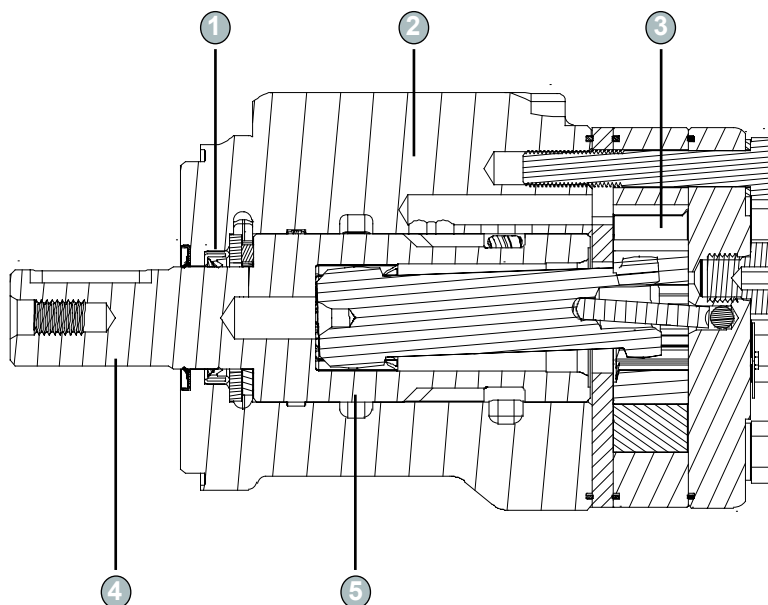




The WR Series motor incorporates the latest technology for increased efficiency and durability. WR features include high-pressure shaft seal, integral check valves, and optimized Roller Stator geometry with seven precision rollers which eliminate sliding friction and provide rolling contact between the rotor and stator for greater efficiency and longer life. In addition, a wide variety of mounting, shaft, motor displacement, and porting options are available to meet individual application needs.



- ① **High Pressure Shaft Seal** offers superior seal life and performance.
- ② **Built In Check Valves** in the housing offers versatility and increased seal life.
- ③ **Optimized Roller Stator®** geometry provides a smooth running high efficient product.
- ④ **Variety of Mounts and Shafts** provides flexibility in application design.
- ⑤ **Spool Valve Design** gives superior performance and smooth operation over a wide speed and torque range.

SPECIFICATIONS

CODE	Displacement cc [in ³ /rev]	Max. Speed rpm		Max. Flow lpm [gpm]		Max. Torque daNm [lb-in]		Max. Pressure bar [psi]		
		cont.	inter.	cont.	inter.	cont.	inter.	cont.	inter.	peak
040	41 [2.5]	1110	1300	45 [12]	53 [14]	8,0 [705]	9,9 [875]	138 [2000]	172 [2500]	224 [3250]
060	60 [3.6]	770	900	45 [12]	53 [14]	11,9 [1050]	14,6 [1290]	138 [2000]	172 [2500]	224 [3250]
070	70 [4.3]	870	1080	61 [16]	76 [20]	17,3 [1530]	20,7 [1835]	172 [2500]	207 [3000]	224 [3250]
090	88 [5.4]	690	860	61 [16]	76 [20]	21,8 [1925]	25,8 [2280]	172 [2500]	207 [3000]	224 [3250]
100	103 [6.3]	600	760	61 [16]	76 [20]	24,4 [2155]	29,0 [2565]	172 [2500]	207 [3000]	224 [3250]
115	113 [6.9]	540	680	61 [16]	76 [20]	27,1 [2400]	32,1 [2845]	172 [2500]	207 [3000]	224 [3250]
130	129 [7.9]	470	590	61 [16]	76 [20]	32,0 [2835]	36,9 [3265]	172 [2500]	207 [3000]	224 [3250]
160	161 [9.8]	375	470	61 [16]	76 [20]	38,1 [3370]	44,6 [3945]	172 [2500]	207 [3000]	224 [3250]
200	200 [12.2]	300	380	61 [16]	76 [20]	46,2 [4090]	54,4 [4810]	138 [2000]	207 [3000]	224 [3250]
240	241 [14.7]	250	320	61 [16]	76 [20]	54,7 [4845]	64,2 [5685]	103 [1500]	207 [3000]	207 [3000]
320	322 [19.7]	190	240	61 [16]	76 [20]	58,3 [5155]	69,3 [6135]	86 [1250]	121 [1750]	155 [2250]
400	400 [24.4]	150	190	61 [16]	76 [20]	63,1 [5585]	76,6 [6775]	69 [1000]	86 [1250]	138 [2000]

**040** 41 cc/rev [2.5 in³/rev]

Flow LPM [GPM]	Pressure, bars [psi]										Max. Cont.	Max. Inter.	Theo. RPM
	17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]	173 [2500]			
2 [0.5]	8 [68] 30												47
4 [1]	9 [77] 78												93
8 [2]	9 [83] 174	20 [173] 162	30 [262] 148	39 [347] 133	50 [442] 123	60 [527] 118	68 [602] 97						186
15 [4]	9 [78] 360	19 [170] 348	30 [262] 333	40 [353] 317	50 [443] 298	60 [531] 276	70 [617] 252	79 [697] 221	89 [783] 191	97 [855] 173			372
23 [6]	8 [68] 544	18 [160] 531	28 [252] 516	39 [344] 499	49 [435] 480	59 [526] 458	70 [615] 433	80 [704] 404	89 [790] 358	99 [873] 320			557
30 [8]	6 [56] 729	17 [147] 716	27 [240] 701	37 [332] 683	48 [424] 663	58 [515] 641	69 [606] 614	79 [696] 585	89 [785] 526	99 [872] 491			743
38 [10]	5 [41] 913	15 [133] 900	25 [225] 884	36 [317] 866	46 [410] 845	57 [502] 821	67 [593] 792	77 [683] 760	88 [775] 703	98 [863] 668			928
45 [12]	3 [26] 1097	13 [118] 1080	24 [209] 1066	34 [301] 1047	44 [393] 1026	55 [484] 1002	65 [577] 970	75 [668] 940	86 [760] 882	96 [851] 848			1114
Max. Cont. Max. Inter.	53 [14] 1275	11 [101] 1263	22 [191] 1247	32 [284] 1227	43 [377] 1202	53 [468] 1175	63 [560] 1145	74 [651] 1112					1299
Theo. Torque													
11 [99] 22 [198] 34 [297] 45 [396] 56 [495] 67 [594] 78 [694] 90 [793] 101 [892] 112 [991]													

060 60 cc/rev [3.6 in³/rev]

Flow LPM [GPM]	Pressure, bars [psi]										Max. Cont.	Max. Inter.	Theo. RPM
	17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]	173 [2500]			
8 [2]	14 [128] 121	29 [261] 114	44 [392] 106	59 [521] 98	73 [645] 86								128
15 [4]	13 [119] 248	29 [253] 240	44 [388] 231	59 [520] 220	74 [652] 208	88 [780] 193	102 [906] 171	118 [1047] 163	133 [1177] 145	146 [1289] 120			256
23 [6]	12 [105] 374	27 [240] 366	42 [375] 357	58 [511] 345	73 [643] 331	88 [775] 315	103 [907] 296	117 [1036] 276	131 [1161] 251	145 [1286] 226			383
30 [8]	10 [89] 502	25 [224] 494	40 [358] 484	56 [493] 472	71 [627] 458	86 [761] 440	101 [893] 424	116 [1025] 402	130 [1152] 367	144 [1276] 342			511
38 [10]	8 [72] 628	23 [204] 620	38 [339] 610	54 [474] 598	69 [608] 583	84 [742] 567	99 [876] 548	114 [1008] 528	129 [1139] 485	143 [1265] 461			639
45 [12]	6 [49] 753	21 [182] 745	36 [316] 735	51 [450] 723	66 [585] 709	81 [719] 695	96 [854] 676	112 [987] 652	126 [1119] 608	141 [1248] 581			766
Max. Cont. Max. Inter.	53 [14] 878	18 [164] 867	33 [294] 856	48 [428] 843	63 [562] 828	78 [693] 812	94 [828] 792	109 [962] 769					894
Theo. Torque													
16 [144] 33 [288] 49 [432] 65 [576] 81 [720] 98 [864] 114 [1008] 130 [1152] 146 [1296] 163 [1440]													

070 70 cc/rev [4.3 in³/rev]

