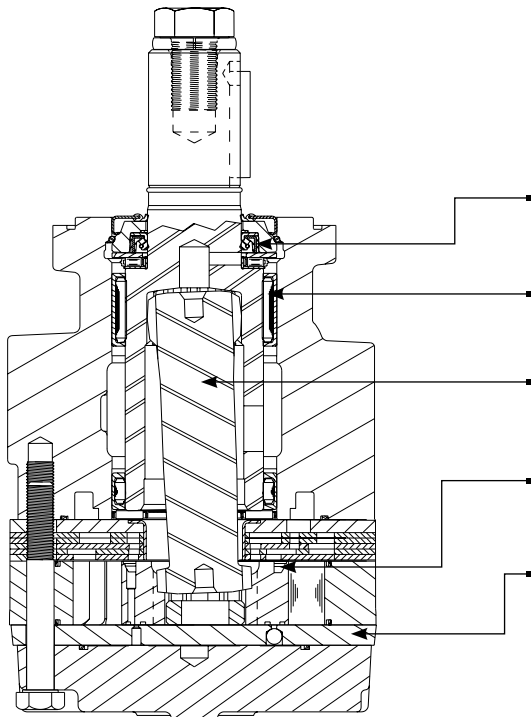


# RE

## OVERVIEW

RE Series motors offer the perfect compromise between price and performance by producing work horse power at a reasonable cost. Although these motors perform well in a wide range of applications, they are especially suited for low flow, high pressure applications. During startup, pressure causes the balance plate to flex toward the rotor, vastly improving volumetric efficiency. As the motor reaches operating pressure, the balance plate relaxes, allowing the rotor to turn freely which translates into higher mechanical efficiencies. Transmitting this power to the output shaft is the most durable drive link in its class. Four bearing options, combined with standard mounting flanges and output shafts, allow the motor to be configured to suit nearly any application.



### KEY FEATURES

- **High Pressure Shaft Seal** offers superior seal life and performance and eliminates need for case drain.
- **Three Bearing Options** allow load carrying capability of motor to be matched to application.
- **Heavy-Duty Drive Link** is the most durable in its class and receives full flow lubrication to provide long life.
- **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.

## SPECIFICATIONS

Intermittent Ratings - 10% of Operation    Peak Ratings - 1% of Operation

CODE	Displacement cc [in <sup>3</sup> /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]	327 [2900]	383 [3400]	207 [3000]	241 [3500]	276 [4000]
160	162 [9.9]	370	470	61 [16]	76 [20]	475 [4200]	542 [4800]	207 [3000]	241 [3500]	276 [4000]
200	204 [12.4]	300	370	68 [18]	83 [22]	542 [4800]	633 [5600]	207 [3000]	241 [3500]	276 [4000]
230	232 [14.2]	260	320	68 [18]	83 [22]	644 [5700]	712 [6300]	207 [3000]	241 [3500]	276 [4000]
260	261 [15.9]	260	350	76 [20]	91 [24]	712 [6300]	791 [7000]	207 [3000]	241 [3500]	276 [4000]
300	300 [18.3]	250	320	83 [22]	95 [25]	825 [7300]	938 [8300]	207 [3000]	241 [3500]	276 [4000]
350	348 [21.2]	220	270	83 [22]	95 [25]	921 [8150]	1045 [9250]	207 [3000]	241 [3500]	276 [4000]
375	375 [22.8]	200	250	76 [20]	91 [24]	1006 [8900]	1158 [10250]	207 [3000]	241 [3500]	276 [4000]
470	465 [28.3]	160	200	76 [20]	91 [24]	1096 [9700]	1184 [10475]	172 [2500]	189 [2750]	207 [3000]
540	536 [32.7]	140	170	76 [20]	91 [24]	983 [8700]	1243 [11000]	138 [2000]	172 [2500]	207 [3000]
750	748 [45.6]	100	130	76 [20]	91 [24]	1062 [9400]	1237 [10950]	103 [1500]	121 [1750]	138 [2000]



**120**

Pressure - bars [psi]								Max. Cont.	Max. Inter.
17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]	241 [3500]		

121 cc [7.4 in<sup>3</sup>/rev.]

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

Flow - lpm [gpm]	2 [0.5]	21 [187] 14	51 [448] 13	97 [859] 11	140 [1239] 8					Theoretical rpm	
	4 [1]	24 [215] 26	54 [474] 25	111 [986] 25	162 [1429] 20	225 [1991] 13					16
	8 [2]		57 [500] 58	118 [1043] 53	176 [1554] 51	226 [1997] 44	271 [2400] 40	302 [2673] 35	343 [3036] 27		32
	15 [4]		54 [479] 111	116 [1030] 106	186 [1642] 97	237 [2094] 93	278 [2459] 89	335 [2964] 85	359 [3179] 79		63
	23 [6]		49 [433] 174	116 [1023] 167	168 [1483] 155	232 [2051] 150	279 [2467] 144	328 [2903] 139	360 [3185] 137		125
	30 [8]			111 [984] 245	169 [1497] 214	223 [1973] 205	283 [2505] 200	326 [2884] 197	385 [3404] 188		188
	38 [10]			104 [923] 294	166 [1469] 281	218 [1930] 269	272 [2411] 261	325 [2878] 250	385 [3404] 242		250
	45 [12]			99 [872] 358	161 [1428] 344	217 [1918] 331	276 [2444] 326	321 [2839] 321	385 [3403] 304		313
	53 [14]			91 [807] 415	155 [1372] 413	208 [1845] 398	267 [2363] 391	338 [2992] 369			375
	61 [16]			84 [745] 487	145 [1283] 475	211 [1864] 457	272 [2403] 447	327 [2897] 427			438
	Max. Inter.										500

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

**160**

Pressure - bars [psi]								Max. Cont.	Max. Inter.
17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]	241 [3500]		

162 cc [9.9 in<sup>3</sup>/rev.]

