

Superbolt

Multi-jackbolt tensioners (MJT) standard range





A **revolution** in the design & tightening of bolted joints



Superbolt multi-jackbolt tensioners (MJTs) offer an innovative technology for tightening bolts & studs. Superbolt products have been proven and established as a preferred solution for bolting in every major industry, all over the world.

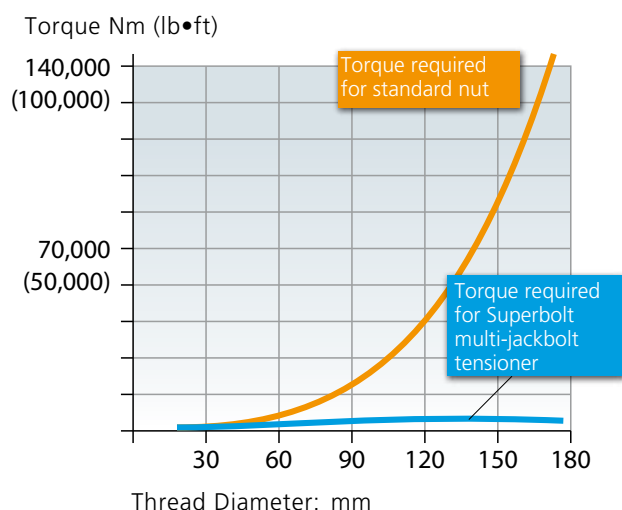
Our multi-jackbolt tensioners offer you simple and cost effective tightening, even for large size bolts. Your joints can be tightened with high accuracy without requiring specialist skills or heavy tooling. MJTs ensure a profitable life cycle cost by improving the bolt design for OEM manufacturers, ensuring reliable operation and by facilitating maintenance procedures.

Complete solutions

From space to deep sea, from small to large - no matter what your bolting challenge, the Nord-Lock Group has done it before. Bring your bolting questions to us and we will work with you to find the best possible solution.

The Nord-Lock Group is your trusted partner in bolting solutions.

Torque curve for 310 MPa (45,000 psi) bolt stress

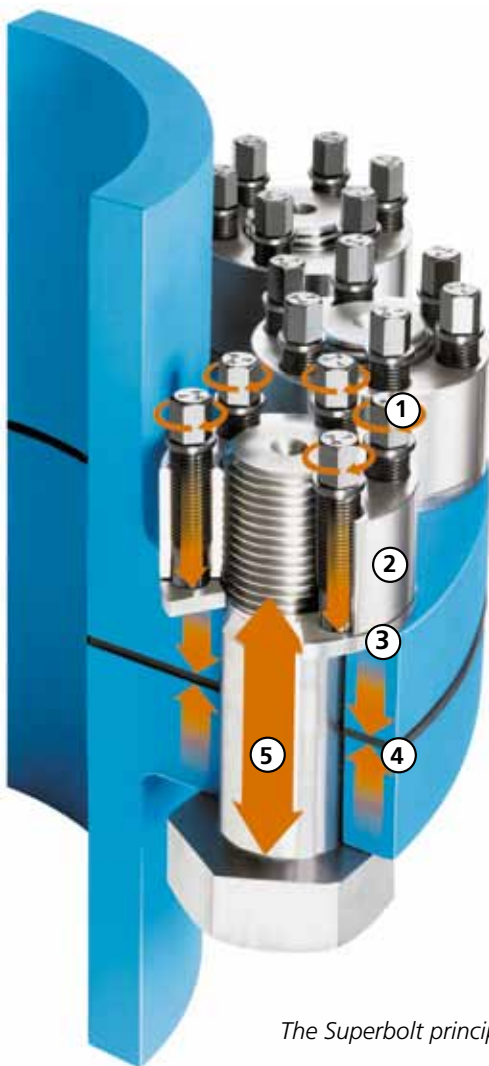


The above chart shows how Superbolt tensioners remain easy to install, even on larger sizes, compared to standard hex nuts. Only hand tools are required to tighten any diameter stud / bolt.

The **innovative** bolting solution

What is Superbolt?

Superbolt tensioners are designed as direct replacements for conventional nuts and bolts. These devices can be threaded onto a new or existing bolt, stud, threaded rod or shaft. The main thread serves to position the tensioner on the bolt or stud against the hardened washer and the load bearing surface. Once it is positioned, actual tensioning of the bolt or stud is accomplished with simple hand tools by torquing the jackbolts which encircle the main thread. The jackbolts transfer the preload evenly into the main thread and, consequently, onto the joint. The main thread is tightened in pure tension.



The Superbolt principle.

How Superbolt tensioners work:

- 1)** By tightening the jackbolts, a strong thrust (axial) force is generated. This thrust force is directed against a hardened washer. Jackbolts have a small friction diameter and can therefore create a high thrust force with relatively little torque input.
- 2)** The loads are transferred through the nut body which is positioned on the main thread by hand.
- 3)** A hardened washer is used to transfer the force while protecting the flange face.
- 4)** The thrust (axial) force of many jackbolts and the opposite reaction force of the main bolt head create a strong clamping force on the flange.
- 5)** The thrust (axial) force from the jackbolt creates an equally strong reaction force in the main bolt.

Proven and certified

Over the years, the product types in our wide range of multi-jackbolt tensioners have been tested and approved by several certification institutes. For some of our product series we have also achieved design and type approvals for production. Below are some examples:

- DNV (Det Norske Veritas)
- GL (Germanischer Lloyd)
- Siemens system audit

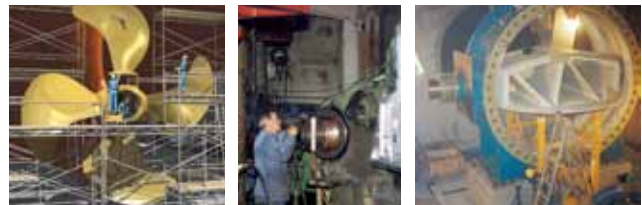
The high level of experience we have in pre-engineered products for specific challenges allows us to upon request for certain ranges supply certification from for example:

- ABS (American Bureau of Shipping)
- TÜV
- Lloyd's Register
- Vinçotte

For more detailed information on certificates / approvals for a specific product or production site, please contact your local Nord-Lock office. Please note that the certificates you require should be requested prior to ordering to ensure we comply with your needs.

Proven in the field

Superbolt tensioners are used in many industries: Hydropower, wind turbines, gas and steam turbines, nuclear, steel, mining, shipbuilding, offshore, chemical, transportation, to name a few.



For detailed case studies, please visit www.superbolt.com

Advantages from start to finish

Design



Our engineers can help you determine dimensions and load conditions of your bolted joints. We can evaluate your current tightening method and calculate bolt preloads necessary for reliability and durability. OEMs all over the world specify our multi-jackbolt tensioners in their design to improve the performance of their product.

Advantages:

- **Higher preload** - Tightening in pure tension allows higher preloads on the same size bolt versus other tightening methods.
- **Proper bolted joint** - Generating preload high enough above the separating forces means your bolting will not vibrate loose on properly designed joints. This can eliminate costly equipment downtime.
- **Elasticity** - Added elasticity increases fatigue life of the bolted joint.
- **Design options** - High preload capacity and accuracy can allow for the design of smaller bolt sizes. Compact dimensions and reduction of tooling sizes allows for reduction of the size of machinery, reducing material and machining cost.

First installation



The huge mechanical advantage of Superbolt products means only simple hand tools are required to tighten any size bolt or stud. Let's take a closer look at the advantages your workers will realize during installation.

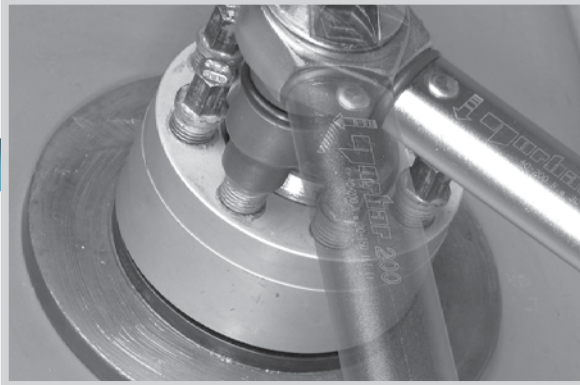
Advantages:

- **Hand tools only** - Ordinary hand wrenches or pneumatic wrenches are the only tools required to generate immense bolt stresses.
- **Increased safety** - Installations are safe because only small hand tools are required. This means no safety hazards from immense hydraulic pressures, pinching hazards, heavy lifting of large tools, or sockets breaking under high pressure.
- **Space restrictions** - Multi-jackbolt tensioners are easy to install in confined spaces.
- **Save time** - Superbolts can be tightened in a fraction of the time compared to most other methods. Even though there are multiple jackbolts to tighten, field experience has proven that by using air tools installation times are fast and easy. Case studies available at www.superbolt.com

Operation



Maintenance



The ability to maintain necessary preload is crucial for keeping machinery running. Using multi-jackbolt technology allows proper preloading of the bolted joint in operation.

Routine equipment maintenance requires removal and re-installation of Superbolt tensioners. Using and maintaining multi-jackbolt tensioners is safe and easy.

Advantages:





- **Accuracy** - Accurate and even tension across bolted joints reduces the tendency for leakages or uneven loading of adjacent fasteners.
- **Properly bolted** - The ability to achieve high preloads ensures a joint that does not loosen unintentionally.
- **Reliability** - Superbolt increases the fatigue life of the bolted joint.
- **Meeting your challenges** - Special designs can accommodate space restrictions or environmental / temperature conditions in any type of operating environment.
- **Downtime** - Properly designed and tightened joints will not come loose in service. This reduces downtime.

Advantages:

- **Easy to check** - Due to the low torques required, it is easy to inspect that the joint is tight with simple torque tests using hand tools.
- **Multiple workers** - Because only hand tools are needed, multiple workers can work in conjunction when required.
- **Galling** - tightening in pure tension eliminates thread galling that commonly occurs with direct torquing methods.
- **Removal** - Ease of removal reduces expensive downtime that can occur with standard bolting methods.
- **Reusable** - Preload can be restored almost anywhere under any conditions with simple hand tools. Superbolt tensioners are fully reusable.

The **solution** to bolting problems

Selection Guide

| Product line | Nut-style tensioners | | | |
|---|---|---|---|---|
| Main characteristics | Standard | High strength | Medium temperatures | Medium temperatures, tall |
| Series | MT | CY | H650 | H650T |
| |  |  |  |  |
| Dimensional range - Metric - Imperial | M16-M160 3/4" – 6" | M16-M160 3/4" – 6" | M20-M125 3/4" – 5" | M24-M100 1" – 4" |
| Approximate bolt stress depending on size | 450 to 700 N/mm ² 60 to 100 ksi | 500 to 900 N/mm ² 70 to 130 ksi | 310 N/mm ² 45 ksi <i>Based on stress area As</i> | 310 N/mm ² 45 ksi <i>Based on stress area As</i> |
| Temperature range | -10 to 250 °C 0 to 500 °F | -40 to 250 °C -50 to 500 °F <i>Lower temperatures on demand</i> | Up to 350 °C Up to 650 °F | Up to 350 °C Up to 650 °F |
| Surface treatment | Optional | Optional | Optional | Optional |
| Application samples | Bolting applications in demanding industries. | Similar to MT, but for higher strength. | Large studs on: - Boiler feed pumps - Boiler circulating pumps - Reactors - Heat exchangers Etc. | Split lines on: - Turbines - Engines - Pumps - Compressors Etc. |
| Jackbolt lubricant | JL-G or JL-AS | JL-G or JL-AS | JL-G or P37 | JL-G or P37 |
| Note | Equivalent bolt-style tensioner: SB8 | Equivalent bolt-style tensioner: SB12 | — | Also for applications with limited space in diameter |
| See page | 12 | 13 | 14 | 15 |

| Compact | Bolt-style tensioners | | Flexnuts | |
|---|---|---|---|---|
| | Standard | High strength | Standard | High strength |
| SJ | SB8 | SB12 | SX8 | SX12 |
|  |  |  |  |  |
| M20–M160 3/4" – 6" | M16–M160 3/4" – 6" | M20–M90 3/4" – 3-1/2" | M20–M160 3/4" – 6" | M20–M160 3/4" – 6" |
| 250 to 400 N/mm ² 35 to 60 ksi | 400 to 650 N/mm ² 60 to 95 ksi | 500 to 850 N/mm ² 70 to 125 ksi | 450 to 700 N/mm ² 60 to 100 ksi | 500 to 900 N/mm ² 70 to 130 ksi |
| -10 to 250 °C 0 to 500 °F | -10 to 250 °C 0 to 500 °F | -10 to 250 °C 0 to 500 °F <i>Lower temperatures on demand</i> | -10 to 250 °C 0 to 500 °F | -40 to 250 °C -50 to 500 °F <i>Lower temperatures on demand</i> |
| Optional | Optional | Optional | Optional | Optional |
| Limited height: - Hydraulic cylinders - Shaft mounts - Piston connections - Foundations Etc. | Bolting applications in demanding industries. | Similar to SB8, but for higher strength. | Reactive nut for through hole applications. Adds elasticity to bolted joints. Highly recommended for short clamp lengths. | Similar to SX8, but for higher strength. |
| JL-G or JL-AS | JL-G or JL-AS | JL-G or JL-AS | - | - |
| — | Equivalent nut-style tensioner: MT | Equivalent nut-style tensioner: CY | In combination with MT nut-style tensioners or SB8 bolt-style tensioners | In combination with CY nut-style tensioners or SB12 bolt-style tensioners |
| 16 | 18 | 19 | 20 | 21 |

Special products when the application requires it

We additionally offer a wide range of pre-engineered solutions, including special material and designs. We have made specials up to diameter 1500 mm and products for operating temperatures of 700 °C (1292 °F). Our expertise is unique in the market, see pages 24–25 for some examples of case studies. We also have series developed especially for specific industries. For applications where the above standard range does not meet your requirements, our Performance Services team will work with you to find the optimum solution (see pages 26-27).

World class manufacturing



The Nord-lock Group has invested heavily in the Superbolt manufacturing facilities in world class CNC machining operations. Our capacity for machining allows quick turnaround of standard and special multi-jackbolt tensioners and other related bolting products.



Most standard products are available off the shelf or in a short lead time. In addition, the engineering, manufacturing and production personnel have accumulated decades of knowledge and training in producing some of the finest threaded components and products in the world.

Quality and traceability

Special attention has been paid over the years to developing and implementing our quality systems to work on highly critical and demanding industries. Quality control, including thread gauging and measurement systems, is standard operating procedure.

Multi-jackbolt tensioner nut and bolt bodies are marked for traceability.

Example of part marking information

| |
|-----------------------|
| SUPERBOLT |
| Part number: MT-M36x4 |
| Lot number: 7900 |
| Max. load: 457 kN |
| Material code: CrMo |

Note: Information may vary. Custom markings possible upon request. For further information, contact your local Nord-Lock office.



Overview of part names

On every part delivered you can always ensure that you have received the right product, including the following information. Marking system on our products is explained in the below tables.

| Standard, Metric | | MT - M 120x6 x /W | | | |
|--|--|-------------------------|--|--|--|
| Type/series | | | | | |
| MT | Nut-style tensioner, standard | | | | |
| CY | Nut-style tensioner, high strength | | | | |
| SJ | Nut-style tensioner, compact | | | | |
| H650 | Nut-style tensioner, medium temperature | | | | |
| H650T | Nut-style tensioner, medium temperature, tall, slim O.D. | | | | |
| SX8 | Flexnut, standard | | | | |
| SX12 | Flexnut, high strength | | | | |
| SB8 | Bolt-style tensioner, standard | | | | |
| SB12 | Bolt-style tensioner, high strength | | | | |
| Standard thread profile | | | | | |
| M | Metric | | | | |
| Thread size | | | | | |
| $d_0 \times p$ | nominal diameter x pitch | | | | |
| x nominal length under head [mm] (only for bolt-style tensioners) | | | | | |
| Washer | | | | | |

| Standard, Imperial | | MT - 112 - 7 UNC x /W | | | |
|---|--|-----------------------------|--|--|--|
| Type/series (same as above) | | | | | |
| Thread size (nominal diameter d_0) | | | | | |
| xxx... | decimal, rounded to 2 decimal digits x 100 | | | | |
| Threads per inch (tpi) | | | | | |
| Standard thread profiles | | | | | |
| UN, UNC, | Unified according to ANSI B1.1 | | | | |
| UNF | | | | | |
| x nominal length under head [inch] decimal, rounded to 2 decimal digits (only for bolt-style tensioners) | | | | | |
| Washer | | | | | |

| Specials | | MT - | |
|-----------------------------------|--|------------|--|
| Type/series | | | |
| Special designation number | | | |

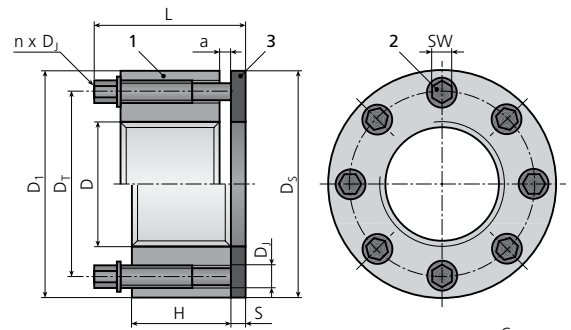
All threads are available upon request. Examples:

| | | | |
|---|------------------------------------|-----------|---------------------------------------|
| A | Acme (please specify standard) | Rd | Round (please specify standard) |
| S | Buttress (please specify standard) | Tr | Trapezoidal (please specify standard) |
| W | Metric Whitworth | BSW / BSF | Whitworth threads |

Our sales engineers are standing by to help you identify the best product for your application. Please contact your local Nord-Lock office.

