



whitedriveproducts



SERIES

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MEDIUM DUTY
Hydraulic Motor & Brake

CE



OVERVIEW

The combination of compact size, light weight and low speed efficiency make the CE motor the best wheel drive motor available. To reduce overall motor length and weight, all unnecessary material was removed from the housing and the valve was placed in the face of the rotor. The pressure-compensated balance plate allows the motor to maintain high volumetric efficiencies at startup and high mechanical efficiencies during running conditions. All of these features unite to make the CE Series motor 10-25% lighter and more compact than competitive designs, making it perfect for applications with strict weight and size requirements.

FEATURES / BENEFITS

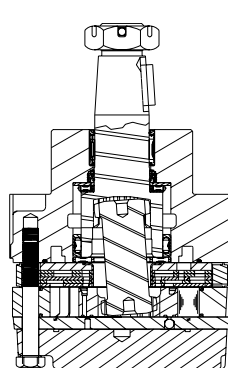
- Needle Roller Bearing is in optimum location to allow load to be placed as close to center line of bearing as possible.
- Three Bearing Options allow load carrying capability of motor to be matched to application.
- Valve-In-Rotor Design provides cost effective, efficient distribution of oil and reduces overall motor length.
- Pressure-Compensated Balance Plate improves volumetric efficiency at low flows and high pressure.

TYPICAL APPLICATIONS

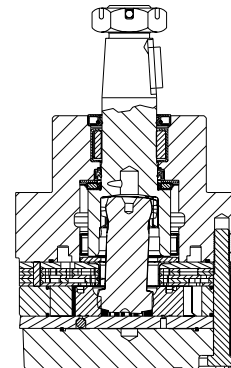
Medium-duty wheel drives, grapple heads, feed rollers, broom drives and more

SERIES DESCRIPTIONS

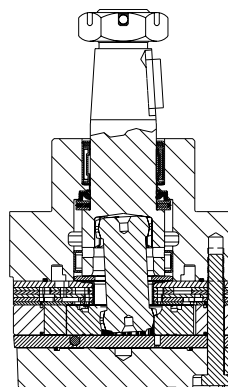
400/401 - Hydraulic Motor
Standard



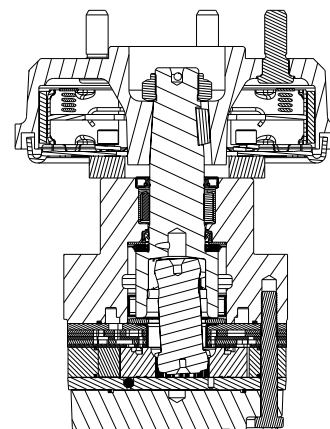
420/421 - Hydraulic Motor
With Medium Duty Bearing



430/431 - Hydraulic Motor
With Heavy Duty Bearing



410/411 - Hydraulic Motor
With Integral Drum Brake



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
120	121 [7.4]	360	490	45 [12]	61 [16]	322 [2850]	356 [3150]	207 [3000]	224 [3250]	241 [3500]
160	162 [9.9]	370	470	61 [16]	76 [20]	424 [3750]	501 [4430]	207 [3000]	224 [3250]	241 [3500]
200	204 [12.4]	300	370	61 [16]	76 [20]	525 [4650]	593 [5250]	207 [3000]	224 [3250]	241 [3500]
230	232 [14.2]	260	320	61 [16]	76 [20]	559 [4950]	646 [5720]	207 [3000]	224 [3250]	241 [3500]
260	261 [15.9]	260	350	68 [18]	91 [24]	706 [6250]	760 [6730]	207 [3000]	224 [3250]	241 [3500]
300	300 [18.3]	250	320	76 [20]	95 [25]	802 [7100]	862 [7630]	207 [3000]	224 [3250]	241 [3500]
350	348 [21.2]	220	270	76 [20]	95 [25]	904 [8000]	1017 [9000]	207 [3000]	224 [3250]	241 [3500]
375	375 [22.8]	200	250	76 [20]	95 [25]	972 [8600]	1040 [9200]	207 [3000]	224 [3250]	241 [3500]
470	465 [28.3]	160	200	76 [20]	95 [25]	1040 [9200]	1153 [10200]	172 [2500]	189 [2750]	207 [3000]
540	536 [32.7]	140	170	76 [20]	95 [25]	1003 [8875]	1209 [10700]	138 [2000]	172 [2500]	207 [3000]
750	748 [45.6]	100	130	76 [20]	95 [25]	1082 [9575]	1237 [10950]	103 [1500]	121 [1750]	138 [2000]

► 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

		Pressure - bar [psi]						Max. Cont.	Peak
120		17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]	241 [3500]
121 cm ³ [7.4 in ³] / rev		Intermittent Ratings - 10% of Operation							
Flow - lpm [gpm]	Speed rpm	Torque - Nm [lb-in]							
		21 [184]	47 [418]	84 [745]	114 [1008]	157 [1387]	203 [1793]	260 [2305]	290 [2566]
2 [0.5]		14	13	10	7	18	13	10	7
4 [1]		26 [226]	52 [459]	109 [969]	157 [1387]	203 [1793]	260 [2305]	290 [2566]	281 [2490]
8 [2]		26	26	23	21	18	13	10	7
15 [4]			52 [456]	110 [977]	161 [1424]	208 [1845]	269 [2382]	310 [2746]	347 [3066]
23 [6]			58	56	51	47	33	29	25
30 [8]			48 [422]	110 [975]	169 [1497]	225 [1992]	271 [2399]	327 [2896]	369 [3269]
38 [10]			119	112	103	95	91	83	82
45 [12]			46 [409]	106 [934]	158 [1402]	204 [1803]	248 [2199]	297 [2630]	372 [3290]
53 [14]			187	182	177	173	168	160	143
61 [16]				99 [876]	157 [1389]	207 [1829]	253 [2241]	323 [2857]	371 [3282]
				248	244	240	233	205	201
				96 [853]	156 [1379]	207 [1834]	257 [2278]	297 [2633]	359 [3178]
				306	298	293	286	279	269
				85 [749]	151 [1337]	206 [1823]	256 [2267]	305 [2695]	344 [3042]
				371	360	352	345	341	335
				77 [684]	137 [1215]	197 [1745]	251 [2222]	296 [2618]	
				437	428	418	409	404	
				71 [633]	135 [1191]	194 [1717]	244 [2163]	304 [2687]	
				499	490	482	467	454	
Overall Efficiency - 70 - 100% ☐ 40 - 69% ☐ 0 - 39% ☐									
Theoretical Torque - Nm [lb-in]		33 [295]	67 [589]	133 [1178]	200 [1768]	266 [2357]	333 [2946]	399 [3535]	466 [4124]
Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]									

Rotor Width

13.8
[.542]

mm [in]

Theoretical rpm

16
32
63
125
188
250
313
375
438
500

		Pressure - bar [psi]						Max. Cont.	Peak
160		17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]	241 [3500]
162 cm ³ [9.9 in ³] / rev		Intermittent Ratings - 10% of Operation							
Flow - lpm [gpm]	Speed rpm	Torque - Nm [lb-in]							
		32 [287]	72 [634]	152 [1341]	215 [1906]	282 [2493]	326 [2888]	366 [3238]	412 [3643]
2 [0.5]		11	11	10	9	8	6	4	1
4 [1]		36 [318]	78 [690]	145 [1287]	225 [1991]	290 [2567]	346 [3060]	366 [3236]	416 [3680]
8 [2]		22	21	20	19	16	14	8	7
15 [4]		33 [296]	73 [649]	145 [1287]	227 [2010]	292 [2586]	357 [3156]	413 [3654]	464 [4108]
23 [6]		45	44	43	40	36	33	31	28
30 [8]		44 [386]	71 [630]	146 [1296]	226 [2000]	299 [2646]	364 [3226]	426 [3768]	485 [4289]
38 [10]		92	91	88	86	79	74	71	66
45 [12]			70 [623]	146 [1294]	225 [1991]	296 [2617]	365 [3232]	428 [3786]	492 [4352]
53 [14]			133	131	128	122	117	115	111
61 [16]			66 [583]	141 [1251]	216 [1916]	286 [2533]	350 [3102]	414 [3663]	476 [4210]
68 [18]			181	177	175	171	165	159	152
76 [20]			61 [537]	138 [1224]	212 [1873]	282 [2497]	347 [3072]	411 [3641]	473 [4183]
			224	223	219	213	211	204	196
			56 [495]	130 [1150]	207 [1829]	279 [2465]	344 [3046]	407 [3603]	470 [4157]
			272	265	264	262	256	249	242
			123 [1088]	196 [1737]	269 [2384]	332 [2939]	400 [3540]	464 [4111]	
			318	313	306	297	295	284	
			114 [1010]	187 [1659]	263 [2327]	329 [2910]	395 [3499]	458 [4053]	
			362	356	351	344	334	330	
			102 [903]	180 [1593]	250 [2209]	319 [2822]	389 [3438]		
			410	407	401	385	382		
			96 [846]	174 [1536]	248 [2193]	316 [2798]	379 [3353]		
			455	448	438	430	423		
Overall Efficiency - 70 - 100% ☐ 40 - 69% ☐ 0 - 39% ☐									
Theoretical Torque - Nm [lb-in]		45 [394]	89 [788]	178 [1576]	267 [2365]	356 [3153]	445 [3941]	534 [4729]	623 [5518]
Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]									

