white drive products

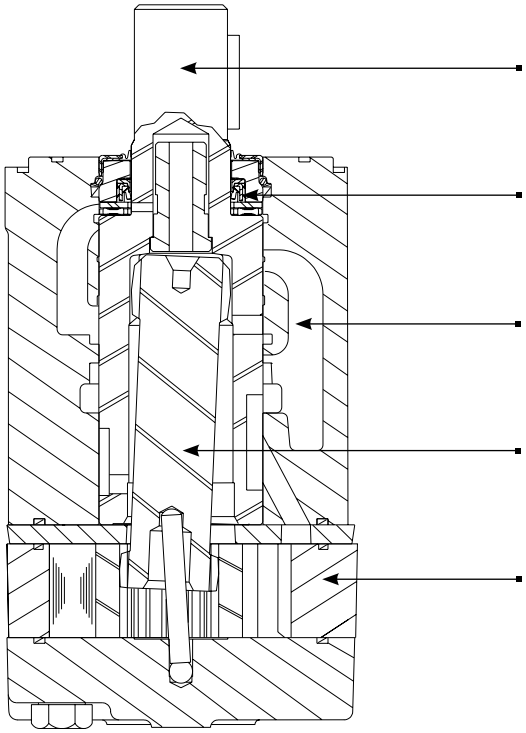
RS

SERIES HYDRAULIC MOTORS

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.



KEY FEATURES

Match Ground Shaft is matched to housing bore to maintain highest volumetric efficiencies.

High Pressure Shaft Seal offers superior seal life and performance and eliminates the need for case drain.

Pressure Fed Bearing surface receives positive flow of clean, cool oil.

Heavy-Duty Drive Link receives full flow lubrication to provide long life.

Roller Stator® Motor Design increases efficiency and life by using roller contact versus solid, sliding contact design.

SPECIFICATIONS

Intermittent Ratings - 10% of Operation **Peak Ratings** - 1% of Operation

CODE	Displacement cc [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]

050

52 cc [3.2 in^3/rev.]

Pressure - bars [psi]

17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750] Max. Cont.	138 [2000] Max. Inter.

Intermittent Ratings - 10% of Operation

Torque - Nm [lb-in], **Speed rpm**

Flow - lpm [gpm]									Theoretical rpm
	2 [0.5]	10 [89] **35**	15 [133] **33**	25 [223] **26**	33 [290] **24**	42 [375] **24**	49 [435] **12**			37
	4 [1]	10 [92] **69**	18 [163] **68**	29 [253] **68**	39 [348] **67**	49 [438] **54**	59 [523] **49**	55 [483] **4**		73
	8 [2]	10 [90] **142**	20 [181] **140**	31 [274] **138**	41 [366] **136**	52 [464] **127**	63 [556] **103**	74 [653] **78**	78 [690] **34**	145
	15 [4]	10 [85] **288**	17 [154] **285**	28 [251] **283**	40 [355] **282**	53 [465] **275**	65 [572] **258**	76 [669] **227**	86 [764] **193**	289
Max. Cont.	23 [6]		19 [168] **433**	27 [243] **432**	39 [342] **430**	50 [445] **429**	62 [549] **408**	74 [656] **380**	85 [755] **346**	434
	30 [8]		17 [148] **576**	27 [243] **574**	36 [318] **570**	47 [417] **568**	59 [526] **554**	71 [631] **535**		578
Max. Inter.	38 [10]		13 [119] **718**	25 [218] **711**	35 [307] **701**	48 [429] **700**	56 [499] **689**	67 [593] **682**		722

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

Theoretical Torque - Nm [lb-in]

14 [127]	29 [255]	43 [382]	58 [510]	72 [637]	86 [764]	101 [892]	115 [1019]

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

080

76 cc [4.6 in^3/rev.]

Pressure - bars [psi]

17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750] Max. Cont.	138 [2000] Max. Inter.

Intermittent Ratings - 10% of Operation

Torque - Nm [lb-in], **Speed rpm**

Flow - lpm [gpm]									Theoretical rpm
	2 [0.5]	12 [107] **25**	26 [227] **21**	39 [341] **20**	51 [456] **9**	58 [509] **5**				26
	4 [1]	12 [110] **50**	29 [252] **50**	43 [381] **42**	59 [522] **35**	75 [661] **34**	81 [720] **11**			51
	8 [2]	14 [122] **100**	29 [260] **99**	46 [405] **99**	63 [560] **93**	80 [707] **82**	96 [848] **73**	110 [973] **48**	115 [1016] **20**	101
	15 [4]		30 [263] **200**	47 [416] **196**	65 [574] **193**	82 [726] **184**	98 [871] **168**	118 [1046] **150**	134 [1184] **121**	201
	23 [6]		28 [252] **301**	46 [403] **297**	64 [562] **293**	82 [721] **287**	98 [869] **271**	115 [1020] **252**	134 [1183] **218**	302
	30 [8]		25 [221] **400**	43 [379] **399**	63 [555] **393**	79 [703] **390**	97 [860] **375**	115 [1014] **355**	132 [1172] **330**	402
Max. Inter.	38 [10]			39 [341] **502**	57 [502] **500**	74 [657] **498**	93 [819] **496**	111 [980] **472**	128 [1135] **443**	503
Max. Cont.	45 [12]			35 [314] **602**	50 [446] **600**	71 [625] **599**	92 [816] **598**	105 [932] **580**		603

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

Theoretical Torque - Nm [lb-in]

21 [183]	41 [366]	62 [549]	83 [732]	103 [916]	124 [1099]	145 [1282]	166 [1465]

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

090

89 cc [5.4 in^3/rev.]

Pressure - bars [psi]

17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750] Max. Cont.	138 [2000] Max. Inter.

