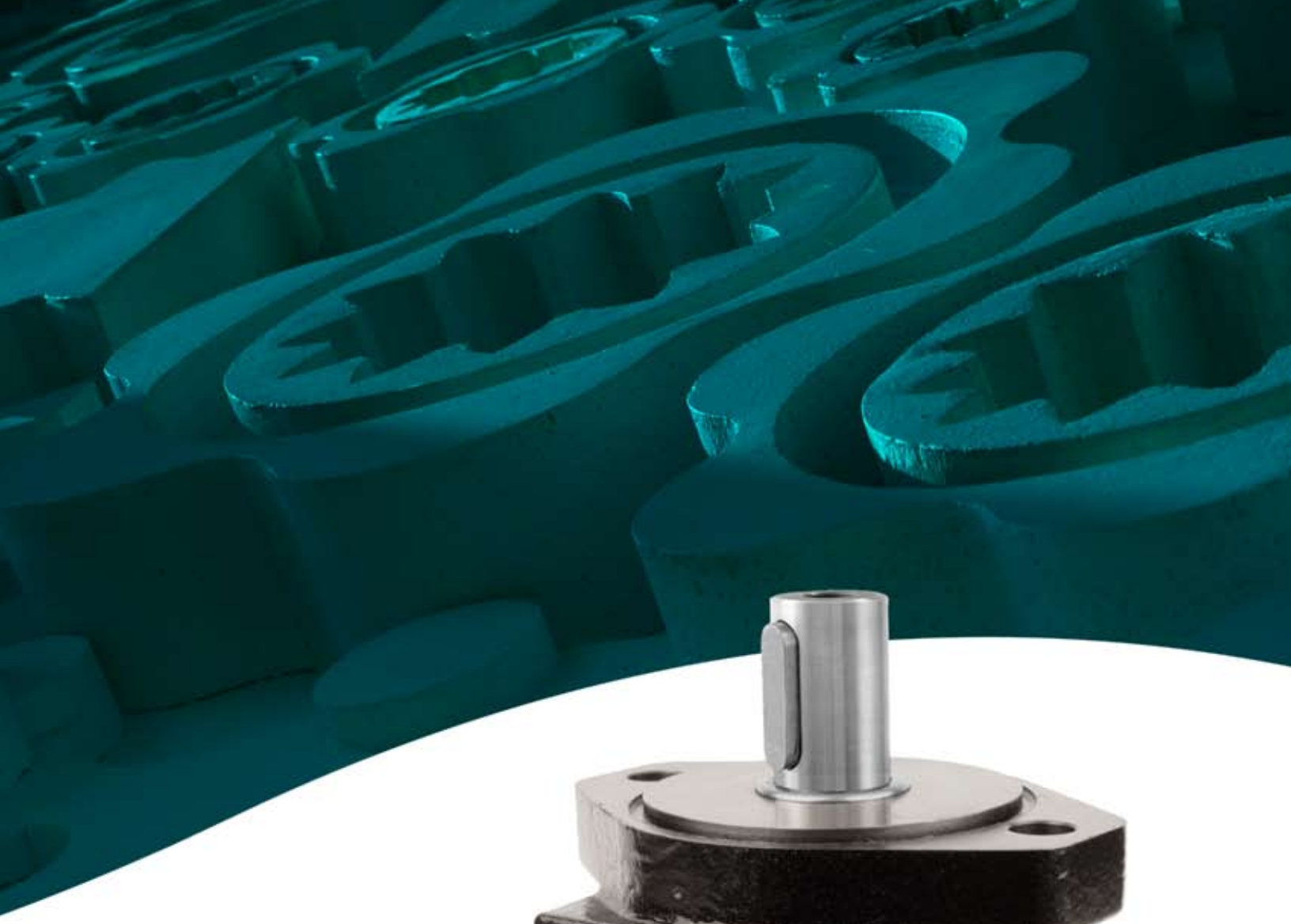


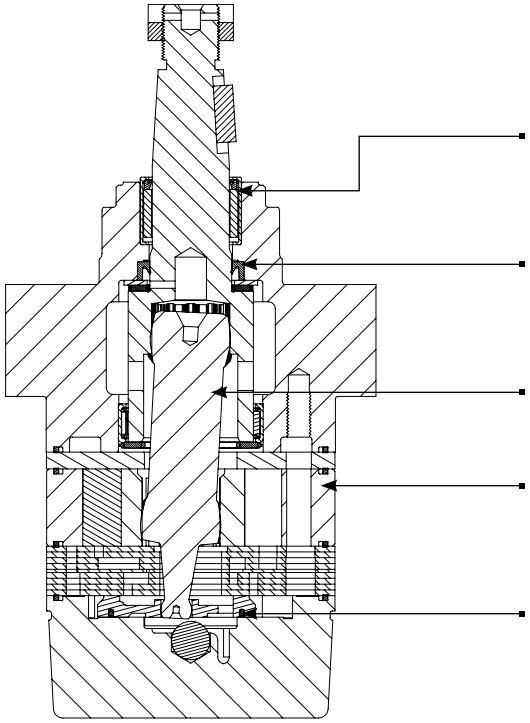
WG

SERIES HYDRAULIC MOTORS

WG

OVERVIEW

The White Drive Products tradition of providing motors that excel in demanding applications continues with the WG series. WG motors provide an exceptionally solid platform for any medium-duty application where sideload may present a concern. The WG incorporates our Roller Stator® design which reduces friction and extends motor life. With displacements ranging from 41 - 404 cc [2.5 - 24.4 in3/rev.] and a choice of mounting, shaft, and port options, this motor is made to satisfy a variety of applications. The WG is a perfect fit when you require improved performance and long motor life at an affordable price. Applications include, but are not limited to, light to medium duty wheel drives, feed rollers, augers, brush drives, and conveyors.



KEY FEATURES

Needle Roller Bearing is in optimum location to allow load to be placed as close to the center line of bearing as possible.

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

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.

Rubber Energized Steel Face Seal does not extrude or melt under high pressure or high temperature.

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
040	41 [2.5]	830	1020	34 [9]	42 [11]	71 [630]	100 [870]	138 [2000]	190 [2750]	207 [3000]
045	44 [2.7]	770	940	34 [9]	42 [11]	78 [685]	108 [955]	138 [2000]	190 [2750]	207 [3000]
060	60 [3.6]	760	950	45 [12]	57 [15]	107 [950]	150 [1320]	138 [2000]	190 [2750]	207 [3000]
070	70 [4.3]	650	810	45 [12]	57 [15]	127 [1120]	176 [1560]	138 [2000]	190 [2750]	207 [3000]
090	88 [5.4]	520	650	45 [12]	57 [15]	162 [1430]	224 [1985]	138 [2000]	190 [2750]	207 [3000]
100	100 [6.1]	450	570	45 [12]	57 [15]	185 [1640]	257 [2275]	138 [2000]	190 [2750]	207 [3000]
130	129 [7.9]	350	440	45 [12]	57 [15]	241 [2135]	334 [2960]	138 [2000]	190 [2750]	207 [3000]
160	161 [9.8]	280	350	45 [12]	57 [15]	304 [2690]	421 [3730]	138 [2000]	190 [2750]	207 [3000]
200	200 [12.2]	220	280	45 [12]	57 [15]	379 [3350]	525 [4650]	138 [2000]	190 [2750]	207 [3000]
230	231 [14.1]	240	330	57 [15]	76 [20]	380 [3380]	529 [4680]	121 [1750]	165 [2400]	200 [2900]
320	322 [19.7]	175	235	57 [15]	76 [20]	458 [4050]	600 [5300]	103 [1500]	134 [1950]	169 [2450]
400	404 [24.4]	140	185	57 [15]	76 [20]	548 [4850]	758 [6710]	100 [1450]	135 [1960]	170 [2460]

040

41 cc [2.5 in^3/rev.]

Pressure - bars [psi]

35 [500]	69 [1000]	104 [1500]	138 [2000]	190 [2750]
			Max. Cont.	Max. Inter.

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]	35 [500]	69 [1000]	104 [1500]	138 [2000]	190 [2750]	Theoretical rpm
2 [0.5]	13 [117] **37**	29 [259] **25**	45 [401] **4**			47
4 [1]	14 [126] **85**	31 [276] **72**	48 [427] **51**	65 [577] **21**		93
8 [2]	15 [134] **179**	33 [293] **166**	51 [453] **144**	69 [612] **113**	96 [852] **49**	186
11 [3]	15 [136] **273**	34 [299] **260**	52 [462] **237**	71 [625] **205**	98 [869] **138**	279
15 [4]	15 [136] **368**	34 [300] **354**	52 [464] **330**	71 [628] **296**	99 [874] **227**	372
19 [5]	15 [134] **462**	34 [298] **448**	52 [462] **423**	71 [626] **388**	98 [872] **316**	464
27 [7]	15 [129] **650**	33 [291] **636**	51 [454] **609**	70 [617] **572**	97 [861] **493**	650
Max. Cont. 34 [9]	14 [122] **835**	32 [283] **824**	50 [445] **796**	69 [607] **755**	96 [849] **671**	835
Max. Inter. 42 [11]	13 [115] **1021**	31 [276 **1012**	49 [437] **982**	68 [599] **939**		1021

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

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

22 [198]	45 [396]	67 [595]	90 [793]	123 [1090]

Theoretical Torque - Nm [lb-in]

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

060

60 cc [3.6 in^3/rev.]

Pressure - bars [psi]

35 [500]	69 [1000]	104 [1500]	138 [2000]	190 [2750]
			Max. Cont.	Max. Inter.

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]	35 [500]	69 [1000]	104 [1500]	138 [2000]	190 [2750]	Theoretical rpm
2 [0.5]	22 [191] **26**	45 [400] **17**	69 [608] **3**			32
4 [1]	23 [203] **58**	48 [425] **49**	73 [648] **35**	98 [870] **14**		64
8 [2]	24 [213] **122**	51 [450] **113**	78 [687] **98**	104 [924] **77**	145 [1280] **34**	127
11 [3]	24 [214] **187**	52 [458] **178**	79 [702] **162**	107 [945] **140**	148 [1310] **94**	191
15 [4]	24 [211] **251**	52 [458] **242**	80 [704] **226**	107 [950] **203**	149 [1320] **155**	254
19 [5]	23 [205] **316**	51 [453] **306**	79 [700] **289**	107 [948] **265**	149 [1319] **216**	318
27 [7]	21 [190] **445**	49 [437] **435**	77 [685] **417**	105 [932] **391**	147 [1304] **337**	445
Max. Cont. 34 [9]	19 [170] **572**	47 [417] **563**	75 [664] **544**	103 [912] **517**	145 [1282] **459**	572
45 [12]	15 [136] **762**	43 [384] **756**	71 [632] **735**	99 [879] **705**	141 [1251] **641**	762
Max. Inter. 57 [15]	11 [98] **952**	39 [349] **949**	68 [599] **926**	96 [850] **893**		952

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

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

33 [952]	65 [580]	98 [869]	131 [1159]	180 [1594]

Theoretical Torque - Nm [lb-in]

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

045

44 cc [2.7 in^3/rev.]

Pressure - bars [psi]

35 [500]	69 [1000]	104 [1500]	138 [2000]	190 [2750]
			Max. Cont.	Max. Inter.

