

Enerpac's Bolting Solutions caters to the complete bolting work-flow, ensuring joint integrity in a variety of applications throughout industry:

#### Joint Assembly

From simple pipe alignment to complex joint positioning of large structural assemblies, our comprehensive line of joint assembly products range from hydraulic and mechanical alignment tools to PLC-controlled multi-point positioning systems.

#### Controlled Tightening

Enerpac offers a variety of controlled tightening options to best meet the requirements of your application, ranging from manual torque multipliers, to pneumatic torque wrenches, as well as a comprehensive range of hydraulic torque wrenches and inter-connectable bolt tensioning tools.

#### Joint Separation

Enerpac also provides hydraulic nut splitters and a variety of mechanical and hydraulic spreading tools for joint separation during inspection, maintenance and decommissioning operations.

High-quality bolting solutions from the brand you can trust. See how Enerpac can make your bolting work-flow more accurate, safer and efficient.



#### Bolting Integrity Software

Visit [www.enerpac.com](http://www.enerpac.com) to access our free on-line bolting software application and obtain information on tool selection, bolt load calculations and tool pressure settings. A combined application data sheet and joint completion report is also available.



#### Torque Tightening
















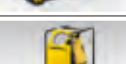






See our "Yellow Pages" for information on torque tightening.

Page: 286



All information in this catalog can be changed due to product improvements without prior notice.

# Bolting Tools and Pumps Section Overview

|                                      | Capacity                     | Tool Type and Functions   | Series       |   | Page           |
|--------------------------------------|------------------------------|---|--------------|---|----------------|
| Controlled Tightening and Loosening  | 750-8000 Ft.lbs              | Manual Torque Multipliers   | E            |    | 204 ►          |
|                                      | 1400-26,150 Ft.lbs           | Square Drive Hydraulic Torque Wrenches-Steel                                    | S            |    | 206 ►          |
|                                      | ¾ – 6⅞ inches<br>19 - 155 mm | Heavy-duty Impact Sockets<br>Square Drive                                       | BSH          |    | 210 ►          |
|                                      | 2000-35,000 Ft.lbs           | Low Profile Hydraulic Torque Wrenches-Steel<br>UltraSlim Stepped-Width Cassette | W<br>W-SL    |    | 212 ►<br>222 ► |
|                                      | 4250 Ft-lbs                  | Roller Cassette Torque Wrench   | WCR          |    | 224 ►          |
|                                      | 6000 Ft-lbs                  | Pneumatic Torque Wrench   | PTW          |    | 226 ►          |
|                                      | 6000 Ft-lbs                  | Electric Torque Wrench  | ETW          |    | 228 ►          |
|                                      |                              | Selection Matrix<br>Torque Wrenches - Pumps - Hoses                             |              |    | 232 ►          |
|                                      | Flow<br>20 in³/min.          | Portable Electric Torque Wrench Pumps   | PMU<br>PME   |    | 233 ►          |
|                                      | Flow<br>60-120 in³/min.      | Electric Torque Wrench Pumps  | TQ           |    | 234 ►          |
|                                      | Flow<br>60-120 in³/min.      | Electric Torque Wrench Pumps  | ZU4T         |   | 236 ►          |
|                                      | Flow<br>60-120 in³/min.      | Electric Torque Wrench Pumps  | ZE4T<br>ZE5T |  | 240 ►          |
|                                      | Flow<br>60 in³/min.          | Air Driven Torque Wrench Pump   | ZA4T         |  | 242 ►          |
|                                      |                              | Tensioning Tools  |              |   |                |
|                                      |                              | Hydraulic Bolt Tensioners   | GT           |  | 246 ►          |
|                                      |                              | High-Pressure Hand Pump   | HPT          |  | 248 ►          |
|                                      | Flow<br>8-20 in³/min.        | Electric Tensioning Pumps   | ZUTP         |  | 249 ►          |
|                                      | Flow<br>4 in³/min.           | High Pressure Air Pump  | ATP          |  | 250 ►          |
| Joint Assembly /<br>Joint Separation | ½ - 2⅞ A/F<br>2¾ - 5⅜ A/F    | Hydraulic Nut Cutters<br>Hydraulic Nut Splitters                                | NC<br>NS     |  | 251 ►          |
|                                      | 5-10 tons                    | Pin-type Hydraulic Flange Spreaders   | FS           |  | 254 ►          |
|                                      | 8-14 tons                    | Step-type Industrial Spreader   | FSM/<br>FSH  |  | 255 ►          |
|                                      | 0.3-5.0 tons                 | Flange Alignment Tools  | ATM          |  | 256 ►          |
|                                      | 1-12 in. flange              | Mechanical Flange Face Tool   | FF           |  | 258 ►          |

▼ Shown from left to right: E291, E393, E494



## Accurate, Efficient Torque Multiplication

When accurate make-up or break-out of stubborn fasteners requires high torque

- High-efficiency planetary gear sets achieve high output torque from low input torque
- Most models operator protected by anti-backlash device
- Multiplier output accuracy  $\pm 5\%$  of input torque
- Reversible, tighten or loosen bolts
- Reaction bar or reaction plate type
- Angle-of-turn protractor standard on E300 series models
- Reaction plate models offer increased versatility with reaction point locations
- E300 and E400 series replaceable shear drives provide overload protection of internal power train (one replacement shear drive is included)



### Typical Torque Multiplier Applications

- Locomotives
- Power plants
- Pulp and paper mills
- Refineries
- Chemical plants
- Mining and construction
- Off-road equipment
- Shipyards
- Cranes

### ▼ SELECTION CHART

| Torque Multiplier Type    | Nominal Output Torque Capacity |       | Model Number |
|---------------------------|--------------------------------|-------|--------------|
|                           | (Ft.lbs)                       | (Nm)  |              |
| Reaction Bar Multiplier   | 750                            | 1015  | E290PLUS     |
|                           | 1000                           | 1355  | E291         |
|                           | 1200                           | 1625  | E391         |
|                           | 2200                           | 2980  | E392         |
|                           | 3200                           | 4340  | E393         |
| Reaction Plate Multiplier | 2200                           | 2980  | E492         |
|                           | 3200                           | 4340  | E493         |
|                           | 5000                           | 6780  | E494         |
|                           | 8000                           | 10845 | E495         |



◀ Enerpac Reaction Bar Torque Multiplier E393 used to manually torque bolts up to 3,200 ft-lbs.



## Manual Torque Multipliers

Enerpac manual torque multipliers provide efficient torque multiplication in wide clearance applications and when external power sources are not available.

Manual torque multipliers are used in most industrial, construction, and equipment maintenance applications. Hydraulic torque wrenches are better suited for tight tolerance, flange and repetitious bolting applications.

## Use Reaction Bar Models:

- where space is limited
- where multiple reaction points are available
- when portability is desirable

## Use Reaction Plate Models:

- above 3200 Ft.-lbs. output torque
- on flanges and applications where neighboring bolt or nut is available to react against
- when extreme reaction forces are generated

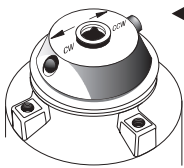
## E Series



Nominal Output Torque:  
**750-8000 Ft.lbs**

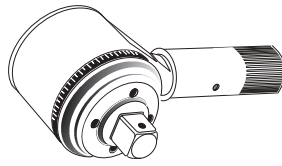
Torque Ratio:  
**3:1-52:1**

Multiplier Output Ratio Accuracy:  
**± 5 %**



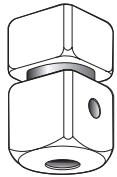
### Selector Pawl

Models with anti-backlash protection have directional selector pawls. Set the pawl for clockwise or counter-clockwise rotation.



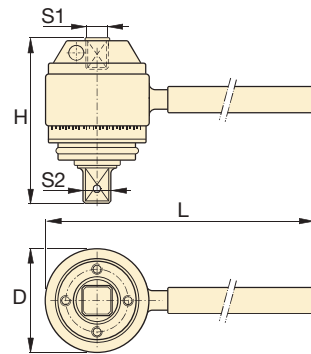
### Angle-of-Turn Protractor

E391, E392 and E393 models include an angle-of-turn protractor (scale) to tighten fasteners using a "torque turn" method. Allows accurate measuring a specific number of degrees of rotation.

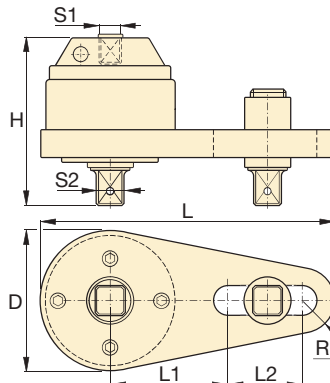


### Shearable Square Drive

Designed to provide overload protection on E300- and E400-series multiplier power train by shearing when excess input torque is applied. Internal shear pin prevents tool from falling off bolt.



Reaction Bar Type <sup>1)</sup>



Reaction Plate Type <sup>1)</sup>



### CAUTION!

Never use impact type air tools for power driving torque multipliers. Torque multiplier drive train damage will occur.



### Hydraulic Torque Wrenches

Enerpac offers a complete range of square drive and hexagon cassette torque wrenches.

Page: 206



### BSH-Series Sockets

Heavy-Duty Impact Sockets for power driven torquing equipment.

Page: 210

| Input Torque |      | Torque Ratio | Input Female Square Drive | Output Male Square Drive |  | Over-load Protection | Anti-Back-lash | Dimensions (in) |      |      |     |     |     | Wt. (lbs) | Model Number |
|--------------|------|--------------|---------------------------|--------------------------|--|----------------------|----------------|-----------------|------|------|-----|-----|-----|-----------|--------------|
| (Ft.lbs)     | (Nm) |              |                           | S1 (in)                  | S2 (in)<br>Replaceable Shear Drive Model No. |                      |                | D               | H    | L    | L1  | L2  | R   |           |              |
| 250          | 338  | 3 : 1        | 1/2                       | 3/4                      | —  | No                   | No             | 2.8             | 3.3  | 8.6  | —   | —   | —   | 4.0       | E290PLUS     |
| 333          | 451  | 3 : 1        | 1/2                       | 3/4                      | —  | No                   | No             | 2.8             | 3.3  | 17.4 | —   | —   | —   | 5.5       | E291         |
| 200          | 271  | 6 : 1        | 1/2                       | 3/4                      | E391SDK                                      | Yes                  | No             | 3.9             | 4.0  | 19.6 | —   | —   | —   | 13.8      | E391         |
| 162          | 219  | 13.6 : 1     | 1/2                       | 1                        | E392SDK                                      | Yes                  | Yes            | 4.1             | 5.7  | 19.6 | —   | —   | —   | 18.3      | E392         |
| 173          | 234  | 18.5 : 1     | 1/2                       | 1                        | E393SDK                                      | Yes                  | Yes            | 4.1             | 6.5  | 19.6 | —   | —   | —   | 15.2      | E393         |
| 162          | 219  | 13.6 : 1     | 1/2                       | 1                        | E392SDK                                      | Yes                  | Yes            | 4.9             | 5.5  | 14.0 | 5.5 | 4.9 | 1.3 | 17.2      | E492         |
| 173          | 234  | 18.5 : 1     | 1/2                       | 1                        | E393SDK                                      | Yes                  | Yes            | 4.9             | 6.4  | 14.0 | 5.5 | 4.9 | 1.3 | 23.4      | E493         |
| 189          | 256  | 26.5 : 1     | 1/2                       | 1 1/2                    | E494SDK                                      | Yes                  | Yes            | 5.6             | 8.7  | 14.9 | 7.0 | 3.5 | 1.7 | 34.0      | E494         |
| 154          | 208  | 52 : 1       | 1/2                       | 1 1/2                    | E495SDK                                      | Yes                  | Yes            | 5.8             | 10.7 | 15.2 | 7.0 | 3.5 | 1.9 | 50.3      | E495         |

<sup>1)</sup> E200 and E400-series do not have an Angle-of-Turn Protractor (scale).

User must verify manual torque wrench accuracy prior to use to ensure accurate final output torque.



▼ Shown: S3000X



## Setting New Standards in Safety, Simplicity and Performance



### Two Handle Styles

Robust angled positioning handles come standard with every S-Series (X-Edition) tool. Straight positioning handles are available as accessories.

| Compatible S-Series (X-Edition) wrenches | Angled positioning handles (standard)     | Straight positioning handles (optional) |
|--|---|---|
| S1500X, S3000X                           | SWH6A                                     | SWH6S                                   |
| S6000X, S11000X                          | SWH10A                                    | SWH10S                                  |
| S25000X                                  | Supplied with an eyebolt handle (SWH10EA) |   |

### Safety and Performance

- Compact, high-strength uni-body construction provides a small operating radius without sacrificing endurance
- 35° rotation angle and rapid return stroke for fast operation
- Tough manifold design with added safety feature for enhanced operator safety

### Simplicity

- 360° click-on reaction arm with quick release lever provides easier handling, even when wearing gloves
- Includes robust handle which mounts on both sides of tool for extra maneuverability
- Push button square drive release for quickly reversing the square drive for tightening or loosening

### Versatility

- Available with optional enhanced tilt and swivel TSP300 manifold for horizontal and vertical maneuverability, with greater durability\*

### Accuracy

- Constant torque output provides accuracy of +/-3% across full stroke
- Optional Angle-of-Turn Indicator provides measurement of rotation

\* TSP300 is designed for X-Edition tools only, and is not compatible with standard edition tools. For replacement components for existing tools, refer to repair sheet on [www.enerpac.com](http://www.enerpac.com)



### TSP - Pro Series Swivel

The optional TSP300 tilt and swivel manifold with robust interlocking design provides 360° X-axis rotation and 160° Y-axis rotation.

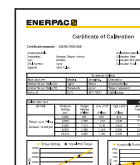
### How to Order\*

Factory fitted to S-Series (X-Edition) wrenches: Insert a "P" prior to the "X" in the tool designation, e.g.: **S1500PX**.

Order as an accessory using the part number: **TSP300**, which can be fitted to existing S-Series (X-Edition) wrenches.

\*Includes male and female couplers.

Page: 209

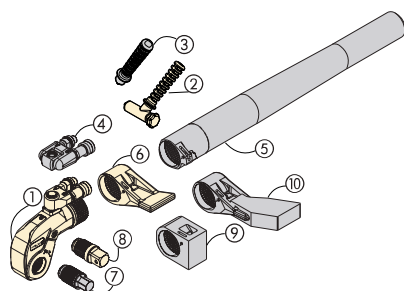


### Calibration Certificate

All X-Edition tools are CE-ATEX declared, factory calibrated and are shipped complete with a calibration certificate.

CE  II 2 GD ck T4  
CSA/SIRA 15XT072

# S-Series, X-Edition, Square Drive Torque Wrenches



- ① Drive Unit
- ② Angled Positioning Handle
- ③ Straight Positioning Handle (optional)
- ④ Pro Series Swivel (optional)
- ⑤ Reaction Tube Extension (optional)
- ⑥ Standard Reaction Arm
- ⑦ Allen Drive (optional)
- ⑧ Square Drive
- ⑨ Short Reaction Arm (optional)
- ⑩ Extended Reaction Arm (optional)



**Select the Right Torque**  
Choose your Enerpac Torque Wrench using the untightening rule of thumb: Loosening torque equals about 250% of tightening torque.

## S Series (X-Edition)



Nominal Torque at 10,000 psi:

**26,150 Ft.lbs**

Square Drive Range:

**3/4-2 1/2 inch**

Nose Radius:

**.98-2.52 inch**

Maximum Operating Pressure:

**10,000 psi**

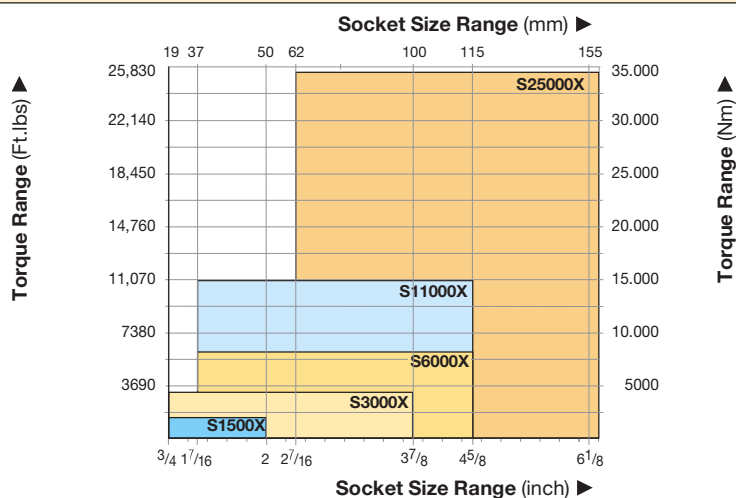


### Accessory Options

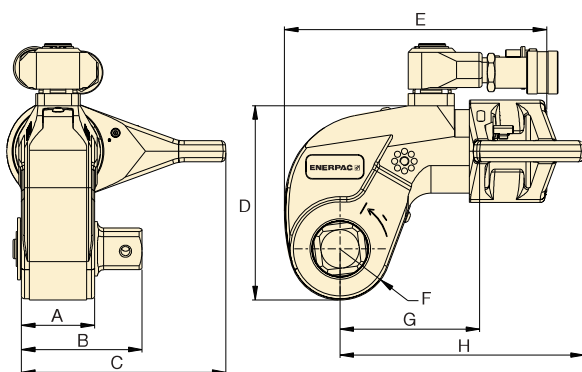
A full list of optional accessories can be found on: page 209.

Page: **209**

### \*TORQUE WRENCH SELECTION (based on socket size range)






See page 210 for BSH-Sockets.



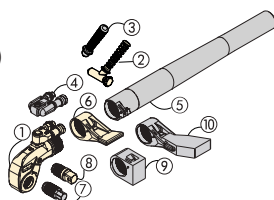
▼ The rigid steel design of the S-Series torque wrenches provides durability, reliability and safety.



| Nominal Torque at 10,000 psi / 690 bar |        | Minimum Torque at 10,000 psi / 690 bar |       | Square Drive  |                                  | Angle-of-Turn Model No. (optional)  | Torque Wrench Model No.*  | Dimensions (in) |      |      |      |       |      |      |       | Wt. (lbs) |
|--|--------|--|-------|---|----------------------------------|---|---|-----------------|------|------|------|-------|------|------|-------|-----------|
|  |        |  |       | Size (in)   | Model No. (included with wrench) |   |   | A               | B    | C    | D    | E     | F    | G    | H     |           |
| (Ft.lbs)                               | (Nm)   | (Ft.lbs)                               | (Nm)  |  |                                  |  |  |                 |      |      |      |       |      |      |       |           |
| 1440                                   | 1952   | 144                                    | 195   | 3/4"  | SD15-012                         | AOT15   | <b>S1500X</b>   | 1.54            | 2.56 | 4.25 | 3.82 | 5.35  | 0.98 | 2.76 | 5.08  | 7.0       |
| 3225                                   | 4373   | 323                                    | 438   | 1"  | SD30-100                         | AOT30   | <b>S3000X</b>   | 1.89            | 3.15 | 5.31 | 5.04 | 6.81  | 1.30 | 3.54 | 6.34  | 12.3      |
| 6150                                   | 8338   | 615                                    | 834   | 1 1/2"  | SD60-108                         | AOT60   | <b>S6000X</b>   | 2.17            | 3.62 | 6.65 | 6.18 | 7.56  | 1.57 | 4.33 | 7.40  | 20.2      |
| 11,175                                 | 15,151 | 1,118                                  | 1,515 | 1 1/2"  | SD110-108                        | AOT110  | <b>S11000X</b>  | 2.83            | 4.49 | 7.76 | 7.48 | 8.98  | 1.95 | 5.24 | 9.02  | 34.7      |
| 26,150                                 | 35,455 | 2,615                                  | 3,545 | 2 1/2"  | SD250-208                        | AOT250  | <b>S25000X</b>  | 3.50            | 5.63 | 9.69 | 9.61 | 11.30 | 2.52 | 7.17 | 11.61 | 70.8      |

\* To order a S-series (X-Edition) wrench fitted with the TSP swivel, insert a "P" prior to the "X" in the tool designation. e.g., **S1500PX**.

- ① Drive Unit
- ② Angled Positioning Handle
- ③ Straight Positioning Handle (optional)
- ④ Pro Series Swivel (optional)
- ⑤ Reaction Tube Extension (optional)
- ⑥ Standard Reaction Arm
- ⑦ Allen Drive (optional)
- ⑧ Square Drive
- ⑨ Short Reaction Arm (optional)
- ⑩ Extended Reaction Arm (optional)



Nominal Torque at 10,000 psi:






**26,150 Ft.lbs.**

Hexagon Size Allen Drive:

**1/2-2 1/4 in. (14-85 mm)**

For  
**S**  
Series  
(X-Edition)



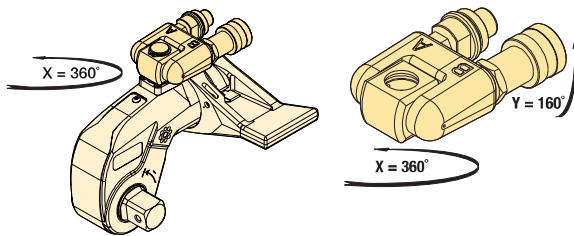
| TORQUE WRENCH   | OPTIONAL ALLEN DRIVES, IMPERIAL   |                         |                   |              | OPTIONAL ALLEN DRIVES, METRIC  |                         |                  |              | SHORT REACTION ARM FOR ALLEN DRIVES   |   |      |
|---|---|-------------------------|-------------------|--------------|--|-------------------------|------------------|--------------|---|---|------|
|  |  |                         |                   |              |  |                         |                  |              |  |  |      |
| Model Number  | Hexagon Size (in)   | Maximum Torque (Ft.Lbs) | Model Number      | Dim. B1 (in) | Hexagon Size (mm)  | Maximum Torque (Ft.lbs) | Model Number     | Dim. B1 (in) | Model Number  | Dimensions (in)   |      |
| <b>S1500X</b><br>(1440 Ft-lbs)  | 1/2   | 355                     | <b>SDA15-008</b>  | 2.6          | <b>14</b>  | 475                     | <b>SDA15-14</b>  | 2.60         | <b>SRA15X</b>   | 2.66  | 2.56 |
|   | 5/8   | 690                     | <b>SDA15-010</b>  | 2.6          | <b>17</b>  | 850                     | <b>SDA15-17</b>  | 2.68         |   |   |      |
|   | 3/4   | 1195                    | <b>SDA15-012</b>  | 2.8          | <b>19</b>  | 1185                    | <b>SDA15-19</b>  | 2.76         |   |   |      |
|   | 7/8   | 1400                    | <b>SDA15-014</b>  | 2.9          | <b>22</b>  | 1400                    | <b>SDA15-22</b>  | 2.87         |   |   |      |
|   | <b>1</b>  | 1400                    | <b>SDA15-100</b>  | 3.0          | <b>24</b>  | 1400                    | <b>SDA15-24</b>  | 2.91         |   |   |      |
| <b>S3000X</b><br>(3225 Ft-lbs)  | 5/8   | 690                     | <b>SDA30-010</b>  | 3.0          | <b>17</b>  | 850                     | <b>SDA30-17</b>  | 3.03         | <b>SRA30X</b>   | 3.15  | 2.91 |
|   | 3/4   | 1195                    | <b>SDA30-012</b>  | 3.1          | <b>19</b>  | 1185                    | <b>SDA30-19</b>  | 3.11         |   |   |      |
|   | 7/8   | 1895                    | <b>SDA30-014</b>  | 3.3          | <b>22</b>  | 1835                    | <b>SDA30-22</b>  | 3.23         |   |   |      |
|   | <b>1</b>  | 2825                    | <b>SDA30-100</b>  | 3.4          | <b>24</b>  | 2385                    | <b>SDA30-24</b>  | 3.31         |   |   |      |
|   | 1 1/8   | 3200                    | <b>SDA30-102</b>  | 3.5          | <b>27</b>  | 3200                    | <b>SDA30-27</b>  | 3.35         |   |   |      |
|   | 1 1/4   | 3200                    | <b>SDA30-104</b>  | 3.5          | <b>30</b>  | 3200                    | <b>SDA30-30</b>  | 3.43         |   |   |      |
|   | —   | —                       | —                 | —            | <b>32</b>  | 3200                    | <b>SDA30-32</b>  | 3.46         |   |   |      |
| <b>S6000X</b><br>(6050 Ft-lbs)  | 5/8   | 690                     | <b>SDA60-010</b>  | 3.3          | <b>17</b>  | 850                     | <b>SDA60-17</b>  | 3.39         | <b>SRA60X</b>   | 3.60  | 3.50 |
|   | 3/4   | 1195                    | <b>SDA60-012</b>  | 3.5          | <b>19</b>  | 1185                    | <b>SDA60-19</b>  | 3.46         |   |   |      |
|   | 7/8   | 1895                    | <b>SDA60-014</b>  | 3.6          | <b>22</b>  | 1835                    | <b>SDA60-22</b>  | 3.58         |   |   |      |
|   | <b>1</b>  | 2825                    | <b>SDA60-100</b>  | 3.7          | <b>24</b>  | 2385                    | <b>SDA60-24</b>  | 3.66         |   |   |      |
|   | 1 1/8   | 4025                    | <b>SDA60-102</b>  | 3.8          | <b>27</b>  | 3395                    | <b>SDA60-27</b>  | 3.70         |   |   |      |
|   | 1 1/4   | 5520                    | <b>SDA60-104</b>  | 3.9          | <b>30</b>  | 4655                    | <b>SDA60-30</b>  | 3.78         |   |   |      |
|   | —   | —                       | —                 | —            | <b>32</b>  | 5650                    | <b>SDA60-32</b>  | 3.82         |   |   |      |
| <b>S11000X</b><br>(11,175 Ft-lbs)   | 1 1/4   | 5520                    | <b>SDA110-104</b> | 4.5          | <b>30</b>  | 4655                    | <b>SDA110-30</b> | 4.41         | <b>SRA110X</b>  | 5.02  | 4.17 |
|   | 1 3/8   | 7345                    | <b>SDA110-106</b> | 4.6          | <b>32</b>  | 5650                    | <b>SDA110-32</b> | 4.49         |   |   |      |
|   | 1 1/2   | 9535                    | <b>SDA110-108</b> | 4.6          | <b>36</b>  | 8040                    | <b>SDA110-36</b> | 4.61         |   |   |      |
|   | 1 5/8   | 11,000                  | <b>SDA110-110</b> | 4.8          | <b>41</b>  | 11,000                  | <b>SDA110-41</b> | 4.76         |   |   |      |
|   | 1 3/4   | 11,000                  | <b>SDA110-112</b> | 4.9          | <b>46</b>  | 11,000                  | <b>SDA110-46</b> | 5.00         |   |   |      |
| <b>S25000X</b><br>(26,150 Ft-lbs)   | 1 1/2   | 9535                    | <b>SDA250-108</b> | 5.5          | <b>36</b>  | 8040                    | <b>SDA250-36</b> | 5.51         | <b>SRA250X</b>  | 6.24  | 5.31 |
|   | 1 5/8   | 12,120                  | <b>SDA250-110</b> | 5.7          | <b>41</b>  | 11,880                  | <b>SDA250-41</b> | 5.67         |   |   |      |
|   | 1 3/4   | 15,135                  | <b>SDA250-112</b> | 5.8          | <b>46</b>  | 16,775                  | <b>SDA250-46</b> | 5.83         |   |   |      |
|   | 1 7/8   | 18,620                  | <b>SDA250-114</b> | 5.9          | <b>50</b>  | 21,545                  | <b>SDA250-50</b> | 5.94         |   |   |      |
|   | <b>2</b>  | 22,595                  | <b>SDA250-200</b> | 5.9          | <b>55</b>  | 26,150                  | <b>SDA250-55</b> | 6.06         |   |   |      |
|   | 2 1/4   | 26,150                  | <b>SDA250-204</b> | 6.0          | <b>60</b>  | 26,150                  | <b>SDA250-60</b> | 6.22         |   |   |      |
|   | —   | —                       | —                 | —            | <b>65</b>  | 26,150                  | <b>SDA250-65</b> | 6.34         |   |   |      |
|   | —   | —                       | —                 | —            | <b>70</b>  | 26,150                  | <b>SDA250-70</b> | 6.46         |   |   |      |
|   | —   | —                       | —                 | —            | <b>75</b>  | 26,150                  | <b>SDA250-75</b> | 6.61         |   |   |      |
|   | —   | —                       | —                 | —            | <b>85</b>  | 26,150                  | <b>SDA250-85</b> | 6.89         |   |   |      |

# Accessories for S-Series, X-Edition Torque Wrenches

## TSP-Series, Pro Series Swivels

- Robust interlocking design
- 360° X-axis and 160° Y-axis rotation
- Increases tool fit in restricted access areas
- Simplifies hose placement
- Includes male and female couplers

### TSP RTEX SRSX Series



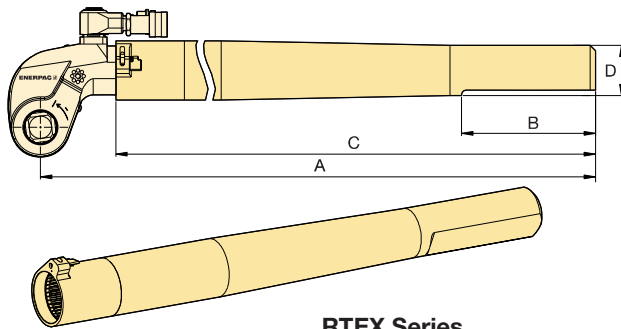
TSP Series

| Torque Wrench Model Number               | Model Number | Maximum Pressure (psi) | Wt. (lbs) |
|--|--------------|------------------------|-----------|
| S1500X, S3000X, S6000X, S11000X, S25000X | TSP300*      | 10,000                 | 0.44      |

Note: To order a S-series (X-Edition) wrench fitted with the TSP swivel, insert a "P" prior to the "X" in the tool designation, e.g., **S1500PX**.

\* TSP300 is designed for X-Edition tools only, and is not compatible with standard edition tools. For replacement components for existing tools, refer to repair sheet on [www.enerpac.com](http://www.enerpac.com)

## RTEX-Series, Reaction Tube Extensions



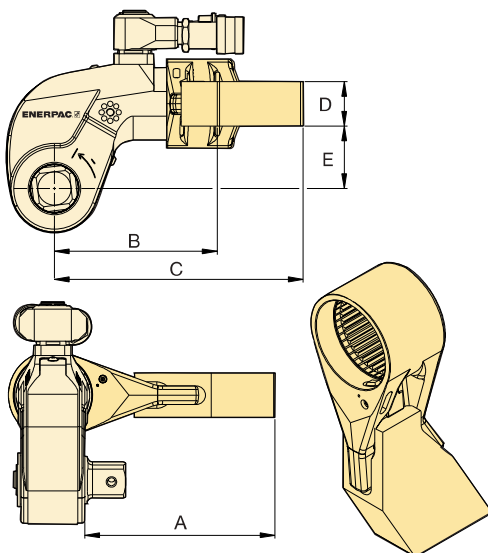
RTEX Series

- Full torque rated
- Increases tool fit in restricted access areas

| Torque Wrench Model Number | Model Number | Dimensions (in) |      |       |      | Wt. (lbs)* |
|----------------------------|--------------|-----------------|------|-------|------|------------|
|                            |              | A               | B    | C     | D    |            |
| S1500X                     | RTE15X       | 27.80           | 5.98 | 25.04 | 2.28 | 10.1       |
| S3000X                     | RTE30X       | 28.86           | 5.98 | 25.47 | 2.24 | 12.1       |
| S6000X                     | RTE60X       | 29.41           | 5.98 | 25.94 | 2.56 | 17.0       |
| S11000X                    | RTE110X      | 30.28           | 5.98 | 26.57 | 2.99 | 24.7       |
| S25000X                    | RTE250X      | 32.01           | 5.98 | 26.97 | 3.94 | 38.1       |

\* Weights indicated are for the accessories only and do not include the wrench.