Intermittent Ratings - 10% of Operation

Torque - Nm [lb-in], **Speed rpm**

Flow - lpm [gpm]									Theoretical rpm
	2 [0.5]	23 [206] **20**	43 [376] **19**	63 [559] **17**	84 [743] **14**	98 [864] **10**	105 [933] **1**			22
	4 [1]		43 [383] **41**	64 [566] **40**	86 [760] **37**	108 [953] **32**	127 [1123] **25**	138 [1225] **12**		43
	8 [2]		44 [388] **85**	63 [561] **84**	83 [739] **81**	106 [937] **75**	127 [1121] **66**	151 [1336] **51**	169 [1495] **31**	86
	15 [4]			61 [538] **169**	85 [754] **166**	104 [920] **159**	128 [1134] **149**	148 [1309] **133**	168 [1484] **115**	172
	23 [6]				81 [720] **251**	102 [902] **244**	125 [1105] **229**	144 [1275] **213**	164 [1450] **191**	257
	30 [8]				78 [686] **338**	98 [867] **330**	122 [1080] **318**	141 [1251] **300**	164 [1448] **278**	343
Max. Inter.	38 [10]					93 [824] **417**	113 [1004] **406**	137 [1210] **386**	161 [1422] **365**	428
Max. Cont.	45 [12]					81 [715] **504**	87 [766] **491**	113 [998] **478**		514

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

Theoretical Torque - Nm [lb-in]

24 [215]	49 [430]	73 [645]	97 [860]	121 [1075]	146 [1290]	170 [1505]	194 [1720]

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

RS

PERFORMANCE

100

103 cc [6.3 in³/rev.]

Pressure - bars [psi]						Max. Cont.	Max. Inter.
17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]	Torque - Nm [lb-in], **Speed rpm**								Theoretical rpm
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
Max. Cont. 53 [14]					84 [746] **507**	118 [1040] **497**	135 [1198] **484**	141 [1250] **465**	514
Max. Inter. 61 [16]						108 [957] **574**	135 [1197] **566**		587

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

Theoretical Torque - Nm [lb-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]

110

111 cc [6.8 in³/rev.]

Pressure - bars [psi]						Max. Cont.	Max. Inter.
17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]	Torque - Nm [lb-in], **Speed rpm**								Theoretical rpm
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
Max. Cont. 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
Max. Inter. 68 [18]						111 [984] **595**	136 [1205] **579**		612

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

Theoretical Torque - Nm [lb-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]

125

127 cc [7.7 in^3/rev.]

Pressure - bars [psi]

17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500] Max. Cont.	121 [1750] Max. Inter.

Torque - Nm [lb-in], **Speed rpm**

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]								Theoretical rpm
2 [0.5]	29 [225] **14**	60 [534] **12**	86 [758] **10**	112 [990] **7**	129 [1145] **2**			15
4 [1]	28 [251] **29**	62 [545] **28**	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
Max. Cont. 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

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

Theoretical Torque - Nm [lb-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]

160

164 cc [10.0 in^3/rev.]

Pressure - bars [psi]

17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500] Max. Cont.	121 [1750] Max. Inter.

Torque - Nm [lb-in], **Speed rpm**

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]								Theoretical rpm
2 [0.5]	32 [281] **11**	71 [630] **10**	103 [908] **8**	141 [1247] **6**	167 [1481] **2**			12
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
Max. Cont. 61 [16]				102 [901] **369**	142 [1255] **368**	179 [1585] **362**	219 [1936] **345**	370
68 [18]				93 [824] **415**	127 [1121] **414**	164 [1447] **410**		416
Max. Inter. 76 [20]					111 [980] **460**	152 [1348] **460**		462

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

Theoretical Torque - Nm [lb-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]

RS

PERFORMANCE

200

205 cc [12.5 in³/rev.]

Pressure - bars [psi]					Max. Cont.	Max. Inter.
17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]	Torque - Nm [lb-in], **Speed rpm**						Theoretical rpm
2 [0.5]	47 [414] **8**	96 [846] **7**	141 [1250] **6**	183 [1621] **5**	224 [1983] **3**		10
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
Max. Cont. 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
Max. Inter. 76 [20]				104 [924] **369**	154 [1366] **368**	207 [1833] **367**		370

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]

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

250

254 cc [15.5 in³/rev.]

Pressure - bars [psi]				Max. Cont.	Max. Inter.
17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]	Torque - Nm [lb-in], **Speed rpm**						Theoretical rpm
2 [0.5]	52 [457] **6**	104 [919] **4**	150 [1327] **2**				8
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
Max. Cont. 76 [20]				95 [842] **297**	157 [1387] **295**	217 [1919] **293**	299
83 [22]					130 [1147] **327**		328
Max. Inter. 91 [24]					99 [874] **356**		358

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]

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

300

293 cc [17.9 in³/rev.]

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

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

Flow - lpm [gpm]	Torque - Nm [lb-in], **Speed rpm**					Theoretical rpm
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
Max. Cont. 76 [20]				119 [1054] **257**	190 [1679] **256**	259
83 [22]				83 [738] **283**		284
Max. Inter. 91 [24]						310

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

Theoretical Torque - Nm [lb-in]

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

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

400

409 cc [24.9 in³/rev.]

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

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

Flow - lpm [gpm]	Torque - Nm [lb-in], **Speed rpm**					Theoretical rpm
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
Max. Cont. 76 [20]			89 [790] **185**	188 [1663] **184**	264 [2336] **183**	186
83 [22]				140 [1242] **204**		205
Max. Inter. 91 [24]				93 [824] **222**		223

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

Theoretical Torque - Nm [lb-in]

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

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

RS

NOTE: Dimensions shown are without paint. Paint thickness can be up to 0,13 [.005]

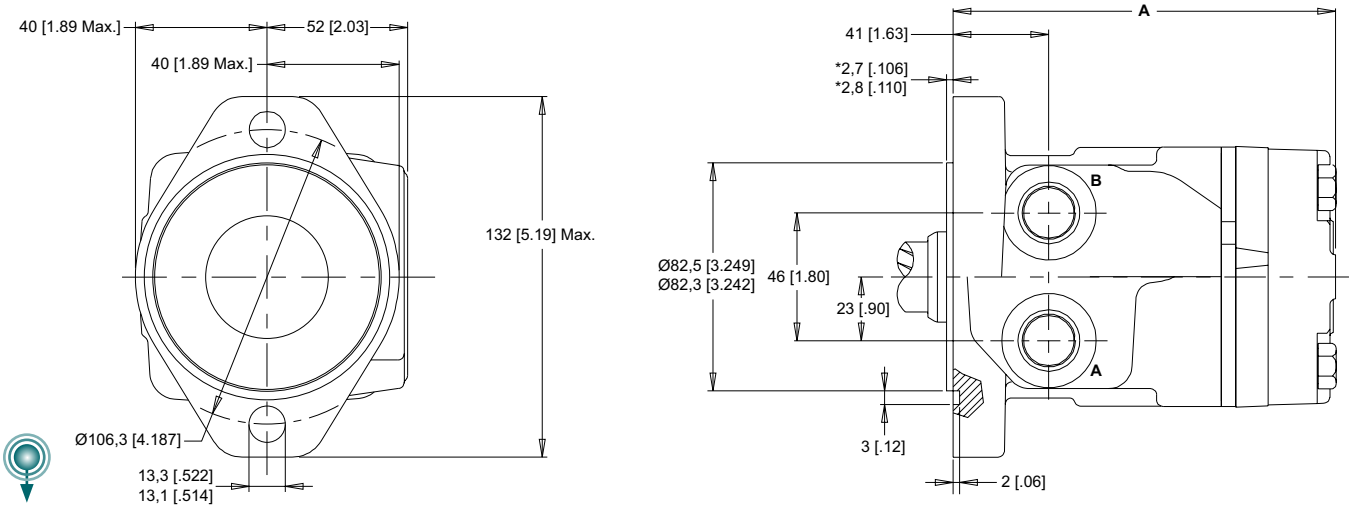
200 & 201 SERIES HOUSINGS (SAE A MOUNTS)