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]	35 [500]	69 [1000]	104 [1500]	138 [2000]	190 [2750]	Theoretical rpm
2 [0.5]	15 [131] **34**	32 [285] **23**	50 [438] **4**			43
4 [1]	16 [140] **78**	34 [303] **66**	53 [467] **47**	71 [631] **19**		86
8 [2]	17 [148] **165**	36 [322] **153**	56 [496] **133**	76 [669] **104**	105 [930] **45**	172
11 [3]	17 [151] **252**	37 [328] **240**	57 [506] **219**	77 [683] **189**	107 [950] **127**	257
15 [4]	17 [150] **339**	37 [329] **326**	57 [508] **304**	78 [687] **273**	108 [955] **209**	343
19 [5]	17 [147] **426**	37 [326] **413**	57 [505] **390**	77 [685] **358**	108 [953] **291**	428
27 [7]	16 [140] **599**	36 [318] **586**	56 [496] **562**	76 [674] **527**	106 [942] **455**	599
Max. Cont. 34 [9]	15 [131] **770**	35 [308] **760**	55 [485] **734**	75 [662] **696**	105 [928] **619**	770
Max. Inter. 42 [11]	14 [121] **942**	34 [298] **933**	54 [475] **906**	74 [652] **866**		942

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

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

24 [215]	49 [430]	73 [645]	97 [860]	134 [1182]

Theoretical Torque - Nm [lb-in]

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

070

70 cc [4.3 in^3/rev.]

Pressure - bars [psi]

35 [500]	69 [1000]	104 [1500]	138 [2000]	190 [2750]
			Max. Cont.	Max. Inter.

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]	35 [500]	69 [1000]	104 [1500]	138 [2000]	190 [2750]	Theoretical rpm
2 [0.5]	26 [231] **22**	54 [474] **15**	81 [718] **2**			28
4 [1]	28 [244] **50**	57 [504] **42**	86 [765] **30**	116 [1025] **12**		55
8 [2]	29 [255] **105**	60 [534] **97**	92 [812] **84**	123 [1090] **66**	170 [1507] **29**	109
11 [3]	29 [256] **160**	61 [542] **152**	94 [829] **139**	126 [1115] **120**	175 [1544] **81**	164
15 [4]	28 [251] **215**	61 [541] **207**	94 [831] **193**	127 [1121] **174**	176 [1557] **133**	218
19 [5]	27 [243] **271**	60 [535] **262**	93 [827] **248**	126 [1119] **227**	176 [1556] **185**	272
27 [7]	25 [222] **381**	58 [514] **372**	91 [807] **357**	124 [1100] **335**	174 [1539] **289**	381
Max. Cont. 34 [9]	22 [196] **490**	55 [488] **483**	88 [781] **466**	121 [1073] **442**	171 [1512] **393**	490
45 [12]	17 [149] **653**	50 [443] **648**	83 [736] **630**	116 [1030] **604**	166 [1470] **549**	653
Max. Inter. 57 [15]	11 [96] **816**	44 [393] **813**	78 [690] **793**	111 [986] **765**		816

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

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

38 [338]	76 [677]	115 [1015]	153 [1354]	210 [1861]

Theoretical Torque - Nm [lb-in]

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

WG

PERFORMANCE

090

88 cc [5.4 in^3/rev.]

Flow - lpm [gpm]	Pressure - bars [psi] 35 [500]	69 [1000]	104 [1500]	138 [2000] Max. Cont.	190 [2750] Max. Inter.	Theoretical rpm
2 [0.5]	34 [301] **17**	69 [609] **12**	104 [917] **2**			22
4 [1]	36 [318] **39**	73 [647] **33**	110 [976] **24**	147 [1305] **10**		44
8 [2]	37 [331] **83**	77 [684] **77**	117 [1036] **67**	157 [1388] **52**	217 [1917] **23**	87
11 [3]	37 [331] **127**	78 [694] **121**	120 [1058] **110**	161 [1421] **95**	222 [1966] **64**	130
15 [4]	37 [323] **171**	78 [692] **165**	120 [1061] **154**	162 [1430] **138**	224 [1984] **106**	173
19 [5]	35 [312] **215**	77 [683] **208**	119 [1055] **197**	161 [1427] **181**	224 [1984] **147**	216
27 [7]	32 [280] **303**	74 [654] **296**	116 [1028] **284**	158 [1402] **266**	222 [1962] **230**	303
34 [9]	27 [242] **389**	70 [616] **383**	112 [990] **370**	154 [1365] **351**	218 [1926] **312**	389
45 [12] Max. Cont.	20 [173] **519**	62 [549] **515**	105 [925] **500**	147 [1301] **480**	211 [1864] **436**	519
57 [15] Max. Inter.	11 [94] **648**	53 [473] **646**	96 [853] **630**	139 [1232] **608**		648

Intermittent Ratings - 10% of Operation

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

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

Theoretical Torque - Nm [lb-in]					
48 [426]	96 [852]	144 [1278]	193 [1704]	265 [2343]	

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

130

129 cc [7.9 in^3/rev.]

Flow - lpm [gpm]	Pressure - bars [psi] 35 [500]	69 [1000]	104 [1500]	138 [2000] Max. Cont.	190 [2750] Max. Inter.	Theoretical rpm
2 [0.5]	52 [463] **12**	104 [917] **8**	155 [1370] **1**			15
4 [1]	55 [487] **27**	110 [972] **23**	165 [1458] **16**	220 [1943] **7**		30
8 [2]	57 [505] **57**	116 [1026] **53**	175 [1548] **46**	234 [2069] **36**	322 [2851] **16**	59
11 [3]	57 [502] **87**	118 [1041] **82**	179 [1580] **75**	240 [2120] **65**	331 [2929] **44**	89
15 [4]	55 [488] **116**	117 [1037] **112**	179 [1586] **105**	241 [2134] **94**	334 [2958] **72**	118
19 [5]	53 [467] **146**	115 [1021] **142**	178 [1576] **134**	241 [2130] **123**	335 [2961] **100**	147
27 [7]	47 [413] **206**	110 [972] **201**	173 [1531] **193**	236 [2091] **181**	331 [2929] **156**	206
34 [9]	39 [347] **265**	103 [908] **261**	166 [1469] **252**	229 [2030] **239**	325 [2872] **213**	265
45 [12] Max. Cont.	26 [228] **353**	89 [792] **350**	153 [1355] **341**	217 [1919] **326**	312 [2764] **297**	353
57 [15] Max. Inter.	10 [89] **441**	74 [657] **440**	138 [1224] **429**	202 [1792] **414**		441

Intermittent Ratings - 10% of Operation

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

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

Theoretical Torque - Nm [lb-in]					
71 [626]	141 [1252]	212 [1877]	283 [2503]	389 [3442]	

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

100

100 cc [6.1 in^3/rev.]

Flow - lpm [gpm]	Pressure - bars [psi] 35 [500]	69 [1000]	104 [1500]	138 [2000] Max. Cont.	190 [2750] Max. Inter.	Theoretical rpm
2 [0.5]	40 [350] **15**	79 [701] **10**	119 [1052] **2**			19
4 [1]	42 [369] **35**	84 [744] **29**	127 [1120] **21**	169 [1496] **9**		38
8 [2]	43 [383] **73**	89 [786] **68**	134 [1189] **59**	180 [1592] **46**	248 [2196] **20**	76
11 [3]	43 [382] **112**	90 [798] **106**	137 [1214] **97**	184 [1630] **83**	255 [2254] **56**	114
15 [4]	42 [372] **150**	90 [795] **144**	138 [1218] **135**	185 [1641] **121**	257 [2275] **93**	152
19 [5]	40 [358] **189**	89 [784] **183**	137 [1211] **173**	185 [1637] **158**	257 [2276] **129**	190
27 [7]	36 [320] **266**	85 [749] **260**	133 [1178] **249**	182 [1607] **233**	254 [2251] **201**	266
34 [9]	31 [273] **341**	79 [703] **336**	128 [1133] **325**	177 [1564] **308**	250 [2209] **274**	341
45 [12] Max. Cont.	21 [190] **455**	70 [622] **451**	119 [1053] **439**	168 [1485] **421**	241 [2133] **383**	455
57 [15] Max. Inter.	10 [93] **569**	60 [528] **566**	109 [964] **553**	158 [1399] **533**		569

Intermittent Ratings - 10% of Operation

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

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

Theoretical Torque - Nm [lb-in]					
55 [486]	110 [971]	165 [1457]	220 [1943]	302 [2671]	

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

160

161 cc [9.8 in^3/rev.]

Flow - lpm [gpm]	Pressure - bars [psi] 35 [500]	69 [1000]	104 [1500]	138 [2000] Max. Cont.	190 [2750] Max. Inter.	Theoretical rpm
2 [0.5]	67 [590] **9**	131 [1158] **6**	195 [1726] **1**			12
4 [1]	70 [620] **21**	139 [1228] **18**	207 [1836] **13**	276 [2445] **5**		24
8 [2]	72 [641] **45**	146 [1295] **42**	220 [1949] **36**	294 [2604] **29**	405 [3585] **12**	47
11 [3]	72 [636] **69**	148 [1313] **66**	225 [1991] **60**	301 [2668] **52**	416 [3684] **35**	71
15 [4]	70 [617] **93**	148 [1307] **90**	226 [1997] **84**	304 [2687] **75**	421 [3722] **57**	94
19 [5]	67 [590] **117**	145 [1287] **113**	224 [1984] **107**	303 [2682] **98**	421 [3728] **80**	118
27 [7]	59 [518] **165**	138 [1222] **161**	218 [1927] **154**	297 [2631] **145**	417 [3688] **125**	165
34 [9]	49 [429] **212**	128 [1137] **209**	208 [1845] **202**	288 [2552] **191**	408 [3614] **170**	212
45 [12] Max. Cont.	31 [271] **282**	111 [982] **280**	191 [1693] **272**	272 [2404] **261**	392 [3471] **237**	282
57 [15] Max. Inter.	10 [85] **353**	90 [800] **351**	171 [1516] **343**	252 [2231] **331**		353

Intermittent Ratings - 10% of Operation

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

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

Theoretical Torque - Nm [lb-in]					
88 [783]	177 [1565]	265 [2348]	354 [3131]	486 [4305]	

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

200

200 cc [12.2 in^3/rev.] **Intermittent Ratings -** 10% of Operation

Flow - lpm [gpm]	Pressure - bars [psi] 35 [500]	69 [1000]	104 [1500]	Max. Cont. 138 [2000]	Max. Inter. 190 [2750]	Theoretical rpm
2 [0.5]	84 [742] **8**	164 [1447] **5**	243 [2152] **1**			10
4 [1]	88 [778] **17**	173 [1534] **15**	259 [2289] **10**	344 [3045] **4**		19
8 [2]	91 [804] **37**	183 [1617] **34**	275 [2430] **29**	367 [3244] **23**	504 [4464] **10**	38
11 [3]	90 [796] **56**	185 [1639] **53**	280 [2482] **48**	376 [3325] **42**	519 [4589] **28**	57
15 [4]	87 [772] **75**	184 [1631] **72**	281 [2490] **67**	378 [3349] **61**	524 [4638] **46**	76
19 [5]	83 [736] **94**	181 [1605] **91**	280 [2474] **86**	378 [3343] **79**	525 [4646] **64**	95
27 [7]	73 [643] **133**	172 [1522] **130**	271 [2400] **124**	371 [3279] **117**	519 [4597] **101**	133
34 [9]	60 [528] **171**	159 [1411] **168**	259 [2295] **163**	359 [3178] **154**	509 [4503] **137**	171
Max. Cont. 45 [12]	36 [322] **228**	137 [1210] **226**	237 [2098] **220**	337 [2985] **210**	488 [4317] **192**	228
Max. Inter. 57 [15]	9 [80] **285**	110 [973] **283**	211 [1865] **277**	312 [2758] **267**		285

