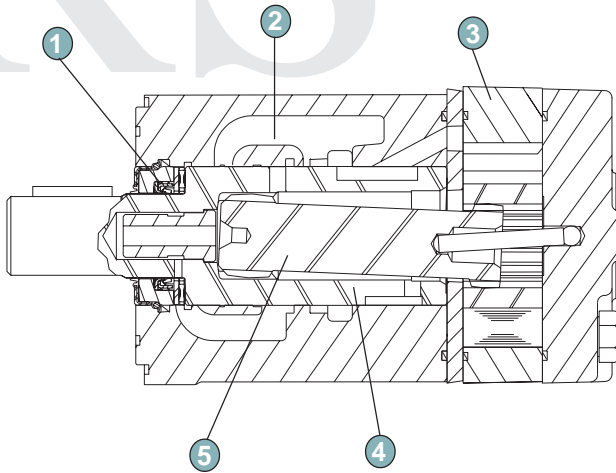


# RS

## FEATURES



- 1 **High Pressure Viton® Shaft Seal** offers superior seal life and performance and eliminates the need for case drain.
- 2 **Pressure Fed Bearing** surface receives positive flow of clean, cool oil.
- 3 **Roller Stator® Motor Design** increases efficiency and life by using roller contact versus solid, sliding contact design.
- 4 **Match Ground Shaft** is matched to housing bore to maintain highest volumetric efficiencies.
- 5 **Heavy-Duty Drive Link** receives full flow lubrication to provide long life.

RS Series motors are the most economical model in the White Hydraulics 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.



## SPECIFICATIONS

Code	Displacement (in <sup>3</sup> /rev)	Max. Speed (RPM) -		Max. Torque (lb-in) -		Max. Pressure (PSI) -				
		1)Cont	2)Inter.	1)Cont	2)Inter.	1)Cont	2)Inter.	3)Peak		
050	3.2	400	490	6	10	730	840	1750	2000	2250
080	4.6	460	540	10	12	1070	1230	1750	2000	2250
090	5.4	420	580	10	14	1300	1480	1750	2000	2250
100	6.3	510	570	14	16	1500	1725	1750	2000	2250
110	6.8	460	600	14	18	1630	1900	1750	2000	2250
125	7.7	410	530	14	18	1600	1850	1500	1750	2250
160	10.0	370	460	16	20	1970	2350	1500	1750	2250
200	12.5	300	370	16	20	2640	3050	1500	1750	2250
250	15.5	300	360	20	24	2540	3040	1250	1500	1750
300	17.9	300	310	20	24	2460	3100	1000	1250	1500
400	24.9	190	220	20	24	3350	4100	1000	1250	1500

### 050 3.2 in<sup>3</sup>/rev

Flow GPM (LPM)	Pressure psi (bars)								Max. Cont.	Max. Inter.	Theo. RPM
	250 (17)	500 (35)	750 (52)	1000 (69)	1250 (86)	1500 (104)	1750 (121)	2000 (138)			
0.5 (2)	89 (10)	133 (15)	223 (25)	290 (33)	375 (42)	435 (49)					37
1 (4)	92 (10)	163 (18)	253 (29)	348 (39)	438 (49)	523 (59)	483 (55)				73
2 (8)	90 (10)	181 (20)	274 (31)	366 (41)	464 (52)	556 (63)	653 (74)	690 (78)			145
4 (15)	85 (10)	154 (17)	251 (28)	355 (40)	465 (53)	572 (65)	669 (76)	764 (86)			289
Max. Cont.		168 (19)	243 (27)	342 (39)	445 (50)	549 (62)	656 (74)	755 (85)			434
6 (23)		433	432	430	429	408	380	346			578
8 (30)		148 (17)	243 (27)	318 (36)	417 (47)	526 (59)	631 (71)				722
Max. Inter.		576	574	570	568	554	535				
10 (38)		119 (13)	218 (25)	307 (35)	429 (48)	499 (56)	593 (67)				
		718	711	701	700	689	682				
<b>Theo. Torque</b>	127 (14)	255 (29)	382 (43)	510 (58)	637 (72)	764 (86)	892 (101)	1019 (115)			

Areas within white represent maximum motor efficiencies.

Torque, lb-in (Nm)  
Speed, RPM

### 080 4.6 in<sup>3</sup>/rev

Flow GPM (LPM)	Pressure psi (bars)								Max. Cont.	Max. Inter.	Theo. RPM
	250 (17)	500 (35)	750 (52)	1000 (69)	1250 (86)	1500 (104)	1750 (121)	2000 (138)			
0.5 (2)	107 (12)	227 (26)	341 (39)	456 (51)	509 (58)						26
1 (4)	110 (12)	252 (29)	381 (43)	522 (59)	661 (75)	720 (81)					51
2 (8)	122 (14)	260 (29)	405 (46)	560 (63)	707 (80)	848 (96)	973 (110)	1016 (115)			101
4 (15)		263 (30)	416 (47)	574 (65)	726 (82)	871 (98)	1046 (118)	1184 (134)			201
6 (23)		200	196	193	184	168	150	121			302
8 (30)		252 (28)	403 (46)	562 (64)	721 (82)	869 (98)	1020 (115)	1183 (134)			402
Max. Cont.		301	297	293	287	271	252	218			503
10 (38)		221 (25)	379 (43)	555 (63)	703 (79)	860 (97)	1014 (115)	1172 (132)			603
Max. Inter.		400	399	393	390	375	355	330			
12 (45)			341 (39)	502 (57)	657 (74)	819 (93)	980 (111)	1135 (128)			
			502	500	498	496	472	443			
			314 (35)	446 (50)	625 (71)	816 (92)	932 (105)				
			602	600	599	598	580				
<b>Theo. Torque</b>	183 (21)	366 (41)	549 (62)	732 (83)	916 (103)	1099 (124)	1282 (145)	1465 (166)			

DO NOT operate at maximum pressure and maximum flow simultaneously.