A10 2-Hole 1/2” NPT Aligned Ports

A11 2-Hole 7/8” O-Ring Aligned Ports

A18 2-Hole 1/2” BSP.F Aligned Ports

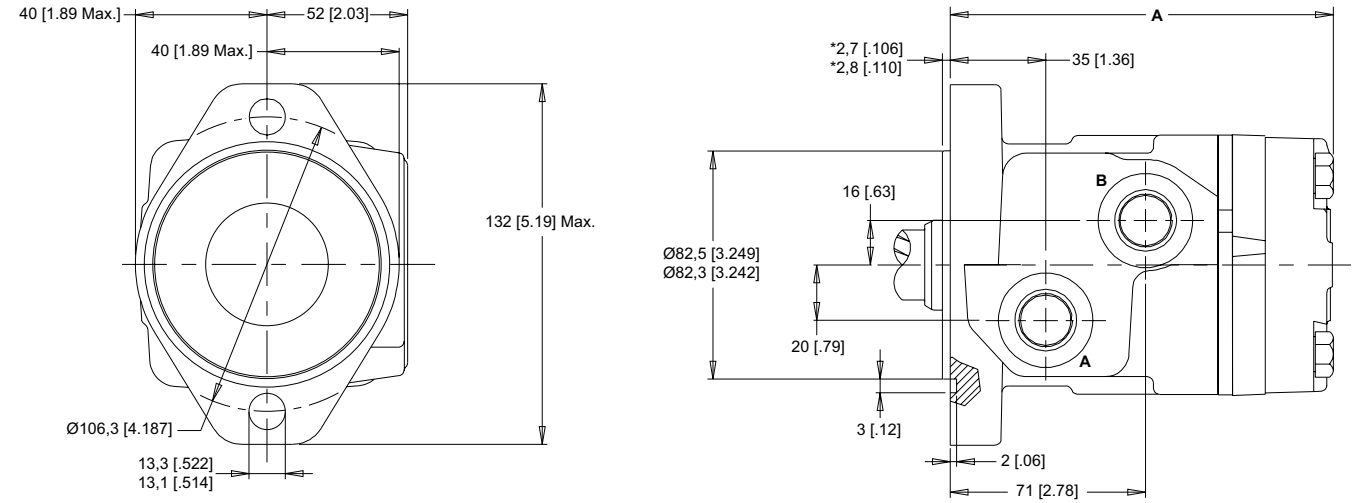
A68 2-Hole 1/2” BSP.F Aligned Ports*



NOTE: Dimension A is found on page 12. * Pilot height is 5,2 [.205] - 5,3 [.210] for the A62, A67, & A68. ** For the A67 the four mounting holes are M8 x 1.25 at same depth.

