HB Series

Medium Duty Hydraulic Motor

HB/HK (All Series)

For Medium Duty Applications

OVERVIEW

The HB Series motor is the leader in its class, offering high efficiency and durability. The three-zone orbiting valve, laminated manifold and Roller Stator® motor work harmoniously to produce high overall efficiencies over a wide range of operating conditions. The standard case drain increases shaft seal life by reducing internal pressures experienced by the seal. Case oil leakage is also directed across all driveline components, increasing motor life. An internal drain option is also available. At the heart of the motor is a heavy-duty drivelink, offering 30% more torque capacity than competitive designs. These features make the HB Series motor the preferred choice for applications requiring peak efficiency for continuous operation.

FEATURES / BENEFITS

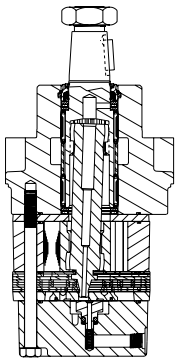
- Forced Drive Link Lubrication reduces wear and promotes longer life from motor.
- Heavy-Duty Drive Link is up to 30% stronger than competitive designs for longer life.
- Three-Zone Orbiting Valve precisely meters oil to produce exceptional volumetric efficiency.
- Rubber Energized Steel Face Seal does not extrude or melt under high pressure or high temperature.
- Standard Case Drain increases shaft seal life by reducing pressure on seal.

TYPICAL APPLICATIONS

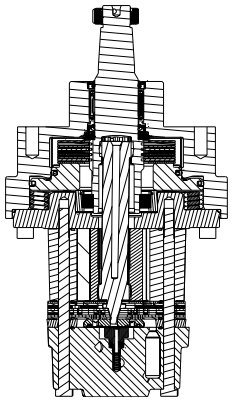
conveyors, carwashes, positioners, light-duty wheel drives, sweepers, machine tool indexers, grain augers, spreaders, feed rollers, screw drives, brush drives and more

SERIES DESCRIPTIONS

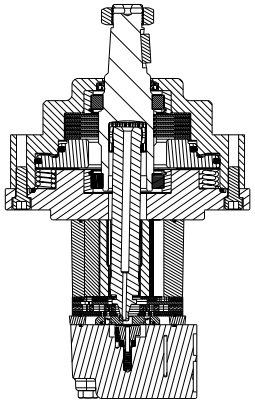
300 - Hydraulic Motor
Standard



310 - Hydraulic Motor/Brake
Standard



315 - Hydraulic Motor/Brake
With Greater Holding Torque



SPECIFICATIONS

CODE	Displacement cm^3 [in^3/rev]	Max. Speed rpm		Max. Flow lpm [gpm]		Max. Torque Nm [lb-in]		Max. Pressure bar [psi]		
		cont.	inter.	cont.	inter.	cont.	inter.	cont.	inter.	peak
050	52 [3.2]	680	830	38 [10]	45 [12]	135 [1200]	158 [1400]	207 [3000]	242 [3500]	276 [4000]
080	76 [4.6]	800	950	53 [14]	64 [17]	191 [1700]	222 [1975]	207 [3000]	242 [3500]	276 [4000]
090	89 [5.4]	680	840	61 [16]	76 [20]	225 [2000]	270 [2400]	207 [3000]	242 [3500]	276 [4000]
110	111 [6.8]	680	850	76 [20]	95 [25]	298 [2650]	349 [3100]	207 [3000]	242 [3500]	276 [4000]
125	127 [7.7]	580	740	76 [20]	95 [25]	338 [3000]	394 [3500]	207 [3000]	242 [3500]	276 [4000]
160	164 [10.0]	460	580	76 [20]	95 [25]	448 [3975]	512 [4550]	207 [3000]	242 [3500]	276 [4000]
200	205 [12.5]	370	460	76 [20]	95 [25]	569 [5050]	653 [5800]	207 [3000]	242 [3500]	276 [4000]
250	254 [15.5]	290	370	76 [20]	95 [25]	704 [6250]	799 [7100]	207 [3000]	242 [3500]	276 [4000]
300	293 [17.9]	250	320	76 [20]	95 [25]	811 [7200]	929 [8250]	207 [3000]	242 [3500]	276 [4000]
400	409 [24.9]	180	230	76 [20]	95 [25]	946 [8400]	1019 [9050]	173 [2500]	189 [2750]	207 [3000]

► Performance data is typical. Performance of production units varies slightly from one motor to another. See page 9 for additional information on product testing. Running at intermittent ratings should not exceed 10% of every minute of operation.

HB/HK (All Series)

For Medium Duty Applications

DISPLACEMENT PERFORMANCE

050 — 52 cm³ [3.2 in³] / rev

Pressure - bar [psi]

17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000] Max. Cont.	242 [3500] Max. Inter.

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

Flow - lpm [gpm]	Max. Max. Inter. Cont.	17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]	242 [3500]	Theoretical rpm
2 [0.5]		7 [66] **36**	18 [158] **31**	38 [314] **26**	51 [447] **21**	66 [587] **9**				37
4 [1]		9 [77] **72**	19 [164] **69**	38 [335] **65**	57 [505] **63**	71 [631] **33**	87 [772] **32**	98 [866] **9**		73
8 [2]		9 [75] **142**	19 [164] **140**	39 [342] **135**	59 [521] **133**	78 [690] **122**	95 [840] **102**	109 [964] **77**	123 [1086] **57**	145
15 [4]		8 [68] **288**	19 [164] **286**	38 [340] **285**	57 [507] **284**	78 [688] **265**	99 [872] **245**	112 [993] **211**	129 [1145] **189**	289
23 [6]				36 [319] **431**	56 [492] **427**	76 [669] **416**	97 [859] **396**	114 [1009] **347**	134 [1182] **321**	434
30 [8]				34 [304] **577**	53 [467] **572**	73 [646] **568**	95 [841] **543**	113 [1001] **488**	134 [1183] **463**	578
38 [10]	Max. Cont.				51 [451] **699**	71 [628] **683**	92 [810] **665**	111 [978] **634**	133 [1174] **604**	722
45 [12]					48 [427] **847**	68 [606] **825**	88 [781] **798**	111 [980] **770**		867

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

Rotor Width 8.0 [.316] mm [in]

Theoretical Torque - Nm [lb-in]

14 [127]	29 [255]	58 [510]	86 [764]	115 [1019]	144 [1274]	173 [1529]	202 [1783]

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

080 — 76 cm³ [4.6 in³] / rev

Pressure - bar [psi]

17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000] Max. Cont.	242 [3500] Max. Inter.

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

Flow - lpm [gpm]	Max. Cont. / Max. Inter.	17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]	242 [3500]	Theoretical rpm
2 [0.5]		14 [127] **25**	30 [262] **24**	61 [543] **21**	91 [806] **18**	120 [1062] **17**	145 [1285] **11**	169 [1496] **11**	191 [1693] **9**	26
4 [1]		16 [140] **50**	32 [286] **50**	63 [559] **43**	95 [839] **43**	124 [1099] **34**	151 [1340] **32**	178 [1579] **32**	203 [1796] **31**	51
8 [2]		16 [139] **100**	32 [280] **100**	64 [563] **99**	97 [857] **92**	129 [1139] **87**	157 [1390] **79**	187 [1652] **78**	211 [1865] **77**	101
15 [4]		14 [127] **200**	31 [275] **200**	65 [572] **199**	99 [872] **191**	131 [1155] **181**	160 [1420] **174**	186 [1643] **160**	216 [1911] **154**	201
23 [6]		13 [113] **301**	30 [262] **300**	63 [557] **297**	96 [853] **295**	130 [1149] **284**	160 [1420] **271**	186 [1646] **253**	218 [1930] **245**	302
30 [8]		10 [91] **401**	27 [243] **400**	61 [536] **398**	93 [826] **390**	127 [1125] **384**	159 [1409] **372**	187 [1654] **346**	220 [1945] **339**	402
38 [10]			24 [212] **502**	58 [511] **500**	89 [790] **499**	123 [1087] **498**	156 [1379] **485**	185 [1638] **443**	213 [1883] **433**	503
45 [12]			20 [177] **602**	54 [482] **601**	87 [767] **600**	120 [1060] **597**	164 [1451] **540**	193 [1711] **526**	228 [2021] **510**	603
53 [14]	Max. Cont.		14 [127] **690**	50 [445] **689**	84 [741] **688**	124 [1098] **658**	155 [1369] **644**	185 [1640] **631**	217 [1918] **613**	704
61 [16]										804
64 [17]	Max. Inter.									904

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

Rotor Width 11.7 [.462] mm [in]

Theoretical Torque - Nm [lb-in]

21 [183]	41 [366]	83 [732]	124 [1099]	166 [1465]	207 [1831]	248 [2197]	290 [2564]

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

▶ Performance data is typical. Performance of production units varies slightly from one motor to another. See page 10.03 for additional information on product testing.

HB/HK (All Series)

For Medium Duty Applications

DISPLACEMENT PERFORMANCE

090

89 cm³ [5.4 in³] / rev

Pressure - bar [psi]

17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000] Max. Cont.	242 [3500] Max. Inter.