## SRSX-Series, Extended Reaction Arms



SRSX Series

- Lightweight interchangeable design

| Wrench Model | Max. Torque (Ft-lbs) | Model Number | Dimensions (in) |      |       |      |      | Wt. (lbs)* |
|--------------|----------------------|--------------|-----------------|------|-------|------|------|------------|
|              |                      |              | A               | B    | C     | D    | E    |            |
| S1500X       | 1328                 | SRS151X      | 3.70            | 3.39 | 5.00  | 0.94 | 1.34 | 1.8        |
|              | 1210                 | SRS152X      | 4.69            | 3.82 | 5.43  | 0.94 | 1.34 | 2.2        |
|              | 1131                 | SRS153X      | 5.71            | 4.29 | 5.83  | 0.94 | 1.34 | 2.6        |
| S3000X       | 2890                 | SRS301X      | 4.37            | 4.17 | 6.61  | 1.34 | 1.89 | 3.5        |
|              | 2739                 | SRS302X      | 5.39            | 4.61 | 7.17  | 1.34 | 1.89 | 4.4        |
|              | 2638                 | SRS303X      | 6.38            | 5.20 | 7.80  | 1.34 | 1.89 | 5.5        |
| S6000X       | 5784                 | SRS601X      | 5.43            | 5.04 | 7.56  | 1.54 | 2.44 | 5.1        |
|              | 5501                 | SRS602X      | 6.42            | 5.67 | 8.15  | 1.54 | 2.44 | 6.0        |
|              | 5295                 | SRS603X      | 7.44            | 6.26 | 8.74  | 1.54 | 2.44 | 7.5        |
| S11000X      | 10,812               | SRS1101X     | 5.87            | 6.18 | 9.13  | 1.81 | 2.99 | 9.7        |
|              | 10,300               | SRS1102X     | 6.89            | 6.77 | 9.72  | 1.81 | 2.99 | 11.2       |
|              | 9883                 | SRS1103X     | 7.87            | 7.36 | 10.28 | 1.81 | 2.99 | 12.8       |
| S25000X      | 24,751               | SRS2501X     | 7.20            | 8.23 | 11.61 | 1.97 | 3.94 | 16.8       |
|              | 23,652               | SRS2502X     | 8.19            | 8.74 | 12.20 | 1.97 | 3.94 | 18.5       |
|              | 22,694               | SRS2503X     | 9.17            | 9.29 | 12.83 | 1.97 | 3.94 | 22.0       |

\* Weights indicated are for the accessories only and do not include the wrench.



- Heavy-duty impact sockets
- Supplied with "Pin and Ring"

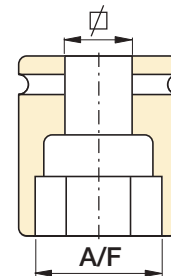
Hexagon Sizes:

**3/4 - 6 1/8 inch  
(19 - 155 mm)**



| IMPERIAL SOCKETS  |          |                 |          |              |          |                     |          |              |          |                     |          |              |          |
|-------------------|----------|-----------------|----------|--------------|----------|---------------------|----------|--------------|----------|---------------------|----------|--------------|----------|
| 3/4" Square Drive |          | 1" Square Drive |          |              |          | 1 1/2" Square Drive |          |              |          | 2 1/2" Square Drive |          |              |          |
| Model Number      | A/F (in) | Model Number    | A/F (in) | Model Number | A/F (in) | Model Number        | A/F (in) | Model Number | A/F (in) | Model Number        | A/F (in) | Model Number | A/F (in) |
| BSH7519           | 3/4"     | BSH1019         | 3/4"     | BSH10231     | 2 5/16"  | BSH15144            | 1 7/16"  | BSH15281     | 2 13/16" | BSH25244            | 2 7/16"  | BSH25419     | 4 3/16"  |
| BSH75088          | 7/8"     | BSH10088        | 7/8"     | BSH10238     | 2 3/8"   | BSH1538             | 1 1/2"   | BSH15288     | 2 7/8"   | BSH25250            | 2 1/2"   | BSH25425     | 4 1/4"   |
| BSH75094          | 15/16"   | BSH10094        | 15/16"   | BSH10244     | 2 7/16"  | BSH15156            | 1 9/16"  | BSH1575      | 2 15/16" | BSH2565             | 2 9/16"  | BSH25110     | 4 5/16"  |
| BSH7527           | 1 1/16"  | BSH1027         | 1 1/16"  | BSH10250     | 2 1/2"   | BSH15163            | 1 5/8"   | BSH15300     | 3"       | BSH25263            | 2 5/8"   | BSH25438     | 4 3/8"   |
| BSH7530           | 1 3/16"  | BSH1030         | 1 3/16"  | BSH1065      | 2 9/16"  | BSH1543             | 1 11/16" | BSH15306     | 3 1/16"  | BSH25269            | 2 11/16" | BSH25450     | 4 1/2"   |
| BSH75125          | 1 1/4"   | BSH10125        | 1 1/4"   | BSH10263     | 2 5/8"   | BSH15175            | 1 3/4"   | BSH15313     | 3 1/8"   | BSH2570             | 2 3/4"   | BSH25463     | 4 5/8"   |
| BSH75131          | 1 5/16"  | BSH10131        | 1 5/16"  | BSH10269     | 2 11/16" | BSH1546             | 1 13/16" | BSH15319     | 3 3/16"  | BSH25281            | 2 13/16" | BSH25475     | 4 3/4"   |
| BSH7535           | 1 3/8"   | BSH1035         | 1 3/8"   | BSH1070      | 2 3/4"   | BSH15188            | 1 7/8"   | BSH15325     | 3 1/4"   | BSH25288            | 2 7/8"   | BSH25488     | 4 7/8"   |
| BSH75144          | 1 7/16"  | BSH10144        | 1 7/16"  | BSH10281     | 2 13/16" | BSH15194            | 1 15/16" | BSH15338     | 3 3/8"   | BSH2575             | 2 15/16" | BSH25500     | 5"       |
| BSH7538           | 1 1/2"   | BSH1038         | 1 1/2"   | BSH10288     | 2 7/8"   | BSH15200            | 2"       | BSH15350     | 3 1/2"   | BSH25300            | 3"       | BSH25513     | 5 1/8"   |
| BSH75156          | 1 9/16"  | BSH10156        | 1 9/16"  | BSH1075      | 2 15/16" | BSH15206            | 2 1/16"  | BSH15363     | 3 5/8"   | BSH25306            | 3 1/16"  | BSH25519     | 5 3/16"  |
| BSH75163          | 1 5/8"   | BSH10163        | 1 5/8"   | BSH10300     | 3"       | BSH15213            | 2 1/8"   | BSH1595      | 3 3/4"   | BSH25313            | 3 1/8"   | BSH25525     | 5 1/4"   |
| BSH7543           | 1 11/16" | BSH1043         | 1 11/16" | BSH10306     | 3 1/16"  | BSH15219            | 2 3/16"  | BSH15388     | 3 7/8"   | BSH25319            | 3 3/16"  | BSH25538     | 5 3/8"   |
| BSH75175          | 1 3/4"   | BSH10175        | 1 3/4"   | BSH10313     | 3 1/8"   | BSH15225            | 2 1/4"   | BSH15100     | 3 15/16" | BSH25325            | 3 1/4"   | BSH25140     | 5 1/2"   |
| BSH7546           | 1 13/16" | BSH1046         | 1 13/16" | BSH10319     | 3 3/16"  | BSH15231            | 2 5/16"  | BSH15400     | 4"       | BSH25338            | 3 3/8"   | BSH25575     | 5 3/4"   |
| BSH75188          | 1 7/8"   | BSH10188        | 1 7/8"   | BSH10325     | 3 1/4"   | BSH15238            | 2 3/8"   | BSH15105     | 4 1/8"   | BSH25350            | 3 1/2"   | BSH25150     | 5 7/8"   |
| BSH75194          | 1 15/16" | BSH10194        | 1 15/16" | BSH10338     | 3 3/8"   | BSH15244            | 2 7/16"  | BSH15419     | 4 3/16"  | BSH25363            | 3 5/8"   | BSH25600     | 6"       |
| BSH75200          | 2"       | BSH10200        | 2"       | BSH10350     | 3 1/2"   | BSH15250            | 2 1/2"   | BSH15425     | 4 1/4"   | BSH2595             | 3 3/4"   | BSH25613     | 6 1/8"   |
|                   |          | BSH10206        | 2 1/16"  | BSH10363     | 3 5/8"   | BSH1565             | 2 9/16"  | BSH15110     | 4 5/16"  | BSH25388            | 3 7/8"   |              |          |
|                   |          | BSH10213        | 2 1/8"   | BSH1095      | 3 3/4"   | BSH15263            | 2 5/8"   | BSH15438     | 4 3/8"   | BSH25100            | 3 15/16" |              |          |
|                   |          | BSH10219        | 2 3/16"  | BSH10388     | 3 7/8"   | BSH15269            | 2 11/16" | BSH15450     | 4 1/2"   | BSH25400            | 4"       |              |          |
|                   |          | BSH10225        | 2 1/4"   |              |          | BSH1570             | 2 3/4"   | BSH15463     | 4 5/8"   | BSH25105            | 4 1/8"   |              |          |

| METRIC SOCKETS    |          |                 |          |                     |          |                     |          |
|-------------------|----------|-----------------|----------|---------------------|----------|---------------------|----------|
| 3/4" Square Drive |          | 1" Square Drive |          | 1 1/2" Square Drive |          | 2 1/2" Square Drive |          |
| Model Number      | A/F (mm) | Model Number    | A/F (mm) | Model Number        | A/F (mm) | Model Number        | A/F (mm) |
| BSH7519           | 19       | BSH1019         | 19       | BSH1536             | 36       | BSH2565             | 65       |
| BSH7524           | 24       | BSH1024         | 24       | BSH15163            | 41       | BSH2570             | 70       |
| BSH7527           | 27       | BSH1027         | 27       | BSH1546             | 46       | BSH2575             | 75       |
| BSH7530           | 30       | BSH1030         | 30       | BSH1550             | 50       | BSH2580             | 80       |
| BSH7532           | 32       | BSH1032         | 32       | BSH1555             | 55       | BSH2585             | 85       |
| BSH7536           | 36       | BSH1036         | 36       | BSH1560             | 60       | BSH2590             | 90       |
| BSH75163          | 41       | BSH10163        | 41       | BSH1565             | 65       | BSH2595             | 95       |
| BSH7546           | 46       | BSH1046         | 46       | BSH1570             | 70       | BSH25100            | 100      |
| BSH7550           | 50       | BSH1050         | 50       | BSH1575             | 75       | BSH25105            | 105      |
|                   |          | BSH1055         | 55       | BSH1580             | 80       | BSH25110            | 110      |
|                   |          | BSH1060         | 60       | BSH1585             | 85       | BSH25115            | 115      |
|                   |          | BSH1065         | 65       | BSH1590             | 90       | BSH25120            | 120      |
|                   |          | BSH1070         | 70       | BSH1595             | 95       | BSH25125            | 125      |
|                   |          | BSH1075         | 75       | BSH15100            | 100      | BSH25135            | 135      |
|                   |          | BSH1080         | 80       | BSH15105            | 105      | BSH25140            | 140      |
|                   |          | BSH1085         | 85       | BSH15110            | 110      | BSH25145            | 145      |
|                   |          | BSH1090         | 90       | BSH15115            | 115      | BSH25150            | 150      |
|                   |          | BSH1095         | 95       |                     |          | BSH25155            | 155      |
|                   |          | BSH10100        | 100      |                     |          |                     |          |



#### Pin and Ring

All sockets are supplied with a "Pin and Ring" to hold the socket in place on the square drive of the tool.



#### Select the Right Torque

Choose your Enerpac Torque Wrench using the untightening rule of thumb: Loosening torque equals about 250% of tightening torque.

ENERPAC professional series steel torque wrenches provide reliable controlled tightening solutions across many industries.

## **S3000X Square Drive Torque Wrench on Wind Turbine Assembly and Maintenance**

S3000X used to connect wind turbine segments during assembly and maintenance. A robust but compact solution is required for bolt tightening on wind tower sections. Large numbers of fasteners require precise application of torque to ensure joint integrity is achieved and maintained.

The Enerpac S-Series wrench offers simple and reliable operation while providing accurate and repeatable results.



## **W4000X Low Profile Torque Wrench on an API Pipe Flange**

Throughout the Oil and Gas, Petrochemical and Processing Industries, pipeline joints, valves, pumps and machinery present challenges for controlled bolting.

The restricted access on this flange was easily overcome with an Enerpac W-Series Torque Wrench. The W Wrenches offer reliability and control, ensuring even and consistent torque is applied to all bolts.

## **S3000X on an Oil and Gas Flange**

During maintenance, quick turnaround times are essential; S-Series wrenches provide a large angle of nut rotation per stroke, offering speed and accuracy in a compact ergonomic tool.



▼ Shown: **W4206X** cassette with **W4000X** drive unit  
(Rear model shows optional straight handle)



## Setting New Standards in Safety, Simplicity and Performance



### Two Handle Styles

Robust angled positioning handles come standard with every W-Series (X-Edition) tool. Straight positioning handles designed for

extreme limited access applications are available as accessories.

| Compatible W-Series (X-Edition) wrenches | Angled positioning handles (standard)     | Straight positioning handles (optional) |
|--|---|---|
| W2000X, W4000X                           | SWH6A                                     | SWH6S                                   |
| W8000X, W15000X                          | SWH10A                                    | SWH10S                                  |
| W22000X, W35000X                         | Supplied with an eyebolt handle (SWH10EA) |   |



### TSP - Pro Series Swivel

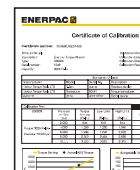
The optional TSP300 tilt and swivel manifold with robust interlocking design provides 360° X-axis rotation and 160° Y-axis rotation.

### How to Order

Factory fitted to new W-Series (X-Edition) wrenches: Insert a "P" prior to the "X" in the tool designation, e.g.: **W2000PX**.

Order as an accessory using the part number: **TSP300**, which can be fitted to existing W-Series (X-Edition) wrenches.

Page: 225



### Calibration Certificate

All X-Edition tools are CE-ATEX declared, factory calibrated and are shipped complete with a calibration certificate.

CE  II 2 GD ck T4  
CSA/SIRA 15XT072

### Safety and Performance

- Superior strength to size ratio provides easy access to difficult to reach applications without sacrificing endurance
- 30° rotation angle and rapid return stroke provide fast operation
- Tough manifold design with added safety feature for enhanced operator safety

### Simplicity

- Fast release drive unit enables rapid exchange of cassettes, no tools required and no pins to lose
- Includes robust handles which mount on both sides, and the tops of cassettes to allow for extra maneuverability
- Quick and easy disassembly for maintenance without special tools

### Versatility

- Available with optional enhanced tilt and swivel TSP300 manifold for horizontal and vertical maneuverability, with greater durability\*
- X-Edition drive units, cassettes and most accessories are compatible with standard edition tools\*
- Drive unit compatible with UltraSlim and WCR-Series cassettes

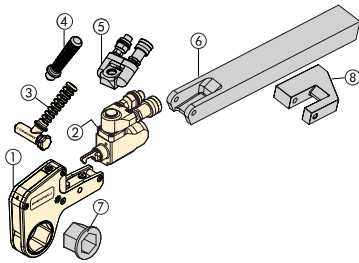
### Accuracy

- Constant torque output provides accuracy of  $\pm 3\%$  across full stroke

\* TSP300 is designed for X-Edition tools only, and is not compatible with standard edition tools. For replacement components for existing tools, refer to repair sheet on [www.enerpac.com](http://www.enerpac.com)



# W-Series, X-Edition Hexagon Wrenches



- ① Hexagon Cassette
- ② Drive Unit
- ③ Angled Positioning Handle
- ④ Straight Positioning Handle (optional)
- ⑤ Pro Series Swivel (optional)
- ⑥ Extended Reaction Arm (optional)
- ⑦ Reducer Insert (optional)
- ⑧ Reaction Paddle (optional)



## Hexagon Cassettes and Reducer Inserts

Full range of interchangeable hexagon cassettes and reducing inserts provides maximum versatility. Details available at [www.enerpac.com](http://www.enerpac.com)

## W Series (X-Edition)



Nominal Torque at 10,000 psi:

**35,000 Ft.lbs**

Hexagon Range:

**1<sup>1</sup>/<sub>16</sub> - 6<sup>1</sup>/<sub>8</sub> inch**

Nose Radius:

**1.22-4.52 inch**

Maximum Operating Pressure:

**10,000 psi**

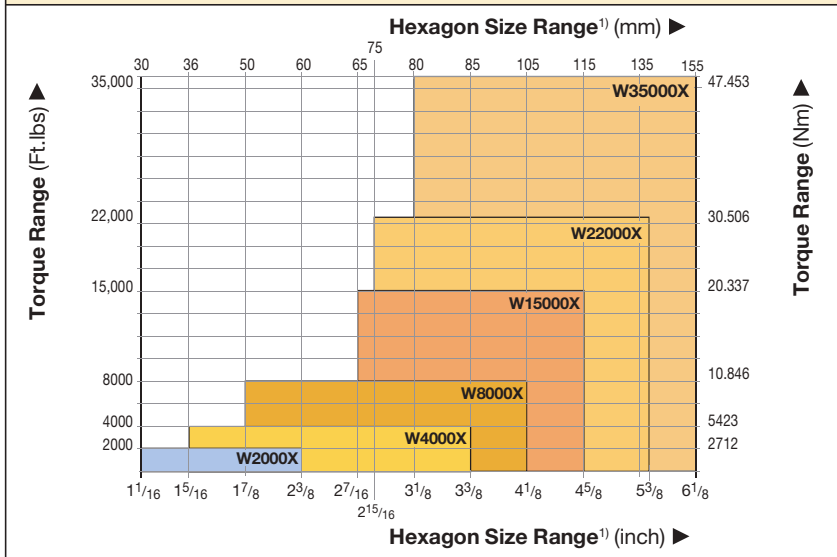


## Torque Wrench Pump Selection Matrix

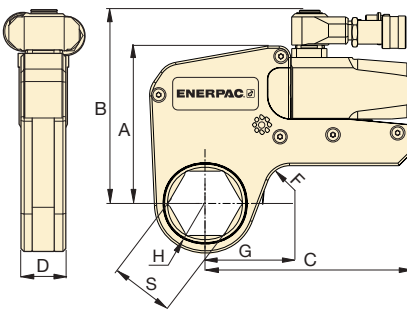
For optimum speed and performance see the torque wrench and pump matrix.

Page: **232**

## DRIVE UNIT AND INTERCHANGEABLE CASSETTE SELECTION



<sup>1)</sup> See page 285 for table of hexagon sizes of bolts, nuts and related thread diameters.



## ▼ SELECTION CHART

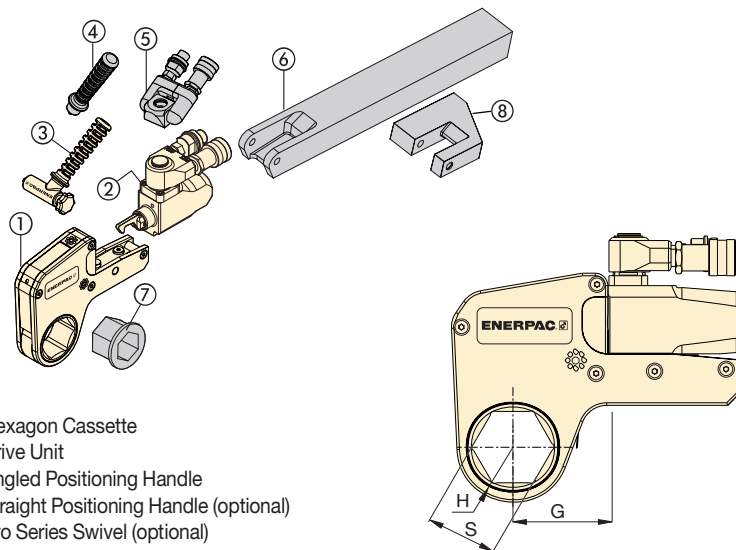
| Hexagon Range *   |          | Nominal Torque at 10,000 psi |        | Drive Unit Model Number ** | Minimum Torque |      | Dimensions (see pages 214-221 for dimensions H, G, and S) |       |       |      |      | Weight (Drive unit without hexagon cassette) |
|---|----------|------------------------------|--------|----------------------------|----------------|------|---|-------|-------|------|------|--|
| (in)  | (mm)     | (Ft.lbs)                     | (Nm)   |                            | (Ft.lbs)       | (Nm) | (in)  |       |       |      |      | (lbs)  |
|   |          |                              |        |                            |                |      | A   | B     | C     | D    | F    |  |
| 1 <sup>1</sup> / <sub>16</sub> - 2 <sup>3</sup> / <sub>8</sub>  | 30 - 60  | 2040                         | 2766   | W2000X                     | 204            | 277  | 4.29  | 5.55  | 5.83  | 1.26 | .79  | 3.04   |
| 1 <sup>5</sup> / <sub>16</sub> - 3 <sup>3</sup> / <sub>8</sub>  | 36 - 85  | 4175                         | 5661   | W4000X                     | 418            | 566  | 5.35  | 6.57  | 7.01  | 1.61 | .79  | 4.44   |
| 1 <sup>7</sup> / <sub>8</sub> - 4 <sup>1</sup> / <sub>8</sub>   | 50 - 105 | 8470                         | 11,484 | W8000X                     | 847            | 1148 | 6.77  | 8.07  | 8.19  | 2.07 | .98  | 6.59   |
| 2 <sup>7</sup> / <sub>16</sub> - 4 <sup>5</sup> / <sub>8</sub>  | 65 - 115 | 15,330                       | 20,785 | W15000X                    | 1533           | 2079 | 8.15  | 9.45  | 9.96  | 2.48 | .79  | 10.72  |
| 2 <sup>15</sup> / <sub>16</sub> - 5 <sup>3</sup> / <sub>8</sub> | 75 - 135 | 22,500                       | 30,506 | W22000X                    | 2250           | 3050 | 8.94  | 10.46 | 11.68 | 3.03 | 1.38 | 16.98  |
| 3 <sup>1</sup> / <sub>8</sub> - 6 <sup>1</sup> / <sub>8</sub>   | 80-155   | 35,000                       | 47,453 | W35000X                    | 3500           | 4745 | 10.54   | 11.94 | 13.60 | 3.57 | 1.98 | 26.40  |

\* With in-line reaction foot.

\*\* To order a W-series (X-Edition) wrench fitted with the TSP swivel, insert a "P" prior to the "X" in the tool designation. e.g., **W2000PX**.







- ① Hexagon Cassette
- ② Drive Unit
- ③ Angled Positioning Handle
- ④ Straight Positioning Handle (optional)
- ⑤ Pro Series Swivel (optional)
- ⑥ Extended Reaction Arm (optional)
- ⑦ Reducer Insert (optional)
- ⑧ Reaction Paddle (optional)

## W Series (X-Edition)



Nominal Torque at 10,000 psi:

**2040 Ft.lbs**

Hexagon Range:

**1<sup>1</sup>/<sub>16</sub> - 2<sup>3</sup>/<sub>8</sub> inch**

Maximum Operating Pressure:

**10,000 psi**







### Metric Sizes

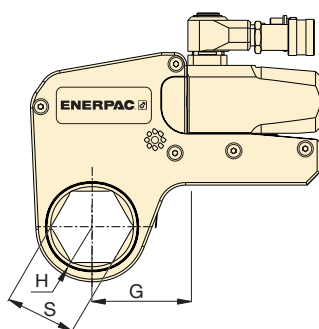
For metric sizes of hexagon cassettes and reducer inserts see:

Page: **220**

### ▼ SELECTION CHART

| Drive Unit<br>Model<br>Number | Hexagon<br>Size                 | Nose<br>Radius | Dim.<br><br>G<br>(in) | Model<br>Number<br><br> | Weight<br><br>(lbs) |  |                  |  |                  |  |                  |
|-------------------------------|---------------------------------|----------------|-----------------------|--|---------------------|---|------------------|---|------------------|---|------------------|
|                               |                                 |                |                       |  |                     | Hexagon<br>Reducer<br>(in)  | Model<br>Number  | Hexagon<br>Reducer<br>(in)  | Model<br>Number  | Hexagon<br>Reducer<br>(in)  | Model<br>Number  |
| <b>W2000X</b>                 | 1 <sup>1</sup> / <sub>16</sub>  | 1.22           | 2.11                  | <b>W2101X</b>  | 4.19                | —   | —                | —   | —                | —   | —                |
|                               | 1 <sup>1</sup> / <sub>8</sub>   | 1.22           | 2.11                  | <b>W2102X</b>  | 4.19                | —   | —                | —   | —                | —   | —                |
|                               | 1 <sup>3</sup> / <sub>16</sub>  | 1.22           | 2.11                  | <b>W2103X</b>  | 4.19                | —   | —                | —   | —                | —   | —                |
|                               | 1 <sup>1</sup> / <sub>4</sub>   | 1.22           | 2.11                  | <b>W2104X</b>  | 4.19                | —   | —                | —   | —                | —   | —                |
|                               | 1 <sup>5</sup> / <sub>16</sub>  | 1.22           | 2.11                  | <b>W2105X</b>  | 4.48                | —   | —                | —   | —                | —   | —                |
|                               | 1 <sup>3</sup> / <sub>8</sub>   | 1.22           | 2.11                  | <b>W2106X</b>  | 4.43                | —   | —                | —   | —                | —   | —                |
|                               | 1 <sup>7</sup> / <sub>16</sub>  | 1.22           | 2.11                  | <b>W2107X</b>  | 4.37                | 1 <sup>7</sup> / <sub>16</sub> - 1 <sup>1</sup> / <sub>8</sub>                      | <b>W2107R102</b> | —   | —                | —   | —                |
|                               | 1 <sup>1</sup> / <sub>2</sub>   | 1.32           | 2.29                  | <b>W2108X</b>  | 4.51                | —   | —                | —   | —                | —   | —                |
|                               | 1 <sup>9</sup> / <sub>16</sub>  | 1.32           | 2.29                  | <b>W2109X</b>  | 4.44                | —   | —                | —   | —                | —   | —                |
|                               | 1 <sup>5</sup> / <sub>8</sub>   | 1.32           | 2.29                  | <b>W2110X</b>  | 4.38                | 1 <sup>5</sup> / <sub>8</sub> - 1 <sup>1</sup> / <sub>4</sub>                       | <b>W2110R104</b> | 1 <sup>5</sup> / <sub>8</sub> - 1 <sup>3</sup> / <sub>16</sub>                        | <b>W2110R103</b> | —   | —                |
|                               | 1 <sup>11</sup> / <sub>16</sub> | 1.44           | 2.38                  | <b>W2111X</b>  | 4.63                | —   | —                | —   | —                | —   | —                |
|                               | 1 <sup>3</sup> / <sub>4</sub>   | 1.44           | 2.38                  | <b>W2112X</b>  | 4.57                | —   | —                | —   | —                | —   | —                |
|                               | 1 <sup>13</sup> / <sub>16</sub> | 1.44           | 2.38                  | <b>W2113X</b>  | 4.46                | 1 <sup>13</sup> / <sub>16</sub> - 1 <sup>7</sup> / <sub>16</sub>                    | <b>W2113R107</b> | 1 <sup>13</sup> / <sub>16</sub> - 1 <sup>1</sup> / <sub>4</sub>                       | <b>W2113R104</b> | —   | —                |
|                               | 1 <sup>7</sup> / <sub>8</sub>   | 1.54           | 2.48                  | <b>W2114X</b>  | 4.69                | —   | —                | —   | —                | —   | —                |
|                               | 1 <sup>15</sup> / <sub>16</sub> | 1.54           | 2.48                  | <b>W2115X</b>  | 4.64                | —   | —                | —   | —                | —   | —                |
|                               | 2                               | 1.54           | 2.48                  | <b>W2200X</b>  | 4.54                | 2 - 1 <sup>5</sup> / <sub>8</sub>   | <b>W2200R110</b> | 2 - 1 <sup>7</sup> / <sub>16</sub>  | <b>W2200R107</b> | —   | —                |
|                               | 2 <sup>1</sup> / <sub>16</sub>  | 1.65           | 2.70                  | <b>W2201X</b>  | 4.83                | —   | —                | —   | —                | —   | —                |
|                               | 2 <sup>1</sup> / <sub>8</sub>   | 1.65           | 2.70                  | <b>W2202X</b>  | 4.74                | —   | —                | —   | —                | —   | —                |
|                               | 2 <sup>3</sup> / <sub>16</sub>  | 1.65           | 2.70                  | <b>W2203X</b>  | 4.64                | 2 <sup>3</sup> / <sub>16</sub> - 1 <sup>13</sup> / <sub>16</sub>                    | <b>W2203R113</b> | 2 <sup>3</sup> / <sub>16</sub> - 1 <sup>5</sup> / <sub>8</sub>                        | <b>W2203R110</b> | 2 <sup>3</sup> / <sub>16</sub> - 1 <sup>7</sup> / <sub>16</sub>                       | <b>W2203R107</b> |
|                               | 2 <sup>1</sup> / <sub>4</sub>   | 1.75           | 2.55                  | <b>W2204X</b>  | 4.94                | —   | —                | —   | —                | —   | —                |
|                               | 2 <sup>5</sup> / <sub>16</sub>  | 1.75           | 2.55                  | <b>W2205X</b>  | 4.84                | —   | —                | —   | —                | —   | —                |
|                               | 2 <sup>3</sup> / <sub>8</sub>   | 1.75           | 2.55                  | <b>W2206X</b>  | 4.72                | 2 <sup>3</sup> / <sub>8</sub> - 2   | <b>W2206R200</b> | 2 <sup>3</sup> / <sub>8</sub> - 1 <sup>7</sup> / <sub>8</sub>                         | <b>W2206R114</b> | 2 <sup>3</sup> / <sub>8</sub> - 1 <sup>13</sup> / <sub>16</sub>                       | <b>W2206R113</b> |
|                               | —                               | —              | —                     | —  | —                   | 2 <sup>3</sup> / <sub>8</sub> - 1 <sup>1</sup> / <sub>2</sub>                       | <b>W2206R108</b> | 2 <sup>3</sup> / <sub>8</sub> - 1 <sup>7</sup> / <sub>16</sub>                        | <b>W2206R107</b> | 2 <sup>3</sup> / <sub>8</sub> - 1 <sup>5</sup> / <sub>8</sub>                         | <b>W2206R110</b> |

# W4000X Series Imperial Cassettes & Reducer Inserts



Nominal Torque at 10,000 psi:

**4175 Ft.lbs**

Hexagon Range:

**1<sup>5</sup>/<sub>16</sub>-3<sup>3</sup>/<sub>8</sub> inch**




Maximum Operating Pressure:

