



whitedriveproducts



SERIES

300 -

310 -

315 -



MEDIUM DUTY
Hydraulic Motor & Brake





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 driveline, 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

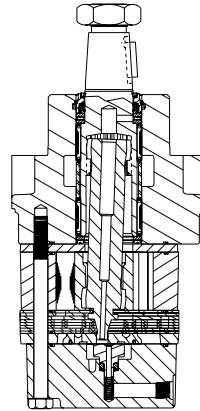
- Forced Drive Link Lubrication reduces wear and promotes longer life from motor.
- Heavy-Duty Drive Link is up to 30% stronger than competitive designs for longer life.
- Three-Zone Orbiting Valve precisely meters oil to produce exceptional volumetric efficiency.
- Rubber Energized Steel Face Seal does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

TYPICAL APPLICATIONS

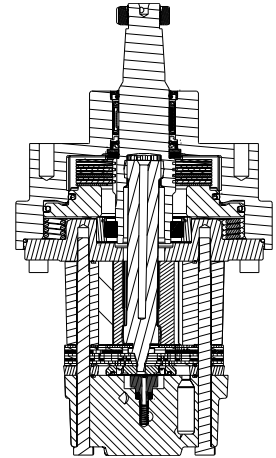
conveyors, carwashes, positioners, light-duty wheel drives, sweepers, machine tool indexers, grain augers, spreaders, feed rollers, screw drives, brush drives and more

SERIES DESCRIPTIONS

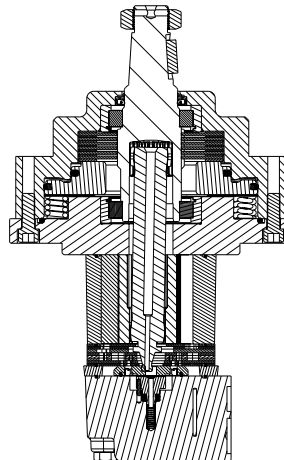
300 - Hydraulic Motor
Standard



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. Running at intermittent ratings should not exceed 10% of every minute of operation.



DISPLACEMENT PERFORMANCE

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

52 cm³ [3.2 in³] / rev

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]	Torque - Nm [lb-in], Speed rpm										Theoretical rpm
	2 [0.5]	7 [66] 36	18 [158] 31	38 [314] 26	51 [447] 21	66 [587] 9					
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]				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	

Rotor Width

8.0 [316]

mm [in]

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

Theoretical Torque - Nm [lb-in]

14 [127]	29 [255]	58 [510]	86 [764]	115 [1019]	144 [1274]	173 [1529]	202 [1783]
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Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]

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

76 cm³ [4.6 in³] / rev

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]	Torque - Nm [lb-in], Speed rpm										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]		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]									904		

Rotor Width

11.7 [462]

mm [in]

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

Theoretical Torque - Nm [lb-in]

21 [183]	41 [366]	83 [732]	124 [1099]	166 [1465]	207 [1831]	248 [2197]	290 [2564]
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Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]

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



DISPLACEMENT PERFORMANCE

		Pressure - bar [psi]						Max. Cont.	Max. Inter.			
090		17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]	242 [3500]			
89 cm ³ [5.4 in ³] / rev												
		Torque - Nm [lb-in], Speed rpm						Intermittent Ratings - 10% of Operation				
Flow - lpm [gpm]	Max. Cont.	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	Theoretical rpm
		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]				134 [1190] 677	187 [1654] 660	192 [1701] 644	227 [2007] 629	269 [2384] 610	685	
Max. Inter.	68 [18]				136 [1201] 748	189 [1675] 729	240 [2122] 719			770		
	76 [20]				136 [1205] 835	174 [1536] 819	216 [1916] 806			856		
Overall Efficiency - 70 - 100% <input type="checkbox"/> 40 - 69% <input type="checkbox"/> 0 - 39% <input checked="" type="checkbox"/>												
Rotor Width		Theoretical Torque - Nm [lb-in]										
13.7 [541]		24 [215]	49 [430]	97 [860]	146 [1290]	194 [1720]	243 [2150]	291 [2580]	340 [3010]			
mm [in]		Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]										

		Pressure - bar [psi]						Max. Cont.	Max. Inter.			
110		17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]	242 [3500]			
111 cm ³ [6.8 in ³] / rev												
		Torque - Nm [lb-in], Speed rpm						Intermittent Ratings - 10% of Operation				
Flow - lpm [gpm]	Max. Cont.	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	Theoretical rpm
		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	
		Max. Inter.	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]			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]			77 [678] 847	132 [1171] 844	191 [1694] 835	243 [2154] 828		850				
Overall Efficiency - 70 - 100% <input type="checkbox"/> 40 - 69% <input type="checkbox"/> 0 - 39% <input checked="" type="checkbox"/>												
Rotor Width		Theoretical Torque - Nm [lb-in]										
17.3 [681]		31 [271]	61 [541]	122 [1083]	184 [1624]	245 [2166]	306 [2707]	367 [3248]	428 [3790]			
mm [in]		Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]										

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



DISPLACEMENT PERFORMANCE

		Pressure - bar [psi]							Max. Cont.	Max. Inter.
125		17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]	242 [3500]	
127 cm ³ [7.7 in ³] / rev									Intermittent Ratings - 10% of Operation	
		Torque - Nm [lb-in], Speed rpm								
Flow - lpm [gpm]	2 [0.5]	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	
Max. Cont.										
Max. Inter.										
Rotor Width		Overall Efficiency - 70 - 100% <input type="checkbox"/> 40 - 69% <input type="checkbox"/> 0 - 39% <input type="checkbox"/>								
Theoretical Torque - Nm [lb-in]		Theoretical Torque - Nm [lb-in]								
19.7 [.776]		35 [307] 69 [613] 139 [1226] 208 [1839] 277 [2452] 346 [3065] 416 [3678] 485 [4291]								
mm [in]		Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]								

		Pressure - bar [psi]							Max. Cont.	Max. Inter.
160		17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]	242 [3500]	
164 cm ³ [10.0 in ³] / rev									Intermittent Ratings - 10% of Operation	
		Torque - Nm [lb-in], Speed rpm								
Flow - lpm [gpm]	2 [0.5]	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] 410	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	
Max. Cont.										
Max. Inter.										
Rotor Width		Overall Efficiency - 70 - 100% <input type="checkbox"/> 40 - 69% <input type="checkbox"/> 0 - 39% <input type="checkbox"/>								
Theoretical Torque - Nm [lb-in]		Theoretical Torque - Nm [lb-in]								
25.4 [1.000]		45 [398] 90 [796] 180 [1592] 270 [2389] 360 [3185] 450 [3981] 540 [4777] 630 [5573]								
mm [in]		Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]								

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



DISPLACEMENT PERFORMANCE

		Pressure - bar [psi]						Max. Cont.	Max. Inter.	
200		17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]	242 [3500]	
205 cm ³ [12.5 in ³] / rev										
		Torque - Nm [lb-in], Speed rpm						Intermittent Ratings - 10% of Operation		
Flow - lpm [gpm]	2 [0.5]	35 [314] 9	83 [734] 9	179 [1581] 8	267 [2365] 7	353 [3121] 6	443 [3921] 5	505 [4469] 4	579 [5120] 3	10
	4 [1]	37 [325] 18	81 [721] 18	186 [1642] 17	287 [2536] 14	301 [2665] 13	452 [4004] 11	540 [4777] 9	611 [5406] 8	19
	8 [2]	39 [349] 36	89 [790] 36	199 [1759] 35	295 [2610] 31	386 [3412] 27	473 [4185] 24	554 [4904] 21	643 [5687] 20	37
	15 [4]	38 [338] 73	87 [766] 73	191 [1689] 72	292 [2586] 68	386 [3417] 61	480 [4252] 53	574 [5077] 49	661 [5849] 46	74
	23 [6]		84 [742] 110	185 [1635] 109	287 [2542] 106	382 [3380] 98	480 [4247] 89	570 [5046] 81	657 [5817] 74	111
	30 [8]			176 [1556] 147	279 [2468] 144	376 [3327] 136	479 [4243] 123	571 [5051] 112	658 [5827] 104	148
	38 [10]			166 [1471] 184	268 [2374] 182	368 [3256] 173	467 [4131] 162	556 [4923] 151	651 [5761] 141	185
	45 [12]			154 [1361] 221	257 [2275] 219	360 [3185] 214	460 [4069] 200	558 [4939] 187	650 [5751] 176	222
	53 [14]			147 [1304] 258	245 [2165] 256	355 [3141] 250	441 [3906] 238	539 [4773] 224	640 [5666] 213	259
	61 [16]			123 [1089] 295	235 [2083] 290	333 [2949] 286	429 [3797] 277	523 [4628] 264	624 [5519] 242	296
	68 [18]			112 [993] 331	220 [1943] 327	302 [2669] 323	414 [3665] 319	527 [4659] 303	616 [5451] 289	333
	76 [20]				197 [1745] 369	310 [2740] 365	395 [3499] 360	492 [4353] 343	596 [5273] 331	370
	83 [22]				172 [1525] 405	282 [2496] 401	386 [3420] 395	480 [4252] 382		407
	91 [24]				157 [1390] 442	265 [2341] 441	369 [3269] 438	453 [4005] 425		444
95 [25]				139 [1229] 460	252 [2234] 458	349 [3087] 456	447 [3955] 444		462	
		Overall Efficiency - 70 - 100% <input type="checkbox"/> 40 - 69% <input type="checkbox"/> 0 - 39% <input checked="" type="checkbox"/>								
Rotor Width		Theoretical Torque - Nm [lb-in]								
31.8 [1.251]		56 [498]	112 [995]	225 [1990]	337 [2986]	450 [3981]	562 [4976]	675 [5971]	787 [6967]	
mm [in]		Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]								

