

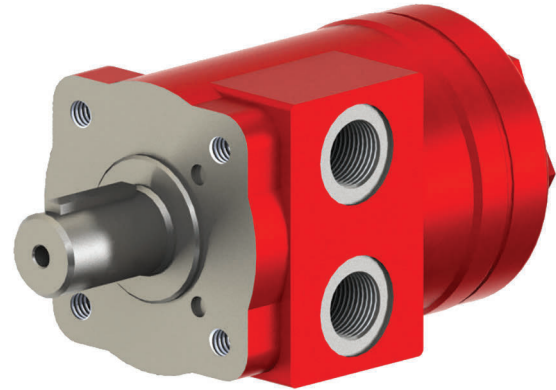
MB SERIES

LOW SPEED HIGH TORQUE MOTORS



EFFICIENT ROTARY POWER

The MB Series Low Speed High Torque Motor is available in 13 displacement sizes. The MB Series motor utilizes a spool valve design. This delivers high efficiencies across a broad speed and torque range. The MB Series motor is a compact, efficient solution to several industrial and mobile applications, including: food processing equipment, conveyors, agricultural equipment, and more.



KEY FEATURES

- Shaft and Mounting options to match the most common SAE standards.**
- Gerotor design provides an economical alternative to more complex roller designs.
- Low Port profile is suitable for application with limited space.
- Built in check valves increase seal life and offer versatility.
- Spool Valve design offers smooth operation over a wide range of speeds and torques.

MOTOR SPECIFICATIONS

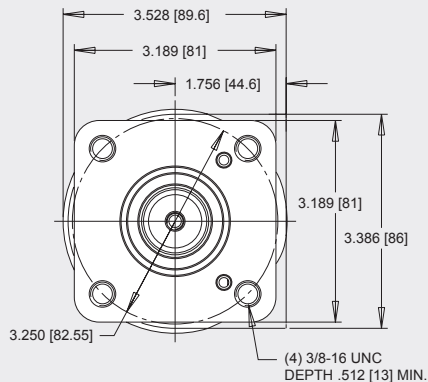
MODEL NUMBER	DISPLACEMENT IN ³ (CC)	MAX RPM* (CONTINUOUS)	MAX FLOW*		MAX TORQUE*		MAX PRESSURE*	
			GPM	LPM	LB-IN	NM	PSI	BAR
MB025	1.5 (24.6)	1361	9	35	301	34	1450	100
MB032	1.9 (30.8)	1244	11	40	372	42	1450	100
MB040	2.4 (39.7)	1124	12	45	584	66	1800	124
MB050	2.9 (48.2)	900	12	45	743	84	1800	124
MB060	3.6 (59.4)	880	14	53	903	102	1800	124
MB080	4.9 (79.6)	752	16	60	1133	128	1800	124
MB100	5.9 (96.0)	628	16	60	1398	158	1800	124
MB125	7.5 (122.8)	483	16	60	1788	202	1800	124
MB160	9.6 (158.0)	383	16	60	2222	251	1800	124
MB200	12.0 (196.5)	308	16	60	2425	274	1500	103
MB250	14.7 (240.5)	248	16	60	2806	317	1500	103
MB315	18.5 (303.2)	199	16	60	3505	396	1500	103
MB400	23.5 (385.8)	150	16	60	4248	480	1400	97

* Reference only, see performance data

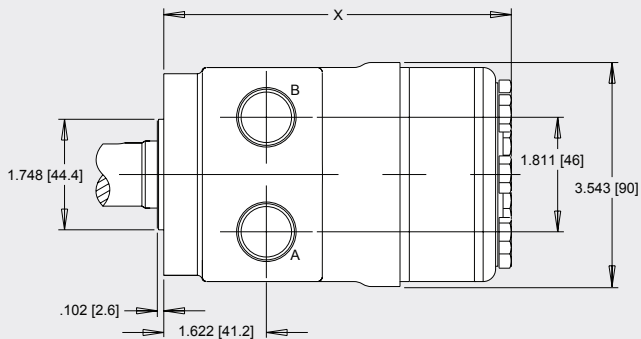
** Other options available, call for information and availability

DIMENSIONS

4 Bolt Square Flange - Code: "U"



Port Locations: 1/2" NPT - Code: "BN"
 Dash Size: -8
 7/8" O-Ring - Code: "FM"
 Dash Size: -10