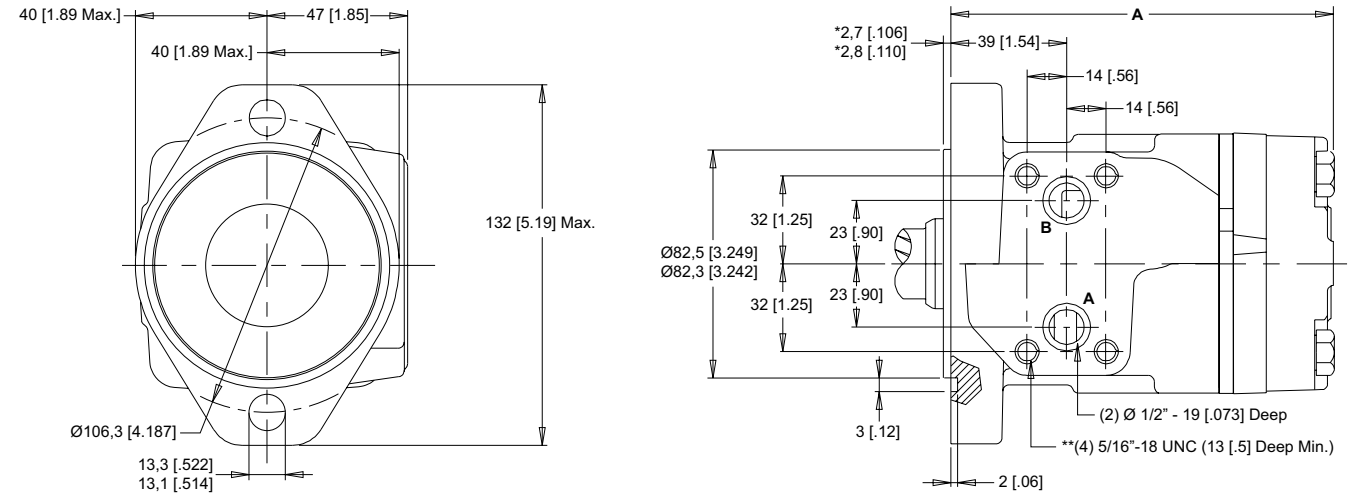
A12 2-Hole 1/2” BSP.F Offset Ports

A62 2-Hole 1/2” BSP.F Offset Ports*



A17 2-Hole 1/2” Manifold Ports

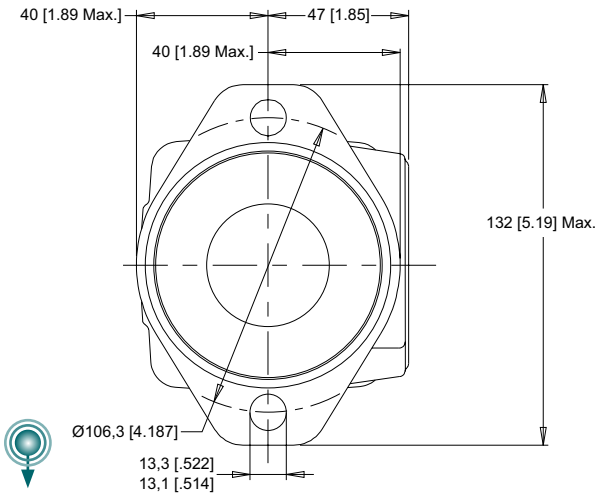
A67 2-Hole 1/2” Manifold Ports*



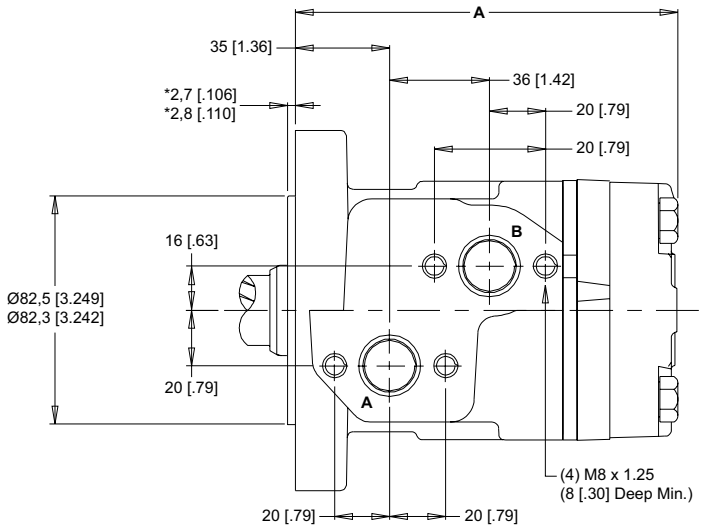
NOTE: Dimensions shown are without paint. Paint thickness can be up to 0,13 [.005]

200 & 201 SERIES HOUSINGS (SAE A MOUNTS)

A13 2-Hole 1/2" BSP.F Manifold Ports

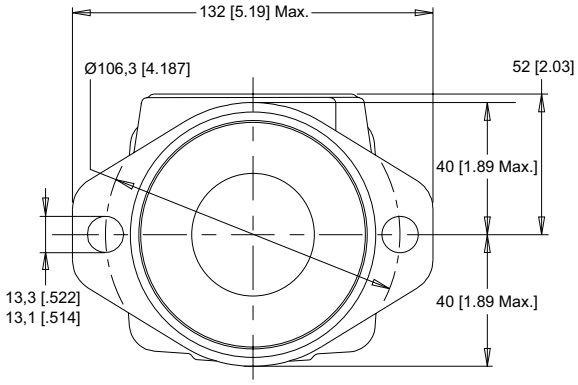


A63 2-Hole 1/2" BSP.F Manifold Ports*



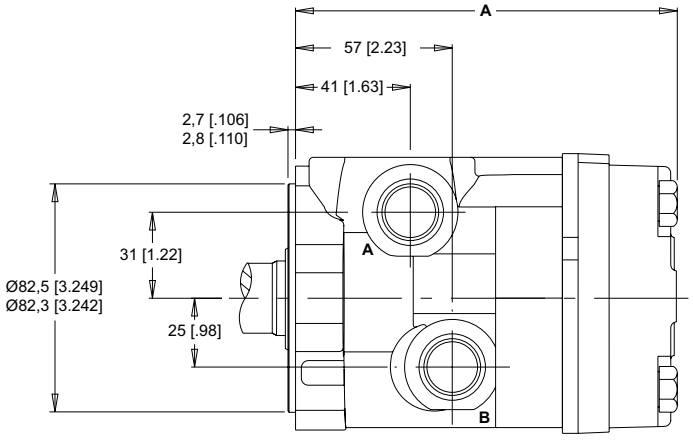
NOTE: Dimension A is found on page 12. * Pilot height is 5,2 [.205] - 5,3 [.210] for the A63.

