



whitedriveproducts



SERIES

- 500 -
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MEDIUM DUTY
Hydraulic Motor & Brake

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.

FEATURES / BENEFITS

- 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.

TYPICAL APPLICATIONS

Medium-duty wheel drives, augers, mixers, winch drives, swing drives, grapple heads, feed rollers, broom drives and more

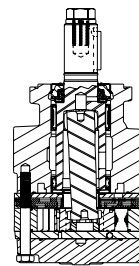
SPECIFICATIONS

| 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] | 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] |

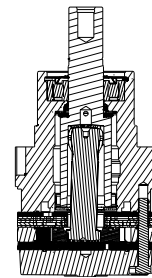
► Performance data is typical. Performance of production units varies slightly from one motor to another. Running at intermittent ratings should not exceed 10% of every minute of operation.

SERIES DESCRIPTIONS

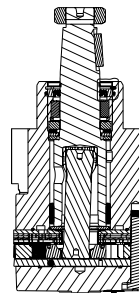
500/501 - Hydraulic Motor
Standard



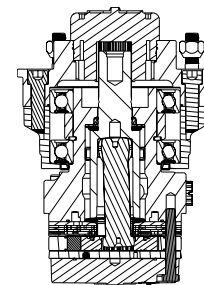
520/521 - Hydraulic Motor
With Medium Duty Bearing



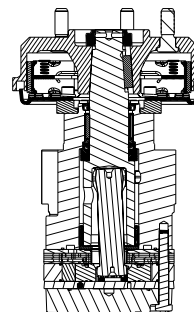
530/531 - Hydraulic Motor
With Heavy Duty Bearing



