

PREDATOR™

By **POWER TEAM**

PREDATOR SERIES



SUPERIOR QUALITY BOLTING PRODUCTS FOR CONSTRUCTION, WINDPOWER AND OIL & GAS

PROFESSIONAL HYDRAULIC BOLTING SOLUTIONS

Power Team has sales offices and service centers throughout the world. World Headquarters is based in Rockford, Illinois USA and Customer Service Centers are based in The Netherlands, China and Singapore. Power Team can support your local, regional and global needs.

Power Team has served the global bolting industry for years by providing rugged air and electric torque wrench pumps to a large segment of the market. Now, Power Team is adding a broad line of steel body torque wrenches designed to hold up to the most demanding applications.

PREDATOR SERIES SQUARE DRIVE & LOW CLEARANCE TORQUE WRENCHES

The Predator Series of torque wrenches includes both Square Drive (capacities up to 24,700 ft. lbs./ 33,500 Nm) and Low Clearance wrenches (capacities up to 29,000 ft. lbs./ 39,000 Nm). The steel body design provides a compact tool that can be used in the most inaccessible bolting areas found in the industry. Each component on the tools has been optimized to minimize weight without sacrificing strength and durability, using steel alloy, high strength titanium and aluminum. Tools utilize a high grade nickel plated finish, making them suitable for sub-sea application in a salt water environment.

See pages 3-6 for more information on TWSD Square Drive and pages 7-10 for TWLC Low Clearance torque wrenches.

PREDATOR SERIES HYDRAULIC ELECTRIC & AIR PUMPS

Power Team has long been the market leader in high pressure hydraulic pumps due to their durability and ease of service. Now we raise the bar with our new Predator Series electric and air pumps, the first constant horsepower pump or horsepower limiting pump in the portable hydraulic pump market.

The Predator Series line of pumps, is initially available in a torque wrench configuration. What can torque wrench users expect? In a word..... **SPEED.**

See pages 11-14 for more information on PCHE electric pumps and pages 15-18 for PCHA air pumps.



TORQUE WRENCH
HYDRAULIC
SQUARE DRIVE

- **Low Weight, High Strength Design**
 Helps reduce operator fatigue. Comparable weight to aluminum body wrenches
- **Superior Torsional Strength**
 Minimal body twist eliminates the need for a mechanical pawl release
- **Fast Operation Cycle**
 Minimum 30 degrees of rotation per stroke yields up to 40% greater productivity
- **Fine Tooth Pawl**
 Promotes full tooth engagement for longer more durable tool life
- **Floating Piston Design**
 Eliminates off-center loading of the stroking piston for long durable wrench life
- **Simple Design**
 Up to 25% less parts than other wrenches
- **Accurate Torque Output**
 Torsion resistant body provides consistent torque output
- **Fully Enclosed Drive Mechanism**
 Minimizes the potential for pinch points & operator injury
- **Marathon Lifetime Warranty**
 Offers protection against defects in workmanship & material

Internal Swivel Manifold Relief
 Limits return side hydraulic pressure for greater operator safety

Rigid Steel Body Construction
 Maximum durability for reliable operation

Push to Click Reaction Arm
 Simply push-on the reaction arm & feel the "click" of full engagement

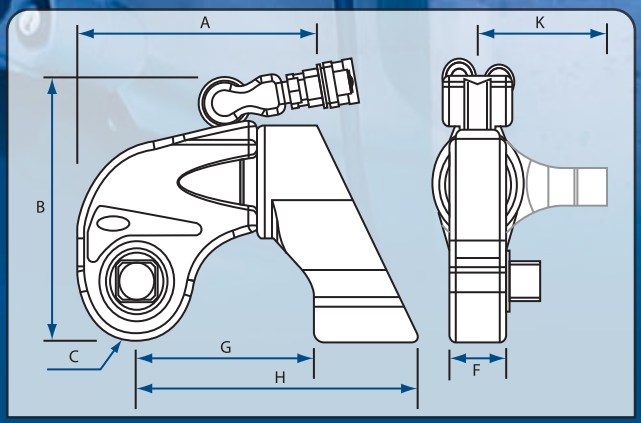
Corrosion Resistant Finish
 Suitable for sub-sea application in salt water environment

360° Reaction Arm
 Maximum application flexibility

Push Button Reversal of Square Drive
 Enables rapid tool change when tightening or loosening

Compact Frame Size
 Allows application in tight spaces

Multi-Axis High Flow Swivel Manifold



| Order No. | Torque Output | | Square Drive | | A | | B | | C | | F | | G | | H | | K | | Product Wt. | |
|---------------|---------------|--------|--------------|------|------|-----|------|-----|-----|----|-----|----|-----|-----|------|-----|-----|-----|-------------|------|
| | ft. lbs. | Nm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | lbs. | kg |
| TWSD1 | 1,390 | 1,880 | 3/4 | 19.0 | 5.5 | 139 | 5.7 | 146 | 1.1 | 29 | 1.3 | 34 | 4.4 | 112 | 6.7 | 170 | 3.4 | 87 | 5.1 | 2.3 |
| TWSD3 | 3,070 | 4,160 | 1 | 25.4 | 6.7 | 169 | 6.9 | 176 | 1.5 | 39 | 1.8 | 45 | 4.9 | 124 | 7.7 | 196 | 4.1 | 105 | 9.9 | 4.5 |
| TWSD6 | 6,020 | 8,157 | 1 1/2 | 38.1 | 7.7 | 195 | 8.1 | 206 | 1.8 | 46 | 2.0 | 51 | 5.6 | 142 | 9.3 | 237 | 5.4 | 136 | 17.4 | 7.9 |
| TWSD11 | 10,940 | 14,823 | 1 1/2 | 38.1 | 9.2 | 234 | 9.5 | 242 | 2.2 | 55 | 2.4 | 61 | 7.0 | 179 | 11.5 | 292 | 6.5 | 165 | 28.9 | 13.1 |
| TWSD25 | 24,700 | 33,496 | 2 1/2 | 63.5 | 12.0 | 306 | 12.4 | 314 | 2.8 | 72 | 3.0 | 77 | 9.1 | 231 | 14.8 | 375 | 7.9 | 200 | 65.0 | 29.5 |

