

Presenting:
NDRIVER
The fastest, safest, thinnest most versatile hydraulic torque wrench ever created.


Since its beginning in 1995, Norwolf ${ }^{\text {TM }}$ Tool Works has revolutionized the bolting industry in a variety of innovative ways. We started by creating a flat torque multiplier that had not previously existed. This "Missing Link ${ }^{\circledR}$ " torque multiplier is now a standard found at most wind sites and many other industrial concerns worldwide.

Late in 2012 Norwolf took on the unique design challenges brought on by the newly developing US shale oil market. The answer was the X-Driver® hydraulic torque wrench system which soon became the premier and most widely used hydraulic wrench in the major oil shale regions of North Dakota and South Texas. With its wide variety of interchangeable drives, the X-Driver truly fits on ALL bolting applications.


We pride ourselves not only with our unique and patented bolting tools but also our abilities concerning special tools and accessories. Norwolf is well known for its unique ability to manufacture custom solutions for virtually any bolting application. Sometimes we accomplish this in a matter of hours at our state of the art manufacturing facility.

In addition to manufacturing bolting products Norwolf offers full service calibration, rental and repair services. Go online to www.norwolf.com to view several of our product videos!

## - DRTVER HYDRAULIC WRENCH SYSTEM

X DRIVER ${ }^{\circ}$ POWER HEAD



## NORWOLF X-Driver® System Benefits:

- Slimmest design-one piece piston construction.
- Torque line is on center.
- Only one high pressure O'ring-easily changed with four bolts.
- Novel swivel design is $360^{\circ}$ or $360 \times 360$ with one piece add on.
- All alloy steel construction...only true convertible tool.
- Ready for optional handle.

With its ease to get into confined areas and around nuts in hard to access spaces and the durability of solid steel design, less parts and clean-lined construction, this hydraulic torque wrench is so advanced it's not only a tool-it's an entire system. This is the most revolutionary hydraulic torque wrench system ever created. To decrease the chance of failure it has only three o-rings, versus up to nine in other hydraulic torque wrenches. The powerhead locks into the three separate drives without pins or screws, making it completely convertible.


## NORWOLF A-Drive® Benefits:

- Slimmest design—no loose shroud—totally enclosed.
- Reaction arm/pad ready with 2 pin holes.
- Patented reaction pawl can be easily disengaged with screw.
- Easily connects to X Driver...no pins...snaps in.
- Deepest reach on the market... fits all flangesSee datasheet.
- Unique reaction pawl position keeps B dimension constant on all sizes unlike the competition. See datasheet.


## Low Profile

The A Drive is the hex link that the power head locks into, allowing it to fit onto hex nuts in low profile applications like well heads and BOP's. The A Drive has a larger reaction area. There are no roll pins, just screws. Taking apart the drive for repair is simple-there's no need to pry it apart like other hex links. All the screws are the same hex wrench with uniform screws in all sizes of the drives.

## Less Parts

A time tested, three-part design, the A Drive only consists of the drive pawl, the ratchet and the drive gear. Other hex links have many moving parts, increasing breakdowns and complex repairs. The A Drive is more than simple. It's fast. Upon testing, the A Drive is 10-50 percent faster than other hydraulic wrenches. The A Drive has an optional holding pawl. With it, hands-free operation is possible, without it an "anti-lock" feature is possible.

## X-Y FACTOR

The A Drive fits the nut faster, safer and easier than any other competitive tool bar-none.


INVERTED FLANGE - ONLY THE X-DRIVER FITS



A - 2 MAX. TORQUE: 1630 FT. LBS. @10k PSI

| Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A-2 with 1-1/16" hex | . 375 " | .987" | 1.50" | 1.55" | $5.264{ }^{\prime \prime}$ | 4.10 " | $1.125^{\prime \prime}$ |
| 2 with 1-1/4" hex | . 375 " | 1.096" | 1.50" | 1.77" | $5.264{ }^{\prime \prime}$ | $4.10{ }^{\prime \prime}$ | $1.125^{\prime \prime}$ |
| -2 with 1-7/16" hex | . 375 " | 1.204" | 1.50 " | 1.99 " | $5.264^{\prime \prime}$ | 4.1 | 1.12 |
| A - 2 with 1-5/8" hex | . 375 " | $1.312^{\prime \prime}$ | 1.50" | 2.20 " | $5.264^{\prime \prime}$ | 4.10 | $1.125^{\prime \prime}$ |
| A - 2 with 1-13/16" hex | . 375 " | $1.420^{\prime \prime}$ | 1.50" | 2.42 " | $5.264^{\prime \prime}$ | $4.10{ }^{\prime \prime}$ | $1.125^{\prime \prime}$ |
| A-2 with ${ }^{\text {" }}$ hex | . 375 " | $1.529^{\prime \prime}$ | 1.50" | $2.64{ }^{\prime \prime}$ | $5.264{ }^{\prime \prime}$ | $4.10{ }^{\prime \prime}$ | $1.125^{\prime \prime}$ |
| A-2 with 2-3/16" hex | . 375 " | 1.639 " | 1.50" | 2.86 " | $5.264{ }^{\prime \prime}$ | $4.10{ }^{\prime \prime}$ | $1.125^{\prime \prime}$ |
| A - 2 with 2-3/8" hex | . $375^{\prime \prime}$ | $1.760^{\prime \prime}$ | 1.50" | 3.10 " | $5.264{ }^{\prime \prime}$ | $4.10{ }^{\prime \prime}$ | 1.125 |

A - 4 MAX. TORQUE: 3900 FT. LBS. @ 10k PSI

| Description | "A" | "B" | "C" | "D" | E" | "F" | 'G" |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A - 4 with 1-13/16" hex | .50" | $1.55{ }^{\prime \prime}$ | 2.001 | 2.68 " | 7.02" | 5.47" | 1.50 " |
| -4 with 2" | .50" | $1.66{ }^{\prime \prime}$ | 2.001 | 2.90 " | 7.021 | 5.47" | $1.50{ }^{\prime \prime}$ |
| A - 4 with 2-3/16" hex | .50" | 1.76" | 2.001 | 3.101 | 7.021 | 5.47" | $1.50{ }^{\prime \prime}$ |
| A - 4 with 2-3/8" hex | .50" | $1.87{ }^{\prime \prime}$ | 2.001 | 3.32 " | 7.02" | 5.47" | $1.50{ }^{\prime \prime}$ |
| A-4 with 2-9/16" hex | .50" | $1.98{ }^{\prime \prime}$ | 2.001 | $3.54{ }^{\prime \prime}$ | 7.021 | $5.47{ }^{\prime \prime}$ | $1.50{ }^{\prime \prime}$ |
| A-4 with 2-3/4" hex | .50" | 2.09 " | 2.001 | $3.76{ }^{\prime \prime}$ | 7.021 | $5.47{ }^{\prime \prime}$ | 1.50 " |
| A - 4 with 2-15/16" hex | .50" | 2.201 | 2.00 " | $3.98{ }^{\prime \prime}$ | 7.021 | $5.47{ }^{\prime \prime}$ | 1.50 " |
| A-4 with 3-1/8" hex | .50" | 2.30 " | 2.00 " | $4.18{ }^{\prime \prime}$ | 7.02" | 5.47" | 1.50 " |

A - 8 MAX. TORQUE: 7560 FT. LBS. @ 10k PSI

| Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A - 8 with $2-3 / 16^{\prime \prime}$ hex | . 625 " | $1.94{ }^{\prime \prime}$ | 2.50 " | 3.36 " | $8.78{ }^{\text {" }}$ | 6.84" | $1.88{ }^{\prime \prime}$ |
| A - 8 with 2-3/8" hex | .625" | 2.08 " | 2.50 " | $3.64{ }^{\prime \prime}$ | 8.78" | 6.84" | 1.88" |
| A -8 with 2-9/16" hex | .625" | 2.20 " | 2.50 " | $3.86{ }^{\prime \prime}$ | 8.78" | 6.84" | 1.88" |
| A - 8 with 2-3/4" hex | .625" | $2.34{ }^{\prime \prime}$ | 2.50 " | $4.16{ }^{\prime \prime}$ | $8.78{ }^{\prime \prime}$ | 6.84" | $1.88{ }^{\prime \prime}$ |
| A - 8 with 2-15/16" hex | . $625^{\prime \prime}$ | $2.48{ }^{\prime \prime}$ | 2.50 " | $4.44{ }^{\prime \prime}$ | 8.78" | 6.84" | 1.88" |
| A - 8 with $3-1 / 8^{\prime \prime}$ hex | .625" | $2.61{ }^{\prime \prime}$ | 2.50 " | 4.70" | $8.78{ }^{\text {" }}$ | 6.84" | 1.88" |
| A - 8 with 3-1/2" hex | .625" | $2.75{ }^{\prime \prime}$ | $2.50{ }^{\prime \prime}$ | $4.98{ }^{\prime \prime}$ | 8.78" | 6.84" | $1.88{ }^{\prime \prime}$ |
| A - 8 with 3-7/8" hex | .625" | 2.88 " | 2.50 " | $5.24{ }^{\prime \prime}$ | 8.78" | 6.84" | 1.88" |