Flow LPM [GPM]	Pressure, bars [psi]										Max. Cont.	Max. Inter.	Theo. RPM
	17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]	173 [2500]	190 [2750]	207 [3000]	
2 [0.5]	15 [129] 16	29 [256] 9											28
4 [1]	16 [139] 47	32 [280] 39	47 [416] 27	62 [547] 8									55
8 [2]	16 [145] 101	34 [298] 94	51 [450] 86	67 [592] 77	83 [732] 70	101 [890] 70							109
15 [4]	16 [142] 210	34 [299] 202	52 [456] 194	69 [613] 184	86 [765] 173	103 [913] 159	119 [1052] 144	135 [1198] 132	154 [1366] 121	173 [1530] 120			217
23 [6]	15 [130] 317	32 [287] 309	51 [448] 300	68 [606] 290	86 [759] 279	103 [914] 267	121 [1067] 252	137 [1215] 234	153 [1358] 212	169 [1494] 188	192 [1699] 210	207 [1836] 191	325
30 [8]	13 [113] 425	31 [271] 416	48 [429] 408	67 [589] 398	84 [746] 387	102 [902] 373	120 [1059] 358	137 [1211] 340	154 [1362] 320	170 [1506] 296	187 [1656] 271	202 [1791] 243	433
38 [10]	10 [92] 533	28 [250] 524	46 [409] 515	64 [568] 505	82 [726] 495	100 [883] 482	117 [1040] 465	135 [1194] 447	152 [1347] 426	169 [1497] 404	186 [1645] 366	202 [1788] 342	541
45 [12]	7 [64] 642	25 [224] 633	43 [383] 624	61 [542] 614	79 [701] 603	97 [859] 589	115 [1016] 572	132 [1172] 553	150 [1327] 532	167 [1479] 507	184 [1629] 466	201 [1779] 445	650
53 [14]	4 [35] 750	22 [194] 741	40 [353] 732	58 [512] 721	76 [671] 710	94 [830] 696	112 [989] 680	129 [1146] 663	147 [1301] 642	164 [1455] 618	182 [1608] 574	199 [1759] 549	758
Max. Cont. Max. Inter.	61 [16] 860	18 [161] 850	36 [320] 841	54 [480] 830	72 [639] 818	90 [798] 804	108 [956] 788	126 [1113] 770	144 [1270] 750	161 [1425] 726	179 [1581] 681	196 [1734] 652	866
68 [18]		15 [132] 954	32 [287] 943	51 [449] 931	69 [607] 918	86 [765] 903	104 [924] 887	122 [1082] 869	140 [1239] 849	157 [1394] 826			974
76 [20]		10 [89] 1064	28 [247] 1052	46 [406] 1041	64 [564] 1029	82 [722] 1015	99 [880] 1000	118 [1040] 981	135 [1198] 959	153 [1355] 935			1082
Theo. Torque													
19 [170] 38 [340] 58 [510] 77 [680] 96 [849] 115 [1019] 134 [1189] 154 [1359] 173 [1529] 192 [1699] 211 [1869] 230 [2039]													

Torque, Nm [lb-in]
Speed, RPM

Areas within white represent maximum motor efficiencies. DO NOT operate at maximum pressure and maximum flow simultaneously. Tested at 54°C [129°F] with an oil viscosity of 46 cSt [213 SUS]. **Note:** Performance data is typical. Performance of production units varies slightly from one motor to another.



090 88 cc/rev [5.4 in³/rev]

Flow LPM [GPM]	Pressure, bars [psi]										Max. Cont.	Max. Inter.	Theo. RPM
	17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]	173 [2500]	190 [2750]	207 [3000]	
2 [0.5]	19 [169] 15												22
4 [1]	20 [181] 38	40 [355] 32	56 [498] 8										44
8 [2]	21 [186] 80	43 [380] 75	64 [567] 68	84 [744] 60									87
15 [4]	21 [182] 167	43 [381] 160	65 [578] 153	88 [775] 146	110 [971] 137	132 [1165] 127	153 [1353] 114	172 [1526] 100	193 [1711] 95				173
23 [6]	19 [166] 252	41 [366] 246	64 [565] 239	86 [765] 230	109 [962] 220	131 [1158] 208	153 [1353] 194	176 [1554] 185	197 [1741] 168	217 [1924] 148	241 [2130] 146		259
30 [8]	16 [144] 338	39 [346] 331	62 [548] 324	84 [746] 316	106 [941] 306	129 [1146] 294	151 [1340] 280	173 [1531] 265	195 [1725] 248	216 [1911] 223	238 [2103] 206	258 [2282] 180	345
38 [10]	13 [118] 424	36 [318] 417	59 [519] 409	81 [720] 401	104 [919] 391	126 [1119] 379	149 [1316] 366	171 [1512] 351	193 [1707] 334	215 [1898] 313	236 [2086] 281	258 [2279] 259	431
45 [12]	9 [84] 510	33 [288] 503	55 [488] 496	78 [687] 489	100 [887] 479	123 [1087] 468	145 [1285] 454	167 [1482] 438	190 [1678] 420	212 [1872] 401	233 [2064] 361	255 [2255] 339	517
53 [14]	5 [48] 597	28 [252] 590	51 [452] 582	74 [652] 573	96 [853] 563	119 [1052] 552	141 [1252] 539	164 [1450] 524	186 [1647] 505	208 [1842] 484	230 [2033] 442	251 [2222] 420	603
61 [16]	2 [14] 682	24 [210] 676	46 [411] 668	69 [612] 660	92 [812] 650	114 [1012] 639	137 [1213] 625	159 [1411] 610	182 [1609] 591	204 [1804] 570	226 [1999] 527	248 [2191] 505	689
68 [18]		19 [170] 759	42 [369] 750	64 [569] 741	87 [771] 729	110 [971] 717	132 [1171] 703	155 [1369] 688	177 [1568] 668	199 [1762] 648			775
76 [20]		14 [127] 844	37 [325] 835	59 [522] 826	82 [726] 813	104 [924] 801	127 [1122] 787	150 [1324] 769	172 [1521] 751	194 [1715] 731			861
Theo. Torque													
	24 [214]	48 [427]	72 [641]	97 [855]	121 [1068]	145 [1282]	169 [1496]	193 [1709]	217 [1923]	241 [2137]	266 [2350]	290 [2564]	

100 103 cc/rev [6.3 in³/rev]

Flow LPM [GPM]	Pressure, bars [psi]										Max. Cont.	Max. Inter.	Theo. RPM
	17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]	173 [2500]	190 [2750]	207 [3000]	
2 [0.5]	20 [176] 9	43 [377] 7											19
4 [1]	22 [194] 34	45 [396] 27	67 [590] 9										38
8 [2]	23 [200] 72	47 [417] 68	71 [626] 64	95 [840] 59	123 [1092] 58	147 [1298] 51							76
15 [4]	22 [192] 148	47 [416] 144	72 [640] 139	98 [863] 134	122 [1082] 128	147 [1301] 120	171 [1510] 111	193 [1712] 101					152
23 [6]	20 [176] 223	45 [398] 219	71 [626] 215	96 [849] 207	122 [1077] 200	146 [1295] 194	171 [1513] 187	196 [1736] 178	220 [1950] 167	243 [2152] 153	275 [2432] 146		227
30 [8]	17 [151] 299	42 [376] 295	68 [602] 290	93 [824] 284	119 [1051] 277	144 [1277] 270	169 [1496] 262	194 [1720] 251	219 [1937] 240	244 [2156] 226	267 [2362] 198	290 [2567] 181	303
38 [10]	14 [122] 374	39 [347] 370	65 [573] 365	90 [797] 360	115 [1021] 353	142 [1253] 345	167 [1474] 336	192 [1698] 325	216 [1910] 314	241 [2128] 302	266 [2354] 276	289 [2562] 261	379
45 [12]	9 [84] 451	35 [309] 446	61 [537] 441	86 [762] 435	112 [988] 428	137 [1211] 421	162 [1436] 412	187 [1656] 401	213 [1882] 389	238 [2105] 375	261 [2314] 349	286 [2530] 333	454
53 [14]	5 [46] 526	31 [270] 521	56 [497] 516	81 [720] 511	107 [945] 505	132 [1170] 498	158 [1396] 489	183 [1620] 478	208 [1843] 466	233 [2063] 452	258 [2283] 421	283 [2501] 405	530
61 [16]	2 [15] 601	25 [224] 597	51 [451] 592	76 [675] 586	102 [899] 580	127 [1124] 572	152 [1349] 563	178 [1572] 553	203 [1798] 540	228 [2020] 525	254 [2243] 496	278 [2457] 480	605
68 [18]		21 [183] 670	46 [403] 665	71 [629] 659	97 [857] 651	122 [1079] 644	147 [1304] 634	172 [1525] 624	198 [1750] 610	223 [1972] 596			681
76 [20]		14 [125] 746	39 [348] 740	65 [573] 733	90 [801] 725	116 [1023] 717	141 [1245] 708	166 [1468] 697	192 [1696] 683	217 [1917] 669			757
Theo. Torque													
	27 [243]	55 [486]	82 [729]	110 [972]	137 [1216]	165 [1459]	192 [1702]	220 [1945]	247 [2188]	275 [2431]	302 [2674]	330 [2917]	

Torque, Nm [lb-in]
Speed, RPM

Areas within white represent maximum motor efficiencies. DO NOT operate at maximum pressure and maximum flow simultaneously. Tested at 54°C [129°F] with an oil viscosity of 46 cSt [213 SUS]. **Note:** Performance data is typical. Performance of production units varies slightly from one motor to another.

**115** 113 cc/rev [6.9 in³/rev]

Flow LPM [GPM]	Pressure, bars [psi]											Max. Cont.		Max. Inter.		Theo. RPM
	17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]	173 [2500]	190 [2750]	207 [3000]				
2 [0.5]	23 [202] 9	45 [401] 6												17		
4 [1]	25 [224] 30	50 [440] 15	72 [641] 8											34		
8 [2]	26 [234] 64	54 [478] 60	81 [717] 56	105 [926] 33	126 [1117] 13									68		
15 [4]	26 [228] 132	54 [482] 128	83 [735] 124	111 [985] 119	139 [1232] 113	166 [1473] 106	191 [1688] 99	215 [1905] 90						136		
23 [6]	24 [211] 199	52 [464] 195	81 [719] 191	110 [971] 185	138 [1222] 179	166 [1468] 173	194 [1712] 166	220 [1950] 157	247 [2185] 146	269 [2377] 132	303 [2684] 122			203		
30 [8]	21 [182] 267	49 [437] 262	78 [690] 258	106 [937] 253	135 [1194] 246	163 [1444] 239	191 [1687] 230	218 [1927] 220	245 [2165] 203	271 [2402] 189	296 [2619] 176	321 [2843] 164		271		
38 [10]	17 [147] 334	45 [401] 330	74 [657] 325	102 [906] 320	131 [1159] 313	159 [1411] 305	187 [1656] 296	215 [1899] 286	242 [2140] 276	268 [2375] 263	294 [2605] 245	320 [2835] 230		339		
45 [12]	12 [106] 401	41 [360] 397	69 [614] 392	98 [867] 387	126 [1117] 381	154 [1367] 373	183 [1616] 365	210 [1860] 355	237 [2102] 343	264 [2338] 330	291 [2573] 307	318 [2814] 293		406		
53 [14]	7 [62] 469	36 [315] 465	64 [568] 460	93 [820] 455	121 [1071] 448	149 [1319] 441	177 [1568] 432	204 [1809] 422	232 [2055] 411	259 [2294] 398	286 [2530] 370	312 [2765] 356		474		
61 [16]	2 [21] 535	29 [259] 532	58 [513] 527	87 [765] 522	115 [1016] 516	143 [1266] 509	171 [1516] 500	199 [1763] 489	227 [2006] 477	254 [2247] 463	280 [2481] 434	307 [2715] 420		542		
68 [18]		24 [208] 598	52 [458] 592	80 [710] 586	108 [959] 579	137 [1211] 570	165 [1457] 561	193 [1706] 549	220 [1948] 538	247 [2190] 524				609		
Max. Inter.	76 [20]	16 [139] 665	45 [397] 659	73 [646] 653	101 [896] 645	130 [1148] 637	158 [1396] 627	186 [1642] 617	213 [1888] 603	240 [2127] 590				677		
Theo. Torque																
31 [272] 61 [544] 92 [815] 123 [1087] 154 [1359] 184 [1631] 215 [1902] 246 [2174] 276 [2446] 307 [2718] 338 [2989] 369 [3261]																