See page 19 for hex drive and socket information

TORQUE WRENCH
HYDRAULIC
LOW CLEARANCE

- **Low Weight, High Strength Design**
Helps reduce operator fatigue. Comparable weight to aluminum body wrenches
- **Superior Torsional Strength**
Minimal body twist eliminates the need for a mechanical pawl release
- **Fast Operation Cycle**
Minimum 30 degrees of rotation per stroke yields up to 40% greater productivity
- **Fine Tooth Pawl**
Promotes full tooth engagement for longer more durable tool life
- **Floating Piston Design**
Eliminates off-center loading of the stroking piston for long durable wrench life
- **Auto-Connect Drive Piston**
Simply push the body & link together, advance the wrench & feel the "click" of full engagement
- **Simple Design**
Up to 25% less parts than other wrenches
- **Consistent Torque Output**
Accurate torque output over the entire range of the stroking piston
- **Marathon Lifetime Warranty**
Offers protection against defects in workmanship & material

Corrosion Resistant Finish
Suitable for sub-sea application in salt water environment

POWER TEAM

2-9/16" AF
65mm AF

Compact Frame Size
Allows application in tight spaces

Small Nose Radius
Enables application in minimal space environments

Built-in Reaction Pad

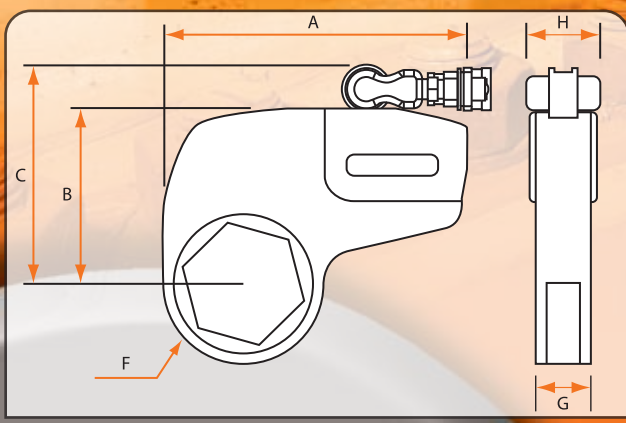
Internal Swivel Manifold Relief
Limits return side hydraulic pressure for greater operator safety