A -16 MAX. TORQUE: 13,025 FT. LBS. @ 10k PSI

| Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A - 16 with 2-3/4" hex | .75" | 2.38" | 3.00" | 4.13" | 10.53 " | 8.20" | $2.25{ }^{\prime \prime}$ |
| A - 16 with $2-15 / 16^{\prime \prime}$ hex | .75' | $2.45{ }^{\prime \prime}$ | 3.00 " | 4.27" | 10.53" | 8.20" | 2.25" |
| A - 16 with 3-1/8" hex | .75" | 2.55" | 3.00" | 4.47" | 10.53" | 8.20" | 2.25" |
| A - 16 with $3-1 / 2^{\prime \prime}$ hex | .75" | 2.77" | 3.00" | 4.91" | 10.53" | 8.20" | 2.25" |
| A -16 with 3-7/8"" hex | .75' | 2.97" | 3.00" | 5.31" | 10.53 " | 8.20" | $2.25{ }^{\prime \prime}$ |
| A - 16 with 4-1/4" hex | .75" | 3.20" | 3.00" | 5.77" | 10.53" | 8.20" | 2.25" |
| A - 16 with 4-5/8" hex | .75' | 3.42" | 3.00" | 6.21" | 10.53" | 8.20" | $2.25{ }^{\prime \prime}$ |
| A - 16 with $5^{\prime \prime}$ hex | .75' | 3.64" | 3.00" | 6.65" | 10.53" | 8.20" | 2.25" |

## A - 32 MAX. TORQUE: 31,975 FT. LBS. @ 10k PSI

| Description | 'A" | 'B" | "C" | 'D" | "E" | 'F" | 'G" |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A - 32 with $3-1 / 2^{\prime \prime}$ hex | 1.00 " | 3.02 " | 4.00 " | 5.20" | 14.00" | 10.94 | 3.00 " |
| A -32 with $3-7 / 8^{\prime \prime}$ hex | 1.00 " | $3.24{ }^{\prime \prime}$ | 4.00 " | $5.64{ }^{\prime \prime}$ | 14.00" | 10.94 | 3.00 " |
| - 32 with 4-1/4" hex | 1.00 " | .45" | 4.0 | 6.06 | 14 | 10.94" | 3.00 " |
| A - 32 with 4-5/8" hex | 1.00 " | $3.67{ }^{\prime \prime}$ | 4.00 | 6.50 | 14.0 | 10.94" | 3.0 |
| A - 32 with 5" hex | 1.00 " | . 89 | 4.0 | 6.9 | 14.0 | 10.94" | 3.00 " |
| A - 32 with 5-3/8" hex | 1.00 " | $4.10^{\prime \prime}$ | 4.001 | 7.36" | $14.00^{\prime \prime}$ | 10.9 | 3.00 |
| A - 32 with 5-3/4" hex | 1.00 " | $4.32^{\prime \prime}$ | 4.00 " | 7.80" | 14.00 | 10.94 | 3.001 |
| A - 32 with 6-1/8" hex | 1.00 " | 4.54" | 4.00 " | 8.24" | 14.00" | 10.94" | 3.0 |


| A-64 MAX. TORQUE: 60,315 FT. LBS. @ 10k PSI |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Description | 'A" | B" | C" | D" | "E" | F" | G |
| 4 with 5" hex | $1.25^{\prime \prime}$ | 4.14" | 5.00" | 7.23" | 17.55" | 13.68 | 75" |
| A - 64 with $5-3 / 8$ | 1.2 | $4.35{ }^{\prime \prime}$ | O" | 7.65" | 17.5 | 13.6 | $3.75^{\prime \prime}$ |
| 64 with | $1.25{ }^{\text {" }}$ | 4.5 | 5.0 | 8.09 " | 17 | 13.68" | $3.75{ }^{\text {" }}$ |
| A -64 with $6-1 / 8^{\prime \prime}$ h | $1.25{ }^{\text {" }}$ | 4.79" | $5.00{ }^{\prime \prime}$ | 8.5 | 17.5 | 13. | $3.75{ }^{\text {" }}$ |
| A - 64 with 6-1/2" | $1.25{ }^{\text {" }}$ | $5.00{ }^{\prime \prime}$ | $5.00{ }^{\prime \prime}$ | 8.95" | 17.55" | $13.68{ }^{\prime \prime}$ | $3.75^{\text {" }}$ |
| A - 64 with 6-7/8" | $1.25{ }^{\text {" }}$ | 5.22" | $5.00{ }^{\prime \prime}$ | 9.39" | 17.55" | 13.68 | $3.75{ }^{\text {" }}$ |
| A -64 with 7-1/4" | $1.25{ }^{\text {" }}$ | 5.44 | $5.00{ }^{\prime \prime}$ | 9.83" | 17.55 | 13.68 | 3.75" |
| -64 wit | $1.25{ }^{\prime \prime}$ | 5.6 | 5.001 | 10.2 | 17 | 13.6 |  |

To determine dimensions of sizes not listed, use next larger hex size. For example, an A8 with an 85mm hex will have approximately the same dimensions as an A8 with 90mm hex.

## METRIC

| $\boldsymbol{A}-\mathbf{2 ~ M A X . ~ T O R Q U E : ~} 2243$ |  |  |  |  |  |  |  |  | Nm @ 700 BAR |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | :---: | :---: | :---: |
| Metric Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" |  |  |  |
| A -2 with 27 mm hex | 9.5 | 25.1 | 38.1 | 39.4 | 133.7 | 104.1 | 28.6 |  |  |  |
| A -2 with 32 mm hex | 9.5 | 27.8 | 38.1 | 45.0 | 133.7 | 104.1 | 28.6 |  |  |  |
| A -2 with 36 mm hex | 9.5 | 30.6 | 38.1 | 50.5 | 133.7 | 104.1 | 28.6 |  |  |  |
| A -2 with 41 mm hex | 9.5 | 33.3 | 38.1 | 55.9 | 133.7 | 104.1 | 28.6 |  |  |  |
| A -2 with 46 mm hex | 9.5 | 36.1 | 38.1 | 61.5 | 133.7 | 104.1 | 28.6 |  |  |  |
| A -2 with 50 mm hex | 9.5 | 38.8 | 38.1 | 67.1 | 133.7 | 104.1 | 28.6 |  |  |  |
| A -2 with 55 mm hex | 9.5 | 41.6 | 38.1 | 72.6 | 133.7 | 104.1 | 28.6 |  |  |  |
| A -2 with 60 mm hex | 9.5 | 44.7 | 38.1 | 78.7 | 133.7 | 104.1 | 28.6 |  |  |  |

## A - 4 MAX. TORQUE: 5367 Nm @ 700 BAR

| Metric Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A - 4 with 46 mm hex | 12.7 | 39.4 | 50.8 | 68.1 | 178.3 | 138.9 | 38.1 |
| A - 4 with 50 mm hex | 12.7 | 42.2 | 50.8 | 73.7 | 178.3 | 138.9 | 38.1 |
| A - 4 with 55 mm hex | 12.7 | 44.7 | 50.8 | 78.7 | 178.3 | 138.9 | 38.1 |
| A - 4 with 60 mm hex | 12.7 | 47.5 | 50.8 | 84.3 | 178.3 | 138.9 | 38.1 |
| A - 4 with 65 mm hex | 12.7 | 50.3 | 50.8 | 89.9 | 178.3 | 138.9 | 38.1 |
| A - 4 with 70 mm hex | 12.7 | 53.1 | 50.8 | 95.5 | 178.3 | 138.9 | 38.1 |
| A - 4 with 75 mm hex | 12.7 | 55.9 | 50.8 | 101.1 | 178.3 | 138.9 | 38.1 |
| A - 4 with 80 mm hex | 12.7 | 58.4 | 50.8 | 106.2 | 178.3 | 138.9 | 38.1 |

