



MT SERIES ACTUATORS

Aluminum rack and pinion
pneumatic actuators



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COMPACT DESIGN

The MAX-AIR rack & pinion pneumatic actuator produces linear torque output in a compact design utilizing the same body and end caps for double-acting and spring-return units.

NAMUR MOUNTING

Namur VDI/VDE 3845 and ISO 5211 dimensions on all sizes. No special blocks are required to mount solenoid valves, limit switches or positioners.

DEGREE OF TRAVEL

The standard angle of rotation is 90°. Additional travel rotations through 180° are available. For sizes from MT08 through MT66, Max-Air actuators feature dual travel stops that provide $\pm 10^\circ$ stroke rotation on both the opening and closing phases of the actuator stroke. 110° of travel in a standard 90° actuator!

MULTIPLE OUTPUT SHAFTS

The female pinion drive is standard with a double-square output drive, and optional with a double-D drive, keyed drive and designs to meet your specific requirements.

HIGH-CYCLE BEARINGS

Shaft bearings isolate the pinion gear from the housing and support the shaft for high-cycle applications. Many competitive manufacturers do not provide this critical feature.

RUGGED TOOTH DESIGN

The pinion teeth are engaged the full length and stroke of the piston. The pinion height allows manual override without needing to remove the indicator.

HIGH VISIBILITY POSITION INDICATION

External open/close indicator as standard, available for all rotations.

HIGH CYCLE-LIFE WEAR PADS

Pistons incorporate double wear pads (skates) to separate the rack from the actuator wall and serve as both guide and wear bearings.

SAFE PRE-LOADED SPRING CARTRIDGES

Epoxy-coated special steel springs are pre-loaded with non-metallic materials. The stainless steel end-cap fasteners are extra long to allow for spring relaxation. All parts are corrosion-resistant.

ALTERNATIVE OPERATING MEDIA

Air pressure operation from 2.8 to 10 Bar (40 to 150 PSI). Water, nitrogen and compatible hydraulic fluids may also be used to power the actuator.

STAINLESS STEEL FASTENERS

All external fasteners are corrosion-resistant stainless steel.

HONED BORE FOR HIGH CYCLE-LIFE

Extruded aluminum body is internally machined and honed to exact specifications. Honing prevents dry spots from forming within the actuator bore and therefore eliminates premature seal failure—a critical aspect to long cycle-life. All internal and external surfaces are hard anodized for corrosion resistance, with all units permanently lubricated at the factory.

TRACEABILITY

All units are externally marked with a progressive traceable serial number.

QUALITY ASSURANCE

100% of all units are factory pressure and leak tested, and individually boxed for shipment.

BEST WARRANTY IN THE INDUSTRY

Max-Air products are covered by our unlimited cycle-life warranty. Contact your representative for more details.

ACCESSORIES

Max-Air offers a wide range of adapters for many different types of valves—including butterfly valves, ball valves and plug valves—as well as a variety of pneumatic and electric automation accessories suitable for diverse industrial environments.

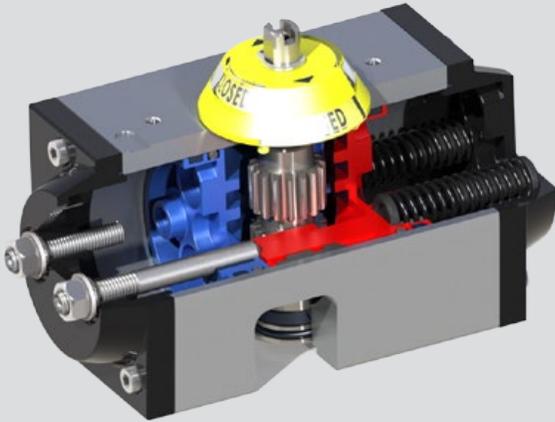
Please call for details.



Introducing Lock Mesh™

Max-Air Technology's high performance Teflon® infused stainless steel mesh coating, introduced as our "Lock Mesh™" coating combines the strength and corrosion resistance of stainless steel with the technological advancements of infused PTFE.

DOUBLE ACTING TORQUES



| | 40 PSIG | 60 PSIG | 80 PSIG | 100 PSIG | 120 PSIG |
|------|---------|---------|---------|----------|----------|
| MT04 | 40 | 60 | 80 | 100 | 120 |
| MT12 | 62 | 94 | 125 | 156 | 187 |
| MT08 | 110 | 147 | 207 | 259 | 295 |
| MT16 | 137 | 206 | 275 | 344 | 412 |
| MT17 | 180 | 270 | 360 | 450 | 540 |
| MT21 | 250 | 375 | 500 | 625 | 750 |
| MT26 | 375 | 562 | 750 | 937 | 1125 |
| MT31 | 500 | 750 | 1000 | 1250 | 1500 |
| MT36 | 800 | 1200 | 1600 | 2000 | 2400 |
| MT41 | 1000 | 1500 | 2000 | 2500 | 3000 |
| MT46 | 1562 | 2344 | 3125 | 3906 | 4687 |
| MT51 | 2250 | 3375 | 4500 | 5625 | 6750 |
| MT56 | 3000 | 4500 | 6000 | 7500 | 9000 |
| MT61 | 4550 | 6825 | 9100 | 11375 | 13650 |
| MT66 | 6000 | 9000 | 12000 | 15000 | 18000 |
| MT71 | 11750 | 17625 | 23500 | 29375 | 35250 |
| MT76 | 15750 | 23625 | 31500 | 39375 | 47250 |

*All torques in inch pounds (in-lbs)

OPERATION REFERENCE DIAGRAM

DOUBLE ACTING

SPRING RETURN

START TO OPEN

OPENING PHASE

OPEN



AIR IN #4 = PISTONS OPEN

START TO CLOSE

CLOSING PHASE

CLOSED



AIR IN #2 = PISTONS CLOSED

START TO OPEN

OPENING PHASE

OPEN



AIR IN #4 = PISTONS OPEN (SPRINGS COMPRESS)

START TO CLOSE

CLOSING PHASE

CLOSED



AIR FAILURE = PISTONS CLOSE (SPRINGS RELAX)

Double Acting Operation is also known as "Air to Open, Air to Close" or "Air to Air".

SPRING RETURN TORQUES MT12-MT41

POS. 1 CLOSING TORQUE

POS. 2 OPENING TORQUE

| | #Springs | POS. 1 CLOSING TORQUE | | | POS. 2 OPENING TORQUE | | | | | | | | | |
|------|----------|-----------------------|------|-------|-----------------------|-------|---------|-------|---------|-------|----------|-------|----------|--|
| | | (SPRING) | | | 40 PSIG | | 60 PSIG | | 80 PSIG | | 100 PSIG | | 120 PSIG | |
| | | Start | End | Start | End | Start | End | Start | End | Start | End | Start | End | |
| MT12 | 1+1 | 33 | 22 | 40 | 29 | 72 | 61 | 103 | 92 | 134 | 123 | 165 | 154 | |
| | 2+2 | 66 | 44 | - | - | 50 | 28 | 81 | 59 | 112 | 90 | 143 | 121 | |
| | 3+3 | 99 | 66 | - | - | - | - | 58 | 27 | 90 | 66 | 121 | 88 | |
| MT08 | 1+1 | 33 | 20 | 90 | 78 | 127 | 115 | 187 | 175 | 239 | 227 | 275 | 263 | |
| | 2+2 | 65 | 40 | 70 | 45 | 107 | 82 | 167 | 142 | 219 | 194 | 255 | 230 | |
| | 3+3 | 98 | 60 | 50 | 13 | 87 | 50 | 147 | 110 | 199 | 162 | 235 | 198 | |
| | 4+4 | 130 | 80 | - | - | 67 | 17 | 127 | 77 | 179 | 129 | 215 | 165 | |
| | 5+5 | 163 | 100 | - | - | - | - | 107 | 45 | 159 | 97 | 195 | 133 | |
| MT16 | 2+2 | 75 | 53 | 84 | 62 | 153 | 131 | 222 | 200 | 291 | 269 | 359 | 337 | |
| | 3+3 | 112 | 81 | 56 | 25 | 125 | 94 | 194 | 163 | 263 | 232 | 331 | 300 | |
| | 4+4 | 150 | 107 | - | - | 99 | 56 | 168 | 125 | 237 | 194 | 305 | 262 | |
| | 5+5 | 187 | 134 | - | - | 72 | 19 | 141 | 88 | 210 | 157 | 278 | 225 | |
| | 7+5 | 224 | 160 | - | - | - | - | 115 | 51 | 184 | 120 | 252 | 188 | |
| MT17 | 2+2 | 93 | 64 | 116 | 87 | 206 | 177 | 296 | 267 | 386 | 357 | 476 | 447 | |
| | 3+3 | 139 | 96 | 84 | 41 | 174 | 131 | 264 | 221 | 354 | 311 | 444 | 401 | |
| | 4+4 | 185 | 128 | - | - | 142 | 85 | 232 | 175 | 322 | 265 | 412 | 355 | |
| | 5+5 | 232 | 160 | - | - | 110 | 38 | 200 | 128 | 290 | 218 | 380 | 308 | |
| | 7+5 | 278 | 192 | - | - | - | - | 168 | 82 | 258 | 172 | 348 | 262 | |
| MT21 | 2+2 | 122 | 92 | 158 | 128 | 283 | 253 | 408 | 378 | 533 | 503 | 658 | 628 | |
| | 3+3 | 184 | 138 | 112 | 66 | 237 | 191 | 362 | 316 | 487 | 441 | 612 | 566 | |
| | 4+4 | 245 | 184 | 66 | 5 | 191 | 130 | 316 | 255 | 441 | 380 | 566 | 505 | |
| | 5+5 | 307 | 230 | - | - | 145 | 68 | 270 | 193 | 395 | 318 | 520 | 443 | |
| | 7+5 | 369 | 278 | - | - | 97 | 6 | 222 | 131 | 347 | 256 | 472 | 381 | |
| MT26 | 2+2 | 196 | 124 | 251 | 179 | 438 | 366 | 626 | 554 | 813 | 741 | 1001 | 929 | |
| | 3+3 | 294 | 185 | 190 | 81 | 377 | 268 | 565 | 456 | 752 | 643 | 940 | 831 | |
| | 4+4 | 392 | 247 | - | - | 315 | 170 | 503 | 358 | 690 | 545 | 878 | 733 | |
| | 5+5 | 490 | 309 | - | - | 253 | 72 | 441 | 260 | 628 | 447 | 816 | 635 | |
| | 7+5 | 588 | 372 | - | - | - | - | 378 | 162 | 565 | 349 | 753 | 537 | |
| MT31 | 2+2 | 251 | 187 | 313 | 249 | 563 | 499 | 813 | 749 | 1063 | 999 | 1313 | 1249 | |
| | 3+3 | 376 | 280 | 220 | 124 | 470 | 374 | 720 | 624 | 970 | 874 | 1220 | 1124 | |
| | 4+4 | 502 | 374 | - | - | 376 | 248 | 626 | 498 | 876 | 748 | 1126 | 998 | |
| | 5+5 | 627 | 467 | - | - | 283 | 123 | 533 | 373 | 783 | 623 | 1033 | 873 | |
| | 7+5 | 753 | 560 | - | - | - | - | 440 | 247 | 690 | 497 | 940 | 747 | |
| MT36 | 2+2 | 412 | 306 | 494 | 388 | 894 | 788 | 1294 | 1188 | 1694 | 1588 | 2094 | 1988 | |
| | 3+3 | 617 | 461 | 339 | 183 | 739 | 583 | 1139 | 983 | 1539 | 1383 | 1939 | 1783 | |
| | 4+4 | 824 | 614 | - | - | 586 | 376 | 986 | 776 | 1396 | 1176 | 1786 | 1576 | |
| | 5+5 | 1029 | 767 | - | - | 433 | 171 | 833 | 571 | 1233 | 971 | 1633 | 1371 | |
| | 7+5 | 1236 | 921 | - | - | - | - | 679 | 364 | 1079 | 764 | 1479 | 1164 | |
| MT41 | 2+2 | 505 | 371 | 629 | 495 | 1129 | 995 | 1629 | 1495 | 2129 | 1995 | 2629 | 2495 | |
| | 3+3 | 757 | 566 | 444 | 243 | 944 | 743 | 1444 | 1243 | 1944 | 1743 | 2444 | 2243 | |
| | 4+4 | 1011 | 741 | - | - | 759 | 289 | 1259 | 989 | 1759 | 1489 | 2259 | 1989 | |
| | 5+5 | 1263 | 929 | - | - | 572 | 237 | 1072 | 737 | 1572 | 1237 | 2072 | 1737 | |
| | 7+5 | 1516 | 1113 | - | - | - | - | 887 | 484 | 1387 | 984 | 1887 | 1484 | |