		Pressure - bar [psi]						Max. Cont.	Max. Inter.	
250		17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]	242 [3500]	
254 cm ³ [15.5 in ³] / rev										
		Torque - Nm [lb-in], Speed rpm						Intermittent Ratings - 10% of Operation		
Flow - lpm [gpm]	2 [0.5]	43 [381] 7	104 [924] 6	221 [1955] 6	339 [3001] 5	449 [3974] 3	551 [4872] 1			8
	4 [1]	50 [439] 14	115 [1014] 14	240 [2128] 13	361 [3196] 11	466 [4128] 9	574 [5080] 7	668 [5907] 4		15
	8 [2]	51 [455] 29	115 [1014] 29	245 [2167] 28	369 [3262] 26	479 [4236] 22	604 [5342] 17	712 [6303] 13	800 [7082] 9	30
	15 [4]	48 [428] 59	105 [930] 58	242 [2145] 57	371 [3286] 56	493 [4363] 51	619 [5480] 41	741 [6555] 33	847 [7496] 25	60
	23 [6]	42 [368] 89	110 [969] 88	234 [2069] 88	367 [3252] 87	487 [4313] 82	626 [5542] 69	747 [6611] 58	847 [7492] 48	90
	30 [8]		92 [818] 119	223 [1978] 118	357 [3159] 117	490 [4332] 115	622 [5508] 101	744 [6587] 87	846 [7490] 76	120
	38 [10]		80 [712] 149	209 [1849] 148	342 [3025] 147	472 [4176] 141	605 [5353] 129	717 [6345] 114	844 [7472] 104	150
	45 [12]			199 [1757] 178	329 [2915] 176	455 [4022] 174	581 [5142] 165	703 [6225] 147	833 [7375] 127	179
	53 [14]			182 [1640] 208	310 [2743] 206	443 [3919] 205	567 [5017] 197	711 [6296] 176	817 [7227] 158	209
	61 [16]			164 [1456] 238	294 [2603] 235	438 [3873] 233	552 [4886] 227	674 [5960] 205	804 [7114] 191	239
	68 [18]			145 [1285] 268	270 [2393] 266	402 [3560] 263	530 [4694] 259	661 [5846] 245	784 [6939] 222	269
	76 [20]			122 [1083] 298	255 [2256] 295	380 [3359] 292	511 [4519] 289	627 [5547] 277	757 [6697] 252	299
	83 [22]				221 [1955] 326	353 [3124] 323	484 [4279] 319	607 [5368] 307		328
	91 [24]				201 [1775] 357	336 [2973] 355	461 [4082] 353	599 [5297] 342		358
95 [25]				184 [1627] 371	313 [2768] 368	442 [3915] 365	575 [5088] 360		373	
		Overall Efficiency - 70 - 100% <input type="checkbox"/> 40 - 69% <input type="checkbox"/> 0 - 39% <input checked="" type="checkbox"/>								
Rotor Width		Theoretical Torque - Nm [lb-in]								
39.4 [1.551]		70 [617]	139 [1234]	279 [2468]	418 [3702]	558 [4936]	697 [6170]	837 [7404]	976 [8639]	
mm [in]		Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]								

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



DISPLACEMENT PERFORMANCE

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

293 cm³ [17.9 in³] / rev

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]	Torque - Nm [lb-in], Speed rpm								Theoretical rpm
	2 [0.5]	61 [543] 6	118 [1044] 5	261 [2311] 5	388 [3433] 4				
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]			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]				166 [1466] 321	323 [2858] 319	491 [4347] 318	630 [5577] 300		323

Rotor Width

45.5 [1.790]

mm [in]

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

Theoretical Torque - Nm [lb-in]

81 [713]	161 [1425]	322 [2850]	483 [4275]	644 [5701]	805 [7126]	966 [8551]	1127 [9976]
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Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]

400	Pressure - bar [psi]							Max. Cont.	Peak
	17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]		

409 cm³ [24.9 in³] / rev

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]	Torque - Nm [lb-in], Speed rpm								Theoretical rpm
	2 [0.5]	85 [757] 4	193 [1710] 4	367 [3248] 3	534 [4721] 2				
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]			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]				303 [2682] 231	539 [4773] 228	764 [6760] 221			232

Rotor Width

63.5 [2.500]

mm [in]

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

Theoretical Torque - Nm [lb-in]

112 [991]	224 [1982]	448 [3965]	672 [5947]	896 [7930]	1120 [9912]	1344 [11895]
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Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]

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



PORTING

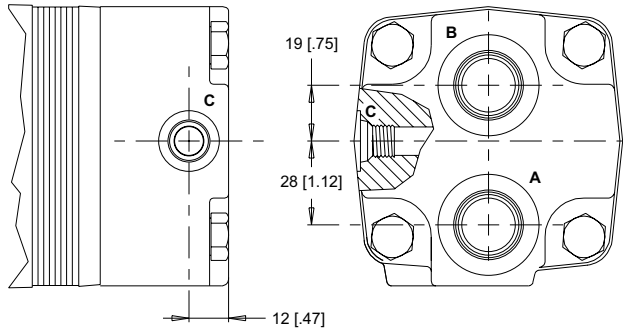
► Dimensions shown are without paint. Paint thickness can be up to 0.13 [.005].

END PORTED - ALIGNED

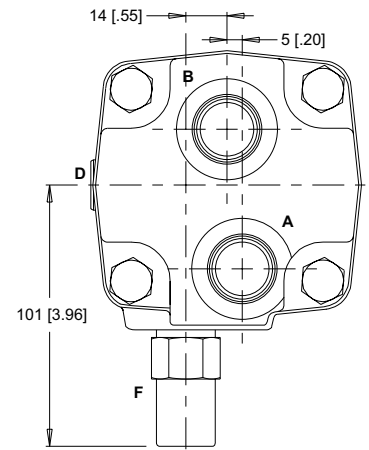
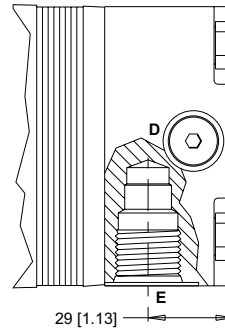
1 Main Ports **A, B:** 7/8-14 UNF
Drain Port **C:** 7/16-20 UNF

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

STANDARD



OPTIONAL



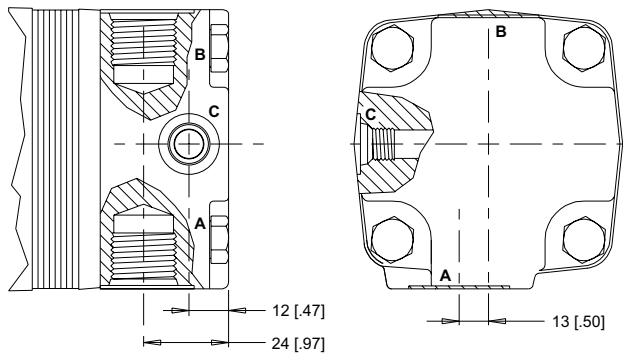
D: Internal Drain E: 10 Series/2-Way Valve Cavity 7/8-14 UNF F: Valve Cartridge Installed