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

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]	17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]	242 [3500]	Theoretical rpm
2 [0.5]	12 [106] **21**	26 [231] **19**	69 [609] **17**	100 [889] **15**	142 [1259] **13**	174 [1537] **10**	206 [1826] **7**	232 [2049] **5**	22
4 [1]		30 [264] **41**	68 [605] **38**	107 [947] **34**	146 [1296] **30**	180 [1596] **27**	212 [1875] **26**	242 [2142] **23**	43
8 [2]		33 [291] **84**	71 [629] **79**	108 [958] **73**	149 [1323] **67**	183 [1620] **66**	221 [1956] **60**	251 [2223] **59**	86
15 [4]			72 [636] **167**	113 [1003] **158**	153 [1351] **149**	188 [1664] **143**	225 [1990] **141**	260 [2300] **135**	172
23 [6]			72 [633] **252**	112 [995] **243**	151 [1340] **233**	187 [1654] **227**	226 [1996] **222**	260 [2304] **218**	257
30 [8]			68 [598] **339**	109 [960] **331**	151 [1340] **317**	188 [1660] **309**	227 [2012] **301**	263 [2326] **300**	343
38 [10]				108 [959] **416**	150 [1328] **403**	188 [1667] **391**	229 [2024] **381**	270 [2393] **370**	428
45 [12]				109 [961] **505**	153 [1356] **490**	195 [1728] **475**	232 [2049] **462**	271 [2398] **448**	514
53 [14]				145 [1287] **590**	190 [1678] **578**	213 [1886] **558**	241 [2135] **544**	282 [2495] **530**	599
61 [16] Max. Cont.				134 [1190] **677**	187 [1654] **660**	192 [1701] **644**	227 [2007] **629**	269 [2384] **610**	685
68 [18]					136 [1201] **748**	189 [1675] **729**	240 [2122] **719**		770
76 [20] Max. Inter.					136 [1205] **835**	174 [1536] **819**	216 [1916] **806**		856

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

Rotor Width 13.7 [.541] mm [in]

Theoretical Torque - Nm [lb-in]

24 [215]	49 [430]	97 [860]	146 [1290]	194 [1720]	243 [2150]	291 [2580]	340 [3010]

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

110

111 cm³ [6.8 in³] / rev

Pressure - bar [psi]

17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000] Max. Cont.	242 [3500] Max. Inter.

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

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]	17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]	242 [3500]	Theoretical rpm
2 [0.5]	12 [106] **16**	39 [347] **16**	88 [777] **14**	135 [1199] **11**	182 [1609] **9**	223 [1977] **8**	273 [2420] **6**	304 [2690] **5**	17
4 [1]	16 [142] **33**	42 [374] **33**	97 [857] **31**	146 [1290] **27**	199 [1763] **21**	246 [2179] **19**	293 [2592] **18**	329 [2916] **16**	34
8 [2]		42 [372] **67**	98 [866] **64**	148 [1313] **59**	201 [1782] **49**	249 [2204] **46**	297 [2629] **44**	345 [3050] **43**	68
15 [4]			94 [835] **134**	149 [1320] **126**	201 [1777] **117**	251 [2223] **110**	302 [2674] **104**	348 [3083] **104**	136
23 [6]			93 [819] **202**	148 [1312] **196**	201 [1775] **186**	250 [2215] **177**	302 [2671] **167**	348 [3078] **163**	204
30 [8]			89 [785] **269**	145 [1287] **267**	199 [1760] **258**	249 [2204] **247**	299 [2648] **267**	352 [3114] **229**	272
38 [10]			83 [738] **339**	139 [1232] **336**	194 [1718] **327**	244 [2163] **315**	296 [2617] **304**	349 [3086] **292**	340
45 [12]			82 [723] **407**	145 [1281] **406**	209 [1853] **397**	291 [2578] **386**	315 [2786] **368**	343 [3031] **360**	408
53 [14]			74 [654] **475**	129 [1143] **473**	183 [1621] **466**	238 [2103] **451**	287 [2539] **441**	349 [3085] **426**	476
61 [16]				143 [1261] **542**	199 [1763] **536**	251 [2224] **523**	301 [2666] **510**	363 [3213] **492**	544
68 [18]				120 [1059] **609**	179 [1586] **603**	233 [2058] **593**	284 [2510] **580**	347 [3071] **561**	612
76 [20] Max. Cont.				107 [944] **678**	160 [1419] **677**	217 [1918] **661**	268 [2374] **645**	327 [2896] **627**	680
83 [22]				93 [824] **746**	157 [1393] **743**	206 [1823] **735**	257 [2271] **714**		748
91 [24]				86 [762] **813**	139 [1234] **810**	197 [1744] **803**	250 [2214] **783**		816
95 [25] Max. Inter.				77 [678] **847**	132 [1171] **844**	191 [1694] **835**	243 [2154] **828**		850

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

Rotor Width 17.3 [.681] mm [in]

Theoretical Torque - Nm [lb-in]

31 [271]	61 [541]	122 [1083]	184 [1624]	245 [2166]	306 [2707]	367 [3248]	428 [3790]

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

▶ Performance data is typical. Performance of production units varies slightly from one motor to another. See page 10.03 for additional information on product testing.

HB/HK (All Series)

For Medium Duty Applications

DISPLACEMENT PERFORMANCE

125

127 cm³ [7.7 in³] / rev

Pressure - bar [psi]

17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000] Max. Cont.	242 [3500] Max. Inter.

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

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]	17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000] Max. Cont.	242 [3500] Max. Inter.	Theoretical rpm
2 [0.5]	14 [127] **14**	44 [394] **14**	109 [961] **13**	159 [1408] **13**	217 [1922] **12**	267 [2364] **10**	313 [2766] **9**	355 [3146] **7**	15
4 [1]	16 [138] **29**	45 [401] **29**	108 [952] **29**	167 [1475] **27**	226 [2004] **25**	278 [2459] **23**	332 [2936] **21**	367 [3245] **19**	30
8 [2]		49 [432] **59**	108 [953] **59**	165 [1462] **57**	231 [2046] **54**	286 [2528] **48**	332 [2941] **48**	387 [3421] **45**	60
15 [4]		49 [430] **119**	107 [949] **119**	167 [1479] **118**	229 [2024] **113**	284 [2513] **108**	342 [3023] **102**	392 [3467] **98**	120
23 [6]			102 [902] **179**	166 [1473] **177**	223 [1973] **173**	279 [2473] **169**	337 [2985] **163**	393 [3477] **157**	180
30 [8]			100 [888] **239**	160 [1420] **239**	222 [1968] **235**	287 [2541] **235**	337 [2987] **221**	391 [3459] **214**	240
38 [10]			95 [841] **299**	154 [1359] **298**	217 [1919] **298**	273 [2413] **292**	332 [2940] **281**	387 [3428] **273**	300
45 [12]			83 [738] **359**	147 [1304] **358**	207 [1831] **357**	267 [2361] **350**	329 [2914] **342**	406 [3590] **308**	360
53 [14]			82 [727] **419**	146 [1293] **418**	204 [1801] **417**	268 [2375] **413**	332 [2935] **402**	419 [3704] **340**	420
61 [16]			69 [608] **473**	168 [1484] **463**	198 [1756] **440**	258 [2287] **415**	327 [2895] **384**	386 [3419] **341**	480
68 [18]				193 [1704] **517**	214 [1894] **498**	278 [2460] **472**	360 [3188] **438**	386 [3412] **384**	540
76 [20]				205 [1815] **577**	245 [2164] **561**	290 [2567] **537**	344 [3040] **505**	408 [3606] **453**	600
83 [22]				151 [1336] **640**	201 [1781] **623**	260 [2298] **597**	320 [2832] **563**		660
91 [24]				85 [751] **705**	151 [1334] **686**	218 [1930] **662**	284 [2516] **621**		720
95 [25]				79 [697] **736**	139 [1227] **723**	209 [1853] **694**	270 [2387] **669**		750

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

Rotor Width	Theoretical Torque - Nm [lb-in]							
19.7 [.776] mm [in]	35 [307]	69 [613]	139 [1226]	208 [1839]	277 [2452]	346 [3065]	416 [3678]	485 [4291]

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

160

164 cm³ [10.0 in³] / rev

Pressure - bar [psi]

17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000] Max. Cont.	242 [3500] Max. Inter.

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

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]	17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000] Max. Cont.	242 [3500] Max. Inter.	Theoretical rpm
2 [0.5]	24 [216] **11**	61 [538] **11**	143 [1267] **10**	213 [1881] **9**	287 [2536] **8**	351 [3106] **7**	411 [3640] **5**	470 [4159] **4**	12
4 [1]	28 [244] **23**	67 [596] **22**	145 [1287] **21**	215 [1899] **18**	291 [2578] **16**	355 [3145] **14**	425 [3758] **13**	493 [4366] **11**	24
8 [2]		66 [588] **46**	148 [1306] **44**	224 [1983] **39**	301 [2666] **34**	366 [3241] **32**	441 [3904] **30**	508 [4493] **28**	47
15 [4]		66 [584] **92**	146 [1291] **91**	226 [2002] **87**	313 [2769] **80**	375 [3318] **71**	451 [3990] **67**	516 [4569] **66**	93
23 [6]		62 [551] **137**	146 [1295] **136**	224 [1986] **134**	307 [2718] **125**	379 [3358] **119**	449 [3975] **108**	515 [4553] **106**	139
30 [8]			142 [1258] **184**	221 [1954] **182**	299 [2644] **172**	376 [3329] **161**	447 [3952] **152**	520 [4603] **146**	185
38 [10]			132 [1169] **230**	216 [1909] **229**	289 [2558] **222**	371 [3282] **211**	448 [3961] **195**	520 [4598] **190**	231
45 [12]			129 [1144] **277**	208 [1842] **275**	284 [2510] **270**	357 [3161] **261**	436 [3862] **239**	512 [4529] **228**	278
53 [14]			117 [1040] **323**	202 [1788] **320**	275 [2438] **316**	353 [3124] **305**	427 [3781] **291**	509 [4508] **279**	324
61 [16]			103 [913] **369**	187 [1659] **367**	275 [2431] **364**	338 [2994] **356**	418 [3698] **341**	496 [4392] **325**	370
68 [18]			91 [803] **415**	175 [1553] **413**	257 [2278] **4110**	325 [2874] **403**	405 [3587] **389**	480 [4246] **376**	416
76 [20]				169 [1499] **461**	246 [2176] **459**	328 [2906] **447**	397 [3514] **438**	477 [4223] **422**	462
83 [22]				147 [1297] **507**	232 [2049] **504**	315 [2792] **498**	385 [3411] **487**		509
91 [24]				131 [1157] **553**	218 [1928] **550**	300 [2655] **546**	378 [3344] **531**		555
95 [25]				121 [1073] **577**	208 [1844] **573**	291 [2577] **571**	365 [3229] **557**		578

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

Rotor Width	Theoretical Torque - Nm [lb-in]							
25.4 [1.000] mm [in]	45 [398]	90 [796]	180 [1592]	270 [2389]	360 [3185]	450 [3981]	540 [4777]	630 [5573]

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

► Performance data is typical. Performance of production units varies slightly from one motor to another. See page 10.03 for additional information on product testing.