*Actuator drawings may be downloaded at www.maxairtech.com

*All torques in inch pounds (in-lbs). Spring Return Actuators are also known as "Air to Open, Spring to Close" or "Air to Spring".

SPRING RETURN TORQUES MT46-MT76

POS.1 CLOSING TORQUE

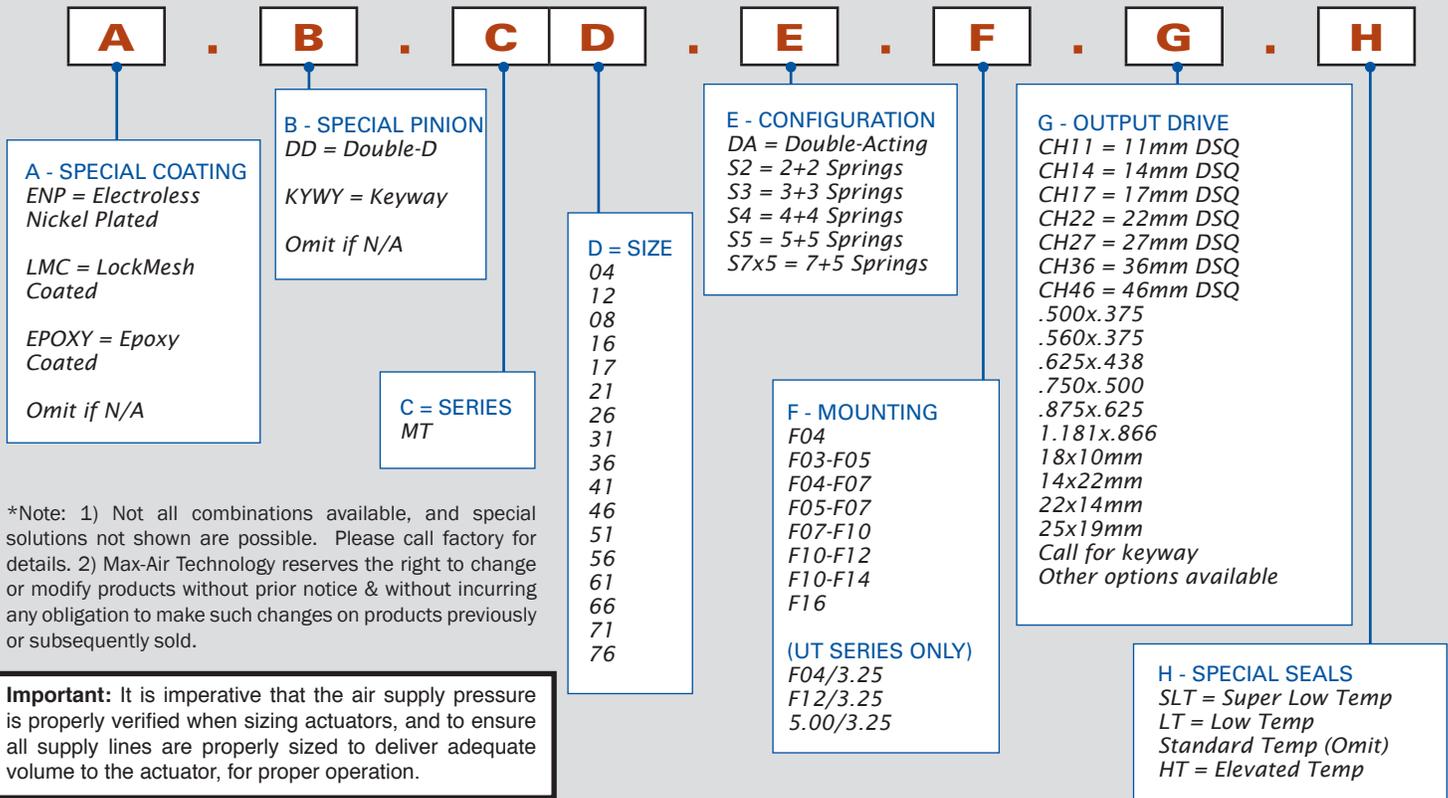
POS. 2 OPENING TORQUE

| | POS.1 CLOSING TORQUE | | | | POS. 2 OPENING TORQUE | | | | | | | | |
|------|-------------------------|-------|-------|---------|-----------------------|---------|-------|---------|-------|----------|-------|----------|-------|
| | (SPRING) | | | 40 PSIG | | 60 PSIG | | 80 PSIG | | 100 PSIG | | 120 PSIG | |
| | #Springs | Start | End | Start | End | Start | End | Start | End | Start | End | Start | End |
| MT46 | 2+2 | 890 | 560 | 1002 | 672 | 1784 | 1454 | 2565 | 2235 | 3346 | 3016 | 4127 | 3797 |
| | 3+3 | 1334 | 840 | 722 | 228 | 1504 | 1010 | 2285 | 1791 | 3066 | 2572 | 3847 | 3353 |
| | 4+4 | 1779 | 1120 | - | - | 1224 | 565 | 2005 | 1346 | 2786 | 2127 | 3567 | 2908 |
| | 5+5 | 2224 | 1399 | - | - | 945 | 120 | 1726 | 901 | 2507 | 1682 | 3288 | 2463 |
| | 7+5 | 2669 | 1679 | - | - | - | - | 1446 | 456 | 2227 | 1237 | 3008 | 2018 |
| MT51 | 2+2 | 1101 | 869 | 1381 | 1149 | 2506 | 2274 | 3631 | 3399 | 4756 | 4524 | 5881 | 5649 |
| | 3+3 | 1652 | 1304 | 946 | 598 | 2071 | 1723 | 3196 | 2848 | 4321 | 3973 | 5446 | 5098 |
| | 4+4 | 2203 | 1738 | 512 | 47 | 1637 | 1172 | 2762 | 2297 | 3887 | 3422 | 5012 | 4547 |
| | 5+5 | 2754 | 2173 | - | - | 1202 | 621 | 2327 | 1749 | 3452 | 2871 | 4577 | 3996 |
| | 7+5 | 3303 | 2607 | - | - | 768 | 72 | 1893 | 1197 | 3018 | 2322 | 4143 | 3447 |
| MT56 | 2+2 | 1487 | 1055 | 1945 | 1513 | 3445 | 3013 | 4945 | 4513 | 6445 | 6013 | 7945 | 7513 |
| | 3+3 | 2231 | 1583 | 1417 | 769 | 2917 | 2269 | 4417 | 3769 | 5917 | 5269 | 7417 | 6769 |
| | 4+4 | 2974 | 2111 | 889 | 26 | 2389 | 1526 | 3889 | 3026 | 5389 | 4526 | 6889 | 6026 |
| | 5+5 | 3718 | 2638 | - | - | 1862 | 782 | 3362 | 2282 | 4862 | 3782 | 6362 | 5282 |
| | 7+5 | 4462 | 3166 | - | - | 1334 | 38 | 2834 | 1538 | 4334 | 3038 | 5834 | 4538 |
| MT61 | 2+2 | 2146 | 1711 | 2839 | 2404 | 5114 | 4679 | 7389 | 6954 | 9664 | 9229 | 11939 | 11504 |
| | 3+3 | 3220 | 2566 | 1984 | 1330 | 4259 | 3605 | 6534 | 5880 | 8809 | 8155 | 11084 | 10430 |
| | 4+4 | 4293 | 3422 | 1128 | 257 | 3403 | 2532 | 5678 | 4807 | 7953 | 7082 | 10228 | 9657 |
| | 5+5 | 5366 | 4277 | - | - | 2548 | 1459 | 4823 | 3734 | 7098 | 6009 | 9373 | 8284 |
| | 7+5 | 6438 | 5133 | - | - | 1692 | 387 | 3967 | 2662 | 6242 | 4937 | 8517 | 7212 |
| MT66 | 2+2 | 2810 | 2084 | 3916 | 3190 | 6916 | 6190 | 9916 | 9190 | 12916 | 12190 | 15916 | 15190 |
| | 3+3 | 4215 | 3126 | 2874 | 1785 | 5874 | 4785 | 8874 | 7785 | 11874 | 10785 | 14874 | 13785 |
| | 4+4 | 5619 | 4269 | 1831 | 381 | 4831 | 3381 | 7831 | 6381 | 10831 | 9381 | 13831 | 12381 |
| | 5+5 | 7024 | 5211 | - | - | 3789 | 1976 | 6789 | 4976 | 9789 | 7976 | 12789 | 10976 |
| | 7+5 | 8430 | 6252 | - | - | - | - | 5748 | 3570 | 8748 | 6570 | 11748 | 9570 |
| MT71 | 1+1 | 2123 | 1534 | 10216 | 9627 | 16091 | 15502 | 21966 | 21377 | 27841 | 27252 | 33716 | 33127 |
| | 2+2 | 4247 | 3068 | 8682 | 7503 | 14557 | 13378 | 20432 | 19253 | 26307 | 25128 | 32182 | 31003 |
| | 3+3 | 6370 | 4602 | 7148 | 5380 | 13023 | 11255 | 18898 | 17130 | 27773 | 23005 | 30648 | 28880 |
| | 4+4 | 8493 | 6136 | 5614 | 3257 | 11489 | 9132 | 17364 | 15007 | 23239 | 20882 | 29114 | 26757 |
| | 5+5 | 10617 | 7670 | - | - | 9955 | 7008 | 15830 | 12883 | 21705 | 18758 | 27580 | 24633 |
| | 6+6 | 12740 | 9204 | - | - | 8421 | 4885 | 14296 | 10760 | 20171 | 16635 | 26046 | 22510 |
| | 7+7 | 14863 | 10737 | - | - | - | - | 12763 | 8637 | 18638 | 14512 | 24513 | 20387 |
| | 8+8 | 16987 | 12271 | - | - | - | - | 11229 | 6513 | 17104 | 12388 | 22979 | 18263 |
| MT76 | 1+1 | 2843 | 1784 | 13966 | 12907 | 21841 | 20782 | 29716 | 28657 | 37591 | 36532 | 45466 | 44407 |
| | 2+2 | 5686 | 3569 | 12181 | 10064 | 20056 | 17939 | 27931 | 25814 | 35806 | 33689 | 43681 | 41564 |
| | 3+3 | 8530 | 5353 | 10397 | 7220 | 18272 | 15095 | 26147 | 22970 | 34022 | 30845 | 41897 | 38720 |
| | 4+4 | 11373 | 7137 | 8613 | 4377 | 16488 | 12252 | 24363 | 20127 | 32238 | 28002 | 40113 | 35877 |
| | 5+5 | 14216 | 8922 | - | - | 14703 | 9409 | 22578 | 17284 | 30453 | 25159 | 38328 | 33034 |
| | 6+6 | 17059 | 10706 | - | - | 12919 | 6566 | 20794 | 14441 | 28669 | 22316 | 36544 | 30191 |
| | 7+7 | 19902 | 12490 | - | - | - | - | 19010 | 11598 | 26885 | 19473 | 34760 | 27348 |
| | 8+8 | 22746 | 14275 | - | - | - | - | 17225 | 8754 | 25100 | 16629 | 32975 | 24504 |