MT

Superbolt nut-style tensioner, standard



- Components:
 1 Nut body
 2 Jackbolts
 3 Hardened washer

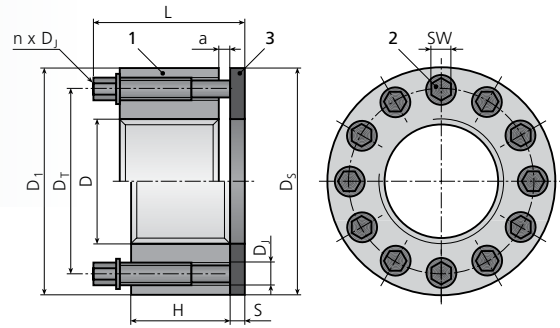
| METRIC Part No. | Size | | | Nut body | | | Jackbolt | | | | Hardened washer | | Height tot. L [mm] | Weight [kg] | Preload total | | Torque per Jackbolt | | |
|--------------------|-------------|---|-----|----------|----------------|-----|----------------|----------------|----|----|-----------------|----------------|-----------------------------|----------------|---------------|------------------------|------------------------|------------------------|------------------------|
| | Thread D | Available Pitch P ₁ P ₂ P ₃ [mm] | | | D ₁ | H | D _T | D _J | n | SW | a | D _S | | | S | nom. F ₁ | max. F ₂ | nom. M ₁ | max. M ₂ |
| MT-M16x...W | M16 | 2 | 1.5 | 1 | 34 | 16 | 25 | M6x0.75 | 4 | 5 | 6 | 32 | 3 | 33 | 0.11 | 73 | 94 | 14 | 18 |
| MT-M20x...W | M20 | 2.5 | 1.5 | 1 | 38 | 16 | 29 | M6x0.75 | 6 | 5 | 6 | 38 | 4 | 34 | 0.14 | 110 | 140 | 14 | 18 |
| MT-M22x...W | M22 | 2.5 | 1.5 | 1 | 41 | 16 | 31 | M6x0.75 | 6 | 5 | 6 | 41 | 4 | 34 | 0.16 | 110 | 140 | 14 | 18 |
| MT-M24x...W | M24 | 3 | 2 | 1.5 | 44 | 16 | 33 | M6x0.75 | 8 | 5 | 6 | 43 | 4 | 34 | 0.19 | 145 | 187 | 14 | 18 |
| MT-M27x...W | M27 | 3 | 2 | 1.5 | 50 | 24 | 39 | M8x1 | 6 | 6 | 6 | 50 | 5 | 45 | 0.35 | 214 | 285 | 36 | 48 |
| MT-M30x...W | M30 | 3.5 | 2 | 1.5 | 53 | 24 | 42 | M8x1 | 6 | 6 | 6 | 53 | 5 | 45 | 0.37 | 214 | 285 | 36 | 48 |
| MT-M33x...W | M33 | 3.5 | 2 | 1.5 | 59 | 24 | 45 | M8x1 | 8 | 6 | 6 | 59 | 5 | 45 | 0.48 | 285 | 380 | 36 | 48 |
| MT-M36x...W | M36 | 4 | 3 | 1.5 | 66 | 32 | 51 | M10x1.25 | 6 | 8 | 8 | 66 | 5 | 57 | 0.76 | 343 | 457 | 72 | 96 |
| MT-M39x...W | M39 | 4 | 3 | 1.5 | 70 | 32 | 54 | M10x1.25 | 8 | 8 | 8 | 70 | 5 | 57 | 0.90 | 457 | 610 | 72 | 96 |
| MT-M42x...W | M42 | 4.5 | 3 | 1.5 | 75 | 32 | 57 | M10x1.25 | 8 | 8 | 8 | 73 | 5 | 57 | 1.01 | 457 | 610 | 72 | 96 |
| MT-M45x...W | M45 | 4.5 | 3 | 1.5 | 83 | 38 | 63 | M12x1.25 | 8 | 10 | 10 | 81 | 6 | 68 | 1.48 | 700 | 935 | 131 | 175 |
| MT-M48x...W | M48 | 5 | 3 | 1.5 | 85 | 38 | 66 | M12x1.25 | 8 | 10 | 10 | 85 | 6 | 68 | 1.50 | 700 | 935 | 131 | 175 |
| MT-M52x...W | M52 | 5 | 3 | 2 | 94 | 38 | 70 | M12x1.25 | 8 | 10 | 10 | 89 | 6 | 68 | 1.80 | 700 | 935 | 131 | 175 |
| MT-M56x...W | M56 | 5.5 | 4 | 2 | 100 | 38 | 76 | M12x1.25 | 8 | 10 | 10 | 95 | 6 | 68 | 2.00 | 700 | 935 | 131 | 175 |
| MT-M60x...W | M60 | 5.5 | 4 | 2 | 107 | 38 | 78 | M12x1.25 | 10 | 10 | 10 | 100 | 6 | 68 | 2.30 | 875 | 1160 | 131 | 175 |
| MT-M64x...W | M64 | 6 | 4 | 2 | 113 | 53 | 87 | M16x1.5 | 8 | 14 | 12 | 112 | 8 | 92 | 3.65 | 1270 | 1690 | 315 | 420 |
| MT-M68x...W | M68 | 6 | 4 | 2 | 117 | 53 | 91 | M16x1.5 | 8 | 14 | 12 | 117 | 8 | 92 | 3.85 | 1270 | 1690 | 315 | 420 |
| MT-M72x...W | M72 | 6 | 4 | 2 | 120 | 56 | 95 | M16x1.5 | 8 | 14 | 9 | 120 | 8 | 92 | 4.00 | 1270 | 1690 | 315 | 420 |
| MT-M76x...W | M76 | 6 | 4 | 2 | 132 | 56 | 100 | M16x1.5 | 12 | 14 | 9 | 127 | 8 | 92 | 5.10 | 1900 | 2530 | 315 | 420 |
| MT-M80x...W | M80 | 6 | 4 | 2 | 132 | 56 | 103 | M16x1.5 | 12 | 14 | 9 | 127 | 8 | 92 | 4.80 | 1900 | 2530 | 315 | 420 |
| MT-M85x...W | M85 | 6 | 4 | 2 | 137 | 56 | 108 | M16x1.5 | 12 | 14 | 9 | 137 | 8 | 92 | 5.10 | 1900 | 2530 | 315 | 420 |
| MT-M90x...W | M90 | 6 | 4 | 2 | 145 | 59 | 113 | M16x1.5 | 16 | 14 | 13 | 140 | 8 | 99 | 6.00 | 2530 | 3380 | 315 | 420 |
| MT-M100x...W | M100 | 6 | 4 | 2 | 164 | 61 | 123 | M16x1.5 | 16 | 14 | 11 | 152 | 8 | 99 | 7.80 | 2530 | 3380 | 315 | 420 |
| MT-M110x...W | M110 | 6 | 4 | 2 | 177 | 79 | 139 | M20x1.5 | 12 | 17 | 16 | 172 | 10 | 125 | 11.40 | 3150 | 4200 | 645 | 860 |
| MT-M120x...W | M120 | 6 | 4 | 2 | 189 | 81 | 149 | M20x1.5 | 16 | 17 | 14 | 179 | 10 | 125 | 13.00 | 4200 | 5600 | 645 | 860 |
| MT-M125x...W | M125 | 6 | 4 | 2 | 194 | 81 | 154 | M20x1.5 | 16 | 17 | 14 | 190 | 10 | 125 | 13.50 | 4200 | 5600 | 645 | 860 |
| MT-M130x...W | M130 | 6 | 4 | 2 | 205 | 94 | 159 | M20x1.5 | 18 | 17 | 16 | 202 | 10 | 140 | 17.50 | 4700 | 6300 | 645 | 860 |
| MT-M140x...W | M140 | 6 | 4 | 2 | 215 | 94 | 169 | M20x1.5 | 20 | 17 | 16 | 215 | 10 | 140 | 18.70 | 5250 | 7000 | 645 | 860 |
| MT-M150x...W | M150 | 6 | 4 | 2 | 225 | 94 | 179 | M20x1.5 | 20 | 17 | 16 | 225 | 12 | 142 | 20.00 | 5250 | 7000 | 645 | 860 |
| MT-M160x...W | M160 | 6 | 4 | - | 234 | 107 | 189 | M20x1.5 | 24 | 17 | 23 | 234 | 12 | 162 | 24.10 | 6300 | 8400 | 645 | 860 |

| IMPERIAL Part No. | Size | | | Nut body | | | Jackbolt | | | | Hardened washer | | Height tot. L [In] | Weight [Lb] | Preload total | | Torque per Jackbolt | | |
|----------------------|---------------------|------------------|------------------|------------------|----------------|------|----------------|----------------|----|------|-----------------|----------------|-----------------------------|----------------|---------------|------------------------|------------------------|------------------------|------------------------|
| | Thread D [In] | TPI ₁ | TPI ₂ | TPI ₃ | D ₁ | H | D _T | D _J | n | SW | a | D _S | | | S | nom. F ₁ | max. F ₂ | nom. M ₁ | max. M ₂ |
| MT-075...W | 3/4 | 10 | 16 | - | 1.47 | 0.70 | 1.32 | 1/4-28 | 4 | 3/16 | 0.24 | 1.50 | 0.13 | 1.38 | 0.31 | 20400 | 27200 | 14 | 18 |
| MT-087...W | 7/8 | 9 | 14 | - | 1.60 | 0.70 | 1.26 | 1/4-28 | 6 | 3/16 | 0.24 | 1.63 | 0.13 | 1.38 | 0.34 | 30600 | 40800 | 14 | 18 |
| MT-100...W | 1 | 8 | 12 | 14 | 1.90 | 0.93 | 1.46 | 5/16-24 | 6 | 1/4 | 0.20 | 2.00 | 0.19 | 1.71 | 0.68 | 48600 | 64800 | 27 | 36 |
| MT-112...W | 1-1/8 | 7 | 8 | 12 | 2.08 | 0.93 | 1.59 | 5/16-24 | 6 | 1/4 | 0.20 | 2.13 | 0.19 | 1.71 | 0.79 | 48600 | 64800 | 27 | 36 |
| MT-125...W | 1-1/4 | 7 | 8 | 12 | 2.25 | 0.94 | 1.75 | 5/16-24 | 8 | 1/4 | 0.19 | 2.38 | 0.19 | 1.71 | 0.92 | 64800 | 86400 | 27 | 36 |
| MT-137...W | 1-3/8 | 6 | 8 | 12 | 2.46 | 1.20 | 1.94 | 3-8/24 | 6 | 5/16 | 0.25 | 2.50 | 0.19 | 2.12 | 1.40 | 73800 | 98400 | 49 | 65 |
| MT-150...W | 1-1/2 | 6 | 8 | 12 | 2.70 | 1.20 | 2.01 | 3-8/24 | 8 | 5/16 | 0.25 | 2.75 | 0.19 | 2.12 | 1.70 | 98400 | 131200 | 49 | 65 |
| MT-162...W | 1-5/8 | 6 | 8 | 12 | 2.96 | 1.20 | 2.20 | 3-8/24 | 8 | 5/16 | 0.25 | 2.88 | 0.19 | 2.12 | 2.01 | 98400 | 131200 | 49 | 65 |
| MT-175...W | 1-3/4 | 5 | 8 | 12 | 3.08 | 1.42 | 2.38 | 7/16-20 | 8 | 3/8 | 0.28 | 3.13 | 0.25 | 2.49 | 2.53 | 129600 | 172800 | 75 | 100 |
| MT-187...W | 1-7/8 | 6 | 8 | 12 | 3.59 | 1.60 | 2.74 | 1/2-20 | 8 | 7/16 | 0.40 | 3.50 | 0.25 | 2.85 | 4.07 | 175200 | 233600 | 114 | 152 |
| MT-200...W | 2 | 4.5 | 8 | 12 | 3.59 | 1.60 | 2.74 | 1/2-20 | 8 | 7/16 | 0.40 | 3.50 | 0.25 | 2.85 | 3.87 | 175200 | 233600 | 114 | 152 |
| MT-225...W | 2-1/4 | 4.5 | 8 | 12 | 3.95 | 1.60 | 3.00 | 1/2-20 | 8 | 7/16 | 0.40 | 3.75 | 0.25 | 2.85 | 4.51 | 175200 | 233600 | 114 | 152 |
| MT-250...W | 2-1/2 | 4 | 8 | 12 | 4.45 | 2.10 | 3.43 | 5/8-18 | 8 | 9/16 | 0.45 | 4.50 | 0.31 | 3.61 | 7.82 | 285600 | 380800 | 233 | 310 |
| MT-275...W | 2-3/4 | 4 | 8 | 12 | 4.70 | 2.10 | 3.69 | 5/8-18 | 8 | 9/16 | 0.45 | 4.75 | 0.31 | 3.61 | 8.36 | 285600 | 380800 | 233 | 310 |
| MT-300...W | 3 | 4 | 6 | 8 | 5.20 | 2.10 | 3.95 | 5/8-18 | 12 | 9/16 | 0.45 | 5.00 | 0.31 | 3.61 | 10.30 | 428400 | 571200 | 233 | 310 |
| MT-325...W | 3-1/4 | 4 | 6 | 8 | 5.45 | 2.20 | 4.15 | 5/8-18 | 12 | 9/16 | 0.35 | 5.00 | 0.31 | 3.61 | 11.04 | 428400 | 571200 | 233 | 310 |
| MT-350...W | 3-1/2 | 4 | 6 | 8 | 5.70 | 2.30 | 4.40 | 5/8-18 | 16 | 9/16 | 0.51 | 5.50 | 0.31 | 3.87 | 12.62 | 571200 | 761600 | 233 | 310 |
| MT-375...W | 3-3/4 | 4 | 6 | 8 | 6.20 | 2.40 | 4.65 | 5/8-18 | 16 | 9/16 | 0.41 | 5.50 | 0.31 | 3.87 | 15.08 | 571200 | 761600 | 233 | 310 |
| MT-400...W | 4 | 4 | 6 | 8 | 6.45 | 2.60 | 4.90 | 5/8-18 | 18 | 9/16 | 0.53 | 6.00 | 0.31 | 4.19 | 17.31 | 642600 | 856800 | 233 | 310 |
| MT-425...W | 4-1/4 | 4 | 6 | 8 | 6.95 | 3.00 | 5.33 | 3/4-16 | 16 | 5/8 | 0.50 | 6.40 | 0.38 | 4.76 | 23.41 | 806400 | 1075200 | 390 | 520 |
| MT-450...W | 4-1/2 | 4 | 6 | 8 | 7.20 | 3.00 | 5.58 | 3/4-16 | 16 | 5/8 | 0.50 | 6.65 | 0.38 | 4.76 | 24.44 | 806400 | 1075200 | 390 | 520 |
| MT-475...W | 4-3/4 | 4 | 6 | 8 | 7.45 | 3.20 | 5.83 | 3/4-16 | 18 | 5/8 | 0.60 | 6.90 | 0.38 | 5.06 | 27.13 | 907200 | 1209600 | 390 | 520 |
| MT-500...W | 5 | 4 | 6 | 8 | 7.70 | 3.30 | 6.08 | 3/4-16 | 20 | 5/8 | 0.50 | 7.15 | 0.38 | 5.06 | 28.83 | 1008000 | 1344000 | 390 | 520 |
| MT-525...W | 5-1/4 | 4 | 6 | 8 | 8.45 | 3.70 | 6.58 | 3/4-16 | 22 | 5/8 | 0.40 | 7.65 | 0.38 | 5.36 | 40.06 | 1108800 | 1478400 | 390 | 520 |
| MT-550...W | 5-1/2 | 4 | 6 | 8 | 8.45 | 3.70 | 6.58 | 3/4-16 | 22 | 5/8 | 0.40 | 7.65 | 0.38 | 5.36 | 37.56 | 1108800 | 1478400 | 390 | 520 |
| MT-575...W | 5-3/4 | 4 | 6 | 8 | 8.95 | 4.00 | 7.11 | 3/4-16 | 24 | 5/8 | 0.50 | 8.15 | 0.38 | 5.76 | 46.26 | 1209600 | 1612800 | 390 | 520 |
| MT-600...W | 6 | 4 | 6 | 8 | 8.95 | 4.00 | 7.11 | 3/4-16 | 24 | 5/8 | 0.50 | 8.15 | 0.38 | 5.76 | 43.32 | 1209600 | 1612800 | 390 | 520 |

- Note:
- Maximum values valid for permanent bolting applications, including reaction forces.
 - Other sizes, thread pitches or threads per inch (TPI) may be available. Please contact your local Nord-Lock office.
 - Dimensions listed are representative. Typical manufacturing tolerances apply (approximately within 1mm or 1%).

CY

Superbolt nut-style tensioner, high strength



- Components:
 1 Nut body
 2 Jackbolts
 3 Hardened washer

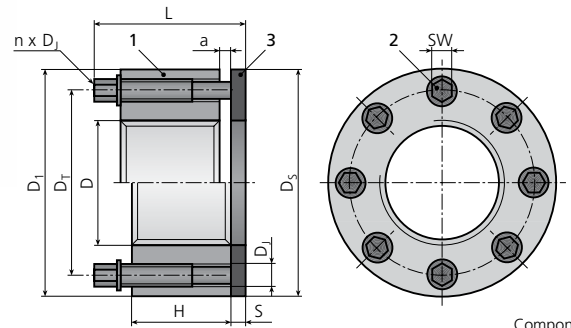
| METRIC | Size | Nut body | | | Jackbolt | | | | Hardened washer | | Height tot. L [mm] | Weight [kg] | Preload total | | Torque per Jackbolt | | | | |
|--------------|------|----------|-------------------------------|-----|----------|-----|-----|----------|-----------------|----|--------------------|-------------|---------------|-----|---------------------|------|--------------|--------------|--------------|
| | | Thread D | Available Pitch P1 P2 P3 [mm] | | | D1 | H | D2 | D3 | n | | | SW | a | D4 | S | nom. F1 [kN] | max. F2 [kN] | nom. M1 [Nm] |
| CY-M16x...W | M16 | 2 | 1.5 | 1 | 34 | 16 | 25 | M6x0.75 | 6 | 5 | 6 | 32 | 3 | 33 | 0.12 | 110 | 140 | 14 | 18 |
| CY-M20x...W | M20 | 2.5 | 1.5 | 1 | 38 | 17 | 29 | M6x0.75 | 8 | 5 | 5 | 38 | 4 | 34 | 0.15 | 145 | 185 | 14 | 18 |
| CY-M22x...W | M22 | 2.5 | 1.5 | 1 | 41 | 17 | 31 | M6x0.75 | 8 | 5 | 5 | 41 | 4 | 34 | 0.17 | 145 | 185 | 14 | 18 |
| CY-M24x...W | M24 | 3 | 2 | 1.5 | 47 | 24 | 36 | M8x1 | 6 | 6 | 6 | 47 | 4 | 44 | 0.30 | 215 | 285 | 36 | 48 |
| CY-M27x...W | M27 | 3 | 2 | 1.5 | 51 | 24 | 39 | M8x1 | 8 | 6 | 6 | 50 | 5 | 45 | 0.37 | 285 | 380 | 36 | 48 |
| CY-M30x...W | M30 | 3.5 | 2 | 1.5 | 54 | 24 | 42 | M8x1 | 8 | 6 | 6 | 53 | 5 | 45 | 0.38 | 285 | 380 | 36 | 48 |
| CY-M33x...W | M33 | 3.5 | 2 | 1.5 | 62 | 32 | 48 | M10x1.25 | 6 | 8 | 8 | 61 | 5 | 57 | 0.70 | 345 | 460 | 72 | 96 |
| CY-M36x...W | M36 | 4 | 3 | 1.5 | 66 | 32 | 51 | M10x1.25 | 8 | 8 | 8 | 66 | 5 | 57 | 0.79 | 455 | 610 | 72 | 96 |
| CY-M39x...W | M39 | 4 | 3 | 1.5 | 72 | 32 | 54 | M10x1.25 | 10 | 8 | 8 | 70 | 5 | 57 | 0.97 | 570 | 760 | 72 | 96 |
| CY-M42x...W | M42 | 4.5 | 3 | 1.5 | 76 | 32 | 57 | M10x1.25 | 12 | 8 | 8 | 73 | 5 | 57 | 1.10 | 685 | 915 | 72 | 96 |
| CY-M45x...W | M45 | 4.5 | 3 | 1.5 | 81 | 38 | 62 | M12x1.25 | 8 | 10 | 10 | 80 | 6 | 68 | 1.40 | 700 | 910 | 131 | 175 |
| CY-M48x...W | M48 | 5 | 3 | 1.5 | 85 | 38 | 66 | M12x1.25 | 10 | 10 | 10 | 85 | 6 | 68 | 1.54 | 875 | 1170 | 131 | 175 |
| CY-M52x...W | M52 | 5 | 3 | 2 | 94 | 38 | 70 | M12x1.25 | 12 | 10 | 10 | 90 | 6 | 68 | 1.80 | 1050 | 1400 | 131 | 175 |
| CY-M56x...W | M56 | 5.5 | 4 | 2 | 98 | 38 | 74 | M12x1.25 | 12 | 10 | 10 | 94 | 6 | 68 | 1.93 | 1050 | 1400 | 131 | 175 |
| CY-M60x...W | M60 | 5.5 | 4 | 2 | 107 | 59 | 83 | M16x1.5 | 8 | 14 | 13 | 106 | 8 | 99 | 3.70 | 1270 | 1670 | 315 | 420 |
| CY-M64x...W | M64 | 6 | 4 | 2 | 113 | 59 | 87 | M16x1.5 | 10 | 14 | 13 | 112 | 8 | 99 | 4.10 | 1580 | 2100 | 315 | 420 |
| CY-M68x...W | M68 | 6 | 4 | 2 | 117 | 59 | 91 | M16x1.5 | 12 | 14 | 13 | 117 | 8 | 99 | 4.30 | 1900 | 2530 | 315 | 420 |
| CY-M72x...W | M72 | 6 | 4 | 2 | 121 | 59 | 95 | M16x1.5 | 12 | 14 | 13 | 120 | 8 | 99 | 4.50 | 1900 | 2530 | 315 | 420 |
| CY-M76x...W | M76 | 6 | 4 | 2 | 132 | 61 | 102 | M16x1.5 | 16 | 14 | 11 | 127 | 8 | 99 | 5.60 | 2530 | 3370 | 315 | 420 |
| CY-M80x...W | M80 | 6 | 4 | 2 | 133 | 61 | 103 | M16x1.5 | 16 | 14 | 11 | 127 | 8 | 99 | 5.40 | 2530 | 3370 | 315 | 420 |
| CY-M85x...W | M85 | 6 | 4 | 2 | 139 | 61 | 108 | M16x1.5 | 16 | 14 | 11 | 137 | 8 | 99 | 5.80 | 2530 | 3370 | 315 | 420 |
| CY-M90x...W | M90 | 6 | 4 | 2 | 145 | 61 | 113 | M16x1.5 | 16 | 14 | 11 | 140 | 8 | 99 | 6.30 | 2530 | 3370 | 315 | 420 |
| CY-M100x...W | M100 | 6 | 4 | 2 | 157 | 61 | 123 | M16x1.5 | 16 | 14 | 11 | 152 | 8 | 99 | 7.00 | 2530 | 3370 | 315 | 420 |
| CY-M110x...W | M110 | 6 | 4 | 2 | 177 | 61 | 133 | M16x1.5 | 20 | 14 | 11 | 163 | 8 | 99 | 9.00 | 3180 | 4200 | 315 | 420 |
| CY-M120x...W | M120 | 6 | 4 | 2 | 189 | 81 | 149 | M20x1.5 | 18 | 17 | 14 | 179 | 10 | 125 | 13.10 | 4700 | 6300 | 645 | 860 |
| CY-M125x...W | M125 | 6 | 4 | 2 | 194 | 81 | 154 | M20x1.5 | 18 | 17 | 14 | 190 | 10 | 125 | 13.70 | 4700 | 6300 | 645 | 860 |
| CY-M130x...W | M130 | 6 | 4 | 2 | 205 | 94 | 159 | M20x1.5 | 20 | 17 | 16 | 202 | 10 | 140 | 17.60 | 5250 | 7000 | 645 | 860 |
| CY-M140x...W | M140 | 6 | 4 | 2 | 215 | 94 | 169 | M20x1.5 | 22 | 17 | 16 | 215 | 10 | 140 | 18.89 | 5750 | 7700 | 645 | 860 |
| CY-M150x...W | M150 | 6 | 4 | 2 | 225 | 94 | 179 | M20x1.5 | 22 | 17 | 16 | 225 | 12 | 142 | 20.10 | 5750 | 7700 | 645 | 860 |
| CY-M160x...W | M160 | 6 | 4 | - | 226 | 107 | 189 | M20x1.5 | 24 | 17 | 23 | 220 | 10 | 160 | 20.80 | 6300 | 8400 | 645 | 860 |

