



whitedriveproducts



SERIES

200 -

201 -



LIGHT DUTY
Hydraulic Motor

RS



OVERVIEW

RS Series motors are the most economical model in the White Drive Products product line, but are not low-tech. Unlike competitive products using power robbing, two-piece rotor set designs with sliding contact points, RS Series motors utilize the patented Roller Stator® design. Seven precision rollers for the contact points reduce friction, providing more power and longer life for your application. Each output shaft is custom ground to maintain exact tolerances between the housing and shaft, producing high volumetric efficiencies. Industry standard mounting flanges and output shafts allow the RS Series motors to interchange with competitive designs.

FEATURES / BENEFITS

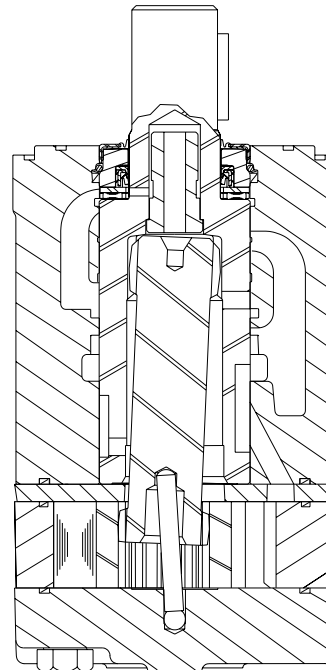
- The shaft is match ground to the housing bore to maintain highest volumetric efficiencies.
- A high pressure shaft seal offers superior seal life and performance and eliminates the need for a case drain.
- Pressure fed bearing surface receives positive flow of clean, cool oil.
- A heavy-duty drive link receives full flow lubrication to provide long life.
- The Roller Stator® motor design increases efficiency and life by using roller contact versus a solid, sliding contact design.

TYPICAL APPLICATIONS

conveyors, carwashes, positioners, light-duty wheel drives, sweepers, food processing, grain augers, spreaders, feed rollers, screw drives, brush drives and more

SERIES DESCRIPTIONS

200/201 - Hydraulic Motor
Standard



SPECIFICATIONS

CODE	Displacement cm ³ [in ³ /rev]	Max. Speed rpm		Max. Flow lpm [gpm]		Max. Torque Nm [lb-in]		Max. Pressure bar [psi]		
		cont.	inter.	cont.	inter.	cont.	inter.	cont.	inter.	peak
050	52 [3.2]	400	490	23 [6]	38 [10]	82 [730]	95 [840]	121 [1750]	138 [2000]	155 [2250]
080	76 [4.6]	460	540	38 [10]	45 [12]	121 [1070]	138 [1230]	121 [1750]	138 [2000]	155 [2250]
090	89 [5.4]	420	580	38 [10]	45 [12]	147 [1300]	167 [1480]	121 [1750]	138 [2000]	155 [2250]
100	103 [6.3]	510	570	53 [14]	61 [16]	169 [1500]	195 [1725]	121 [1750]	138 [2000]	155 [2250]
110	111 [6.8]	460	600	53 [14]	68 [18]	184 [1630]	214 [1900]	121 [1750]	138 [2000]	155 [2250]
125	127 [7.7]	410	530	53 [14]	68 [18]	181 [1600]	208 [1850]	103 [1500]	121 [1750]	155 [2250]
160	164 [10.0]	370	460	61 [16]	76 [20]	222 [1970]	265 [2350]	103 [1500]	121 [1750]	155 [2250]
200	205 [12.5]	300	370	61 [16]	76 [20]	297 [2640]	345 [3050]	103 [1500]	121 [1750]	155 [2250]
250	254 [15.5]	300	360	76 [20]	91 [24]	287 [2540]	344 [3040]	86 [1250]	104 [1500]	121 [1750]
300	293 [17.9]	300	310	76 [20]	91 [24]	277 [2460]	350 [3100]	69 [1000]	86 [1250]	103 [1500]
400	409 [24.9]	190	220	76 [20]	91 [24]	377 [3350]	463 [4100]	69 [1000]	86 [1250]	103 [1500]

► Performance data is typical. Performance of production units varies slightly from one motor to another. Running at intermittent ratings should not exceed 10% of every minute of operation.



DISPLACEMENT PERFORMANCE

050		Pressure - bar [psi]						Max. Cont.	Max. Inter.
		17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]
52 cm ³ [3.2 in ³] / rev									
Max. Cont.		Torque - Nm [lb-in], Speed rpm						Intermittent Ratings - 10% of Operation	
		10 [89] 35	15 [133] 33	25 [223] 26	33 [290] 24	42 [375] 24	49 [435] 12		
Max. Inter.	2 [0.5]	10 [92] 69	18 [163] 68	29 [253] 68	39 [348] 67	49 [438] 54	59 [523] 49	55 [483] 4	37
	4 [1]	10 [90] 142	20 [181] 140	31 [274] 138	41 [366] 136	52 [464] 127	63 [556] 103	74 [653] 78	73
	8 [2]	10 [85] 288	17 [154] 285	28 [251] 283	40 [355] 282	53 [465] 275	65 [572] 258	76 [669] 227	145
	15 [4]		19 [168] 433	27 [243] 432	39 [342] 430	50 [445] 429	62 [549] 408	74 [656] 380	289
	23 [6]		17 [148] 576	27 [243] 574	36 [318] 570	47 [417] 568	59 [526] 554	71 [631] 535	434
	30 [8]		13 [119] 718	25 [218] 711	35 [307] 701	48 [429] 700	56 [499] 689	67 [593] 682	578
	38 [10]							722	
Rotor Width		Theoretical Torque - Nm [lb-in]							
8.0 [316]		14 [127]	29 [255]	43 [382]	58 [510]	72 [637]	86 [764]	101 [892]	115 [1019]
mm [in]									
Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]									

080		Pressure - bar [psi]						Max. Cont.	Max. Inter.
		17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]
76 cm ³ [4.6 in ³] / rev									
Max. Cont.		Torque - Nm [lb-in], Speed rpm						Intermittent Ratings - 10% of Operation	
		12 [107] 25	26 [227] 21	39 [341] 20	51 [456] 9	58 [509] 5			
Max. Inter.	2 [0.5]	12 [110] 50	29 [252] 50	43 [381] 42	59 [522] 35	75 [661] 34	81 [720] 11		26
	4 [1]	14 [122] 100	29 [260] 99	46 [405] 99	63 [560] 93	80 [707] 82	96 [848] 73	110 [973] 48	51
	8 [2]		30 [263] 200	47 [416] 196	65 [574] 193	82 [726] 184	98 [871] 168	118 [1046] 150	101
	15 [4]		28 [252] 301	46 [403] 297	64 [562] 293	82 [721] 287	98 [869] 271	115 [1020] 252	201
	23 [6]		25 [221] 400	43 [379] 399	63 [555] 393	79 [703] 390	97 [860] 375	115 [1014] 355	302
	30 [8]			39 [341] 502	57 [502] 500	74 [657] 498	93 [819] 496	111 [980] 472	402
	38 [10]		35 [314] 602	50 [446] 600	71 [625] 599	92 [816] 598	105 [932] 580	503	
	45 [12]							603	
Rotor Width		Theoretical Torque - Nm [lb-in]							
11.7 [462]		21 [183]	41 [366]	62 [549]	83 [732]	103 [916]	124 [1099]	145 [1282]	166 [1465]
mm [in]									
Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]									

090		Pressure - bar [psi]						Max. Cont.	Max. Inter.
		17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]
89 cm ³ [5.4 in ³] / rev									
Max. Cont.		Torque - Nm [lb-in], Speed rpm						Intermittent Ratings - 10% of Operation	
		23 [206] 20	43 [376] 19	63 [559] 17	84 [743] 14	98 [864] 10	105 [933] 1		
Max. Inter.	2 [0.5]		43 [383] 41	64 [566] 40	86 [760] 37	108 [953] 32	127 [1123] 25	138 [1225] 12	22
	4 [1]		44 [388] 85	63 [561] 84	83 [739] 81	106 [937] 75	127 [1121] 66	151 [1336] 51	43
	8 [2]			61 [538] 169	85 [754] 159	104 [920] 149	128 [1134] 133	148 [1309] 115	86
	15 [4]				81 [720] 251	102 [902] 244	125 [1105] 229	144 [1275] 213	172
	23 [6]				78 [686] 338	98 [867] 330	122 [1080] 318	141 [1251] 300	257
	30 [8]					93 [824] 417	113 [1004] 406	137 [1210] 386	343
	38 [10]				81 [715] 504	87 [766] 491	113 [998] 478	161 [1422] 365	428
	45 [12]							514	
Rotor Width		Theoretical Torque - Nm [lb-in]							
13.7 [541]		24 [215]	49 [430]	73 [645]	97 [860]	121 [1075]	146 [1290]	170 [1505]	194 [1720]
mm [in]									
Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]									

► Performance data is typical. Performance of production units varies slightly from one motor to another.