Rotor Width

13.8
[.542]

mm [in]

Theoretical rpm

12
24
47
94
140
187
234
280
327
374
420
467

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



DISPLACEMENT PERFORMANCE

		Pressure - bar [psi]						Max. Cont.	Peak
200		17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]	241 [3500]
204 cm ³ [12.4 in ³] / rev									
		Torque - Nm [lb-in], Speed rpm						Intermittent Ratings - 10% of Operation	
Flow - lpm [gpm]	2 [0.5]	40 [358] 8	92 [817] 8	180 [1596] 8	269 [2378] 7	348 [3083] 6			10
	4 [1]	46 [409] 17	89 [787] 15	180 [1597] 15	276 [2440] 12	359 [3177] 11	427 [3782] 9	489 [4328] 8	19
	8 [2]	45 [395] 36	91 [807] 34	190 [1684] 32	284 [2509] 31	369 [3268] 28	451 [3989] 25	523 [4630] 23	38
	15 [4]	40 [358] 73	92 [817] 72	188 [1662] 69	284 [2492] 67	373 [3303] 63	453 [4006] 60	530 [4693] 56	75
	23 [6]		86 [760] 111	181 [1600] 107	278 [2457] 104	365 [3228] 100	451 [3989] 95	524 [4636] 90	112
	30 [8]		75 [663] 148	174 [1539] 145	267 [2363] 142	359 [3176] 137	441 [3905] 132	518 [4584] 125	150
	38 [10]		62 [549] 185	162 [1430] 184	257 [2272] 181	347 [3072] 177	429 [3798] 171	507 [4488] 164	187
	45 [12]			146 [1290] 222	244 [2159] 217	339 [2996] 213	429 [3798] 204	506 [4476] 198	224
	53 [14]			129 [1145] 259	227 [2005] 256	328 [2905] 250	410 [3628] 244	492 [4354] 236	261
	61 [16]			112 [994] 298	208 [1842] 297	316 [2795] 284	399 [3534] 281	484 [4285] 273	299
Max. Cont. Max. Inter.	68 [18]			90 [799] 334	207 [1833] 330	304 [2689] 327	395 [3493] 320	481 [4260] 316	336
	76 [20]			75 [665] 366	178 [1576] 365	282 [2495] 361	372 [3288] 361	465 [4115] 351	373
Theoretical rpm									

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

Rotor Width

17.3 [.682]	56 [494]	112 [987]	223 [1975]	335 [2962]	446 [3949]	558 [4936]	669 [5924]	781 [6911]
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mm [in]

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

		Pressure - bar [psi]						Max. Cont.	Peak
230		17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]	241 [3500]
233 cm ³ [14.2 in ³] / rev									
		Torque - Nm [lb-in], Speed rpm						Intermittent Ratings - 10% of Operation	
Flow - lpm [gpm]	2 [0.5]	46 [406] 7	98 [866] 7	209 [1849] 6	300 [2659] 5	380 [3367] 2			9
	4 [1]	49 [435] 14	105 [925] 13	215 [1903] 12	321 [2839] 11	413 [3651] 8	488 [4315] 6	543 [4808] 3	17
	8 [2]	50 [438] 30	107 [945] 28	221 [1954] 26	329 [2909] 26	430 [3803] 22	520 [4599] 18	594 [5260] 13	33
	15 [4]	45 [401] 62	102 [900] 61	214 [1895] 59	325 [2872] 57	426 [3773] 53	522 [4623] 47	610 [5395] 41	66
	23 [6]	39 [342] 96	92 [812] 96	203 [1801] 93	317 [2808] 91	412 [3645] 87	486 [4304] 80	560 [4953] 72	98
	30 [8]		84 [743] 128	197 [1739] 125	304 [2691] 122	410 [3627] 119	506 [4479] 112	600 [5313] 103	131
	38 [10]		72 [634] 162	186 [1650] 159	292 [2585] 156	402 [3556] 153	493 [4363] 146	584 [5169] 136	163
	45 [12]			167 [1477] 192	282 [2494] 191	393 [3479] 185	491 [4349] 178	576 [5094] 167	196
	53 [14]			152 [1343] 225	260 [2301] 225	374 [3310] 220	470 [4160] 208	555 [4910] 201	228
	61 [16]			135 [1198] 259	250 [2209] 259	362 [3207] 253	464 [4110] 244	553 [4895] 232	261
Max. Cont. Max. Inter.	68 [18]			115 [1021] 291	231 [2044] 289	344 [3042] 286	447 [3956] 279	540 [4777] 266	293
	76 [20]			93 [822] 325	210 [1859] 323	327 [2898] 319	432 [3825] 311	529 [4677] 299	326
Theoretical rpm									

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

Rotor Width

19.7 [.777]	64 [565]	128 [1131]	256 [2261]	383 [3392]	511 [4522]	639 [5653]	767 [6783]	894 [7914]
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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.	Peak
		17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]	241 [3500]
260									
261 cm ³ [15.9 in ³] / rev									
		Torque - Nm [lb-in], Speed rpm						Intermittent Ratings - 10% of Operation	
Flow - lpm [gpm]	2 [0.5]	58 [514]	127 [1120]	242 [2140]	347 [3068]	425 [3759]			
	4 [1]	62 [547]	124 [1097]	248 [2191]	354 [3133]	446 [3950]	495 [4377]		
	8 [2]	61 [543]	130 [1150]	249 [2200]	372 [3295]	478 [4234]	562 [4972]	633 [5599]	
	15 [4]	61 [536]	125 [1109]	258 [2284]	377 [3339]	501 [4436]	600 [5306]	700 [6192]	781 [6915]
	23 [6]	57 [500]	121 [1067]	245 [2169]	376 [3326]	498 [4406]	609 [5391]	713 [6309]	815 [7214]
	30 [8]		111 [981]	242 [2143]	369 [3268]	489 [4327]	607 [5374]	711 [6290]	810 [7167]
	38 [10]		103 [909]	230 [2034]	357 [3161]	483 [4273]	595 [5267]	700 [6198]	762 [6740]
	45 [12]		87 [771]	216 [1915]	345 [3057]	452 [4002]	578 [5111]	645 [5708]	741 [6557]
	53 [14]		75 [664]	202 [1786]	331 [2928]	434 [3841]	553 [4897]	657 [5811]	759 [6718]
	61 [16]		61 [538]	191 [1687]	313 [2769]	435 [3847]	553 [4892]	656 [5803]	746 [6601]
	68 [18]			168 [1486]	295 [2614]	414 [3664]	526 [4652]	638 [5642]	742 [6567]
	76 [20]			152 [1345]	277 [1455]	403 [3570]	520 [4598]	631 [5585]	
Max. Cont.	83 [22]			129 [1143]	249 [2208]	381 [3372]	493 [4365]	620 [5489]	
	91 [24]			104 [924]	233 [2063]	358 [3166]	471 [4168]	551 [4875]	
				348	346	335	333	332	
Rotor Width									
22.1 [0.872]									
mm [in]									
Overall Efficiency - 70 - 100% 40 - 69% 0 - 39%									
Theoretical Torque - Nm [lb-in]									
72 [633]		143 [1266]	286 [2532]	429 [3798]	572 [5064]	715 [6330]	858 [7596]	1001 [8861]	
Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]									