*Actuator drawings may be downloaded at www.maxairtech.com

*All torques in inch pounds (in-lbs)

HOW TO ORDER



SAMPLE PART NUMBERS

MT26.S4.F05-F07.CH17

SIZE = 26
 CONFIGURATION = 4+4 Springs
 MOUNTING = F05-F07
 OUTPUT DRIVE = 17mm DSQ

EPOXY.MT31.S5.F05-F07.CH17

SPECIAL COATING = EPOXY
 SIZE = 31
 CONFIGURATION = 5+5 Springs
 MOUNTING = F05-F07
 OUTPUT DRIVE = 17mm DSQ

ACTUATOR REFERENCE TABLE

| | Drive (mm) | Drive (in) | Standard ISO Pattern | Optional ISO Pattern |
|------|------------|------------|----------------------|----------------------|
| MT04 | 9 | 0.354 | F03 | - |
| MT12 | 11 | 0.433 | F04 | F03/F05 |
| MT08 | 11 | 0.433 | F03/F05 | F04 |
| MT16 | 14 | 0.551 | F05/F07 | F04/F07 |
| MT17 | 14 | 0.551 | F05/F07 | - |
| MT21 | 17 | 0.670 | F05/F07 | - |
| MT26 | 17 | 0.670 | F05/F07 | - |
| MT31 | 17 | 0.670 | F05/F07 | - |
| MT36 | 22 | 0.866 | F07/F10 | - |
| MT41 | 22 | 0.866 | F07/F10 | - |
| MT46 | 22 | 0.866 | F07/F10 | - |
| MT51 | 27 | 1.063 | F10/F12 | - |
| MT56 | 27 | 1.063 | F10/F12 | - |
| MT61 | 36 | 1.417 | F10/F14 | F10/F12 |
| MT66 | 36 | 1.417 | F10/F14 | F10/F12 |
| MT71 | 46 | 1.811 | F16 | F14 |
| MT76 | 46 | 1.811 | F16 | - |

AIR CONSUMPTION / WEIGHTS / WARRANTY

| | Double Acting | | Spring Return | |
|------|---------------|-------------------------|---------------|-------------------------|
| | Weight (lbs) | Air Consumption (cu-in) | Weight (lbs) | Air Consumption (cu-in) |
| MT04 | 1.06 | 4.03 | NA | NA |
| MT12 | 2.00 | 13.50 | 2.18 | 8.00 |
| MT08 | 2.76 | 15.26 | 3.00 | 6.10 |
| MT16 | 3.52 | 25.60 | 3.94 | 11.20 |
| MT17 | 4.22 | 34.30 | 4.75 | 15.60 |
| MT21 | 5.17 | 44.40 | 6.00 | 18.10 |
| MT26 | 7.15 | 68.70 | 8.30 | 30.00 |
| MT31 | 9.13 | 88.90 | 10.74 | 40.60 |
| MT36 | 14.60 | 153.10 | 17.80 | 75.00 |
| MT41 | 17.20 | 190.60 | 20.90 | 100.00 |
| MT46 | 24.20 | 275.00 | 29.90 | 115.60 |
| MT51 | 35.30 | 425.00 | 42.00 | 181.30 |
| MT56 | 44.10 | 565.50 | 53.80 | 256.30 |
| MT61 | 61.50 | 881.30 | 83.10 | 343.80 |
| MT66 | 84.50 | 1037.50 | 105.60 | 443.80 |
| MT71 | 147.30 | 1694.00 | 182.90 | 600.00 |
| MT76 | 179.90 | 1963.00 | 216.10 | 731.00 |

*Note: Spring return weights consider actuator fitted with max number of springs possible. Air consumption is normalized at standard temperature and pressure.

STANDARD WARRANTY INFORMATION

Max-Air Technology provides the following warranty regarding products manufactured by it. THE WARRANTY STATED HEREIN IS EXPRESSED IN LIEU OF ALL OTHER WARRANTIES AND REPRESENTATIONS, EXPRESSED OR IMPLIED, OR STATUTORY, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. Max-Air Technology warrants its products to be free from defects in materials and workmanship when these products are used for the purpose for which they were designed and manufactured. Max-Air Technology does not warrant its products against chemical or stress corrosion or against any other failure other than from defects in materials or workmanship. The warranty period is for twelve (12) months from installation date or eighteen (18) months from shipment date, whichever date comes first. Any claims regarding this warranty must be in writing and received by Max-Air Technology before the last effective date of the warranty period. Upon Max-Air Technology receipt of a warranty claim, Max-Air Technology reserves the right to inspect the product(s) in question at either the field location or at Max-Air Technology Manufacturing plant. If, after inspection of the product(s) in question, Max-Air Technology determines that the purchaser's claim is covered by this warranty, Max-Air Technology's sole liability and the purchaser's sole remedy under this warranty is limited to the refunding of the purchase price or repair or replacement thereof a Max-Air Technology option. Max-Air Technology will not be liable for any repairs, labor, material or other expenses that are not specifically authorized in writing by Max-Air Technology, and in no event shall Max-Air Technology be liable for any direct or consequential damages arising out of any defect from any cause whatsoever. If any Max-Air Technology product is modified or altered at any location other than Max-Air Technology – St. Louis (Missouri) or Max-Air Technology – Sesto San Giovanni (Milan) ITALY without the express written authorization of Max-Air Technology are not covered by this warranty. The warranty for such products shall be subject only to the warranty relief, if any, provided by the suppliers and/or manufacturers of such products.