| IMPERIAL | Size | Nut body | | | Jackbolt | | | | Hardened washer | | Height tot. L [in] | Weight [Lb] | Preload total | | Torque per Jackbolt | | | | |
|------------|-------|---------------|------------------------------|----|----------|------|------|---------|-----------------|------|--------------------|-------------|---------------|------|---------------------|---------|--------------|--------------|----------------|
| | | Thread D [in] | Available TPI TPI1 TPI2 TPI3 | | | D1 | H | D2 | D3 | n | | | SW | a | D4 | S | nom. F1 [Lb] | max. F2 [Lb] | nom. M1 [Lbft] |
| CY-075...W | 3/4 | 10 | 16 | - | 1.47 | 0.70 | 1.13 | 1/4-28 | 6 | 3/16 | 0.24 | 1.50 | 0.13 | 1.38 | 0.31 | 30600 | 40800 | 14 | 18 |
| CY-087...W | 7/8 | 9 | 14 | - | 1.70 | 0.70 | 1.26 | 1/4-28 | 8 | 3/16 | 0.24 | 1.63 | 0.13 | 1.38 | 0.39 | 40800 | 54400 | 14 | 18 |
| CY-100...W | 1 | 8 | 12 | 14 | 1.90 | 0.93 | 1.46 | 5/16-24 | 6 | 1/4 | 0.20 | 2.00 | 0.19 | 1.71 | 0.68 | 48600 | 64800 | 27 | 36 |
| CY-112...W | 1-1/8 | 7 | 8 | 12 | 2.08 | 0.93 | 1.59 | 5/16-24 | 8 | 1/4 | 0.20 | 2.13 | 0.19 | 1.71 | 0.78 | 64800 | 86400 | 27 | 36 |
| CY-125...W | 1-1/4 | 7 | 8 | 12 | 2.32 | 1.20 | 1.81 | 3/8-24 | 6 | 5/16 | 0.25 | 2.38 | 0.19 | 2.12 | 1.30 | 73800 | 98400 | 49 | 65 |
| CY-137...W | 1-3/8 | 6 | 8 | 12 | 2.46 | 1.20 | 1.92 | 3/8-24 | 8 | 5/16 | 0.25 | 2.50 | 0.19 | 2.12 | 1.42 | 98400 | 131200 | 49 | 65 |
| CY-150...W | 1-1/2 | 6 | 8 | 12 | 2.80 | 1.42 | 2.13 | 7/16-20 | 8 | 3/8 | 0.28 | 2.75 | 0.19 | 2.43 | 2.11 | 129600 | 172800 | 75 | 100 |
| CY-162...W | 1-5/8 | 6 | 8 | 12 | 2.96 | 1.42 | 2.26 | 7/16-20 | 8 | 3/8 | 0.28 | 2.88 | 0.19 | 2.43 | 2.29 | 129600 | 172800 | 75 | 100 |
| CY-175...W | 1-3/4 | 5 | 8 | 12 | 3.20 | 1.42 | 2.38 | 7/16-20 | 12 | 3/8 | 0.28 | 3.13 | 0.25 | 2.49 | 2.80 | 194400 | 259200 | 75 | 100 |
| CY-187...W | 1-7/8 | 6 | 8 | 12 | 3.59 | 1.60 | 2.74 | 1/2-20 | 8 | 7/16 | 0.40 | 3.50 | 0.25 | 2.85 | 4.07 | 175200 | 233600 | 114 | 152 |
| CY-200...W | 2 | 4.5 | 8 | 12 | 3.70 | 1.60 | 2.74 | 1/2-20 | 12 | 7/16 | 0.40 | 3.50 | 0.25 | 2.85 | 4.24 | 262800 | 350400 | 114 | 152 |
| CY-225...W | 2-1/4 | 4.5 | 8 | 12 | 3.95 | 1.60 | 3.00 | 1/2-20 | 12 | 7/16 | 0.40 | 3.75 | 0.25 | 2.85 | 4.59 | 262800 | 350400 | 114 | 152 |
| CY-250...W | 2-1/2 | 4 | 8 | 12 | 4.45 | 2.30 | 3.43 | 5/8-18 | 12 | 9/16 | 0.51 | 4.50 | 0.31 | 3.87 | 8.64 | 428400 | 571200 | 233 | 310 |
| CY-275...W | 2-3/4 | 4 | 8 | 12 | 4.70 | 2.40 | 3.69 | 5/8-18 | 12 | 9/16 | 0.51 | 4.75 | 0.31 | 3.87 | 9.45 | 428400 | 571200 | 233 | 310 |
| CY-300...W | 3 | 4 | 6 | 8 | 5.20 | 2.30 | 3.95 | 5/8-18 | 16 | 9/16 | 0.41 | 5.00 | 0.31 | 3.87 | 11.33 | 571200 | 761600 | 233 | 310 |
| CY-325...W | 3-1/4 | 4 | 6 | 8 | 5.45 | 2.30 | 4.15 | 5/8-18 | 16 | 9/16 | 0.51 | 5.00 | 0.31 | 3.87 | 11.79 | 571200 | 761600 | 233 | 310 |
| CY-350...W | 3-1/2 | 4 | 6 | 8 | 5.70 | 2.40 | 4.40 | 5/8-18 | 18 | 9/16 | 0.41 | 5.50 | 0.31 | 3.87 | 13.02 | 642600 | 856800 | 233 | 310 |
| CY-375...W | 3-3/4 | 4 | 6 | 8 | 5.95 | 2.40 | 4.65 | 5/8-18 | 18 | 9/16 | 0.41 | 5.50 | 0.31 | 3.87 | 13.49 | 642600 | 856800 | 233 | 310 |
| CY-400...W | 4 | 4 | 6 | 8 | 6.20 | 2.60 | 4.90 | 5/8-18 | 20 | 9/16 | 0.53 | 6.00 | 0.31 | 4.19 | 15.50 | 714000 | 952000 | 233 | 310 |
| CY-425...W | 4-1/4 | 4 | 6 | 8 | 6.95 | 3.00 | 5.33 | 3/4-16 | 18 | 5/8 | 0.50 | 6.40 | 0.38 | 4.76 | 23.50 | 907200 | 1209600 | 390 | 520 |
| CY-450...W | 4-1/2 | 4 | 6 | 8 | 7.20 | 3.00 | 5.58 | 3/4-16 | 18 | 5/8 | 0.50 | 6.65 | 0.38 | 4.76 | 24.53 | 907200 | 1209600 | 390 | 520 |
| CY-475...W | 4-3/4 | 4 | 6 | 8 | 7.45 | 3.20 | 5.83 | 3/4-16 | 20 | 5/8 | 0.60 | 6.90 | 0.38 | 5.06 | 29.90 | 1008000 | 1344000 | 390 | 520 |
| CY-500...W | 5 | 4 | 6 | 8 | 7.70 | 3.30 | 6.08 | 3/4-16 | 20 | 5/8 | 0.50 | 7.15 | 0.38 | 5.06 | 28.83 | 1008000 | 1344000 | 390 | 520 |
| CY-525...W | 5-1/4 | 4 | 6 | 8 | 7.95 | 3.70 | 6.58 | 3/4-16 | 22 | 5/8 | 0.40 | 7.65 | 0.38 | 5.36 | 33.12 | 1108800 | 1478400 | 390 | 520 |
| CY-550...W | 5-1/2 | 4 | 6 | 8 | 7.95 | 3.70 | 6.58 | 3/4-16 | 22 | 5/8 | 0.40 | 7.65 | 0.38 | 5.36 | 30.62 | 1108800 | 1478400 | 390 | 520 |
| CY-575...W | 5-3/4 | 4 | 6 | 8 | 8.45 | 4.00 | 7.08 | 3/4-16 | 24 | 5/8 | 0.50 | 8.15 | 0.38 | 5.76 | 38.31 | 1209600 | 1612800 | 390 | 520 |
| CY-600...W | 6 | 4 | 6 | 8 | 8.45 | 4.00 | 7.08 | 3/4-16 | 24 | 5/8 | 0.50 | 8.15 | 0.38 | 5.76 | 35.36 | 1209600 | 1612800 | 390 | 520 |

Note:
 - Maximum values valid for permanent bolting applications, including reaction forces.
 - Other sizes, thread pitches or threads per inch (TPI) may be available. Please contact your local Nord-Lock office.
 - Dimensions listed are representative. Typical manufacturing tolerances apply (approximately within 1mm or 1%).

H650

Superbolt nut-style tensioner,
for medium temperatures



- Components:
1 Nut body
2 Jackbolts
3 Hardened washer

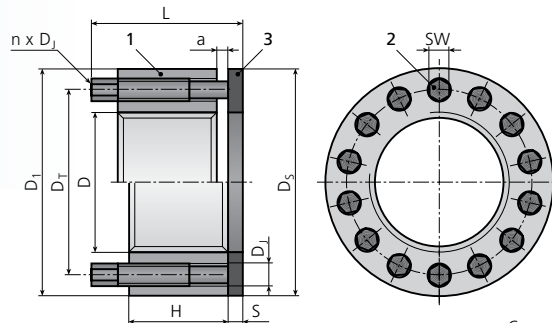
| METRIC | Size | | | Nut body | | | Jackbolt | | | | Hardened washer | | Height tot. L [mm] | Weight [kg] | Pre-load total nom. F ₁ [kN] | Torque per Jackbolt nom. M ₁ [Nm] | |
|----------------|----------|-------------|---|----------|-----|----------------|----------|----------------|----------------|----|-----------------|-----|-----------------------------|----------------|---|---|----------------|
| | Part No. | Thread D | Available Pitch P ₁ P ₂ P ₃ [mm] | | | D ₁ | H | D _T | D _J | n | SW | a | | | | | D _S |
| H650-M20x...W | M20 | 2.5 | 1.5 | 1 | 38 | 16 | 29 | M6x0.75 | 6 | 5 | 6 | 38 | 4 | 34 | 0.14 | 75 | 10 |
| H650-M22x...W | M22 | 2.5 | 1.5 | 1 | 41 | 16 | 31 | M6x0.75 | 6 | 5 | 6 | 41 | 4 | 34 | 0.16 | 94 | 12 |
| H650-M24x...W | M24 | 3 | 2 | 1.5 | 44 | 16 | 33 | M6x0.75 | 8 | 5 | 6 | 43 | 4 | 34 | 0.19 | 110 | 11 |
| H650-M27x...W | M27 | 3 | 2 | 1.5 | 50 | 24 | 39 | M8x1 | 6 | 6 | 6 | 50 | 5 | 45 | 0.35 | 140 | 24 |
| H650-M30x...W | M30 | 3.5 | 2 | 1.5 | 53 | 24 | 42 | M8x1 | 6 | 6 | 6 | 53 | 5 | 45 | 0.37 | 175 | 30 |
| H650-M33x...W | M33 | 3.5 | 2 | 1.5 | 59 | 24 | 45 | M8x1 | 8 | 6 | 6 | 59 | 5 | 45 | 0.48 | 215 | 27 |
| H650-M36x...W | M36 | 4 | 3 | 1.5 | 66 | 32 | 51 | M10x1.25 | 6 | 8 | 8 | 66 | 5 | 57 | 0.76 | 255 | 53 |
| H650-M39x...W | M39 | 4 | 3 | 1.5 | 70 | 32 | 54 | M10x1.25 | 8 | 8 | 8 | 70 | 5 | 57 | 0.90 | 300 | 47 |
| H650-M42x...W | M42 | 4.5 | 3 | 1.5 | 75 | 32 | 57 | M10x1.25 | 8 | 8 | 8 | 73 | 5 | 57 | 1.01 | 350 | 55 |
| H650-M45x...W | M45 | 4.5 | 3 | 1.5 | 83 | 38 | 63 | M12x1.25 | 8 | 10 | 10 | 81 | 6 | 68 | 1.48 | 405 | 75 |
| H650-M48x...W | M48 | 5 | 3 | 1.5 | 85 | 38 | 66 | M12x1.25 | 8 | 10 | 10 | 85 | 6 | 68 | 1.50 | 455 | 85 |
| H650-M52x...W | M52 | 5 | 3 | 2 | 94 | 38 | 70 | M12x1.25 | 8 | 10 | 10 | 89 | 6 | 68 | 1.80 | 540 | 100 |
| H650-M56x...W | M56 | 5.5 | 4 | 2 | 100 | 38 | 76 | M12x1.25 | 8 | 10 | 10 | 95 | 6 | 68 | 2.00 | 630 | 120 |
| H650-M60x...W | M60 | 5.5 | 4 | 2 | 107 | 38 | 78 | M12x1.25 | 10 | 10 | 10 | 100 | 6 | 68 | 2.30 | 740 | 110 |
| H650-M64x...W | M64 | 6 | 4 | 2 | 113 | 53 | 87 | M16x1.5 | 8 | 14 | 12 | 112 | 8 | 92 | 3.65 | 830 | 205 |
| H650-M72x...W | M72 | 6 | 4 | 2 | 120 | 56 | 95 | M16x1.5 | 8 | 14 | 9 | 120 | 8 | 92 | 4.00 | 1070 | 265 |
| H650-M76x...W | M76 | 6 | 4 | 2 | 132 | 56 | 100 | M16x1.5 | 12 | 14 | 9 | 127 | 8 | 92 | 5.10 | 1200 | 200 |
| H650-M80x...W | M80 | 6 | 4 | 2 | 132 | 56 | 103 | M16x1.5 | 12 | 14 | 9 | 127 | 8 | 92 | 4.80 | 1330 | 220 |
| H650-M90x...W | M90 | 6 | 4 | 2 | 145 | 59 | 113 | M16x1.5 | 16 | 14 | 13 | 140 | 8 | 99 | 6.00 | 1730 | 215 |
| H650-M100x...W | M100 | 6 | 4 | 2 | 164 | 61 | 123 | M16x1.5 | 16 | 14 | 11 | 152 | 8 | 99 | 7.80 | 2170 | 270 |
| H650-M110x...W | M110 | 6 | 4 | 2 | 177 | 79 | 139 | M20x1.5 | 12 | 17 | 16 | 172 | 10 | 125 | 11.40 | 2650 | 550 |
| H650-M120x...W | M120 | 6 | 4 | 2 | 189 | 81 | 149 | M20x1.5 | 16 | 17 | 14 | 179 | 10 | 125 | 13.00 | 3210 | 500 |
| H650-M125x...W | M125 | 6 | 4 | 2 | 194 | 81 | 154 | M20x1.5 | 16 | 17 | 14 | 190 | 10 | 125 | 13.50 | 3470 | 540 |