## A - 8 MAX. TORQUE: 10,404 Nm @ 700 BAR

| Metric Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A - 8 with 55mm hex | 15.9 | 49.3 | 63.5 | 85.3 | 223.0 | 173.7 | 47.8 |
| A-8 with 60 mm hex | 15.9 | 52.8 | 63.5 | 92.5 | 223.0 | 173.7 | 47.8 |
| A - 8 with 65 mm hex | 15.9 | 55.9 | 63.5 | 98.0 | 223.0 | 173.7 | 47.8 |
| A -8 with 70 mm hex | 15.9 | 59.4 | 63.5 | 105.7 | 223.0 | 173.7 | 47.8 |
| A -8 with 75 mm hex | 15.9 | 63.0 | 63.5 | 112.8 | 223.0 | 173.7 | 47.8 |
| A-8 with 80 mm hex | 15.9 | 66.3 | 63.5 | 119.4 | 223.0 | 173.7 | 47.8 |
| A -8 with 90 mm hex | 15.9 | 69.9 | 63.5 | 126.5 | 223.0 | 173.7 | 47.8 |
| A - 8 with 100 mm hex | 15.9 | 73.2 | 63.5 | 133.1 | 223.0 | 173.7 | 47.8 |


| A-16 MAX. TORQUE: 17,924 Nm @ 700 BAR |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Metric Description | "A" | "B" | "C" | "D" | "E" | "F" | 'G" |
| A - 16 with 70 mm hex | 19.1 | 60.5 | 76.2 | 104.9 | 267.5 | 208.3 | 57.2 |
| A - 16 with 75 mm hex | 19.1 | 62.2 | 76.2 | 108.5 | 267.5 | 208.3 | 57.2 |
| A - 16 with 80 mm hex | 19.1 | 64.8 | 76.2 | 113.5 | 267.5 | 208.3 | 57.2 |
| A - 16 with 90 mm hex | 19.1 | 70.4 | 76.2 | 124.7 | 267.5 | 208.3 | 57.2 |
| A -16 with 100mm hex | 19.1 | 75.4 | 76.2 | 134.9 | 267.5 | 208.3 | 57.2 |
| A-16 with 105 mm hex | 19.1 | 81.3 | 76.2 | 146.6 | 267.5 | 208.3 | 57.2 |
| A-16 with 115 mm hex | 19.1 | 86.9 | 76.2 | 157.7 | 267.5 | 208.3 | 57.2 |
| A-16 with 125 mm hex | 19.1 | 92.5 | 76.2 | 168.9 | 267.5 | 208.3 | 57.2 |


| XA - 32 MAX. TORQUE: 44,003 Nm @ 700 BAR |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Metric Description | "A" | "B" | "C" | "D" | "E" | "F" | 'G" |
| A - 32 with 90mm hex | 25.4 | 76.7 | 101.6 | 132.1 | 355.6 | 277.9 | 76.2 |
| A - 32 with 100 mm hex | 25.4 | 82.3 | 101.6 | 143.3 | 355.6 | 277.9 | 76.2 |
| A - 32 with 105 mm hex | 25.4 | 87.6 | 101.6 | 153.9 | 355.6 | 277.9 | 76.2 |
| A - 32 with 115 mm hex | 25.4 | 93.2 | 101.6 | 165.1 | 355.6 | 277.9 | 76.2 |
| A - 32 with 125 mm hex | 25.4 | 98.8 | 101.6 | 176.3 | 355.6 | 277.9 | 76.2 |
| A - 32 with 135 mm hex | 25.4 | 104.1 | 101.6 | 186.9 | 355.6 | 277.9 | 76.2 |
| A - 32 with 145 mm hex | 25.4 | 109.7 | 101.6 | 198.1 | 355.6 | 277.9 | 76.2 |
| A - 32 with 155 mm hex | 25.4 | 115.3 | 101.6 | 209.3 | 355.6 | 277.9 | 76.2 |

## A-64 MAX. TORQUE: 83,003 Nm @ 700 BAR

Metric Description "A" "B"

| A - 64 w ith 125mm hex | 31.8 | 105.2 | 127.0 | 183.6 | 445.8 | 347.5 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| A | 95.3 |  |  |  |  |  |


| A - 64 w ith 135mm hex | 31.8 | 110.5 | 127.0 | 194.3 | 445.8 | 347.5 | 95.3 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| A |  |  |  |  |  |  |  | | A - 64 w ith 145 mm hex | 31.8 | 116.1 | 127.0 | 205.5 | 445.8 | 347.5 | 95.3 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| A 6.64 w |  |  |  |  |  |  |  | | A -64 w ith 155 mm hex | 31.8 | 121.7 | 127.0 | 216.7 | 445.8 | 347.5 | 95.3 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| A - 64 w ith 165 mm hex | 31.8 | 127.0 | 127.0 | 227.3 | 445.8 | 347.5 | 95.3 |
| A 64 w |  |  |  |  |  |  |  | | A - 64 w ith 175mm hex | 31.8 | 132.6 | 127.0 | 238.5 | 445.8 | 347.5 | 95.3 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| A 64 w |  |  |  |  |  |  |  |


| A - 64 w ith 185 mm hex | 31.8 | 138.2 | 127.0 | 249.7 | 445.8 | 347.5 | 95.3 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| A - 64 w ith 195 mm hex | 31.8 | 143.5 | 127.0 | 260.4 | 445.8 | 347.5 | 95.3 |

## IMDRIVE

## NORWOLF M-Drive® Benefits:

- Fastest... $40^{\circ}$ stroke... most accurate with sliding keyways.
- Absolute thinnest... patented totally enclosed system... no exposed teeth.
- Available in ratchet, spanner or split link design.
- Easiest to use... snaps right in... fits in only one way.



## Three Choices of Hex links:

1) A totally enclosed ratcheting hyper low-profile hex link.
2) A non-ratcheting spanner link.
3) A swing-open non-ratcheting link fitting jam nuts.

## It goes where others can't.

The M Drive is a special application tool for hyper-low clearance applications like BOP's. It has no holding pawl, is lightning fast and has the flattest drive width in the X Driver family. There are no roll pins. A longer lever arm allows for a 40 degree stroke, which is what gives the hex link it's amazing speed. The M Drive is specifically made for the tightest BOP applications (such as a 7 " 10 m ) where no others can fit.



## MDRIVE Ratchet Cassette

## IMPERIAL

| M-2 MAX. TORQUE: 1300 FT. LBS. @ 10k PSI |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" | "H" |
| M - 2 with 1-1/16" hex | .375" | .99" | .611" | 3.28" | .99" | .75" | 1.25" | 6.96" |
| M - 2 with 1-1/4" hex | . 375 " | 1.10" | .611" | 3.28" | 1.10" | .75" | 1.25" | 6.96" |
| M - 2 with 1-7/16" hex | . 375 " | 1.20" | .611" | 3.28" | 1.20" | .75" | 1.25" | 6.96" |
| M - 2 with 1-5/8" hex | . 375 " | 1.31" | .611" | 3.28" | 1.31" | .75" | 1.25" | 6.96" |
| M - 2 with 1-13/16" hex | . 375 " | 1.42" | .611" | 3.28" | 1.42" | .75" | $1.25{ }^{\prime \prime}$ | 6.96" |
| M - 2 with 2" hex | . 375 " | 1.53" | .611" | 3.28" | 1.53" | .75" | 1.25" | 6.96" |
| M - 2 with $2-3 / 16^{\prime \prime}$ hex | . 375 " | 1.64" | .611" | 3.28" | 1.64" | .75" | 1.25" | 6.96" |
| M-2 with 2-3/8" hex | . 375 " | 1.75" | .611" | 3.28" | 1.75" | .75" | 1.25" | 6.96" |

## M-4 MAX. TORQUE: 3080 FT. LBS. @ 10k PSI

| Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" | H" |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| M - 4 with 1-13/16" hex | .50" | 1.55" | .815" | 4.38" | 1.55" | 1.00" | 1.67" | 9.28 " |
| M - 4 with 2" hex | .50" | $1.65{ }^{\prime \prime}$ | .815" | 4.38" | $1.65{ }^{\prime \prime}$ | 1.00" | 1.67" | $9.28{ }^{\prime \prime}$ |
| M - 4 with 2-13/16" hex | .50" | $1.76{ }^{\prime \prime}$ | .815" | 4.38" | $1.76{ }^{\prime \prime}$ | 1.00" | 1.67" | 9.28 " |
| M-4 with 2-3/8" hex | .50" | 1.87" | .815" | 4.38" | 1.87" | 1.00" | 1.67" | $9.28{ }^{\prime \prime}$ |
| M - 4 with 2-9/16" hex | .50" | 1.98" | .815" | 4.38" | 1.98" | 1.00" | 1.67" | 9.28 " |
| M - 4 with 2-3/4" hex | .50" | 2.09" | .815" | 4.38" | 2.09" | 1.00" | 1.67" | $9.28{ }^{\prime \prime}$ |
| M - 4 with 2-15/16" hex | .50" | 2.19" | .815" | 4.38" | 2.19 " | 1.00" | 1.67" | $9.28{ }^{\prime \prime}$ |
| M-4 with 3-1/8" hex | .50" | 2.30 " | .815" | 4.38" | 2.30 " | 1.00" | 1.67" | 9.28" |