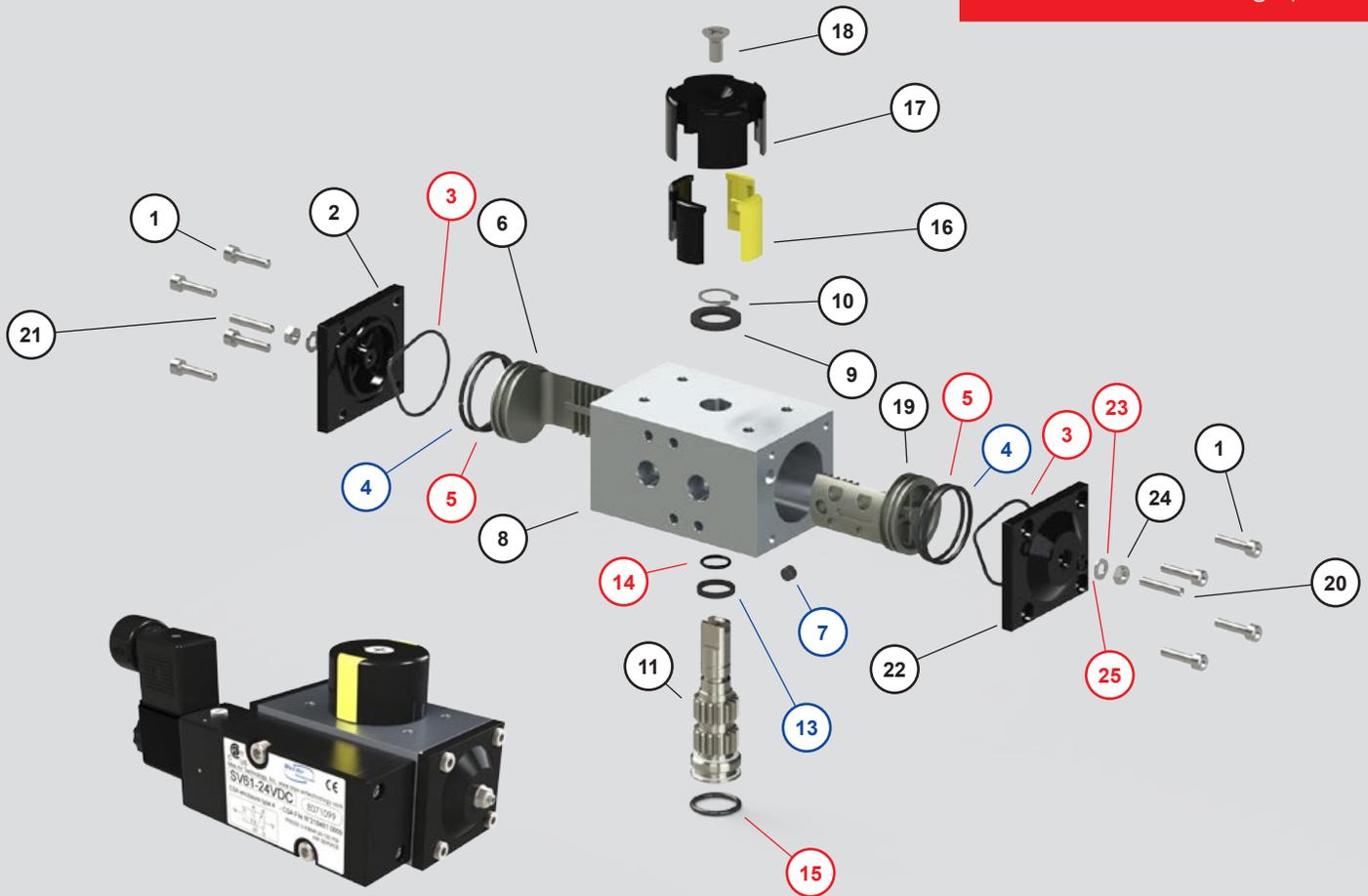
UNLIMITED CYCLE LIFE WARRANTY

Max-Air Technology, Inc. provides the following unlimited cycle life warranty regarding products manufactured by Max-Air Technology, Inc. of O'Fallon, Missouri and Emme Technology S.r.l. of Sesto San Giovanni, Italy, a.k.a. the "Max-Air Group". This warranty includes all aluminum rotary rack and pinion actuators which are manufactured by the Max-Air Group and brand labeled for marketing purposes for other companies and business entities, and applies only to those items which are clearly identified as Max-Air brand labeled products. The warranty stated herein is expressly in lieu of all other warranties and representations, expressed or implied, or statutory, including, without limitation, the implied warranty of fitness for a particular purpose. Max-Air Technology warrants its products to be free from defects in materials and workmanship when these products are used for the purpose for which they were designed and manufactured. Max-Air Technology does not warrant its products against chemical or stress corrosion or against any other failure other than from defects in materials or workmanship. The warranty period is for twelve (12) months from installation date or eighteen (18) months from shipment date, whichever date comes first. Any claims regarding this warranty must be in writing and received by Max-Air Technology before the last effective date of the warranty period. Upon receipt of a warranty claim, Max-Air Technology reserves the right to inspect the product(s) in question at either the field location or at a Max-Air designated facility. If, after the inspection of the product(s) in question, Max-Air Technology determines that the purchaser's claim is covered by this warranty, Max-Air Technology's sole liability and the purchaser's sole remedy under this warranty is limited to the refunding of the purchase price or repair or replacement thereof, at the sole discretion of Max-Air Technology. Max-Air Technology will not be liable for any repairs, labor, material, or other expenses that are not specifically authorized in writing by Max-Air Technology, and in no event shall Max-Air Technology be liable for any direct or consequential damages arising out of any defect from any cause whatsoever. If any Max-Air Technology products are modified or altered in any way, without the expressed written consent of Max-Air Technology, the products will not be covered by this warranty. Max-Air Technology further warrants its aluminum rotary rack and pinion pneumatic actuator products to be free from seal failure for the life of the product when such product(s) are used for the purpose in which they are designed. This warranty extension shall be known as the 'Unlimited Cycle Life Warranty' and provides that in the event of seal failure outside the standard warranty time period, Max-Air Technology will inspect and repair the product(s) in question free of charge. If during the inspection, Max-Air Technology, or its authorized service repair center, finds that failure was caused by the introduction of foreign debris into the internal operating mechanism of the pneumatic actuator, and/or finds that failure was caused by end user modification, then the warranty extension shall be null and void. The unlimited cycle life warranty does not cover the freight charges to and from an authorized Max-Air Technology service repair center, regardless if warranty coverage is applicable or not. Warranty coverage provides for replacement of all wear bearing parts, and other components if necessary as determined by Max-Air Technology or its authorized service repair center. Max-Air Technology reserves the right to end this warranty extension at anytime at its sole discretion, and without notification.

MT04 EXPLODED VIEW

Blue = Items sold in the skates and wear bearings repair kit

Red = Items sold in the o-ring repair kit



IMPORTANT SPECIAL FEATURE!

The MAX-AIR MT04 is designed so that standard NAMUR mount solenoid valves can be connected horizontally. This is a MAX-AIR EXCLUSIVE feature.

| # | DESCRIPTION | MATERIALS |
|----|---------------------|----------------------------------|
| 1 | End Cap Bolts | AISI 304 Stainless Steel |
| 2 | Left End Cap | Die Cast Aluminum Epoxy Coated |
| 6 | Left Piston | Anodized Aluminum |
| 8 | Actuator Body | Extruded Aluminum (6063 or 6005) |
| 9 | Upper Pinion Washer | Technopolymer |
| 10 | Pinion Snap Ring | AISI 304 Stainless Steel |
| 11 | Pinion | Nickel Plated Carbon Steel |
| 16 | Indicator Inserts | Technopolymer |
| 17 | Indicator | Technopolymer |
| 18 | Indicator Screw | AISI 304 Stainless Steel |
| 19 | Right Piston | Anodized Aluminum |
| 20 | Travel Stop | AISI 304 Stainless Steel |
| 21 | Travel Stop | AISI 304 Stainless Steel |
| 22 | Right End Cap | Die Cast Aluminum Epoxy Coated |
| 24 | Travel Stop Nuts | AISI 304 Stainless Steel |