SIDE PORTED - 180° OPPOSED

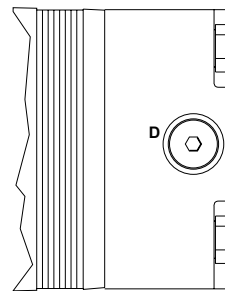
6 Main Ports **A, B:** 1 1/16-20 UN
Drain Port **C:** 7/16-20 UNF

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

STANDARD



OPTIONAL

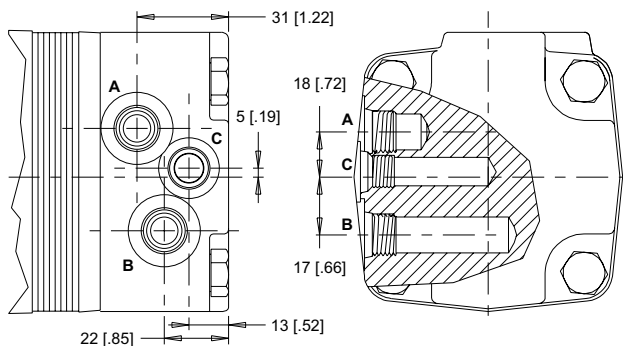


D: Internal Drain

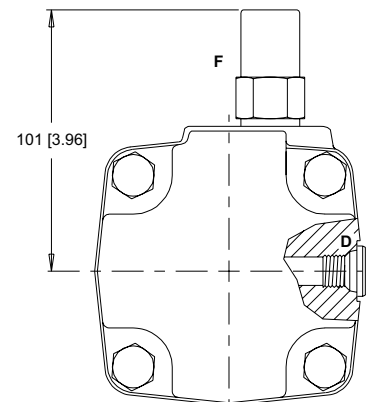
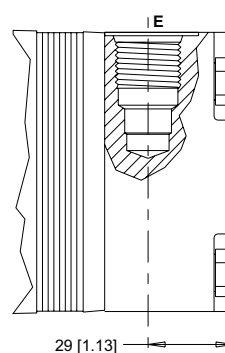
SIDE PORTED - OFFSET

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



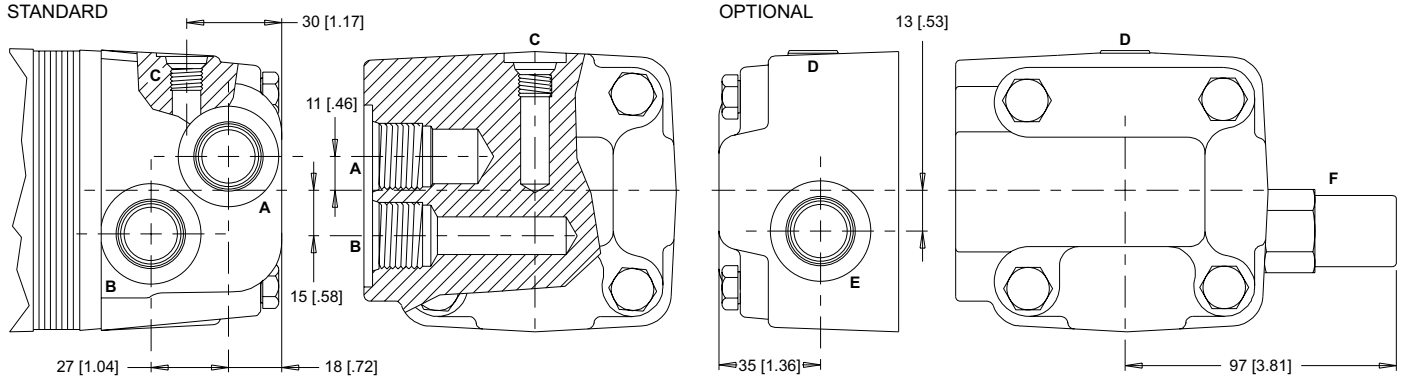
PORTING

► 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

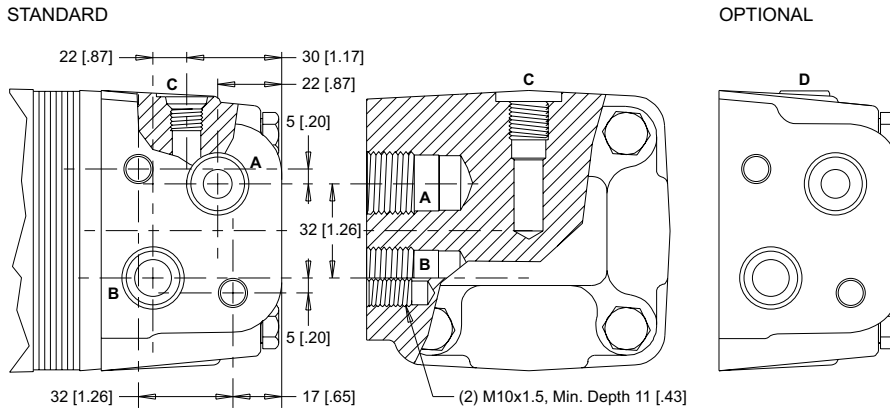
2 Main Ports **A, B:** G 1/2
Drain Port **C:** G 1/4



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



D: Internal Drain

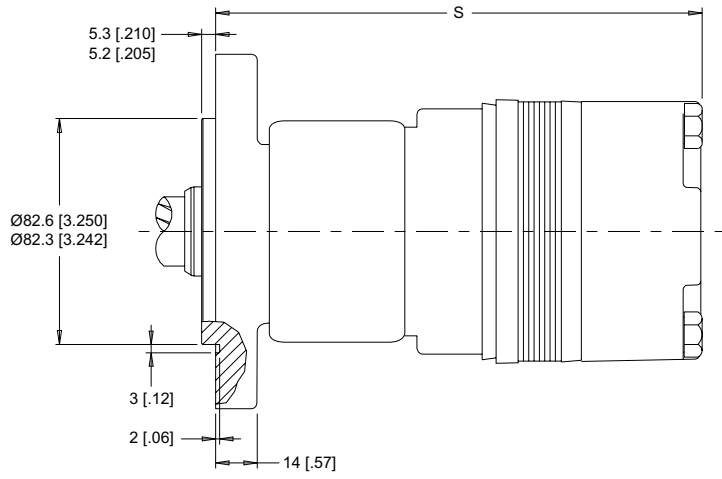
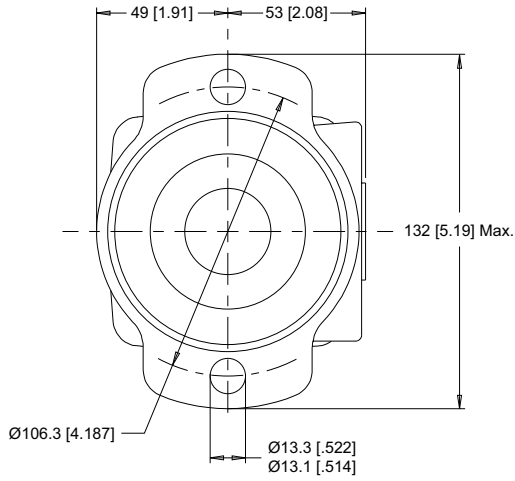


HOUSINGS

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

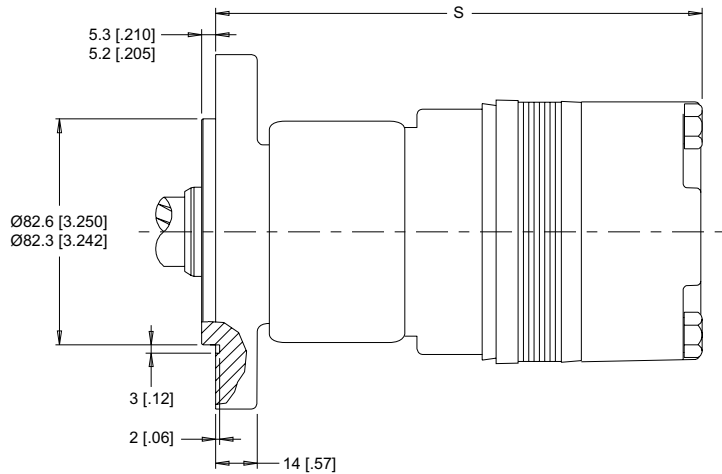
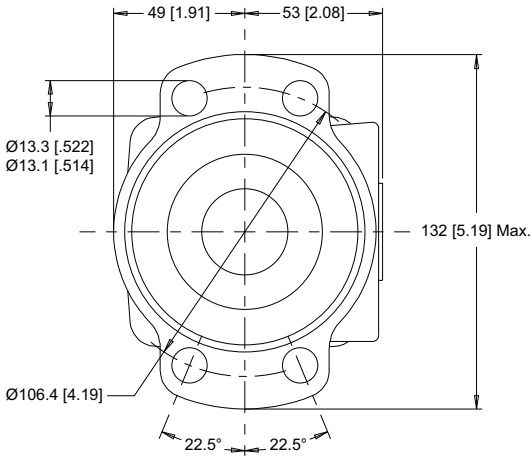
2-HOLE, SAE A MOUNT