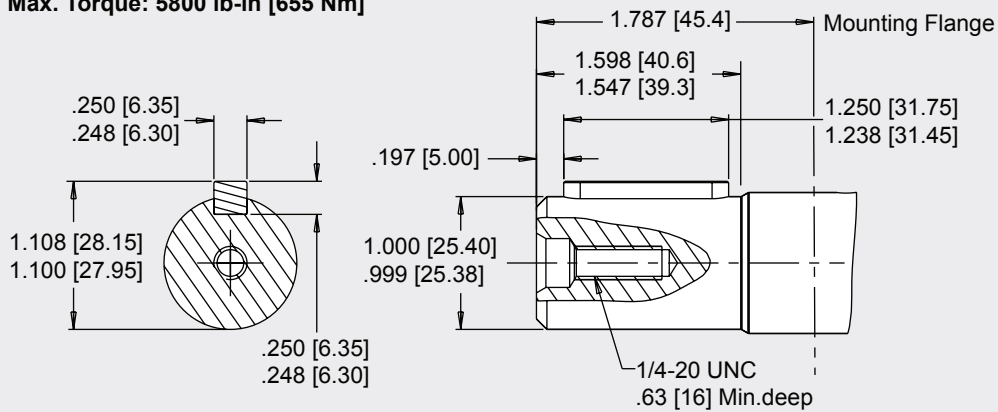


DIMENSION "X"								
MODEL	IN	MM	MODEL	IN	MM	MODEL	IN	MM
025	4.46	113.2	060	4.61	117.2	160	5.12	130
032	4.50	114.3	080	4.71	119.6	200	5.32	135.1
040	4.56	115.8	100	4.81	122.2	250	5.58	141.7
050	4.56	115.8	125	4.96	126	315	5.91	150.1
						400	6.35	161.2

SHAFT DIMENSIONS

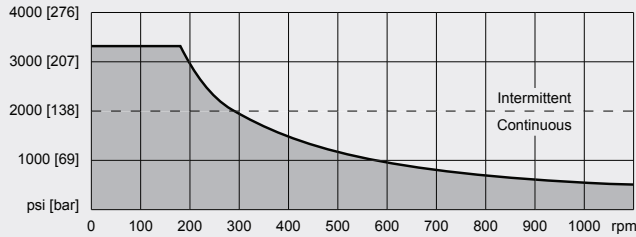
1" Straight - Code: "01"

Max. Torque: 5800 lb-in [655 Nm]

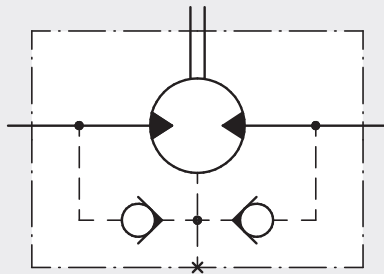


TECHNICAL SPECIFICATIONS

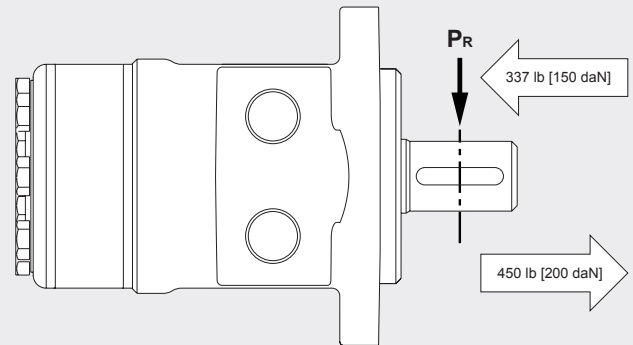
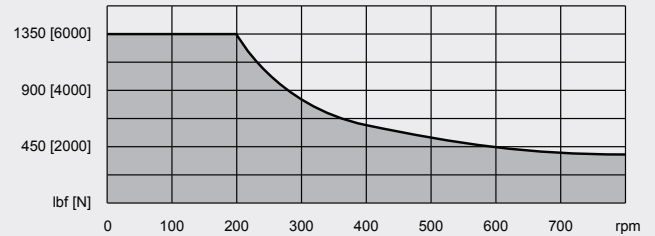
The curve below represents allowable seal pressure at various speeds. Operation in the gray area results in maintaining the rated life of the shaft seal. Actual shaft seal pressure depends on motor configuration.



*With check valves and drain connection, the shaft seal pressure equals pressure in the drain line. With check valves and no drain connection, shaft seal pressure is identical to output pressure. No check valves and no drain connection, the shaft seal pressure is identical to the average value of input and output pressure.



The bearing curve below represents the side load capacity of the motor at the centerline of the key for various motor speeds. Operating conditions within the shaded area will maintain acceptable oil film lubrication with recommended fluids. Operating conditions outside the shaded area are susceptible to motor failure due to oil starvation and/or excessive heat generation. Fluids with low lubricity or low viscosity may require the maximum load and speed ratings to be derated to provide acceptable motor life and performance.