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

Flow - lpm [gpm]	2 [0.5]	37 [326] 7	77 [685] 3	149 [1323] 3	223 [1977] 3	310 [2741] 2	349 [3088] 1			Theoretical rpm	
	4 [1]	30 [264] 21	80 [704] 18	164 [1448] 17	244 [2158] 16	324 [2865] 14	378 [3344] 13	442 [3909] 9			12
	8 [2]	36 [317] 45	80 [711] 43	161 [1423] 41	242 [2143] 39	316 [2792] 37	379 [3350] 35	481 [4258] 32	551 [4880] 28		24
	15 [4]	39 [342] 92	75 [664] 90	171 [1510] 86	253 [2241] 84	321 [2838] 82	379 [3351] 80	451 [3992] 76	516 [4569] 72		47
	23 [6]		71 [631] 138	158 [1395] 134	235 [2078] 131	317 [2806] 127	389 [3447] 122	462 [4088] 121	518 [4586] 118		94
	30 [8]		67 [596] 186	164 [1449] 182	236 [2090] 179	312 [2760] 173	385 [3411] 170	456 [4033] 167	513 [4537] 163		140
	38 [10]		72 [640] 232	149 [1323] 230	234 [2074] 229	309 [2736] 222	376 [3329] 220	455 [4022] 213	522 [4623] 207		187
	45 [12]		67 [596] 279	144 [1275] 279	226 [1998] 272	304 [2689] 270	369 [3270] 264	440 [3890] 255	497 [4397] 247		234
	53 [14]			135 [1190] 326	228 [2022] 323	310 [2739] 317	375 [3317] 311	457 [4040] 304	541 [4789] 299		280
	61 [16]			123 [1087] 372	213 [1889] 372	298 [2634] 364	368 [3253] 361	435 [3847] 357	502 [4439] 350		327
	68 [18]			108 [952] 419	199 [1764] 417	283 [2501] 416	362 [3201] 407	419 [3708] 401			374
	76 [20]			105 [929] 466	195 [1726] 465	280 [2476] 462	349 [3092] 453	453 [4008] 443			420
Max. Inter.									467		

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



**200**

Pressure - bars [psi]							Max. Cont.	Max. Inter.
17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]	241 [3500]	

204 cc [12.4 in<sup>3</sup>/rev.]

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]	Torque - Nm [lb-in], Speed rpm								Theoretical rpm
	40 [358] 7	91 [808] 4	133 [1181] 4	294 [2602] 4	375 [3323] 3				
2 [0.5]									10
4 [1]	43 [376] 16	85 [753] 13	200 [1769] 12	276 [2442] 11	373 [3304] 10	442 [3915] 9	526 [4656] 6		19
8 [2]	44 [385] 34	93 [851] 31	195 [1727] 29	299 [2646] 27	374 [3311] 27	461 [4079] 25	542 [4792] 23	616 [5451] 20	38
15 [4]	39 [347] 72	94 [834] 69	198 [1752] 67	305 [2701] 63	401 [3549] 60	477 [4222] 58	544 [4818] 55	629 [5568] 51	75
23 [6]		82 [724] 111	191 [1694] 109	284 [2518] 107	389 [3446] 103	463 [4098] 100	553 [4894] 99	636 [5628] 90	112
30 [8]		80 [704] 148	188 [1661] 145	285 [2518] 141	402 [3556] 136	458 [4053] 134	543 [4802] 130	628 [5554] 124	150
38 [10]		66 [581] 185	180 [1592] 181	276 [2445] 176	364 [3224] 173	458 [4051] 170	535 [4737] 164	615 [5441] 160	187
45 [12]			165 [1462] 221	261 [2312] 214	362 [3200] 210	450 [3982] 207	535 [4731] 198	618 [5471] 196	224
53 [14]			150 [1328] 257	273 [2413] 256	368 [3253] 247	449 [3975] 244	558 [4936] 241	602 [5328] 235	261
61 [16]			134 [1183] 296	253 [2242] 292	335 [2969] 284	435 [3850] 277	524 [4639] 273	598 [5292] 269	299
68 [18]			121 [1068] 334	232 [2056] 330	339 [3003] 327	416 [3686] 320	512 [4532] 313	599 [5299] 308	336
76 [20]			110 [970] 372	206 [1823] 372	308 [2725] 365	401 [3552] 357	507 [4484] 352		373
83 [22]				191 [1689] 407	285 [2520] 403	379 [3353] 397	486 [4303] 388		410

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

Theoretical Torque - Nm [lb-in]

56 [494]	112 [987]	223 [1975]	335 [2962]	446 [3949]	558 [4936]	669 [5924]	781 [6911]
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Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]

**230**

Pressure - bars [psi]							Max. Cont.	Max. Inter.
17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]	241 [3500]	

232 cc [14.2 in<sup>3</sup>/rev.]

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]	Torque - Nm [lb-in], Speed rpm								Theoretical rpm
	45 [397] 6	92 [813] 4	184 [1628] 3	293 [2590] 2	375 [3323] 1				
2 [0.5]									9
4 [1]	48 [429] 14	101 [890] 12	223 [1972] 11	316 [2793] 11	414 [3660] 9	493 [4366] 7	560 [4955] 4		17
8 [2]	51 [453] 30	105 [926] 27	215 [1899] 25	329 [2911] 25	425 [3760] 23	524 [4637] 20	618 [5468] 17	710 [6286] 12	33
15 [4]	43 [384] 63	108 [960] 59	209 [1851] 55	326 [2884] 54	435 [3846] 52	539 [4771] 47	655 [5799] 42	721 [6381] 39	66
23 [6]		102 [603] 93	213 [1889] 88	339 [3001] 85	428 [3789] 82	536 [4747] 77	628 [5559] 73	718 [6355] 69	98
30 [8]		89 [789] 127	207 [1830] 122	316 [2793] 120	425 [3762] 115	521 [4612] 110	639 [5653] 107	717 [6341] 98	131
38 [10]		78 [690] 161	198 [1750] 157	311 [2752] 151	436 [3856] 148	527 [4660] 143	612 [5420] 140	703 [6218] 132	163
45 [12]			189 [1669] 191	296 [2624] 186	425 [3764] 182	510 [4517] 176	599 [5304] 170	689 [6098] 163	196
53 [14]			177 [1565] 224	293 [2596] 216	388 [3434] 214	495 [4384] 208	587 [5197] 205	680 [6017] 198	228
61 [16]			150 [1326] 256	272 [2408] 255	397 [3509] 249	484 [4280] 245	574 [5077] 237	669 [5925] 227	261
68 [18]			142 [1261] 292	264 [2333] 286	355 [3140] 282	493 [4366] 276	569 [5032] 274	655 [5799] 259	293
76 [20]			122 [1083] 324	237 [2096] 321	347 [3068] 316	453 [4009] 309	571 [5057] 305		326
83 [22]				210 [1855] 357	338 [2987] 351	464 [4104] 345	550 [4864] 339		358

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

Theoretical Torque - Nm [lb-in]

64 [565]	128 [1131]	256 [2261]	383 [3392]	511 [4522]	639 [5653]	767 [6783]	894 [7914]
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Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]



**260**

Pressure - bars [psi]							Max. Cont.	Max. Inter.
17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]	241 [3500]	

261 cc [15.9 in<sup>3</sup>/rev.]