### 090 5.4 in<sup>3</sup>/rev

Flow GPM (LPM)	Pressure psi (bars)								Max. Cont.	Max. Inter.	Theo. RPM
	250 (17)	500 (35)	750 (52)	1000 (69)	1250 (86)	1500 (104)	1750 (121)	2000 (138)			
0.5 (2)	206 (23)	376 (43)	559 (63)	743 (84)	864 (98)	933 (105)					22
1 (4)		19	17	14	10	1					43
2 (8)		383 (43)	566 (64)	760 (86)	953 (108)	1123 (127)	1225 (138)				86
4 (15)		41	40	37	32	25	12				172
6 (23)		388 (44)	561 (63)	739 (83)	937 (106)	1121 (127)	1336 (151)	1495 (169)			257
8 (30)		85	84	81	75	66	51	31			343
Max. Cont.			538 (61)	754 (85)	920 (104)	1134 (128)	1309 (148)	1484 (168)			428
10 (38)			169	166	159	149	133	115			514
Max. Inter.				720 (81)	902 (102)	1105 (125)	1275 (144)	1450 (164)			599
12 (45)				251	244	229	213	191			
14 (53)				686 (78)	867 (98)	1080 (122)	1251 (141)	1448 (164)			
				338	330	318	300	278			
					824 (93)	1004 (113)	1210 (137)	1422 (161)			
					417	406	386	365			
					715 (81)	766 (87)	998 (113)				
					504	491	478				
						845 (95)	1095 (124)				
						581	566				
<b>Theo. Torque</b>	215 (24)	430 (49)	645 (73)	860 (97)	1075 (121)	1290 (146)	1505 (170)	1720 (194)			

Tested at 129°F with an oil viscosity of 213 SUS

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

# PERFORMANCE



100 6.3 in<sup>3</sup>/rev

Flow GPM (LPM)	Pressure psi (bars)								Max. Cont.	Max. Inter.	Theo. RPM
	250 (17)	500 (35)	750 (52)	1000 (69)	1250 (86)	1500 (104)	1750 (121)	2000 (138)			
0.5 (2)	221 (25)	461 (52)	676 (76)	870 (98)	1020 (115)						19
1 (4)	233 (26)	449 (51)	680 (77)	914 (103)	1116 (126)	1295 (146)	1473 (166)	1336 (151)			37
2 (8)		433 (49)	682 (77)	893 (101)	1108 (125)	1331 (150)	1538 (174)	1758 (199)			74
4 (15)			648 (73)	873 (99)	1088 (123)	1291 (146)	1504 (170)	1721 (195)			147
6 (23)			606 (69)	830 (94)	1062 (120)	1279 (145)	1463 (165)	1717 (194)			220
8 (30)				789 (89)	999 (113)	1254 (142)	1429 (161)	1658 (187)			294
10 (38)				693 (78)	905 (102)	1124 (127)	1380 (156)	1612 (182)			367
12 (45)					755 (85)	1049 (119)	1299 (147)	1526 (172)			440
Max. Cont.					433 (84)	421 (118)	405 (135)	384 (141)			514
Max. Inter.					507 (108)	497 (135)	484 (135)	465 (135)			587
						957 (108)	1197 (135)				
						574 (135)	566 (135)				
Theo. Torque	251 (28)	502 (57)	752 (85)	1003 (113)	1254 (142)	1505 (170)	1756 (198)	2006 (227)			

Areas within white represent maximum motor efficiencies.

Torque, lb-in (Nm)  
Speed, RPM

110 6.8 in<sup>3</sup>/rev

Flow GPM (LPM)	Pressure psi (bars)								Max. Cont.	Max. Inter.	Theo. RPM
	250 (17)	500 (35)	750 (52)	1000 (69)	1250 (86)	1500 (104)	1750 (121)	2000 (138)			
0.5 (2)	227 (26)	481 (54)	689 (78)	888 (100)	961 (109)						17
1 (4)	253 (29)	489 (55)	733 (83)	974 (110)	1183 (134)	1356 (153)					34
2 (8)		503 (57)	727 (82)	969 (110)	1199 (135)	1431 (162)	1631 (184)	1590 (180)			68
4 (15)		479 (54)	706 (80)	951 (107)	1190 (134)	1437 (162)	1643 (186)	1911 (216)			136
6 (23)			669 (76)	934 (106)	1144 (129)	1357 (153)	1636 (185)	1826 (206)			204
8 (30)			621 (70)	862 (97)	1092 (123)	1336 (151)	1569 (177)	1788 (202)			272
10 (38)				779 (88)	1025 (116)	1294 (146)	1505 (170)	1783 (201)			340
12 (45)				764 (86)	963 (109)	1226 (139)	1482 (168)	1683 (190)			408
Max. Cont.					901 (102)	1142 (129)	1378 (156)	1626 (184)			476
Max. Inter.					844 (95)	1075 (121)	1297 (147)				544
					535 (111)	523 (136)	505 (136)				612
						984 (111)	1205 (136)				
						595 (136)	579 (136)				
Theo. Torque	271 (31)	541 (61)	812 (92)	1083 (122)	1354 (153)	1624 (184)	1895 (214)	2166 (245)			

DO NOT operate at maximum pressure and maximum flow simultaneously.

Tested at 129°F with an oil viscosity of 213 SUS

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

### 125 7.7 in<sup>3</sup>/rev

Flow GPM (LPM)	Pressure psi (bars)						Max. Cont.	Max. Inter.	Theo. RPM
	250 (17)	500 (35)	750 (52)	1000 (69)	1250 (86)	1500 (104)			
0.5 (2)	255 (29) 14	534 (60) 12	758 (86) 10	990 (112) 7	1145 (129) 2			15	
1 (4)	251 (28) 29	545 (62) 28	819 (93) 26	1073 (121) 23	1319 (149) 18	1531 (173) 10	1559 (176) 1	30	
2 (8)		537 (61) 58	816 (92) 57	1103 (125) 54	1356 (153) 49	1609 (182) 41	1856 (210) 29	60	
4 (15)		538 (61) 118	797 (90) 115	1084 (123) 108	1338 (151) 99	1602 (181) 84	1860 (210) 65	120	
6 (23)			771 (87) 177	1032 (117) 168	1321 (149) 158	1566 (177) 145	1838 (208) 123	180	
8 (30)			722 (82) 234	987 (112) 229	1257 (142) 215	1548 (175) 203	1781 (201) 186	240	
10 (38)				927 (105) 290	1214 (137) 277	1474 (167) 263	1720 (194) 244	300	
12 (45)				859 (97) 349	1066 (120) 339	1386 (157) 322	1622 (183) 306	360	
Max. Cont. 14 (53)				787 (89) 409	1051 (119) 385	1295 (146) 376	1536 (174) 367	420	
Max. Inter. 16 (61)					879 (99) 471	1163 (131) 459		480	
Max. Inter. 18 (68)					885 (100) 528	1053 (119) 512		540	
<b>Theo. Torque</b>	307 (35)	613 (69)	920 (104)	1226 (139)	1533 (173)	1839 (208)	2146 (242)		

Areas within white represent maximum motor efficiencies.

