

BOLT TECHTM MANNINGS

BOLTING PRODUCTS CATALOG



cservice@ktecdirect.com | 800.468.5832

AS9120/ISO 9001 Certified





Best in Class Products | From Best in Class Processes

ENGINEERING



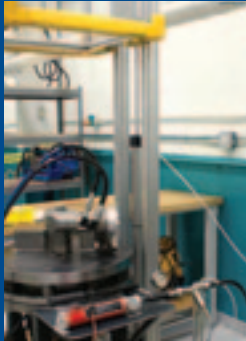
MANUFACTURING



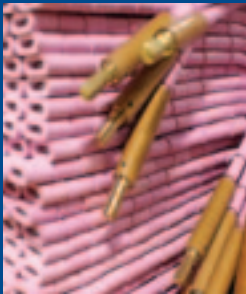
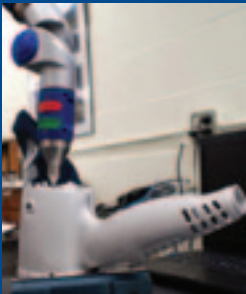
INSPECTION



TESTING



DISTRIBUTION



Bolttech Mannings™

Products Designed and Engineered for Industry

Whether your needs are large or small, Bolttech Mannings does it all. Let our expertise work for your small application, or let us bring a trailer full of the most innovative industrial tools on the market to finish the job right on-time the very first time. We provide state-of-the-art thermal and bolting solutions through the very best engineering team and world class manufacturing capabilities.

Our product line is lightweight, compact, and versatile allowing the operator ease-of-use and greater efficiency in most applications. We will improve your turnaround time—and save you money! Bolttech Mannings leads the industry providing breakthrough product technology unparalleled service and custom product solutions.

Contents

| | | | |
|---|----|---|----|
| TL Series Low Clearance / Direct Fit Hydraulic Wrench..... | 2 | Nuts & High Temperature Hydraulic Nuts | 17 |
| LW Series Light Weight Aluminum Square Drive Hydraulic Wrench..... | 4 | Octopus Series Sub Sea Tensioners | 18 |
| QD Series Convertible, High Strength Steel Hydraulic Wrench System..... | 5 | Gas Turbine Tensioning Systems | 19 |
| QD Series Cassette Links Low Profile Direct Fit Hydraulic Wrenches..... | 6 | Wind Turbine Tensioners—WT Series | 20 |
| QD Series Accessories..... | 8 | Wind Turbine Base Bolt Tensioner Specifications | 21 |
| Destroyer Nut Splitter..... | 9 | Hydraulic Pumps | 22 |
| Cyclone Magnum Pneumatic Torque Wrench | 10 | Hose & Fitting Accessories | 24 |
| Cyclone Valve Exercise Tool | 12 | Impact Wrenches..... | 25 |
| Wheel Maintenance Products for the Mining Industry..... | 13 | Monster Grip Tool & Bolt Removal Equipment | 26 |
| BT Series Hydraulic Stud & Bolt Tensioners | 14 | Nut & Bolt Thread Cleaning Kits | 27 |
| Delta Series Tensioners | 15 | Mini-Max Ultrasonic Bolt Measurement and Monitoring System..... | 28 |
| Delta BT Series Hydraulic Stud Tensioners Modular Components..... | 16 | Ultrasonic Stress Meter – USM-3 | 29 |
| | | Flange Spreader Wedges | 30 |
| | | Flange Alignment & Lifting..... | 31 |

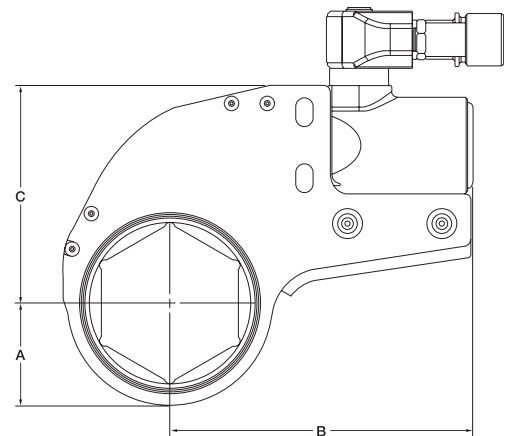
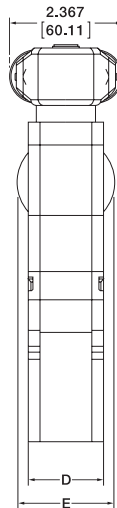
TL Series Low Clearance / Direct Fit Hydraulic Wrench



Standard configuration:
Aluminum reaction surface
(steel reaction surface optional)
360° swivel



Shown above and below with
optional steel reaction surface
and direct ports with whip hoses



Features and Benefits

- Self-contained, integrated cylinder for rigidity, long life and simple calibration.
- Lightweight - Highest Torque/Weight ratio in the industry.
- Integral reaction point designed to fit all ANSI B16.5 and API flanges.
- A 100% duty use, industrial grade torque wrench offering +/-3% calibrated torque accuracy.
- Efficient, simple and robust design technology using ultra high strength materials.
- Smallest nose radius on the market. Minimal height and width dimensions.

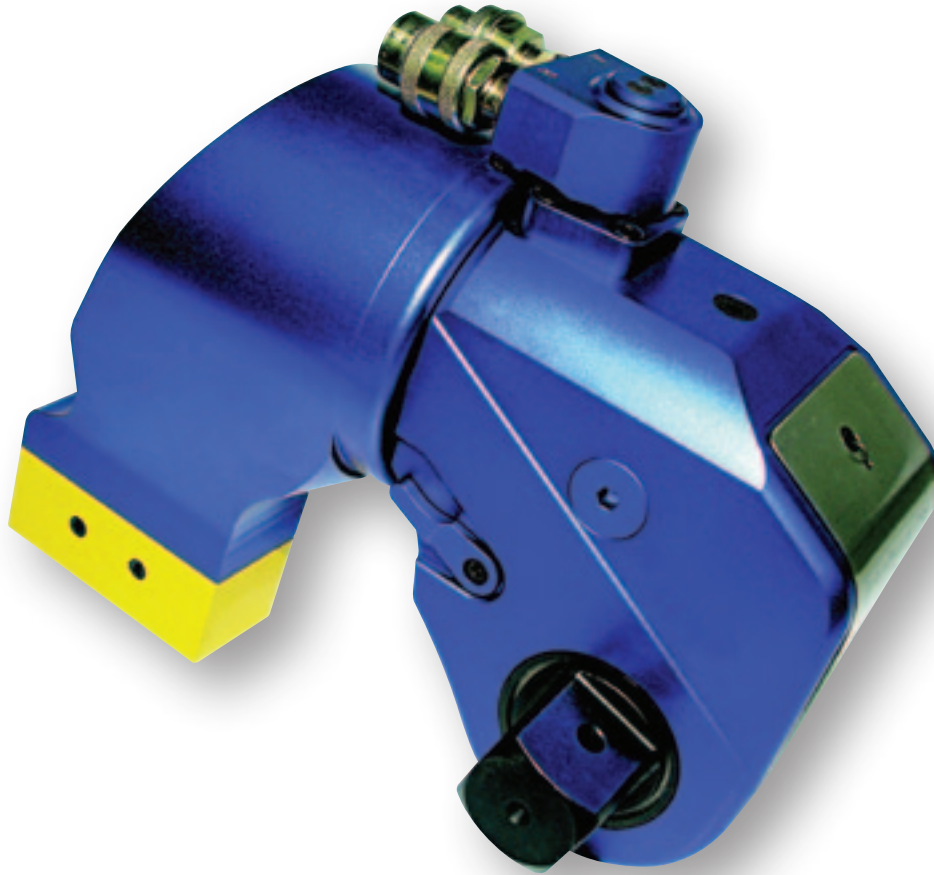
Custom Torque Wrench Solutions

Made to Order tooling available upon request.
Dimensional application drawing needed.

**Available with Multi-Axis swivel
or Whip Hoses**

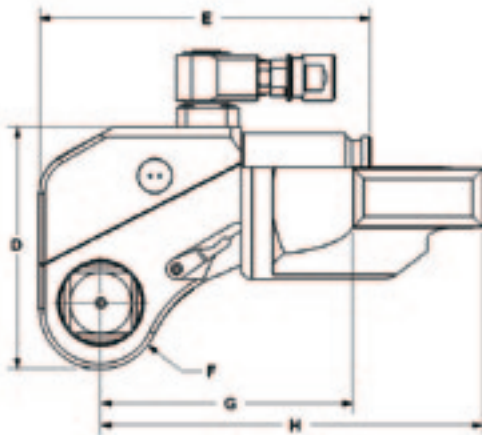
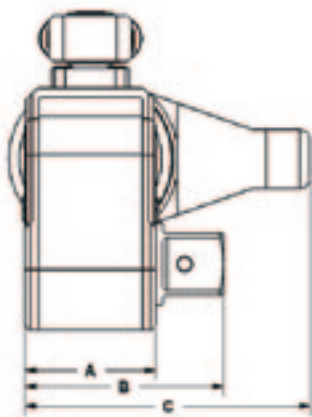
| Item # With Swivel and Aluminum Reaction Surface | Item # With Swivel and Steel Reaction Surface | Item # with Direct Ports and Whip Hoses with Steel Reaction Surface | Max Torque | | Hexagon Size | [A] | | [B] | | [C] | | [D] | | [E] | | Weight With Swivel and Aluminum Reaction Surface Weight | |
|--|---|---|------------|-------|--------------|-------|-------|--------|--------|-------|--------|-------|-------|-------|--------|---|------|
| | | | (ft-lbs) | (Nm) | | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (lbs) | (Kg) |
| | | | | | | | | | | | | | | | | | |
| TL210625 | TL210625-S | TL210625-SDP | 1336 | 1812 | 1-1/16" | 0.960 | 24.38 | 4.769 | 121.13 | 2.834 | 71.98 | 1.280 | 32.51 | 1.563 | 39.70 | 5.0 | 2.3 |
| TL227MM | TL227MM-S | TL227MM-SDP | | | 27 mm | | | | | | | | | | | | |
| TL21250 | TL21250-S | TL21250-SDP | 1336 | 1812 | 2-1/4" | 1.070 | 27.18 | 4.775 | 121.29 | 2.807 | 71.30 | 1.264 | 32.11 | 1.563 | 39.70 | 5.1 | 2.3 |
| TL230MM | TL230MM-S | TL230MM-SDP | | | 30 mm | | | | | | | | | | | | |
| TL214375 | TL214375-S | TL214375-SDP | 1451 | 1968 | 1-7/16" | 1.170 | 29.72 | 5.002 | 127.05 | 3.000 | 76.20 | 1.264 | 32.11 | 1.563 | 39.70 | 5.1 | 2.3 |
| TL234MM | TL234MM-S | TL234MM-SDP | | | 34 mm | | | | | | | | | | | | |
| TL236MM | TL236MM-S | TL236MM-SDP | 1499 | 2033 | 36 mm | 1.290 | 32.77 | 5.002 | 127.05 | 3.097 | 78.66 | 1.264 | 32.11 | 1.563 | 39.70 | 5.2 | 2.3 |
| TL21625 | TL21625-S | TL21625-SDP | | | 41 mm | | | | | | | | | | | | |
| TL241MM | TL241MM-S | TL241MM-SDP | 1543 | 2092 | 1-13/16" | 1.390 | 35.31 | 5.079 | 129.01 | 3.162 | 80.31 | 1.264 | 32.11 | 1.563 | 39.70 | 5.2 | 2.4 |
| TL218125 | TL218125-S | TL218125-SDP | | | 46 mm | | | | | | | | | | | | |
| TL246MM | TL246MM-S | TL246MM-SDP | 1579 | 2141 | 2" | 1.470 | 37.34 | 5.073 | 128.85 | 3.223 | 81.86 | 1.264 | 32.11 | 1.563 | 39.70 | 5.3 | 2.4 |
| TL22000 | TL22000-S | TL22000-SDP | | | 50 mm | | | | | | | | | | | | |
| TL220MM | TL220MM-S | TL220MM-SDP | 1640 | 2224 | 2-3/16" | 1.569 | 39.85 | 5.074 | 128.88 | 3.279 | 83.29 | 1.264 | 32.11 | 1.563 | 39.70 | 5.5 | 2.5 |
| TL221875 | TL221875-S | TL221875-SDP | | | 55 mm | | | | | | | | | | | | |
| TL225MM | TL225MM-S | TL225MM-SDP | 1576 | 2137 | 2-3/8" | 1.700 | 43.18 | 5.221 | 132.61 | 3.479 | 88.37 | 1.264 | 32.11 | 1.563 | 39.70 | 5.7 | 2.6 |
| TL22375 | TL22375-S | TL22375-SDP | | | 58 mm | | | | | | | | | | | | |
| TL258MM | TL258MM-S | TL258MM-SDP | 3800 | 5153 | 60 mm | 1.470 | 37.34 | 6.065 | 154.05 | 3.929 | 99.80 | 1.875 | 47.63 | 2.036 | 51.71 | 9.2 | 4.2 |
| TL260MM | TL260MM-S | TL260MM-SDP | | | 1-13/16" | | | | | | | | | | | | |
| TL418125 | TL418125-S | TL418125-SDP | 3956 | 5364 | 46 mm | 1.600 | 40.64 | 6.110 | 155.19 | 4.217 | 107.11 | 1.625 | 41.28 | 2.036 | 51.71 | 10.0 | 4.5 |
| TL448MM | TL448MM-S | TL448MM-SDP | | | 2" | | | | | | | | | | | | |
| TL42000 | TL42000-S | TL42000-SDP | 3989 | 5409 | 50 mm | 1.720 | 43.69 | 6.182 | 157.02 | 4.209 | 106.91 | 1.625 | 41.28 | 2.036 | 51.71 | 10.5 | 4.8 |
| TL450MM | TL450MM-S | TL450MM-SDP | | | 2-3/16" | | | | | | | | | | | | |
| TL421875 | TL421875-S | TL421875-SDP | 4007 | 5433 | 55 mm | 1.830 | 46.48 | 6.186 | 157.12 | 4.288 | 108.92 | 1.625 | 41.28 | 2.036 | 51.71 | 10.6 | 4.8 |
| TL455MM | TL455MM-S | TL455MM-SDP | | | 2-3/8" | | | | | | | | | | | | |
| TL42375 | TL42375-S | TL42375-SDP | 3988 | 5408 | 58 mm | 1.950 | 49.53 | 6.318 | 160.48 | 4.500 | 114.30 | 1.625 | 41.28 | 2.036 | 51.71 | 10.8 | 4.9 |
| TL458MM | TL458MM-S | TL458MM-SDP | | | 60 mm | | | | | | | | | | | | |
| TL460MM | TL460MM-S | TL460MM-SDP | 4057 | 5501 | 2-9/16" | 2.040 | 51.82 | 6.393 | 162.38 | 4.520 | 114.81 | 1.625 | 41.28 | 2.036 | 51.71 | 10.9 | 5.0 |
| TL425625 | TL425625-S | TL425625-SDP | | | 65 mm | | | | | | | | | | | | |
| TL465MM | TL465MM-S | TL465MM-SDP | 4086 | 5541 | 2-3/4" | 2.160 | 54.86 | 6.374 | 161.90 | 4.618 | 117.30 | 1.625 | 41.28 | 2.036 | 51.71 | 11.0 | 5.0 |
| TL42750 | TL42750-S | TL42750-SDP | | | 70 mm | | | | | | | | | | | | |
| TL470MM | TL470MM-S | TL470MM-SDP | 4220 | 5722 | 3-1/8" | 2.260 | 57.40 | 6.574 | 166.98 | 4.725 | 120.02 | 1.625 | 41.28 | 2.036 | 51.71 | 11.1 | 5.0 |
| TL429375 | TL429375-S | TL429375-SDP | | | 75 mm | | | | | | | | | | | | |
| TL43125 | TL43125-S | TL43125-SDP | 7531 | 10212 | 80 mm | 1.749 | 44.42 | 7.578 | 192.48 | 4.927 | 125.15 | 2.250 | 57.15 | 2.540 | 64.52 | 19.6 | 8.9 |
| TL475MM | TL475MM-S | TL475MM-SDP | | | 2" | | | | | | | | | | | | |
| TL480MM | TL480MM-S | TL480MM-SDP | 7945 | 10773 | 50 mm | 1.850 | 46.99 | 7.708 | 195.78 | 4.927 | 125.15 | 2.250 | 57.15 | 2.540 | 64.52 | 19.6 | 8.9 |
| TL82000 | TL82000-S | TL82000-SDP | | | 2-3/16" | | | | | | | | | | | | |
| TL850MM | TL850MM-S | TL850MM-SDP | 8100 | 10984 | 55 mm | 1.940 | 49.28 | 7.670 | 194.82 | 4.927 | 125.15 | 2.250 | 57.15 | 2.540 | 64.52 | 19.7 | 8.9 |
| TL821875 | TL821875-S | TL821875-SDP | | | 2-3/8" | | | | | | | | | | | | |
| TL855MM | TL855MM-S | TL855MM-SDP | 8165 | 11072 | 60 mm | 2.020 | 51.31 | 7.670 | 194.82 | 4.990 | 126.75 | 2.250 | 57.15 | 2.540 | 64.52 | 19.9 | 9.0 |
| TL82375 | TL82375-S | TL82375-SDP | | | 2-9/16" | | | | | | | | | | | | |
| TL858MM | TL858MM-S | TL858MM-SDP | 8029 | 10887 | 65 mm | 2.150 | 54.61 | 7.762 | 197.15 | 5.110 | 129.79 | 2.250 | 57.15 | 2.540 | 64.52 | 20.2 | 9.2 |
| TL860MM | TL860MM-S | TL860MM-SDP | | | 2-3/4" | | | | | | | | | | | | |
| TL825625 | TL825625-S | TL825625-SDP | 8095 | 10977 | 70 mm | 2.230 | 56.64 | 7.910 | 200.91 | 5.220 | 132.59 | 2.250 | 57.15 | 2.540 | 64.52 | 20.5 | 9.3 |
| TL865MM | TL865MM-S | TL865MM-SDP | | | 2-15/16" | | | | | | | | | | | | |
| TL82750 | TL82750-S | TL82750-SDP | 7921 | 10741 | 3-1/8" | 2.330 | 59.18 | 7.977 | 202.62 | 5.220 | 132.59 | 2.250 | 57.15 | 2.540 | 64.52 | 21.0 | 9.5 |
| TL870MM | TL870MM-S | TL870MM-SDP | | | 75 mm | | | | | | | | | | | | |
| TL829375 | TL829375-S | TL829375-SDP | 8351 | 11324 | 80 mm | 2.560 | 65.02 | 8.039 | 204.19 | 5.593 | 142.06 | 2.250 | 57.15 | 2.540 | 64.52 | 22.0 | 10.0 |
| TL83125 | TL83125-S | TL83125-SDP | | | 3-1/2" | | | | | | | | | | | | |
| TL875MM | TL875MM-S | TL875MM-SDP | 8093 | 10974 | 85 mm | 2.780 | 70.61 | 8.278 | 210.26 | 5.753 | 146.13 | 2.250 | 57.15 | 2.540 | 64.52 | 23.0 | 10.4 |
| TL880MM | TL880MM-S | TL880MM-SDP | | | 3-7/8" | | | | | | | | | | | | |
| TL83500 | TL83500-S | TL83500-SDP | 12865 | 17445 | 90 mm | 2.439 | 61.95 | 9.247 | 234.87 | 6.250 | 158.75 | 2.900 | 73.66 | 3.100 | 78.74 | 36.7 | 16.6 |
| TL885MM | TL885MM-S | TL885MM-SDP | | | 95 mm | | | | | | | | | | | | |
| TL83875 | TL83875-S | TL83875-SDP | 13091 | 17751 | 2-15/16" | 2.537 | 64.44 | 9.373 | 238.07 | 6.486 | 164.74 | 2.900 | 73.66 | 3.100 | 78.74 | 38.7 | 17.5 |
| TL890MM | TL890MM-S | TL890MM-SDP | | | 3-1/8" | | | | | | | | | | | | |
| TL895MM | TL895MM-S | TL895MM-SDP | 14272 | 19353 | 75 mm | 2.730 | 69.34 | 9.455 | 240.16 | 6.486 | 164.74 | 2.900 | 73.66 | 3.100 | 78.74 | 37.1 | 16.8 |
| TL1429375 | TL1429375-S | TL1429375-SDP | | | 80 mm | | | | | | | | | | | | |
| TL143125 | TL143125-S | TL143125-SDP | 14140 | 19174 | 3-1/2" | 2.880 | 73.15 | 9.561 | 242.85 | 6.486 | 164.74 | 2.500 | 63.50 | 3.100 | 78.74 | 34.9 | 15.8 |
| TL1475MM | TL1475MM-S | TL1475MM-SDP | | | 85 mm | | | | | | | | | | | | |
| TL1480MM | TL1480MM-S | TL1480MM-SDP | 14172 | 19217 | 3-7/8" | 3.070 | 77.98 | 9.667 | 245.54 | 6.806 | 172.87 | 2.500 | 63.50 | 3.100 | 78.74 | 36.0 | 16.3 |
| TL143500 | TL143500-S | TL143500-SDP | | | 4-1/4" | | | | | | | | | | | | |
| TL1485MM | TL1485MM-S | TL1485MM-SDP | 14030 | 19025 | 100 mm | 3.250 | 82.55 | 9.667 | 245.54 | 6.983 | 177.37 | 2.500 | 63.50 | 3.100 | 78.74 | 36.4 | 16.5 |
| TL143875 | TL143875-S | TL143875-SDP | | | 105 mm | | | | | | | | | | | | |
| TL1490MM | TL1490MM-S | TL1490MM-SDP | 18052 | 24479 | 4-5/8" | 2.771 | 70.38 | 10.947 | 278.05 | 6.850 | 173.99 | 2.750 | 69.85 | 3.625 | 92.08 | 50.2 | 22.8 |
| TL1495MM | TL1495MM-S | TL1495MM-SDP | | | 110 mm | | | | | | | | | | | | |
| TL144250 | TL144250-S | TL144250-SDP | 19153 | 25971 | 115 mm | 3.011 | 76.48 | 10.987 | 279.07 | 7.092 | 180.14 | 2.750 | 69.85 | 3.625 | 92.08 | 50.0 | 22.7 |
| TL203500 | TL203500-S | TL203500-SDP | | | 3-1/2" | | | | | | | | | | | | |
| TL2085MM | TL2085MM-S | TL2085MM-SDP | 20755 | 28144 | 85 mm | 3.322 | 84.38 | 11.580 | 294.13 | 7.460 | 189.48 | 2.750 | 69.85 | 3.625 | 92.08 | 55.8 | 25.3 |
| TL203875 | TL203875-S | TL203875-SDP | | | 90 mm | | | | | | | | | | | | |
| TL2090MM | TL2090MM-S | TL2090MM-SDP | 20132 | 27299 | 3-7/8" | 3.455 | 87.76 | 11.682 | 296.72 | 7.667 | 194.74 | 2.750 | 69.85 | 3.625 | 92.08 | 57.1 | 25.9 |
| TL2095MM | TL2095MM-S | TL2095MM-SDP | | | 95 mm | | | | | | | | | | | | |
| TL204250 | TL204250-S | TL204250-SDP | 20249 | 27458 | 4-1/4" | 3.731 | 94.77 | 11.925 | 302.90 | 7.837 | 199.06 | 2.750 | 69.85 | 3.625 | 92.08 | 58.4 | 26.5 |
| TL20100MM | TL20100MM-S | TL20100MM-SDP | | | 100 mm | | | | | | | | | | | | |
| TL20105MM | TL20105MM-S | TL20105MM-SDP | 20000 | 27120 | 105 mm | 3.896 | 98.96 | 11.972 | 304.09 | 8.144 | 206.86 | 2.750 | 69.85 | 3.625 | 92.08 | 59.0 | 26.8 |
| TL204625 | TL204625-S | TL204625-SDP | | | 105 mm | | | | | | | | | | | | |
| TL20110MM | TL20110MM-S | TL20110MM-SDP | 31690 | 42972 | 110 mm | 3.560 | 90.42 | 12.466 | 316.64 | 8.313 | 211.15 | 3.240 | 82.30 | 4.250 | 107.95 | 76.00 | 34.5 |
| TL20115MM | TL20115MM-S | TL20115MM-SDP | | | 115 mm | | | | | | | | | | | | |
| TL205000 | TL205000-S</ | | | | | | | | | | | | | | | | |