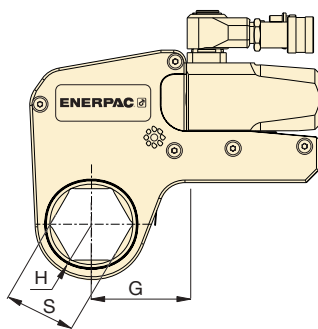
**10,000 psi**

**W**  
Series  
(X-Edition)



## ▼ SELECTION CHART

| Drive Unit<br>Model<br>Number | Hexagon<br>Size                     | Nose<br>Radius | Dim.<br>G (in) | Model<br>Number | Weight<br>(lbs) |  |                  |  |                  |  |                  |
|-------------------------------|-------------------------------------|----------------|----------------|-----------------|-----------------|---|------------------|---|------------------|---|------------------|
|                               |                                     |                |                |                 |                 | Hexagon<br>Reducer<br>(in)  | Model<br>Number  | Hexagon<br>Reducer<br>(in)  | Model<br>Number  | Hexagon<br>Reducer<br>(in)  | Model<br>Number  |
| <b>W4000X</b>                 | <b>1<sup>5</sup>/<sub>16</sub></b>  | 1.46           | 2.40           | <b>W4105X</b>   | 8.15            | —   | —                | —   | —                | —   | —                |
|                               | <b>1<sup>3</sup>/<sub>8</sub></b>   | 1.46           | 2.40           | <b>W4106X</b>   | 8.15            | —   | —                | —   | —                | —   | —                |
|                               | <b>1<sup>7</sup>/<sub>16</sub></b>  | 1.46           | 2.40           | <b>W4107X</b>   | 8.15            | —   | —                | —   | —                | —   | —                |
|                               | <b>1<sup>1</sup>/<sub>2</sub></b>   | 1.46           | 2.40           | <b>W4108X</b>   | 8.31            | —   | —                | —   | —                | —   | —                |
|                               | <b>1<sup>9</sup>/<sub>16</sub></b>  | 1.46           | 2.40           | <b>W4109X</b>   | 8.22            | —   | —                | —   | —                | —   | —                |
|                               | <b>1<sup>5</sup>/<sub>8</sub></b>   | 1.46           | 2.40           | <b>W4110X</b>   | 8.15            | —   | —                | —   | —                | —   | —                |
|                               | <b>1<sup>11</sup>/<sub>16</sub></b> | 1.56           | 2.52           | <b>W4111X</b>   | 8.43            | —   | —                | —   | —                | —   | —                |
|                               | <b>1<sup>3</sup>/<sub>4</sub></b>   | 1.56           | 2.52           | <b>W4112X</b>   | 8.35            | —   | —                | —   | —                | —   | —                |
|                               | <b>1<sup>13</sup>/<sub>16</sub></b> | 1.56           | 2.52           | <b>W4113X</b>   | 8.25            | —   | —                | —   | —                | —   | —                |
|                               | <b>1<sup>7</sup>/<sub>8</sub></b>   | 1.63           | 2.63           | <b>W4114X</b>   | 8.45            | —   | —                | —   | —                | —   | —                |
|                               | <b>1<sup>15</sup>/<sub>16</sub></b> | 1.63           | 2.63           | <b>W4115X</b>   | 8.39            | —   | —                | —   | —                | —   | —                |
|                               | <b>2</b>                            | 1.63           | 2.63           | <b>W4200X</b>   | 8.28            | 2 - 1 <sup>7</sup> / <sub>16</sub>  | <b>W4200R107</b> | —   | —                | —   | —                |
|                               | <b>2<sup>1</sup>/<sub>16</sub></b>  | 1.73           | 2.89           | <b>W4201X</b>   | 8.65            | —   | —                | —   | —                | —   | —                |
|                               | <b>2<sup>1</sup>/<sub>8</sub></b>   | 1.73           | 2.89           | <b>W4202X</b>   | 8.53            | —   | —                | —   | —                | —   | —                |
|                               | <b>2<sup>3</sup>/<sub>16</sub></b>  | 1.73           | 2.89           | <b>W4203X</b>   | 8.42            | 2 <sup>3</sup> / <sub>16</sub> - 1 <sup>5</sup> / <sub>8</sub>                    | <b>W4203R110</b> | 2 <sup>3</sup> / <sub>16</sub> - 1 <sup>7</sup> / <sub>16</sub>                     | <b>W4203R107</b> | 2 <sup>3</sup> / <sub>16</sub> - 1 <sup>1</sup> / <sub>4</sub>                      | <b>W4203R104</b> |
|                               | <b>2<sup>1</sup>/<sub>4</sub></b>   | 1.83           | 2.78           | <b>W4204X</b>   | 8.73            | —   | —                | —   | —                | —   | —                |
|                               | <b>2<sup>5</sup>/<sub>16</sub></b>  | 1.83           | 2.78           | <b>W4205X</b>   | 8.61            | —   | —                | —   | —                | —   | —                |
|                               | <b>2<sup>3</sup>/<sub>8</sub></b>   | 1.83           | 2.78           | <b>W4206X</b>   | 8.47            | 2 <sup>3</sup> / <sub>8</sub> - 2   | <b>W4206R200</b> | 2 <sup>3</sup> / <sub>8</sub> - 1 <sup>13</sup> / <sub>16</sub>                     | <b>W4206R113</b> | 2 <sup>3</sup> / <sub>8</sub> - 1 <sup>7</sup> / <sub>16</sub>                      | <b>W4206R107</b> |
|                               | —                                   | —              | —              | —               | —               | 2 <sup>3</sup> / <sub>8</sub> - 1 <sup>3</sup> / <sub>8</sub>                     | <b>W4206R106</b> | —   | —                | —   | —                |
|                               | <b>2<sup>7</sup>/<sub>16</sub></b>  | 1.95           | 3.00           | <b>W4207X</b>   | 8.96            | 2 <sup>7</sup> / <sub>16</sub> - 2  | <b>W4207R200</b> | —   | —                | —   | —                |
|                               | <b>2<sup>1</sup>/<sub>2</sub></b>   | 1.95           | 3.00           | <b>W4208X</b>   | 8.86            | 2 <sup>1</sup> / <sub>2</sub> - 2   | <b>W4208R200</b> | 2 <sup>1</sup> / <sub>2</sub> - 1 <sup>13</sup> / <sub>16</sub>                     | <b>W4208R113</b> | 2 <sup>1</sup> / <sub>2</sub> - 2 <sup>1</sup> / <sub>16</sub>                      | <b>W4208R201</b> |
|                               | <b>2<sup>9</sup>/<sub>16</sub></b>  | 1.95           | 3.00           | <b>W4209X</b>   | 8.67            | 2 <sup>9</sup> / <sub>16</sub> - 2 <sup>3</sup> / <sub>16</sub>                   | <b>W4209R203</b> | 2 <sup>9</sup> / <sub>16</sub> - 2 <sup>1</sup> / <sub>8</sub>                      | <b>W4209R202</b> | —   | —                |
|                               | —                                   | —              | —              | —               | —               | 2 <sup>9</sup> / <sub>16</sub> - 2  | <b>W4209R200</b> | 2 <sup>9</sup> / <sub>16</sub> - 1 <sup>13</sup> / <sub>16</sub>                    | <b>W4209R113</b> | —   | —                |
|                               | <b>2<sup>5</sup>/<sub>8</sub></b>   | 2.07           | 3.08           | <b>W4210X</b>   | 9.14            | —   | —                | —   | —                | —   | —                |
|                               | <b>2<sup>11</sup>/<sub>16</sub></b> | 2.07           | 3.08           | <b>W4211X</b>   | 9.03            | —   | —                | —   | —                | —   | —                |
|                               | <b>2<sup>3</sup>/<sub>4</sub></b>   | 2.07           | 3.08           | <b>W4212X</b>   | 8.84            | 2 <sup>3</sup> / <sub>4</sub> - 2 <sup>3</sup> / <sub>8</sub>                     | <b>W4212R206</b> | 2 <sup>3</sup> / <sub>4</sub> - 2 <sup>3</sup> / <sub>16</sub>                      | <b>W4212R203</b> | 2 <sup>3</sup> / <sub>4</sub> - 2 <sup>1</sup> / <sub>8</sub>                       | <b>W4212R202</b> |
|                               | <b>2<sup>13</sup>/<sub>16</sub></b> | 2.18           | 3.21           | <b>W4213X</b>   | 9.32            | —   | —                | —   | —                | —   | —                |
|                               | <b>2<sup>7</sup>/<sub>8</sub></b>   | 2.18           | 3.21           | <b>W4214X</b>   | 9.17            | —   | —                | —   | —                | —   | —                |
|                               | <b>2<sup>15</sup>/<sub>16</sub></b> | 2.18           | 3.21           | <b>W4215X</b>   | 8.96            | 2 <sup>15</sup> / <sub>16</sub> - 2 <sup>9</sup> / <sub>16</sub>                  | <b>W4215R209</b> | 2 <sup>15</sup> / <sub>16</sub> - 2 <sup>3</sup> / <sub>8</sub>                     | <b>W4215R206</b> | 2 <sup>15</sup> / <sub>16</sub> - 2 <sup>3</sup> / <sub>16</sub>                    | <b>W4215R203</b> |
|                               | —                                   | —              | —              | —               | —               | 2 <sup>15</sup> / <sub>16</sub> - 2   | <b>W4215R200</b> | —   | —                | —   | —                |
|                               | <b>3</b>                            | 2.30           | 3.29           | <b>W4300X</b>   | 9.51            | 3 - 2 <sup>3</sup> / <sub>16</sub>  | <b>W4300R203</b> | —   | —                | —   | —                |
|                               | <b>3<sup>1</sup>/<sub>16</sub></b>  | 2.30           | 3.29           | <b>W4301X</b>   | 9.42            | —   | —                | —   | —                | —   | —                |
|                               | <b>3<sup>1</sup>/<sub>8</sub></b>   | 2.30           | 3.29           | <b>W4302X</b>   | 9.16            | —   | —                | 3 <sup>1</sup> / <sub>8</sub> - 2 <sup>3</sup> / <sub>4</sub>                       | <b>W4302R212</b> | 3 <sup>1</sup> / <sub>8</sub> - 2 <sup>9</sup> / <sub>16</sub>                      | <b>W4302R209</b> |
|                               | —                                   | —              | —              | —               | —               | 3 <sup>1</sup> / <sub>8</sub> - 2 <sup>3</sup> / <sub>8</sub>                     | <b>W4302R206</b> | 3 <sup>1</sup> / <sub>8</sub> - 2 <sup>5</sup> / <sub>16</sub>                      | <b>W4302R205</b> | 3 <sup>1</sup> / <sub>8</sub> - 2 <sup>1</sup> / <sub>4</sub>                       | <b>W4302R204</b> |
|                               | —                                   | —              | —              | —               | —               | 3 <sup>1</sup> / <sub>8</sub> - 2 <sup>3</sup> / <sub>16</sub>                    | <b>W4302R203</b> | 3 <sup>1</sup> / <sub>8</sub> - 2 <sup>1</sup> / <sub>8</sub>                       | <b>W4302R202</b> | 3 <sup>1</sup> / <sub>8</sub> - 2   | <b>W4302R200</b> |
|                               | <b>3<sup>3</sup>/<sub>16</sub></b>  | 2.44           | 3.37           | <b>W4303X</b>   | 9.92            | —   | —                | —   | —                | —   | —                |
|                               | <b>3<sup>1</sup>/<sub>4</sub></b>   | 2.44           | 3.37           | <b>W4304X</b>   | 9.92            | —   | —                | —   | —                | —   | —                |
|                               | <b>3<sup>5</sup>/<sub>16</sub></b>  | 2.44           | 3.37           | <b>W4305X</b>   | 9.92            | —   | —                | —   | —                | —   | —                |
|                               | <b>3<sup>3</sup>/<sub>8</sub></b>   | 2.44           | 3.37           | <b>W4306X</b>   | 9.92            | —   | —                | —   | —                | —   | —                |



Nominal Torque at 10,000 psi:

**8470 Ft.lbs**

Hexagon Range:

**1 $\frac{7}{8}$  - 4 $\frac{1}{8}$  inch**






Maximum Operating Pressure:

**10,000 psi**

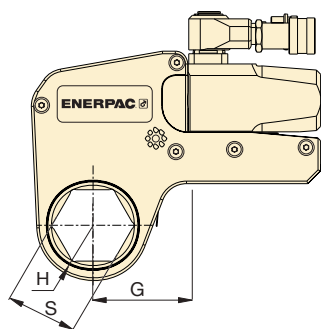
**W**  
Series  
(X-Edition)



## ▼ SELECTION CHART

| Drive Unit<br>Model<br>Number | Hexagon<br>Size   | Nose<br>Radius    | Dim.      | Model<br>Number | Weight  |  |                                     |  |                                     |  |                                    |
|-------------------------------|---|-------------------|-----------|-----------------|---|---|-------------------------------------|---|-------------------------------------|---|------------------------------------|
|                               |   |                   |           |                 |   | Hexagon<br>Reducer<br>(in)  | Model<br>Number                     | Hexagon<br>Reducer<br>(in)  | Model<br>Number                     | Hexagon<br>Reducer<br>(in)  | Model<br>Number                    |
| <b>W8000X</b>                 |  | S<br>(in)         | H<br>(in) | G<br>(in)       |  | (lbs)   |                                     |   |                                     |   |                                    |
|                               |   | 1 $\frac{7}{8}$   | 1.77      | 3.08            | <b>W8114X</b>   | 17.97   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 1 $\frac{15}{16}$ | 1.77      | 3.08            | <b>W8115X</b>   | 17.89   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 2                 | 1.77      | 3.08            | <b>W8200X</b>   | 17.75   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 2 $\frac{1}{16}$  | 1.89      | 3.15            | <b>W8201X</b>   | 17.52   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 2 $\frac{1}{8}$   | 1.89      | 3.15            | <b>W8202X</b>   | 17.36   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 2 $\frac{3}{16}$  | 1.89      | 3.15            | <b>W8203X</b>   | 17.22   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 2 $\frac{1}{4}$   | 2.01      | 3.25            | <b>W8204X</b>   | 17.92   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 2 $\frac{5}{16}$  | 2.01      | 3.25            | <b>W8205X</b>   | 17.76   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 2 $\frac{3}{8}$   | 2.01      | 3.25            | <b>W8206X</b>   | 17.59   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 2 $\frac{7}{16}$  | 2.07      | 3.38            | <b>W8207X</b>   | 17.65   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 2 $\frac{1}{2}$   | 2.07      | 3.38            | <b>W8208X</b>   | 17.52   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 2 $\frac{9}{16}$  | 2.07      | 3.38            | <b>W8209X</b>   | 17.29   | 2 $\frac{9}{16}$ - 2                | <b>W8209R200</b>  | -                                   | -   | -                                  |
|                               |   | 2 $\frac{5}{8}$   | 2.20      | 3.34            | <b>W8210X</b>   | 17.50   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 2 $\frac{11}{16}$ | 2.20      | 3.34            | <b>W8211X</b>   | 17.36   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 2 $\frac{3}{4}$   | 2.20      | 3.34            | <b>W8212X</b>   | 17.12   | 2 $\frac{3}{4}$ - 2 $\frac{3}{16}$  | <b>W8212R203</b>  | -                                   | -   | -                                  |
|                               |   | 2 $\frac{13}{16}$ | 2.28      | 3.35            | <b>W8213X</b>   | 17.57   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 2 $\frac{7}{8}$   | 2.28      | 3.35            | <b>W8214X</b>   | 17.38   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 2 $\frac{15}{16}$ | 2.28      | 3.35            | <b>W8215X</b>   | 17.11   | 2 $\frac{15}{16}$ - 2 $\frac{3}{8}$ | <b>W8215R206</b>  | 2 $\frac{15}{16}$ - 2 $\frac{3}{8}$ | <b>W8215R203</b>  | -                                  |
|                               |   | 3                 | 2.38      | 3.52            | <b>W8300X</b>   | 17.77   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 3 $\frac{1}{16}$  | 2.38      | 3.52            | <b>W8301X</b>   | 17.65   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 3 $\frac{1}{8}$   | 2.38      | 3.52            | <b>W8302X</b>   | 17.33   | 3 $\frac{1}{8}$ - 2 $\frac{9}{16}$  | <b>W8302R209</b>  | 3 $\frac{1}{8}$ - 2 $\frac{9}{16}$  | <b>W8302R206</b>  | 3 $\frac{1}{8}$ - 2 $\frac{3}{16}$ |
|                               |   | -                 | -         | -               | -   | -   | 3 $\frac{1}{8}$ - 2                 | <b>W8302R200</b>  | -                                   | -   | -                                  |
|                               |   | 3 $\frac{3}{16}$  | 2.60      | 3.63            | <b>W8303X</b>   | 18.99   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 3 $\frac{1}{4}$   | 2.60      | 3.63            | <b>W8304X</b>   | 18.72   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 3 $\frac{5}{16}$  | 2.60      | 3.63            | <b>W8305X</b>   | 18.54   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 3 $\frac{3}{8}$   | 2.60      | 3.63            | <b>W8306X</b>   | 18.36   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 3 $\frac{7}{16}$  | 2.60      | 3.63            | <b>W8307IX</b>  | 18.11   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 3 $\frac{1}{2}$   | 2.60      | 3.63            | <b>W8308X</b>   | 17.81   | 3 $\frac{1}{2}$ - 3                 | <b>W8308R300</b>  | 3 $\frac{1}{2}$ - 2 $\frac{15}{16}$ | <b>W8308R215</b>  | 3 $\frac{1}{2}$ - 2 $\frac{3}{4}$  |
|                               |   | 3 $\frac{9}{16}$  | 2.91      | 4.05            | <b>W8309X</b>   | 20.36   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 3 $\frac{5}{8}$   | 2.91      | 4.05            | <b>W8310X</b>   | 20.18   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 3 $\frac{11}{16}$ | 2.91      | 4.05            | <b>W8311X</b>   | 19.93   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 3 $\frac{3}{4}$   | 2.91      | 4.05            | <b>W8312X</b>   | 19.71   | 3 $\frac{3}{4}$ - 3 $\frac{1}{8}$   | <b>W8312R302</b>  | 3 $\frac{3}{4}$ - 2 $\frac{15}{16}$ | <b>W8312R215</b>  | 3 $\frac{3}{4}$ - 2 $\frac{3}{4}$  |
|                               |   | 3 $\frac{13}{16}$ | 2.91      | 4.05            | <b>W8313X</b>   | 19.46   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 3 $\frac{7}{8}$   | 2.91      | 4.05            | <b>W8314X</b>   | 19.10   | 3 $\frac{7}{8}$ - 3 $\frac{1}{8}$   | <b>W8314R302</b>  | 3 $\frac{7}{8}$ - 2 $\frac{15}{16}$ | <b>W8314R215</b>  | -                                  |
|                               |   | 3 $\frac{15}{16}$ | 3.13      | 4.33            | <b>W8315X</b>   | 20.31   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 4                 | 3.13      | 4.33            | <b>W8400X</b>   | 20.04   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 4 $\frac{1}{16}$  | 3.13      | 4.33            | <b>W8401IX</b>  | 19.80   | -                                   | -   | -                                   | -   | -                                  |
|                               |   | 4 $\frac{1}{8}$   | 3.13      | 4.33            | <b>W8402X</b>   | 19.39   | -                                   | -   | -                                   | -   | -                                  |

# W15000X Series Imperial Cassettes & Reducer Inserts



Nominal Torque at 10,000 psi:

**15,330 Ft.lbs**

Hexagon Range:

**2<sup>7</sup>/<sub>16</sub>-4<sup>5</sup>/<sub>8</sub> inch**




Maximum Operating Pressure:

**10,000 psi**

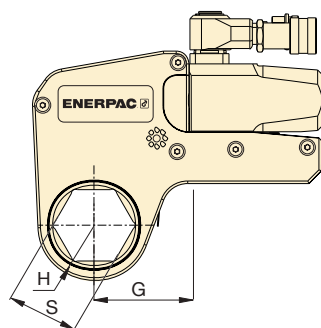
**W**  
Series  
(X-Edition)



## ▼ SELECTION CHART

| Drive Unit<br>Model<br>Number | Hexagon<br>Size                 | Nose<br>Radius | Dim.<br><br>G | Model<br>Number | Weight<br><br>(lbs) |  |                   |  |                   |  |                   |
|-------------------------------|---------------------------------|----------------|---------------|-----------------|---------------------|---|-------------------|---|-------------------|---|-------------------|
|                               |                                 |                |               |                 |                     | Hexagon<br>Reducer<br>(in)  | Model<br>Number   | Hexagon<br>Reducer<br>(in)  | Model<br>Number   | Hexagon<br>Reducer<br>(in)  | Model<br>Number   |
| <b>W15000X</b>                | 2 <sup>7</sup> / <sub>16</sub>  | 2.32           | 3.49          | <b>W15207X</b>  | 30.72               | —   | —                 | —   | —                 | —   | —                 |
|                               | 2 <sup>1</sup> / <sub>2</sub>   | 2.32           | 3.49          | <b>W15208X</b>  | 30.72               | —   | —                 | —   | —                 | —   | —                 |
|                               | 2 <sup>9</sup> / <sub>16</sub>  | 2.32           | 3.49          | <b>W15209X</b>  | 30.72               | —   | —                 | —   | —                 | —   | —                 |
|                               | 2 <sup>5</sup> / <sub>8</sub>   | 2.32           | 3.49          | <b>W15210X</b>  | 30.72               | —   | —                 | —   | —                 | —   | —                 |
|                               | 2 <sup>11</sup> / <sub>16</sub> | 2.32           | 3.49          | <b>W15211X</b>  | 30.72               | —   | —                 | —   | —                 | —   | —                 |
|                               | 2 <sup>3</sup> / <sub>4</sub>   | 2.32           | 3.49          | <b>W15212X</b>  | 30.72               | —   | —                 | —   | —                 | —   | —                 |
|                               | 2 <sup>13</sup> / <sub>16</sub> | 2.44           | 3.56          | <b>W15213X</b>  | 30.62               | —   | —                 | —   | —                 | —   | —                 |
|                               | 2 <sup>7</sup> / <sub>8</sub>   | 2.44           | 3.56          | <b>W15214X</b>  | 30.39               | —   | —                 | —   | —                 | —   | —                 |
|                               | 2 <sup>15</sup> / <sub>16</sub> | 2.44           | 3.56          | <b>W15215X</b>  | 30.08               | —   | —                 | —   | —                 | —   | —                 |
|                               | 3                               | 2.54           | 3.66          | <b>W15300X</b>  | 30.86               | 3 - 2 <sup>1</sup> / <sub>8</sub>   | <b>W15300R202</b> | —   | —                 | —   | —                 |
|                               | 3 <sup>1</sup> / <sub>16</sub>  | 2.54           | 3.66          | <b>W15301X</b>  | 30.71               | —   | —                 | —   | —                 | —   | —                 |
|                               | 3 <sup>1</sup> / <sub>8</sub>   | 2.54           | 3.66          | <b>W15302X</b>  | 30.34               | 3 <sup>1</sup> / <sub>8</sub> - 2 <sup>9</sup> / <sub>16</sub>                    | <b>W15302R209</b> | —   | —                 | —   | —                 |
|                               | 3 <sup>3</sup> / <sub>16</sub>  | 2.74           | 3.80          | <b>W15303X</b>  | 32.38               | —   | —                 | —   | —                 | —   | —                 |
|                               | 3 <sup>1</sup> / <sub>4</sub>   | 2.74           | 3.80          | <b>W15304X</b>  | 32.07               | —   | —                 | —   | —                 | —   | —                 |
|                               | 3 <sup>5</sup> / <sub>16</sub>  | 2.74           | 3.80          | <b>W15305X</b>  | 31.85               | —   | —                 | —   | —                 | —   | —                 |
|                               | 3 <sup>3</sup> / <sub>8</sub>   | 2.74           | 3.80          | <b>W15306X</b>  | 31.63               | —   | —                 | —   | —                 | —   | —                 |
|                               | 3 <sup>7</sup> / <sub>16</sub>  | 2.74           | 3.80          | <b>W15307IX</b> | 31.32               | —   | —                 | —   | —                 | —   | —                 |
|                               | 3 <sup>1</sup> / <sub>2</sub>   | 2.74           | 3.80          | <b>W15308X</b>  | 30.98               | 3 <sup>1</sup> / <sub>2</sub> - 2 <sup>15</sup> / <sub>16</sub>                   | <b>W15308R215</b> | 3 <sup>1</sup> / <sub>2</sub> - 2 <sup>3</sup> / <sub>4</sub>                       | <b>W15308R212</b> | —   | —                 |
|                               | 3 <sup>9</sup> / <sub>16</sub>  | 2.95           | 4.01          | <b>W15309X</b>  | 31.70               | —   | —                 | —   | —                 | —   | —                 |
|                               | 3 <sup>5</sup> / <sub>8</sub>   | 2.95           | 4.01          | <b>W15310X</b>  | 31.70               | —   | —                 | —   | —                 | —   | —                 |
|                               | 3 <sup>11</sup> / <sub>16</sub> | 2.95           | 4.01          | <b>W15311X</b>  | 31.70               | —   | —                 | —   | —                 | —   | —                 |
|                               | 3 <sup>3</sup> / <sub>4</sub>   | 2.95           | 4.01          | <b>W15312X</b>  | 31.70               | 3 <sup>3</sup> / <sub>4</sub> - 3 <sup>1</sup> / <sub>8</sub>                     | <b>W15312R302</b> | 3 <sup>3</sup> / <sub>4</sub> - 2 <sup>15</sup> / <sub>16</sub>                     | <b>W15312R215</b> | —   | —                 |
|                               | 3 <sup>13</sup> / <sub>16</sub> | 2.95           | 4.01          | <b>W15313X</b>  | 31.70               | —   | —                 | —   | —                 | —   | —                 |
|                               | 3 <sup>7</sup> / <sub>8</sub>   | 2.95           | 4.01          | <b>W15314X</b>  | 31.70               | 3 <sup>7</sup> / <sub>8</sub> - 3 <sup>1</sup> / <sub>8</sub>                     | <b>W15314R302</b> | 3 <sup>7</sup> / <sub>8</sub> - 2 <sup>15</sup> / <sub>16</sub>                     | <b>W15314R215</b> | —   | —                 |
|                               | 3 <sup>15</sup> / <sub>16</sub> | 3.17           | 4.06          | <b>W15315X</b>  | 34.02               | —   | —                 | —   | —                 | —   | —                 |
|                               | 4                               | 3.17           | 4.06          | <b>W15400X</b>  | 33.70               | —   | —                 | —   | —                 | —   | —                 |
|                               | 4 <sup>1</sup> / <sub>16</sub>  | 3.17           | 4.06          | <b>W15401IX</b> | 33.41               | —   | —                 | —   | —                 | —   | —                 |
|                               | 4 <sup>1</sup> / <sub>8</sub>   | 3.17           | 4.06          | <b>W15402X</b>  | 33.09               | 4 <sup>1</sup> / <sub>8</sub> - 3 <sup>1</sup> / <sub>2</sub>                     | <b>W15402R308</b> | 4 <sup>1</sup> / <sub>8</sub> - 3 <sup>5</sup> / <sub>16</sub>                      | <b>W15402R305</b> | 4 <sup>1</sup> / <sub>8</sub> - 3 <sup>1</sup> / <sub>4</sub>                       | <b>W15402R304</b> |
|                               | 4 <sup>3</sup> / <sub>16</sub>  | 3.17           | 4.06          | <b>W15403IX</b> | 32.81               | —   | —                 | —   | —                 | —   | —                 |
|                               | 4 <sup>1</sup> / <sub>4</sub>   | 3.17           | 4.06          | <b>W15404X</b>  | 32.29               | 4 <sup>1</sup> / <sub>4</sub> - 3 <sup>1</sup> / <sub>2</sub>                     | <b>W15404R308</b> | 4 <sup>1</sup> / <sub>4</sub> - 3 <sup>1</sup> / <sub>8</sub>                       | <b>W15404R302</b> | —   | —                 |
|                               | 4 <sup>5</sup> / <sub>16</sub>  | 3.44           | 4.52          | <b>W15405X</b>  | 35.61               | —   | —                 | —   | —                 | —   | —                 |
|                               | 4 <sup>3</sup> / <sub>8</sub>   | 3.44           | 4.52          | <b>W15406X</b>  | 35.32               | —   | —                 | —   | —                 | —   | —                 |
|                               | 4 <sup>7</sup> / <sub>16</sub>  | 3.44           | 4.52          | <b>W15407X</b>  | 34.99               | —   | —                 | —   | —                 | —   | —                 |
|                               | 4 <sup>1</sup> / <sub>2</sub>   | 3.44           | 4.52          | <b>W15408IX</b> | 34.63               | —   | —                 | —   | —                 | —   | —                 |
|                               | 4 <sup>9</sup> / <sub>16</sub>  | 3.44           | 4.52          | <b>W15409IX</b> | 34.28               | —   | —                 | —   | —                 | —   | —                 |
|                               | 4 <sup>5</sup> / <sub>8</sub>   | 3.44           | 4.52          | <b>W15410IX</b> | 33.72               | 4 <sup>5</sup> / <sub>8</sub> - 3 <sup>15</sup> / <sub>16</sub>                   | <b>W15410R315</b> | 4 <sup>5</sup> / <sub>8</sub> - 3 <sup>7</sup> / <sub>8</sub>                       | <b>W15410R314</b> | 4 <sup>5</sup> / <sub>8</sub> - 3 <sup>3</sup> / <sub>4</sub>                       | <b>W15410R312</b> |
|                               | —                               | —              | —             | —               | —                   | 4 <sup>5</sup> / <sub>8</sub> - 3 <sup>1</sup> / <sub>2</sub>                     | <b>W15410R308</b> | —   | —                 | —   | —                 |





Nominal Torque at 10,000 psi:

**22,500 Ft.lbs**

Hexagon Range:

**2<sup>15</sup>/<sub>16</sub> - 5<sup>3</sup>/<sub>8</sub> inch**




Maximum Operating Pressure:

**10,000 psi**

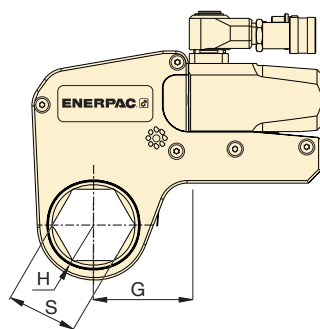
**W**  
**Series**  
**(X-Edition)**




## ▼ SELECTION CHART

| Drive Unit<br>Model<br>Number | Hexagon<br>Size                     | Nose<br>Radius | Dim.<br><br>G | Model<br>Number | Weight<br><br>(lbs) |  |                   |  |                   |  |                   |
|-------------------------------|-------------------------------------|----------------|---------------|-----------------|---------------------|---|-------------------|---|-------------------|---|-------------------|
|                               |                                     |                |               |                 |                     | Hexagon<br>Reducer<br>(in)  | Model<br>Number   | Hexagon<br>Reducer<br>(in)  | Model<br>Number   | Hexagon<br>Reducer<br>(in)  | Model<br>Number   |
| <b>W22000X</b>                | <b>2<sup>15</sup>/<sub>16</sub></b> | 2.64           | 4.02          | <b>W22215X</b>  | 48.72               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>3</b>                            | 2.64           | 4.02          | <b>W22300X</b>  | 48.40               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>3<sup>1</sup>/<sub>16</sub></b>  | 2.64           | 4.02          | <b>W22301X</b>  | 48.22               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>3<sup>1</sup>/<sub>8</sub></b>   | 2.64           | 4.02          | <b>W22302X</b>  | 47.78               | 3 <sup>1</sup> / <sub>8</sub> - 2 <sup>3</sup> / <sub>8</sub>                     | <b>W22302R206</b> | 3 <sup>1</sup> / <sub>8</sub> - 2 <sup>3</sup> / <sub>16</sub>                      | <b>W22302R203</b> | —   | —                 |
|                               | <b>3<sup>3</sup>/<sub>16</sub></b>  | 2.85           | 4.23          | <b>W22303X</b>  | 50.58               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>3<sup>1</sup>/<sub>4</sub></b>   | 2.85           | 4.23          | <b>W22304X</b>  | 50.19               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>3<sup>5</sup>/<sub>16</sub></b>  | 2.85           | 4.23          | <b>W22305X</b>  | 49.92               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>3<sup>3</sup>/<sub>8</sub></b>   | 2.85           | 4.23          | <b>W22306X</b>  | 49.66               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>3<sup>7</sup>/<sub>16</sub></b>  | 2.85           | 4.23          | <b>W22307X</b>  | 50.29               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>3<sup>1</sup>/<sub>2</sub></b>   | 2.85           | 4.23          | <b>W22308X</b>  | 48.87               | 3 <sup>1</sup> / <sub>2</sub> - 2 <sup>3</sup> / <sub>4</sub>                     | <b>W22308R212</b> | 3 <sup>1</sup> / <sub>2</sub> - 2 <sup>9</sup> / <sub>16</sub>                      | <b>W22308R209</b> | 3 <sup>1</sup> / <sub>2</sub> - 2 <sup>3</sup> / <sub>8</sub>                       | <b>W22308R206</b> |
|                               | <b>3<sup>9</sup>/<sub>16</sub></b>  | 3.07           | 4.45          | <b>W22309X</b>  | 51.58               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>3<sup>5</sup>/<sub>8</sub></b>   | 3.07           | 4.45          | <b>W22310X</b>  | 51.30               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>3<sup>11</sup>/<sub>16</sub></b> | 3.07           | 4.45          | <b>W22311X</b>  | 50.93               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>3<sup>3</sup>/<sub>4</sub></b>   | 3.07           | 4.45          | <b>W22312X</b>  | 50.62               | 3 <sup>3</sup> / <sub>4</sub> - 2 <sup>15</sup> / <sub>16</sub>                   | <b>W22312R215</b> | —   | —                 | —   | —                 |
|                               | <b>3<sup>13</sup>/<sub>16</sub></b> | 3.07           | 4.45          | <b>W22313X</b>  | 50.24               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>3<sup>7</sup>/<sub>8</sub></b>   | 3.07           | 4.45          | <b>W22314X</b>  | 49.77               | 3 <sup>7</sup> / <sub>8</sub> - 3 <sup>1</sup> / <sub>8</sub>                     | <b>W22314R302</b> | 3 <sup>7</sup> / <sub>8</sub> - 2 <sup>15</sup> / <sub>16</sub>                     | <b>W22314R215</b> | 3 <sup>7</sup> / <sub>8</sub> - 2 <sup>3</sup> / <sub>4</sub>                       | <b>W22314R212</b> |
|                               | <b>3<sup>15</sup>/<sub>16</sub></b> | 3.35           | 4.72          | <b>W22315X</b>  | 53.57               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>4</b>                            | 3.35           | 4.72          | <b>W22400X</b>  | 53.19               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>4<sup>1</sup>/<sub>16</sub></b>  | 3.35           | 4.72          | <b>W22401IX</b> | 52.82               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>4<sup>1</sup>/<sub>8</sub></b>   | 3.35           | 4.72          | <b>W22402X</b>  | 52.43               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>4<sup>3</sup>/<sub>16</sub></b>  | 3.35           | 4.72          | <b>W22403X</b>  | 52.09               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>4<sup>1</sup>/<sub>4</sub></b>   | 3.35           | 4.72          | <b>W22404X</b>  | 51.48               | 4 <sup>1</sup> / <sub>4</sub> - 3 <sup>1</sup> / <sub>2</sub>                     | <b>W22404R308</b> | 4 <sup>1</sup> / <sub>4</sub> - 3 <sup>1</sup> / <sub>8</sub>                       | <b>W22404R302</b> | 4 <sup>1</sup> / <sub>4</sub> - 2 <sup>15</sup> / <sub>16</sub>                     | <b>W22404R215</b> |
|                               | <b>4<sup>5</sup>/<sub>16</sub></b>  | 3.54           | 4.92          | <b>W22405X</b>  | 54.26               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>4<sup>3</sup>/<sub>8</sub></b>   | 3.54           | 4.92          | <b>W22406X</b>  | 53.91               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>4<sup>7</sup>/<sub>16</sub></b>  | 3.54           | 4.92          | <b>W22407X</b>  | 53.50               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>4<sup>1</sup>/<sub>2</sub></b>   | 3.54           | 4.92          | <b>W22408IX</b> | 53.06               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>4<sup>9</sup>/<sub>16</sub></b>  | 3.54           | 4.92          | <b>W22409X</b>  | 52.64               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>4<sup>5</sup>/<sub>8</sub></b>   | 3.54           | 4.92          | <b>W22410IX</b> | 51.99               | 4 <sup>5</sup> / <sub>8</sub> - 3 <sup>7</sup> / <sub>8</sub>                     | <b>W22410R314</b> | 4 <sup>5</sup> / <sub>8</sub> - 3 <sup>3</sup> / <sub>4</sub>                       | <b>W22410R312</b> | 4 <sup>5</sup> / <sub>8</sub> - 3 <sup>1</sup> / <sub>2</sub>                       | <b>W22410R308</b> |
|                               | <b>4<sup>3</sup>/<sub>4</sub></b>   | 3.74           | 5.12          | <b>W22412X</b>  | 54.54               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>4<sup>7</sup>/<sub>8</sub></b>   | 3.74           | 5.12          | <b>W22414X</b>  | 53.60               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>5</b>                            | 3.74           | 5.12          | <b>W22500X</b>  | 52.37               | 5 - 4 <sup>1</sup> / <sub>4</sub>   | <b>W22500R404</b> | 5 - 4 <sup>1</sup> / <sub>8</sub>   | <b>W22500R402</b> | 5 - 3 <sup>7</sup> / <sub>8</sub>   | <b>W22500R314</b> |
|                               | <b>5<sup>1</sup>/<sub>8</sub></b>   | 3.94           | 5.31          | <b>W22502X</b>  | 55.10               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>5<sup>3</sup>/<sub>16</sub></b>  | 3.94           | 5.31          | <b>W22503X</b>  | 54.71               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>5<sup>1</sup>/<sub>4</sub></b>   | 3.94           | 5.31          | <b>W22504X</b>  | 54.05               | —   | —                 | —   | —                 | —   | —                 |
|                               | <b>5<sup>3</sup>/<sub>8</sub></b>   | 3.94           | 5.31          | <b>W22506X</b>  | 52.77               | 5 <sup>3</sup> / <sub>8</sub> - 4 <sup>5</sup> / <sub>8</sub>                     | <b>W22506R410</b> | 5 <sup>3</sup> / <sub>8</sub> - 4 <sup>1</sup> / <sub>4</sub>                       | <b>W22506R404</b> | 5 <sup>3</sup> / <sub>8</sub> - 4 <sup>1</sup> / <sub>8</sub>                       | <b>W22506R402</b> |
|                               | —                                   | —              | —             | <b>W22506X</b>  | 52.77               | 5 <sup>3</sup> / <sub>8</sub> - 3 <sup>7</sup> / <sub>8</sub>                     | <b>W22506R314</b> | —   | —                 | —   | —                 |