Torque, lb-in (Nm)  
Speed, RPM

### 160 10.0 in<sup>3</sup>/rev

Flow GPM (LPM)	Pressure psi (bars)						Max. Cont.	Max. Inter.	Theo. RPM
	250 (17)	500 (35)	750 (52)	1000 (69)	1250 (86)	1500 (104)			
0.5 (2)	281 (32) 11	630 (71) 10	908 (103) 8	1247 (141) 6	1481 (167) 2			12	
1 (4)	308 (35) 22	677 (76) 21	983 (111) 20	1245 (141) 20	1615 (182) 16	1867 (211) 11	2070 (234) 3	24	
2 (8)	320 (36) 45	694 (78) 45	1023 (116) 44	1403 (159) 42	1707 (193) 39	1974 (223) 34	2279 (257) 27	47	
4 (15)		633 (72) 91	1007 (114) 90	1375 (155) 86	1679 (190) 80	1998 (226) 71	2319 (262) 56	93	
6 (23)		608 (69) 138	961 (109) 137	1318 (149) 132	1667 (188) 125	1979 (224) 114	2359 (267) 101	139	
8 (30)		573 (65) 184	921 (104) 183	1233 (139) 180	1597 (181) 171	1941 (219) 161	2284 (258) 148	185	
10 (38)			837 (95) 230	1184 (134) 229	1531 (173) 221	1874 (212) 211	2220 (251) 197	231	
12 (45)			736 (83) 276	1095 (124) 275	1432 (162) 270	1796 (203) 259	2133 (241) 245	278	
14 (53)			643 (73) 322	1010 (114) 321	1366 (154) 320	1714 (194) 310	2045 (231) 295	324	
Max. Cont. 16 (61)				901 (102) 369	1255 (142) 368	1585 (179) 362	1936 (219) 345	370	
Max. Inter. 18 (68)				824 (93) 415	1121 (127) 414	1447 (164) 410		416	
Max. Inter. 20 (76)					980 (111) 460	1348 (152) 460		462	
<b>Theo. Torque</b>	398 (45)	796 (90)	1194 (135)	1592 (180)	1990 (225)	2389 (270)	2787 (315)		

DO NOT operate at maximum pressure and maximum flow simultaneously.

Tested at 129°F with an oil viscosity of 213 SUS

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

# PERFORMANCE

**200** 12.5 in<sup>3</sup>/rev

Flow GPM (LPM)	Pressure psi (bars)						Max. Cont.	Max. Inter.	Theo. RPM
	250 (17)	500 (35)	750 (52)	1000 (69)	1250 (86)	1500 (104)			
0.5 (2)	414 (47) 8	846 (96) 7	1250 (141) 6	1621 (183) 5	1983 (224) 3			10	
1 (4)	432 (49) 17	865 (98) 17	1360 (154) 15	1732 (196) 14	2136 (241) 11	2517 (284) 9	2811 (318) 5	19	
2 (8)	416 (47) 36	927 (105) 36	1386 (157) 34	1809 (204) 31	2166 (245) 29	2642 (299) 23	3019 (341) 17	37	
4 (15)	380 (43) 73	849 (96) 73	1349 (152) 72	1798 (203) 68	2204 (249) 65	2641 (298) 60	3094 (350) 52	74	
6 (23)		795 (90) 110	1322 (149) 110	1721 (194) 106	2207 (249) 103	2634 (298) 96	3007 (340) 90	111	
8 (30)		734 (83) 147	1228 (139) 146	1697 (192) 144	2102 (238) 142	2621 (296) 133	2997 (339) 126	148	
10 (38)		666 (75) 184	1134 (128) 183	1546 (175) 183	2013 (227) 181	2482 (280) 172	2910 (329) 166	185	
12 (45)			1026 (116) 221	1475 (167) 220	1924 (217) 218	2322 (262) 214	2795 (316) 205	222	
14 (53)			862 (97) 258	1358 (153) 257	1811 (205) 256	2218 (251) 252	2656 (300) 249	259	
Max. Cont.			752 (85) 295	1212 (137) 295	1687 (191) 294	2127 (240) 291	2583 (292) 284	296	
18 (68)				1079 (122) 332	1541 (174) 331	1981 (224) 330		333	
Max. Inter.				924 (104) 369	1366 (154) 368	1833 (207) 367		370	
<b>Theo. Torque</b>	498 (56)	995 (112)	1493 (169)	1990 (225)	2488 (281)	2986 (337)	3483 (394)		

Areas within white represent maximum motor efficiencies.

Torque, lb-in (Nm)  
Speed, RPM

**250** 15.5 in<sup>3</sup>/rev

Flow GPM (LPM)	Pressure psi (bars)					Max. Cont.	Max. Inter.	Theo. RPM
	250 (17)	500 (35)	750 (52)	1000 (69)	1500 (104)			
0.5 (2)	457 (52) 6	919 (104) 4	1327 (150) 2					8
1 (4)	458 (52) 14	988 (112) 12	1491 (168) 10	1966 (222) 7	2361 (267) 4	2658 (300) 1		15
2 (8)	490 (55) 29	1018 (115) 27	1512 (171) 24	2041 (231) 20	2547 (288) 14	2856 (323) 9		30
4 (15)	437 (49) 59	1028 (116) 58	1517 (171) 56	2064 (233) 51	2551 (288) 44	3040 (344) 34		60
6 (23)	398 (45) 88	930 (105) 88	1440 (163) 87	1966 (222) 82	2512 (284) 76	3051 (345) 62		90
8 (30)		795 (90) 118	1305 (147) 117	1649 (186) 115	2372 (268) 106	2918 (330) 96		120
10 (38)		676 (76) 148	1253 (142) 147	1738 (196) 146	2263 (256) 140	2754 (311) 133		150
12 (45)		225 (25) 178	1098 (124) 177	1642 (186) 176	2071 (234) 173	2499 (282) 163		179
14 (53)			784 (89) 208	1386 (157) 206	1962 (222) 204	2460 (278) 194		209
16 (61)			722 (82) 237	1256 (142) 236	1786 (202) 234	2306 (261) 228		239
18 (68)				1096 (124) 266	1618 (183) 264	2126 (240) 259		269
Max. Cont.				842 (95) 297	1387 (157) 295	1919 (217) 293		299
22 (83)					1147 (130) 327			328
Max. Inter.					874 (99) 356			358
<b>Theo. Torque</b>	617 (70)	1234 (139)	1851 (209)	2468 (279)	3085 (349)	3702 (418)		

DO NOT operate at maximum pressure and maximum flow simultaneously.