NOTE

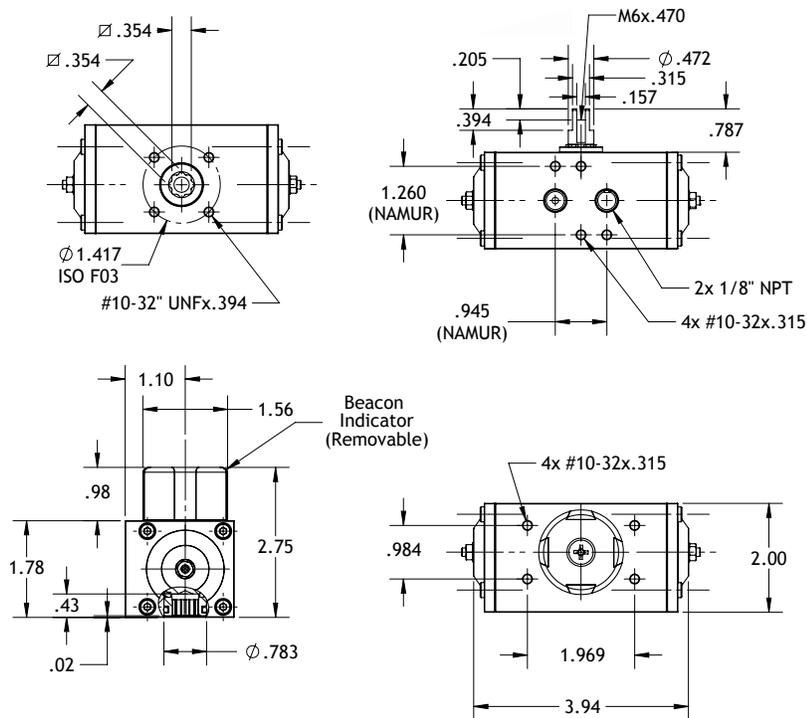
The MT04 is the smallest actuator in our MT lineup. The MT04 is only available in double-acting configuration, and Standard Buna Seals.

| # | DESCRIPTION | MATERIALS |
|----|----------------------|---------------|
| 4 | Piston Wear Bearing | Technopolymer |
| 7 | Piston Skate | Technopolymer |
| 13 | Upper Pinion Bearing | Technopolymer |

| # | DESCRIPTION | MATERIALS |
|----|---------------------|--------------------------|
| 3 | End Cap O-Ring | BUNA-N |
| 5 | Piston O-Ring | BUNA-N |
| 14 | Upper Pinion O-Ring | BUNA-N |
| 15 | Lower Pinion O-Ring | BUNA-N |
| 23 | Travel Stop Washers | AISI 304 Stainless Steel |
| 25 | Travel Stop O-Rings | BUNA-N |

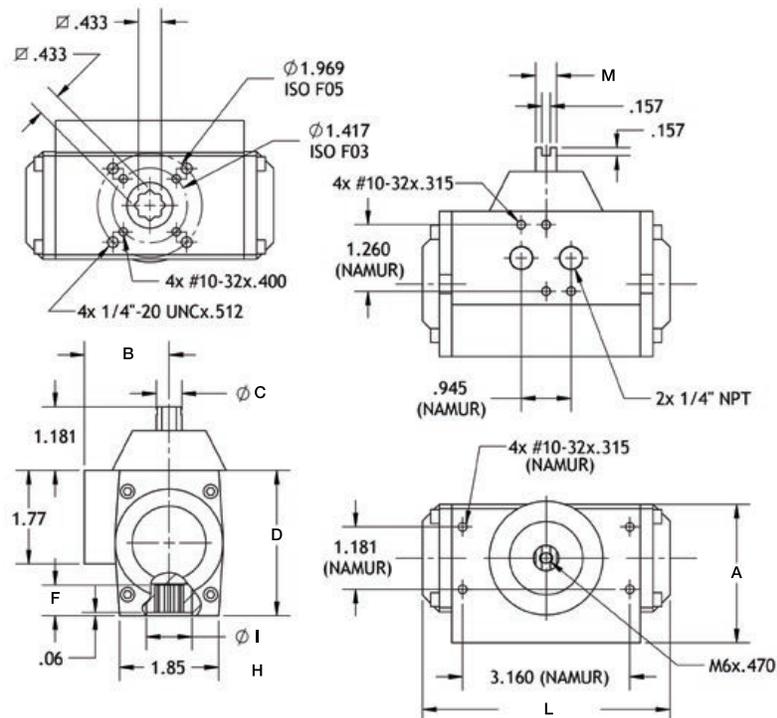
MT04 & MT12 TECHNICAL DATA

MT04



*Only available in Double Acting configuration, and with Standard Buna-N Seals (-4°F to 176°F).

MT12

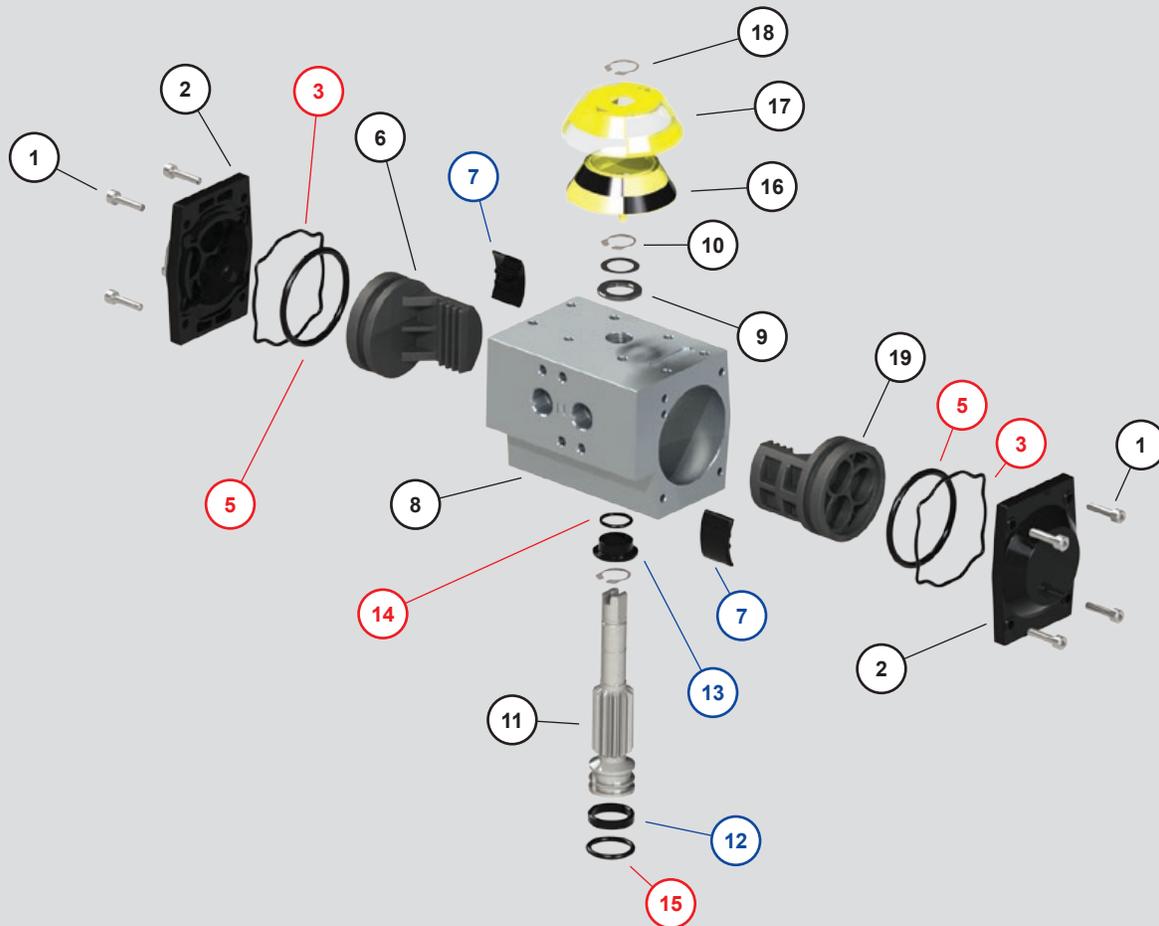


| | A | B | C | D | F | I | L | M | F05 | F03/F04 | DSQ | ISO 5211 |
|------|------|------|------|------|------|------|------|-------|-------------|--------------|--------------------|----------|
| MT12 | 2.64 | 1.57 | 0.47 | 2.80 | 0.49 | 0.87 | 4.69 | 0.394 | #10-32x.394 | 1/4"-20x.394 | 11 mm (0.433in) | F03/F05 |
| | | | | | | | | | #10-32x.394 | — | | F04 |

MT12 EXPLODED VIEW

Blue = Items sold in the skates and wear bearings repair kit

Red = Items sold in the o-ring repair kit



| # | DESCRIPTION | MATERIALS |
|----|-----------------------|----------------------------------|
| 1 | End Cap Bolts | AISI 304 Stainless Steel |
| 2 | Left End Cap | Die Cast Aluminum Epoxy Coated |
| 6 | Left Piston | Anodized Aluminum |
| 8 | Actuator Body | Extruded Aluminum (6063 or 6005) |
| 9 | Upper Pinion Washer | Technopolymer |
| 10 | Pinion Snap Ring | AISI 304 Stainless Steel |
| 11 | Pinion | Nickel Plated Carbon Steel |
| 16 | Open/Closed Indicator | Technopolymer |
| 17 | Indicator Window | Technopolymer |
| 18 | Indicator Snap Ring | AISI 304 Stainless Steel |
| 19 | Travel Stop Piston | Anodized Aluminum |