540/541 - Hydraulic Motor
With Wheel Hub



510/511 - Hydraulic Motor
With Integral Drum Brake





DISPLACEMENT PERFORMANCE

| | | | | | | | | | | | | |
|--|-------------|--|-----------------|-------------------|-------------------|-------------------|-------------------|---|-------------------|--|-----|--|
| | | Pressure - bar [psi] | | | | | | Max. Cont. | Max. Inter. | | | |
| 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 | | | | |
| | | Torque - Nm [lb-in], Speed rpm | | | | | | | | | | |
| Flow - lpm [gpm] | 2 [0.5] | 21 [187] 14 | 51 [448] 13 | 97 [859] 11 | 140 [1239] 8 | | | | | | 16 | |
| | 4 [1] | 24 [215] 26 | 54 [474] 25 | 111 [986] 25 | 162 [1429] 20 | 225 [1991] 13 | | | | | 32 | |
| | 8 [2] | | 57 [500] 58 | 118 [1043] 53 | 176 [1554] 51 | 226 [1997] 44 | 271 [2400] 40 | 302 [2673] 35 | 343 [3036] 27 | | 63 | |
| | 15 [4] | | 54 [479] 111 | 116 [1030] 106 | 186 [1642] 97 | 237 [2094] 93 | 278 [2459] 89 | 335 [2964] 85 | 359 [3179] 79 | | 125 | |
| | 23 [6] | | 49 [433] 174 | 116 [1023] 167 | 168 [1483] 155 | 232 [2051] 150 | 279 [2467] 144 | 328 [2903] 139 | 360 [3185] 137 | | 188 | |
| | 30 [8] | | | 111 [984] 245 | 169 [1497] 214 | 223 [1973] 205 | 283 [2505] 200 | 326 [2884] 197 | 385 [3404] 188 | | 250 | |
| | 38 [10] | | | 104 [923] 294 | 166 [1469] 281 | 218 [1930] 269 | 272 [2411] 261 | 325 [2878] 250 | 385 [3404] 242 | | 313 | |
| | 45 [12] | | | 99 [872] 358 | 161 [1428] 344 | 217 [1918] 331 | 276 [2444] 326 | 321 [2839] 321 | 385 [3403] 304 | | 375 | |
| | 53 [14] | | | 91 [807] 415 | 155 [1372] 413 | 208 [1845] 398 | 267 [2363] 391 | 338 [2992] 369 | | | 438 | |
| | 61 [16] | | | 84 [745] 487 | 145 [1283] 475 | 211 [1864] 457 | 272 [2403] 447 | 327 [2897] 427 | | | 500 | |
| | 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] | | | | | | | | | | |
| 13.8 [542] | | 33 [295] | 67 [589] | 133 [1178] | 200 [1768] | 266 [2357] | 333 [2946] | 399 [3535] | 466 [4124] | | | |
| 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] | 241 [3500] | | | |
| 162 cm ³ [9.9 in ³] / rev | | | | | | | | Intermittent Ratings - 10% of Operation | | | | |
| | | Torque - Nm [lb-in], Speed rpm | | | | | | | | | | |
| Flow - lpm [gpm] | 2 [0.5] | 37 [326] 7 | 77 [685] 3 | 149 [1323] 3 | 223 [1977] 3 | 310 [2741] 2 | 349 [3088] 1 | | | | 12 | |
| | 4 [1] | 30 [264] 21 | 80 [704] 18 | 164 [1448] 17 | 244 [2158] 16 | 324 [2865] 14 | 378 [3344] 13 | 442 [3909] 9 | | | 24 | |
| | 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 | | 47 | |
| | 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 | | 94 | |
| | 23 [6] | | 71 [631] 138 | 158 [1395] 134 | 235 [2078] 131 | 317 [2806] 127 | 389 [3447] 122 | 462 [4088] 121 | 518 [4586] 118 | | 140 | |
| | 30 [8] | | 67 [596] 186 | 164 [1449] 182 | 236 [2090] 179 | 312 [2760] 173 | 385 [3411] 170 | 456 [4033] 167 | 513 [4537] 163 | | 187 | |
| | 38 [10] | | 72 [640] 232 | 149 [1323] 230 | 234 [2074] 229 | 309 [2736] 222 | 376 [3329] 220 | 455 [4022] 213 | 522 [4623] 207 | | 234 | |
| | 45 [12] | | 67 [596] 279 | 144 [1275] 279 | 226 [1998] 272 | 304 [2689] 270 | 369 [3270] 264 | 440 [3890] 255 | 497 [4397] 247 | | 280 | |
| | 53 [14] | | | 135 [1190] 326 | 228 [2022] 323 | 310 [2739] 317 | 375 [3317] 311 | 457 [4040] 304 | 541 [4789] 299 | | 327 | |
| | 61 [16] | | | 123 [1087] 372 | 213 [1889] 372 | 298 [2634] 364 | 368 [3253] 361 | 435 [3847] 357 | 502 [4439] 350 | | 374 | |
| | 68 [18] | | | 108 [952] 419 | 199 [1764] 417 | 283 [2501] 416 | 362 [3201] 407 | 419 [3708] 401 | | | 420 | |
| | 76 [20] | | | 105 [929] 466 | 195 [1726] 465 | 280 [2476] 462 | 349 [3092] 453 | 453 [4008] 443 | | | 467 | |
| 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] | | | | | | | | | | |
| 13.8 [542] | | 45 [394] | 89 [788] | 178 [1576] | 267 [2365] | 356 [3153] | 445 [3941] | 534 [4729] | 623 [5518] | | | |
| 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] | 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] 7 | 91 [808] 4 | 133 [1181] 4 | 294 [2602] 4 | 375 [3323] 3 | | | | 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% <input type="checkbox"/> 40 - 69% <input type="checkbox"/> 0 - 39% <input checked="" type="checkbox"/> | | | | | | | | |
| | | Theoretical Torque - Nm [lb-in] | | | | | | | | |
| | | 56 [494] | 112 [987] | 223 [1975] | 335 [2962] | 446 [3949] | 558 [4936] | 669 [5924] | 781 [6911] | |
| | | Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS] | | | | | | | | |
| | | Rotor Width | | | | | | | | |
| | | 17.3 [.682] mm [in] | | | | | | | | |

| | | | | | | | | | | |
|---|---------|---|-----------------|-------------------|-------------------|-------------------|-------------------|---|-------------------|-----|
| | | Pressure - bar [psi] | | | | | | Max. Cont. | Max. Inter. | |
| 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] | 45 [397] 6 | 92 [813] 4 | 184 [1628] 3 | 293 [2590] 2 | 375 [3323] 1 | | | | 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% <input type="checkbox"/> 40 - 69% <input type="checkbox"/> 0 - 39% <input checked="" type="checkbox"/> | | | | | | | | |
| | | Theoretical Torque - Nm [lb-in] | | | | | | | | |
| | | 64 [565] | 128 [1131] | 256 [2261] | 383 [3392] | 511 [4522] | 639 [5653] | 767 [6783] | 894 [7914] | |
| | | Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS] | | | | | | | | |
| | | Rotor Width | | | | | | | | |
| | | 19.7 [.777] mm [in] | | | | | | | | |

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



DISPLACEMENT PERFORMANCE

Table for 260 series showing pressure, torque, speed, and flow performance. Includes intermittent ratings and rotor width information.