		Pressure - bar [psi]						Max. Cont.	Peak
		17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]	241 [3500]
300									
300 cm ³ [18.3 in ³] / rev									
		Torque - Nm [lb-in], Speed rpm						Intermittent Ratings - 10% of Operation	
Flow - lpm [gpm]	2 [0.5]	63 [559]	136 [1202]	285 [2518]	413 [3656]	513 [4537]	580 [5129]		
	4 [1]	56 [493]	139 [1230]	272 [2410]	386 [3418]	483 [4272]	546 [4834]		
	8 [2]	59 [522]	134 [1185]	302 [2676]	427 [3781]	521 [4611]	587 [5196]	673 [5952]	743 [6572]
	15 [4]	57 [503]	134 [1189]	296 [2620]	407 [3602]	497 [4398]	602 [5324]	696 [6161]	774 [6852]
	23 [6]	50 [447]	125 [1109]	286 [2534]	439 [3886]	559 [4946]	677 [5992]	789 [6978]	877 [7762]
	30 [8]		111 [986]	279 [2468]	424 [3752]	567 [5020]	685 [6059]	807 [7142]	920 [8139]
	38 [10]		96 [853]	261 [2306]	417 [3687]	532 [4712]	659 [5832]	805 [7121]	903 [7994]
	45 [12]		78 [689]	228 [2013]	367 [3252]	501 [4434]	643 [5694]	766 [6781]	890 [7875]
	53 [14]		59 [525]	213 [1889]	385 [3410]	495 [4383]	623 [5509]	748 [6618]	812 [7186]
	61 [16]			181 [1603]	349 [3085]	474 [4195]	620 [5484]	731 [6471]	850 [7519]
	68 [18]			159 [1405]	319 [2823]	479 [4241]	578 [5112]	718 [6356]	830 [7348]
	76 [20]			126 [1115]	289 [2560]	418 [3703]	561 [4962]	703 [6221]	811 [7180]
Max. Cont.	83 [22]			104 [919]	261 [2309]	390 [3454]	555 [4907]	679 [6011]	
	91 [24]			67 [590]	218 [1925]	389 [3441]	530 [4686]	652 [5766]	
	95 [25]			56 [496]	197 [1740]	364 [3225]	484 [4281]	632 [5594]	
Rotor Width									
25.4 [1.000]									
mm [in]									
Overall Efficiency - 70 - 100% 40 - 69% 0 - 39%									
Theoretical Torque - Nm [lb-in]									
82 [729]		165 [1457]	329 [2914]	494 [4371]	659 [5828]	823 [7285]	988 [8742]	1152 [10199]	
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.	Peak
350		17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]	241 [3500]	
348 cm³ [21.2 in³] / rev										
		Torque - Nm [lb-in], Speed rpm							Intermittent Ratings - 10% of Operation	
Flow - lpm [gpm]	2 [0.5]	70 [617] 5	147 [1297] 5	269 [2383] 4						6
	4 [1]	73 [649] 10	149 [1318] 10	291 [2580] 10	412 [3647] 9					11
	8 [2]	76 [670] 21	159 [1403] 21	313 [2767] 21	453 [4007] 20	557 [4927] 18	668 [5915] 16	782 [6919] 13		22
	15 [4]	69 [609] 43	159 [1409] 42	324 [2868] 42	463 [4101] 40	596 [5273] 37	714 [6316] 36	820 [7261] 32	927 [8204] 25	44
	23 [6]	62 [544] 65	149 [1319] 65	321 [2837] 64	478 [4228] 31	606 [5363] 57	736 [6514] 53	845 [7475] 52	950 [8410] 43	66
	30 [8]	45 [395] 87	128 [1134] 86	304 [2693] 85	467 [4134] 84	622 [5502] 80	776 [6870] 75	906 [8022] 67	987 [8734] 61	88
	38 [10]		109 [962] 108	288 [2550] 107	455 [4027] 106	621 [5500] 100	754 [6670] 94	907 [8028] 85	1029 [9105] 77	109
	45 [12]		94 [833] 130	268 [2376] 129	439 [3889] 128	588 [5205] 124	758 [6712] 115	901 [7970] 104	1031 [9120] 94	131
	53 [14]		65 [575] 152	244 [2162] 151	409 [3619] 150	572 [5059] 148	727 [6433] 137	879 [7777] 127	1025 [9070] 117	153
	61 [16]			220 [1947] 174	385 [3406] 173	549 [4855] 171	697 [6172] 163	855 [7570] 152	1000 [8853] 139	175
Max. Cont.	68 [18]			186 [1644] 196	361 [3195] 194	520 [4599] 192	685 [6062] 184	825 [7297] 177	967 [8555] 165	197
	76 [20]			147 [1301] 216	324 [2863] 213	483 [4275] 212	637 [5634] 209	790 [6993] 194	944 [8357] 183	218
	83 [22]			109 [960] 239	289 [2560] 237	443 [3921] 234	605 [5357] 232	770 [6814] 223		240
	91 [24]			77 [684] 261	251 [2225] 258	431 [3814] 257	588 [5207] 256	733 [6488] 248		262
	95 [25]			56 [493] 272	226 [2004] 270	409 [3621] 264	570 [5048] 261	727 [6435] 259		273
Max. Inter.										
Rotor Width										
39.4 [1.553]										
mm [in]										



DISPLACEMENT PERFORMANCE

		Pressure - bar [psi]				Max. Cont.	Peak	
470		17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]
465 cm ³ [28.3 in ³] / rev								
		Torque - Nm [lb-in], Speed rpm				Intermittent Ratings - 10% of Operation		
Flow - lpm [gpm]	2 [0.5]	99 [878] 4	210 [1862] 3	420 [3713] 3				5
	4 [1]	102 [899] 8	210 [1856] 7	424 [3748] 7	597 [5285] 7	774 [6847] 6		9
	8 [2]	102 [906] 16	222 [1968] 15	438 [3875] 15	620 [5488] 14	782 [6922] 13	957 [8470] 11	17
	15 [4]	95 [836] 32	208 [1837] 31	407 [3600] 30	605 [5351] 28	782 [6922] 25	961 [8504] 23	33
	23 [6]	79 [700] 48	196 [1736] 48	426 [3772] 46	620 [5483] 44	814 [7204] 41	969 [8580] 36	49
	30 [8]	61 [544] 65	179 [1588] 65	411 [3638] 63	630 [5578] 61	847 [7498] 57	1046 [9253] 48	66
	38 [10]	40 [352] 81	159 [1405] 80	387 [3429] 80	618 [5471] 77	825 [7301] 73	1036 [9167] 67	82
	45 [12]		125 [1105] 97	367 [3245] 96	587 [5197] 94	800 [7076] 90	1005 [8891] 82	98
	53 [14]		103 [912] 113	340 [3007] 113	572 [5066] 111	767 [6787] 106	985 [8720] 100	115
	61 [16]		63 [557] 130	306 [2712] 129	527 [4662] 128	744 [6581] 124	955 [8451] 116	131
	68 [18]			260 [2298] 146	494 [4370] 145	708 [6262] 142	921 [8148] 135	147
	76 [20]			219 [1941] 163	456 [4035] 163	673 [5954] 158	883 [7815] 151	164
Max. Cont.	83 [22]			174 [1542] 179	417 [3687] 178	634 [5612] 176	847 [7496] 168	180
	91 [24]			138 [1225] 195	373 [3302] 194	605 [5354] 193	808 [7147] 186	196
	95 [25]				348 [3079] 204	552 [4885] 203	769 [6808] 197	205
Max. Inter.								
Rotor Width								
39.4 [1.553]		127 [1127]	255 [2253]	509 [4506]	764 [6760]	1018 [9013]	1273 [11266]	1528 [13519]
mm [in]								
Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]								



DISPLACEMENT PERFORMANCE

		Pressure - bar [psi]			Max. Cont.	Peak
750		17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]
748 cm ³ [45.6 in ³] / rev						
		Torque - Nm [lb-in], Speed rpm			Intermittent Ratings - 10% of Operation	
Flow - lpm [gpm]	2 [0.5]	108 [957] 2	231 [2041] 1			3
	4 [1]	174 [1540] 4	340 [3010] 4	651 [5760] 4	950 [8408] 4	1233 [10916] 3
	8 [2]	166 [1467] 9	367 [3246] 9	695 [6154] 9	1020 [9024] 9	1302 [11518] 7
	15 [4]	170 [1501] 19	359 [3181] 19	719 [6366] 19	1086 [9607] 18	1325 [11729] 16
	23 [6]	167 [1477] 29	344 [3048] 29	699 [6190] 28	1015 [8979] 27	1346 [11916] 25
	30 [8]	129 [1142] 40	324 [2866] 39	700 [6191] 38	1053 [9316] 37	1345 [11898] 35
	38 [10]	111 [979] 50	295 [2606] 49	656 [5809] 48	1039 [9191] 47	1390 [12305] 44
	45 [12]	69 [614] 60	254 [2246] 59	631 [5586] 58	987 [8736] 57	1365 [12079] 56
	53 [14]	47 [413] 69	227 [2009] 68	591 [5232] 66	957 [8469] 65	1346 [11913] 64
	61 [16]		198 [1756] 80	555 [4909] 79	931 [8243] 77	1294 [11455] 74
	68 [18]		136 [1203] 91	517 [4571] 90	879 [7778] 90	1230 [10884] 87
	76 [20]		93 [827] 100	453 [4010] 99	820 [7257] 98	1191 [10540] 97
	83 [22]			409 [3620] 109	786 [6958] 108	
	91 [24]			340 [3010] 120	747 [6609] 119	
	95 [25]			318 [2810] 126	693 [6130] 125	
Max. Cont.						
Max. Inter.						
Rotor Width						
63.5 [2.501]		205 [1815]	410 [3631]	821 [7261]	1231 [10892]	1641 [14522]
mm [in]						
Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]						

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

Theoretical Torque - Nm [lb-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.