# W35000X Series Imperial Cassettes & Reducer Inserts



## ▼ SELECTION CHART

| Drive Unit<br>Model<br>Number | Hexagon<br>Size                     | Nose<br>Radius | Dim.<br>G | Model<br>Number | Weight<br>(lbs) |  |                   |
|-------------------------------|-------------------------------------|----------------|-----------|-----------------|-----------------|---|-------------------|
|                               |                                     |                |           |                 |                 | Hexagon<br>Reducer<br>(in)  | Model<br>Number   |
| <b>W35000X</b>                | <b>3<sup>1</sup>/<sub>8</sub></b>   | 3.02           | 4.99      | <b>W35302X</b>  | 72.30           | 3 <sup>1</sup> / <sub>8</sub> – 2   | <b>W35302R200</b> |
|                               | <b>3<sup>3</sup>/<sub>16</sub></b>  | 3.02           | 4.99      | <b>W35303X</b>  | 72.10           | –   | –                 |
|                               | <b>3<sup>1</sup>/<sub>4</sub></b>   | 3.02           | 4.99      | <b>W35304X</b>  | 71.70           | –   | –                 |
|                               | <b>3<sup>5</sup>/<sub>16</sub></b>  | 3.02           | 4.99      | <b>W35305X</b>  | 71.40           | –   | –                 |
|                               | <b>3<sup>3</sup>/<sub>8</sub></b>   | 3.02           | 4.99      | <b>W35306X</b>  | 71.00           | –   | –                 |
|                               | <b>3<sup>7</sup>/<sub>16</sub></b>  | 3.02           | 4.99      | <b>W35307IX</b> | 70.50           | –   | –                 |
|                               | <b>3<sup>1</sup>/<sub>2</sub></b>   | 3.02           | 4.99      | <b>W35308X</b>  | 70.10           | 3 <sup>1</sup> / <sub>2</sub> – 2 <sup>5</sup> / <sub>16</sub>                    | <b>W35308R205</b> |
|                               | <b>3<sup>9</sup>/<sub>16</sub></b>  | 3.23           | 5.22      | <b>W35309X</b>  | 71.40           | –   | –                 |
|                               | <b>3<sup>5</sup>/<sub>8</sub></b>   | 3.23           | 5.22      | <b>W35310X</b>  | 73.40           | –   | –                 |
|                               | <b>3<sup>11</sup>/<sub>16</sub></b> | 3.23           | 5.22      | <b>W35311X</b>  | 73.00           | –   | –                 |
|                               | <b>3<sup>3</sup>/<sub>4</sub></b>   | 3.23           | 5.22      | <b>W35312X</b>  | 72.50           | –   | –                 |
|                               | <b>3<sup>13</sup>/<sub>16</sub></b> | 3.23           | 5.22      | <b>W35313X</b>  | 72.10           | –   | –                 |
|                               | <b>3<sup>7</sup>/<sub>8</sub></b>   | 3.23           | 5.22      | <b>W35314X</b>  | 71.40           | 3 <sup>7</sup> / <sub>8</sub> – 2 <sup>11</sup> / <sub>16</sub>                   | <b>W35314R211</b> |
|                               | <b>3<sup>15</sup>/<sub>16</sub></b> | 3.45           | 5.39      | <b>W35315X</b>  | 70.80           | 3 <sup>15</sup> / <sub>16</sub> – 2 <sup>13</sup> / <sub>16</sub>                 | <b>W35315R213</b> |
|                               | <b>4</b>                            | 3.45           | 5.39      | <b>W35400X</b>  | 74.70           | –   | –                 |
|                               | <b>4<sup>1</sup>/<sub>16</sub></b>  | 3.45           | 5.39      | <b>W35401X</b>  | 74.30           | –   | –                 |
|                               | <b>4<sup>1</sup>/<sub>8</sub></b>   | 3.45           | 5.39      | <b>W35402X</b>  | 73.90           | –   | –                 |
|                               | <b>4<sup>3</sup>/<sub>16</sub></b>  | 3.45           | 5.39      | <b>W35403X</b>  | 73.40           | –   | –                 |
|                               | <b>4<sup>1</sup>/<sub>4</sub></b>   | 3.45           | 5.39      | <b>W35404X</b>  | 72.80           | 4 <sup>1</sup> / <sub>4</sub> – 3 <sup>1</sup> / <sub>16</sub>                    | <b>W35404R301</b> |
|                               | <b>4<sup>5</sup>/<sub>16</sub></b>  | 3.69           | 5.63      | <b>W35405X</b>  | 76.90           | –   | –                 |
|                               | <b>4<sup>3</sup>/<sub>8</sub></b>   | 3.69           | 5.63      | <b>W35406X</b>  | 76.50           | –   | –                 |
|                               | <b>4<sup>7</sup>/<sub>16</sub></b>  | 3.69           | 5.63      | <b>W35407X</b>  | 76.10           | –   | –                 |
|                               | <b>4<sup>1</sup>/<sub>2</sub></b>   | 3.69           | 5.63      | <b>W35408X</b>  | 75.60           | –   | –                 |
|                               | <b>4<sup>9</sup>/<sub>16</sub></b>  | 3.69           | 5.63      | <b>W35409IX</b> | 75.20           | –   | –                 |
|                               | <b>4<sup>5</sup>/<sub>8</sub></b>   | 3.69           | 5.63      | <b>W35410IX</b> | 74.50           | 4 <sup>5</sup> / <sub>8</sub> – 3 <sup>5</sup> / <sub>8</sub>                     | <b>W35410R310</b> |
|                               | <b>4<sup>3</sup>/<sub>4</sub></b>   | 3.91           | 5.85      | <b>W35412X</b>  | 78.50           | 4 <sup>3</sup> / <sub>4</sub> – 3 <sup>3</sup> / <sub>4</sub>                     | <b>W35412R312</b> |
|                               | <b>4<sup>7</sup>/<sub>8</sub></b>   | 3.91           | 5.85      | <b>W35414X</b>  | 76.90           | –   | –                 |
|                               | <b>5</b>                            | 3.91           | 5.85      | <b>W35500X</b>  | 75.60           | 5 – 4   | <b>W35500R400</b> |
|                               | <b>5<sup>1</sup>/<sub>8</sub></b>   | 4.09           | 6.02      | <b>W35502X</b>  | 78.90           | 5 <sup>1</sup> / <sub>8</sub> – 4 <sup>1</sup> / <sub>8</sub>                     | <b>W35502R402</b> |
|                               | <b>5<sup>3</sup>/<sub>16</sub></b>  | 4.09           | 6.02      | <b>W35503X</b>  | 78.50           | –   | –                 |
|                               | <b>5<sup>1</sup>/<sub>4</sub></b>   | 4.09           | 6.02      | <b>W35504X</b>  | 77.60           | –   | –                 |
|                               | <b>5<sup>3</sup>/<sub>8</sub></b>   | 4.09           | 6.02      | <b>W35506X</b>  | 76.30           | 5 <sup>3</sup> / <sub>8</sub> – 4 <sup>5</sup> / <sub>16</sub>                    | <b>W35506R405</b> |
|                               | <b>5<sup>1</sup>/<sub>2</sub></b>   | 4.31           | 6.24      | <b>W35508X</b>  | 79.80           | –   | –                 |
|                               | <b>5<sup>9</sup>/<sub>16</sub></b>  | 4.31           | 6.24      | <b>W35509X</b>  | 79.40           | –   | –                 |
|                               | <b>5<sup>5</sup>/<sub>8</sub></b>   | 4.31           | 6.24      | <b>W35510X</b>  | 78.50           | –   | –                 |
|                               | <b>5<sup>3</sup>/<sub>4</sub></b>   | 4.31           | 6.24      | <b>W35512X</b>  | 76.90           | 5 <sup>3</sup> / <sub>4</sub> – 4 <sup>3</sup> / <sub>4</sub>                     | <b>W35512R412</b> |
|                               | <b>5<sup>7</sup>/<sub>8</sub></b>   | 4.52           | 6.46      | <b>W35514X</b>  | 80.90           | 5 <sup>7</sup> / <sub>8</sub> – 4 <sup>7</sup> / <sub>8</sub>                     | <b>W35514R414</b> |
|                               | <b>6</b>                            | 4.52           | 6.46      | <b>W35600X</b>  | 79.60           | –   | –                 |
|                               | <b>6<sup>1</sup>/<sub>8</sub></b>   | 4.52           | 6.46      | <b>W35602X</b>  | 77.80           | 6 <sup>1</sup> / <sub>8</sub> – 5 <sup>1</sup> / <sub>8</sub>                     | <b>W35602R502</b> |

## W Series (X-Edition)



Nominal Torque at 10,000 psi:

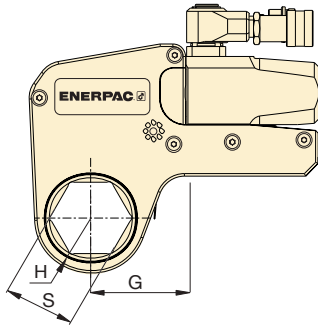
**35,000 Ft.lbs**

Hexagon Range:

**3<sup>1</sup>/<sub>8</sub>-6<sup>1</sup>/<sub>8</sub> inches**

Maximum Operating Pressure:

**10,000 psi**



Hexagon Range:

**30-105 mm**





Maximum Operating Pressure:

**10,000 psi (690 bar)**

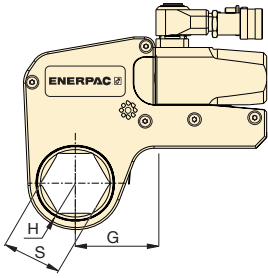
**W**  
Series  
(X-Edition)



▼ SELECTION CHART

| Drive Unit<br>Model<br>Number | Hexagon<br>Size | Nose<br>Radius | Dim.      | Model<br>Number   | Wt.   |  |                 |  |                 |  |                 |
|-------------------------------|-----------------|----------------|-----------|---|-------|---|-----------------|---|-----------------|---|-----------------|
|                               |                 |                |           |   |       | Hexagon<br>Reducer  | Model<br>Number | Hexagon<br>Reducer  | Model<br>Number | Hexagon<br>Reducer  | Model<br>Number |
|                               | S<br>(mm)       | H<br>(in)      | G<br>(in) |  | (lbs) | (mm)  |                 | (mm)  |                 | (mm)  |                 |
| <b>W2000X</b>                 | 30              | 1.22           | 2.11      | W2103X  | 4.19  | -   | -               | -   | -               | -   | -               |
|                               | 32              | 1.22           | 2.11      | W2104X  | 4.19  | -   | -               | -   | -               | -   | -               |
|                               | 36              | 1.22           | 2.11      | W2107X  | 4.19  | -   | -               | -   | -               | -   | -               |
|                               | 38              | 1.32           | 2.29      | W2108X  | 4.51  | -   | -               | -   | -               | -   | -               |
|                               | 41              | 1.32           | 2.29      | W2110X  | 4.38  | 41 - 32   | W2110R104       | 41 - 30   | W2110R103       | 41 - 24   | W2110R024M      |
|                               | 46              | 1.44           | 2.38      | W2113X  | 4.69  | 46 - 36   | W2113R107       | 46 - 32   | W2113R104       | -   | -               |
|                               | 50              | 1.54           | 2.48      | W2200X  | 4.54  | 50 - 41   | W2200R110       | 50 - 36   | W2200R107       | -   | -               |
|                               | 55              | 1.65           | 2.70      | W2203X  | 4.64  | 55 - 46   | W2203R113       | 55 - 41   | W2203R110       | 55 - 36   | W2203R107       |
|                               | 60              | 1.75           | 2.55      | W2206X  | 4.72  | 60 - 50   | W2206R200       | 60 - 46   | W2206R113       | 60 - 41   | W2206R110       |
|                               | -               | -              | -         | -   | -     | 60 - 36   | W2206R107       | -   | -               | -   | -               |
| <b>W4000X</b>                 | 36              | 1.46           | 2.40      | W4107X  | 7.72  | -   | -               | -   | -               | -   | -               |
|                               | 41              | 1.46           | 2.40      | W4110X  | 7.72  | -   | -               | -   | -               | -   | -               |
|                               | 46              | 1.56           | 2.52      | W4113X  | 7.94  | -   | -               | -   | -               | -   | -               |
|                               | 50              | 1.63           | 2.63      | W4200X  | 8.28  | 50 - 36   | W4200R107       | -   | -               | -   | -               |
|                               | 55              | 1.73           | 2.89      | W4203X  | 8.42  | 55 - 41   | W4203R110       | 55 - 36   | W4203R107       | 55 - 32   | W4203R104       |
|                               | 60              | 1.83           | 2.78      | W4206X  | 8.47  | 60 - 50   | W4206R200       | 60 - 46   | W4206R113       | 60 - 36   | W4206R107       |
|                               | 65              | 1.95           | 3.00      | W4209X  | 8.67  | 65 - 55   | W4209R203       | 65 - 50   | W4209R200       | 65 - 46   | W4209R113       |
|                               | 70              | 2.07           | 3.08      | W4212X  | 8.84  | 70 - 60   | W4212R206       | 70 - 55   | W4212R203       | -   | -               |
|                               | 75              | 2.18           | 3.21      | W4215X  | 8.96  | 75 - 65   | W4215R209       | 75 - 60   | W4215R206       | -   | -               |
|                               | -               | -              | -         | -   | -     | 75 - 55   | W4215R203       | 75 - 50   | W4215R200       | -   | -               |
|                               | 80              | 2.30           | 3.29      | W4302X  | 9.16  | 80 - 75   | W4302R215       | 80 - 70   | W4302R212       | 80 - 65   | W4302R209       |
|                               | -               | -              | -         | -   | -     | 80 - 55   | W4302R203       | 80 - 50   | W4302R200       | -   | -               |
|                               | 85              | 2.44           | 3.37      | W4085MX   | 9.48  | -   | -               | -   | -               | -   | -               |
|                               | -               | -              | -         | -   | -     | -   | -               | -   | -               | -   | -               |
| <b>W8000X</b>                 | 50              | 1.77           | 3.08      | W8200X  | 17.75 | -   | -               | -   | -               | -   | -               |
|                               | 55              | 1.89           | 3.15      | W8203X  | 17.22 | -   | -               | -   | -               | -   | -               |
|                               | 60              | 2.01           | 3.25      | W8206X  | 17.59 | -   | -               | -   | -               | -   | -               |
|                               | 65              | 2.07           | 3.38      | W8209X  | 17.29 | 65 - 50   | W8209R200       | -   | -               | -   | -               |
|                               | 70              | 2.07           | 3.34      | W8212X  | 17.12 | 70 - 55   | W8212R203       | -   | -               | -   | -               |
|                               | 75              | 2.28           | 3.35      | W8215X  | 17.11 | 75 - 60   | W8215R206       | 75 - 55   | W8215R203       | -   | -               |
|                               | 80              | 2.38           | 3.52      | W8302X  | 17.33 | 80 - 65   | W8302R209       | 80 - 60   | W8302R206       | 80 - 55   | W8302R203       |
|                               | -               | -              | -         | -   | -     | 80 - 50   | W8302R200       | -   | -               | -   | -               |
|                               | 85              | 2.60           | 3.63      | W8085MX   | 18.42 | 85 - 70   | W8085R070M      | 85 - 65   | W8085R065M      | 85 - 60   | W8085R060M      |
|                               | -               | -              | -         | -   | -     | 85 - 55   | W8085R055M      | -   | -               | -   | -               |
|                               | 90              | 2.91           | 4.05      | W8090MX   | 20.46 | 90 - 75   | W8090R075M      | -   | -               | -   | -               |
|                               | 95              | 2.91           | 4.05      | W8312X  | 19.71 | 95 - 80   | W8312R302       | 95 - 75   | W8312R215       | -   | -               |
|                               | 100             | 3.13           | 4.33      | W8315X  | 20.31 | -   | -               | -   | -               | -   | -               |
|                               | 105             | 3.13           | 4.33      | W8402X  | 19.39 | -   | -               | -   | -               | -   | -               |

# W-Series Metric Cassettes and Reducer Inserts



Hexagon Range:

**65-155 mm**





Maximum Operating Pressure:

**10,000 psi (690 bar)**

**W**  
Series  
(X-Edition)



## ▼ SELECTION CHART

| Drive Unit<br>Model<br>Number   | Hexagon<br>Size | Nose<br>Radius | Dim.      | Model<br>Number   | Wt.   |  |                 |  |                 |
|---|-----------------|----------------|-----------|---|-------|---|-----------------|---|-----------------|
|  | S<br>(mm)       | H<br>(in)      | G<br>(in) |  | (lbs) | Hexagon<br>Reducer<br>(mm)  | Model<br>Number | Hexagon<br>Reducer<br>(mm)  | Model<br>Number |
| <b>W15000X</b>  | 65              | 2.32           | 3.49      | W15209X   | 30.72 | -   | -               | -   | -               |
|   | 70              | 2.32           | 3.49      | W15212X   | 30.72 | -   | -               | -   | -               |
|   | 75              | 2.44           | 3.56      | W15215X   | 30.08 | -   | -               | -   | -               |
|   | 80              | 2.54           | 3.66      | W15302X   | 30.34 | 80-65   | W15302R209      | -   | -               |
|   | 85              | 2.74           | 3.80      | W15085MX  | 31.70 | 85-70   | W15085R070M     | -   | -               |
|   | 90              | 2.95           | 4.01      | W15090MX  | 33.32 | 90-75   | W15090R075M     | -   | -               |
|   | 95              | 2.95           | 4.01      | W15312X   | 31.70 | 95-80   | W15312R302      | 95 - 75   | W15312R215      |
|   | 100             | 3.17           | 4.06      | W15315X   | 34.02 | -   | -               | -   | -               |
|   | 105             | 3.17           | 4.06      | W15402X   | 33.09 | 105-90  | W15402R090M     | -   | -               |
|   | 110             | 3.44           | 4.52      | W15405X   | 35.61 | 110-95  | W15110R095M     | -   | -               |
|   | 115             | 3.44           | 4.52      | W15115MX  | 34.48 | 115-100   | W15115R100M     | -   | -               |
| <b>W22000X</b>  | 75              | 2.64           | 4.02      | W22215X   | 48.72 | -   | -               | -   | -               |
|   | 80              | 2.64           | 4.02      | W22302X   | 47.78 | 80-60   | W22302R206      | 80 - 55   | W22302R203      |
|   | 85              | 2.85           | 4.23      | W22085MX  | 49.74 | 85-65   | W22085MR209     | 85 - 60   | W22085MR206     |
|   | 90              | 3.07           | 4.45      | W22090MX  | 51.72 | 90-70   | W22090M212      | 90 - 60   | W22090MR206     |
|   | 95              | 3.07           | 4.45      | W22312X   | 50.62 | 95-75   | W22312R215      | -   | -               |
|   | 100             | 3.35           | 4.72      | W22315X   | 53.57 | -   | -               | -   | -               |
|   | 105             | 3.35           | 4.72      | W22402X   | 52.09 | -   | -               | -   | -               |
|   | 110             | 3.54           | 4.92      | W22404X   | 51.48 | -   | -               | -   | -               |
|   | 115             | 3.54           | 4.92      | W22115MX  | 52.88 | -   | -               | -   | -               |
|   | 120             | 3.74           | 5.12      | W22412X   | 54.54 | -   | -               | -   | -               |
|   | 123             | 3.74           | 5.12      | W22123MX  | 53.80 | -   | -               | -   | -               |
|   | 130             | 3.94           | 5.31      | W22502X   | 55.10 | -   | -               | -   | -               |
|   | 135             | 3.94           | 5.31      | W22506X   | 52.77 | 135 - 105   | W22506R402      | -   | -               |
|   | 80              | 3.02           | 5.08      | W35302X   | 72.30 | 80-50   | W35302R200      | -   | -               |
| <b>W35000X</b>  | 85              | 3.02           | 5.08      | W35085MX  | 33.10 | -   | -               | -   | -               |
|   | 90              | 3.23           | 5.33      | W35090MX  | 34.30 | 90-60   | W35090R206      | -   | -               |
|   | 95              | 3.23           | 5.30      | W35312X   | 72.50 | -   | -               | -   | -               |
|   | 100             | 3.45           | 5.48      | W35315X   | 70.80 | -   | -               | -   | -               |
|   | 105             | 3.45           | 5.48      | W35402X   | 73.90 | -   | -               | -   | -               |
|   | 110             | 3.69           | 5.75      | W35405X   | 76.90 | 110-85  | W35405R085M     | -   | -               |
|   | 115             | 3.69           | 5.75      | W35115MX  | 77.10 | -   | -               | -   | -               |
|   | 120             | 3.91           | 6.01      | W35412X   | 78.50 | 120-95  | W35412R312      | -   | -               |
|   | 123             | 3.91           | 6.01      | W35123MX  | 78.90 | -   | -               | -   | -               |
|   | 130             | 4.09           | 6.30      | W35502X   | 78.90 | 130-105   | W35502R402      | -   | -               |
|   | 135             | 4.09           | 6.30      | W35506X   | 76.30 | 135-110   | W35506R405      | -   | -               |
|   | 140             | 4.31           | 6.43      | W35508X   | 79.80 | 140-115   | W35508R115M     | -   | -               |
|   | 145             | 4.31           | 6.43      | W35512X   | 76.90 | 145-120   | W35512R412      | -   | -               |
|   | 150             | 4.52           | 6.67      | W35514X   | 80.90 | -   | -               | -   | -               |
|   | 151             | 4.52           | 6.67      | W35151MX  | 82.10 | -   | -               | -   | -               |
|   | 155             | 4.52           | 6.67      | W35602X   | 77.80 | 155-130   | W35602R502      | -   | -               |



▼ Shown: W4206SL stepped-width cassette with W4000X drive unit



## Your easy and long lasting solution to difficult access bolting applications



### Designed for Tight Spots

Stepped width design provides easy access in confined areas. UltraSlim cassettes fit where standard solutions won't.



### Built to Outperform

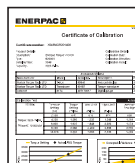
High endurance components keep working when others fail.



### Top Mounted Handles

Standard top mounted handles provide safety and versatility; optional angled handles are also available.

|                               |              |
|-------------------------------|--------------|
| Replacement handle (straight) | <b>SWH6S</b> |
| Angled handle (optional)      | <b>SWH6A</b> |



### Calibration Certificate

All UltraSlim Series cassettes are CE - ATEX declared, factory calibrated and are shipped complete with a calibration certificate.

CE  II 2 GD ck T4  
CSA/SIRA 15XT072

### Versatility

- Lean, stepped width design allows tool to be mounted over bolts where other tools won't fit
- Bi-Hexagonal cassette allows twice as many positioning points on nut or bolt
- Uses same drive unit as standard W-series hexagon cassettes
- Robust top mounted handle stays out of the way, providing safe fastening in hard to reach areas

### Performance

- Premium components provide best-in-class endurance

### Ease of Use

- Few moving parts are easily accessible for quick field maintenance
- Fast release drive unit enables rapid exchange of cassettes, no tools required and no pins to lose
- Uses same drive unit as standard and X-Edition cassettes

### Accuracy

- Constant torque output provides accuracy of +/- 3% across the full stroke

*Slim enough to fit and tough enough to last. This UltraSlim wrench is the perfect controlled bolting solution for this oil and gas flange.* ►



# UltraSlim Stepped-Width Cassettes

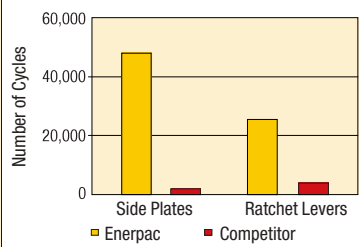


## UltraSlim Stepped-Width Cassettes

Accessing narrow spaces normally requires significantly reducing the width of the torque wrench. For the tool operator, this has always meant vastly reduced tool durability, and/or reduced torque output.

By using the highest grade materials, perfecting the geometry, and placing the positioning handle on top of the tool, Enerpac UltraSlim cassettes are able to provide greater torque, get into tighter spaces, and vastly outperform the competition in product durability.\*

### Durability of Key Components\*



\*Average test results, whereby three Enerpac 1<sup>13</sup>/<sub>16</sub>" UltraSlim cassettes and three competitor 1<sup>13</sup>/<sub>16</sub>" cassettes were tested at 4000 ft-lbs for 50,000 cycles. The Enerpac sideplates never broke for the full duration of the test.

## W Series Ultra-Slim



Nominal Torque at 10,000 psi:

**4360 Ft.lbs.**

Hexagon Range:

**1<sup>13</sup>/<sub>16</sub> - 2<sup>15</sup>/<sub>16</sub> inches**

Maximum Operating Pressure:

**10,000 psi**



### Torque Wrench Pumps

Visit [enerpac.com](http://enerpac.com) for system matched air and electric torque wrench pumps that are ideal for use with hydraulic torque wrenches.

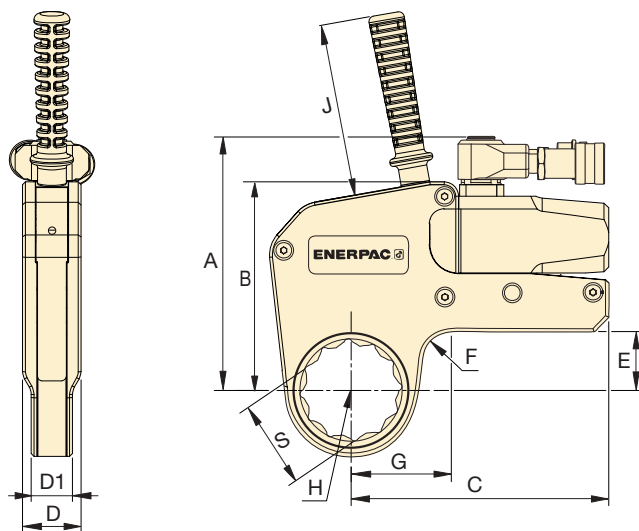
Page: 232





### Torque Wrench Hoses

Use Enerpac THQ-700 Series hoses with W-Series torque wrenches to ensure the integrity of your hydraulic system.

|                         |          |
|-------------------------|----------|
| 19.5 feet long, 2 hoses | THQ-706T |
| 39 feet long, 2 hoses   | THQ-712T |



### ▼ SELECTION CHART

| Hexagon Size                    | Nominal Torque @ 10,000 psi | Cassette Model Number   | Minimum Torque @ 1000 psi | Nose Radius | Dimensions (in) |      |      |      |      |      |      |               |      | Weight | Drive Unit Model*<br>(sold separately)  |
|---------------------------------|-----------------------------|---|---------------------------|-------------|-----------------|------|------|------|------|------|------|---------------|------|--------|---|
| S<br>(in)                       | (Ft.lbs)                    |  | (Ft.lbs)                  | H<br>(in)   | G               | A    | B    | C    | D    | D1   | E    | F<br>(radius) | J    | (lbs)  |  |
| 1 <sup>13</sup> / <sub>16</sub> | 1980                        | W2113SL   | 200                       | 1.44        | 2.35            | 5.54 | 4.30 | 5.81 | 1.28 | 1.00 | 0.94 | 0.79          | 4.72 | 4.87   | W2000X  |
| 2 <sup>3</sup> / <sub>16</sub>  | 1980                        | W2203SL   | 200                       | 1.63        | 2.49            |      |      |      |      |      |      |               |      | 4.87   |   |
| 2 <sup>3</sup> / <sub>8</sub>   | 1980                        | W2206SL   | 200                       | 1.75        | 2.56            |      |      |      |      |      |      |               |      | 4.88   |   |
| 2 <sup>3</sup> / <sub>16</sub>  | 4360                        | W4203SL   | 430                       | 1.73        | 2.70            | 6.91 | 5.69 | 7.03 | 1.59 | 1.13 | 1.61 | 0.79          | 4.72 | 10.15  | W4000X  |
| 2 <sup>3</sup> / <sub>8</sub>   | 4360                        | W4206SL   | 430                       | 1.89        | 2.82            |      |      |      |      |      |      |               |      | 10.36  |   |
| 2 <sup>9</sup> / <sub>16</sub>  | 4360                        | W4209SL   | 430                       | 1.99        | 2.92            |      |      |      |      |      |      |               |      | 10.37  |   |
| 2 <sup>3</sup> / <sub>4</sub>   | 4360                        | W4212SL   | 430                       | 2.11        | 2.98            |      |      |      |      |      |      |               |      | 10.42  |   |
| 2 <sup>15</sup> / <sub>16</sub> | 4360                        | W4215SL   | 430                       | 2.20        | 2.99            |      |      |      |      |      |      |               |      | 10.37  |   |

\* May also be used with W2000PX and W4000PX drive units, featuring double-swivel manifolds.