LW Series Light Weight Aluminum Square Drive Hydraulic Wrench



LW Series Features and Benefits

- Compact design constructed from aircraft quality aluminum
- Trigger style reaction bar lock
- Precise accuracy of +/- 3%
- 12-month warranty
- 10,000 psi hydraulic system
- Special alloy internal components for superior performance and dependability



| Maximum Operating Pressure 10,000 psi (700 bar) | | | | | | | | | | | | | | | | | | | | | |
|---|--------------------|------------|-----------|-------------|---------|-------------|---------|-------------|---------|-------------|---------|-------------|---------|-------------|--------|-------------|---------|-------------|---------|--------------------------|--------|
| Item # | Drive Size (in) | Max Torque | | Dimension A | | Dimension B | | Dimension C | | Dimension D | | Dimension E | | Dimension F | | Dimension G | | Dimension H | | Weight with Reaction Bar | |
| | | (ft-lbs) | (Nm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (lbs) | (Kg) |
| LW1 | 3/4" | 1282 | 1738.161 | 1.99 | 50.546 | 2.86 | 72.644 | 3.63 | 92.202 | 3.81 | 96.774 | 5.74 | 145.796 | 1.03 | 26.162 | 3.37 | 85.598 | 6.89 | 175.006 | 5.5 | 2.495 |
| LW3 | 1" | 3250 | 4406.415 | 2.7 | 68.58 | 3.77 | 95.758 | 4.9 | 124.46 | 5.04 | 128.016 | 7.07 | 179.578 | 1.35 | 34.29 | 4.48 | 114 | 9.09 | 230.886 | 11 | 4.990 |
| LW5 | 1-1/2" | 5552 | 7527.513 | 3.18 | 80.772 | 4.88 | 123.952 | 5.56 | 141.224 | 5.92 | 150.368 | 8.36 | 212.344 | 1.55 | 39.37 | 5.44 | 138.176 | 10.74 | 272.796 | 17 | 7.711 |
| LW8 | 1-1/2" | 7500 | 10168.65 | 3.57 | 90.678 | 5.32 | 135.128 | 6.55 | 166.37 | 6.63 | 168.402 | 8.81 | 223.774 | 1.87 | 47.498 | 6.07 | 154.178 | 11.63 | 295.402 | 24 | 10.886 |
| LW10 | 1-1/2" | 11000 | 14914.02 | 3.97 | 100.838 | 5.64 | 143.256 | 7.07 | 179.578 | 7.23 | 183.642 | 9.74 | 247.396 | 2.02 | 51.308 | 6.11 | 155.194 | 12.6 | 320.04 | 33 | 14.969 |
| LW20 | 2-1/2" | 19050 | 25828.371 | 4.76 | 120.904 | 7.27 | 184.658 | 8.46 | 214.884 | 8.73 | 221.742 | 12.21 | 310.134 | 2.34 | 59.436 | 7.38 | 187.452 | 15.22 | 386.588 | 58 | 26.309 |
| LW25 | 2-1/2" | 24500 | 33217.59 | 5.44 | 138.176 | 7.94 | 201.676 | 9.05 | 229.87 | 9.81 | 249.174 | 12.82 | 325.628 | 2.62 | 66.548 | 7.9 | 200.66 | 15.92 | 404.368 | 77 | 34.927 |
| LW35 | 2-1/2" | 34400 | 46640.208 | 6.07 | 154.178 | 8.58 | 217.932 | 9.67 | 245.618 | 11.2 | 284.48 | 14.79 | 375.666 | 3.06 | 77.724 | 9.57 | 243.078 | 18.48 | 469.392 | 110 | 49.896 |

QD Series Convertible, High Strength Steel Hydraulic Wrench System

Features and Benefits

Bolttech Mannings' HydraLinks convertible bolting tools offer the global market the first and only 4-in-1 industrial bolting tool system. The HydraLinks tools are lightweight, compact, and versatile to allow the operator ease of use on most applications with greater efficiency. HydraLinks offers a hydraulic cylinder that comes standard with a multi-swivel feature and is available in five graduated torque ranges offering the broadest range of torque and hex link combinations in the industry.

Additional Features and Benefits

- Multiple-link-connection cylinder.
- Accuracy assurance pawl.
- Factory calibration.
- Multi-indexable cylinders.
- 12-point reaction bar.
- Aluminum bronze drive bearings.
- Aluminum bronze piston rod bushings.
- Modular – innovative design for ease of operation.

The hydraulic power cylinder can accept four separate link heads:

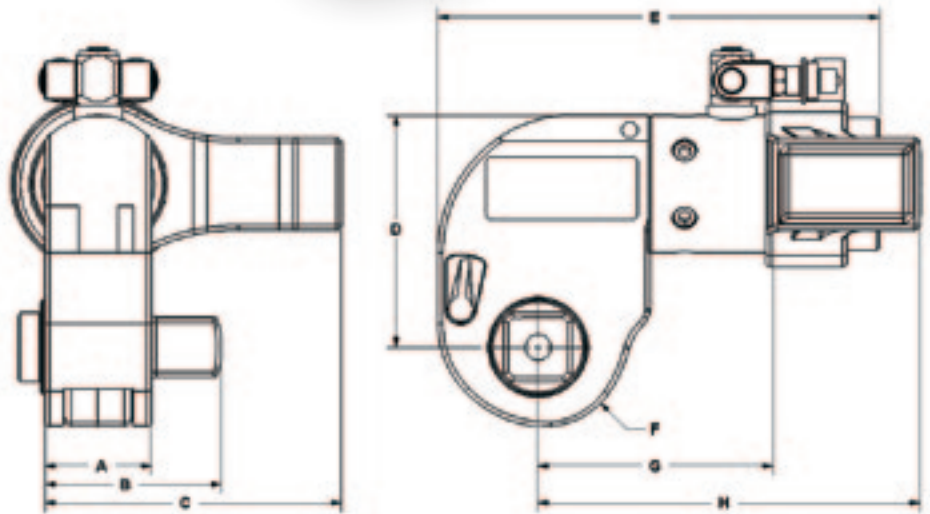
- Square drive
- Ratcheting hex
- Nut splitter
- Flange spreader

Multiple-Link-Connect

There are several different jobs that need to be accomplished on any given application. The Quick Disconnect feature allows one cylinder to be attached to either a conventional square drive link or newly developed hex link for the versatility you demand. The hydraulic cylinder can accept four separate links: square drive, ratcheting hex, nut splitter, and flange spreader. The operator can efficiently handle any application: less time and versatile efficiency equals more money on the job.

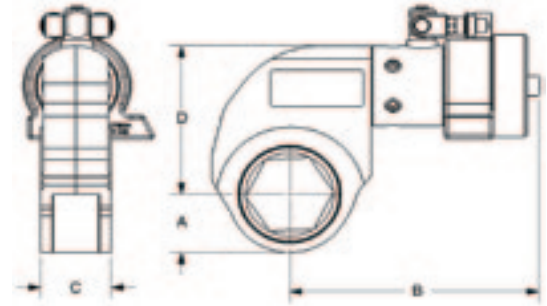
- Square Drive Wrench Family.
- Hex Drive Wrench Family.

US PATENT NO. 6,912,933 B2



| Maximum Operating Pressure 10,000 psi (700 bar) Includes Cylinder, Square Drive Head, Reaction Bar and Reaction Clamp | | | | | | | | | | | | | | | | | | | | | | |
|---|-----------------------|--------------------|------------|----------|---------------|--------|---------------|---------|---------------|---------|---------------|---------|---------------|---------|---------------|--------|---------------|---------|---------------|---------|--------------------------|--------|
| Part # (Complete Tool) | Part # (Head Only) | Drive Size (in) | Max Torque | | Dimension (A) | | Dimension (B) | | Dimension (C) | | Dimension (D) | | Dimension (E) | | Dimension (F) | | Dimension (G) | | Dimension (H) | | Weight with Reaction Bar | |
| | | | (ft-lbs) | (Nm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (lbs) | (Kg) |
| QD2SQDRCMPLT | QD2SQDR | 3/4" | 1460 | 1979.76 | 1.37 | 34.798 | 2.434 | 61.824 | 3.751 | 95.275 | 3.04 | 77.216 | 5.93 | 150.622 | 1.06 | 26.924 | 2.778 | 70.561 | 4.341 | 110.261 | 6.642 | 3.013 |
| QD4SQDRCMPLT | QD4SQDR | 1" | 3100 | 4203.6 | 2.06 | 52.324 | 3.238 | 82.245 | 5.193 | 131.902 | 3.47 | 88.138 | 7.39 | 187.706 | 1.25 | 31.75 | 2.776 | 70.510 | 5.338 | 135.585 | 13.83 | 6.273 |
| QD8SQDRCMPLT | QD8SQDR | 1-1/2" | 8340 | 11309.04 | 2.58 | 65.532 | 4.298 | 109.169 | 7.136 | 181.254 | 5.07 | 128.778 | 9.9 | 251.46 | 1.61 | 40.894 | 3.198 | 81.229 | 6.698 | 170.129 | 32.65 | 14.810 |
| QD14SQDRCMPLT | QD14SQDR | 1-1/2" | 12380 | 16787.28 | 2.71 | 68.834 | 4.488 | 113.995 | 7.556 | 191.922 | 5.91 | 150.114 | 11.25 | 285.75 | 2 | 50.8 | 5.975 | 151.765 | 9.725 | 247.015 | 47.04 | 21.337 |
| QD20SQDRCMPLT | QD20SQDR | 2-1/2" | 20000 | 27120 | 3.6 | 91.44 | 6.118 | 155.397 | 9.55 | 242.57 | 7 | 177.8 | 13.5 | 342.9 | 2.43 | 61.722 | 6.671 | 169.443 | 10.171 | 258.343 | 80 | 36.288 |
| QD30SQDRCMPLT | QD30SQDR | 2-1/2" | 28000 | 37968 | 3.45 | 87.63 | 7.06 | 179.324 | 10.695 | 271.653 | 7.19 | 182.626 | 14.74 | 374.396 | 3.09 | 78.486 | 6.193 | 157.302 | 11.568 | 293.827 | 124 | 56.246 |

QD Series Cassette Links, Low Profile Direct Fit Hydraulic Wrenches



Specifications

| Item # (hex head only) | Item # (complete tool) | Max Torque | | Hexagon Size | Nose Radius [A] | | Length [B] | | Width [C] | | Height [D] | | Weight With Cylinder and Reaction Boot | |
|---------------------------|---------------------------|------------|-------|-----------------|-----------------|-------|------------|--------|-----------|-------|------------|--------|---|------|
| | | (ft-lbs) | (Nm) | | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (lbs) | (Kg) |
| QD210625 | QD210625CMPLT | 1336 | 1812 | 1-1/16" | 0.960 | 24.38 | 5.009 | 127.23 | 1.264 | 32.11 | 2.834 | 71.98 | 5.5 | 2.5 |
| QD227MM | QD227MMCMPLT | | | 27 mm | | | | | | | | | | |
| QD21250 | QD21250CMPLT | 1336 | 1812 | 2-1/4" | 1.070 | 27.18 | 5.065 | 128.65 | 1.264 | 32.11 | 2.807 | 71.30 | 5.4 | 2.4 |
| QD230MM | QD230MMCMPLT | | | 30 mm | | | | | | | | | | |
| QD214375 | QD214375CMPLT | 1451 | 1968 | 1-7/16" | 1.170 | 29.72 | 5.320 | 135.13 | 1.264 | 32.11 | 3.000 | 76.20 | 5.5 | 2.5 |
| QD234MM | QD234MMCMPLT | | | 34 mm | | | | | | | | | | |
| QD236MM | QD236MMCMPLT | | | 36 mm | | | | | | | | | | |
| QD21625 | QD21625CMPLT | 1499 | 2033 | 1-5/8" | 1.290 | 32.77 | 5.292 | 134.42 | 1.264 | 32.11 | 3.097 | 78.66 | 5.9 | 2.7 |
| QD241MM | QD241MMCMPLT | | | 41 mm | | | | | | | | | | |
| QD218125 | QD218125CMPLT | 1543 | 2092 | 1-13/16" | 1.390 | 35.31 | 5.364 | 136.25 | 1.264 | 32.11 | 3.162 | 80.31 | 6.1 | 2.8 |
| QD246MM | QD246MMCMPLT | | | 46 mm | | | | | | | | | | |
| QD22000 | QD22000CMPLT | 1579 | 2141 | 2" | 1.470 | 37.34 | 5.364 | 136.25 | 1.264 | 32.11 | 3.223 | 81.86 | 6.1 | 2.8 |
| QD250MM | QD250MMCMPLT | | | 50 mm | | | | | | | | | | |
| QD221875 | QD221875CMPLT | 1640 | 2224 | 2-3/16" | 1.570 | 39.88 | 5.364 | 136.25 | 1.264 | 32.11 | 3.279 | 83.29 | 6.1 | 2.8 |
| QD255MM | QD255MMCMPLT | | | 55 mm | | | | | | | | | | |
| QD22375 | QD22375CMPLT | 1576 | 2137 | 2-3/8" | 1.700 | 43.18 | 5.482 | 139.24 | 1.264 | 32.11 | 3.479 | 88.37 | 6.4 | 2.9 |
| QD258MM | QD258MMCMPLT | | | 58 mm | | | | | | | | | | |
| QD260MM | QD260MMCMPLT | | | 60 mm | | | | | | | | | | |
| QD418125 | QD418125CMPLT | 3800 | 5153 | 1-13/16" | 1.470 | 37.34 | 6.872 | 174.55 | 1.874 | 47.60 | 3.831 | 97.31 | 11.5 | 5.2 |
| QD446MM | QD446MMCMPLT | | | 46 mm | | | | | | | | | | |
| QD42000 | QD42000CMPLT | 3956 | 5364 | 2" | 1.600 | 40.64 | 6.913 | 175.59 | 1.625 | 41.28 | 4.119 | 104.62 | 12.4 | 5.6 |
| QD450MM | QD450MMCMPLT | | | 50 mm | | | | | | | | | | |
| QD421875 | QD421875CMPLT | 3989 | 5409 | 2-3/16" | 1.720 | 43.69 | 6.983 | 177.37 | 1.625 | 41.28 | 4.111 | 104.42 | 12.2 | 5.5 |
| QD455MM | QD455MMCMPLT | | | 55 mm | | | | | | | | | | |
| QD42375 | QD42375CMPLT | 4007 | 5433 | 2-3/8" | 1.830 | 46.48 | 6.983 | 177.37 | 1.625 | 41.28 | 4.190 | 106.43 | 12.2 | 5.6 |
| QD458MM | QD458MMCMPLT | | | 58 mm | | | | | | | | | | |
| QD460MM | QD460MMCMPLT | | | 60 mm | | | | | | | | | | |
| QD425625 | QD425625CMPLT | 3988 | 5408 | 2-9/16" | 1.950 | 49.53 | 7.116 | 180.75 | 1.625 | 41.28 | 4.402 | 111.81 | 13.0 | 5.9 |
| QD465MM | QD465MMCMPLT | | | 65 mm | | | | | | | | | | |
| QD42750 | QD42750CMPLT | 4057 | 5501 | 2-3/4" | 2.040 | 51.82 | 7.191 | 182.65 | 1.625 | 41.28 | 4.422 | 112.32 | 13.0 | 5.9 |
| QD470MM | QD470MMCMPLT | | | 70 mm | | | | | | | | | | |
| QD429375 | QD429375CMPLT | 4086 | 5541 | 2-15/16" | 2.160 | 54.86 | 7.191 | 182.65 | 1.625 | 41.28 | 4.517 | 114.73 | 13.1 | 6.0 |
| QD43125 | QD43125CMPLT | 4220 | 5722 | 3-1/8" | 2.260 | 57.40 | 7.373 | 187.27 | 1.625 | 41.28 | 4.627 | 117.53 | 13.6 | 6.1 |
| QD475MM | QD475MMCMPLT | | | 75 mm | | | | | | | | | | |
| QD480MM | QD480MMCMPLT | | | 80 mm | | | | | | | | | | |
| QD82000 | QD82000CMPLT | 7531 | 10212 | 2" | 1.749 | 44.42 | 8.575 | 217.81 | 2.250 | 57.15 | 4.927 | 125.15 | 23.0 | 10.4 |
| QD850MM | QD850MMCMPLT | | | 50 mm | | | | | | | | | | |
| QD821875 | QD821875CMPLT | 7945 | 10773 | 2-3/16" | 1.850 | 46.99 | 8.715 | 221.36 | 2.250 | 57.15 | 4.927 | 125.15 | 23.1 | 10.5 |
| QD855MM | QD855MMCMPLT | | | 55 mm | | | | | | | | | | |
| QD82375 | QD82375CMPLT | 8100 | 10984 | 2-3/8" | 1.940 | 49.28 | 8.668 | 220.17 | 2.250 | 57.15 | 4.927 | 125.15 | 23.5 | 10.6 |
| QD858MM | QD858MMCMPLT | | | 58 mm | | | | | | | | | | |
| QD860MM | QD860MMCMPLT | | | 60 mm | | | | | | | | | | |
| QD825625 | QD825625CMPLT | 8165 | 11072 | 2-9/16" | 2.020 | 51.31 | 8.668 | 220.17 | 2.250 | 57.15 | 4.990 | 126.75 | 23.6 | 10.7 |
| QD865MM | QD865MMCMPLT | | | 65 mm | | | | | | | | | | |
| QD82750 | QD82750CMPLT | 8029 | 10887 | 2-3/4" | 2.150 | 54.61 | 8.766 | 222.66 | 2.250 | 57.15 | 5.111 | 129.82 | 24.3 | 11.0 |
| QD870MM | QD870MMCMPLT | | | 70 mm | | | | | | | | | | |
| QD829375 | QD829375CMPLT | 8095 | 10977 | 2-15/16" | 2.230 | 56.64 | 8.908 | 226.26 | 2.250 | 57.15 | 5.220 | 132.59 | 24.9 | 11.3 |