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

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

110 [971]	219 [1941]	329 [2912]	439 [3882]	603 [5338]

Theoretical Torque - Nm [lb-in]

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

320

322 cc [19.7 in^3/rev.] **Intermittent Ratings -** 10% of Operation

Flow - lpm [gpm]	Pressure - bars [psi] 35 [500]	69 [1000]	Max. Cont. 103 [1500]	Max. Inter. 134 [1950]	Theoretical rpm
4 [1]	145 [1280] **11**	283 [2501] **9**			12
8 [2]	149 [1319] **23**	298 [2635] **21**	447 [3951] **18**	580 [5136] **15**	24
11 [3]	147 [1304] **35**	302 [2670] **33**	456 [4036] **30**	595 [5265] **26**	36
15 [4]	142 [1260] **47**	300 [2654] **45**	457 [4049] **42**	599 [5303] **38**	48
19 [5]	135 [1199] **59**	295 [2610] **57**	454 [4021] **54**	598 [5291] **50**	59
27 [7]	117 [1039] **82**	279 [2468] **81**	440 [3897] **77**	586 [5184] **73**	83
34 [9]	95 [841] **106**	258 [2279] **104**	420 [3717] **101**	566 [5012] **96**	106
45 [12]	55 [485] **142**	218 [1931] **140**	382 [3377] **136**	529 [4678] **131**	142
Max. Cont. 57 [15]	7 [64] **177**	171 [1517] **176**	336 [2970] **172**	483 [4277] **166**	177
Max. Inter. 76 [20]		78 [692] **235**	244 [2160] **231**		236

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

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

177 [1564]	354 [3129]	530 [4693]	689 [6102]

Theoretical Torque - Nm [lb-in]

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

230

231 cc [14.1 in^3/rev.] **Intermittent Ratings -** 10% of Operation

Flow - lpm [gpm]	Pressure - bars [psi] 35 [500]	69 [1000]	104 [1500]	Max. Cont. 121 [1750]	138 [2000]	Max. Inter. 166 [2400]	Theoretical rpm
2 [0.5]	98 [864] **7**	190 [1678] **4**	282 [2493] **1**				9
4 [1]	102 [905] **15**	201 [1779] **13**	300 [2652] **9**	349 [3089] **7**	398 [3526] **4**		17
8 [2]	106 [934] **32**	212 [1875] **29**	318 [2816] **25**	371 [3286] **23**	425 [3757] **20**	510 [4509] **14**	33
11 [3]	104 [925] **48**	215 [1900] **46**	325 [2876] **42**	380 [3363] **39**	435 [3851] **36**	523 [4631] **30**	50
15 [4]	101 [895] **65**	214 [1890] **63**	326 [2885] **58**	382 [3382] **56**	438 [3880] **52**	528 [4675] **46**	66
19 [5]	96 [853] **82**	210 [1860] **79**	324 [2866] **75**	381 [3369] **72**	438 [3872] **69**	529 [4677] **62**	83
27 [7]	84 [743] **115**	199 [1761] **112**	314 [2780] **108**	372 [3289] **105**	429 [3798] **101**	521 [4612] **94**	115
34 [9]	69 [607] **148**	184 [1631] **146**	300 [2655] **141**	358 [3167] **137**	416 [3679] **134**	508 [4498] **126**	148
45 [12]	41 [364] **197**	157 [1393] **196**	274 [2422] **190**	332 [2936] **186**	390 [3451] **182**	483 [4274] **174**	197
Max. Cont. 57 [15]	9 [76] **247**	125 [1111] **245**	242 [2145] **240**	301 [2662] **236**	359 [3180] **231**	453 [4007] **222**	247
Max. Inter. 76 [20]		62 [551] **328**	181 [1600] **322**	240 [2124] **317**			329

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

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

127 [1121]	253 [2242]	380 [3363]	443 [3924]	507 [4484]	608 [5381]

Theoretical Torque - Nm [lb-in]

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

400

404 cc [24.4 in^3/rev.] **Intermittent Ratings -** 10% of Operation

Flow - lpm [gpm]	Pressure - bars [psi] 35 [508]	70 [1015]	100 [1450]	Max. Cont. 135 [1960]	Theoretical rpm
2 [0.5]	171 [1513] **3**	341 [3018] **3**			5
5 [1]	210 [1858] **12**	353 [3124] **11**	537 [4752] **7**	687 [6080] **5**	12
10 [3]	211 [1867] **22**	373 [3301] **18**	548 [4850] **16**	693 [6133] **13**	25
15 [4]	207 [1832] **34**	386 [3416] **32**	546 [4832] **28**	732 [6478] **24**	37
20 [5]	192 [1699] **45**	377 [3336] **44**	531 [4699] **37**	753 [6664] **29**	50
25 [7]	188 [1664] **60**	370 [3274] **55**	545 [4823] **45**	758 [6708] **36**	62
30 [8]	176 [1558] **71**	365 [3230] **69**	534 [4726] **58**	737 [6522] **49**	74
40 [11]	144 [1274] **95**	327 [2894] **91**	513 [4540] **86**	719 [6363] **79**	99
Max. Cont. 50 [12]	112 [991] **119**	293 [2593] **117**	476 [4212] **112**	688 [6088] **109**	124
Max. Inter. 57 [15]	85 [752] **139**	266 [2354] **138**	433 [3832] **135**	643 [5690] **133**	141
75 [20]	11 [97] **186**	180 [1593] **184**	337 [2982] **183**		186

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

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

225 [1991]	450 [3982]	643 [5690]	868 [7681]

Theoretical Torque - Nm [lb-in]

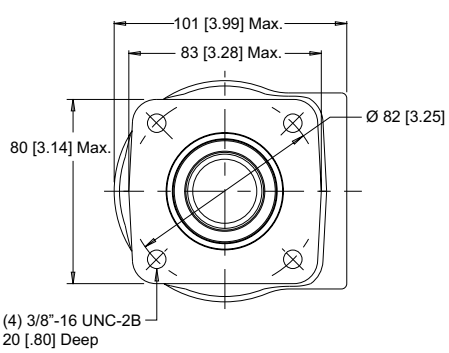
Overall Efficiency - 70 - 100% ☐ 40 - 69% ▒ 0 - 39% ■

WG

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

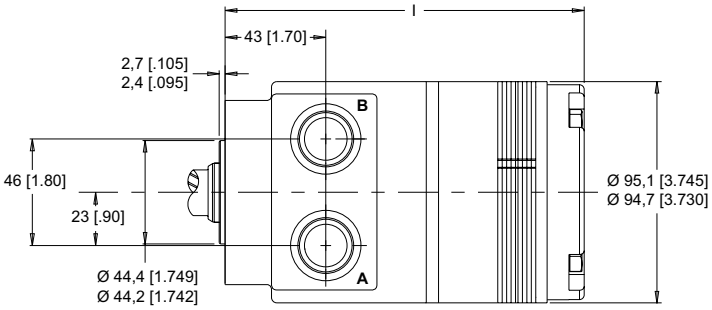
275 & 276 SERIES HOUSINGS (4-HOLE SQUARE MOUNT)

F30 4-Hole 1/2" NPT Front Ports

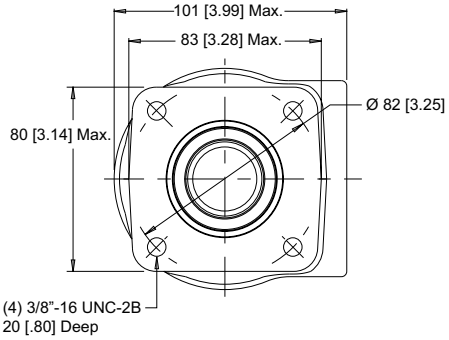


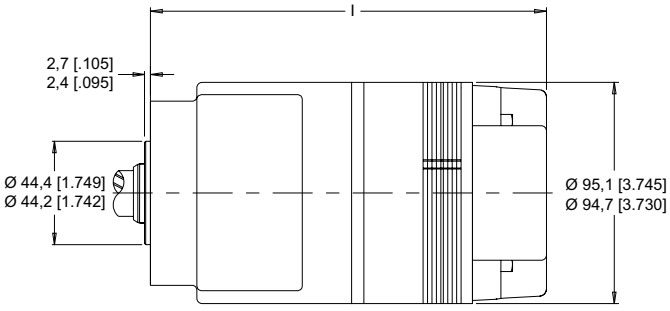
F31 4-Hole 7/8" O-Ring Front Ports

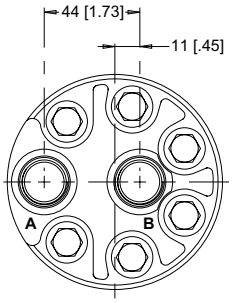
F38 4-Hole 1/2" BSP.F Front Ports



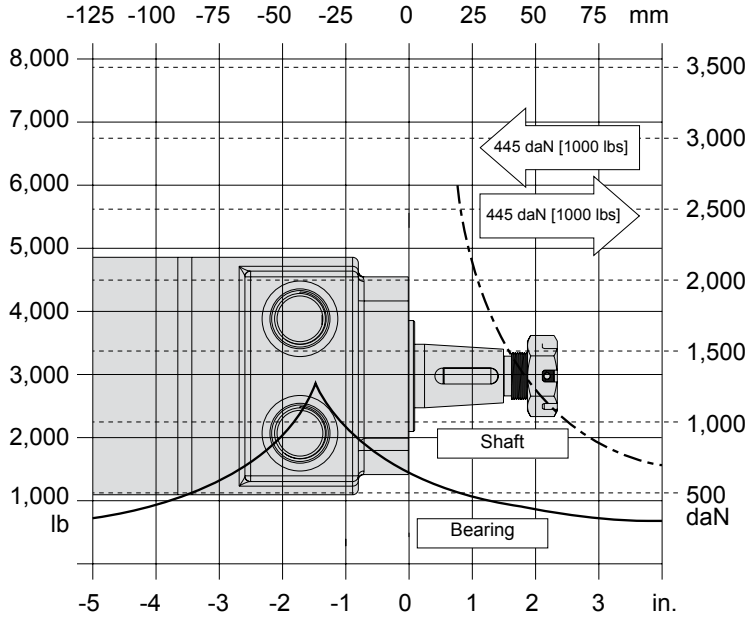
F26 4-Hole 3/4" O-Ring End Ports







Bearing Curve: The bearing curve represents allowable bearing loads based on ISO 281 bearing capacity for an L_{10} life of 2,000 hours at 100 rpm. Radial loads for speeds other than 100 rpm may be calculated using the multiplication factor table on page 9.