Tested at 129°F with an oil viscosity of 213 SUS

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

**300** 17.9 in<sup>3</sup>/rev

Flow GPM (LPM)	Pressure psi (bars)			Max. Cont.	Max. Inter.	Theo. RPM
	250 (17)	500 (35)	750 (52)	1000 (69)	1250 (86)	
0.5 (2)	516 (58) 5	1111 (126) 5	1638 (185) 5			7
1 (4)	563 (64) 12	1096 (124) 12	1673 (189) 11	2325 (263) 10	2912 (329) 9	13
2 (8)	564 (64) 25	1180 (133) 25	1758 (199) 24	2375 (268) 23	3033 (343) 21	26
4 (15)	524 (59) 51	1193 (135) 51	1773 (200) 50	2384 (269) 50	3145 (355) 47	52
6 (23)	468 (53) 76	1116 (126) 76	1728 (195) 75	2463 (278) 75	3096 (350) 74	78
8 (30)		954 (108) 102	1650 (186) 101	2218 (251) 101	3000 (339) 100	104
10 (38)		887 (100) 128	1503 (170) 128	2132 (241) 127	2824 (319) 126	130
12 (45)		698 (79) 154	1381 (156) 154	1944 (220) 153	2660 (301) 152	155
14 (53)		558 (63) 180	1206 (136) 180	1780 (201) 179	2512 (284) 179	181
16 (61)			1000 (113) 205	1630 (184) 204	2213 (250) 203	207
18 (68)				1382 (156) 231	1915 (216) 230	233
Max. Cont.				1054 (119) 257	1679 (190) 256	259
Max. Inter.				738 (83) 283		284
						310
<b>Theo. Torque</b>	713 (81)	1425 (161)	2138 (242)	2850 (322)	3563 (403)	

Areas within white represent maximum motor efficiencies.

Torque, lb-in (Nm)  
Speed, RPM

**400** 24.9 in<sup>3</sup>/rev

Flow GPM (LPM)	Pressure psi (bars)			Max. Cont.	Max. Inter.	Theo. RPM
	250 (17)	500 (35)	750 (52)	1000 (69)	1250 (86)	
0.5 (2)	767 (87) 3	1656 (187) 2				5
1 (4)	793 (90) 8	1597 (180) 8	2425 (274) 6	3270 (369) 6	3951 (446) 3	10
2 (8)	777 (88) 18	1550 (175) 17	2528 (286) 16	3309 (374) 15	4124 (466) 12	19
4 (15)	753 (85) 37	1565 (177) 36	2540 (287) 35	3384 (382) 33	4153 (469) 29	38
6 (23)	631 (71) 55	1498 (169) 55	2477 (280) 54	3273 (370) 52	4122 (466) 49	56
8 (30)	516 (58) 73	1396 (158) 71	2274 (257) 70	3119 (352) 69	3901 (441) 68	75
10 (38)		1247 (141) 92	2103 (238) 91	2906 (328) 90	3837 (434) 87	93
12 (45)		1042 (118) 110	1989 (225) 109	2682 (303) 108	3613 (408) 107	112
14 (53)		792 (89) 129	1670 (189) 128	2463 (278) 126	3251 (367) 124	130
16 (61)		520 (59) 147	1359 (154) 146	2204 (249) 144	2954 (334) 143	149
18 (68)			1027 (116) 166	1934 (219) 165	2746 (310) 164	167
Max. Cont.			790 (89) 185	1663 (188) 184	2336 (264) 183	186
Max. Inter.				1242 (140) 204		205
				824 (93) 222		223
<b>Theo. Torque</b>	991 (112)	1982 (224)	2974 (336)	3965 (448)	4956 (560)	

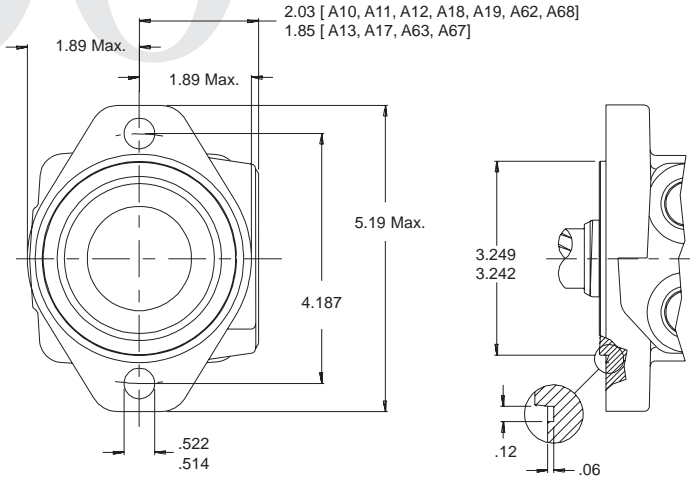
DO NOT operate at maximum pressure and maximum flow simultaneously.

Tested at 129°F with an oil viscosity of 213 SUS

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

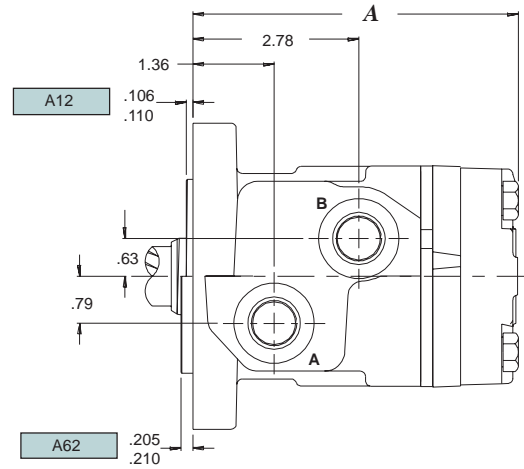
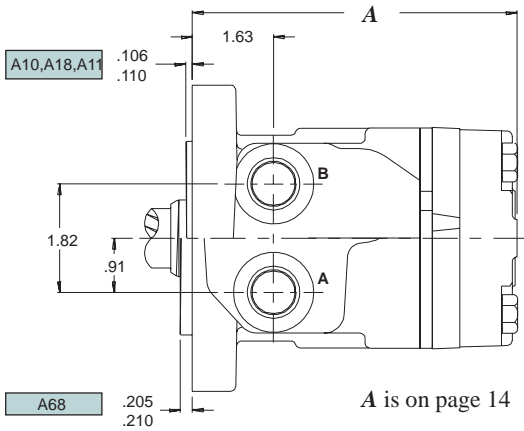
# 2000