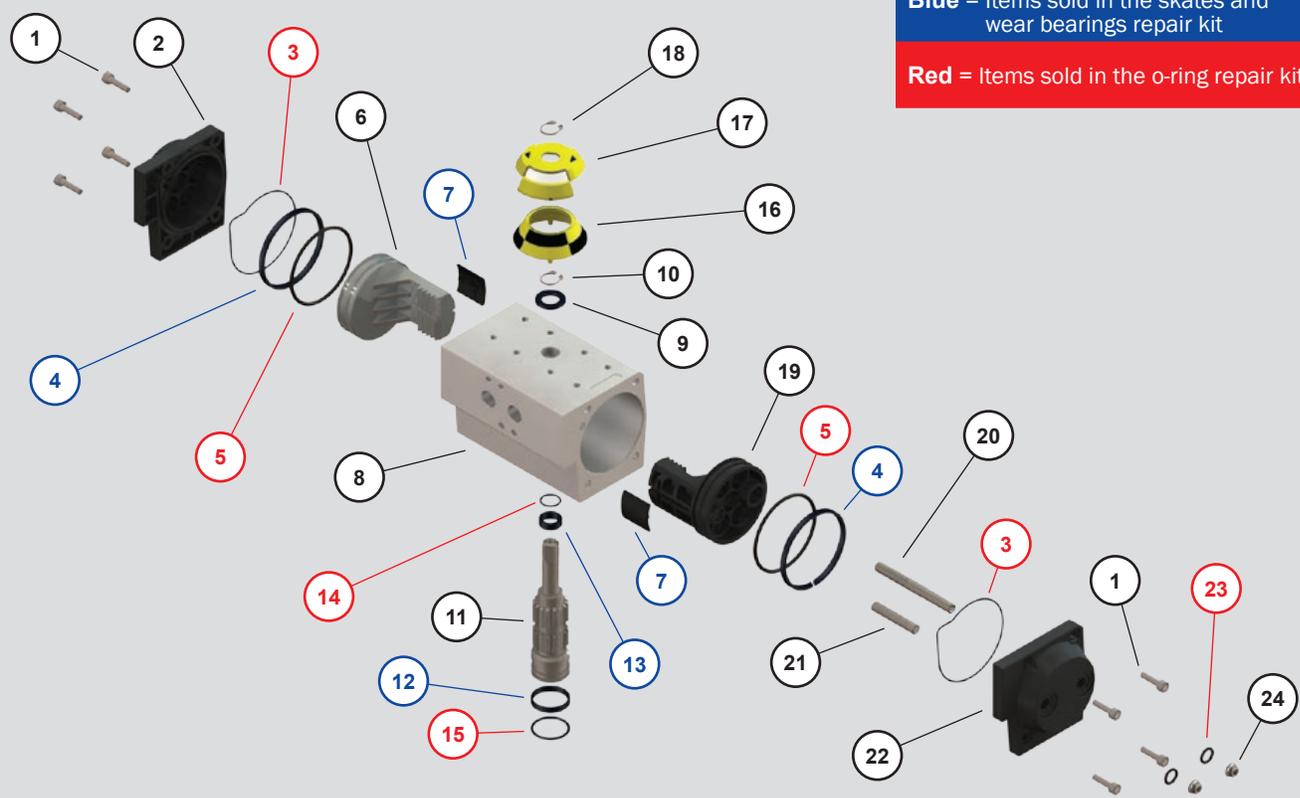
| # | DESCRIPTION | MATERIALS |
|----|----------------------|---------------|
| 7 | Piston Skate | Technopolymer |
| 12 | Lower Pinion Bearing | Technopolymer |
| 13 | Upper Pinion Bearing | Technopolymer |

| # | DESCRIPTION | MATERIALS |
|----|---------------------|-----------|
| 3 | End Cap O-Ring | BUNA-N |
| 5 | Piston O-Ring | BUNA-N |
| 14 | Upper Pinion O-Ring | BUNA-N |
| 15 | Lower Pinion O-Ring | BUNA-N |

SPECIAL NOTE

The second smallest actuator in our lineup, the MT12 actuator is designed without dual travel stop adjustments to save space, while at the same time offered in both DA (double-acting) and SR (spring-return) configurations. Available only in Standard Buna-N Seals (-4°F to 176°F).

MT08 - MT66 EXPLODED VIEW



Blue = Items sold in the skates and wear bearings repair kit
Red = Items sold in the o-ring repair kit

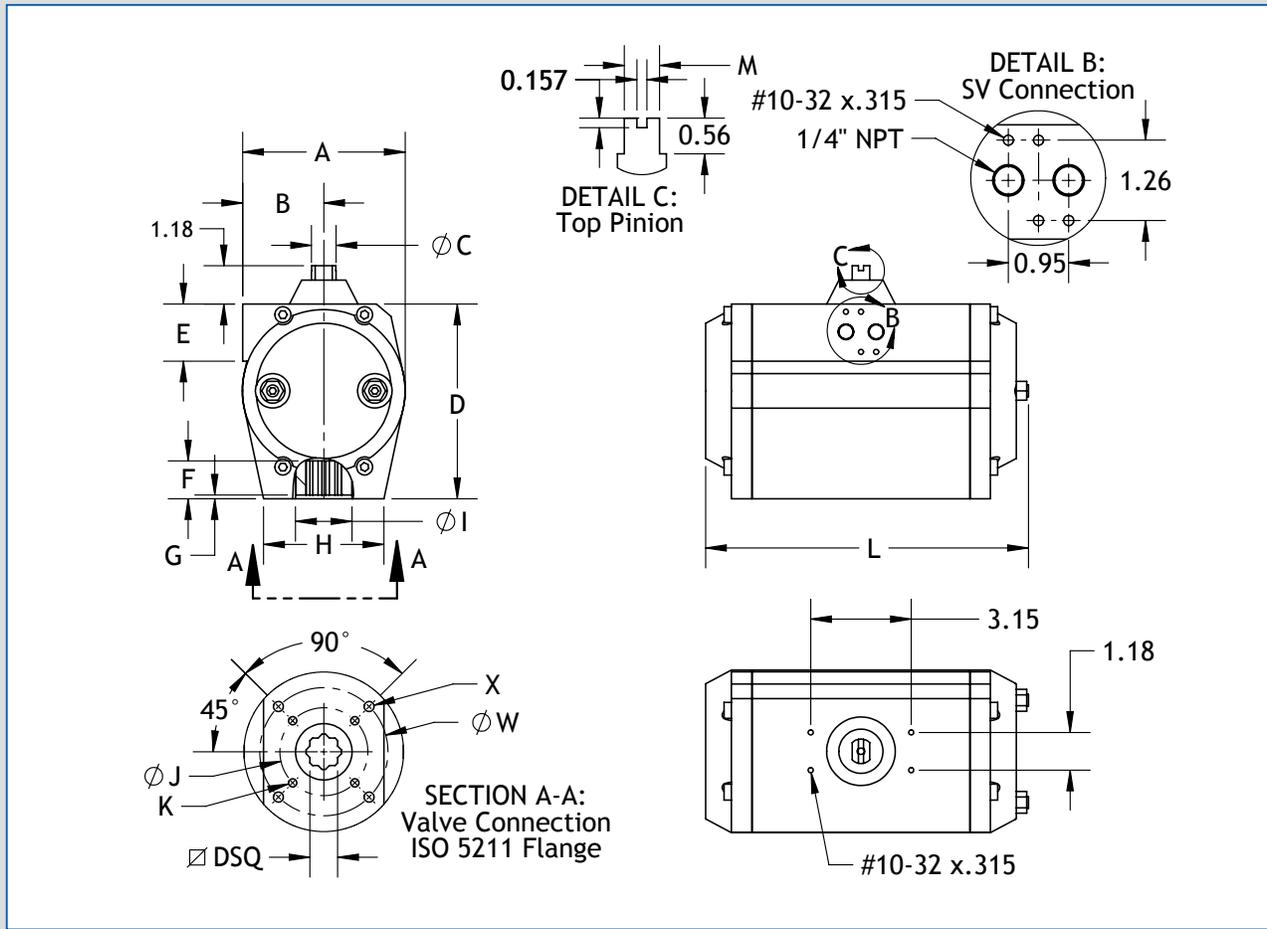
| # | DESCRIPTION | MATERIALS |
|----|-----------------------|----------------------------------|
| 1 | End Cap Bolts | AISI 304 Stainless Steel |
| 2 | Left End Cap | Die Cast Aluminum Epoxy Coated |
| 6 | Left Piston | Anodized Aluminum |
| 8 | Actuator Body | Extruded Aluminum (6063 or 6005) |
| 9 | Upper Pinion Washer | Technopolymer |
| 10 | Pinion Snap Ring | AISI 304 Stainless Steel |
| 11 | Pinion | Nickel Plated Carbon Steel |
| 16 | Open/Closed Indicator | Technopolymer |
| 17 | Indicator Window | Technopolymer |
| 18 | Indicator Snap Ring | AISI 304 Stainless Steel |
| 19 | Travel Stop Piston | Anodized Aluminum |
| 20 | Closed Travel Stop | AISI 304 Stainless Steel |
| 21 | Open Travel Stop | AISI 304 Stainless Steel |
| 22 | Travel Stop End Cap | Die Cast Aluminum Epoxy Coated |
| 24 | Travel Stop Nuts | AISI 304 Stainless Steel |

| # | DESCRIPTION | MATERIALS |
|----|----------------------|---------------|
| 4 | Piston Wear Bearing | Technopolymer |
| 7 | Piston Skate | Technopolymer |
| 12 | Lower Pinion Bearing | Technopolymer |
| 13 | Upper Pinion Bearing | Technopolymer |

| # | DESCRIPTION | MATERIALS |
|----|---------------------|-----------|
| 3 | End Cap O-Ring | BUNA-N |
| 5 | Piston O-Ring | BUNA-N |
| 14 | Upper Pinion O-Ring | BUNA-N |
| 15 | Lower Pinion O-Ring | BUNA-N |
| 23 | Travel Stop O-Rings | BUNA-N |

| SERVICE | CODE | DESCRIPTION |
|-----------------------|------|---|
| Super Low Temperature | SLT | For super low temperatures down to -67°F, special super low temperature seals and lubricant must be used. |
| Severe Cold | LT | For temperatures below -4°F down to -49°F, special low temperature seals and lubricant must be used. |
| Standard | STD | Actuators come standard with BUNA-N seals, which are good for normal temperature ranges of -4°F to 176°F. |
| Elevated Temperature | HT | For elevated temperatures up to 300°F, VITON® seals are available. Typical VITON® installations are good for 300°F continuous and 350°F cyclic. |

MT08 - MT66 TECHNICAL DATA



Note: Envelope dimensions shown, see individual cutsheets for dimensional details.