MODEL NUMBER CONSTRUCTION

M-B-100-01-U-FM XXX-RR

Type:

M (Motor)

Series B

DISPLACEMENT			
MODEL CODE	IN ³ (CC)	MODEL CODE	IN ³ (CC)
025	1.5 (24.6)	100	5.9 (96.0)
032	1.9 (30.8)	125	7.5 (122.8)
040	2.4 (39.7)	160	9.6 (158.0)
050	2.9 (48.2)	200	12.0 (196.5)
060	3.6 (59.4)	250	14.7 (240.5)
080	4.9 (79.6)	315	18.5 (303.2)
		400	23.5 (385.8)

Special Features:

RR - Red Paint

Product Attributes:

XXX - None

Ports:

FM - 7/8"-14 O-Ring

BN - 1/2" NPT

Mounting Flange:

U - 4 Bolt Square

Shaft:

01 - 1" Straight (SAE B-B)

PERFORMANCE DATA

025

Pressure - psi [bars]			Max. Cont.	Max. Inter.	
435 [30]	870 [60]	1160 [80]	1450 [100]	1740 [120]	2030 [140]

1.5 in³/rev [25 cc]

Flow - gpm [lpm]
Max. Max. Inter. Cont.

Torque - lb-in [Nm], Speed rpm Intermittent Ratings - 10% of Operation

1.3 [5]	80 [9] 186	159 [18] 167	221 [25] 138	283 [32] 115	310 [35] 106	
2.6 [10]	80 [9] 388	177 [20] 350	230 [26] 316	301 [34] 285	327 [37] 255	407 [46] 217
4.0 [15]	71 [8] 568	168 [19] 536	239 [27] 206	292 [33] 485	336 [38] 447	416 [47] 402
5.3 [20]	71 [8] 780	168 [19] 736	230 [26] 688	292 [33] 658	336 [38] 628	416 [47] 598
6.6 [25]	62 [7] 970	159 [18] 922	230 [26] 885	292 [33] 855	327 [37] 830	407 [46] 780
7.9 [30]	53 [6] 1172	142 [16] 1120	212 [24] 1086	283 [32] 1046	319 [36] 1026	398 [45] 981
9.2 [35]	44 [5] 1361	115 [13] 1318	195 [22] 1285	266 [30] 1248	319 [36] 1212	381 [43] 1172
10.6 [40]		97 [11] 1502	177 [20] 1477	248 [28] 1439	310 [35] 1404	372 [42] 1365

Theoretical rpm
203
407
610
813
1016
1220
1423
1626

Overall Efficiency - 70 - 100% 40 - 69% 0 - 39%

Theoretical Torque - lb-in [Nm]

104 [12]	208 [24]	277 [31]	347 [39]	416 [47]	485 [55]
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Displacement tested at 113°F [45°C] with an oil viscosity of 46cSt [213 SUS]

032

Pressure - psi [bars]			Max. Cont.	Max. Inter.	
435 [30]	870 [60]	1160 [80]	1450 [100]	1740 [120]	2030 [140]

1.9 in³/rev [31 cc]

Flow - gpm [lpm]
Max. Max. Inter. Cont.

Torque - lb-in [Nm], Speed rpm Intermittent Ratings - 10% of Operation

1.3 [5]	106 [12] 150	212 [24] 133	283 [32] 100	354 [40] 68		
2.6 [10]	106 [12] 300	221 [25] 276	292 [33] 253	372 [42] 236	425 [48] 203	487 [55] 186
4.0 [15]	97 [11] 460	212 [24] 433	292 [33] 415	372 [42] 398	434 [49] 375	504 [57] 346
5.3 [20]	80 [9] 616	212 [24] 586	283 [32] 566	363 [41] 543	434 [49] 520	496 [56] 500
6.6 [25]	71 [8] 780	204 [23] 754	283 [32] 736	354 [40] 712	425 [48] 688	496 [56] 658
7.9 [30]	62 [7] 928	195 [22] 910	274 [31] 882	354 [40] 860	416 [47] 824	496 [56] 806
9.2 [35]	62 [7] 1090	186 [21] 1077	274 [31] 1057	336 [38] 1035	407 [46] 1008	487 [55] 980
10.6 [40]	53 [6] 1244	168 [19] 1214	257 [29] 1198	327 [37] 1177	407 [46] 1155	478 [54] 1130
11.9 [45]		150 [17] 1388	248 [28] 1362	327 [37] 1342	398 [45] 1326	478 [54] 1300

Theoretical rpm
162
325
487
649
812
974
1136
1299
1461

Overall Efficiency - 70 - 100% 40 - 69% 0 - 39%

Theoretical Torque - lb-in [Nm]

130 [15]	260 [29]	347 [39]	434 [49]	521 [59]	608 [69]
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Displacement tested at 113°F [45°C] with an oil viscosity of 46cSt [213 SUS]

040

Pressure - psi [bars]				Max. Cont.	Max. Inter.
300 [21]	600 [41]	900 [62]	1200 [83]	1500 [103]	1800 [124] 2250 [155]

2.4 in³/rev. [40 cc]

Flow - gpm [lpm]
Max. Max. Inter. Cont.