130 129 cc/rev [7.9 in³/rev]

Flow LPM [GPM]	Pressure, bars [psi]											Max. Cont.		Max. Inter.		Theo. RPM
	17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]	173 [2500]	190 [2750]	207 [3000]				
2 [0.5]														15		
4 [1]	28 [247] 27													30		
8 [2]	30 [263] 56	61 [537] 53	92 [812] 51											59		
15 [4]	29 [260] 115	62 [548] 112	94 [835] 109	126 [1118] 105	158 [1395] 100	188 [1666] 95	224 [1984] 92							118		
23 [6]	27 [240] 174	60 [532] 171	93 [820] 167	125 [1109] 163	158 [1400] 159	190 [1678] 154	221 [1955] 147	252 [2229] 139	282 [2492] 129	321 [2837] 126				177		
30 [8]	24 [211] 232	57 [503] 229	90 [793] 226	122 [1081] 222	155 [1369] 217	187 [1653] 211	219 [1937] 202	250 [2211] 191	280 [2482] 183	310 [2743] 173	341 [3017] 163	369 [3267] 152		235		
38 [10]	20 [173] 291	52 [463] 287	85 [753] 284	118 [1045] 280	150 [1330] 275	183 [1618] 269	215 [1898] 261	246 [2176] 253	277 [2456] 243	308 [2727] 231	337 [2982] 211	368 [3253] 191		294		
45 [12]	14 [128] 349	47 [418] 346	80 [707] 342	113 [997] 338	145 [1285] 333	178 [1574] 327	209 [1854] 320	241 [2135] 311	273 [2412] 301	305 [2698] 289	333 [2944] 271	364 [3219] 258		353		
53 [14]	9 [76] 408	42 [368] 404	74 [656] 401	107 [943] 397	139 [1231] 392	171 [1515] 386	203 [1797] 379	235 [2083] 371	267 [2359] 361	298 [2634] 350	327 [2897] 327	358 [3172] 314		411		
61 [16]	3 [24] 466	35 [307] 463	67 [594] 460	100 [884] 456	132 [1172] 450	165 [1457] 444	197 [1741] 437	228 [2021] 428	260 [2299] 418	291 [2573] 407	322 [2845] 383	352 [3112] 372		470		
68 [18]		28 [246] 520	60 [530] 516	93 [821] 511	125 [1107] 506	158 [1396] 499	190 [1678] 492	222 [1960] 482	253 [2239] 471	284 [2513] 459				529		
Max. Inter. 76 [20]		20 [176] 579	52 [457] 575	84 [745] 570	117 [1036] 564	149 [1323] 557	181 [1605] 549	213 [1886] 540	245 [2166] 529	276 [2443] 517				588		
Theo. Torque																
35 [313] 71 [626] 106 [939] 142 [1253] 177 [1566] 212 [1879] 248 [2192] 283 [2505] 318 [2818] 354 [3131] 389 [3445] 425 [3758]																

Torque, Nm [lb-in]
Speed, RPM

Areas within white represent maximum motor efficiencies. DO NOT operate at maximum pressure and maximum flow simultaneously. Tested at 54°C [129°F] with an oil viscosity of 46 cSt [213 SUS]. **Note:** Performance data is typical. Performance of production units varies slightly from one motor to another.



160 161 cc/rev [9.8 in³/rev]

Flow LPM [GPM]	Pressure, bars [psi]											Max. Cont.	Max. Inter.	Theo. RPM	
	17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]	173 [2500]	190 [2750]	207 [3000]			
2 [0.5]	34 [302] 9	68 [602] 6												12	
4 [1]	37 [324] 22	72 [636] 9	107 [947] 8											24	
8 [2]	38 [336] 45	77 [683] 43	116 [1024] 41	152 [1341] 24	183 [1622] 8									47	
15 [4]	37 [330] 92	78 [691] 90	119 [1053] 88	159 [1409] 85	199 [1760] 82	237 [2101] 78	274 [2425] 73	308 [2728] 68	343 [3035] 62					94	
23 [6]	34 [302] 139	75 [665] 137	116 [1027] 134	157 [1386] 131	197 [1743] 128	236 [2093] 124	275 [2436] 119	313 [2767] 113	347 [3073] 105	381 [3371] 98				141	
30 [8]	29 [260] 186	70 [621] 184	111 [980] 181	151 [1338] 178	191 [1690] 174	230 [2040] 170	269 [2380] 164	307 [2712] 158	343 [3038] 150	380 [3362] 142	415 [3671] 130	446 [3945] 121		188	
38 [10]	24 [209] 232	64 [570] 230	105 [931] 228	145 [1287] 225	185 [1639] 221	225 [1990] 216	264 [2334] 210	301 [2666] 202	338 [2993] 193	375 [3315] 185	407 [3598] 171	441 [3905] 162		235	
45 [12]	18 [157] 279	58 [512] 277	98 [870] 274	139 [1226] 271	179 [1580] 267	218 [1926] 262	257 [2271] 256	294 [2602] 249	331 [2932] 240	368 [3257] 230	400 [3540] 214	435 [3851] 202		282	
53 [14]	11 [94] 325	51 [448] 324	91 [804] 321	131 [1161] 318	171 [1510] 314	210 [1857] 309	249 [2205] 302	286 [2529] 294	324 [2863] 285	360 [3188] 276	392 [3469] 257	427 [3777] 247		329	
61 [16]	2 [20] 372	42 [375] 370	82 [727] 368	122 [1084] 364	162 [1435] 360	202 [1788] 355	241 [2130] 349	279 [2468] 341	315 [2788] 331	352 [3115] 321	381 [3371] 302	417 [3689] 292		376	
68 [18]		33 [293] 415	72 [638] 413	112 [989] 409	151 [1335] 404	190 [1682] 399	228 [2020] 392	266 [2356] 384	304 [2690] 374	341 [3015] 363				423	
Max. Inter. <td>76 [20]</td> <td>23 [202] 462</td> <td>62 [545] 460</td> <td>101 [897] 456</td> <td>141 [1249] 451</td> <td>180 [1593] 445</td> <td>219 [1934] 438</td> <td>257 [2273] 429</td> <td>294 [2598] 419</td> <td>330 [2920] 408</td> <td></td> <td></td> <td></td> <td></td> <td>470</td>	76 [20]	23 [202] 462	62 [545] 460	101 [897] 456	141 [1249] 451	180 [1593] 445	219 [1934] 438	257 [2273] 429	294 [2598] 419	330 [2920] 408					470
Theo. Torque															
44 [391] 88 [782] 133 [1173] 177 [1564] 221 [1956] 265 [2347] 309 [2738] 354 [3129] 398 [3520] 442 [3911] 486 [4302] 530 [4693]															

200 200 cc/rev [12.2 in³/rev]