HB/HK (All Series)

For Medium Duty Applications

DISPLACEMENT PERFORMANCE

200

205 cm³ [12.5 in³] / rev

Pressure - bar [psi]

17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000] Max. Cont.	242 [3500] Max. Inter.
Torque - Nm [lb-in], **Speed rpm**						**Intermittent Ratings** - 10% of Operation	
35 [314] **9**	83 [734] **9**	179 [1581] **8**	267 [2365] **7**	353 [3121] **6**	443 [3921] **5**	505 [4469] **4**	579 [5120] **3**
37 [325] **18**	81 [721] **18**	186 [1642] **17**	287 [2536] **14**	301 [2665] **13**	452 [4004] **11**	540 [4777] **9**	611 [5406] **8**
39 [349] **36**	89 [790] **36**	199 [1759] **35**	295 [2610] **31**	386 [3412] **27**	473 [4185] **24**	554 [4904] **21**	643 [5687] **20**
38 [338] **73**	87 [766] **73**	191 [1689] **72**	292 [2586] **68**	386 [3417] **61**	480 [4252] **53**	574 [5077] **49**	661 [5849] **46**
	84 [742] **110**	185 [1635] **109**	287 [2542] **106**	382 [3380] **98**	480 [4247] **89**	570 [5046] **81**	657 [5817] **74**
		176 [1556] **147**	279 [2468] **144**	376 [3327] **136**	479 [4243] **123**	571 [5051] **112**	658 [5827] **104**
		166 [1471] **184**	268 [2374] **182**	368 [3256] **173**	467 [4131] **162**	556 [4923] **151**	651 [5761] **141**
		154 [1361] **221**	257 [2275] **219**	360 [3185] **214**	460 [4069] **200**	558 [4939] **187**	650 [5751] **176**
		147 [1304] **258**	245 [2165] **256**	355 [3141] **250**	441 [3906] **238**	539 [4773] **224**	640 [5666] **213**
		123 [1089] **295**	235 [2083] **290**	333 [2949] **286**	429 [3797] **277**	523 [4628] **264**	624 [5519] **242**
		112 [993] **331**	220 [1943] **327**	302 [2669] **323**	414 [3665] **319**	527 [4659] **303**	616 [5451] **289**
			197 [1745] **369**	310 [2740] **365**	395 [3499] **360**	492 [4353] **343**	596 [5273] **331**
			172 [1525] **405**	282 [2496] **401**	386 [3420] **395**	480 [4252] **382**	
			157 [1390] **442**	265 [2341] **441**	369 [3269] **438**	453 [4005] **425**	
			139 [1229] **460**	252 [2234] **458**	349 [3087] **456**	447 [3955] **444**	

Flow - lpm [gpm]	Theoretical rpm
2 [0.5]	10
4 [1]	19
8 [2]	37
15 [4]	74
23 [6]	111
30 [8]	148
38 [10]	185
45 [12]	222
53 [14]	259
61 [16]	296
68 [18]	333
76 [20] Max. Cont.	370
83 [22]	407
91 [24]	444
95 [25] Max. Inter.	462

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

Rotor Width	Theoretical Torque - Nm [lb-in]							
31.8 [1.251] mm [in]	56 [498]	112 [995]	225 [1990]	337 [2986]	450 [3981]	562 [4976]	675 [5971]	787 [6967]

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

250

254 cm³ [15.5 in³] / rev

Pressure - bar [psi]

17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000] Max. Cont.	242 [3500] Max. Inter.
Torque - Nm [lb-in], **Speed rpm**						**Intermittent Ratings** - 10% of Operation	
43 [381] **7**	104 [924] **6**	221 [1955] **6**	339 [3001] **5**	449 [3974] **3**	551 [4872] **1**		
50 [439] **14**	115 [1014] **14**	240 [2128] **13**	361 [3196] **11**	466 [4128] **9**	574 [5080] **7**	668 [5907] **4**	
51 [455] **29**	115 [1014] **29**	245 [2167] **28**	369 [3262] **26**	479 [4236] **22**	604 [5342] **17**	712 [6303] **13**	800 [7082] **9**
48 [428] **59**	105 [930] **58**	242 [2145] **57**	371 [3286] **56**	493 [4363] **51**	619 [5480] **41**	741 [6555] **33**	847 [7496] **25**
42 [368] **89**	110 [969] **88**	234 [2069] **88**	367 [3252] **87**	487 [4313] **82**	626 [5542] **69**	747 [6611] **58**	847 [7492] **48**
	92 [818] **119**	223 [1978] **118**	357 [3159] **117**	490 [4332] **115**	622 [5508] **101**	744 [6587] **87**	846 [7490] **76**
	80 [712] **149**	209 [1849] **148**	342 [3025] **147**	472 [4176] **141**	605 [5353] **129**	717 [6345] **114**	844 [7472] **104**
		199 [1757] **178**	329 [2915] **176**	455 [4022] **174**	581 [5142] **165**	703 [6225] **147**	833 [7375] **127**
		182 [1640] **208**	310 [2743] **206**	443 [3919] **205**	567 [5017] **197**	711 [6296] **176**	817 [7227] **158**
		164 [1456] **238**	294 [2603] **235**	438 [3873] **233**	552 [4886] **227**	674 [5960] **205**	804 [7114] **191**
		145 [1285] **268**	270 [2393] **266**	402 [3560] **263**	530 [4694] **259**	661 [5846] **245**	784 [6939] **222**
		122 [1083] **298**	255 [2256] **295**	380 [3359] **292**	511 [4519] **289**	627 [5547] **277**	757 [6697] **252**
			221 [1955] **326**	353 [3124] **323**	484 [4279] **319**	607 [5368] **307**	
			201 [1775] **357**	336 [2973] **355**	461 [4082] **353**	599 [5297] **342**	
			184 [1627] **371**	313 [2768] **368**	442 [3915] **365**	575 [5088] **360**	

Flow - lpm [gpm]	Theoretical rpm
2 [0.5]	8
4 [1]	15
8 [2]	30
15 [4]	60
23 [6]	90
30 [8]	120
38 [10]	150
45 [12]	179
53 [14]	209
61 [16]	239
68 [18]	269
76 [20] Max. Cont.	299
83 [22]	328
91 [24]	358
95 [25] Max. Inter.	373

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

Rotor Width	Theoretical Torque - Nm [lb-in]							
39.4 [1.551] mm [in]	70 [617]	139 [1234]	279 [2468]	418 [3702]	558 [4936]	697 [6170]	837 [7404]	976 [8639]

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

► Performance data is typical. Performance of production units varies slightly from one motor to another. See page 10.03 for additional information on product testing.

HB/HK (All Series)

For Medium Duty Applications

DISPLACEMENT PERFORMANCE

300

293 cm³ [17.9 in³] / rev

Pressure - bar [psi]

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

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]	17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000] Max. Cont.	242 [3500] Max. Inter.	Theoretical rpm
2 [0.5]	61 [543] **6**	118 [1044] **5**	261 [2311] **5**	388 [3433] **4**					7
4 [1]	59 [521] **12**	140 [1237] **12**	271 [2397] **11**	414 [3666] **11**	546 [4833] **8**	681 [6025] **5**			13
8 [2]	61 [541] **25**	128 [1134] **25**	281 [2490] **24**	425 [3761] **23**	562 [4970] **19**	693 [6128] **14**	820 [7259] **10**	915 [8095] **4**	26
15 [4]	52 [461] **51**	128 [1130] **51**	275 [2436] **50**	427 [3782] **50**	578 [5119] **44**	715 [6327] **32**	827 [7317] **25**	956 [8457] **19**	52
23 [6]		115 [1017] **77**	266 [2351] **76**	406 [3592] **75**	557 [4931] **70**	706 [6250] **55**	840 [7435] **43**	945 [8361] **37**	78
30 [8]		107 [951] **103**	251 [2223] **102**	407 [3598] **101**	538 [4759] **96**	691 [6117] **82**	832 [7359] **66**	948 [8393] **52**	104
38 [10]		88 [779] **129**	229 [2026] **127**	393 [3475] **126**	528 [4672] **122**	672 [5950] **109**	826 [7307] **90**	959 [8487] **74**	130
45 [12]			217 [1923] **154**	368 [3256] **153**	504 [4457] **150**	663 [5864] **133**	800 [7076] **112**	931 [8239] **97**	155
53 [14]			201 [1782] **180**	347 [3067] **178**	510 [4513] **173**	646 [5713] **161**	798 [7060] **140**	921 [8149] **114**	181
61 [16]			168 [1491] **206**	324 [2865] **204**	472 [4180] **201**	621 [5492] **188**	764 [6765] **171**	917 [8112] **142**	207
68 [18]			143 [1266] **232**	298 [2638] **230**	427 [3783] **227**	591 [5234] **220**	745 [6591] **198**	878 [7773] **176**	233
76 [20] Max. Cont.			114 [1013] **258**	283 [2501] **256**	443 [3916] **254**	597 [5284] **247**	717 [6344] **227**	849 [7512] **206**	259
83 [22]				246 [2179] **282**	397 [3512] **280**	559 [4943] **274**	681 [6023] **257**		284
91 [24]				181 [1601] **309**	357 [3159] **306**	502 [4442] **304**	642 [5684] **294**		310
95 [25] Max. Inter.				166 [1466] **321**	323 [2858] **319**	491 [4347] **318**	630 [5577] **300**		323