Tool Free Link Change
Enables rapid & easy link change

TILT SWIVEL

SWIVEL

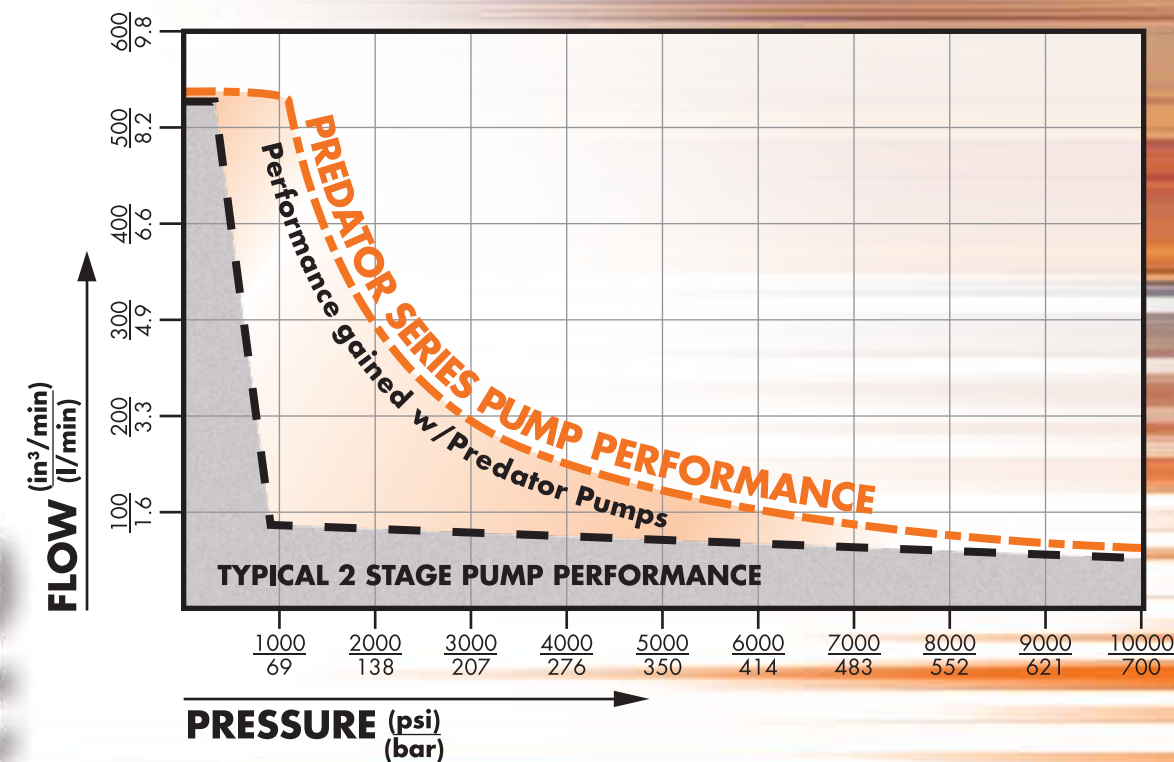
Multi-Axis High Flow Swivel Manifold



| Order No. | Torque Output | | Link Range A/F | | Length | | Height | | Height | | Radius | | Width | | Width | | Product Wt. w/link | |
|---------------|---------------|--------|--|----------|--------|-----|--------|-----|--------|-----|---|----------|-------|----|-------|-----|--------------------|------|
| | ft. lbs. | Nm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | lbs. | kg |
| TWLC2 | 1,575 | 2,134 | 1 ¹ / ₄ - 2 ³ / ₈ | 32 - 60 | 7.6 | 178 | 4.1 | 103 | 5.4 | 136 | 1 ¹ / ₄ - 1 ⁷ / ₈ | 32 - 46 | 1.3 | 32 | 1.7 | 42 | 6.2 | 2.8 |
| TWLC4 | 3,975 | 5,386 | 1 ¹ / ₂ - 3 ¹ / ₈ | 40 - 80 | 8.8 | 223 | 5.1 | 130 | 6.4 | 163 | 1 ¹ / ₂ - 2 ³ / ₈ | 37 - 59 | 1.7 | 42 | 2.0 | 52 | 12.6 | 5.7 |
| TWLC8 | 7,950 | 10,773 | 2 ³ / ₈ - 3 ⁷ / ₈ | 60 - 100 | 10.4 | 265 | 6.2 | 158 | 7.7 | 195 | 2 - 2 ⁷ / ₈ | 51 - 74 | 2.1 | 54 | 2.7 | 69 | 22.9 | 10.4 |
| TWLC15 | 14,850 | 20,221 | 2 ⁹ / ₁₆ - 4 ⁵ / ₈ | 65 - 120 | 12.0 | 306 | 7.3 | 186 | 8.8 | 223 | 2 ³ / ₈ - 2 ¹ / ₂ | 61 - 87 | 2.5 | 63 | 3.1 | 80 | 37.3 | 16.9 |
| TWLC30 | 28,800 | 39,024 | 3 ¹ / ₈ - 6 ¹ / ₈ | 80 - 155 | 15.4 | 391 | 9.4 | 239 | 10.9 | 276 | 3 - 4 ¹ / ₂ | 77 - 116 | 3.2 | 82 | 4.2 | 106 | 77.0 | 35.0 |

See page 20 for link and reducer information

TORQUE WRENCH PUMP ELECTRIC



The above chart shows the traditional two stage hydraulic pump flow curve where high flow transitions to low flow at around 700 psi. The chart also shows that the Predator Series pump has much higher flow and flow remains smooth throughout the pressure curve. Flow is continually changing based on pressure, giving the maximum horsepower and flow for that pressure. The biggest increase in flow is between 1,000 & 5,000 psi.

For tools such as torque wrenches that normally operate between 1,000 & 5,000 psi, the impact is significant – tools operate twice as fast, increasing productivity or getting the job done in much less time.

Auto-Cycle Control
One button continuous control of tightening or loosening operation

Manual Control
Option for direct control over the tightening or loosening process

Rugged Pendant
Offers safe & reliable remote operation in an ergonomic design (15 ft. standard, other lengths available)

Four Tool Manifold
Enables application of up to four torque wrenches for greater work site productivity

Calibratable Gauge
Easy to read 4" diam., 10,000 psi/700 bar glycerin filled



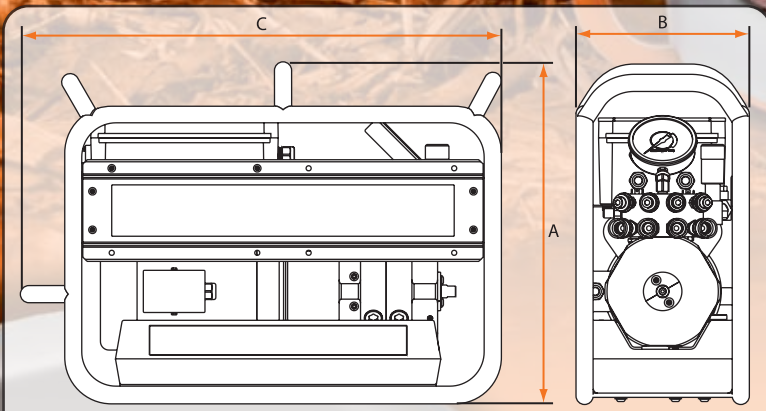
Roll Bar Design
Offers protection from damage & the ability to lift in horizontal or vertical positions

Sealed Hydraulic Reservoir
Minimizes oil contamination

Modular Pumping Cartridges
Easily replaceable cartridges minimize downtime & service costs

- **Greater Speed**
Continuously variable performance curve offers greater & more efficient flow throughout the pressure range for greater productivity
- **Quiet Operation**
Efficient, low noise design yields greater operator comfort
- **Continuous Duty Operation**
Designed for heavy-duty, extended cycle operation
- **Hydraulic Soft Start**
Enables more reliable & consistent start-up in marginal power source applications
- **Low Rated Amperage**
Up to 40% less current draw than other hydraulic pumps
- **Cooler Operation**
Continuously variable performance curve minimizes wasted energy & the need for external heat exchangers
- **External Pressure Adjustment**
Easy operator adjustment to achieve corresponding torque values
- **50 Hz Optimized Flow**
50 Hz units offer optimized flow consistent with 60 Hz units for greater performance
- **CE Compliant**
Standard on 50 Hz pumps for global applications
- **CSA & UL Compliant**
Standard on all electric pumps
- **RoHS Compliant**
Meets global environmental compliance standards
- **1,500 psi/103 Bar Return Side Relief Protection**
Standard protection for retract side of tool
- **11,600 psi/800 Bar Pump**
Available as an option
- **Marathon Lifetime Warranty**
Offers protection against defects in workmanship & material

