



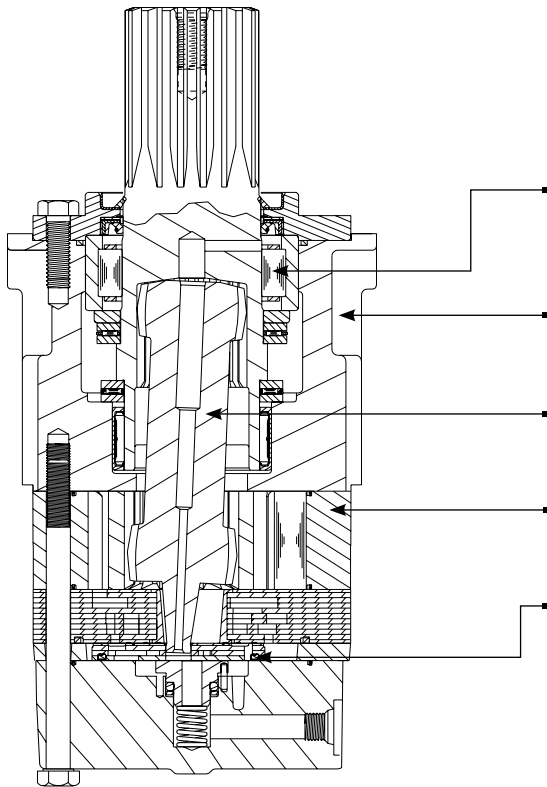
**DT**

SERIES HYDRAULIC MOTORS

# DT

## OVERVIEW

The most amazing aspect of the DT Series motor is its huge torque potential from its relatively small size. The DT Series motor is capable of producing output torque comparable to competitive designs, but from a package that is both shorter and lighter. The savings in space and weight in no way compromises durability, as the motor uses massive shafts, bearings and drive links to transmit the torque produced by this powerful package. The use of a case drain allows reduced pressure on the shaft seal while maintaining driveline lubrication for maximum motor life. Standard mounting and shaft options offer interchangeability with competitive designs. An internal drain option is also available.



### KEY FEATURES

- Heavy-Duty Roller Bearing** supports high side loads and receives forced lubrication for cooling and increased life.
- Compact Housing** contributes to high power-to-weight ratio of motor and offers front and rear mounting flanges.
- Heavy-Duty Drive Link** receives forced lubrication for long life and is capable of extreme duty cycles.
- Roller Stator® Motor** available in displacements up to 2093cc [127.7 cid] for high torque output.
- Three-Zone Orbiting Valve** precisely meters oil to produce exceptional volumetric efficiencies.

## SPECIFICATIONS

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

| CODE | Displacement<br>cc [in <sup>3</sup> /rev] | Max. Speed<br>rpm |        | Max. Flow<br>lpm [gpm] |          | Max. Torque<br>Nm [lb-in] |              | Max. Pressure<br>bar [psi] |            |            |
|------|---|-------------------|--------|------------------------|----------|---------------------------|--------------|----------------------------|------------|------------|
|      |   | cont.             | inter. | cont.                  | inter.   | cont.                     | inter.       | cont.                      | inter.     | peak       |
| 300  | 300 [18.3]                                | 320               | 380    | 95 [25]                | 114 [30] | 819 [7250]                | 955 [8450]   | 207 [3000]                 | 241 [3500] | 259 [3750] |
| 375  | 374 [22.8]                                | 250               | 300    | 95 [25]                | 114 [30] | 1045 [9250]               | 1127 [9975]  | 207 [3000]                 | 224 [3250] | 241 [3500] |
| 470  | 464 [28.3]                                | 200               | 240    | 95 [25]                | 114 [30] | 1071 [9475]               | 1390 [12300] | 172 [2500]                 | 224 [3250] | 241 [3500] |
| 540  | 536 [32.7]                                | 180               | 210    | 95 [25]                | 114 [30] | 1277 [11300]              | 1525 [13500] | 172 [2500]                 | 207 [3000] | 241 [3500] |
| 750  | 747 [45.6]                                | 130               | 150    | 95 [25]                | 114 [30] | 1780 [15750]              | 2090 [18500] | 172 [2500]                 | 207 [3000] | 241 [3500] |
| 930  | 929 [56.7]                                | 100               | 120    | 95 [25]                | 114 [30] | 1780 [15750]              | 2141 [18950] | 138 [2000]                 | 172 [2500] | 207 [3000] |
| 1K1  | 1047 [63.9]                               | 90                | 110    | 95 [25]                | 114 [30] | 1915 [16950]              | 2316 [20500] | 138 [2000]                 | 172 [2500] | 207 [3000] |
| 1K5  | 1495 [91.2]                               | 60                | 70     | 95 [25]                | 114 [30] | 2090 [18500]              | 2316 [20500] | 103 [1500]                 | 121 [1750] | 138 [2000] |
| 2K1  | 2093 [127.7]                              | 40                | 50     | 95 [25]                | 114 [30] | 2661 [23550]              | 3342 [29580] | 103 [1500]                 | 121 [1750] | 138 [2000] |



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] | 54 [476]<br>4  | 115 [1014]<br>3  | 237 [2100]<br>2   |                   |                   |                   |                   |                   | 7   | Theoretical rpm |
|                  | 4 [1]   | 47 [415]<br>11 | 108 [952]<br>9   | 255 [2256]<br>7   | 380 [3363]<br>5   | 486 [4304]<br>3   |                   |                   |                   | 13  |                 |
|                  | 8 [2]   | 49 [435]<br>24 | 119 [1057]<br>23 | 257 [2278]<br>21  | 410 [3628]<br>19  | 543 [4801]<br>15  | 671 [5942]<br>12  | 789 [6983]<br>9   | 899 [7959]<br>7   | 26  |                 |
|                  | 15 [4]  | 49 [430]<br>50 | 120 [1064]<br>49 | 264 [2336]<br>46  | 409 [3616]<br>43  | 554 [4904]<br>37  | 701 [6202]<br>32  | 839 [7424]<br>28  | 971 [8595]<br>26  | 51  |                 |
|                  | 23 [6]  |                | 116 [1025]<br>75 | 278 [2462]<br>69  | 420 [3719]<br>65  | 567 [5019]<br>58  | 712 [6297]<br>54  | 854 [7554]<br>51  | 983 [8701]<br>48  | 76  |                 |
|                  | 30 [8]  |                | 105 [929]<br>100 | 251 [2222]<br>97  | 396 [3506]<br>93  | 542 [4793]<br>86  | 692 [6122]<br>78  | 831 [7353]<br>70  | 974 [8621]<br>69  | 101 |                 |
|                  | 38 [10] |                | 99 [877]<br>126  | 237 [2099]<br>122 | 388 [3438]<br>115 | 549 [4857]<br>113 | 687 [6081]<br>107 | 833 [7369]<br>96  | 970 [8588]<br>90  | 127 |                 |
|                  | 45 [12] |                | 88 [762]<br>151  | 237 [2094]<br>150 | 378 [3342]<br>140 | 527 [4666]<br>135 | 666 [5893]<br>129 | 823 [7281]<br>119 | 963 [8523]<br>113 | 152 |                 |
|                  | 53 [14] |                | 77 [679]<br>176  | 211 [1864]<br>175 | 361 [3191]<br>172 | 506 [4478]<br>164 | 656 [5802]<br>156 | 805 [7121]<br>151 | 951 [8420]<br>140 | 177 |                 |
|                  | 61 [16] |                | 60 [528]<br>201  | 208 [1845]<br>200 | 359 [3179]<br>189 | 495 [4378]<br>185 | 648 [5731]<br>178 | 791 [6999]<br>172 | 928 [8213]<br>165 | 202 |                 |
|                  | 68 [18] |                |                  | 191 [1694]<br>225 | 335 [2961]<br>222 | 497 [4402]<br>211 | 632 [5592]<br>206 | 776 [6871]<br>196 | 914 [8093]<br>189 | 228 |                 |
|                  | 76 [20] |                |                  | 168 [1489]<br>251 | 320 [2835]<br>247 | 461 [4083]<br>240 | 610 [5401]<br>233 | 764 [6762]<br>228 | 897 [7934]<br>216 | 253 |                 |
|                  | 83 [22] |                |                  | 147 [1298]<br>276 | 302 [2675]<br>272 | 444 [3926]<br>269 | 588 [5205]<br>258 | 742 [6570]<br>249 | 883 [7810]<br>234 | 278 |                 |
|                  | 91 [24] |                |                  | 123 [1086]<br>300 | 272 [2409]<br>298 | 414 [3666]<br>296 | 558 [4934]<br>290 | 708 [6264]<br>281 | 851 [7535]<br>272 | 303 |                 |
|                  | 95 [25] |                |                  | 108 [958]<br>315  | 257 [2278]<br>313 | 393 [3482]<br>308 | 549 [4857]<br>300 | 694 [6139]<br>289 | 839 [7421]<br>280 | 316 |                 |
| 114 [30]         |         |                |                  | 186 [1642]<br>376 | 333 [2945]<br>372 | 473 [4189]<br>369 |                   |                   | 379               |     |                 |

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]

|                       |          |           |            |            |            |            |            |             |
|-----------------------|----------|-----------|------------|------------|------------|------------|------------|-------------|
| Pressure - bars [psi] |          |           |            |            |            |            | Max. Cont. | Max. Inter. |
| 17 [250]              | 35 [500] | 69 [1000] | 104 [1500] | 138 [2000] | 173 [2500] | 207 [3000] | 224 [3250] |             |