Flow LPM [GPM]	Pressure, bars [psi]											Max. Cont.		Max. Inter.		Theo. RPM
	17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]	173 [2500]	190 [2750]	207 [3000]				
2 [0.5]	40 [352] 8	82 [726] 7	122 [1083] 5	163 [1442] 4	207 [1830] 4									10		
4 [1]	43 [377] 17	88 [778] 16	131 [1157] 14	173 [1535] 12	215 [1900] 10	253 [2240] 7	295 [2614] 5	328 [2904] 2						19		
8 [2]	45 [395] 35	93 [824] 34	140 [1236] 32	185 [1635] 30	228 [2021] 28	270 [2390] 25	311 [2754] 22	350 [3093] 17	386 [3419] 12	428 [3789] 10				38		
15 [4]	44 [388] 72	95 [840] 70	145 [1281] 68	194 [1714] 65	241 [2131] 62	286 [2530] 59	330 [2916] 55	372 [3290] 51	417 [3686] 46	450 [3983] 41	494 [4376] 36	530 [4691] 30		76		
23 [6]	40 [351] 111	92 [812] 109	142 [1261] 106	192 [1700] 102	241 [2128] 98	288 [2546] 93	333 [2947] 88	377 [3339] 83	420 [3718] 79	461 [4083] 74	505 [4468] 68	544 [4812] 62		114		
30 [8]	33 [293] 150	87 [767] 147	138 [1225] 143	187 [1656] 139	236 [2089] 135	284 [2513] 129	330 [2922] 123	376 [3326] 117	420 [3716] 111	462 [4091] 105	504 [4457] 97	542 [4801] 91		152		
38 [10]		80 [711] 185	131 [1159] 181	181 [1600] 177	230 [2035] 172	278 [2462] 166	325 [2876] 159	371 [3279] 151	415 [3673] 144	459 [4058] 137	498 [4405] 128	540 [4780] 122		190		
45 [12]		73 [646] 223	123 [1091] 220	173 [1535] 215	223 [1969] 210	271 [2396] 204	318 [2814] 196	364 [3221] 187	409 [3618] 179	453 [4005] 171	491 [4349] 160	533 [4720] 153		228		
53 [14]		64 [564] 262	115 [1014] 258	165 [1456] 254	214 [1891] 248	262 [2319] 241	309 [2739] 233	356 [3147] 223	400 [3544] 214	444 [3933] 206	483 [4278] 194	525 [4649] 186		266		
61 [16]		55 [484] 300	105 [928] 296	155 [1371] 292	204 [1807] 286	253 [2236] 279	300 [2654] 271	346 [3064] 262	391 [3462] 251	434 [3845] 242	472 [4179] 229	514 [4548] 220		304		
68 [18]		46 [411] 336	93 [823] 333	143 [1262] 328	191 [1695] 322	240 [2121] 313	287 [2535] 304	332 [2941] 294	377 [3333] 283	420 [3715] 273				342		
Max. Inter. <td>76 [20]</td> <td></td> <td></td> <td>81 [721] 371</td> <td>130 [1155] 366</td> <td>179 [1584] 360</td> <td>227 [2011] 352</td> <td>275 [2430] 343</td> <td>321 [2837] 332</td> <td>365 [3234] 321</td> <td>409 [3615] 310</td> <td></td> <td></td> <td></td> <td>380</td>	76 [20]			81 [721] 371	130 [1155] 366	179 [1584] 360	227 [2011] 352	275 [2430] 343	321 [2837] 332	365 [3234] 321	409 [3615] 310				380	
Theo. Torque																
55 [484] 109 [968] 164 [1453] 219 [1937] 274 [2421] 328 [2905] 383 [3390] 438 [3874] 492 [4358] 547 [4842] 602 [5327] 657 [5811]																

Torque, Nm [lb-in]
Speed, RPM

Areas within white represent maximum motor efficiencies. DO NOT operate at maximum pressure and maximum flow simultaneously. Tested at 54°C [129°F] with an oil viscosity of 46 cSt [213 SUS]. **Note:** Performance data is typical. Performance of production units varies slightly from one motor to another.

**240** 241 cc/rev [14.7 in³/rev]

Flow LPM [GPM]	Pressure, bars [psi]										Max. Cont.		Max. Inter.		Theo. RPM
	17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]	173 [2500]	190 [2750]	207 [3000]			
2 [0.5]	47 [417] 7	98 [870] 6	148 [1306] 5	197 [1745] 3	247 [2188] 3										8
4 [1]	50 [446] 14	105 [932] 13	158 [1397] 12	210 [1855] 11	260 [2299] 9	307 [2720] 7	354 [3133] 4	404 [3572] 4							16
8 [2]	53 [466] 29	111 [986] 28	169 [1493] 27	224 [1979] 26	277 [2448] 24	327 [2894] 21	377 [3333] 19	424 [3753] 16	469 [4148] 11	511 [4521] 8	582 [5152] 8				32
15 [4]	52 [462] 60	113 [999] 59	174 [1536] 57	233 [2062] 56	291 [2572] 53	346 [3063] 50	399 [3535] 47	449 [3976] 44	496 [4386] 40	541 [4786] 36	598 [5295] 33	638 [5650] 28			63
23 [6]	47 [415] 93	108 [955] 91	168 [1485] 90	227 [2010] 88	285 [2526] 85	342 [3028] 81	397 [3510] 77	449 [3977] 71	500 [4421] 66	548 [4846] 60	595 [5267] 55	642 [5684] 52			95
30 [8]		102 [899] 123	162 [1432] 121	221 [1952] 119	279 [2469] 116	336 [2973] 111	391 [3461] 106	445 [3936] 100	497 [4395] 93	547 [4841] 87	593 [5247] 79	640 [5666] 73			126
38 [10]		94 [828] 155	154 [1360] 153	213 [1886] 150	271 [2399] 147	328 [2906] 142	384 [3396] 137	437 [3868] 131	489 [4330] 123	541 [4788] 115	587 [5193] 106	635 [5619] 99			158
45 [12]		85 [751] 186	144 [1277] 184	203 [1796] 182	262 [2315] 178	319 [2821] 173	375 [3314] 168	428 [3789] 160	480 [4248] 153	531 [4698] 145	575 [5091] 134	623 [5516] 125			189
53 [14]		74 [657] 218	134 [1183] 216	192 [1698] 214	250 [2212] 210	308 [2723] 205	374 [3311] 201	418 [3696] 191	470 [4159] 183	520 [4604] 174	564 [4992] 164	611 [5408] 154			220
61 [16]		67 [591] 249	122 [1078] 248	180 [1589] 245	238 [2106] 241	295 [2612] 236	351 [3105] 230	405 [3586] 222	458 [4049] 213	508 [4496] 205	551 [4879] 192	600 [5306] 183			252
68 [18]			107 [949] 279	165 [1464] 276	221 [1960] 272	279 [2468] 267	335 [2961] 260	388 [3438] 251	440 [3896] 241	490 [4335] 231					283
Max. Cont.			93 [823] 311	152 [1342] 307	208 [1837] 303	264 [2336] 297	320 [2834] 290	374 [3310] 282	426 [3774] 272	477 [4219] 261					315
Max. Inter.															
Theo. Torque															
66 [585] 132 [1171] 198 [1756] 265 [2341] 331 [2926] 397 [3512] 463 [4097] 529 [4682] 595 [5268] 661 [5853] 728 [6438] 794 [7024]															

320 322 cc/rev [19.7 in³/rev]

Flow LPM [GPM]	Pressure, bars [psi]										Max. Cont.		Max. Inter.		Theo. RPM
	17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]	173 [2500]					
2 [0.5]	64 [569] 5	130 [1153] 4	197 [1745] 2	264 [2333] 1								6			
4 [1]	68 [599] 10	140 [1239] 9	209 [1848] 8	276 [2438] 6	339 [2999] 5	403 [3570] 3						12			
8 [2]	71 [628] 22	148 [1312] 20	222 [1965] 19	293 [2590] 17	360 [3186] 16	425 [3764] 13	487 [4309] 11	537 [4753] 7	621 [5497] 6	659 [5832] 2		24			
15 [4]	71 [624] 45	151 [1337] 43	230 [2037] 41	307 [2716] 39	380 [3363] 37	450 [3983] 34	516 [4567] 32	577 [5104] 29	641 [5673] 25	690 [6111] 21		48			
23 [6]	64 [569] 69	146 [1288] 67	225 [1993] 65	303 [2682] 62	378 [3347] 59	450 [3979] 55	517 [4579] 51	582 [5154] 47	639 [5657] 44	693 [6133] 42		71			
30 [8]	57 [501] 93	138 [1218] 91	218 [1928] 88	296 [2619] 85	372 [3293] 81	445 [3937] 76	514 [4546] 71	580 [5130] 65	629 [5565] 60	688 [6091] 56		95			
38 [10]	47 [414] 116	127 [1128] 114	208 [1838] 112	286 [2532] 109	362 [3207] 105	436 [3858] 99	506 [4478] 93	572 [5065] 86	619 [5474] 78	679 [6006] 73		118			
45 [12]		115 [1017] 138	195 [1726] 136	274 [2423] 132	350 [3097] 128	424 [3751] 122	494 [4373] 115	561 [4962] 107	606 [5360] 98	665 [5886] 92		142			
53 [14]		101 [893] 162	180 [1595] 159	259 [2291] 156	335 [2965] 152	409 [3624] 145	481 [4253] 138	548 [4846] 130	590 [5223] 119	648 [5731] 111		165			
61 [16]		85 [753] 186	164 [1452] 183	242 [2142] 180	319 [2822] 175	393 [3481] 169	465 [4114] 161	533 [4717] 152	575 [5088] 141	631 [5587] 133		189			
68 [18]		64 [566] 209	140 [1243] 207	216 [1910] 203	290 [2565] 198	362 [3202] 191	431 [3818] 183	498 [4410] 173				213			
76 [20]		50 [441] 233	121 [1067] 230	196 [1734] 227	271 [2394] 221	342 [3029] 214	412 [3643] 206	478 [4234] 197				236			
Theo. Torque															
88 [780] 176 [1561] 265 [2341] 353 [3121] 441 [3901] 529 [4682] 617 [5462] 705 [6242] 794 [7022] 882 [7803]															
														Torque, Nm [lb-in] Speed, RPM	

Areas within white represent maximum motor efficiencies. DO NOT operate at maximum pressure and maximum flow simultaneously. Tested at 54°C [129°F] with an oil viscosity of 46 cSt [213 SUS]. **Note:** Performance data is typical. Performance of production units varies slightly from one motor to another.