CAUTION: This Pump should not be used for lifting applications



| Order No. | Voltage Freq. | Max. Pressure Output | RPM | dBa at Idle & 10,000 psi (700 bar) | Amp Draw @ 10,000 psi (700 bar) | Oil Delivery | | | | Reservoir Usable | A | B | C | Product Weight (w/oil) |
|---------------------|-------------------|-----------------------|-------|------------------------------------|---------------------------------|--|--|--|---------------------------------------|------------------------------|-----------------|-----------------|-----------------|------------------------|
| | | | | | | 700 psi (48 bar) | 2,500 psi (172 bar) | 5,000 psi (350 bar) | 10,000 psi (700 bar) | | Height | Width | Length | |
| PCHE60A1BA-4 | 110-120V 60 Hz | 10,000 psi 700 bar | 3,450 | 75 | 15 | 620 in. ³ /min. 9.9 L/min. | 237 in. ³ /min. 3.8 L/min. | 110 in. ³ /min. 1.8 L/min. | 60 in. ³ /min. 1 L/min. | 231 in. ³ 3.8L | 19.88" 505mm | 10.13" 257mm | 28.00" 711mm | 99 lbs. 45kg |
| PCHE60A1BB-4 | 110-120V 50 Hz | 10,000 psi 700 bar | 2,850 | 75 | 15 | 620 in. ³ /min. 9.9 L/min. | 237 in. ³ /min. 3.8 L/min. | 110 in. ³ /min. 1.8 L/min. | 60 in. ³ /min. 1 L/min. | 231 in. ³ 3.8L | 19.88" 505mm | 10.13" 257mm | 28.00" 711mm | 99 lbs. 45kg |
| PCHE60A1BC-4 | 220-240V 60 Hz | 10,000 psi 700 bar | 3,450 | 75 | 7.5 | 620 in. ³ /min. 9.9 L/min. | 237 in. ³ /min. 3.8 L/min. | 110 in. ³ /min. 1.8 L/min. | 60 in. ³ /min. 1 L/min. | 231 in. ³ 3.8L | 19.88" 505mm | 10.13" 257mm | 28.00" 711mm | 99 lbs. 45kg |
| PCHE60A1BD-4 | 220-240V 50 Hz | 10,000 psi 700 bar | 2,850 | 75 | 7.5 | 620 in. ³ /min. 9.9 L/min. | 237 in. ³ /min. 3.8 L/min. | 110 in. ³ /min. 1.8 L/min. | 60 in. ³ /min. 1 L/min. | 231 in. ³ 3.8L | 19.88" 505mm | 10.13" 257mm | 28.00" 711mm | 99 lbs. 45kg |

- **Greater Speed**
Continuously variable performance curve offers greater & more efficient flow throughout the pressure range for greater productivity
- **Continuous Duty Operation**
Designed for heavy-duty, extended cycle operation
- **Internal Freeze Protection**
Internal oil path warms exhaust air to avoid freezing while cooling hydraulic oil to achieve optimum oil temperature
- **ATEX II, CAT2, GDcT5 Compliant**
Enables application in potentially explosive environments
- **FRL Air Preparation**
Serviceable filter, regulator, lubricator ensures clean, lubricated & consistent air supply
- **External Pressure Adjustment**
Easy operator adjustment to achieve corresponding torque values
- **1,500 psi/103 Bar Return Side Relief Protection**
Standard protection for return side of tool
- **11,600 psi/800 Bar Pump**
Available as an option
- **Marathon Lifetime Warranty**
Offers protection against defects in workmanship & material

CAUTION: This Pump should not be used for lifting applications

Pneumatic Remote Control
25 ft. cord standard

Four Tool Manifold
Enables application of up to four torque wrenches for greater worksite productivity

Calibratable Gauge
Easy to read 4" diam., 10,000 psi/700 bar glycerin filled

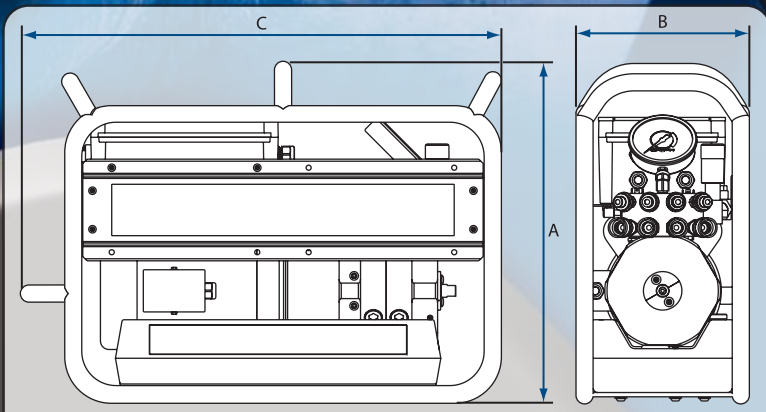
Muffled Exhaust
Protects against elevated noise to ensure operator comfort

Powerful 4 HP Air Motor
Starts under load & yields up to twice the flow of other air pumps for greater application speed

Roll Bar Design
Offers protection from damage & the ability to lift in horizontal or vertical positions

Sealed Hydraulic Reservoir
Minimizes oil contamination

Modular Pumping Cartridges
Easily replaceable pumping cartridges minimize downtime & service costs



| Order No. | Required Air Pressure | Max. Pressure Output | RPM | dBa at Idle & 10,000 psi (700 bar) | Oil Delivery | | | | Reservoir Usable | A | B | C | Product Weight (w/oil) |
|---------------|--|-----------------------|-------|------------------------------------|---|--|--|--|------------------------------|-----------------|-----------------|-----------------|------------------------|
| | | | | | 700 psi (48 bar) | 2,500 psi (172 bar) | 5,000 psi (350 bar) | 10,000 psi (700 bar) | | Height | Width | Length | |
| PCHA120A1BA-4 | 50 cfm @ 80 psi 1,4 m ³ /min @ 6 bar | 10,000 psi 700 bar | 3,000 | 75 | 1,240 in. ³ /min. 19.8 L/min. | 475 in. ³ /min. 7.6 L/min. | 220 in. ³ /min. 3.6 L/min. | 120 in. ³ /min. 2 L/min. | 231 in. ³ 3.8L | 19.88" 505mm | 10.13" 257mm | 28.00" 711mm | 80 lbs. 36.3kg |