Torque - lb-in [Nm], Speed rpm Intermittent Ratings - 10% of Operation

2 [8]	89 [10] 182	177 [20] 169	257 [29] 128	354 [40] 90		
4 [15]	97 [11] 362	186 [21] 344	274 [31] 334	381 [43] 320	478 [54] 304	575 [65] 284
6 [23]	89 [10] 548	177 [20] 535	283 [32] 519	372 [42] 502	469 [53] 488	584 [66] 468
8 [30]	62 [7] 738	168 [19] 729	274 [31] 706	363 [41] 688	460 [52] 670	566 [64] 648
10 [38]	53 [6] 932	142 [16] 914	266 [30] 896	354 [40] 878	451 [51] 856	549 [62] 834
12 [45]	27 [3] 1124	124 [14] 1102	248 [28] 1084	336 [38] 1062	434 [49] 1043	531 [60] 1014
14 [53]		124 [14] 1312	221 [25] 1290	336 [38] 1266	425 [48] 1242	531 [60] 1218

Theoretical rpm
191
380
572
763
955
1144
1335

Overall Efficiency - 70 - 100% 40 - 69% 0 - 39%

Theoretical Torque - lb-in [Nm]

117 [13]	229 [26]	347 [39]	464 [52]	576 [65]	694 [78]	867 [98]
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Displacement tested at 113°F [45°C] with an oil viscosity of 46cSt [213 SUS]

050

Pressure - psi [bars]				Max. Cont.		Max. Inter.	
300 [21]	600 [41]	900 [62]	1200 [83]	1500 [103]	1800 [124]	2000 [138]	2500 [173]

2.9 in³/rev. [48 cc]

Flow - gpm [lpm]
Max. Max. Inter. Cont.

Torque - lb-in [Nm], Speed rpm									Intermittent Ratings - 10% of Operation	
2 [8]	124 [14] 148	230 [26] 143	354 [40] 130	354 [55] 116	575 [65] 102	726 [82] 86	779 [88] 75		158	Theoretical rpm
4 [15]	124 [14] 298	239 [27] 289	372 [42] 276	381 [56] 260	593 [67] 245	735 [83] 229	788 [89] 214	1009 [114] 166	313	
6 [23]	106 [12] 450	212 [24] 438	363 [41] 423	372 [54] 406	602 [68] 388	743 [84] 374	805 [91] 352	991 [112] 314	471	
8 [30]	80 [9] 602	186 [21] 590	336 [38] 580	363 [52] 555	575 [65] 540	717 [81] 523	779 [88] 508	974 [110] 475	629	
10 [38]	18 [2] 750	168 [19] 732	327 [37] 722	354 [51] 713	558 [63] 693	681 [77] 681	752 [85] 669	947 [107] 635	786	
12 [45]		150 [17] 900	292 [33] 885	336 [46] 875	531 [60] 860	646 [73] 848	735 [83] 830	929 [105] 794	942	
14 [53]			248 [28] 1012	336 [42] 1000	513 [58] 986	620 [70] 972	708 [80] 960	885 [100] 924	1100	

Overall Efficiency - 70 - 100% 40 - 69% 0 - 39%

Theoretical Torque - lb-in [Nm]							
143 [16]	278 [31]	422 [48]	564 [64]	700 [79]	842 [95]	937 [106]	1175 [133]

Displacement tested at 113°F [45°C] with an oil viscosity of 46cSt [213 SUS]

060

Pressure - psi [bars]				Max. Cont.		Max. Inter.	
300 [21]	600 [41]	900 [62]	1200 [83]	1500 [103]	1800 [124]	2000 [138]	2500 [173]

3.6 in³/rev. [59 cc]

Flow - gpm [lpm]
Max. Max. Inter. Cont.

Torque - lb-in [Nm], Speed rpm									Intermittent Ratings - 10% of Operation	
2 [8]	150 [17] 122	266 [30] 119	407 [46] 113	558 [63] 107	726 [82] 94	876 [99] 77	965 [109] 65		128	Theoretical rpm
4 [15]	142 [16] 247	283 [32] 243	425 [48] 236	575 [65] 223	726 [82] 209	903 [102] 192	974 [110] 180	1204 [136] 142	254	
6 [23]	133 [15] 371	257 [29] 367	416 [47] 360	584 [66] 347	717 [81] 330	876 [99] 315	947 [107] 304	1195 [135] 266	382	
8 [30]	106 [12] 496	230 [26] 492	389 [44] 484	549 [62] 470	699 [79] 457	850 [96] 436	929 [105] 425	1151 [130] 386	510	
10 [38]	71 [8] 626	204 [23] 618	354 [40] 608	531 [60] 596	681 [77] 582	832 [94] 567	920 [104] 558	1133 [128] 500	638	
12 [45]	18 [2] 752	177 [20] 744	327 [37] 735	513 [58] 727	664 [75] 716	805 [91] 696	885 [100] 680	1124 [127] 628	764	
14 [53]		133 [15] 880	274 [31] 870	425 [48] 862	628 [71] 847	770 [87] 830	858 [97] 800	1071 [121] 740	892	
16 [61]		71 [8] 970	239 [27] 958	398 [45] 944	566 [64] 932	726 [82] 924	823 [93] 902	1035 [117] 842	1020	

Overall Efficiency - 70 - 100% 40 - 69% 0 - 39%

Theoretical Torque - lb-in [Nm]							
176 [20]	343 [39]	520 [59]	695 [79]	862 [97]	1038 [117]	1155 [131]	1448 [164]

Displacement tested at 113°F [45°C] with an oil viscosity of 46cSt [213 SUS]

080

Pressure - psi [bars]				Max. Cont.		Max. Inter.	
300 [21]	600 [41]	900 [62]	1200 [83]	1500 [103]	1800 [124]	2000 [138]	2500 [173]

4.9 in³/rev. [80 cc]

Flow - gpm [lpm]
Max. Max. Inter. Cont.