▼ WCR4000 Roller Cassette with Spanner and W4000 Drive Unit



## WCR Series

Bi-Hexagonal Spanner Size:

**1<sup>7</sup>/<sub>16</sub>-3<sup>1</sup>/<sub>8</sub> inch**

Spanner Nose Radius:

**1.22-2.18 inch**

Nominal Torque:

**4250 Ft-lbs**

Maximum Operating Pressure:

**10,000 psi**




### WCR4000 Torque Wrench

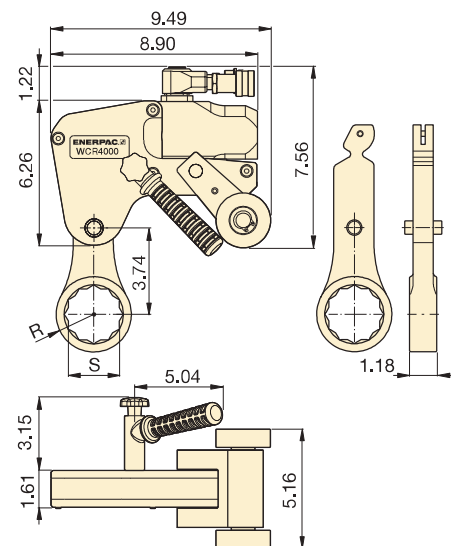
The **WCR4000** combines power and durability with a slim spanner design to provide bolting professionals with one of the most versatile and high performing limited access tools on the market today.

The tool was designed for use in narrow access applications, particularly in the height above the nut, and between the bolt center, and the inside of the joint.

Ideal for bolting API flanges, the **WCR4000** is available with a wide range of ring type spanners, and is powered by the standard W4000X drive unit.

- Spanners available to fit most commonly used API flanges
- Small nose radius – resolves bolt to pipe restrictions
- Slim spanner design – reduces bolt height restrictions
- Wide range of spanners ranging from 1<sup>7</sup>/<sub>16</sub> - 3<sup>1</sup>/<sub>8</sub> inches (36 - 80 mm)
- Includes handle to improve tool handling and safety
- Rigid solid steel body for maximum endurance and minimum downtime

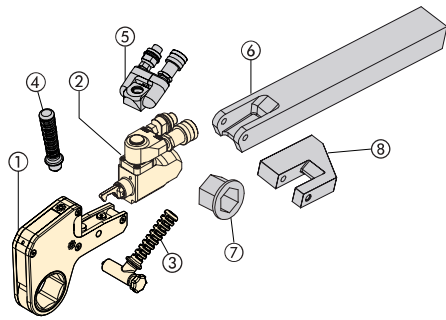
| Closed Spanner Hexagon Size     |      | Closed Spanner Model Number | Spanner Radius R (in) | Weight * (lb) | Roller Cassette Assy Model No.**  | Drive Unit Model No.   |
|---------------------------------|------|-----------------------------|-----------------------|---------------|---|--|
| S (in)                          | (mm) |                             |                       |               |   |  |
| 1 <sup>7</sup> / <sub>16</sub>  | 36   | W4107CS                     | 1.22                  | 4.2           | <br><b>WCR4000</b> | <br><b>W4000X</b> |
| 1 <sup>1</sup> / <sub>2</sub>   | 38   | W4108CS                     | 1.29                  | 4.4           |   |  |
| 1 <sup>5</sup> / <sub>8</sub>   | 41   | W4110CS                     | 1.29                  | 4.2           |   |  |
| 1 <sup>13</sup> / <sub>16</sub> | 46   | W4113CS                     | 1.40                  | 4.3           |   |  |
| 1 <sup>7</sup> / <sub>8</sub>   | 48   | W4114CS                     | 1.51                  | 4.7           |   |  |
| 2                               | 50   | W4200CS                     | 1.51                  | 4.2           |   |  |
| 2 <sup>3</sup> / <sub>16</sub>  | 55   | W4203CS                     | 1.62                  | 4.3           |   |  |
| 2 <sup>3</sup> / <sub>8</sub>   | 60   | W4206CS                     | 1.77                  | 4.6           |   |  |
| 2 <sup>9</sup> / <sub>16</sub>  | 65   | W4209CS                     | 1.84                  | 4.6           |   |  |
| 2 <sup>3</sup> / <sub>4</sub>   | 70   | W4212CS                     | 1.95                  | 4.7           |   |  |
| 2 <sup>15</sup> / <sub>16</sub> | 75   | W4215CS                     | 2.05                  | 4.6           |   |  |
| 3 <sup>1</sup> / <sub>8</sub>   | 80   | W4302CS                     | 2.18                  | 4.9           |   |  |



\*For total weight add 13.89 lbs for WCR4000, 4.40 lbs. for W4000X and weight of the spanner.

\*\* The WCR4000 cassettes, spanners and drive units are all sold separately.

# Accessories for W-Series, X-Edition Torque Wrenches

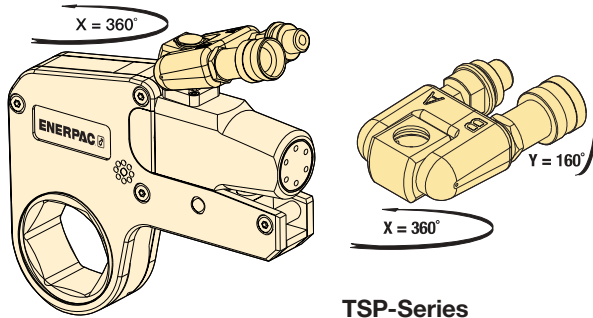


- ① Hexagon Cassette
- ② Drive Unit
- ③ Angled Positioning Handle
- ④ Straight Positioning Handle (optional)
- ⑤ Pro Series Swivel (optional)
- ⑥ Extended Reaction Arm (optional)
- ⑦ Reducer Insert (optional)
- ⑧ Reaction Paddle (optional)

## TSP WTE WRP Series



### TSP-Series, Pro Series Swivels



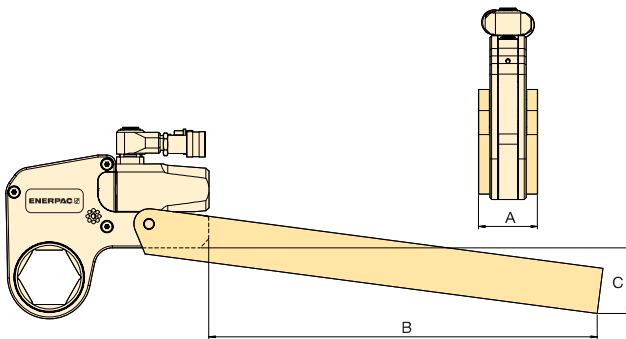
- Robust interlocking design
- 360° X-axis and 160° Y-axis rotation
- Increases tool fit in restricted access areas
- Simplifies hose placement
- Includes male and female couplers

| Torque Wrench Model Number                        | Model Number | Maximum Pressure (psi) | Wt. (lbs) |
|---|--------------|------------------------|-----------|
| W2000X, W4000X, W8000X, W15000X, W22000X, W35000X | TSP300*      | 10,000                 | .44       |

Note: To order a W-series (X-Edition) wrench fitted with the TSP swivel, insert a "P" prior to the "X" in the tool designation, e.g., W2000PX.

\* TSP300 is designed for X-Edition tools only, and is not compatible with standard edition tools. For replacement components for existing tools, refer to repair sheet on [www.enerpac.com](http://www.enerpac.com)

### WTE-Series, Extended Reaction Arm



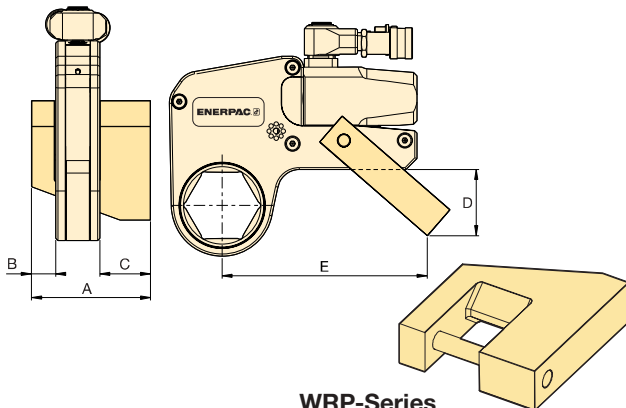
WTE-Series

- Full torque rated
- Increases tool fit in restricted access areas

| Torque Wrench Model Number | Model Number | Dimensions (in) |       |      | Wt.* (lbs) |
|----------------------------|--------------|-----------------|-------|------|------------|
|                            |              | A               | B     | C    |            |
| W2000X                     | WTE20        | 2.20            | 15.67 | 2.66 | 5.73       |
| W4000X                     | WTE40        | 2.60            | 17.17 | 2.91 | 10.14      |
| W8000X                     | WTE80        | 3.35            | 17.68 | 2.15 | 16.76      |
| W15000X                    | WTE150       | 4.02            | 19.61 | 2.83 | 26.46      |
| W22000X                    | WTE220       | 4.49            | 20.51 | 3.03 | 38.14      |
| W35000X                    | WTE350       | 5.00            | 16.48 | 5.23 | 39.24      |

\* Weights indicated are for the accessories only and do not include the wrench.

### WRP-Series Reaction Paddles



WRP-Series

- Lightweight interchangeable design
- Allows for offset reaction when in-line reaction is not available

| Torque Wrench Model Number | Model Number | Dimensions (in) |      |      |      |       | Wt.* (lbs) |
|----------------------------|--------------|-----------------|------|------|------|-------|------------|
|                            |              | A               | B    | C    | D    | E     |            |
| W2000X                     | WRP20        | 3.31            | 0.63 | 1.40 | 1.77 | 5.83  | .88        |
| W4000X                     | WRP40        | 4.29            | 0.83 | 1.87 | 2.32 | 7.48  | 1.76       |
| W8000X                     | WRP80        | 5.37            | 1.02 | 2.25 | 2.72 | 8.78  | 4.41       |
| W15000X                    | WRP150       | 6.50            | 1.26 | 2.74 | 3.43 | 10.12 | 8.60       |
| W22000X                    | WRP220       | 8.15            | 1.52 | 3.58 | 5.28 | 12.48 | 15.87      |
| W35000X                    | WRP350       | 9.22            | 1.79 | 3.58 | 7.17 | 13.98 | 23.37      |

\* Weights indicated are for the accessories only and do not include the wrench.



▼ Shown: PTW1000



## Continuous Rotation Controlled Torque



### Typical Pneumatic Torque Wrench Applications

#### Mining

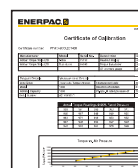
- Track maintenance
- Undercarriage maintenance
- Wheel maintenance
- Shovel maintenance

#### Power Generation

- Turbine bolts
- Tower segments
- Turbine casings

#### Oil and Gas

- Pipe flanges
- Valves
- Manway covers
- Pressure vessels



### Calibration Certificate

All PTW tools are CE declared and are shipped complete with a calibration certificate.



### Productivity

- High speed continuous rotation for constant torque output
- Low friction planetary gearbox design minimizes wear and extends uptime

### Safety

- Ergonomic, low vibration design reduces fatigue and the risk of vibration related injuries for the operator
- Low noise air motor provides quiet, consistent performance for indoor and outdoor applications

### Convenience

- Provided with standard reaction arm; wide assortment of custom arms and accessories are available
- Available with or without Filter-Regulator-Lubricator (FRL)
- Unique calibration certificate provided with each tool

▼ PTW-Series Pneumatic Torque Wrenches are ideal for applications where speed and precision are critical, such as track maintenance.



◀ The PTW1000 makes quick work of this flange maintenance job.



# Pneumatic Torque Wrenches



## PTW-Series Pneumatic Torque Wrenches

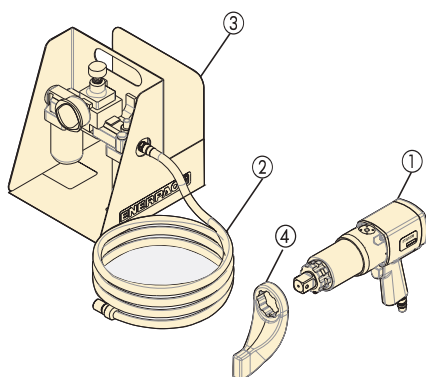
Enerpac PTW-Series Pneumatic Torque

Wrenches are designed for applications that require speed and control. The standard package includes a Torque Wrench with a calibration certificate, an FRL (Filter/Regulator/Lubricator), and a 10 ft. (3 m) long, ½" (13 mm) diameter air hose, which connects the FRL to the wrench.

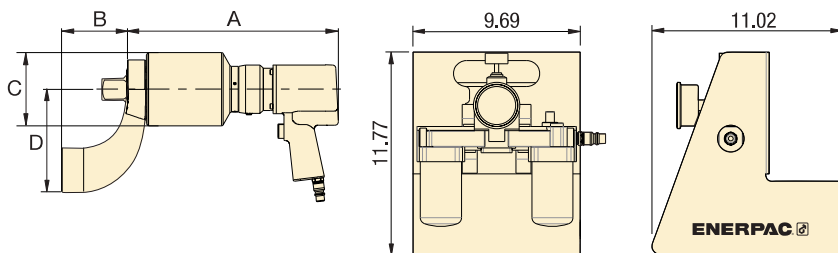
Once the air hoses are connected, the operator simply adjusts the air pressure on the FRL to achieve the desired torque using the calibration certificate. After this, the tool is ready to go to work!\*

The air source used with the PTW system must be regulated and/or limited to 120 psi (8.3 bar), and must be capable of providing a volume of at least 50 CFM (85 CMH) at 100 psi (6.9 bar). A separate ½" (13 mm) hose (not included) must be used to connect the FRL to the air supply.

\*See instruction manual for comprehensive instructions



- ① PTW Torque Wrench
- ② Hose
- ③ Filter-Regulator-Lubricator
- ④ Reaction Arm



All tools are shipped complete with standard reaction arm and FRL\*.

## ▼ SELECTION CHART

| Minimum Torque |      | Nominal Torque |      | Square Drive (in) | Model Number* | RPM  | Dimensions (in) |      |      |      | Weight** (lbs) |
|----------------|------|----------------|------|-------------------|---------------|------|-----------------|------|------|------|----------------|
| (Ft.lbs)       | (Nm) | (Ft.lbs)       | (Nm) |                   |               |      | A               | B    | C    | D    |                |
| 300            | 407  | 1000           | 1356 | 1                 | PTW1000C      | 12.6 | 10.70           | 3.27 | 2.83 | 5.12 | 18             |
| 500            | 678  | 2000           | 2712 | 1                 | PTW2000C      | 8.0  | 11.26           | 3.27 | 3.11 | 5.24 | 19.5           |
| 900            | 1220 | 3000           | 4067 | 1                 | PTW3000C      | 3.1  | 13.50           | 3.27 | 3.74 | 5.24 | 23             |
| 1300           | 1763 | 6000           | 8135 | 1½                | PTW6000C      | 2.5  | 14.40           | 4.49 | 5.00 | 7.00 | 39             |

\* To order without FRL and hose, remove "C" Suffix (e.g. PTW3000).

\*\* Weight of wrench only without reaction arm. Reaction arm weight for PTW1000, PTW2000, PTW3000 is 2.9 lbs. and for the PTW6000 is 7.75 lbs.

## PTW Series



Nominal Output Torque:

**6000 Ft.lbs**

Square Drive Range:

**1 - 1½ inch**



## Pneumatic Torque Wrench Accessories

Enerpac offers a full line of accessories including a range of reaction arms and drives.

Page: 230



## Filter-Regulator-Lubricator

Recommended for use with all PTW pneumatic torque wrenches.

Provides clean, lubricated air and allows for air pressure adjustment.

Order model number\*

**FRL120C**



## BSH-Series Sockets

Heavy-Duty Impact Sockets for power driven torquing equipment.

Page: 210



## Hydraulic Torque Wrenches

Enerpac offers a complete range of square drive and hexagon cassette torque wrenches. Details on [www.enerpac.com](http://www.enerpac.com).

Page: 203

▼ Shown: TW3000B (torque wrench shown without servo motor cord)\*



## Your Simple Solution for Smart Bolting



### Touchscreen Control Box

ETW tools feature an easy to use, interactive touch-screen control box, which helps make even the most complex jobs simple to complete.

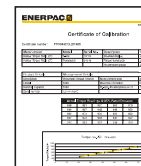
A single control box may be used to operate multiple wrench models.

Firmware upgrades may be uploaded online and easily transferred to the tool via a USB connection.



### Easy Access to Controls

Controls on back of wrench with LED display allow user to directly input desired torque, change direction of rotation, and monitor the fastening process.



### Certifications, Declarations

All ETW tools:

- Are shipped complete with a calibration certificate
- Are certified for North American Electrical Safety by CSA International
- Carry a CSA US and Canada mark
- Are CE declared



▼ ETW-Series Electric Torque Wrenches are ideal for high volume fastening applications that require precision and traceability, such as this wind tower job.



### Versatility

- Patented firmware design provides accurate fastening on soft, hard, or pre-tightened joints
- Single control box may be used to operate multiple wrench models
- Wrenches and control boxes may be purchased separately or as a set

### Performance

- High speed continuous rotation gets the job done faster
- Torque and angle functionality allows input of nominal torque value followed by a specific angle of rotation
- Pass/Fail LED indicator on back of tool verifies fastening has been completed according to specified input

### Simplicity

- Control box with large 7-inch touchscreen simplifies tool operation
- Controls on back of wrench enable operator to monitor and manage the fastening process without returning to the control box
- Brightly lit three line LED display on wrench is easy to read in any environment

### Traceability

- Fastening record can be viewed on-screen and transferred to a computer
- Each tool is performance tested and shipped complete with a factory calibration certificate

### Safety

- Lift points on wrench enable use with positioning handle or lifting device for greater handling safety
- Ground fault detector protects operator in the event of insufficient grounding

\* NOTE: Wrench cannot be used without control box.



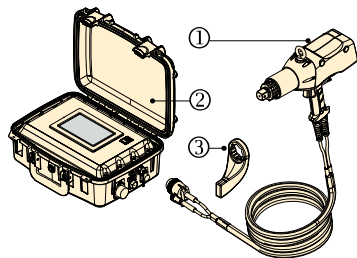
## ETW-Series Electric Torque Wrenches

Enerpac ETW-Series Electric Torque Wrenches are particularly well suited to complex jobs which demand precision and traceability. The tools feature an automatic mode, which helps simplify and automate complex jobs, including those with torque and angle specifications, through the creation of presets.

Using the touchscreen, simply input the number of fasteners and desired torque value for each fastening step, followed by the required angle of turn. This sequence may then be saved as an automatic preset for future use.

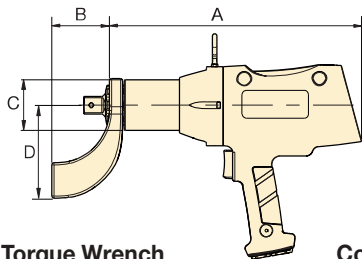
Once the input torque is achieved, the tool stalls, and a pass/fail indicator verifies that it is ready to move on to the next fastener.

When the job is completed, the fastening record can be viewed on the touch screen, or exported to a computer via a USB connection on the control box.

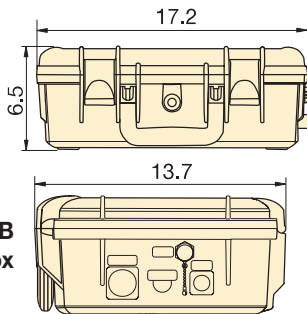


### ETW Set

- ① ETW Torque Wrench (with 20 ft. servo cord)
- ② Control Box (with 6 ft. power cord)
- ③ Reaction Arm



ETW Torque Wrench



ETWCB Control Box

## ETW Series



Nominal Output Torque:

**6000 Ft.lbs**

Square Drive Range:

**1 - 1½ inch**



### Torque Wrench Accessories

Enerpac offers a full line of accessories including a wide range of reaction arms and drives.

Page: 230



### BSH-Series Sockets

Heavy-Duty Impact Sockets for power driven torquing equipment. Details on [www.enerpac.com](http://www.enerpac.com).

Page: 210

### Voltage: (Model No. ending with suffix)

- B = 115V, 60 Hz
- I = 230V, 60 Hz (with NEMA 6-15 plug)
- E = 230V, 50 Hz (with commonly used European (SCHUKO) plug)

| Minimum Torque<br>(Ft.lbs) (Nm) |      | Nominal Torque<br>(Ft.lbs) (Nm) |      | Square Drive<br>(in) | ETW Set Model Number | ETW Set Includes               |                                     | Voltage    | Nominal Speed RPMs | Dimensions (in) |     |     |     | Wrench Weight <sup>1)</sup><br>(lbs) |
|---------------------------------|------|---------------------------------|------|----------------------|----------------------|--------------------------------|-------------------------------------|------------|--------------------|-----------------|-----|-----|-----|--------------------------------------|
|                                 |      |                                 |      |                      |                      | Wrench Model No. <sup>2)</sup> | Control Box Model No. <sup>2)</sup> |            |                    | A               | B   | C   | D   |                                      |
| 200                             | 270  | 1000                            | 1355 | 1.0                  | ETW1000B             | TW1000B                        | ETWCB-B                             | 115V 60 Hz | 9.8                | 14.4            | 3.3 | 2.8 | 5.2 | 18.1                                 |
| 200                             | 270  | 1000                            | 1355 | 1.0                  | ETW1000I             | TW1000EI                       | ETWCB-I                             | 230V 60 Hz | 15.2               | 14.4            | 3.3 | 2.8 | 5.2 | 18.1                                 |
| 200                             | 270  | 1000                            | 1355 | 1.0                  | ETW1000E             | TW1000EI                       | ETWCB-E                             | 230V 50 Hz | 15.2               | 14.4            | 3.3 | 2.8 | 5.2 | 18.1                                 |
| 400                             | 540  | 2000                            | 2710 | 1.0                  | ETW2000B             | TW2000B                        | ETWCB-B                             | 115V 60 Hz | 5.8                | 15.0            | 3.3 | 3.1 | 5.2 | 19.7                                 |
| 400                             | 540  | 2000                            | 2710 | 1.0                  | ETW2000I             | TW2000EI                       | ETWCB-I                             | 230V 60 Hz | 9.0                | 15.0            | 3.3 | 3.1 | 5.2 | 19.7                                 |
| 400                             | 540  | 2000                            | 2710 | 1.0                  | ETW2000E             | TW2000EI                       | ETWCB-E                             | 230V 50 Hz | 9.0                | 15.0            | 3.3 | 3.1 | 5.2 | 19.7                                 |
| 600                             | 810  | 3000                            | 4065 | 1.0                  | ETW3000B             | TW3000B                        | ETWCB-B                             | 115V 60 Hz | 2.8                | 17.1            | 3.3 | 3.7 | 5.2 | 26.3                                 |
| 600                             | 810  | 3000                            | 4065 | 1.0                  | ETW3000I             | TW3000EI                       | ETWCB-I                             | 230V 60 Hz | 4.3                | 17.1            | 3.3 | 3.7 | 5.2 | 26.3                                 |
| 600                             | 810  | 3000                            | 4065 | 1.0                  | ETW3000E             | TW3000EI                       | ETWCB-E                             | 230V 50 Hz | 4.3                | 17.1            | 3.3 | 3.7 | 5.2 | 26.3                                 |
| 1200                            | 1625 | 6000                            | 8135 | 1.5                  | ETW6000B             | TW6000B                        | ETWCB-B                             | 115V 60 Hz | 1.9                | 17.8            | 4.5 | 5.0 | 7.0 | 42.1                                 |
| 1200                            | 1625 | 6000                            | 8135 | 1.5                  | ETW6000I             | TW6000EI                       | ETWCB-I                             | 230V 60 Hz | 2.9                | 17.8            | 4.5 | 5.0 | 7.0 | 42.1                                 |
| 1200                            | 1625 | 6000                            | 8135 | 1.5                  | ETW6000E             | TW6000EI                       | ETWCB-E                             | 230V 50 Hz | 2.9                | 17.8            | 4.5 | 5.0 | 7.0 | 42.1                                 |

<sup>1)</sup> Weight of wrench only without reaction arm. Reaction arm weight for ETW1000, ETW2000, ETW3000 is 2.9 lbs. and for the ETW6000 is 7.75 lbs. Standard reaction arm included with TW-models. Weight of control box is 20 lbs.

<sup>2)</sup> Use of ETW requires both wrench and control box. These may be purchased separately, or as a calibrated set.





## PTW and ETW-Series Torque Wrenches

Enerpac offers the following accessories to support a wide variety of applications in industries such as mining, power generation and oil and gas. For additional custom accessories not pictured here, please contact Enerpac.

## PTW ETW Series

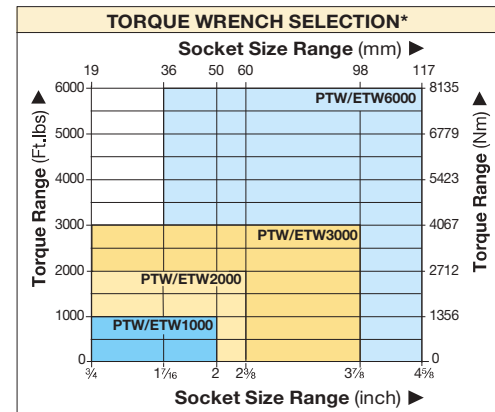
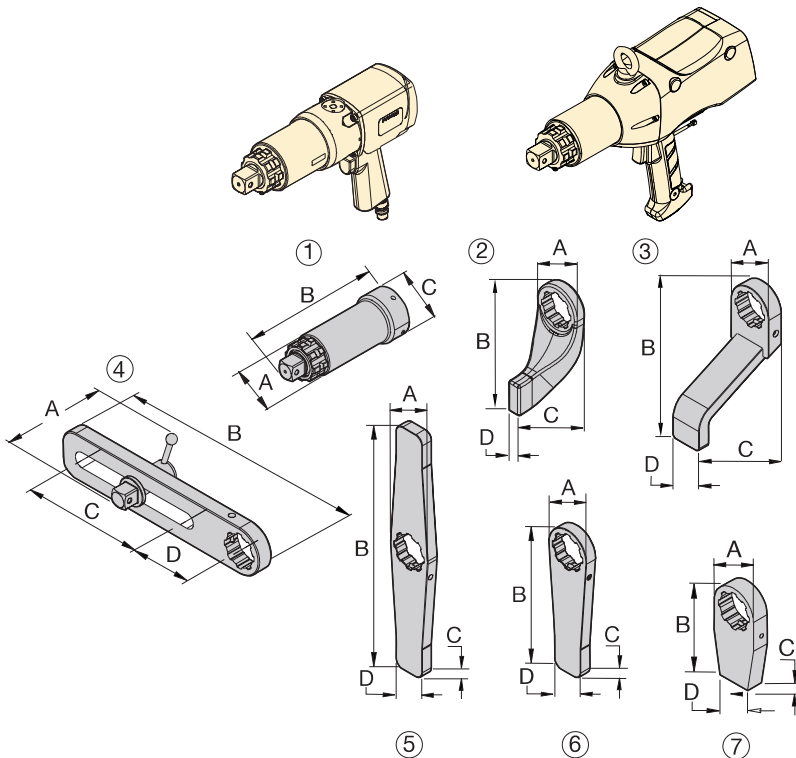


Nominal Output Torque:

**6000 Ft.lbs**

Square Drive Range:

**1 - 1½ inch**



### BSH-Series Sockets

Heavy-Duty Impact Sockets for power driven torquing equipment. Details on [www.enerpac.com](http://www.enerpac.com).

210


### ▼ Optional accessories for use with PTW1000, ETW1000, PTW2000, ETW2000, PTW3000, ETW3000 models

| No. | Description                      | Model No. | Application                                     | Dimensions in inches |       |      |      |
|-----|----------------------------------|-----------|---|----------------------|-------|------|------|
|     |                                  |           |   | A                    | B     | C    | D    |
| 1   | Extended Drive, 6 inch (152 mm)  | ED6TWS    | Nose extension, primarily for truck wheel bolts | 2.44                 | 8.11  | 2.87 | —    |
| 1   | Extended Drive, 12 inch (305 mm) | ED12TWS   |   | 2.44                 | 15.12 | 2.87 | —    |
| 1   | Extended Drive, 18 inch (457 mm) | ED18TWS   |   | 2.44                 | 20.12 | 2.87 | —    |
| 2   | Standard Reaction Arm            | RATWS     | Standard arm included with PTW/ETW model        | 2.99                 | 6.77  | 4.02 | 0.83 |
| 3   | Extended Reaction Arm            | ERATWS    | Long plate for use with deep well sockets       | 2.87                 | 5.91  | 7.95 | 2.01 |
| 4   | Sliding Reaction Arm             | SLRATWS   | For widely spaced and uneven bolt centers       | 4.41                 | 15.00 | 7.99 | 4.02 |
| 5   | Double Straight Reaction Arm     | DSATWS    | Reduces time to reposition arm *                | 2.87                 | 15.98 | 0.75 | 4.02 |
| 6   | Straight Reaction Arm            | SRATWS    | Long plate for wide spaced reaction points      | 2.87                 | 9.45  | 0.75 | 2.01 |
| 7   | Blank Reaction Arm **            | BLTWS     | Weldable blank for custom applications **       | 2.83                 | 5.94  | 0.98 | 2.01 |

### ▼ For use with PTW6000, ETW6000 models

| No. | Description                     | Model No. | Application                                     | A    | B     | C    | D    |
|-----|---------------------------------|-----------|---|------|-------|------|------|
| 1   | Extended Drive 6 inch (152 mm)  | ED6TWL    | Nose extension, primarily for truck wheel bolts | 3.31 | 9.13  | 4.02 | —    |
| 1   | Extended Drive 12 inch (305 mm) | ED12TWL   |   | 3.31 | 15.12 | 4.02 | —    |
| 2   | Standard Reaction Arm           | RATWL     | Standard arm included with PTW/ETW model        | 4.02 | 9.02  | 5.75 | 1.26 |
| 3   | Extended Reaction Arm           | ERATWL    | Long plate for use with deep well sockets       | 4.02 | 10.00 | 7.24 | 2.52 |
| 4   | Sliding Reaction Arm            | SLRATWL   | For widely spaced and uneven bolt centers       | 5.98 | 16.50 | 7.48 | 4.49 |
| 5   | Double Straight Arm             | DSATWL    | Reduces time to reposition arm *                | 4.02 | 20.00 | 1.26 | 2.24 |
| 6   | Straight Reaction Arm           | SRATWL    | Long plate for wide spaced reaction points      | 4.02 | 12.01 | 1.26 | 2.24 |
| 7   | Blank Reaction Arm **           | BLTWL     | Weldable blank for custom applications **       | 4.02 | 5.98  | 1.26 | 2.24 |

\* Time to reposition arm when repeatedly moving from tightening to loosening.

\*\*  WARNING: Blank reaction arms must be heat treated to HRc 38-42 prior to use.

**Looking for customized components to help solve your torquing problems? Enerpac has the experience and capabilities to help find solutions to your problems.**

Enerpac hydraulic torque wrenches are designed to accommodate most bolting applications. However, due to space constraints, location of reaction points

or need for special sockets and adapters, there is often a need for customized components.