400 400 cc/rev [24.4 in³/rev]

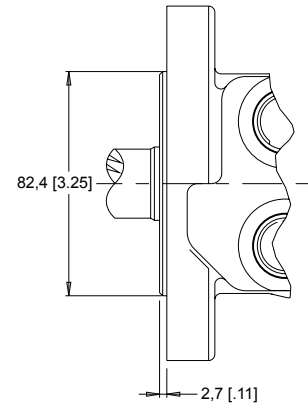
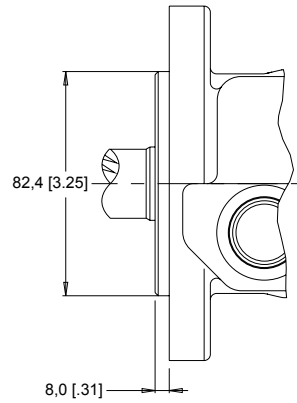
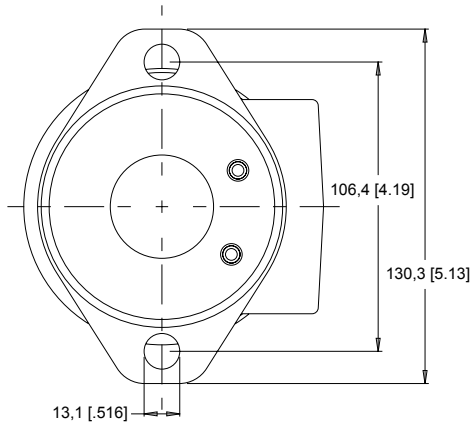
Flow LPM [GPM]		Pressure, bars [psi]							Max. Cont.		Max. Inter.		Theo. RPM
		17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]			
Max. Cont.	2 [0.5]	82 [723] 4	165 [1459] 4	250 [2214] 3	329 [2911] 2	418 [3702] 2	497 [4399] 1						5
	4 [1]	86 [761] 9	175 [1549] 8	262 [2317] 7	345 [3056] 7	427 [3776] 6	502 [4442] 4	577 [5108] 3	660 [5838] 2				10
	8 [2]	89 [791] 18	185 [1637] 17	276 [2445] 17	364 [3219] 16	448 [3962] 15	529 [4679] 13	606 [5362] 11	682 [6032] 9	739 [6540] 6			19
	15 [4]	87 [771] 36	187 [1653] 35	285 [2518] 34	378 [3346] 33	467 [4135] 32	551 [4873] 30	629 [5569] 28	698 [6180] 26	765 [6773] 25			38
	23 [6]	79 [703] 56	180 [1597] 55	279 [2465] 53	373 [3305] 52	464 [4110] 49	550 [4868] 46	631 [5587] 43	695 [6147] 39	757 [6695] 37			56
	30 [8]	70 [620] 75	171 [1511] 73	269 [2377] 72	364 [3217] 70	455 [4025] 67	541 [4787] 63	623 [5515] 58	677 [5991] 52	747 [6614] 48			75
	38 [10]	59 [523] 93	157 [1394] 92	255 [2260] 91	351 [3103] 89	442 [3913] 85	529 [4684] 80	611 [5410] 75	663 [5864] 67	734 [6492] 62			93
	45 [12]	46 [404] 112	142 [1260] 112	241 [2131] 110	335 [2968] 107	427 [3777] 103	513 [4543] 98	595 [5269] 92	645 [5705] 83	715 [6326] 77			112
	53 [14]		125 [1110] 130	223 [1974] 129	318 [2813] 126	409 [3622] 122	496 [4393] 116	578 [5115] 110	625 [5531] 99	694 [6144] 93			130
	61 [16]		107 [946] 149	203 [1800] 148	298 [2641] 145	390 [3448] 141	478 [4228] 135	560 [4959] 128	606 [5364] 117	673 [5956] 109			149
Max. Inter.	68 [18]		77 [684] 168	171 [1513] 166	263 [2328] 163	351 [3104] 158	436 [3855] 151	517 [4572] 143					167
	76 [20]		63 [556] 186	147 [1305] 185	240 [2122] 181	327 [2895] 176	412 [3646] 170	493 [4365] 162					186
Theo. Torque		112 [992]	224 [1984]	336 [2976]	448 [3968]	560 [4960]	673 [5952]	785 [6944]	897 [7935]	1009 [8927]			

Torque, Nm [lb-in]
Speed, RPM

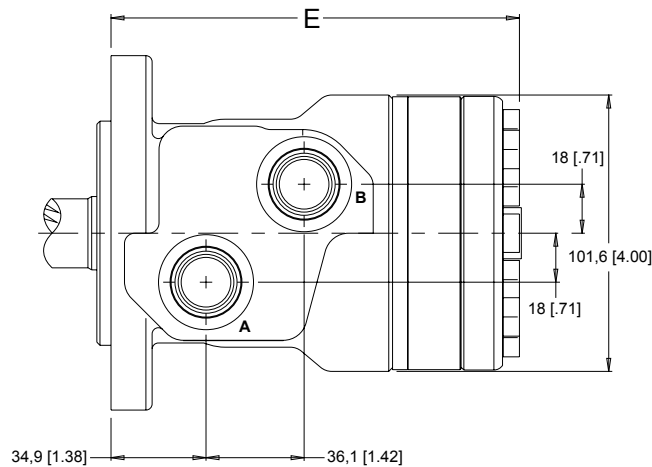
Areas within white represent maximum motor efficiencies. DO NOT operate at maximum pressure and maximum flow simultaneously. Tested at 54°C [129°F] with an oil viscosity of 46 cSt [213 SUS]. **Note:** Performance data is typical. Performance of production units varies slightly from one motor to another.



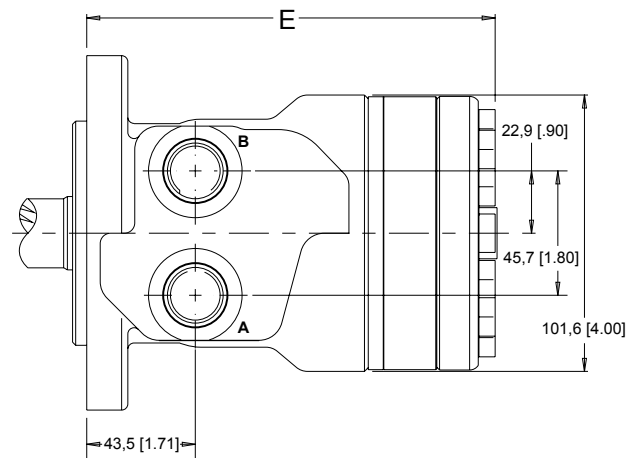
SAE A FLANGE



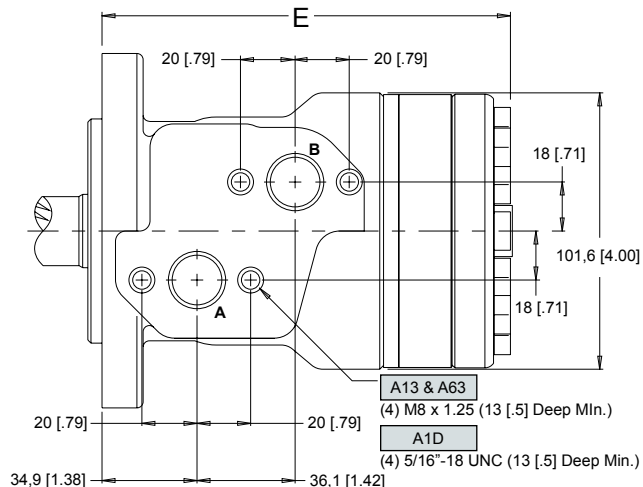
- A12** 2-Hole Offset Ports 1/2" BSP.F
- A19** 2-Hole Offset Ports 7/8" O-Ring
- A62** 2-Hole Offset Ports 1/2" BSP.F with Tall Pilot



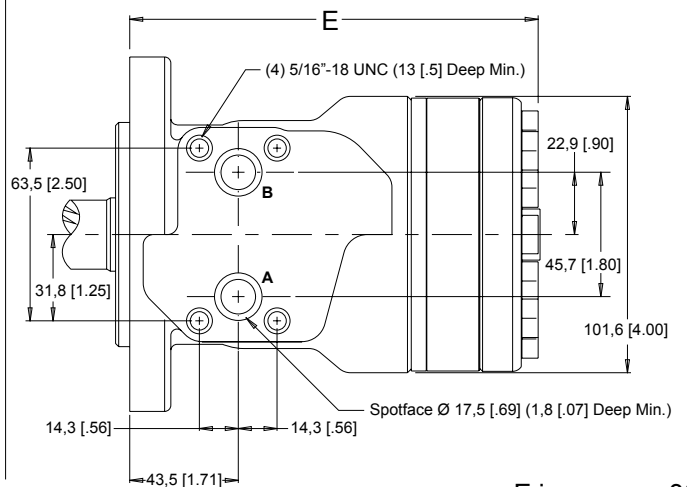
- A10** 2-Hole Front Ports 1/2" NPT
- A11** 2-Hole Front Ports 7/8" O-Ring



- A13** 2-Hole Offset Manifold Ports 1/2" BSP.F
- A1D** 2-Hole Offset Manifold Ports 7/8" O-Ring
- A63** 2-Hole Offset Manifold Ports 1/2" BSP.F with Tall Pilot



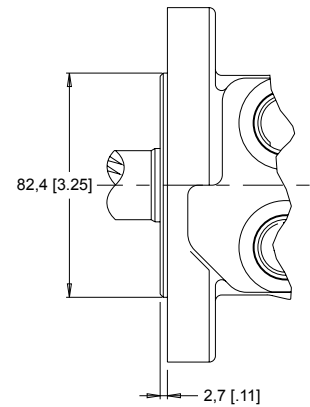
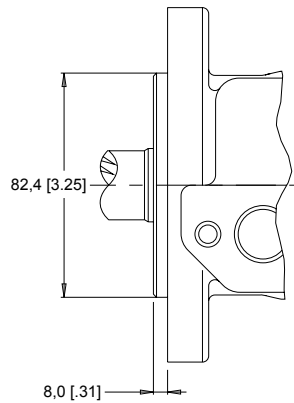
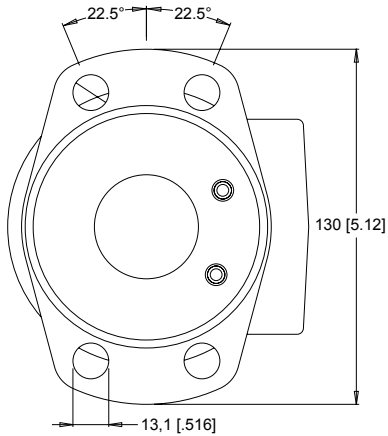
- A17** 2-Hole Manifold Ports 1/2" Drilled