Torque - lb-in [Nm], Speed rpm									Intermittent Ratings - 10% of Operation	
2 [8]	195 [22] 90	372 [42] 85	540 [61] 78	726 [82] 70	903 [102] 62	1097 [124] 52	1221 [138] 42		95	Theoretical rpm
4 [15]	177 [20] 187	381 [43] 182	549 [62] 176	743 [84] 167	947 [107] 154	1133 [128] 143	1248 [141] 136	1513 [171] 112	190	
6 [23]	168 [19] 286	363 [41] 276	558 [63] 268	735 [83] 257	920 [104] 248	1106 [125] 237	1230 [139] 227	1549 [175] 202	285	
8 [30]	115 [13] 378	336 [38] 372	540 [61] 364	726 [82] 354	903 [102] 342	1097 [124] 334	1212 [137] 324	1540 [174] 297	381	
10 [38]	71 [8] 474	310 [35] 469	513 [58] 460	708 [80] 448	894 [101] 440	1089 [123] 430	1195 [135] 416	1460 [165] 370	476	
12 [45]	18 [2] 564	257 [29] 558	487 [55] 550	664 [75] 540	885 [100] 530	1071 [121] 519	1177 [133] 504	1443 [163] 472	570	
14 [53]		230 [26] 662	425 [48] 658	620 [70] 648	850 [96] 637	1018 [115] 633	1151 [130] 609	1425 [161] 576	666	
16 [61]		177 [20] 752	389 [44] 734	602 [68] 724	752 [85] 716	929 [105] 700	1089 [123] 690	1363 [154] 663	761	
20 [76]		97 [11] 934	283 [32] 929	478 [54] 914	655 [74] 904	832 [94] 890	956 [108] 876	1310 [148] 814	951	

Overall Efficiency - 70 - 100% 40 - 69% 0 - 39%

Theoretical Torque - lb-in [Nm]							
236 [27]	460 [52]	697 [79]	931 [105]	1155 [131]	1391 [157]	1548 [175]	1941 [219]

Displacement tested at 113°F [45°C] with an oil viscosity of 46cSt [213 SUS]

100

Pressure - psi [bars]

Max. Cont.

Max. Inter.

300 [21]	600 [41]	900 [62]	1200 [83]	1500 [103]	1800 [124]	2000 [138]	2500 [173]
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5.9 in³/rev. [96 cc]

Torque - lb-in [Nm], Speed rpm

Intermittent Ratings - 10% of Operation

Flow - gpm [lpm]	2 [8]	248 [28] 76	504 [57] 71	726 [82] 65	956 [108] 54	1168 [132] 45	1398 [158] 33			79
	4 [15]	221 [25] 154	496 [56] 147	708 [80] 140	938 [106] 132	1151 [130] 122	1372 [155] 113	1460 [165] 104	1814 [205] 84	157
	6 [23]	204 [23] 235	443 [50] 226	673 [76] 219	920 [104] 212	1133 [128] 203	1354 [153] 193	1505 [170] 185	1876 [212] 162	236
	8 [30]	168 [19] 313	416 [47] 307	655 [74] 299	894 [104] 291	1106 [125] 281	1345 [152] 270	1478 [167] 264	1947 [220] 240	316
	10 [38]	133 [15] 392	381 [43] 389	628 [71] 384	858 [97] 375	1080 [122] 364	1319 [149] 353	1478 [167] 346	1929 [218] 314	395
	12 [45]	97 [11] 470	327 [37] 465	620 [70] 458	832 [94] 449	1062 [120] 437	1301 [147] 429	1434 [162] 426	1859 [210] 398	473
	14 [53]		292 [33] 550	531 [60] 545	770 [87] 532	1044 [118] 518	1266 [143] 510	1416 [160] 500	1832 [207] 473	552
	16 [61]		239 [27] 628	487 [55] 622	726 [82] 611	1009 [114] 598	1230 [139] 584	1328 [150] 575	1732 [196] 552	631
	76 [20]			327 [37] 786	593 [67] 770	823 [93] 758	1089 [123] 732	1221 [138] 716	1682 [190] 670	789

Overall Efficiency - 70 - 100% 40 - 69% 0 - 39%

Theoretical Torque - lb-in [Nm]

284 [32]	555 [63]	840 [95]	1123 [127]	1393 [157]	1678 [190]	1867 [211]	2340 [264]
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Displacement tested at 113°F [45°C] with an oil viscosity of 46cSt [213 SUS]

125

Pressure - psi [bars]

Max. Cont.