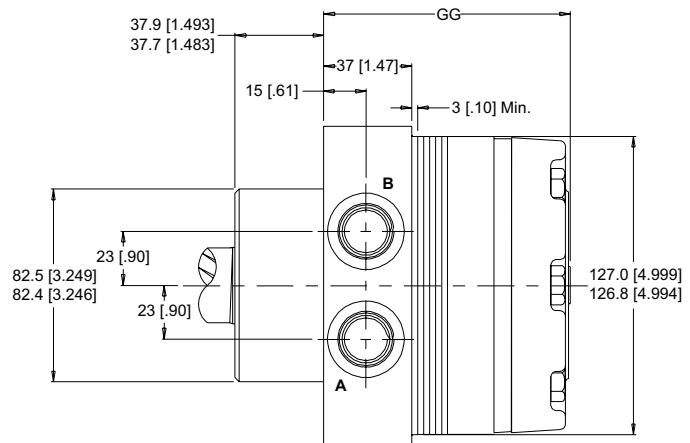
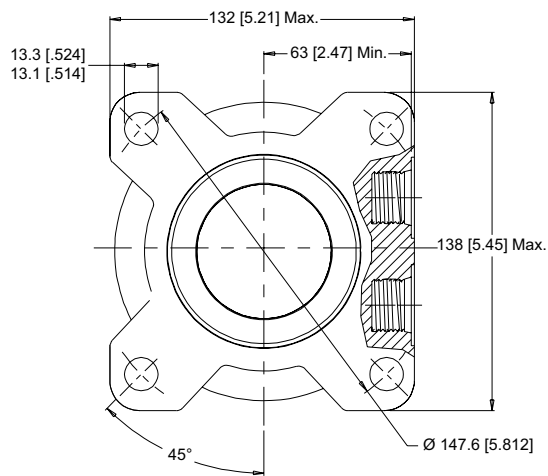
HOUSINGS

4-HOLE, WHEEL MOUNT, ALIGNED PORTS

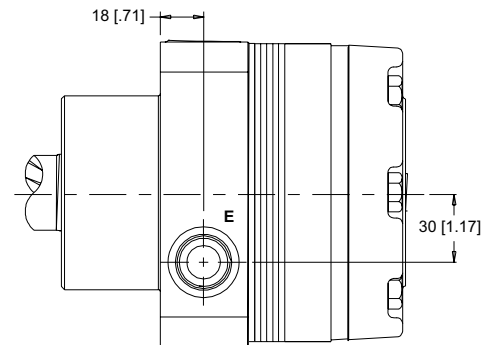
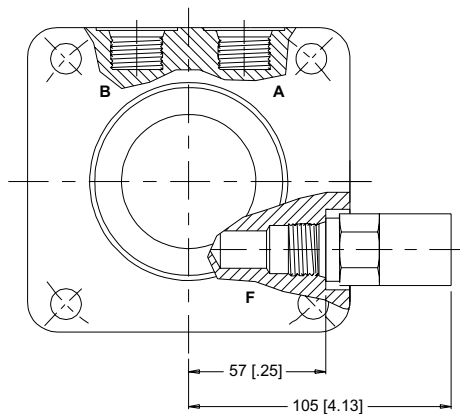
W31 7/8-14 UNF **W38** G 1/2

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

STANDARD



OPTIONAL VALVE CAVITY



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

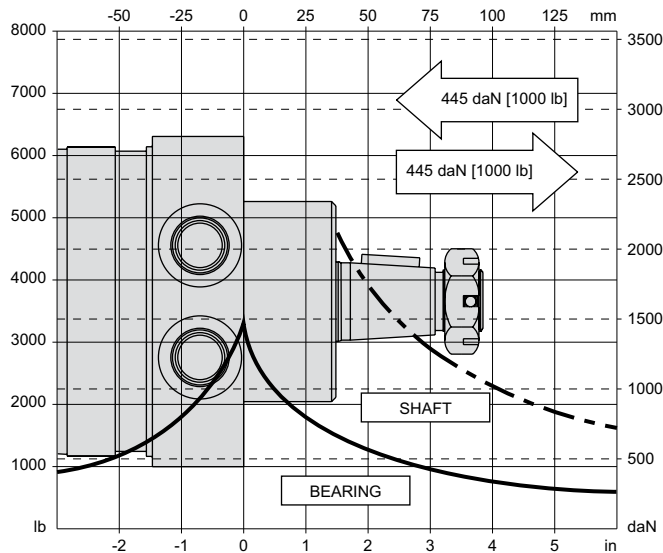
► Dimension GG is charted on page 10.

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.

WHEEL MOUNTS



LENGTH & WEIGHT CHART

Dimension GG 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 9, 12 & 15.

GG	Length	Weight
#	mm [in]	kg [lb]
120	99 [3.91]	10.9 [24.1]
160	99 [3.91]	10.9 [24.1]
200	103 [4.05]	11.3 [24.8]
230	105 [4.15]	11.4 [25.2]
260	108 [4.24]	11.6 [25.6]
300	111 [4.37]	11.9 [26.3]
350	125 [4.92]	13.1 [28.8]
375	117 [4.62]	12.4 [27.4]
470	125 [4.92]	13.1 [28.8]
540	131 [5.16]	13.6 [30.0]
750	149 [5.87]	15.0 [33.1]

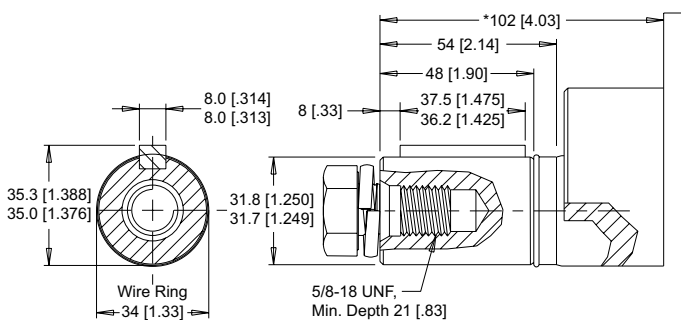
► All CE series motor weights can vary ± 0.5 kg [1 lb] depending on model configurations such as housing, shaft, endcover, options etc.

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		

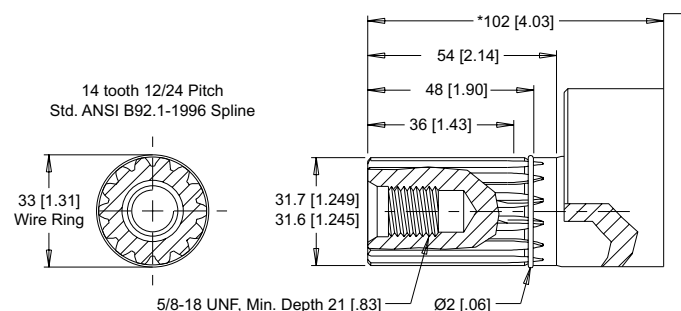
SHAFTS

20 1-1/4" Straight



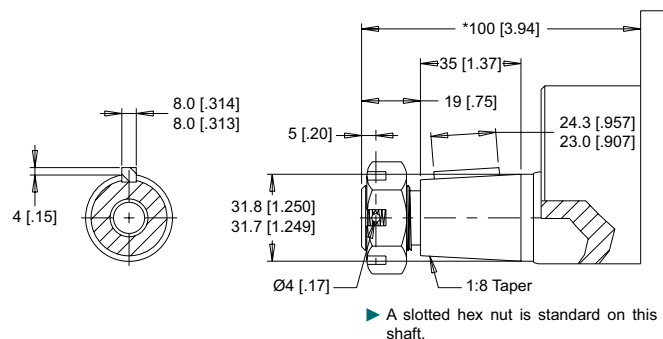
Max. Torque: 1200 Nm [10600 lb-in]

23 14 Tooth Spline



Max. Torque: 1200 Nm [10600 lb-in]

22 1-1/4" Tapered



Max. Torque: 1200 Nm [10600 lb-in]

► A slotted hex nut is standard on this shaft.

