

Hydraulic Orbital Motors

BMT, BMTS, BMTW Series

Description

Orbital hydraulic motors of BMT series are dedicated to continuous work. Distribution valve is of disc type, driven separately by a short cardan shaft. This reduces internal hydraulic losses by separation of output shaft loads from hydraulic oil distribution. The tapered roller bearings on output shaft enable for absorbing static and dynamic radial loads, that can be significantly higher than in spool valve models. Gearwheel is equipped with rollers.

Features

- Displacement: 158.8 - 612.3 cm³/rev;
- Rotational speed range: 5 - 625 rpm;
- Maximum inlet pressure: 21 MPa;
- Maximum power: 20 - 25 kW.

Advantages

- Low pressure start;
- Reinforced shaft seal;
- High startup torque and ability to withstand significant back pressures;
- The ability to transfer axial and radial loads;
- Compact size and easy installation.

BMT motor



Technical Data

Catalogue Number	Displacement	Maximum Power	Maximum Pressure Drop	Maximum Inlet Pressure	Maximum Torque	Maximum Speed	Maximum Flow
	cm ³	kW	MPa	MPa	Nm	1/min	dm ³ /min
BMT*160	158.8	20	20.0	21.0	450	625	100
BMT*200	200.8	25	20.0	21.0	561	495	100
BMT*250	252.2	25	20.0	21.0	710	395	100
BMT*315	317.5	25	20.0	21.0	902	310	100
BMT*400	401.6	22	18.0	20.0	1008	245	100
BMT*500	535.3	21	16.0	19.0	1121	185	100
BMT*630	612.3	20	14.0	19.0	1092	155	100

* Wheel models BMTW, and short models BMTS are included.

1	2	3	4	5	6	7
BMT		160	4	M	D	B

1	Type	BMT	disc valve type orbital motor
2	Variant	omit S W	standard short version (plug-in model) wheel version
3	Displacement	160 200 250 315 400 500 630	158,8 cm ³ 200,8 cm ³ 252,2 cm ³ 317,5 cm ³ 401,6 cm ³ 535,3 cm ³ 636,1 cm ³
4	Flange	4 omit	square flange 4 mounting holes ø 14, pilot ø 125 BMTS, BMTW only standard flanges according to respective drawings
5	Shaft	F M K T1 omit	ø 38.1 splined shaft, 17T, DP 12/24, for BMT only ø 40 cylindrical shaft, parallel key 12x8x50, for BMT only ø 45 tapered shaft, 1:10, parallel key 12x8x25, for BMTW only ø 45 tapered shaft, 1:10, parallel key 12x8x25, for BMT only BMTS only standard shaft according to respective drawing
6	Ports	D omit	A, B ports G3/4" (15 deep), Drain port G1/4" (12 deep) BMTS, BMTW only standard ports: A, B ports G3/4" (15 deep), Drain port G1/4" (12 deep)
7	Paint	B omit	black paint no painting

Preferred versions are bolded

Performance Data

BMT160

		Pressure [MPa]					Max cont.	Max int.
		4	8	10	12	16	20	24
Flow [l/min]	10	85 61	169 60	219 59	264 57	347 55	429 51	514 45
	20	86 123	174 122	225 119	266 116	357 111	441 105	535 97
	40	87 254	173 251	226 248	266 241	366 235	452 228	550 216
	60	79 378	171 374	226 369	266 363	366 356	450 347	549 337
	80	75 502	166 499	220 495	265 488	364 480	447 472	544 457
Max cont.	100	67 626	154 623	209 618	258 610	355 602	437 594	536 581
Max int.	125	56 785	142 779	211 773	251 765	345 756	430 746	530 729

85
61 Torque: 85 [Nm]
Rotational speed: 61 [1/min]

**BMT200**

		Pressure [MPa]					Max cont.	Max int.
		4	8	10	12	16	20	24
Flow [l/min]	10	119 48	221 47	275 46	323 43	431 40	532 38	636 34
	20	120 97	227 96	283 94	330 92	445 89	547 86	661 77
	40	115 199	229 197	281 195	334 191	451 187	560 182	680 171
	60	111 306	225 301	280 298	334 296	454 288	560 282	682 269
	80	103 403	220 401	275 397	333 392	450 385	557 378	680 367
	100	94 503	216 500	272 496	327 492	447 485	551 477	676 470
Max cont.								
Max int.	125	80 627	198 623	262 619	316 614	436 607	538 600	662 584