DISPLACEMENT PERFORMANCE

		Pressure - bar [psi]						Max. Cont.	Max. Inter.	
100		17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	
103 cm ³ [6.3 in ³] / rev								Intermittent Ratings - 10% of Operation		
		Torque - Nm [lb-in], Speed rpm								
Flow - lpm [gpm]	2 [0.5]	25 [221] 17	52 [461] 16	76 [676] 15	98 [870] 12	115 [1020] 7			19	
	4 [1]	26 [233] 36	51 [449] 36	77 [680] 34	103 [914] 32	126 [1116] 28	146 [1295] 23	166 [1473] 13	151 [1336] 1	37
	8 [2]		49 [433] 72	77 [682] 71	101 [893] 69	125 [1108] 65	150 [1331] 59	174 [1538] 50	199 [1758] 37	74
	15 [4]			73 [648] 143	99 [873] 135	123 [1088] 124	146 [1291] 118	170 [1504] 94	195 [1721] 75	147
	23 [6]			69 [606] 219	94 [830] 213	120 [1062] 203	145 [1279] 190	165 [1463] 177	194 [1717] 154	220
	30 [8]				89 [789] 288	113 [999] 278	142 [1254] 264	161 [1429] 249	187 [1658] 230	294
	38 [10]				78 [693] 363	102 [905] 353	127 [1124] 341	156 [1380] 322	182 [1612] 301	367
	45 [12]					85 [755] 433	119 [1049] 421	147 [1299] 405	172 [1526] 384	440
	53 [14]					84 [746] 507	118 [1040] 497	135 [1198] 484	141 [1250] 465	514
	61 [16]						108 [957] 574	135 [1197] 566		587
										Theoretical rpm
Rotor Width		Overall Efficiency - 70 - 100% <input type="checkbox"/> 40 - 69% <input type="checkbox"/> 0 - 39% <input type="checkbox"/>								
19.7 [776]		Theoretical Torque - Nm [lb-in]								
mm [in]		28 [251]	57 [502]	85 [752]	113 [1003]	142 [1254]	170 [1505]	198 [1756]	227 [2006]	
		Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]								

		Pressure - bar [psi]						Max. Cont.	Max. Inter.	
110		17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	
111 cm ³ [6.8 in ³] / rev								Intermittent Ratings - 10% of Operation		
		Torque - Nm [lb-in], Speed rpm								
Flow - lpm [gpm]	2 [0.5]	26 [227] 16	54 [481] 14	78 [689] 11	100 [888] 7	109 [961] 1			17	
	4 [1]	29 [253] 33	55 [489] 32	83 [733] 30	110 [974] 26	134 [1183] 20	153 [1356] 10		34	
	8 [2]		57 [503] 67	82 [727] 64	110 [969] 60	135 [1199] 52	162 [1431] 40	184 [1631] 20	180 [1590] 1	68
	15 [4]		54 [479] 135	80 [706] 133	107 [951] 128	134 [1190] 120	162 [1437] 104	186 [1643] 88	216 [1911] 58	136
	23 [6]			76 [669] 201	106 [934] 193	129 [1144] 183	153 [1357] 165	185 [1636] 141	206 [1826] 114	204
	30 [8]			70 [621] 271	97 [862] 267	123 [1092] 256	151 [1336] 242	177 [1569] 220	202 [1788] 196	272
	38 [10]				88 [779] 335	116 [1025] 324	146 [1294] 307	170 [1505] 289	201 [1783] 254	340
	45 [12]				86 [764] 405	109 [963] 396	139 [1226] 376	168 [1482] 351	190 [1683] 330	408
	53 [14]					102 [901] 463	129 [1142] 449	156 [1378] 427	184 [1626] 406	476
	61 [16]					95 [844] 535	121 [1075] 523	147 [1297] 505		544
68 [18]						111 [984] 595	136 [1205] 579		612	
										Theoretical rpm
Rotor Width		Overall Efficiency - 70 - 100% <input type="checkbox"/> 40 - 69% <input type="checkbox"/> 0 - 39% <input type="checkbox"/>								
17.3 [681]		Theoretical Torque - Nm [lb-in]								
mm [in]		31 [271]	61 [541]	92 [812]	122 [1083]	153 [1354]	184 [1624]	214 [1895]	245 [2166]	
		Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]								

► Performance data is typical. Performance of production units varies slightly from one motor to another.



DISPLACEMENT PERFORMANCE

		Pressure - bar [psi]						Max. Cont.	Max. Inter.		
125		17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]			
127 cm ³ [7.7 in ³] / rev								Intermittent Ratings - 10% of Operation			
		Torque - Nm [lb-in], Speed rpm									
Flow - lpm [gpm]	2 [0.5]	29 [225] 14	60 [534] 12	86 [758] 10	112 [990] 7	129 [1145] 2			15	Theoretical rpm	
	4 [1]	28 [251] 29	62 [545] 26	93 [819] 26	121 [1073] 23	149 [1319] 18	173 [1531] 10	176 [1559] 1	30		
	8 [2]		61 [537] 58	92 [816] 57	125 [1103] 54	153 [1356] 49	182 [1609] 41	210 [1856] 29	60		
	15 [4]		61 [538] 118	90 [797] 115	123 [1084] 108	151 [1338] 99	181 [1602] 84	210 [1860] 65	120		
	23 [6]			87 [771] 177	117 [1032] 168	149 [1321] 158	177 [1566] 145	208 [1838] 123	180		
	30 [8]			82 [722] 234	112 [987] 229	142 [1257] 215	175 [1548] 203	201 [1781] 186	240		
	38 [10]				105 [927] 290	137 [1214] 277	167 [1474] 263	194 [1720] 244	300		
	45 [12]				97 [859] 349	120 [1066] 339	157 [1386] 322	183 [1622] 306	360		
	53 [14]				89 [787] 409	119 [1051] 385	146 [1295] 376	174 [1536] 367	420		
	61 [16]					99 [879] 471	131 [1163] 459		480		
Max. Inter.	68 [18]				100 [885] 528	119 [1053] 512			540		
Rotor Width		Overall Efficiency - 70 - 100% <input type="checkbox"/> 40 - 69% <input type="checkbox"/> 0 - 39% <input checked="" type="checkbox"/>									
Theoretical Torque - Nm [lb-in]											
19.7 [7.76] mm [in]		35 [307]	69 [613]	104 [920]	139 [1226]	173 [1533]	208 [1839]	242 [2146]			
Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]											