A0 End Ports **A7** Side Ports



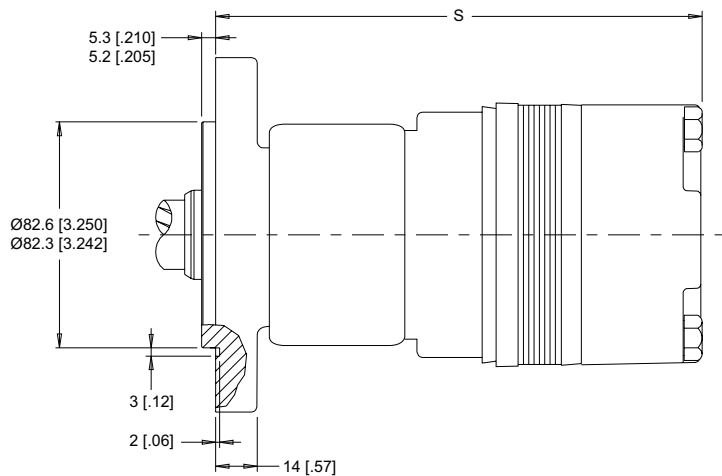
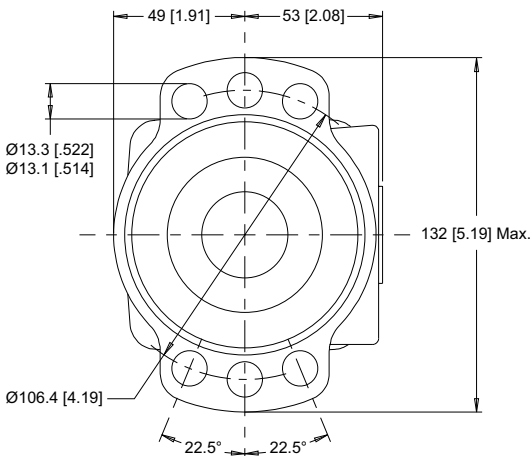
4-HOLE, MAGNETO MOUNT

A2 End Ports **A8** Side Ports



6-HOLE, SAE A MOUNT

A4 End Ports **A9** Side Ports



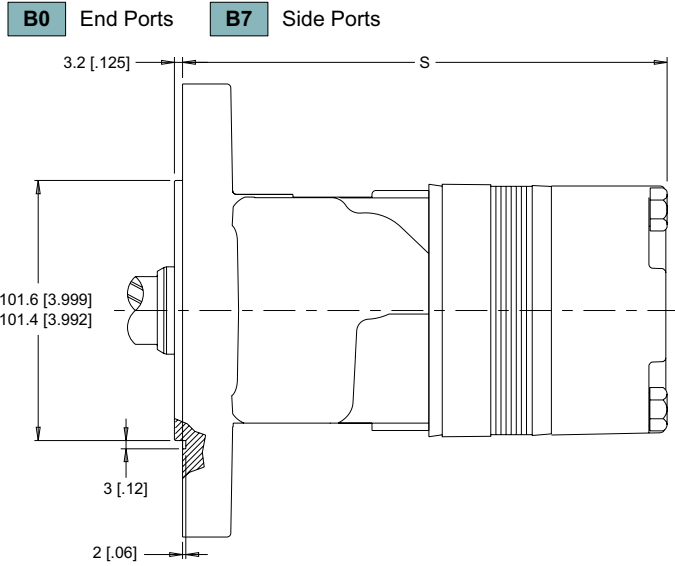
► Dimension S is charted on page 12. Porting options listed on pages 8-9.



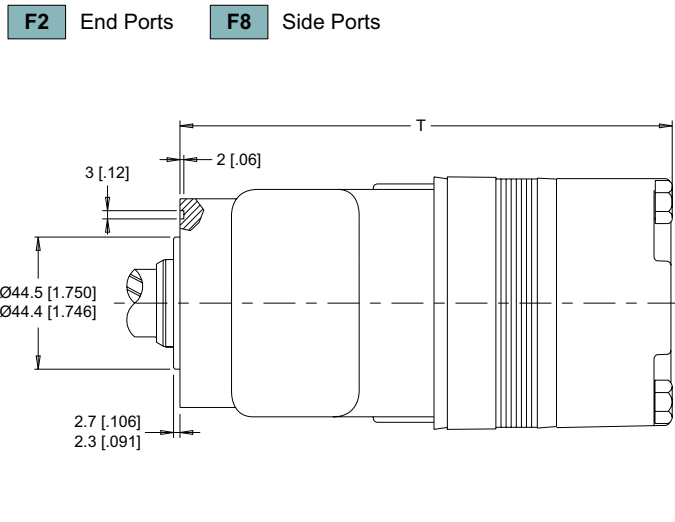
HOUSINGS

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

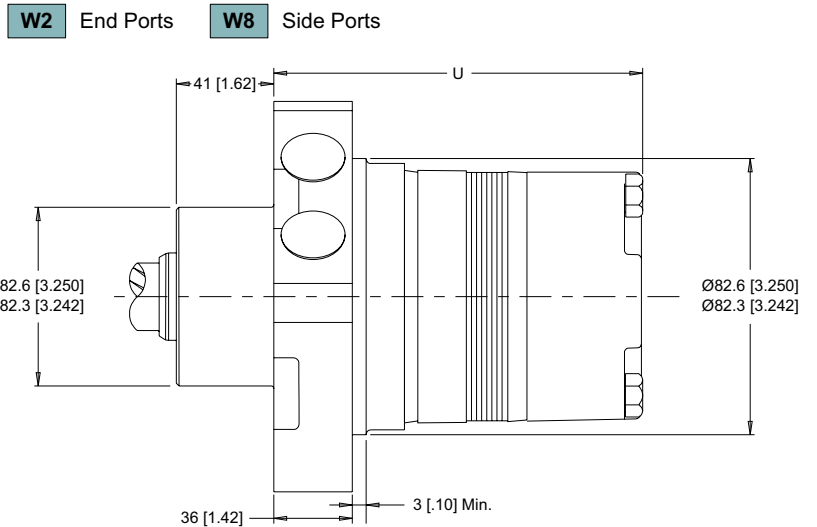
2-HOLE, SAE B MOUNT



4-HOLE, SQUARE MOUNT



4-HOLE, WHEEL MOUNT



► Dimensions S & T are charted on page 12. Dimension U is charted on page 13. Porting options listed on pages 8-9.

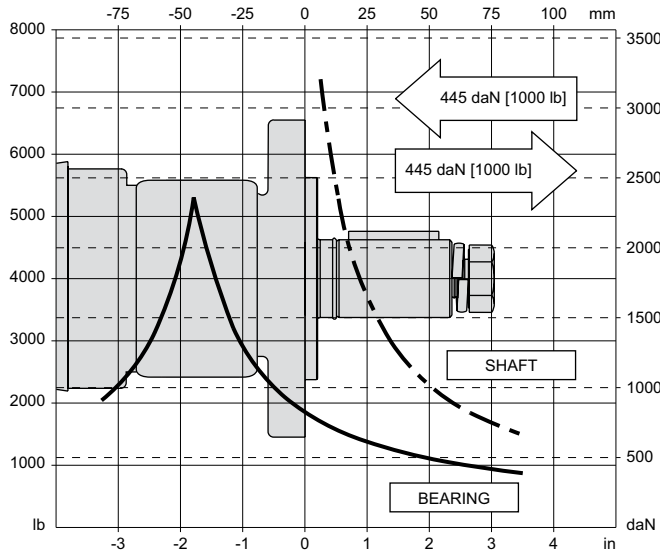


TECHNICAL INFORMATION

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 below.

SAE A & B 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 & 11.