375

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

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

|                  |         |                |                   |                   |                   |                   |                   |                    |                    |     |                 |
|------------------|---------|----------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|--------------------|-----|-----------------|
| Flow - lpm [gpm] | 2 [0.5] | 65 [574]<br>4  | 144 [1272]<br>3   | 302 [2670]<br>2   | 449 [3970]<br>1   |                   |                   |                    |                    | 6   | Theoretical rpm |
|                  | 4 [1]   | 66 [583]<br>9  | 152 [1345]<br>8   | 312 [2757]<br>7   | 475 [4208]<br>5   | 625 [5535]<br>4   |                   |                    |                    | 11  |                 |
|                  | 8 [2]   | 67 [596]<br>19 | 154 [1365]<br>18  | 329 [2907]<br>17  | 496 [4388]<br>14  | 644 [5695]<br>12  | 805 [7122]<br>10  | 963 [8524]<br>8    | 1050 [9288]<br>7   | 21  |                 |
|                  | 15 [4]  | 71 [627]<br>40 | 158 [1400]<br>39  | 337 [2982]<br>37  | 513 [4536]<br>34  | 680 [6020]<br>30  | 858 [7596]<br>27  | 1013 [8962]<br>25  | 1099 [9723]<br>23  | 41  |                 |
|                  | 23 [6]  | 64 [570]<br>60 | 151 [1334]<br>60  | 336 [2969]<br>58  | 520 [4598]<br>54  | 694 [6141]<br>49  | 871 [7704]<br>45  | 1048 [9275]<br>41  | 1115 [9867]<br>41  | 61  |                 |
|                  | 30 [8]  | 53 [467]<br>81 | 151 [1337]<br>80  | 325 [2876]<br>78  | 512 [4532]<br>73  | 691 [6113]<br>69  | 873 [7724]<br>63  | 1051 [9304]<br>60  | 1126 [9964]<br>59  | 82  |                 |
|                  | 38 [10] |                | 131 [1161]<br>101 | 313 [2768]<br>99  | 502 [4439]<br>95  | 686 [6075]<br>89  | 884 [7824]<br>82  | 1049 [9281]<br>79  | 1131 [10011]<br>77 | 102 |                 |
|                  | 45 [12] |                | 112 [995]<br>121  | 308 [2725]<br>120 | 494 [4375]<br>116 | 685 [6059]<br>109 | 862 [7626]<br>103 | 1053 [9321]<br>98  | 1137 [10066]<br>97 | 122 |                 |
|                  | 53 [14] |                | 99 [878]<br>141   | 283 [2508]<br>140 | 469 [4149]<br>136 | 645 [5705]<br>131 | 844 [7467]<br>125 | 1013 [8965]<br>117 | 1116 [9877]<br>115 | 142 |                 |
|                  | 61 [16] |                | 75 [662]<br>162   | 262 [2319]<br>161 | 443 [3923]<br>160 | 631 [5587]<br>155 | 823 [7283]<br>148 | 1009 [8930]<br>143 | 1114 [9859]<br>136 | 163 |                 |
|                  | 68 [18] |                |                   | 248 [2198]<br>181 | 427 [3779]<br>178 | 612 [5416]<br>175 | 804 [7119]<br>167 | 1005 [8895]<br>160 | 1091 [9653]<br>156 | 183 |                 |
|                  | 76 [20] |                |                   | 218 [1925]<br>202 | 403 [3568]<br>200 | 583 [5161]<br>195 | 778 [6886]<br>189 | 966 [8549]<br>178  | 1071 [9474]<br>173 | 203 |                 |
|                  | 83 [22] |                |                   | 189 [1676]<br>222 | 375 [3318]<br>221 | 561 [4967]<br>217 | 754 [6669]<br>211 | 942 [8335]<br>201  | 1036 [9171]<br>196 | 223 |                 |
|                  | 91 [24] |                |                   | 155 [1374]<br>242 | 344 [3041]<br>240 | 535 [4732]<br>237 | 724 [6410]<br>229 |                    |                    | 244 |                 |
|                  | 95 [25] |                |                   |                   | 321 [2839]<br>252 | 519 [4596]<br>249 | 710 [6283]<br>241 |                    |                    | 254 |                 |
| 114 [30]         |         |                |                   | 238 [2110]<br>303 | 432 [3820]<br>301 | 622 [5503]<br>296 |                   |                    | 304                |     |                 |

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] | 1333 [11799] |
|-----------|------------|------------|------------|------------|-------------|--------------|--------------|

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



## PERFORMANCE

**470**

| Pressure - bars [psi] |          |           |            | Max. Cont. |            | Max. Inter. |            |
|-----------------------|----------|-----------|------------|------------|------------|-------------|------------|
| 17 [250]              | 35 [500] | 69 [1000] | 104 [1500] | 138 [2000] | 173 [2500] | 207 [3000]  | 224 [3250] |

464 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]  | 86 [762]<br>3  | 201 [1780]<br>2   | 401 [3553]<br>2   |                   |                   |                    |                     |                     | Theoretical rpm |     |
|                  | 4 [1]    | 92 [817]<br>7  | 195 [1728]<br>7   | 406 [3597]<br>6   | 610 [5395]<br>5   | 806 [7137]<br>4   |                    |                     |                     |                 | 5   |
|                  | 8 [2]    | 94 [835]<br>15 | 199 [1761]<br>15  | 418 [3702]<br>14  | 631 [5580]<br>13  | 832 [7365]<br>11  | 1042 [9226]<br>9   | 1239 [10961]<br>8   |                     |                 | 9   |
|                  | 15 [4]   | 92 [815]<br>32 | 202 [1784]<br>32  | 426 [3769]<br>60  | 646 [5717]<br>28  | 849 [7513]<br>24  | 1066 [9430]<br>23  | 1272 [11256]<br>21  | 1381 [12217]<br>19  |                 | 17  |
|                  | 23 [6]   | 82 [729]<br>48 | 203 [1799]<br>47  | 423 [3744]<br>46  | 647 [5725]<br>43  | 855 [7565]<br>39  | 1070 [9473]<br>36  | 1275 [11287]<br>34  | 1365 [12083]<br>32  |                 | 33  |
|                  | 30 [8]   | 67 [595]<br>65 | 185 [1641]<br>64  | 414 [3663]<br>63  | 642 [5683]<br>60  | 867 [7671]<br>54  | 1078 [9538]<br>47  | 1300 [11508]<br>46  | 1398 [12367]<br>44  |                 | 49  |
|                  | 38 [10]  | 52 [459]<br>81 | 170 [1503]<br>80  | 399 [3532]<br>79  | 630 [5573]<br>78  | 857 [7584]<br>69  | 1077 [9531]<br>63  | 1283 [11352]<br>61  | 1393 [12323]<br>58  |                 | 66  |
|                  | 45 [12]  |                | 153 [1354]<br>97  | 380 [3366]<br>96  | 613 [5422]<br>93  | 842 [7454]<br>88  | 1072 [9488]<br>77  | 1302 [11523]<br>74  | 1394 [12334]<br>68  |                 | 82  |
|                  | 53 [14]  |                | 127 [1121]<br>114 | 359 [3173]<br>113 | 591 [5229]<br>110 | 823 [7282]<br>104 | 1057 [9350]<br>97  | 1270 [11242]<br>89  | 1392 [12318]<br>85  |                 | 98  |
|                  | 61 [16]  |                | 100 [888]<br>160  | 335 [2964]<br>129 | 564 [4993]<br>127 | 798 [7061]<br>119 | 1030 [9118]<br>114 | 1254 [11101]<br>108 | 1369 [12118]<br>102 |                 | 115 |
|                  | 68 [18]  |                | 67 [595]<br>146   | 304 [2689]<br>145 | 535 [4734]<br>143 | 765 [6772]<br>137 | 1003 [8875]<br>132 | 1229 [10877]<br>120 | 1348 [11926]<br>114 |                 | 131 |
|                  | 76 [20]  |                |                   | 274 [2428]<br>162 | 504 [4458]<br>160 | 733 [6485]<br>155 | 965 [8536]<br>148  | 1197 [10592]<br>139 | 1318 [11668]<br>136 |                 | 147 |
|                  | 83 [22]  |                |                   | 226 [2003]<br>178 | 458 [4050]<br>175 | 691 [6118]<br>172 | 928 [8215]<br>165  | 1150 [10181]<br>156 | 1266 [11200]<br>154 |                 | 164 |
|                  | 91 [24]  |                |                   | 176 [1554]<br>194 | 415 [3670]<br>192 | 669 [5917]<br>190 | 885 [7833]<br>183  |                     |                     |                 | 180 |
|                  | 95 [25]  |                |                   |                   | 389 [3442]<br>203 | 632 [5589]<br>198 | 867 [7676]<br>190  |                     |                     |                 | 196 |
|                  | 114 [30] |                |                   |                   | 277 [2451]<br>243 | 514 [4549]<br>240 | 755 [6684]<br>235  |                     |                     |                 | 205 |

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

Theoretical Torque - Nm [lb-in]

|            |            |            |            |             |             |              |              |
|------------|------------|------------|------------|-------------|-------------|--------------|--------------|
| 127 [1127] | 255 [2253] | 509 [4506] | 764 [6760] | 1018 [9013] | 1273 [1126] | 1528 [13519] | 1655 [14646] |
|------------|------------|------------|------------|-------------|-------------|--------------|--------------|

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

Pressure - bars [psi] Max. Cont. Max. Inter.