◀ *Custom hydraulic torque wrench for a fracking pump.*



◀ *Custom S6000X hydraulic torque wrench fitted with a custom reaction arm/socket.*



◀ *Custom hydraulic torque wrenches with reaction paddles for use with a flexible flowline.*

## OVERVIEW




















▲ *Custom S11000X torque wrench with a custom torque link and reaction roller*

## CUSTOMIZABLE FEATURES:

- Reaction Arms
- Torque Links (split or layered for extremely space restricted applications)
- Reaction Roller Assemblies
- Sockets (direct drive, castellated, peg drive, stacked)
- Drives (direct Allen, spline, square drive size)
- Hex Reducing and Square Drive Inserts

## Optimum Torque Wrench and Pump Combinations

For optimum speed and performance Enerpac recommends the following system set-up with wrench-pump-hose combinations.

|  |  |         |   |   |  |   |   |         |         |
|--|--|---------|---|---|--|---|---|---------|---------|
| For optimum speed and performance Enerpac recommends the following system set-up with wrench-pump-hose combinations. |  |         | ELECTRIC PUMPS  |   |  |   | AIR DRIVEN PUMP   |         |         |
|  |  |         | PMU-Series  | ZU4-Series  | TQ-700-Series  | ZE4/5-Series  | ZA4-Series  |         |         |
|  |  |         |  |  |  |  |  |         |         |
|  |  |         |  |  |  |  |  |         |         |
|  |  |         | .5 - 1 Gal.   | 1 - 1.75 Gal.   | 1 Gal.   | 1-10 Gal.   | 1 - 1.75 Gal.   |         |         |
|  |  |         | Standard duty   | Standard duty   | Medium duty  | Heavy duty  | Heavy duty  |         |         |
|  |  |         |  |  |  |  |  |         |         |
|  |  |         | Field   | Field   | Field/Factory  | Factory   | Field   |         |         |
|  |  |         | S-Series  |  | S1500X   | Optimal   | Optimal   | Optimal | Optimal |
|  |  |         |   |   | S3000X   |   |   |         |         |
| S6000X   |  |         |   |   |  |   |   |         |         |
| S11000X  |  |         |   |   |  |   |   |         |         |
| S25000X  |  |         |   |   |  |   |   |         |         |
| W-Series   |  | W2000X  | Optimal   | Optimal   | Optimal  | Optimal   |   |         |         |
|  |  | W4000X  |   |   |  |   |   |         |         |
|  |  | W8000X  |   |   |  |   |   |         |         |
|  |  | W15000X |   |   |  |   |   |         |         |
|  |  | W22000X |   |   |  |   |   |         |         |
|  |  | W35000X |   |   |  |   |   |         |         |
|  |  |         |   |   |  |   |   |         |         |



### ZU4 Electric Torque Wrench Pump

Utilizing a universal motor, the ZU4-Series has excellent low voltage characteristics. It works well with long extension cords or generator driven electrical power supplies. A field proven, efficient design ensures this pump is dependable and will draw less current — lowering your operating cost. The pumps are available in Pro and Classic formats.

**ZU4 Pro pumps** have an LCD feature to display torque or pressure, selectable torque wrench, and self-diagnostics — premium features not available on any other pump.

**ZU4 Classic pumps** feature an analogue gauge and a basic electrical package to deliver durable, safe and efficient hydraulic power.

### ZE-Series Electric Torque Wrench Pump

The ZE-Series features premium options, such as the LCD to display torque or pressure values, and self-diagnostics. These pumps utilize an induction motor, making the ZE-Series the coolest and quietest pumps in their class.

### ZA-Series Air Driven Torque Wrench Pump

Utilizing the highly efficient design of the Z-Class pumping element, this air driven pump is best suited to power medium to large size torque wrenches

### TQ-700 Series Electric Torque Wrench Pump

Designed for both portability and production, the TQ-700 features optimized flow technology to deliver superior bolting speed.



### Twin Torque Wrench Hoses

Use Enerpac THQ-700 series twin hoses with 10,000 psi pumps, or use THC-700 series twin hoses with 11,600 psi pumps.

#### For S & W (10,000 psi)

|                     |                 |
|---------------------|-----------------|
| 19.5' long, 2 hoses | <b>THQ-706T</b> |
| 39' long, 2 hoses   | <b>THQ-712T</b> |

#### For SQD & HXD (11,600 psi)

|                     |                 |
|---------------------|-----------------|
| 19.5' long, 2 hoses | <b>THC-7062</b> |
| 39' long, 2 hoses   | <b>THC-7122</b> |



### Torque Wrench Couplers

For torque wrench couplers see our "System Components" section in this catalog.

# Portable Electric Torque Wrench Pumps

▼ Shown: **PMU-10427**



- Powerful two-speed pump is lightweight and easy to carry
- Standard heat exchanger package keeps pump cool under extreme use
- Glycerin filled gauge with scales reading in psi and bar
- Transparent overlays in Ft.lbs and Nm for all Enerpac torque wrenches provide a quick torque reference
- Universal motor for a high power-to-weight ratio; generates full pressure on as little as 50% of the rated line voltage
- Adjustable pressure relief valve for accurate torque adjustments and precise repeatability

## PMU/PME Series

Reservoir Capacity:

**0.5-1 gal.**

Flow at 10,000 psi:

**20 in<sup>3</sup>/min.**

Motor Size:

**0.5 hp**

Maximum Operating Pressure:

**10,000 and 11,600 psi**



### Pump Ratings

**-Q** suffix pumps are for 10,000 psi torque wrenches, and include spin-on couplers.

**-E** suffix pumps are for use with 11,600 psi rated torque wrenches, and include polarized lock-ring safety couplers.



### Twin Torque Wrench Hoses

Use Enerpac THQ-700 series twin hoses with 10,000 psi pumps, or use THC-700 series twin hoses with 11,600 psi pumps.

| 10,000 psi              |                 |
|-------------------------|-----------------|
| 19.5 feet long, 2 hoses | <b>THQ-706T</b> |
| 39 feet long, 2 hoses   | <b>THQ-712T</b> |
| 11,600 psi              |                 |
| 19.5 feet long, 2 hoses | <b>THC-7062</b> |
| 39 feet long, 2 hoses   | <b>THC-7122</b> |

### ▼ SELECTION CHART

| For Use With Torque Wrenches |                  | Maximum Pressure Rating (psi) |                       | Oil Flow Rate (in <sup>3</sup> /min) |                       | Model Number       | Useable Oil Capacity (gal) | Electric Motor      | Dimensions L x W x H (in) | Weight (lbs) |
|------------------------------|------------------|-------------------------------|-----------------------|--------------------------------------|-----------------------|--------------------|----------------------------|---------------------|---------------------------|--------------|
|                              |                  | 1 <sup>st</sup> stage         | 2 <sup>nd</sup> stage | 1 <sup>st</sup> stage                | 2 <sup>nd</sup> stage |                    |                            |                     |                           |              |
| S1500X<br>S3000X             | W2000X<br>W4000X | 700                           | 10,000                | 200                                  | 20                    | <b>PMU-10427-Q</b> | .50                        | 115V- 1 ph -50/60Hz | 17 x 11 x 15              | 46           |
|                              |                  | 700                           | 10,000                | 200                                  | 20                    | <b>PMU-10447-Q</b> | 1.0                        | 115V- 1 ph -50/60Hz | 17 x 13 x 15              | 53           |
|                              |                  | 700                           | 10,000                | 200                                  | 20                    | <b>PMU-10422-Q</b> | .50                        | 230V- 1 ph -50/60Hz | 17 x 11 x 15              | 46           |
|                              |                  | 700                           | 10,000                | 200                                  | 20                    | <b>PMU-10442-Q</b> | 1.0                        | 230V- 1 ph -50/60Hz | 17 x 13 x 15              | 53           |
| SQD-25-I<br>SQD-50-I         | HXD-30<br>HXD-60 | 700                           | 11,600                | 200                                  | 20                    | <b>PMU-10427</b>   | .50                        | 115V- 1 ph -50/60Hz | 17 x 11 x 15              | 46           |
|                              |                  | 700                           | 11,600                | 200                                  | 20                    | <b>PMU-10447</b>   | 1.0                        | 115V- 1 ph -50/60Hz | 17 x 13 x 15              | 53           |
|                              |                  | 700                           | 11,600                | 200                                  | 20                    | <b>PMU-10422</b>   | .50                        | 230V- 1 ph -50/60Hz | 17 x 11 x 15              | 46           |
|                              |                  | 700                           | 11,600                | 200                                  | 20                    | <b>PMU-10442</b>   | 1.0                        | 230V- 1 ph -50/60Hz | 17 x 13 x 15              | 53           |

\* For pump without heat exchanger change PMU into PME. Example: PME-10442-Q.

PME-Series pump size 10 x 10 x 14 inches. Weight 37.5 lbs. (.50 gallon) and 44 lbs (1 gallon).



▼ Shown: TQ-700E



- Three stage pump design delivers optimized flow rates and enables up to 50% faster bolting than competing pumps
- Compact and lightweight design fits through tight openings and provides easy handling
- Built-in protection for controls, gauge, and pendant for job-site durability
- IP55 rating for superior dust and water protection
- Advanced brushless motor provides for quiet, continuous operation, high voltage tolerance, and low maintenance
- Heat exchanger prevents breakdown of oil during heavy usage in hot environments
- Simple pressure setting and convenient pendant control for hassle-free operation

▼ The TQ-700E and the W-Series wrenches are a productive combination in wind applications.



## Lightweight Electric Torque Wrench Pump



### Optimized for S- and W-series Hydraulic Torque Wrenches

Enerpac offers a complete range of square drive and hexagon cassette torque wrenches.

Page: 203



### Pendant Control

The TQ-700 comes equipped with a 20-foot pendant cord which allows the user to pressurize the pump from a distance increasing productivity and speed of setup.



### Four Port Manifold

The TQ-700 Classic offers an optional four wrench manifold as an accessory (TQM) factory installed. (Add suffix "M" at the end of the model number. For example: TQ700EM)



### Twin Torque Wrench Hoses

Use Enerpac THQ-700 series twin hoses with 10,000 psi pumps.

#### 10,000 psi

|                         |          |
|-------------------------|----------|
| 19.5 feet long, 2 hoses | THQ-706T |
| 39 feet long, 2 hoses   | THQ-712T |



### Gauge Overlay Kit

Gauge overlay kits are also available separately.

**GT-4015-Q** includes overlays for all S- and W-Series

Torque Wrenches.

**GT-4015** includes overlays for all SQD and HXD torque wrenches.

# Electric Torque Wrench Pump



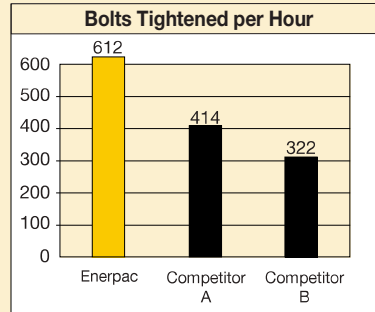
## TQ-700 Series Pump Applications

The TQ-700 Series pump is ideal for powering hydraulic wrenches for the Power Generation and Wind Markets.

The TQ-700 has been engineered with **Optimized Flow Technology** to deliver up to 50% faster bolt tightening than competing pumps.

Bolting speed is more complex than how much flow per minute the pump produces. The key is optimizing the flow rate across the entire bolting cycle. With more oil flowing at the right time and at the right volume, you achieve the optimized flow for a hydraulic bolting system.

The result of this optimized flow is more bolts tightened faster and a more productive work team.



*Internal laboratory testing based on standard torquing procedure on a pipe flange with 14, 1 1/2" bolts.*

## TQ Series



Reservoir Capacity:  
**1 gallon**

Motor Size:  
**1.0 hp**

Maximum Operating Pressure:  
**10,000 psi**

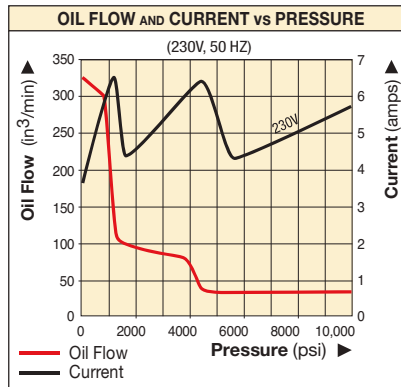
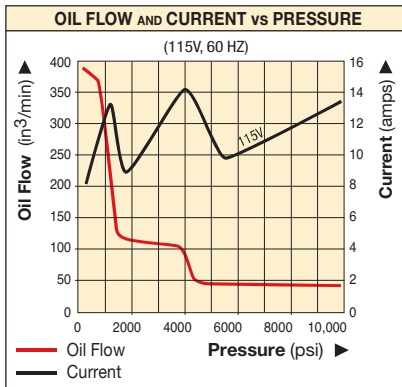


## IP55 Rating for Superior Dust and Water Protection

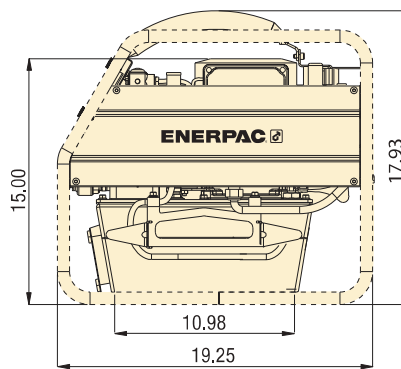
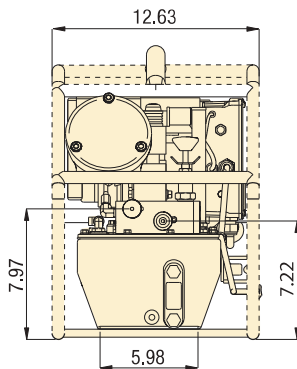
The IP Code (or Ingress Protection Rating) classifies and rates the degrees of protection provided against the intrusion of solid objects and water in mechanical casings and electrical enclosures.

An IP55 rating means the TQ-700 offers complete protection against contact with mechanical and electrical components, and that dust will not enter in a sufficient quantity to interfere with the operation of the equipment.

The IP55 rating also means water jets sprayed against the TQ-700 from any direction will not have any harmful effects.



Dimensions shown in inches.



| Performance | For Use with Torque Wrenches |         | Pressure Rating | Model Number <sup>1)</sup> | Usable Oil Capacity | Motor Electrical Specification | Sound Level | Weight (no oil) |
|-------------|------------------------------|---------|-----------------|----------------------------|---------------------|--------------------------------|-------------|-----------------|
|             |                              |         | (psi)           |                            | (gal)               |                                | (dBA)       | (lbs)           |
| Optimal     | S1500X                       | W2000X  | 10,000          | TQ-700B                    | 1                   | 115V-1 ph, 50 / 60 Hz          | 82-85       | 68              |
|             | S3000X                       | W4000X  |                 | TQ-700E <sup>2)</sup>      | 1                   | 230V-1 ph, 50 Hz               | 82-85       | 66              |
|             | S6000X                       | W8000X  |                 | TQ-700I <sup>3)</sup>      | 1                   | 230V-1 ph, 60 Hz               | 82-85       | 66              |
| Acceptable  | S11000X                      | W15000X | 10,000          | TQ-700B                    | 1                   | 115V-1 ph, 50 / 60 Hz          | 82-85       | 68              |
|             | S25000X                      | W22000X |                 | TQ-700E <sup>2)</sup>      | 1                   | 230V-1 ph, 50 Hz               | 82-85       | 66              |
|             | S25000X                      | W35000X |                 | TQ-700I <sup>3)</sup>      | 1                   | 230V-1 ph, 60 Hz               | 82-85       | 66              |

1) All models meet CE safety requirements and all TÜV requirements

2) European plug and CE EMC directive compliant

3) With NEMA 6-15 plug

▼ The TQ-700E and the W-Series wrenches are a productive combination.



▼ Shown: ZU4204TB-Q and ZU4204BB-Q



**Z** Tough.  
Dependable.  
Innovative.  
**CLASS**



#### Classic Electrical

Basic electrical package includes mechanical contactor, ON/OFF toggle switch, pendant with

electro-mechanical pushbuttons, 24V transformer timer and operator accessible circuit breaker.



#### FIRMWARE for Pro-Series

- Display torque in Ft.lbs. or Nm
- Display pressure in bar, MPa or psi

- Torque wrench model is selectable
- "Auto cycle" setting easily programmable

[www.enerpac.com](http://www.enerpac.com)



#### Back-lit LCD Display for Pro Series

- Digital pressure or torque read-out
- Programmable "Auto-Cycle" setting

- "Auto-Cycle" setting easily programmable
- Torque wrench model is selectable
- Display torque in Nm or Ft.lbs
- Pump usage information, hour and cycle counts
- Low-voltage warning and recording
- Self-test and diagnostic capabilities
- Information can be displayed in English, French, German, Italian, Spanish and Portuguese
- Pressure transducer is more accurate and durable than analog gauges

- Features Z-Class high-efficiency pump design; higher oil flow and bypass pressure, cooler running and requires 18% less current draw than comparable pumps
- Powerful 1.7 hp universal electric motor provides high power-to-weight ratio and excellent low-voltage operating characteristics
- High-strength, molded composite shroud protects motor and electrical components, while providing an ergonomic, non-conductive handle for easy transport
- Low-voltage pendant provides additional safety for the operator

#### Pro-Series

- LCD readout provides pressure and torque display and a number of diagnostic and readout capabilities never before offered on a portable electric pump
- Auto cycle feature provides continuous cycle operation of the torque wrench as long as the advance button is pressed. (Pump can be used with or without auto cycle feature)



◀ Any brand of hydraulic torque wrench can be powered by the portable ZU4-Series torque wrench pump.



# ZU4T Torque Wrench Pumps



## Z-Class – A Pump For Every Application

Patented Z-Class pump technology provides

high by-pass pressures for increased productivity—important in applications using long hose runs and high pressure-drop circuits, like heavy lifting or certain double-acting tools.

Enerpac ZU4 Hydraulic Pumps are built to power small to large torque wrenches. Choosing the right ZU4 torque wrench pump for your application is easy.

### Classic Electric Torque Wrench Pump

- The Classic has an analog gauge and traditional electro-mechanical components (transformers, relays and switches) in place of solid-state electronics. The Classic

delivers durable, safe and efficient hydraulic power.

### Pro Series Electric Torque Wrench Pump

- Digital (LCD) display features a built-in hour meter, pressure and torque display, and shows self-diagnostic, cycle-count and low voltage warning information. These premium features are not available on any other pump—anywhere!
- AutoCycle feature provides continuous cycle operation of the torque wrench as long as the advance button is pressed. (Pump can be used with or without AutoCycle feature).

## ZU4T Series



Reservoir Capacity:

**1 and 1.75 gal.**

Flow at 10,000 psi:

**60 in<sup>3</sup>/min.**

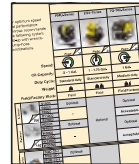
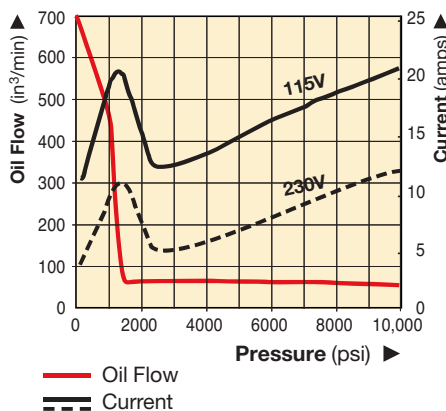
Motor Size:

**1.7 hp**

Maximum Operating Pressure:

**10,000 psi**

### OIL FLOW AND CURRENT vs PRESSURE



### Torque Wrench Pump Selection Matrix

For optimum speed and performance see the torque wrench pump and hose selection matrix.

Page: 232



### Pump Ratings

-Q suffix pumps are for 10,000 psi torque wrenches, and include spin-on couplers.

-E suffix pumps are for use with Enerpac SQD and HXD 11,600 psi torque wrenches, and include polarized lock-ring safety couplers.

Page: 238

### COMMON PUMP MODELS

|            | For Use With Torque Wrenches | Model Number <sup>1) 4)</sup> | Motor Electrical Specification | Usable Oil Capacity (gal) | Weight with Oil (lbs) |
|------------|------------------------------|-------------------------------|--------------------------------|---------------------------|-----------------------|
| Pro Series | All wrenches                 | ZU4204TB-Q                    | 115 V-1 ph                     | 1.0                       | 70                    |
|            |                              | ZU4208TB-Q                    | 115 V-1 ph                     | 1.75                      | 76                    |
|            |                              | ZU4204TE-Q <sup>2)</sup>      | 208-240 V-1 ph                 | 1.0                       | 70                    |
|            |                              | ZU4208TE-Q <sup>2)</sup>      | 208-240 V-1 ph                 | 1.75                      | 76                    |
|            |                              | ZU4204TI-Q <sup>3)</sup>      | 208-240 V-1 ph                 | 1.0                       | 70                    |
|            |                              | ZU4208TI-Q <sup>3)</sup>      | 208-240 V-1 ph                 | 1.75                      | 76                    |
| Classic    | All wrenches                 | ZU4204BB-QH                   | 115 V-1 ph                     | 1.0                       | 82                    |
|            |                              | ZU4204BB-Q                    | 115 V-1 ph                     | 1.0                       | 73                    |
|            |                              | ZU4208BE-QH <sup>2)</sup>     | 208-240 V-1 ph                 | 1.75                      | 83                    |
|            |                              | ZU4204BE-Q <sup>2)</sup>      | 208-240 V-1 ph                 | 1.0                       | 74                    |
|            |                              | ZU4208BI-QH <sup>3)</sup>     | 208-240 V-1 ph                 | 1.75                      | 88                    |
|            |                              | ZU4208BI-Q <sup>3)</sup>      | 208-240 V-1 ph                 | 1.75                      | 79                    |

1) All models meet CE safety requirements and all TÜV requirements

2) European plug and CE EMC directive compliant

3) With NEMA 6-15 plug

4) Replace the Q- suffix with an -E suffix for Enerpac SQD and HXD 11,600 psi torque wrench pumps



### Gauge Overlay Kit

Gauge overlay kits are also available separately.

GT-4015-Q includes overlays for all S- and W-Series

torque wrenches.

GT-4015 includes overlays for all SQD and HXD torque wrenches.

[www.enerpac.com](http://www.enerpac.com)



# ZU4T Ordering Matrix and Specifications

▼ This is how a ZU4 Series pump model number is built up:



|              |            |            |            |                |                 |         |                |         |         |
|--------------|------------|------------|------------|----------------|-----------------|---------|----------------|---------|---------|
| 1            | 2          | 3          | 4          | 5              | 6               | 7       | 8              | 8       | 8       |
| Product Type | Motor Type | Flow Group | Valve Type | Reservoir Size | Valve Operation | Voltage | Must be E or Q | Options | Options |

## 1 Product Type

**Z** = Pump series

## 2 Motor Type

**U** = Universal electric motor

## 3 Flow Group

**4** = 60 in<sup>3</sup>/min @ 10,000 psi

## 4 Valve Type

**2** = Torque wrench valve

## 5 Reservoir Size (useable capacity)

**04** = 1.0 gallon

**08** = 1.75 gallons

## 6 Valve Operation

**T** = Solenoid valve with pendant, LCD Electric and pressure transducer

**B** = Solenoid valve with pendant, classic electrical

## 7 Voltage

**B** = 115V, 1 ph, 50/60 Hz

**E** = 208-240V, 1 ph, 50/60 Hz (with European plug CE RF compliant)

**I** = 208-240V, 1 ph, 50/60 Hz (with NEMA 6-15 plug)

## 8 Factory installed features and options

**E** = 11,600 coupler for use with HXD-, SQD-Series or other wrenches

**Q** = 10,000 coupler for use with S- and W-Series or other wrenches

**H** = Heat exchanger

**K** = Skidbar

**M** = 4-wrench manifold

**R** = Roll cage



How to order your ZU4T-Series torque wrench pump

## Ordering Example 1

**Model No. ZU4208TB-QMHK**

**10,000 psi** pump for use with Enerpac S- and W-Series and other 10,000 psi torque wrenches, 115V motor, 1.75 gallon reservoir, 4-wrench manifold, heat exchanger and skidbar.

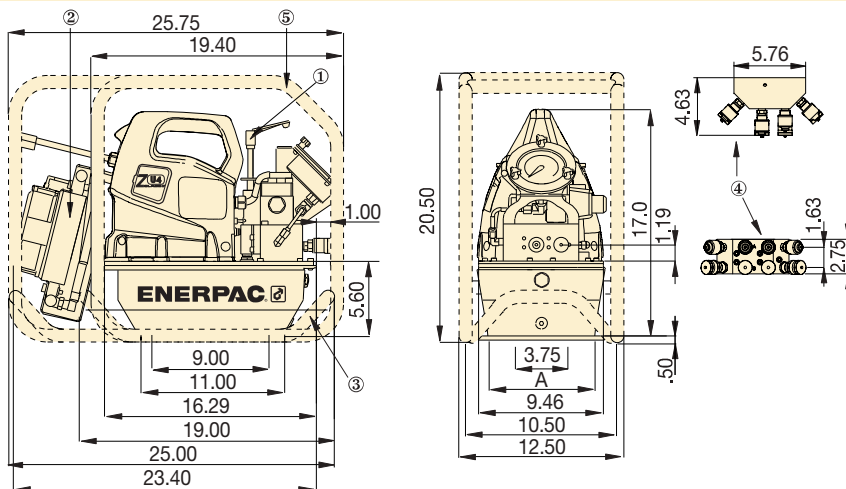
Refer to the torque wrench pump selection matrix for optimum wrench, pump and hose combinations.



## Twin Torque Wrench Hoses

Use Enerpac **THQ-700** series twin hoses with 10,000 psi pumps, or use **THC-700** series twin hoses with 11,600 psi pumps.

| 10,000 psi              |                 |
|-------------------------|-----------------|
| 19.5 feet long, 2 hoses | <b>THQ-706T</b> |
| 39 feet long, 2 hoses   | <b>THQ-712T</b> |
| 11,600 psi              |                 |
| 19.5 feet long, 2 hoses | <b>THC-7062</b> |
| 39 feet long, 2 hoses   | <b>THC-7122</b> |



## ZU4-Series Torque Wrench Pumps

| Reservoir Size (useable gallons) | A (in) |
|----------------------------------|--------|
| <b>1</b>                         | 6.0    |
| <b>1.75</b>                      | 8.1    |

Dimensions shown in inches

- ① User adjustable relief valve
- ② Heat exchanger (optional)
- ③ Skidbar (optional)
- ④ 4-wrench manifold (optional)
- ⑤ Roll cage (optional)

| ZU4 Performance |   |         |           |            |                                    |                   |                                     |
|-----------------|---|---------|-----------|------------|------------------------------------|-------------------|-------------------------------------|
| Motor Size (hp) | Output Flow Rate (in <sup>3</sup> /min) |         |           |            | *Motor Electrical Specification    | Sound Level (dBA) | Relief Valve Adjustment Range (psi) |
|                 | 100 psi                                 | 700 psi | 5,000 psi | 10,000 psi |                                    |                   |                                     |
| 1.7             | 700                                     | 535     | 76        | 60         | 115 VAC, 1-ph<br>208-240 VAC, 1-ph | 85-90             | 1,800-10,000**                      |

\* 50/60 HZ

\*\* Pump type (-Q) shown, (-E) range is 1,800 - 11,600 psi.

▼ Most hydraulic torque wrenches can be powered by the Enerpac ZU4-Series torque wrench pump.



# ZU4T Torque Wrench Pump Options



## Heat Exchanger

- Removes heat from the bypass oil to provide cooler operation
- Stabilizes oil viscosity, increasing oil life and reduces wear of pump and other hydraulic components



## Skidbar

- Provides greater pump stability on soft or uneven surfaces
- Provides easy two-handed lift

## ZU4T Series



Reservoir Capacity:

**1 and 1.75 gal.**

Flow at 10,000 psi:

**60 in<sup>3</sup>/min.**

Motor Size:

**1.7 hp**

Maximum Operating Pressure:

**10,000 psi**

| Accessory Kit No. * | Can be used with: |
|---------------------|-------------------|
| <b>ZHE-U115</b>     | 115V pumps        |
| <b>ZHE-U230</b>     | 230V pumps        |

\* Add suffix **H** to pump model number for factory installation.  
Heat Exchanger adds 9.1 lbs. to pump weight.

Ordering Example:

Model No. ZU4208TB-H

| Accessory Kit No. * | Can be used on ZU4-Series torque wrench pumps |
|---------------------|---|
| <b>SBZ-4</b>        | 1 and 1.75 gallon <sup>1)</sup>               |
| <b>SBZ-4L</b>       | 1 and 1.75 gallon <sup>2)</sup>               |

\* Add suffix **K** to pump model number for factory installation.

<sup>1)</sup> Without heat exchanger 4.9 lbs.

<sup>2)</sup> With heat exchanger 7.0 lbs.

Ordering Example:

Model No. ZU4208TB-QK



## Roll Cage

- Protects pump
- Provides greater pump stability



## 4-Wrench Manifold

- For simultaneous operation of multiple torque wrenches
- Can be factory installed or ordered separately

| Accessory Kit No. * | Can be used on ZU4-Series torque wrench pumps |
|---------------------|---|
| <b>ZRC-04</b>       | 1 and 1.75 gallon reservoir <sup>1)</sup>     |
| <b>ZRC-04H</b>      | 1 and 1.75 gallon reservoir <sup>2)</sup>     |

\* Add suffix **R** for factory installation.

<sup>1)</sup> For use with pumps without a heat exchanger fitted

<sup>2)</sup> For use with pumps with a heat exchanger fitted

Ordering Example:

Model No. ZU4208BB-QR

| Accessory Kit No. * | Can be used on ZU4-Series torque wrench pumps |
|---------------------|---|
| <b>ZTM-E</b>        | for 11,600 psi torque wrenches                |
| <b>ZTM-Q</b>        | for 10,000 psi torque wrenches                |

\* Add suffix **M** to pump model number for factory installation.

Ordering Example:

Model No. ZU4208TB-QM

▼ Shown: ZE4204TB-QHR



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#### FIRMWARE for Pro-Series

- Display torque in Ft.lbs. or Nm
- Display pressure in bar, MPa or psi
- Torque wrench model is selectable
- "Auto cycle" setting easily programmable

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- Auto cycle feature provides continuous cycle operation of the torque wrench as long as the advance button is pressed (Pump can be used with or without auto cycle feature)
- LCD readout provides pressure and torque display and a number of diagnostic and readout capabilities never before offered on a portable electric pump
- Totally enclosed, fan-cooled industrial electric motors supply extended life and stand up to harsh industrial environments
- High-strength, molded electrical enclosure protects electronics, power supplies and LCD readout from harsh environments



#### Back-lit LCD Display

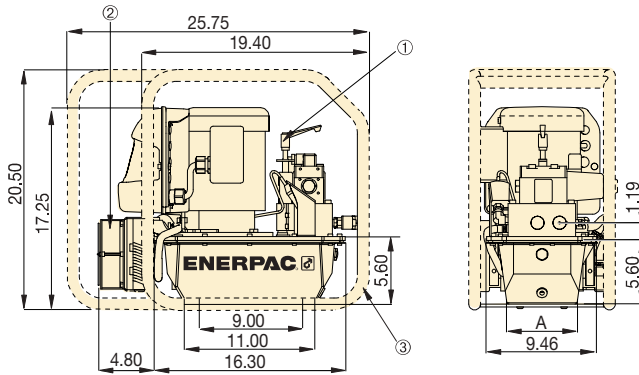
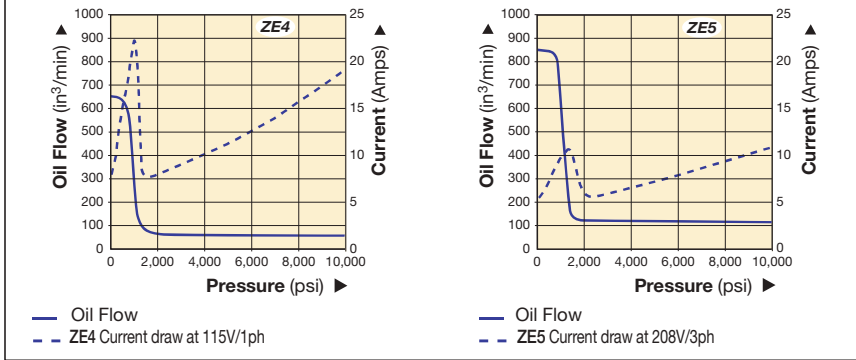
- Digital pressure or torque read-out
- Programmable "Auto-Cycle" setting
- "Auto-Cycle" setting easily programmable
- Torque wrench model is selectable
- Display torque in Nm or Ft.lbs
- Pump usage information, hour and cycle counts
- Low-voltage warning and recording
- Self-test and diagnostic capabilities
- Information can be displayed in English, French, German, Italian, Spanish and Portuguese
- Pressure transducer is more accurate and durable than analog gauges



◀ The ZE4 torque wrench pumps are perfectly matched for this W2000X wrench.

# ZE Series Electric Torque Wrench Pumps

ZE4 and ZE5 Oil Flow and Current vs. Pressure



| Reservoir Size<br>(useable gallons) | A<br>(in) |
|-------------------------------------|-----------|
| 1                                   | 6.0       |
| 1.75                                | 8.1       |

Dimensions shown in inches.