## M-8 MAX. TORQUE: 6,000 FT. LBS. @ 10k PSI

| Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" | "H" |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| M - 8 with 2-3/16" hex | .625" | 1.89" | 1.02 " | 5.47" | 1.89" | 1.25 " | 2.09 " | $11.60^{\prime \prime}$ |
| M -8 with $2-3 / 8{ }^{\text {" }}$ hex | .625" | 2.00 " | $1.02{ }^{\prime \prime}$ | 5.47" | 2.00 " | 1.25 " | 2.09 " | $11.60^{\prime \prime}$ |
| M -8 with $2-9 / 16^{\prime \prime}$ hex | .625" | 2.10 " | $1.02{ }^{\text {" }}$ | $5.47{ }^{\prime \prime}$ | $2.10{ }^{\prime \prime}$ | 1.25 " | $2.09{ }^{\prime \prime}$ | $11.60^{\prime \prime}$ |
| M - 8 with $2-3 / 4$ " hex | .625" | $2.21{ }^{\prime \prime}$ | 1.02 " | 5.47" | $2.21{ }^{\prime \prime}$ | 1.25 " | $2.09{ }^{\prime \prime}$ | $11.60^{\prime \prime}$ |
| M - 8 with 2-15/16" hex | .625" | 2.32 " | $1.02{ }^{\prime \prime}$ | 5.47" | $2.32^{\prime \prime}$ | 1.25 " | $2.09{ }^{\prime \prime}$ | 11.6 |
| M - 8 with $3-1 / 8{ }^{\text {" }}$ hex | .625" | 2.43 " | $1.02{ }^{\text {" }}$ | 5.47 | 2.43 " | 1.25 | $2.09{ }^{\prime \prime}$ | $11.60^{\prime \prime}$ |
| M -8 with $3-1 / 2^{\prime \prime}$ hex | .625" | 2.65 " | 1.02 " | 5.47" | $2.65{ }^{\prime \prime}$ | 1.25 | 2.09 " | $11.60^{\prime \prime}$ |
| -8 with $3-7 / 78^{\prime \prime}$ | .625" | 2.86 " | 1.02 " | $5.47{ }^{\prime \prime}$ | 2.86 " | 1.25 " | 2.09 " |  |

M-16 MAX. TORQUE: 10,395 FT. LBS. @ 10k PSI

| Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" | "H" |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| M - 16 with 2-3/4" hex | .75" | 2.34" | 1.22" | 6.57" | 2.34" | 1.50" | 2.50" | 13.92" |
| M - 16 with 2-15/16" hex | .75" | 2.44" | 1.22" | 6.57" | 2.44" | 1.50" | 2.50" | 13.92" |
| M - 16 with $3-1 / 8^{\prime \prime}$ hex | .75" | 2.55" | 1.22" | 6.57" | 2.55" | 1.50" | 2.50" | 13.92" |
| M - 16 with $3-1 / 2$ " hex | .75" | 2.77" | 1.22" | 6.57" | 2.77" | 1.50" | 2.50" | 13.92" |
| M - 16 with 3-7/8" hex | .75" | 2.99" | 1.22" | 6.57" | 2.99" | 1.50" | 2.50" | 13.92" |
| M - 16 with 4-1/4" hex | .75" | 3.20" | 1.22" | 6.57" | 3.20" | 1.50" | 2.50" | 13.92" |
| M - 16 with 4-5/8" hex | .75" | 3.42" | 1.22" | 6.57" | 3.42" | 1.50" | 2.50 " | 13.92" |
| M-16 with 5" hex | .75" | 3.64" | 1.22" | 6.57" | 3.64" | 1.50" | 2.50" | 13.92" |

M-32 MAX. TORQUE: 24,640 FT. LBS. @ 10k PSI

| Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" | "H" |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| M - 32 with 3-1/2" hex | 1.00" | 3.02" | 1.63" | 8.76" | 3.02" | 2.00" | 3.34 " | 18.56" |
| M - 32 with 3-7/8" hex | 1.00" | 3.24" | 1.63 " | 8.76" | 3.24" | 2.00" | 3.34" | 18.56" |
| M - 32 with 4-1/4" hex | 1.00" | 3.45" | 1.63" | 8.76" | 3.45" | 2.00" | 3.34" | 18.56" |
| M - 32 with 4-5/8" hex | 1.00" | 3.67" | 1.63" | 8.76" | 3.67" | 2.00 " | 3.34" | 18.56" |
| $\mathrm{M}-32$ with 5" hex | 1.00" | 3.89" | 1.63" | 8.76" | 3.89" | 2.00" | 3.34" | 18.56" |
| M - 32 with 5-3/8" hex | 1.00" | 4.10" | 1.63" | 8.76" | 4.10" | 2.00" | 3.34" | 18.56" |
| M - 32 with 5-3/4" hex | 1.00" | 4.32" | 1.63" | 8.76" | 4.32" | 2.00" | 3.34" | 18.56" |
| M-32 with 6-1/8" hex | 1.00" | 4.53" | 1.63" | 8.76" | 4.53" | 2.00 " | 3.34" | 18.56" |

M-64 MAX. TORQUE: 48,125 FT. LBS. @ 10k PSI

| M - 64 MAX. TORQUE: 48,125 FT. LBS. @ 10k PSI |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" | H" |
| M - 64 with 5" hex | 1.25" | 4.14" | 2.04" | 10.95" | 4.14" | 2.50" | 4.18" | 23.20" |
| M - 64 with 5-3/8" hex | 1.25" | 4.35" | 2.04" | 10.95" | 4.35" | 2.50" | 4.18" | 23.20" |
| M - 64 with 5-3/4" hex | 1.25" | 4.57" | 2.04" | 10.95" | 4.57" | 2.50" | 4.18" | 23.20" |
| M - 64 with 6-1/8" hex | 1.25" | 4.78" | 2.04" | 10.95" | 4.78" | 2.50 " | $4.18{ }^{\prime \prime}$ | 23.20" |
| M - 64 with 6-1/2" hex | 1.25" | 5.00" | 2.04" | 10.95" | 5.00" | 2.50 " | 4.18" | 23.20" |
| M - 64 with 6-7/8" hex | 1.25" | 5.22" | 2.04" | 10.95" | 5.22" | 2.50" | 4.18" | 23.20" |
| M-64 with 7-1/4" hex | 1.25" | 5.43 " | 2.04" | 10.95" | 5.43 " | 2.50" | $4.18{ }^{\prime \prime}$ | 23.20" |
| M-64 with 7-5/8" hex | 1.25" | 5.65" | 2.04" | 10.95" | 5.65" | 2.50" | 4.18" | 23.20" |

METRIC

| M-2 MAX. TORQUE: 1789 Nm @ 700 BAR |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" | "H" |
| M - 2 with 27 mm hex | 9.5 | 25.1 | 15.5 | 83.3 | 25.1 | 19.1 | 31.8 | 176.8 |
| M - 2 with 32 mm hex | 9.5 | 27.9 | 15.5 | 83.3 | 27.9 | 19.1 | 31.8 | 176.8 |
| $\mathrm{M}-2$ with 36 mm hex | 9.5 | 30.5 | 15.5 | 83.3 | 30.5 | 19.1 | 31.8 | 176.8 |
| M - 2 with 41 mm hex | 9.5 | 33.3 | 15.5 | 83.3 | 33.3 | 19.1 | 31.8 | 176.8 |
| $\mathrm{M}-2$ with 46 mm hex | 9.5 | 36.1 | 15.5 | 83.3 | 36.1 | 19.1 | 31.8 | 176.8 |
| $\mathrm{M}-2$ with 50 mm hex | 9.5 | 38.9 | 15.5 | 83.3 | 38.9 | 19.1 | 31.8 | 176.8 |
| $\mathrm{M}-2$ with 55 mm hex | 9.5 | 41.7 | 15.5 | 83.3 | 41.7 | 19.1 | 31.8 | 176.8 |
| M-2 with 60 mm hex | 9.5 | 44.5 | 15.5 | 83.3 | 44.5 | 19.1 | 31.8 | 176.8 |