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

Flow - lpm [gpm]	2 [0.5]	49 [432] 5	112 [989] 2							Theoretical rpm	
	4 [1]	54 [475] 12	113 [998] 11	240 [2125] 10	365 [3230] 9	478 [4227] 8	578 [5112] 7	648 [5736] 5			8
	8 [2]	54 [474] 27	115 [1021] 25	247 [2184] 24	367 [3244] 22	488 [4318] 21	591 [5230] 19	703 [6223] 16			15
	15 [4]	49 [429] 57	114 [1010] 55	261 [2307] 51	363 [3214] 51	486 [4300] 48	595 [5268] 46	697 [6171] 43	807 [7143] 39		30
	23 [6]	45 [397] 86	115 [1016] 83	236 [2090] 80	364 [3221] 78	497 [4398] 76	590 [5225] 71	721 [6379] 68	802 [7096] 63		59
	30 [8]		94 [833] 114	227 [2008] 109	348 [3078] 109	477 [4224] 105	592 [5239] 101	692 [6128] 96	794 [7027] 88		88
	38 [10]		85 [752] 145	231 [2044] 144	340 [3013] 141	470 [4155] 138	585 [5180] 133	685 [6063] 127	796 [7048] 119		117
	45 [12]		78 [692] 173	217 [1919] 173	354 [3135] 168	464 [4108] 166	567 [5018] 161	672 [5945] 153	802 [7095] 144		146
	53 [14]		64 [563] 202	198 [1754] 202	326 [2886] 200	445 [3941] 196	568 [5026] 184	668 [5908] 181	765 [6771] 176		175
	61 [16]			182 [1608] 231	299 [2644] 229	448 [3965] 221	552 [4884] 219	651 [5763] 216	752 [6659] 209		204
	68 [18]			160 [1417] 261	304 [2693] 261	417 [3690] 256	550 [4870] 247	643 [5689] 240	740 [6551] 232		233
	76 [20]			136 [1204] 290	278 [2460] 289	391 [3464] 285	521 [4614] 277	636 [5628] 274	736 [6516] 263		262
	83 [22]			132 [1168] 319	263 [2325] 319	374 [3314] 315	512 [4535] 311	615 [5442] 301			291
	91 [24]			82 [722] 348	227 [2009] 347	361 [3190] 345	496 [4386] 340				320

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

**300**

Pressure - bars [psi]							Max. Cont.	Max. Inter.
17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]	241 [3500]	

300 cc [18.3 in<sup>3</sup>/rev.]

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

Flow - lpm [gpm]	2 [0.5]	51 [452] 3	95 [839] 1							Theoretical rpm	
	4 [1]	63 [557] 11	145 [1282] 10	302 [2675] 9	433 [3829] 8	510 [4513] 7	627 [5552] 4				7
	8 [2]	62 [551] 22	158 [1400] 20	308 [2722] 19	437 [3866] 19	571 [5056] 16	679 [6011] 13	768 [6796] 9	830 [7346] 5		13
	15 [4]	66 [588] 48	145 [1281] 47	316 [2793] 45	430 [3805] 43	577 [5107] 38	680 [6015] 33	820 [7258] 28	908 [8040] 21		26
	23 [6]	58 [511] 75	140 [1241] 75	290 [2566] 72	424 [3755] 69	546 [4830] 65	690 [6105] 57	801 [7088] 49	946 [8372] 40		51
	30 [8]	46 [405] 100	128 [1136] 100	305 [2699] 99	391 [3460] 96	571 [5056] 87	700 [6199] 82	826 [7313] 71	930 [8233] 62		76
	38 [10]		111 [981] 125	282 [2493] 124	409 [3623] 121	503 [4447] 115	683 [6043] 106	794 [7028] 98	919 [8131] 88		101
	45 [12]		92 [814] 150	261 [2313] 150	388 [3435] 148	472 [4177] 143	641 [5676] 133	783 [6927] 122	881 [7794] 113		127
	53 [14]		77 [684] 176	245 [2165] 175	391 [3464] 175	530 [4687] 173	661 [5848] 163	809 [7157] 151	949 [8398] 138		152
	61 [16]		63 [553] 201	224 [1983] 201	366 [3243] 199	508 [4498] 192	633 [5599] 187	796 [7044] 173	916 [8103] 163		177
	68 [18]			201 [1780] 225	339 [2999] 225	467 [4135] 222	666 [5898] 211	804 [7115] 199	899 [7955] 194		202
	76 [20]			172 [1522] 251	327 [2895] 251	480 [4247] 247	611 [5410] 240	745 [6596] 232	910 [8051] 217		228
	83 [22]			144 [1276] 277	321 [2836] 276	466 [4127] 269	575 [5084] 263	732 [6474] 254			253
	91 [24]			119 [1049] 302	281 [2483] 301	435 [3853] 300	559 [4943] 291	703 [6223] 280			278
	95 [25]			105 [928] 315	262 [2319] 314	434 [3838] 311	553 [4894] 307	707 [6257] 294			303

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



**350**

Pressure - bars [psi]							Max. Cont.	Max. Inter.
17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]	241 [3500]	

348 cc [21.2 in<sup>3</sup>/rev.]

Flow - lpm [gpm]	2 [0.5]									
	4 [1]									
	8 [2]									
	15 [4]									
	23 [6]									
	30 [8]									
	38 [10]									
	45 [12]									
	53 [14]									
	61 [16]									
Max. Cont.	68 [18]									
	76 [20]									
	83 [22]									
	91 [24]									
Max. Inter.	95 [25]									

Torque - Nm [lb-in], Speed rpm										Intermittent Ratings - 10% of Operation		
64 [566]	134 [1183]	272 [2404]	399 [3532]									
4	4	3	2									
64 [570]	134 [1189]	296 [2619]	437 [3869]									
10	9	8	8									
69 [607]	145 [1285]	312 [2764]	462 [4092]	600 [5308]	742 [6571]	855 [7569]						
21	20	19	18	18	17	14						
71 [627]	151 [1340]	313 [2767]	471 [4169]	630 [5577]	772 [6834]	889 [7869]	993 [8785]					
42	41	40	39	37	35	34	28					
62 [549]	149 [1618]	315 [2788]	474 [4191]	630 [5577]	768 [6796]	925 [8182]	1032 [9137]					
64	63	62	60	57	54	51	45					
53 [472]	139 [1233]	307 [2713]	459 [4058]	626 [5537]	768 [6793]	928 [8210]	1051 [9300]					
86	85	84	82	79	75	69	65					
	113 [1004]	298 [2639]	431 [3814]	601 [5317]	745 [6593]	910 [8056]	1062 [9399]					
	108	108	108	102	100	93	87					
	98 [869]	265 [2346]	445 [3936]	581 [5144]	740 [6552]	891 [7889]	1044 [9237]					
	130	129	128	125	117	109	104					
	86 [758]	252 [2226]	422 [3738]	570 [5044]	723 [6398]	881 [7794]	1031 [9126]					
	152	151	150	147	139	133	120					
	63 [560]	235 [2079]	409 [3619]	549 [4859]	720 [6375]	850 [7522]	1012 [8952]					
	173	173	172	170	163	155	147					
		220 [1948]	394 [3490]	571 [5054]	693 [6134]	839 [7428]	986 [8727]					
		195	194	190	187	175	164					
		208 [1843]	375 [3320]	513 [4544]	683 [6044]	835 [7385]	975 [8632]					
		217	216	214	213	195	188					
		179 [1583]	352 [3112]	554 [4906]	685 [6064]	813 [7198]	958 [8482]					
		239	239	238	233	221	215					
		172 [1526]	360 [3186]	534 [4724]	666 [5890]							
		261	261	260	256							
			369 [3264]	529 [4682]	647 [5730]							
			271	270	265							