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

Rotor Width

45.5 [1.790] mm [in]

Theoretical Torque - Nm [lb-in]

81 [713]	161 [1425]	322 [2850]	483 [4275]	644 [5701]	805 [7126]	966 [8551]	1127 [9976]

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

400

409 cm³ [24.9 in³] / rev

Pressure - bar [psi]

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

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]	17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500] Max. Cont.	207 [3000] Peak	Theoretical rpm
2 [0.5]	85 [757] **4**	193 [1710] **4**	367 [3248] **3**	534 [4721] **2**				5
4 [1]	88 [776] **9**	185 [1640] **8**	383 [3386] **8**	580 [5129] **6**	745 [6590] **4**	899 [7954] **1**		10
8 [2]	86 [762] **18**	196 [1734] **18**	394 [3487] **17**	586 [5184] **15**	764 [6763] **11**	927 [8204] **5**		19
15 [4]	85 [749] **37**	188 [1661] **36**	404 [3571] **35**	602 [5325] **32**	796 [7047] **24**	962 [8517] **18**	1108 [9804] **9**	38
23 [6]	71 [629] **55**	180 [1593] **55**	387 [3428] **54**	596 [5274] **49**	787 [6969] **39**	978 [8653] **28**	1141 [10094] **20**	56
30 [8]		165 [1462] **74**	373 [3299] **73**	595 [5264] **69**	792 [7010] **58**	966 [8552] **44**	1149 [10167] **31**	75
38 [10]		143 [1269] **92**	356 [3150] **90**	581 [5144] **88**	782 [6923] **79**	974 [8617] **62**	1156 [10231] **45**	93
45 [12]		122 [1076] **111**	333 [2950] **109**	545 [4823] **107**	749 [6624] **98**	957 [8470] **83**	1143 [10116] **61**	112
53 [14]		95 [842] **129**	313 [2774] **128**	521 [4607] **126**	717 [6344] **117**	931 [8235] **103**	1131 [10007] **78**	130
61 [16]			282 [2493] **147**	496 [4385] **145**	685 [6063] **141**	919 [8131] **121**	1100 [9733] **100**	149
68 [18]			244 [2156] **166**	453 [4009] **165**	681 [6023] **158**	871 [7708] **142**	1071 [9478] **121**	167
76 [20] Max. Cont.			197 [1741] **185**	420 [3713] **183**	650 [5756] **179**	838 [7417] **166**	1051 [9302] **145**	186
83 [22]			164 [1448] **203**	378 [3344] **201**	588 [5200] **198**	810 [7171] **186**		205
91 [24]				333 [2947] **222**	559 [4945] **220**	750 [6640] **211**		223
95 [25] Max. Inter.				303 [2682] **231**	539 [4773] **228**	764 [6760] **221**		232

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

Rotor Width

63.5 [2.500] mm [in]

Theoretical Torque - Nm [lb-in]

112 [991]	224 [1982]	448 [3965]	672 [5947]	896 [7930]	1120 [9912]	1344 [11895]

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

► Performance data is typical. Performance of production units varies slightly from one motor to another. See page 10.03 for additional information on product testing.

HB/HK (All Series)

For Medium Duty Applications

PORTING

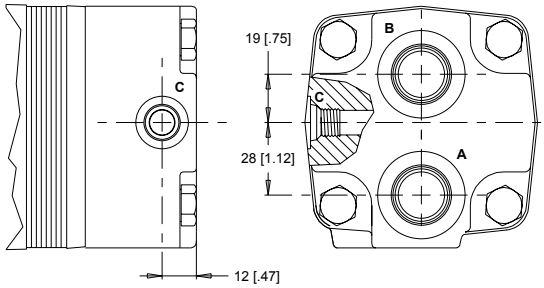
▶ Dimensions shown are without paint. Paint thickness can be up to 0.13 [.005].

END PORTED - ALIGNED

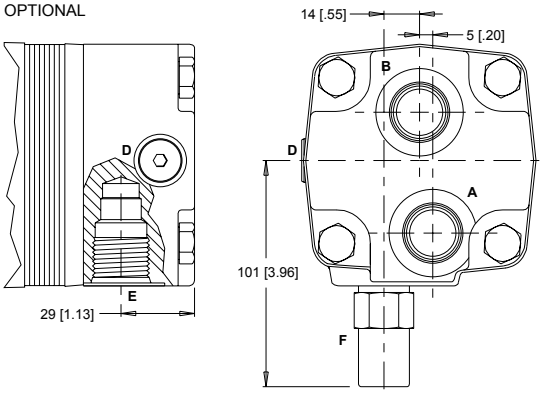
1 Main Ports **A, B**: 7/8-14 UNF
Drain Port **C**: 7/16-20 UNF

2 Main Ports **A, B**: G 1/2
Drain Port **C**: G 1/4

STANDARD



OPTIONAL



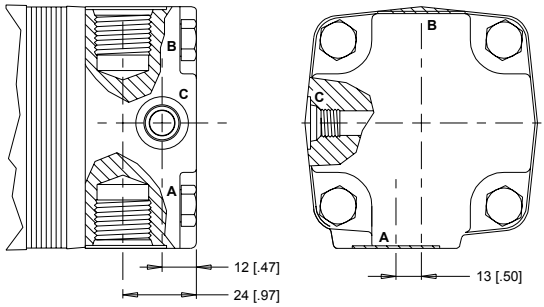
D: Internal Drain **E**: 10 Series/2-Way Valve Cavity 7/8-14 UNF **F**: Valve Cartridge Installed

SIDE PORTED - 180° OPPOSED

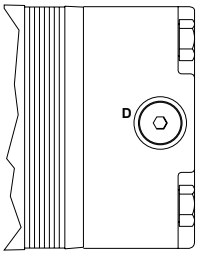
6 Main Ports **A, B**: 1 1/16-20 UN
Drain Port **C**: 7/16-20 UNF

7 Main Ports **A, B**: G 1/2
Drain Port **C**: G 1/4

STANDARD



OPTIONAL

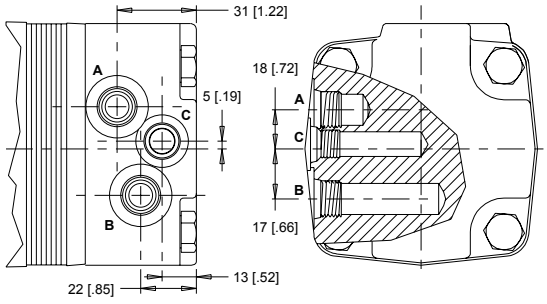


D: Internal Drain

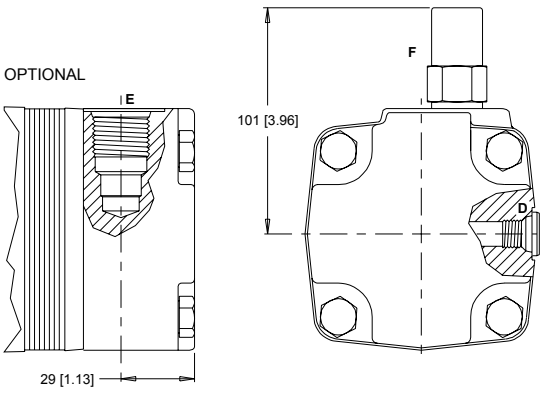
SIDE PORTED - OFFSET

5 Main Ports **A, B**: 9/16-18 UNF
Drain Port **C**: 7/16-20 UNF

STANDARD



OPTIONAL



D: Internal Drain **E**: 10 Series/2-Way Valve Cavity 7/8-14 UNF **F**: Valve Cartridge Installed

HB/HK (All Series)

For Medium Duty Applications

PORTING

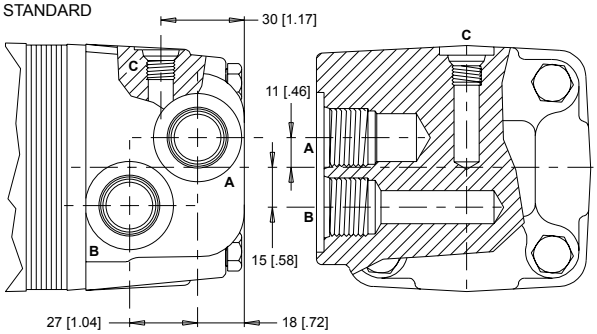
► Dimensions shown are without paint. Paint thickness can be up to 0.13 [.005].