- ① User adjustable relief valve
- ② Heat Exchanger (optional)
- ③ Roll cage (optional)

## ▼ COMMON PUMP MODELS

| For Use With<br>Torque<br>Wrenches    | Max.<br>Operating<br>Pressure<br>(psi) | Model Number<br>with Heat<br>Exchanger and<br>Roll Cage | Motor<br>Electrical<br>Specification | Usable<br>Oil<br>Capacity <sup>1)</sup><br>(gal) | Weight<br>with<br>Oil<br>(lbs) |
|---------------------------------------|--|---|--------------------------------------|--|--------------------------------|
| All S- and<br>W-Series<br>Wrenches    | 10,000                                 | ZE4208TB-QHR  | 115 V-1 ph                           | 2  | 129                            |
|                                       | 10,000                                 | ZE4208TI-QHR  | 230 V-1 ph                           | 2  | 129                            |
|                                       | 10,000                                 | ZE4208TG-QHR  | 230 V-3 ph                           | 2  | 131                            |
|                                       | 10,000                                 | ZE5208TW-QHR  | 400 V-3 ph                           | 2  | 131                            |
| All SQD and<br>HXD-Series<br>Wrenches | 11,600                                 | ZE4208TB-EHR  | 115 V-1 ph                           | 2  | 138                            |
|                                       | 11,600                                 | ZE4208TI-EHR  | 230 V-1 ph                           | 2  | 129                            |
|                                       | 11,600                                 | ZE4208TG-EHR  | 230 V-3 ph                           | 2  | 141                            |
|                                       | 11,600                                 | ZE5208TW-EHR  | 400 V-3 ph                           | 2  | 132                            |

<sup>1)</sup> Reservoir sizes available: 1, 2, 2.5, 5, 10 gallon. Contact Enerpac.

## ▼ PERFORMANCE CHART

| Pump<br>Series | Output Flow Rate<br>(in³/min) |            |              |               | Motor Size |      | Relief Valve<br>Adjustment<br>Range<br>(psi) | Sound<br>Level<br>(dBA) |
|----------------|-------------------------------|------------|--------------|---------------|------------|------|--|-------------------------|
|                | 100<br>psi                    | 700<br>psi | 5,000<br>psi | 10,000<br>psi | hp         | RPM  |  |                         |
| ZE4T           | 650                           | 600        | 62           | 60            | 1.5        | 1750 | 1000 - 11,600                                | 75                      |
| ZE5T           | 850                           | 825        | 123          | 120           | 3.0        | 1750 | 1000 - 11,600                                | 75                      |

Flow rate will be approximately 5/6 of these values at 50 Hz.

## ZE Series



Reservoir Capacity:

**1.0 -10 gal.**

Flow at 10,000 psi:

**60-120 in³/min.**

Motor Size:

**1.5-3.0 hp**

Maximum Operating Pressure:

**10,000 and 11,600 psi**



### Accessory Options

A full list of optional accessories can be found in the ZU4 section.

Page: 239



### Twin Torque Wrench Hoses

Use Enerpac **THQ-700** series twin hoses with 10,000 psi pumps, or use **THC-700** series twin hoses with 11,600 psi pumps.

| 10,000 psi              |                 |
|-------------------------|-----------------|
| 19.5 feet long, 2 hoses | <b>THQ-706T</b> |
| 39 feet long, 2 hoses   | <b>THQ-712T</b> |
| 11,600 psi              |                 |
| 19.5 feet long, 2 hoses | <b>THC-7062</b> |
| 39 feet long, 2 hoses   | <b>THC-7122</b> |



▼ Shown: **ZA4204TX-QR**



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#### Twin Torque Wrench Hoses

Use Enerpac **THQ-700** series twin hoses with 10,000 psi pumps, or use **THC-700** series twin hoses with 11,600 psi pumps.

- Two-speed operation and high by-pass pressure reduces cycle time for improved productivity
- Glycerin filled pressure gauge with transparent overlays in Ft.lbs and Nm for Enerpac torque wrenches provide a quick torque reference
- Regulator-Filter-Lubricator with removable bowls and auto drain is standard
- Ergonomic pendant allows remote operation up to 20 feet
- Valve technology reduces oil operating temperatures and withstands contaminants to increase pump reliability

| 10,000 psi              |                 |
|-------------------------|-----------------|
| 19.5 feet long, 2 hoses | <b>THQ-706T</b> |
| 39 feet long, 2 hoses   | <b>THQ-712T</b> |
| 11,600 psi              |                 |
| 19.5 feet long, 2 hoses | <b>THC-7062</b> |
| 39 feet long, 2 hoses   | <b>THC-7122</b> |



#### Gauge Overlay Kit

Gauge overlay kits are also available separately.

**GT-4015-Q** includes overlays for all S- and

W-Series torque wrenches.

**GT-4015** includes overlays for all SQD and HXD torque wrenches.



◀ Most hydraulic torque wrenches can be powered by the Enerpac ZA4-Series torque wrench pump.

# ZA4T Air Driven Torque Wrench Pumps



## ZA4-Series Pump Applications

The ZA4-Series pump is best suited to power medium to large size torque wrenches.

Patent-pending *Z-Class* technology provides high by-pass pressures for increased productivity. Its high power-to-weight ratio and compact design make it ideal for applications which require easy transport of the pump.

For further application assistance contact your local Enerpac office.

## ATEX Certified

The ZA-series pumps are tested and certified according to the **Equipment Directive 94 / 9 / EC "ATEX Directive"**.

The explosion protection is for equipment group II, equipment category 2 (hazardous area zone 1), in gas and/or dust atmospheres. The ZA-series pumps are marked with: Ex II 2 GD ck T4.



## ZA4T Series



Reservoir Capacity:

**1 and 1.75 gal.**

Flow at 10,000 psi:

**60 in<sup>3</sup>/min.**

Air Consumption:

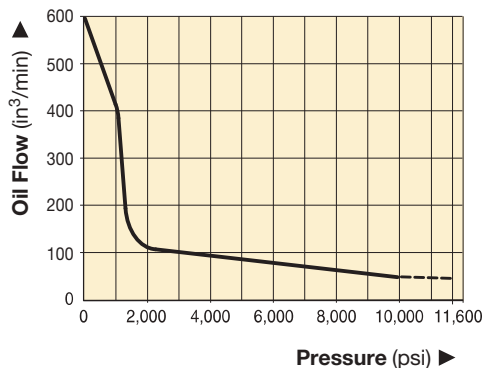
**20-100 scfm**

Maximum Operating Pressure:

**10,000 and 11,600 psi**

## OIL FLOW vs PRESSURE

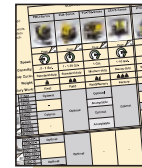
100 psi dynamic air pressure  
at 70 scfm



## COMMON PUMP MODELS

| For Use With Torque Wrenches         | Maximum Operating Pressure (psi) | Model Number <sup>1)</sup> | Usable Oil Capacity (gal) | Weight with Oil (lbs) |
|--------------------------------------|----------------------------------|----------------------------|---------------------------|-----------------------|
| For all S- and W- Series (X-Edition) | 10,000                           | ZA4204TX-Q                 | 1.0                       | 94                    |
|                                      | 10,000                           | ZA4208TX-Q                 | 1.75                      | 100                   |
|                                      | 10,000                           | ZA4204TX-QR                | 1.0                       | 101                   |
|                                      | 10,000                           | ZA4208TX-QR                | 1.75                      | 112                   |
| For all SQD- and HXD-Series          | 11,600                           | ZA4204TX-E                 | 1.0                       | 94                    |
|                                      | 11,600                           | ZA4208TX-E                 | 1.75                      | 100                   |
|                                      | 11,600                           | ZA4204TX-ER                | 1.0                       | 101                   |
|                                      | 11,600                           | ZA4208TX-ER                | 1.75                      | 112                   |

<sup>1)</sup> All models meet CE safety requirements and all TÜV requirements.



## Torque Wrench Pump Selection Matrix

For optimum speed and performance see the torque wrench, pump and hose selection matrix.

Page: 232



## Accessory Options

Available by placing the following additional suffix at the end of the model number:

- K** = Skidbar
- M** = 4-wrench manifold
- R** = Roll cage

Page: 245



## Pump Ratings

**-Q** suffix pumps are for 10,000 psi torque wrenches, and include spin-on couplers.

**-E** suffix pumps are for use with Enerpac SQD and HXD 11,600 psi torque wrenches, and include polarized lock-ring safety couplers.

# ZA4T Ordering Matrix and Specifications

▼ This is how a ZA4-Series pump model number is built up:



|              |            |            |            |                |                 |         |                |         |         |
|--------------|------------|------------|------------|----------------|-----------------|---------|----------------|---------|---------|
| 1            | 2          | 3          | 4          | 5              | 6               | 7       | 8              | 8       | 8       |
| Product Type | Motor Type | Flow Group | Valve Type | Reservoir Size | Valve Operation | Voltage | Must be E or Q | Options | Options |

## 1 Product Type

**Z** = Pump Series

## 2 Motor Type

**A** = Air motor

## 3 Flow Group

**4** = 60 in<sup>3</sup>/min @ 10,000 psi

## 4 Valve Type

**2** = Torque Wrench Valve

## 5 Reservoir Size (useable capacity)

**04** = 1.0 gallon

**08** = 1.75 gallons

## 6 Valve Operation

**T** = Air operated valve with pendant

## 7 Voltage

**X** = Not applicable

## 8 Factory installed features and options

**E** = 11,600 psi coupler for use with HXD- and SQD-Series wrenches

**Q** = 10,000 psi coupler for use with S- and W-Series or other wrenches

**K** = Skidbar

**M** = 4-wrench manifold

**R** = Roll cage



**How to order your ZA4-Series torque wrench pump**

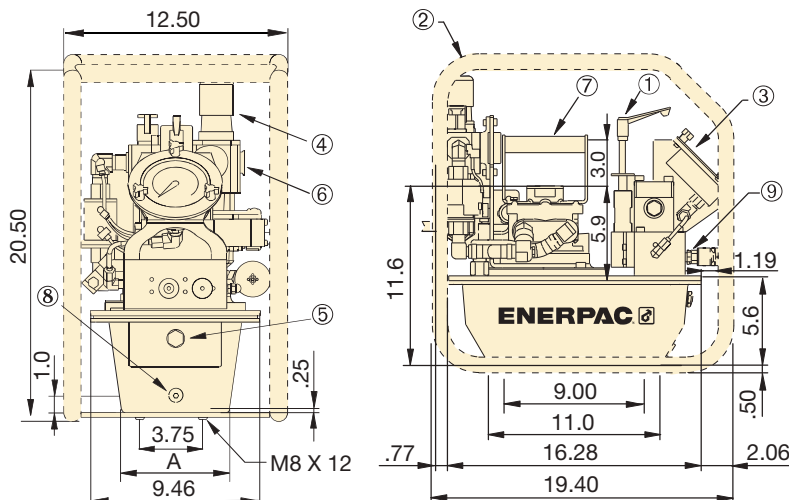
### Ordering Example 1

#### Model No. ZA4208TX-QMR

**10,000 psi** pump for use with Enerpac S- and W-Series and other 10,000 psi torque wrenches, 1.75 gallon reservoir, 4-wrench manifold, and roll cage.

Refer to the torque wrench pump selection matrix for optimum wrench, pump and hose combinations.

Dimensions shown in inches.



- ① User adjustable relief valve
- ② Roll bar cage (optional)
- ③ Gauge with overlays
- ④ Filter/lubricator/regulator
- ⑤ Oil level sight gauge
- ⑥ Air input 1/2" NPTF
- ⑦ Standard handle
- ⑧ Oil drain
- ⑨ 1/4"-18 NPTF Oil Outlet

### ZA4-Series Torque Wrench Pumps

| Reservoir Size<br>(useable gallons) | A<br>(in) |
|-------------------------------------|-----------|
| 1                                   | 6.0       |
| 1.75                                | 8.1       |

▼ Most hydraulic torque wrenches can be powered by the Enerpac ZA4-Series torque wrench pump.



| ZA4 Performance                            |         |           |            |            |                                     |                           |   |  |
|--|---------|-----------|------------|------------|-------------------------------------|---------------------------|---|--|
| Output Flow Rate<br>(in <sup>3</sup> /min) |         |           |            |            | Dynamic Air Pressure Range<br>(psi) | Air Consumption<br>(scfm) | Sound Level at 100 psi Dynamic<br>(dBA) | Relief Valve Adjustment Range<br>(psi) |
| 100 psi                                    | 700 psi | 5,000 psi | 10,000 psi | 11,600 psi |                                     |                           |   |  |
| 600  | 500     | 80        | 60         | 55         | 60-100                              | 20-100                    | 80-95                                   | 1,400-10,000*                          |

\* Pump type (-Q) shown.

# ZA4T Torque Wrench Pump Options



## Skidbar

- Provides greater pump stability on soft or uneven surfaces
- Provides two-handed lift

| Accessory Kit No. * | Can be used on ZA4-Series torque wrench pumps |
|---------------------|---|
| SBZ-4               | 1 and 1.75 gallon reservoir                   |

\* Add suffix **K** for factory installation.  
Skidbar weight 4.9 lbs.

Ordering Example:

Model No. ZA4208TX-QK



## 4-Wrench Manifold

- For simultaneous operation of multiple torque wrenches
- Can be factory installed or ordered separately

| Accessory Kit No. * | Can be used on ZA4-Series torque wrench pumps |
|---------------------|---|
| ZTM-E               | for 11,600 psi torque wrenches                |
| ZTM-Q               | for 10,000 psi torque wrenches                |

\* Add suffix **M** for factory installation.

Ordering Example:

Model No. ZA4208TX-QM

## ZA4T Series



Reservoir Capacity:

**1 and 1.75 gal.**

Flow at 10,000 psi:

**60 in<sup>3</sup>/min.**

Air Consumption:

**20-100 scfm**

Maximum Operating Pressure:

**10,000 and 11,600 psi**



## Gauge Overlay Kit

Gauge overlay kits are also available separately.

**GT-4015** includes overlays for all SQD and HXD torque wrenches. **GT-4015-Q**

includes overlays for all S- and W-Series torque wrenches.



## Roll Cage

- Protects pump
- Provides greater pump stability

| Accessory Kit No. * | Can be used on ZA4-Series torque wrench pumps |
|---------------------|---|
| ZRC-04              | 1 and 1.75 gallon reservoir                   |

\* Add suffix **R** for factory installation.  
Roll bar cage weight 7.5 lbs.

Ordering Example:

Model No. ZA4208TX-QR



## Twin Torque Wrench Hoses

Use Enerpac THQ-700 series twin hoses with 10,000 psi pumps, or use THC-700 series twin hoses with 11,600 psi pumps.

| 10,000 psi              |                 |
|-------------------------|-----------------|
| 19.5 feet long, 2 hoses | <b>THQ-706T</b> |
| 39 feet long, 2 hoses   | <b>THQ-712T</b> |
| 11,600 psi              |                 |
| 19.5 feet long, 2 hoses | <b>THC-7062</b> |
| 39 feet long, 2 hoses   | <b>THC-7122</b> |



## Torque Wrench Couplers

For Enerpac torque wrench couplers see our "System Components" section in this catalog.



▼ Shown: GT-Series bolt tensioners



- Six load cells from  $\frac{5}{8}$ " to  $3\frac{3}{4}$ " or from M16 to M95
- Twin ports for quick connection of multiple tools
- Only one size of bridge per size of load cell
- Detachable and rotational bridge simplifies tool positioning
- Full bridge window
- Piston stroke indicator
- Black surface treatment protects against corrosion
- Anti-slip grip for more secure handling
- Universal and multi-use tool

## Accurate & Reliable

## Extreme Performance Bolt Tensioner



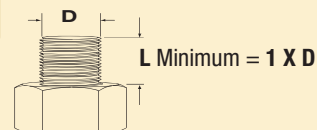
### Pumps and Accessories

High pressure pumps, hoses and fittings matched for use with the Enerpac GT Bolt Tensioning system.

Page: 248



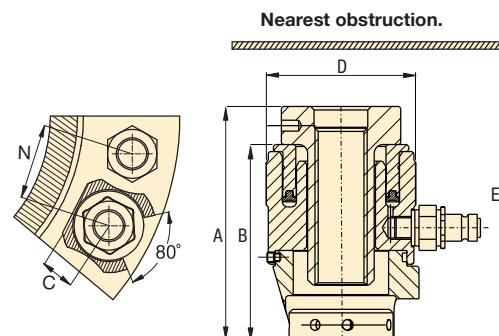
### Minimum Stud Protrusion



### Ultra High Pressure

These products operate at ultra-high pressure, use only the specified fittings and hoses designed for these pressures.

Page: 250



▼ GT2 Bolt Tensioner on a flange joint.



| Threaded Fastener Range             |         | Load Cell and Bridge Reference | Technical Data                             |                     |             | Dimensions (in) |      |      |      | Weight (lbs) |
|-------------------------------------|---------|--------------------------------|--|---------------------|-------------|-----------------|------|------|------|--------------|
|                                     |         |                                | Cylinder Effective Area (in <sup>2</sup> ) | Load Capacity (ton) | Stroke (in) | A               | B    | C    | D    |              |
| (in)                                | (mm)    |                                |  |                     |             |                 |      |      |      |              |
| $\frac{5}{8}$ "-1"                  | M16-M30 | GT1-LCB                        | 2.32                                       | 25.2                | 0.39        | 5.31            | 4.45 | 1.06 | 3.39 | 6.60         |
| $1\frac{1}{8}$ "-1 $\frac{1}{2}$ "  | M30-M39 | GT2-LCB                        | 4.15                                       | 45.1                | 0.39        | 5.35            | 4.37 | 1.38 | 4.21 | 9.02         |
| $1\frac{1}{2}$ "-2"                 | M39-M52 | GT3-LCB                        | 7.95                                       | 86.4                | 0.39        | 6.30            | 4.96 | 1.81 | 5.43 | 15.40        |
| 2"-2 $\frac{1}{2}$ "                | M52-M68 | GT4-LCB                        | 15.16                                      | 164.9               | 0.39        | 7.09            | 5.55 | 2.44 | 6.85 | 26.84        |
| 2 $\frac{1}{2}$ "-3 $\frac{1}{4}$ " | M68-M80 | GT5-LCB                        | 23.37                                      | 254.1               | 0.39        | 7.95            | 6.18 | 3.07 | 8.27 | 41.14        |
| $3\frac{1}{4}$ "-3 $\frac{3}{4}$ "  | M80-M95 | GT6-LCB                        | 29.41                                      | 319.8               | 0.39        | 8.62            | 6.81 | 3.23 | 9.45 | 61.16        |

# GT-Series Hydraulic Bolt Tensioners

| Load Cell and Bridge Reference | Thread Size           | Adaptor Kit Model Number | Pitch Between Bolts N (in) | Minimum Height E (in) | Weight (lbs) |
|--------------------------------|-----------------------|--------------------------|----------------------------|-----------------------|--------------|
| GT1-LCB                        | M16 x 2               | GT1PM-NRS01620           | 2.17                       | 6.65                  | 3.48         |
|                                | M18 x 2.5             | GT1PM-NRS01825           | 2.20                       | 6.50                  | 3.32         |
|                                | M20 x 2.5             | GT1PM-NRS02025           | 2.24                       | 6.50                  | 3.15         |
|                                | M24 x 3               | GT1PM-NRS02430           | 2.32                       | 6.46                  | 2.88         |
|                                | M27 x 3               | GT1PM-NRS02730           | 2.44                       | 6.57                  | 2.55         |
|                                | M30 x 3.5             | GT1PM-NRS03035           | 2.56                       | 6.69                  | 2.22         |
|                                | $\frac{5}{8}$ " 11UN  | GT1P-NRS0625U11          | 2.17                       | 6.65                  | 3.45         |
|                                | $\frac{3}{4}$ " 10UN  | GT1P-NRS0750U10          | 2.20                       | 6.50                  | 3.17         |
|                                | $\frac{7}{8}$ " 9UN   | GT1P-NRS0875U09          | 2.32                       | 6.46                  | 2.86         |
|                                | 1" 8UN                | GT1P-NRS1000U08          | 2.44                       | 6.57                  | 2.68         |
|                                | 1 $\frac{1}{8}$ " 8UN | GT1P-NRS1125U08          | 2.56                       | 6.69                  | 2.31         |
| GT2-LCB                        | M30 x 3.5             | GT2PM-NRS03035           | 2.80                       | 6.81                  | 5.68         |
|                                | M33 x 3.5             | GT2PM-NRS03335           | 2.91                       | 6.85                  | 5.21         |
|                                | M36 x 4               | GT2PM-NRS03640           | 3.03                       | 6.97                  | 4.77         |
|                                | M39 x 4               | GT2PM-NRS03940           | 3.15                       | 7.09                  | 4.25         |
|                                | 1 $\frac{1}{8}$ " 8UN | GT2P-NRS1125U08          | 2.80                       | 6.81                  | 5.81         |
|                                | 1 $\frac{1}{4}$ " 8UN | GT2P-NRS1250U08          | 2.91                       | 6.85                  | 5.32         |
|                                | 1 $\frac{3}{8}$ " 8UN | GT2P-NRS1375U08          | 3.03                       | 6.97                  | 4.84         |
| GT3-LCB                        | 1 $\frac{1}{2}$ " 8UN | GT2P-NRS1500U08          | 3.15                       | 7.09                  | 4.29         |
|                                | M39 x 4               | GT3PM-NRS03940           | 3.62                       | 8.35                  | 12.50        |
|                                | M42 x 4.5             | GT3PM-NRS04245           | 3.78                       | 8.46                  | 11.77        |
|                                | M45 x 4.5             | GT3PM-NRS04545           | 3.90                       | 8.58                  | 10.96        |
|                                | M48 x 5               | GT3PM-NRS04850           | 4.13                       | 8.50                  | 10.25        |
|                                | M52 x 5               | GT3PM-NRS05250           | 4.25                       | 8.66                  | 9.20         |
|                                | 1 $\frac{1}{2}$ " 8UN | GT3P-NRS1500U08          | 3.62                       | 8.35                  | 12.56        |
|                                | 1 $\frac{5}{8}$ " 8UN | GT3P-NRS1625U08          | 3.78                       | 8.46                  | 11.70        |
|                                | 1 $\frac{3}{4}$ " 8UN | GT3P-NRS1750U08          | 3.90                       | 8.58                  | 10.89        |
|                                | 1 $\frac{7}{8}$ " 8UN | GT3P-NRS1875U08          | 4.13                       | 8.50                  | 10.10        |
| GT4-LCB                        | 2" 8UN                | GT3P-NRS2000U08          | 4.25                       | 8.66                  | 9.17         |
|                                | M52 x 5               | GT4PM-NRS05250           | 4.65                       | 9.45                  | 23.63        |
|                                | M56 x 5.5             | GT4PM-NRS05655           | 4.76                       | 9.61                  | 22.22        |
|                                | M60 x 5.5             | GT4PM-NRS06055           | 4.88                       | 9.76                  | 20.77        |
|                                | M64 x 6               | GT4PM-NRS06460           | 5.00                       | 9.92                  | 19.32        |
|                                | M68 x 6               | GT4PM-NRS06860           | 5.12                       | 10.08                 | 17.80        |
|                                | 2" 8UN                | GT4P-NRS2000U08          | 4.65                       | 9.45                  | 23.63        |
|                                | 2 $\frac{1}{4}$ " 8UN | GT4P-NRS2250U08          | 4.76                       | 9.61                  | 21.23        |
| GT5-LCB                        | 2 $\frac{1}{2}$ " 8UN | GT4P-NRS2500U08          | 5.00                       | 9.92                  | 18.63        |
|                                | M68 x 6               | GT5PM-NRS06860           | 5.71                       | 10.94                 | 38.02        |
|                                | M72 x 6               | GT5PM-NRS07260           | 5.87                       | 11.10                 | 36.06        |
|                                | M76 x 6               | GT5PM-NRS07660           | 5.98                       | 11.26                 | 34.03        |
|                                | M80 x 6               | GT5PM-NRS08060           | 6.38                       | 11.54                 | 32.01        |
|                                | 2 $\frac{1}{2}$ " 8UN | GT5P-NRS2500U08          | 5.67                       | 10.79                 | 39.16        |
|                                | 2 $\frac{3}{4}$ " 8UN | GT5P-NRS2750U08          | 5.87                       | 11.10                 | 35.84        |
|                                | 3" 8UN                | GT5P-NRS3000U08          | 5.98                       | 11.26                 | 32.45        |
|                                | 3 $\frac{1}{4}$ " 8UN | GT5P-NRS3250U08          | 6.38                       | 11.54                 | 28.86        |
| GT6-LCB                        | M80 x 6               | GT6PM-NRS08060           | 6.65                       | 12.28                 | 49.02        |
|                                | M85 x 6               | GT6PM-NRS08560           | 6.65                       | 12.28                 | 46.20        |
|                                | M90 x 6               | GT6PM-NRS09060           | 7.01                       | 12.48                 | 42.57        |
|                                | M95 x 6               | GT6PM-NRS09560           | 7.13                       | 12.68                 | 39.69        |
|                                | 3 $\frac{1}{4}$ " 8UN | GT6P-NRS3250U08          | 6.65                       | 12.28                 | 45.56        |
|                                | 3 $\frac{1}{2}$ " 8UN | GT6P-NRS3500U08          | 7.01                       | 12.48                 | 41.43        |
|                                | 3 $\frac{3}{4}$ " 8UN | GT6P-NRS3750U08          | 7.13                       | 12.68                 | 36.94        |

## GT Series



Bolt Range:  
 **$\frac{5}{8}$ " -  $3\frac{3}{4}$ " | M16-M95**

Load:  
**0-319.8 tons**

Maximum Operating Pressure  
**21,750 psi**



### How to Order

To provide maximum flexibility Load Cell and Bridges are ordered separately from Adaptor Kits.

Example, to order a complete tensioner for a 1" threaded bolt order:

1 x Load Cell and Bridge: **GT1-LCB**

1 x Adaptor Kit: **GT1P-NRS1000U08**



### Bolting Integrity Software

A comprehensive on-line software solution for Bolted Joint integrity.

Integral databases hold data for:

- BS1560, MSS SP44, API 6A and 17D flanged joints
- Common gasket materials and configurations
- Comprehensive range of bolt materials
- Comprehensive range of lubricants
- Enerpac's Controlled Bolting Equipment including: Torque Multipliers, Hydraulic Wrenches and Bolt Tensioning tools

Custom Joint information can also be entered.

The software offers Tool selection, Bolt Load calculations and Tool pressure settings, as well as, a combined Application data sheet and Joint completion report.

[www.enerpac.com](http://www.enerpac.com)

▼ Shown: HPT-1500



## HPT Series

Reservoir Capacity:

**155 in<sup>3</sup>**

Flow at 10,000 psi:

**.037-.99 in<sup>3</sup>/stroke**

Maximum Operating Pressure:

**21,750 psi (1500 bar)**



### Applications

The Enerpac HPT high-pressure Hand Pump is ideally suited for use with hydraulic bolt tensioning tools and hydraulic nuts.

Page: 246

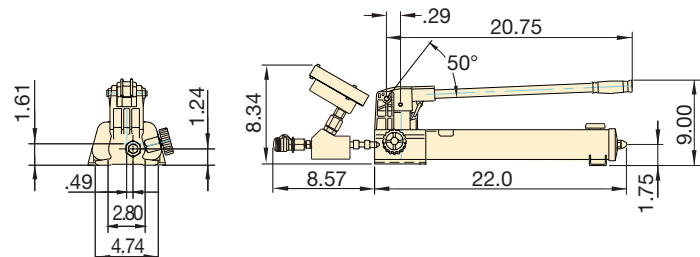


### Ultra High Pressure

These products operate at ultra-high pressure, use only the specified fittings and hoses designed for these pressures.

Page: 250

- Lightweight and portable high-pressure hand pump
- Two-speed operation displaces a larger volume of oil per stroke, reducing cycle times for many testing applications
- Includes a gauge and coupler for direct connection to GT-Series bolting tools
- Integrated relief valve set at 21,750 psi



### ▼ 21,750 PSI ULTRA HIGH PRESSURE PUMP

| Model Number    | Description                        | Usable Oil Capacity<br>(in <sup>3</sup> ) | Oil Displacement per Stroke<br>(in <sup>3</sup> ) |                       | Pressure Rating<br>(psi) |                       | Weight<br>(lbs) |
|-----------------|------------------------------------|---|---|-----------------------|--------------------------|-----------------------|-----------------|
|                 |                                    |   | 1 <sup>st</sup> stage                             | 2 <sup>nd</sup> stage | 1 <sup>st</sup> stage    | 2 <sup>nd</sup> stage |                 |
| <b>HPT-1500</b> | High Pressure Hand Pump with Gauge | 155                                       | .99   | 0.037                 | 200                      | 21,750                | 19              |

# ZUTP-Series, Electric Tensioning Pump

▼ Shown: ZUTP-1500B



## ZUTP Series

Reservoir Capacity:

**1 gallon**

Flow at Rated Pressure:

**20.0 in<sup>3</sup>/min.**

Maximum Operating Pressure:

**21,750 psi**

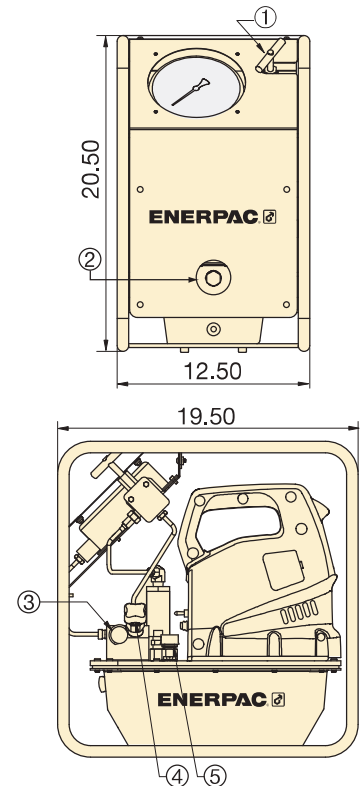


### Ultra High Pressure

These products operate at ultra-high pressure, use only the specified fittings and hoses designed for these pressures.

Page: 250

- High efficiency Universal Motor draws lower amps for superior performance in remote locations with low power quality
- Two-stage pump design provides high flow at low pressure for fast system fills and controlled flow at high pressure for safe and accurate operation
- Compact and lightweight design fits through tight openings and provides easy handling
- Panel mounted 6" pressure gauge, with polycarbonate cover, is set into the protective metal shroud for improved visibility and safety
- Panel mounted user adjustable valve for safe and precise pressure control
- Safety relief valve limits output pressure



- ① Release Valve
- ② Sight Glass
- ③ 1/4" BSPM Outlet Port
- ④ User Adjustable Pressure Control Valve
- ⑤ Breather

### 21,750 PSI HIGH PRESSURE PUMP

| Pump Type     | Useable Oil Capacity (gal) | Valve Type | Model Number <sup>1)</sup> | Output Flow Rate at 0 psi (in <sup>3</sup> /min) | Output Flow Rate at 21,750 psi (in <sup>3</sup> /min) | Motor Electrical Specification | Sound Level (dBA) | Weight with oil (lbs) |
|---------------|----------------------------|------------|----------------------------|--|---|--------------------------------|-------------------|-----------------------|
| High pressure | 1.0                        | Manual     | ZUTP-1500B                 | 230  | 20  | 115 VAC, 1-ph                  | 89                | 65                    |
|               |                            |            | ZUTP-1500E <sup>2)</sup>   |  |   | 230 VAC, 1-ph                  |                   |                       |
|               |                            |            | ZUTP-1500I <sup>3)</sup>   |  |   | 230 VAC, 1-ph                  |                   |                       |

<sup>1)</sup> All models meet CE safety requirements and all TÜV requirements.

<sup>2)</sup> European plug and CE EMC directive compliant.

<sup>3)</sup> With NEMA 6-15 plug.

<sup>4)</sup> Add suffix "H" for factory installation of Heat Exchanger.



# ATP-Series Ultra High Pressure Air Pump

**ENERPAC**   
POWERFUL SOLUTIONS. GLOBAL FORCE.

▼ Shown: **ATP-1500**



**ATP  
Series**



II 2 GD ck T4  
IBExU 070/10



Reservoir Capacity:

**1.0 gallon**

Flow at Rated Pressure:

**4 in<sup>3</sup>/min.**

Maximum Operating Pressure:

**21,750 psi**

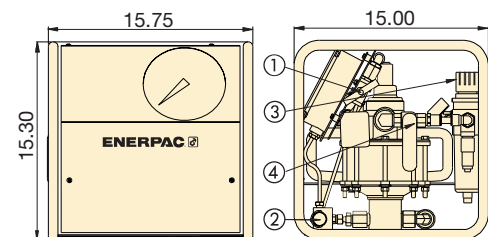
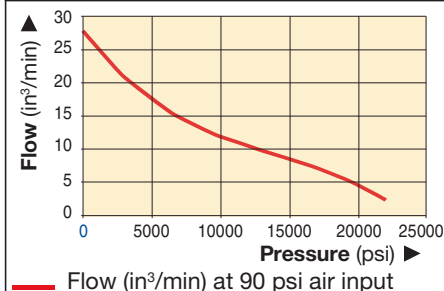


These products operate at ultra-high pressure, use only the specified fittings and hoses designed for these pressures.