## HOUSINGS SAE A FLANGE



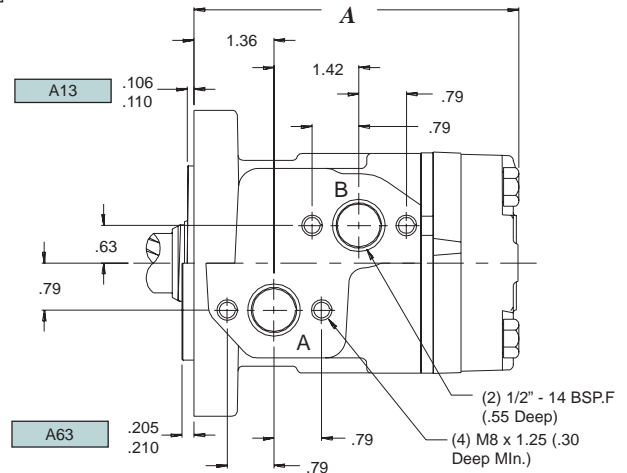
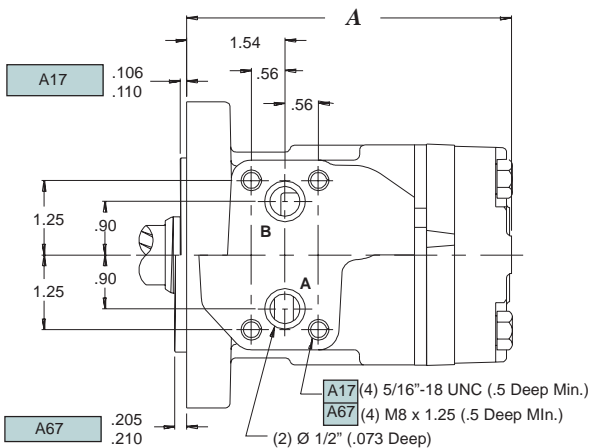
- A10** 2-Hole Aligned Ports 1/2" NPT
- A18** 2-Hole Aligned Ports 1/2" BSP.F
- A68** 2-Hole Aligned Ports 1/2" BSP.F
- A11** 2-Hole Aligned Ports 7/8" O-Ring

- A12** 2-Hole Front Ports 1/2" BSP.F
- A62** 2-Hole Front Ports 1/2" BSP.F

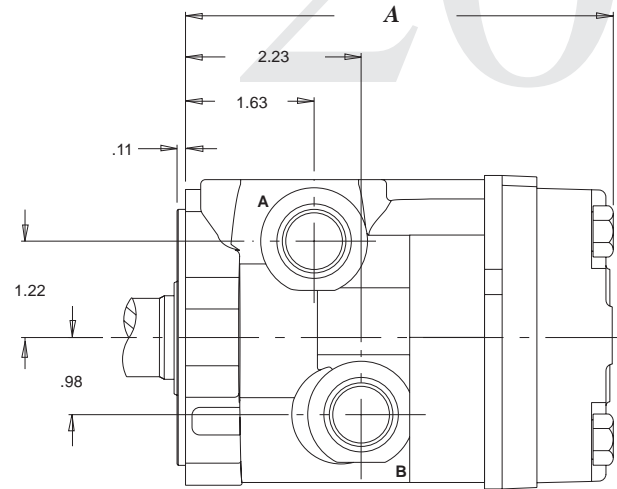


- A17** 2-Hole Manifold Ports
- A67** 2-Hole Manifold Ports

- A13** 2-Hole Manifold Ports 1/2" BSP.F
- A63** 2-Hole Manifold Ports 1/2" BSP.F

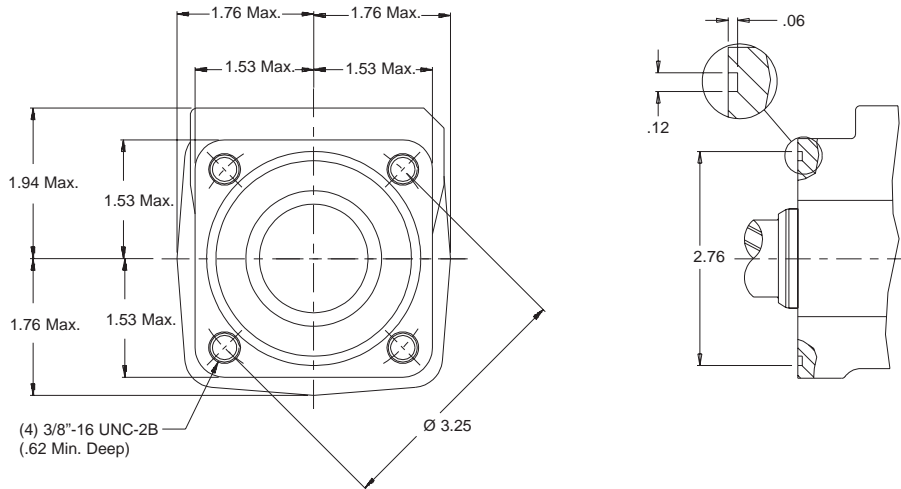


- A70** 2-Hole Side Ports 1/2" NPT
- A71** 2-Hole Side Ports 7/8" O-Ring
- A72** 2-Hole Side Ports 1/2" BSP.F