SIDE PORTED - OFFSET

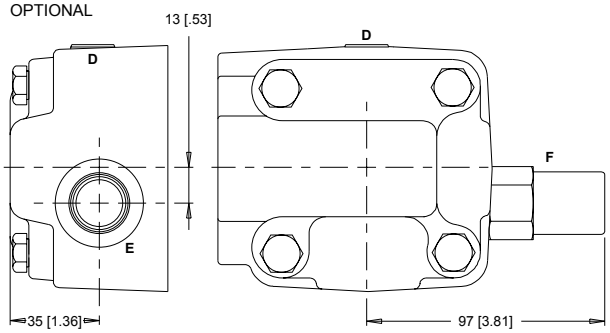
1 Main Ports **A, B**: 7/8-14 UNF
Drain Port **C**: 7/16-20 UNF

2 Main Ports **A, B**: G 1/2
Drain Port **C**: G 1/4

STANDARD



OPTIONAL

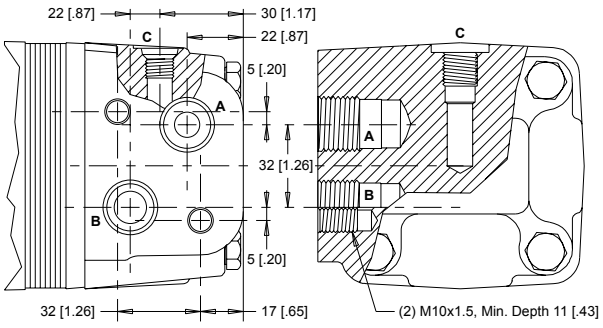


D: Internal Drain **E**: 10 Series/2-Way Valve Cavity 7/8-14 UNF **F**: Valve Cartridge Installed

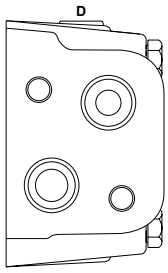
SIDE PORTED - OFFSET MANIFOLD

3 Main Ports **A, B**: G 1/2
Drain Port **C**: G 1/4

STANDARD



OPTIONAL



D: Internal Drain

HB (300 Series)

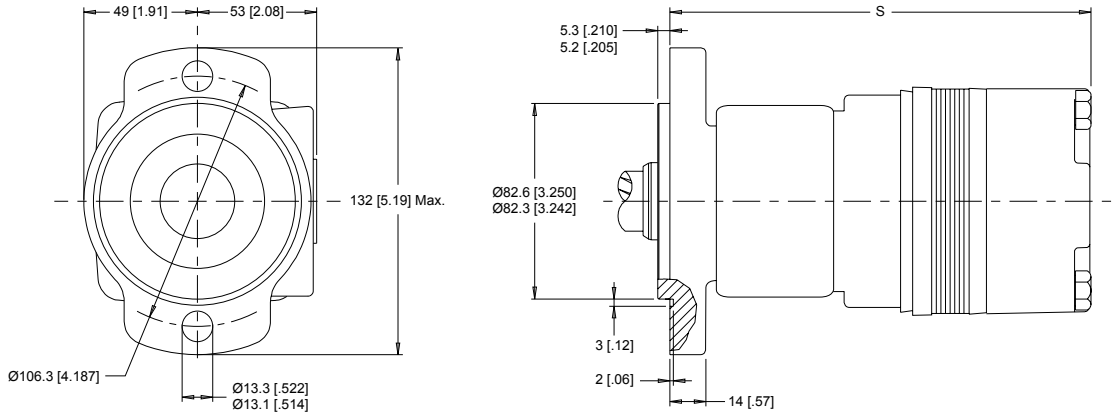
Hydraulic Motor

HOUSINGS

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

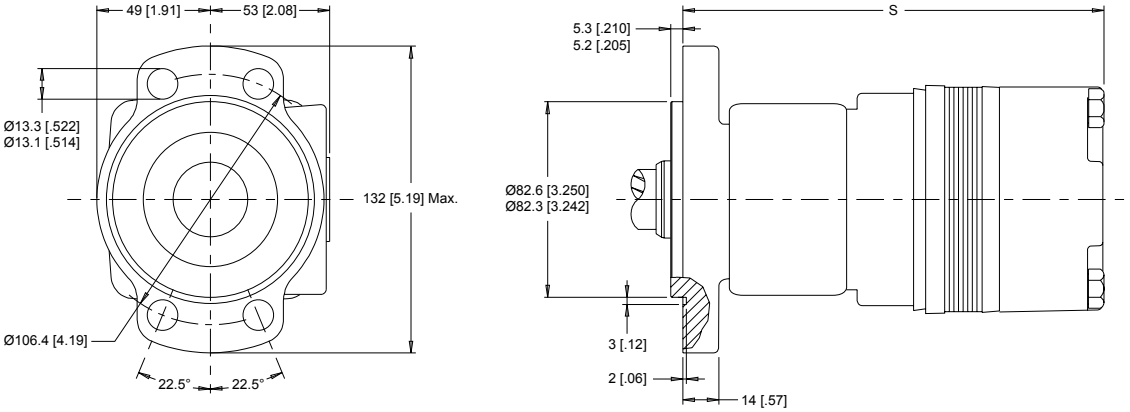
2-HOLE, SAE A MOUNT

A0 End Ports **A7** Side Ports



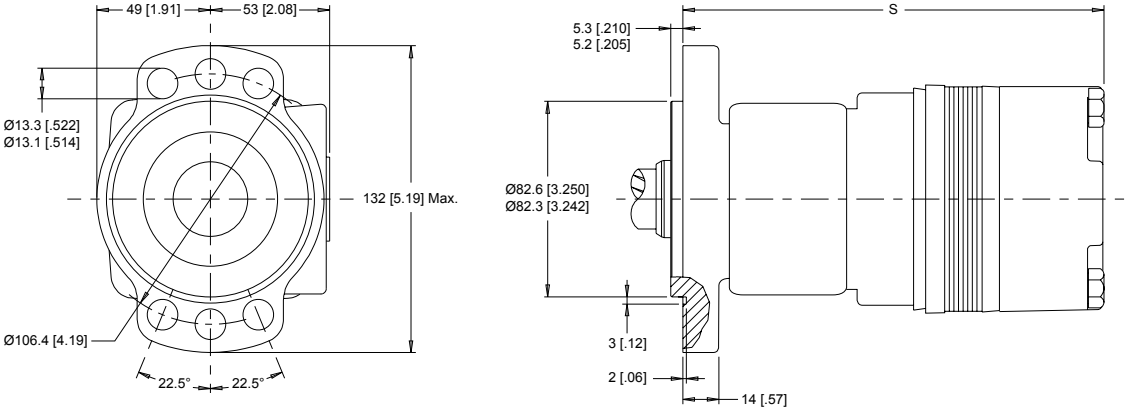
4-HOLE, MAGNETO MOUNT

A2 End Ports **A8** Side Ports



6-HOLE, SAE A MOUNT

A4 End Ports **A9** Side Ports



▶ Dimension S is charted on page 10.144. Porting options listed on pages 10.140-10.141.

HB (300 Series)