Rotor Width 22.1 [1.872] 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]

Table for 300 series showing pressure, torque, speed, and flow performance. Includes intermittent ratings and rotor width information.

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

| | | | | | | | | | | | |
|---|---------|----------------------|------------|------------|------------|------------|------------|------------|-------------|-------------|-----------------|
| 350 | | Pressure - bar [psi] | | | | | | Max. Cont. | | Max. Inter. | |
| | | 17 [250] | 35 [500] | 69 [1000] | 104 [1500] | 138 [2000] | 173 [2500] | 207 [3000] | 241 [3500] | | |
| 348 cm ³ [21.2 in ³] / rev | | | | | | | | | | | |
| Torque - Nm [lb-in], Speed rpm | | | | | | | | | | | |
| Flow - lpm [gpm] | 2 [0.5] | 64 [566] | 134 [1183] | 272 [2404] | 399 [3532] | | | | | | Theoretical rpm |
| | 4 [1] | 64 [570] | 134 [1189] | 296 [2619] | 437 [3869] | | | | | | |
| | 8 [2] | 69 [607] | 145 [1285] | 312 [2764] | 462 [4092] | 600 [5308] | 742 [6571] | 855 [7569] | | | |
| | 15 [4] | 71 [627] | 151 [1340] | 313 [2767] | 471 [4169] | 630 [5577] | 772 [6834] | 889 [7869] | 993 [8785] | | |
| | 23 [6] | 62 [549] | 149 [1618] | 315 [2788] | 474 [4191] | 630 [5577] | 768 [6796] | 925 [8182] | 1032 [9137] | | |
| | 30 [8] | 53 [472] | 139 [1233] | 307 [2713] | 459 [4058] | 626 [5537] | 768 [6793] | 928 [8210] | 1051 [9300] | | |
| | 38 [10] | | 113 [1004] | 298 [2639] | 431 [3814] | 601 [5317] | 745 [6593] | 910 [8056] | 1062 [9399] | | |
| | 45 [12] | | 98 [869] | 265 [2346] | 445 [3936] | 581 [5144] | 740 [6552] | 891 [7889] | 1044 [9237] | | |
| | 53 [14] | | 86 [758] | 252 [2226] | 422 [3738] | 570 [5044] | 723 [6398] | 881 [7794] | 1031 [9126] | | |
| | 61 [16] | | 63 [560] | 235 [2079] | 409 [3619] | 549 [4859] | 720 [6375] | 850 [7522] | 1012 [8952] | | |
| | 68 [18] | | | 220 [1948] | 394 [3490] | 571 [5054] | 693 [6134] | 839 [7428] | 986 [8727] | | |
| | 76 [20] | | | 208 [1843] | 375 [3320] | 513 [4544] | 683 [6044] | 835 [7385] | 975 [8632] | | |
| | 83 [22] | | | 179 [1583] | 352 [3112] | 554 [4906] | 685 [6064] | 813 [7198] | 958 [8482] | | |
| | 91 [24] | | | 172 [1526] | 360 [3186] | 534 [4724] | 666 [5890] | | | | |
| | 95 [25] | | | | 369 [3264] | 529 [4682] | 647 [5730] | | | | |
| Overall Efficiency - 70 - 100% <input type="checkbox"/> 40 - 69% <input type="checkbox"/> 0 - 39% <input checked="" type="checkbox"/> | | | | | | | | | | | |
| Rotor Width | | | | | | | | | | | |
| 39.4 [1.553] | | 95 [844] | | 191 [1688] | | 381 [3376] | | 572 [5064] | | 763 [6752] | |
| Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS] | | | | | | | | | | | |