**540**

|          |          |           |            |            |            |            |
|----------|----------|-----------|------------|------------|------------|------------|
| 17 [250] | 35 [500] | 69 [1000] | 104 [1500] | 138 [2000] | 173 [2500] | 207 [3000] |
|----------|----------|-----------|------------|------------|------------|------------|

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]  | 103 [908]<br>2  | 215 [1607]<br>2   | 421 [3722]<br>1   |                   |                   |                     |                     |  | Theoretical rpm |     |
|                  | 4 [1]    | 104 [917]<br>6  | 228 [2016]<br>5   | 454 [4015]<br>4   | 666 [5897]<br>3   | 874 [7730]<br>1   |                     |                     |  |                 | 4   |
|                  | 8 [2]    | 108 [954]<br>13 | 231 [2043]<br>12  | 474 [4191]<br>11  | 704 [6231]<br>9   | 925 [8190]<br>5   | 1153 [10201]<br>4   |                     |  |                 | 8   |
|                  | 15 [4]   | 102 [906]<br>27 | 232 [2052]<br>26  | 503 [4448]<br>24  | 756 [6692]<br>21  | 994 [8799]<br>18  | 1221 [10806]<br>15  | 1461 [12930]<br>13  |  |                 | 15  |
|                  | 23 [6]   | 98 [866]<br>42  | 230 [2038]<br>41  | 498 [4404]<br>39  | 766 [6774]<br>36  | 1023 [9049]<br>30 | 1268 [11225]<br>27  | 1494 [13219]<br>24  |  |                 | 29  |
|                  | 30 [8]   | 84 [744]<br>56  | 213 [1883]<br>55  | 484 [4280]<br>53  | 754 [6669]<br>49  | 1032 [9130]<br>42 | 1273 [11262]<br>38  | 1524 [13486]<br>34  |  |                 | 43  |
|                  | 38 [10]  | 63 [561]<br>70  | 195 [1727]<br>69  | 466 [4122]<br>68  | 737 [6519]<br>64  | 1006 [8903]<br>57 | 1285 [11374]<br>49  | 1532 [13556]<br>46  |  |                 | 57  |
|                  | 45 [12]  | 42 [373]<br>84  | 179 [1586]<br>83  | 444 [3928]<br>82  | 717 [6349]<br>76  | 984 [8710]<br>72  | 1274 [11277]<br>65  | 1518 [13436]<br>57  |  |                 | 71  |
|                  | 53 [14]  |                 | 146 [1295]<br>97  | 421 [3722]<br>95  | 694 [6139]<br>93  | 964 [8529]<br>87  | 1253 [11091]<br>80  | 1512 [13381]<br>70  |  |                 | 85  |
|                  | 61 [16]  |                 | 116 [1025]<br>113 | 391 [3460]<br>111 | 663 [5865]<br>108 | 930 [8230]<br>103 | 1206 [10675]<br>97  | 1479 [13086]<br>84  |  |                 | 99  |
|                  | 68 [18]  |                 | 90 [798]<br>127   | 356 [3153]<br>125 | 629 [5563]<br>123 | 900 [7969]<br>116 | 1192 [10550]<br>107 | 1451 [12841]<br>100 |  |                 | 114 |
|                  | 76 [20]  |                 | 56 [498]<br>141   | 330 [2923]<br>139 | 595 [5265]<br>137 | 887 [7850]<br>133 | 1158 [10250]<br>123 | 1421 [12578]<br>114 |  |                 | 128 |
|                  | 83 [22]  |                 |                   | 278 [2464]<br>155 | 549 [4859]<br>153 | 822 [7271]<br>148 | 1121 [9919]<br>136  | 1388 [12283]<br>133 |  |                 | 142 |
|                  | 91 [24]  |                 |                   | 243 [2154]<br>169 | 508 [4494]<br>166 | 794 [7024]<br>164 | 1054 [9325]<br>156  |                     |  |                 | 156 |
|                  | 95 [25]  |                 |                   | 220 [1948]<br>176 | 486 [4299]<br>174 | 762 [6741]<br>169 | 1025 [9075]<br>163  |                     |  |                 | 170 |
|                  | 114 [30] |                 |                   | 90 [800]<br>211   | 366 [3237]<br>210 | 638 [5649]<br>207 | 920 [8144]<br>203   |                     |  |                 | 177 |

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] | 1765 [15621] |
|------------|------------|------------|------------|--------------|--------------|--------------|

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



750

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

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

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

|                  |          |                  |                   |                   |                   |                     |                    |                    |  |     |                 |
|------------------|----------|------------------|-------------------|-------------------|-------------------|---------------------|--------------------|--------------------|--|-----|-----------------|
| Flow - lpm [gpm] | 2 [0.5]  | 144 [1276]<br>1  | 290 [2566]<br>1   |                   |                   |                     |                    |                    |  | 3   | Theoretical rpm |
|                  | 4 [1]    | 154 [1367]<br>4  | 323 [2863]<br>3   | 669 [5917]<br>2   | 931 [8242]<br>2   |                     |                    |                    |  | 6   |                 |
|                  | 8 [2]    | 162 [1435]<br>9  | 341 [3015]<br>9   | 712 [6302]<br>7   | 1021 [9038]<br>6  | 1305 [11550]<br>3   |                    |                    |  | 11  |                 |
|                  | 15 [4]   | 158 [1400]<br>19 | 348 [3080]<br>19  | 723 [6399]<br>17  | 1082 [9578]<br>15 | 1402 [12410]<br>11  |                    |                    |  | 21  |                 |
|                  | 23 [6]   | 144 [1273]<br>30 | 331 [2927]<br>29  | 714 [6317]<br>27  | 1083 [9583]<br>24 | 1433 [12678]<br>20  | 1744 [15430]<br>16 |                    |  | 31  |                 |
|                  | 30 [8]   | 126 [1116]<br>40 | 328 [2900]<br>39  | 697 [6167]<br>37  | 1072 [9486]<br>34 | 1451 [12843]<br>25  | 1769 [15658]<br>20 |                    |  | 41  |                 |
|                  | 38 [10]  | 104 [922]<br>50  | 291 [2574]<br>50  | 675 [5976]<br>47  | 1055 [9334]<br>44 | 1445 [12785]<br>36  | 1786 [15805]<br>28 | 2076 [18373]<br>19 |  | 51  |                 |
|                  | 45 [12]  | 77 [682]<br>60   | 269 [2382]<br>59  | 655 [5792]<br>58  | 1032 [9136]<br>54 | 1431 [12668]<br>49  | 1786 [15801]<br>36 | 2094 [18528]<br>30 |  | 61  |                 |
|                  | 53 [14]  | 46 [410]<br>70   | 239 [2116]<br>69  | 627 [5545]<br>68  | 1003 [8880]<br>65 | 1407 [12451]<br>59  | 1767 [15634]<br>45 | 2099 [18578]<br>37 |  | 71  |                 |
|                  | 61 [16]  |                  | 201 [1780]<br>81  | 584 [5164]<br>79  | 971 [8592]<br>76  | 1345 [11907]<br>70  | 1743 [15422]<br>57 | 2065 [18271]<br>44 |  | 82  |                 |
|                  | 68 [18]  |                  | 161 [1421]<br>91  | 545 [4819]<br>90  | 928 [8209]<br>86  | 1306 [11556]<br>80  | 1709 [15120]<br>69 |                    |  | 92  |                 |
|                  | 76 [20]  |                  | 120 [1058]<br>101 | 497 [4395]<br>100 | 863 [7635]<br>97  | 1260 [11154]<br>90  |                    |                    |  | 102 |                 |
|                  | 83 [22]  |                  |                   | 444 [3926]<br>110 | 831 [7351]<br>108 | 1213 [10737]<br>101 |                    |                    |  | 112 |                 |
|                  | 91 [24]  |                  |                   | 389 [3447]<br>121 | 785 [6947]<br>117 | 1196 [10581]<br>111 |                    |                    |  | 122 |                 |
|                  | 95 [25]  |                  |                   | 368 [3255]<br>126 | 757 [6697]<br>124 | 1144 [10126]<br>120 |                    |                    |  | 127 |                 |
|                  | 114 [30] |                  |                   | 205 [1813]<br>151 | 613 [5428]<br>149 | 979 [8665]<br>146   |                    |                    |  | 152 |                 |

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

Theoretical Torque - Nm [lb-in]

|            |            |            |              |              |              |              |
|------------|------------|------------|--------------|--------------|--------------|--------------|
| 205 [1815] | 410 [3631] | 821 [7261] | 1231 [10892] | 1641 [14522] | 2051 [18153] | 2462 [21783] |
|------------|------------|------------|--------------|--------------|--------------|--------------|

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

|                       |          |          |           |           |            |            |             |
|-----------------------|----------|----------|-----------|-----------|------------|------------|-------------|
| Pressure - bars [psi] |          |          |           |           |            | Max. Cont. | Max. Inter. |
| 17 [250]              | 35 [500] | 52 [750] | 69 [1000] | 86 [1250] | 104 [1500] | 121 [1750] | 138 [2000]  |
|                       |          |          |           |           |            | 155 [2250] | 173 [2500]  |

930

929 cc [56.7 in<sup>3</sup>/rev.]