| IMPERIAL | Size | | | Nut body | | | Jackbolt | | | | Hardened washer | | Height tot. L [in] | Weight [Lb] | Pre-load total nom. F ₁ [Lb] | Torque per Jackbolt nom. M ₁ [Lbft] | |
|--------------|----------|---------------------|---|----------|------|----------------|----------|----------------|----------------|------|-----------------|------|-----------------------------|----------------|---|---|----------------|
| | Part No. | Thread D [in] | Available TPI TPI ₁ TPI ₂ TPI ₃ | | | D ₁ | H | D _T | D _J | n | SW | a | | | | | D _S |
| H650-075...W | 3/4 | 10 | 16 | - | 1.47 | .70 | 1.132 | 1/4-28 | 4 | 3/16 | 0.24 | 1.50 | 0.13 | 1.38 | 0.31 | 13950 | 9 |
| H650-087...W | 7/8 | 9 | 14 | - | 1.60 | .70 | 1.262 | 1/4-28 | 6 | 3/16 | 0.24 | 1.63 | 0.13 | 1.38 | 0.34 | 19790 | 9 |
| H650-100...W | 1 | 8 | 12 | 14 | 1.90 | .93 | 1.456 | 5/16-24 | 6 | 1/4 | 0.20 | 2.00 | 0.19 | 1.71 | 0.68 | 27260 | 15 |
| H650-112...W | 1-1/8 | 7 | 8 | 12 | 2.08 | .93 | 1.585 | 5/16-24 | 6 | 1/4 | 0.20 | 2.13 | 0.19 | 1.71 | 0.79 | 35570 | 20 |
| H650-125...W | 1-1/4 | 7 | 8 | 12 | 2.25 | .94 | 1.747 | 5/16-24 | 8 | 1/4 | 0.19 | 2.38 | 0.19 | 1.71 | 0.92 | 44990 | 19 |
| H650-137...W | 1-3/8 | 6 | 8 | 12 | 2.46 | 1.20 | 1.941 | 3/8-24 | 6 | 5/16 | 0.25 | 2.50 | 0.19 | 2.12 | 1.40 | 55510 | 37 |
| H650-150...W | 1-1/2 | 6 | 8 | 12 | 2.70 | 1.20 | 2.070 | 3/8-24 | 8 | 5/16 | 0.25 | 2.75 | 0.19 | 2.12 | 1.70 | 67130 | 33 |
| H650-162...W | 1-5/8 | 6 | 8 | 12 | 2.96 | 1.20 | 2.200 | 3/8-24 | 8 | 5/16 | 0.25 | 2.88 | 0.19 | 2.12 | 2.01 | 79860 | 40 |
| H650-175...W | 1-3/4 | 5 | 8 | 12 | 3.08 | 1.42 | 2.381 | 7/16-20 | 8 | 3/8 | 0.28 | 3.13 | 0.25 | 2.49 | 2.53 | 93700 | 54 |
| H650-187...W | 1-7/8 | 6 | 8 | 12 | 3.59 | 1.60 | 2.743 | 1/2-20 | 8 | 7/16 | 0.40 | 3.50 | 0.25 | 2.85 | 4.07 | 108600 | 71 |
| H650-200...W | 2 | 4.5 | 8 | 12 | 3.59 | 1.60 | 2.743 | 1/2-20 | 8 | 7/16 | 0.40 | 3.50 | 0.25 | 2.85 | 3.87 | 124700 | 81 |
| H650-225...W | 2-1/4 | 4.5 | 8 | 12 | 3.95 | 1.60 | 3.003 | 1/2-20 | 8 | 7/16 | 0.40 | 3.75 | 0.25 | 2.85 | 4.51 | 160100 | 104 |
| H650-250...W | 2-1/2 | 4 | 8 | 12 | 4.45 | 2.10 | 3.429 | 5/8-18 | 8 | 9/16 | 0.45 | 4.50 | 0.31 | 3.61 | 7.82 | 199900 | 163 |
| H650-275...W | 2-3/4 | 4 | 8 | 12 | 4.70 | 2.10 | 3.688 | 5/8-18 | 8 | 9/16 | 0.45 | 4.75 | 0.31 | 3.61 | 8.36 | 244100 | 199 |
| H650-300...W | 3 | 4 | 6 | 8 | 5.20 | 2.10 | 3.947 | 5/8-18 | 12 | 9/16 | 0.45 | 5.00 | 0.31 | 3.61 | 10.30 | 292800 | 159 |
| H650-325...W | 3-1/4 | 4 | 6 | 8 | 5.45 | 2.20 | 4.150 | 5/8-18 | 12 | 9/16 | 0.35 | 5.00 | 0.31 | 3.61 | 11.04 | 345900 | 188 |
| H650-350...W | 3-1/2 | 4 | 6 | 8 | 5.70 | 2.30 | 4.400 | 5/8-18 | 16 | 9/16 | 0.51 | 5.50 | 0.31 | 3.87 | 12.62 | 403300 | 164 |
| H650-375...W | 3-3/4 | 4 | 6 | 8 | 6.20 | 2.40 | 4.650 | 5/8-18 | 16 | 9/16 | 0.41 | 5.50 | 0.31 | 3.87 | 15.08 | 465300 | 189 |
| H650-400...W | 4 | 4 | 6 | 8 | 6.45 | 2.60 | 4.900 | 5/8-18 | 18 | 9/16 | 0.53 | 6.00 | 0.31 | 4.19 | 17.31 | 531600 | 192 |
| H650-425...W | 4-1/4 | 4 | 6 | 8 | 6.95 | 3.00 | 5.330 | 3/4-16 | 16 | 5/8 | 0.50 | 6.40 | 0.38 | 4.76 | 23.41 | 602300 | 291 |
| H650-450...W | 4-1/2 | 4 | 6 | 8 | 7.20 | 3.00 | 5.580 | 3/4-16 | 16 | 5/8 | 0.50 | 6.65 | 0.38 | 4.76 | 24.44 | 677500 | 328 |
| H650-475...W | 4-3/4 | 4 | 6 | 8 | 7.45 | 3.20 | 5.830 | 3/4-16 | 18 | 5/8 | 0.60 | 6.90 | 0.38 | 5.06 | 27.13 | 757100 | 326 |
| H650-500...W | 5 | 4 | 6 | 8 | 7.70 | 3.30 | 6.080 | 3/4-16 | 20 | 5/8 | 0.50 | 7.15 | 0.38 | 5.06 | 28.83 | 841100 | 325 |

Note: - Other sizes, thread pitches or threads per inch (TPI) may be available. Please contact your local Nord-Lock office.
- Dimensions listed are representative. Typical manufacturing tolerances apply (approximately within 1mm or 1%).

H650T

Superbolt nut-style tensioner,
for medium temperatures, tall



Components:
1 Nut body
2 Jackbolts
3 Hardened washer

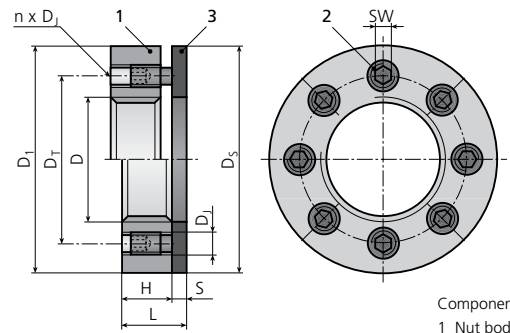
| METRIC | Size | | | Nut body | | | Jackbolt | | | | Hardened washer | | Height tot. L [mm] | Weight [kg] | Pre-load total nom. F ₁ [kN] | Torque per Jackbolt nom. M ₁ [Nm] | |
|-----------------|----------|-------------|---|----------------|-----|----------------|----------------|----------|----|----|-----------------|-----|-----------------------------|----------------|---|---|-----|
| | Part No. | Thread D | Available Pitch P ₁ P ₂ P ₃ [mm] | D ₁ | H | D _T | D _J | n | SW | a | D _S | S | | | | | |
| H650T-M24x...W | M24 | 3 | 2 | 1.5 | 41 | 28 | 32 | M6x0.75 | 8 | 5 | 4 | 40 | 3 | 43 | 0.20 | 110 | 11 |
| H650T-M27x...W | M27 | 3 | 2 | 1.5 | 43 | 28 | 35 | M6x0.75 | 10 | 5 | 4 | 43 | 3 | 43 | 0.25 | 140 | 11 |
| H650T-M30x...W | M30 | 3.5 | 2 | 1.5 | 46 | 28 | 38 | M6x0.75 | 12 | 5 | 4 | 46 | 3 | 43 | 0.25 | 175 | 11 |
| H650T-M33x...W | M33 | 3.5 | 2 | 1.5 | 49 | 28 | 41 | M6x0.75 | 14 | 5 | 4 | 49 | 3 | 43 | 0.30 | 215 | 12 |
| H650T-M36x...W | M36 | 4 | 3 | 1.5 | 53 | 28 | 44 | M6x0.75 | 16 | 5 | 4 | 53 | 6 | 46 | 0.35 | 255 | 12 |
| H650T-M39x...W | M39 | 4 | 3 | 1.5 | 61 | 38 | 50 | M8x1 | 10 | 6 | 5 | 61 | 4 | 57 | 0.60 | 300 | 30 |
| H650T-M42x...W | M42 | 4.5 | 3 | 1.5 | 64 | 38 | 53 | M8x1 | 12 | 6 | 5 | 64 | 4 | 57 | 0.65 | 350 | 30 |
| H650T-M45x...W | M45 | 4.5 | 3 | 1.5 | 67 | 38 | 56 | M8x1 | 14 | 6 | 5 | 67 | 6 | 59 | 0.75 | 405 | 29 |
| H650T-M48x...W | M48 | 5 | 3 | 1.5 | 72 | 38 | 59 | M8x1 | 14 | 6 | 5 | 70 | 10 | 63 | 0.90 | 455 | 33 |
| H650T-M52x...W | M52 | 5 | 3 | 2 | 79 | 46 | 66 | M10x1.25 | 12 | 8 | 6 | 78 | 5 | 69 | 1.25 | 540 | 56 |
| H650T-M56x...W | M56 | 5.5 | 4 | 2 | 84 | 46 | 70 | M10x1.25 | 14 | 8 | 6 | 82 | 10 | 74 | 1.45 | 630 | 57 |
| H650T-M60x...W | M60 | 5.5 | 4 | 2 | 90 | 46 | 74 | M10x1.25 | 16 | 8 | 6 | 86 | 14 | 78 | 1.75 | 740 | 58 |
| H650T-M64x...W | M64 | 6 | 4 | 2 | 96 | 62 | 80 | M12x1.25 | 12 | 10 | 8 | 96 | 18 | 102 | 2.75 | 830 | 105 |
| H650T-M72x...W | M72 | 6 | 4 | 2 | 106 | 62 | 88 | M12x1.25 | 16 | 10 | 8 | 105 | 6 | 90 | 2.80 | 1070 | 100 |
| H650T-M76x...W | M76 | 6 | 4 | 2 | 114 | 62 | 96 | M12x1.25 | 16 | 10 | 8 | 112 | 12 | 96 | 3.50 | 1200 | 110 |
| H650T-M80x...W | M80 | 6 | 4 | 2 | 118 | 62 | 96 | M12x1.25 | 18 | 10 | 8 | 112 | 15 | 99 | 3.70 | 1330 | 110 |
| H650T-M90x...W | M90 | 6 | 4 | 2 | 135 | 80 | 111 | M16x1.5 | 14 | 14 | 9 | 135 | 9 | 117 | 6.10 | 1730 | 245 |
| H650T-M100x...W | M100 | 6 | 4 | 2 | 149 | 80 | 121 | M16x1.5 | 16 | 14 | 9 | 144 | 19 | 127 | 7.85 | 2170 | 270 |

| IMPERIAL | Size | | | Nut body | | | Jackbolt | | | | Hardened washer | | Height tot. L [in] | Weight [Lb] | Pre-load total nom. F ₁ [Lb] | Torque per Jackbolt nom. M ₁ [Lbft] | |
|----------------|----------|---------------------|---|----------------|------|----------------|----------------|---------|----|------|-----------------|------|-----------------------------|----------------|---|---|-----|
| | Part No. | Thread D [in] | Available TPI TPI ₁ TPI ₂ TPI ₃ | D ₁ | H | D _T | D _J | n | SW | a | D _S | S | | | | | |
| H650T-100-...W | 1 | 8 | 12 | 14 | 1.67 | 1.10 | 1.34 | 1/4-28 | 8 | 3/16 | 0.18 | 1.67 | 0.13 | 1.72 | 0.53 | 27260 | 9 |
| H650T-112-...W | 1-1/8 | 7 | 8 | 12 | 1.80 | 1.10 | 1.46 | 1/4-28 | 8 | 3/16 | 0.18 | 1.75 | 0.13 | 1.72 | 0.58 | 35570 | 12 |
| H650T-125-...W | 1-1/4 | 7 | 8 | 12 | 1.92 | 1.10 | 1.59 | 1/4-28 | 12 | 3/16 | 0.18 | 1.88 | 0.13 | 1.72 | 0.64 | 44990 | 10 |
| H650T-137-...W | 1-3/8 | 6 | 8 | 12 | 2.08 | 1.10 | 1.71 | 1/4-28 | 14 | 3/16 | 0.18 | 2.05 | 0.25 | 1.84 | 0.80 | 55510 | 11 |
| H650T-150-...W | 1-1/2 | 6 | 8 | 12 | 2.34 | 1.50 | 1.92 | 5/16-24 | 10 | 1/4 | 0.20 | 2.29 | 0.15 | 2.24 | 1.17 | 67130 | 22 |
| H650T-162-...W | 1-5/8 | 6 | 8 | 12 | 2.47 | 1.50 | 2.05 | 5/16-24 | 12 | 1/4 | 0.20 | 2.47 | 0.15 | 2.24 | 1.26 | 79860 | 22 |
| H650T-175-...W | 1-3/4 | 5 | 8 | 12 | 2.62 | 1.50 | 2.17 | 5/16-24 | 14 | 1/4 | 0.20 | 2.60 | 0.25 | 2.34 | 1.46 | 93700 | 22 |
| H650T-187-...W | 1-7/8 | 6 | 8 | 12 | 2.79 | 1.50 | 2.30 | 5/16-24 | 16 | 1/4 | 0.20 | 2.75 | 0.38 | 2.47 | 1.75 | 108600 | 22 |
| H650T-200-...W | 2 | 4.5 | 8 | 12 | 3.06 | 1.80 | 2.51 | 3/8-24 | 12 | 5/16 | 0.25 | 3.00 | 0.20 | 2.73 | 2.45 | 124700 | 41 |
| H650T-225-...W | 2-1/4 | 4.5 | 8 | 12 | 3.37 | 1.80 | 2.76 | 3/8-24 | 16 | 5/16 | 0.25 | 3.26 | 0.40 | 2.93 | 3.12 | 160100 | 40 |
| H650T-250-...W | 2-1/2 | 4 | 8 | 12 | 3.75 | 2.10 | 3.09 | 7/16-20 | 16 | 3/8 | 0.25 | 3.68 | 0.40 | 3.29 | 4.38 | 199900 | 58 |
| H650T-275-...W | 2-3/4 | 4 | 8 | 12 | 4.13 | 2.50 | 3.43 | 1/2-20 | 14 | 7/16 | 0.30 | 4.12 | 0.25 | 3.65 | 5.92 | 244100 | 91 |
| H650T-300-...W | 3 | 4 | 6 | 8 | 4.49 | 2.50 | 3.68 | 1/2-20 | 16 | 7/16 | 0.30 | 4.40 | 0.50 | 3.90 | 7.50 | 292800 | 95 |
| H650T-325-...W | 3-1/4 | 4 | 6 | 8 | 4.87 | 2.50 | 3.93 | 1/2-20 | 18 | 7/16 | 0.30 | 4.65 | 0.70 | 4.10 | 9.21 | 345900 | 100 |
| H650T-350-...W | 3-1/2 | 4 | 6 | 8 | 5.30 | 3.15 | 4.34 | 5/8-18 | 14 | 9/16 | 0.35 | 5.19 | 0.35 | 4.60 | 12.69 | 403300 | 188 |
| H650T-375-...W | 3-3/4 | 4 | 6 | 8 | 5.62 | 3.15 | 4.59 | 5/8-18 | 16 | 9/16 | 0.35 | 5.60 | 0.60 | 4.85 | 15.11 | 465300 | 189 |
| H650T-400-...W | 4 | 4 | 6 | 8 | 5.97 | 3.15 | 4.84 | 5/8-18 | 18 | 9/16 | 0.35 | 5.69 | 0.80 | 5.05 | 17.26 | 531600 | 192 |

Note: - Other sizes, thread pitches or threads per inch (TPI) may be available. Please contact your local Nord-Lock office.
- Dimensions listed are representative. Typical manufacturing tolerances apply (approximately within 1mm or 1%).