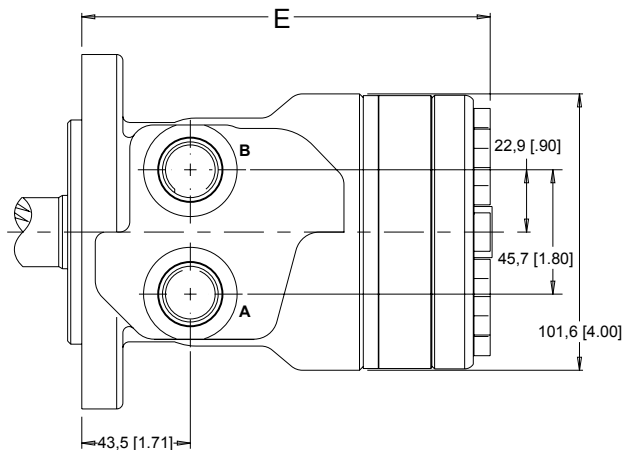
E is on page 30



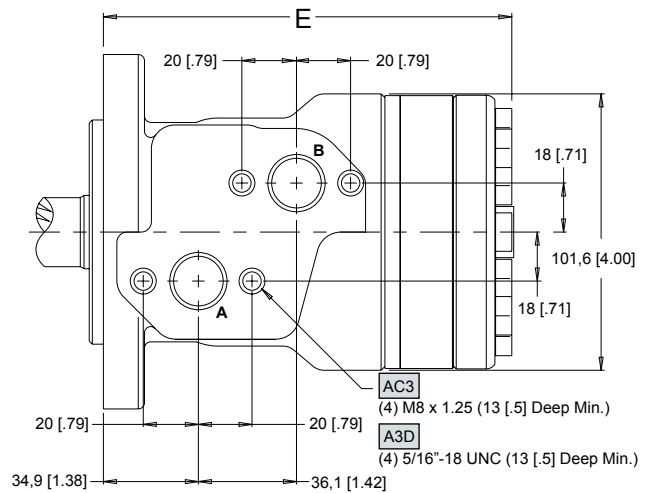
SAE A FLANGE



- A30** 4-Hole Front Ports 1/2" NPT
- A31** 4-Hole Front Ports 7/8" O-Ring



- AC3** 4-Hole Offset Manifold Ports 1/2" BSP.F with Tall Pilot
- A33** 4-Hole Offset Manifold Ports 1/2" BSP.F
- A3D** 4-Hole Offset Manifold Ports 7/8" O-Ring

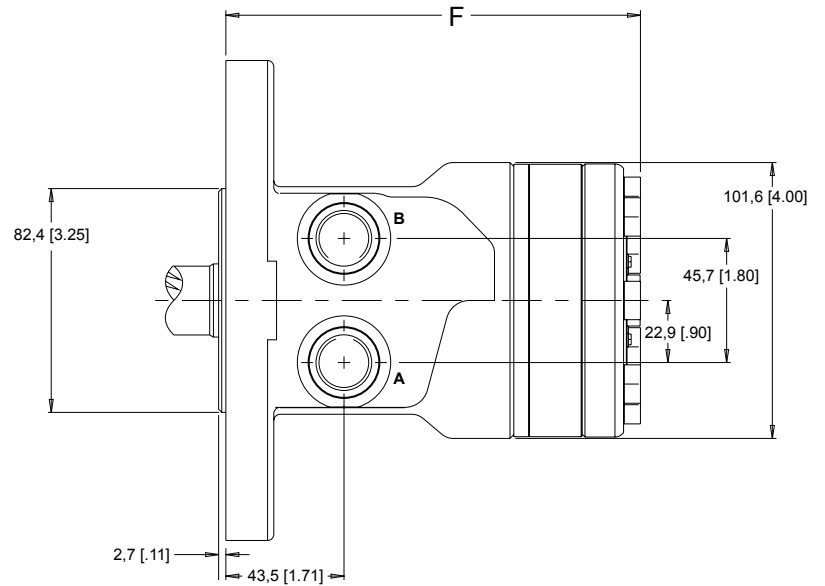
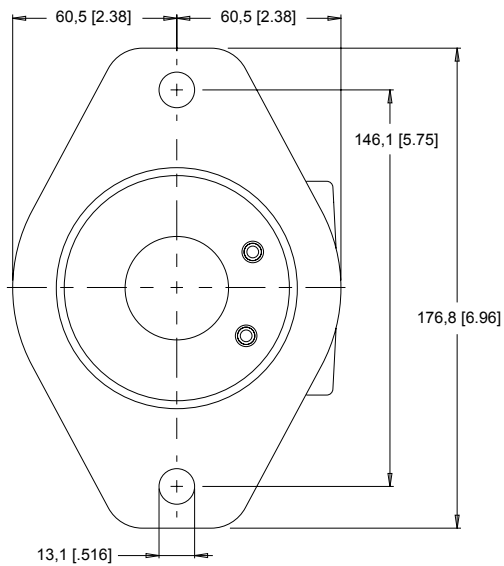




SAE B FLANGE

B18 2-Hole Aligned Ports 1/2" BSP.F

B11 2-Hole Aligned Ports 7/8" O-Ring

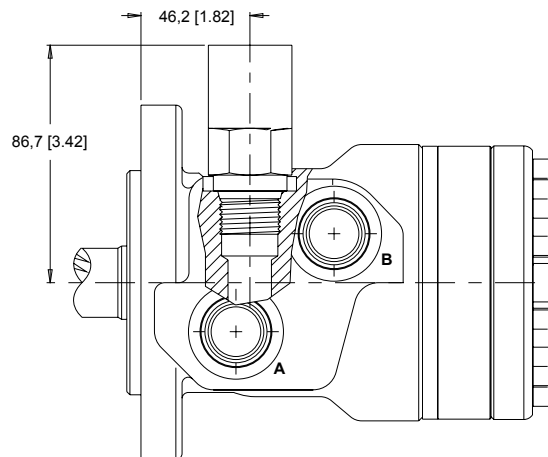
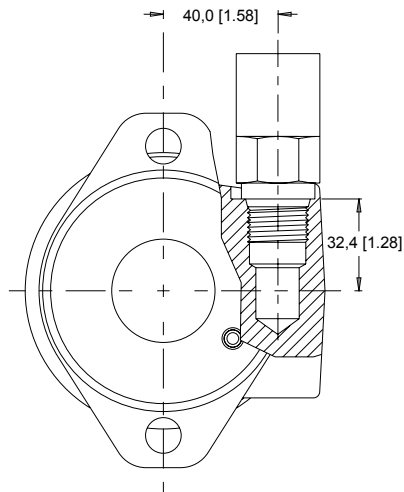


F is on page 30



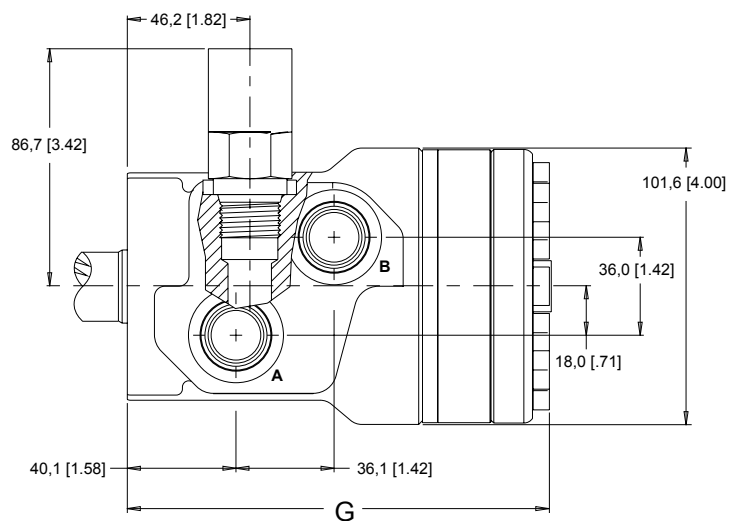
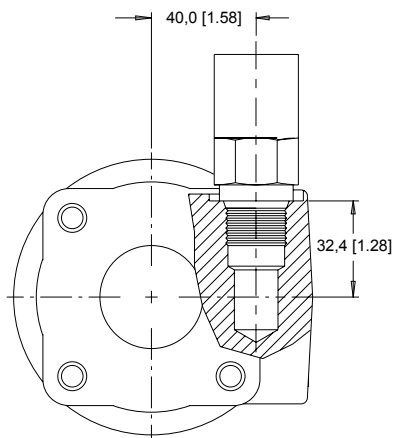
VALVE CAVITY HOUSINGS

A19 2-Hole Offset Ports 7/8" O-Ring



Mounting Dimensions are shown on page 25

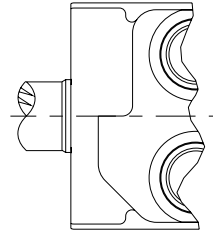
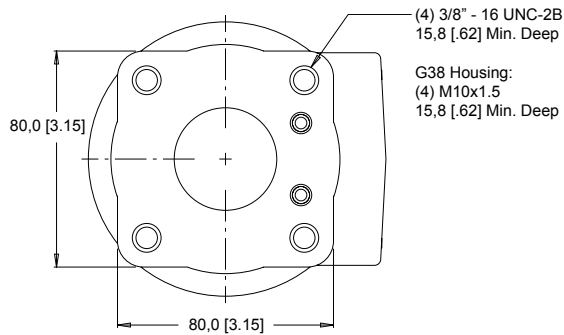
F39 4-Hole Offset Ports 7/8" O-Ring