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

|                  |          |                  |                  |                   |                   |                   |                    |                    |                     |                    |                    |                 |
|------------------|----------|------------------|------------------|-------------------|-------------------|-------------------|--------------------|--------------------|---------------------|--------------------|--------------------|-----------------|
| Flow - lpm [gpm] | 2 [0.5]  | 180 [1590]<br>1  | 387 [3423]<br>1  | 607 [5368]<br>1   | 801 [7089]<br>1   |                   |                    |                    |                     |                    | 3                  | Theoretical rpm |
|                  | 4 [1]    | 196 [1734]<br>4  | 418 [3696]<br>3  | 653 [5780]<br>3   | 864 [7649]<br>3   | 1067 [9447]<br>3  | 1294 [11451]<br>3  |                    |                     |                    | 5                  |                 |
|                  | 8 [2]    | 205 [1816]<br>8  | 442 [3907]<br>7  | 680 [6015]<br>7   | 877 [7764]<br>7   | 1117 [9886]<br>7  | 1300 [11501]<br>6  | 1510 [13365]<br>5  |                     |                    | 9                  |                 |
|                  | 15 [4]   | 198 [1753]<br>16 | 432 [3825]<br>16 | 664 [5878]<br>15  | 906 [8021]<br>15  | 1121 [9924]<br>15 | 1338 [11840]<br>14 | 1556 [13769]<br>13 | 1730 [15306]<br>11  |                    | 17                 |                 |
|                  | 23 [6]   | 185 [1633]<br>24 | 420 [3719]<br>24 | 651 [5765]<br>24  | 908 [8034]<br>24  | 1123 [9935]<br>23 | 1355 [11991]<br>22 | 1543 [13651]<br>20 | 1794 [15873]<br>18  | 1981 [17532]<br>16 | 25                 |                 |
|                  | 30 [8]   | 162 [1438]<br>32 | 404 [3576]<br>31 | 636 [5624]<br>30  | 893 [7900]<br>30  | 1107 [9800]<br>29 | 1340 [11854]<br>28 | 1581 [13988]<br>27 | 1776 [15716]<br>24  | 1985 [17570]<br>22 | 2105 [18632]<br>17 |                 |
|                  | 38 [10]  | 125 [1109]<br>40 | 368 [3253]<br>40 | 626 [5536]<br>39  | 845 [7476]<br>38  | 1087 [9620]<br>38 | 1314 [11625]<br>36 | 1497 [13251]<br>34 | 1736 [15364]<br>31  | 1956 [17306]<br>28 | 2153 [19054]<br>24 |                 |
|                  | 45 [12]  | 91 [807]<br>48   | 341 [3018]<br>47 | 578 [5111]<br>46  | 815 [7213]<br>45  | 1072 [9487]<br>44 | 1314 [11630]<br>42 | 1525 [13492]<br>41 | 1713 [15159]<br>36  | 1946 [17222]<br>33 | 2133 [18873]<br>32 |                 |
|                  | 53 [14]  | 35 [310]<br>57   | 290 [2565]<br>55 | 533 [4715]<br>55  | 765 [6772]<br>54  | 1024 [9059]<br>52 | 1240 [10974]<br>50 | 1487 [13155]<br>49 | 1727 [15287]<br>45  | 1945 [17216]<br>43 | 2168 [19188]<br>36 |                 |
|                  | 61 [16]  |                  | 239 [2118]<br>64 | 484 [4281]<br>63  | 726 [6429]<br>62  | 959 [8488]<br>61  | 1210 [10708]<br>59 | 1450 [12830]<br>57 | 1696 [15008]<br>54  | 1925 [17039]<br>50 | 2140 [18934]<br>46 |                 |
|                  | 68 [18]  |                  | 205 [1811]<br>72 | 440 [3891]<br>72  | 701 [6202]<br>70  | 920 [8143]<br>69  | 1177 [10418]<br>67 | 1422 [12580]<br>65 | 1643 [14538]<br>64  | 1893 [16741]<br>58 | 2105 [18625]<br>55 |                 |
|                  | 76 [20]  |                  | 150 [1325]<br>81 | 409 [3616]<br>80  | 632 [5590]<br>79  | 801 [7091]<br>78  | 1100 [9733]<br>76  | 1505 [12135]<br>75 | 1599 [14148]<br>72  | 1859 [16454]<br>67 | 2060 [18230]<br>63 |                 |
|                  | 83 [22]  |                  | 99 [875]<br>89   | 336 [2977]<br>88  | 581 [5139]<br>87  | 837 [7403]<br>86  | 1056 [9342]<br>83  | 1305 [11553]<br>83 | 1561 [13816]<br>80  | 1799 [15918]<br>77 | 2025 [17925]<br>71 |                 |
|                  | 91 [24]  |                  |                  | 282 [2497]<br>97  | 501 [4438]<br>96  | 766 [6778]<br>94  | 1021 [9038]<br>93  | 1266 [11201]<br>92 | 1489 [13179]<br>89  | 1752 [15505]<br>86 | 1969 [17427]<br>82 |                 |
|                  | 95 [25]  |                  |                  | 241 [2137]<br>101 | 496 [4389]<br>100 | 722 [6390]<br>100 | 974 [8621]<br>97   | 1214 [10743]<br>96 | 1454 [12863]<br>93  | 1727 [15286]<br>89 | 1956 [17309]<br>84 |                 |
|                  | 114 [30] |                  |                  | 66 [582]<br>122   | 300 [2652]<br>121 | 532 [4711]<br>120 | 781 [6914]<br>118  | 1044 [9235]<br>118 | 1271 [11248]<br>116 |                    |                    |                 |

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

Theoretical Torque - Nm [lb-in]

|            |            |            |             |              |              |              |              |              |              |
|------------|------------|------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 255 [2257] | 510 [4514] | 765 [6771] | 1020 [9029] | 1275 [11286] | 1530 [13543] | 1785 [15800] | 2040 [18057] | 2296 [20314] | 2551 [22572] |
|------------|------------|------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|

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





## PERFORMANCE

|            |  | Pressure - bars [psi] |          |          |           |           |            |            |            | Max. Cont. | Max. Inter. |
|------------|--|-----------------------|----------|----------|-----------|-----------|------------|------------|------------|------------|-------------|
| <b>1K1</b> |  | 17 [250]              | 35 [500] | 52 [750] | 69 [1000] | 86 [1250] | 104 [1500] | 121 [1750] | 138 [2000] | 155 [2250] | 173 [2500]  |

1047 cc [63.9 in<sup>3</sup>/rev.] **Intermittent Ratings - 10% of Operation**

| Flow - lpm [gpm] | Torque - Nm [lb-in], Speed rpm |                  |                   |                   |                    |                    |                    |                     |                    |                    | Theoretical rpm |         |         |         |         |         |          |
|------------------|--------------------------------|------------------|-------------------|-------------------|--------------------|--------------------|--------------------|---------------------|--------------------|--------------------|-----------------|---------|---------|---------|---------|---------|----------|
|                  | 2 [0.5]                        | 4 [1]            | 8 [2]             | 15 [4]            | 23 [6]             | 30 [8]             | 38 [10]            | 45 [12]             | 53 [14]            | 61 [16]            |                 | 68 [18] | 76 [20] | 83 [22] | 91 [24] | 95 [25] | 114 [30] |
|                  | 217 [1918]<br>1                | 455 [4026]<br>1  | 671 [5940]<br>0.9 | 890 [7879]<br>0.6 |                    |                    |                    |                     |                    |                    |                 |         |         |         |         |         | 2        |
|                  | 206 [1821]<br>3                | 498 [4410]<br>2  | 706 [6251]<br>2   | 935 [8273]<br>2   | 1189 [10518]<br>2  |                    |                    |                     |                    |                    |                 |         |         |         |         |         | 4        |
|                  | 224 [1985]<br>6                | 498 [4407]<br>6  | 754 [6672]<br>6   | 983 [8700]<br>5   | 1222 [10810]<br>5  | 1428 [12635]<br>4  |                    |                     |                    |                    |                 |         |         |         |         |         | 8        |
|                  | 224 [1980]<br>14               | 472 [4180]<br>13 | 754 [6669]<br>13  | 1011 [8946]<br>13 | 1262 [11169]<br>11 | 1486 [13147]<br>10 | 1697 [15014]<br>9  |                     |                    |                    |                 |         |         |         |         |         | 15       |
|                  | 170 [1500]<br>21               | 487 [4314]<br>21 | 739 [6538]<br>20  | 1020 [9023]<br>19 | 1238 [10956]<br>18 | 1501 [13286]<br>16 | 1695 [14998]<br>14 | 1914 [16936]<br>12  |                    |                    |                 |         |         |         |         |         | 22       |
|                  | 164 [1451]<br>28               | 431 [3814]<br>28 | 709 [6270]<br>28  | 970 [8580]<br>27  | 1241 [10986]<br>26 | 1481 [13106]<br>23 | 1727 [15280]<br>20 | 1942 [17185]<br>16  | 2144 [18971]<br>9  |                    |                 |         |         |         |         |         | 29       |
|                  | 129 [1143]<br>36               | 401 [3546]<br>36 | 675 [5975]<br>35  | 944 [8356]<br>34  | 1208 [10688]<br>32 | 1455 [12879]<br>29 | 1714 [15168]<br>26 | 1919 [16982]<br>26  | 2145 [18983]<br>17 |                    |                 |         |         |         |         |         | 37       |
|                  | 98 [871]<br>43                 | 359 [3176]<br>43 | 624 [5526]<br>42  | 894 [7915]<br>41  | 1148 [10163]<br>40 | 1420 [12569]<br>37 | 1693 [14981]<br>31 | 1893 [16756]<br>25  | 2133 [18879]<br>22 | 2311 [20456]<br>19 |                 |         |         |         |         |         | 44       |
|                  | 44 [390]<br>50                 | 312 [2761]<br>50 | 580 [5129]<br>49  | 851 [7535]<br>49  | 1122 [9933]<br>47  | 1383 [12237]<br>44 | 1612 [14263]<br>40 | 1856 [16424]<br>33  | 2098 [18569]<br>29 | 2327 [20596]<br>25 |                 |         |         |         |         |         | 51       |
|                  |                                | 251 [2220]<br>57 | 516 [4569]<br>56  | 776 [6871]<br>56  | 1062 [9402]<br>55  | 1320 [11678]<br>52 | 1587 [14045]<br>50 | 1837 [16261]<br>38  | 2082 [18426]<br>30 | 2291 [20275]<br>29 |                 |         |         |         |         |         | 58       |
|                  |                                | 190 [1678]<br>65 | 458 [4053]<br>65  | 706 [6252]<br>64  | 1002 [8869]<br>62  | 1272 [11252]<br>60 | 1552 [13738]<br>59 | 1794 [15877]<br>52  | 2051 [18147]<br>41 | 2275 [20130]<br>33 |                 |         |         |         |         |         | 66       |
|                  |                                | 117 [1033]<br>72 | 390 [3453]<br>71  | 652 [5774]<br>71  | 930 [8227]<br>70   | 1187 [10502]<br>69 | 1596 [12874]<br>64 | 1723 [15246]<br>58  | 2001 [17705]<br>57 | 2228 [19716]<br>45 |                 |         |         |         |         |         | 73       |
|                  |                                | 50 [444]<br>79   | 310 [2741]<br>79  | 569 [5034]<br>78  | 847 [7493]<br>77   | 1113 [9846]<br>76  | 1380 [12214]<br>74 | 1650 [14599]<br>67  | 1927 [17055]<br>62 | 2138 [18924]<br>51 |                 |         |         |         |         |         | 80       |
|                  |                                |                  | 210 [1862]<br>86  | 491 [4346]<br>85  | 755 [6677]<br>84   | 1018 [9007]<br>83  | 1288 [11398]<br>81 | 1557 [13777]<br>76  | 1827 [16164]<br>71 | 2101 [18591]<br>61 |                 |         |         |         |         |         | 87       |
|                  |                                |                  | 185 [1635]<br>90  | 463 [4096]<br>90  | 710 [6281]<br>89   | 963 [8519]<br>88   | 1232 [10901]<br>85 | 1497 [13247]<br>82  | 1790 [15844]<br>76 | 2028 [17950]<br>71 |                 |         |         |         |         |         | 91       |
|                  |                                |                  |                   | 202 [1789]<br>108 | 477 [4217]<br>107  | 730 [6460]<br>106  | 1013 [8962]<br>105 | 1237 [10947]<br>104 |                    |                    |                 |         |         |         |         |         | 109      |