119
48

Torque: 119 [Nm]
 Rotational speed: 48 [1/min]

BMT250

		Pressure [MPa]					Max cont.	Max int.
		4	8	10	12	16	20	24
Flow [l/min]	10	134 39	277 39	344 38	406 37	542 35	689 33	800 32
	20	139 78	287 77	353 76	419 74	563 72	708 69	828 64
	40	135 159	292 157	361 155	427 152	575 149	723 145	858 137
	60	128 242	285 241	361 238	428 234	574 228	705 223	861 211
	80	125 323	275 322	353 320	420 314	569 309	699 305	860 290
	100	123 404	274 402	344 399	414 395	565 389	695 380	853 366
Max cont.								
Max int.	125	113 505	252 502	330 498	402 492	551 485	682 478	838 463

BMT315

		Pressure [MPa]					Max cont.	Max int.
		4	8	10	12	16	20	24
Flow [l/min]	10	175 31	345 30	430 29	518 28	697 27	847 26	1011 24
	20	180 62	361 61	449 60	534 58	719 56	871 54	1054 52
	40	182 126	362 125	460 123	542 120	735 117	906 114	1092 109
	60	180 189	361 187	473 185	544 181	733 178	914 176	1096 166
	80	170 251	354 249	459 248	540 243	730 238	906 234	1095 224
	100	161 314	342 313	447 310	537 307	720 303	895 297	1086 284
Max cont.								
Max int.	125	140 391	321 389	427 386	519 382	708 378	874 373	1071 360



BMT400

		Pressure [MPa]					Max cont.	Max int.
		3	6	9	12	15	18	21
Flow [l/min]	10	165 25	343 24	524 23	669 22	827 21	982 20	1130 19
	20	167 51	346 50	528 49	679 46	841 44	1001 42	1156 40
	40	165 99	346 98	530 96	685 93	859 90	1020 86	1181 82
	60	163 149	338 147	526 143	682 139	860 135	1024 131	1187 125
	80	155 199	330 197	517 194	672 190	853 186	1014 182	1181 176
Max cont.	100	140 249	317 247	503 245	662 241	838 235	998 231	1171 225
Max int.	125	126 311	289 309	490 307	643 303	816 298	977 294	1142 287

165
25
Torque: 165 [Nm]
Rotational speed: 25 [1/min]

BMT500

		Pressure [MPa]					Max cont.	Max int.
		3	6	9	12	14	16	18
Flow [l/min]	10	204 18	415 18	637 18	821 17	966 16	1098 15	1233 13
	20	213 37	427 36	656 35	845 34	984 33	1122 32	1267 30
	40	212 75	429 74	669 73	866 72	1007 70	1145 68	1308 64
	60	207 113	421 112	657 111	866 109	1001 107	1146 105	1296 101
	80	196 151	397 150	640 149	853 147	990 145	1145 143	1289 138
Max cont.	100	179 189	387 188	626 187	829 185	978 183	1126 181	1272 177
Max int.	125	168 237	366 236	590 235	807 233	942 231	1103 229	1244 225

BMT630

		Pressure [MPa]					Max cont.	Max int.
			3	6	9	12	14	16
Flow [l/min]								
	20		240 31	480 30	747 28	951 27	1170 27	1340 26
	40		250 62	487 61	750 60	960 58	1201 57	1365 57
	60		235 88	475 86	748 85	958 84	1180 83	1369 82
	80		227 123	450 122	745 121	952 119	1198 117	1362 115
Max cont.	100		205 157	435 156	680 155	925 154	1152 153	1350 152
Max int.	125		197 196	421 194	663 192	910 190	1120 188	1320 185

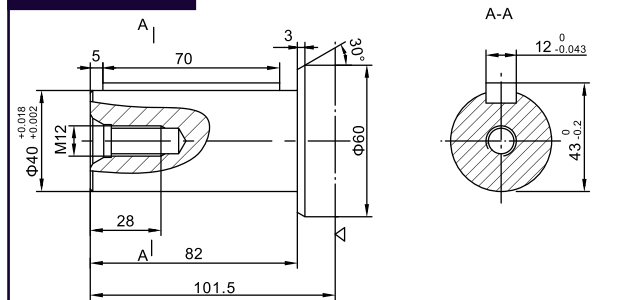


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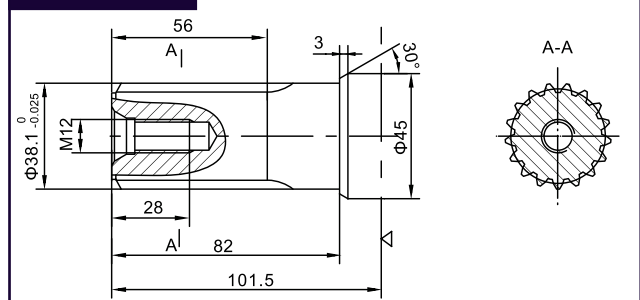