		Pressure - bar [psi]						Max. Cont.	Max. Inter.		
160		17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]			
164 cm ³ [10.0 in ³] / rev								Intermittent Ratings - 10% of Operation			
		Torque - Nm [lb-in], Speed rpm									
Flow - lpm [gpm]	2 [0.5]	32 [281] 11	71 [630] 10	103 [908] 8	141 [1247] 6	167 [1481] 2			12	Theoretical rpm	
	4 [1]	35 [308] 22	76 [677] 21	111 [983] 20	141 [1245] 20	182 [1615] 16	211 [1867] 11	234 [2070] 3	24		
	8 [2]	36 [320] 45	78 [694] 45	116 [1023] 44	159 [1403] 42	193 [1707] 39	223 [1974] 34	257 [2279] 27	47		
	15 [4]		72 [633] 91	114 [1007] 90	155 [1375] 86	190 [1679] 80	226 [1998] 71	262 [2319] 56	93		
	23 [6]		69 [608] 138	109 [961] 137	149 [1318] 132	188 [1667] 125	224 [1979] 114	267 [2359] 101	139		
	30 [8]		65 [573] 184	104 [921] 183	139 [1233] 180	181 [1597] 171	219 [1941] 161	258 [2284] 148	185		
	38 [10]			95 [837] 230	134 [1184] 229	173 [1531] 221	212 [1874] 211	251 [2220] 197	231		
	45 [12]			83 [736] 276	124 [1095] 275	162 [1432] 270	203 [1796] 259	241 [2133] 245	278		
	53 [14]			73 [643] 322	114 [1010] 321	154 [1366] 320	194 [1714] 310	231 [2045] 295	324		
	61 [16]				102 [901] 369	142 [1255] 368	179 [1585] 362	219 [1936] 345	370		
Max. Inter.	68 [18]			93 [824] 415	127 [1121] 414	164 [1447] 410			416		
Max. Inter.	76 [20]				111 [980] 460	152 [1348] 460			462		
Rotor Width		Overall Efficiency - 70 - 100% <input type="checkbox"/> 40 - 69% <input type="checkbox"/> 0 - 39% <input checked="" type="checkbox"/>									
Theoretical Torque - Nm [lb-in]											
25.4 [1.000] mm [in]		45 [398]	90 [796]	135 [1194]	180 [1592]	225 [1990]	270 [2389]	315 [2787]			
Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]											

► Performance data is typical. Performance of production units varies slightly from one motor to another.



DISPLACEMENT PERFORMANCE

		Pressure - bar [psi]					Max. Cont.	Max. Inter.		
200		17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]		
205 cm ³ [12.5 in ³] / rev										
		Torque - Nm [lb-in], Speed rpm					Intermittent Ratings - 10% of Operation			
Flow - lpm [gpm]	2 [0.5]	47 [414] 8	96 [846] 7	141 [1250] 6	183 [1621] 5	224 [1983] 3			10	Theoretical rpm
	4 [1]	49 [432] 17	98 [865] 17	154 [1360] 15	196 [1732] 14	241 [2136] 11	284 [2517] 9	318 [2811] 5	19	
	8 [2]	47 [416] 36	105 [927] 36	157 [1386] 34	204 [1809] 31	245 [2166] 29	299 [2642] 23	341 [3019] 17	37	
	15 [4]	43 [380] 73	96 [849] 73	152 [1349] 72	203 [1798] 68	249 [2204] 65	298 [2641] 60	350 [3094] 52	74	
	23 [6]		90 [795] 110	149 [1322] 110	194 [1721] 106	249 [2207] 103	298 [2634] 96	340 [3007] 90	111	
	30 [8]		83 [734] 147	139 [1228] 146	192 [1697] 144	238 [2102] 142	296 [2621] 133	339 [2997] 126	148	
	38 [10]		75 [666] 184	128 [1134] 183	175 [1546] 183	227 [2013] 181	280 [2482] 172	329 [2910] 166	185	
	45 [12]			116 [1026] 221	167 [1475] 220	217 [1924] 218	262 [2322] 214	316 [2795] 205	222	
	53 [14]			97 [862] 258	153 [1358] 257	205 [1811] 256	251 [2218] 252	300 [2656] 249	259	
	61 [16]			85 [752] 295	137 [1212] 295	191 [1687] 294	240 [2127] 291	292 [2583] 284	296	
	68 [18]				122 [1079] 332	174 [1541] 331	224 [1981] 330		333	
	76 [20]				104 [924] 369	154 [1366] 368	207 [1833] 367		370	

Rotor Width

31.8 [1.251]

mm [in]

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

Theoretical Torque - Nm [lb-in]

56 [498]	112 [995]	169 [1493]	225 [1990]	281 [2488]	337 [2986]	394 [3483]
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Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]

		Pressure - bar [psi]					Max. Cont.	Max. Inter.		
250		17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]			
254 cm ³ [15.5 in ³] / rev										
		Torque - Nm [lb-in], Speed rpm					Intermittent Ratings - 10% of Operation			
Flow - lpm [gpm]	2 [0.5]	52 [457] 6	104 [919] 4	150 [1327] 2					8	Theoretical rpm
	4 [1]	52 [458] 14	112 [988] 12	168 [1491] 10	222 [1966] 7	267 [2361] 4	300 [2658] 1		15	
	8 [2]	55 [490] 29	115 [1018] 27	171 [1512] 24	231 [2041] 20	288 [2547] 14	323 [2856] 9		30	
	15 [4]	49 [437] 59	116 [1028] 58	171 [1517] 56	233 [2064] 51	288 [2551] 44	344 [3040] 34		60	
	23 [6]	45 [398] 88	105 [930] 88	163 [1440] 87	222 [1966] 82	284 [2512] 76	345 [3051] 62		90	
	30 [8]		90 [795] 118	147 [1305] 117	186 [1649] 115	268 [2372] 106	330 [2918] 96		120	
	38 [10]		76 [676] 148	142 [1253] 147	196 [1738] 146	256 [2263] 140	311 [2754] 133		150	
	45 [12]		25 [225] 178	124 [1098] 177	186 [1642] 176	234 [2071] 173	282 [2499] 163		179	
	53 [14]			89 [784] 208	157 [1386] 206	222 [1962] 204	278 [2460] 194		209	
	61 [16]			82 [722] 237	142 [1256] 236	202 [1786] 234	261 [2306] 228		239	
	68 [18]				124 [1096] 266	183 [1618] 264	240 [2126] 259		269	
	76 [20]				95 [842] 297	157 [1387] 295	217 [1919] 293		299	
	83 [22]					130 [1147] 327			328	
	91 [24]					99 [874] 356			358	

Rotor Width

39.4 [1.551]

mm [in]

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

Theoretical Torque - Nm [lb-in]

70 [617]	139 [1234]	209 [1851]	279 [2468]	349 [3085]	418 [3702]
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Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]

► Performance data is typical. Performance of production units varies slightly from one motor to another.



DISPLACEMENT PERFORMANCE

300

293 cm³ [17.9 in³] / rev

Pressure - bar [psi]		Max. Cont.		Max. Inter.	
17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]	2 [0.5]	58 [516] 5	126 [1111] 5	185 [1638] 5			7
	4 [1]	64 [563] 12	124 [1096] 12	189 [1673] 11	263 [2325] 10	329 [2912] 9	13
	8 [2]	64 [564] 25	133 [1180] 25	199 [1758] 24	268 [2375] 23	343 [3033] 21	26
	15 [4]	59 [524] 51	135 [1193] 51	200 [1773] 50	269 [2384] 50	355 [3145] 47	52
	23 [6]	53 [468] 76	126 [1116] 76	195 [1728] 75	278 [2463] 75	350 [3096] 74	78
	30 [8]		108 [954] 102	186 [1650] 101	251 [2218] 101	339 [3000] 100	104
	38 [10]		100 [887] 128	170 [1503] 128	241 [2132] 127	319 [2824] 126	130
	45 [12]		79 [698] 154	156 [1381] 154	220 [1944] 153	301 [2660] 152	155
	53 [14]		63 [558] 180	136 [1206] 180	201 [1780] 179	284 [2512] 179	181
	61 [16]			113 [1000] 205	184 [1630] 204	250 [2213] 203	207
	68 [18]				156 [1382] 231	216 [1915] 230	233
	76 [20]				119 [1054] 257	190 [1679] 256	259
	83 [22]				83 [738] 283		284
	91 [24]						310

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

Rotor Width

45.5 [1.790]	81 [713]	161 [1425]	242 [2138]	322 [2850]	403 [3563]
--------------	----------	------------	------------	------------	------------

mm [in]

Theoretical Torque - Nm [lb-in]

Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]