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

Theoretical Torque - Nm [lb-in]

|            |            |            |              |              |              |              |              |              |              |
|------------|------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 287 [2544] | 575 [5088] | 862 [7631] | 1150 [10175] | 1437 [12719] | 1725 [15263] | 2012 [17807] | 2300 [20350] | 2587 [22894] | 2874 [25438] |
|------------|------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|

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

Pressure - bars [psi] Max. Cont. Max. Inter.

|            |  | Pressure - bars [psi] |          |          |           |           |            |            |  | Max. Cont. | Max. Inter. |
|------------|--|-----------------------|----------|----------|-----------|-----------|------------|------------|--|------------|-------------|
| <b>1K5</b> |  | 17 [250]              | 35 [500] | 52 [750] | 69 [1000] | 86 [1250] | 104 [1500] | 121 [1750] |  |            |             |

1495 cc [91.2 in<sup>3</sup>/rev.] **Intermittent Ratings - 10% of Operation**

| Flow - lpm [gpm] | Torque - Nm [lb-in], Speed rpm |                   |                   |                    |                    |                    |                    |         |         |         | Theoretical rpm |         |         |         |         |         |          |
|------------------|--------------------------------|-------------------|-------------------|--------------------|--------------------|--------------------|--------------------|---------|---------|---------|-----------------|---------|---------|---------|---------|---------|----------|
|                  | 2 [0.5]                        | 4 [1]             | 8 [2]             | 15 [4]             | 23 [6]             | 30 [8]             | 38 [10]            | 45 [12] | 53 [14] | 61 [16] |                 | 68 [18] | 76 [20] | 83 [22] | 91 [24] | 95 [25] | 114 [30] |
|                  | 305 [2703]<br>0.9              | 648 [5736]<br>0.6 |                   |                    |                    |                    |                    |         |         |         |                 |         |         |         |         |         | 2        |
|                  | 336 [2978]<br>2                | 693 [6128]<br>1   | 1011 [8942]<br>1  |                    |                    |                    |                    |         |         |         |                 |         |         |         |         |         | 3        |
|                  | 351 [3106]<br>4                | 729 [6454]<br>4   | 1085 [9597]<br>3  | 1364 [12072]<br>3  |                    |                    |                    |         |         |         |                 |         |         |         |         |         | 6        |
|                  | 331 [2925]<br>9                | 712 [6304]<br>9   | 1116 [9879]<br>8  | 1491 [13191]<br>7  | 1771 [15668]<br>7  |                    |                    |         |         |         |                 |         |         |         |         |         | 11       |
|                  | 297 [2629]<br>15               | 681 [3023]<br>14  | 1088 [9632]<br>13 | 1464 [12952]<br>12 | 1770 [15662]<br>10 |                    |                    |         |         |         |                 |         |         |         |         |         | 16       |
|                  | 247 [2183]<br>20               | 640 [5662]<br>19  | 1038 [9188]<br>18 | 1430 [12655]<br>17 | 1793 [15864]<br>15 | 2123 [18786]<br>9  |                    |         |         |         |                 |         |         |         |         |         | 21       |
|                  | 197 [1740]<br>25               | 583 [5159]<br>24  | 1001 [8860]<br>23 | 1377 [12189]<br>22 | 1749 [15479]<br>19 | 2090 [18498]<br>14 |                    |         |         |         |                 |         |         |         |         |         | 26       |
|                  | 131 [1157]<br>30               | 531 [4695]<br>29  | 940 [8315]<br>28  | 1330 [11770]<br>27 | 1702 [15066]<br>24 | 2041 [18059]<br>19 | 2329 [20613]<br>14 |         |         |         |                 |         |         |         |         |         | 31       |
|                  | 67 [594]<br>36                 | 484 [4282]<br>35  | 869 [7689]<br>33  | 1267 [11217]<br>32 | 1642 [14532]<br>30 | 1990 [17612]<br>24 | 2300 [20353]<br>15 |         |         |         |                 |         |         |         |         |         | 36       |
|                  |                                | 391 [3457]<br>40  | 769 [6805]<br>39  | 1172 [10374]<br>37 | 1567 [13866]<br>36 | 1914 [16941]<br>32 | 2258 [19986]<br>21 |         |         |         |                 |         |         |         |         |         | 41       |
|                  |                                | 294 [2602]<br>45  | 686 [6072]<br>44  | 1076 [9523]<br>43  | 1489 [13177]<br>40 | 1846 [16334]<br>38 | 2188 [19366]<br>27 |         |         |         |                 |         |         |         |         |         | 46       |
|                  |                                | 182 [1607]<br>50  | 614 [5435]<br>49  | 988 [8746]<br>48   | 1392 [12320]<br>47 | 1743 [15429]<br>44 | 2301 [18553]<br>37 |         |         |         |                 |         |         |         |         |         | 51       |
|                  |                                | 87 [770]<br>55    | 487 [4310]<br>54  | 872 [7720]<br>53   | 1283 [11356]<br>52 | 1632 [14442]<br>48 | 2021 [17883]<br>46 |         |         |         |                 |         |         |         |         |         | 56       |
|                  |                                |                   | 456 [4032]<br>60  | 749 [6632]<br>60   | 1146 [10143]<br>58 | 1533 [13570]<br>58 | 1872 [16568]<br>50 |         |         |         |                 |         |         |         |         |         | 61       |
|                  |                                |                   | 293 [2589]<br>63  | 704 [6232]<br>62   | 1052 [9313]<br>62  | 1465 [12961]<br>59 | 1843 [16306]<br>53 |         |         |         |                 |         |         |         |         |         | 64       |
|                  |                                |                   |                   | 246 [2174]<br>75   | 645 [5711]<br>74   | 1047 [9265]<br>73  |                    |         |         |         |                 |         |         |         |         |         | 76       |

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

Theoretical Torque - Nm [lb-in]

|            |            |              |              |              |              |              |
|------------|------------|--------------|--------------|--------------|--------------|--------------|
| 410 [3631] | 821 [7261] | 1231 [10892] | 1641 [14522] | 2051 [18153] | 2462 [21783] | 2872 [25414] |
|------------|------------|--------------|--------------|--------------|--------------|--------------|

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



**2K1**

|                       |          |          |           |           |            |             |
|-----------------------|----------|----------|-----------|-----------|------------|-------------|
| Pressure - bars [psi] |          |          |           |           | Max. Cont. | Max. Inter. |
| 17 [250]              | 35 [500] | 52 [750] | 69 [1000] | 86 [1250] | 104 [1500] | 121 [1750]  |

2093 cc [127.7 in<sup>3</sup>/rev.]