Theoretical rpm	6
	11
	22
	44
	66
	88
	109
	131
	153
	175
Max. Cont.	197
	218
	240
	262
Max. Inter.	273

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

Theoretical Torque - Nm [lb-in]

95 [844]	191 [1688]	381 [3376]	572 [5064]	763 [6752]	954 [8439]	1144 [10127]	1335 [11815]
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Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]

**375**

Pressure - bars [psi]							Max. Cont.	Max. Inter.
17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]	207 [3000]	241 [3500]	

375 cc [22.8 in<sup>3</sup>/rev.]

Flow - lpm [gpm]	2 [0.5]									
	4 [1]									
	8 [2]									
	15 [4]									
	23 [6]									
	30 [8]									
	38 [10]									
	45 [12]									
	53 [14]									
	61 [16]									
Max. Cont.	68 [18]									
	76 [20]									
	83 [22]									
	91 [24]									
Max. Inter.	95 [25]									

Torque - Nm [lb-in], Speed rpm										Intermittent Ratings - 10% of Operation		
76 [674]												
3												
84 [745]	162 [1432]	329 [2911]	490 [4337]	639 [5652]	763 [6756]							
8	7	6	6	5	3							
82 [724]	171 [1510]	361 [3196]	537 [4754]	689 [6095]	836 [7399]	955 [8449]						
18	17	16	16	14	12	9						
77 [680]	163 [1439]	358 [3164]	537 [4756]	695 [6151]	857 [7587]	989 [8750]	1121 [9923]					
39	37	37	36	32	29	25	20					
67 [595]	158 [1398]	354 [3130]	527 [4661]	695 [6155]	864 [7642]	1011 [8951]	1168 [10334]					
60	59	56	56	52	47	40	36					
57 [508]	149 [1321]	340 [3010]	510 [4512]	695 [6154]	845 [7476]	1009 [8930]	1156 [10229]					
80	80	78	77	71	65	60	51					
	134 [1187]	322 [2849]	495 [4383]	681 [6024]	836 [7399]	1007 [8913]	1157 [10235]					
	100	99	96	93	87	80	71					
	115 [1013]	301 [2661]	480 [4249]	645 [5711]	809 [7159]	980 [8674]	1141 [10098]					
	121	120	118	113	108	98	92					
	93 [819]	280 [2475]	477 [4218]	633 [5602]	795 [7036]	949 [8402]	1117 [9887]					
	141	140	138	134	128	120	105					
	73 [646]	261 [2314]	429 [3797]	598 [5296]	770 [6817]	934 [8267]	1085 [9605]					
	161	161	160	155	151	141	130					
		236 [2091]	434 [3843]	597 [5282]	765 [6771]	907 [8026]	1080 [9554]					
		181	181	177	168	161	150					
		209 [1851]	384 [3396]	561 [4969]	740 [6549]	877 [7764]	1027 [9091]					
		202	201	198	191	183	168					
		178 [1576]	374 [3309]	530 [4694]	696 [6160]	840 [7431]						
		222	221	218	213	205						
		141 [1246]	319 [2822]	511 [4523]	662 [5860]							
		242	241	239	233							

Theoretical rpm	6
	11
	21
	41
	61
	82
	102
	122
	142
	163
Max. Cont.	183
	203
	223
	244

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

Theoretical Torque - Nm [lb-in]

103 [908]	205 [1815]	410 [3631]	615 [5446]	821 [7261]	1026 [9076]	1231 [10892]	1436 [12707]
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Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]



**470**

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

465 cc [28.3 in<sup>3</sup>/rev.]

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

Flow - lpm [gpm]	2 [0.5]	93 [823] 2	185 [1635] 1							Theoretical rpm
	4 [1]	97 [857] 7	203 [1794] 5	409 [3618] 5	610 [5402] 5	815 [7209] 4				
	8 [2]	98 [865] 15	209 [1845] 14	435 [3851] 13	659 [5836] 13	855 [7563] 12	1025 [9071] 11	1196 [10586] 9		
	15 [4]	94 [834] 31	200 [1774] 30	444 [3932] 28	659 [5829] 28	886 [7836] 26	1066 [9434] 23	1250 [11062] 21		
	23 [6]	86 [759] 48	193 [1704] 47	438 [3880] 44	673 [5955] 44	872 [7715] 41	1073 [9499] 37	1258 [11128] 32		
	30 [8]	73 [643] 64	179 [1587] 63	424 [3752] 60	663 [5863] 60	857 [7586] 57	1098 [9718] 50	1279 [11317] 43		
	38 [10]	52 [464] 81	164 [1455] 80	407 [3597] 78	627 [5550] 78	851 [7533] 75	1067 [9444] 68	1276 [11288] 61		
	45 [12]		141 [1248] 97	379 [3350] 94	630 [5575] 93	832 [7363] 90	1067 [9441] 83	1273 [11264] 76		
	53 [14]		114 [1006] 113	350 [3094] 112	580 [5133] 111	802 [7101] 108	1013 [8964] 102	1222 [10817] 94		
	61 [16]		83 [736] 130	322 [2846] 129	545 [4819] 127	796 [7040] 123	965 [8538] 119	1190 [10528] 113		
	68 [18]		56 [497] 146	275 [2434] 145	526 [4657] 145	737 [6519] 142	956 [8464] 138	1166 [10317] 128		
	76 [20]			235 [2078] 162	479 [4239] 161	706 [6249] 158	917 [8117] 154	1122 [9933] 143		
	83 [22]			202 [1790] 179	460 [4075] 178	669 [5920] 176	883 [7811] 170			
	91 [24]			157 [1392] 195	385 [3410] 194	620 [5484] 190	843 [7464] 186			

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

Theoretical Torque - Nm [lb-in]

127 [1127]	255 [2253]	509 [4506]	764 [6760]	1018 [9013]	1273 [11266]	1528 [13519]
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Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]

**540**

Pressure - bars [psi]				Max. Cont.	Max. Inter.
17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	173 [2500]

536 cc [32.7 in<sup>3</sup>/rev.]