| | | | | | | | | | | | |
|--|---|----------------------|------------|------------|------------|------------|------------|-------------|--------------|-------------|-----------------|
| 375 | | Pressure - bar [psi] | | | | | | Max. Cont. | | Max. Inter. | |
| | | 17 [250] | 35 [500] | 69 [1000] | 104 [1500] | 138 [2000] | 173 [2500] | 207 [3000] | 241 [3500] | | |
| 375 cm ³ [22.8 in ³] / rev | | | | | | | | | | | |
| Torque - Nm [lb-in], Speed rpm | | | | | | | | | | | |
| Flow - lpm [gpm] | 2 [0.5] | 76 [674] | | | | | | | | | Theoretical rpm |
| | 4 [1] | 84 [745] | 162 [1432] | 329 [2911] | 490 [4337] | 639 [5652] | 763 [6756] | | | | |
| | 8 [2] | 82 [724] | 171 [1510] | 361 [3196] | 537 [4754] | 689 [6095] | 836 [7399] | 955 [8449] | | | |
| | 15 [4] | 77 [680] | 163 [1439] | 358 [3164] | 537 [4756] | 695 [6151] | 857 [7587] | 989 [8750] | 1121 [9923] | | |
| | 23 [6] | 67 [595] | 158 [1398] | 354 [3130] | 527 [4661] | 695 [6155] | 864 [7642] | 1011 [8951] | 1168 [10334] | | |
| | 30 [8] | 57 [508] | 149 [1321] | 340 [3010] | 510 [4512] | 695 [6154] | 845 [7476] | 1009 [8930] | 1156 [10229] | | |
| | 38 [10] | | 134 [1187] | 322 [2849] | 495 [4383] | 681 [6024] | 836 [7399] | 1007 [8913] | 1157 [10235] | | |
| | 45 [12] | | 115 [1013] | 301 [2661] | 480 [4249] | 645 [5711] | 809 [7159] | 980 [8674] | 1141 [10098] | | |
| | 53 [14] | | 93 [819] | 280 [2475] | 477 [4218] | 633 [5602] | 795 [7036] | 949 [8402] | 1117 [9887] | | |
| | 61 [16] | | 73 [646] | 261 [2314] | 429 [3797] | 598 [5296] | 770 [6817] | 934 [8267] | 1085 [9605] | | |
| | 68 [18] | | | 236 [2091] | 434 [3843] | 597 [5282] | 765 [6771] | 907 [8026] | 1080 [9554] | | |
| | 76 [20] | | | 209 [1851] | 384 [3396] | 561 [4969] | 740 [6549] | 877 [7764] | 1027 [9091] | | |
| | 83 [22] | | | 178 [1576] | 374 [3309] | 530 [4694] | 696 [6160] | 840 [7431] | | | |
| | 91 [24] | | | 141 [1246] | 319 [2822] | 511 [4523] | 662 [5860] | | | | |
| | Overall Efficiency - 70 - 100% <input type="checkbox"/> 40 - 69% <input type="checkbox"/> 0 - 39% <input checked="" type="checkbox"/> | | | | | | | | | | |
| Rotor Width | | | | | | | | | | | |
| 31.8 [1.252] | | 103 [908] | | 205 [1815] | | 410 [3631] | | 615 [5446] | | 821 [7261] | |
| 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

Table for 470 series showing pressure, torque, speed, and intermittent ratings. Includes rotor width and theoretical rpm data.

Rotor Width 39.4 [1.553] mm [in]

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]

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

Table for 540 series showing pressure, torque, speed, and intermittent ratings. Includes rotor width and theoretical rpm data.

Rotor Width 45.5 [1.791] mm [in]

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]

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 | |
|---|---------|---|-------------------|-------------------|-------------------|---|-----|
| 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] | 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 | |
| Max. Cont. | | | | | | | |
| Max. Inter. | | | | | | | |
| | | 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] | | | | | |
| 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] | | | | | |