LENGTH / WEIGHT CHART - DIMENSION I				
	F30, F31, & F38		F26	
Code	mm [in]	kg [lb]	mm [in]	kg [lb]
040	137 [5.39]	6,3 [13.9]	156 [6.16]	6,9 [15.2]
045	138 [5.43]	6,4 [14.1]	157 [6.19]	7,0 [15.3]
060	141 [5.55]	6,5 [14.3]	160 [6.31]	7,1 [15.6]
070	143 [5.63]	6,5 [14.3]	162 [6.38]	7,1 [15.7]
090	147 [5.79]	6,7 [14.7]	166 [6.52]	7,3 [16.1]
100	149 [5.87]	6,8 [15.0]	168 [6.62]	7,4 [16.3]
130	155 [6.10]	7,0 [15.4]	174 [6.84]	7,6 [16.8]
160	161 [6.34]	7,3 [16.1]	180 [7.09]	7,9 [17.3]
200	169 [6.65]	7,6 [16.7]	188 [7.39]	8,2 [18.0]
230	175 [6.89]	7,8 [17.2]	194 [7.63]	8,4 [18.5]
320	193 [7.60]	8,5 [18.7]	212 [8.34]	9,1 [20.1]
400	193 [7.60]	8,5 [18.7]	212 [8.34]	9,1 [20.1]

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

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

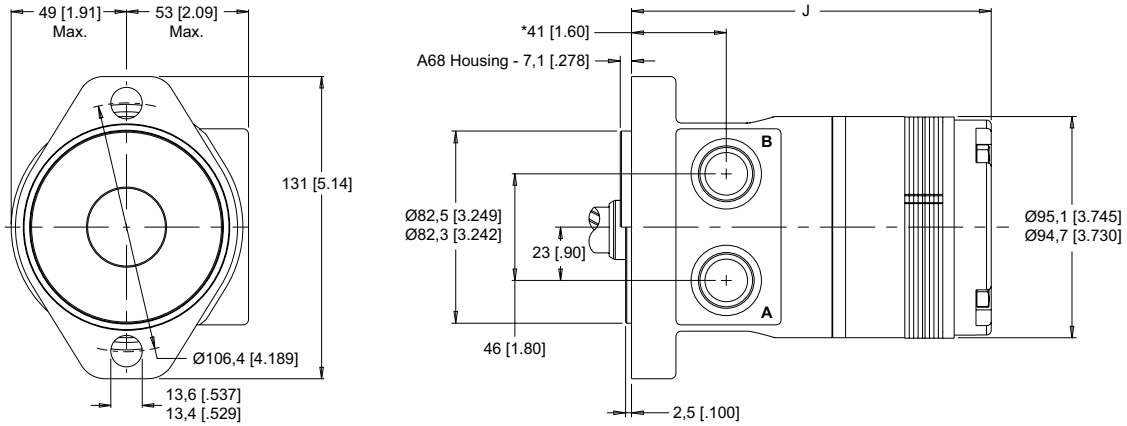
275 & 276 SERIES HOUSINGS (SAE A MOUNT)

A10 2-Hole 1/2" NPT Front Ports

A11 2-Hole 7/8" O-Ring Front Ports

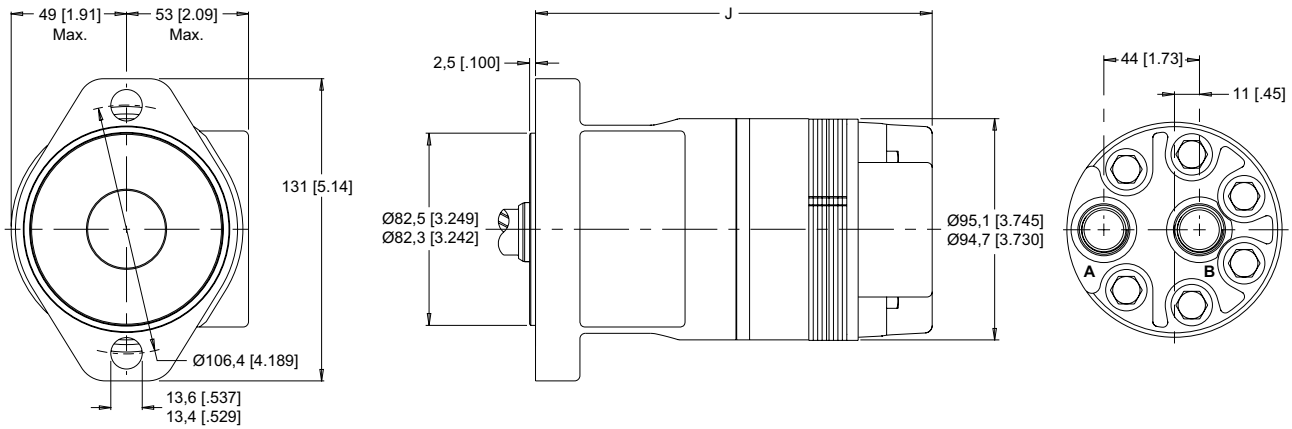
A18 2-Hole 1/2" BSP.F Front Ports

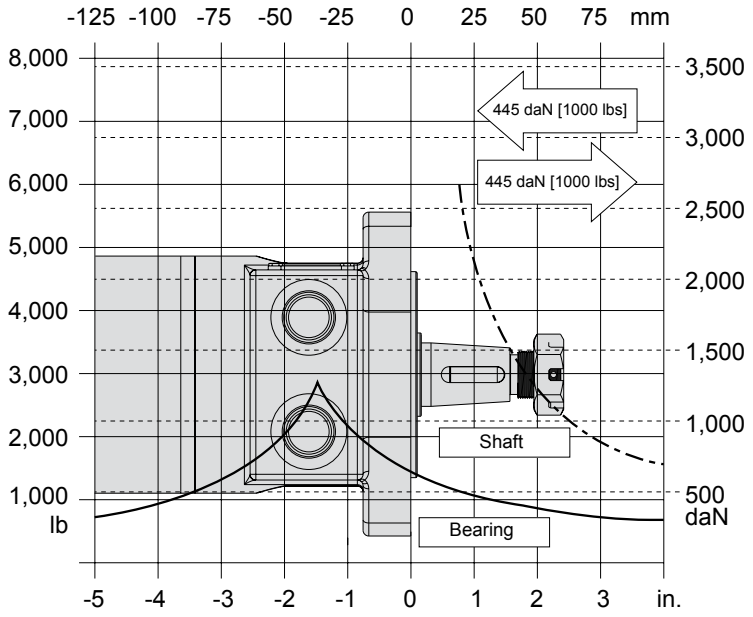
A68 2-Hole 1/2" BSP.F Front Ports With Tall Pilot



NOTE: * Subtract 4,5 [.178] from this dimension for the A68 housing.

A06 2-Hole 3/4" O-Ring End Ports





LENGTH / WEIGHT CHART - DIMENSION J				
	A10, A11, A17, A18 & A68		A06	
Code	mm [in]	kg [lb]	mm [in]	kg [lb]
040	137 [5.39]	6,7 [14.7]	156 [6.16]	7,3 [15.9]
045	138 [5.43]	6,7 [14.7]	157 [6.19]	7,3 [16.0]
060	141 [5.55]	6,8 [15.0]	160 [6.31]	7,4 [16.3]
070	143 [5.63]	6,9 [15.2]	162 [6.38]	7,5 [16.4]
090	147 [5.79]	7,0 [15.4]	166 [6.52]	7,6 [16.8]
100	149 [5.87]	7,1 [15.6]	168 [6.62]	7,7 [17.0]
130	155 [6.10]	7,4 [16.3]	174 [6.84]	8,0 [17.5]
160	161 [6.34]	7,6 [16.7]	180 [7.09]	8,2 [18.0]
200	169 [6.65]	7,9 [17.4]	188 [7.39]	8,5 [18.7]
230	175 [6.89]	8,1 [17.8]	194 [7.63]	8,7 [19.2]
320	193 [7.60]	8,9 [19.6]	212 [8.34]	9,5 [20.8]
400	193 [7.60]	8,9 [19.6]	212 [8.34]	9,5 [20.8]

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

NOTE: See bearing curve explanation on page 6.

WG

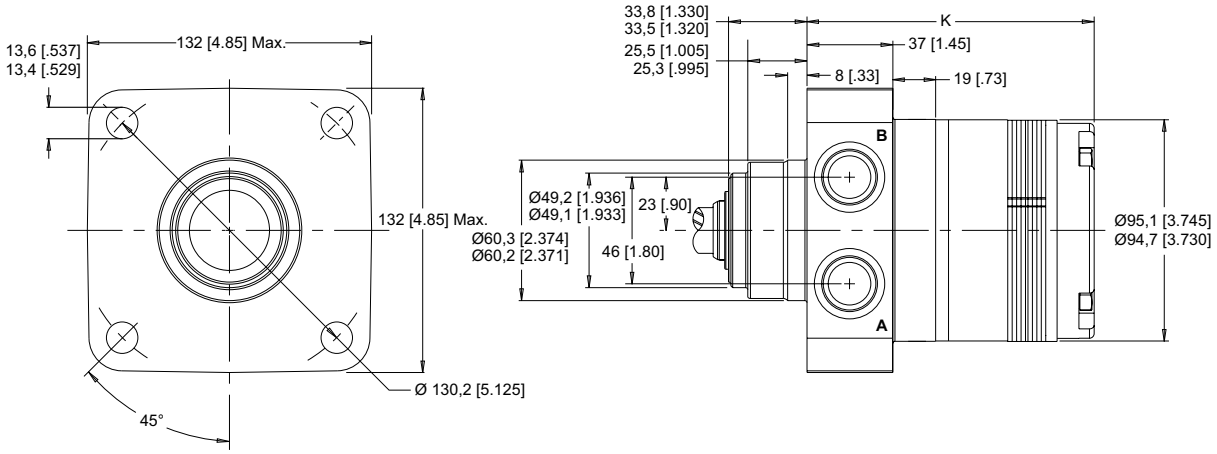
NOTE: Dimensions shown are without paint. Paint thickness can be up to 0,13 [.005]

275 & 276 SERIES HOUSINGS (WHEEL MOUNT)