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

Flow - lpm [gpm]	2 [0.5]	104 [921] 2	197 [1748] 2							Theoretical rpm
	4 [1]	126 [1111] 6	230 [2031] 5	467 [4136] 5	699 [6183] 5	939 [8310] 5	1149 [10165] 4			
	8 [2]	134 [1189] 13	240 [2120] 13	501 [4436] 12	755 [6679] 12	977 [8646] 11	1185 [10484] 10			
	15 [4]	120 [1058] 27	232 [2055] 27	510 [4510] 26	757 [6697] 26	988 [8740] 24	1223 [10827] 23			
	23 [6]	97 [859] 41	224 [1984] 41	505 [4469] 40	783 [6930] 40	993 [8787] 38	1225 [10838] 34			
	30 [8]	78 [692] 56	213 [1887] 56	484 [4285] 55	750 [6635] 54	983 [8698] 53	1251 [11075] 48			
	38 [10]	59 [523] 70	190 [1678] 70	455 [4026] 69	728 [6445] 69	959 [8487] 67	1244 [11008] 62			
	45 [12]		176 [1554] 84	438 [3879] 83	719 [6360] 83	945 [8360] 80	1203 [10646] 77			
	53 [14]		139 [1233] 98	418 [3703] 97	682 [6035] 96	952 [8421] 94	1183 [10467] 91			
	61 [16]		109 [963] 112	385 [3407] 111	668 [5908] 110	899 [7957] 110	1163 [10290] 105			
	68 [18]		83 [736] 126	356 [3154] 126	612 [5417] 125	869 [7694] 124	1116 [9876] 123			
	76 [20]			323 [2861] 140	603 [5333] 139	829 [7335] 138	1109 [9816] 134			
	83 [22]			297 [2629] 154	537 [4753] 153	792 [7011] 152				
	91 [24]			215 [1905] 169	491 [4349] 168	750 [6639] 168				

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

Theoretical Torque - Nm [lb-in]

147 [1302]	294 [2604]	588 [5207]	883 [7811]	1177 [10414]	1471 [13018]
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Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]

# RE

## PERFORMANCE



**750**

Pressure - bars [psi]		Max. Cont.	Peak
17 [250]	35 [500]	69 [1000]	104 [1500]
			138 [2000]

748 cc [45.6 in<sup>3</sup>/rev.]

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

Flow - lpm [gpm]	Torque - Nm [lb-in]					Theoretical rpm
2 [0.5]	147 [1299] 2	281 [2487] 1				3
4 [1]	156 [1379] 4	322 [2852] 4	652 [5768] 4	967 [8554] 3	1308 [11571] 3	6
8 [2]	158 [1403] 9	339 [3003] 9	693 [6134] 9	1027 [9088] 8	1360 [12033] 7	11
15 [4]	153 [1350] 19	331 [2933] 19	705 [6241] 19	1064 [9419] 18	1416 [12534] 16	21
23 [6]	135 [1194] 29	321 [2840] 29	697 [6166] 28	1059 [9373] 28	1408 [12462] 26	31
30 [8]	114 [1008] 40	304 [2690] 40	678 [6002] 39	1039 [9197] 38	1421 [12573] 34	41
38 [10]	82 [722] 50	271 [2395] 49	648 [5733] 49	1015 [8980] 48	1371 [12130] 47	51
45 [12]	54 [477] 60	249 [2207] 60	616 [5452] 59	983 [8699] 59	1345 [11902] 56	61
53 [14]		197 [1739] 70	577 [5104] 69	946 [8372] 68	1311 [11600] 67	71
61 [16]		150 [1325] 80	533 [4718] 79	905 [8008] 78	1271 [11249] 76	82
68 [18]		105 [927] 90	494 [4374] 90	860 [7614] 89	1225 [10843] 88	92
76 [20]		62 [552] 100	423 [3741] 100	805 [7123] 99	1173 [10385] 98	102
83 [22]			385 [3404] 110	747 [6608] 110		112
91 [24]			302 [2669] 121	670 [5932] 120		122

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

Theoretical Torque - Nm [lb-in]

205 [1815]	410 [3631]	821 [7261]	1231 [10892]	1641 [14522]
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Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]

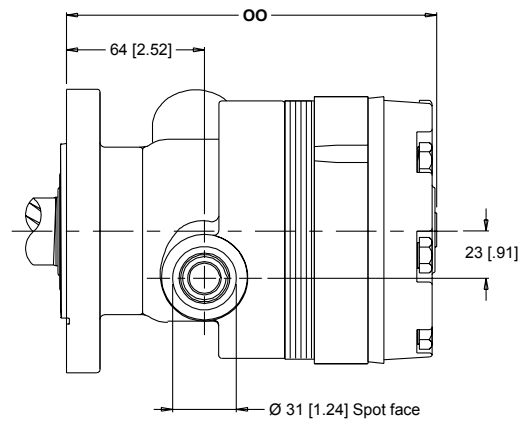
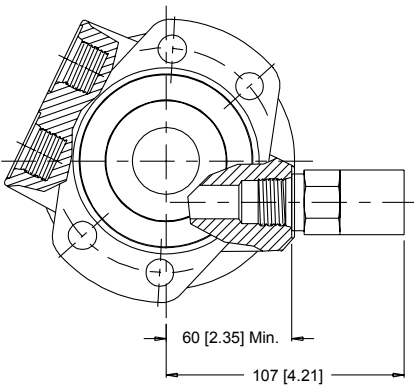
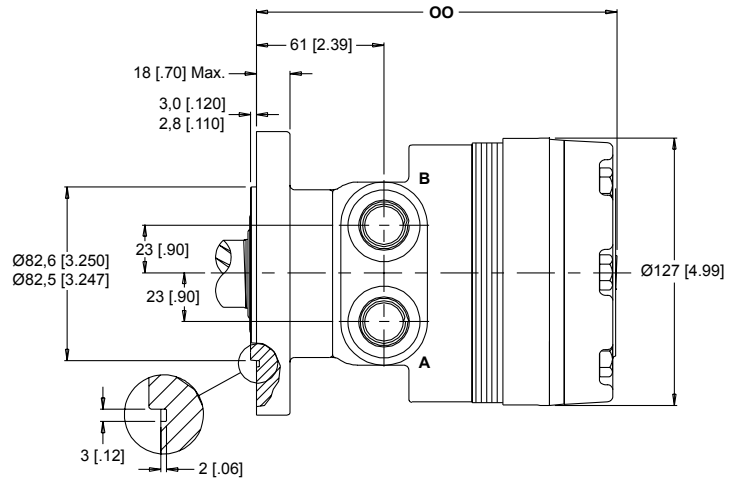
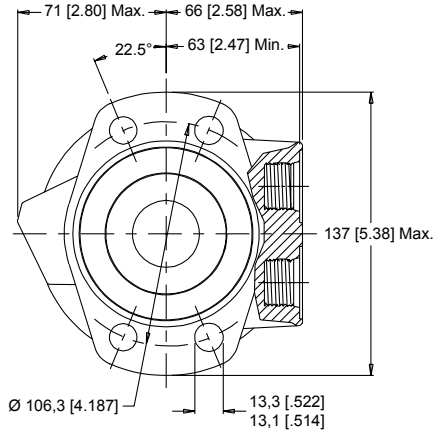