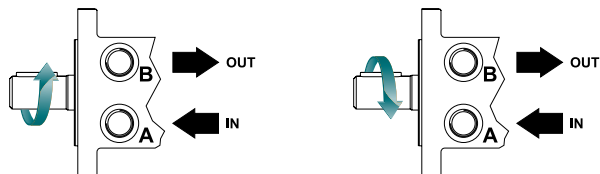


ORDERING INFORMATION

1			2			3			4			5	6	7	8

1. CHOOSE SERIES DESIGNATION

400 Counterclockwise Rotation **401** Clockwise Rotation



► The 400 & 401 series are bi-directional. Reversing the inlet hose will reverse shaft rotation. For applications requiring the motor to rotate in only one direction, shaft seal life may be prolonged by pressurizing the A port of the motor.

2. SELECT A DISPLACEMENT OPTION

120	121 cm ³ /rev [7.4 in ³ /rev]	350	348 cm ³ /rev [21.2 in ³ /rev]
160	162 cm ³ /rev [9.9 in ³ /rev]	375	375 cm ³ /rev [22.8 in ³ /rev]
200	204 cm ³ /rev [12.4 in ³ /rev]	470	465 cm ³ /rev [28.3 in ³ /rev]
230	232 cm ³ /rev [14.2 in ³ /rev]	540	536 cm ³ /rev [32.7 in ³ /rev]
260	261 cm ³ /rev [15.9 in ³ /rev]	750	748 cm ³ /rev [45.6 in ³ /rev]
300	300 cm ³ /rev [18.3 in ³ /rev]		

3. SELECT A MOUNT & PORT OPTION

W31	4-Hole, Wheel Mount, Aligned Ports, 7/8-14 UNF
W38	4-Hole, Wheel Mount, Aligned Ports, G 1/2

4. SELECT A SHAFT OPTION

20	1-1/4" Straight	23	14 Tooth Spline
22	1-1/4" 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	E	104 bar [1500 psi] Relief
B	Valve Cavity Only	F	121 bar [1750 psi] Relief
C	69 bar [1000 psi] Relief	G	138 bar [2000 psi] Relief
D	86 bar [1250 psi] Relief		

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
AE	Hydraulic Declutch With Freeturning Rotor

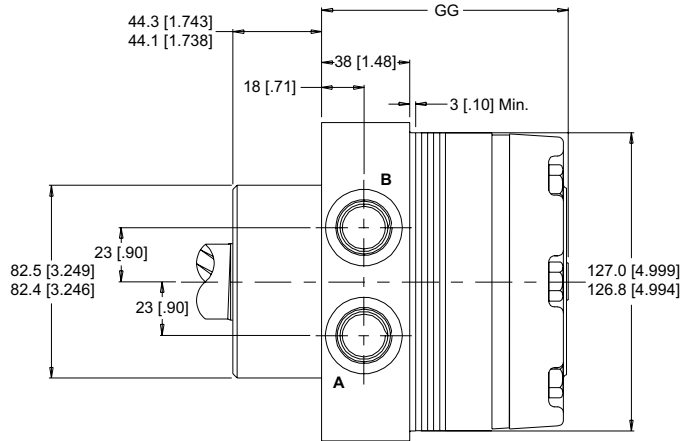
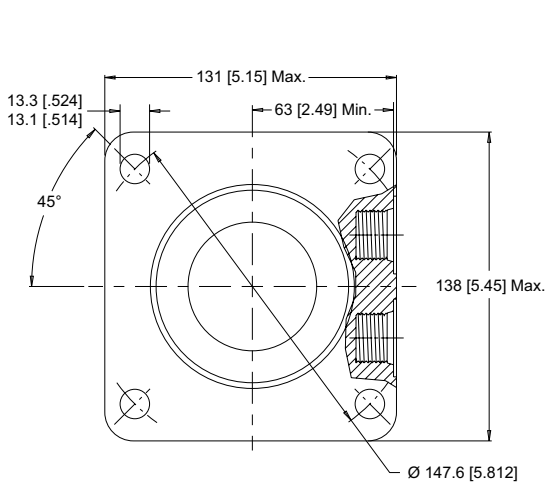


HOUSINGS

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

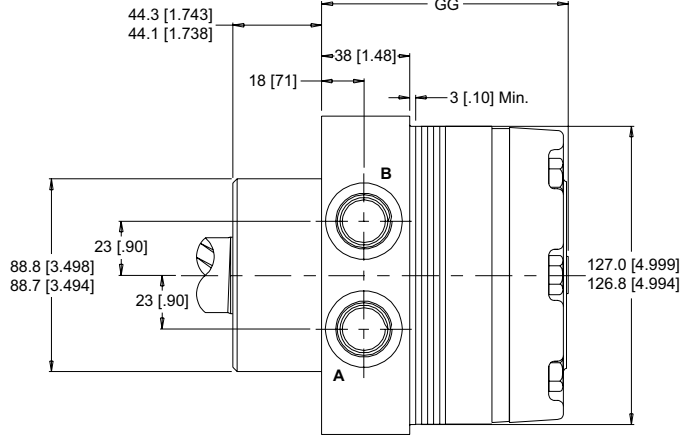
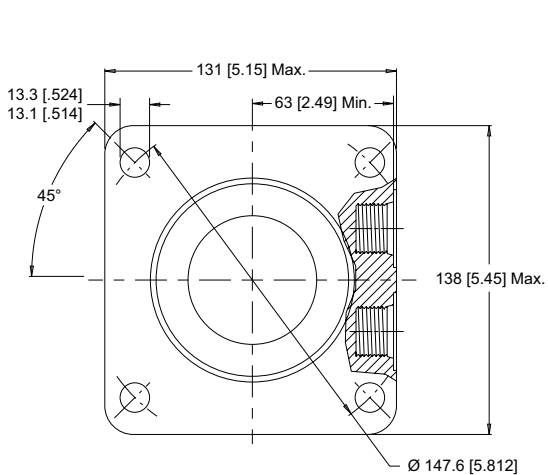
4-HOLE, 3.5" PILOT WHEEL MOUNT, ALIGNED PORTS

P31 7/8-14 UNF **P38** G 1/2



4-HOLE, 3.25" PILOT WHEEL MOUNT, ALIGNED PORTS

W31 7/8-14 UNF **W35** 9/16-18 UNF **W38** G 1/2



► Dimension GG is charted on page 10.

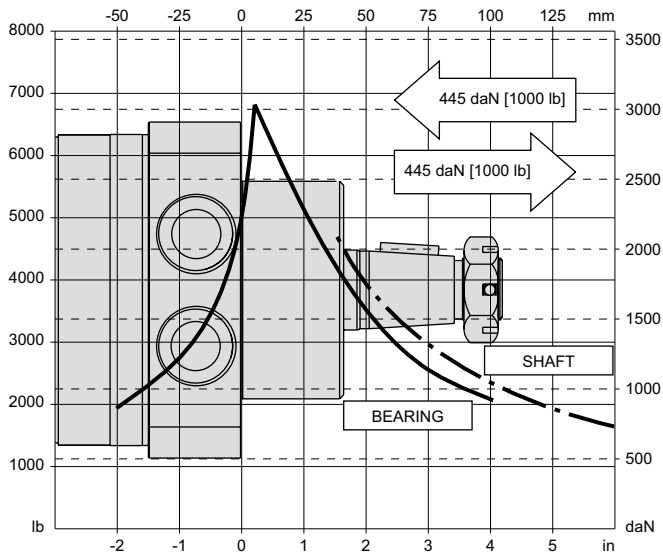


TECHNICAL INFORMATION

ALLOWABLE SHAFT LOAD / BEARING CURVE

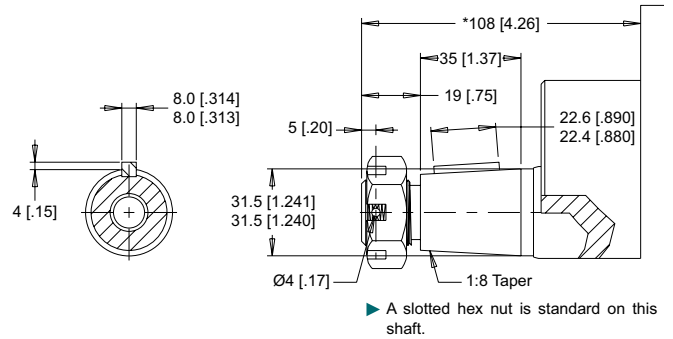
The bearing curve represents allowable bearing loads based on ISO 281 bearing capacity for an L_{10} life of 2,000 hours at 100 rpm. Radial loads for speeds other than 100 rpm may be calculated using the multiplication factor table on page 10.