S	Endcovers on pg. 8	Endcovers on pg. 9	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]

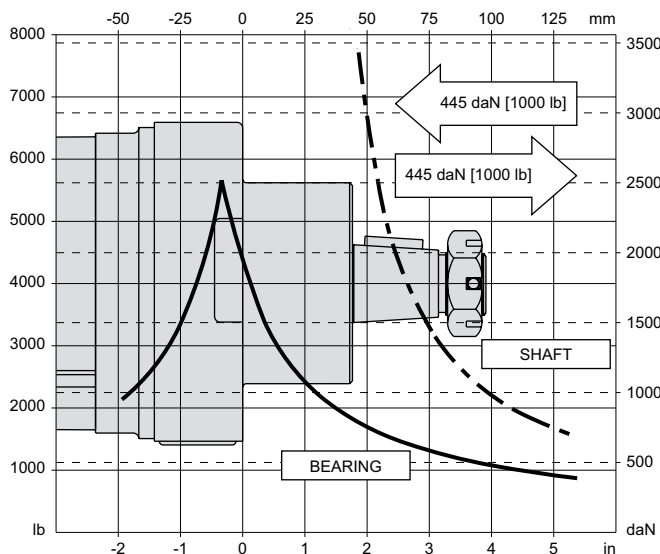
► Add 1.2 kg [2.7 lb] to the weight listed to the right for SAE B mount housings.

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 11.

T	Endcovers on pg. 8	Endcovers on pg. 9	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 \pm 1kg [2 lb] depending on model configurations such as housing, shaft, endcover, options etc.

WHEEL MOUNTS



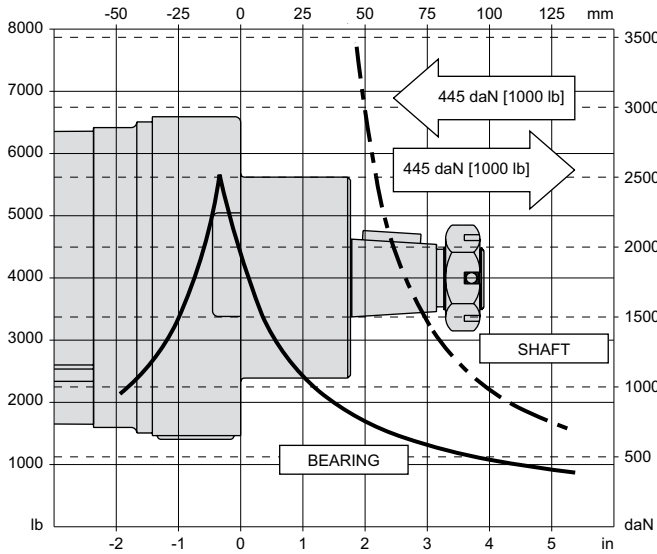
BEARING LOAD MULTIPLICATION FACTOR TABLE			
RPM	FACTOR	RPM	FACTOR
50	1.23	500	0.62
100	1.00	600	0.58
200	0.81	700	0.56
300	0.72	800	0.50
400	0.66		

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 12.

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 11.

U #	Endcovers on pg. 8 mm [in]	Endcovers on pg. 9 mm [in]	Weight 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 \pm 1kg [2 lb] depending on model configurations such as housing, shaft, endcover, options etc.

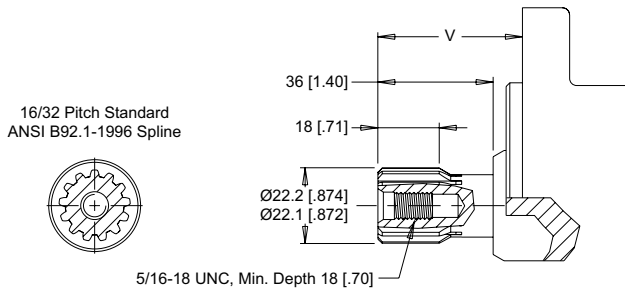
MOUNTING / SHAFT LENGTH CHART

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 14.

V #	SAE A & B Mounts mm [in]	Wheel Mounts mm [in]	Square Mounts 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]

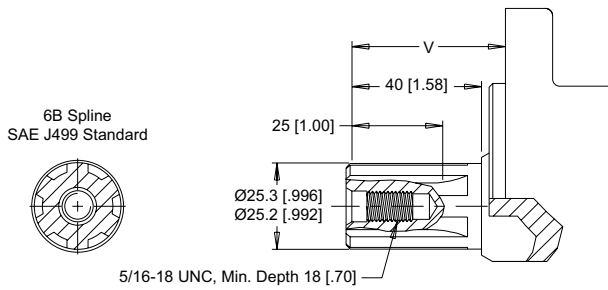
SHAFTS

01 7/8" 13 Tooth Spline



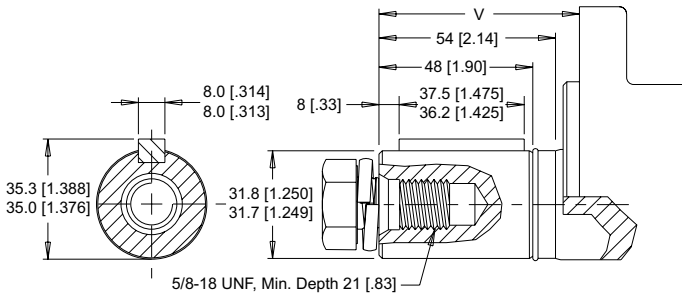
Max. Torque: 170 Nm [1500 lb-in]

02 1" 6B Spline



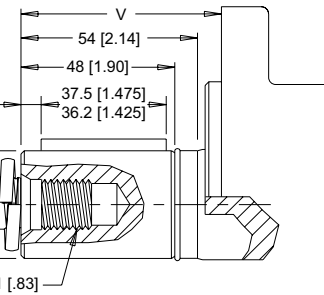
Max. Torque: 678 Nm [6000 lb-in]

07 1-1/4" Straight Extended



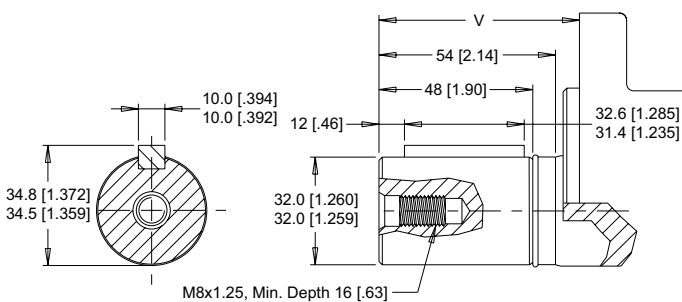
Max. Torque: 882 Nm [7804 lb-in]

20 1-1/4" Straight



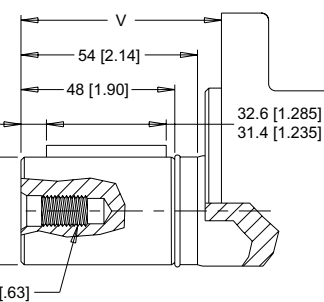
Max. Torque: 882 Nm [7804 lb-in]

08 32mm Straight Extended



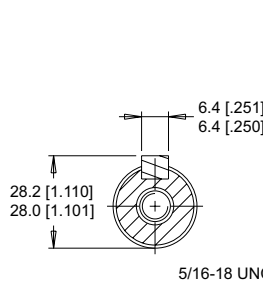
Max. Torque: 882 Nm [7804 lb-in]

21 32mm Straight



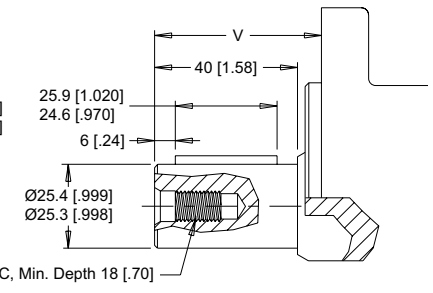
Max. Torque: 882 Nm [7804 lb-in]

10 1" Straight



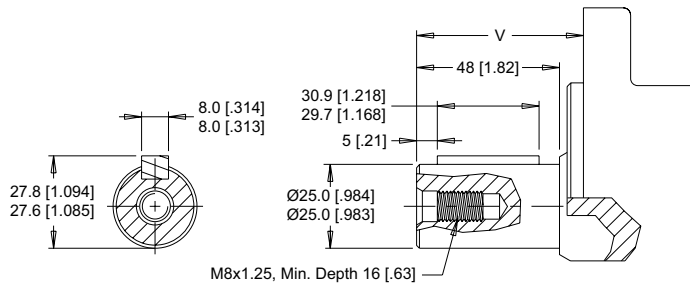
Max. Torque: 655 Nm [5800 lb-in]