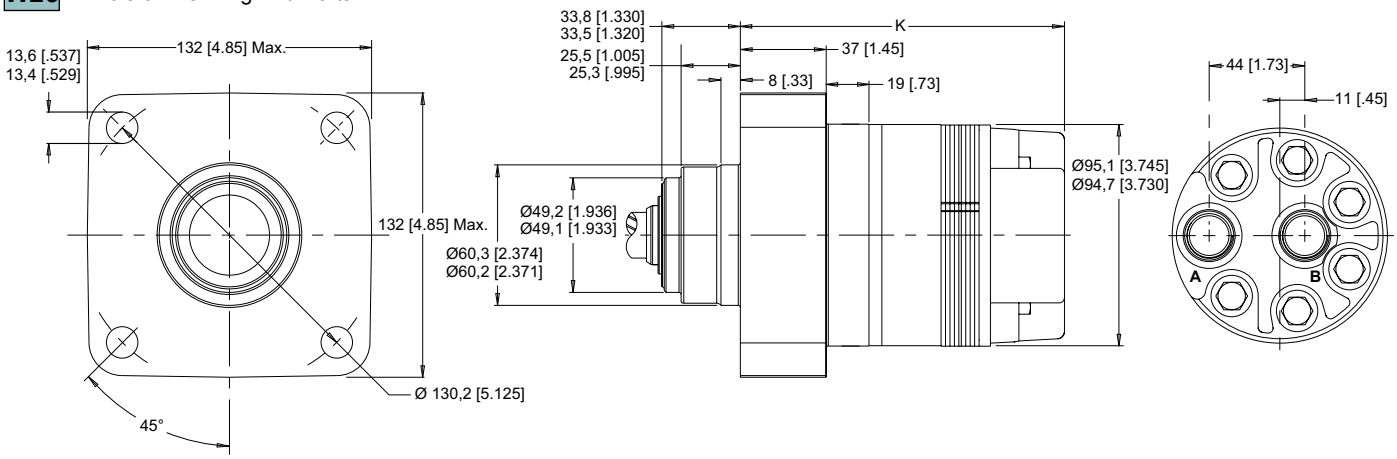
W30 4-Hole 1/2” NPT Front Ports

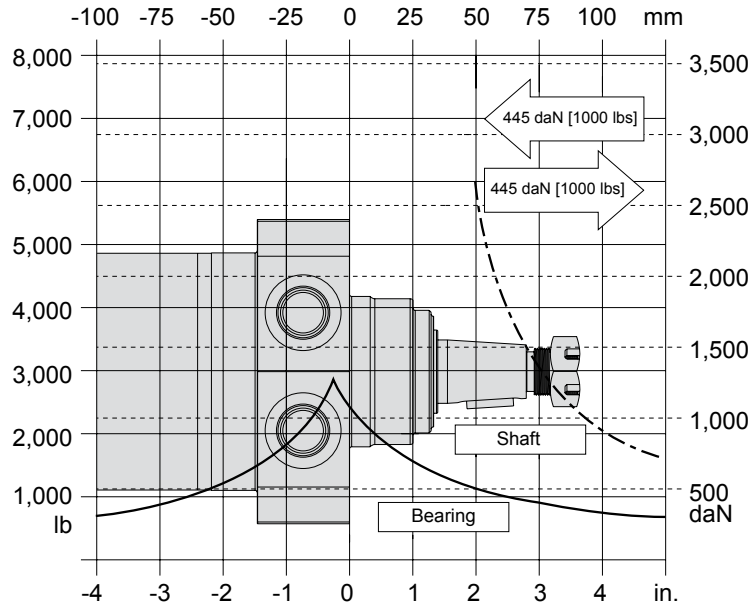
W31 4-Hole 7/8” O-Ring Front Ports

W38 4-Hole 1/2” BSP.F Front Ports



W26 4-Hole 3/4” O-Ring End Ports





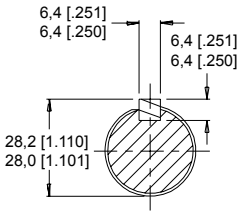
LENGTH / WEIGHT CHART - DIMENSION K				
	W30, W31, & W38		W26	
Code	mm [in]	kg [lb]	mm [in]	kg [lb]
040	106 [4.17]	7,0 [15.4]	125 [4.93]	7,6 [16.7]
045	106 [4.17]	7,0 [15.4]	125 [4.95]	7,6 [16.8]
060	110 [4.33]	7,1 [15.6]	129 [5.07]	7,7 [17.0]
070	112 [4.41]	7,2 [15.8]	131 [5.15]	7,8 [17.2]
090	115 [4.53]	7,4 [16.3]	134 [5.29]	8,0 [17.5]
100	118 [4.65]	7,4 [16.3]	137 [5.39]	8,0 [17.7]
130	123 [4.84]	7,7 [16.9]	142 [5.61]	8,3 [18.2]
160	130 [5.12]	7,9 [17.4]	149 [5.86]	8,5 [18.8]
200	137 [5.39]	8,3 [18.3]	156 [6.16]	8,9 [19.5]
230	144 [5.67]	8,5 [18.7]	163 [6.40]	9,1 [20.0]
320	162 [6.38]	9,2 [20.2]	181 [7.11]	9,8 [21.6]
400	162 [6.38]	9,2 [20.2]	181 [7.11]	9,8 [21.6]

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

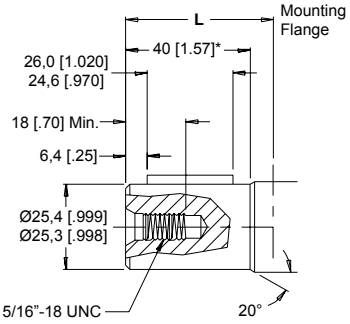
NOTE: See bearing curve explanation on page 6.

10 1" Straight

Max. Torque: 655 Nm [5,800 lb-in]



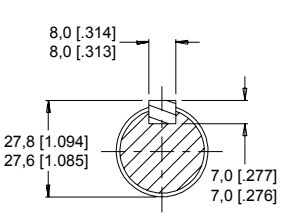
15 1" Straight Extended



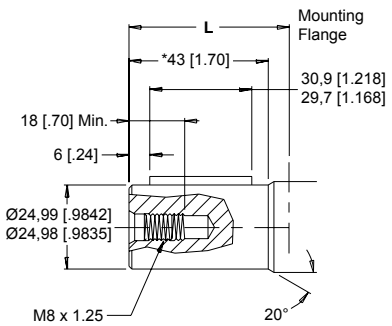
NOTE: * For the 15 Shaft add 43 [1.69] to this dimension.

12 25mm Straight

Max. Torque: 678 Nm [6,000 lb-in]



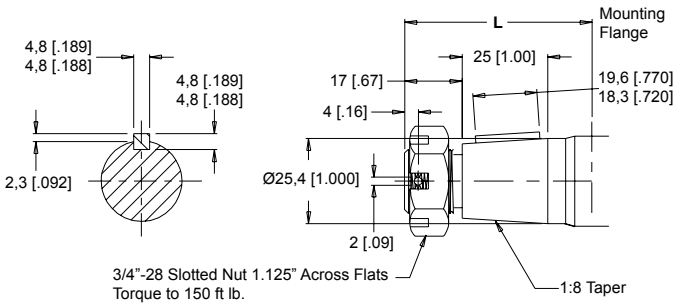
89 25mm Straight Modified



NOTE: * For the 89 Shaft add 1 [.04] to this dimension.

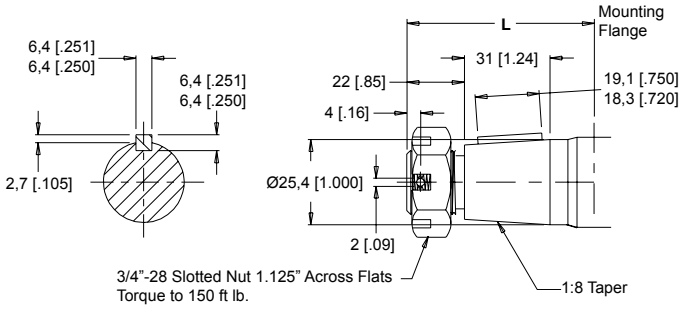
13 1" Tapered

Max. Torque: 655 Nm [5,800 lb-in]



14 1" Tapered Extended

Max. Torque: 655 Nm [5,800 lb-in]



SHAFT LENGTHS

MOUNTING FLANGE TO SHAFT END - Dimension L			
Code	**4-Hole Mount**	**SAE A Mount**	**Wheel Mount**
10	45 [1.77]	45 [1.77]	76 [2.99]
12	49 [1.94]	49 [1.94]	80 [3.16]
13	56 [2.20]	56 [2.20]	87 [3.43]
14	61 [2.40]	61 [2.40]	92 [3.63]
89	51 [2.00]	51 [2.00]	82 [3.22]

BEARING LOAD MULTIPLICATION FACTOR TABLE			
RPM	**FACTOR**	**RPM**	**FACTOR**
50	1.23	**500**	0.62
100	1.00	**600**	0.58
200	0.81	**700**	0.56
300	0.72	**800**	0.50
400	0.66		

WG

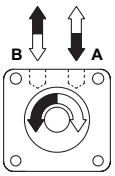
275 & 276 SERIES MODEL CODE BUILDER

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

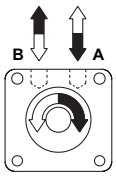
STEP 1 - Select a series

275	Counterclockwise Rotation
276	Clockwise Rotation

275



276



NOTE: For applications requiring the motor to rotate in only one direction, shaft seal life may be prolonged by pressurizing the "A" port of the motor. To obtain the desired direction of shaft rotation, use the graphic at the left to determine the rotation code for the motor. For bi-directional applications, the 275 series is recommended. Preferred rotation is determined by internal valving design.

STEP 2 - Select a displacement option

040	41 cc	[2.5 in^3/rev]	130	129 cc	[7.9 in^3/rev]
045	44 cc	[2.7 in^3/rev]	160	161 cc	[9.8 in^3/rev]
060	60 cc	[3.6 in^3/rev]	200	200 cc	[12.2 in^3/rev]
070	70 cc	[4.3 in^3/rev]	230	231 cc	[14.1 in^3/rev]
090	88 cc	[5.4 in^3/rev]	320	322 cc	[19.7 in^3/rev]
100	100 cc	[6.1 in^3/rev]	400	404 cc	[24.4 in^3/rev]

STEP 3 - Select a housing option

A06	2-Hole 3/4" O-Ring End Ports (S)
A10	2-Hole 1/2" NPT Front Ports (S)
A11	2-Hole 7/8" O-Ring Front Ports (S)
A18	2-Hole 1/2" BSP.F Front Ports (S)
A68	2-Hole 1/2" BSP.F Front Ports With Tall Pilot
F26	4-Hole 3/4" O-Ring End Ports (S)
F30	4-Hole 1/2" NPT Front Ports (S)
F31	4-Hole 7/8" O-Ring Front Ports (S)
F38	4-Hole 1/2" BSP.F Front Ports (S)
W26	4-Hole 3/4" O-Ring End Ports
W30	4-Hole 1/2" NPT Front Ports
W31	4-Hole 7/8" O-Ring Front Ports
W38	4-Hole 1/2" BSP.F Front Ports

STEP 4 - Select a shaft option

10	1" Straight	14	1" Tapered Extended (S)
12	25mm Straight	15	1" Straight Extended (S)
13	1" Tapered	89	25mm Straight Modified

NOTE: The 14 & 15 shafts are for use in speed sensor motors only.

STEP 5 - Select a paint option

A	Black
B	Black (unpainted flange face)

STEP 6 - Select a valve cavity option

A	None

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)

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.