WHEEL MOUNTS



SHAFTS

22 1-1/4" Tapered



Max. Torque: 1200 Nm [10600 lb-in]

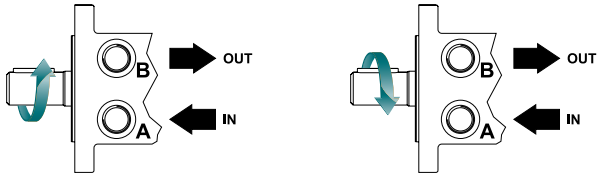


ORDERING INFORMATION

1				2				3				4				5				6				7				8			

1. CHOOSE SERIES DESIGNATION

420 Counterclockwise Rotation **421** Clockwise Rotation



► The 420 & 421 series are bi-directional. Reversing the inlet hose will reverse shaft rotation. For applications requiring the motor to rotate in only one direction, shaft seal life may be prolonged by pressurizing the A port of the motor.

2. SELECT A DISPLACEMENT OPTION

120	121 cm ³ /rev [7.4 in ³ /rev]	350	348 cm ³ /rev [21.2 in ³ /rev]
160	162 cm ³ /rev [9.9 in ³ /rev]	375	375 cm ³ /rev [22.8 in ³ /rev]
200	204 cm ³ /rev [12.4 in ³ /rev]	470	465 cm ³ /rev [28.3 in ³ /rev]
230	232 cm ³ /rev [14.2 in ³ /rev]	540	536 cm ³ /rev [32.7 in ³ /rev]
260	261 cm ³ /rev [15.9 in ³ /rev]	750	748 cm ³ /rev [45.6 in ³ /rev]
300	300 cm ³ /rev [18.3 in ³ /rev]		

3. SELECT A MOUNT & PORT OPTION

P31	4-Hole, 3.25" Pilot Wheel Mount, Aligned Ports, 7/8-14 UNF
P38	4-Hole, 3.25" Pilot Wheel Mount, Aligned Ports, G 1/2
W31	4-Hole, 3.50" Pilot Wheel Mount, Aligned Ports, 7/8-14 UNF
W35	4-Hole, 3.50" Pilot Wheel Mount, Aligned Ports, 9/16-18 UNF
W38	4-Hole, 3.50" Pilot Wheel Mount, Aligned Ports, G 1/2

4. SELECT A SHAFT OPTION

22 1-1/4" 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

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
AE	Hydraulic Declutch With Freeturning Rotor



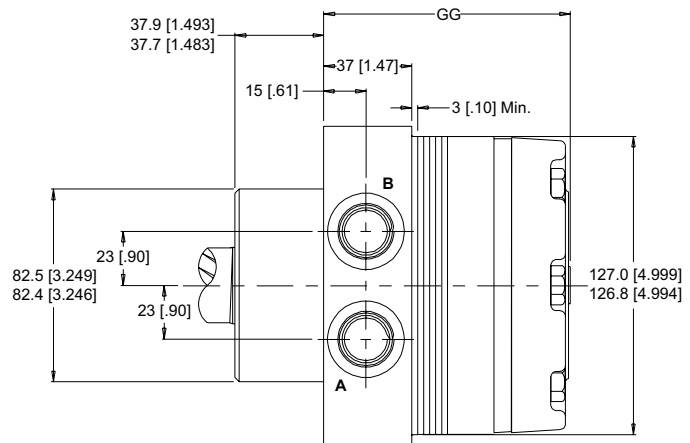
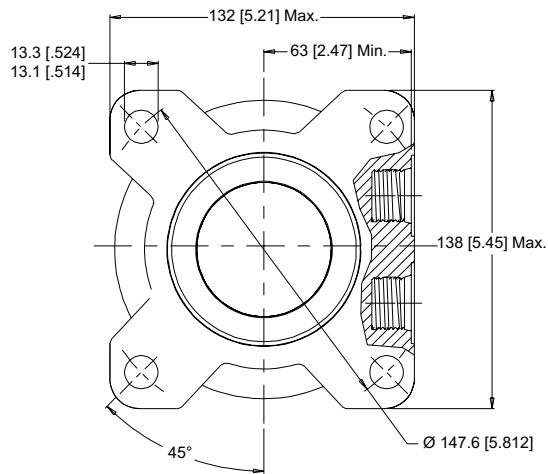
HOUSINGS

4-HOLE, WHEEL MOUNT, ALIGNED PORTS

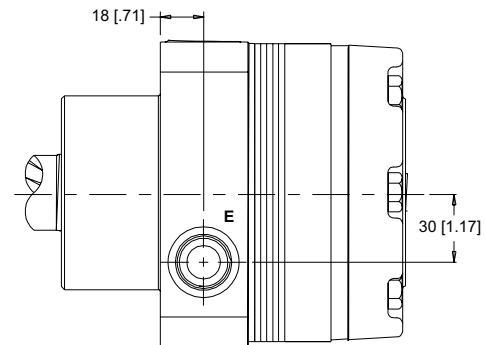
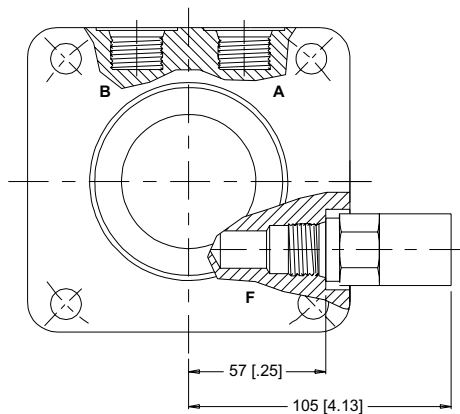
W31 7/8-14 UNF **W38** G 1/2

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

STANDARD



OPTIONAL VALVE CAVITY



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

► Dimension GG is charted on page 10.

CE (430/431 Series)

Hydraulic Motor With Heavy Duty Bearing

whitedriveproducts

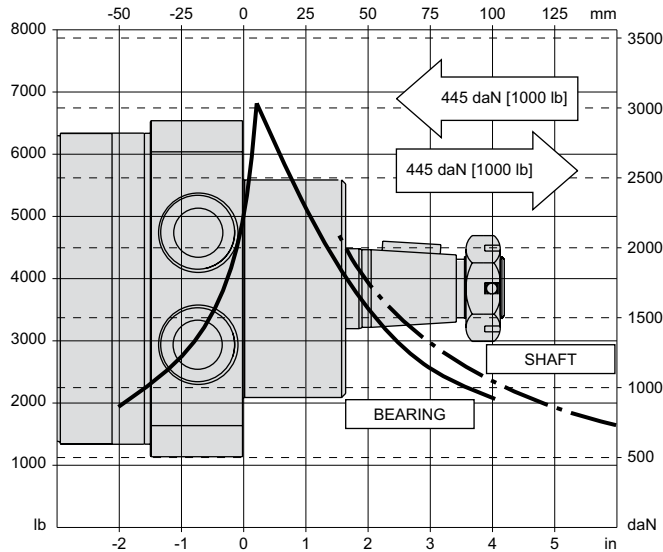


TECHNICAL INFORMATION

ALLOWABLE SHAFT LOAD / BEARING CURVE

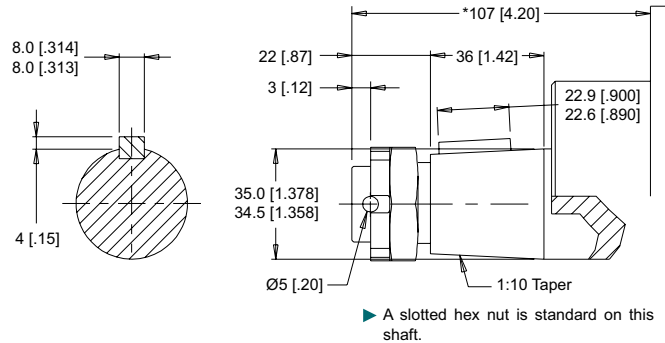
The bearing curve represents allowable bearing loads based on ISO 281 bearing capacity for an L_{10} life of 2,000 hours at 100 rpm. Radial loads for speeds other than 100 rpm may be calculated using the multiplication factor table on page 10.