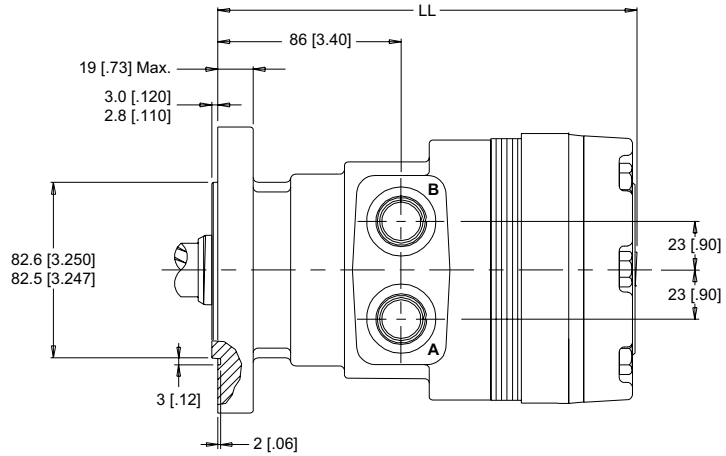
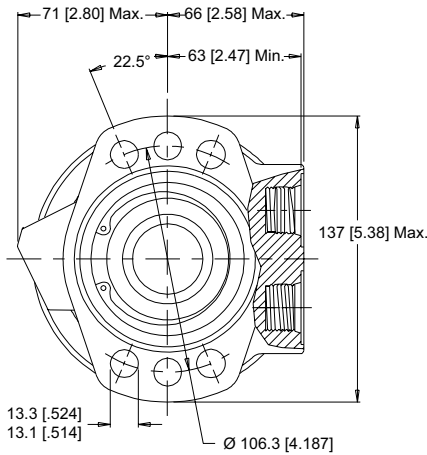
► Performance data is typical. Performance of production units varies slightly from one motor to another.

HOUSINGS

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

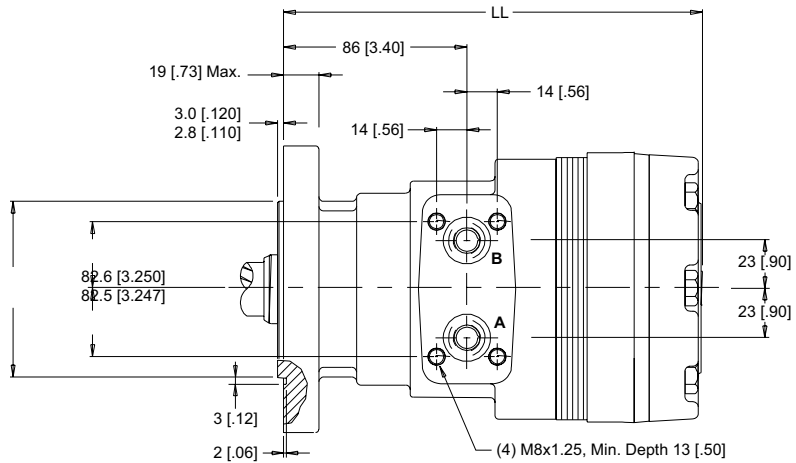
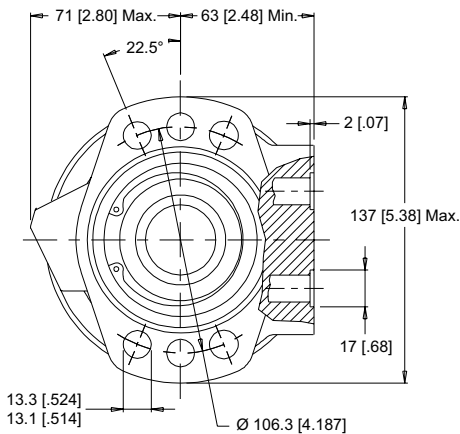
6-HOLE, SAE A MOUNT, ALIGNED PORTS