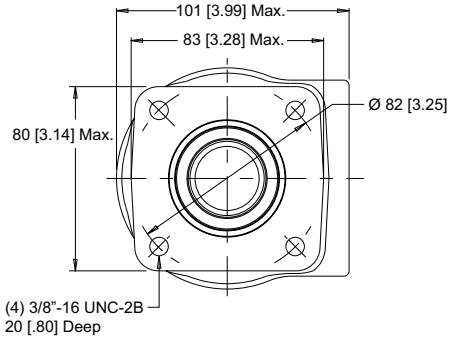
STEP 8 - Select a miscellaneous option

AA	None
AC	Freeturning Rotor

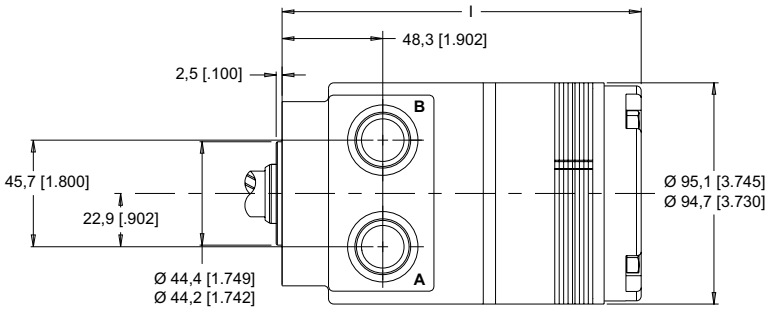
NOTE: Dimensions shown are without paint. Paint thickness can be up to 0,13 [.005]

277 & 278 SERIES HOUSINGS (4-HOLE SQUARE & WHEEL MOUNTS)

F30 4-Hole 1/2” NPT Front Ports

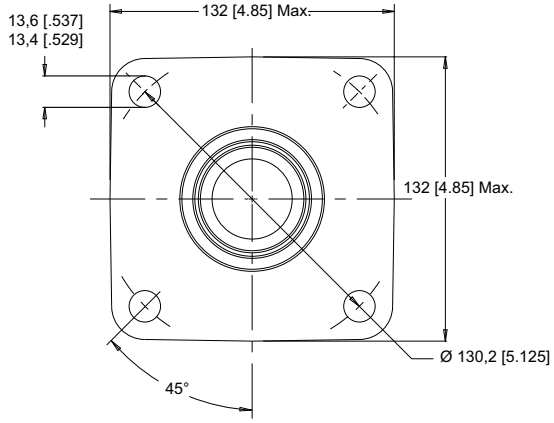


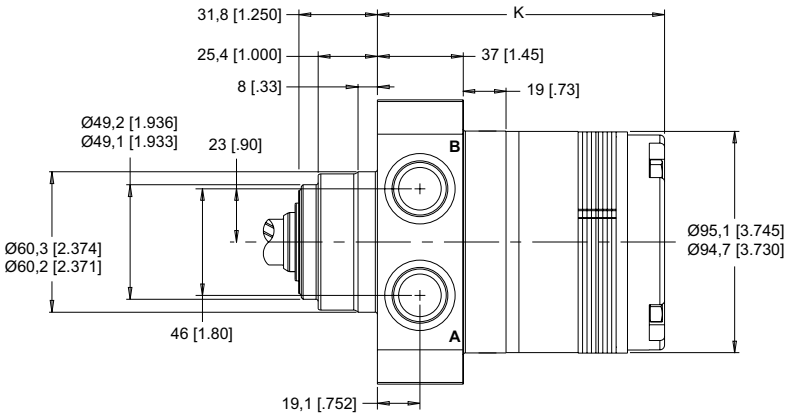
F31 4-Hole 7/8” O-Ring Front Ports



NOTE: Dimension I and bearing curve information is located on page 6.

W31 4-Hole 7/8” O-Ring Front Ports





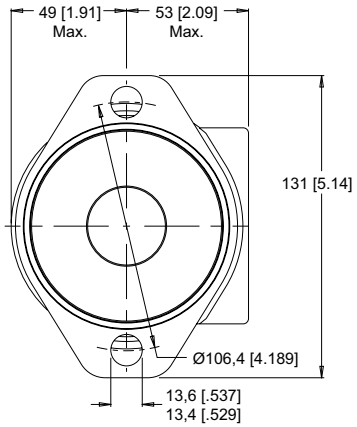
NOTE: Dimension K and bearing curve information is located on page 8.

WG

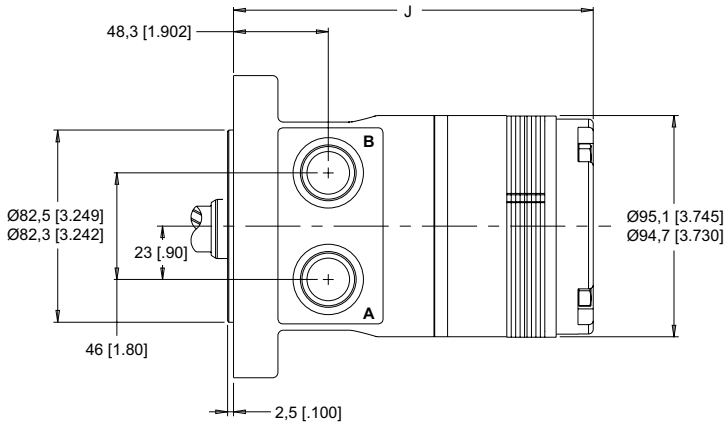
NOTE: Dimensions shown are without paint. Paint thickness can be up to 0,13 [.005]

277 & 278 SERIES HOUSINGS (SAE A MOUNT)

A10 2-Hole 1/2” NPT Front Ports

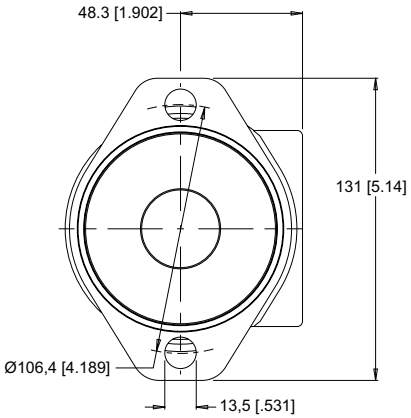


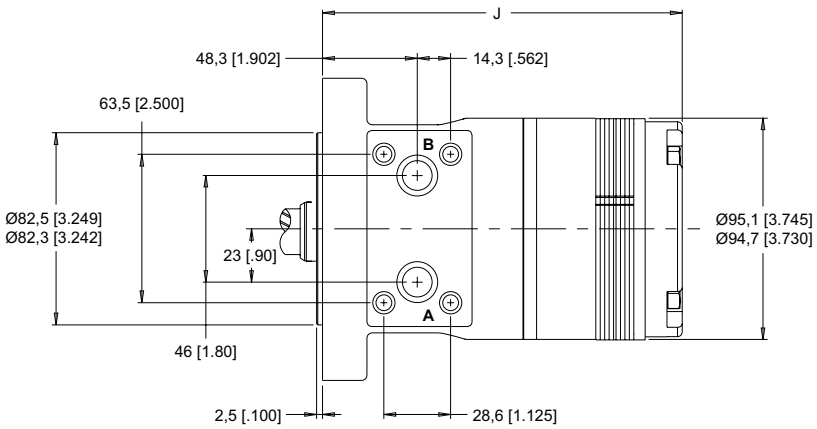
A11 2-Hole 7/8” O-Ring Front Ports



NOTE: Dimension J and bearing curve information is located on page 7.

A17 2-Hole Manifold Ports

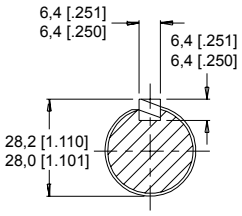




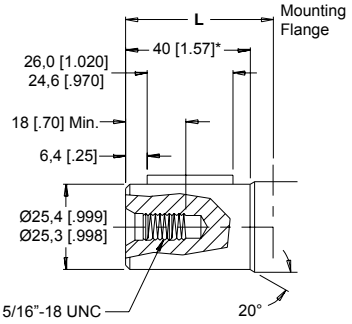
NOTE: Dimension J and bearing curve information is located on page 7.

10 1" Straight

Max. Torque: 655 Nm [5,800 lb-in]



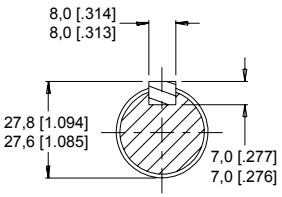
15 1" Straight Extended



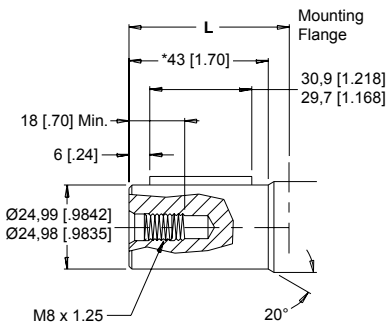
NOTE: * For the 15 Shaft add 43 [1.69] to this dimension.

12 25mm Straight

Max. Torque: 678 Nm [6,000 lb-in]



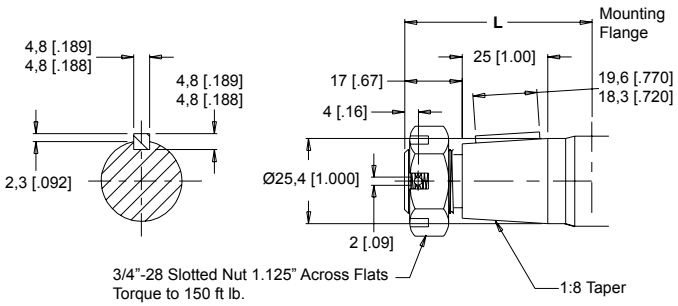
89 25mm Straight Modified



NOTE: * For the 89 Shaft add 1 [.04] to this dimension.

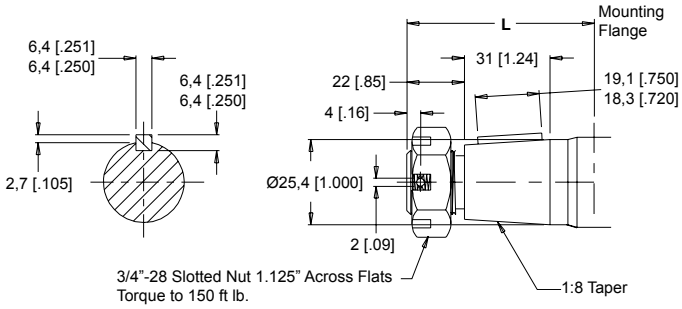
13 1" Tapered

Max. Torque: 655 Nm [5,800 lb-in]



14 1" Tapered Extended

Max. Torque: 655 Nm [5,800 lb-in]



SHAFT LENGTHS

MOUNTING FLANGE TO SHAFT END - Dimension **L**			
Code	**4-Hole Mount**	**SAE A Mount**	**Wheel Mount**
10	45 [1.77]	45 [1.77]	76 [2.99]
12	49 [1.94]	49 [1.94]	80 [3.16]
13	56 [2.20]	56 [2.20]	87 [3.43]
14	61 [2.40]	61 [2.40]	92 [3.63]
89	51 [2.00]	51 [2.00]	82 [3.22]

WG

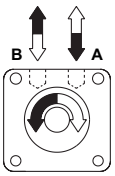
277 & 278 SERIES MODEL CODE BUILDER

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

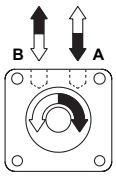
STEP 1 - Select a series

277	Counterclockwise Rotation
278	Clockwise Rotation

277



278



NOTE: For applications requiring the motor to rotate in only one direction, shaft seal life may be prolonged by pressurizing the "A" port of the motor. To obtain the desired direction of shaft rotation, use the graphic at the left to determine the rotation code for the motor. For bi-directional applications, the 277 series is recommended. Preferred rotation is determined by internal valving design.

STEP 2 - Select a displacement option

040	41 cc	[2.5 in^3/rev]	130	129 cc	[7.9 in^3/rev]
045	44 cc	[2.7 in^3/rev]	160	161 cc	[9.8 in^3/rev]
060	60 cc	[3.6 in^3/rev]	200	200 cc	[12.2 in^3/rev]
070	70 cc	[4.3 in^3/rev]	230	231 cc	[14.1 in^3/rev]
090	88 cc	[5.4 in^3/rev]	320	322 cc	[19.7 in^3/rev]
100	100 cc	[6.1 in^3/rev]	400	404 cc	[24.4 in^3/rev]

STEP 3 - Select a housing option

A10	2-Hole 1/2" NPT Front Ports (S)
A11	2-Hole 7/8" O-Ring Front Ports (S)
A17	2-Hole Manifold Ports (S)
F30	4-Hole 1/2" NPT Front Ports (S)
F31	4-Hole 7/8" O-Ring Front Ports (S)
W31	4-Hole 7/8" O-Ring Front Ports

STEP 4 - Select a shaft option

10	1" Straight	14	1" Tapered Extended (S)
12	25mm Straight	15	1" Straight Extended (S)
13	1" Tapered	89	25mm Straight Modified

NOTE: The 14 & 15 shafts are for use in speed sensor motors only.