WHEEL MOUNTS



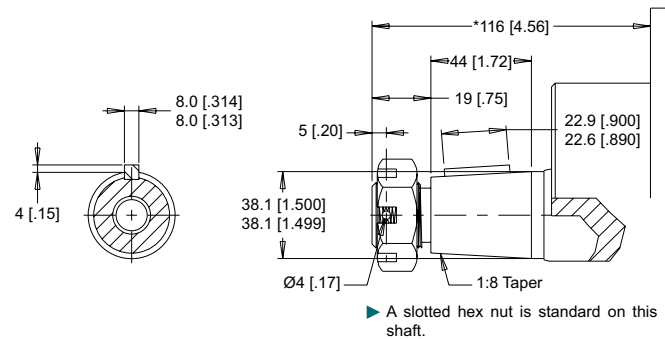
SHAFTS

28 35mm Tapered



Max. Torque: 1200 Nm [10600 lb-in]

31 1-1/2" Tapered



Max. Torque: 1200 Nm [10600 lb-in]

* Mounting flange length may vary by $\pm .8$ [.030].

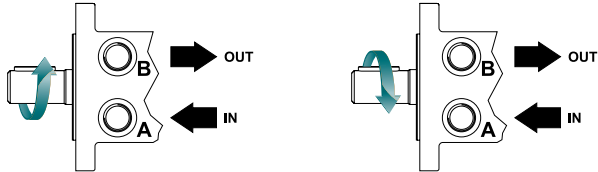


ORDERING INFORMATION

	1		2		3		4		5		6		7	8

1. CHOOSE SERIES DESIGNATION

430 Counterclockwise Rotation **431** Clockwise Rotation



► The 430 & 431 series are bi-directional. Reversing the inlet hose will reverse shaft rotation. For applications requiring the motor to rotate in only one direction, shaft seal life may be prolonged by pressurizing the A port of the motor.

2. SELECT A DISPLACEMENT OPTION

120	121 cm ³ /rev [7.4 in ³ /rev]	350	348 cm ³ /rev [21.2 in ³ /rev]
160	162 cm ³ /rev [9.9 in ³ /rev]	375	375 cm ³ /rev [22.8 in ³ /rev]
200	204 cm ³ /rev [12.4 in ³ /rev]	470	465 cm ³ /rev [28.3 in ³ /rev]
230	232 cm ³ /rev [14.2 in ³ /rev]	540	536 cm ³ /rev [32.7 in ³ /rev]
260	261 cm ³ /rev [15.9 in ³ /rev]	750	748 cm ³ /rev [45.6 in ³ /rev]
300	300 cm ³ /rev [18.3 in ³ /rev]		

3. SELECT A MOUNT & PORT OPTION

W31	4-Hole, Wheel Mount, Aligned Ports, 7/8-14 UNF
W38	4-Hole, Wheel Mount, Aligned Ports, G 1/2

4. SELECT A SHAFT OPTION

28	35mm Tapered	31	1-1/2" Tapered
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5. SELECT A PAINT OPTION

A	Black
B	Black, Unpainted Mounting Surface
Z	No Paint

6. SELECT A VALVE CAVITY / CARTRIDGE OPTION

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

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
AE	Hydraulic Declutch With Freeturning Rotor

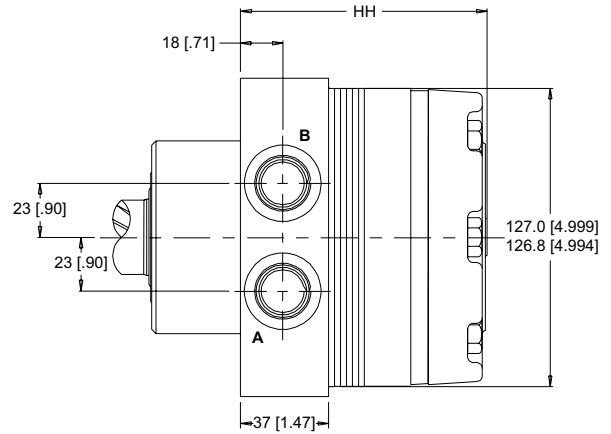
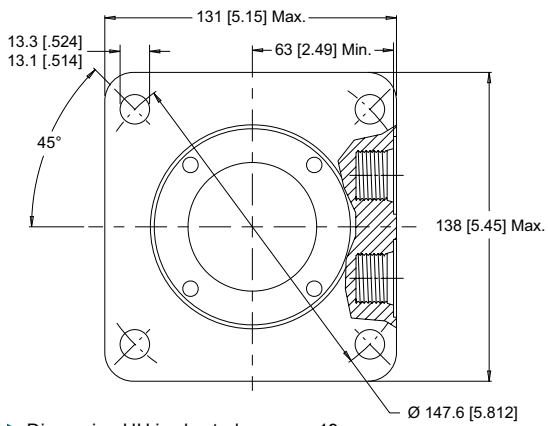


HOUSINGS

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

4-HOLE, WHEEL BRAKE MOUNT, ALIGNED PORTS

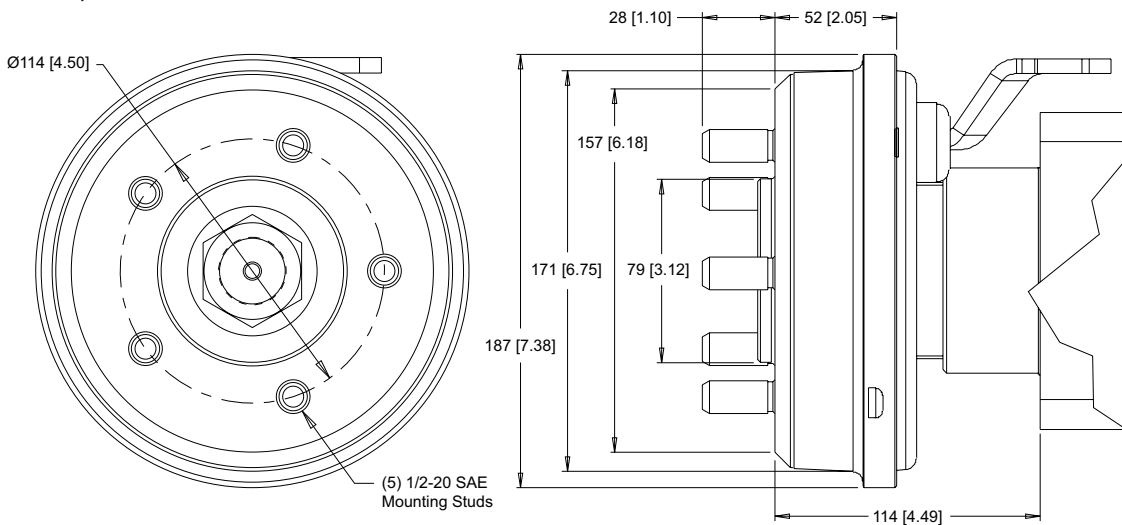
K31 7/8-14 UNF **K35** 9/16-18 UNF **K38** G 1/2



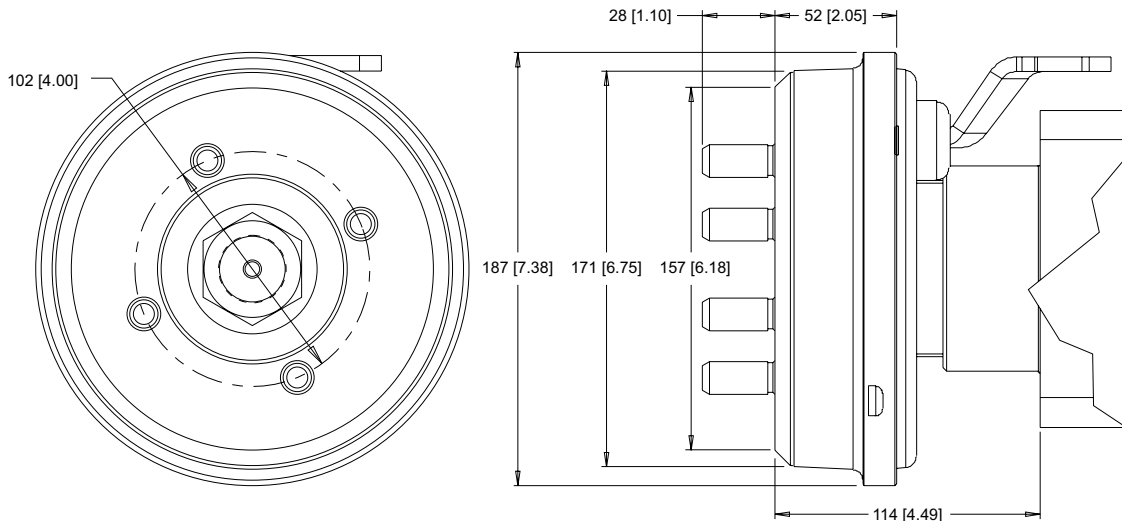
► Dimension HH is charted on page 19.