| Specifications | | | | | | | | | | | | | | |
|---------------------------|---------------------------|------------|-------|-------------------------|-----------------|--------|------------|--------|-----------|-------|------------|--------|---|------|
| Item # (hex head only) | Item # (complete tool) | Max Torque | | Hexagon Size (in) | Nose Radius [A] | | Length [B] | | Width [C] | | Height [D] | | Weight With Cylinder and Reaction Boot | |
| | | (ft-lbs) | (Nm) | | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (lbs) | (Kg) |
| QD83125 | QD83125CMPLT | 7921 | 10741 | 3-1/8" | 2.330 | 59.18 | 8.974 | 227.94 | 2.250 | 57.15 | 5.220 | 132.59 | 24.9 | 11.3 |
| QD875MM | QD875MMCMPLT | | | 75 mm | | | | | | | | | | |
| QD880MM | QD880MMCMPLT | | | 80 mm | | | | | | | | | | |
| QD83500 | QD83500CMPLT | 8351 | 11324 | 3-1/2" | 2.560 | 65.02 | 9.067 | 230.30 | 2.250 | 57.15 | 5.593 | 142.06 | 26.6 | 12.1 |
| QD885MM | QD885MMCMPLT | | | 85 mm | | | | | | | | | | |
| QD83875 | QD83875CMPLT | | | 3-7/8" | | | | | | | | | | |
| QD890MM | QD890MMCMPLT | 8093 | 10974 | 90 mm | 2.780 | 70.61 | 9.276 | 235.61 | 2.250 | 57.15 | 5.753 | 146.13 | 26.9 | 12.2 |
| QD895MM | QD895MMCMPLT | | | 95 mm | | | | | | | | | | |
| QD1429375 | QD1429375CMPLT | | | 2-15/16" | | | | | | | | | | |
| QD143125 | QD143125CMPLT | 13091 | 17751 | 3-1/8" | 2.537 | 64.44 | 10.297 | 261.54 | 2.900 | 73.66 | 6.486 | 164.74 | 39.0 | 17.7 |
| QD1475MM | QD1475MMCMPLT | | | 75 mm | | | | | | | | | | |
| QD1480MM | QD1480MMCMPLT | | | 80 mm | | | | | | | | | | |
| QD143500 | QD143500CMPLT | 14272 | 19353 | 3-1/2" | 2.730 | 69.34 | 10.405 | 264.29 | 2.750 | 69.85 | 6.486 | 164.74 | 40.0 | 18.1 |
| QD1485MM | QD1485MMCMPLT | | | 85 mm | | | | | | | | | | |
| QD143875 | QD143875CMPLT | | | 3-7/8" | | | | | | | | | | |
| QD1490MM | QD1490MMCMPLT | 14140 | 19174 | 90 mm | 2.880 | 73.15 | 10.485 | 266.32 | 2.500 | 63.50 | 6.486 | 164.74 | 40.5 | 18.3 |
| QD1495MM | QD1495MMCMPLT | | | 95 mm | | | | | | | | | | |
| QD144250 | QD144250CMPLT | | | 4-1/4" | | | | | | | | | | |
| QD14100MM | QD14100MMCMPLT | 14172 | 19217 | 100 mm | 3.070 | 77.98 | 10.591 | 269.01 | 2.500 | 63.50 | 6.806 | 172.87 | 43.2 | 19.6 |
| QD14105MM | QD14105MMCMPLT | | | 105 mm | | | | | | | | | | |
| QD144625 | QD144625CMPLT | | | 4-5/8" | | | | | | | | | | |
| QD14110MM | QD14110MMCMPLT | 14030 | 19025 | 110 mm | 3.250 | 82.55 | 10.591 | 269.01 | 2.500 | 63.50 | 6.983 | 177.37 | 41.9 | 19.0 |
| QD14115MM | QD14115MMCMPLT | | | 115 mm | | | | | | | | | | |
| QD203500 | QD203500CMPLT | | | 3-1/2" | | | | | | | | | | |
| QD2085MM | QD2085MMCMPLT | 18052 | 24479 | 85 mm | 2.771 | 70.38 | 11.715 | 297.56 | 2.830 | 71.88 | 6.850 | 173.99 | 57.6 | 26.1 |
| QD203875 | QD203875CMPLT | | | 3-7/8" | | | | | | | | | | |
| QD2090MM | QD2090MMCMPLT | | | 90 mm | | | | | | | | | | |
| QD2095MM | QD2095MMCMPLT | 19153 | 25971 | 95 mm | 3.011 | 76.48 | 11.754 | 298.55 | 2.750 | 69.85 | 7.092 | 180.14 | 58.2 | 26.4 |
| QD204250 | QD204250CMPLT | | | 4-1/4" | | | | | | | | | | |
| QD20100MM | QD20100MMCMPLT | | | 100 mm | | | | | | | | | | |
| QD20105MM | QD20105MMCMPLT | 20755 | 28144 | 105 mm | 3.322 | 84.38 | 12.347 | 313.61 | 2.750 | 69.85 | 7.460 | 189.48 | 61.5 | 27.9 |
| QD204625 | QD204625CMPLT | | | 4-5/8" | | | | | | | | | | |
| QD20110MM | QD20110MMCMPLT | | | 110 mm | | | | | | | | | | |
| QD20115MM | QD20115MMCMPLT | 20132 | 27299 | 115 mm | 3.455 | 87.76 | 12.450 | 316.23 | 2.750 | 69.85 | 7.667 | 194.74 | 64.0 | 29.0 |
| QD205000 | QD205000CMPLT | | | 5" | | | | | | | | | | |
| QD20120MM | QD20120MMCMPLT | | | 120 mm | | | | | | | | | | |
| QD205375 | QD205375CMPLT | 20000 | 27120 | 5-3/8" | 3.896 | 98.96 | 12.740 | 323.60 | 2.750 | 69.85 | 8.144 | 206.86 | 66.2 | 30.0 |
| QD20135MM | QD20135MMCMPLT | | | 135 mm | | | | | | | | | | |
| QD304250 | QD304250CMPLT | | | 4-1/4" | | | | | | | | | | |
| QD30100MM | QD30100MMCMPLT | 31690 | 42972 | 100 mm | 3.367 | 85.52 | 12.903 | 327.74 | 3.240 | 82.30 | 8.125 | 206.38 | 81.5 | 37.0 |
| QD30105MM | QD30105MMCMPLT | | | 105 mm | | | | | | | | | | |
| QD304625 | QD304625CMPLT | | | 4-5/8" | | | | | | | | | | |
| QD30110MM | QD30110MMCMPLT | 31690 | 42972 | 110 mm | 3.560 | 90.42 | 12.903 | 327.74 | 3.240 | 82.30 | 8.125 | 206.38 | 95.5 | 43.3 |
| QD30115MM | QD30115MMCMPLT | | | 115 mm | | | | | | | | | | |
| QD305000 | QD305000CMPLT | | | 5" | | | | | | | | | | |
| QD30120MM | QD30120MMCMPLT | 30329 | 41126 | 120 mm | 3.820 | 97.03 | 13.308 | 338.02 | 3.240 | 82.30 | 8.184 | 207.87 | 99.1 | 44.9 |
| QD305375 | QD305375CMPLT | | | 5-3/8" | | | | | | | | | | |
| QD30135MM | QD30135MMCMPLT | | | 135 mm | | | | | | | | | | |
| QD305750 | QD305750CMPLT | 32279 | 43770 | 5-3/4" | 4.100 | 104.14 | 13.308 | 338.02 | 3.240 | 82.30 | 8.627 | 219.13 | 100.4 | 45.5 |
| QD306125 | QD306125CMPLT | | | 6-1/8" | | | | | | | | | | |
| QD30150MM | QD30150MMCMPLT | | | 150 mm | | | | | | | | | | |
| QD30155MM | QD30155MMCMPLT | 32031 | 43434 | 155 mm | 4.220 | 107.19 | 13.308 | 338.02 | 3.240 | 82.30 | 8.507 | 216.08 | 96.0 | 43.5 |

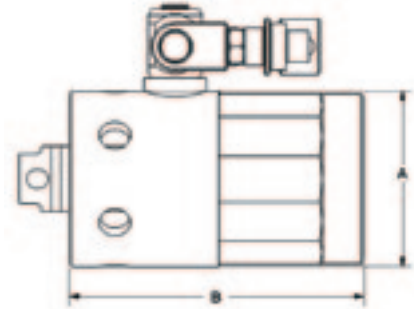


Specialized tools available.
**Example: Integrated drives for
castellated nuts as shown**

QD Series Accessories

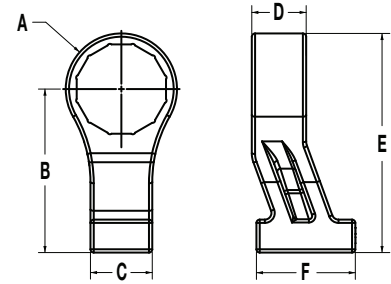
| QD Cylinder only | | | | | | | | |
|------------------|--------------|-------|--------------|---------|------------|---------|--------|--------|
| Item # | Max Pressure | | Diameter (A) | | Length (B) | | Weight | |
| | (psi) | (bar) | (in) | (mm) | (in) | (mm) | (lbs) | (Kg) |
| QD2CYL | 10,000 | 700 | 1.825 | 46.355 | 3.061 | 77.749 | 2.726 | 1.237 |
| QD4CYL | 10,000 | 700 | 2.329 | 59.157 | 4.116 | 104.546 | 4.268 | 1.936 |
| QD8CYL | 10,000 | 700 | 3.125 | 79.375 | 5.363 | 136.220 | 8.14 | 3.692 |
| QD14CYL | 10,000 | 700 | 3.5 | 88.9 | 5.865 | 148.971 | 11.356 | 5.151 |
| QD20CYL | 10,000 | 700 | 3.938 | 100.025 | 7.196 | 182.778 | 17.346 | 7.868 |
| QD30CYL | 10,000 | 700 | 4.5 | 114.3 | 7.233 | 183.718 | 24.346 | 11.043 |

For use in both Hydraulic Torque Wrench and Hydraulic Nut Splitter configurations.



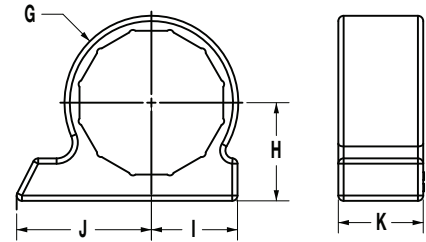
| QD series square drive tools reaction bars | | | | | | | | | | | | | | |
|--|---------------|--------|---------------|---------|---------------|--------|---------------|--------|---------------|---------|---------------|---------|--------|--------|
| Item # | Dimension (A) | | Dimension (B) | | Dimension (C) | | Dimension (D) | | Dimension (E) | | Dimension (F) | | Weight | |
| | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (lbs) | (Kg) |
| QD2RB02 | 1.094 | 27.788 | 3.063 | 77.800 | 1.25 | 31.75 | 1.063 | 27.000 | 4.156 | 105.562 | 1.563 | 39.700 | 1.23 | 0.558 |
| QD4RB07 | 1.438 | 36.525 | 4.162 | 105.715 | 1.5 | 38.1 | 1.375 | 34.925 | 5.6 | 142.24 | 2.313 | 58.750 | 2.678 | 1.215 |
| QD8RB07 | 1.875 | 47.625 | 5.847 | 148.514 | 2.25 | 57.15 | 1.938 | 49.225 | 7.722 | 196.139 | 3.5 | 88.9 | 7.538 | 3.419 |
| QD14RB07 | 2.109 | 53.569 | 6.2 | 157.48 | 2.344 | 59.538 | 2 | 50.8 | 8.309 | 211.049 | 3.75 | 95.25 | 8.33 | 3.778 |
| QD20RB07 | 2.406 | 61.112 | 7.75 | 196.85 | 2.5 | 63.5 | 2.49 | 63.246 | 10.156 | 257.962 | 3.5 | 88.9 | 13.4 | 6.078 |
| QD30RB07 | 3.219 | 81.763 | 8.425 | 213.995 | 4 | 101.6 | 2.375 | 60.325 | 11.644 | 295.758 | 5.375 | 136.525 | 24.42 | 11.077 |

For use with QD Square Drive Cassettes when using Impact Sockets.



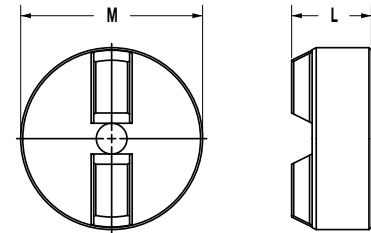
| QD Series Reaction Boots | | | | | | | | | | | | | |
|--------------------------|---------------|---------|---------------|---------|---------------|---------|---------------|----------|---------------|---------|--------|----------|--|
| Item # | Dimension (G) | | Dimension (H) | | Dimension (I) | | Dimension (J) | | Dimension (K) | | Weight | | |
| | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (lbs) | (Kg) | |
| QD2011 | 1.094 | 27.7876 | 1.25 | 31.75 | 1.141 | 28.9814 | 1.603 | 40.7162 | 1.063 | 27.0002 | 0.79 | 0.358344 | |
| QD415 | 1.438 | 36.5252 | 1.5 | 38.1 | 1.5 | 38.1 | 2.298 | 58.3692 | 1.375 | 34.925 | 1.462 | 0.663163 | |
| QD815 | 1.75 | 44.45 | 1.812 | 46.0248 | 1.808 | 45.9232 | 2.815 | 71.501 | 1.938 | 49.2252 | 2.75 | 1.2474 | |
| QD1409 | 2.047 | 51.9938 | 2.313 | 58.7502 | 2.029 | 51.5366 | 3.174 | 80.6196 | 2 | 50.8 | 4.19 | 1.900584 | |
| QD2014 | 2.406 | 61.1124 | 2.625 | 66.675 | 2.406 | 61.1124 | 3.455 | 87.757 | 2.49 | 63.246 | 8.25 | 3.7422 | |
| QD3014 | 3.219 | 81.7626 | 3.375 | 85.725 | 3.219 | 81.7626 | 4.309 | 109.4486 | 2.375 | 60.325 | 14.4 | 6.53184 | |

For use with Direct Fit Low Profile Cassettes in Hydraulic Wrench configuration.



| QD series Reaction Clamps | | | | | | |
|---------------------------|---------------|--------|---------------|---------|--------|-------|
| Item # | Dimension (L) | | Dimension (M) | | Weight | |
| | (in) | (mm) | (in) | (mm) | (lbs) | (Kg) |
| QD2RB06 | 0.906 | 23.012 | 2.125 | 53.975 | 0.12 | 0.054 |
| QD4RB01 | 1.29 | 32.766 | 2.75 | 69.85 | 0.35 | 0.159 |
| QD8RB06 | 1.615 | 41.021 | 3.5 | 88.9 | 0.68 | 0.308 |
| QD14RB01 | 1.946 | 49.428 | 4.438 | 112.725 | 1.58 | 0.717 |
| QD2009 | 1.946 | 49.428 | 4.438 | 112.725 | 1.31 | 0.594 |
| QD3009 | 1.946 | 49.428 | 5.75 | 146.05 | 2.56 | 1.161 |

For use with both Square Drive Cassettes and Low Profile Torque Wrench configurations.



| QD Cylinder Mounting Bolts | | |
|----------------------------|-----------|-------------------|
| Part # | Used With | Quantity Required |
| QD204 | QD2CYL | 4 |
| QD408 | QD4CYL | 4 |
| QD808 | QD8CYL | 6 |
| QD1408 | QD14CYL | 6 |
| QD2005 | QD20CYL | 6 |
| QD3005 | QD30CYL | 8 |



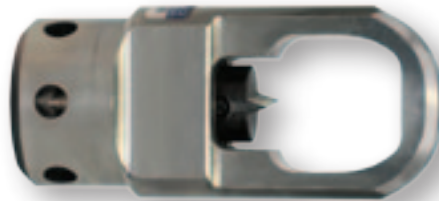
Destroyer Nut Splitter



Hydraulic Nut Splitters Features and Benefits

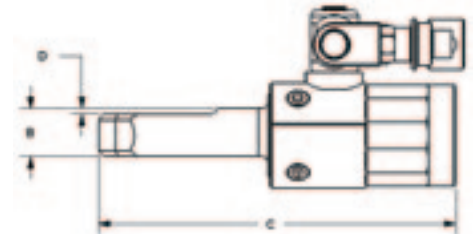
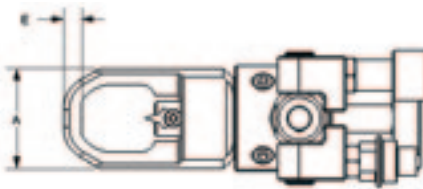
Tired of galled, stripped or stubborn nuts and bolts causing you tremendous delays during the most crucial times? Tired of wasting time trying to get hot work permits to perform a very unsafe practice of burning off nuts? Bolttech Mannings has the solution — our full line of Destroyer Nut Splitters. They are the smallest and most compact design in the world. Whether you are looking for light industrial, industrial or heavy industrial, Bolttech Mannings has what you need.

Bolttech Mannings offers our Destroyer Nut Splitters in three different series to accommodate any nut size encountered.



QD Series — 10,000 psi Double Acting

- Powered by QD HydraLinks cylinder.
- Quick-change chisel design.
- Fits ANSI B16.5 and API 6A flanges.
- Large range on nut sizes.
- Multi-axis swivel for hydraulic lines.
- The most compact design available.



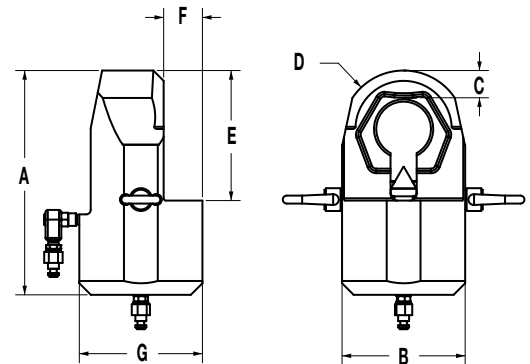
| Nut Splitter Selection Chart | | |
|------------------------------|--------------------------|--------------------|
| Nut Size (in) | Nut Splitter Item Number | Chisel Item Number |
| 7/8" | QD4NS | QD4NS-3 |
| 15/16" | QD4NS | QD4NS-3 |
| 1 1/16" | QD4NS | QD4NS-3-1.063 |
| 1 1/4" | QD8NS | QD8NS-3 |
| 1 7/16" | QD8NS | QD8NS-3-1.438 |
| | QD14NS | QD14NS-3 |
| 1 5/8" | QD14NS | QD14NS-3-1.625 |
| 1 13/16" | QD30NS | QD30NS-3 |
| | DANS2000 | DANS2000-5 |
| 2" | QD30NS | QD30NS-3 |
| | DANS2375 | DANS2375-5 |
| 2 3/16" | QD30NS | QD30NS-3 |
| | DANS2375 | DANS2375-5 |
| 2 3/8" | DANS2375 | DANS2375-5 |
| | QD30NS | QD30NS-3 |
| 2 9/16" | DANS2563 | DANS3125-5 |
| | DANS2750 | DANS2750-5 |
| 2 3/4" | DANS3125 * | DANS3125-5 |
| | DANS3125 | DANS3125-5 |
| 2 15/16" | DANS3125 | DANS3125-5 |
| 3 1/8" | DANS3125 | DANS3125-5 |
| 3 1/2" | DANS3875 | DANS3875-5 |
| 3 7/8" | DANS3875 | DANS3875-5 |
| 4 1/4" | DANS4625 | DANS4625-5 |
| 4 5/8" | DANS4625 | DANS4625-5 |
| 5" | DANS5000 | DANS5000-5 |
| 5 3/8" | DANS5375 | DANS5375-5 |
| 5 3/4" | DANS5750 | DANS5750-5 |
| 6 1/8" | DANS6125 | DANS6125-5 |

* Requires Piston Adaptor P/N:DANS3125 4 2750

| Item # Head only | Item # Complete tool | [A] | | [B] | | [C] | | [D] | | [E] | | Weight | |
|---------------------|-------------------------|------|--------|------|-------|-------|--------|------|------|------|-------|--------|-------|
| | | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (lbs) | (Kg) |
| QD4NS | QD4NSCMPLT | 2.21 | 56.13 | 1.08 | 27.43 | 7.92 | 201.04 | 0.13 | 3.18 | 0.41 | 10.41 | 6.51 | 2.95 |
| QD8NS | QD8NSCMPLT | 2.97 | 75.44 | 1.63 | 41.28 | 10.52 | 267.21 | 0.19 | 4.78 | 0.54 | 13.72 | 13.70 | 6.21 |
| QD14NS | QD14NSCMPLT | 3.25 | 82.55 | 1.80 | 45.72 | 11.25 | 285.75 | 0.24 | 6.10 | 0.60 | 15.24 | 18.87 | 8.56 |
| QD30NS | QD30NSCMPLT | 4.56 | 115.90 | 2.70 | 68.58 | 15.43 | 391.80 | 0.24 | 6.10 | 0.85 | 21.59 | 44.28 | 20.09 |

State-of-the-Art Super Light Weight Double Acting Nut Splitter (DANS) Series — 21,750 psi Double Acting

- Powered by TP30K-DA air pump.
- Split nuts up to 6-1/8" hex.
- 3-sided quick-change ULTRA Chisel.
- Fits ANSI B16.5 and API 6A flanges.
- The most compact design available.



| Item # | [A] | | [B] | | [C] | | [D] | | [E] | | [F] | | [G] | | Weight | |
|----------|--------|--------|-------|--------|-------|--------|-------|--------|--------|--------|-------|-------|-------|--------|--------|-------|
| | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (lbs) | (Kg) |
| DANS2000 | 17.339 | 440.41 | 9.000 | 228.60 | 2.174 | 55.22 | 4.750 | 120.65 | 9.978 | 253.44 | 2.532 | 64.31 | 9.000 | 228.60 | 20.0 | 9.1 |
| DANS2375 | 9.195 | 233.55 | 4.250 | 107.95 | 0.895 | 22.733 | 1.750 | 44.45 | 4.813 | 122.25 | 1.250 | 31.75 | 4.250 | 107.95 | 27.7 | 12.6 |
| DANS2563 | 9.252 | 235.00 | 4.475 | 113.67 | 0.750 | 19.05 | 2.238 | 56.85 | 4.691 | 119.15 | 1.288 | 32.72 | 4.475 | 113.67 | 33.2 | 15.1 |
| DANS2750 | 9.707 | 246.56 | 4.650 | 118.11 | 0.879 | 22.33 | 2.325 | 59.06 | 4.963 | 126.06 | 1.320 | 33.53 | 4.700 | 119.38 | 37.6 | 17.0 |
| DANS3125 | 10.360 | 263.14 | 5.063 | 128.60 | 1.072 | 27.23 | 2.750 | 69.85 | 5.628 | 142.95 | 1.469 | 37.31 | 5.063 | 128.60 | 43.3 | 19.6 |
| DANS3875 | 12.298 | 312.37 | 6.750 | 171.45 | 1.367 | 34.72 | 3.375 | 85.73 | 7.130 | 181.10 | 2.125 | 53.98 | 6.750 | 171.45 | 80.0 | 36.3 |
| DANS4625 | 13.923 | 353.64 | 7.500 | 190.50 | 1.570 | 39.88 | 3.750 | 95.25 | 8.500 | 215.90 | 1.774 | 45.06 | 7.121 | 180.87 | 120.0 | 54.4 |
| DANS5000 | 15.652 | 397.56 | 8.000 | 203.20 | 1.622 | 41.20 | 3.759 | 95.48 | 8.891 | 225.83 | 2.438 | 61.93 | 8.125 | 206.38 | 144.0 | 65.3 |
| DANS5375 | 16.890 | 429.01 | 8.875 | 225.43 | 1.978 | 50.24 | 4.260 | 107.95 | 9.530 | 242.06 | 2.469 | 62.71 | 8.875 | 225.43 | 200.0 | 90.7 |
| DANS5750 | 17.339 | 440.41 | 9.000 | 228.60 | 2.050 | 52.07 | 4.750 | 120.65 | 9.978 | 253.44 | 2.532 | 64.31 | 9.000 | 228.60 | 205.0 | 93.0 |
| DANS6125 | 19.159 | 486.64 | 9.750 | 247.65 | 2.264 | 57.51 | 4.875 | 123.83 | 11.078 | 281.38 | 2.781 | 70.64 | 9.750 | 247.65 | 266.0 | 120.7 |

Cyclone Magnum Pneumatic Torque Wrench



Continuous Rotation High Speed Torque Wrench System

- Calibrated torque accuracy to +/- 5%.
- Fast & Simple Torque Set-up.
- Portable.
- Non-Impacting.
- Industrial grade durability.



High Value User Interactions

- Light weight.
- Stylish and efficient design with Lifting Handle.
- Ergonomic tilt trigger for direction control.
- Electronic pressure and torque display available.
- Multi-axis hose swivel for ease of use.



Unsurpassed Engineering and design advantages

- Robust planetary gear tooth design.
- Ultra high strength materials for durability and unsurpassed reliability and performance.
- Removable and interchangeable drives for versatility and low maintenance costs.
- Purpose built high precision air motor delivers greater torque accuracy and repeatability.