SJ

Superbolt nut-style tensioner, compact



- Components:
 1 Nut body
 2 Jackbolts
 3 Hardened washer

| METRIC Part No. | Size | | | Nut body | | | Jackbolt | | | Hardened washer | | Height tot. L [mm] | Weight [kg] | Preload total | | Torque per Jackbolt | | |
|--------------------|-------------|---|-----|----------|----------------|-----------|----------------|------------------------|----|-----------------|------------------------|-----------------------------|----------------|---------------|------------------------|------------------------|------------------------|------------------------|
| | Thread D | Available Pitch P ₁ P ₂ P ₃ [mm] | | | D ₁ | H [mm] | D _T | D _j [mm] | n | SW [mm] | D _s [mm] | | | S | nom. F ₁ | max. F ₂ | nom. M ₁ | max. M ₂ |
| SJ-M20x...W | M20 | 2.5 | 1.5 | 1 | 43 | 15 | 32 | M8x1 | 6 | 4 | 43 | 4 | 19 | 0.15 | 67 | 91 | 11 | 15 |
| SJ-M22x...W | M22 | 2.5 | 1.5 | 1 | 47 | 16 | 34 | M8x1 | 8 | 4 | 45 | 5 | 21 | 0.20 | 81 | 105 | 10 | 13 |
| SJ-M24x...W | M24 | 3 | 2 | 1.5 | 50 | 16 | 36 | M8x1 | 8 | 4 | 48 | 5 | 21 | 0.20 | 89 | 120 | 11 | 15 |
| SJ-M27x...W | M27 | 3 | 2 | 1.5 | 53 | 16 | 39 | M8x1 | 10 | 4 | 50 | 5 | 21 | 0.25 | 100 | 130 | 10 | 13 |
| SJ-M30x...W | M30 | 3.5 | 2 | 1.5 | 60 | 21 | 45 | M10x1.25 | 8 | 5 | 59 | 5 | 26 | 0.40 | 135 | 180 | 21 | 28 |
| SJ-M33x...W | M33 | 3.5 | 2 | 1.5 | 63 | 22 | 48 | M10x1.25 | 10 | 5 | 63 | 5 | 27 | 0.40 | 155 | 200 | 19 | 25 |
| SJ-M36x...W | M36 | 4 | 3 | 1.5 | 69 | 28 | 54 | M12x1.25 | 8 | 6 | 69 | 5 | 33 | 0.65 | 190 | 245 | 35 | 46 |
| SJ-M39x...W | M39 | 4 | 3 | 1.5 | 75 | 28 | 57 | M12x1.25 | 10 | 6 | 75 | 5 | 33 | 0.80 | 255 | 335 | 38 | 50 |
| SJ-M42x...W | M42 | 4.5 | 3 | 1.5 | 81 | 28 | 60 | M12x1.25 | 12 | 6 | 78 | 5 | 33 | 0.90 | 315 | 420 | 39 | 52 |
| SJ-M45x...W | M45 | 4.5 | 3 | 1.5 | 88 | 28 | 63 | M12x1.25 | 12 | 6 | 81 | 6 | 34 | 1.00 | 315 | 420 | 39 | 52 |
| SJ-M48x...W | M48 | 5 | 3 | 1.5 | 101 | 31 | 71 | M16x1.5 | 8 | 8 | 94 | 6 | 37 | 1.65 | 380 | 500 | 94 | 125 |
| SJ-M52x...W | M52 | 5 | 3 | 2 | 101 | 33 | 75 | M16x1.5 | 8 | 8 | 94 | 6 | 39 | 1.65 | 380 | 500 | 94 | 125 |
| SJ-M56x...W | M56 | 5.5 | 4 | 2 | 113 | 33 | 79 | M16x1.5 | 12 | 8 | 100 | 6 | 39 | 2.05 | 570 | 760 | 94 | 125 |
| SJ-M60x...W | M60 | 5.5 | 4 | 2 | 117 | 33 | 83 | M16x1.5 | 12 | 8 | 106 | 6 | 39 | 2.15 | 570 | 760 | 94 | 125 |
| SJ-M64x...W | M64 | 6 | 4 | 2 | 119 | 33 | 87 | M16x1.5 | 12 | 8 | 120 | 8 | 41 | 2.45 | 570 | 760 | 94 | 125 |
| SJ-M68x...W | M68 | 6 | 4 | 2 | 138 | 38 | 97 | M20x1.5 | 12 | 10 | 125 | 8 | 46 | 3.60 | 710 | 950 | 145 | 195 |
| SJ-M72x...W | M72 | 6 | 4 | 2 | 151 | 38 | 101 | M20x1.5 | 12 | 10 | 125 | 8 | 46 | 4.50 | 910 | 1200 | 185 | 245 |
| SJ-M76x...W | M76 | 6 | 4 | 2 | 151 | 38 | 105 | M20x1.5 | 12 | 10 | 138 | 8 | 46 | 4.35 | 860 | 1130 | 175 | 230 |
| SJ-M80x...W | M80 | 6 | 4 | 2 | 158 | 38 | 109 | M20x1.5 | 12 | 10 | 145 | 10 | 48 | 4.95 | 910 | 1200 | 185 | 245 |
| SJ-M90x...W | M90 | 6 | 4 | 2 | 170 | 51 | 125 | M24x2 | 12 | 12 | 160 | 10 | 61 | 7.20 | 1160 | 1530 | 280 | 370 |
| SJ-M100x...W | M100 | 6 | 4 | 2 | 177 | 53 | 135 | M24x2 | 12 | 12 | 180 | 10 | 63 | 7.75 | 1160 | 1530 | 280 | 370 |
| SJ-M110x...W | M110 | 6 | 4 | 2 | 190 | 59 | 145 | M24x2 | 16 | 12 | 190 | 10 | 69 | 9.25 | 1550 | 2040 | 280 | 370 |
| SJ-M120x...W | M120 | 6 | 4 | 2 | 202 | 59 | 155 | M24x2 | 16 | 12 | 202 | 10 | 69 | 10.25 | 1550 | 2040 | 280 | 370 |
| SJ-M125x...W | M125 | 6 | 4 | 2 | 205 | 59 | 160 | M24x2 | 16 | 12 | 202 | 10 | 69 | 10.25 | 1550 | 2040 | 280 | 370 |
| SJ-M130x...W | M130 | 6 | 4 | 2 | 210 | 59 | 165 | M24x2 | 16 | 12 | 202 | 10 | 69 | 10.50 | 1550 | 2040 | 280 | 370 |
| SJ-M140x...W | M140 | 6 | 4 | 2 | 221 | 59 | 175 | M24x2 | 16 | 12 | 215 | 12 | 71 | 11.75 | 1550 | 2040 | 280 | 370 |
| SJ-M150x...W | M150 | 6 | 4 | 2 | 230 | 59 | 185 | M24x2 | 16 | 12 | 225 | 12 | 71 | 12.25 | 1550 | 2040 | 280 | 370 |
| SJ-M160x...W | M160 | 6 | 4 | - | 240 | 59 | 195 | M24x2 | 16 | 12 | 240 | 12 | 71 | 13.25 | 1550 | 2040 | 280 | 370 |

| IMPERIAL Part No. | Size | | | Nut body | | | Jackbolt | | | Hardened washer | | Height tot. L [in] | Weight [Lb] | Preload total | | Torque per Jackbolt | | |
|----------------------|---------------------|---|----|----------|----------------|-----------|----------------|------------------------|----|-----------------|------------------------|-----------------------------|----------------|---------------|------------------------|------------------------|------------------------|------------------------|
| | Thread D [in] | Available TPI TPI ₁ TPI ₂ TPI ₃ | | | D ₁ | H [in] | D _T | D _j [in] | n | SW [in] | D _s [in] | | | S | nom. F ₁ | max. F ₂ | nom. M ₁ | max. M ₂ |
| SJ-075-...W | 3/4 | 10 | 16 | - | 1.70 | 0.55 | 1.19 | 5/16-24 | 4 | 5/32 | 1.63 | 0.13 | 0.68 | 0.34 | 16281 | 21708 | 9 | 12 |
| SJ-087-...W | 7/8 | 9 | 14 | - | 1.84 | 0.60 | 1.31 | 5/16-24 | 6 | 5/32 | 1.75 | 0.13 | 0.73 | 0.40 | 21708 | 28944 | 9 | 12 |
| SJ-100-...W | 1 | 8 | 12 | 14 | 1.95 | 0.60 | 1.44 | 5/16-24 | 8 | 5/32 | 2.00 | 0.19 | 0.79 | 0.49 | 21708 | 28944 | 9 | 12 |
| SJ-112-...W | 1-1/8 | 7 | 8 | 12 | 2.20 | 0.80 | 1.65 | 3/8-24 | 6 | 3/16 | 2.13 | 0.19 | 0.99 | 0.67 | 30012 | 40016 | 15 | 20 |
| SJ-125-...W | 1-1/4 | 7 | 8 | 12 | 2.34 | 0.80 | 1.78 | 3/8-24 | 8 | 3/16 | 2.38 | 0.19 | 0.99 | 0.85 | 30012 | 40016 | 15 | 20 |
| SJ-137-...W | 1-3/8 | 6 | 8 | 12 | 2.45 | 0.92 | 1.90 | 3/8-24 | 10 | 3/16 | 2.50 | 0.19 | 1.11 | 0.96 | 37515 | 50020 | 15 | 20 |
| SJ-150-...W | 1-1/2 | 6 | 8 | 12 | 2.95 | 1.10 | 2.20 | 1/2-20 | 8 | 1/4 | 2.75 | 0.19 | 1.29 | 1.67 | 56940 | 75920 | 37 | 49 |
| SJ-162-...W | 1-5/8 | 6 | 8 | 12 | 3.20 | 1.10 | 2.33 | 1/2-20 | 8 | 1/4 | 2.88 | 0.19 | 1.29 | 1.92 | 71175 | 94900 | 37 | 49 |
| SJ-175-...W | 1-3/4 | 5 | 8 | 12 | 3.45 | 1.10 | 2.45 | 1/2-20 | 10 | 1/4 | 3.45 | 0.25 | 1.35 | 2.33 | 85410 | 113880 | 37 | 49 |
| SJ-187-...W | 1-7/8 | 6 | 8 | 12 | 3.59 | 1.10 | 2.58 | 1/2-20 | 12 | 1/4 | 3.59 | 0.25 | 1.35 | 2.57 | 85410 | 113880 | 37 | 49 |
| SJ-200-...W | 2 | 4.5 | 8 | 12 | 3.95 | 1.30 | 2.88 | 5/8-11 | 8 | 5/16 | 3.50 | 0.25 | 1.55 | 3.63 | 91392 | 121856 | 75 | 99 |
| SJ-225-...W | 2-1/4 | 4.5 | 8 | 12 | 4.45 | 1.30 | 3.13 | 5/8-11 | 10 | 5/16 | 4.00 | 0.25 | 1.55 | 4.57 | 137088 | 182784 | 75 | 99 |
| SJ-250-...W | 2-1/2 | 4 | 8 | 12 | 4.70 | 1.30 | 3.38 | 5/8-11 | 12 | 5/16 | 4.50 | 0.31 | 1.61 | 5.25 | 137088 | 182784 | 75 | 99 |
| SJ-275-...W | 2-3/4 | 4 | 8 | 12 | 5.45 | 1.50 | 3.80 | 3/4-10 | 12 | 3/8 | 4.75 | 0.31 | 1.81 | 7.65 | 165798 | 221064 | 119 | 159 |
| SJ-300-...W | 3 | 4 | 6 | 8 | 5.95 | 1.90 | 4.23 | 7/8-9 | 12 | 1/2 | 5.25 | 0.38 | 2.28 | 12.55 | 226260 | 301680 | 179 | 238 |
| SJ-325-...W | 3-1/4 | 4 | 6 | 8 | 6.20 | 1.90 | 4.48 | 7/8-9 | 12 | 1/2 | 5.50 | 0.38 | 2.28 | 12.10 | 226260 | 301680 | 179 | 238 |
| SJ-350-...W | 3-1/2 | 4 | 6 | 8 | 6.45 | 1.90 | 4.73 | 7/8-9 | 12 | 1/2 | 5.75 | 0.38 | 2.28 | 12.72 | 226260 | 301680 | 179 | 238 |
| SJ-375-...W | 3-3/4 | 4 | 6 | 8 | 6.70 | 2.00 | 4.98 | 7/8-9 | 14 | 1/2 | 6.00 | 0.38 | 2.38 | 15.02 | 226260 | 301680 | 179 | 238 |
| SJ-400-...W | 4 | 4 | 6 | 8 | 6.95 | 2.00 | 5.23 | 7/8-9 | 12 | 9/16 | 6.65 | 0.38 | 2.38 | 15.89 | 226260 | 301680 | 179 | 238 |
| SJ-425-...W | 4-1/4 | 4 | 6 | 8 | 7.20 | 2.30 | 5.48 | 7/8-9 | 14 | 9/16 | 6.90 | 0.38 | 2.68 | 16.63 | 301680 | 402240 | 179 | 238 |
| SJ-450-...W | 4-1/2 | 4 | 6 | 8 | 7.45 | 2.30 | 5.73 | 7/8-9 | 14 | 9/16 | 7.40 | 0.38 | 2.68 | 19.07 | 301680 | 402240 | 179 | 238 |
| SJ-475-...W | 4-3/4 | 4 | 6 | 8 | 7.70 | 2.30 | 5.98 | 7/8-9 | 16 | 9/16 | 7.90 | 0.38 | 2.68 | 20.63 | 301680 | 402240 | 179 | 238 |
| SJ-500-...W | 5 | 4 | 6 | 8 | 7.95 | 2.30 | 6.23 | 7/8-9 | 16 | 9/16 | 7.90 | 0.38 | 2.68 | 21.19 | 301680 | 402240 | 179 | 238 |
| SJ-525-...W | 5-1/4 | 4 | 6 | 8 | 8.70 | 2.40 | 6.65 | 1-8 | 16 | 9/16 | 8.40 | 0.50 | 2.90 | 28.11 | 396720 | 528960 | 269 | 358 |
| SJ-550-...W | 5-1/2 | 4 | 6 | 8 | 8.95 | 2.40 | 6.90 | 1-8 | 18 | 9/16 | 8.40 | 0.50 | 2.90 | 28.75 | 396720 | 528960 | 269 | 358 |
| SJ-575-...W | 5-3/4 | 4 | 6 | 8 | 9.20 | 2.40 | 7.15 | 1-8 | 18 | 9/16 | 9.40 | 0.50 | 2.90 | 31.41 | 396720 | 528960 | 269 | 358 |
| SJ-600-...W | 6 | 4 | 6 | 8 | 9.45 | 2.40 | 7.40 | 1-8 | 18 | 9/16 | 9.40 | 0.50 | 2.90 | 31.38 | 396720 | 528960 | 269 | 358 |

Note: - Maximum values valid for permanent bolting applications, including reaction forces.
 - Other sizes, thread pitches or threads per inch (TPI) may be available. Please contact your local Nord-Lock office.
 - Dimensions listed are representative. Typical manufacturing tolerances apply (approximately within 1mm or 1%).

Bolt-style tensioners



Superbolt bolt-style tensioners are used in a wide variety of applications where a nut-style tensioner and stud combination does not fit or is not the preferred solution.

Incorporating multi-jackbolt technology into a bolt:

- Has all of the preload and low torque advantages of the MJT nuts.
- Requires less head diameter and therefore less space than nut-style MJTs.
- Reduces the number of parts versus stud and nuts.
- Small head dimensions can fit into tight countersinks or space restrictions.

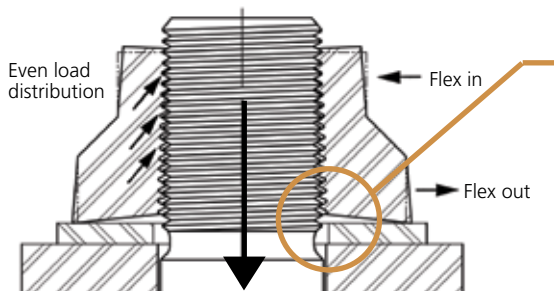
Dimensions for SB8 (bolt-style tensioners) and SB12 (high strength bolt-style tensioners) are available on pages 18 & 19.

Flexnuts for through hole applications

For through hole applications we have developed the Superbolt Flexnut, which is a reactive nut that is able to flex elastically. Putting a Flexnut gives the same advantages as the MJT on the reactive side. Under load they flex at the bottom and at the top. This helps relieve stress concentrations and increases the fatigue life of the stud/bolt. Since Flexnuts are reactive nuts to be used opposite our tensioners, they are never torqued directly to achieve preload.

Advantages with Superbolt Flexnuts:

- Under load they ensure an equal load distribution on the thread of the bolt / stud.
- Adds elasticity in the joint.
- Increases the fatigue life of the bolt / stud.



Reduced stress concentrations in the first few threads. Angled face of nut flattens out after tightening.

[flexing shown exaggerated]

Load applied by Superbolt tensioner on opposite end.

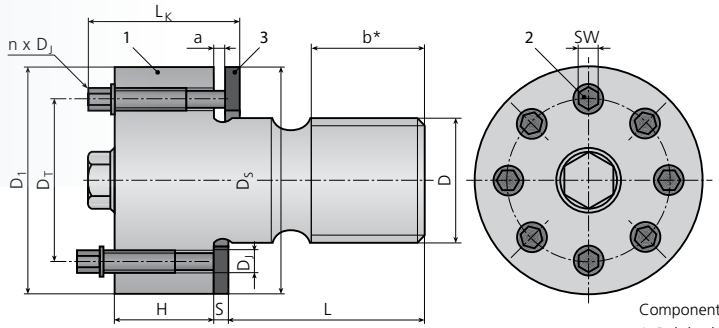


Split gear segment on rotary kiln.

Dimension lists for SX8 and SX12 (high strength) are available on pages 20 & 21.

SB8

Superbolt bolt-style tensioner,
standard



Components:
1 Bolt body
2 Jackbolts
3 Hardened washer
b* = 2 x D

| METRIC Part No. | Size | | | Bolt body | | | Jackbolt | | | Hardened washer | | Height tot. L _k [mm] | Preload total | | Torque per Jackbolt | | | |
|--------------------|-------------|---|-----|-----------|----------------|-----------|----------------|------------------------|----|-----------------|----|--|------------------------|-----|------------------------|--------------------------------|--------------------------------|--------------------------------|
| | Thread D | Available Pitch P ₁ P ₂ P ₃ [mm] | | | D ₁ | H [mm] | D ₂ | D ₃ [mm] | n | SW [mm] | a | | D ₅ [mm] | S | nom. F ₁ | max. F ₂ [kN] | nom. M ₁ [Nm] | max. M ₂ [Nm] |
| SB8-M16x...x.../W | M16 | 2 | 1.5 | 1 | 31 | 18 | 22 | M6x0.75 | 4 | 5 | 4 | 30 | 3 | 32 | 73 | 94 | 14 | 18 |
| SB8-M20x...x.../W | M20 | 2.5 | 1.5 | 1 | 35 | 18 | 26 | M6x0.75 | 6 | 5 | 4 | 35 | 4 | 33 | 109 | 140 | 14 | 18 |
| SB8-M24x...x.../W | M24 | 3 | 2 | 1.5 | 41 | 18 | 30 | M6x0.75 | 8 | 5 | 4 | 41 | 4 | 33 | 146 | 187 | 14 | 18 |
| SB8-M27x...x.../W | M27 | 3 | 2 | 1.5 | 45 | 23 | 35 | M8x1 | 6 | 6 | 7 | 45 | 5 | 45 | 190 | 250 | 32 | 42 |
| SB8-M30x...x.../W | M30 | 3.5 | 2 | 1.5 | 50 | 23 | 38 | M8x1 | 6 | 6 | 7 | 50 | 5 | 45 | 214 | 286 | 36 | 48 |
| SB8-M33x...x.../W | M33 | 3.5 | 2 | 1.5 | 57 | 28 | 43 | M10x1.25 | 6 | 8 | 7 | 57 | 5 | 52 | 285 | 380 | 60 | 80 |
| SB8-M36x...x.../W | M36 | 4 | 3 | 1.5 | 60 | 28 | 46 | M10x1.25 | 6 | 8 | 7 | 60 | 5 | 52 | 333 | 443 | 70 | 93 |
| SB8-M39x...x.../W | M39 | 4 | 3 | 1.5 | 63 | 28 | 49 | M10x1.25 | 8 | 8 | 7 | 63 | 5 | 52 | 406 | 540 | 64 | 85 |
| SB8-M42x...x.../W | M42 | 4.5 | 3 | 1.5 | 66 | 28 | 52 | M10x1.25 | 8 | 8 | 7 | 66 | 5 | 52 | 457 | 610 | 72 | 96 |
| SB8-M45x...x.../W | M45 | 4.5 | 3 | 1.5 | 75 | 37 | 57 | M12x1.25 | 8 | 10 | 7 | 75 | 6 | 64 | 535 | 720 | 100 | 135 |
| SB8-M48x...x.../W | M48 | 5 | 3 | 1.5 | 78 | 37 | 60 | M12x1.25 | 8 | 10 | 7 | 78 | 6 | 64 | 605 | 800 | 113 | 150 |
| SB8-M52x...x.../W | M52 | 5 | 3 | 2 | 82 | 37 | 64 | M12x1.25 | 10 | 10 | 7 | 82 | 6 | 64 | 735 | 970 | 110 | 145 |
| SB8-M56x...x.../W | M56 | 5.5 | 4 | 2 | 86 | 37 | 68 | M12x1.25 | 10 | 10 | 7 | 86 | 6 | 64 | 835 | 1120 | 125 | 167 |
| SB8-M60x...x.../W | M60 | 5.5 | 4 | 2 | 90 | 37 | 72 | M12x1.25 | 12 | 10 | 7 | 90 | 6 | 64 | 985 | 1310 | 123 | 163 |
| SB8-M64x...x.../W | M64 | 6 | 4 | 2 | 103 | 46 | 80 | M16x1.5 | 8 | 14 | 10 | 103 | 8 | 83 | 950 | 1270 | 235 | 315 |
| SB8-M68x...x.../W | M68 | 6 | 4 | 2 | 107 | 46 | 84 | M16x1.5 | 8 | 14 | 10 | 107 | 8 | 83 | 1090 | 1450 | 270 | 360 |
| SB8-M72x...x.../W | M72 | 6 | 4 | 2 | 111 | 46 | 88 | M16x1.5 | 10 | 14 | 10 | 111 | 8 | 83 | 1230 | 1640 | 245 | 325 |
| SB8-M76x...x.../W | M76 | 6 | 4 | 2 | 116 | 46 | 92 | M16x1.5 | 12 | 14 | 10 | 116 | 8 | 83 | 1390 | 1870 | 230 | 310 |
| SB8-M80x...x.../W | M80 | 6 | 4 | 2 | 120 | 56 | 96 | M16x1.5 | 12 | 14 | 9 | 120 | 8 | 92 | 1570 | 2080 | 260 | 345 |
| SB8-M90x...x.../W | M90 | 6 | 4 | 2 | 130 | 56 | 106 | M16x1.5 | 16 | 14 | 9 | 130 | 8 | 92 | 2010 | 2700 | 250 | 335 |
| SB8-M100x...x.../W | M100 | 6 | 4 | 2 | 148 | 60 | 120 | M20x1.5 | 12 | 17 | 10 | 148 | 10 | 99 | 2540 | 3370 | 520 | 690 |
| SB8-M110x...x.../W | M110 | 6 | 4 | 2 | 158 | 60 | 130 | M20x1.5 | 14 | 17 | 10 | 158 | 10 | 99 | 2850 | 3750 | 500 | 660 |
| SB8-M120x...x.../W | M120 | 6 | 4 | 2 | 170 | 64 | 140 | M20x1.5 | 16 | 17 | 12 | 170 | 10 | 105 | 3380 | 4500 | 520 | 690 |
| SB8-M125x...x.../W | M125 | 6 | 4 | 2 | 175 | 64 | 145 | M20x1.5 | 16 | 17 | 12 | 175 | 10 | 105 | 3650 | 4880 | 560 | 750 |
| SB8-M130x...x.../W | M130 | 6 | 4 | 2 | 180 | 76 | 150 | M20x1.5 | 18 | 17 | 12 | 180 | 10 | 118 | 3950 | 5270 | 540 | 720 |
| SB8-M140x...x.../W | M140 | 6 | 4 | 2 | 190 | 76 | 160 | M20x1.5 | 20 | 17 | 12 | 190 | 10 | 118 | 4550 | 6100 | 560 | 750 |
| SB8-M150x...x.../W | M150 | 6 | 4 | 2 | 200 | 76 | 170 | M20x1.5 | 20 | 17 | 12 | 200 | 10 | 118 | 4880 | 6500 | 600 | 800 |
| SB8-M160x...x.../W | M160 | 6 | 4 | - | 210 | 76 | 180 | M20x1.5 | 20 | 17 | 12 | 210 | 10 | 118 | 5280 | 7000 | 650 | 860 |