NOTE: Dimensions shown are without paint. Paint thickness can be up to 0,13 [.005]

500 & 501 SERIES HOUSINGS (SAE A MOUNT)

**A31** 4-Hole 7/8" O-Ring Aligned Ports

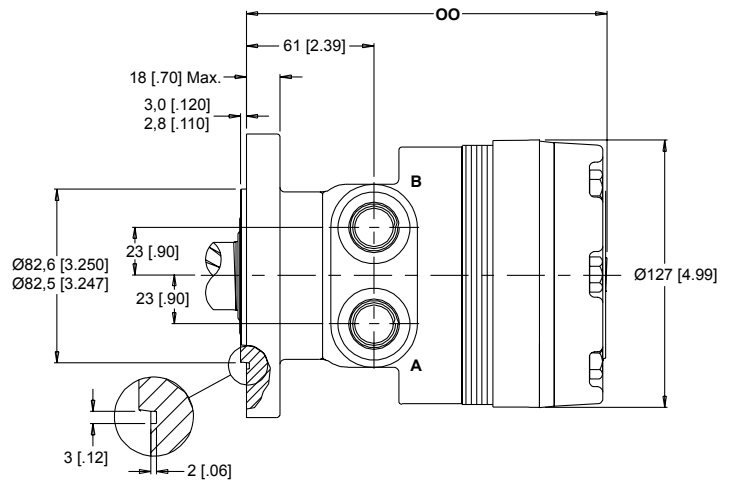
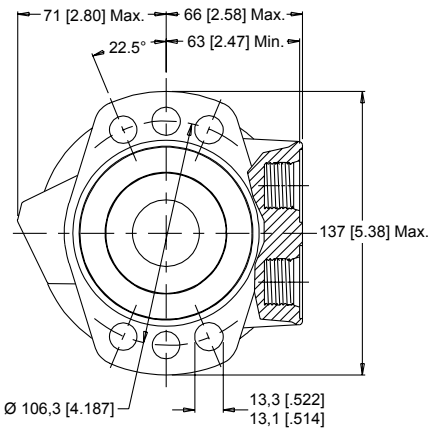
**A38** 4-Hole 1/2" BSP.F Aligned Ports



NOTE: Dimension OO is found on page 11. Optional Relief Cartridge shown installed and is available for both the A31 and A38 housings. Valve Cavity - 10 Series/2-way (7/8"-14 UNF-2B)

**A51** 6-Hole 7/8" O-Ring Aligned Ports

**A58** 6-Hole 1/2" BSP.F Aligned Ports





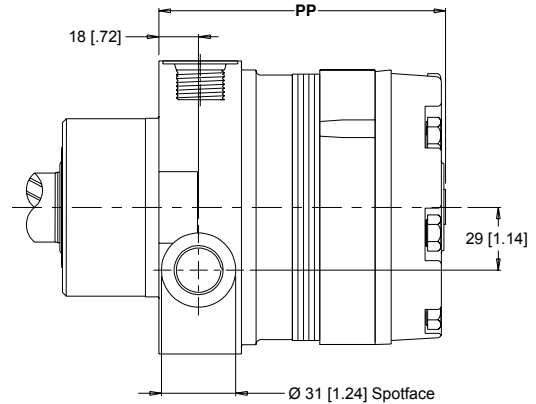
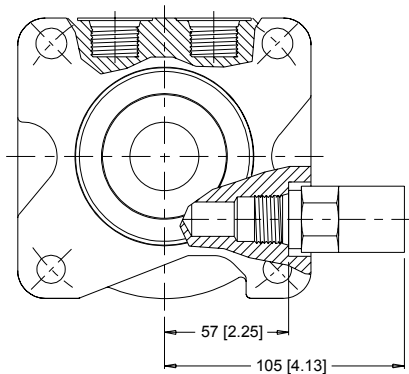
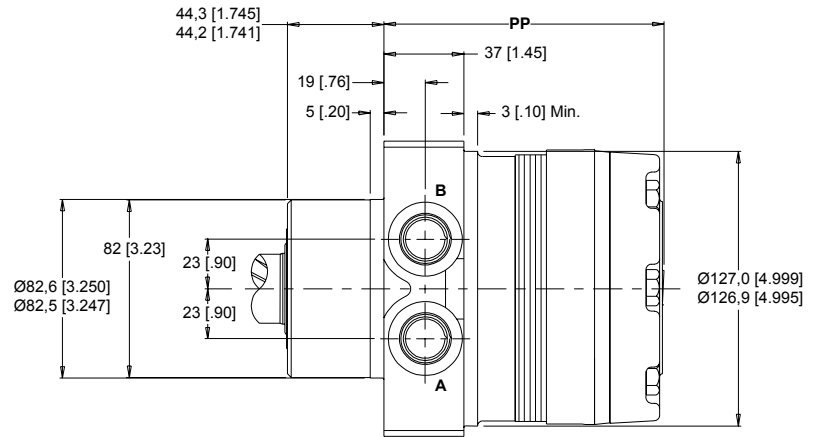
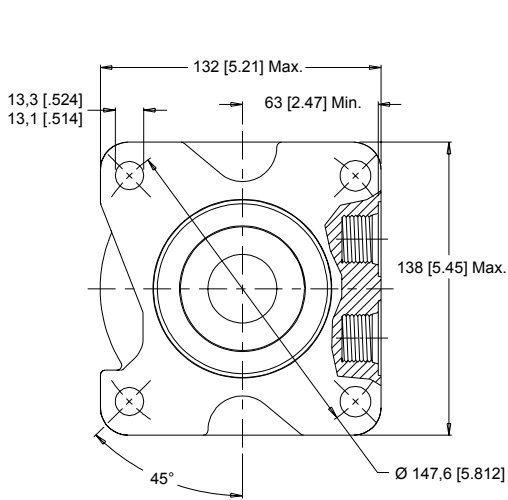


NOTE: Dimensions shown are without paint. Paint thickness can be up to 0,13 [.005]