A70 2-Hole 1/2" NPT Side Ports

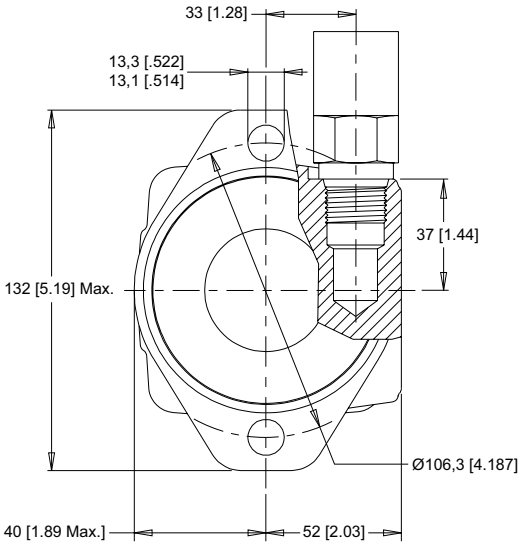


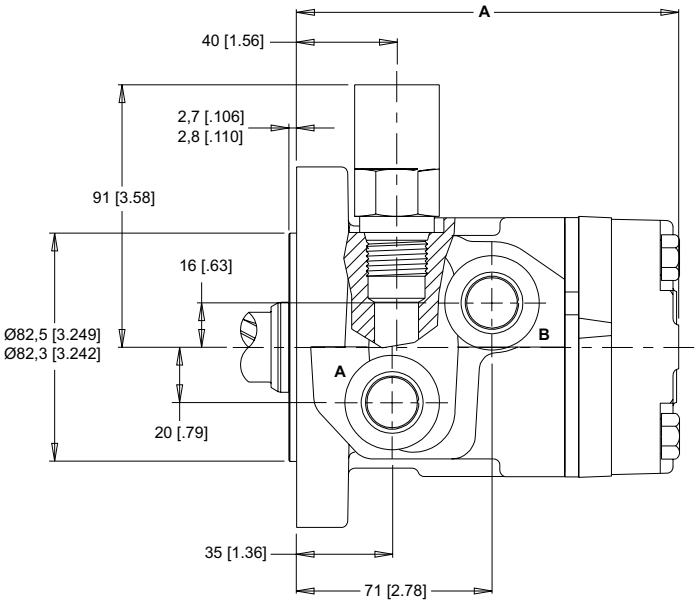
A71 2-Hole 7/8" O-Ring Side Ports

A72 2-Hole 1/2" BSP.F Side Ports



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



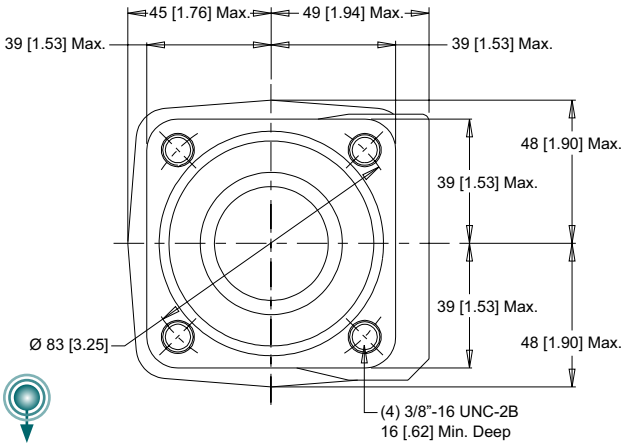


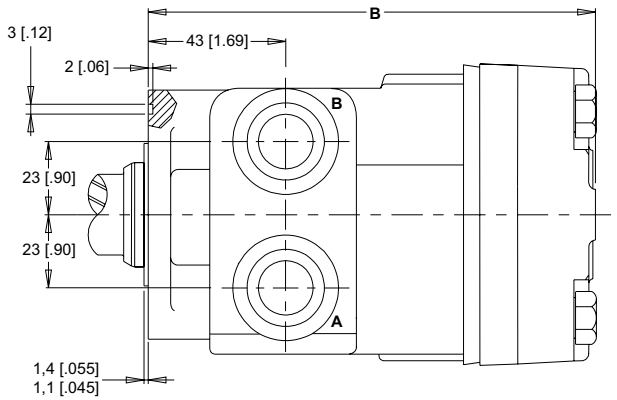
RS

NOTE: Dimensions shown are without paint. Paint thickness can be up to 0,13 [.005]

200 & 201 SERIES HOUSINGS (4-HOLE SQUARE MOUNTS)

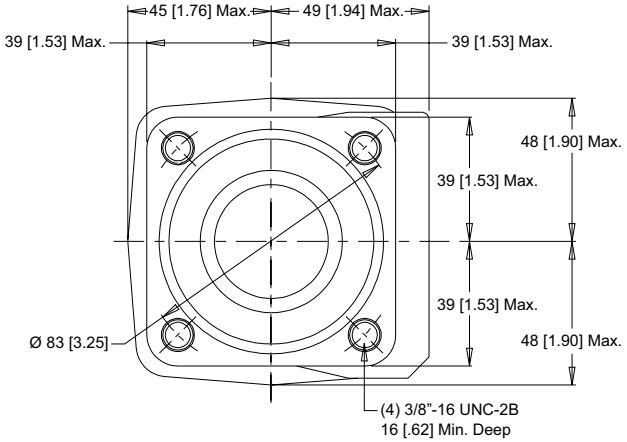
F30 4-Hole 1/2” NPT Aligned Ports

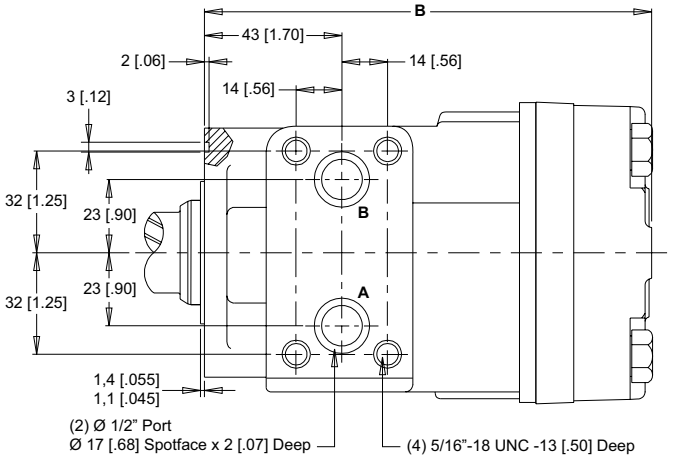




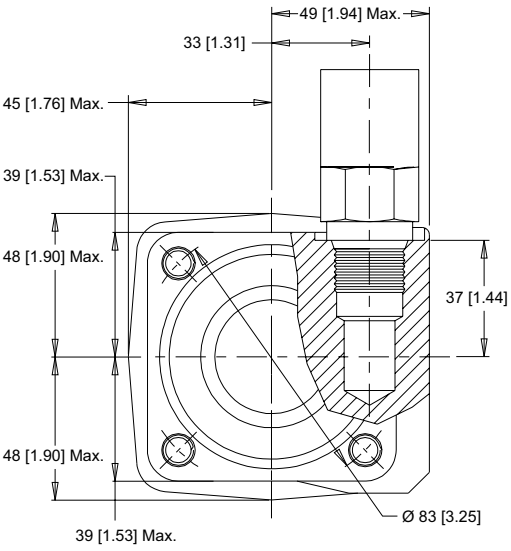
NOTE: Dimension B is found on page 12.