15 1" Straight Extended



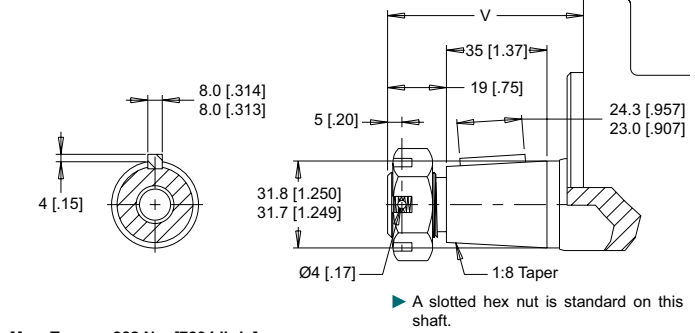
Max. Torque: 655 Nm [5800 lb-in]

12 25mm Straight



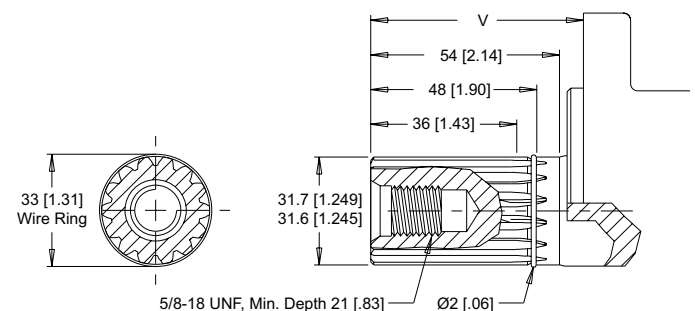
Max. Torque: 678 Nm [6000 lb-in]

22 1-1/4" Tapered



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

23 14 Tooth Spline

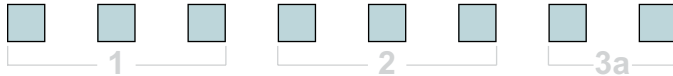


Max. Torque: 882 Nm [7804 lb-in]

► Dimension V is charted on page 13.

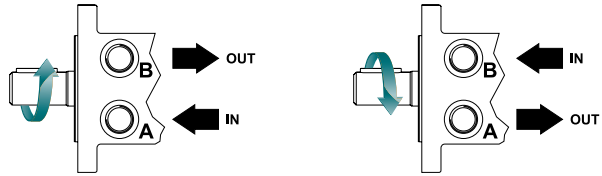


ORDERING INFORMATION



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]

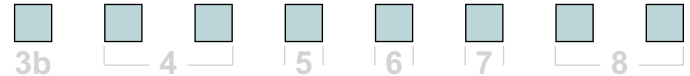
3a. SELECT MOUNT TYPE

▼ 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

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

► Speed sensor option is not available on wheel mounts.



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

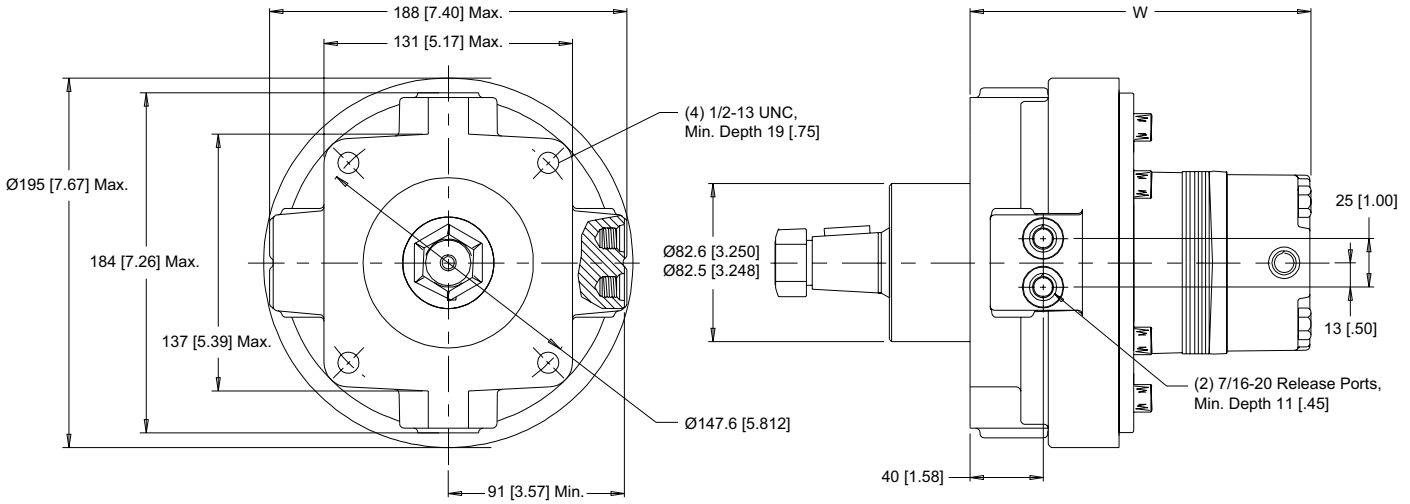
AA	None
AB	Internal Drain
AC	Freeturning Rotor
AD	Internal Drain & Freeturning Rotor

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 8-9.

TECHNICAL INFORMATION

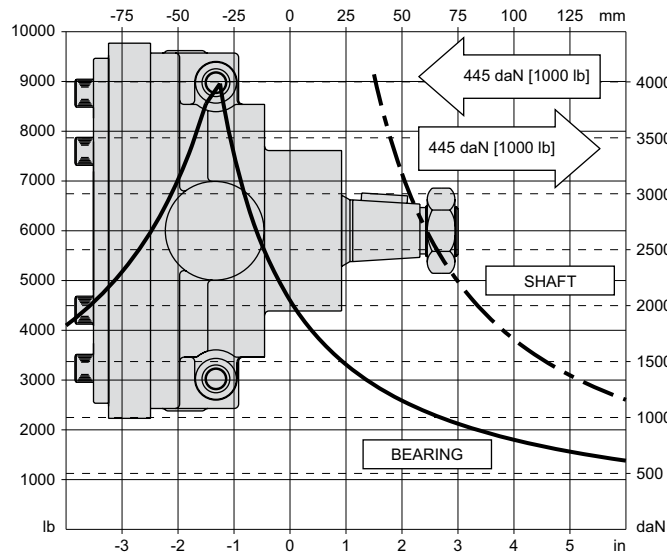
ALLOWABLE SHAFT LOAD / BEARING CURVE

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 12.

SPECIFICATIONS

Rated brake torque..... 904 Nm [8000 lb-in]
Initial release pressure21 bar [300 psi]
Full release pressure31 bar [450 psi]
Maximum release pressure207 bar [3000 psi]
Release volume..... 13-16 cm³ [0.8 - 1.0 in³]

MOTOR BRAKE



LENGTH & WEIGHT CHART

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

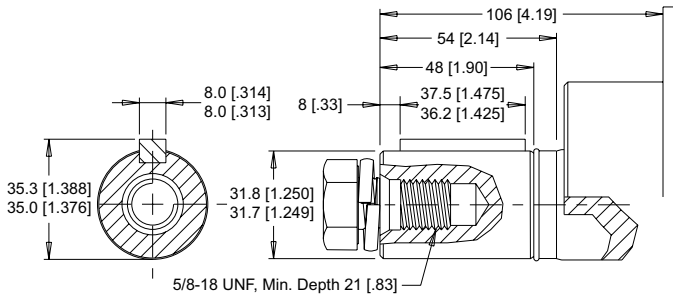
W #	Endcovers on pg. 8	Endcovers on pg. 9	Weight
	mm [in]	mm [in]	kg [lb]
050	163 [6.41]	181 [7.12]	19.1 [42.2]
080	167 [6.56]	185 [7.27]	19.4 [42.7]
090	169 [6.64]	187 [7.35]	19.5 [42.9]
110	172 [6.78]	190 [7.49]	19.7 [43.4]
125	175 [6.87]	193 [7.58]	19.8 [43.7]
160	180 [7.10]	198 [7.81]	20.1 [44.4]
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.