New Look

New Feel

New Innovation

New Technology

New Best In Class

US PATENT NO. D638,682S
CANADIAN PATENT NO. 139501
EUROPEAN REGISTERED DESIGN NO. 001834300-0001
AND REGISTERED DESIGN NO. 001834300-0002
CHINA AND TAIWAN PATENT PENDING

Cyclone Magnum Pneumatic Torque Wrench

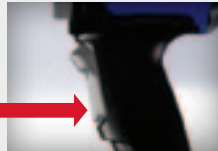
Ergonomic Features

Direction Control

Loosen →



Tighten →



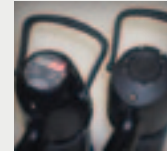
Lift Handle



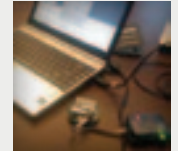
Optional Digital Read Out Item# AT-DR



■ **Display Torque Output**
Nm & ft-lbs



■ **Display Air Pressure**
Bar & Psi



■ **USB Interface**
Data acquisition and data logging



Removable Drives for Low Cost Maintenance



| Hex Size | AT400 | AT800 | AT1800 | AT3000 |
|----------|-----------|------------|-------------|-------------|
| 5/8" | AT400-HX1 | AT800-HX1 | | |
| 3/4" | AT400-HX2 | AT800-HX2 | AT1800-HX2 | AT3000-HX2 |
| 7/8" | | | AT1800-HX3 | AT3000-HX3 |
| 1" | | AT1800-HX4 | AT3000-HX4 | |
| 1-1/4" | | | | AT3000-HX5 |
| 14mm | AT400-HX7 | AT800-HX7 | | |
| 17mm | AT400-HX8 | AT800-HX8 | | |
| 19mm | AT400-HX9 | AT800-HX9 | AT1800-HX9 | AT3000-HX9 |
| 22mm | | | AT1800-HX10 | AT3000-HX10 |

* Note: Use of hex drives may require special reaction bars

| Model | Dimension A1 Inches [mm] | Dimension A Inches [mm] | Ring Diameter Inches [mm] | Weight lbs. [Kg] | Torque Range ft-lbs [Nm] | Dimension B Inches [mm] | Square Drive Size |
|--------|--------------------------------|-------------------------------|---------------------------------|------------------------|--------------------------------|-------------------------------|-------------------------|
| AT400 | 9.85 [250.27] | 9.7 [247.24] | 2.25 [57.15] | 10.2 [4.6] | 44-400 [60-540] | 5.4 [136.32] | 3/4" |
| AT800 | 9.85 [250.11] | 9.7 [247.09] | 2.97 [75.34] | 11.9 [5.4] | 88-800 [120-1100] | 5.1 [129.84] | 3/4" |
| AT1800 | 12.12 [307.85] | 11.7 [297.51] | 3.42 [86.87] | 17.7 [8.0] | 200-1800 [275-2450] | 7.5 [191.27] | 1" |
| AT3000 | 13.00 [329.95] | 12.8 [326.92] | 3.80 [96.52] | 22.8 [10.3] | 333-3000 [450-4070] | 8.6 [220.24] | 1" |

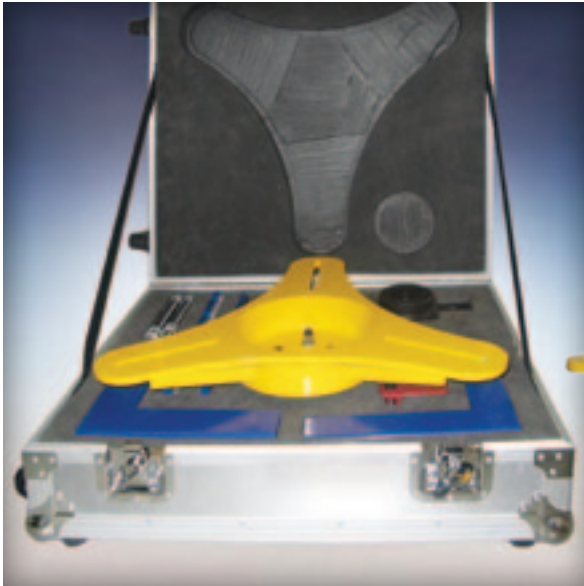
Elevate your standards . . . Set a new expectation. Use the CYCLONE MAGNUM



| | Item | Item | Item | Item |
|--|---------------|---------------|----------------|----------------|
| Complete System without digital Readout* | AT400CMPLT | AT800CMPLT | AT1800CMPLT | AT3000CMPLT |
| Complete System with digital Readout* | AT400DR-CMPLT | AT800DR-CMPLT | AT1800DR-CMPLT | AT3000DR-CMPLT |
| Cage Only | MAG-AIRCAGE | MAG-AIRCAGE | MAG-AIRCAGE | MAG-AIRCAGE |
| Tool without digital readout | AT400 | AT800 | AT1800 | AT3000 |
| Tool with digital readout | AT400DR | AT800DR | AT1800DR | AT3000DR |

* Includes Tool and Cage

Cyclone Valve Exercise Tool



Features and Benefits

The Cyclone VET valve exercising tool was created to provide safe operation of manual valves. This tool allows for routine valve cycling and maintenance, and it eliminates the need for valve wrenches and “cheater” bars.

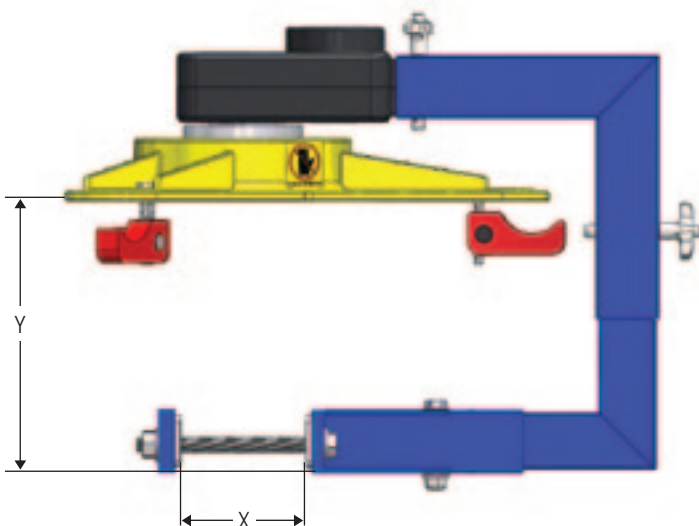
The versatile light weight and portable design enables maintenance and operations personnel the ability to utilize this tool on numerous valve sizes.

The Cyclone VET can also be permanently mounted on valves that are installed in difficult locations.

**Schedule your free in-plant demo
with your local
Bolttech Mannings office.**

- Designed for routine valve cycling and maintenance.
- Light weight portable design, one tool – many applications.
- Quick installation and operation.
- Shortens cycle times and increases operator safety.
- Increases operator safety by minimizing valve-related injuries.
- Accommodates most valve designs.
- Safely operates valves ranging from:
 - 8" to 48" diameter valves
 - Pressure classes up to 1,500 lbs
 - Handwheel size range 12" - 48"
- Maximum stem dimension 3"
- Air requirements: air source of 45 CFM @ 90 psi maximum.
- Models:
 - Cyclone 24 (2" stem and 24" hand wheel maximum)
 - Cyclone 48 (3" stem and 48" hand wheel maximum)

| Item Number | HAND WHEEL DIAMETER RANGE | "X" HORIZONTAL ADJUSTMENT RANGE | "Y" VERTICAL ADJUSTMENT RANGE |
|--------------|---------------------------|---------------------------------|-------------------------------|
| CYCLONE-2X24 | 11"-24" | 2.4"-11.125" | 8.625" - 13.125" |
| CYCLONE_48 | 19"-48" | 5"-16" | 11" - 18.5" |



Wheel Maintenance Products for the Mining Industry



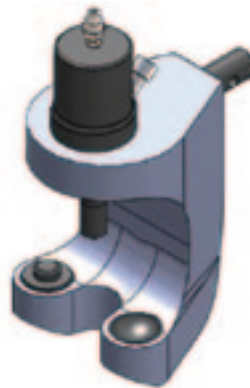
Item No.: CPN812-1

Wheel Maintenance platform designed for safety, elevated operator use, adjustable /multi-position tool support, and mobility.



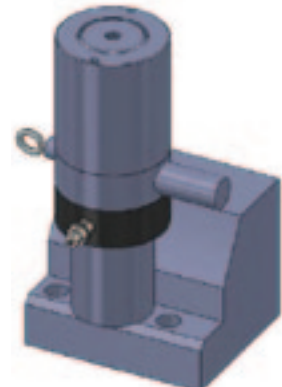
Item No.: CPN840

Reaction bars designed specifically for wheel maintenance. Used with AT3000



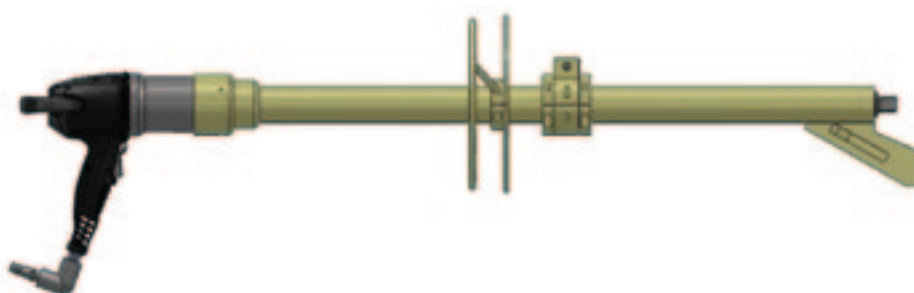
Item No.: CPN777-1

Wheel stud removal tool improves operator safety and reduces the amount of time required to remove studs on the wheel assembly.



Item No.: CST815-1

Wheel stud install tool improves operator safety and reduces the amount of time required to install studs on the wheel assembly.



Item No.: CPN806-1

AT3000 drive extensions designed specifically for wheel maintenance.

BT Series Hydraulic Stud & Bolt Tensioners

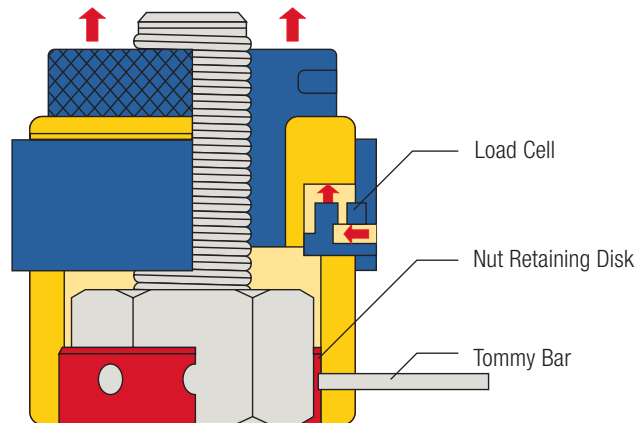
What Is a Hydraulic Stud Tensioner?

A hydraulic bolt/stud tensioner delivers a very fast, safe, accurate and direct axial load to a threaded fastener. The load is delivered without the inaccuracy of friction as seen when torquing. Another advantage of tensioning is that multiple studs can be tensioned simultaneously delivering much greater integrity to the joint and in much less time. Contact our Bolttech Mannings bolting experts now to discuss how tensioning with The Bolttech Mannings Delta Series tensioners can save you time, money, increase safety and improve your maintenance processes.



How it Works

High-pressure fluid from our TP30K™ pumping unit pressurizes the hydraulic load cell, which creates a force that allows the tensioner to stretch the stud. When this happens, the nut lifts off the flange. The nut is returned to its seated position by turning the nut retaining disk (socket) with a tommy bar. With the nut tight against the flange, the pressure in the load cell is released and the stud remains stretched with the load mechanically locked.



Locomotive Cylinder Head



Aerospace Turbopump



Generator



Steam Generator Manway



Multi-Stud Tensioner for Diesel Engine

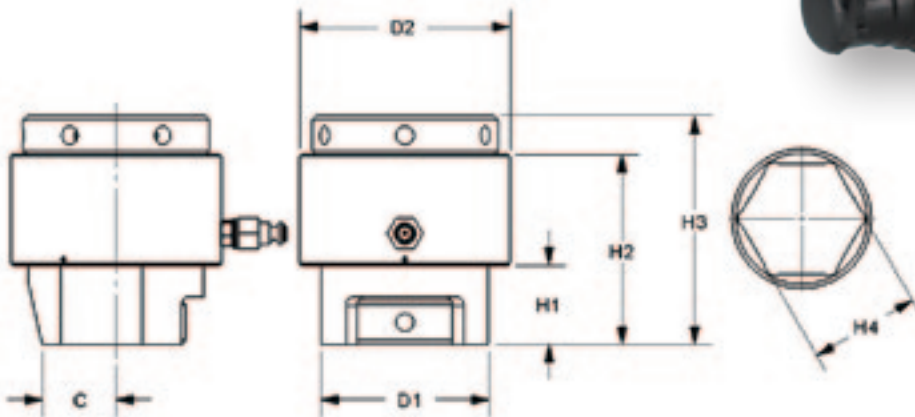
Custom Tensioner Designs Made-to-Order For Your Application

Delta Series Tensioners

Features and Benefits

Bolttech Mannings is known for solving the toughest bolting problems found in the industrial world today. These basic practices go into every design and manufacturing detail of our stud tensioning line of tools. We design our tensioners with quality, simplicity and versatility of the specific application and user in mind. Bolttech Mannings' Delta Series bolt tensioners maximize efficiency and minimize size for specific single stud size applications.

- Patented high pressure/low friction seals are designed to outlast the competition and provide accuracy within 0.5% with a calibrated pumping unit.
- We can provide optional water-filled tensioning systems that are environmentally friendly.
- The direct axial load is applied to the bolt and inaccuracies created by other methods are eliminated.



| Maximum Operating Pressure 21,750 psi | | | | | | | | | | Dimensions | | | | | | | | | | | | | | |
|---------------------------------------|--------------------|--------------|----------|----------|--------------|---------|--------|------|------|------------|------|------|------|------|-------|------|------|------|-------|------|------|------|--------|------|
| Item # | Standard Size | | Ram Area | | Maximum Load | | Stroke | | H1 | | H2 | | H3 | | H4 | | D1 | | D2 | | C | | Weight | |
| | Stud Diameter (in) | Thread Pitch | (sq. in) | (sq. mm) | (lbs) | (Kn) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (Lbs) | (kg) |
| BT075 | 3/4" | 8 TPI | 1.276 | 823 | 27,753 | 123.45 | 0.35 | 9 | 1.06 | 27 | 3.30 | 84 | 3.80 | 96 | 1.250 | 32 | 2.12 | 54 | 2.40 | 61 | 1.01 | 26 | 3.4 | 1.5 |
| BTM20 | M20 | 2.5 | | | | | | | | | | | | | 1.181 | 30 | | | | | | | | |
| BT100 | 1" | 8 TPI | 2.945 | 1900 | 64,054 | 284.93 | 0.35 | 9 | 1.23 | 31 | 4.20 | 107 | 5.20 | 132 | 1.625 | 41 | 2.66 | 67 | 3.50 | 89 | 0.96 | 24 | 9.7 | 4.4 |
| BTM24 | M24 | 3 | | | | | | | | | | | | | 1.417 | 36 | | | | | | | | |
| BT113 | 1-1/8" | 8 TPI | 2.945 | 1900 | 64,054 | 284.93 | 0.35 | 9 | 1.23 | 31 | 4.20 | 107 | 5.20 | 132 | 1.813 | 46 | 2.66 | 67 | 3.50 | 89 | 0.96 | 24 | 9.3 | 4.2 |
| BT125 | 1-1/4" | 8 TPI | | | | | | | | | | | | | 2.000 | 51 | | | | | | | | |
| BTM30 | M30 | 3.5 | 3.24 | 2090 | 70,470 | 313.47 | 0.35 | 9 | 3.26 | 83 | 1.51 | 38 | 5.48 | 139 | 1.811 | 46 | 3.26 | 83 | 3.88 | 98 | 1.36 | 35 | 11.4 | 5.2 |
| BT138 | 1-3/8" | 8 TPI | | | | | | | | | | | | | 2.188 | 56 | | | | | | | | |
| BT150 | 1-1/2" | 8 TPI | 4.91 | 3168 | 106,793 | 475.04 | 0.63 | 16 | 1.48 | 37 | 4.45 | 113 | 5.45 | 138 | 2.188 | 56 | 3.61 | 92 | 4.38 | 111 | 1.54 | 39 | 14.6 | 6.6 |
| BTM36 | M36 | 4 | | | | | | | | | | | | | 2.375 | 60 | | | | | | | | |
| BT163 | 1-5/8" | 8 TPI | 6.075 | 3919 | 132,131 | 587.75 | 0.63 | 16 | 1.75 | 44 | 5.00 | 127 | 6.13 | 156 | 2.165 | 55 | 4.14 | 105 | 4.75 | 121 | 1.73 | 44 | 20.5 | 9.3 |
| BT175 | 1-3/4" | 8 TPI | | | | | | | | | | | | | 2.938 | 75 | | | | | | | | |
| BTM42 | M42 | 4.5 | 8.504 | 5486 | 184,962 | 822.75 | 0.63 | 16 | 2.00 | 51 | 5.25 | 133 | 6.38 | 162 | 2.750 | 70 | 4.56 | 116 | 5.38 | 137 | 1.95 | 50 | 26.2 | 11.9 |
| BT188 | 1-7/8" | 8 TPI | | | | | | | | | | | | | 2.559 | 65 | | | | | | | | |
| BT200 | 2" | 8 TPI | 11.33 | 7310 | 246,428 | 1096.17 | 0.63 | 16 | 2.25 | 57 | 5.39 | 137 | 6.50 | 165 | 2.938 | 75 | 4.77 | 121 | 6.00 | 152 | 2.10 | 53 | 30.9 | 14.0 |
| BTM48 | M48 | 4 | | | | | | | | | | | | | 3.125 | 79 | | | | | | | | |
| BT225 | 2-1/4" | 8 TPI | 13.24 | 8542 | 287,970 | 1280.95 | 0.63 | 16 | 2.75 | 70 | 5.89 | 149 | 7.14 | 181 | 3.500 | 89 | 5.86 | 149 | 7.00 | 178 | 2.65 | 67 | 44.8 | 20.3 |
| BTM56 | M56 | 5.5 | | | | | | | | | | | | | 3.346 | 85 | | | | | | | | |
| BT250 | 2-1/2" | 8 TPI | 23.45 | 15129 | 510,038 | 2268.76 | 0.63 | 16 | 2.88 | 73 | 6.26 | 159 | 7.76 | 197 | 3.875 | 98 | 6.90 | 175 | 8.00 | 203 | 2.74 | 70 | 64.2 | 29.1 |
| BTM64 | M64 | 6 | | | | | | | | | | | | | 2.953 | 75 | | | | | | | | |
| BT275 | 2-3/4" | 8 TPI | 25.51 | 16458 | 554,843 | 2468.06 | 0.63 | 16 | 3.23 | 82 | 6.63 | 168 | 8.08 | 205 | 4.134 | 105 | 7.06 | 179 | 8.50 | 216 | 2.99 | 76 | 71.7 | 32.5 |
| BTM72 | M72 | 6 | | | | | | | | | | | | | 4.625 | 117 | | | | | | | | |
| BT325 | 3-1/4" | 8 TPI | 27.49 | 17735 | 597,908 | 2659.63 | 0.63 | 16 | 3.96 | 101 | 7.36 | 187 | 8.86 | 225 | 5.000 | 127 | 8.34 | 212 | 9.50 | 241 | 3.47 | 88 | 93.6 | 42.4 |
| BTM80 | M80 | 6 | | | | | | | | | | | | | 4.528 | 115 | | | | | | | | |
| BT350 | 3-1/2" | 8 TPI | 27.49 | 17735 | 597,908 | 2659.63 | 0.63 | 16 | 3.96 | 101 | 7.36 | 187 | 8.86 | 225 | 5.375 | 137 | 8.59 | 218 | 9.50 | 241 | 3.47 | 88 | 90.6 | 41.1 |
| BTM90 | M90 | 6 | | | | | | | | | | | | | 5.118 | 130 | | | | | | | | |
| BT375 | 3-3/4" | 8 TPI | 37.69 | 24316 | 819,758 | 3646.47 | 0.63 | 16 | 4.11 | 104 | 7.51 | 191 | 8.39 | 213 | 5.750 | 146 | 8.75 | 222 | 11.00 | 279 | 3.63 | 92 | 109.0 | 49.4 |
| BT400 | 4" | 8 TPI | | | | | | | | | | | | | 6.125 | 156 | | | | | | | | |
| BTM100 | M100 | 6 | 42.73 | 27568 | 929,378 | 4134.08 | 0.63 | 16 | 4.30 | 109 | 7.70 | 196 | 8.58 | 218 | 5.709 | 145 | 9.08 | 231 | 11.70 | 297 | 3.98 | 101 | 121.4 | 55.1 |