| M-4 MAX. TORQUE: 4239 Nm @ 700 BAR |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Metric Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" | "H" |
| M-4 with 46 mm hex | 12.7 | 39.4 | 20.7 | 111.3 | 39.4 | 25.4 | 42.4 | 235.7 |
| M - 4 with 50 mm hex | 12.7 | 41.9 | 20.7 | 111.3 | 41.9 | 25.4 | 42.4 | 235.7 |
| M - 4 with 55mm hex | 12.7 | 44.7 | 20.7 | 111.3 | 44.7 | 25.4 | 42.4 | 235.7 |
| M - 4 with 60mm hex | 12.7 | 47.5 | 20.7 | 111.3 | 47.5 | 25.4 | 42.4 | 235.7 |
| M - 4 with 65 mm hex | 12.7 | 50.3 | 20.7 | 111.3 | 50.3 | 25.4 | 42.4 | 235.7 |
| M-4 with 70 mm hex | 12.7 | 53.1 | 20.7 | 111.3 | 53.1 | 25.4 | 42.4 | 235.7 |
| M - 4 with 75 mm hex | 12.7 | 55.6 | 20.7 | 111.3 | 55.6 | 25.4 | 42.4 | 235.7 |
| M-4 with 80mm hex | 12.7 | 58.4 | 20.7 | 111.3 | 58.4 | 25.4 | 42.4 | 235.7 |

## M - 8 MAX. TORQUE: 8257 Nm @ 700 BAR

| M - 8 MAX. TORQUE: 8257 Nm @ 700 BAR |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Metric Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" | "H" |
| M - 8 with 55 mm hex | 15.9 | 48.0 | 25.9 | 138.9 | 48.0 | 31.8 | 53.1 | 294.6 |
| $\mathrm{M}-8$ with 60 mm hex | 15.9 | 50.8 | 25.9 | 138.9 | 50.8 | 31.8 | 53.1 | 294.6 |
| $\mathrm{M}-8$ with 65 mm hex | 15.9 | 53.3 | 25.9 | 138.9 | 53.3 | 31.8 | 53.1 | 294.6 |
| M - 8 with 70 mm hex | 15.9 | 56.1 | 25.9 | 138.9 | 56.1 | 31.8 | 53.1 | 294.6 |
| M - 8 with 75 mm hex | 15.9 | 58.9 | 25.9 | 138.9 | 58.9 | 31.8 | 53.1 | 294.6 |
| M - 8 with 80 mm hex | 15.9 | 61.7 | 25.9 | 138.9 | 61.7 | 31.8 | 53.1 | 294.6 |
| M - 8 with 90 mm hex | 15.9 | 67.3 | 25.9 | 138.9 | 67.3 | 31.8 | 53.1 | 294.6 |
| M-8 with 100 mm hex | 15.9 | 72.6 | 25.9 | 138.9 | 72.6 | 31.8 | 53.1 | 294.6 |

M-16 MAX. TORQUE: 14,305 Nm @ 700 BAR

| M - 16 MAX. TORQUE: 14,305 Nm @ 700 BAR |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Metric Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" | "H" |
| M - 16 with 70 mm hex | 19.1 | 59.4 | 31.0 | 166.9 | 59.4 | 38.1 | 63.5 | 353.6 |
| M - 16 with 75 mm hex | 19.1 | 62.0 | 31.0 | 166.9 | 62.0 | 38.1 | 63.5 | 353.6 |
| M - 16 with 80 mm hex | 19.1 | 64.8 | 31.0 | 166.9 | 64.8 | 38.1 | 63.5 | 353.6 |
| M - 16 with 90 mm hex | 19.1 | 70.4 | 31.0 | 166.9 | 70.4 | 38.1 | 63.5 | 353.6 |
| M - 16 with 100 mm hex | 19.1 | 75.9 | 31.0 | 166.9 | 75.9 | 38.1 | 63.5 | 353.6 |
| M - 16 with 105 mm hex | 19.1 | 81.3 | 31.0 | 166.9 | 81.3 | 38.1 | 63.5 | 353.6 |
| M - 16 with 115 mm hex | 19.1 | 86.9 | 31.0 | 166.9 | 86.9 | 38.1 | 63.5 | 353.6 |
| M - 16 with 125 mm hex | 19.1 | 92.5 | 31.0 | 166.9 | 92.5 | 38.1 | 63.5 | 353.6 |

M - 32 MAX. TORQUE: 33,908 Nm @ 700 BAR

| $\boldsymbol{M}$ - 32 MAX. TORQUE: 33,908 Nm @ 700 |  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Metric Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" | "H" |
| M - 32 with 90mm hex | 25.4 | 76.7 | 41.4 | 222.5 | 76.7 | 50.8 | 84.8 | 471.4 |
| M - 32 with 100mm hex | 25.4 | 82.3 | 41.4 | 222.5 | 82.3 | 50.8 | 84.8 | 471.4 |
| M - 32 with 105mm hex | 25.4 | 87.6 | 41.4 | 222.5 | 87.6 | 50.8 | 84.8 | 471.4 |
| M - 32 with 115mm hex | 25.4 | 93.2 | 41.4 | 222.5 | 93.2 | 50.8 | 84.8 | 471.4 |
| M - 32 with 125mm hex | 25.4 | 98.8 | 41.4 | 222.5 | 98.8 | 50.8 | 84.8 | 471.4 |
| M - 32 with 135mm hex | 25.4 | 104.1 | 41.4 | 222.5 | 104.1 | 50.8 | 84.8 | 471.4 |
| M - 32 with 145mm hex | 25.4 | 109.7 | 41.4 | 222.5 | 109.7 | 50.8 | 84.8 | 471.4 |
| M - 32 with 155mm hex | 25.4 | 115.1 | 41.4 | 222.5 | 115.1 | 50.8 | 84.8 | 471.4 |

## M-64 MAX. TORQUE: 66,227 Nm @ 700 BAR

| M-64 MAX. TORQUE: 66,227 Nm @ 700 BAR |  |  |  |  |  |  |  |  |
| ---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Metric Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" | "H" |
| M - 64 with 125mm hex | 31.8 | 105.2 | 51.8 | 278.1 | 105.2 | 63.5 | 106.2 | 589.3 |
| M - 64 with 135mm hex | 31.8 | 110.5 | 51.8 | 278.1 | 110.5 | 63.5 | 106.2 | 589.3 |
| M - 64 with 145mm hex | 31.8 | 116.1 | 51.8 | 278.1 | 116.1 | 63.5 | 106.2 | 589.3 |
| M - 64 with 155mm hex | 31.8 | 121.4 | 51.8 | 278.1 | 121.4 | 63.5 | 106.2 | 589.3 |
| M - 64 with 165mm hex | 31.8 | 127.0 | 51.8 | 278.1 | 127.0 | 63.5 | 106.2 | 589.3 |
| M - 64 with 175mm hex | 31.8 | 132.6 | 51.8 | 278.1 | 132.6 | 63.5 | 106.2 | 589.3 |
| M - 64 with 185mm hex | 31.8 | 137.9 | 51.8 | 278.1 | 137.9 | 63.5 | 106.2 | 589.3 |
| M - 64 with 195 mm hex | 31.8 | 143.5 | 51.8 | 278.1 | 143.5 | 63.5 | 106.2 | 589.3 |



IMPERIAL

| M-2 MAX. TORQUE: 1300 FT. LBS. @ 10k PSI |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" | "H" |
| M - 2 with 1-1/16" hex | .25" | .86" | .611" | 3.28 " | .86" | .75" | 1.25" | 6.96" |
| M -2 with $1-1 / 4^{\prime \prime}$ hex | .25" | .97" | .611" | 3.28 " | .97" | .75" | 1.25" | 6.96" |
| M-2 with 1-7/16" hex | .25" | 1.08" | .611" | 3.28" | 1.08" | .75" | 1.25" | 6.96" |
| M -2 with 1-5/8" hex | .25" | 1.19" | .611" | 3.28 " | 1.19" | .75" | 1.25" | 6.96" |
| M-2 with 1-13/16" hex | .25" | 1.30 " | .611" | 3.28 " | 1.30" | .75" | 1.25" | 6.96" |
| M-2 with 2" hex | .25" | 1.40" | .611" | 3.28 " | 1.40 " | .75" | 1.25 " | 6.96" |
| M - 2 with $2-3 / 16^{\prime \prime}$ hex | .25" | 1.51" | .611" | 3.28 " | 1.51 " | .75" | 1.25" | 6.96" |
| M -2 with 2-3/8" hex | .25" | 1.62" | .611" | 3.28" | 1.62" | .75" | 1.25" | 6.96" |