400

409 cm³ [24.9 in³] / rev

Pressure - bar [psi]		Max. Cont.		Max. Inter.	
17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]	2 [0.5]	87 [767] 3	187 [1656] 2				5
	4 [1]	90 [793] 8	180 [1597] 8	274 [2425] 6	369 [3270] 6	446 [3951] 3	10
	8 [2]	88 [777] 18	175 [1550] 17	286 [2528] 16	374 [3309] 15	466 [4124] 12	19
	15 [4]	85 [753] 37	177 [1565] 36	287 [2540] 35	382 [3384] 33	469 [4153] 29	38
	23 [6]	71 [631] 55	169 [1498] 55	280 [2477] 54	370 [3273] 52	466 [4122] 49	56
	30 [8]	58 [516] 73	158 [1396] 71	257 [2274] 70	352 [3119] 69	441 [3901] 68	75
	38 [10]		141 [1247] 92	238 [2103] 91	328 [2906] 90	434 [3837] 87	93
	45 [12]		118 [1042] 110	225 [1989] 109	303 [2682] 108	408 [3613] 107	112
	53 [14]		89 [792] 129	189 [1670] 128	278 [2463] 126	367 [3251] 124	130
	61 [16]		59 [520] 147	154 [1359] 146	249 [2204] 144	334 [2954] 143	149
	68 [18]			116 [1027] 166	219 [1934] 165	320 [2746] 164	167
	76 [20]			89 [790] 185	188 [1663] 184	264 [2336] 183	186
	83 [22]				140 [1242] 204		205
	91 [24]				93 [824] 222		223

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

Rotor Width

63.5 [2.500]	112 [991]	224 [1982]	336 [2974]	448 [3965]	560 [4956]
--------------	-----------	------------	------------	------------	------------

mm [in]

Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]

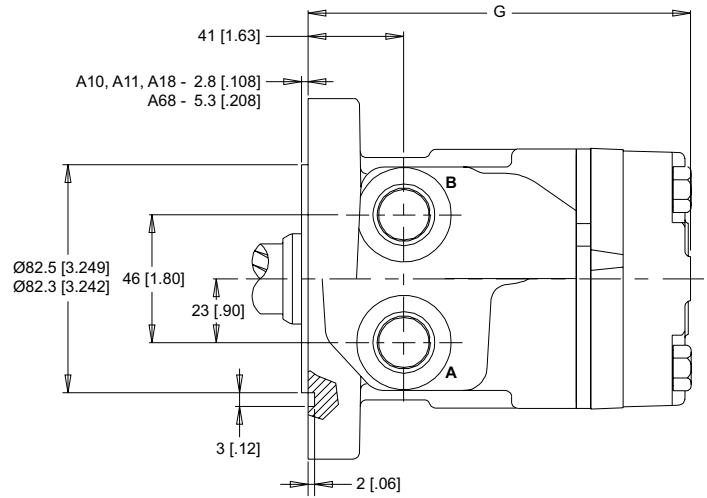
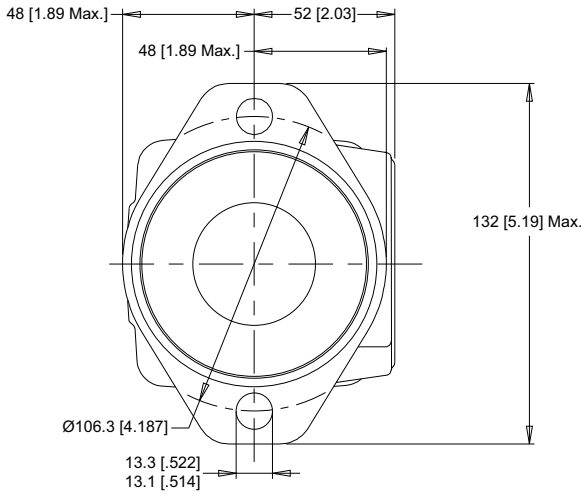
► Performance data is typical. Performance of production units varies slightly from one motor to another.

HOUSINGS

► Dimensions shown are without paint. Paint thickness can be up to 0.13 [.005].

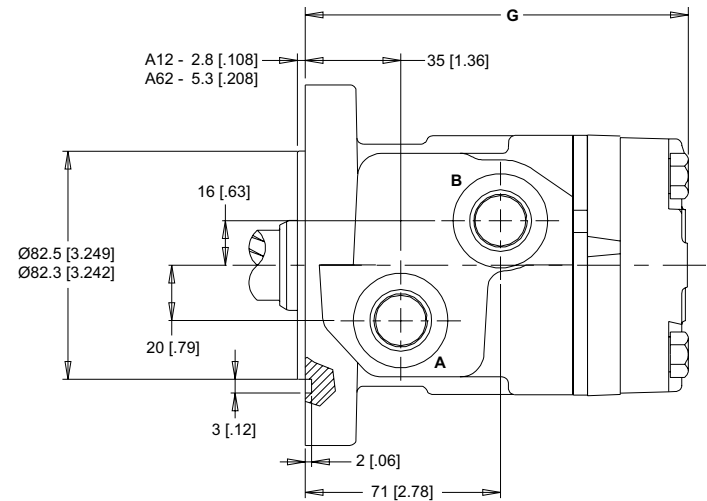
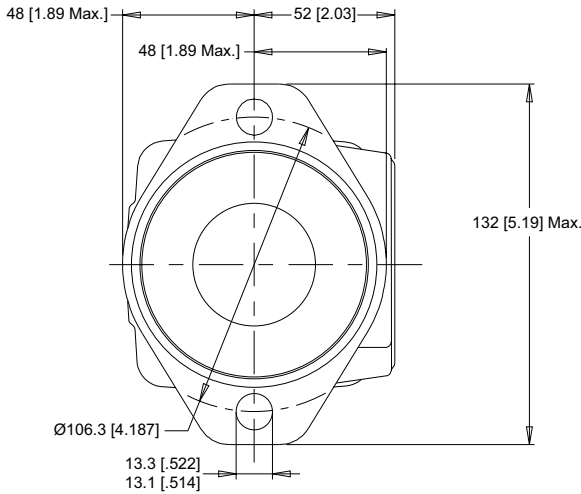
2-HOLE, SAE A MOUNT, ALIGNED PORTS

A10 1/2-14 NPT **A11** 7/8-14 UNF **A18** G 1/2 **A68** G 1/2 (TP)



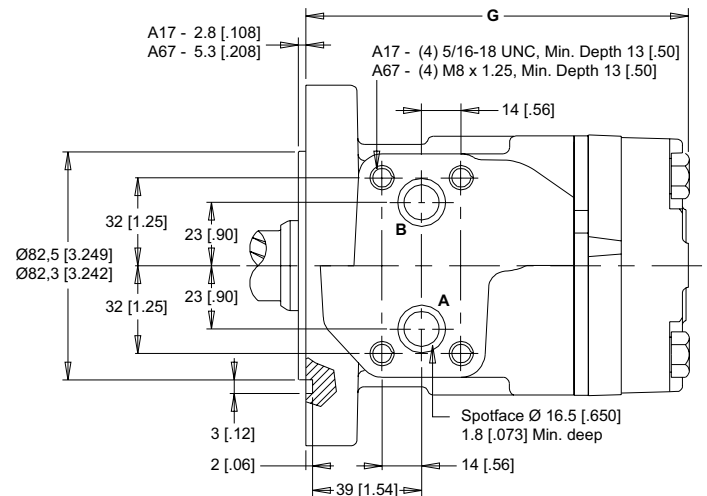
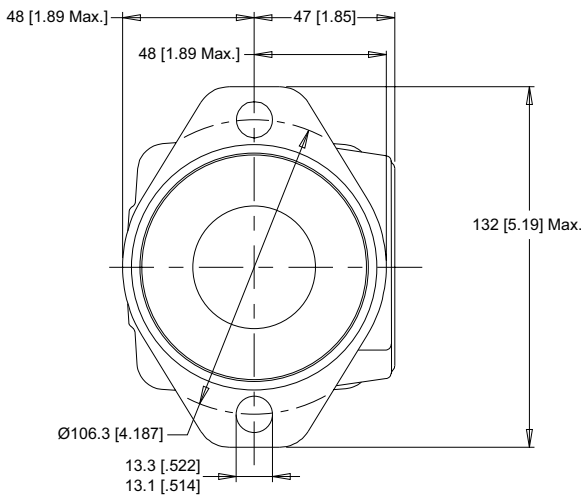
2-HOLE, SAE A MOUNT, OFFSET PORTS

A12 G 1/2 **A62** G 1/2 (TP)



2-HOLE, SAE A MOUNT, ALIGNED MANIFOLD PORTS

A17 1/2" Drilled **A67** 1/2" Drilled (TP)



► Dimension G is charted on page 12. ► (TP) - Taller Pilot Height. Refer to detailed drawing for dimensional differences.