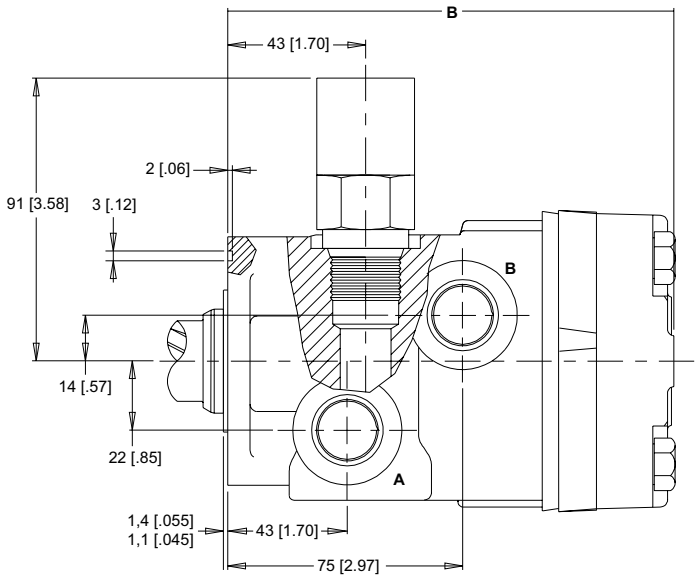
F37 4-Hole Manifold Ports





F39 4-Hole 7/8” O-Ring Offset Ports With Valve Cavity

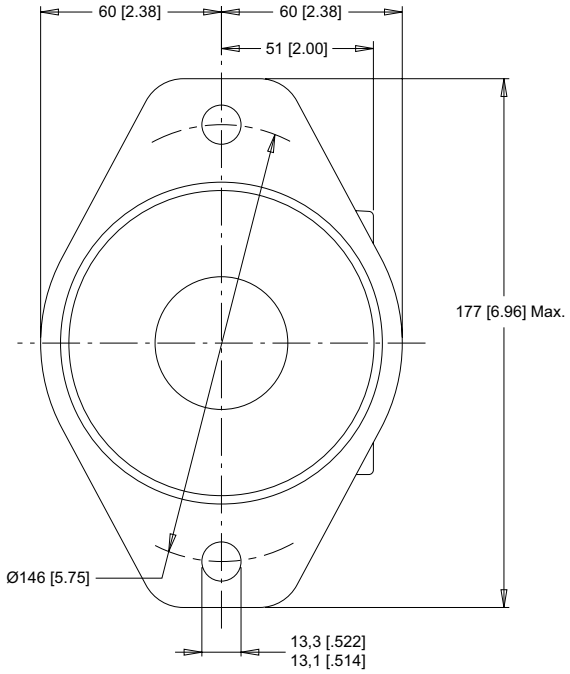




NOTE: Dimensions shown are without paint. Paint thickness can be up to 0,13 [.005]

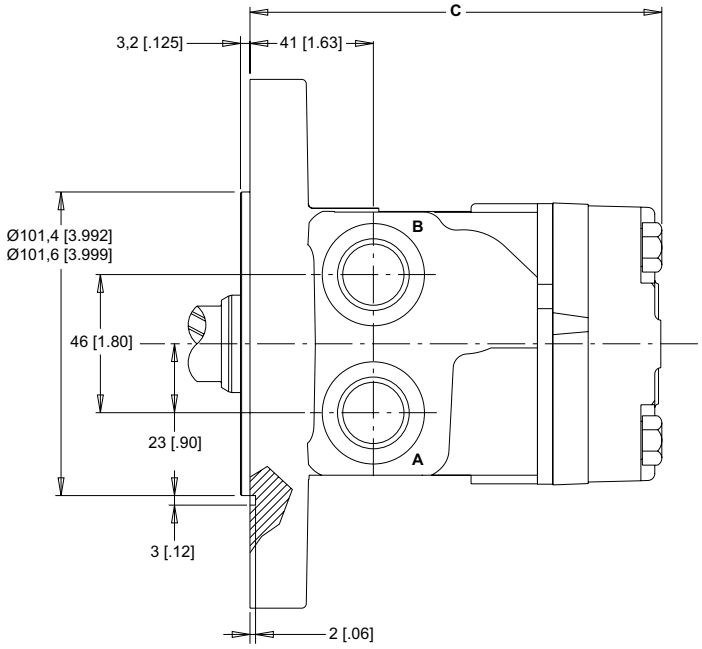
200 & 201 SERIES HOUSINGS (SAE B MOUNTS)