M-4 MAX. TORQUE: 3080 FT. LBS. @ 10k PSI

| Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" | "H" |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| M-4 with 1-13/16" hex | .333" | 1.38" | .815" | 4.38" | 1.38" | 1.00" | 1.67" | $9.28{ }^{\prime \prime}$ |
| M - 4 with 2" hex | .333" | 1.49" | .815" | 4.38" | 1.49" | 1.00" | 1.67" | $9.28{ }^{\prime \prime}$ |
| M - 4 with $2-13 / 16^{\prime \prime}$ hex | .333" | 1.60" | .815" | 4.38" | 1.60" | 1.00" | 1.67" | 9.28" |
| M - 4 with 2-3/8" hex | .333" | 1.70" | .815" | 4.38" | 1.70" | 1.00" | 1.67" | 9.28" |
| M - 4 with 2-9/16" hex | .333" | 1.81" | .815" | $4.38{ }^{\prime \prime}$ | 1.81" | 1.00" | 1.67" | $9.28{ }^{\prime \prime}$ |
| M - 4 with 2-3/4" hex | .333" | 1.92" | .815" | 4.38" | 1.92" | 1.00" | 1.67" | 9.28 " |
| M - 4 with $2-15 / 16^{\prime \prime}$ hex | .333" | 2.03" | .815" | 4.38" | 2.03" | 1.00" | 1.67" | 9.28" |
| M-4 with 3-1/8" hex | .333" | 2.14" | .815" | 4.38" | 2.14" | 1.00" | 1.67" | 9.28" |

## M-8 MAX. TORQUE: 6,000 FT. LBS. @ 10k PSI

| Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" | "H" |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| M - 8 with 2-3/16" hex | .410" | 1.67" | 1.02" | 5.47" | 1.67" | 1.25 " | $2.09{ }^{\prime \prime}$ | 11.60" |
| M - 8 with $2-3 / 8{ }^{\text {" }}$ hex | $410{ }^{\prime \prime}$ | $1.78{ }^{\prime \prime}$ | 1.02" | 5.47" | 1.78" | 1.25 " | 2.09 " | 11.60 |
| M-8 with 2-9/16" hex | 4101 | 1.89" | 1.02 " | $5.47{ }^{\prime \prime}$ | 1.89 | $1.25{ }^{\prime \prime}$ | 2.09 | 11.6 |
| M - 8 with $2-3 / 4$ " hex | 4101 | $2{ }^{1}$ | 1.02 " | 5.47 " | $2^{\prime \prime}$ | 1.25 | 2.09 " | 11.6 |
| M-8 with 2-15/16" hex | .410" | 2.11 | 1.02 " | 5.47 " | 2.17 | 1.25 " | 2.09 | 11.6 |
| M - 8 with $3-1 / 8^{\prime \prime}$ hex | 4101 | 2.21 " | 1.02 " | $5.47{ }^{\prime \prime}$ | 2.21 | 1.25 | 2.09 | $11.60{ }^{\prime \prime}$ |
| M - 8 with $3-1 / 2^{\prime \prime}$ hex | 4101 | 2.42 " | 1.02" | 5.47 " | 2.42 " | 1.25 | 2.09 | 11.6 |
| M - 8 with $3-7 / 8$ " hex | 4101 | 2.65 " | 1.02" | 5.4 | $2.65^{\prime \prime}$ | $1.25^{\prime \prime}$ | 2.09 | 11.60 |

M-16 MAX. TORQUE: 10,395 FT. LBS. @ 10k PSI

| Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" | "H" |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| M - 16 with 2-3/4" hex | .50" | 2.09" | 1.22" | 6.57" | 2.09" | 1.50" | 2.50" | 13.92" |
| M - 16 with 2-15/16" hex | .50" | 2.19" | 1.22" | 6.57" | 2.19" | 1.50" | 2.50" | 13.92" |
| $\mathrm{M}-16$ with $3-1 / 8^{\prime \prime}$ hex | .50" | 2.30" | 1.22" | 6.57" | 2.30" | 1.50" | 2.50" | 13.92" |
| M -16 with 3-1/2" hex | .50" | 2.52" | 1.22" | 6.57" | 2.52" | 1.50" | 2.50" | 13.92" |
| M - 16 with 3-7/8" hex | .50" | 2.74" | 1.22" | 6.57" | 2.74" | 1.50" | 2.50" | 13.92" |
| M -16 with 4-1/4" hex | .50" | 2.95" | 1.22" | 6.57" | 2.95" | 1.50" | 2.50" | 13.92" |
| M - 16 with 4-5/8" hex | .50" | 3.17" | 1.22" | 6.57" | 3.17" | 1.50" | 2.50" | 13.92" |
| M -16 with 5" hex | .50" | 3.39" | 1.22" | 6.57" | 3.39" | 1.50" | 2.50" | 13.92" |

M-32 MAX. TORQUE: 24,640 FT. LBS. @ 10k PSI

| Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" | "H" |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| M - 32 with 3-1/2" hex | .666" | 2.69" | 1.63" | 8.76" | 2.69" | 2.00" | 3.34" | 18.56" |
| M - 32 with 3-7/8" hex | .666" | 2.90" | 1.63" | 8.76" | 2.90" | $2.00{ }^{\prime \prime}$ | 3.34" | 18.56" |
| M - 32 with 4-1/4" hex | .666" | 3.12" | 1.63" | 8.76" | 3.12" | 2.00 " | 3.34" | 18.56" |
| M - 32 with 4-5/8" hex | .666" | 3.33" | 1.63" | 8.76" | 3.33" | $2.00{ }^{\prime \prime}$ | 3.34" | 18.56" |
| M - 32 with 5" hex | .666" | 3.55" | 1.63 " | 8.76" | 3.55" | 2.00 " | $3.34{ }^{\prime \prime}$ | 18.56" |
| M - 32 with 5-3/8" hex | .666" | 3.77" | 1.63 " | 8.76" | 3.77" | $2.00{ }^{\prime \prime}$ | 3.34" | 18.56" |
| M - 32 with 5-3/4" hex | .666" | 3.98" | 1.63" | 8.76" | 3.98" | $2.00{ }^{\prime \prime}$ | 3.34" | $18.56{ }^{\prime \prime}$ |
| M - 32 with 6-1/8" hex | .666" | 4.20" | 1.63" | 8.76" | 4.20" | $2.00{ }^{\prime \prime}$ | 3.34" | 18.56" |

M-64 MAX. TORQUE: 48,125 FT. LBS. @ 10k PSI

| M - 64 MAX. TORQUE: 48,125 FT. LBS. @ 10k PSI |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" | "H" |
| M - 64 with 5" hex | .820" | 3.71" | 2.04" | 10.95" | 3.71" | 2.50" | 4.18" | 23.20" |
| M - 64 with 5-3/8" hex | .820" | 3.92" | 2.04" | 10.95" | 3.92" | 2.50" | 4.18" | 23.20" |
| M -64 with 5-3/4" hex | .820" | 4.14" | 2.04" | 10.95" | 4.14" | 2.50" | 4.18" | 23.20 " |
| M - 64 with 6-1/8" hex | .820" | 4.35" | 2.04" | 10.95" | 4.35" | 2.50" | 4.18" | 23.20" |
| M - 64 with 6-1/2" hex | .820" | 4.57" | 2.04" | 10.95" | 4.57" | 2.50" | 4.18" | 23.20" |
| M - 64 with 6-7/8" hex | .820" | 4.79" | 2.04" | 10.95" | 4.79" | 2.50" | 4.18" | 23.20" |
| M - 64 with 7-1/4" hex | .820" | 5.00" | 2.04" | 10.95" | 5.00" | 2.50" | 4.18" | 23.20" |
| M - 64 with 7-5/8" hex | .820" | 5.22" | 2.04" | 10.95" | 5.22" | 2.50" | 4.18" | 23.20" |