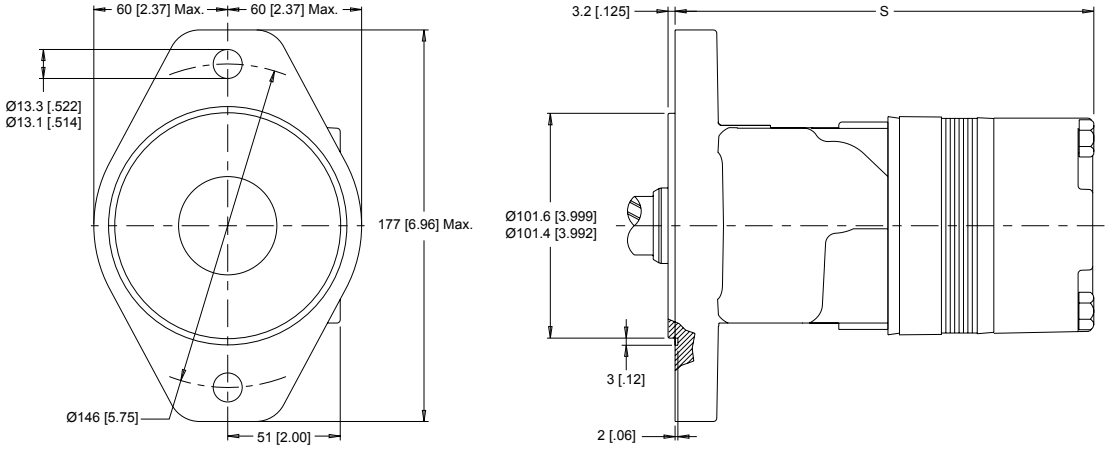
Hydraulic Motor

HOUSINGS

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

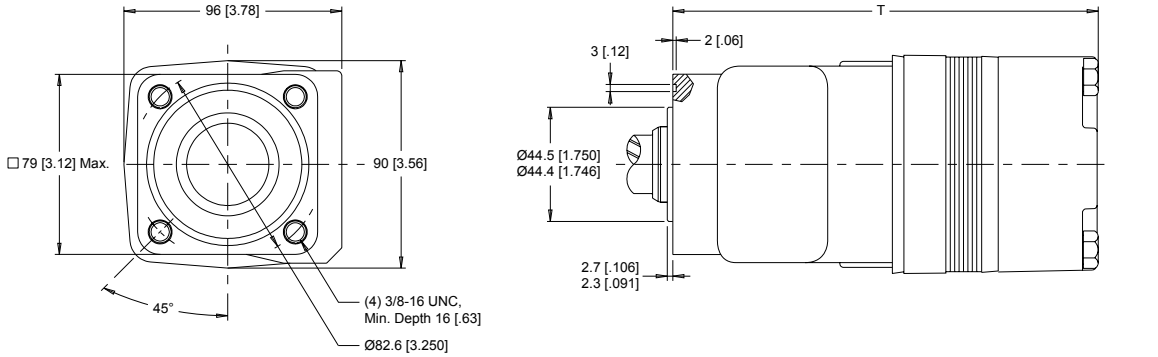
2-HOLE, SAE B MOUNT

B0 End Ports **B7** Side Ports



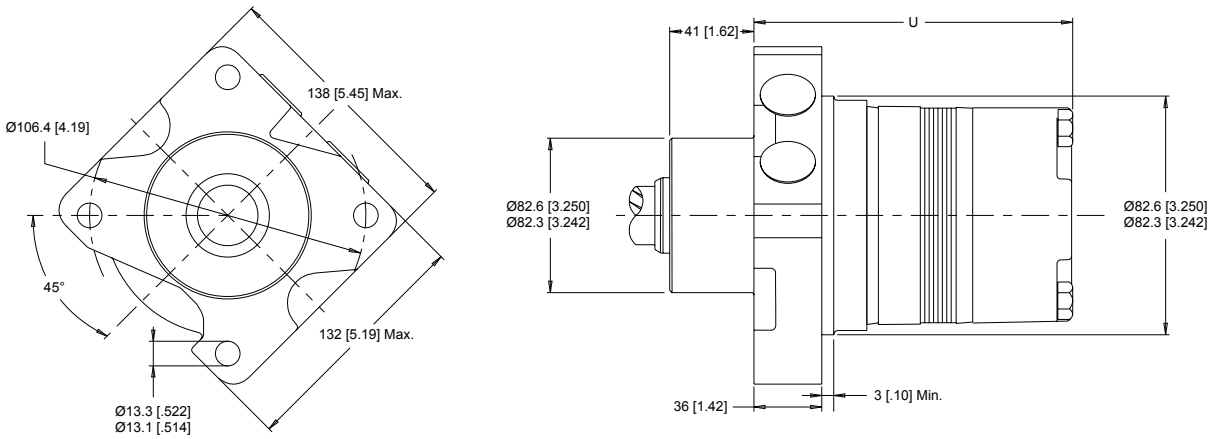
4-HOLE, SQUARE MOUNT

F2 End Ports **F8** Side Ports



4-HOLE, WHEEL MOUNT

W2 End Ports **W8** Side Ports



▶ Dimensions S & T are charted on page 10.144. Dimension U is charted on page 10.145. Porting options listed on pages 10.140-10.141.

HB (300 Series)

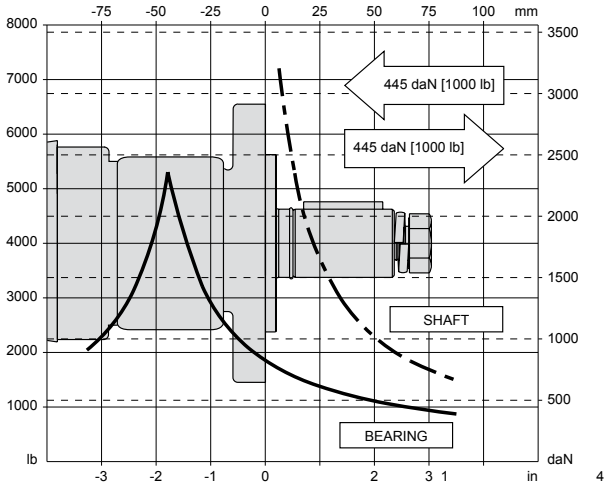
Hydraulic Motor

TECHNICAL INFORMATION

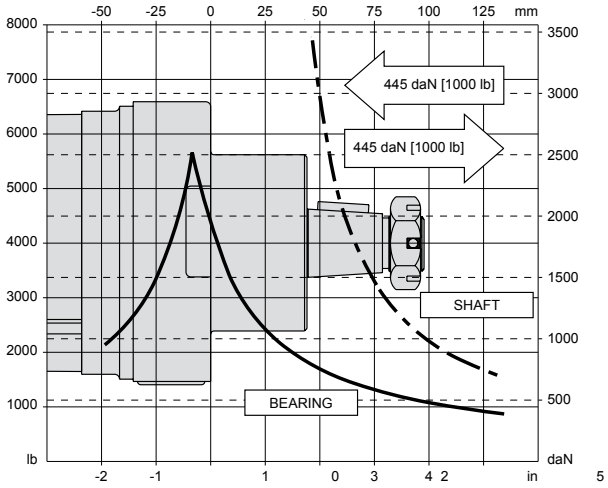
ALLOWABLE SHAFT LOAD / BEARING CURVE

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 10.04.

SAE A & B MOUNTS



WHEEL MOUNTS



LENGTH & WEIGHT CHART

Dimension S is the overall motor length from the rear of the motor to the mounting flange surface and is referenced on detailed housing drawings listed on pages 10.142 & 10.143.

S	Endcovers on pg.10.116	Endcovers on pg.10.117	Weight
#	mm [in]	mm [in]	kg [lb]
050	177 [6.97]	195 [7.68]	8.8 [19.5]
080	181 [7.11]	199 [7.82]	9.1 [20.0]
090	183 [7.19]	201 [7.90]	9.2 [20.2]
110	186 [7.33]	204 [8.04]	9.4 [20.7]
125	189 [7.43]	207 [8.14]	9.5 [21.0]
160	194 [7.65]	212 [8.36]	9.8 [21.7]
200	201 [7.90]	219 [8.61]	10.2 [22.5]
250	208 [8.20]	226 [8.91]	10.6 [23.4]
300	214 [8.44]	232 [9.15]	11.0 [24.3]
400	233 [9.15]	251 [9.86]	12.0 [26.4]

▶ Add 1.2 kg [2.7 lb] to the weight listed to the right for SAE B mount housings.

Dimension T is the overall motor length from the rear of the motor to the mounting flange surface and is referenced on detailed housing drawings listed on page 10.143.

T	Endcovers on pg.10.116	Endcovers on pg.10.117	Weight
#	mm [in]	mm [in]	kg [lb]
050	180 [7.09]	198 [7.80]	8.3 [18.4]
080	184 [7.23]	202 [7.94]	8.6 [18.9]
090	186 [7.31]	204 [8.02]	8.7 [19.1]
110	189 [7.45]	207 [8.16]	8.9 [19.6]
125	192 [7.55]	210 [8.26]	9.0 [19.9]
160	197 [7.77]	215 [8.48]	9.3 [20.6]
200	204 [8.02]	222 [8.73]	9.7 [21.4]
250	211 [8.32]	229 [9.03]	10.1 [22.3]
300	218 [8.56]	236 [9.27]	10.5 [23.2]
400	236 [9.27]	254 [9.98]	11.5 [25.3]

▶ 300 series motor weights can vary ± 1kg [2 lb] depending on model configurations such as housing, shaft, endcover, options etc.

HB (300 Series)

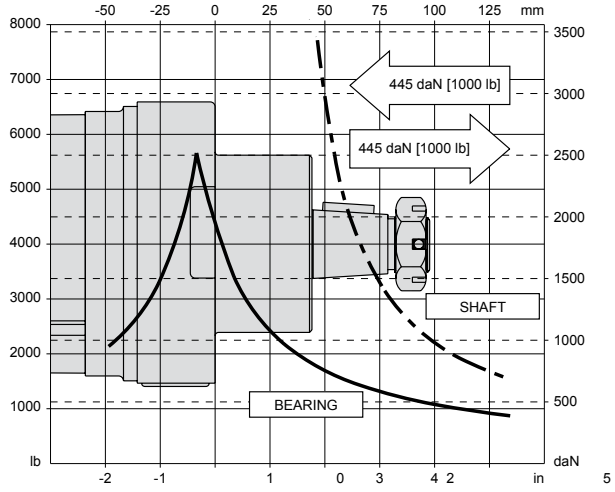
Hydraulic Motor

TECHNICAL INFORMATION

ALLOWABLE SHAFT LOAD / 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 10.04.

WHEEL MOUNTS



LENGTH & WEIGHT CHART

Dimension U is the overall motor length from the rear of the motor to the mounting flange surface and is referenced on detailed housing drawings listed on page 10.143.

U	Endcovers on pg.10.116	Endcovers on pg.10.117	Weight
#	mm [in]	mm [in]	kg [lb]
050	140 [5.51]	158 [6.22]	11.5 [25.3]
080	144 [5.65]	162 [6.36]	11.7 [25.7]
090	145 [5.70]	163 [6.41]	11.8 [25.9]
110	148 [5.84]	166 [6.55]	12.0 [26.5]
125	151 [5.93]	169 [6.64]	12.1 [26.7]
160	156 [6.16]	174 [6.87]	12.4 [27.4]
200	163 [6.41]	181 [7.12]	12.8 [28.3]
250	170 [6.71]	188 [7.42]	13.2 [29.7]
300	177 [6.95]	195 [7.66]	13.6 [30.0]
400	195 [7.61]	213 [8.37]	14.6 [32.1]

▶ 300 series motor weights can vary ± 1kg [2 lb] depending on model configurations such as housing, shaft, endcover, options etc.

MOUNTING / SHAFT LENGTH CHART

Dimension V is the overall distance from the motor mounting surface to the end of the shaft and is referenced on detailed housing drawings listed on page 10.146.