Max. Inter.

300 [21]	600 [41]	900 [62]	1200 [83]	1500 [103]	1800 [124]	2000 [138]	2500 [173]
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7.5 in³/rev. [123 cc]

Torque - lb-in [Nm], Speed rpm

Intermittent Ratings - 10% of Operation

Flow - gpm [lpm]	2 [8]	274 [31] 60	566 [64] 57	903 [102] 54	1204 [136] 48	1425 [161] 44	1708 [193] 38	1947 [220] 34		62
	4 [15]	266 [30] 120	558 [63] 118	894 [101] 115	1221 [138] 109	1487 [168] 102	1779 [201] 94	1991 [225] 87	2425 [274] 61	123
	6 [23]	266 [30] 183	549 [62] 179	876 [99] 175	1212 [137] 170	1478 [167] 165	1788 [202] 155	1974 [223] 148	2407 [272] 126	185
	8 [30]	248 [28] 242	522 [59] 240	850 [96] 237	1186 [134] 233	1460 [165] 228	1761 [199] 219	1947 [220] 205	2381 [269] 174	247
	10 [38]	195 [22] 301	478 [54] 299	823 [93] 295	1151 [130] 289	1425 [161] 282	1690 [191] 275	1903 [215] 265	2328 [263] 244	309
	12 [45]	133 [15] 362	425 [48] 360	761 [86] 356	1097 [124] 351	1381 [156] 345	1628 [184] 340	1850 [209] 329	2274 [257] 301	370
	14 [53]	80 [15] 424	363 [41] 422	708 [80] 419	1035 [117] 415	1319 [149] 410	1558 [176] 386	1805 [204] 376	2151 [243] 342	432
	16 [61]	18 [2] 483	283 [32] 477	620 [70] 470	920 [104] 463	1204 [136] 454	1460 [165] 444	1717 [194] 437	2062 [233] 412	493
	20 [76]		133 [15] 604	425 [48] 595	726 [82] 584	1080 [122] 573	1354 [153] 565	1575 [178] 556	1982 [224] 526	616

Overall Efficiency - 70 - 100% 40 - 69% 0 - 39%

Theoretical Torque - lb-in [Nm]

363 [41]	710 [80]	1075 [121]	1436 [162]	1782 [201]	2146 [242]	2388 [270]	2994 [338]
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Displacement tested at 113°F [45°C] with an oil viscosity of 46cSt [213 SUS]

160

Pressure - psi [bars]

Max. Cont.

Max. Inter.

300 [21]	600 [41]	900 [62]	1200 [83]	1500 [103]	1800 [124]	2000 [138]	2500 [173]
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9.6 in³/rev. [158 cc]

Torque - lb-in [Nm], Speed rpm

Intermittent Ratings - 10% of Operation

Flow - gpm [lpm]	2 [8]	372 [42] 47	779 [88] 45	1062 [120] 42	1487 [168] 36	1859 [210] 28	2177 [246] 20			48
	4 [15]	345 [39] 94	752 [85] 92	1106 [125] 89	1505 [170] 85	1867 [211] 79	2221 [251] 72	2513 [284] 64	3053 [345] 35	96
	6 [23]	336 [38] 143	699 [79] 140	1089 [123] 136	1487 [168] 130	1850 [209] 124	2195 [248] 116	2434 [275] 107	3106 [351] 84	144
	8 [30]	292 [33] 191	655 [74] 188	1044 [118] 184	1451 [164] 171	1832 [207] 171	2168 [245] 162	2390 [270] 154	2991 [338] 134	192
	10 [38]	221 [25] 238	602 [68] 236	1000 [113] 233	1407 [159] 229	1761 [199] 224	2133 [241] 218	2319 [262] 205	2885 [326] 183	240
	12 [45]	124 [14] 287	522 [59] 285	929 [105] 283	1328 [150] 281	1699 [192] 276	2062 [233] 270	2239 [253] 261	2717 [307] 235	287
	14 [53]	44 [5] 335	443 [50] 334	814 [92] 332	1239 [140] 329	1664 [188] 324	1920 [217] 319	2142 [242] 311	2637 [298] 281	335
	16 [61]		310 [35] 383	664 [75] 382	1062 [120] 378	1416 [160] 372	1814 [205] 363	2062 [233] 358	2558 [289] 333	384
	20 [76]		106 [12] 479	487 [55] 478	814 [92] 475	1195 [135] 469	1620 [183] 460	1805 [204] 455	2443 [276] 434	479

Overall Efficiency - 70 - 100% 40 - 69% 0 - 39%

Theoretical Torque - lb-in [Nm]