Flow - lpm [gpm]

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

|          |                   |                   |                    |                    |                    |                    |  |  |    |
|----------|-------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--|--|----|
| 2 [0.5]  | 438 [3878]<br>0.8 | 892 [7894]<br>0.8 |                    |                    |                    |                    |  |  | 1  |
| 4 [1]    | 440 [3891]<br>1   | 922 [8162]<br>1   | 1398 [12375]<br>1  |                    |                    |                    |  |  | 2  |
| 8 [2]    | 460 [4073]<br>3   | 956 [8458]<br>3   | 1460 [12923]<br>3  |                    |                    |                    |  |  | 4  |
| 15 [4]   | 443 [3920]<br>7   | 963 [8525]<br>7   | 1491 [13192]<br>6  | 1980 [17520]<br>6  |                    |                    |  |  | 8  |
| 23 [6]   | 402 [3560]<br>10  | 924 [8179]<br>10  | 1470 [13012]<br>10 | 1963 [17370]<br>9  |                    |                    |  |  | 11 |
| 30 [8]   | 337 [2985]<br>14  | 884 [7824]<br>14  | 1425 [12613]<br>14 | 1920 [16995]<br>13 | 2390 [21152]<br>9  | 2668 [23613]<br>8  |  |  | 15 |
| 38 [10]  | 275 [2431]<br>17  | 814 [7205]<br>17  | 1350 [11944]<br>16 | 1869 [16538]<br>16 | 2343 [20733]<br>13 | 2663 [23564]<br>9  |  |  | 19 |
| 45 [12]  | 173 [1535]<br>21  | 723 [6398]<br>21  | 1262 [11171]<br>21 | 1795 [15886]<br>20 | 2286 [20232]<br>17 | 2665 [23588]<br>12 |  |  | 22 |
| 53 [14]  | 66 [587]<br>25    | 619 [5479]<br>24  | 1155 [10221]<br>24 | 1702 [15063]<br>23 | 2206 [19519]<br>21 | 2637 [23333]<br>13 |  |  | 26 |
| 61 [16]  |                   | 496 [4391]<br>28  | 1018 [9009]<br>28  | 1587 [14046]<br>27 | 2107 [18645]<br>26 | 2574 [22777]<br>20 |  |  | 29 |
| 68 [18]  |                   | 368 [3257]<br>32  | 910 [8052]<br>32   | 1466 [12973]<br>31 | 1980 [17527]<br>30 | 2471 [21866]<br>26 |  |  | 33 |
| 76 [20]  |                   | 225 [1991]<br>36  | 755 [6686]<br>36   | 1304 [11537]<br>36 | 1859 [16449]<br>35 | 2359 [20878]<br>30 |  |  | 37 |
| 83 [22]  |                   | 71 [628]<br>39    | 622 [5507]<br>39   | 1171 [10367]<br>39 | 1682 [14885]<br>38 | 2212 [19575]<br>36 |  |  | 40 |
| 91 [24]  |                   |                   | 429 [3794]<br>43   | 984 [8704]<br>43   | 1544 [13665]<br>42 | 2067 [18291]<br>40 |  |  | 44 |
| 95 [25]  |                   |                   | 354 [3129]<br>45   | 891 [7883]<br>45   | 1428 [12636]<br>45 | 1971 [17445]<br>43 |  |  | 46 |
| 114 [30] |                   |                   |                    | 430 [3803]<br>54   | 959 [8485]<br>54   | 1492 [13207]<br>53 |  |  | 55 |

Theoretical rpm

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

Theoretical Torque - Nm [lb-in]

|            |              |              |              |              |              |              |
|------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 574 [5084] | 1149 [10167] | 1723 [15251] | 2298 [20334] | 2872 [25418] | 3447 [30502] | 4021 [35585] |
|------------|--------------|--------------|--------------|--------------|--------------|--------------|

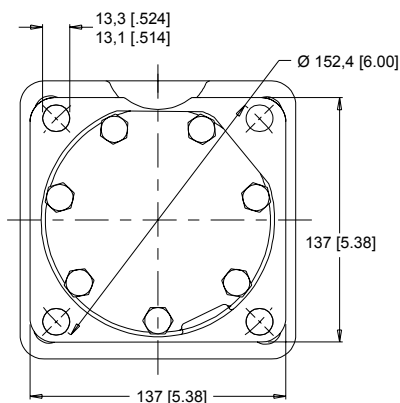
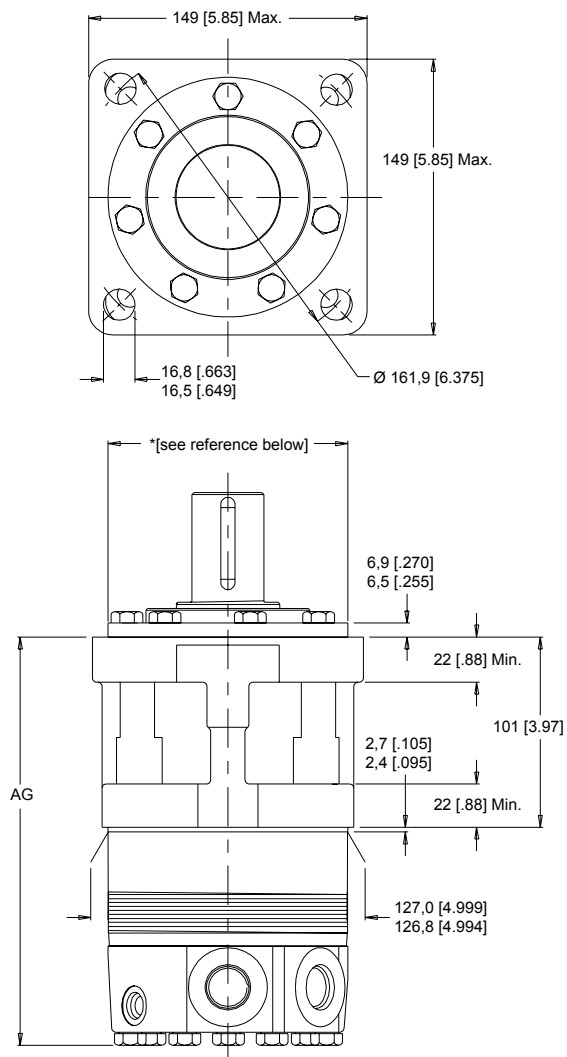
Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]



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

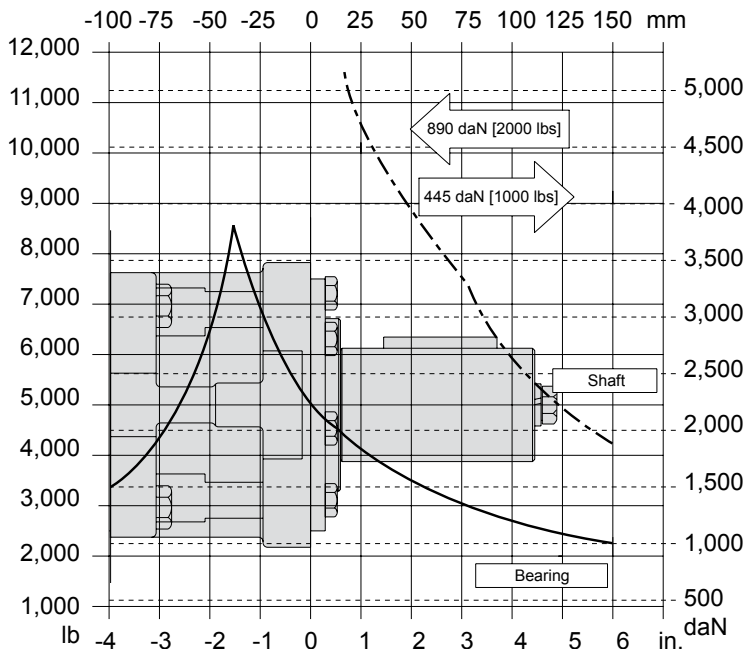
## 700 SERIES HOUSINGS

- C2** Standard Mount 5" Pilot End Ports
- C8** Standard Mount 5" Pilot Side Ports
- E2** Standard Mount 125mm Pilot End Ports
- E8** Standard Mount 125mm Pilot Side Ports



NOTE: \*Dimension for the C2 & C8 is 127,0 [5.00] - 127,7 [4.99].  
\*Dimension for the E2 & E8 is 124,9 [4.92] - 124,5 [4.90].

**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.



**LENGTH / WEIGHT CHART**  
Standard Mount - Dimension AG

| Code | mm [in]     | kg [lb]     |
|------|-------------|-------------|
| 300  | 209 [8.25]  | 20,2 [44.6] |
| 375  | 216 [8.50]  | 20,8 [45.8] |
| 470  | 223 [8.80]  | 21,4 [47.1] |
| 540  | 230 [9.04]  | 21,9 [48.2] |
| 750  | 248 [9.75]  | 23,3 [51.3] |
| 930  | 263 [10.35] | 24,4 [53.8] |
| 1K1  | 273 [10.75] | 25,3 [55.7] |
| 1K5  | 311 [12.25] | 28,3 [62.5] |
| 2K1  | 362 [14.25] | 32,3 [71.3] |

NOTE:  
DT motor weights vary  $\pm 1,4$  kg [3 lb] depending upon motor configuration. Subtract 3 [.11] from dimension AG for motors using the 1,2 or 5 Endcover.