## MDRIVE Spanner Link

## METRIC

| M - 2 MAX. TORQUE: 1789 Nm @ 700 BAR |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" | "H" |
| M - 2 with 27 mm hex | 6.4 | 21.8 | 15.5 | 83.3 | 21.8 | 19.1 | 31.8 | 176.8 |
| M - 2 with 32 mm hex | 6.4 | 24.6 | 15.5 | 83.3 | 24.6 | 19.1 | 31.8 | 176.8 |
| $\mathrm{M}-2$ with 36 mm hex | 6.4 | 27.4 | 15.5 | 83.3 | 27.4 | 19.1 | 31.8 | 176.8 |
| M - 2 with 41 mm hex | 6.4 | 30.2 | 15.5 | 83.3 | 30.2 | 19.1 | 31.8 | 176.8 |
| M - 2 with 46 mm hex | 6.4 | 33.0 | 15.5 | 83.3 | 33.0 | 19.1 | 31.8 | 176.8 |
| $\mathrm{M}-2$ with 50 mm hex | 6.4 | 35.6 | 15.5 | 83.3 | 35.6 | 19.1 | 31.8 | 176.8 |
| M - 2 with 55 mm hex | 6.4 | 38.4 | 15.5 | 83.3 | 38.4 | 19.1 | 31.8 | 176.8 |
| M - 2 with 60 mm hex | 6.4 | 41.2 | 15.5 | 83.3 | 41.2 | 19.1 | 31.8 | 176.8 |

## M-4 MAX. TORQUE: 4239 Nm @ 700 BAR

| Metric Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" | "H" |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathrm{M}-4$ with 46 mm hex | 8.5 | 35.0 | 20.7 | 111.3 | 35.0 | 25.4 | 42.4 | 235.7 |
| $\mathrm{M}-4$ with 50 mm hex | 8.5 | 37.8 | 20.7 | 111.3 | 37.8 | 25.4 | 42.4 | 235.7 |
| $\mathrm{M}-4$ with 55 mm hex | 8.5 | 40.5 | 20.7 | 111.3 | 40.5 | 25.4 | 42.4 | 235.7 |
| $\mathrm{M}-4$ with 60 mm hex | 8.5 | 43.3 | 20.7 | 111.3 | 43.3 | 25.4 | 42.4 | 235.7 |
| $\mathrm{M}-4$ with 65 mm hex | 8.5 | 46.0 | 20.7 | 111.3 | 46.0 | 25.4 | 42.4 | 235.7 |
| $\mathrm{M}-4$ with 70 mm hex | 8.5 | 48.8 | 20.7 | 111.3 | 48.8 | 25.4 | 42.4 | 235.7 |
| $\mathrm{M}-4$ with 75 mm hex | 8.5 | 51.5 | 20.7 | 111.3 | 51.5 | 25.4 | 42.4 | 235.7 |
| M-4 with 80 mm hex | 8.5 | 54.3 | 20.7 | 111.3 | 54.3 | 25.4 | 42.4 | 235.7 |


| M - 8 MAX. TORQUE: 8257 Nm @ 700 BAR |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Metric Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" | "H" |
| M - 8 with 55 mm hex | 10.4 | 42.5 | 25.9 | 138.9 | 42.5 | 31.8 | 53.1 | 294.6 |
| $\mathrm{M}-8$ with 60 mm hex | 10.4 | 45.2 | 25.9 | 138.9 | 45.2 | 31.8 | 53.1 | 294.6 |
| $\mathrm{M}-8$ with 65 mm hex | 10.4 | 48.0 | 25.9 | 138.9 | 48.0 | 31.8 | 53.1 | 294.6 |
| $\mathrm{M}-8$ with 70 mm hex | 10.4 | 50.7 | 25.9 | 138.9 | 50.7 | 31.8 | 53.1 | 294.6 |
| $\mathrm{M}-8$ with 75 mm hex | 10.4 | 53.5 | 25.9 | 138.9 | 53.5 | 31.8 | 53.1 | 294.6 |
| $\mathrm{M}-8$ with 80 mm hex | 10.4 | 56.2 | 25.9 | 138.9 | 56.2 | 31.8 | 53.1 | 294.6 |
| M - 8 with 90 mm hex | 10.4 | 61.5 | 25.9 | 138.9 | 61.5 | 31.8 | 53.1 | 294.6 |
| M - 8 with 100 mm hex | 10.4 | 67.2 | 25.9 | 138.9 | 67.2 | 31.8 | 53.1 | 294.6 |

## M - 16 MAX. TORQUE: 14,305 Nm @ 700 BAR

| Metric Description | "A" | "B" | "C" | "D" | "E" | "F" | "G" | "H" |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| M-16 w ith 70mm hex | 12.7 | 53.0 | 31.0 | 166.9 | 53.0 | 38.1 | 63.5 | 353.6 |
| $\mathrm{M}-16 \mathrm{w}$ ith 75 mm hex | 12.7 | 55.8 | 31.0 | 166.9 | 55.8 | 38.1 | 63.5 | 353.6 |
| $\mathrm{M}-16 \mathrm{w}$ ith 80 mm hex | 12.7 | 58.5 | 31.0 | 166.9 | 58.5 | 38.1 | 63.5 | 353.6 |
| M-16 w ith 90 mm hex | 12.7 | 64.0 | 31.0 | 166.9 | 64.0 | 38.1 | 63.5 | 353.6 |
| M-16 w ith 100 mm hex | 12.7 | 69.5 | 31.0 | 166.9 | 69.5 | 38.1 | 63.5 | 353.6 |
| M-16 w ith 105mm hex | 12.7 | 75.0 | 31.0 | 166.9 | 75.0 | 38.1 | 63.5 | 353.6 |
| M-16 w ith 115 mm hex | 12.7 | 80.5 | 31.0 | 166.9 | 80.5 | 38.1 | 63.5 | 353.6 |
| M-16 w ith 125mm hex | 12.7 | 86.0 | 31.0 | 166.9 | 86.0 | 38.1 | 63.5 | 353.6 |

M-32 MAX. TORQUE: 33,908 Nm @ 700 BAR

| BAR |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Metric Description | ${ }^{\prime \prime}$ | "B" | "C" | "D" | "E" | F" | G" | " H " |
| M - 32 with 90 mm hex | 16.9 | 68.2 | 41.4 | 222.5 | 68.2 | 50.8 | 84.8 | 471.4 |
| M -32 with 100 mm hex | 16.9 | 73.7 | 41.4 | 222.5 | 73.7 | 50.8 | 84.8 | 471.4 |
| M - 32 with 105 mm hex | 16.9 | 79.2 | 41.4 | 5 | 2 | 50.8 | 84.8 | 1.4 |
| M -32 with 115 mm hex | 16.9 | 84.7 | 41.4 | 222. | 7 | 50.8 | 84.8 | 471 |
| M -32 with 125 mm hex | 16.9 | 90.2 | 41.4 | 222 | 90 | 50.8 | 84.8 | 471.4 |
| M -32 with 135 mm hex | 16.9 | 95.7 | 41.4 | 222.5 | 95.7 | 50.8 | 84.8 | 471.4 |
| M - 32 with 145 mm hex | 16.9 | 101.2 | 41.4 | 222.5 | 101.2 | 50. | 84.8 | 471.4 |
| M -32 with 155 mm hex | 16.9 | 106.7 | 41.4 | 222.5 | 106.7 | 50.8 | 84.8 | 471 |

M-64 MAX. TORQUE: 66,227 Nm @ 700 BAR

| ption | A ${ }^{\text {A }}$ | "B" | "C" | D" | "E" | "F" | G" |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 64 with 125 mm hex | 20.9 | 94.1 | 51.8 | 8.1 | 94.1 | 63.5 | 106.2 | 589.3 |
| M - 64 with 135 mm hex | 20.9 | 99.6 | 51.8 | 278.1 | 99.6 | 63.5 | 106.2 | 589.3 |
| M - 64 with 145 mm hex | 20.9 | 105 | 51.8 | 278.1 | 105 | 63.5 | 106.2 | 589.3 |
| M - 64 with 155 mm hex | 20.9 | 110.6 | 51.8 | 278.1 | 110.6 | 63.5 | 106.2 | 589.3 |
| 165 | 20.9 | 116.1 | 51.8 | 278.1 | 116.1 | 63.5 | 106.2 | 589.3 |
| 175 mm h | 0.9 | 21.6 | 51.8 | 278.1 | 12 | 63.5 | 106.2 | 589.3 |
| -64 with 185 mm he | 0.9 | 127. | 51.8 | 278 | 127 | 63.5 | 106.2 |  |
| 64 with 195 mm |  |  |  |  |  |  |  |  |



## NORWOLF V-Drive® Benefits:

- Push through drive with ball locks.
- Fastest... $40^{\circ}$ stroke.
- Most versatile, patented reaction arm. Arm never needs to come off tool for resetting unlike competitors. Adjusts in all directions with posi lock locator buttons. Totally unique design.
- Thinnest width square drive tool on the market...totally enclosed.
- Optional solid reaction arm available.


## The fastest, most versatile square drive.

The V Drive completes the X Driver system with a dedicated square drive. Lock in the X Driver to complete the tool. The V Drive boasts a 40 degree power stroke making the tool 30 percent faster per stroke. With a push through square drive, reaction pawl, lack of shroud and aluminum body, the V Drive is the tool of choice for socket driven applications.