468 [53]	913 [103]	1380 [156]	1848 [209]	2293 [259]	2761 [312]	3073 [347]	3852 [435]
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Displacement tested at 113°F [45°C] with an oil viscosity of 46cSt [213 SUS]

200

Pressure - psi [bars]				Max. Cont.		Max. Inter.	
300 [21]	600 [41]	900 [62]	1200 [83]	1500 [103]	1800 [124]	2400 [166]	

12.0 in³/rev. [197 cc]

2 [8]
4 [15]
6 [23]
8 [30]
10 [38]
12 [45]
14 [53]
16 [61]
20 [76]

Torque - lb-in [Nm], Speed rpm								Intermittent Ratings - 10% of Operation	
460 [52] 38	965 [109] 35	1451 [164] 30	1929 [218] 23						39
443 [50] 76	991 [112] 74	1478 [167] 70	1947 [220] 64	2390 [270] 56	2744 [310] 48				77
425 [48] 115	974 [110] 113	1460 [165] 110	1929 [218] 105	2425 [274] 98	2761 [312] 92	3637 [411] 62			116
407 [46] 153	903 [102] 150	1407 [159] 146	1912 [216] 138	2372 [268] 132	2682 [303] 120	3593 [406] 86			154
319 [36] 192	814 [92] 190	1336 [151] 186	1823 [206] 181	2283 [258] 174	2567 [290] 163	3522 [398] 133			193
195 [22] 230	708 [80] 226	1257 [142] 223	1708 [193] 218	2089 [236] 210	2496 [282] 200	3416 [386] 167			231
44 [5] 268	620 [70] 266	1151 [130] 262	1558 [176] 258	1903 [215] 250	2407 [272] 240	3310 [374] 209			270
	513 [58] 308	1044 [118] 305	1381 [156] 299	1752 [198] 292	2239 [253] 284	3186 [360] 256			308
	372 [42] 384	779 [88] 381	1097 [124] 376	1531 [173] 372	1947 [220] 358	2903 [328] 330			385

39
77
116
154
193
231
270
308
385

Overall Efficiency - 70 - 100% 40 - 69% 0 - 39%

Theoretical Torque - lb-in [Nm]

582 [66]	1135 [128]	1717 [194]	2298 [260]	2852 [322]	3434 [388]	4597 [519]
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Displacement tested at 113°F [45°C] with an oil viscosity of 46cSt [213 SUS]

250

Pressure - psi [bars]				Max. Cont.		Max. Inter.	
300 [21]	600 [41]	900 [62]	1200 [83]	1400 [97]	1500 [103]	2000 [138]	2250 [155]

14.7 in³/rev. [241 cc]

2 [8]
4 [15]
6 [23]
8 [30]
10 [38]
12 [45]
14 [53]
16 [61]
20 [76]

Torque - lb-in [Nm], Speed rpm								Intermittent Ratings - 10% of Operation	
513 [58] 31	1044 [118] 30	1708 [193] 28	2292 [259] 23	2655 [300] 19					32
540 [61] 62	1080 [122] 61	1682 [190] 58	2248 [254] 55	2673 [302] 51	2805 [317] 47	2513 [414] 38	3983 [450] 27		63
513 [58] 94	1027 [116] 93	1637 [185] 92	2213 [250] 87	2611 [295] 83	2726 [308] 81	2434 [412] 67	3947 [446] 57		94
451 [51] 125	991 [112] 124	1575 [178] 121	2168 [245] 117	2567 [290] 113	2690 [304] 110	2390 [406] 97	3885 [439] 88		126
354 [40] 158	867 [98] 156	1496 [169] 155	2089 [236] 151	2513 [284] 147	2637 [298] 145	2319 [390] 136	3797 [429] 121		158
257 [29] 188	735 [83] 187	1381 [156] 186	2036 [230] 184	2451 [277] 180	2496 [282] 176	2239 [372] 164	3664 [414] 150		189
195 [22] 220	593 [67] 219	1221 [138] 217	1894 [214] 214	2319 [262] 211	2301 [260] 209	2142 [355] 194	3496 [395] 181		220
	460 [52] 248	1089 [123] 244	1682 [190] 241	2062 [233] 237	2159 [244] 235	2062 [335] 223	3328 [376] 210		252
	212 [24] 312	743 [84] 309	1460 [165] 305	1788 [202] 302	1841 [208] 300	1805 [298] 285	2965 [335] 268		315

32
63
94
126
158
189
220
252
315

Overall Efficiency - 70 - 100% 40 - 69% 0 - 39%

Theoretical Torque - lb-in [Nm]

712 [80]	1390 [157]	2101 [237]	2813 [318]	3288 [371]	3491 [394]	4677 [528]	5253 [594]
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Displacement tested at 113°F [45°C] with an oil viscosity of 46cSt [213 SUS]

315

Pressure - psi [bars]				Max. Cont.		Max. Inter.	
300 [21]	600 [41]	900 [62]	1300 [90]	1500 [103]	2000 [138]	2250 [155]	