## 500 & 501 SERIES HOUSINGS (WHEEL MOUNT)

**W31** 4-Hole 7/8" O-Ring Aligned Ports

**W38** 4-Hole 1/2" BSP.F Aligned Ports



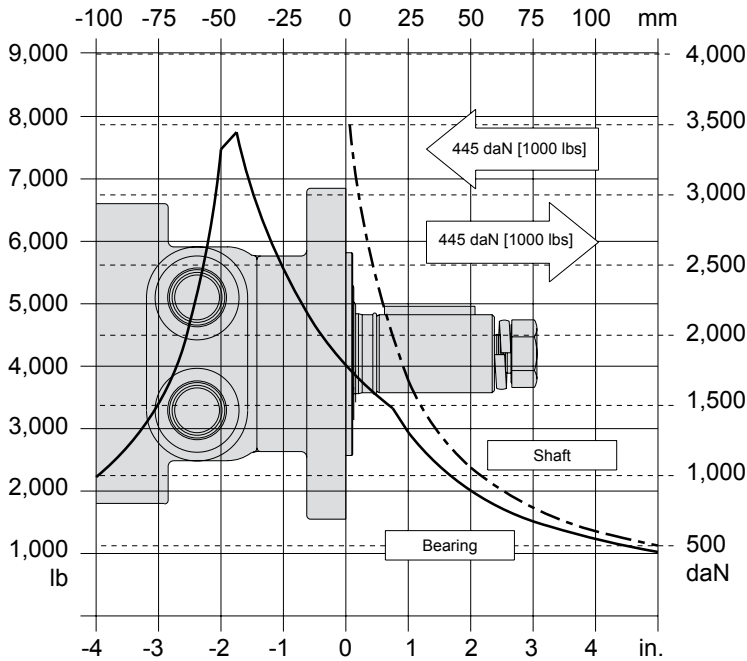
NOTE: Dimension PP is found on page 11. Optional Relief Cartridge shown installed and is available for both the W31 and W38 housings. Valve Cavity - 10 Series/2-way (7/8"-14 UNF-2B)



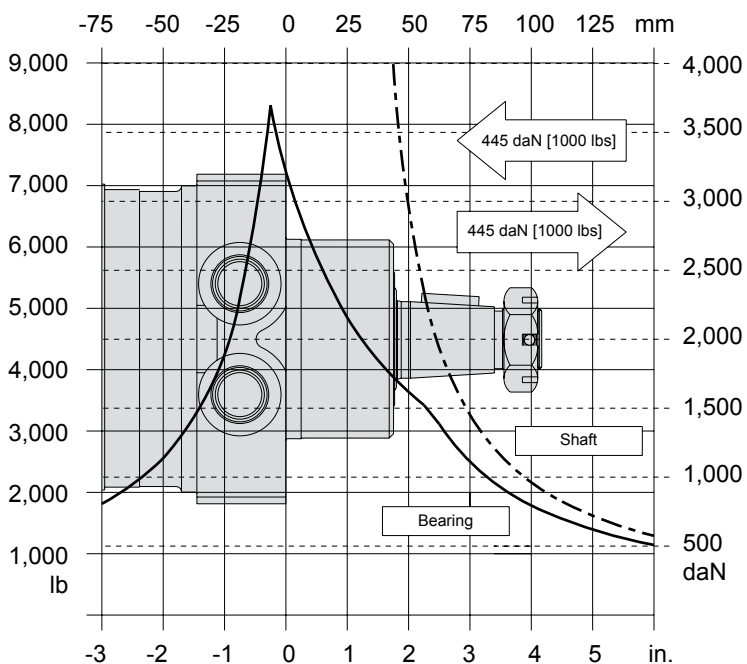
## 500 & 501 SERIES TECHNICAL INFORMATION

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

### SAE A FLANGE



### WHEEL MOUNT



LENGTH / WEIGHT CHART SAE A Mount - Dimension OO		
Code	mm [in]	kg [lb]
120	162 [6.37]	10,6 [23.4]
160	162 [6.37]	10,6 [23.4]
200	165 [6.51]	11,0 [24.2]
230	168 [6.61]	11,1 [24.4]
260	170 [6.70]	11,3 [25.0]
300	174 [6.83]	11,7 [25.8]
350	187 [7.38]	12,8 [28.2]
375	180 [7.08]	12,2 [27.0]
470	187 [7.38]	12,8 [28.2]
540	194 [7.62]	13,3 [29.4]
750	212 [8.33]	14,8 [32.5]

**NOTE:**  
RE motor weights vary  $\pm 0,5$  kg [1 lb] depending upon motor configuration.

LENGTH / WEIGHT CHART Wheel Mount - Dimension PP		
Code	mm [in]	kg [lb]
120	120 [4.72]	11,7 [25.8]
160	120 [4.72]	11,7 [25.8]
200	123 [4.86]	12,1 [26.6]
230	126 [4.95]	12,2 [26.8]
260	128 [5.05]	12,4 [27.4]
300	132 [5.18]	12,8 [28.2]
350	146 [5.73]	13,9 [30.6]
375	138 [5.43]	13,3 [29.4]
470	146 [5.73]	13,9 [30.6]
540	152 [5.97]	14,4 [31.8]
750	170 [6.68]	15,8 [34.9]

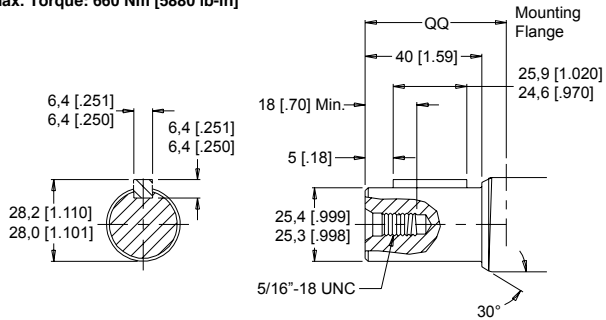
**NOTE:**  
RE motor weights vary  $\pm 0,5$  kg [1 lb] depending upon motor configuration.

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



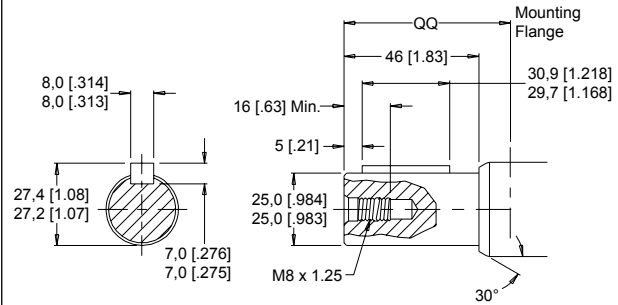
### 10 1" Straight

Max. Torque: 660 Nm [5880 lb-in]



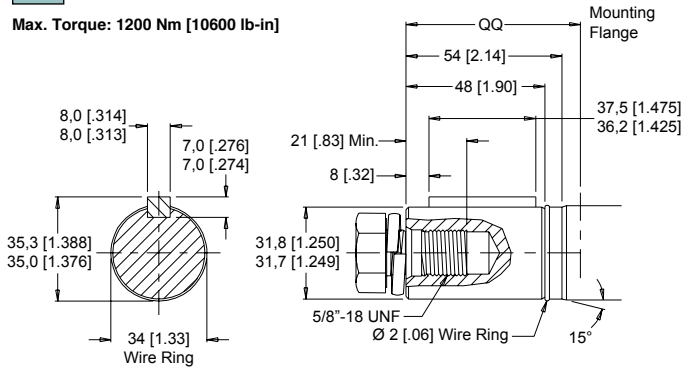
### 12 25mm Straight

Max. Torque: 635 Nm [5617 lb-in]