## Get the biggest reaction.

The multi-plane universal V Drive reaction arm has the largest reaction area of any tool. There are eight different settings along the length of the tool, 360 degree adjustability and height adjustable settings to fit more applications than ever.


Universal reaction arm.



## VDRIVE

| X DRIVER ${ }^{\text {m }}$ WITH 'V' DRIVE |  |  |  |
| :---: | :---: | :---: | :---: |
| Model | Sq. drive | Maximum Torque @ | 700 BAR |
| V-2 | .75" | 1,300 ft. Ibs. | 1,762 Nm |
| V-4 | 1.00" | 3,080 ft. Ibs. | $4,175 \mathrm{Nm}$ |
| V-8 | 1.50" | 6,015 ft. Ibs. | $8,155 \mathrm{Nm}$ |
| V-16 | 1.50" | 10,400 ft. lbs. | $14,100 \mathrm{Nm}$ |
| V-32 | 2.50" | 24,650 ft. lbs. | $33,420 \mathrm{Nm}$ |
| V-64 | 2.50 " | 48,150 ft. lbs. | 65,280 Nm |



| Model | " $\mathrm{Al}^{\prime}$ | "B" | "C" | "D" | "E" | "F" | "G" |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |


| Metric Data | "A" | "B" | "C" | "D" | "E" | "F" | "G" | "H" |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| V -2 | 25.4 | 53.3 | 29.5 | 203.2 | 174.8 | 108.7 | 41.4 | 63.5 |
| V -4 | 33.8 | 71.1 | 39.4 | 271.0 | 232.9 | 144.8 | 55.1 | 84.6 |
| V -8 | 42.2 | 88.9 | 49.3 | 338.6 | 291.1 | 181.1 | 38.8 | 105.7 |
| V -16 | 50.8 | 106.7 | 59.2 | 406.4 | 349.3 | 217.2 | 82.8 | 127.0 |
| V -32 | 67.6 | 142.2 | 78.7 | 542.0 | 465.8 | 289.6 | 110.2 | 169.2 |
| V -64 | 84.6 | 177.8 | 98.6 | 677.7 | 582.4 | 362.0 | 137.9 | 211.6 |



## Accessories.



## UNI-BACK

## Holding wrench - To stop opposite nut from turning.



- Fits on all standard API flange applications.
- $1 / 2$ turn of screw releases all torsion.
- No more hammering off of knocker wrenches.
- Custom configuration available.



| UNI-BACK - IMPERIAL |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| PART NO. | HEX SIZE | "A" | "B" | "C" |
| BK-062 | 5/8" | .25" | 5.25" | .75" |
| BK-068 | 11/16" | .25" | 5.25" | .75" |
| BK-075 | 3/4" | .25" | 5.25" | .75" |
| BK-081 | 13/16" | .25" | 5.25" | .75" |
| BK-087 | 7/8" | .25" | 5.25" | .75" |
| BK-093 | 15/16" | .25" | 5.25" | .75" |
| BK-106 | 1-1/16" | .25" | 5.25" | .75" |
| BK-112 | 1-1/8" | .25" | 5.25" | .75" |
| BK-118 | 1-3/16" | .25" | 5.25" | .75" |
| BK-143 | 1-7/16" | .25" | 5.25" | .75" |
| BK-150 | 1-1/2" | .25" | 5.25" | .75" |
| BK-156 | 1-9/16" | .25" | 5.25" | .75" |
| BK-162 | 1-5/8" | .25" | 5.25" | .75" |
| BK-168 | 1-11/16" | .25" | 5.25" | .75" |
| BK-175 | 1-3/4" | .25" | 5.25" | .75" |
| BK-181 | 1-13/16" | .25" | 5.25" | .75" |
| BK-187 | 1-7/8" | .25" | 5.25" | .75" |
| BK-193 | 1-15/16" | .25" | 5.25" | .75" |
| BK-200 | $2{ }^{\prime \prime}$ | .25" | 5.25" | .75" |
| BK-218 | 2-3/16" | .25" | 5.25" | .75" |
| BK-237 | 2-3/8" | .25" | 5.25" | .75" |
| BK-256 | 2-9/16" | .33" | 7.00" | 1.00" |
| BK-275 | 2-3/4" | .33" | 7.00" | 1.00" |
| BK-293 | 2-15/16" | .33" | 7.00" | 1.00" |
| BK-312 | 3-1/8" | .33" | 7.00" | 1.00" |
| BK-350 | 3-1/2" | .50" | 10.50" | 1.50" |
| BK-387 | 3-7/8" | .50" | 10.50" | 1.50" |
| BK-425 | 4-1/4" | .50" | 10.50" | 1.50" |
| BK-462 | 4-5/8" | .50" | 10.50" | 1.50" |
| BK-500 | 5" | .66" | 14.00 " | 2.00" |
| BK-537 | 5-3/8" | .66" | $14.00{ }^{\prime \prime}$ | 2.00" |
| BK-575 | 5-3/4" | .66" | $14.00 "$ | 2.00" |
| BK-612 | 6-1/8" | .66" | 14.00 " | 2.00" |


| UNI-BACK - METRIC |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| PART NO. | HEX SIZE | "A" | "B" | "C" |
| BK-24MM | 24MM | 6.4MM | 133MM | 19MM |
| BK-27MM | 27MM | 6.4 MM | 133MM | 19MM |
| BK-30MM | 30MM | 6.4 MM | 133MM | 19MM |
| BK-32MM | 32MM | 6.4MM | 133MM | 19MM |
| BK-34MM | 34MM | 6.4MM | 133MM | 19MM |
| BK-36MM | 36MM | 6.4MM | 133MM | 19MM |
| BK-38MM | 38MM | 6.4MM | 133MM | 19MM |
| BK-41MM | 41MM | 6.4MM | 133MM | 19MM |
| BK-43MM | 43MM | 6.4MM | 133MM | 19MM |
| BK-45MM | 45MM | 6.4MM | 133MM | 19MM |
| BK-46MM | 46MM | 6.4MM | 133MM | 19MM |
| BK-48MM | 48MM | 6.4MM | 133MM | 19MM |
| BK-50MM | 50MM | 6.4MM | 133MM | 19MM |
| BK-55MM | 55MM | 6.4MM | 133MM | 19MM |
| BK-60MM | 60MM | 6.4 MM | 133MM | 19MM |
| BK-65MM | 65MM | 8.5MM | 178MM | 25MM |
| BK-70MM | 70MM | 8.5MM | 178MM | 25MM |
| BK-75MM | 75MM | 8.5MM | 178MM | 25MM |
| BK-80MM | 80MM | 8.5MM | 178MM | 25MM |
| BK-85MM | 85MM | 8.5MM | 178MM | 25MM |
| BK-90MM | 90MM | 12.7 MM | 267MM | 38MM |
| BK-95MM | 95MM | 12.7MM | 267MM | 38MM |
| BK-100MM | 100MM | 12.7 MM | 267MM | 38MM |
| BK-105MM | 105MM | 12.7MM | 267MM | 38MM |
| BK-110MM | 110MM | 12.7MM | 267MM | 38MM |
| BK-115MM | 115MM | 12.7MM | 267MM | 38MM |
| BK-120MM | 120MM | 16.9 MM | 356MM | 50MM |
| BK-125MM | 125MM | 16.9 MM | 356MM | 50MM |
| BK-130MM | 130MM | 16.9MM | 356MM | 50MM |
| BK-135MM | 135MM | 16.9MM | 356MM | 50MM |
| BK-140MM | 140MM | 16.9MM | 356MM | 50MM |
| BK-145MM | 145MM | 16.9MM | 356MM | 50MM |
| BK-150MM | 150MM | 16.9MM | 356MM | 50MM |


| SIZES | THICKNESS | MAXIMUM TORQUE |
| :---: | :---: | :---: |
| 1-7/16" THRU 2-3/8" | 3/4" | 1400 FT. LBS. |
| 2-9/16" THRU 3-1/8" | $1 "$ | 3200 FT. LBS. |
| 3-1/2" THRU 4-5/8" | 1-1/2" | 10800 FT. LBS. |
| 5" THRU 6-1/8" | $2 "$ | 25000 FT . LBS. |

## HYDRAULIC PUMPS



NTW-EPM-02 NTW-EPM-2D-220V


NORWOLF® Hydraulic Pump:

- Available in electric or air powered.
- Electric pumps available with 110 or 220 volt.

Also Available:
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