**BEARING LOAD MULTIPLICATION FACTOR TABLE**

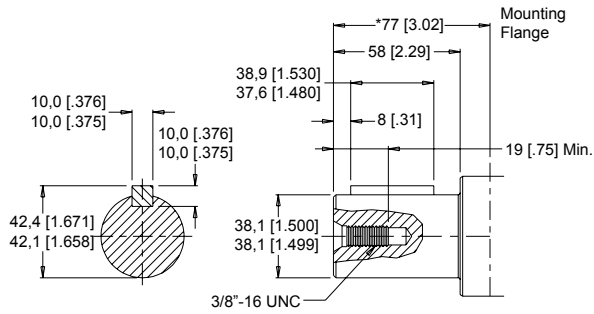
| RPM | FACTOR | RPM | FACTOR |
|-----|--------|-----|--------|
| 50  | 1.23   | 500 | 0.62   |
| 100 | 1.00   | 600 | 0.58   |
| 200 | 0.81   | 700 | 0.56   |
| 300 | 0.72   | 800 | 0.50   |
| 400 | 0.66   |     |        |





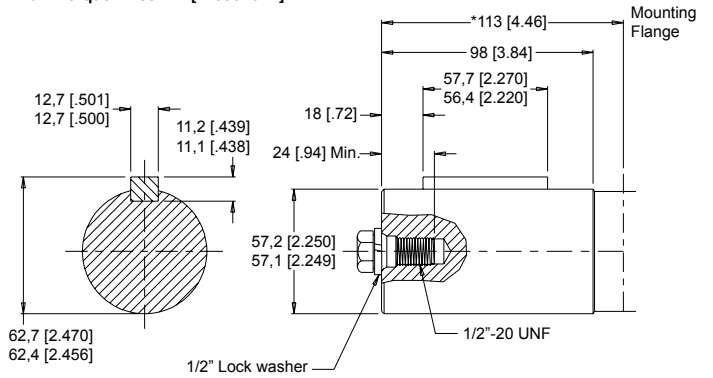
### 30 1-1/2" Straight

Max. Torque: 2230 Nm [19800 lb-in]



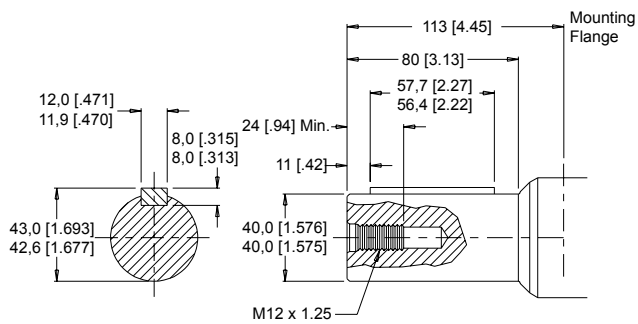
### 40 2-1/4" Straight

Max. Torque: 2700 Nm [24000 lb-in]



### 36 40mm Straight

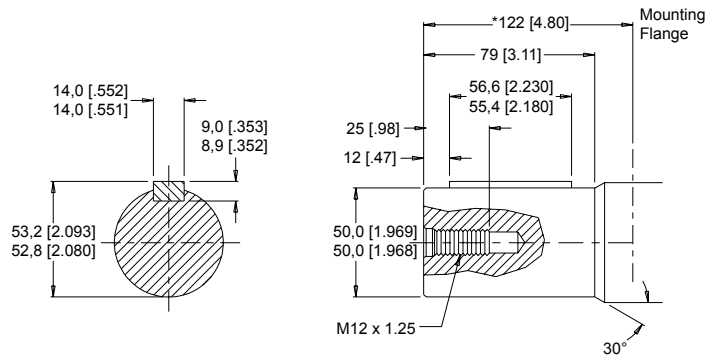
Max. Torque: 2700 Nm [24000 lb-in]



### †54 40mm Straight Extended

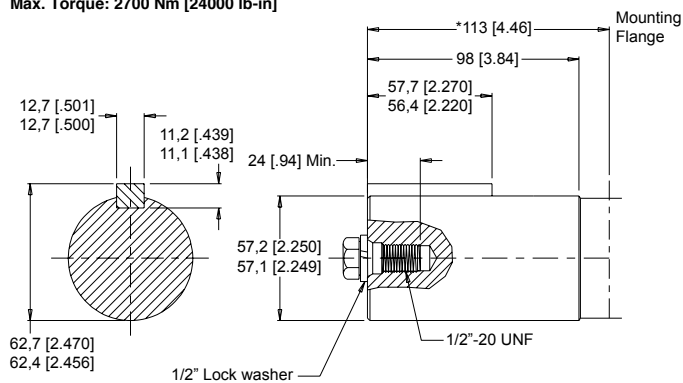
### 41 50mm Straight

Max. Torque: 2700 Nm [24000 lb-in]



### †47 2-1/4" Straight with Modified Keyway

Max. Torque: 2700 Nm [24000 lb-in]



NOTE: \*Shaft lengths vary ± 0.8 [0.030]. †For speed sensor motors only.

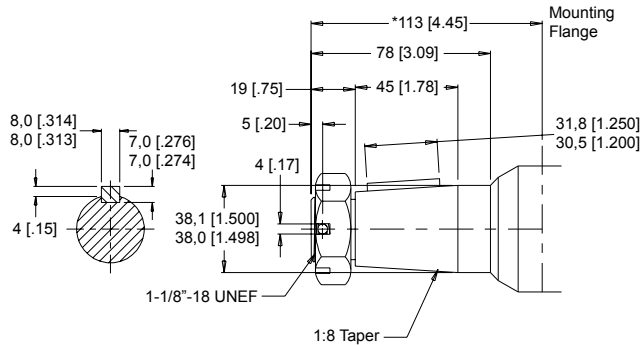
# DT

## 700 SERIES SHAFTS



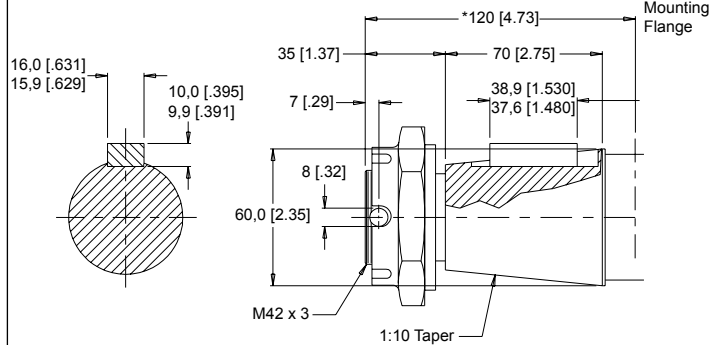
### 31 1-1/2" Tapered

Max. Torque: 2250 Nm [19900 lb-in]



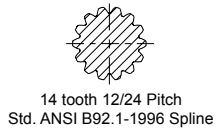
### 45 60mm Tapered

Max. Torque: 2700 Nm [24000 lb-in]

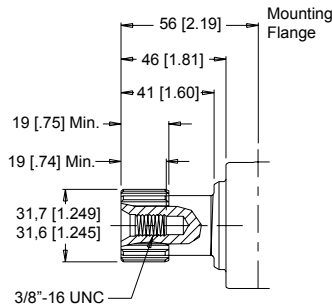


### 23 14 Tooth Spline

Max. Torque: 2070 Nm [18400 lb-in]

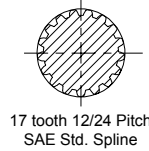


### †09 14 Tooth Spline Extended

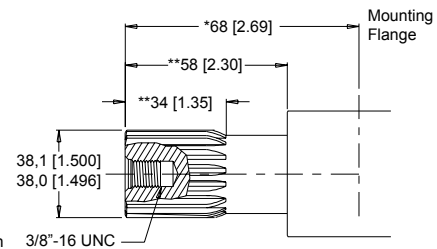


### 33 17 Tooth Spline

Max. Torque: 2250 Nm [19900 lb-in]



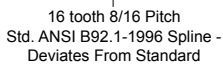
### †49 17 Tooth Spline Extended



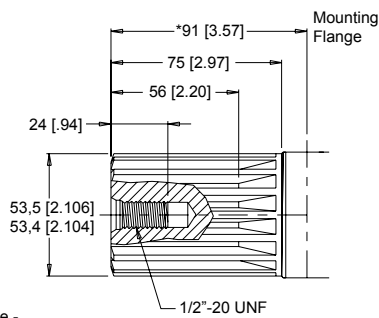
NOTE: \*\*For the 49 shaft add 9,7mm [.38 in] to dimension.

### 42 16 Tooth Spline

Max. Torque: 2700 Nm [24000 lb-in]



### †48 16 Tooth Spline Extended

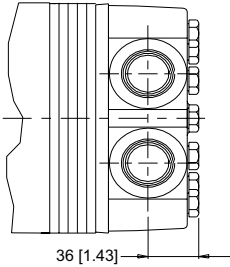


NOTE: A slotted nut is standard on all tapered shafts. \*Shaft lengths vary  $\pm 0,8$  [.030]. †For speed sensor motors only.

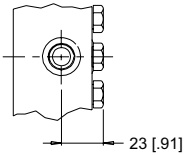


### SIDE PORTS

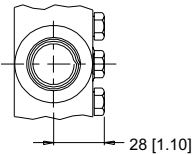
**2** 3/4" BSP.F with 1/4" Drain



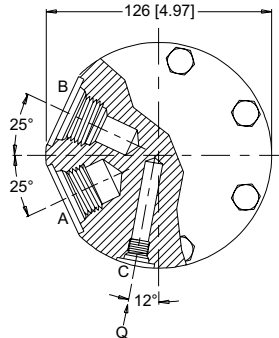
Auxiliary View Q - Case Drain



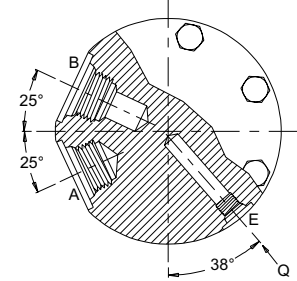
Auxiliary View V - Valve Cavity



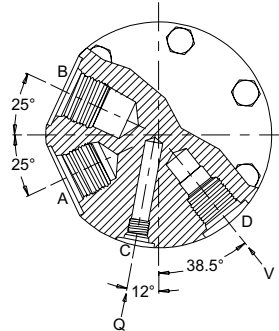
**5** 1-1/16" O-Ring with 7/16" Drain



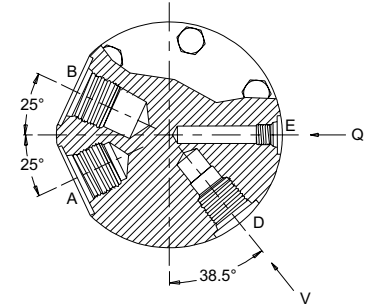
**NOTE:** Shown with standard case drain.