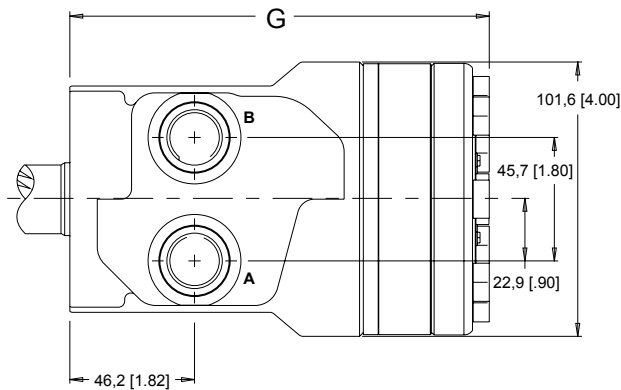
G is on page 30



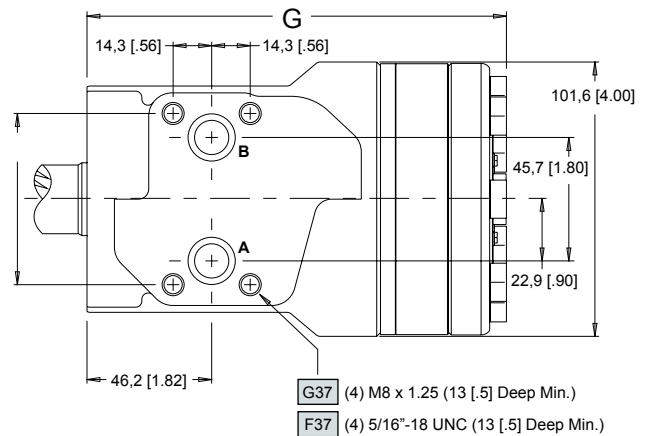
4 - HOLE FLANGE



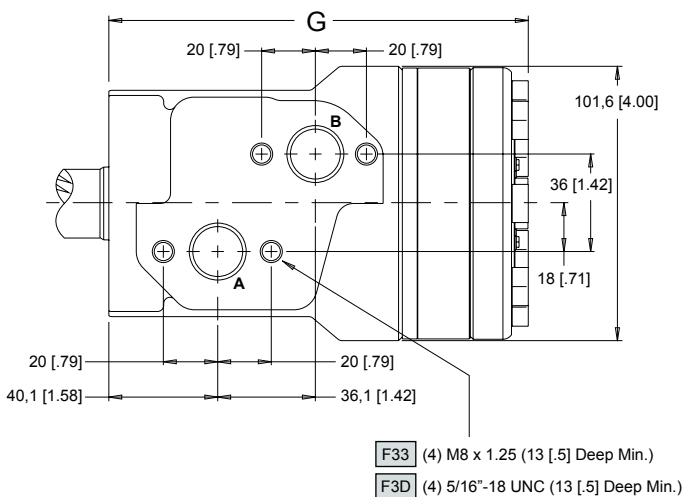
- F38** 4-Hole Aligned Ports 1/2" BSP.F
- F30** 4-Hole Aligned Ports 1/2" NPT
- F31** 4-Hole Aligned Ports 7/8" O-Ring
- G38** 4-Hole Aligned Ports 1/2" BSP.F with Metric Mounting Flange



- G37** 4-Hole Manifold Ports
- F37** 4-Hole Manifold Ports



- F33** 4-Hole Offset Manifold Ports 1/2" BSP.F with Tall Pilot
- F3D** 4-Hole Offset Manifold Ports 7/8" O-Ring

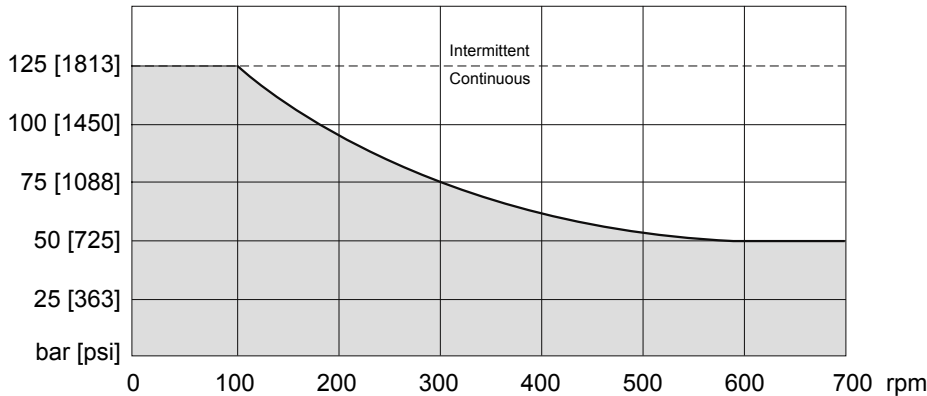


G is on page 30



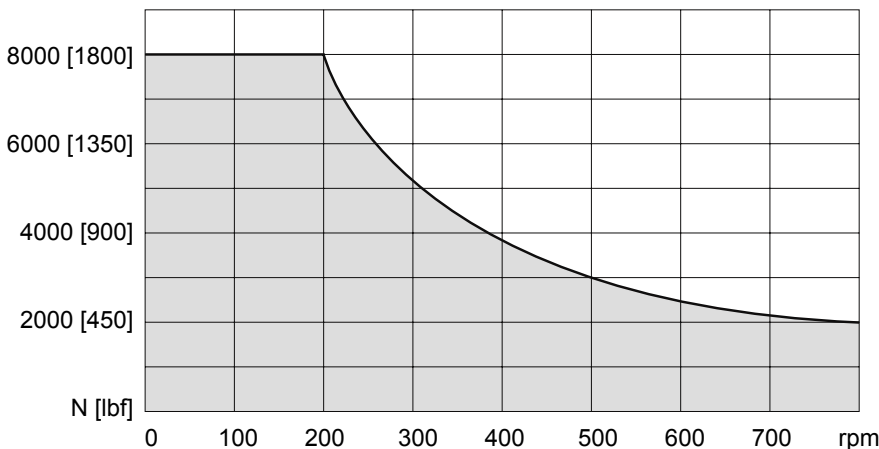
PERMISSIBLE SHAFT SEAL PRESSURE

The WR has built-in check valves. The pressure on the shaft seal is identical to the output pressure.



ALLOWABLE SHAFT LOAD

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.



Bearing Curve: The bearing curve above represents the side load capacity of the motor at the centerline of the key for various motor speeds.

SHAFT LENGTHS (DIMENSION H)

Code	SAE "A" Flange mm [in]	4-Hole Flange mm [in]	SAE "B" Flange mm [in]
01	1.59	1.49	1.59
02	1.88	1.78	1.88
04	1.88	1.78	1.88
05	1.88	1.78	1.88
10	1.88	1.78	1.88
11	1.88	1.78	1.88
12	1.88	1.78	1.88
13	2.52	2.42	2.52
15	2.52	2.42	2.52
16	2.52	2.42	2.52
53	1.88	1.78	1.88
66	1.88	1.78	1.88

For Tall Pilot Housings add 2,5 [10] to distance.

LENGTH AND WEIGHT TABLES

SAE "A" Flange

Code	E mm [in]	Weight kg [lb]
040	142 [5.60]	6,6 [14.5]
060	146 [5.74]	6,7 [14.7]
070	147 [5.80]	6,7 [14.7]
090	151 [5.96]	6,8 [15,0]
100	154 [6.06]	6,9 [15.2]
115	156 [6.15]	7,1 [15.6]
130	160 [6.28]	7,3 [16.1]
160	166 [6.53]	7,5 [16.5]
200	173 [6.83]	8,0 [17.6]
240	182 [7.15]	8,5 [18.7]
320	198 [7.78]	9,0 [19.8]
400	213 [8.39]	9,8 [21.6]

For Tall Pilot Housings subtract 2,5 [10] from distance.

SAE "B" Flange

Code	F mm [in]	Weight kg [lb]
040	142 [5.60]	7,8 [17.2]
060	146 [5.74]	7,9 [17.4]
070	147 [5.80]	7,9 [17.4]
090	151 [5.96]	8,0 [17.6]
100	154 [6.06]	8,1 [17.8]
115	156 [6.15]	8,3 [18.3]
130	160 [6.28]	8,5 [18.7]
160	166 [6.53]	8,7 [19.1]
200	173 [6.83]	9,2 [20.2]
240	182 [7.15]	9,7 [21.3]
320	198 [7.78]	10,2 [22.4]
400	213 [8.39]	11,0 [24.2]

4-Hole Square Flange

Code	G mm [in]	Weight kg [lb]
040	145 [5.70]	5,4 [11.9]
060	149 [5.85]	5,5 [12.1]
070	150 [5.91]	5,5 [12.1]
090	154 [6.07]	5,6 [12.3]
100	156 [6.16]	5,7 [12.5]
115	159 [6.26]	5,9 [13.0]
130	162 [6.39]	6,1 [13.4]
160	169 [6.64]	6,3 [13.9]
200	176 [6.94]	6,8 [15.0]
240	184 [7.25]	7,3 [16.1]
320	200 [7.89]	7,8 [17.2]
400	216 [8.49]	8,6 [18.9]

WR motor weights vary $\pm 0,45$ kg [1 lb] depending upon motor configuration.