SQUARE DRIVE TORQUE WRENCH HEX DRIVES & SOCKETS

LOW CLEARANCE TORQUE WRENCH LINKS & REDUCERS

| Torque Wrench | IMPERIAL | | METRIC | |
|---------------|-------------------------------|-----------|-----------------------------|-----------|
| | Hexagon Drive Size A/F (inch) | Part No. | Hexagon Drive Size A/F (mm) | Part No. |
| TWS1 | 5/8" | TWD1-063 | 17mm | TWD1-017 |
| | 3/4" | TWD1-075 | 19mm | TWD1-019 |
| | 7/8" | TWD1-088 | 22mm | TWD1-022 |
| | 1" | TWD1-100 | 24mm | TWD1-024 |
| | | | 27mm | TWD1-027 |
| TWS3 | 5/8" | TWD3-063 | 17mm | TWD3-017 |
| | 3/4" | TWD3-075 | 19mm | TWD3-019 |
| | 7/8" | TWD3-088 | 22mm | TWD3-022 |
| | 1" | TWD3-100 | 24mm | TWD3-024 |
| | 1-1/8" | TWD3-113 | 27mm | TWD3-027 |
| | 1-1/4" | TWD3-125 | 30mm | TWD3-030 |
| | 1-3/8" | TWD3-138 | 32mm | TWD3-032 |
| | | | | |
| TWS6 | 7/8" | TWD6-088 | 22mm | TWD6-022 |
| | 1" | TWD6-100 | 24mm | TWD6-024 |
| | 1-1/8" | TWD6-113 | 27mm | TWD6-027 |
| | 1-1/4" | TWD6-125 | 30mm | TWD6-030 |
| | 1-3/8" | TWD6-138 | 32mm | TWD6-032 |
| | 1-1/2" | TWD6-150 | 36mm | TWD6-036 |
| | 1-5/8" | TWD6-163 | 41mm | TWD6-041 |
| | | | | |
| | | | | |
| | | | | |
| TWS11 | 1-1/8" | TWD11-113 | 27mm | TWD11-027 |
| | 1-1/4" | TWD11-125 | 30mm | TWD11-030 |
| | 1-3/8" | TWD11-138 | 32mm | TWD11-032 |
| | 1-1/2" | TWD11-150 | 36mm | TWD11-036 |
| | 1-5/8" | TWD11-163 | 41mm | TWD11-041 |
| | 1-3/4" | TWD11-175 | 46mm | TWD11-046 |
| | | | | |
| TWS25 | 1-1/2" | TWD25-150 | 36mm | TWD25-036 |
| | 1-5/8" | TWD25-163 | 41mm | TWD25-041 |
| | 1-3/4" | TWD25-175 | 46mm | TWD25-046 |
| | 1-7/8" | TWD25-188 | 50mm | TWD25-050 |
| | 2" | TWD25-200 | 55mm | TWD25-055 |
| | 2-1/4" | TWD25-225 | 60mm | TWD25-060 |
| | 2-1/2" | TWD25-250 | 65mm | TWD25-065 |
| | 2-3/4" | TWD25-275 | 70mm | TWD25-070 |
| | | | | |
| | | | | |

| Socket Size Imperial | 3/4" Drive Part No. | 1" Drive Part No. | 1-1/2" Drive Part No. | 2-1/2" Drive Part No. |
|----------------------|---------------------|-------------------|-----------------------|-----------------------|
| 7/8" | TWSIA088 | TWSIB088 | - | - |
| 1 1/16" | TWSIA106 | TWSIB106 | - | - |
| 1-1/4" | TWSIA125 | TWSIB125 | - | - |
| 1-3/8" | TWSIA138 | TWSIB138 | - | - |
| 1-7/16" | TWSIA144 | TWSIB144 | - | - |
| 1-5/8" | TWSIA163 | TWSIB163 | TWSIC163 | - |
| 1-13/16" | TWSIA181 | TWSIB181 | - | - |
| 2" | TWSIA200 | TWSIB200 | TWSIC200 | - |
| 2-3/16" | TWSIA219 | TWSIB219 | TWSIC219 | - |
| 2-3/8" | TWSIA238 | TWSIB238 | TWSIC238 | - |
| 2-9/16" | - | TWSIB256 | TWSIC256 | - |
| 2-3/4" | - | TWSIB275 | TWSIC275 | - |
| 2-15/16" | - | TWSIB294 | TWSIC294 | - |
| 3-1/8" | - | TWSIB313 | TWSIC313 | TWSIF313 |
| 3 3/8" | - | TWSIB338 | TWSIC338 | TWSIF338 |
| 3-1/2" | - | TWSIB350 | TWSIC350 | TWSIF350 |
| 3 3/4" | - | TWSIB375 | TWSIC375 | TWSIF375 |
| 3-7/8" | - | TWSIB388 | - | TWSIF388 |
| 4 1/8" | - | TWSIB413 | TWSIC413 | TWSIF413 |
| 4-1/4" | - | TWSIB425 | TWSIC425 | TWSIF425 |
| 4-5/8" | - | - | TWSIC463 | TWSIF463 |
| 5" | - | - | - | TWSIF500 |
| 5-3/8" | - | - | - | TWSIF538 |
| 5-3/4" | - | - | - | TWSIF575 |
| 6-1/8" | - | - | - | TWSIF613 |

| Socket Size Metric | 3/4" Drive Part No. | 1" Drive Part No. | 1-1/2" Drive Part No. | 2-1/2" Drive Part No. |
|--------------------|---------------------|-------------------|-----------------------|-----------------------|
| 22mm | TWSMA022 | TWSMB022 | - | - |
| 24mm | TWSMA024 | TWSMB024 | - | - |
| 32mm | TWSMA032 | TWSMB032 | - | - |
| 36mm | TWSMA036 | TWSMB036 | - | - |
| 41mm | TWSMA041 | TWSMB041 | TWSMC041 | - |
| 46mm | TWSMA046 | TWSMB046 | - | - |
| 50mm | TWSMA050 | TWSMB050 | - | - |
| 55mm | - | TWSMB055 | - | - |
| 60mm | - | TWSMB060 | TWSMC060 | - |
| 65mm | - | TWSMB065 | TWSMC065 | - |
| 70mm | - | TWSMB070 | TWSMC070 | - |
| 75mm | - | - | TWSMC075 | - |
| 80mm | - | TWSMB080 | TWSMC080 | TWSMF080 |
| 85mm | - | TWSMB085 | TWSMC085 | TWSMF085 |
| 90mm | - | TWSMB090 | TWSMC090 | TWSMF090 |
| 95mm | - | TWSMB095 | TWSMC095 | TWSMF095 |
| 100mm | - | TWSMB100 | - | TWSMF100 |
| 110mm | - | TWSMB110 | TWSMC110 | TWSMF110 |
| 115mm | - | - | TWSMC115 | TWSMF115 |
| 120mm | - | - | TWSMC120 | - |
| 135mm | - | - | - | TWSMF135 |
| 150mm | - | - | - | TWSMF150 |