*Double-D and keyway drive options available. Contact Max-Air for details.

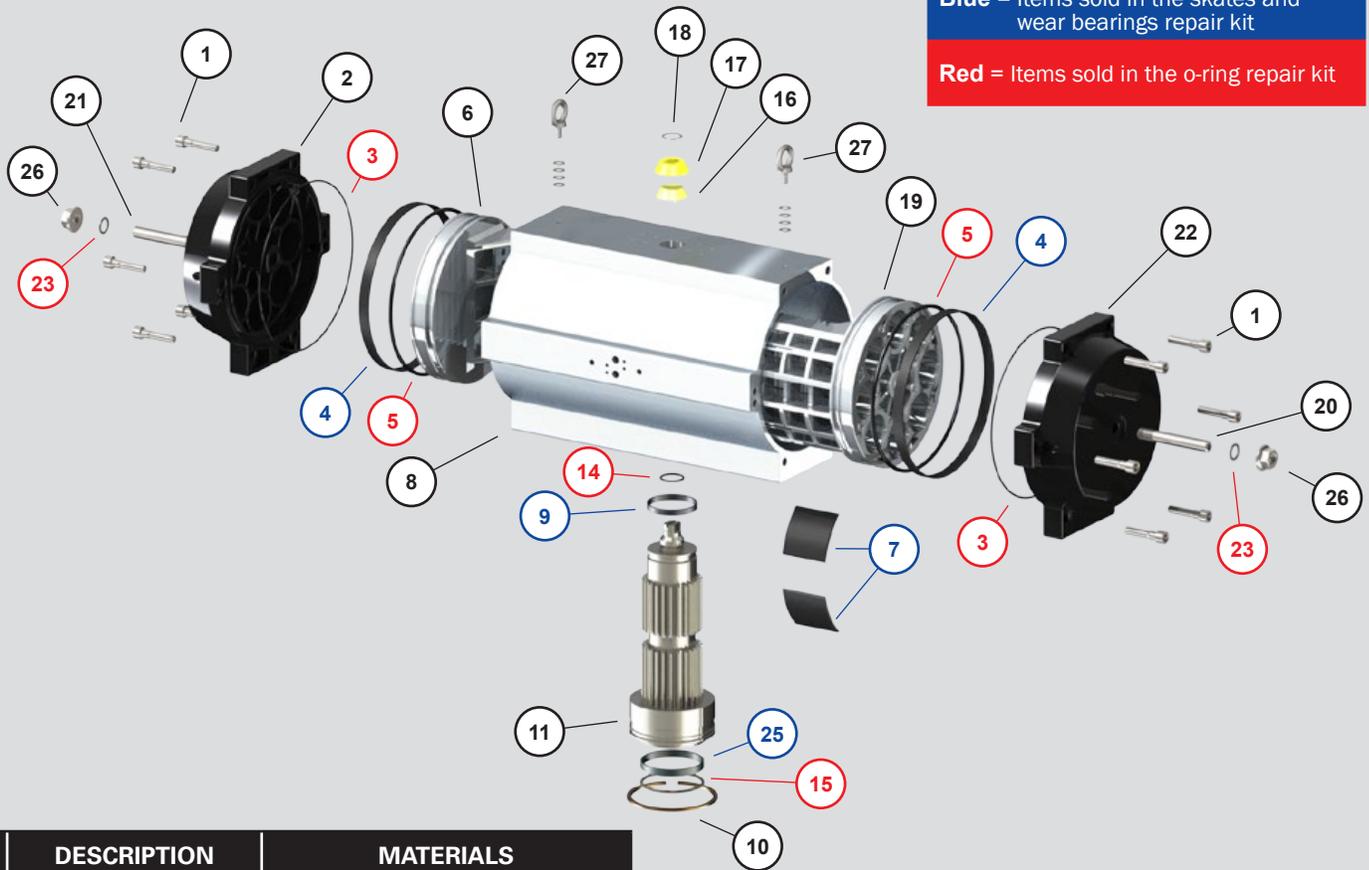
| | A | B | C | D | E | F | G | H | I | L | M | J | K | W | X | DSQ | ISO 5211 |
|------|------|------|------|-------|------|------|------|------|------|-------|-------|------|---------------|-------|---------------|-------|----------|
| MT12 | 2.64 | 1.57 | 0.47 | 2.80 | 1.77 | 0.49 | 0.06 | 1.85 | 0.87 | 4.69 | 0.394 | 1.42 | #10-32x.394 | 1.969 | 1/4"-20x.394 | 11 mm | F03/F05 |
| | | | | | | | | | | | | 1.65 | #10-32x.394 | — | — | | F04 |
| MT08 | 2.76 | 1.62 | 0.47 | 2.68 | 1.70 | 0.65 | 0.06 | 2.07 | 1.02 | 6.30 | 0.394 | 1.42 | #10-32x.315 | 1.969 | 1/4"-20x.394 | 11 mm | F03/F05 |
| | | | | | | | | | | | | 1.65 | #10-32x.315 | — | — | | F04 |
| MT16 | 3.19 | 1.85 | 0.47 | 3.19 | 1.75 | 0.75 | 0.08 | 2.44 | 1.30 | 6.50 | 0.394 | 1.97 | 1/4"-20x.394 | 2.756 | 5/16"-18x.512 | 14 mm | F05/F07 |
| | | | | | | | | | | | | 1.65 | #10-32x.394 | | | | — |
| MT17 | 3.19 | 1.85 | 0.47 | 3.19 | 1.75 | 0.75 | 0.08 | 2.44 | 1.30 | 7.76 | 0.394 | 1.97 | 1/4"-20x.394 | 2.756 | 5/16"-18x.512 | 14 mm | F05/F07 |
| MT21 | 3.78 | 2.13 | 0.55 | 3.86 | 1.77 | 0.75 | 0.08 | 3.01 | 1.38 | 6.70 | 0.394 | 1.97 | 1/4"-20x.512 | 2.756 | 5/16"-18x.512 | 17 mm | F05/F07 |
| MT26 | 3.78 | 2.13 | 0.55 | 3.86 | 1.77 | 0.75 | 0.08 | 3.01 | 1.38 | 9.41 | 0.394 | 1.97 | 1/4"-20x.512 | 2.756 | 5/16"-18x.512 | 17 mm | F05/F07 |
| MT31 | 4.49 | 2.44 | 0.77 | 4.61 | 1.73 | 0.91 | 0.08 | 3.56 | 1.59 | 9.06 | 0.551 | 1.97 | 1/4"-20x.512 | 2.756 | 5/16"-18x.512 | 17 mm | F05/F07 |
| MT36 | 5.16 | 2.60 | 0.77 | 6.06 | 1.77 | 1.18 | 0.12 | 3.76 | 1.59 | 9.69 | 0.551 | 2.76 | 5/16"-18x.512 | 4.016 | 3/8"-16x.709 | 22 mm | F07/F10 |
| MT41 | 5.16 | 2.60 | 0.77 | 6.06 | 1.77 | 1.18 | 0.12 | 3.76 | 1.77 | 11.42 | 0.551 | 2.76 | 5/16"-18x.512 | 4.016 | 3/8"-16x.709 | 22 mm | F07/F10 |
| MT46 | 5.71 | 2.87 | 1.10 | 6.63 | 1.77 | 1.18 | 0.12 | 3.88 | 2.22 | 13.81 | 0.787 | 2.76 | 5/16"-18x.512 | 4.016 | 3/8"-16x.709 | 22 mm | F07/F10 |
| MT51 | 7.13 | 3.58 | 1.10 | 7.95 | 1.73 | 1.57 | 0.12 | 4.33 | 2.13 | 14.21 | 0.787 | 4.02 | 3/8"-16x.709 | 4.921 | 1/2"-13x.787 | 27 mm | F10/F12 |
| MT56 | 7.13 | 3.58 | 1.10 | 7.95 | 1.73 | 1.57 | 0.12 | 4.90 | 2.62 | 16.46 | 0.787 | 4.02 | 3/8"-16x.709 | 4.921 | 1/2"-13x.787 | 27 mm | F10/F12 |
| MT61 | 9.13 | 4.49 | 1.10 | 10.12 | 1.77 | 1.97 | 0.16 | 6.32 | 3.15 | 17.48 | 0.787 | 4.02 | 3/8"-16x.709 | 4.921 | 1/2"-13x.787 | 36 mm | F10/F12 |
| | | | | | | | | | | | | | | 5.512 | 5/8"-11x.984 | | F10/F14 |
| MT66 | 9.13 | 4.49 | 1.10 | 10.12 | 1.77 | 1.97 | 0.16 | 6.32 | 3.15 | 19.76 | 0.787 | 4.02 | 3/8"-16x.709 | 4.921 | 1/2"-13x.787 | 36 mm | F10/F12 |
| | | | | | | | | | | | | | | 5.512 | 5/8"-11x.984 | | F10/F14 |

Note*: Dimensions subject to change without notice. Dimensions in inches unless otherwise noted.