Boltech Mannings Delta BT Series Hydraulic Stud Tensioners Modular Components

| Item # | Pullers | | | Sockets | | Bridges | Tommy Bar | | Load Cell |
|--------|--------------------|--------------|----------------|----------|----------------|-------------|-----------|-------------|-------------|
| | Stud Diameter (in) | Thread Pitch | Part Number | Hex Size | Part Number | Part Number | Dia (in) | Part Number | Part Number |
| BT075 | 3/4" | 8 UN | BT075-01 | 1-1/4" | BT075-05 | BT075-04 | 0.375 | 10-800-2000 | BT075-06 |
| | 3/4" | 10 UN | BT075-01-A | | | | | | |
| | M20 | 2.5 | BT075-01-M20 | | | | | | |
| BT100 | 1" | 8 UN | BT100-01 | 1-5/8" | BT100-05 | BT100-04 | 0.375 | 10-800-2000 | BT100-06 |
| | 7/8" | 8 UN | BT100-01-088 | 1-7/16" | BT100-05-088 | | | | |
| | 7/8" | 9 UN | BT100-01-088-A | 36 mm | BT100-05-088-A | | | | |
| | M24 | 3 | BT100-01-M24 | 41 mm | BT100-05-M24 | | | | |
| | 1-1/8" | 8 UN | BT113-01 | 1-13/16" | BT113-05 | | | | |
| BT113 | 1" | 8 UN | BT113-01-100 | 1-5/8" | BT113-05-100 | BT113-04 | 0.375 | 10-800-2000 | BT113-06 |
| | M24 | 3 | BT113-01-M24 | 36 mm | BT113-05-M24 | | | | |
| | M27 | 3 | BT113-01-M27 | 41 mm | BT113-05-M27 | | | | |
| BT125 | 1-1/4" | 8 UN | BT125-01 | 2" | BT125-05 | BT125-04 | 0.375 | 10-800-2000 | BT125-06 |
| | 1-1/8" | 8 UN | BT125-01-113 | 1-13/16" | BT125-05-113 | | | | |
| | M27 | 3 | BT125-01-M27 | 41 mm | BT125-05-M27 | | | | |
| | M30 | 3.5 | BT125-01-M30 | 46 mm | BT125-05-M30 | | | | |
| BT138 | 1-3/8" | 8 UN | BT138-01 | 2-3/16" | BT138-05 | BT138-04 | 0.500 | 10-800-3000 | BT138-06 |
| | 1-1/4" | 8 UN | BT138-01-125 | 2" | BT138-05-125 | | | | |
| | M30 | 3.5 | BT138-01-M30 | 46 mm | BT138-05-M30 | | | | |
| | M33 | 3.5 | BT138-01-M33 | 50 mm | BT138-05-M33 | | | | |
| | M36 | 4 | BT138-01-M36 | 55 mm | BT138-05-M36 | | | | |
| BT150 | 1-1/2" | 8 UN | BT150-01 | 2-3/8" | BT150-05 | BT150-04 | 0.500 | 10-800-3000 | BT150-06 |
| | 1-1/2" | 6 UN | BT150-01-A | 2-9/16" | BT163-05 | | | | |
| | 1-5/8" | 8 UN | BT163-01 | 55 mm | BT163-05-M36 | | | | |
| | M36 | 4 | BT163-01-M36 | 60 mm | BT163-05-M39 | | | | |
| | M39 | 3 | BT163-01-M39 | 65 mm | BT163-05-M42 | | | | |
| | M42 | 4.5 | BT163-01-M42 | 65 mm | BT163-05-M42 | | | | |
| BT163 | 1-5/8" | 8 UN | BT163-01 | 2-9/16" | BT163-05 | BT163-04 | 0.500 | 10-800-3000 | BT163-06 |
| | 1-1/2" | 8 UN | BT150-01 | 2-3/8" | BT150-05 | | | | |
| | 1-1/2" | 6 UN | BT150-01-A | 55 mm | BT163-05-M36 | | | | |
| | M36 | 4 | BT163-01-M36 | 60 mm | BT163-05-M39 | | | | |
| | M39 | 3 | BT163-01-M39 | 65 mm | BT163-05-M42 | | | | |
| | M42 | 4.5 | BT163-01-M42 | 65 mm | BT163-05-M42 | | | | |
| BT175 | 1-3/4" | 8 UN | BT175-01 | 2-3/4" | BT175-05 | BT175-04 | 0.500 | 10-800-3000 | BT175-06 |
| | 1-7/8" | 8 UN | BT188-01 | 2-15/16" | BT188-05 | | | | |
| | M48 | 5 | BT188-01-M48 | 75 mm | BT188-05-M48 | | | | |
| | M45 | 4.5 | BT188-01-M45 | 70 mm | BT188-05-M45 | | | | |
| | M42 | 4.5 | BT188-01-M42 | 65 mm | BT188-05-M42 | | | | |
| BT188 | 1-7/8" | 8 UN | BT188-01 | 2-15/16" | BT188-05 | BT188-04 | 0.500 | 10-800-3000 | BT188-06 |
| | 1-3/4" | 8 UN | BT188-01-175 | 2-3/4" | BT175-05 | | | | |
| | M48 | 5 | BT188-01-M48 | 75 mm | BT188-05-M48 | | | | |
| | M45 | 4.5 | BT188-01-M45 | 70 mm | BT188-05-M45 | | | | |
| | M42 | 4.5 | BT188-01-M42 | 65 mm | BT188-05-M42 | | | | |
| BT200 | 2" | 8 UN | BT200-01 | 3-1/8" | BT200-05 | BT200-04 | 0.500 | 10-800-3000 | BT200-06 |
| | 1-7/8" | 8 UN | BT200-01-188 | 2-15/16" | BT200-05-188 | | | | |
| | M48 | 5 | BT200-01-M48 | 75 mm | BT200-05-M48 | | | | |
| | M52 | 5 | BT200-01-M52 | 80 mm | BT200-05-M52 | | | | |
| BT225 | 2-1/4" | 8 UN | BT225-01 | 3-1/2" | BT225-05 | BT225-04 | 0.625 | 10-800-4000 | BT225-06 |
| | 2-1/2" | 8 UN | BT250-01 | 3-7/8" | BT250-05 | | | | |
| | M64 | 6 | BT250-01-M64 | 95 mm | BT250-05-M64 | | | | |
| | M56 | 5.5 | BT250-01-M56 | 85 mm | BT250-05-M56 | | | | |
| BT250 | 2-1/2" | 8 UN | BT250-01 | 3-7/8" | BT250-05 | BT250-04 | 0.625 | 10-800-4000 | BT250-06 |
| | 2-1/4" | 8 UN | BT225-01 | 3-1/2" | BT225-05 | | | | |
| | M64 | 6 | BT250-01-M64 | 95 mm | BT250-05-M64 | | | | |
| | M56 | 5.5 | BT250-01-M56 | 85 mm | BT250-05-M56 | | | | |
| | M60 | 5.5 | BT250-01-M60 | 90 mm | BT250-05-M56 | | | | |
| BT275 | 2-3/4" | 8 UN | BT275-01 | 4-1/4" | BT275-05 | BT275-04 | 0.625 | 10-800-4000 | BT275-06 |
| | 2-1/2" | 8 UN | BT275-01-250 | 3-7/8" | BT275-05-250 | | | | |
| | M72 | 6 | BT275-01-M72 | 105 mm | BT275-05-M72 | | | | |
| | M68 | 6 | BT275-01-M68 | 100 mm | BT275-05-M68 | | | | |
| | M64 | 6 | BT275-01-M64 | 95 mm | BT275-05-M64 | | | | |
| BT300 | 3" | 8 UN | BT300-01 | 4-5/8" | BT300-05 | BT300-04 | 0.625 | 10-800-4000 | BT300-06 |
| | 2-3/4" | 8 UN | BT300-01-275 | 4-1/4" | BT300-05-275 | | | | |
| | M72 | 6 | BT300-01-M72 | 105 mm | BT300-05-M72 | | | | |
| BT325 | 3-1/4" | 8 UN | BT325-01 | 5" | BT325-05 | BT325-04 | 0.625 | 10-800-4000 | BT325-06 |
| | 3" | 8 UN | BT325-01-300 | 4-5/8" | BT325-05-300 | | | | |
| | M72 | 6 | BT325-01-M72 | 105 mm | BT325-05-M72 | | | | |
| | M76 | 6 | BT325-01-M76 | 110 mm | BT325-05-M76 | | | | |
| BT350 | M80 | 6 | BT325-01-M80 | 115 mm | BT325-05-M80 | BT350-04 | 0.625 | 10-800-4000 | BT350-06 |
| | 3-1/2" | 8 UN | BT350-01 | 5-3/8" | BT350-05 | | | | |
| | 3-1/4" | 8 UN | BT350-01-325 | 5" | BT350-05-325 | | | | |
| | M90 | 6 | BT350-01-M90 | 130 mm | BT350-05-M90 | | | | |
| | M85 | 6 | BT350-01-M85 | 120 mm | BT350-05-M85 | | | | |
| BT375 | M80 | 6 | BT350-01-M80 | 115 mm | BT350-05-M80 | BT375-04 | 0.625 | 10-800-4000 | BT375-06 |
| | 3-3/4" | 8 UN | BT375-01 | 5-3/4" | BT375-05 | | | | |
| | M90 | 6 | BT375-01-M90 | 130 mm | BT375-05-M90 | | | | |
| BT400 | M95 | 6 | BT375-01-M95 | 135 mm | BT375-05-M95 | BT400-04 | 0.625 | 10-800-4000 | BT400-06 |
| | 4" | 8 UN | BT400-01 | 6-1/8" | BT400-05 | | | | |
| | M100 | 6 | BT400-01-M100 | 145 mm | BT400-05-M100 | | | | |

Boltech Mannings Hydraulic Nuts & High Temperature Hydraulic Nuts

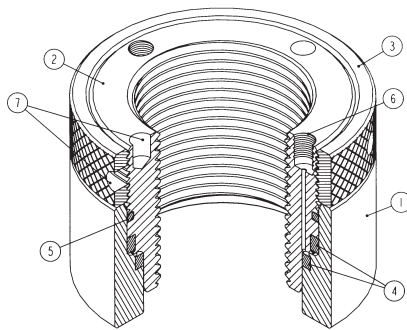
Hydraulic nuts offer a method of tensioning 100% of the studs simultaneously in multi bolt assemblies such as a bolted joint. Tensioning multi-bolt assemblies (such as a flange) greatly improves the integrity of the joint. The speed in which joints can be tensioned and de-tensioned results in an extraordinary time savings over conventional detachable bolt tensioning systems. The most important benefit of using our Delta Series Hydraulic Nut Solution is that we give the design/maintenance engineer a system

that can deliver accurate bolt loads, ensuring joint integrity. Even bolt load distribution to the joint is achieved by linking tools through a common hydraulic harness. The fundamental advantage of this product is that direct axial load is applied to the bolt and inaccuracies created through friction are eliminated. Massive mechanical efforts to create torque are replaced with simple hydraulic pressure. The larger the stud and the more studs involved, the larger the benefit to using Delta Series Hydraulic Nuts.

Tops ON-Tops Off Turbine Closure System

Our specially designed locking collar for Hydraulic Nuts are utilized to maintain loads on the inner shell while the outer shell is installed for alignment checks or other maintenance procedures. Since each Hydraulic Nut is configured to stud size and threads per inch, the system components can be cross utilized on the inner and outer shells of the HP, IP and LP as well as control valves and other bolted flanges. The Hydraulic Turbine Casing Closure System can also be utilized to speed up final closure on the turbine shells.

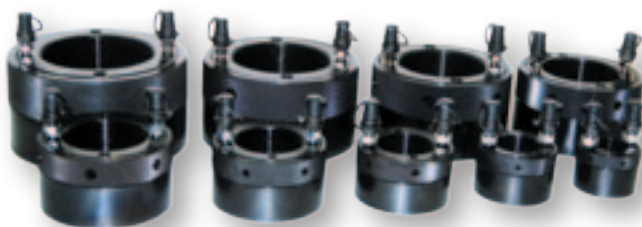
Each Hydraulic Turbine Casing Closure System is configured to your particular outage requirements. The system is designed to accommodate virtually every manufacturer turbine model. It can also be configured to simultaneously pressurize the HP, IP and LP sections, if required for speed. The Hydraulic Turbine Casing Closure System is available in a range of sizes, from 2 to 6 inch nuts.



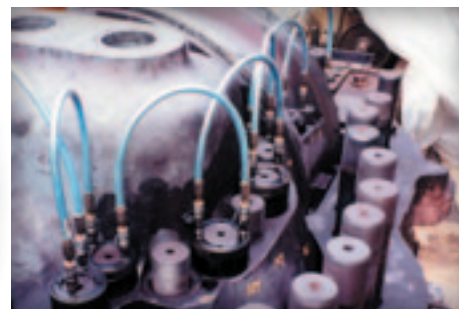
- 1 Housing
- 2 Piston
- 3 Locking Collar
- 4 Seals
- 5 Overstroke Indicator
- 6 Hydraulic Port (2)
- 7 Tommy Bar Holes

| Item Number | Size | Thread Size | Load lb/(kN) | O.D. in/(mm) | Height in/(mm) |
|-------------|--------|-------------|------------------|---------------|----------------|
| HTN2500 | 2 1/2" | 2-1/2"-8 UN | 80,074 (356.2) | 3.875 (98.4) | 3.5 (88.9) |
| HTN3000 | 3" | 3"-8 UN | 96,089 (427.4) | 4.625 (117.5) | 3.875 (98.4) |
| HTN3500 | 3 1/2" | 3-1/2"-8 UN | 128,919 (573.5) | 5.375 (136.5) | 4.625 (117.5) |
| HTN4000 | 4" | 4"-8 UN | 166,553 (740.9) | 6.0 (152.4) | 5.125 (130.2) |
| HTN4500 | 4 1/2" | 4-1/2"-8 UN | 213,797 (951) | 6.875 (174.6) | 4.5 (114.3) |
| HTN5000 | 5" | 5"-8 UN | 261,574 (1163.5) | 7.625 (193.7) | 4.75 (120.6) |
| HTN5500 | 5 1/2" | 5-1/2"-8 UN | 345,919 (1538.7) | 8.375 (212.7) | 5.5 (139.7) |
| HTN6000 | 6" | 6"-8 UN | 384,354 (1709.7) | 9.25 (234.9) | 6.0 (152.4) |

APPLICATION



Hydraulic Turbine Casing



Tops-On and Tops-Off Turbine Closure System



GE Turbine



Custom and High-Temperature Hydraulic Nuts Made-to-Order

Boltech Mannings Octopus Series Sub Sea Tensioners

Features and Benefits

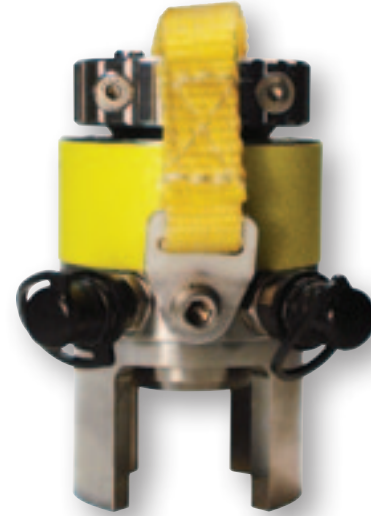
The Octopus Series Sub Sea Tensioning System was created to satisfy both the environment and the diver.

As a result of our extensive research and development, we were able to develop this new product that boasts these enhanced features:

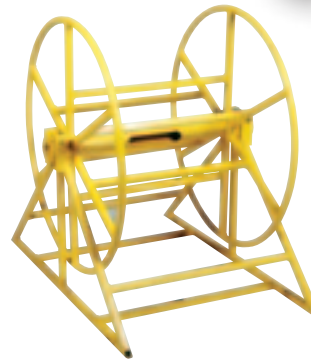
- Manufactured from high strength corrosion-resistant stainless steel.
- Fluorescent anti-slip gripping surface.
- Compact design.
- Quick-release reaction nut with spherical interface.
- Dual hydraulic ports.
- 30 mm stroke.
- Lifting strap.
- 100% water-based system (no hydraulic oil).

In addition, we have introduced a Super high-flow, high-pressure pump designed specifically to deliver the maximum performance to the Octopus range of Sub Sea Tensioners.

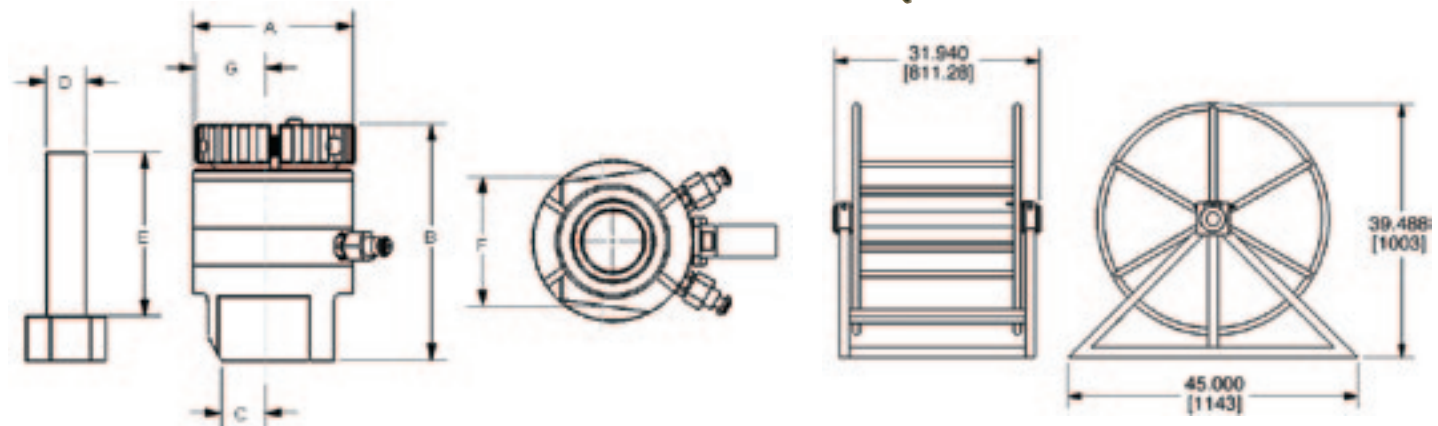
- Water-filled tensioning systems are environmentally friendly.



With our exclusive water-based system, Boltech Mannings is the first company to deliver Green Bolting Technology to this environmentally sensitive market.

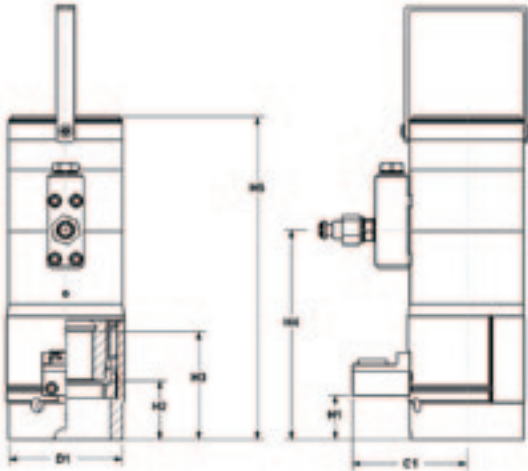


Sub Sea Hose Reel
Item Number SS REEL

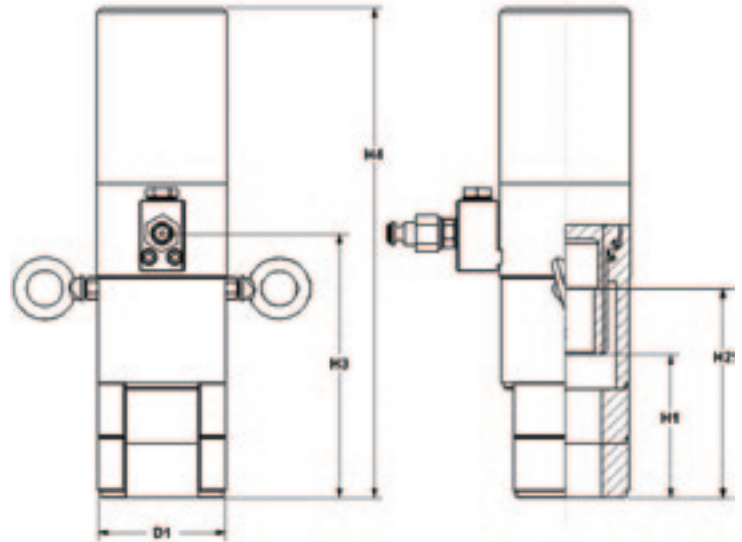


| Load Cell Item # | Maximum Operating Pressure 21,750 psi *Hydraulic Fluid: Water * | | | | | | | | | | Dimensions | | | | | | | | | | | | |
|------------------|---|----------|-------|----------|----------|--------------|---------|--------|-------|---------------|------------|-----------------|--------|--------------------|-------|---------------|-------|------------------|---------|------------------|--------|-----------------|--------|
| | Split Reaction Nut | | | Ram Area | | Maximum Load | | Stroke | | Tool Dia. [A] | | Tool Height [B] | | Flat Dimension [C] | | Bolt Size [D] | | Extra Length [E] | | Across flats [F] | | Radial Dim. [G] | |
| | Part # | Stud Dia | Pitch | (sq. in) | (sq. mm) | (lbs) | (kN) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) |
| SS1125 | SN1125 | 1-1/8" | 8 TPI | 2.663 | 67.64 | 57,920 | 257.64 | 1.130 | 28.70 | 2.998 | 76.15 | 5.776 | 146.71 | 1.146 | 29.11 | 1.125 | 28.58 | 4.901 | 124.485 | 2.490 | 63.25 | 1.373 | 34.87 |
| SS1375 | SN1250 | 1-1/4" | 8 TPI | 3.930 | 99.82 | 85,478 | 380.23 | 1.130 | 28.70 | 3.818 | 96.98 | 6.468 | 164.29 | 1.06 | 26.92 | 1.250 | 31.75 | 5.468 | 138.887 | N/A | N/A | 1.730 | 43.94 |
| | SN1375 | 1-3/8" | 8 TPI | | | | | | | | | | | | | 1.375 | 34.93 | 5.343 | 135.712 | | | | |
| SS1625 | SN1500 | 1-1/2" | 8 TPI | 5.890 | 149.61 | 128,108 | 569.85 | 1.130 | 28.70 | 4.408 | 111.96 | 6.855 | 174.12 | 1.378 | 35.00 | 1.500 | 38.10 | 5.605 | 142.367 | 3.669 | 93.19 | 1.997 | 50.72 |
| | SN1625 | 1-5/8" | 8 TPI | | | | | | | | | | | | | 1.625 | 41.28 | 5.480 | 139.192 | | | | |
| SS1875 | SN1750 | 1-3/4" | 8 TPI | 8.080 | 205.23 | 175,740 | 781.73 | 1.130 | 28.70 | 5.02 | 127.51 | 7.323 | 186.00 | 1.614 | 41.00 | 1.750 | 44.45 | 5.823 | 147.904 | 4.055 | 103.00 | 2.368 | 60.15 |
| | SN1875 | 1-7/8" | 8 TPI | | | | | | | | | | | | | 1.875 | 47.63 | 5.698 | 144.729 | | | | |
| SS2250 | SN2000 | 2" | 8 TPI | 11.140 | 282.96 | 242,295 | 1077.78 | 1.130 | 28.70 | 5.866 | 149.00 | 8.184 | 207.87 | 1.883 | 47.83 | 2.000 | 50.80 | 6.434 | 163.424 | 4.649 | 118.08 | 2.748 | 69.80 |
| | SN2250 | 2-1/4" | 8 TPI | | | | | | | | | | | | | 2.250 | 57.15 | 6.184 | 157.074 | | | | |
| SS2750 | SN2500 | 2-1/2" | 8 TPI | 17.410 | 442.21 | 378,668 | 1684.40 | 1.130 | 28.70 | 7.063 | 179.40 | 9.130 | 231.90 | 2.283 | 57.99 | 2.500 | 63.50 | 6.755 | 171.577 | 5.869 | 149.07 | 3.375 | 85.73 |
| | SN2750 | 2-3/4" | 8 TPI | | | | | | | | | | | | | 2.750 | 69.85 | 6.630 | 168.402 | | | | |
| SS350 | SN3000 | 3" | 8 TPI | 26.680 | 677.67 | 580,290 | 2581.26 | 1.130 | 28.70 | 8.685 | 220.60 | 10.168 | 258.27 | N/A | N/A | 3.000 | 76.20 | 7.418 | 188.417 | 7.105 | 180.47 | 4.082 | 103.68 |
| | SN3500 | 3-1/2" | 8 TPI | | | | | | | | | | | | | 3.500 | 88.90 | 6.918 | 175.717 | | | | |
| SS3750 | SN3750 | 3-3/4" | 8 TPI | 27.538 | 699.47 | 598,995 | 2664.46 | 1.130 | 28.70 | 9.000 | 228.60 | 12.436 | 315.87 | 3.75 | 95.25 | 3.750 | 95.25 | 8.936 | 226.974 | N/A | N/A | 4.500 | 114.30 |