A51 7/8-14 UNF **A58** G 1/2



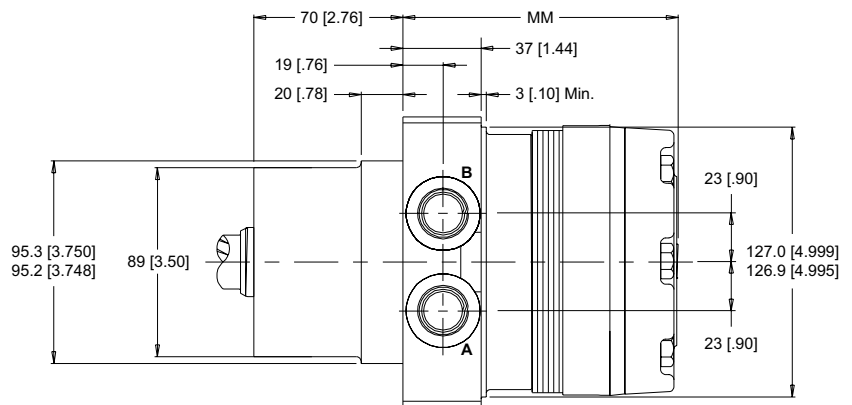
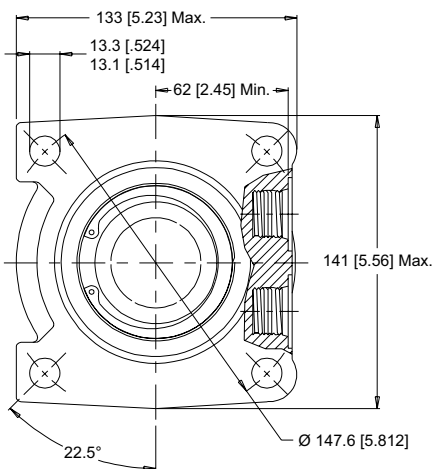
6-HOLE, SAE A MOUNT, ALIGNED MANIFOLD PORTS

A57 1/2" Drilled



4-HOLE, WHEEL MOUNT, ALIGNED PORTS

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



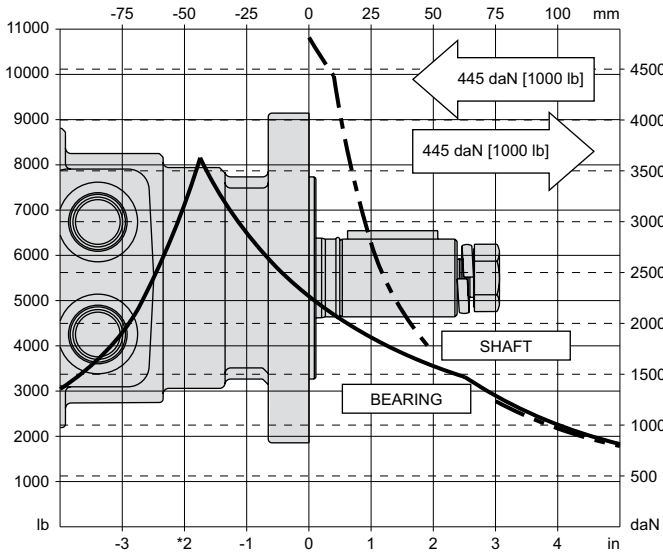
► Dimensions LL & MM are charted on page 15.

TECHNICAL INFORMATION

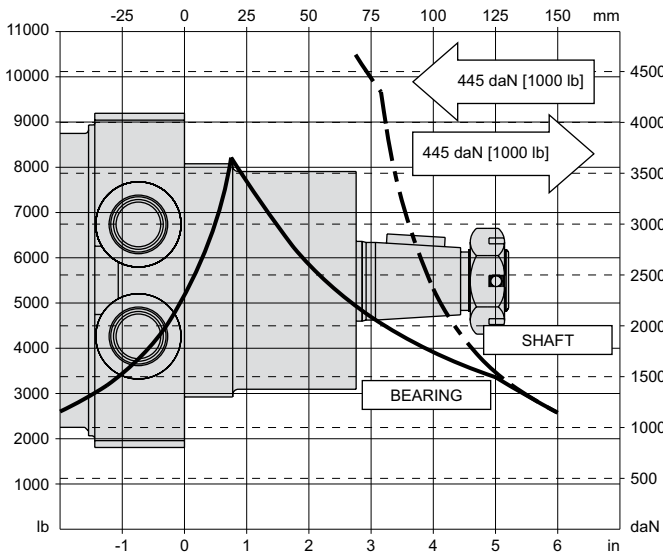
ALLOWABLE SHAFT LOAD / BEARING CURVE

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 11.