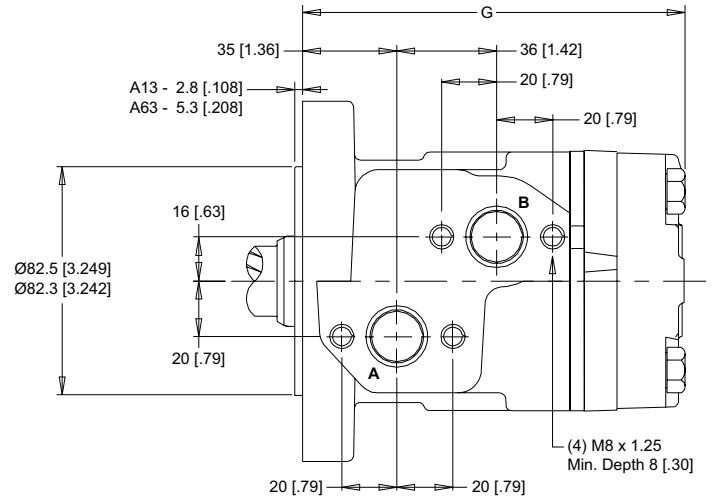
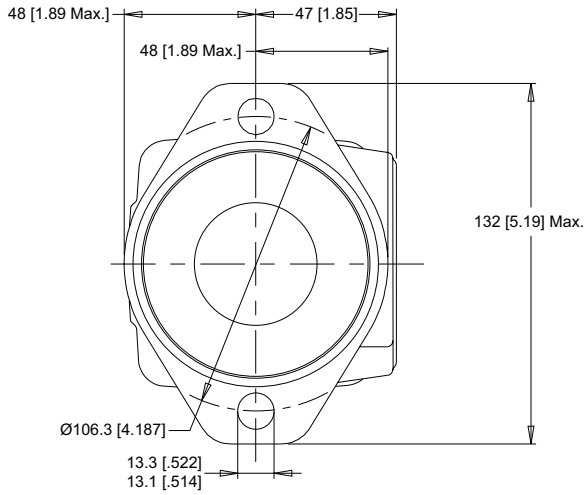
HOUSINGS

► Dimensions shown are without paint. Paint thickness can be up to 0.13 [.005].

2-HOLE, SAE A MOUNT, OFFSET MANIFOLD PORTS

A13 G 1/2

A63 G 1/2 (TP)

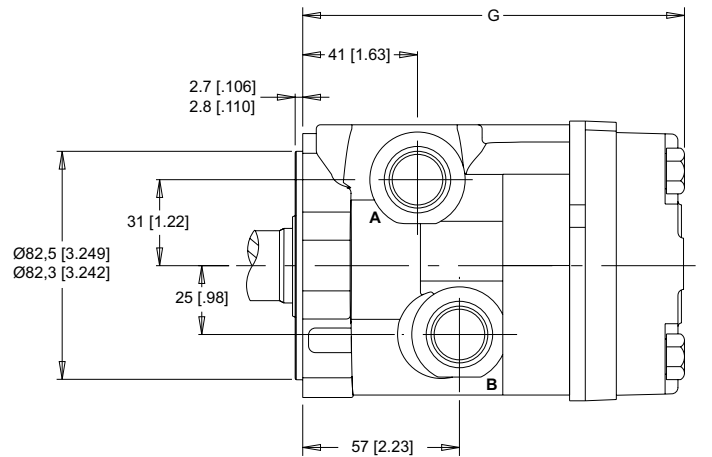
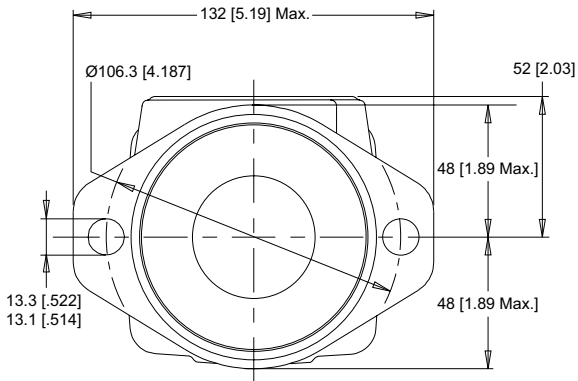


2-HOLE, SAE A MOUNT, SIDE PORTS

A70 1/2-14 NPT

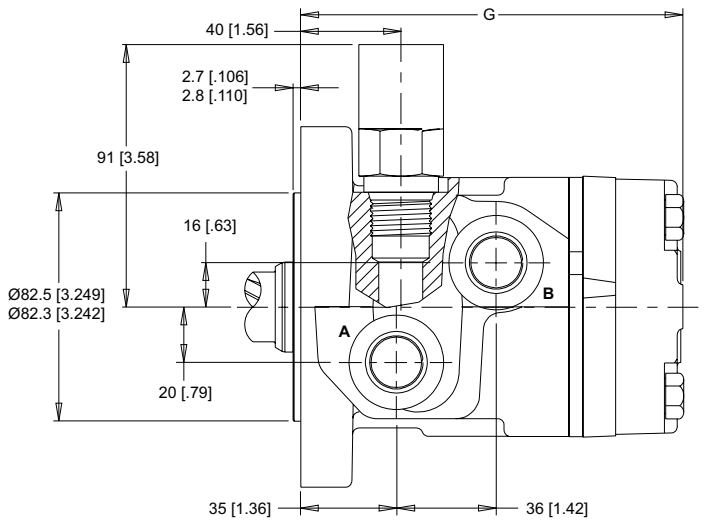
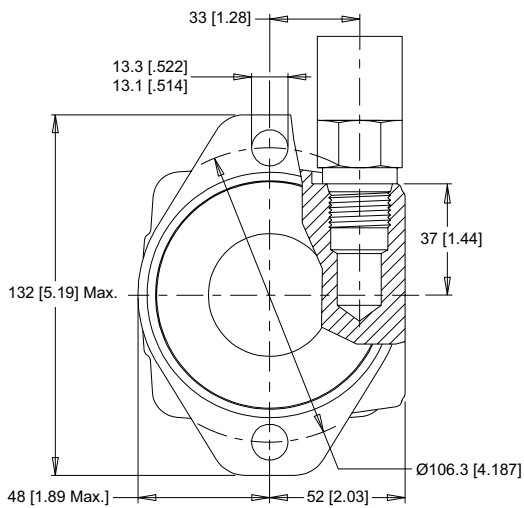
A71 7/8-14 UNF

A78 G 1/2



2-HOLE, SAE A MOUNT, OFFSET PORTS, VALVE CAVITY

A19 7/8-14 UNF



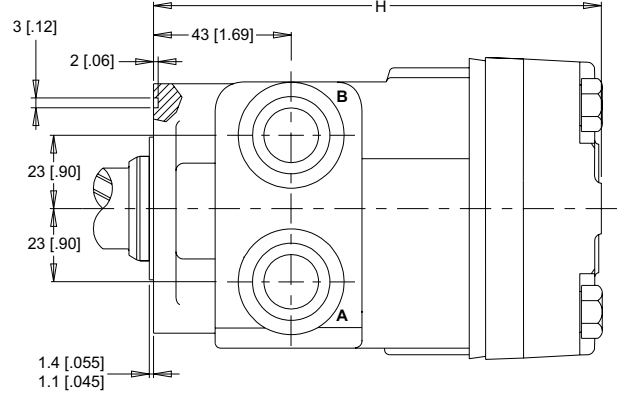
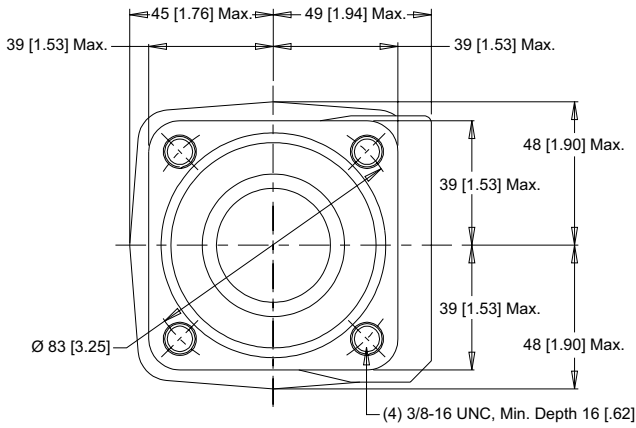
► Dimension G is charted on page 12. ► (TP) - Taller Pilot Height. Refer to detailed drawing for dimensional differences.