Shaft extensions

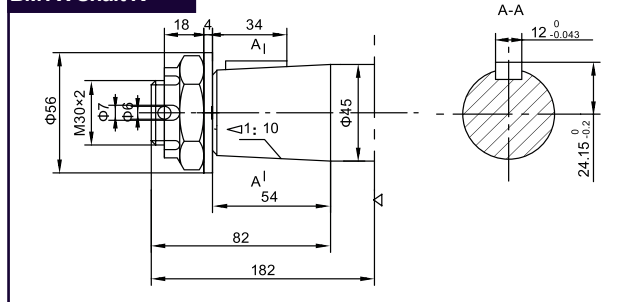
BMT Shaft M



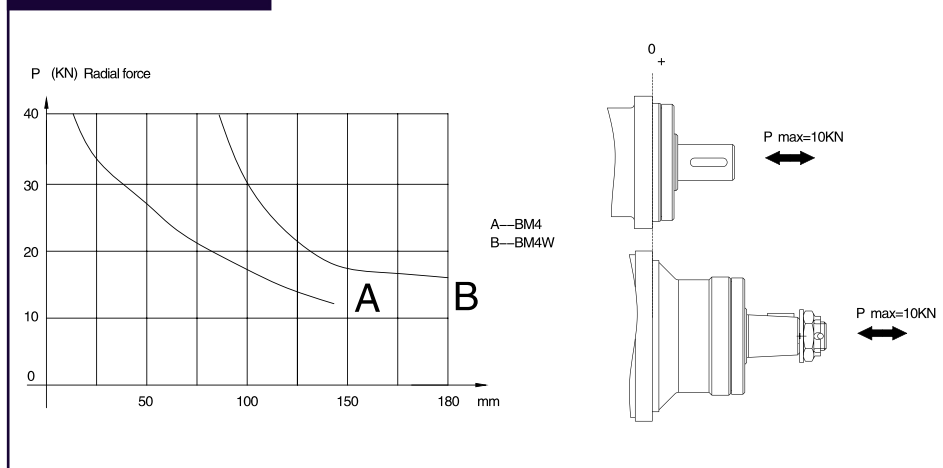
BMT Shaft F



BMTW Shaft K

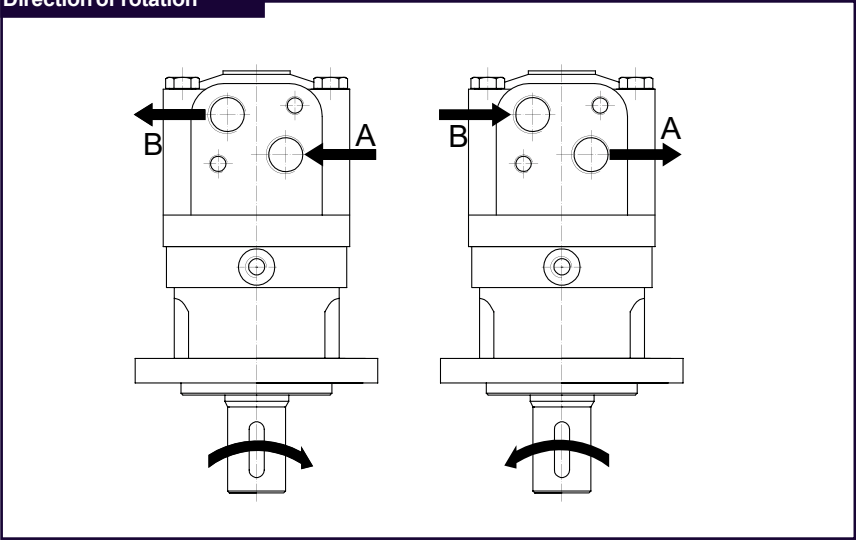


Axial and radial forces





Direction of rotation





Information

Technical information about other products can be found at rolltorq.com.

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HEKTOS
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Revision History

1. 2020-08 Release of rev. 1.
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3. 2022-01 Release of rev. 3.

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