Gas Turbine Tensioning Systems



Turbine Tensioners

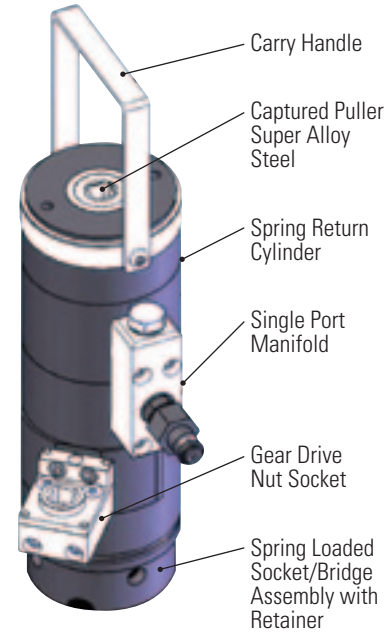
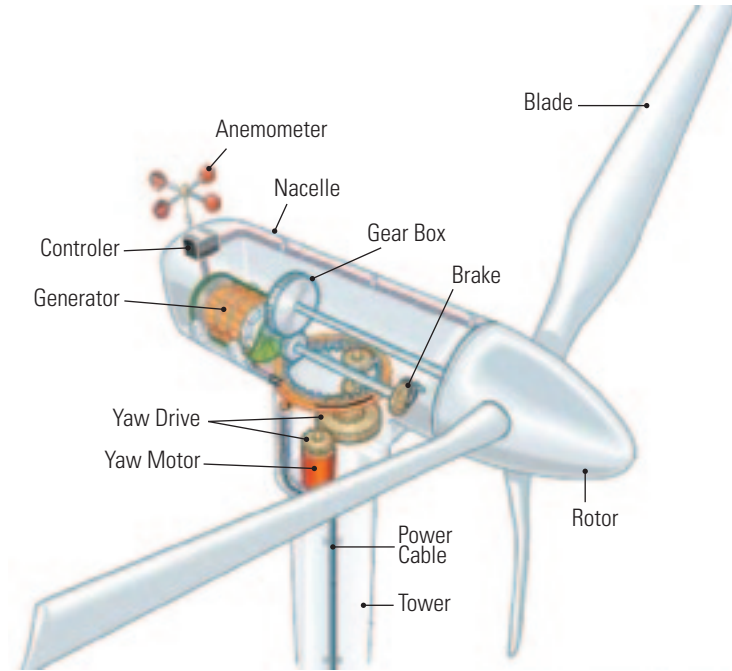


Turbine Body Bound Pullers

| GE 7 FA Gas Turbine Tensioners | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------|--------------------|--------------|---------------------------------------|----------|--------------|----------|------------|--------|-------|--------|-------|--------|-------|---------|-------|---------|--------|---------|-------|---------|-------|---------|--------|------|
| Item# | Stud Diameter (in) | Thread Pitch | Maximum Operating Pressure 21,750 psi | | | | Dimensions | | | | | | | | | | | | | | | | | |
| | | | Ram Area | | Maximum Load | | Stroke | | H1 | | H2 | | H3 | | H4 | | H5 | | D1 | | C1 | | Weight | |
| | | | (sq. in) | (sq. mm) | (lbs) | (kN) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (Lbs) | (kN) | | |
| GE1000-DS | 1" | 8 TPI | 2.482 | 63.043 | 53,984.276 | 239.690 | 0.354 | 8.992 | 1.018 | 25.857 | 1.778 | 45.161 | 2.778 | 70.561 | 5.338 | 135.585 | 8.877 | 225.476 | 1.903 | 48.336 | 3.07 | 77.978 | 7.8 | 0.03 |
| GE1250-DS | 1-1/4" | 8 TPI | 3.968 | 100.787 | 86,312.977 | 383.230 | 0.345 | 8.763 | 1.213 | 30.810 | 1.823 | 46.304 | 2.886 | 73.304 | 5.647 | 143.434 | 9.009 | 228.829 | 2.48 | 62.992 | 3.29 | 83.566 | 10.2 | 0.05 |
| GE1250-SS | 1-1/4" | 8 TPI | 3.980 | 101.092 | 86,568.717 | 384.365 | 0.32 | 8.128 | 1.213 | 30.810 | 1.783 | 45.288 | 2.883 | 73.228 | 4.965 | 126.111 | 6.606 | 167.792 | 2.48 | 62.992 | 3.29 | 83.566 | 11 | 0.05 |
| GE1500-DS | 1-1/2" | 8 TPI | 5.842 | 148.387 | 127,057.019 | 564.133 | 0.383 | 9.728 | 1.126 | 28.600 | 1.859 | 47.219 | 3.139 | 79.731 | 5.972 | 151.689 | 10.131 | 257.327 | 2.68 | 68.072 | 3.483 | 88.468 | 17 | 0.08 |
| GE1750-DS | 1-3/4" | 8 TPI | 8.101 | 205.765 | 176,198.244 | 782.320 | 0.395 | 10.033 | 3.039 | 77.191 | 1.831 | 46.507 | 3.256 | 82.702 | 6.49 | 164.846 | 10.442 | 265.227 | 3.225 | 81.915 | 3.689 | 93.701 | 22.6 | 0.10 |
| GE2000-DS | 2" | 8 TPI | 10.696 | 271.678 | 232,640.184 | 1032.922 | 0.404 | 10.262 | 1.502 | 38.151 | 1.995 | 50.673 | 3.665 | 93.091 | 7.102 | 180.391 | 10.942 | 277.927 | 3.86 | 98.044 | 3.859 | 98.019 | 29.4 | 0.13 |
| GE1250-DS | 2-1/4" | 8 TPI | 13.705 | 348.107 | 298,078.472 | 1323.468 | 0.354 | 8.992 | 1.808 | 45.923 | 2.222 | 56.439 | 4.06 | 103.124 | 7.546 | 191.668 | 11.27 | 286.258 | 4.165 | 105.791 | 4.056 | 103.022 | 36.4 | 0.16 |
| GE2500-DS | 2-1/2" | 8 TPI | 17.047 | 432.994 | 370,766.570 | 1646.204 | 0.375 | 9.525 | 1.924 | 48.870 | 2.502 | 63.551 | 4.502 | 114.351 | 8.338 | 211.785 | 12.611 | 320.319 | 4.905 | 124.587 | 4.323 | 109.804 | 53 | 0.24 |

| GE 7 FA Gas Turbine Body Bound Pullers | | | | | | | | | | | | | | | | | | | | |
|--|--------------------|--------------|---------------------------------------|----------|--------------|---------|------------|--------|-------|---------|-------|---------|-------|---------|--------|---------|-------|---------|--------|------|
| Part # | Stud Diameter (in) | Thread Pitch | Maximum Operating Pressure 21,750 psi | | | | Dimensions | | | | | | | | | | | | | |
| | | | Ram Area | | Maximum Load | | Stroke | | H1 | | H2 | | H3 | | H4 | | D1 | | Weight | |
| | | | (sq. in) | (sq. mm) | (lbs) | (kN) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (Lbs) | (kN) |
| GE1250-BB | 1-1/4" | 8 TPI | 1.485 | 0.058 | 32,304.00 | 143.695 | 0.97 | 24.638 | 3.104 | 78.842 | 4.324 | 109.830 | 5.775 | 146.685 | 11.16 | 283.464 | 2.479 | 62.967 | 10.8 | 0.05 |
| GE1500-BB | 1-1/2" | 8 TPI | 2.191 | 0.086 | 47,659.00 | 211.998 | 1.227 | 31.166 | 3.525 | 89.535 | 4.9 | 124.46 | 6.391 | 162.331 | 12.926 | 328.320 | 2.97 | 75.438 | 17.8 | 0.08 |
| GE1750-BB | 1-3/4" | 8 TPI | 2.83 | 0.111 | 61,546.00 | 273.770 | 1.479 | 37.567 | 3.868 | 98.247 | 5.653 | 143.586 | 7.15 | 181.61 | 13.248 | 336.499 | 3.465 | 88.011 | 22 | 0.10 |
| GE2000-BB | 2" | 8 TPI | 3.521 | 0.139 | 76,574.00 | 340.618 | 1.715 | 43.561 | 4.402 | 111.811 | 5.902 | 149.911 | 7.575 | 192.405 | 14.437 | 366.700 | 3.856 | 97.942 | 29.8 | 0.13 |
| GE2250-BB | 2-1/4" | 8 TPI | 4.147 | 0.163 | 90,205.00 | 401.252 | 2.005 | 50.927 | 5.076 | 128.930 | 6.861 | 174.269 | 8.525 | 216.535 | 15.955 | 405.257 | 4.152 | 105.461 | 39.8 | 0.18 |
| GE2500-BB | 2-1/2" | 8 TPI | 5.108 | 0.201 | 111,094.00 | 494.171 | 2.178 | 55.321 | 5.734 | 145.644 | 7.734 | 196.444 | 9.51 | 241.554 | 17.999 | 457.175 | 4.53 | 115.062 | 53 | 0.24 |

Wind Turbine Tensioners – WT Series

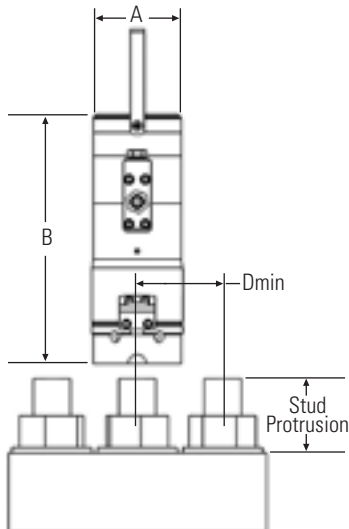


Boltech Mannings has designed a complete line of wind turbine tensioners to achieve correct preload on wind turbine bolted connections. Designed with the operator in mind, these tensioners are safe, durable, accurate, and easy to use.

Applications:

- Rear Main Bearing
- Front Main Bearing
- Nacelle Frame
- Nacelle/Yaw Bearing
- Blade to Bearing
- Bearing to Hub
- Tower Bolting

Wind Turbine Tensioners – WT Series

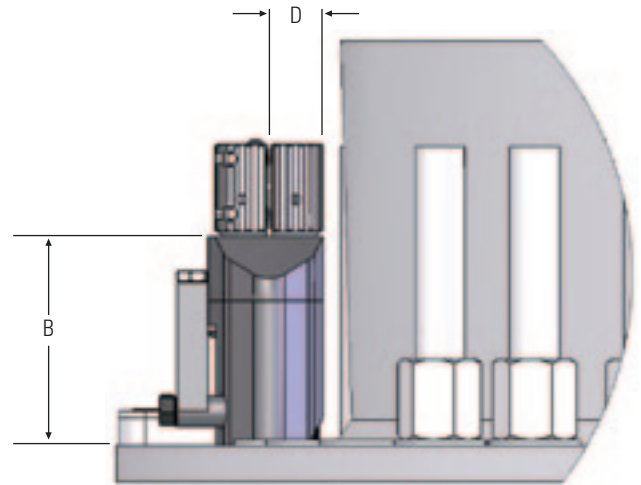
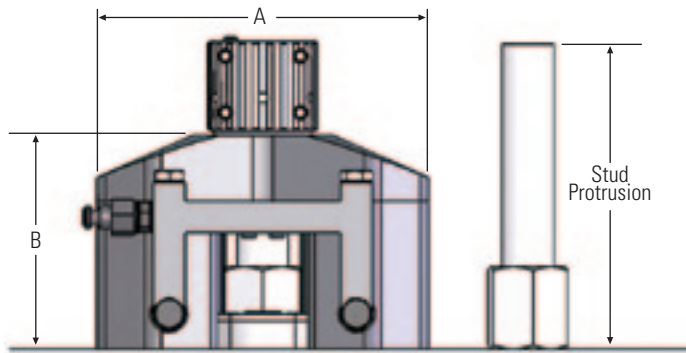
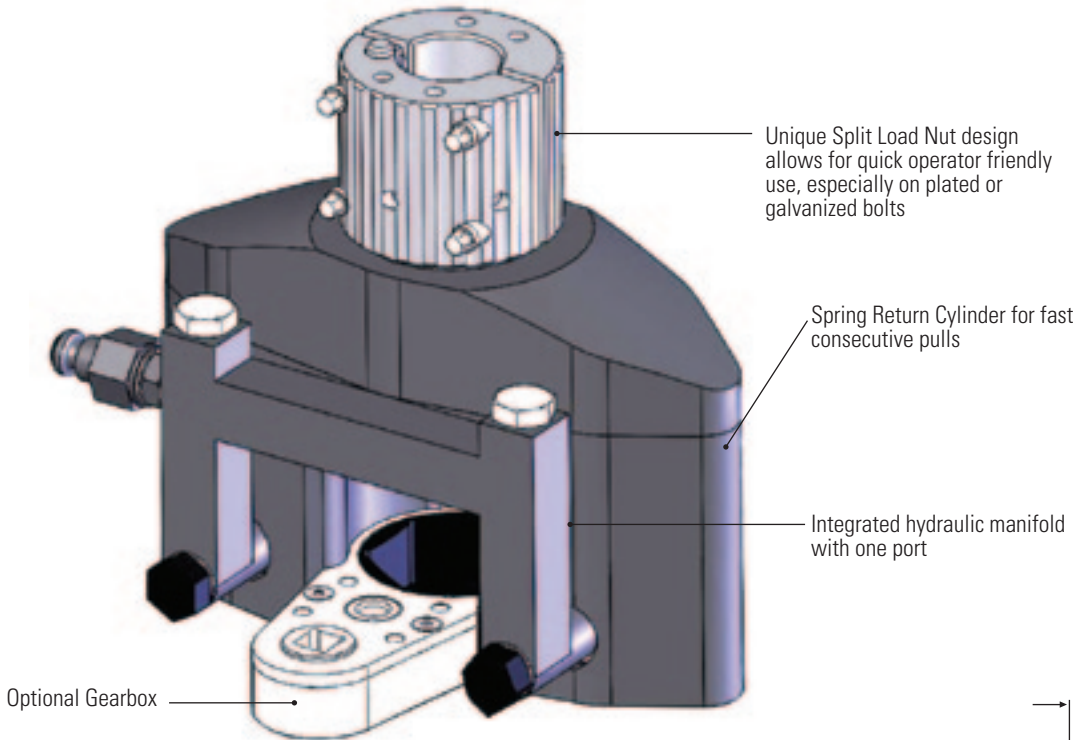


| Technical Specifications - WT Series | | | | | | | | | | | | |
|--|----------------------|---------------------------|------|----------------|-----------|--------|-------------------------|--------|-----------|-------------|------|----------------|
| Maximum Working pressure: 19575 psi/(1350 bar) | | | | | | | | | | | | |
| Item No. | Bolt Diameter Metric | Stud Protrusion (in/(mm)) | | Max. Stroke mm | Max. Load | | Hydraulic Pressure Area | | Dia. A mm | Height B mm | D mm | Weight lb/(kg) |
| | | Min. | Max. | | Kn | lb | mm2 | in2 | | | | |
| WT30 | M30 | 59 | 69 | 8 | 465.38 | 104622 | 3447.21 | 5.343 | 72.0 | 205.0 | 64 | 13.6/(6.16) |
| WT33 | M33 | 64 | 73 | 10 | 575.80 | 129444 | 4265.09 | 6.611 | 79.0 | 217.5 | 71 | 16.0/(7.24) |
| WT36 | M36 | 71 | 81 | 10 | 678.26 | 152478 | 5024.05 | 7.787 | 84.5 | 229.5 | 77 | 19.3/(8.75) |
| WT39 | M39 | 76 | 86 | 10 | 810.58 | 182225 | 6004.2 | 9.307 | 92.0 | 263.0 | 83 | 24.5/(11.12) |
| WT42 | M42 | 83 | 93 | 10 | 929.67 | 208999 | 6886.37 | 10.674 | 97.0 | 262.5 | 95 | 28.11/(12.75) |

| Technical Specifications - WTL Series | | | | | | | | | | | | |
|--|----------------------|---------------------------|------|----------------|-----------|--------|-------------------------|-------|-----------|-------------|------|----------------|
| Maximum Working pressure: 19575 psi/(1350 bar) | | | | | | | | | | | | |
| Item No. | Bolt Diameter Metric | Stud Protrusion (in/(mm)) | | Max. Stroke mm | Max. Load | | Hydraulic Pressure Area | | Dia. A mm | Height B mm | D mm | Weight lb/(kg) |
| | | Min. | Max. | | Kn | lb | mm2 | in2 | | | | |
| WTL36 | M36 | 71 | 81 | 10 | 678.26 | 152478 | 5024.05 | 7.787 | 84.5 | 229.5 | – | 22.0/(9.97) |
| WTL42 | M42 | 83 | 103 | 10 | 930.15 | 209106 | 6889.96 | 10.68 | 142.5 | 181.3 | – | 29.2/(13.24) |

Wind Turbine Base Bolt Tensioner Specifications








Bolttech Mannings has designed a complete line of wind turbine base bolt tensioners to achieve correct preload on foundation bolts. Designed with the operator in mind, these tensioners are safe, durable, accurate, and easy to use.





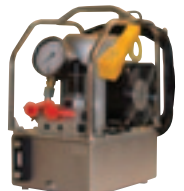




| 8MI Item Number | Foundation Bolt Type | Gear Box | Stud Size | Stud Protrusion in (mm) | Max Stroke | Max Load | | Hydraulic Pressure Area | | Dim. A | Height B | D | Weight |
|-----------------|--------------------------|----------|-----------|-------------------------|------------|----------|---------|-------------------------|-------|----------------|----------------|----------------|---------------|
| | | | | #10 | | in. (mm) | kn | lbs | mm2 | | | | |
| WT-2-1 | Grade 75 ksi All Thread | Y | #10 | 8.50" (216) | 1" (25.4) | 370.79 | 83.356 | 2472 | 3.832 | 3.125" (79.38) | 5.687 (144.45) | 1.466" (37.24) | 27.10 (12.29) |
| WT-3-1 | Grade 75 ksi All Thread | Y | #11 | ** | 1" (25.4) | 473 | 106.245 | 3501 | 5.43 | ** | ** | ** | ** |
| WT-4-1 | Grade 150 ksi All Thread | Y | 1 1/4" | ** | 1" (25.4) | 763 | 171,405 | 5648 | 8.75 | ** | ** | ** | ** |
| WT-5-1 | Grade 150 ksi All | Y | 1 3/8" | ** | 1" (25.4) | 763 | 171,405 | 5648 | 8.75 | ** | ** | ** | ** |











** Refer to Factory for these dimensions

Hydraulic Pumps

| Hydraulic Pumps | | | | | | | | | | | | | | Dimensions | | | | | |
|-----------------|---|--------------------|---|--------------|-------|--------------|------|-------------|------------|----------------|--------|--------|-------|------------|-------|-------|-------|---------------|--------|
| Item # | Picture | Application | Description | Power | Fluid | Max Pressure | | Max Flow | | Fluid Capacity | | Height | | Width | | Depth | | Weight-Filled | |
| | | | | | | psi | bar | cu. In./min | L/sec | Gal | L | in | mm | in | mm | in | mm | lb | kg |
| TP30K-ZN |  | Tensioning | Key Features: Air driven Diaphragm pump with single air head, 1:220 ratio. Oil level gauge, oil return valve. Bracket for outlet support. 2 gallon stainless steel oil reservoir. Calibrated 30,000 psi – 4-inch diameter outlet pressure gauge. Air regulator, filter and pressure gauge. Aluminum frame with lifting handles and cover. | Air | Oil | 30,000 | 2068 | 17 | .0046 | 2 | 7.57 | 14.5 | 368.3 | 18 | 457.2 | 15 | 381 | 56 | 25.401 |
| TP30K-DP |  | | Key Features: Air driven Diaphragm pump with Double air head, 1:440 ratio. Oil level gauge, oil return valve. Bracket for outlet support. 2 gallon stainless steel oil reservoir. Calibrated 30,000 psi – 4-inch diameter outlet pressure gauge. Air regulator, filter and pressure gauge. Aluminum frame with lifting handles and cover. | | | | | 17 | .0047 | | | | | | | | | | |
| TP30K-HN |  | | Key Features: Air driven Diaphragm pump with single air head, 1:220 ratio. Oil level gauge, oil return valve. Bracket for outlet support. 2 gallon stainless steel oil reservoir. Calibrated 30,000 psi – 4-inch diameter outlet pressure gauge. Air regulator, filter and pressure gauge. Stainless Steel frame with lifting handles | | | | | 17 | .0048 | | | | | | | | | | |
| TP30K-SSN |  | Sub Sea Tensioning | Key Features: Super High Flow, Air driven Diaphragm pump with single air head, 1:220 ratio. fluid level gauge, fluid return valve. Bracket for outlet support. 2 gallon stainless steel reservoir. Calibrated 30,000 psi – 4-inch diameter outlet pressure gauge. Air regulator with gauge. Stainless Steel frame with lifting handles | Air | Water | 30,000 | 2068 | 17 | .0048 | 3 | 11.355 | 19.5 | 495.3 | 12.5 | 317.5 | 11.5 | 292.1 | 46 | 20.865 |
| TP30K-DAN |  | Nut Splitting | Key Features: Super High Flow, Double Acting, Air driven Diaphragm pump with single air head, 1:220 ratio. Oil level gauge, oil return valve. Bracket for outlet support. 2 gallon stainless steel reservoir. Calibrated 30,000 psi – 4-inch diameter outlet pressure gauge. Air regulator, filter with gauge. Stainless Steel frame with lifting handles | Air | | | | ADV. 85 | ADV. .0232 | 2 | 11.355 | 19.5 | 495.3 | 12.5 | 317.5 | 11.5 | 292.1 | 46 | 20.865 |
| | | | | | | | | RET. 135 | RET. 0368 | | | | | | | | | | |
| TP30K-E110N |  | Tensioning | Two-stage Electric pump design provides high flow at low pressure for fast system fills and controlled flow at high pressure for safe and accurate operation. High-efficiency pump design runs cooler and requires less current draw which is especially helpful in remote locations. 20 ft. pendant cord enables motor control from a distance. Angled 6 inch pressure gauge, with polycarbonate cover, built into a protective metal shroud for improved visibility and protection. | 110 Volt | Oil | | | | | | | | | | | | | | |
| TP30K-E230N |  | | Safety relief valve limits output pressure. Compact, lightweight and rugged aluminum frame for increased durability and ease of handling | 220/230 Volt | | | | | 180 | .0491 | 1 | 3.785 | 20.5 | 520.7 | 12.5 | 317.5 | 19.5 | 495.3 | 65 |

| Hydraulic Pumps | | | | | | | | | | | Dimensions | | | | | | | | |
|-------------------|---|---|---|---------------------|-------|--------------|----------|-------------|--------|----------------|------------|--------|--------|-------|--------|-------|--------|---------------|----------|
| Item # | Picture | Application | Description | Power | Fluid | Max Pressure | | Max Flow | | Fluid Capacity | | Height | | Width | | Depth | | Weight-Filled | |
| | | | | | | psi | bar | cu. in./min | L/sec | Gal | L | in | mm | in | mm | in | mm | lb | kg |
| BTA-10K |  | Torquing | Key Features: Air powered pump designed and engineered specifically for the rigorous conditions a Torque Wrench System must withstand. 2- 1/2 gallon oil reservoir. Precision-adjustment valve. Hydraulic pressure regulator. Includes 20 foot long twin-line hoses with Quick disconnect fittings. 4-way double-acting 10,000 psi valve. Calibrated 10,000 psi gauge. | Air | | | | 640 | .1747 | 2 | 7.57 | 18.25 | 463.55 | 15.75 | 400.05 | 20.5 | 520.7 | 86 | 39.009 |
| BTA-10K-4PORT |  | Torquing. Four-port manifold allows use of up to four tools | | | | | | | | | | | | | | | | | |
| BTE-10K |  | Torquing | Key Features: Electric powered pump designed and engineered specifically for the rigorous conditions a Torque Wrench System must withstand. 2- 1/2 gallon oil reservoir. Precision-adjustment valve. Hydraulic pressure regulator. Includes 20 foot long twin-line hoses with Quick disconnect fittings. 4-way double-acting 10,000 psi valve. Calibrated 10,000 psi gauge. | 110 Volt | Oil | 10,000 | 689 | 720 | .1966 | 2 | 7.57 | 18.25 | 463.55 | 13 | 330.2 | 17.25 | 438.15 | 72 | 32.658 |
| BTE-10K-220 |  | Torquing. Four-port manifold allows use of up to four tools | | 220/230 Volt | | | | | | | | | | | | | | | |
| TWP-110 & TWP-220 |  | Torquing | Key Features: Ultra-Quiet, Light Weight, 110V or 220V, electric powered pump designed and engineered specifically for rigorous conditions. Comes standard with Hydraulic fluid heat exchanger, 2-way manifold, pressure gauge, 20' twin line hoses and couplings. | 115/60hz & 220/50hz | | | | 1842 | 7L/Min | 2.11 gal | 8L | 18.05 | 458 | 14.77 | 375 | 11.82 | 300 | 58.74 | 26.7 kgs |
| TWP-A |  | | | 4-8 bar | | | | | | | | | | | | | | | |
| 16P80-1 |  | | Hand pump with pressure gauge. | | | 23206 psi | 1600 bar | N/A | N/A | 0.6 gal | 2.25L | 11 | 279.4 | 4.8 | 120 | 27 | 686 | 20 | 9 kgs |