HOUSINGS

► Dimensions shown are without paint. Paint thickness can be up to 0.13 [.005].

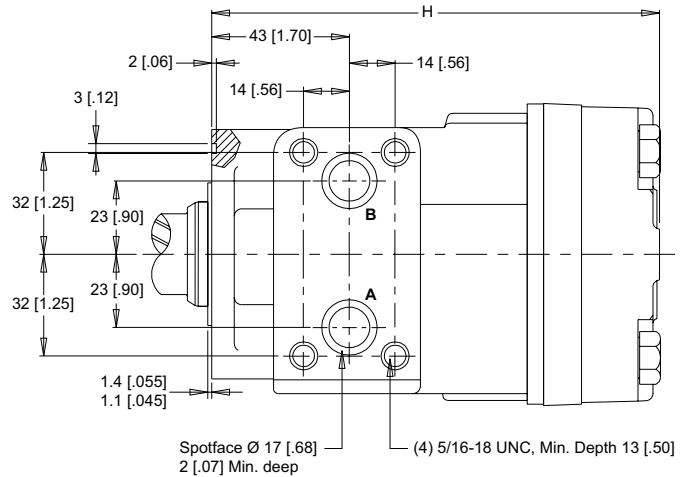
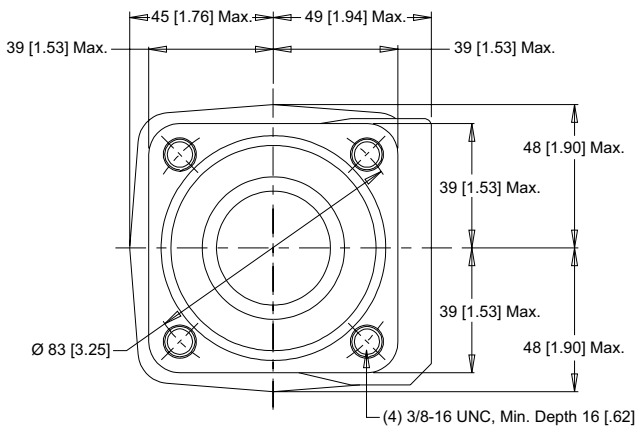
4-HOLE, SQUARE MOUNT, ALIGNED PORTS

F30 1/2-14 NPT **F31** 7/8-14 UNF



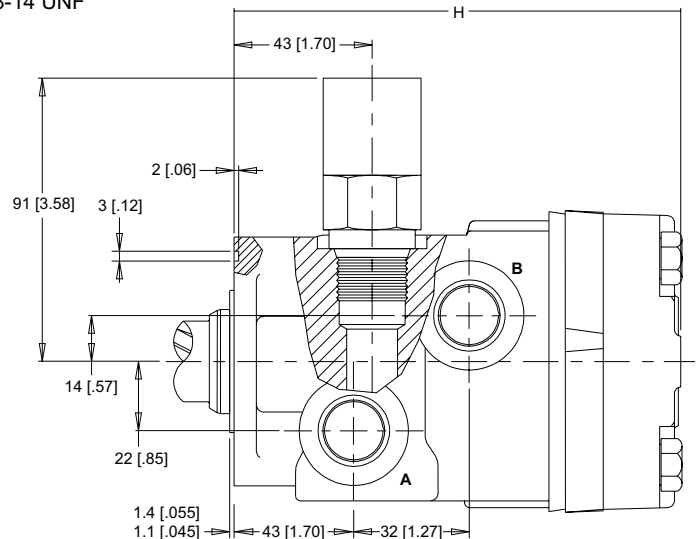
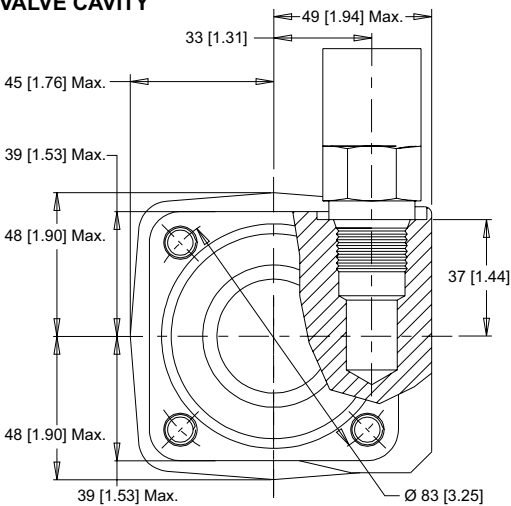
4-HOLE, SQUARE MOUNT, ALIGNED MANIFOLD PORTS

F37 1/2" Drilled



4-HOLE, SQUARE MOUNT, OFFSET MANIFOLD PORTS, VALVE CAVITY

F39 7/8-14 UNF



► Dimension H is charted on page 12.

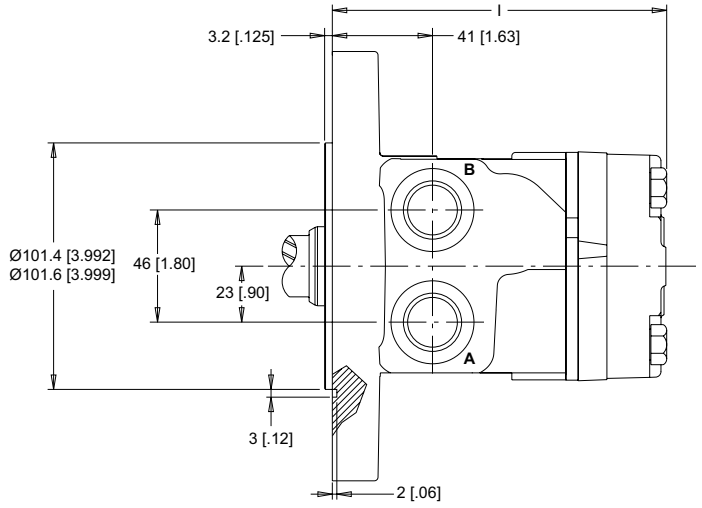
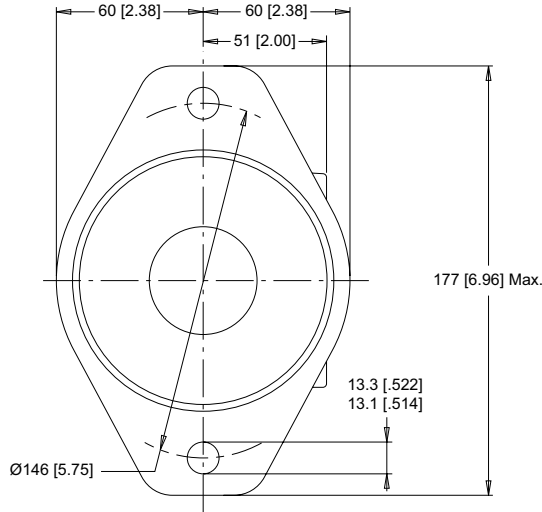


HOUSINGS

► Dimensions shown are without paint. Paint thickness can be up to 0.13 [.005].

