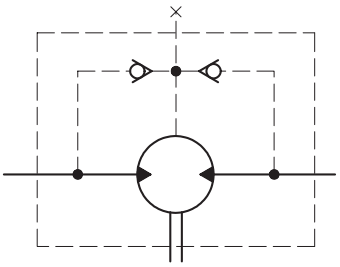


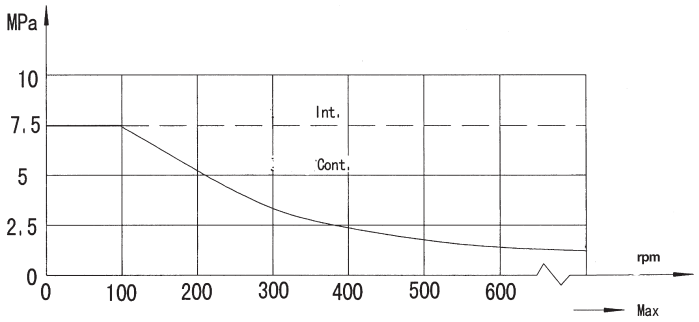
Shaft FE: Splined 17-DP12/24

▷ Motor Mounting Surface

BMT Series Hydraulic Motor

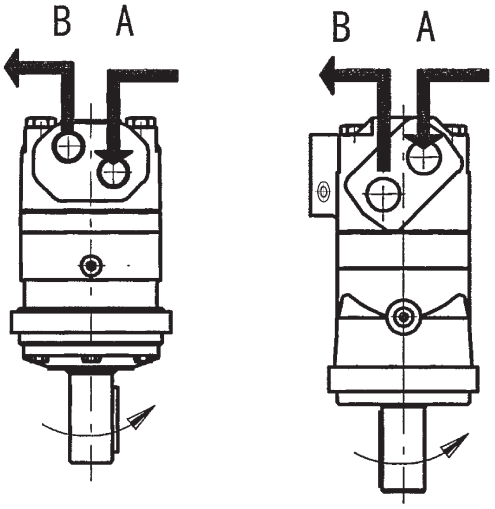
Permissible shaft seal pressure





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.

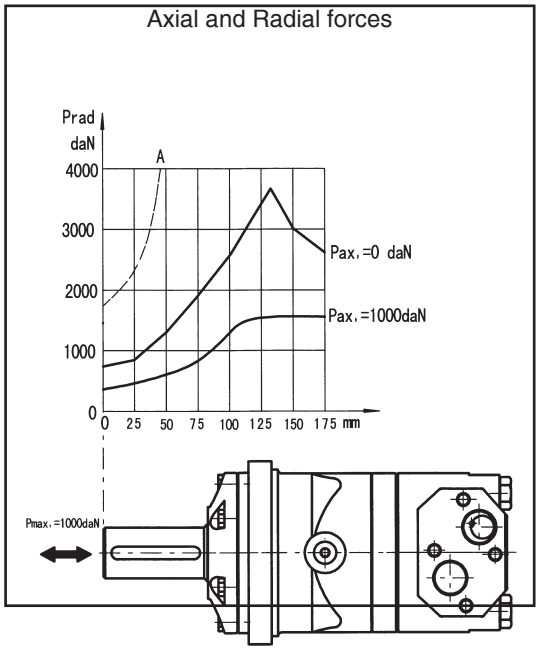


Oil flow in drain line

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

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.



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	–		–		–		–		–		–		–	
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	160 200 250 315 400 500 630 800	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	Standard	00	No paint	Omit	Standard
		K6	4-Ø14.5Square-flangeØ162, pilotØ127 × 9	G	Shaft Ø38.1 ,parallel key 9.52 × 9.52 × 57.15	M	M27 × 2 Manifold Mount,4-M10, M14 × 1.5	R	Opposite	Omit	Blue	F	Free Running
		W	4-Ø18 Wheel-flangeØ200, pilotØ160 × 7	F	Shaft Ø38.1 ,splined tooth 17-DP12/24	S	1-1/16-12UN O-ring, 9/16-18UNF			B	Black	LS	Low Speed
				FD	Shaft Ø38.1 ,splined tooth 17-DP12/24	S1	1-1/16-12UN O-ring, 7/16-20UNF			S	Silver grey		
				T	Cone-shaft 1:10 Ø45 ,parallel key B12 × 8 × 28	G	G3/4,G1/4						
				T1	Cone-shaft 1:8 Ø45 , parallel key 11.13 × 11.13 × 31.75	M3	M27 × 2,M14 × 1.5						
				SL	shaft Ø34.85,Splined key								
				G1	Splined key 6-34.85 × 28.14 × 8.64 shaftØ31.75 , parallel key 7.96 × 7.96 × 40								
				F1	Shaft Ø31.75,splined tooth 14-DP12/24								
BMTS		D	4-Ø14 Circle-flange Ø160, pilot Ø125 × 8	Omit	Short shaft 16-DP12/24								
		E	4-Ø14.5 Square-flange Ø162, pilot Ø127 × 10										