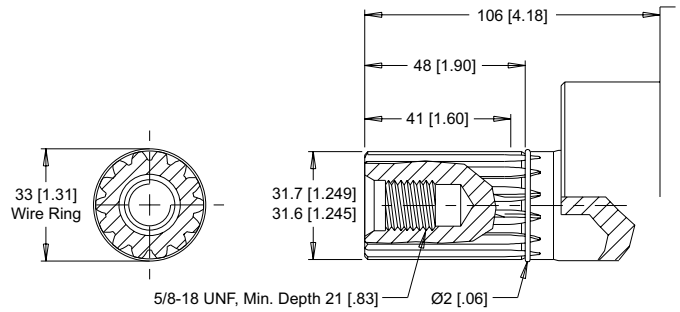
SHAFTS

20 1-1/4" Straight



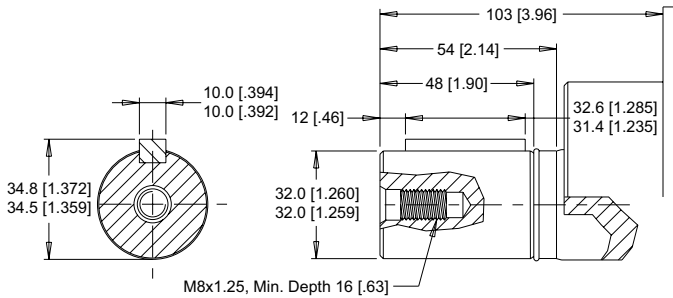
Max. Torque: 882 Nm [7804 lb-in]

23 14 Tooth Spline



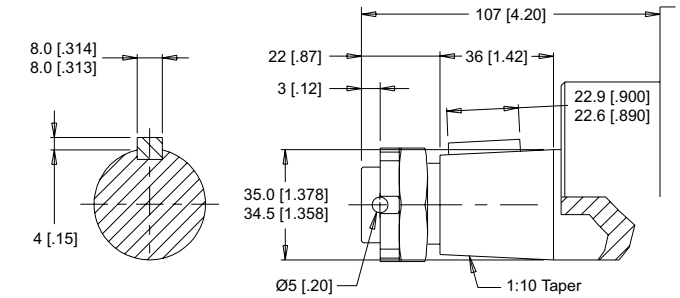
Max. Torque: 882 Nm [7804 lb-in]

21 32mm Straight



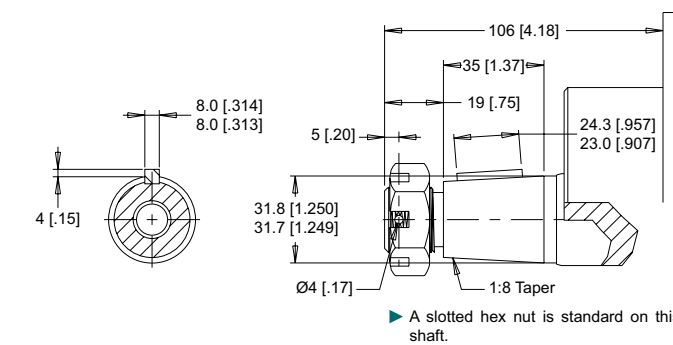
Max. Torque: 882 Nm [7804 lb-in]

28 35mm Tapered



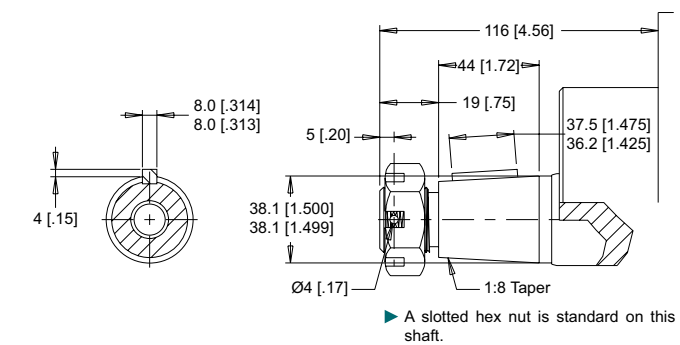
Max. Torque: 882 Nm [7804 lb-in]

22 1-1/4" Tapered



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

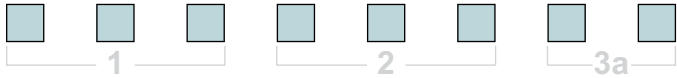
31 1-1/2" Tapered



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

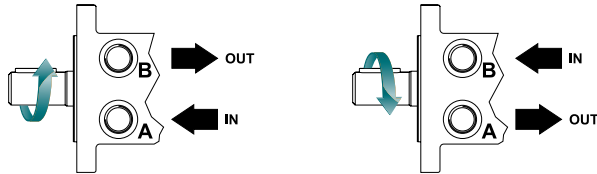


ORDERING INFORMATION



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

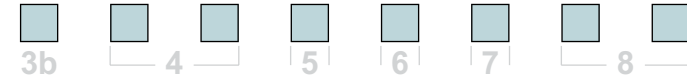
- ▼ **END MOUNT**
- W2** 4-Hole, Motor/Brake