| Tool | Link Part No. | Nut A/F | | Reducer mm | Part No. | inch | Reducer mm | Part No. | inch | Reducer mm | Part No. | | |
|-----------|---------------|-----------|----------|-----------------|-----------------|--------------|------------------|------------------|--------------|-----------------|-----------------|--------------|--------------|
| | | inch | mm | | | | | | | | | | |
| TWLC2 | TWL2-032 | 1-1/4" | 32 | - | - | - | - | - | - | - | - | | |
| | TWL2-036 | 1-7/16" | 36 | - | - | - | - | - | - | - | - | | |
| | TWL2-041 | 1-5/8" | 41 | 1-5/8"-1-7/16" | 41-36mm | TWR2-041036 | 1-5/8"-1-1/4" | 41-32mm | TWR2-041032 | - | - | | |
| | TWL2-046 | 1-13/16" | 46 | 1-13/16"-1-5/8" | 46-41mm | TWR2-046041 | 1-13/16"-1-7/16" | 46-36mm | TWR2-046036 | 1-13/16"-1-1/4" | 46-32mm | TWR2-046032 | |
| | TWL2-050 | 2" | 50 | 2"-1-13/16" | 50-46mm | TWR2-050046 | 2"-1-5/8" | 50-41mm | TWR2-050041 | 2"-1-7/16" | 50-36mm | TWR2-050036 | |
| | TWL2-055 | 2-3/16" | 55 | 2-3/16"-2" | 55-50mm | TWR2-055050 | 2-3/16"-1-13/16" | 55-46mm | TWR2-055046 | 2-3/16"-1-5/8" | 55-41mm | TWR2-055041 | |
| | TWL2-060 | 2-3/8" | 60 | 2-3/8"-2-3/16" | 60-55mm | TWR2-060055 | 2-3/8"-2" | 60-50mm | TWR2-060050 | 2-3/8"-1-13/16" | 60-46mm | TWR2-060046 | |
| | TWLC4 | TWL4-041 | 1-5/8" | 41 | 1-5/8"-1-7/16" | 41-36mm | TWR4-041036 | 1-5/8"-1-1/4" | 41-32mm | TWR4-041032 | - | - | |
| | | TWL4-046 | 1-13/16" | 46 | 1-13/16"-1-5/8" | 46-41mm | TWR4-046041 | 1-13/16"-1-7/16" | 46-36mm | TWR4-046036 | 1-13/16"-1-1/4" | 46-32mm | TWR4-046032 |
| | | TWL4-050 | 2" | 50 | 2"-1-13/16" | 50-46mm | TWR4-050046 | 2"-1-5/8" | 50-41mm | TWR4-050041 | 2"-1-7/16" | 50-36mm | TWR4-050036 |
| TWL4-055 | | 2-3/16" | 55 | 2-3/16"-2" | 55-50mm | TWR4-055050 | 2-3/16"-1-13/16" | 55-46mm | TWR4-055046 | 2-3/16"-1-5/8" | 55-41mm | TWR4-055041 | |
| TWL4-060 | | 2-3/8" | 60 | 2-3/8"-2-3/16" | 60-55mm | TWR4-060055 | 2-3/8"-2" | 60-50mm | TWR4-060050 | 2-3/8"-1-13/16" | 60-46mm | TWR4-060046 | |
| TWL4-065 | | 2-9/16" | 65 | 2-9/16"-2-3/8" | 65-60mm | TWR4-065060 | 2-9/16"-2-3/16" | 65-55mm | TWR4-065055 | 2-9/16"-2" | 65-50mm | TWR4-065050 | |
| TWL4-070 | | 2-3/4" | 70 | 2-3/4"-2-9/16" | 70-65mm | TWR4-070065 | 2-3/4"-2-3/8" | 70-60mm | TWR4-070060 | 2-3/4"-2-3/16" | 70-55mm | TWR4-070055 | |
| TWL4-075 | | 2-15/16" | 75 | 2-15/16"-2-3/4" | 75-70mm | TWR4-075070 | 2-15/16"-2-9/16" | 75-65mm | TWR4-075065 | 2-15/16"-2-3/8" | 75-60mm | TWR4-075060 | |
| TWL4-080 | | 3-1/8" | 80 | 3-1/8"-2-15/16" | 80-75mm | TWR4-080075 | 3-1/8"-2-3/4" | 80-70mm | TWR4-080070 | 3-1/8"-2-9/16" | 80-65mm | TWR4-080065 | |
| TWLC8 | | TWL8-060 | 2-3/8" | 60 | 2-3/8"-2-3/16" | 60-55mm | TWR8-060055 | 2-3/8"-2" | 60-50mm | TWR8-060050 | 2-3/8"-1-13/16" | 60-46mm | TWR8-060046 |
| | TWL8-065 | 2-9/16" | 65 | 2-9/16"-2-3/8" | 65-60mm | TWR8-065060 | 2-9/16"-2-3/16" | 65-55mm | TWR8-065055 | 2-9/16"-2" | 65-50mm | TWR8-065050 | |
| | TWL8-070 | 2-3/4" | 70 | 2-3/4"-2-9/16" | 70-65mm | TWR8-070065 | 2-3/4"-2-3/8" | 70-60mm | TWR8-070060 | 2-3/4"-2-3/16" | 70-55mm | TWR8-070055 | |
| | TWL8-075 | 2-15/16" | 75 | 2-15/16"-2-3/4" | 75-70mm | TWR8-075070 | 2-15/16"-2-9/16" | 75-65mm | TWR8-075065 | 2-15/16"-2-3/8" | 75-60mm | TWR8-075060 | |
| | TWL8-080 | 3-1/8" | 80 | 3-1/8"-2-15/16" | 80-75mm | TWR8-080075 | 3-1/8"-2-3/4" | 80-70mm | TWR8-080070 | 3-1/8"-2-9/16" | 80-65mm | TWR8-080065 | |