STEP 5 - Select a paint option

A	Black
B	Black (unpainted flange face)

STEP 6 - Select a valve cavity option

A	None

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)

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.

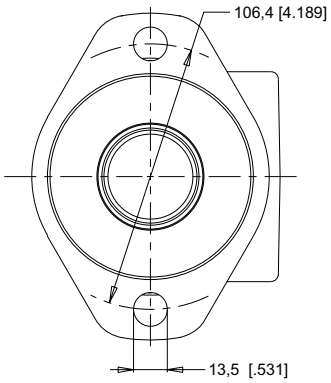
STEP 8 - Select a miscellaneous option

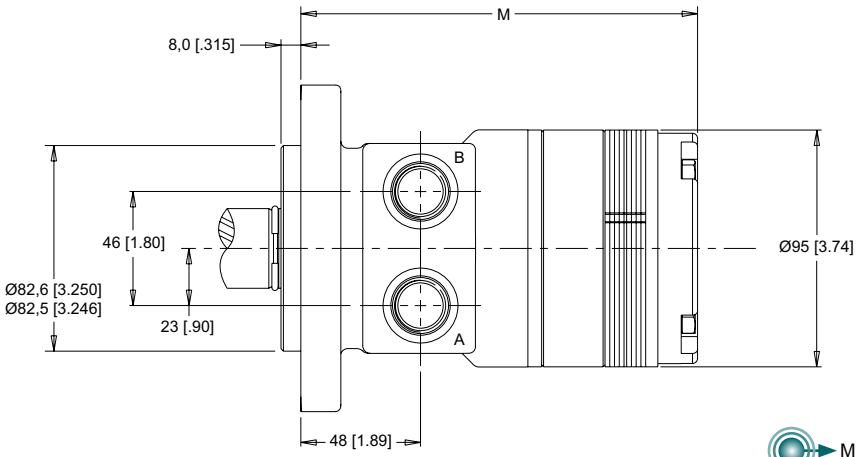
AA	None
AC	Freeturning Rotor

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

280 & 281 SERIES HOUSINGS (SAE A & MAGNETO MOUNTS)

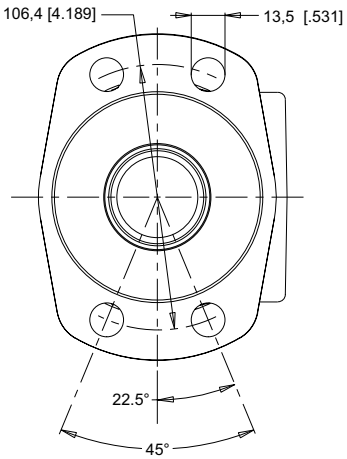
A68 2-Hole 1/2" BSP.F Aligned Ports

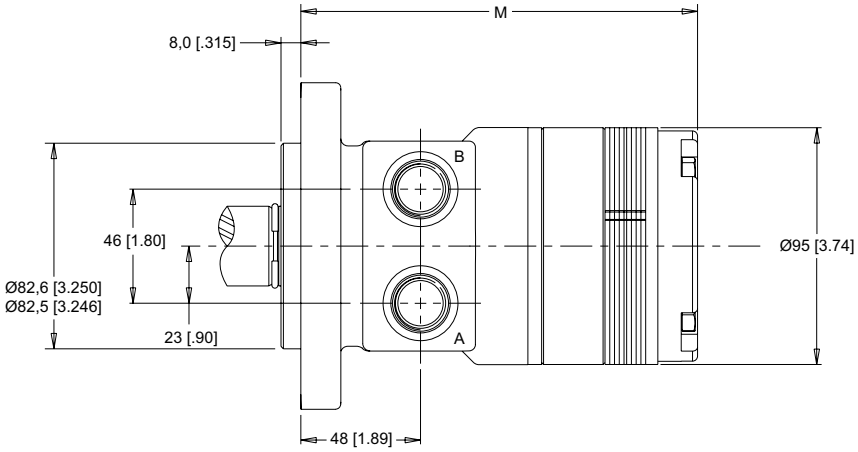




M is on page 17

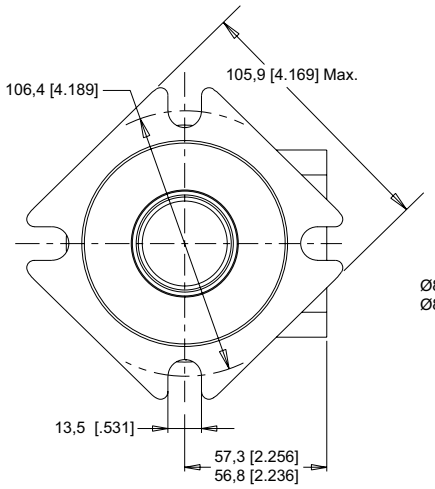
AC8 4-Hole 1/2" BSP.F Aligned Ports

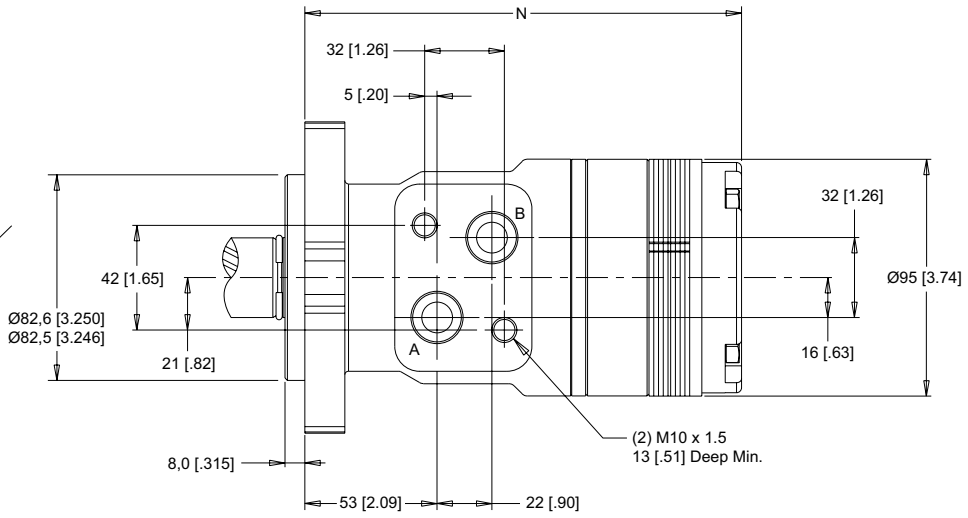




M is on page 17

AG3 4-Hole 1/2" BSP.F Offset Ports





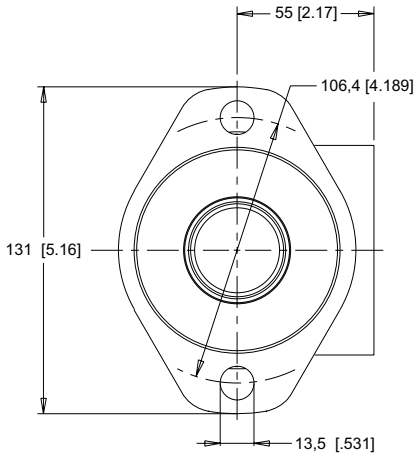
N is on page 17

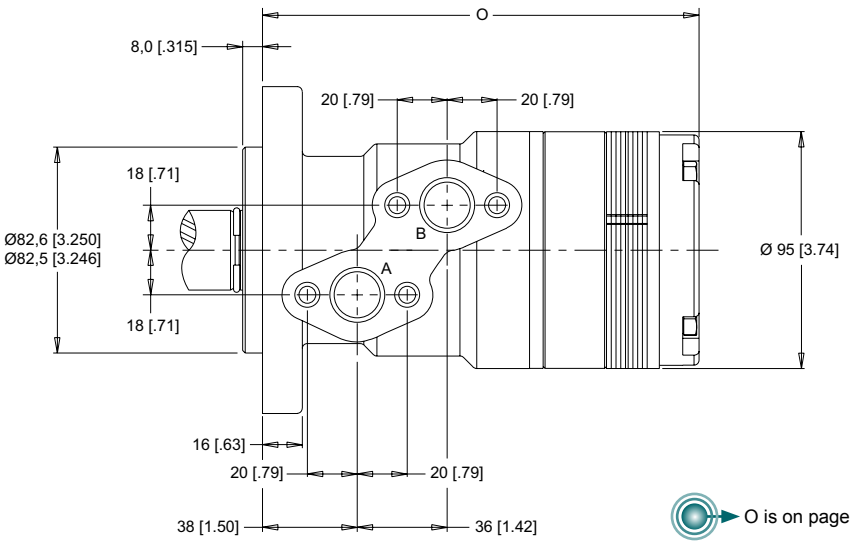
WG

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

280 & 281 SERIES HOUSINGS (SAE A & MAGNETO MOUNTS)