SAE A MOUNTS



WHEEL MOUNTS



LENGTH & WEIGHT CHART

Dimensions LL & MM are the overall motor lengths from the rear of the motor to the mounting flange surface and are referenced on detailed housing drawings listed on page 14.

| LL | Length | Weight |
|-----|------------|-------------|
| # | mm [in] | kg [lb] |
| 120 | 187 [7.37] | 13.3 [29.4] |
| 160 | 187 [7.37] | 13.3 [29.4] |
| 200 | 191 [7.51] | 13.7 [30.2] |
| 230 | 193 [7.61] | 13.8 [30.4] |
| 260 | 196 [7.70] | 14.1 [31.0] |
| 300 | 199 [7.83] | 14.4 [31.8] |
| 350 | 213 [8.38] | 15.5 [34.2] |
| 375 | 205 [8.08] | 15.0 [33.0] |
| 470 | 213 [8.38] | 15.5 [34.2] |
| 540 | 219 [8.62] | 16.1 [35.4] |
| 750 | 237 [9.33] | 17.5 [38.5] |

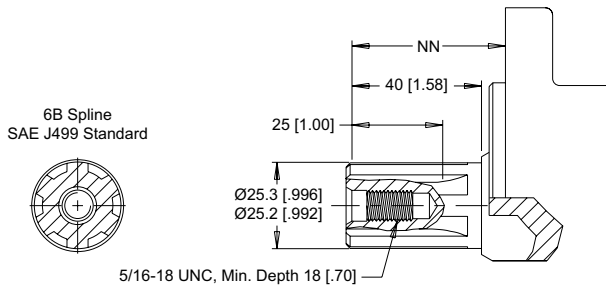
| MM | Length | Weight |
|-----|------------|-------------|
| # | mm [in] | kg [lb] |
| 120 | 120 [4.72] | 12.9 [28.4] |
| 160 | 120 [4.72] | 12.9 [28.4] |
| 200 | 123 [4.86] | 13.2 [29.2] |
| 230 | 126 [4.95] | 13.3 [29.4] |
| 260 | 128 [5.05] | 13.6 [30.0] |
| 300 | 132 [5.18] | 14.0 [30.8] |
| 350 | 146 [5.73] | 15.1 [33.2] |
| 375 | 138 [5.43] | 14.5 [32.0] |
| 470 | 146 [5.73] | 15.1 [33.2] |
| 540 | 152 [5.97] | 15.6 [34.4] |
| 750 | 170 [6.68] | 17.0 [37.5] |

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



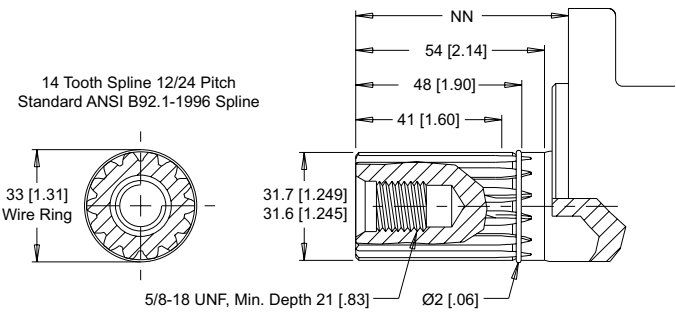
SHAFTS

03 1" 6B Spline



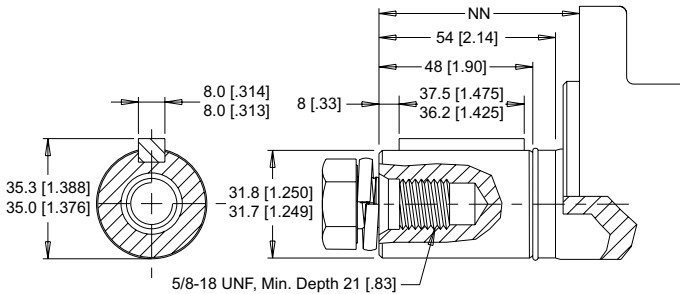
Max. Torque: 678 Nm [6000 lb-in]

09 14 Tooth Spline



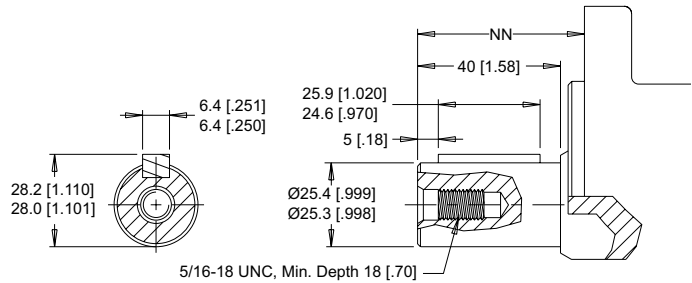
Max. Torque: 1200 Nm [10600 lb-in]