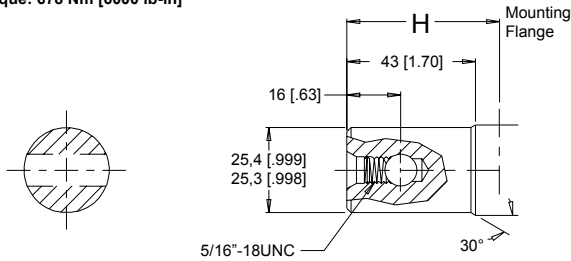
255 SERIES SHAFTS

05 1" Pinhole with 9,5 [.375] thru hole

53 1" Pinhole with 10,3 [.406] thru hole

66 1" Pinhole with 8,0 [.315] thru hole

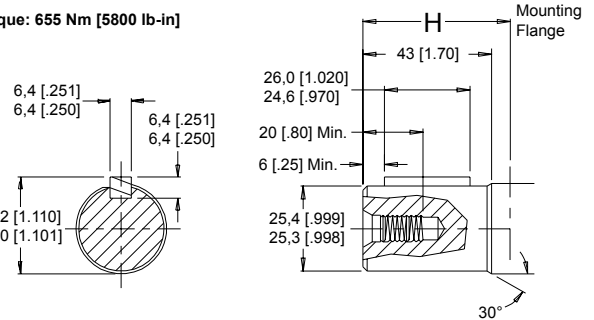
Max. Torque: 678 Nm [6000 lb-in]



10 1" Straight with 5/16" - 18 UNC tap

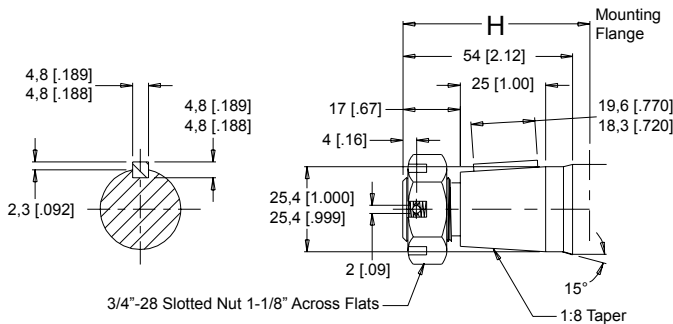
11 1" Straight with M8x1.25 tap

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



13 1" Tapered

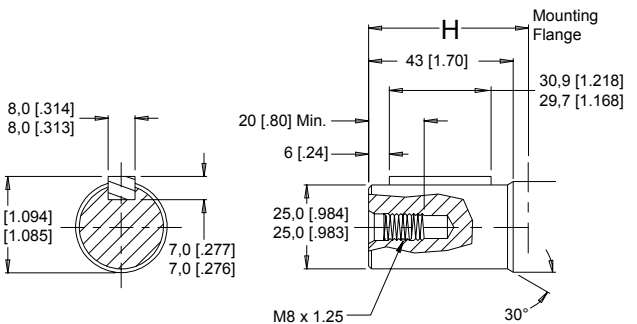
Max. Torque: 655 Nm [5800 lb-in]



Note: A slotted nut is standard on this shaft.

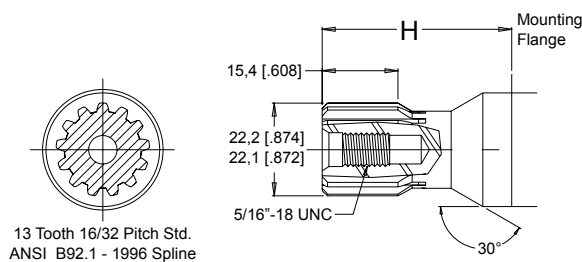
12 25mm Straight

Max. Torque: 678 Nm [6000 lb-in]



01 13 Tooth Spline

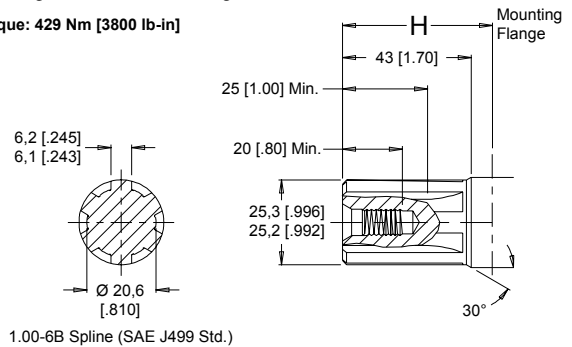
Max. Torque: 170 Nm [1500 lb-in]



02 6B Spline with 5/16" - 18 UNC tap

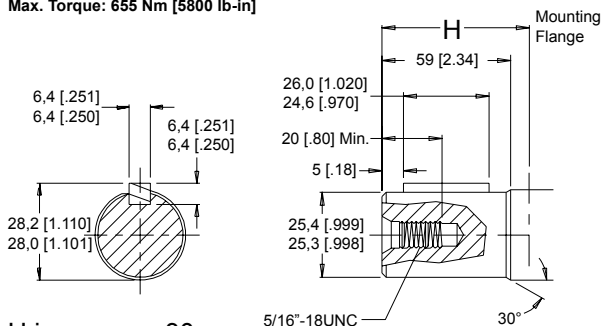
04 6B Spline with M8x1.25 tap

Max. Torque: 429 Nm [3800 lb-in]



15 1" Straight Extended

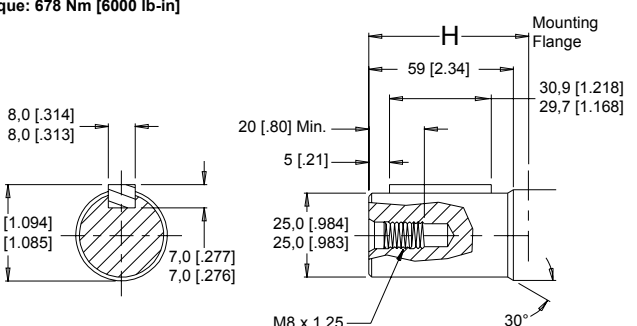
Max. Torque: 655 Nm [5800 lb-in]



H is on page 30

16 25mm Straight Extended

Max. Torque: 678 Nm [6000 lb-in]



255 SERIES ORDERING INFORMATION



SERIES

256

255

REVERSED TIMING

OPTIONS

DISPLACEMENT

Code	Displacements
040	41cc [2.5 in ³ /rev]
060	60cc [3.6 in ³ /rev]
070	70cc [4.3 in ³ /rev]
090	88cc [5.4 in ³ /rev]
100	103cc [6.3 in ³ /rev]
115	113cc [6.9 in ³ /rev]
130	129cc [7.9 in ³ /rev]
160	161cc [9.8 in ³ /rev]
200	200cc [12.2 in ³ /rev]
240	241cc [14.7 in ³ /rev]
320	322cc [19.7 in ³ /rev]
400	400cc [24.4 in ³ /rev]

HOUSING

Code	Housings
A10	2-Hole 1/2" NPT Aligned Ports
A11	2-Hole 7/8" O-Ring Aligned Ports
A12	2-Hole 1/2" BSP.F Offset Ports
A13	2-Hole 1/2" BSP.F Offset Manifold
A17	2-Hole Manifold Ports
*A19	2-Hole 7/8" O-Ring Offset w/ Valve Cavity
A1D	2-Hole 7/8" O-Ring Offset Manifold
**A62	2-Hole 1/2" BSP.F Offset w/ Tall Pilot
A63	2-Hole 1/2" BSP.F Offset Manifold w/ Tall Pilot
AC3	4-Hole 1/2" BSP.F Offset Manifold w/ Tall Pilot
A30	4-Hole 1/2" NPT Aligned Ports
A31	4-Hole 7/8" O-ring Aligned Ports
A33	4-Hole 1/2" BSP.F Offset Manifold
A3D	4-Hole 7/8" O-Ring Offset Manifold
B11	2-Hole 7/8" O-Ring Aligned Ports
B18	2-Hole 1/2" BSP.F Aligned Ports
F30	4-Hole 1/2" NPT Aligned Ports
F31	4-Hole 7/8" O-Ring Aligned Ports
F33	4-Hole 1/2" BSP.F Offset Manifold
F37	4-Hole Manifold
F38	4-Hole 1/2" BSP.F Aligned Ports
*F39	4-Hole 7/8 O-Ring Offset w/ Valve Cavity
F3D	4-Hole 7/8" O-Ring Offset Manifold
G37	4-Hole Manifold
G38	4-Hole 1/2" BSP.F Aligned Ports w/ Metric Mount

SHAFT

Code	Shafts
01	7/8" 13 Tooth
02	1" 6-B Spline 5/16"-18 UNC tap
04	1" 6B Spline M8x1.5 tap
05	1" Pinhole 9,5 [.375] thru hole
10	1" Straight 5/16"-18 UNC tap
11	1" Straight M8x1.25 tap
12	25mm Straight
13	1" Tapered
15	1" Straight Ext.
16	25mm Ext.
53	1" Pinhole 10,3 [.406] thru hole
66	1" Pinhole 8,0 [.315] thru hole

MISCELLANEOUS

Code	Options
AA	None

ADD ONS

Code	Options
A	Standard
B	Lock Nut
C	Solid Hex Nut

CAVITY

Code	Options
A	None
B	Relief Valve Cavity
C	1000 psi Relief Valve Installed
D	1250 psi Relief Valve Installed
E	1500 psi Relief Valve Installed
F	1750 psi Relief Valve Installed
G	2000 psi Relief Valve Installed

PAINT

Code	Options
A	Dark Metallic Gray
B	Dark Metallic Gray (Unpainted Flange Face)
C	Black
D	Black (Unpainted Flange Face)
Z	No Paint

* Must be ordered with a Valve Cavity
 ** Can be ordered with a Valve Cavity

ROTATION

For applications requiring the motor to rotate in only one direction, shaft seal life may be prolonged by pressurizing the "B" port of the motor. To obtain the desired direction of shaft rotation, use the graphic above to determine the rotation code for the motor. For bi-directional applications, the 255 series is recommended. Preferred rotation is based on rotor timing. Changing preferred direction requires no additional parts.

255

256