12.0 in³/rev. [197 cc]

2 [8]
4 [15]
6 [23]
8 [30]
10 [38]
12 [45]
14 [53]
16 [61]
20 [76]

Torque - lb-in [Nm], Speed rpm								Intermittent Ratings - 10% of Operation	
779 [88] 25	1540 [174] 22	2257 [255] 20							25
788 [89] 49	1505 [170] 47	2328 [263] 43	3115 [352] 35	3505 [396] 30					50
690 [78] 74	1434 [162] 72	2177 [246] 69	3053 [345] 59	3469 [392] 54	4708 [532] 33	5098 [576] 22			75
531 [60] 101	1336 [151] 98	2124 [240] 95	3000 [339] 90	3416 [386] 84	4655 [526] 65	5009 [566] 53			100
531 [60] 125	1257 [142] 123	2036 [230] 121	2965 [335] 115	3363 [380] 112	4549 [514] 90	4938 [558] 80			125
327 [37] 147	1133 [128] 146	1947 [220] 143	2876 [325] 139	3275 [370] 132	4425 [500] 118	4744 [536] 105			150
133 [15] 175	956 [108] 174	1841 [208] 171	2814 [318] 166	3142 [355] 160	4301 [486] 138	4567 [516] 127			175
	779 [88] 199	1735 [196] 197	2655 [300] 187	3009 [340] 182	4115 [465] 166	4372 [494] 152			200
	531 [60] 250	1593 [180] 246	2478 [280] 240	2885 [326] 236	3912 [442] 217	4142 [494] 206			250

25
50
75
100
125
150
175
200
250

Overall Efficiency - 70 - 100% 40 - 69% 0 - 39%

Theoretical Torque - lb-in [Nm]

897 [101]	1752 [198]	2649 [299]	3846 [435]	4401 [497]	5896 [666]	6623 [748]
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Displacement tested at 113°F [45°C] with an oil viscosity of 46cSt [213 SUS]

400		Pressure - psi [bars]				Max. Cont.	Max. Inter.		
		300 [21]	600 [41]	1000 [69]	1200 [83]	1400 [97]	1750 [121]		
23.5 in ³ /rev. [386 cc]		Torque - lb-in [Nm], Speed rpm				Intermittent Ratings - 10% of Operation			
Flow - lpm [gpm]	2 [8]	929 [105] 19	1929 [218] 18	3186 [360] 14	3960 [417] 11			20	
	4 [15]	876 [99] 39	1832 [207] 37	3044 [344] 33	3637 [411] 28	4248 [480] 25	5151 [582] 17	39	
	6 [23]	805 [91] 59	1726 [195] 57	2974 [336] 52	3567 [403] 43	4260 [478] 39	5089 [575] 32	59	
	8 [30]	637 [72] 77	1646 [186] 75	2876 [325] 73	3522 [398] 67	4124 [466] 60	5036 [569] 49	79	
	10 [38]	549 [62] 100	1575 [178] 97	2779 [314] 93	3487 [394] 89	4053 [458] 81	4956 [560] 70	98	
	12 [45]	451 [51] 120	1451 [164] 117	2744 [310] 113	3345 [378] 109	3965 [448] 97	4868 [550] 84	118	
	14 [53]	336 [38] 137	1257 [142] 134	2513 [284] 131	3186 [360] 129	3797 [429] 124	4708 [532] 113	137	
	16 [61]	177 [20] 150	1071 [121] 154	2301 [260] 151	2991 [338] 148	3629 [410] 138	4522 [511] 130	157	
	20 [76]		867 [98] 189	2071 [234] 187	2726 [308] 185	3398 [384] 182	4301 [486] 178	196	
Max. Max. Inter. Cont.		Overall Efficiency - 70 - 100% <input type="checkbox"/> 40 - 69% <input type="checkbox"/> 0 - 39% <input type="checkbox"/>							
		Theoretical Torque - lb-in [Nm]							
		1142 [129]	2229 [252]	3751 [424]	4513 [510]	5274 [596]	6579 [743]		
		Displacement tested at 113°F [45°C] with an oil viscosity of 46cSt [213 SUS]							

To use charts, find the intersection point between 2 ratings (i.e. Pressure and Flow). This will give you the overall efficiency, as well as the actual torque & RPM for the given motor displacement. Intermittent Ratings are for motors that will be ran for less than 10% per minute. For motors that will be used longer, please refer to continuous use ratings.

OIL RECOMMENDATIONS

A good quality anti-foaming petroleum based fluid with anti-emulsion and anti-wear additives is recommended. Muncie does not promote specific manufacturer's brands of oil. Oil Viscosity Reference: Between 100 - 200 S.U.S. [20 - 43 cSt] at operating temperature is recommended. Fluid temperature should also be maintained below 180deg F [85deg C]. During cold weather, oil may thicken and not flow properly. Allow oil to warm up at slow speed. Your oil supplier should be consulted for your application needs.