| | TWL8-085 | 3-3/8" | 85 | 3-3/8"-3-1/8" | 85-80mm | TWR8-085080 | 3-3/8"-2-15/16" | 85-65mm | TWR8-085065 | 3-3/8"-2-3/4" | 85-70mm | TWR8-085070 | |
| | TWL8-090 | 3-1/2" | 90 | 3-1/2"-3-3/8" | 90-85mm | TWR8-090085 | 3-1/2"-3-1/8" | 90-80mm | TWR8-090080 | 3-1/2"-2-15/16" | 90-75mm | TWR8-090075 | |
| | TWL8-095 | 3-3/4" | 95 | 3-3/4"-3-1/2" | 95-90mm | TWR8-095090 | 3-3/4"-3-3/8" | 95-85mm | TWR8-095085 | 3-3/4"-3-1/8" | 95-80mm | TWR8-095080 | |
| | TWL8-100 | 3-7/8" | 100 | 3-7/8"-3-3/4" | 100-95mm | TWR8-100095 | 3-7/8"-3-1/2" | 100-90mm | TWR8-100090 | 3-7/8"-3-3/8" | 100-85mm | TWR8-100085 | |
| | TWLC15 | TWL15-070 | 2-3/4" | 70 | 2-3/4"-2-9/16" | 70-65mm | TWR15-070065 | 2-3/4"-2-3/8" | 70-60mm | TWR15-070060 | 2-3/4"-2-3/16" | 70-55mm | TWR15-070055 |
| TWL15-075 | | 2-15/16" | 75 | 2-15/16"-2-3/4" | 75-70mm | TWR15-075070 | 2-15/16"-2-9/16" | 75-65mm | TWR15-075065 | 2-15/16"-2-3/8" | 75-60mm | TWR15-075060 | |
| TWL15-080 | | 3-1/8" | 80 | 3-1/8"-2-15/16" | 80-75mm | TWR15-080075 | 3-1/8"-2-3/4" | 80-70mm | TWR15-080070 | 3-1/8"-2-9/16" | 80-65mm | TWR15-080065 | |
| TWL15-085 | | 3-3/8" | 85 | 3-3/8"-3-1/8" | 85-80mm | TWR15-085080 | 3-3/8"-2-15/16" | 85-65mm | TWR15-085065 | 3-3/8"-2-3/4" | 85-70mm | TWR15-085070 | |
| TWL15-090 | | 3-1/2" | 90 | 3-1/2"-3-3/8" | 90-85mm | TWR15-090085 | 3-1/2"-3-1/8" | 90-80mm | TWR15-090080 | 3-1/2"-2-15/16" | 90-75mm | TWR15-090075 | |
| TWL15-095 | | 3-3/4" | 95 | 3-3/4"-3-1/2" | 95-90mm | TWR15-095090 | 3-3/4"-3-3/8" | 95-85mm | TWR15-095085 | 3-3/4"-3-1/8" | 95-80mm | TWR15-095080 | |
| TWL15-100 | | 3-7/8" | 100 | 3-7/8"-3-3/4" | 100-95mm | TWR15-100095 | 3-7/8"-3-1/2" | 100-90mm | TWR15-100090 | 3-7/8"-3-3/8" | 100-85mm | TWR15-100085 | |
| TWL15-105 | | - | 105 | - | 105-100mm | TWR15-105100 | - | 105-95mm | TWR15-105095 | - | 105-90mm | TWR15-105090 | |
| TWL15-425 | | 4-1/4" | - | 4-1/4"-3-7/8" | - | TWR15-425388 | 4-1/4"-3-3/4" | - | TWR15-425375 | 4-1/4"-3-1/2" | - | TWR15-425350 | |
| TWL15-110 | | - | 110 | - | 110-105mm | TWR15-110105 | - | 110-100mm | TWR15-110010 | - | 110-95mm | TWR15-110095 | |
| TWL15-115 | | - | 115 | - | 115-110mm | TWR15-115110 | - | 115-105mm | TWR15-115105 | - | 115-100mm | TWR15-115100 | |
| TWL15-463 | | 4-5/8" | - | 4-5/8"-4-1/4" | - | TWR15-463425 | 4-5/8"-3-7/8" | - | TWR15-463388 | 4-5/8"-3-3/4" | - | TWR15-463375 | |
| TWLC30 | | TWL30-080 | 3-1/8" | 80 | 3-1/8"-2-15/16" | 80-75mm | TWR30-080075 | 3-1/8"-2-3/4" | 80-70mm | TWR30-080070 | 3-1/8"-2-9/16" | 80-65mm | TWR30-080065 |
| | | TWL30-085 | 3-3/8" | 85 | 3-3/8"-3-1/8" | 85-80mm | TWR30-085080 | 3-3/8"-2-15/16" | 85-65mm | TWR30-085065 | 3-3/8"-2-3/4" | 85-70mm | TWR30-085070 |
| | | TWL30-090 | 3-1/2" | 90 | 3-1/2"-3-3/8" | 90-85mm | TWR30-090085 | 3-1/2"-3-1/8" | 90-80mm | TWR30-090080 | 3-1/2"-2-15/16" | 90-75mm | TWR30-090075 |
| | TWL30-095 | 3-3/4" | 95 | 3-3/4"-3-1/2" | 95-90mm | TWR30-095090 | 3-3/4"-3-3/8" | 95-85mm | TWR30-095085 | 3-3/4"-3-1/8" | 95-80mm | TWR30-095080 | |
| | TWL30-100 | 3-7/8" | 100 | 3-7/8"-3-3/4" | 100-95mm | TWR30-100095 | 3-7/8"-3-1/2" | 100-90mm | TWR30-100090 | 3-7/8"-3-3/8" | 100-85mm | TWR30-100085 | |
| | TWL30-105 | - | 105 | - | 105-100mm | TWR30-105100 | - | 105-95mm | TWR30-105095 | - | 105-90mm | TWR30-105090 | |
| | TWL30-425 | 4-1/4" | - | | | | | | | | | | |