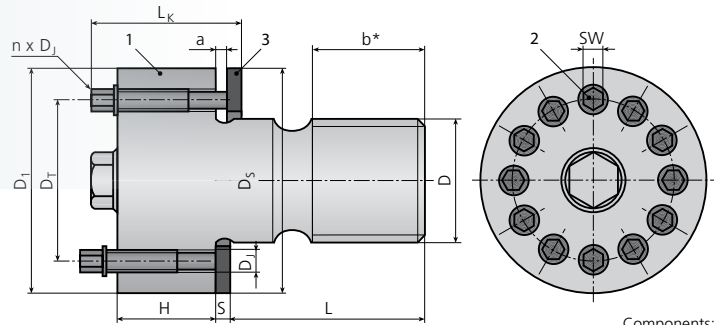
| IMPERIAL Part No. | Size | | | Bolt body | | | Jackbolt | | | Hardened washer | | Height tot. L _k [in] | Preload total | | Torque per Jackbolt | | | |
|----------------------|---------------------|---|----|-----------|----------------|-----------|----------------|------------------------|----|-----------------|------|--|------------------------|------|------------------------|--------------------------------|----------------------------------|----------------------------------|
| | Thread D [in] | Available TPI TPI ₁ TPI ₂ TPI ₃ | | | D ₁ | H [in] | D ₂ | D ₃ [in] | n | SW [in] | a | | D ₅ [in] | S | nom. F ₁ | max. F ₂ [Lb] | nom. M ₁ [Lbft] | max. M ₂ [Lbft] |
| SB8-075-...x.../W | 3/4 | 10 | 16 | - | 1.35 | .70 | 1.00 | 1/4-28 | 4 | 3/16 | 0.24 | 1.35 | 0.13 | 1.38 | 20400 | 27200 | 14 | 18 |
| SB8-087-...x.../W | 7/8 | 9 | 14 | - | 1.48 | .70 | 1.13 | 1/4-28 | 6 | 3/16 | 0.24 | 1.48 | 0.13 | 1.38 | 30600 | 40800 | 14 | 18 |
| SB8-100-...x.../W | 1 | 8 | 12 | 14 | 1.59 | .70 | 1.25 | 1/4-28 | 8 | 3/16 | 0.24 | 1.59 | 0.13 | 1.38 | 40800 | 54400 | 14 | 18 |
| SB8-112-...x.../W | 1-1/8 | 7 | 8 | 12 | 1.83 | .90 | 1.44 | 5/16-24 | 6 | 1/4 | 0.23 | 1.83 | 0.16 | 1.68 | 48600 | 64800 | 27 | 36 |
| SB8-125-...x.../W | 1-1/4 | 7 | 8 | 12 | 1.98 | .90 | 1.56 | 5/16-24 | 8 | 1/4 | 0.23 | 1.98 | 0.16 | 1.68 | 64800 | 86400 | 27 | 36 |
| SB8-137-...x.../W | 1-3/8 | 6 | 8 | 12 | 2.23 | 1.10 | 1.75 | 3/8-24 | 6 | 5/16 | 0.25 | 2.23 | 0.20 | 2.03 | 73800 | 98400 | 49 | 65 |
| SB8-150-...x.../W | 1-1/2 | 6 | 8 | 12 | 2.35 | 1.10 | 1.88 | 3/8-24 | 8 | 5/16 | 0.25 | 2.35 | 0.20 | 2.03 | 98400 | 131200 | 49 | 65 |
| SB8-162-...x.../W | 1-5/8 | 6 | 8 | 12 | 2.47 | 1.10 | 2.00 | 3/8-24 | 10 | 5/16 | 0.25 | 2.47 | 0.20 | 2.03 | 123000 | 164000 | 49 | 65 |
| SB8-175-...x.../W | 1-3/4 | 5 | 8 | 12 | 2.73 | 1.40 | 2.19 | 7/16-20 | 8 | 3/8 | 0.30 | 2.73 | 0.25 | 2.49 | 129600 | 172800 | 75 | 100 |
| SB8-187-...x.../W | 1-7/8 | 6 | 8 | 12 | 2.98 | 1.45 | 2.38 | 1/2-20 | 8 | 7/16 | 0.30 | 2.98 | 0.25 | 2.60 | 175200 | 233600 | 114 | 152 |
| SB8-200-...x.../W | 2 | 4.5 | 8 | 12 | 3.20 | 1.45 | 2.50 | 1/2-20 | 8 | 7/16 | 0.30 | 3.20 | 0.25 | 2.60 | 175200 | 233600 | 114 | 152 |
| SB8-225-...x.../W | 2-1/4 | 4.5 | 8 | 12 | 3.45 | 1.45 | 2.75 | 1/2-20 | 10 | 7/16 | 0.30 | 3.45 | 0.25 | 2.60 | 219000 | 292000 | 114 | 152 |
| SB8-250-...x.../W | 2-1/2 | 4 | 8 | 12 | 3.94 | 1.80 | 3.13 | 5/8-18 | 8 | 9/16 | 0.40 | 3.94 | 0.31 | 3.26 | 285600 | 380800 | 233 | 310 |
| SB8-275-...x.../W | 2-3/4 | 4 | 8 | 12 | 4.20 | 1.80 | 3.38 | 5/8-18 | 10 | 9/16 | 0.40 | 4.20 | 0.31 | 3.26 | 357000 | 476000 | 233 | 310 |
| SB8-300-...x.../W | 3 | 4 | 6 | 8 | 4.47 | 1.80 | 3.63 | 5/8-18 | 12 | 9/16 | 0.40 | 4.45 | 0.31 | 3.26 | 428400 | 571200 | 233 | 310 |
| SB8-325-...x.../W | 3-1/4 | 4 | 6 | 8 | 4.70 | 2.20 | 3.88 | 5/8-18 | 14 | 9/16 | 0.35 | 4.70 | 0.31 | 3.61 | 499800 | 666400 | 233 | 310 |
| SB8-350-...x.../W | 3-1/2 | 4 | 6 | 8 | 4.95 | 2.20 | 4.13 | 5/8-18 | 16 | 9/16 | 0.35 | 4.95 | 0.31 | 3.61 | 571200 | 761600 | 233 | 310 |
| SB8-375-...x.../W | 3-3/4 | 4 | 6 | 8 | 5.44 | 2.35 | 4.50 | 3/4-16 | 14 | 5/8 | 0.40 | 5.44 | 0.38 | 4.01 | 705600 | 940800 | 390 | 520 |
| SB8-400-...x.../W | 4 | 4 | 6 | 8 | 5.70 | 2.35 | 4.75 | 3/4-16 | 16 | 5/8 | 0.40 | 5.70 | 0.38 | 4.01 | 806400 | 1075200 | 390 | 520 |
| SB8-425-...x.../W | 4-1/4 | 4 | 6 | 8 | 5.94 | 2.35 | 5.00 | 3/4-16 | 16 | 5/8 | 0.40 | 5.94 | 0.38 | 4.01 | 806400 | 1075200 | 390 | 520 |
| SB8-450-...x.../W | 4-1/2 | 4 | 6 | 8 | 6.22 | 2.35 | 5.25 | 3/4-16 | 18 | 5/8 | 0.40 | 6.22 | 0.38 | 4.01 | 907200 | 1209600 | 390 | 520 |
| SB8-475-...x.../W | 4-3/4 | 4 | 6 | 8 | 6.44 | 3.00 | 5.50 | 3/4-16 | 18 | 5/8 | 0.50 | 6.44 | 0.38 | 4.76 | 907200 | 1209600 | 390 | 520 |
| SB8-500-...x.../W | 5 | 4 | 6 | 8 | 6.70 | 3.00 | 5.75 | 3/4-16 | 20 | 5/8 | 0.50 | 6.70 | 0.38 | 4.76 | 1008000 | 1344000 | 390 | 520 |
| SB8-525-...x.../W | 5-1/4 | 4 | 6 | 8 | 6.94 | 3.00 | 6.00 | 3/4-16 | 20 | 5/8 | 0.50 | 6.94 | 0.38 | 4.76 | 1008000 | 1344000 | 390 | 520 |
| SB8-550-...x.../W | 5-1/2 | 4 | 6 | 8 | 7.20 | 3.00 | 6.25 | 3/4-16 | 20 | 5/8 | 0.50 | 7.20 | 0.38 | 4.76 | 1008000 | 1344000 | 390 | 520 |
| SB8-575-...x.../W | 5-3/4 | 4 | 6 | 8 | 7.44 | 3.00 | 6.50 | 3/4-16 | 20 | 5/8 | 0.50 | 7.44 | 0.38 | 4.76 | 1008000 | 1344000 | 390 | 520 |
| SB8-600-...x.../W | 6 | 4 | 6 | 8 | 7.69 | 3.00 | 6.75 | 3/4-16 | 20 | 5/8 | 0.50 | 7.69 | 0.38 | 4.76 | 1008000 | 1344000 | 390 | 520 |

Note:

- Maximum values valid for permanent bolting applications, including reaction forces.
- L= Length information required.
- Overall weight will vary with length.
- Other sizes, thread pitches or threads per inch (TPI) may be available. Please contact your local Nord-Lock office.
- Dimensions listed are representative. Typical manufacturing tolerances apply (approximately within 1mm or 1%).

SB12

Superbolt bolt-style tensioner,
high strength



Components:
1 Bolt body
2 Jackbolts
3 Hardened washer
b* = 2 x D

| METRIC | Size | | | Bolt body | | | Jackbolt | | | | Hardened washer | | Height tot. L _k [mm] | Preload total | | Torque per Jackbolt | | |
|--------------------|----------|-------------|---|----------------|-----|----------------|------------------------|----------|----|-----------|------------------------|-----|--|------------------------|------------------------|------------------------|------------------------|-----|
| | Part No. | Thread D | Available Pitch P ₁ P ₂ P ₃ [mm] | D ₁ | H | D ₁ | D ₂ [mm] | n | SW | a [mm] | D ₃ [mm] | S | | nom. F ₁ | max. F ₂ | nom. M ₁ | max. M ₂ | |
| SB12-M20x...x.../W | M20 | 2.5 | 1.5 | 1 | 35 | 18 | 26 | M6x0.75 | 8 | 5 | 4 | 35 | 4 | 33 | 146 | 187 | 14 | 18 |
| SB12-M24x...x.../W | M24 | 3 | 2 | 1.5 | 43 | 24 | 32 | M8x1 | 6 | 6 | 6 | 43 | 4 | 44 | 202 | 268 | 34 | 45 |
| SB12-M27x...x.../W | M27 | 3 | 2 | 1.5 | 47 | 24 | 35 | M8x1 | 8 | 6 | 6 | 47 | 5 | 45 | 270 | 357 | 34 | 45 |
| SB12-M30x...x.../W | M30 | 3.5 | 2 | 1.5 | 50 | 24 | 38 | M8x1 | 10 | 6 | 6 | 50 | 5 | 45 | 317 | 427 | 32 | 43 |
| SB12-M33x...x.../W | M33 | 3.5 | 2 | 1.5 | 57 | 28 | 43 | M10x1.25 | 8 | 8 | 7 | 57 | 5 | 52 | 406 | 539 | 64 | 85 |
| SB12-M36x...x.../W | M36 | 4 | 3 | 1.5 | 60 | 28 | 46 | M10x1.25 | 10 | 8 | 7 | 60 | 5 | 52 | 508 | 675 | 64 | 85 |
| SB12-M39x...x.../W | M39 | 4 | 3 | 1.5 | 63 | 28 | 49 | M10x1.25 | 12 | 8 | 7 | 63 | 5 | 52 | 570 | 760 | 60 | 80 |
| SB12-M42x...x.../W | M42 | 4.5 | 3 | 1.5 | 66 | 28 | 52 | M10x1.25 | 12 | 8 | 7 | 66 | 5 | 52 | 645 | 855 | 68 | 90 |
| SB12-M45x...x.../W | M45 | 4.5 | 3 | 1.5 | 75 | 37 | 57 | M12x1.25 | 10 | 10 | 7 | 75 | 6 | 64 | 760 | 1020 | 114 | 152 |
| SB12-M48x...x.../W | M48 | 5 | 3 | 1.5 | 78 | 37 | 60 | M12x1.25 | 10 | 10 | 7 | 78 | 6 | 64 | 855 | 1140 | 128 | 170 |
| SB12-M52x...x.../W | M52 | 5 | 3 | 2 | 82 | 37 | 64 | M12x1.25 | 12 | 10 | 7 | 82 | 6 | 64 | 995 | 1320 | 124 | 165 |
| SB12-M56x...x.../W | M56 | 5.5 | 4 | 2 | 86 | 37 | 68 | M12x1.25 | 12 | 10 | 7 | 86 | 6 | 64 | 995 | 1320 | 124 | 165 |
| SB12-M60x...x.../W | M60 | 5.5 | 4 | 2 | 90 | 37 | 72 | M12x1.25 | 14 | 10 | 7 | 90 | 6 | 64 | 1160 | 1540 | 124 | 165 |
| SB12-M64x...x.../W | M64 | 6 | 4 | 2 | 103 | 46 | 80 | M16x1.5 | 10 | 14 | 10 | 103 | 8 | 83 | 1310 | 1740 | 260 | 345 |
| SB12-M68x...x.../W | M68 | 6 | 4 | 2 | 107 | 46 | 84 | M16x1.5 | 10 | 14 | 10 | 107 | 8 | 83 | 1480 | 1990 | 295 | 395 |
| SB12-M72x...x.../W | M72 | 6 | 4 | 2 | 111 | 56 | 88 | M16x1.5 | 12 | 14 | 9 | 111 | 8 | 92 | 1690 | 2260 | 280 | 375 |
| SB12-M76x...x.../W | M76 | 6 | 4 | 2 | 116 | 56 | 92 | M16x1.5 | 14 | 14 | 9 | 116 | 8 | 92 | 1900 | 2540 | 270 | 360 |
| SB12-M80x...x.../W | M80 | 6 | 4 | 2 | 120 | 56 | 96 | M16x1.5 | 14 | 14 | 9 | 120 | 8 | 92 | 2110 | 2820 | 300 | 400 |
| SB12-M90x...x.../W | M90 | 6 | 4 | 2 | 139 | 61 | 110 | M20x1.5 | 12 | 17 | 9 | 139 | 10 | 99 | 2740 | 3660 | 560 | 750 |