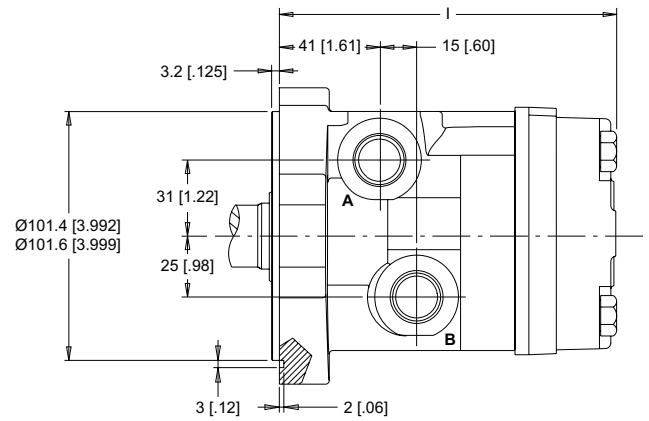
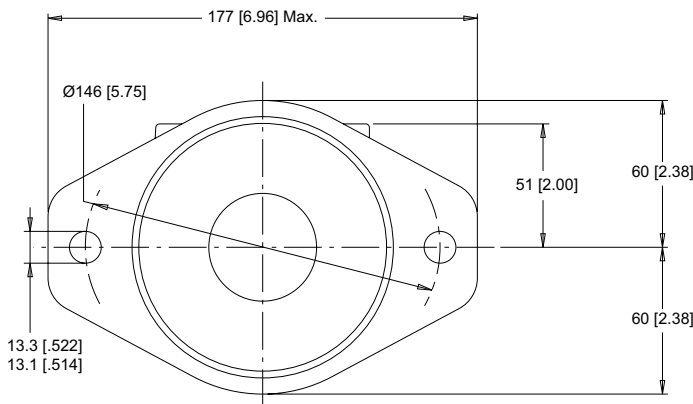
2-HOLE, SAE B MOUNT, ALIGNED PORTS

B10 1/2-14 NPT **B11** 7/8-14 UNF **B18** G 1/2



2-HOLE, SAE B MOUNT, SIDE PORTS

B70 1/2-14 NPT **B71** 7/8-14 UNF **B78** G 1/2



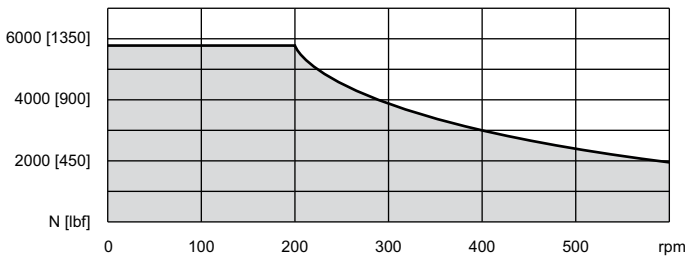
► Dimension I is charted on page 12.



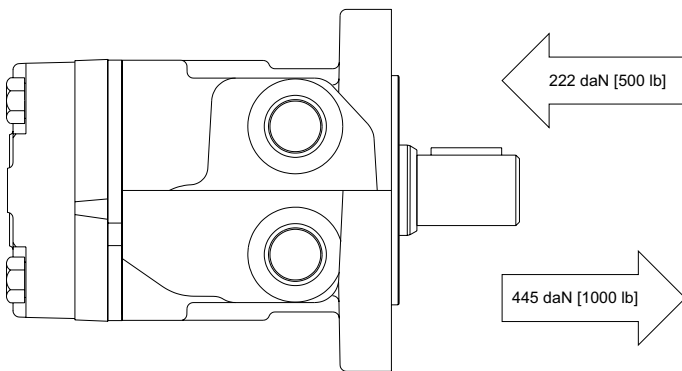
TECHNICAL INFORMATION

ALLOWABLE SHAFT LOAD / BEARING CURVE

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.



THRUST LOAD



LENGTH & WEIGHT CHARTS

► 200 & 201 series motor weights can vary ± 0.5 kg [1 lb] depending on model configurations such as housing, shaft, endcover, options etc.

Dimension G is the overall motor length from the rear of the motor to the mounting flange surface and is referenced on detailed housing drawings listed on pages 8-9.

G	Length	Weight
#	mm [in]	kg [lb]
050	134 [5.29]	7.3 [16.1]
080	138 [5.44]	7.5 [16.5]
090	140 [5.51]	7.6 [16.8]
100	146 [5.75]	8.0 [17.7]
110	144 [5.65]	7.8 [17.2]
125	146 [5.75]	8.0 [17.7]
160	152 [5.97]	8.3 [18.2]
200	158 [6.22]	8.5 [18.8]
250	166 [6.53]	9.0 [19.8]
300	172 [6.76]	9.3 [20.5]
400	190 [7.47]	10.3 [22.7]

Dimension H is the overall motor length from the rear of the motor to the mounting flange surface and is referenced on detailed housing drawings listed on page 10.

H	Length	Weight
#	mm [in]	kg [lb]
050	136 [5.36]	6.1 [13.4]
080	140 [5.50]	6.3 [13.9]
090	142 [5.58]	6.4 [14.1]
100	148 [5.82]	6.9 [15.1]
110	145 [5.72]	6.6 [14.6]
125	148 [5.82]	6.9 [15.1]
160	153 [6.04]	7.0 [15.4]
200	160 [6.29]	7.3 [16.0]
250	167 [6.59]	7.8 [17.1]
300	173 [6.83]	8.1 [17.9]
400	192 [7.54]	9.2 [20.2]

Dimension I is the overall motor length from the rear of the motor to the mounting flange surface and is referenced on detailed housing drawings listed on page 11.

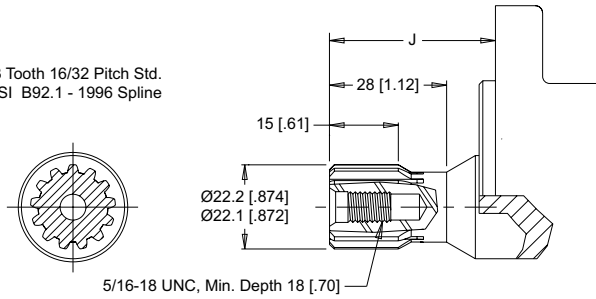
I	Length	Weight
#	mm [in]	kg [lb]
050	134 [5.29]	8.5 [18.6]
080	138 [5.44]	8.6 [19.0]
090	140 [5.51]	8.8 [19.3]
100	146 [5.75]	9.2 [20.2]
110	144 [5.65]	8.9 [19.7]
125	146 [5.75]	9.2 [20.2]
160	152 [5.97]	9.4 [20.7]
200	158 [6.22]	9.7 [21.3]
250	166 [6.53]	10.1 [22.3]
300	172 [6.76]	10.5 [23.0]
400	190 [7.47]	11.5 [25.2]



SHAFTS

01 7/8" 13 Tooth Spline

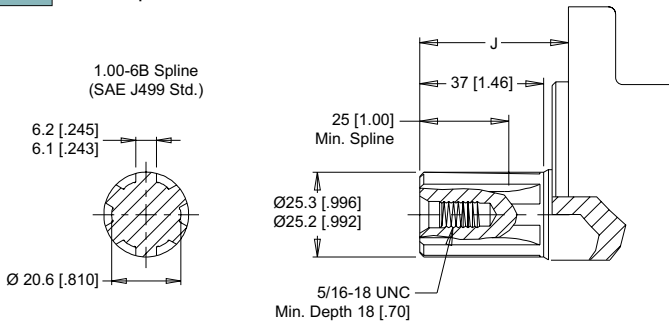
13 Tooth 16/32 Pitch Std.
ANSI B92.1 - 1996 Spline



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

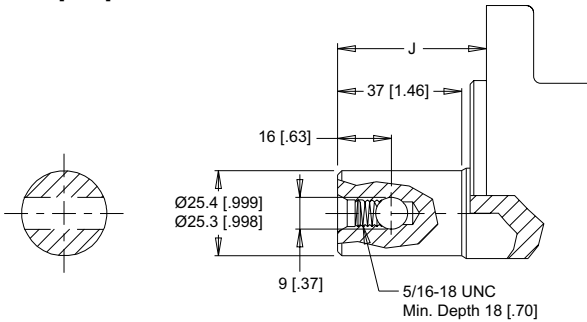
02 1" 6B Spline

1.00-6B Spline
(SAE J499 Std.)