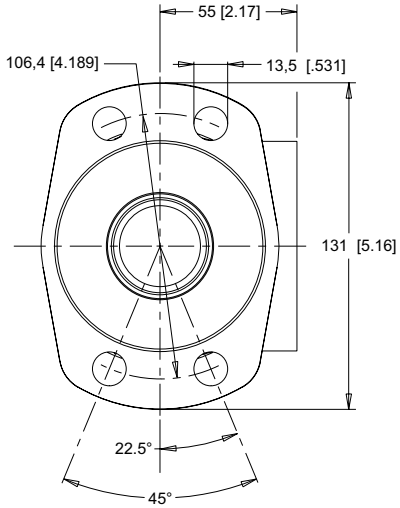
A63 2-Hole 1/2” BSP.F Offset Manifold

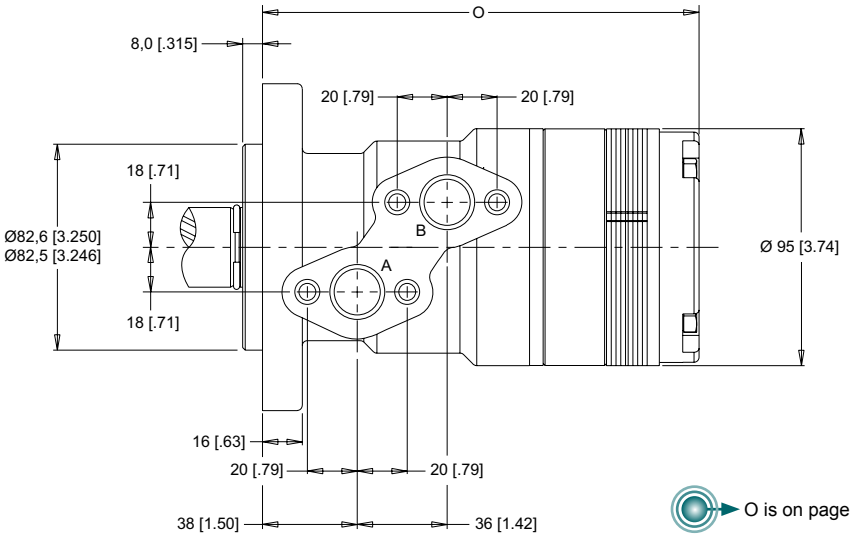




O is on page 17

AC3 4-Hole 1/2” BSP.F Offset Manifold

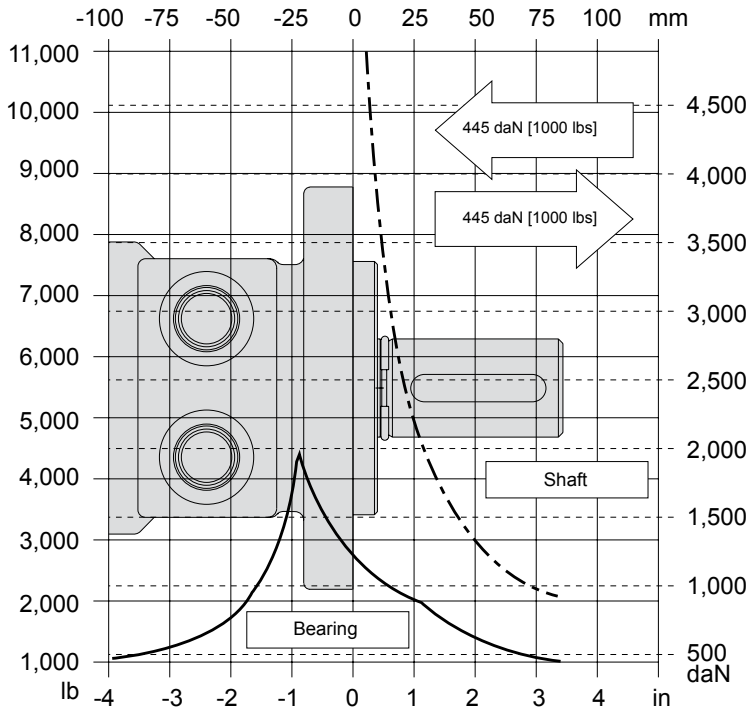




O is on page 17

Bearing Curve: The bearing curve represents allowable bearing loads based on ISO 281 bearing capacity for an L_{10} life of 2,000 hours at 100 rpm. Radial loads for speeds other than 100 rpm may be calculated using the multiplication factor table located on page 9.

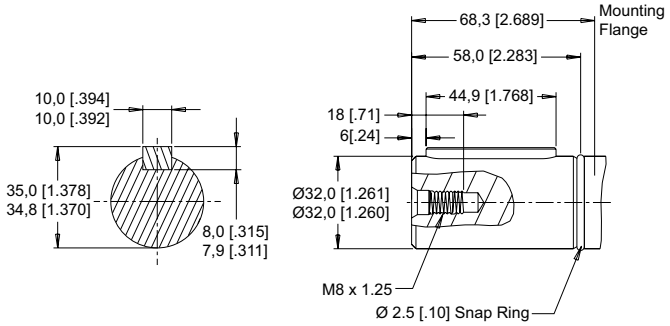
SAE A & MAGNETO MOUNTS



SHAFTS

21 32mm Straight

Max. Torque: 882 Nm [7,804 lb-in]



LENGTH / WEIGHT CHART
SAE A & Magneto - Dimension **M**

Code	mm [in]	kg [lb]
040	141 [5.55]	5,6 [12.3]
045	142 [5.59]	5,6 [12.3]
060	145 [5.71]	5,8 [12.8]
070	147 [5.79]	5,9 [13.0]
090	150 [5.91]	6,1 [13.4]
100	153 [6.02]	6,2 [13.6]
130	159 [6.26]	6,5 [14.3]
160	165 [6.50]	6,8 [15.0]
200	173 [6.81]	7,1 [15.6]
230	179 [7.05]	7,4 [16.3]
320	197 [7.76]	8,2 [18.0]
400	197 [7.76]	8,2 [18.0]

NOTE:
WG motor weights vary ± 0,5 kg [1 lbs] depending upon motor configuration. Add 0,03 kg [.06 lb] to motor weight for Magneto mount.

LENGTH / WEIGHT CHART
Square SAE A - Dimension **N**

Code	mm [in]	kg [lb]
040	157 [6.18]	6,4 [14.1]
045	158 [6.22]	6,4 [14.1]
060	161 [6.34]	6,6 [14.5]
070	163 [6.42]	6,7 [14.7]
090	166 [6.54]	6,9 [15.2]
100	169 [6.65]	7,0 [15.4]
130	175 [6.89]	7,2 [15.8]
160	181 [7.13]	7,5 [16.5]
200	189 [7.44]	7,9 [17.4]
230	195 [7.68]	8,2 [18.0]
320	213 [8.39]	9,0 [19.8]
400	213 [8.39]	9,0 [19.8]

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

LENGTH / WEIGHT CHART
SAE A Offset Ports - Dimension **O**

Code	mm [in]	kg [lb]
040	157 [6.18]	6,1 [13.4]
045	158 [6.22]	6,2 [13.6]
060	161 [6.34]	6,3 [13.9]
070	163 [6.42]	6,4 [14.1]
090	166 [6.54]	6,6 [14.5]
100	169 [6.65]	6,7 [14.7]
130	175 [6.89]	7,0 [15.4]
160	181 [7.13]	7,3 [16.1]
200	189 [7.44]	7,6 [16.7]
230	195 [7.68]	7,9 [17.4]
320	213 [8.39]	8,6 [18.9]
400	213 [8.39]	8,6 [18.9]

NOTE:
WG motor weights vary ± 0,5 kg [1 lbs] depending upon motor configuration. Add 0,14 kg [.31 lb] to motor weight for 2 Hole Offset Manifold

WG

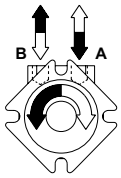
280 & 281 SERIES MODEL CODE BUILDER

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

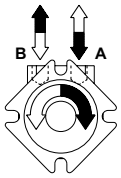
STEP 1 - Select a series

280	Counterclockwise Rotation
281	Clockwise Rotation

280



281



NOTE: For applications requiring the motor to rotate in only one direction, shaft seal life may be prolonged by pressurizing the "A" port of the motor. To obtain the desired direction of shaft rotation, use the graphic at the left to determine the rotation code for the motor. For bi-directional applications, the 280 series is recommended. Preferred rotation is determined by internal valving design.

STEP 2 - Select a displacement option

040	41 cc	[2.5 in^3/rev]	130	129 cc	[7.9 in^3/rev]
045	44 cc	[2.7 in^3/rev]	160	161 cc	[9.8 in^3/rev]
060	60 cc	[3.6 in^3/rev]	200	200 cc	[12.2 in^3/rev]
070	70 cc	[4.3 in^3/rev]	230	231 cc	[14.1 in^3/rev]
090	88 cc	[5.4 in^3/rev]	320	322 cc	[19.7 in^3/rev]
100	100 cc	[6.1 in^3/rev]	400	404 cc	[24.4 in^3/rev]

STEP 3 - Select a housing option

A68	2-Hole 1/2" BSP.F Aligned Ports
AC8	4-Hole 1/2" BSP.F Aligned Ports
AG3	4-Hole 1/2" BSP.F Offset Ports
A63	2-Hole 1/2" BSP.F Offset Manifold Ports
AC3	4-Hole 1/2" BSP.F Offset Manifold Ports

STEP 4 - Select a shaft option

21	32mm Straight

STEP 5 - Select a paint option

A	Black
B	Black (unpainted flange face)

STEP 6 - Select a valve cavity option

A	None

STEP 7 - Select an add on option

A	Standard

STEP 8 - Select a miscellaneous option

AA	None
AC	Freeturning Rotor

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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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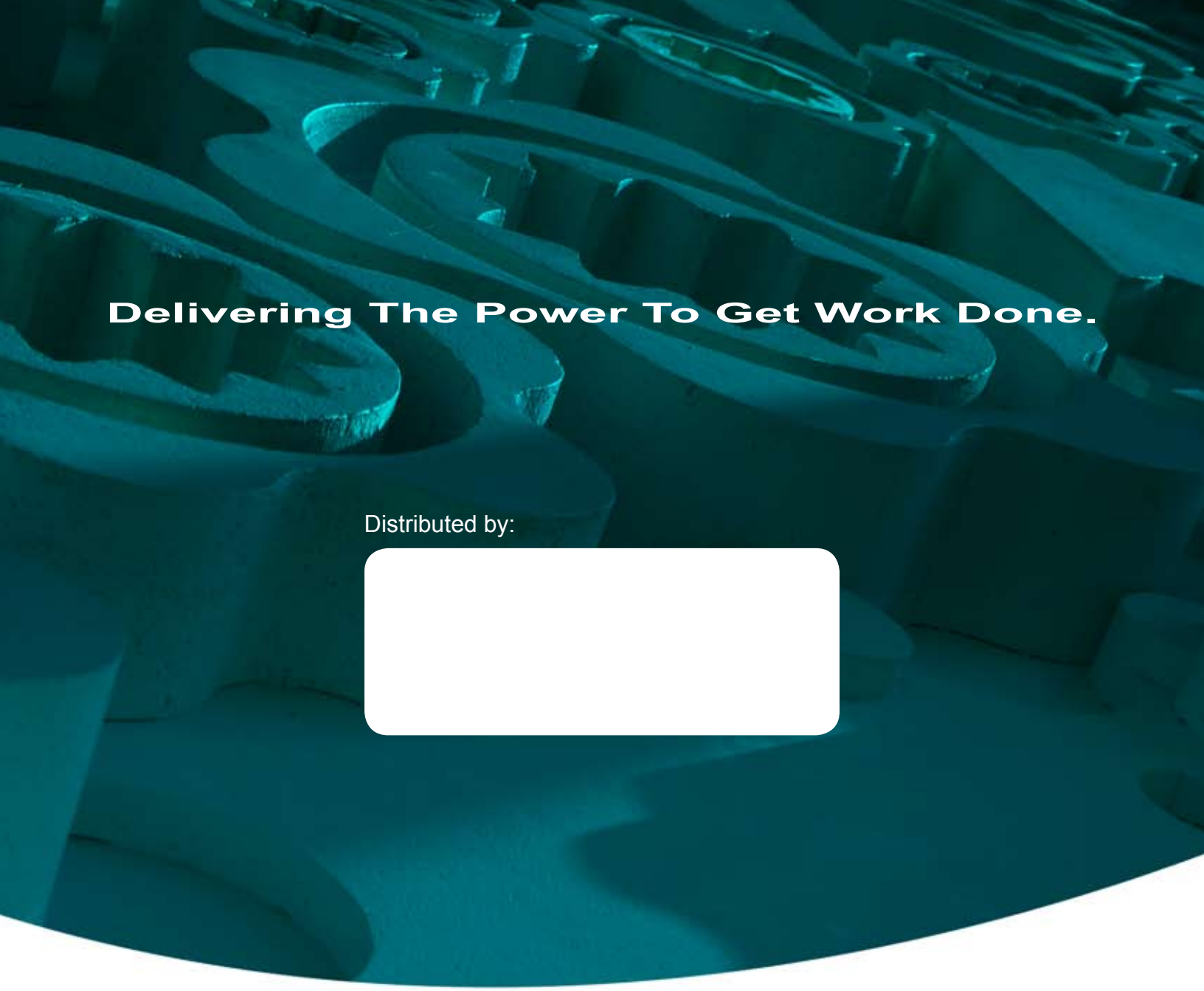

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