Hose & Fitting Accessories

| Hoses | | | | | | | | | |
|--------------------------------|--|-------------|-----------------|------------------|-------|--------|-------|---|---|
| Application | Description | Filled with | Item # | Working Pressure | | Length | | End Fittings | |
| | | | | psi | bar | (ft) | (m) | End 1 | End 2 |
| Torquing with Hydraulic Wrench | Twin Line, Connects hydraulic pump to hydraulic wrench | Oil | HYTW20N | 10,000 | 689 | 20 | 6.1 |  |  |
| Torquing with Hydraulic Wrench | Whip Hose with 1/4" NPT Male ends | Oil | WH-BLUE | 10,000 | 689 | 1.625 | 0.5 |  | |
| Torquing with Pneumatic Wrench | Connects control unit to Pneumatic Tool | Air | CU4 | 200 | 14 | 20 | 6.1 |  |  |
| Impact Wrench | Whip Hose, 3/4" NPT Male with Chicago fitting on one end | Air | 3/4X18MPXCHICAG | 300 | 21 | 18 | 5.5 |  |  |
| Tensioning | High pressure interconnect hose with T Block [Connects Tensioner to Tensioner] | Oil | FL3-BN | 26,100 | 1,800 | 3 | 0.9 |  | |
| Tensioning | High pressure interconnect hose [Connects Tensioner to Tensioner] | Oil | FL3N | 26,100 | 1,800 | 3 | 0.9 |   | |
| Tensioning /Nut Splitting | High pressure Feed Hose [Connects Pump to Tool] | Oil | FL15N | 26,100 | 1,800 | 15 | 4.6 | | |
| Tensioning /Nut Splitting | High pressure Feed Hose [Connects Pump to Tool] | Oil | FL20N | 26,100 | 1,800 | 20 | 6.1 | | |
| Tensioning /Nut Splitting | High pressure Feed Hose [Connects Pump to Tool] | Oil | FL100N | 26,100 | 1,800 | 100 | 30.5 | | |
| Tensioning /Nut Splitting | High pressure Feed Hose [Connects Pump to Tool] | Oil | FL300N | 26,100 | 1,800 | 300 | 91.4 | | |
| Tensioning /Nut Splitting | High pressure Feed Hose [Connects Pump to Tool] | Oil | FL400N | 26,100 | 1,800 | 400 | 121.9 | | |
| Tensioning /Nut Splitting | High pressure Feed Hose [Connects Pump to Tool] | Oil | FL600N | 26,100 | 1,800 | 600 | 182.9 | | |
| Tensioning /Nut Splitting | High pressure Feed Hose [Connects Pump to Tool] | Oil | FL1000N | 26,100 | 1,800 | 1000 | 304.8 | | |
| Sub Sea Tensioning | High pressure interconnect hose [Connects Tensioner to Tensioner] | Water | FL3-SSN | 26,100 | 1,800 | 3 | 0.9 | | |
| Sub Sea Tensioning | High pressure Feed Hose [Connects Pump to Tool] | Water | FL20-SSN | 26,100 | 1,800 | 20 | 6.1 | | |
| Sub Sea Tensioning | High pressure Feed Hose [Connects Pump to Tool] | Water | FL100-SSN | 26,100 | 1,800 | 100 | 30.5 | | |
| Sub Sea Tensioning | High pressure Feed Hose [Connects Pump to Tool] | Water | FL300-SSN | 26,100 | 1,800 | 300 | 91.4 | | |
| Sub Sea Tensioning | High pressure Feed Hose [Connects Pump to Tool] | Water | FL400-SSN | 26,100 | 1,800 | 400 | 121.9 | | |
| Sub Sea Tensioning | High pressure Feed Hose [Connects Pump to Tool] | Water | FL600-SSN | 26,100 | 1,800 | 600 | 182.9 | | |
| Sub Sea Tensioning | High pressure Feed Hose [Connects Pump to Tool] | Water | FL1000-SSN | 26,100 | 1,800 | 1000 | 304.8 | | |

| Fittings | | | | | |
|--|-----------------|--|------------------|------|---|
| Application | Item# | Description | Working Pressure | | Picture |
| | | | psi | bar | |
| Torquing with Hydraulic Wrench | SW04N | Male Quick Disconnect with Female 1/4" NPT thread | 10000 | 689 |  |
| Torquing with Hydraulic Wrench | SW05N | Female Quick Disconnect with male 1/4" NPT thread | 10,000 | 689 |  |
| Torquing with Hydraulic Wrench | SW06N | Male Quick Disconnect with Male 1/4" NPT thread | 10,000 | 689 |  |
| Torquing with Hydraulic Wrench | 1/4-FFSN | 1/4 x 1/4 NPT Adapter | 10,000 | 689 |  |
| Tensioning /Sub Sea Tensioning / Nut Splitting | 10-116-1202N | Quick Connect Coupling with female 1/4 BSPP Thread | 26,100 | 1800 |  |
| Tensioning /Sub Sea Tensioning / Nut Splitting | 10-116-6202N | Quick Connect Nipple with female 1/4 BSPP Thread | 26,100 | 1800 |  |
| Tensioning /Nut Splitting | 19-950-1622N | 1/4"BSPP x 1/4" BSPP Adaptor | 26,100 | 1800 |  |
| Tensioning /Nut Splitting | 1/4BSPDOWTYN | 1/4" BSP Dowty Seal | 26,100 | 1800 |  |
| Tensioning | C09-125-1680 | 1/4"BSPP x 1/4" BSPP Adaptor with External Cone | 26,100 | 1800 |  |
| Sub Sea Tensioning | BSP-ADPT-O-RING | 1/4" x 1/4" BSP Adaptor with o-ring seal | 26,100 | 1800 |  |
| | 9558K711 | O-Ring Seal for BSP-ADPT-O-RING | 26,100 | 1800 |  |
| Torquing with Pneumatic Tools | CU5 | Female Quick Disconnect | 90 | 6 |  |
| Torquing with Pneumatic Tools | CU6 | Male Quick Disconnect | 90 | 6 |  |
| Torquing with Pneumatic Tools | CU3 | Chicago / King Fitting | 90 | 6 |  |
| Torquing with Pneumatic Tools | MFS-01 | 3/8" Pneumatic Swivel | 90 | 6 |  |
| Torquing with Pneumatic Tools | AM28 | Male Disconnect Nipple | 90 | 6 |  |
| Torquing with Pneumatic Tools | CU10 | Regulator Female Quick Disconnect | 90 | 6 |  |
| Tensioning | 199501682 | tee block | 26,100 | 1800 |  |
| Tensioning | 199501680 | 4-way block | 26,100 | 1800 | |

Bolttech Mannings Impact Wrenches

Magnum Impact Torque Wrench Systems — Features and Benefits

- Lightweight
- Durable hammer mechanism
- High power-to-weight ratio



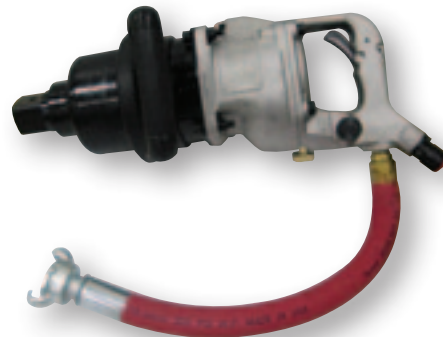
Model IW.500 – 1/2" Impact Wrench

- 450 ft/lbs.
- Weight: 6 lbs.



Model IW.750 – 3/4" Impact Wrench

- 1,250 ft/lbs.
- Weight: 13 lbs.



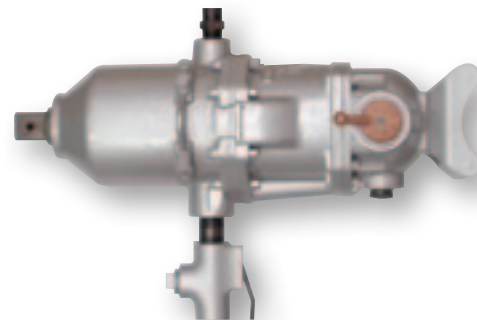
Model IW1.50 – 1-1/2" Impact Wrench

- 2,500 ft/lbs.
- Weight: 32 lbs.



Model IW1.00B – 1" Impact Wrench

- 1,700 ft/lbs.
- Weight: 20 lbs.



Model IW2.50 – 2-1/2" Impact Wrench

- 19,800 ft/lbs.
- Weight: 242 lbs.

| Item # | Drive Size | Max Torque | | Weight | | Whip Hose (included with tool) | | Fitting Type |
|------------|------------------------|------------|---------|--------|---------|--------------------------------|-----------------|--------------------------------------|
| | | (ft-lbs) | (Nm) | (lbs) | (Kg) | Length (INCH) | Part Number | |
| IW500 | 1/2" | 450 | 610.2 | 6 | 2.722 | Not Available | Not Available | 1/2" INDUSTRIAL INTERCHANGE (NIPPLE) |
| IW500-EXT | 1/2" with 6" Extension | 450 | 610.2 | 6 | 2.722 | Not Available | Not Available | 1/2" INDUSTRIAL INTERCHANGE (NIPPLE) |
| IW750 | 3/4" | 1250 | 1695 | 13 | 5.897 | Not Available | Not Available | 1/2" INDUSTRIAL INTERCHANGE (NIPPLE) |
| IW1000 | 1" | 1700 | 2305.2 | 20 | 9.072 | 18 | 3/4X18MPXCHICAG | 3/4" STANDARD TWIST CLAW (CHICAGO) |
| IW1000-EXT | 1" with 6" extension | 1700 | 2305.2 | 20 | 9.072 | 18 | 3/4X18MPXCHICAG | 3/4" STANDARD TWIST CLAW (CHICAGO) |
| IW1500 | 1-1/2" | 2500 | 3390 | 32 | 14.515 | 18 | 3/4X18MPXCHICAG | 3/4" STANDARD TWIST CLAW (CHICAGO) |
| IW2500 | 2-1/2" | 19800 | 26848.8 | 242 | 109.771 | 18 | 3/4X18MPXCHICAG | 3/4" STANDARD TWIST CLAW (CHICAGO) |

Monster Grip Tool & Bolt Removal Equipment

Quantify Your Savings

Boltech Mannings' Monster Grip Tools removed 20, 2-1/2" studs in five hours compared to the original estimate of five hours per stud with the old drilling method.

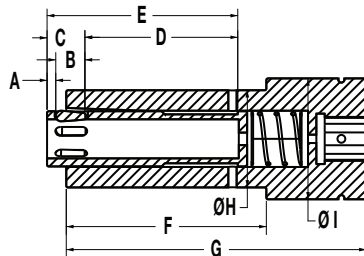
Monster Grip Tools are Easy to Use

Simply attach the Monster Grip Tool to a Bolttech Mannings or other heavy-duty impact wrench, place onto the stud to be removed, and rotate – it's that simple. The tool does all the work in minutes, compared to the long hours and days it takes using older removal methods. Monster Grip Tools will work on all studs from fully threaded studs, the unthreaded portion of double-ended studs, and the undercut portion of double-ended studs. Monster Grip has been specifically designed to minimize or eliminate damage to the threads of the stud.

Features and Benefits

Removing studs in tough environments can be a very long process, sometimes taking hours, days, or even weeks. Boltech Mannings cares about companies losing time and money. Using Monster Grip® on your next stud removal application can reduce labor costs and increase revenues. Monster Grip is the only single tool on the market that can not only remove studs but also drive them. This easy-to-learn tool can be quickly changed from a stud remover to a stud driver by simply switching the direction lever of the power tool. Stop tapping, drilling, or cutting to remove those stubborn studs and start using the time-saving and cost-effective Monster Grip Tool.

The Monster Grip uses a patented gripping system that is unlike any other stud removal-installation tool on the market today. This uniquely designed gripping system allows the operator to efficiently apply thousands of foot pounds of torque directly to the stud with minimal force loss. Monster Grip's engineered design directs all the gripping force to the center of the stud, which eliminates "side-loading" problems. This virtually ends possible damage to the tapered hole of the application.



Specifications

All dimensions are in inches, except where noted.

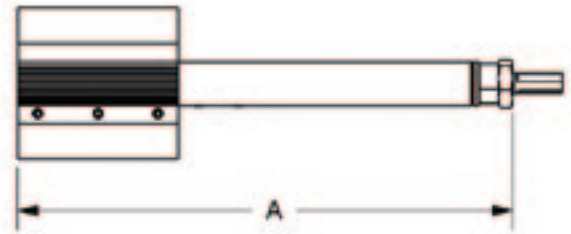
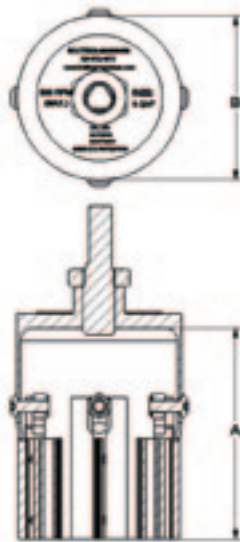
| Drive Square | Stud Size | Item | A | B | C | D | E | F | G | H | I | Weight Lbs |
|--------------|-----------|---------|-------|---------|---------|---------|----------|-------|----|-------|-------|------------|
| 1-1/2 | 3/4 | 12MG-24 | 5/16 | 1-1/32 | 1-19/32 | 4-9/16 | 6-5/32 | 8-1/2 | 12 | 3 | 5 | 30 |
| 1-1/2 | 7/8 | 14MG-24 | 5/16 | 1-1/32 | 1-19/32 | 4-9/16 | 6-5/32 | 8-1/2 | 12 | 3 | 5 | 30 |
| 1-1/2 | 1 | 16MG-24 | 5/16 | 1-1/32 | 1-19/32 | 4-9/16 | 6-5/32 | 8-1/2 | 12 | 3 | 5 | 32 |
| 1-1/2 | 1-1/8 | 18MG-24 | 5/16 | 1-11/32 | 1-13/16 | 4-15/16 | 6-3/4 | 8-1/2 | 12 | 4-3/8 | 5 | 40 |
| 1-1/2 | 1-1/4 | 20MG-24 | 5/16 | 1-11/32 | 1-13/16 | 4-15/16 | 6-3/4 | 8-1/2 | 12 | 4-3/8 | 5 | 47 |
| 1-1/2 | 1-3/8 | 22MG-24 | 5/16 | 1-11/32 | 1-13/16 | 4-15/16 | 6-3/4 | 8-1/2 | 12 | 4-3/8 | 5 | 46 |
| 1-1/2 | 1-1/2 | 24MG-24 | 5/16 | 1-11/32 | 1-13/16 | 4-15/16 | 6-3/4 | 8-1/2 | 12 | 4-3/8 | 5 | 46 |
| 1-1/2 | 1-5/8 | 26MG-24 | 5/16 | 1-21/32 | 2-1/32 | 4-9/16 | 6-19/32 | 8-1/2 | 12 | 5 | 5 | 50 |
| 1-1/2 | 1-3/4 | 28MG-24 | 5/16 | 1-21/32 | 2-1/32 | 4-9/16 | 6-19/32 | 8-1/2 | 12 | 5 | 5 | 54 |
| 1-1/2 | 1-7/8 | 30MG-24 | 5/16 | 1-21/32 | 2-1/32 | 4-9/16 | 6-19/32 | 8-1/2 | 12 | 5 | 5 | 56 |
| 2-1/2 | 2 | 32MG-40 | 3/16 | 1-21/32 | 2 | 9-1/4 | 11-1/4 | 12 | 18 | 6-1/2 | 7-1/4 | 157 |
| 2-1/2 | 2-1/8 | 34MG-40 | 3/16 | 1-21/32 | 2 | 9-1/4 | 11-1/4 | 12 | 18 | 6-3/4 | 7-1/4 | 164 |
| 2-1/2 | 2-1/4 | 36MG-40 | 3/16 | 1-21/32 | 2 | 9-1/4 | 11-1/4 | 12 | 18 | 6-3/4 | 7-1/4 | 163 |
| 2-1/2 | 2-3/8 | 38MG-40 | 3/16 | 1-21/32 | 2 | 9-1/4 | 11-1/4 | 12 | 18 | 7 | 7-1/4 | 167 |
| 2-1/2 | 2-1/2 | 40MG-40 | 3/16 | 1-21/32 | 2 | 9-1/4 | 11-1/4 | 12 | 18 | 7 | 7-1/4 | 166 |
| 2-1/2 | 2-5/8 | 42MG-40 | 3/16 | 1-21/32 | 2 | 9-1/4 | 11-1/4 | 12 | 18 | 7-1/4 | 7-1/4 | 173 |
| 2-1/2 | 2-3/4 | 44MG-40 | 3/16 | 1-21/32 | 2 | 9-1/4 | 11-1/4 | 12 | 18 | 7-1/4 | 7-1/4 | 171 |
| 3-1/2 | 2-7/8 | 46MG-56 | 13/32 | 1-31/32 | 2-3/8 | 8-1/32 | 10-13/32 | 12 | 18 | 8-1/4 | 9-1/4 | 254 |
| 3-1/2 | 3 | 48MG-56 | 13/32 | 1-31/32 | 2-19/32 | 7-13/16 | 10-13/32 | 12 | 18 | 8-1/4 | 9-1/4 | 241 |
| 3-1/2 | 3-1/8 | 50MG-56 | 13/32 | 1-31/32 | 2-19/32 | 7-13/16 | 10-13/32 | 12 | 18 | 8-1/2 | 9-1/4 | 253 |
| 3-1/2 | 3-1/4 | 52MG-56 | 13/32 | 1-31/32 | 2-19/32 | 7-13/16 | 10-13/32 | 12 | 18 | 8-1/2 | 9-1/4 | 250 |
| 3-1/2 | 3-3/8 | 54MG-56 | 13/32 | 1-31/32 | 2-19/32 | 7-13/16 | 10-13/32 | 12 | 18 | 8-3/4 | 9-1/4 | 256 |
| 3-1/2 | 3-1/2 | 56MG-56 | 13/32 | 1-31/32 | 2-19/32 | 7-13/16 | 10-13/32 | 12 | 18 | 8-3/4 | 9-1/4 | 256 |
| 3-1/2 | 3-5/8 | 58MG-56 | 13/32 | 1-31/32 | 2-19/32 | 7-13/16 | 10-13/32 | 12 | 18 | 9 | 9-1/4 | 263 |
| 3-1/2 | 3-3/4 | 60MG-56 | 13/32 | 1-31/32 | 2-19/32 | 7-13/16 | 10-13/32 | 12 | 18 | 9 | 9-1/4 | 261 |
| 3-1/2 | 3-7/8 | 62MG-56 | 13/32 | 1-31/32 | 2-19/32 | 7-13/16 | 10-13/32 | 12 | 18 | 9-1/4 | 9-1/4 | 255 |
| 3-1/2 | 4 | 64MG-56 | 13/32 | 1-31/32 | 2-19/32 | 7-1/8 | 9-23/32 | 12 | 18 | 9-1/4 | 9-1/4 | 267 |

Bolttech Mannings Nut & Bolt Thread Cleaning Kits



Portable On-Site Thread Cleaners

A fast and efficient way to clean your studs before the nuts are removed using a 1/2" cordless, electric or air powered drill.



| SMALL THREAD CLEANERS | | | | | | | | | |
|-----------------------|------------------------|------------------------|---------|---------------------------------|--------|--------------|---------|--------|-------|
| Kit Item Number | Individual Item Number | Stud Size / Type | Max RPM | Depth (A) | | Diameter (B) | | Weight | |
| | | | | (in) | (mm) | (in) | (mm) | (lbs) | (Kg) |
| TC-KIT-SMALL | TCB1000-01 | 1" External Thread | 500 | 4.2 | 106.68 | 2.5 | 63.5 | 1.76 | 0.798 |
| | TCB1250-01 | 1-1/4" External Thread | 500 | 4.2 | 106.68 | 2.77 | 70.358 | 1.932 | 0.876 |
| | TCB1500-01 | 1-1/2" External Thread | 500 | 4.2 | 106.68 | 3.02 | 76.708 | 2.054 | 0.932 |
| | TCB1750-01 | 1-3/4" External Thread | 500 | 4.2 | 106.68 | 3.27 | 83.058 | 2.204 | 0.100 |
| | TCB2000-01 | 2" External Thread | 500 | 4.2 | 106.68 | 3.5 | 88.9 | 2.384 | 1.081 |
| | TCB2250-01 | 2-1/4" External Thread | 500 | 4.2 | 106.68 | 3.77 | 95.758 | 2.458 | 1.115 |
| | TCB2500-01 | 2-1/2" External Thread | 500 | 4.2 | 106.68 | 4.012 | 101.905 | 2.77 | 1.256 |
| | TCB-05 | | | SMALL SPARE BRUSH PACKAGE OF 12 | | | | | |

| LARGE THREAD CLEANERS | | | | | | | | | | |
|-----------------------|------------------------|------------------------|---------|-----------|---------------------------------|--------------|---------|--------|-------|--|
| Kit Item Number | Individual Item Number | Stud Size / Type | Max RPM | Depth (A) | | Diameter (B) | | Weight | | |
| | | | | (in) | (mm) | (in) | (mm) | (lbs) | (Kg) | |
| TC-KIT-LARGE | TCB4000-01 | 4" External Thread | 500 | 8.2 | 208.28 | 6.165 | 156.591 | 9.51 | 4.314 | |
| | TCB4500-01 | 4-1/2" External Thread | 500 | 8.2 | 208.28 | 6.43 | 163.322 | 10.47 | 4.749 | |
| | TCB5000-01 | 5" External Thread | 500 | 8.2 | 208.28 | 6.99 | 177.546 | 11.73 | 5.321 | |
| | TCB5500-01 | 5-1/2" External Thread | 500 | 8.2 | 208.28 | 7.42 | 188.468 | 12.19 | 5.529 | |
| | TCB6000-01 | 6" External Thread | 500 | 8.2 | 208.28 | 7.97 | 202.438 | 12.82 | 5.815 | |
| | INTTCB4000-01 | 4" Internal Thread | 500 | 12.367 | 314.122 | N/A | N/A | 3.76 | 1.706 | |
| | INTTCB4500-01 | 4-1/2" Internal Thread | 500 | 12.367 | 314.122 | N/A | N/A | 4.16 | 1.887 | |
| | INTTCB5000-01 | 5" Internal Thread | 500 | 12.367 | 314.122 | N/A | N/A | 4.48 | 2.032 | |
| | INTTCB5500-01 | 5-1/2" Internal Thread | 500 | 12.367 | 314.122 | N/A | N/A | 4.9 | 2.223 | |
| | INTTCB6000-01 | 6" Internal Thread | 500 | 12.367 | 314.122 | N/A | N/A | 5.21 | 2.363 | |
| | | TCB-09 | | | LARGE SPARE BRUSH PACKAGE OF 12 | | | | | |

Boltech Mannings Mini-Max Ultrasonic Bolt Measurement And Monitoring System

Item # UT1

Ultrasonically measures the actual elongation produced by tightening a threaded fastener.