MT71 - MT76 EXPLODED VIEW

Blue = Items sold in the skates and wear bearings repair kit

Red = Items sold in the o-ring repair kit



| # | DESCRIPTION | MATERIALS |
|----|-----------------------|----------------------------------|
| 1 | End Cap Bolts | AISI 304 Stainless Steel |
| 2 | Left End Cap | Die Cast Aluminum Epoxy Coated |
| 6 | Left Piston | Anodized Aluminum |
| 8 | Actuator Body | Extruded Aluminum (6063 or 6005) |
| 10 | Pinion Snap Ring | AISI 304 Stainless Steel |
| 11 | Pinion | Nickel Plated Carbon Steel |
| 16 | Open/Closed Indicator | Technopolymer |
| 17 | Indicator Window | Technopolymer |
| 18 | Indicator Snap Ring | AISI 304 Stainless Steel |
| 19 | Right Piston | Anodized Aluminum |
| 20 | Travel Stop, Open | AISI 304 Stainless Steel |
| 21 | Travel Stop, Closed | AISI 304 Stainless Steel |
| 22 | Right End Cap | Die Cast Aluminum Epoxy Coated |
| 26 | Travel Stop Nut | AISI 304 Stainless Steel |
| 27 | Lifting Eyelets | Forged Stainless Steel |

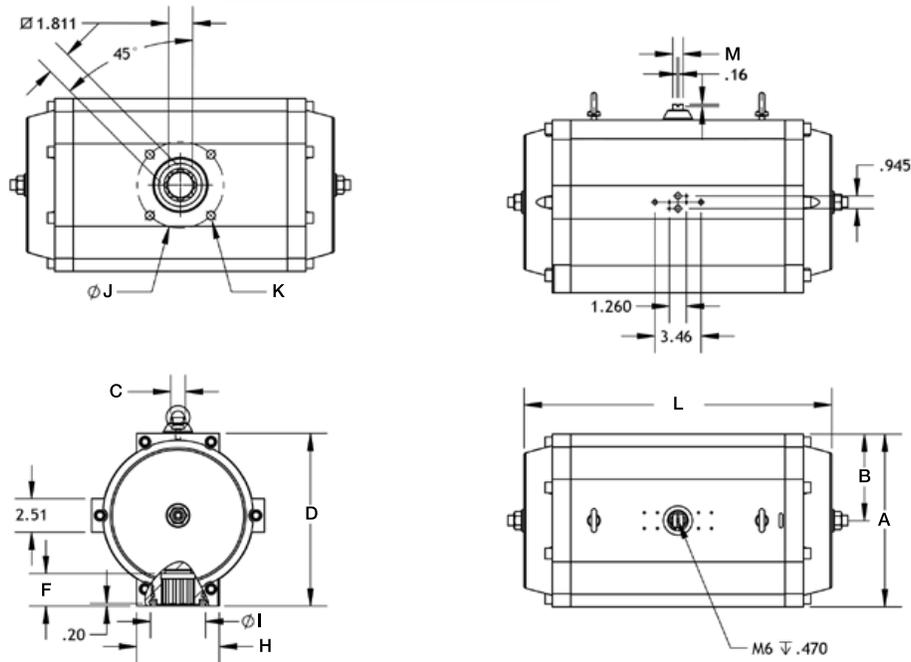
Note*: Now available with bi-directional travel stops, +/-10° Adjustment.

| # | DESCRIPTION | MATERIALS |
|----|----------------------|---------------|
| 4 | Piston Wear Bearing | Technopolymer |
| 7 | Piston Skates | Technopolymer |
| 9 | Upper Pinion Bearing | Technopolymer |
| 25 | Lower Pinion Bearing | Technopolymer |

| # | DESCRIPTION | MATERIALS |
|----|---------------------|-----------|
| 3 | End Cap O-Ring | BUNA-N |
| 5 | Piston O-Ring | BUNA-N |
| 14 | Upper Pinion O-Ring | BUNA-N |
| 15 | Lower Pinion O-Ring | BUNA-N |
| 23 | Travel Stop O-Rings | BUNA-N |

| SERVICE | CODE | DESCRIPTION |
|-----------------------|------|---|
| Super Low Temperature | SLT | For super low temperatures down to -67°F (-55°C), special super low temperature seals and lubricant must be used. |
| Severe Cold | LT | For temperatures below -4°F (-20°C) down to -49°F (-45°C), special low temperature seals and lubricant must be used. |
| Standard | STD | Actuators come standard with BUNA-N seals, which are good for normal temperature ranges of -4°F (-20°C) to 176°F (80°C). |
| Elevated Temperature | HT | For elevated temperatures up to 300°F, VITON® seals are available. Typical VITON® installations are good for 300°F (149°C) continuous and 350°F (177°C) cyclic. |

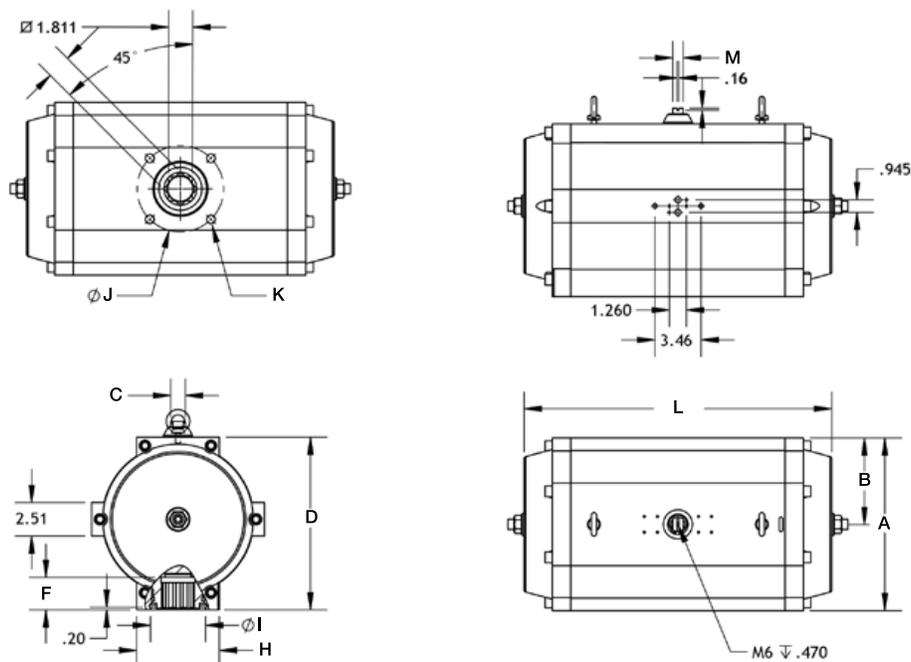
MT71



*Double-D and keyway drive options available. Contact Max-Air for details.

| | A | B | C | D | E | F | G | H | I | L | M | J | K | DSQ | ISO 5211 |
|------|-------|------|------|-------|------|------|------|------|------|-------|-------|-------|---------------|-------|----------|
| MT71 | 12.99 | 6.50 | 1.10 | 12.99 | 2.17 | 2.45 | 0.20 | 6.22 | 4.13 | 22.83 | 1.417 | 5.512 | 5/8"-11x1.260 | 46 mm | F14 |
| | | | | | | | | | | | | 6.496 | 3/4"-10x1.260 | | F16 |
| MT76 | 12.99 | 6.50 | 1.10 | 12.99 | 2.17 | 2.45 | 0.20 | 6.22 | 5.51 | 26.69 | 1.417 | 6.496 | 3/4"-10x1.260 | 46 mm | F16 |

MT76



*Double-D and keyway drive options available. Contact Max-Air for details.

MATERIAL & COATING REFERENCE



| | Material / Coating | Appearance | General Properties | Relative Cost | Performance Limitations |
|--|--|---|---|----------------------|---|
| | Aluminum: Hard Anodized (Standard) | Silver-gray with a matte appearance | Good general corrosion properties in most "natural" environments with pH from 4.5 to 8.5. Good resistance to salt air environments. The coating is extremely hard and resistant to abrasion. | Lowest Cost | Highly acidic or basic environments will break down the coating. |
| | Aluminum: Anodized w/ Polyamide Epoxy Coating | Black with a medium gloss finish | This epoxy coating is a relatively thick coating which creates a barrier against many of the chemicals which anodizing alone cannot adequately resist. It will resist more acidic or basic environments than anodizing alone. | Moderate Cost | Good general corrosion resistance, particularly in salt or alkaline environments. Limited resistance to acids. Surface chalking will occur when exposed to UV radiation. Also suitable for low concentrations of caustic washdown solutions. |
| | Aluminum: Electroless Nickel Infused | Medium gloss silver finish | Uniformly thick coating with essentially no porosity and a reasonably high hardness. The coating is pure, tough, hard, and resistant to many types of corrosion media. | Moderately High Cost | The coating will provide enhanced corrosion protection in very acidic environments but will not withstand attack from strong alkaline media. Also suitable for low to medium concentrations of caustic washdown solutions. |
| | Aluminum: Teflon Infused SS Mesh "Lock Mesh"TM** Coating | Dark Grey finish | This coating provides complete surface coverage and exhibits excellent corrosion resistance properties in a wide variety of applications. In addition, it is FDA approved for food contact. | Moderately High Cost | These coatings are resistant to any environment into which an actuator would be installed. Provided the integrity of the surface is intact, the coating can resist a broad array of chemical environments at temperatures ranging from sub- zero to 350° F. |
| | Stainless Steel: ASTM A351 Grade CF8M | Silver; low to medium gloss unless polished | 304 and 316 stainless steel are the most commonly used alloys. Both have good corrosion resistance but 316 is generally considered superior, however more expensive. | Highest Cost | Although stainless steel does offer enhanced corrosion resistance, it also is dramatically higher in both cost and weight. The weight differential will often necessitate the use of special support bracketry. Corrosion resistance is superior. |

*See Lock Mesh Product Bulletin 20130305-RO for technical details.



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