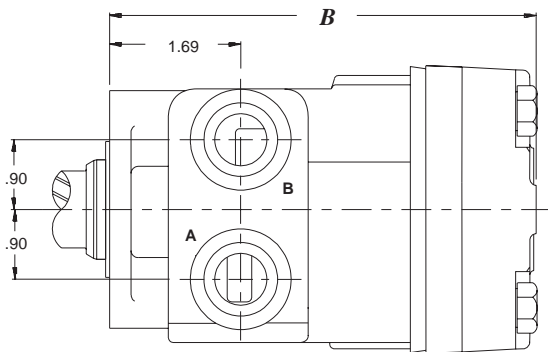


A is on page 14

**4-HOLE FLANGE**

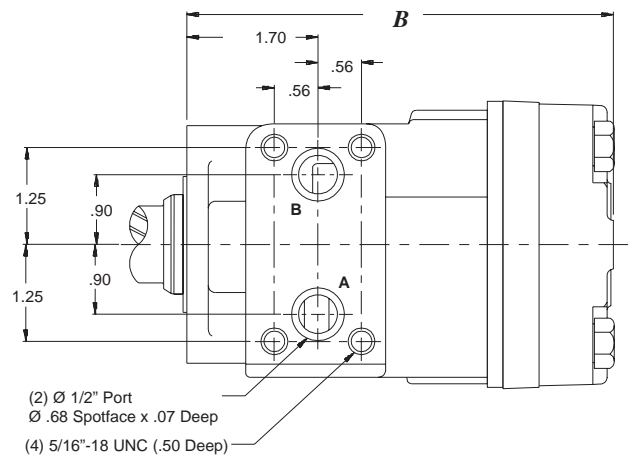


- F30** 4-Hole Aligned Ports 1/2" NPT
- F31** 4-Hole Aligned Ports 7/8" O-Ring



B is on page 14

- F37** 4-Hole Front Manifold Ports

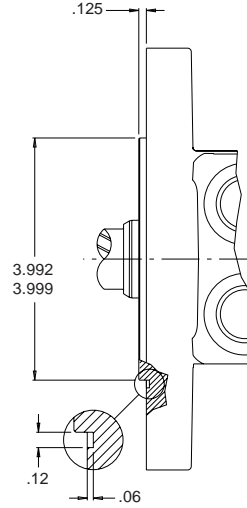
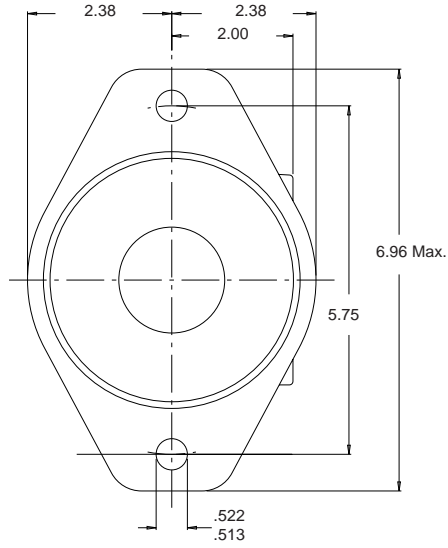




# 2000

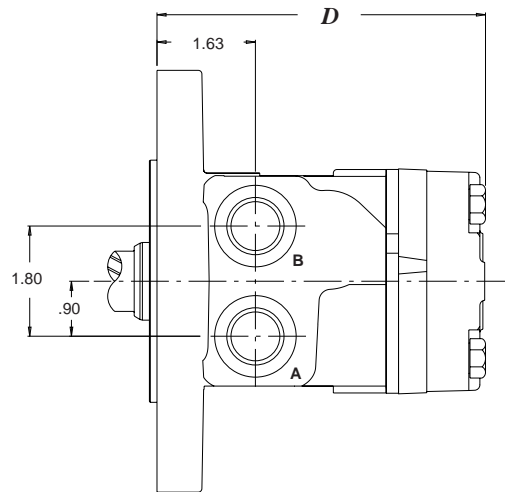
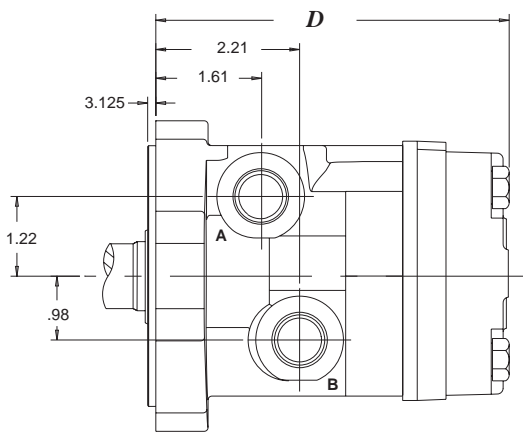
## HOUSINGS

### SAE B FLANGE



- B70** 2-Hole Side Ports 1/2" NPT
- B71** 2-Hole Side Ports 7/8" O-Ring
- B78** 2-Hole Side Ports 1/2" BSP.F

- B18** 2-Hole Aligned Ports 1/2" BSP.F
- B10** 2-Hole Aligned Ports 1/2" NPT
- B11** 2-Hole Aligned Ports 7/8" O-ring



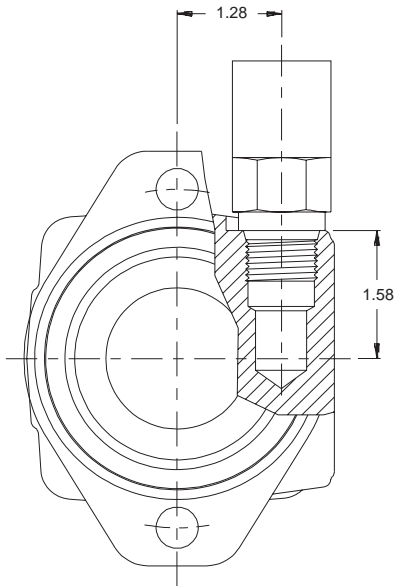
D is on page 14

### VALVE CAVITY HOUSINGS

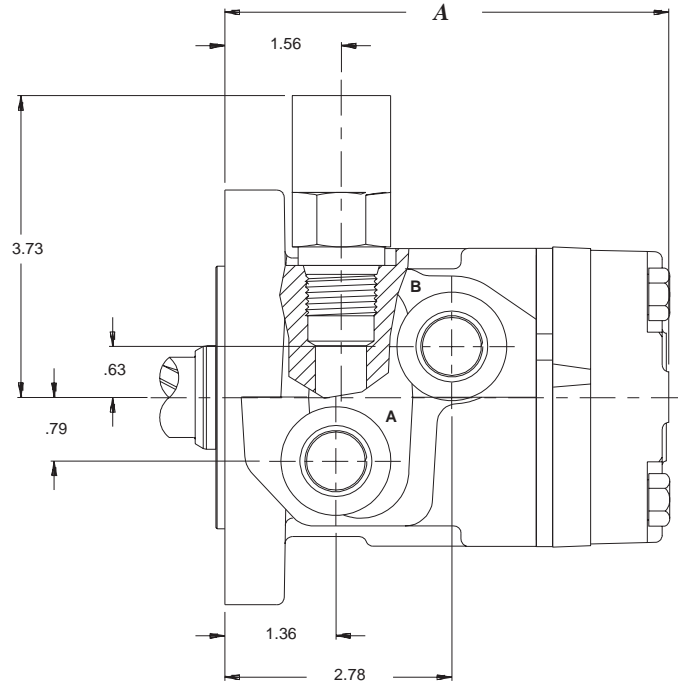
**A19** 2-Hole Offset Ports 7/8" O-Ring

The mounting dimensions are shown on on page 10.