TORQUE TO TOOL TORQUE WRENCH SELECTION GUIDE

additional POWER TEAM HYDRAULIC BOLTING PRODUCTS

| BOLT DIAMETER | | | | TORQUE | | RECOMMENDED MODELS | | | |
|-------------------------------|-------------------------------|--------------------------------|------------------------------|----------|-------|----------------------------|-----------------------------|------------------------------|-------------------------------|
| ASTM A193 B7 52,500 psi | ASTM A354 BD 60,000 psi | ASTM A193 B7M 40,000 psi | SSO 898 8.8 45,000 psi | Ft. Lbs. | Nm | Square Drive Make-up | Low Clearance Make-up | Square Drive Break Out | Low Clearance Break Out |
| 3/4" | | 3/4" | M20 | 150 | 200 | TWSD1 | TWLC2 | TWSD1 | TWLC2 |
| | 3/4" | 7/8" | | 180 | 240 | TWSD1 | TWLC2 | TWSD1 | TWLC2 |
| | | | | 200 | 267 | TWSD1 | TWLC2 | TWSD1 | TWLC2 |
| | | | | 250 | 334 | TWSD1 | TWLC2 | TWSD1 | TWLC2 |
| 7/8" | | 1" | M24 | 300 | 401 | TWSD1 | TWLC2 | TWSD1 | TWLC2 |
| | 7/8" | | | 350 | 468 | TWSD1 | TWLC2 | TWSD1 | TWLC2 |
| | | | M27 | 400 | 534 | TWSD1 | TWLC2 | TWSD1 | TWLC2 |
| | | | | 450 | 601 | TWSD1 | TWLC2 | TWSD1 | TWLC2 |
| | 1" | 1-1/8" | | 500 | 668 | TWSD1 | TWLC2 | TWSD1 | TWLC2 |
| 1-1/8" | | | M30 | 550 | 735 | TWSD1 | TWLC2 | TWSD1 | TWLC2 |
| | 1-1/8" | 1-1/4" | | 650 | 868 | TWSD1 | TWLC2 | TWSD1 | TWLC2 |
| 1-1/4" | | 1-3/8" | M33 | 700 | 935 | TWSD1 | TWLC2 | TWSD3 | TWLC2 |
| | 1-1/4" | | | 900 | 1202 | TWSD1 | TWLC2 | TWSD3 | TWLC4 |
| 1-3/8" | | 1-1/2" | M39 | 1200 | 1603 | TWSD3 | TWLC2 | TWSD3 | TWLC4 |
| | 1-3/8" | | | 1400 | 1870 | TWSD3 | TWLC2 | TWSD3 | TWLC4 |
| | | | M42 | 1550 | 2070 | TWSD3 | TWLC4 | TWSD3 | TWLC4 |
| 1-1/2" | | 1-5/8" | | 1600 | 2137 | TWSD3 | TWLC4 | TWSD6 | TWLC4 |
| | 1-1/2" | | | 1800 | 2404 | TWSD3 | TWLC4 | TWSD6 | TWLC4 |
| 1-5/8" | | 1-3/4" | M45 | 2000 | 2672 | TWSD3 | TWLC4 | TWSD6 | TWLC4 |
| | 1-5/8" | 1-7/8" | M48 | 2400 | 3206 | TWSD3 | TWLC4 | TWSD6 | TWLC8 |
| 1-3/4" | | 2" | | 2600 | 3473 | TWSD3 | TWLC4 | TWSD6 | TWLC8 |
| | 1-3/4" | | M52 | 3000 | 4007 | TWSD6 | TWLC4 | TWSD6 | TWLC8 |
| 1-7/8" | | | | 3200 | 4275 | TWSD6 | TWLC4 | TWSD11 | TWLC8 |
| | 1-7/8" | | M56 | 3700 | 4942 | TWSD6 | TWLC4 | TWSD11 | TWLC8 |
| | | | | 4000 | 5343 | TWSD6 | TWLC8 | TWSD11 | TWLC8 |
| | 2" | 2-1/4" | | 4400 | 5878 | TWSD6 | TWLC8 | TWSD11 | TWLC15 |
| 2-1/4" | | 2-1/2" | M64 | 5800 | 7748 | TWSD11 | TWLC8 | TWSD11 | TWLC15 |
| | 2-1/4" | | M68 | 6500 | 8683 | TWSD11 | TWLC8 | TWSD25 | TWLC15 |
| 2-1/2" | | 2-3/4" | M72 | 8000 | 10686 | TWSD11 | TWLC15 | TWSD25 | TWLC15 |
| | 2-1/2" | | M76 | 9000 | 12022 | TWSD11 | TWLC15 | TWSD25 | TWLC30 |
| 2-3/4" | | 3" | M80 | 10500 | 14026 | TWSD25 | TWLC15 | TWSD25 | TWLC30 |
| | 2-3/4" | | | 12000 | 16030 | TWSD25 | TWLC15 | TWSD25 | TWLC30 |
| 3" | | 3-1/4" | M85 | 13500 | 18033 | TWSD25 | TWLC15 | TWSD25 | TWLC30 |
| | 3" | | | 15500 | 20705 | TWSD25 | TWLC30 | * | TWLC30 |
| | | | M90 | 16500 | 22041 | TWSD25 | TWLC30 | * | TWLC30 |
| 3-1/4" | | 3-1/2" | | 17500 | 23377 | TWSD25 | TWLC30 | * | * |
| | | | M95 | 19000 | 25380 | TWSD25 | TWLC30 | * | * |
| | 3-1/4" | 3-3/4" | | 20000 | 26716 | TWSD25 | TWLC30 | * | * |
| 3-1/2" | | 4" | M100 | 22000 | 29388 | TWSD25 | TWLC30 | * | * |
| | 3-1/2" | | M105 | 25000 | 33395 | * | TWLC30 | * | * |
| 3-3/4" | | | | 27000 | 36067 | * | TWLC30 | * | * |

* For higher torque values please inquire
Torque values are approximate and based upon the bolt threads, nut contact face and nut threads coated with a thread lubricant of co-efficient of friction 0.13



| | |
|-------|---|
| TWH15 | 15' (4.6m), 1/4" (6.4mm), ID non-conductive hose |
| TWH20 | 20' (6.1m), 1/4" (6.4mm), ID non-conductive hose |
| TWH50 | 50' (15.2m), 1/4" (6.4mm), ID non-conductive hose |



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