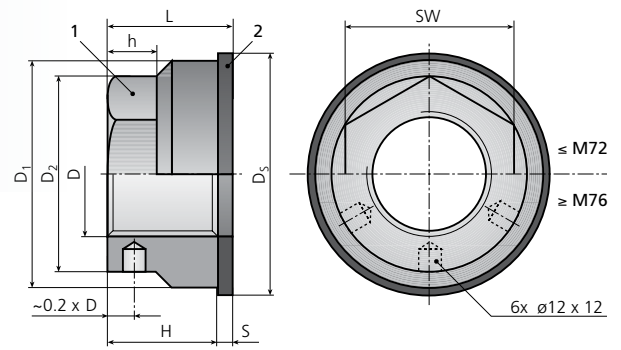
| IMPERIAL | Size | | | Bolt body | | | Jackbolt | | | | Hardened washer | | Height tot. L _k [in] | Preload total | | Torque per Jackbolt | | |
|--------------------|----------|---------------------|---|----------------|-----------|----------------|------------------------|---------|------------|-----------|------------------------|------|--|------------------------|------------------------|------------------------|------------------------|-----|
| | Part No. | Thread D [in] | Available TPI TPI ₁ TPI ₂ TPI ₃ | D ₁ | H [in] | D ₁ | D ₂ [in] | n | SW [in] | a [in] | D ₃ [in] | S | | nom. F ₁ | max. F ₂ | nom. M ₁ | max. M ₂ | |
| SB12-075-...x.../W | 3/4 | 10 | 16 | - | 1.35 | .70 | 1.00 | 1/4-28 | 6 | 3/16 | 0.24 | 1.35 | 0.13 | 1.38 | 27180 | 36240 | 12 | 16 |
| SB12-087-...x.../W | 7/8 | 9 | 14 | - | 1.48 | .70 | 1.13 | 1/4-28 | 8 | 3/16 | 0.24 | 1.48 | 0.13 | 1.38 | 37710 | 50280 | 13 | 17 |
| SB12-100-...x.../W | 1 | 8 | 12 | 14 | 1.73 | .90 | 1.31 | 5/16-24 | 6 | 1/4 | 0.24 | 1.73 | 0.16 | 1.68 | 49590 | 66120 | 28 | 37 |
| SB12-112-...x.../W | 1-1/8 | 7 | 8 | 12 | 1.85 | .90 | 1.44 | 5/16-24 | 8 | 1/4 | 0.23 | 1.83 | 0.16 | 1.68 | 65520 | 87360 | 27 | 36 |
| SB12-125-...x.../W | 1-1/4 | 7 | 8 | 12 | 1.98 | .90 | 1.56 | 5/16-24 | 12 | 1/4 | 0.23 | 1.98 | 0.16 | 1.68 | 83610 | 111480 | 23 | 31 |
| SB12-137-...x.../W | 1-3/8 | 6 | 8 | 12 | 2.23 | 1.10 | 1.75 | 3/8-24 | 10 | 5/16 | 0.25 | 2.23 | 0.20 | 2.03 | 103950 | 138600 | 41 | 55 |
| SB12-150-...x.../W | 1-1/2 | 6 | 8 | 12 | 2.35 | 1.10 | 1.88 | 3/8-24 | 12 | 5/16 | 0.25 | 2.35 | 0.20 | 2.03 | 126000 | 168000 | 42 | 55 |
| SB12-162-...x.../W | 1-5/8 | 6 | 8 | 12 | 2.47 | 1.10 | 2.00 | 3/8-24 | 12 | 5/16 | 0.25 | 2.47 | 0.20 | 2.03 | 151200 | 201600 | 50 | 67 |
| SB12-175-...x.../W | 1-3/4 | 5 | 8 | 12 | 2.73 | 1.40 | 2.19 | 7/16-20 | 12 | 3/8 | 0.30 | 2.73 | 0.25 | 2.49 | 178200 | 237600 | 69 | 92 |
| SB12-187-...x.../W | 1-7/8 | 6 | 8 | 12 | 2.98 | 1.50 | 2.38 | 1/2-20 | 10 | 7/16 | 0.30 | 2.98 | 0.25 | 2.60 | 207000 | 276000 | 108 | 144 |
| SB12-200-...x.../W | 2 | 4.5 | 8 | 12 | 3.20 | 1.50 | 2.50 | 1/2-20 | 12 | 7/16 | 0.30 | 3.20 | 0.25 | 2.60 | 238500 | 318000 | 103 | 138 |
| SB12-225-...x.../W | 2-1/4 | 4.5 | 8 | 12 | 3.45 | 1.60 | 2.75 | 1/2-20 | 12 | 7/16 | 0.30 | 3.45 | 0.25 | 2.85 | 256500 | 342000 | 111 | 148 |
| SB12-250-...x.../W | 2-1/2 | 4 | 8 | 12 | 3.95 | 1.80 | 3.13 | 5/8-18 | 10 | 9/16 | 0.40 | 3.94 | 0.31 | 3.26 | 321750 | 429000 | 210 | 279 |
| SB12-275-...x.../W | 2-3/4 | 4 | 8 | 12 | 4.20 | 2.20 | 3.38 | 5/8-18 | 12 | 9/16 | 0.40 | 4.20 | 0.31 | 3.61 | 394500 | 526000 | 214 | 285 |
| SB12-300-...x.../W | 3 | 4 | 6 | 8 | 4.45 | 2.20 | 3.63 | 5/8-18 | 14 | 9/16 | 0.40 | 4.45 | 0.31 | 3.61 | 474000 | 632000 | 220 | 294 |
| SB12-325-...x.../W | 3-1/4 | 4 | 6 | 8 | 4.95 | 2.35 | 4.00 | 3/4-16 | 12 | 5/8 | 0.35 | 4.95 | 0.38 | 4.01 | 561750 | 749000 | 362 | 483 |
| SB12-350-...x.../W | 3-1/2 | 4 | 6 | 8 | 5.20 | 2.35 | 4.25 | 3/4-16 | 14 | 5/8 | 0.35 | 5.20 | 0.38 | 4.01 | 656250 | 875000 | 363 | 484 |

Note:

- Maximum values valid for permanent bolting applications, including reaction forces.
- L= Length information required.
- Overall weight will vary with length.
- Other sizes, thread pitches or threads per inch (TPI) may be available. Please contact your local Nord-Lock office.
- Dimensions listed are representative. Typical manufacturing tolerances apply (approximately within 1mm or 1%).

SX8

Superbolt Flexnut,
standard



Components:

- 1 Nut body
- 2 Hardened washer

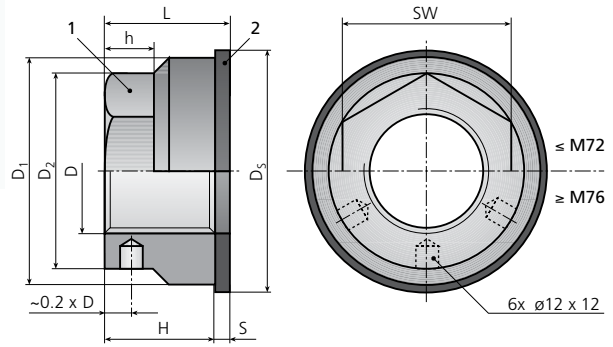
| METRIC Part No. | Size | | | Nut body | | | | | Hardened washer | | Height tot. L [mm] | Weight [kg] | Preload total | | |
|--------------------|-------------|---|-----|----------|----------------|-----|------------------------|----|-----------------|------------------------|--------------------------|----------------|---------------|------------------------|--------------------------------|
| | Thread D | Available Pitch P ₁ P ₂ P ₃ [mm] | | | D ₁ | H | D ₂ [mm] | h | SW | D _s [mm] | | | S | nom. F ₁ | max. F ₂ [kN] |
| SX8-M20x...W | M20 | 2.5 | 1.5 | 1 | 35 | 17 | 30 | 8 | 27 | 38 | 4 | 21 | 0.10 | 110 | 140 |
| SX8-M24x...W | M24 | 3 | 2 | 1.5 | 42 | 20 | 37 | 10 | 33 | 45 | 4 | 24 | 0.15 | 145 | 187 |
| SX8-M27x...W | M27 | 3 | 2 | 1.5 | 47 | 23 | 40 | 11 | 36 | 50 | 5 | 28 | 0.20 | 214 | 285 |
| SX8-M30x...W | M30 | 3.5 | 2 | 1.5 | 52 | 25 | 43 | 12 | 39 | 56 | 5 | 30 | 0.25 | 214 | 285 |
| SX8-M33x...W | M33 | 3.5 | 2 | 1.5 | 57 | 28 | 47 | 13 | 42 | 63 | 6 | 34 | 0.40 | 285 | 380 |
| SX8-M36x...W | M36 | 4 | 3 | 1.5 | 62 | 31 | 53 | 14 | 48 | 69 | 6 | 37 | 0.50 | 343 | 457 |
| SX8-M39x...W | M39 | 4 | 3 | 1.5 | 66 | 33 | 56 | 15 | 51 | 72 | 6 | 39 | 0.60 | 457 | 610 |
| SX8-M42x...W | M42 | 4.5 | 3 | 1.5 | 73 | 36 | 62 | 17 | 56 | 76 | 6 | 42 | 0.75 | 457 | 610 |
| SX8-M45x...W | M45 | 4.5 | 3 | 1.5 | 77 | 38 | 64 | 18 | 57 | 81 | 6 | 44 | 0.85 | 700 | 935 |
| SX8-M48x...W | M48 | 5 | 3 | 1.5 | 83 | 41 | 71 | 19 | 64 | 86 | 6 | 47 | 1.10 | 700 | 935 |
| SX8-M52x...W | M52 | 5 | 3 | 2 | 88 | 44 | 74 | 21 | 67 | 94 | 6 | 50 | 1.25 | 700 | 935 |
| SX8-M56x...W | M56 | 5.5 | 4 | 2 | 97 | 48 | 80 | 22 | 72 | 100 | 6 | 54 | 1.60 | 875 | 1160 |
| SX8-M60x...W | M60 | 5.5 | 4 | 2 | 105 | 51 | 84 | 23 | 76 | 110 | 8 | 59 | 2.05 | 875 | 1160 |
| SX8-M64x...W | M64 | 6 | 4 | 2 | 111 | 54 | 88 | 26 | 80 | 120 | 8 | 62 | 2.35 | 1270 | 1690 |
| SX8-M72x...W | M72 | 6 | 4 | 2 | 125 | 61 | 98 | 29 | 90 | 130 | 8 | 69 | 3.15 | 1270 | 1690 |
| SX8-M76x...W | M76 | 6 | 4 | 2 | 132 | 64 | 109 | 30 | —* | 138 | 10 | 74 | 4.20 | 1900 | 2530 |
| SX8-M80x...W | M80 | 6 | 4 | 2 | 139 | 68 | 120 | 32 | —* | 145 | 10 | 78 | 5.20 | 1900 | 2530 |
| SX8-M90x...W | M90 | 6 | 4 | 2 | 156 | 76 | 135 | 36 | —* | 160 | 10 | 86 | 7.10 | 2530 | 3380 |
| SX8-M100x...W | M100 | 6 | 4 | 2 | 173 | 85 | 150 | 40 | —* | 180 | 10 | 95 | 9.70 | 2530 | 3380 |
| SX8-M110x...W | M110 | 6 | 4 | 2 | 191 | 94 | 165 | 44 | —* | 202 | 10 | 104 | 13.00 | 3150 | 4200 |
| SX8-M120x...W | M120 | 6 | 4 | 2 | 208 | 102 | 180 | 48 | —* | 215 | 12 | 114 | 16.75 | 4200 | 5600 |
| SX8-M125x...W | M125 | 6 | 4 | 2 | 218 | 108 | 188 | 51 | —* | 227 | 12 | 120 | 19.50 | 4200 | 5600 |
| SX8-M130x...W | M130 | 6 | 4 | 2 | 226 | 111 | 195 | 52 | —* | 234 | 12 | 123 | 21.25 | 4700 | 6300 |
| SX8-M140x...W | M140 | 6 | 4 | 2 | 243 | 119 | 210 | 56 | —* | 253 | 12 | 131 | 26.25 | 5250 | 7000 |
| SX8-M150x...W | M150 | 6 | 4 | 2 | 260 | 127 | 225 | 60 | —* | 271 | 12 | 139 | 31.75 | 5250 | 7000 |
| SX8-M160x...W | M160 | 6 | 4 | - | 278 | 136 | 240 | 64 | —* | 290 | 12 | 148 | 38.75 | 6300 | 8400 |

| IMPERIAL Part No. | Size | | | Nut body | | | | | Hardened washer | | Height tot. L [in] | Weight [Lb] | Preload total | | |
|----------------------|------------------|---|----|----------|----------------|------|------------------------|------|-----------------|------------------------|--------------------------|----------------|---------------|------------------------|--------------------------------|
| | Thread D [in] | Available TPI TPI ₁ TPI ₂ TPI ₃ | | | D ₁ | H | D ₂ [in] | h | SW | D _s [in] | | | S | nom. F ₁ | max. F ₂ [Lb] |
| SX8-075...W | 3/4 | 10 | 16 | - | 1.30 | 0.64 | 1.11 | 0.30 | 1 | 1.50 | 0.13 | 0.77 | 0.17 | 20400 | 27200 |
| SX8-087...W | 7/8 | 9 | 14 | - | 1.52 | 0.74 | 1.25 | 0.35 | 1-1/8 | 1.62 | 0.13 | 0.87 | 0.23 | 30600 | 40800 |
| SX8-100...W | 1 | 8 | 12 | 14 | 1.73 | 0.85 | 1.46 | 0.40 | 1-5/16 | 2.00 | 0.60 | 1.01 | 0.38 | 48600 | 64800 |
| SX8-112...W | 1-1/8 | 7 | 8 | 12 | 1.95 | 0.96 | 1.67 | 0.45 | 1-1/2 | 2.12 | 0.16 | 1.12 | 0.52 | 48600 | 64800 |
| SX8-125...W | 1-1/4 | 7 | 8 | 12 | 2.17 | 1.06 | 1.81 | 0.50 | 1-5/8 | 2.50 | 0.19 | 1.25 | 0.73 | 64800 | 86400 |
| SX8-137...W | 1-3/8 | 6 | 8 | 12 | 2.38 | 1.17 | 1.94 | 0.55 | 1-3/4 | 2.50 | 0.19 | 2.13 | 0.87 | 73800 | 98400 |
| SX8-150...W | 1-1/2 | 6 | 8 | 12 | 2.60 | 1.28 | 2.22 | 0.60 | 2 | 3.00 | 0.25 | 1.53 | 1.33 | 98400 | 131200 |
| SX8-162...W | 1-5/8 | 6 | 8 | 12 | 2.81 | 1.38 | 2.36 | 0.65 | 2-1/8 | 3.00 | 0.25 | 1.63 | 1.54 | 98400 | 131200 |
| SX8-175...W | 1-3/4 | 5 | 8 | 12 | 3.03 | 1.49 | 2.50 | 0.70 | 2-1/4 | 3.25 | 0.25 | 1.74 | 1.85 | 129600 | 172800 |
| SX8-187...W | 1-7/8 | 6 | 8 | 12 | 3.25 | 1.59 | 2.78 | 0.75 | 2-1/2 | 3.50 | 0.25 | 1.84 | 2.54 | 175200 | 233600 |
| SX8-200...W | 2 | 4.5 | 8 | 12 | 3.46 | 1.70 | 2.92 | 0.80 | 2-5/8 | 3.75 | 0.25 | 1.95 | 2.76 | 175200 | 233600 |
| SX8-225...W | 2-1/4 | 4.5 | 8 | 12 | 3.90 | 1.91 | 3.30 | 0.90 | 3 | 4.22 | 0.31 | 2.22 | 4.07 | 175200 | 233600 |
| SX8-250...W | 2-1/2 | 4 | 8 | 12 | 4.33 | 2.13 | 3.55 | 1.00 | 3-1/4 | 4.70 | 0.31 | 2.44 | 5.31 | 285600 | 380800 |
| SX8-275...W | 2-3/4 | 4 | 8 | 12 | 4.76 | 2.34 | 3.93 | 1.10 | 3-5/8 | 4.95 | 0.31 | 2.65 | 7.46 | 285600 | 380800 |
| SX8-300...W | 3 | 4 | 6 | 8 | 5.23 | 2.55 | 4.30 | 1.20 | 4 | 5.45 | 0.38 | 2.93 | 9.18 | 428400 | 571200 |
| SX8-325...W | 3-1/4 | 4 | 6 | 8 | 5.63 | 2.76 | 4.88 | 1.30 | 4-1/2 | 5.95 | 0.38 | 3.14 | 12.08 | 428400 | 571200 |
| SX8-350...W | 3-1/2 | 4 | 6 | 8 | 6.06 | 2.98 | 5.25 | 1.40 | 4-7/8 | 6.45 | 0.38 | 3.36 | 14.98 | 571200 | 761600 |
| SX8-375...W | 3-3/4 | 4 | 6 | 8 | 6.50 | 3.19 | 5.63 | 1.50 | 5-1/4 | 6.94 | 0.38 | 3.57 | 18.36 | 571200 | 761600 |
| SX8-400...W | 4 | 4 | 6 | 8 | 6.93 | 3.40 | 6.00 | 1.60 | 5-5/8 | 7.45 | 0.43 | 3.83 | 22.55 | 642600 | 856800 |
| SX8-425...W | 4-1/4 | 4 | 6 | 8 | 7.36 | 3.61 | 6.38 | 1.70 | 5-7/8 | 7.95 | 0.43 | 4.04 | 28.55 | 806400 | 1075200 |
| SX8-450...W | 4-1/2 | 4 | 6 | 8 | 7.79 | 3.83 | 6.75 | 1.80 | 6-1/4 | 8.20 | 0.43 | 4.26 | 30.98 | 806400 | 1075200 |
| SX8-475...W | 4-3/4 | 4 | 6 | 8 | 8.23 | 4.04 | 7.13 | 1.90 | 6-5/8 | 8.70 | 0.43 | 4.47 | 38.95 | 907200 | 1209600 |
| SX8-500...W | 5 | 4 | 6 | 8 | 8.66 | 4.25 | 7.50 | 2.00 | 7 | 9.45 | 0.50 | 4.75 | 46.80 | 1008000 | 1344000 |
| SX8-525...W | 5-1/4 | 4 | 6 | 8 | 9.09 | 4.46 | 7.88 | 2.10 | 7-3/8 | 9.45 | 0.50 | 4.96 | 52.48 | 1108800 | 1478400 |
| SX8-550...W | 5-1/2 | 4 | 6 | 8 | 9.53 | 4.68 | 8.25 | 2.20 | 7-3/4 | 9.95 | 0.50 | 5.18 | 56.03 | 1108800 | 1478400 |
| SX8-575...W | 5-3/4 | 4 | 6 | 8 | 9.96 | 4.89 | 8.63 | 2.30 | 8-1/8 | 10.45 | 0.50 | 5.39 | 65.49 | 1209600 | 1612800 |
| SX8-600...W | 6 | 4 | 6 | 8 | 10.39 | 5.10 | 9.00 | 2.40 | 8-1/2 | 10.95 | 0.50 | 5.60 | 72.84 | 1209600 | 1612800 |

- Note:
- Maximum values valid for permanent bolting applications, including reaction forces.
 - Other sizes, thread pitches or threads per inch (TPI) may be available. Please contact your local Nord-Lock office.
 - Dimensions listed are representative. Typical manufacturing tolerances apply (approximately within 1mm or 1%).
 - * Turning holes instead of hex flats.