- General purpose, high pressure air driven pump unit for products requiring up to 21,750 psi hydraulic pressure
- Compact, lightweight, rugged steel frame for protection and easy handling
- Prelubricated pump element, does not require an airline lubricator
- Easily adjustable output pressure control
- Integrated and protected easy to read glycerin filled gauge
- Safety relief valve limits output pressure
- ATEX Certified

The ATP-series pump was tested and certified according to the Equipment Directive 94 / 9 / EC "ATEX Directive". The explosion protection is for equipment group II, equipment category 2 (hazardous area zone 1), in gas and/or dust atmospheres. The ATP-series pump is marked with: Ex II 2 GD ck T4.

**OIL FLOW vs. PRESSURE**



- ① HPT Shut-off Valve
- ② 1/4" BSPP HPT Out Port
- ③ Filter/Regulator
- ④ Air On/Off Valve

| Model Number | Hoses   | End 1              | End 2              | Length (ft) | Description                               | Fittings   | Complete Set | Female Half | Male Half |
|--------------|---|--------------------|--------------------|-------------|---|--|--------------|-------------|-----------|
| HT-1503      |  | 1/4 BSPM 120° Cone | 1/4 BSPM 120° Cone | 3.28        | Quick Disconnect Coupler*                 |  | B150         | BR150       | BH150     |
| HT-1510      |  | 1/4 BSPM 120° Cone | 1/4 BSPM 120° Cone | 9.84        | Quick Disconnect Coupler and Adaptor Kit* |  | BW150AW      | —           | —         |
| HT-1503HR*   |  | BH150              | BR150              | 3.28        |   |  |              |             |           |
| HT-1510HR*   |  | BH150              | BR150              | 9.84        | Quick Disconnect Blanking Coupler Set*    |  | B150B        | —           | —         |

\* Includes dust caps

\* Includes dust caps

| Pump Type     | Useable Oil Capacity (gal) | Model Number    | Pressure Rating (psi) | Output Flow Rate at 0 psi (in <sup>3</sup> /min) | Output Flow Rate at 21,750 psi (in <sup>3</sup> /min) | Air Pressure Range (psi) | Air Consumption (sfcm) | Sound Level (dBA) | Weight (lbs) |
|---------------|----------------------------|-----------------|-----------------------|--|---|--------------------------|------------------------|-------------------|--------------|
| High pressure | 1.0                        | <b>ATP-1500</b> | 21,750                | 26   | 4   | 80-90                    | 70                     | 70                | 65           |

# Hydraulic Nut Cutters

▼ Shown from left to right: NC-3241, NC-1319, NC-1924



## NC, STN Series



Capacity:

**5-90 tons**

Hexagon Nut Range:

**0.5-2.88 inches**

Maximum Operating Pressure:

**10,000 psi**



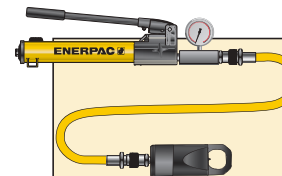
### Enerpac Nut Cutters

Nut Cutters include a spare chisel, a spare set screw and the wrench used to secure the chisel. A CR-400 coupler is standard.

- Compact and ergonomic design, easy to use
- Unique angled head allows flush access
- Single-acting, spring return cylinder
- Heavy-duty chisels can be reground
- Applications include servicing trucks, piping industry, tank cleaning, petrochemical, steel construction and mining



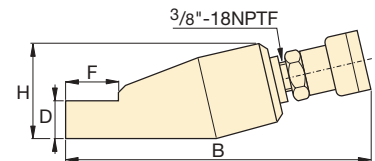
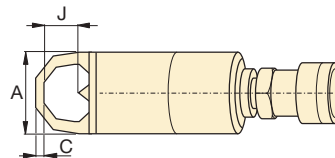
◀ Easily removing rusty nuts during railroad construction is just one of many application examples for the Enerpac Nut Cutters.



### Nut Cutter Sets

Hydraulic Nut Cutters are available as sets (pump, tool, gauge, adaptor and hose).

| Set Model Number | Splitter Model Number | Pump Model Number |
|------------------|-----------------------|-------------------|
| STN-1924H        | NC-1924               | P-392             |
| STN-2432H        | NC-2432               | P-392             |
| STN-3241H        | NC-3241               | P-392             |



| Hexagon Nut Range<br>(in) | Bolt Range<br>(in) | Capacity<br>(ton) | Oil Capacity<br>(in <sup>3</sup> ) | Model Number | Dimensions (in) |       |      |      |      |      |      | Weight<br>(lbs) | Replacement Chisel Model Number |
|---------------------------|--------------------|-------------------|------------------------------------|--------------|-----------------|-------|------|------|------|------|------|-----------------|---------------------------------|
|                           |                    |                   |                                    |              | A               | B     | C    | D    | F    | H    | J    |                 |                                 |
| .50-.75                   | .31-.50            | 5                 | .92                                | NC-1319      | 1.57            | 7.87  | .24  | .75  | 1.10 | 1.89 | .83  | 1.8             | NCB-1319                        |
| .75-.94                   | .50-.63            | 10                | 1.22                               | NC-1924*     | 2.17            | 8.94  | .32  | .98  | 1.50 | 2.80 | 1.00 | 4.4             | NCB-1924                        |
| .94-1.13                  | .63-.88            | 15                | 3.66                               | NC-2432*     | 2.60            | 10.24 | .39  | 1.22 | 1.93 | 2.99 | 1.30 | 6.6             | NCB-2432                        |
| 1.13-1.56                 | .88-1.13           | 20                | 4.88                               | NC-3241*     | 2.95            | 11.26 | .59  | 1.38 | 2.60 | 3.50 | 1.69 | 9.7             | NCB-3241                        |
| 1.56-2.00                 | 1.13-1.38          | 35                | 9.46                               | NC-4150      | 3.78            | 12.80 | .83  | 1.77 | 2.87 | 4.29 | 2.13 | 18.0            | NCB-4150                        |
| 2.00-2.25                 | 1.38-1.50          | 50                | 14.64                              | NC-5060      | 4.17            | 14.41 | 1.06 | 2.13 | 3.63 | 4.96 | 2.38 | 26.0            | NCB-5060                        |
| 2.38-2.88                 | 1.50-1.88          | 90                | 30.00                              | NC-6075      | 6.14            | 14.43 | 1.06 | 2.95 | 4.33 | 7.09 | 3.07 | 75.1            | NCB-6075                        |

Ordering Notes: Maximum allowable hardness to split is HRc-44. Not to be used on square nuts. Larger sizes available upon request.

\* Available as Tool-Pump set, see note on this page.

▼ Shown: NS-7080, NS-70105



- Specially designed to suit standard ANSI B16.5 / BS1560 flanges
- Single-acting, spring return cylinder
- Tri-blade technology provides three cutting surfaces on a single blade
- Interchangeable heads provide maximum nut range flexibility
- Preset scale allows controlled blade extension, which avoids damage to bolt threads
- Grip tape and handle included for more secure maneuverability
- Nickel-plated cylinder body for excellent corrosion protection and improved durability in harsh environments
- Internal Pressure Relief Valve for overload protection

## Power and Precision

### High Performance Nut Splitter



#### Blade Cutting Depth Scale

Adjustable cutting depth scale for controlled blade extension, which avoids damage to bolt threads.

The scale indicates the bolt range in metric and imperial values on each cutting head.



#### Hydraulic Nut Cutters

The NC-Series models are available featuring an angle-head design for 0.50"-2.88" hexagon nuts.

Page: 251



#### FS-Series Spreaders

FS-Series Flange Spreaders provide quick and easy joint separation using hydraulic or mechanical force.

Page: 254



#### ATM Flange Alignment Tools

The ATM series provides safe high-precision flange alignment tools that fit most commonly used ANSI, API, BS, and DIN flanges.

Page: 256



◀ Heavily corroded and weathered nuts are quickly split and removed using an NS-Series Nut Splitter.

# Hydraulic Nut Splitters



## Nut Splitter Sets

To provide maximum flexibility, NS-Series Nut Splitters can also be ordered in sets (NS-xxxSx). Select Nut Splitter size and pump style from the chart below.

To order additional Cutting Heads (NSH-xxxxxx), Cylinders (NSC-xxx) or Replacement Blades (NSB-xxx), see Selection Chart below.

## SET SELECTION:

- 1 Select your Nut Splitter
- 2 Select your pump type

## NS Series



Capacity:

**103.2-192.5 tons**

Hexagon Nut Range:

**2.75-5.38 inches**

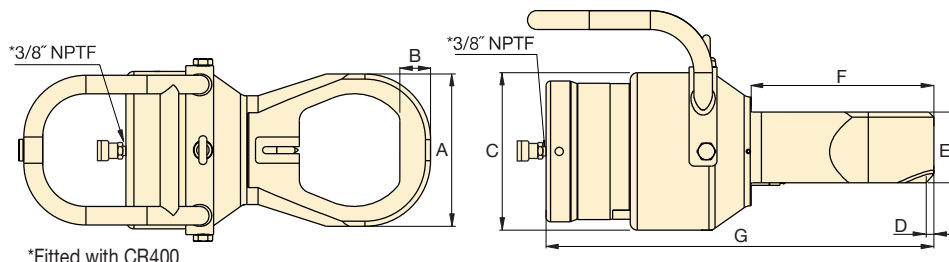
Maximum Operating Pressure:

**10,000 psi**


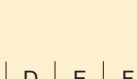
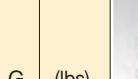

| Nut Splitter Model Number | Set Model Number | Pump Options        |                    |                                       |                         | Accessories Included |                         |                |                        |
|---------------------------|------------------|---------------------|--------------------|---------------------------------------|-------------------------|----------------------|-------------------------|----------------|------------------------|
|                           |                  | Hand Pump Model No. | Air Pump Model No. | Cordless Pump Model No. <sup>1)</sup> | Electric Pump Model No. | Gauge Model No.      | Gauge Adaptor Model No. | Hose Model No. | Storage Case Model No. |
|                           |                  |                     |                    |                                       |                         |                      |                         |                |                        |
| NS-70105                  | NS-70105SH       | P392                | —                  | —                                     | —                       | GP-10S               | GA-2                    | HC-7206        | CM-4                   |
| NS-70105                  | NS-70105SA       | —                   | XA-11G*            | —                                     | —                       | integrated*          | —                       | HC-7206        | CM-4                   |
| NS-70105                  | NS-70105SCB      | —                   | —                  | XC-1202MB                             | —                       | GA45GC               |                         | HC-7206        | CM-4                   |
| NS-70105                  | NS-70105SE       | —                   | —                  | —                                     | PUD-1100B               | GP-10S               | GA-2                    | HC-7206        | CM-7                   |
| NS-110130                 | NS-110130SH      | P802                | —                  | —                                     | —                       | GP-10S               | GA-2                    | HC-7206        | CM-4                   |
| NS-110130                 | NS-110130SA      | —                   | XA-11G*            | —                                     | —                       | integrated*          | —                       | HC-7206        | CM-4                   |
| NS-110130                 | NS-110130SCB     | —                   | —                  | XC-1202MB                             | —                       | GA45GC               |                         | HC-7206        | CM-4                   |
| NS-110130                 | NS-110130SE      | —                   | —                  | —                                     | PUD-1100B               | GP-10S               | GA-2                    | HC-7206        | CM-7                   |

<sup>1)</sup> XC Cordless Pump includes 115 V charger, for 230 V charger replace the "B" in the model number with an "E".

\* XA-11G air pump features an integrated pressure gauge.



\*Fitted with CR400

| Hexagon Nut Range** | Bolt Range | Cap.  | Oil Cap. | Model Number*   | Dimensions (in) |     |     |     |     |     |      |       | Weight  | NS Cylinder   | NS Cutting Head  | Replacement Blade   |
|---------------------|------------|-------|----------|---|-----------------|-----|-----|-----|-----|-----|------|-------|---------|---|--|---|
|                     |            |       |          |  |                 |     |     |     |     |     |      |       |         |  |  |  |
| (in)                | (in)       | (ton) | (in³)    |   | A               | B   | C   | D   | E   | F   | G    | (lbs) |         |   |  |   |
| 2.75-3.13           | 1.75-2.00  | 103.2 | 23.0     | NS-7080   | 5.2             | 1.1 | 7.1 | 0.3 | 3.2 | 7.3 | 16.2 | 81.4  | NSC-70  | NSH-7080  | NSB-70   |   |
| 2.75-3.50           | 1.75-2.25  | 103.2 | 23.0     | NS-7085   | 5.7             | 1.2 | 7.1 | 0.3 | 3.2 | 7.7 | 16.6 | 82.7  | NSC-70  | NSH-7085  | NSB-70   |   |
| 2.75-3.88           | 1.75-2.50  | 103.2 | 23.0     | NS-7095   | 6.3             | 1.3 | 7.1 | 0.3 | 3.2 | 7.9 | 17   | 84.9  | NSC-70  | NSH-7095  | NSB-70   |   |
| 2.75-4.25           | 1.75-2.75  | 103.2 | 23.0     | NS-70105  | 6.9             | 1.4 | 7.1 | 0.4 | 3.2 | 8.2 | 17.5 | 87.1  | NSC-70  | NSH-70105   | NSB-70   |   |
| 4.25-4.63           | 2.75-3.00  | 192.5 | 50.0     | NS-110115   | 7.4             | 1.4 | 9.2 | 0.1 | 4.4 | 9.2 | 18.6 | 151.6 | NSC-110 | NSH-110115  | NSB-110  |   |
| 4.25-5.38           | 2.75-3.50  | 192.5 | 50.0     | NS-110130   | 8.6             | 1.6 | 9.2 | 0.1 | 4.4 | 9.5 | 19.4 | 158.3 | NSC-110 | NSH-110130  | NSB-110  |   |

\* NS-Series Nut Splitters ship in two cases: One containing the NSC Cylinder and one containing the NSH Cutting Head. Assembly required.

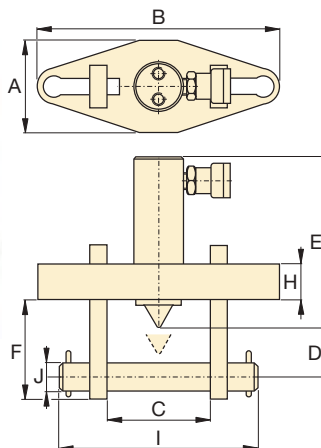
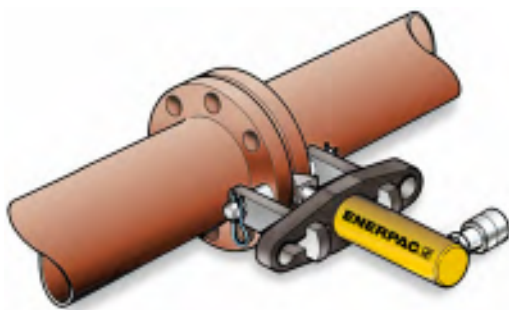
\*\* Maximum allowable hardness to split is HRC-44.



▼ Shown: FS-56



- Lightweight, ergonomic design for ease of use
- Adjustable jaw widths from 2.75" to 8.50" for a wide range of applications
- Single-acting, spring return RC Series cylinders for fast trouble-free operation



## FS, STF Series



Capacity:  
**5-10 tons**

Spread:  
**2.75 - 8.50 inches**

Maximum Operating Pressure:  
**10,000 psi**



### Flange Spreader Sets\*

Both Hydraulic Flange Spreaders are available as sets (includes pump, tool, gauge, adaptor and hose).

| Set Model Number | Spreader Model Number | Pump Model Number |
|------------------|-----------------------|-------------------|
| STF-56H          | FS-56                 | P-392             |
| STF-109H         | FS-109                | P-392             |
| STF-109A         | FS-109                | PATG-1102N        |



### Wedge Spreaders

Friction-free, smooth and parallel wedge movement with unique interlock wedge design. Eliminates

flange damage and risk of spreading arm failure.

Page: 255

### Flange Spreader Matching Chart

| ASA Rating<br>(psi) | Pipe Size (in) |        |
|---------------------|----------------|--------|
|                     | FS-56          | FS-109 |
| 150                 | 5-20           | 22-42  |
| 300                 | 2.50-14        | 16-28  |
| 400                 | 2.50-12        | 14-24  |
| 500                 | 2.50-10        | 12-20  |
| 900                 | .50-6          | 8-16   |
| 1500                | .50-3.50       | 4-8    |
| 2500                | .50-2.50       | 3-4    |

| Maximum<br>Flange<br>Thickness | Stud<br>Size | Standard<br>Wedge | Cap.  | Stroke | Oil<br>Cap. | Model<br>Number | Dimensions (in) |       |      |      |      |      |      |      |       |      | Weight |
|--------------------------------|--------------|-------------------|-------|--------|-------------|-----------------|-----------------|-------|------|------|------|------|------|------|-------|------|--------|
|                                |              |                   |       |        |             |                 | A               | B     | C    |      | D    | E    | F    | H    | I     | J    |        |
|                                |              |                   |       |        |             |                 |                 |       | Min. | Max. |      |      |      |      |       |      |        |
| (in)                           | (in)         | (in)              | (ton) | (in)   | (in³)       |                 | A               | B     | Min. | Max. | D    | E    | F    | H    | I     | J    | (lbs)  |
| 2 x 2.25                       | .75-1.13     | .13-1.13          | 5     | 1.50   | 1.50        | FS-56*          | 3.00            | 8.25  | 2.75 | 6.10 | 1.28 | 7.71 | 3.45 | 1.00 | 8.10  | .75  | 26     |
| 2 x 3.63                       | 1.25-1.63    | .13-1.13          | 10    | 2.13   | 4.80        | FS-109*         | 4.25            | 11.00 | 4.10 | 8.50 | 1.98 | 6.00 | 4.50 | 1.50 | 10.75 | 1.25 | 40     |

\* Available as Tool-Pump Set, see note on this page.

# Hydraulic and Mechanical Industrial Spreaders

▼ Shown: FSH-14 and FSM-8 with safety blocks SB1



- Integrated wedge concept: friction-free, smooth, parallel wedge movement eliminates flange damage and spreading arm failure
- Unique interlocking wedge design: no first step bending and risk of slipping out of joint
- Requires very small access gap of only .24 inch (6 mm)
- Stepped spreader arm design: each step can spread under full load
- Few moving parts means durability and low maintenance
- Safety block SB-1 and ratchet spanner SW-22 included with FSM-8
- Safety block and Enerpac RC-102 cylinder included with FSH-14

## FSM/FSH/STF Series

Tip Clearance / Maximum Spread\*:

**0.24/3.16 inches**

Maximum Spread Force:

**8-14 tons**

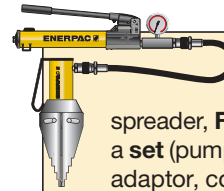
Maximum Operating Pressure:

**10,000 psi (FSH-14)**



### Stepped Blocks FSB-1

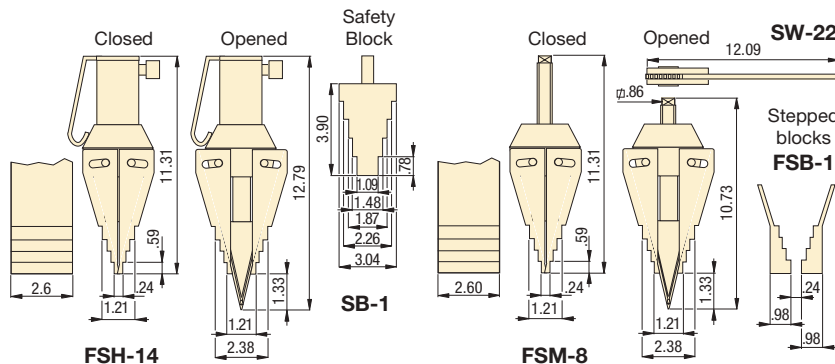
Use this pair of stepped blocks to increase wedge opening up to 3.16 in. (81 mm). Fits both FSH-14 and FSM-8.



### Flange Spreader Sets

The hydraulic flange spreader, **FSH-14**, is available as a **set** (pump, tool, gauge, gauge adaptor, couplers and hose) for your ordering convenience

| Spreader Model No. | Handpump Model No. | Set Model Number |
|--------------------|--------------------|------------------|
| FSH-14             | P-392              | STF-14H          |



| Max. Spreading Force (ton) | Model Number | Tip Clearance (in) | Max. Spread <sup>1)</sup> (in) | Type       | Oil Capacity (in <sup>3</sup> ) | Weight (lbs) |
|----------------------------|--------------|--------------------|--------------------------------|------------|---------------------------------|--------------|
| 8                          | FSM-8        | .24                | 3.16                           | Mechanical | -                               | 14.3         |
| 14                         | FSH-14*      | .24                | 3.16                           | Hydraulic  | 4.76                            | 15.7         |

<sup>1)</sup> Using stepped blocks FSB-1.

\* Available as Tool-Pump Set, see note on this page.

▼ Two FSH-14 spreaders used simultaneously with Enerpac handpump, hoses and AM-21 split-flow manifold.



▼ From left to right: **ATM-4**, **ATM-9**, **ATM-2**



## The faster, simpler and safer way to align flanges

- Enerpac ATM-Series tools rectify twist and rotational misalignment quickly, safely, and without the need for an external power source
- Appropriate for use on most ANSI, API, BS and DIN flanges
- No slings, hooks or lifting gear required
- Can be installed and used in any position (horizontally or vertically)
- Portable, lightweight design enables easy transport and use, even in remote locations



### Adjustable Reach

The highly adjustable reach of the wing and drop leg on the **ATM-4** and **ATM-9** allows precise alignment.



### Gauge and Adaptor

The **ATM-9** includes P-142 hand pump and HC-7206C 6 ft. long hose. Enerpac recommend the use of the pressure gauge **GP-10S** and gauge adaptor **GA-4** for easy mounting of the gauge onto your system.

Page: 131

▼ The compact **ATM-2** is actuated by simply hand turning the crank.



▼ The **ATM-9** is shown here with optional pressure gauge and gauge adaptor.



# ATM-Series, Flange Alignment Tools



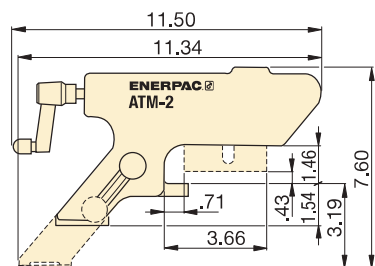
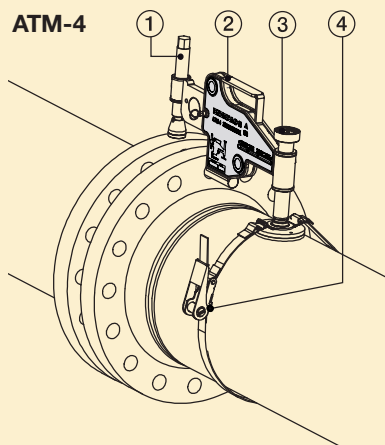
## Applications

Enerpac ATM-Series Tools help correct flange misalignment, and allow bolts to be placed into joints. This alignment takes place during pipework construction, or maintenance.

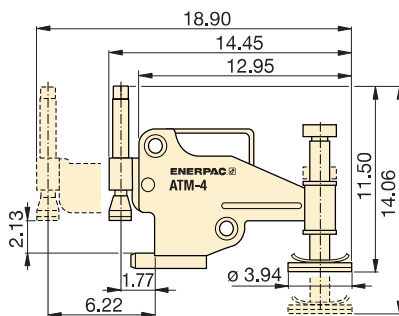
These tools provide pipe installers and maintenance personnel with some of the simplest, safest and most productive solutions available for flange alignment in the market today.

- ① Extendable wing provides usage on wide variety of flanges.
- ② Portable, light weight design enables easy transport and use.
- ③ Hand-adjustable base for easy positioning by a single operator.
- ④ Safety strap helps provide secure operation from a horizontal or vertical position.

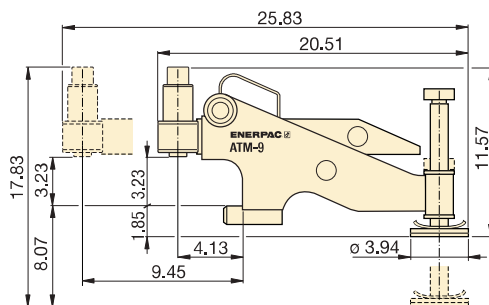
ATM-4



ATM-2



ATM-4



ATM-9

| Maximum<br>Lifting Force<br>(ton)* (kN)* | Model<br>Number | Minimum Bolt Size** |      | Flange Wall Thickness<br>(max) |             | Wt.<br><br>(lbs) |     |
|--|-----------------|---------------------|------|--------------------------------|-------------|------------------|-----|
|  |                 | (in)                | (mm) | (in)                           | (mm)        |                  |     |
| 1  | 10              | ATM-2               | .63  | 16                             | .55 - 3.29  | 14 - 82          | 3.5 |
| 4  | 40              | ATM-4               | .95  | 24                             | 1.18 - 5.23 | 30 - 133         | 19  |
| 10                                       | 90              | ATM-9**             | 1.24 | 31.5                           | 3.66 - 9.00 | 93 - 228         | 32  |

\* At 10,000 psi maximum operating pressure.

\*\* ATM-9 includes an Enerpac hand pump and hydraulic hose (gauge and adaptor sold separately). ATM-9 weight includes tool only.

## ATM Series



Minimum Bolt Size:

**.63-1.24 inches**

Flange Wall Thickness:

**.55-9.00 inches**

Maximum Lifting Force:

**1-10 tons**



## Cylinder-Pump Sets

Hydraulic cylinders, jacks and lifting wedges can also be used to assist in pipe line positioning and aligning.

Page: 52



## Pipe Flange Face Tool

The portable, hand powered tool FF-120 makes even the hardest to reach pipe flanges resurfaceable in a safe and convenient way.

Page: 258

▼ The ATM-Series – the faster, simpler and safer way to align flanges.





▼ Shown: FF-120



## Safe, efficient and accurate refacing of flat pipe flange surfaces



### Complete In-Wheeled Carrying Case

The **FF-120** comes as portable set (15 kg). Can be transported, easy set-up

and operated by a single technician. Set includes:

- **FFL-kit** with locators, O-Rings and extensions
- **FSS-kit** with feed screw and nut  $\frac{1}{2}$ "-20 UN for surface roughness Ra 64 - 96  $\mu$ in.
- **FSF-kit** with feed screw and nut  $\frac{1}{2}$ "-11 UNF for surface roughness Ra 125 - 250  $\mu$ in.

- Refacing made easy — hand-operated machine tool can be set up anywhere without the need for air, electric or hydraulic power support
- Lightweight and portable — easily transported to remote locations for increased productivity
- Adjustable cutting range for flange diameters between 1-12 inches [25,4-304,8 mm]
- Interchangeable collets for ID mounting range from 1-6 inches allowing the user to work on many different flanges with minimal time between set-ups
- Interchangeable lead screws suitable for refacing damaged raised-face (RF), flat-face (FF) or lens-ring joint flanges
- Tool body with expanding collets centers itself providing real concentric operation



### Joint Separation Tools

#### FS and FSH-Series

parallel wedge spreaders provide quick and easy joint separation using hydraulic or mechanical force.

Page: 254



### Joint Assembly Tools

Rectify twist and rotational alignment without additional stress in pipe lines using the **ATM-Series** flange alignment tools.

Page: 256

▼ The Enerpac FF-120 used to face a pipe flange.



# Quick Face, Mechanical Flange Face Tool



## QuickFace, Mechanical Flange Face Tool

Portable, hand powered tool makes even the hardest to reach pipe flanges resurfaceable in a safe and convenient way.

### Makes refacing easy

A simple and cost effective solution – the FF-120 turns a two man operation with heavy equipment, compressors and portable generators into a one man job.

The FF-120 has interchangeable lead screws that make it suitable for resurfacing damaged flat-faced, raised-face or lens-ring joint flanges to the high safety standards required. After selecting the correct lead screw for the operation, the tool body is inserted in the pipe end and centers itself with adjustable locators to provide real concentric operation.

The tool arm is then rotated by hand using a worm-gear mechanism to provide a perfect spiral “gramophone” finish.

The tool can be adjusted with a calibrated slide to define cut depth and the correct finish.

### Surface finish and accuracy

A serrated finish with 30-55 grooves per inch and a resultant roughness of between Ra 125-250 micro inches (3,18-6,35 µm).

The FF-120 has the same precision and quality of finish as a lathe.

### Cost effective solution

Small and portable enough to be a permanent addition to your equipment range, Enerpac's FF-120 is the perfect solution to all of your small diameter facing problems.

## FF Series



Pipe Flange Cutting Diameter Range:

**1-12 in (25-305 mm)**

Internal Pipe Mounting Diameter Range:

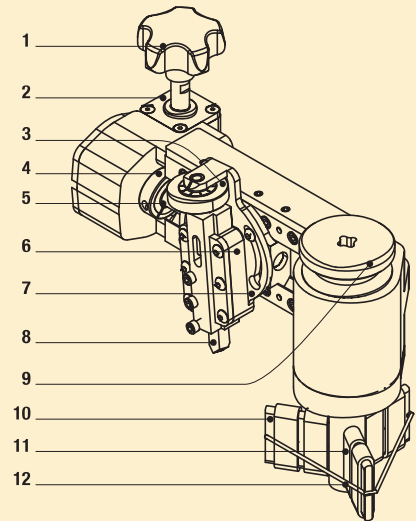
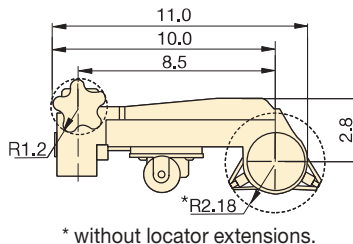
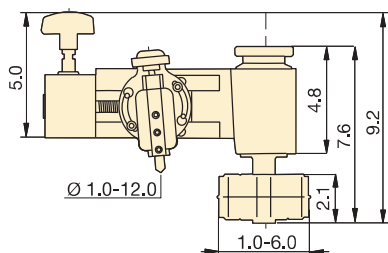
**1-6 in (25-152 mm)**

Average Roughness:

**125-250 µin (3,18-6,35) µm**

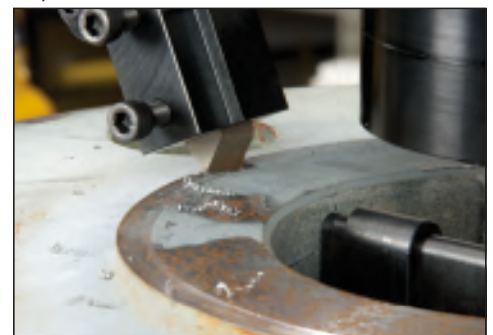


- 1 Hand-operated cold work tool – no need for external power and hot work permits.
- 2 Calibrated cross slide for accurate cutting control.
- 3 Adjustable cutting head for reface of flat flange surfaces of pipes with flange OD facing range  $\varnothing$  1-12 inch [25,4-304,8 mm].
- 4 Interchangeable lead screws enable selection of surface finish between Ra 125-250 µin.
- 5 Utilizes standard 3/8 inch or 10 mm tool steel.
- 6 Range of interchangeable collets allow the tool to accommodate  $\varnothing$  1 - 6 inch [25,4 - 152,4 mm] pipe ID.
- 7 Tool body with expanding collets centers in the bore ensuring concentric and accurate set-up.



- |  |                        |
|--|------------------------|
| 1 Feed Knob  | 6 Tool Block           |
| 2 Gear Box   | 7 Swivel Slide         |
| 3 Cutting Depth Adjustment with indicator: .005 inch (0,127 mm) per mark | 8 HSS 3/8" Tool Bits   |
| 4 Locking Collar   | 9 Mandrel Locking Knob |
| 5 Lead/Feed Screw  | 10 Locator Extensions  |
|  | 11 Adjustable Locators |
|  | 12 O-Ring              |

▼ The Enerpac FF-120 Quick Face has same precision and quality of finish as powered machines.



### ▼ TOOL SELECTION CHART

| Pipe Flange Cutting Diameter Range |            | Internal Pipe Mounting Diameter Range |            | Average Roughness (Ra µ) |            | Model Number | Wt. (lbs) |
|------------------------------------|------------|---------------------------------------|------------|--------------------------|------------|--------------|-----------|
| (in)                               | (mm)       | (in)                                  | (mm)       | (in)                     | (m)        |              |           |
| 1.0-12.0                           | 25,4-304,8 | 1.0-6.0                               | 25,4-152,4 | 125-250                  | 3,18-6,35  | FF-120       | 15        |
|                                    |            |                                       |            | 60-100*                  | 1,52-2,54* |              |           |

\* When using fine thread feed screw, FF120FSF.