- ▼ **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

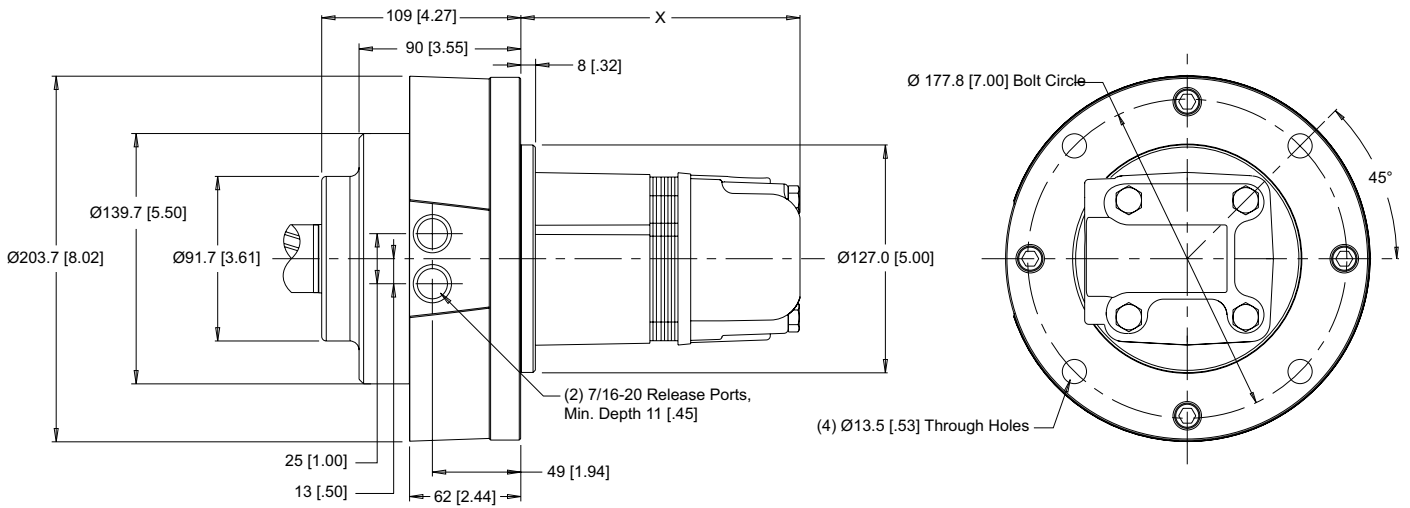


HOUSINGS

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

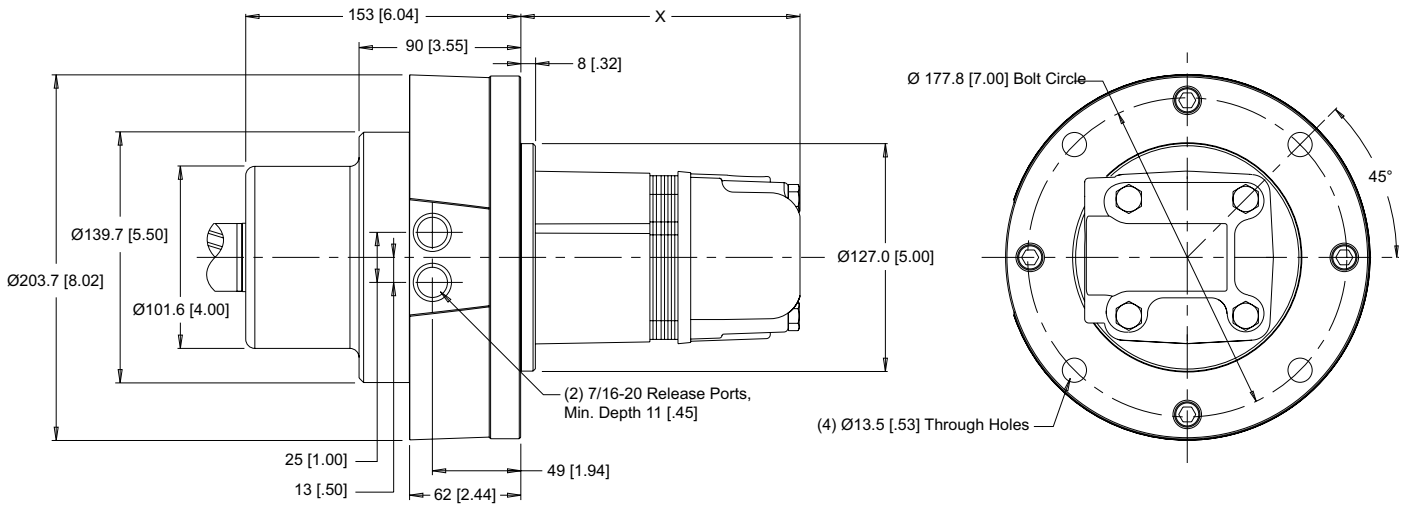
4-HOLE, MOTOR BRAKE

W2 End Ports **W8** Side Ports



4-HOLE, MOTOR BRAKE, TALL PILOT

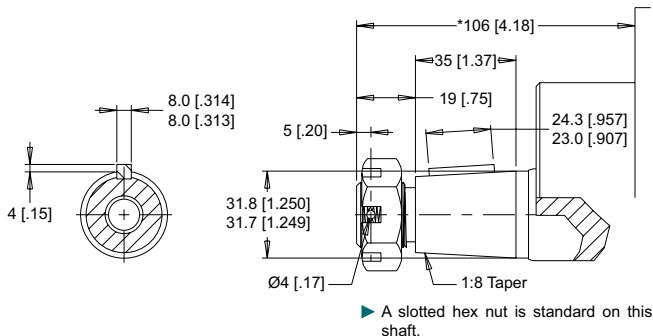
WB End Ports **WC** Side Ports



► Dimension X is charted on page 20. Porting options listed on pages 8-9.

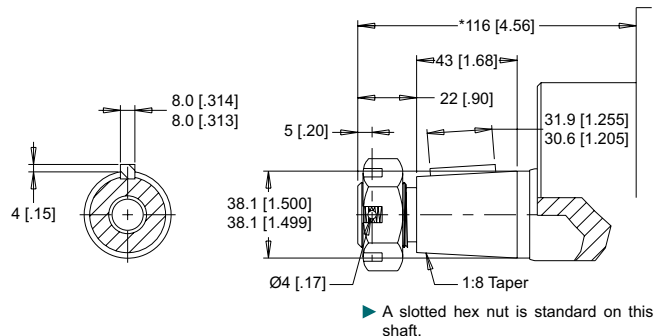
SHAFTS

22 1-1/4" Tapered



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

31 1-1/2" Tapered



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

► * Dimension from end of shaft to mounting flange shown is for the WB and WC. When using the W2 or W8 mount subtract 45 [1.77] from this dimension.



TECHNICAL INFORMATION

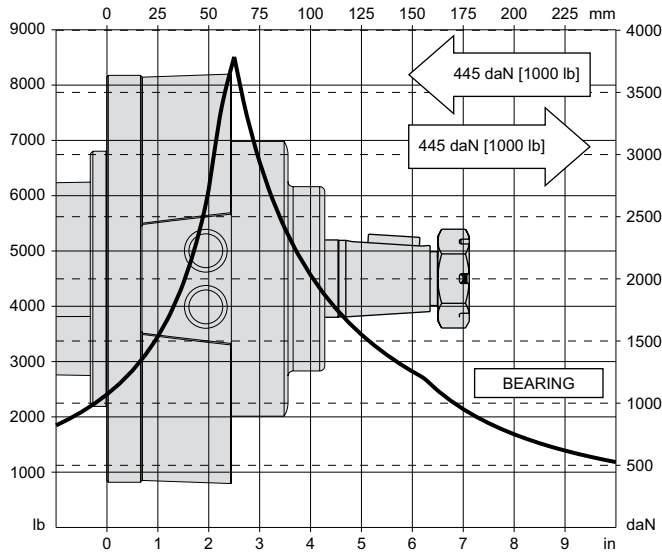
ALLOWABLE SHAFT LOAD / BEARING CURVE

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 12.

SPECIFICATIONS

Rated brake torque..... 1130 Nm [10000 lb-in]
Initial release pressure28 bar [400 psi]
Maximum release pressure207 bar [3000 psi]
Release volume..... 1.6 -16.4 cm³ [0.1 - 1.0 in³]

MOTOR BRAKE (SHORT PILOT)



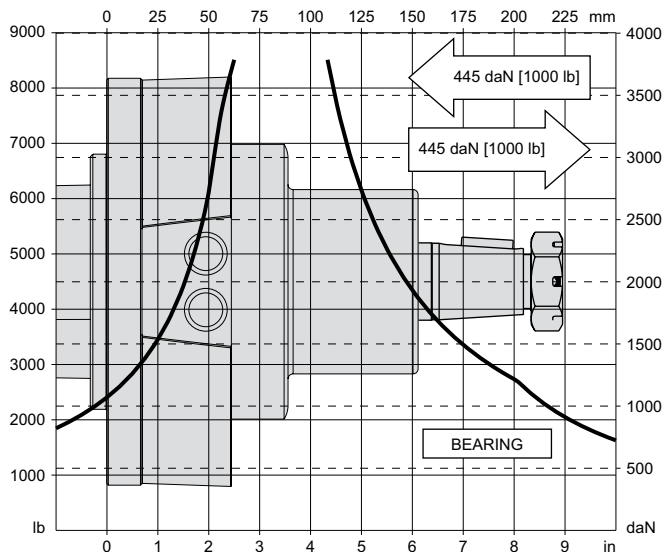
LENGTH & WEIGHT CHART

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

X	Endcovers on pg. 8	Endcovers on pg. 9	Weight
#	mm [in]	mm [in]	kg [lb]
050	83 [3.26]	101 [3.97]	21.9 [48.2]
080	86 [3.40]	104 [4.11]	22.1 [48.7]
090	88 [3.45]	106 [4.16]	22.2 [48.9]
110	91 [3.59]	109 [4.30]	22.5 [49.4]
125	94 [3.68]	112 [4.39]	22.6 [49.7]
160	99 [3.91]	117 [4.62]	22.9 [50.4]
200	106 [4.16]	124 [4.87]	23.3 [51.3]
250	113 [4.46]	131 [5.17]	23.7 [52.1]
300	119 [4.70]	137 [5.41]	24.1 [53.0]
400	137 [5.41]	155 [6.12]	25.0 [55.1]

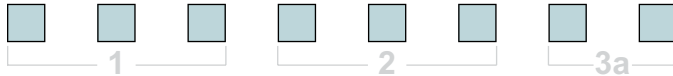
▶ 315 series motor/brake weights can vary ± 1kg [2 lb] depending on model configurations such as housing, shaft, endcover, options etc. Add 1.4 kg [3 lb] to the weight listed for the Tall Pilot mount housings.

MOTOR BRAKE (TALL PILOT)



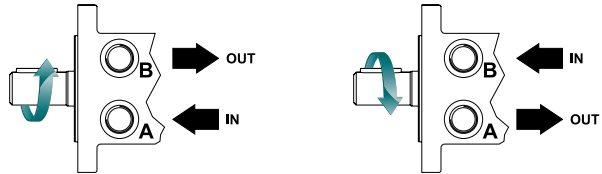


ORDERING INFORMATION



1. CHOOSE SERIES DESIGNATION

315 HK Series Motor/Brake



► The 315 series is bi-directional. Reversing the inlet hose will reverse shaft rotation.

2. SELECT A DISPLACEMENT OPTION

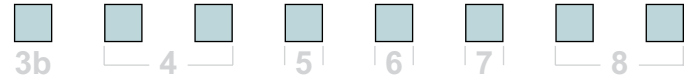
050	52 cm ³ /rev [3.2 in ³ /rev]	160	164 cm ³ /rev [10.0 in ³ /rev]
080	76 cm ³ /rev [4.6 in ³ /rev]	200	205 cm ³ /rev [12.5 in ³ /rev]
090	89 cm ³ /rev [5.4 in ³ /rev]	250	254 cm ³ /rev [15.5 in ³ /rev]
110	111 cm ³ /rev [6.8 in ³ /rev]	300	293 cm ³ /rev [17.9 in ³ /rev]
125	127 cm ³ /rev [7.7 in ³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

3a. SELECT MOUNT TYPE

▼ END MOUNT	
W2	4-Hole, Motor/Brake
WB	4-Hole, Motor/Brake (TP)
▼ SIDE MOUNT	
W8	4-Hole, Motor/Brake
WC	4-Hole, Motor/Brake (TP)

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

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

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