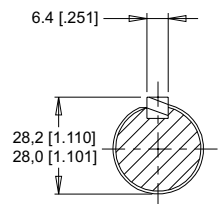
Max. Torque: 678 Nm [6000 lb-in]

05 1" - 9.5 [.375] Pinhole



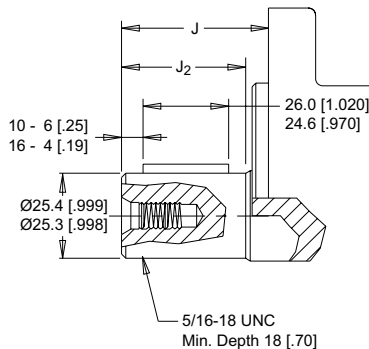
Max. Torque: 678 Nm [6000 lb-in]

10 1" Straight

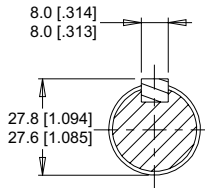


Max. Torque: 655 Nm [5800 lb-in]

15 1" Straight Extended

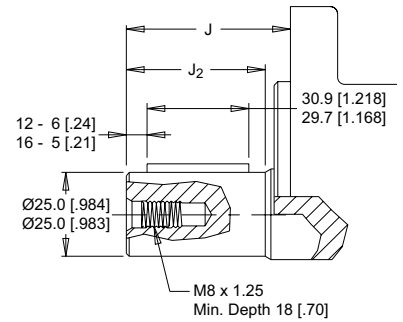


12 25mm Straight



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

16 25mm Straight Extended



MOUNTING / SHAFT LENGTH CHART

Dimension J is the overall distance from the motor mounting surface to the end of the shaft.

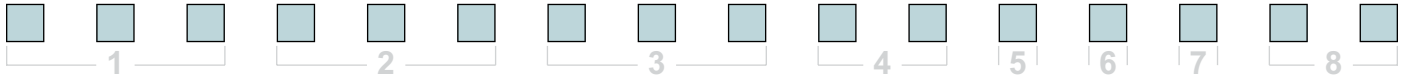
Additional shaft length information, if necessary, is noted as J₂ and does not increase or decrease the listed J dimensions in this chart. The overall shaft lengths are already factored into the overall distance from the mounting surface to the end of the shaft.

J	SAE A & B Mounts	Square Mounts	J ₂
#	mm [in]	mm [in]	mm [in]
01	42 [1.65]	40 [1.58]	N/A
02	45 [1.76]	43 [1.69]	N/A
05	45 [1.76]	43 [1.69]	N/A
10	45 [1.76]	43 [1.69]	37 [1.46]
12	55 [2.16]	53 [2.09]	43 [1.70]
13	57 [2.23]	55 [2.16]	N/A
15	58 [2.29]	56 [2.22]	51 [1.99]
16	58 [2.29]	56 [2.22]	50 [1.98]

► A slotted hex nut is standard on this shaft.

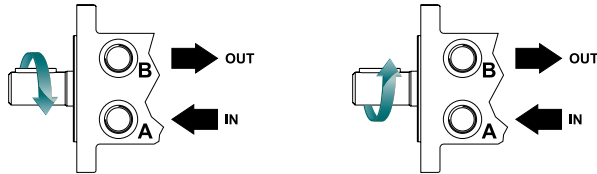


ORDERING INFORMATION



1. CHOOSE SERIES DESIGNATION

- 200** Clockwise Rotation
- 201** Counterclockwise Rotation



► The 200 & 201 series are bi-directional. Reversing the inlet hose will reverse shaft 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.

2. SELECT A DISPLACEMENT OPTION

050	52 cm ³ /rev [3.2 in ³ /rev]	160	164 cm ³ /rev [10.0 in ³ /rev]
080	76 cm ³ /rev [4.6 in ³ /rev]	200	205 cm ³ /rev [12.5 in ³ /rev]
090	89 cm ³ /rev [5.4 in ³ /rev]	250	254 cm ³ /rev [15.5 in ³ /rev]
100	103 cm ³ /rev [6.3 in ³ /rev]	300	293 cm ³ /rev [17.9 in ³ /rev]
110	111 cm ³ /rev [6.8 in ³ /rev]	400	409 cm ³ /rev [24.9 in ³ /rev]
125	127 cm ³ /rev [7.7 in ³ /rev]		

3. SELECT A MOUNT & PORT OPTION

A10	2-Hole, SAE A Mount, Aligned Ports, 1/2-14 NPT
A11	2-Hole, SAE A Mount, Aligned Ports, 7/8-14 UNF
A12	2-Hole, SAE A Mount, Offset Ports, G 1/2
A13	2-Hole, SAE A Mount, Offset Manifold Ports, G 1/2
A17	2-Hole, SAE A Mount, Aligned Manifold Ports, 1/2" Drilled
A18	2-Hole, SAE A Mount, Aligned Ports, G 1/2
A19	2-Hole, SAE A Mount, Offset Ports, Valve Cavity 7/8-14 UNF
A62	2-Hole, SAE A Mount, Offset Ports, G 1/2 (TP)
A63	2-Hole, SAE A Mount, Offset Manifold Ports, G 1/2 (TP)
A67	2-Hole, SAE A Mount, Aligned Manifold Ports, 1/2" Drilled (TP)
A68	2-Hole, SAE A Mount, Aligned Ports, G 1/2 (TP)
A70	2-Hole, SAE A Mount, Side Ports, 1/2-14 NPT
A71	2-Hole, SAE A Mount, Side Ports, 7/8-14 UNF
A78	2-Hole, SAE A Mount, Side Ports, G 1/2
B10	2-Hole, SAE B Mount, Aligned Ports, 1/2-14 NPT
B11	2-Hole, SAE B Mount, Aligned Ports, 7/8-14 UNF
B18	2-Hole, SAE B Mount, Aligned Ports, G 1/2
B70	2-Hole, SAE B Mount, Side Ports, 1/2-14 NPT

► (TP) - Tall pilot. Speed sensor option is not available on housings with a tall pilot or SAE B mounts.

3. SELECT A MOUNT & PORT OPTION

B71	2-Hole, SAE B Mount, Side Ports, 7/8-14 UNF
B78	2-Hole, SAE B Mount, Side Ports, G 1/2
F30	4-Hole, Square Mount, Aligned Ports, 1/2-14 NPT
F31	4-Hole, Square Mount, Aligned Ports, 7/8-14 UNF
F37	4-Hole, Square Mount, Aligned Manifold Ports, 1/2" Drilled
F39	4-Hole, Square Mount, Offset Ports, Valve Cavity, 7/8-14 UNF

4. SELECT A SHAFT OPTION

01	7/8" 13 Tooth Spline	12	25mm Straight
02	1" 6B Spline, 1/4-20 Tap	13	1" Tapered
05	1" - 9.5 [.375] Pinhole	15	1" Straight Extended
10	1" Straight	16	25mm Straight Extended

► The 15 & 16 extended shafts are designed for use with one of the speed sensor options listed in STEP 7.

5. SELECT A PAINT OPTION

A	Black
B	Black, Unpainted Mounting Surface
C	No Paint

6. SELECT A VALVE CAVITY / CARTRIDGE OPTION

A	None	E	104 bar [1500 psi] Relief
B	Valve Cavity Only	F	121 bar [1750 psi] Relief
C	69 bar [1000 psi] Relief	G	138 bar [2000 psi] Relief
D	86 bar [1250 psi] Relief		

► Valve cavity is only available on the A19 & F39 housings.

7. SELECT AN ADD-ON OPTION

A	Standard
B	Lock Nut
C	Solid Hex Nut
W	Speed Sensor, Dual, 4-Pin Male Weatherpack Connector
X	Speed Sensor, Dual, 4-Pin M12 Male Connector
Y	Speed Sensor, Single, 3-Pin Male Weatherpack Connector
Z	Speed Sensor, Single, 4-Pin M12 Male Connector

8. SELECT A MISCELLANEOUS OPTION

AA	None
AC	Freeturning Rotor

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