Both housings shown on this page are only available with valve cavities.



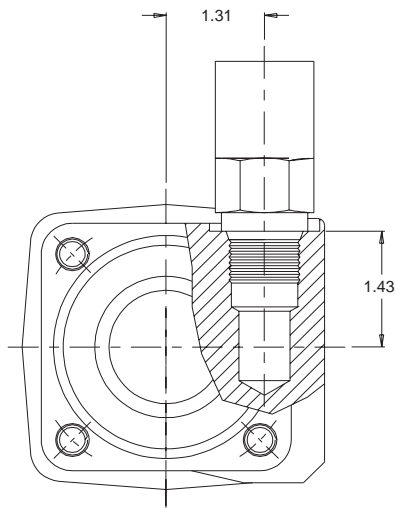
A is on page 14



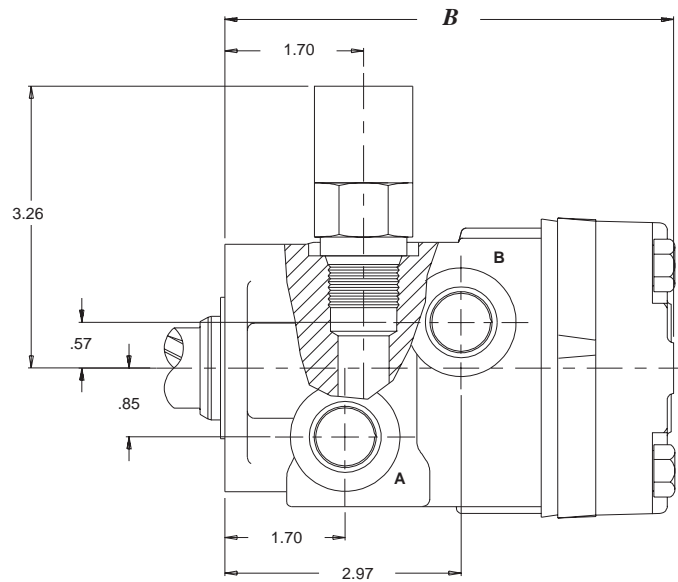
**F39** 4-Hole Front Offset Ports 7/8" O-Ring

The mounting dimensions are shown on on page 11.

Optional Relief Cartridge Shown Installed



Valve Cavity - 10 Series/2-way (7/8"-14 UNF-2B)



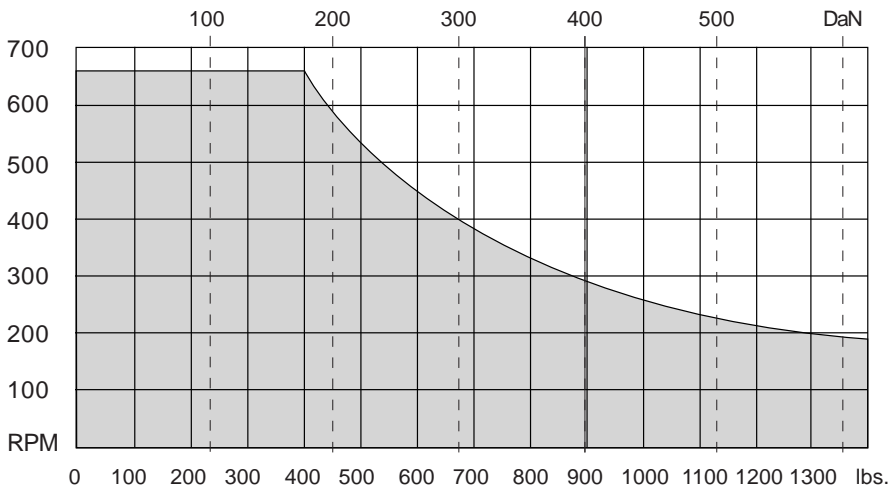
B is on page 14

# TECHNICAL

## ALLOWABLE SIDE LOAD

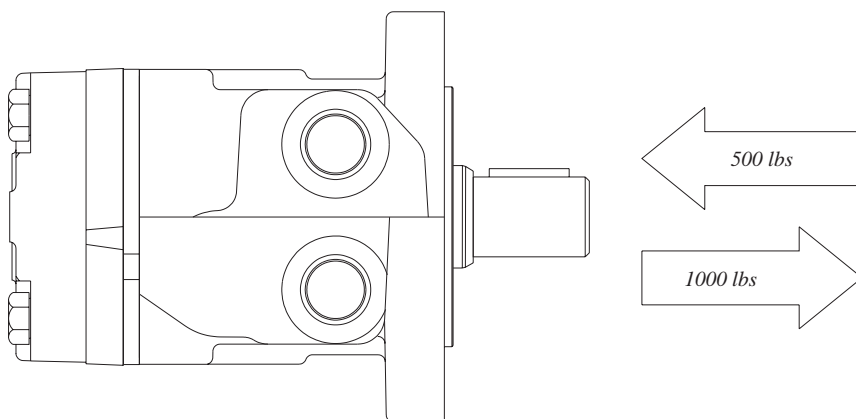
Operating conditions within the shaded area will maintain acceptable oil film lubrication with recommended fluids. Operating conditions outside the shaded area are susceptible to motor failure due to oil starvation and/or excessive heat generation. Fluids with low lubricity or low viscosity may require the maximum load and speed ratings to be derated to provide acceptable motor life and performance.

### RS SERIES MOTOR



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

## THRUST LOAD



RS motor weights vary  $\pm 1$  lb depending upon motor configuration.