MINI-MAX SPECIFICATIONS

Physical

Size:

Width (2.5 in/63.5mm)

Height (6.5 in/165mm)

Depth (1.24 in/31.5mm)

Weight: 13.5 ounces (with batteries)**Display:** Membrane switchpad with twelve tactile keys.**Operating Temperature:** 14°F to 140°F (-10°C to 60°C)**Case:** Extruded aluminum body with nickel-plated aluminum end caps (gasket sealed).**Data Output:** Bi-directional RS232 serial port. Windows® PC interface software.**Display:** 1/8 inch VGA grayscale display (240 x 160 pixels);

Viewable area 2.4 x 1.8 inches (62mm x 45.7mm); EL backlit (on/off/auto)

Ultrasonic Specifications

Measurement Modes: Pulse-Echo (standard) Pulse-Echo w/Gate (fine adjust)**Pulsar:** Square wave pulser with adjustable pulse width (spike, thin, wide).**Receiver:** Manual or Auto Set gain control with 40dB range.**Timing:** 10-bit 250 MHz digitizer. Warranty 2 year limited

Power Source

Three 1.5V alkaline or 1.2V NiCad AA cells. Typically operates for 150 hours on alkaline and 100 hours on NiCad (charger not included). Auto power off if idle for 5 min. Battery status icon.

Measuring

Range: From 1 to 48 inches (25.4 to 137 cm)**Time—**Nanoseconds**Elongation—**Change in length (inches/millimeters)**Load—**Force load applied (pounds KIP or megapascals MPa)**Stress—**Force for unit area stress applied (inches per inch or millimeters per millimeter)**Resolution:** +/- 0.00001 inch (0.0001 mm) Velocity Range: 0.0492 to .3937 in/ms (1250 to 9,999 meters/sec) Fixed, Single, and Two-point zero calibration options. Select bolt material types from a preset or custom list.**Units:** English & Metric / Fahrenheit & Centigrade.

Display

A-Scan—Rectified +/- (half wave view), or RF (full waveform view).**Large Digits—**Display and toggle between nanoseconds, elongation, load, stress, and strain; Digit Height: 0.400 inch (10mm).**Limits Bar** (alarm limits)— Set Hi & Lo alarm limits for displaying an acceptable tolerance range.**Repeatability Bar Graph—**Bar graph indicates stability of measurement.

Data Logger (Internal)

Total of 8,000 readings in multiple bolt groups. Stores both waveform views, nanoseconds, elongation, load, stress and strain for each reading.

Memory: 16 megabit non-volatile ram

Transducer

Transducer types: Single element (1 MHz to 10 MHz & 1/8 to 1 inch diameters). Locking quick disconnect "00" LEMO connectors. Standard 10 foot cable. Custom transducers available for special applications.

Temperature probe for automatic temperature compensation

Features

Setups: 64 custom user defined setups; Factory setups can also be edited by the user.**Gate:** Gate used to fine adjust where the detection point occurs.**Alarm Limits:** Set Hi and Lo tolerances with audible beeper, viewable scan bar, and visual LEDs.**Auto Set:** Locates the detection signal, optimizes the gain setting, and adjusts the overall display to show the waveform and detection point automatically.**Field Calibration:** Vector & linear regression Certification: Factory calibration traceable to national standards.

- The FIRST cost-effective ultrasonic solution available on the market.
- EFFECTIVELY monitor your bolts during periodic shutdowns over the service life of the fastener.
- VISUALLY compare the unloaded to the loaded waveform.
- MEASUREMENT QUANTITIES Time (nanoseconds), Elongation, Load, Stress, and %Strain.
- DISPLAY OPTIONS—RF, Rectified, Large Digits with Limits Bar.
- DISPLAY RESOLUTION 1/8 inch VGA 240 x 160 pixels.
- STORES 8000 readings and waveforms in multiple groups.
- BUILT-IN linear regression or vector for optimizing load measurements.
- AUTO SET feature automatically optimizes detection and adjusts display.
- HI/LO ALARM tolerance limits work in conjunction with the data port and external pump shut-off device.

Non-Magnetic Single Element Contact Transducers



Fastener Material Types: All metals

Note: Side or Top entry connector option available

| Diameter | Item # | MHz | Connector | Entry |
|----------|------------|------|-----------|-------|
| 1/8" | T-600-2405 | 5 | Microdot | Top |
| 1/8" | T-600-4405 | 10 | Microdot | Top |
| 1/4" | T-602-1405 | 2.25 | Microdot | Top |
| 1/4" | T-602-2405 | 5 | Microdot | Top |
| 1/4" | T-602-4405 | 10 | Microdot | Top |
| 1/2" | T-604-1405 | 2.25 | Microdot | Top |
| 1/2" | T-604-2405 | 5 | Microdot | Top |

Magnetic Single Element Contact Transducers




Fastener Material Types: All metals

| Diameter | Item # | MHz | Connector | Entry |
|----------|------------|------|-----------|-------|
| 1/8" | T-700-2405 | 5 | Microdot | Top |
| 1/8" | T-700-4405 | 10 | Microdot | Top |
| 1/4" | T-702-1405 | 2.25 | Microdot | Top |
| 1/4" | T-702-2405 | 5 | Microdot | Top |
| 1/4" | T-702-4405 | 10 | Microdot | Top |
| 3/8" | T-703-1405 | 2.25 | Microdot | Top |
| 3/8" | T-703-2405 | 5 | Microdot | Top |
| 1/2" | T-704-1405 | 2.25 | Microdot | Top |
| 1/2" | T-704-2405 | 5 | Microdot | Top |
| 3/4" | -2111 | 2.25 | Microdot | Top |
| 3/4" | T-706-2405 | 5 | Microdot | Top |


Couplant

| Item # | Description |
|------------|-----------------------|
| V-000-0001 | 4 oz bottle |
| V-000-0003 | 12 oz bottle |
| V-000-0004 | 1 gallon |
| V-000-0002 | 2 oz tube (High Temp) |



Calibration Blocks

| Item # | Description | Mat'l Type |
|------------|--|------------|
| X-000-0008 | Glass Calibration block (1", 2", & 3") | Glass |
| X-000-0011 | 3" Steel Calibration Bar | 4340 Steel |
| X-000-0010 | 3" & 6" Steel Calibration Bars | 4340 Steel |



Ultrasonic Stress Meter

Item # UT2



As design engineers push the envelope to provide greater strength and efficiency in bolted joints, the use of torque, torque and angle, or even tensioning as the method of tension control may not be adequate, leading to costly failures. In those applications, ultrasonic bolt elongation/load measurement is able to provide accuracy equal to strain gauging without the need to

instrument the bolts. In addition, the use of ultrasonic bolt measurement allows the user to return at any time and re-verify the level of tension in each fastener over its service life. The UT2 has been both laboratory and field-proven to be the most accurate, reliable and cost effective solution to bolting failures which could place workers at risk, lead to the loss of production and/or cause damage to capital and equipment.

The basic principle behind this method of tension control is similar to sonar. The ultrasonic measurement of bolt tension is achieved by introducing a sonic pulse at one end of the fastener and accurately measuring the time of flight (TOF) required for the echo to return from the opposite end. Using material constants, the UT2 converts this TOF into an "acoustic length" of the fastener, providing a baseline from which future measurements will be made. When the fastener is tightened: the TOF increases and the SSM-3 will again utilize material constants to eliminate the effects of stress and temperature variations on sound velocity, providing an accurate elongation of load measurement.

The UT2 uses state-of-the-art hardware and digital signal processing to achieve these measurements with maximum automation, minimizing the need for operator interpretation. Once measurements have been recorded to the non-volatile UT2 internal memory, the included SonicBolt software will transfer the data to a PC computer for backup of files, creation of project reports, and conversion of data to Excel format for further analysis. In addition, the analogue signal output and optional controller enables the UT2 to automatically shutoff powered torque and tensioning tools based on elongation of load, in even the most demanding applications.

Ultrasonic Stress Meter

- Large 1/4 VGA back lit display is easily visible from a distance and in poor light.
- Can store up to 4000 bolts, 20,000 elongation and load readings.
- Rugged steel and aluminum case designed for production, field and construction environments.
- USM-3 is supplied in a rugged water tight (Pelican®) case complete with AC adaptor, nylon carrying case, 10' (approx. 3m) transducer cable, RS232 data transfer cable, 4 oz bottle of couplant, batteries and operators handbook.
- Measures fasteners of virtually any material from 1/2 inch (12mm) to over 50 feet (15m) in length.
- 0 - 10V analogue output for control of tightening tools such as a Norbar Pneutorque® multiplier.
- Fast update speeds.
- Measurement modes of pitch-catch and pulse-echo.
- Unit can be operated with mains power supply (96 to 264 Volts) or via 4 'C' cell batteries.
- Sealed membrane keypad with tactile keys.
- Works with magnetic and glue on transducers from 1 MHz to 10 MHz.

Resolution: 0.00001 inch (0.0001 mm).
Weight: 2.25 Kg (4.95 lb) with batteries.
Dimensions: 7 1/16" high x 9 7/16" wide x 2 1/16" deep
180 mm high x 239 mm wide x 53 mm deep.

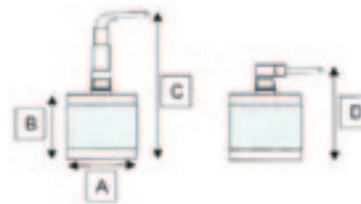
Standard Magnetic Transducers

| Transducer Diameter # | Frequency | Item No. | Dimensions (mm) | | | |
|-----------------------|-----------|----------|-----------------|----|----|----|
| | | | A | B | C* | D† |
| 3/16" (4.76 mm) | 5.0 MHz | 56016 | 9.7 | 13 | 54 | 29 |
| 3/16" (4.76 mm) | 7.5 MHz | 56017 | 9.7 | 13 | 54 | 29 |
| 3/16" (4.76 mm) | 10.0 MHz | 56018 | 9.7 | 13 | 54 | 29 |
| 1/4" (6.35 mm) | 5.0 MHz | 56009 | 19 | 19 | 60 | 35 |
| 1/4" (6.35 mm) | 10.0 MHz | 56019 | 19 | 19 | 60 | 35 |
| 1/2" (12.7 mm) | 2.25 MHz | 56011 | 25 | 19 | 60 | 35 |
| 1/2" (12.7 mm) | 5 MHz | 56010 | 25 | 19 | 60 | 35 |
| 3/4" (19.5 mm) | 1.0 MHz | 56020 | 30 | 19 | 60 | 35 |
| 3/4" (19.5 mm) | 5.0 MHz | 56012 | 30 | 19 | 60 | 35 |

This diameter refers to the nominal diameter of the piezo electric crystal. The annular magnet increases the diameter to the value of 'A' shown.

* Dimension 'C' represents the maximum clearance needed for the transducer fitted with a standard transducer cable.

† Dimension 'D' represents the maximum clearance needed for the transducer fitted with a right angle transducer lead.



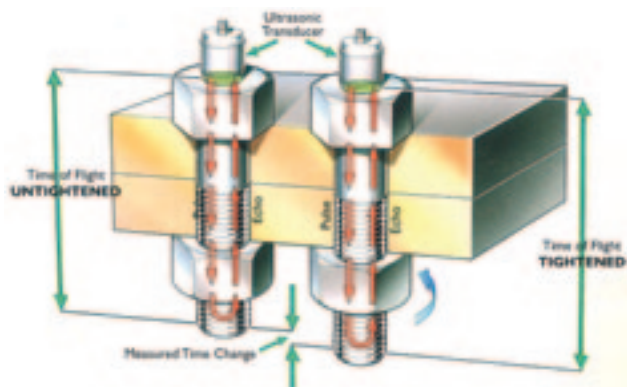
- If the use of a right angle transducer lead does not provide enough clearance then we can supply transducers with side connectors. Add '.SIDE' after the part number when ordering, eg. 56016.SIDE.
- For operating temperatures in excess of 54°C (130°F) (the rating for a standard transducer) then a high Temperature Transducer with a maximum rating of 175°C (347°F) should be used. To order High Temperature transducers add '.HITEMP' to the part when ordering, eg. 56016.HITEMP.

Glue On Transducers

| Size | Frequency | Item No. | |
|-----------|-----------|----------|------------|
| 3mm x 3mm | 7.5 MHz | 56021 | Box of 100 |

Ancillaries

| Item Code | Description |
|--------------|--|
| 60235 | 10' (approx 3m) Transducer Cable, Lemo 00 to Microdot RG174 |
| 60235.RA | 10' (approx 3m) Transducer Cable, Lemo 00 to Microdot RG174 with right angle connector |
| 60236 | 20' (approx 6m) Transducer Cable, Lemo 00 to Microdot RG174 |
| 60236.HITEMP | 20' (approx 6m) Transducer Cable, Lemo 00 to Microdot RG174 with right angle connector |
| 60235.HITEMP | 10' (approx 3m) Transducer Cable High Temperature 200°C Teflon |
| 60235.ARM | 10' (approx 3m) Transducer Cable High Temperature 200°C Teflon Armour Coated |
| 60270 | 10' (approx 3m) Transducer Cable Lemo 00 to probe for use with glue on transducers |
| 61116 | 6' RS232 (Serial Lead) Transfer Cable DB9 Male/Female |
| 39208 | UK Mains Lead (3 pin plug) |
| 39453 | Mains transformer and Flying Lead |
| 61112 | Bottle of Ultrasonic couplant (approx 0.12l) |
| 39454 | Pelican Case including Foam Insert |
| 39455 | Soft Carrying Case |
| 60271 | Digital Temperature Probe (Accuracy ±0.5%°C/±1°F) |
| 61117 | Length Bar Set 3" & 6" (76mm & 152mm) with certificate from accredited body |
| - | CD Extras - available from Website |
| - | Manual - available from Website |



Flange Spreader Wedges

Mechanical Flange Spreader Item # SW9TM

Gross kit weight 3.5 lbs (1.5 kg)

A simple, cost-effective solution to flange spreading, the mechanical flange spreader only requires an access gap of 6 mm and can exert a spreading force of 9 tons (90 kN).

The SW9TM can be used during:

- Commissioning.
- Routine maintenance.
- Testing.
- Construction.
- Shutdowns/outages.
- Valve change-outs.



Integral Hydraulic Flange Spreader Item # SW14.5TI

Gross kit weight 28.60 lbs (13.0 kg)

With an integral built-in pump and cylinder, the compact SW14.5TI is portable – ideal for use in confined spaces or when working at height. Using the unique Equalizer™ interlocking first step, this wedge incorporates the power of hydraulics in a self-contained, reliable flange spreader for use topside or subsea.

The SW14.5TI can be used during:

- Commissioning.
- Routine maintenance.
- Testing.
- Construction.
- Shutdowns/outages.
- Valve change-outs.



Hydraulic Flange Spreader Item # SW15TE

Spreading force = 15.5 T (155 kN)

This portable, robust, lightweight tool generates a smooth spreading force of 15.5 tons (155 kN) from 10,000 psi (700 bar) of hydraulic pressure to safely spread flange joints. The Equalizer™ unique interlocking first step enhances safety, giving secure holding from a small 6 mm access gap.

The mini kit includes:

- SW15TE wedgehead.
- 10,000 psi (700 bar) hydraulic cylinder.
- Safety block.
- Instruction manual.
- Cardboard packaging.
- Gross kit weight 16.5 lbs (7.5 kg).

The standard kit includes:

- SW15TE wedgehead.
- 10,000 psi (700 bar) hydraulic hose, 78.75" (2 m).
- 10,000 psi (700 bar) hydraulic cylinder.
- 10,000 psi (700 bar) HP350S sealed hand pump with gauge.
- Safety block.
- Instruction manual.
- Robust carrying case with protective foam inserts.
- Gross kit weight 37.61 lbs (17 kg).



Flange Alignment & Lifting

Boltech Mannings' family of flange alignment tools can be used during commissioning, construction, routine maintenance, shutdowns and outages, testing and valve changeouts.

Hand Alignment Tool Item # HT125KM

Tool weight 4.4 lbs (2.0 kg)

A simple solution to small, low-pressure flange misalignment.



Hydraulic Fixed Flange Item # FA6TE & Rotational Alignment Tool

Gross kit weight 61.1 lbs (28 kg)

Designed for high-pressure flanges. Offers a simple, precise solution to linear or rotational misalignment on large-diameter flanges.



Mechanical Fixed Flange & Rotational Alignment Tool Item # FA3TM

Gross kit weight 29.70 lbs (13.5 kg)

Developed as the safe, simple and cost-effective solution to fixed flange misalignment. Enhances productivity by dispensing with the need for costly cranes, troffers, slings and hooks. Designed for midrange flanges.



Hydraulic Vertical Lifting Wedge Straight Vertical Lift Item # VLW18TE

Designed to lift or lower objects in a straight vertical motion, the VLW18TE will give a safe, secure hold when lifting heavy pieces of equipment. Using the Equalizer™ interlocking first step technology, this tool will lift an object in a smooth, stable movement from an access gap of only 9.5 mm.

The safe, simple and cost-effective solution to lifting heavy equipment with minimum floor clearance.

Using 2 x VLW18TE lifting wedges will allow a lift of 36 T.



The kit includes:

- VLW18TE wedgehead.
- 10,000 psi (700 bar) hydraulic cylinder.
- Safety block.
- Stepped block.
- Hex key.
- Countersunk screw.
- Instruction manual.
- Cardboard packaging.

Did You Know

Bolttech Mannings is a world leader in the manufacture of industrial torque, tension and heat treating equipment and provider of on-site plant technical services. For over 30 years Bolttech Mannings has specialized in industrial bolting tools and services for most industries, including oil refining, petrochemical, power generation, steel, transportation and off-road vehicle service industries. We have been—and will continue to be—a dynamic company committed to engineering innovation, quality assurance, customer satisfaction, and overall process excellence. Bolttech Mannings is an American Company with headquarters located near Pittsburgh, PA. We have 16 Sales & Services Centers across the United States.

Sales & Services Locations:

Corporate Headquarters

Pittsburgh, PA

724-872-4873

| | |
|--------------------|--------------|
| Mobile, AL | 251-653-9774 |
| San Francisco, CA | 707-751-0157 |
| Los Angeles, CA | 310-604-9500 |
| Columbus, OH | 614-836-0021 |
| Port St. Lucie, FL | 772-340-7789 |
| Chicago, IL | 765-492-4753 |
| Hobart, IN | 219-947-5676 |
| Baton Rouge, LA | 225-291-0766 |
| Lake Charles, LA | 337-855-1793 |
| Dover, NJ | 973-537-1576 |
| Charlotte, NC | 704-489-2725 |
| Martins Ferry, OH | 740-633-3603 |
| Toledo, OH | 419-478-1583 |
| Philadelphia, PA | 302-376-1731 |
| Houston, TX | 281-443-7474 |
| Veracruz, Mexico | 229-130-2776 |



Bolttech Mannings, Inc. Corporate Headquarters
501 Mossie Boulevard
North Versailles, PA 15137
Tel: 724.872.4873 ■ Fax: 412.829.1834
Toll Free: 800.989.4696
E-mail: sales@bolttechmannings.com
WWW.BOLTTECHMANNINGS.COM

Products:

Hydraulic Torque Wrenches
Hydraulic Stud Tensioners
Pneumatic Torque Wrenches
Hydraulic Nut Splitters
Hydraulic Flange Spreaders
Hydraulic Nuts
Torque and Tension Pumps
Stud Removal Tools
Ultrasonic Bolt Measuring
Impact Wrenches
Variable Frequency Solid State
Induction System
75 KVA Power Sources for
On-Site Heat Treating
Flexible Ceramic Pad Heaters

Services:

Industrial Bolting
Rental Tools
Induction Bolt Heating
On-Site Tool Calibration
On-Site Machining
Boiler Weighing and Balancing
Strain Gage Analysis
Contract Manufacturing
Induction Brazing
Induction nut Heating
Turbine Warming System
On-Site Heat Treating
Automated Motor Winding Dryout System
Hydraulic Turbine Casing Closure System

For Local Sales & Service Contact:



cservice@ktecdirect.com | 800.468.5832