B10 2-Hole 1/2” NPT Aligned Ports

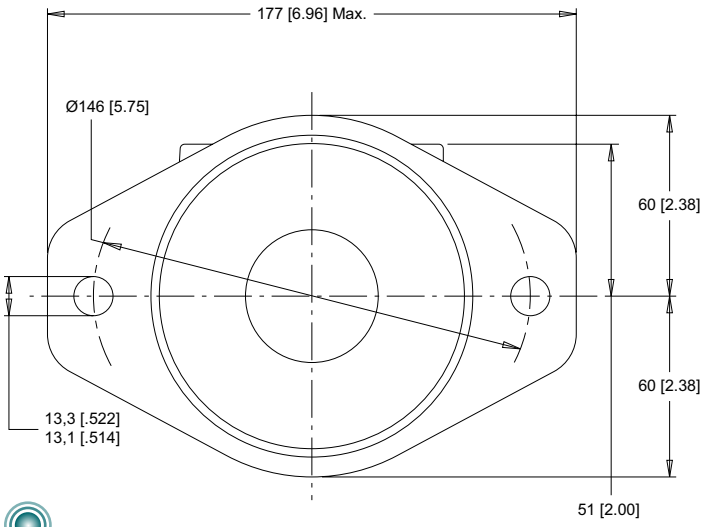


B11 2-Hole 7/8” O-Ring Aligned Ports

B18 2-Hole 1/2” BSP.F Aligned Ports

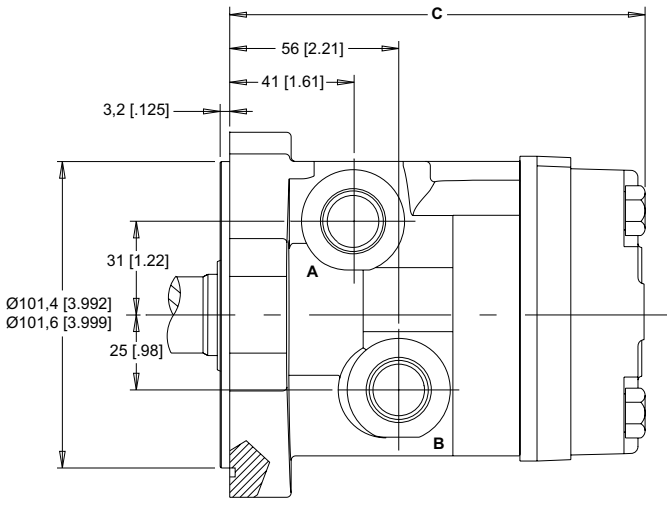


B70 2-Hole 1/2” NPT Side Ports



B71 2-Hole 7/8” O-Ring Side Ports

B72 2-Hole 1/2” BSP.F Side Ports

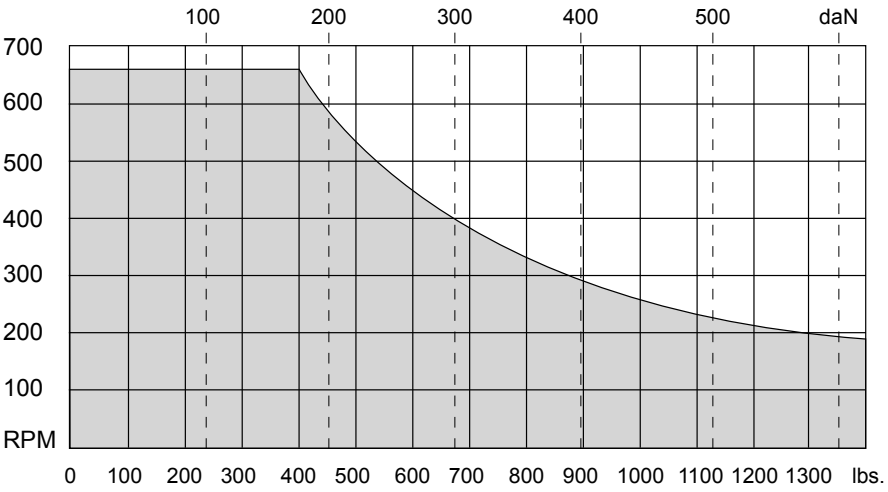


NOTE: Dimension C is found on page 12.

RS

200 & 201 SERIES TECHNICAL INFORMATION

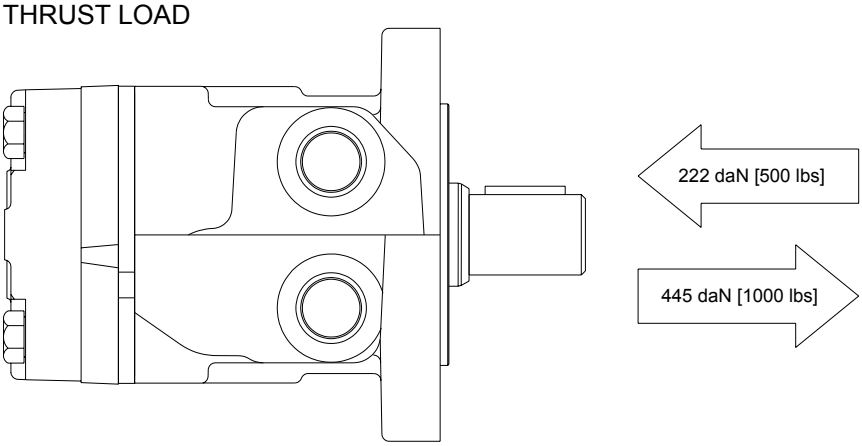
Bearing Curve: The bearing curve below represents the side load capacity of the motor at the centerline of the key for various motor speeds.



ALLOWABLE SIDE 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.

THRUST LOAD



LENGTH / WEIGHT CHART
SAE A Mount - Dimension **A**

Code	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]

NOTE:
RS motor weights vary ± 0,5 kg [1 lb] depending upon motor configuration.

LENGTH / WEIGHT CHART
Square Mount - Dimension **B**

Code	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]

NOTE:
RS motor weights vary ± 0,5 kg [1 lb] depending upon motor configuration.

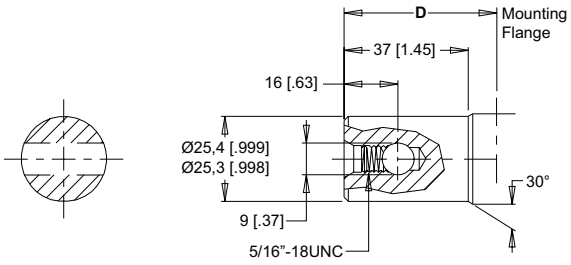
LENGTH / WEIGHT CHART
SAE B Mount - Dimension **C**

Code	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]

NOTE:
RS motor weights vary ± 0,5 kg [1 lb] depending upon motor configuration.

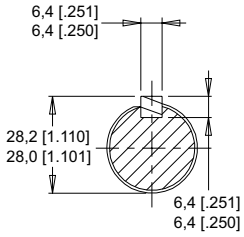
05 1" Pinhole

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

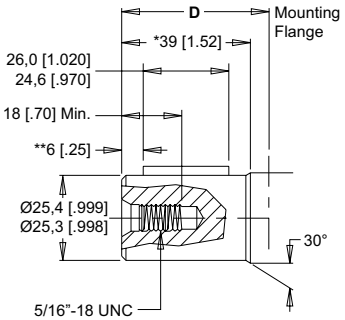


10 1" Straight

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



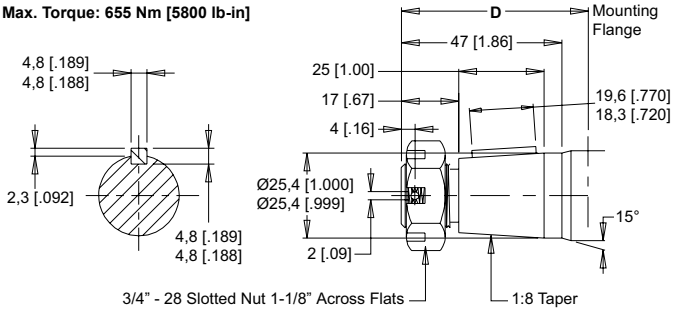
15 1" Straight Extended



NOTE: * For 15 shaft add 13 [.53] ** For 15 shaft substract 2 [.07]

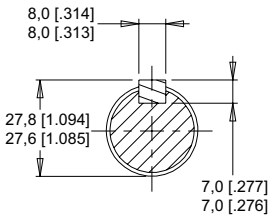
13 1" Tapered

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

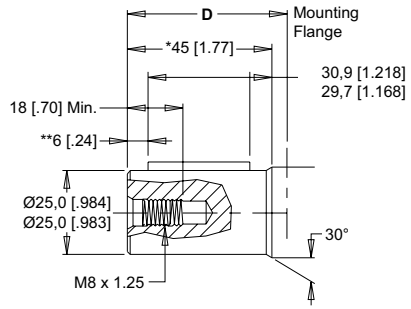


12 25mm Straight

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



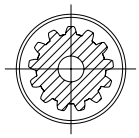
16 25mm Straight Extended



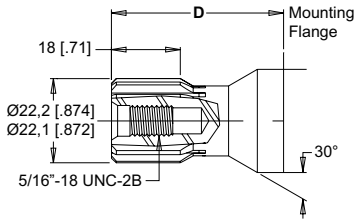
NOTE: * For 16 shaft add 7 [.28] ** For 16 shaft substract 1 [.03]