### LENGTH AND WEIGHT TABLES

#### SAE "A" Flange

Code	A in	Weight lbs
050	5.29	16.1
080	5.44	16.5
090	5.51	16.8
100	5.75	17.7
110	5.65	17.2
125	5.75	17.7
160	5.97	18.2
200	6.22	18.8
250	6.53	19.8
300	6.76	20.5
400	7.47	22.7

For Speed Sensor motors add .82 to A

#### 4-Hole Flange

Code	B in	Weight lbs
050	5.36	13.4
080	5.50	13.9
090	5.58	14.1
100	5.82	15.1
110	5.72	14.6
125	5.82	15.1
160	6.04	15.4
200	6.29	16.0
250	6.59	17.1
300	6.83	17.9
400	7.54	20.2

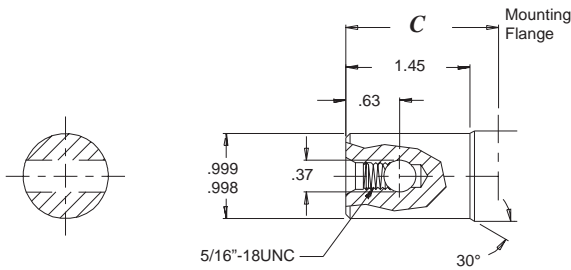
For Speed Sensor motors add .67 to B

#### SAE "B" Flange

Code	D in	Weight lbs
050	5.29	18.6
080	5.44	19.0
090	5.51	19.3
100	5.75	20.2
110	5.65	19.7
125	5.75	20.2
160	5.97	20.7
200	6.22	21.3
250	6.53	22.3
300	6.76	23.0
400	7.47	25.2

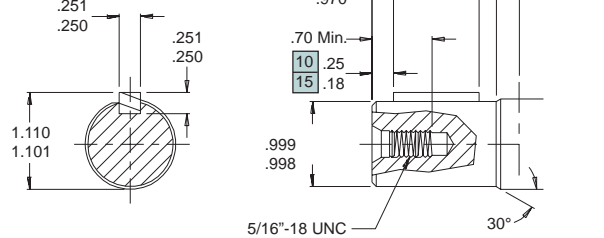
### 05 1" Pinhole

Max. Torque: 6000 lb-in



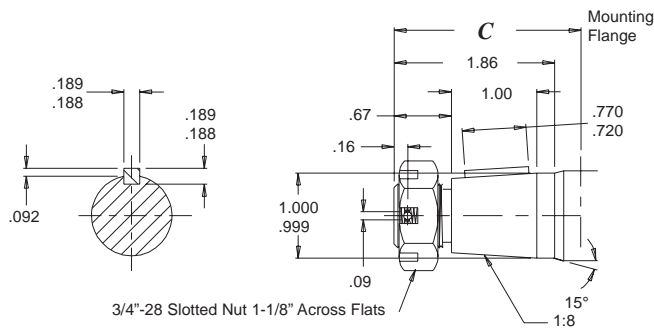
### 10 1" Straight \*15 1" Straight Ext.

Max. Torque: 5800 lb-in



### 13 1" Tapered

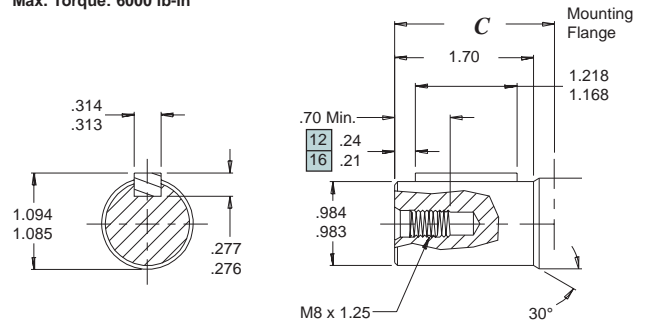
Max. Torque: 5800 lb-in



Note: A slotted nut is standard on this shaft.

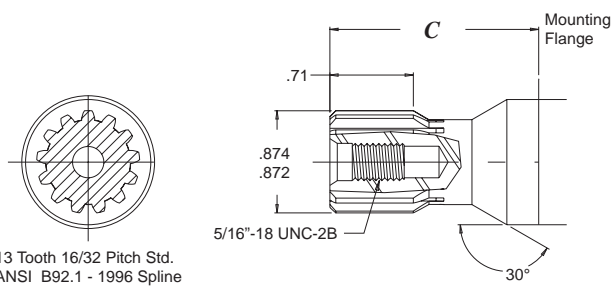
### 12 25mm Straight \*16 25mm Straight Ext.

Max. Torque: 6000 lb-in



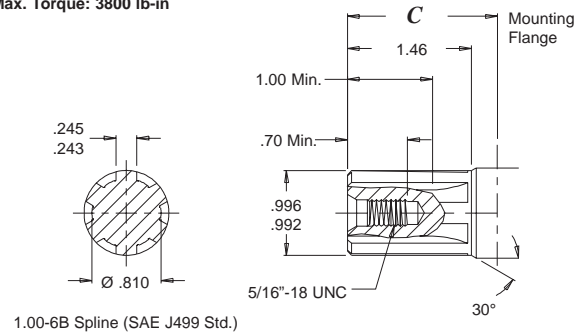
### 01 13 Tooth Spline

Max. Torque: 1500 lb-in



### 02 6-B Spline

Max. Torque: 3800 lb-in



## SHAFT LENGTHS

Code	SAE "A" Flange (in)	4-Hole Flange (in)	SAE "B" Flange (in)
05	1.77	1.70	1.77
10	1.77	1.70	1.77
02	1.77	1.70	1.77
12	2.20	2.09	2.20
13	2.28	2.17	2.28
15	1.61	1.57	1.61
16	1.61	1.57	1.61
01	1.70	1.57	1.70

\* The #15 and #16 shafts are only to be used with speed sensor motors.

Shaft lengths vary ± .030 in

# ORDERING INFORMATION

**SERIES**  
**201** — REVERSED TIMING  
**200**

**DISPLACEMENT**    **HOUSING**    **SHAFT**    **OPTIONS**    **MISCELLANEOUS**

Code	Displacements
050	3.2 in <sup>3</sup> /rev
080	4.6 in <sup>3</sup> /rev
090	5.4 in <sup>3</sup> /rev
100	6.3 in <sup>3</sup> /rev
110	6.8 in <sup>3</sup> /rev
125	7.7 in <sup>3</sup> /rev
160	10.0 in <sup>3</sup> /rev
200	12.5 in <sup>3</sup> /rev
250	15.5 in <sup>3</sup> /rev
300	17.9 in <sup>3</sup> /rev
400	24.9 in <sup>3</sup> /rev

Code	Housings
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-Hole 1/2" 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
A71	2-Hole 7/8" O-ring Side Ports
A72	2-Hole 1/2" BSP.F Side Ports
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
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)

Code	Shafts
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)

Code	Options
AA	None
AC	Freeturning Rotor

**ADD ONS**

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

**PAINT**

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

**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

\* Available with A19 and F39 housings  
 \*\* Available with A10, A11, A12, A13, A17, A18, A19, F30, F31, F37, and F39 housings and must use the 15 or 16 shaft  
 (S) Speed sensor components

**200**

**201**

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