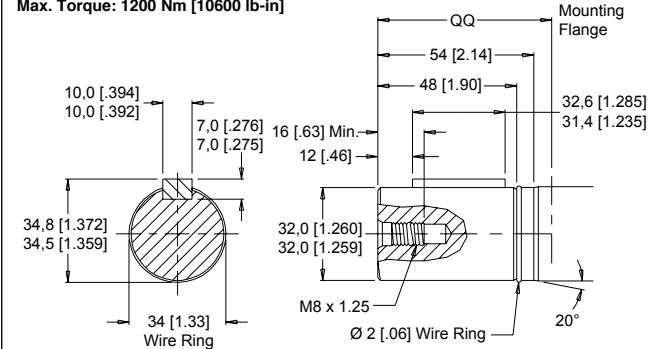
### 20 1-1/4" Straight

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



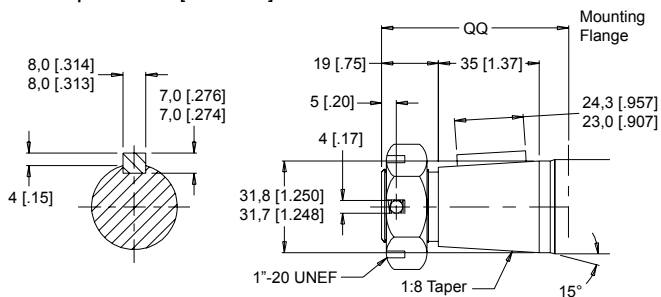
### 21 32mm Straight

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



### 22 1-1/4" Tapered

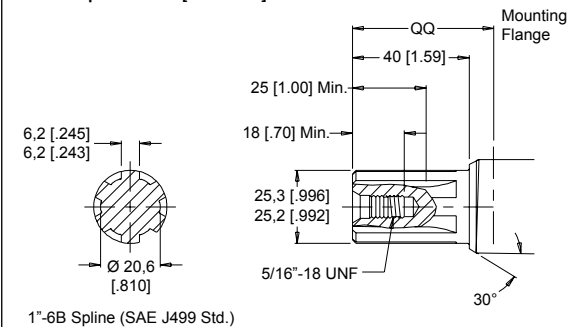
Max. Torque: 1200 Nm [10600 lb-in]



Note: A slotted nut is standard on this shaft.

### 02 6B Spline

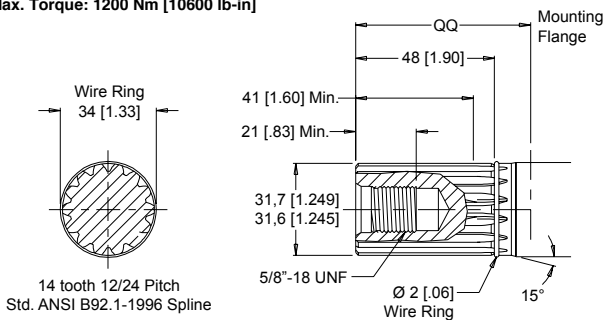
Max. Torque: 429 Nm [3800 lb-in]



1"-6B Spline (SAE J499 Std.)

### 23 14 Tooth Spline

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



14 tooth 12/24 Pitch  
Std. ANSI B92.1-1996 Spline

MOUNTING FLANGE TO SHAFT END Dimension QQ		
Code	SAE A Mount mm [in]	Wheel Mount mm [in]
02	50 [1.97]	91 [3.60]
10	50 [1.97]	91 [3.60]
12	56 [2.21]	98 [3.84]
20	61 [2.41]	103 [4.05]
21	61 [2.41]	103 [4.05]
22	66 [2.58]	107 [4.22]
23	61 [2.41]	103 [4.05]

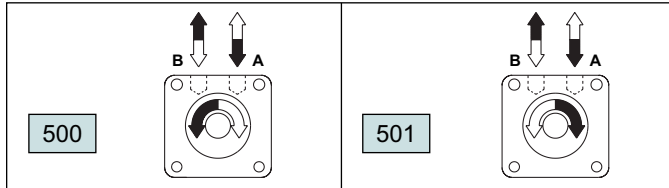


## 500 & 501 SERIES MODEL CODE BUILDER

SERIES	DISPLACEMENT	HOUSING	SHAFT	PAINT	CAVITY	ADD ON	MISCELLANEOUS
STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6	STEP 7	STEP 8

### STEP 1 - Select a series

- 500 Counterclockwise Rotation
- 501 Clockwise Rotation



**NOTE:** For applications requiring the motor to rotate in only one direction, shaft seal life may be prolonged by pressurizing the "A" port of the motor. To obtain the desired direction of shaft rotation, use the graphic above to determine the rotation code for the motor. For bi-directional applications, the 500 series is recommended. Preferred rotation is determined by internal valving design.

### STEP 2 - Select a displacement option

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

### STEP 3 - Select a housing option

- A31 4-Hole 7/8" O-Ring Aligned Ports (S)
- A38 4-Hole 1/2" BSP.F Aligned Ports (S)
- A51 6-Hole 7/8" O-Ring Aligned Ports (S)
- A58 6-Hole 1/2" BSP.F Aligned Ports (S)
- W31 4-Hole 7/8" O-Ring Aligned Ports
- W38 4-Hole 1/2" BSP.F Aligned Ports

### STEP 4 - Select a shaft option

02	6B Spline	03	6B Spline Extended (S)
10	1" Straight	15	1" Straight Extended (S)
12	25mm Straight	07	1-1/4" Straight Extended (S)
20	1-1/4" Straight	08	32mm Straight Extended (S)
21	32mm Straight	25	1-1/4" Tapered Extended (S)
22	1-1/4" Tapered	09	14 Tooth Spline Extended (S)
23	14 Tooth Spline		

**NOTE:** Extended shafts are intended for use when ordering a speed sensor motor. Dimensional data for these shafts are found in the RE (520) series section of this catalog.

### STEP 5 - Select a paint option

- A Black
- B Black (unpainted flange face)
- Z No Paint

### STEP 6 - Select a valve cavity option

- A None
- B Relief Valve Cavity
- C 1000 psi Relief Valve Installed
- D 1250 psi Relief Valve Installed
- E 1500 psi Relief Valve Installed
- F 1750 psi Relief Valve Installed
- G 2000 psi Relief Valve Installed
- J 2500 psi Relief Valve Installed
- L 3000 psi Relief Valve Installed

### STEP 7 - Select an add on option

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

**NOTE:** (S) - STEP 3 Housings available for use with speed sensors. STEP 4 Shafts available for use with speed sensors. STEP 7 Speed sensor options.

### STEP 8 - Select a miscellaneous option

- AA None
- AC Freeturning Rotor
- AE Hydraulic Declutch with Freeturning Rotor