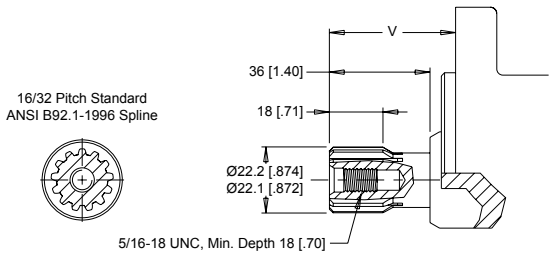
V	SAE A & B Mounts	Wheel Mounts	Square Mounts
#	mm [in]	mm [in]	mm [in]
01	44 [1.75]	82 [3.21]	41 [1.63]
02	49 [1.93]	86 [3.39]	46 [1.81]
07	81 [3.18]	118 [4.65]	78 [3.07]
08	81 [3.18]	118 [4.65]	78 [3.07]
10	49 [1.93]	86 [3.39]	46 [1.81]
12	55 [2.17]	92 [3.63]	52 [2.05]
15	69 [2.73]	106 [4.19]	66 [2.61]
20	61 [2.40]	99 [3.87]	58 [2.29]
21	61 [2.40]	98 [3.87]	58 [2.29]
22	66 [2.58]	103 [4.04]	63 [2.46]
23	57 [2.23]	94 [3.69]	54 [2.11]

HB (300 Series)

Hydraulic Motor

SHAFTS

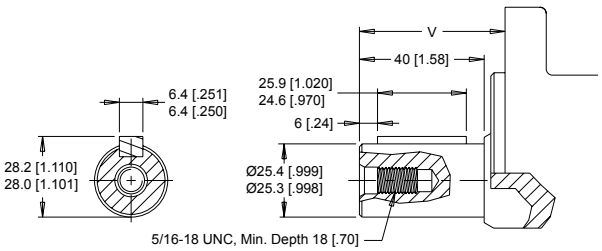
01 7/8" 13 Tooth Spline



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

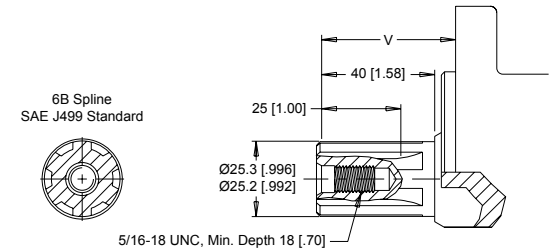
10 1" Straight

15 1" Straight Extended



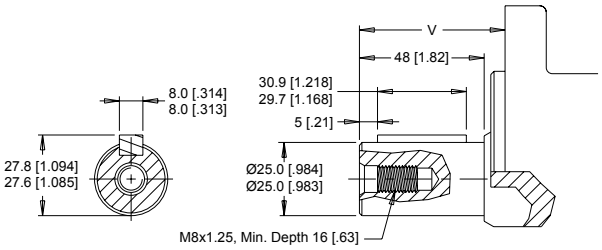
Max. Torque: 655 Nm [5800 lb-in]

02 1" 6B Spline



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

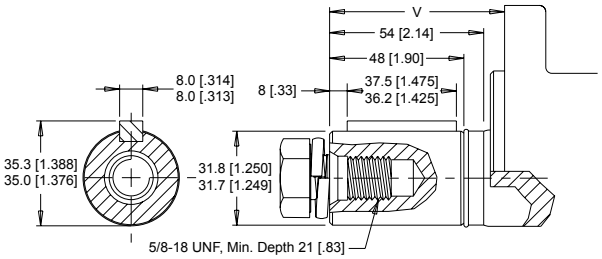
12 25mm Straight



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

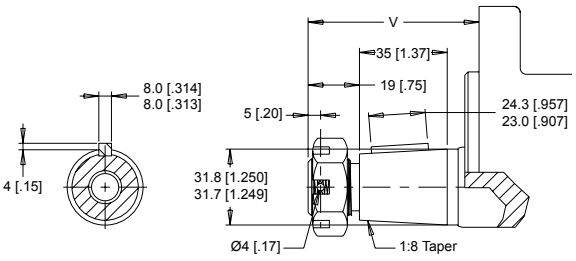
07 1-1/4" Straight Extended

20 1-1/4" Straight



Max. Torque: 882 Nm [7804 lb-in]

22 1-1/4" Tapered

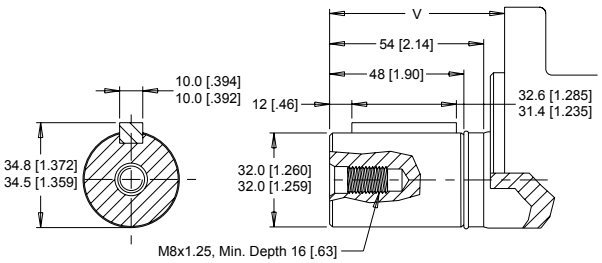


▶ A slotted hex nut is standard on this shaft. Dimensional details & additional options are listed on page 10.08.

Max. Torque: 882 Nm [7804 lb-in]

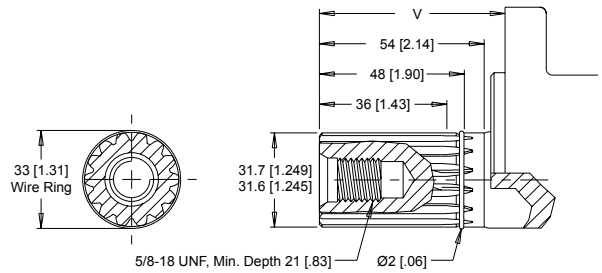
08 32mm Straight Extended

21 32mm Straight



Max. Torque: 882 Nm [7804 lb-in]

23 14 Tooth Spline



Max. Torque: 882 Nm [7804 lb-in]

▶ Dimension V is charted on page 10.145.

HB (300 Series)

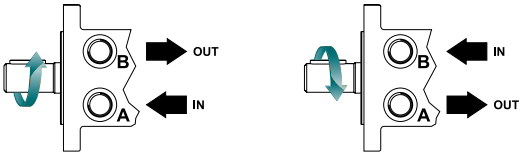
Hydraulic Motor

ORDERING INFORMATION

□ □ □ — 1 — □ □ □ — 2 — □ □ — 3a — □ 3b □ — 4 — □ □ 5 □ 6 □ 7 □ □ — 8 —

1. CHOOSE SERIES DESIGNATION

300	Standard Motor



▶ The 300 series is bi-directional. Reversing the inlet hose will reverse shaft rotation.

2. SELECT A DISPLACEMENT OPTION

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

3a. SELECT MOUNT TYPE

▼ END MOUNTS

A0	2-Hole, SAE A Mount
A2	4-Hole, Magneto Mount
A4	6-Hole, SAE A Mount
B0	2-Hole, SAE B Mount
F2	4-Hole, Square Mount
W2	4-Hole, Wheel Mount

▼ SIDE MOUNTS

A7	2-Hole, SAE A Mount
A8	4-Hole, Magneto Mount
A9	6-Hole, SAE A Mount
B7	2-Hole, SAE B Mount
F8	4-Hole, Square Mount
W8	4-Hole, Wheel Mount

▶ Speed sensor option is not available on wheel mounts.

3b. SELECT PORT SIZE

▼ END PORT OPTIONS

1	7/8-14 UNF Aligned
2	G 1/2 Aligned

▼ SIDE PORT OPTIONS

1	7/8-14 UNF, Offset
2	G 1/2, Offset
3	G 1/2, Offset Manifold
5	9/16-18 UNF Offset
6	1 1/16-20 UN, 180° Opposed
7	G 1/2, 180° Opposed

4. SELECT A SHAFT OPTION

01	7/8" 13 Tooth Spline	15	1" Straight Extended
02	1" 6B Spline	20	1-1/4" Straight
07	1-1/4" Straight Extended	21	32mm Straight
08	32mm Straight Extended	22	1-1/4" Tapered
10	1" Straight	23	14 Tooth Spline
12	25mm Straight		

▶ The 07, 08 & 15 extended shafts are designed for use with one of the speed sensor options listed in STEP 7.

5. SELECT A PAINT OPTION

A	Black
B	Black, Unpainted Mounting Surface
Z	No Paint

6. SELECT A VALVE CAVITY / CARTRIDGE OPTION

A	None	F	121 bar [1750 psi] Relief
B	Valve Cavity Only	G	138 bar [2000 psi] Relief
C	69 bar [1000 psi] Relief	J	173 bar [2500 psi] Relief
D	86 bar [1250 psi] Relief	L	207 bar [3000 psi] Relief
E	104 bar [1500 psi] Relief		

▶ Valve cavity is only available on side ports 1, 2 & 5 and end ports 1 & 2.