HUB OPTION DETAILS

5-BOLT, WHEEL HUB



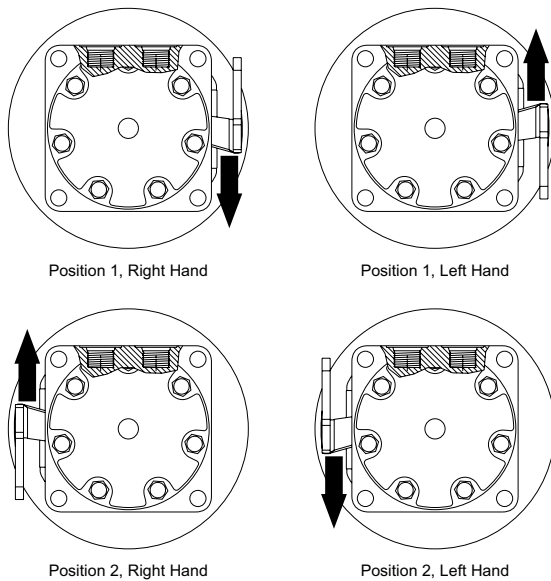
4-BOLT, WHEEL HUB



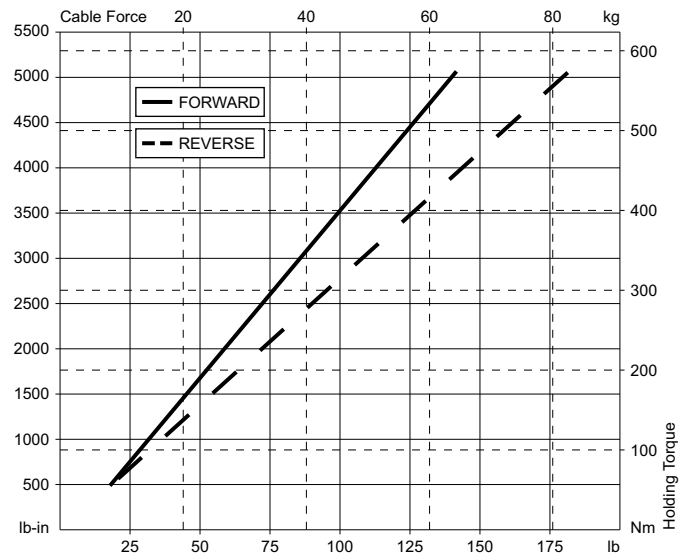


TECHNICAL INFORMATION

BRAKE LEVER POSITION & PULL DIRECTION



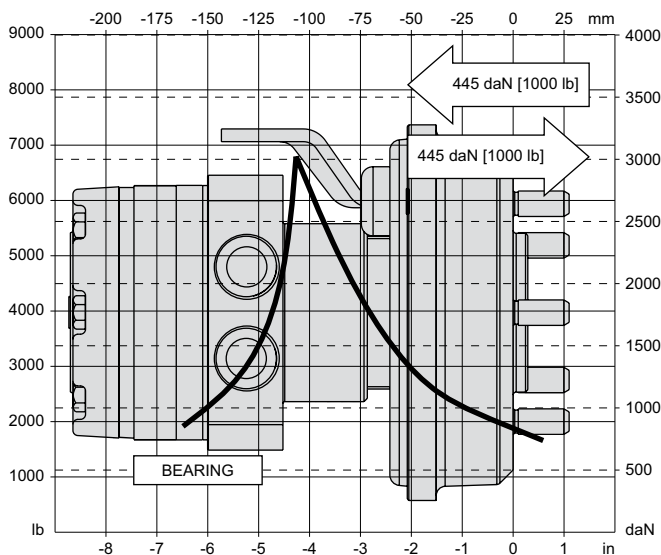
BRAKE HOLDING TORQUE



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.

MOTOR BRAKE



LENGTH & WEIGHT CHART

Dimension HH 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 18.

HH	Length	Weight
#	mm [in]	kg [lb]
120	99 [3.91]	16.0 [35.2]
160	99 [3.91]	16.0 [35.2]
200	103 [4.05]	16.3 [35.9]
230	105 [4.15]	16.5 [36.3]
260	108 [4.24]	16.7 [36.7]
300	111 [4.37]	17.0 [37.4]
350	125 [4.92]	18.1 [39.9]
375	117 [4.62]	17.5 [38.5]
470	125 [4.92]	18.1 [39.9]
540	131 [5.16]	18.7 [41.1]
750	149 [5.87]	20.1 [44.2]

► 410/411 motor/brake weights can vary ± 0.5 kg [1 lb] depending on model configurations such as housing, shaft, endcover, options etc.

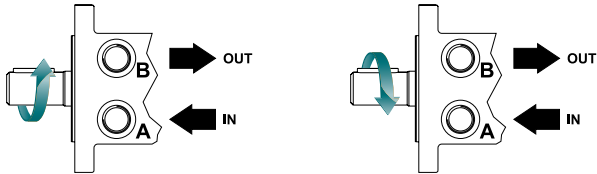


ORDERING INFORMATION

1				2		3		4		5	6	7	8	

1. CHOOSE SERIES DESIGNATION

410 Counterclockwise Rotation **411** Clockwise Rotation



► The 410 & 411 series are bi-directional. Reversing the inlet hose will reverse shaft rotation. For applications requiring the motor to rotate in only one direction, shaft seal life may be prolonged by pressurizing the A port of the motor.

2. SELECT A DISPLACEMENT OPTION

120	121 cm ³ /rev [7.4 in ³ /rev]	350	348 cm ³ /rev [21.2 in ³ /rev]
160	162 cm ³ /rev [9.9 in ³ /rev]	375	375 cm ³ /rev [22.8 in ³ /rev]
200	204 cm ³ /rev [12.4 in ³ /rev]	470	465 cm ³ /rev [28.3 in ³ /rev]
230	232 cm ³ /rev [14.2 in ³ /rev]	540	536 cm ³ /rev [32.7 in ³ /rev]
260	261 cm ³ /rev [15.9 in ³ /rev]	750	748 cm ³ /rev [45.6 in ³ /rev]
300	300 cm ³ /rev [18.3 in ³ /rev]		

3. SELECT A MOUNT & PORT OPTION

K31	4-Hole, Wheel Brake Mount, Aligned Ports, 7/8-14 UNF
K35	4-Hole, Wheel Brake Mount, Aligned Ports, 9/16-18 UNF
K38	4-Hole, Wheel Brake Mount, Aligned Ports, G 1/2

4. SELECT A SHAFT OPTION

22 1-1/4" Tapered

5. SELECT A PAINT OPTION

A Black
Z No Paint

6. SELECT A VALVE CAVITY / CARTRIDGE OPTION

A None

7. SELECT AN ADD-ON OPTION

A Standard

8. SELECT A MISCELLANEOUS OPTION

YA	5 Bolt Hub, Position 2, Right Hand
YB	5 Bolt Hub, Position 2, Left Hand
YE	4 Bolt Hub, Position 2, Right Hand
YF	4 Bolt Hub, Position 2, Left Hand
ZA	5 Bolt Hub, Position 1, Left Hand
ZB	5 Bolt Hub, Position 1, Right Hand
ZE	4 Bolt Hub, Position 1, Left Hand
ZF	4 Bolt Hub, Position 1, Right Hand

North America

White Drive Products, Inc.
P.O. Box 1127
Hopkinsville, KY. USA 42241
Phone: +1.270.885.1110
Fax: +1.270.886.8462
infousa@whitedriveproducts.com

Europe

White Drive Products GmbH
Mannsnetterstrasse 34
D-88145 Opfenbach, Germany
Phone: +49.8385.924988.0
Fax: +49.8385.924988.9
infoeu@whitedriveproducts.com

Asia

White (China) Drive Products Co., Ltd.
1-8 Ning Zhen Gong Lu
Zhenjiang, 212021, Jiangsu, China
Phone: +86 511 5729988
Fax: +86 511 5728921
infochina@whitedriveproducts.com

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