01 13 Tooth Spline

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

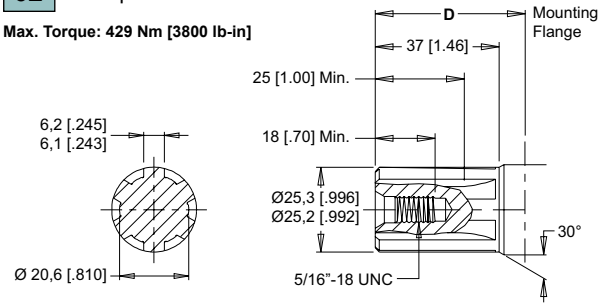


13 Tooth 16/32 Pitch Std.
ANSI B92.1 - 1996 Spline



02 6-B Spline

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



1.00-6B Spline (SAE J499 Std.)

MOUNTING FLANGE TO SHAFT END - Dimension D			
Code	**SAE A Mounts**	**Square Mounts**	**SAE B Mounts**
01	42 [1.65]	40 [1.58]	42 [1.65]
02	45 [1.76]	43 [1.69]	45 [1.76]
05	45 [1.76]	43 [1.69]	45 [1.76]
10	45 [1.76]	43 [1.69]	45 [1.76]
12	54 [2.13]	52 [2.06]	54 [2.13]
13	57 [2.24]	55 [2.17]	57 [2.24]
15	58 [2.29]*	56 [2.22]**	58 [2.29]
16	58 [2.29]*	56 [2.22]**	58 [2.29]

NOTE: Shaft lengths vary ± 0,8 mm [.030 in.]. * Subtract 18,5 [.730] when a sensor flange is ordered. ** Subtract 17,0 [.670] when a sensor flange is ordered.

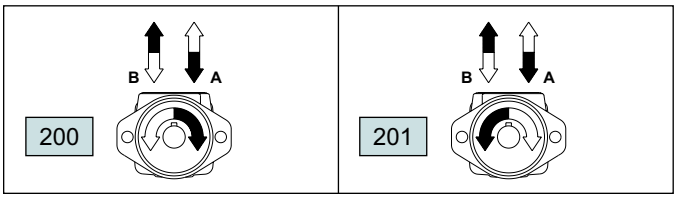
RS

200 & 201 SERIES MODEL CODE BUILDER

SERIES	DISPLACEMENT	HOUSING	SHAFT	PAINT	CAVITY	ADD ON	MISCELLANEOUS
STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6	STEP 7	STEP 8

STEP 1 - Select a series

200	Clockwise Rotation
201	Counterclockwise Rotation



NOTE: 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 200 series is recommended. Preferred rotation is based on rotor timing. Changing preferred direction requires no additional parts.

STEP 2 - Select a displacement option

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

STEP 3 - Select a housing option

A10	2-Hole 1/2" NPT Aligned Ports (S)
A11	2-Hole 7/8" O-ring Aligned Ports (S)
A12	2-Hole 1/2" BSP.F Offset Ports (S)
A13	2-Hole1/2" BSP.F Offset Manifold (S)
A17	2-Hole Manifold Ports (S)
A18	2-Hole 1/2" BSP.F Aligned (S)
A19	2-Hole 7/8" O-ring With Valve Cavity (S)
A62	2-Hole 1/2" BSP.F Offset w/.200 Pilot
A63	2-Hole 1/2" BSP.F Offset Manifold w/.200 Pilot
A67	2-Hole Manifold Ports w/.200 Pilot
A68	2-Hole 1/2" BSP.F Aligned w/.200 Pilot
A70	2-Hole 1/2" NPT Side Ports (S)
A71	2-Hole 7/8" O-ring Side Ports (S)
A72	2-Hole 1/2" BSP.F Side Ports (S)
B10	2-Hole SAE B Flange 1/2" NPT Aligned
B11	2-Hole SAE B Flange 7/8" O-ring Aligned
B18	2-Hole SAE B Flange 1/2" BSP.F Aligned
B70	2-Hole SAE B Flange 1/2" NPT Side Ports
B71	2-Hole SAE B Flange 7/8" O-ring Side Ports
B78	2-Hole SAE B Flange 1/2" BSP.F Side Ports

STEP 3 (Continued) - Select a housing option

F30	4-Hole 1/2" NPT Aligned Ports (S)
F31	4-Hole 7/8" O-ring Aligned Ports (S)
F37	4-Hole Manifold Ports (S)
F39	4-Hole 7/8" O-Ring W/Valve Cavity (S)

STEP 4 - Select a shaft option

01	7/8" 13 Tooth
02	1" 6-B Spline
05	1" Pinhole
10	1" Straight
12	25mm Straight
13	1" Tapered
15	1" Straight Ext. (S)
16	25mm Ext. (S)

STEP 5 - Select a paint option

A	Black
B	Black (unpainted flange face)
Z	No Paint

STEP 6 - Select a valve cavity option

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

NOTE: Valve cavity option is only available on the A19 and F39 housings.

STEP 7 - Select an add on option

A	Standard
B	Lock Nut
C	Solid Hex Nut
W	4-Pin Dual Male Weatherpack Connector (S)
X	4-Pin M12 Dual Male Connector (S)
Y	3-Pin Single Male Weatherpack Connector (S)
Z	4-Pin M12 Single Male Connector (S)

STEP 8 - Select a miscellaneous option

AA	None
AC	Freeturning Rotor

NOTE: (S) - STEP 3 Housings available for use with speed sensors. STEP 4 Shafts available for use with speed sensors. STEP 7 Speed sensor options.

Important Information
Before selecting or using a White Drive Products' product, it is important that all information concerning the product warranty, limitation of liability and responsibility of the customer be reviewed. This information is located below. Please direct any questions regarding this information to your White Drive Products representative.

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This catalog provides product options for further investigation by customers having technical expertise with respect to the use of such products. It is the responsibility of the customer to thoroughly analyze all aspects of the customer's application and to review the information concerning the product in the current product catalog. Due to the diversity of possible applications, the customer is solely responsible for making the final selection of the product(s) to be used and to assure that all performance, safety and warning requirements of the application are met. The customer is further responsible for all testing to verify acceptable life and performance of White Drive Products' products under actual operating conditions.

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