07 1-1/4" Straight



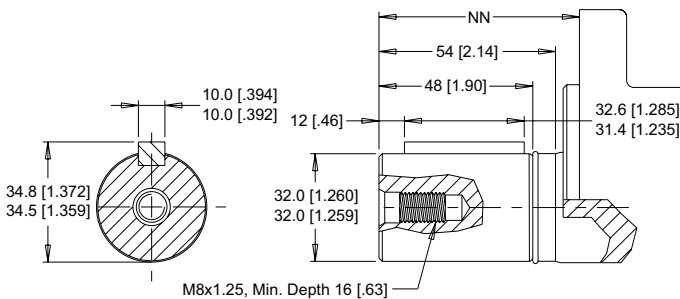
Max. Torque: 1200 Nm [10600 lb-in]

15 1" Straight



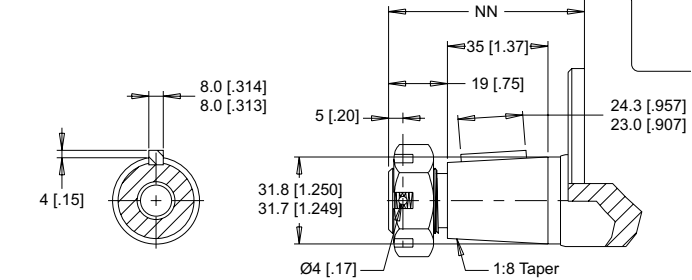
Max. Torque: 655 Nm [5800 lb-in]

08 32mm Straight



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

25 1-1/4" Tapered



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

► A slotted hex nut is standard on this shaft.

MOUNTING / SHAFT LENGTH CHART

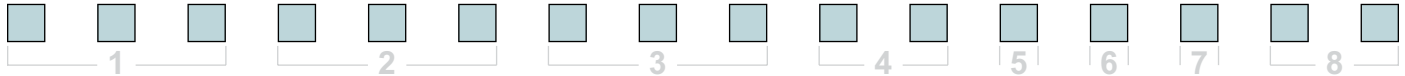
Dimension NN is the overall distance from the motor mounting surface to the end of the shaft and is referenced on detailed shaft drawings above.

| NN | SAE A Mounts | Wheel Mounts |
|----|--------------|--------------|
| # | mm [in] | mm [in] |
| 03 | 51 [2.02] | 119 [4.69] |
| 07 | 63 [2.47] | 131 [5.15] |
| 08 | 62 [2.47] | 130 [5.15] |
| 09 | 63 [2.47] | 131 [5.15] |
| 15 | 51 [2.02] | 119 [4.69] |
| 25 | 67 [2.63] | 135 [5.31] |

► Shaft lengths vary ± 0.8 mm [0.030 in.]

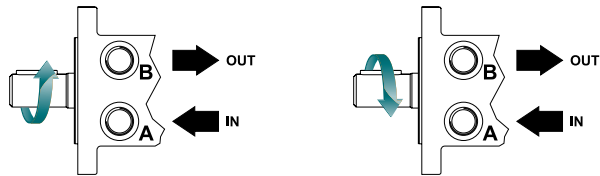


ORDERING INFORMATION



1. CHOOSE SERIES DESIGNATION

- 520** Counterclockwise Rotation
- 521** Clockwise Rotation



► The 520 & 521 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

| | |
|------------|---|
| A51 | 6-Hole, SAE A Mount, Aligned Ports, 7/8-14 UNF |
| A57 | 6-Hole, SAE A Mount, Aligned Manifold Ports, 1/2" Drilled |
| A58 | 6-Hole, SAE A Mount, Aligned Ports, G 1/2 |
| 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

| | | | |
|-----------|-----------------|-----------|-----------------|
| 03 | 1" 6B Spline | 09 | 14 Tooth Spline |
| 07 | 1-1/4" Straight | 15 | 1" Straight |
| 08 | 32mm Straight | 25 | 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 |