7. SELECT AN ADD-ON OPTION

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

8. SELECT A MISCELLANEOUS OPTION

AA	None
AB	Internal Drain
AC	Freeturning Rotor
AD	Internal Drain & Freeturning Rotor

HB (310 Series)

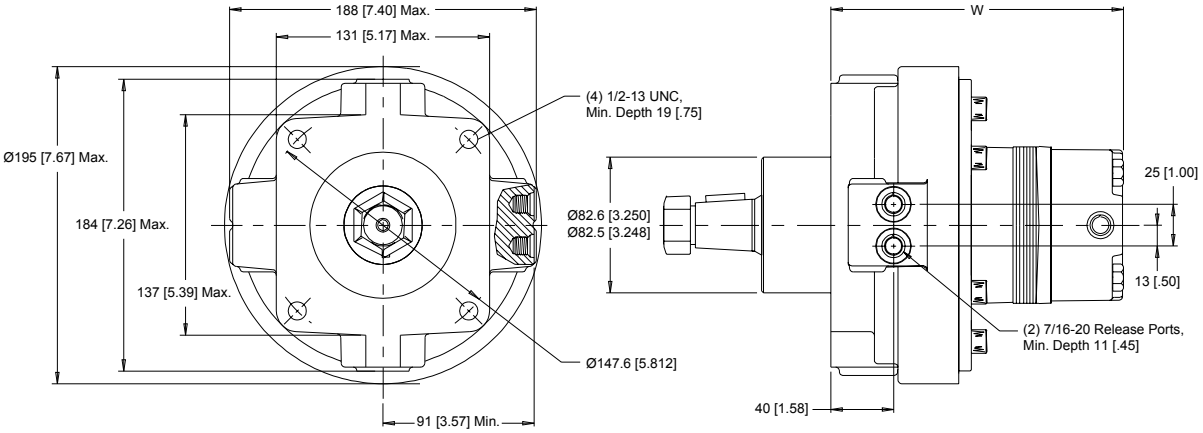
Hydraulic Motor/Brake

HOUSINGS

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

4-HOLE, MOTOR BRAKE

W2 End Ports **W8** Side Ports



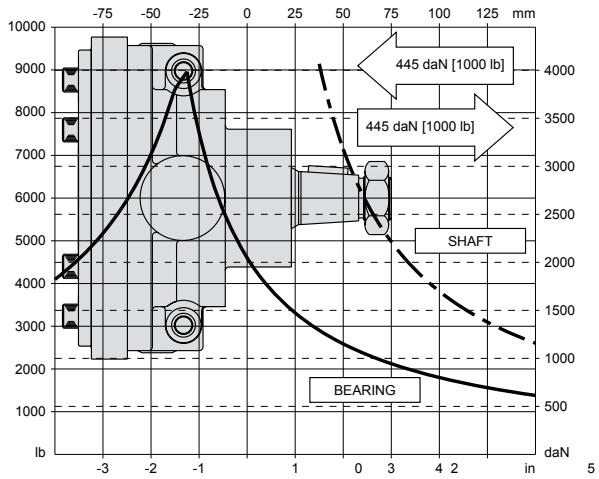
▶ Porting options listed on pages 108-109.

TECHNICAL INFORMATION

ALLOWABLE SHAFT LOAD / 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 10.04.

MOTOR BRAKE



SPECIFICATIONS

Rated brake torque.....904 Nm [8000 lb-in]
Initial release pressure .....21 bar [300 psi]
Full release pressure.....31 bar [450 psi]
Maximum release pressure .....207 bar [3000 psi]
Release volume.....13-16 cm^3 [0.8 - 1.0 in^3]

LENGTH & WEIGHT CHART

Dimension W is the overall motor length from the rear of the motor to the mounting flange surface.

W	Endcovers on pg.10.116	Endcovers on pg.10.117	Weight
#	mm [in]	mm [in]	kg [lb]
050	163 [6.41]	181 [7.12]	19.1 [42.2]
080	167 [6.56]	185 [7.27]	19.4 [42.7]
090	169 [6.64]	187 [7.35]	19.5 [42.9]
110	172 [6.78]	190 [7.49]	19.7 [43.4]
125	175 [6.87]	193 [7.58]	19.8 [43.7]
160	180 [7.10]	198 [7.81]	20.1 [44.4]
200	187 [7.35]	205 [8.06]	20.5 [45.3]
250	194 [7.32]	212 [8.36]	20.9 [46.1]
300	200 [7.65]	218 [8.59]	21.3 [47.0]
400	218 [8.60]	236 [9.31]	22.3 [49.1]

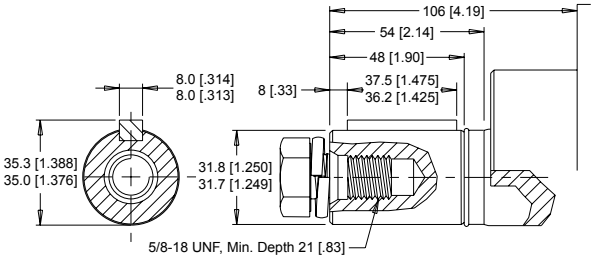
▶ 310 series motor/brake weights can vary ± 1kg [2 lb] depending on model configurations such as housing, shaft, endcover, options etc.

HB (310 Series)

Hydraulic Motor/Brake

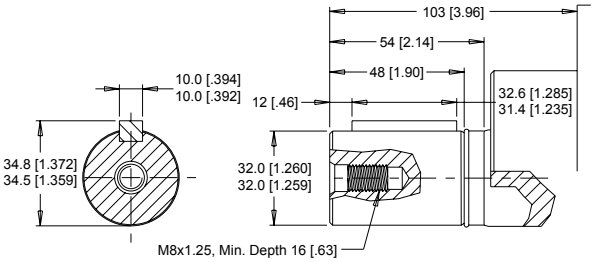
SHAFTS

20 1-1/4" Straight



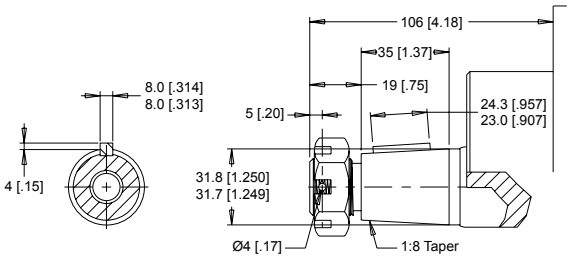
Max. Torque: 882 Nm [7804 lb-in]

21 32mm Straight



Max. Torque: 882 Nm [7804 lb-in]

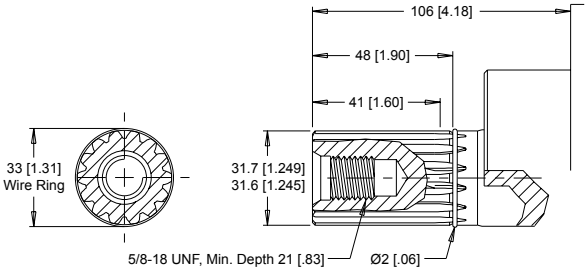
22 1-1/4" Tapered



▶ A slotted hex nut is standard on this shaft. Dimensional details & additional options are listed on page 10.08.

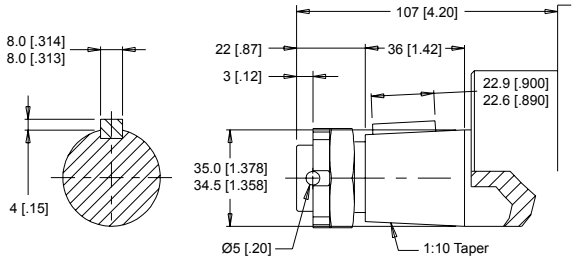
Max. Torque: 882 Nm [7804 lb-in]

23 14 Tooth Spline



Max. Torque: 882 Nm [7804 lb-in]

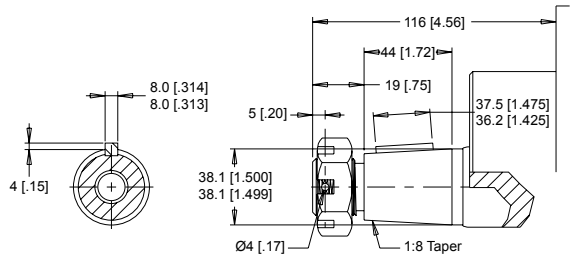
28 35mm Tapered



▶ A slotted hex nut is standard on this shaft. Dimensional details & additional options are listed on page 10.08.

Max. Torque: 882 Nm [7804 lb-in]

31 1-1/2" Tapered



▶ A slotted hex nut is standard on this shaft. Dimensional details & additional options are listed on page 10.08.

Max. Torque: 882 Nm [7804 lb-in]

HB (310 Series)

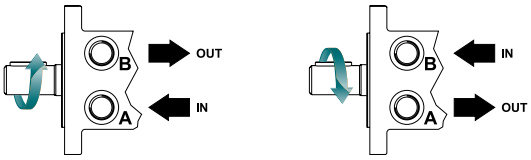
Hydraulic Motor/Brake

ORDERING INFORMATION

	1			2			3a		3b		4		5	6	7	8	

1. CHOOSE SERIES DESIGNATION

310	HB Series Motor/Brake



▶ The 310 series is bi-directional. Reversing the inlet hose will reverse shaft rotation.

2. SELECT A DISPLACEMENT OPTION

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

3a. SELECT MOUNT TYPE

▼ **END MOUNT**

W2	4-Hole, Motor/Brake

▼ **SIDE MOUNT**

W8	4-Hole, Motor/Brake

3b. SELECT PORT SIZE

▼ **END PORT OPTIONS**

1	7/8-14 UNF Aligned
2	G 1/2 Aligned

▼ **SIDE PORT OPTIONS**

1	7/8-14 UNF, Aligned
2	G 1/2, Aligned
3	G 1/2, Offset Manifold
5	9/16-18 UNF Offset
6	1 1/16-20 UN, 180° Opposed
7	G 1/2, 180° Opposed

4. SELECT A SHAFT OPTION

20	1-1/4" Straight	23	14 Tooth Spline
21	32mm Straight	28	35mm Tapered
22	1-1/4" Tapered	31	1-1/2" Tapered

5. SELECT A PAINT OPTION

A	Black
B	Black, Unpainted Mounting Surface
Z	No Paint

6. SELECT A VALVE CAVITY / CARTRIDGE OPTION

A	None	F	121 bar [1750 psi] Relief
B	Valve Cavity Only	G	138 bar [2000 psi] Relief
C	69 bar [1000 psi] Relief	J	173 bar [2500 psi] Relief
D	86 bar [1250 psi] Relief	L	207 bar [3000 psi] Relief
E	104 bar [1500 psi] Relief		

▶ Valve cavity is only available on side ports 1, 2 & 5 and end ports 1 & 2.

7. SELECT AN ADD-ON OPTION

A	Standard
B	Lock Nut
C	Solid Hex Nut

8. SELECT A MISCELLANEOUS OPTION

AA	None
AC	Freeturning Rotor