**NOTE:** Shown with internal drain option.

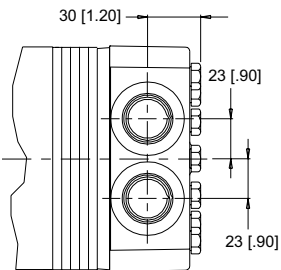


**NOTE:** Shown with standard case drain & valve cavity.

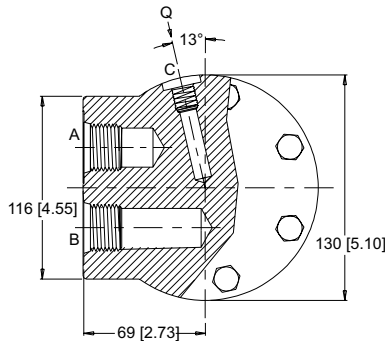


**NOTE:** Shown with internal drain & valve cavity.

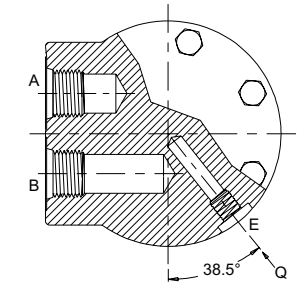
**6** 1-1/16" O-Ring with 7/16" Drain



**7** 3/4" BSP.F with 1/4" Drain



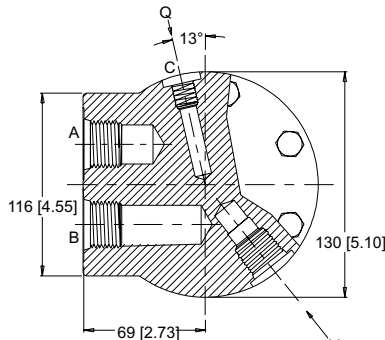
**NOTE:** Shown with standard case drain.



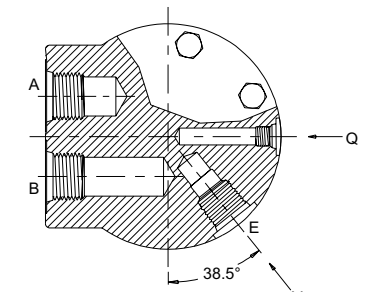
**NOTE:** Shown with internal drain option.



**NOTE:** A- Pressure Port B- Pressure Port C- Case Drain  
D- 10 Series/2-way Valve Cavity (7/8"-14 UNF-2B)  
E- Internal Drain



**NOTE:** Shown with standard case drain & valve cavity.



**NOTE:** Shown with internal drain & valve cavity.

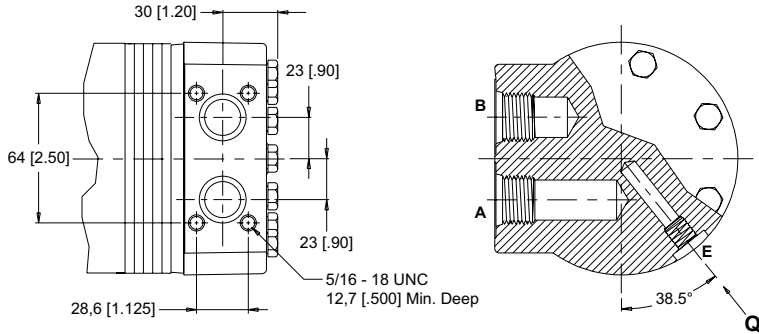


# DT

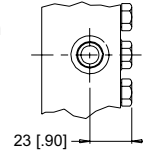
## 700 SERIES PORTING OPTIONS

### SIDE PORTS

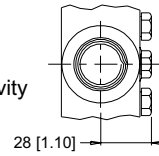
#### 3 Manifold with 7/16" Drain



#### Q - Case Drain



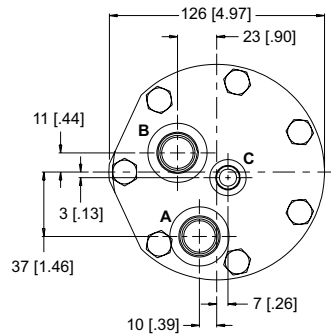
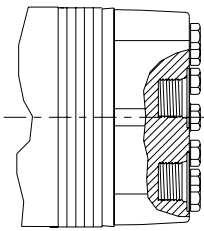
#### V - Valve Cavity



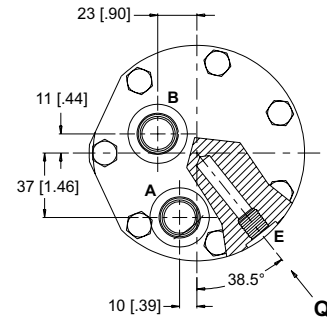
**NOTE:** The 3 endcover is only available with the internal drain option..

### END PORTS

#### 1 7/8" O-Ring with 7/16" Drain

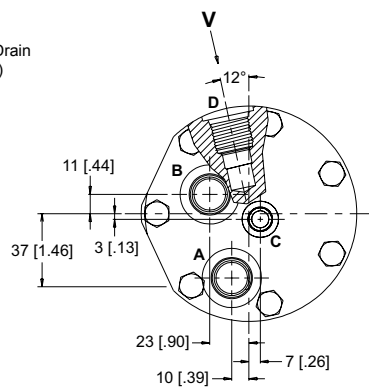


**NOTE:** Shown with standard case drain.

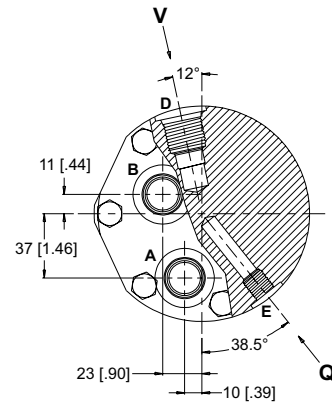


**NOTE:** Shown with internal drain option.

**NOTE:** A- Pressure Port B- Pressure Port C- Case Drain  
D- 10 Series/2-way Valve Cavity (7/8"-14 UNF-2B)  
E- Internal Drain



**NOTE:** Shown with standard case drain & valve cavity.



**NOTE:** Shown with internal drain & valve cavity.



700 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

700 DT Series Motor

STEP 2 - Select a displacement option

|     |                                    |     |                                      |
|-----|------------------------------------|-----|--------------------------------------|
| 300 | 300 cc [18.3 in <sup>3</sup> /rev] | 930 | 929 cc [56.7 in <sup>3</sup> /rev]   |
| 375 | 374 cc [22.8 in <sup>3</sup> /rev] | 1K1 | 1047 cc [63.9 in <sup>3</sup> /rev]  |
| 470 | 464 cc [28.3 in <sup>3</sup> /rev] | 1K5 | 1495 cc [91.2 in <sup>3</sup> /rev]  |
| 540 | 536 cc [32.7 in <sup>3</sup> /rev] | 2K1 | 2093 cc [127.7 in <sup>3</sup> /rev] |
| 750 | 747 cc [45.6 in <sup>3</sup> /rev] |     |                                      |

STEP 3 - Select a mounting option

**NOTE:** To complete the three (3) digit DT Series housing code a two (2) digit mounting option must be followed with the single (1) digit porting option found in STEP 3 part II. Side port mounting options need side port porting options and end port mounting options need end port porting options.

|    |   |
|----|---|
| C2 | Standard Mount 5" Pilot End Ports (S)     |
| C8 | Standard Mount 5" Pilot Side Ports (S)    |
| E2 | Standard Mount 125mm Pilot End Ports (S)  |
| E8 | Standard Mount 125mm Pilot Side Ports (S) |

STEP 3 (part II) - Select a porting option

END PORTS

1 7/8" O-Ring With 7/16" Drain

SIDE PORTS

|   |  |
|---|--|
| 2 | 3/4" BSP.F With 1/4" Drain (Radial Ports)        |
| 3 | Manifold With 7/16" Drian (Parallel Ports)       |
| 5 | 1-1/16" O-Ring With 7/16" Drain (Radial Ports)   |
| 6 | 1-1/16" O-Ring With 7/16" Drain (Parallel Ports) |
| 7 | 3/4" BSP.F With 1/4" Drain (Parallel Ports)      |

STEP 4 - Select a shaft option

|    |                 |    |                              |
|----|-----------------|----|------------------------------|
| 30 | 1-1/2" Straight | 41 | 50mm Straight                |
| 31 | 1-1/2" Tapered  | 45 | 60mm Tapered                 |
| 40 | 2-1/4" Straight | 47 | 2-1/4" Straight Modified (S) |
| 36 | 40mm Straight   | 54 | 40mm Straight Extended (S)   |
| 23 | 14 Tooth Spline | 09 | 14 Tooth Spline Extended (S) |
| 42 | 16 Tooth Spline | 48 | 16 Tooth Spline Extended (S) |
| 33 | 17 Tooth Spline | 49 | 17 Tooth Spline Extended (S) |

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 | 69 Bar [1000 psi] Relief Valve Installed  |
| D | 86 Bar [1250 psi] Relief Valve Installed  |
| E | 104 Bar [1500 psi] Relief Valve Installed |
| F | 121 Bar [1750 psi] Relief Valve Installed |
| G | 138 Bar [2000 psi] Relief Valve Installed |
| J | 173 Bar [2500 psi] Relief Valve Installed |
| L | 207 Bar [3000 psi] Relief Valve Installed |

**NOTE:** Valve cavity option is not available on porting option 3.

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 Mountings 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                                  |
| AB | Internal Drain                        |
| AC | Freeturning Rotor                     |
| AD | Internal Drain with Freeturning Rotor |