SX12

Superbolt Flexnut,
high strength



Components:

- 1 Nut body
- 2 Hardened washer

| METRIC | Size | | | | Nut body | | | | | Hardened washer | | Height tot. L [mm] | Weight [kg] | Preload total | |
|----------------|----------|-------------|---|-----|----------|----------------|-----|------------------------|----|-----------------|------------------------|-----------------------------|----------------|---------------|------------------------|
| | Part No. | Thread D | Available Pitch P ₁ P ₂ P ₃ [mm] | | | D ₁ | H | D ₂ [mm] | h | SW | D _s [mm] | | | S | nom. F ₁ |
| SX12-M20x...W | M20 | 2.5 | 1.5 | 1 | 35 | 20 | 30 | 8 | 27 | 38 | 4 | 24 | 0.10 | 145 | 185 |
| SX12-M24x...W | M24 | 3 | 2 | 1.5 | 42 | 24 | 37 | 10 | 33 | 45 | 4 | 28 | 0.20 | 215 | 285 |
| SX12-M27x...W | M27 | 3 | 2 | 1.5 | 47 | 27 | 40 | 11 | 36 | 50 | 5 | 32 | 0.25 | 285 | 380 |
| SX12-M30x...W | M30 | 3.5 | 2 | 1.5 | 52 | 30 | 43 | 12 | 39 | 56 | 5 | 35 | 0.35 | 285 | 380 |
| SX12-M33x...W | M33 | 3.5 | 2 | 1.5 | 57 | 33 | 47 | 13 | 42 | 63 | 6 | 39 | 0.45 | 455 | 610 |
| SX12-M36x...W | M36 | 4 | 3 | 1.5 | 62 | 36 | 53 | 14 | 48 | 69 | 6 | 42 | 0.60 | 455 | 610 |
| SX12-M39x...W | M39 | 4 | 3 | 1.5 | 66 | 39 | 56 | 15 | 51 | 72 | 6 | 45 | 0.70 | 570 | 760 |
| SX12-M42x...W | M42 | 4.5 | 3 | 1.5 | 73 | 42 | 62 | 17 | 56 | 76 | 6 | 48 | 0.90 | 685 | 915 |
| SX12-M45x...W | M45 | 4.5 | 3 | 1.5 | 77 | 45 | 64 | 18 | 57 | 81 | 6 | 51 | 1.00 | 875 | 1170 |
| SX12-M48x...W | M48 | 5 | 3 | 1.5 | 83 | 48 | 71 | 19 | 64 | 86 | 6 | 54 | 1.30 | 875 | 1170 |
| SX12-M52x...W | M52 | 5 | 3 | 2 | 88 | 52 | 74 | 21 | 67 | 94 | 6 | 58 | 1.50 | 1050 | 1400 |
| SX12-M56x...W | M56 | 5.5 | 4 | 2 | 97 | 56 | 80 | 22 | 72 | 100 | 6 | 62 | 1.95 | 1050 | 1400 |
| SX12-M60x...W | M60 | 5.5 | 4 | 2 | 105 | 60 | 84 | 23 | 76 | 106 | 8 | 68 | 2.45 | 1580 | 2100 |
| SX12-M64x...W | M64 | 6 | 4 | 2 | 111 | 64 | 88 | 26 | 80 | 120 | 8 | 72 | 2.85 | 1580 | 2100 |
| SX12-M72x...W | M72 | 6 | 4 | 2 | 125 | 72 | 98 | 29 | 90 | 130 | 8 | 80 | 3.90 | 1900 | 2530 |
| SX12-M76x...W | M76 | 6 | 4 | 2 | 132 | 76 | 109 | 30 | —* | 138 | 10 | 86 | 5.05 | 2530 | 3370 |
| SX12-M80x...W | M80 | 6 | 4 | 2 | 139 | 80 | 120 | 32 | —* | 145 | 10 | 90 | 6.15 | 2530 | 3370 |
| SX12-M90x...W | M90 | 6 | 4 | 2 | 156 | 90 | 135 | 36 | —* | 160 | 10 | 100 | 8.50 | 3150 | 4200 |
| SX12-M100x...W | M100 | 6 | 4 | 2 | 173 | 100 | 150 | 40 | —* | 180 | 10 | 110 | 12.50 | 3670 | 4900 |
| SX12-M110x...W | M110 | 6 | 4 | 2 | 191 | 110 | 165 | 44 | —* | 202 | 10 | 120 | 15.50 | 4200 | 5600 |
| SX12-M120x...W | M120 | 6 | 4 | 2 | 208 | 120 | 180 | 48 | —* | 215 | 12 | 132 | 20.00 | 4700 | 6300 |
| SX12-M125x...W | M125 | 6 | 4 | 2 | 218 | 125 | 188 | 51 | —* | 227 | 12 | 137 | 22.75 | 4700 | 6300 |
| SX12-M130x...W | M130 | 6 | 4 | 2 | 226 | 130 | 195 | 52 | —* | 234 | 12 | 143 | 21.25 | 5250 | 7000 |
| SX12-M140x...W | M140 | 6 | 4 | 2 | 243 | 140 | 210 | 56 | —* | 253 | 12 | 151 | 26.25 | 5750 | 7700 |
| SX12-M150x...W | M150 | 6 | 4 | 2 | 260 | 150 | 225 | 60 | —* | 271 | 12 | 163 | 31.75 | 5750 | 7700 |
| SX12-M160x...W | M160 | 6 | 4 | — | 278 | 160 | 240 | 64 | —* | 290 | 12 | 178 | 38.75 | 6300 | 8400 |

| IMPERIAL | Size | | | | Nut body | | | | | Hardened washer | | Height tot. L [in] | Weight [Lb] | Preload total | |
|--------------|----------|---------------------|---|----|----------|----------------|------|------------------------|--------|-----------------|------------------------|-----------------------------|----------------|---------------|------------------------|
| | Part No. | Thread D [in] | Available TPI TPI ₁ TPI ₂ TPI ₃ | | | D ₁ | H | D ₂ [in] | h | SW | D _s [in] | | | S | nom. F ₁ |
| SX12-075...W | 3/4 | 10 | 16 | — | 1.30 | 0.75 | 1.11 | 0.3 | 1 | 1.50 | 0.13 | 1.01 | 0.15 | 30600 | 40800 |
| SX12-087...W | 7/8 | 9 | 14 | — | 1.52 | 0.88 | 1.25 | 0.35 | 1-1/8 | 1.62 | 0.13 | 1.14 | 0.29 | 40800 | 54400 |
| SX12-100...W | 1 | 8 | 12 | 14 | 1.73 | 1.00 | 1.46 | 0.4 | 1-5/16 | 2.00 | 0.16 | 1.32 | 0.47 | 48600 | 64800 |
| SX12-112...W | 1-1/8 | 7 | 8 | 12 | 1.95 | 1.13 | 1.67 | 0.45 | 1-1/2 | 2.12 | 0.16 | 1.45 | 0.64 | 64800 | 86400 |
| SX12-125...W | 1-1/4 | 7 | 8 | 12 | 2.17 | 1.25 | 1.81 | 0.5 | 1-5/8 | 2.50 | 0.19 | 1.63 | 0.90 | 73800 | 98400 |
| SX12-137...W | 1-3/8 | 6 | 8 | 12 | 2.38 | 1.38 | 1.94 | 0.55 | 1-3/4 | 2.50 | 0.19 | 1.76 | 1.08 | 98400 | 131200 |
| SX12-150...W | 1-1/2 | 6 | 8 | 12 | 2.60 | 1.50 | 2.22 | 0.6 | 2 | 3.00 | 0.25 | 2.00 | 1.59 | 129600 | 172800 |
| SX12-162...W | 1-5/8 | 6 | 8 | 12 | 2.81 | 1.63 | 2.36 | 0.65 | 2-1/8 | 3.00 | 0.25 | 2.13 | 1.90 | 129600 | 172800 |
| SX12-175...W | 1-3/4 | 5 | 8 | 12 | 3.03 | 1.75 | 2.5 | 0.7 | 2-1/4 | 3.25 | 0.25 | 2.25 | 2.28 | 194400 | 259200 |
| SX12-187...W | 1-7/8 | 6 | 8 | 12 | 3.25 | 1.88 | 2.78 | 0.75 | 2-1/2 | 3.50 | 0.25 | 2.38 | 2.91 | 175200 | 233600 |
| SX12-200...W | 2 | 4.5 | 8 | 12 | 3.46 | 2.00 | 2.92 | 0.8 | 2-5/8 | 3.75 | 0.25 | 2.50 | 3.43 | 262800 | 350400 |
| SX12-225...W | 2-1/4 | 4.5 | 8 | 12 | 3.90 | 2.25 | 3.3 | 0.9 | 3 | 4.22 | 0.31 | 2.87 | 5.01 | 262800 | 350400 |
| SX12-250...W | 2-1/2 | 4 | 8 | 12 | 4.33 | 2.50 | 3.55 | 1 | 3-1/4 | 4.70 | 0.31 | 3.12 | 6.51 | 428400 | 571200 |
| SX12-275...W | 2-3/4 | 4 | 8 | 12 | 4.76 | 2.75 | 3.93 | 1.1 | 3-5/8 | 4.95 | 0.31 | 3.37 | 8.42 | 428400 | 571200 |
| SX12-300...W | 3 | 4 | 6 | 8 | 5.20 | 3.00 | 4.3 | 1.2 | 4 | 5.45 | 0.38 | 3.76 | 11.33 | 571200 | 761600 |
| SX12-325...W | 3-1/4 | 4 | 6 | 8 | 5.63 | 3.25 | 4.88 | 1.3 | 4-1/2 | 5.95 | 0.38 | 4.01 | 14.93 | 571200 | 761600 |
| SX12-350...W | 3-1/2 | 4 | 6 | 8 | 6.06 | 3.50 | 5.25 | 1.4 | 4-7/8 | 6.45 | 0.38 | 4.26 | 18.27 | 642600 | 856800 |
| SX12-375...W | 3-3/4 | 4 | 6 | 8 | 6.50 | 3.75 | 5.63 | 1.5 | 5-1/4 | 6.95 | 0.38 | 4.51 | 22.61 | 642600 | 856800 |
| SX12-400...W | 4 | 4 | 6 | 8 | 6.93 | 4.00 | 6 | 1.6 | 5-5/8 | 7.45 | 0.43 | 4.86 | 27.65 | 714000 | 952000 |
| SX12-425...W | 4-1/4 | 4 | 6 | 8 | 7.36 | 4.25 | 6.38 | 1.7 | 5-7/8 | 7.95 | 0.43 | 5.11 | 32.97 | 907200 | 1209600 |
| SX12-450...W | 4-1/2 | 4 | 6 | 8 | 7.79 | 4.50 | 6.75 | 1.8 | 6-1/4 | 8.20 | 0.43 | 5.36 | 38.42 | 907200 | 1209600 |
| SX12-475...W | 4-3/4 | 4 | 6 | 8 | 8.23 | 4.75 | 7.13 | 1.9 | 6-5/8 | 8.70 | 0.43 | 5.61 | 45.09 | 1008000 | 1344000 |
| SX12-500...W | 5 | 4 | 6 | 8 | 8.66 | 5.00 | 7.5 | 2 | 7 | 9.45 | 0.50 | 6.00 | 53.75 | 1008000 | 1344000 |
| SX12-525...W | 5-1/4 | 4 | 6 | 8 | 9.09 | 5.25 | 7.88 | 2.1 | 7-3/8 | 9.45 | 0.50 | 6.25 | 60.81 | 1108800 | 1478400 |
| SX12-550...W | 5-1/2 | 4 | 6 | 8 | 9.53 | 5.50 | 8.25 | 2.2 | 7-3/4 | 9.95 | 0.50 | 6.50 | 69.67 | 1108800 | 1478400 |
| SX12-575...W | 5-3/4 | 4 | 6 | 8 | 9.96 | 5.75 | 8.63 | 2.3 | 8-1/8 | 10.45 | 0.50 | 6.75 | 79.37 | 1209600 | 1612800 |
| SX12-600...W | 6 | 4 | 6 | 8 | 10.39 | 6.00 | 9 | 2.4 | 8-1/2 | 10.95 | 0.50 | 7.00 | 89.75 | 1209600 | 1612800 |

- Note:
- Maximum values valid for permanent bolting applications, including reaction forces.
 - Other sizes, thread pitches or threads per inch (TPI) may be available. Please contact your local Nord-Lock office.
 - Dimensions listed are representative. Typical manufacturing tolerances apply (approximately within 1mm or 1%).
 - * Turning holes instead of hex flats.

Joint design and installation information



Stud bolts

Superbolt nut-style tensioners used on studs into blind tapped holes. Tightening in pure tension means studs will not gall in the tapped hole and can be easily removed.



Through holes

Common application of double ended studs use Superbolt nut-style tensioners and a reaction nut (Flexnut) on the other end. Flexnuts add elasticity to the stud, increasing the fatigue life.



Tapped holes

Superbolt bolt-style tensioners are often used into blind tapped holes. MJT bolt heads are more compact and fit into tighter areas, additionally they also reduce the number of parts.



Counter bores

Superbolt bolt-style tensioners can be provided to fit completely into small counterbores. An internal installation removal hex allows for easy turning into position.

Instruction manual with every delivery

With Superbolt tensioners you have chosen a technologically superior product that is purely mechanical. The simple steps for installation and removal ensure correct assembly and increase safety, speed and service life.

You can additionally access this information as PDF's & video through www.superbolt.com

For further information on possible uses, applications and maintenance of Superbolt pretensioning systems please contact your local Nord-Lock office.

Accessories & consumables

Installation and removal can be improved with Superbolt quality accessories and consumables. They enhance product installation and removal, thereby protecting your investment in safe bolted connections. We can provide:

- Lubricants
- Protective caps
- Sockets
- Torque wrenches
- Pneumatic wrenches

The use of non-original parts can reduce the function of Superbolt tensioners considerably and can potentially cause direct as well as indirect damage.

Installation support

You too can profit from our expertise for installation of your Superbolt tensioners. Our trained staff can provide the following service:

- Support of your staff during installation
- Installation training of your staff
- Complete installation of bolted connections

Note: Installations performed by Nord-Lock are subject to contract.



Helpful tips

Important considerations when applying Superbolt multi-jackbolt tensioners for various field application scenarios.



Centering of washer on thread
Make sure the washer is not resting on one side of undercuts or radius of mating studs.



Material with low strength
A thicker / larger washer or an additional washer may be necessary when materials with low strength are used on the joint.



Large or slotted holes
An additional washer or a large washer is necessary to transfer the bolt load to a supported surface.



Space requirements
Check for space restrictions for socket and wrench combination.



Tensioner at the end of stud
An additional distance spacer may be necessary to bring tensioner closer to the end of the stud for proper socket fit.



Very long through stud
A special tensioner with a larger circle of jackbolts may be necessary to properly access the jackbolts for tightening.

If your application corresponds to one or more of the above mentioned design criteria, contact your local Nord-Lock office and we will help you find the best solution.

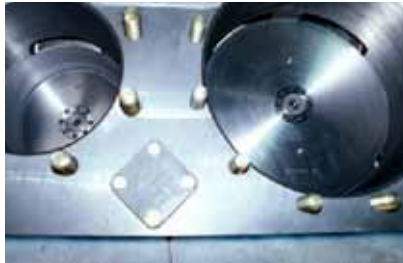
Our engineers can **solve** your bolting challenges

Gas Compression

Applications include: Crosshead jamnuts, counterweight crosshead jamnuts, couplings, connecting rod nuts, distance pieces, end plates, compressor cylinders, doghouse bolting, piston end nuts, valve jackbolts and more.



As seen on this reciprocating compressor distance piece, our products can be retrofitted in many limited space applications. High torque requirements can now be achieved with small hand held tools.



Multi-jackbolt tensioners make the installation of pistons easier. Only hand tools are required for installation and removal, and the reliability of this labyrinth-piston compressor is greatly increased over many years of usage.



Fifty-two 2" (50,8 mm) tensioners on this centrifugal compressor were tightened by two men in 2-1/2 hours. The old method required three men working an eight hour shift.

Oil, Gas & Petrochemical

Applications include: Top drives, flame towers, blow out preventors, mud pumps, fracturing pumps, reactor covers, heat exchanger heads, turbine control valves, turbine joints, pipe flanges, anchorbolts, couplings and more.



With a 2,500 horsepower rating, and 273,000 lb (1215 kN) rod load, this Weir SPM Destiny™ Fracturing Pump utilizes Superbolt tensioners to make bolting safer and easier in the field, as only hand tools are needed.



A special multi-jackbolt tensioner series has been developed for the unique needs of the Oil & Gas industry. The washer is captive to the nut body to prevent loss of the washer, and it features corrosion protection to address the harsh conditions. Used here on a riser clamp.



Large methanol reactor with 11" (279,4 mm) studs. Six hours with Superbolt vs. two days with Hydraulic Tensioners.

Mining

Applications include: Boom points, ring gears, side frames, hoist motors and pedestal tie-downs, draglines, pinion gears, hoist and drag drums, split gears, bolted segments, excavator bearing caps and more.



The bolting challenges on this crusher included limited space and extreme working conditions. Multi-jackbolt tensioners proved to be the ideal solution. Only 43 lb•ft (58 Nm) of torque on the jackbolts was needed, the equivalent torque on the standard bolt is 2,150 lb•ft (2915 Nm). The use of a small 3/8" drive hand held torque wrench was much safer and more accurate than previous bolting methods.



Large power shovels have many critical bolting applications. Multi-jackbolt tensioners are used extensively on these machines, all over the world. Seen above, MT tensioners on a ring gear.



On these hoist & drag drums, the high preload of 428,400 lbf (1906 kN) was achieved with only 233 lb•ft (316 Nm) of torque required on each jackbolt. The added flex from the Superbolt tensioners more than doubled the elasticity of the bolted connection.

Presses

Applications include: Press columns, tie rods, bearing blocks, high pressure piping, die cushions, cylinder ram bolting, anchorbolts and more.



The world largest bolt-style multi-jackbolt tensioner 28" diameter x 40' long (711,2 mm diameter and 12,2 m long). This was used on a large hydraulic forging press.



Eight Superbolt column nuts required only 12 man hours for installation vs. 2-1/2 full days for heating of columns.



Split-Nut thrust collars are a custom designed product from Superbolt that are much easier to install and remove than other large threaded fasteners on large press columns.

Power Generation

Applications include: Turbine couplings, stay rods, manway doors, inlet flanges, boiler circ pump main flange, boiler feed pump head and barrel casing, blade bolts, turbine wheel to shaft bolting, pelton turbine nozzels, servo piston nuts, bearing housings and more.



Flange coupling of the gear box on a wind turbine. An Expansion bolt with integrated Superbolt technology is used to transmit the enormous torque. The solution is also compact and does not add a lot of weight, which was a requirement.



Superbolt Expansion bolts are ideally suited for shaft couplings, as seen here on this Francis type pump/generator shaft coupling at a pumped-storage facility.



With Superbolt tensioners, joints in awkward positions in confined spaces can be tightened. This Francis wheel has regular maintenance requirements which became manageable with MJTs connecting the wheel to the shaft.

Steel Mills

Applications include: Thrust collars, coupling bolts, tie rod nuts, anchor bolts, mill motors, bearings, shaft mounts, roll tables, BOF and EAF applications, coilers, hydraulic cylinders, cranes, slitter knives, universal joints, back-up roll bearings, work roll bearings, pipe mills and more.



Thrust collars on bearing chocks create higher preloads than the previous method and therefore even the heaviest peakloads can be absorbed. The roll necks are lasting and the production runs smoothly.



Superbolt mill motor nuts are special jamnuts designed to fasten brake wheels, couplings, and pulleys to mill motors. They are directly interchangeable with nuts supplied by the motor manufacturers.



EAF electrode arm assembly. With the MJT, a high clamp load could be achieved to withstand the extreme vibration acting on the electrode arm.

Your **partner** in bolting solutions

Other technologies

The Nord-Lock Group product offering consists of several technologies, all developed and designed in-house.

Expansion Bolts

Utilizing Superbolt technology, Nord-Lock is able to offer tremendous radial expansion and joint clamping power in one bolting system. The Expansion bolts replace traditional interference or force fit bolts. Radial expansion is critical for rotating couplings or alignment systems that require the bolts to be able to handle transfer of forces in shear.

The key to this technology is the split expansion sleeve that mates with the customer's machine holes, along with an internal taper that accepts a mating tapered stud. The split sleeve allows larger tolerances on mating parts than is traditionally required with interference fit or hydraulic systems, saving critical machining time.

Expansion Bolts are available for blind hole and through hole applications. For more information, please visit www.superbolt.com

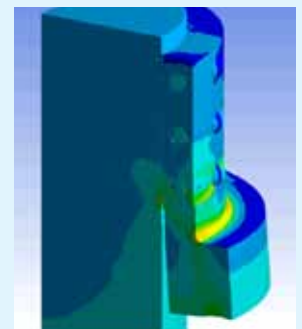


Wedge-locking

Our range of wedge-locking products include washers, wheel nuts, combi bolts and more. Further information is available at www.nord-lock.com.



Customer specials



We can find the solution to any bolting problem. With a strong focus on secure and reliable joint since 1982, we have a history of thousands of special designs to prove our capabilities. We are highly adaptable to space constraints and environmental conditions that no other bolting systems can match. Lean on our experience from the beginning of your equipment design or lean on us if you have an existing bolting problem that you need to solve.



Industry specific solutions

We have a range of pre-engineered products that are tested and proven for specific industries, such as Oil & Gas, Steel, Mining & Quarrying and Manufacturing & Processing (e.g. chemical industry) and many more. More information available on www.superbolt.com

Performance Services

Nord-Lock Performance Services is a partnership project offered to key customers. The purpose is to increase profitability by generating a complete and detailed view of the design of bolted connections and securing methods. As each project is designed to meet customer specific needs and challenges, both current applications and future designs can be investigated.

In addition, our global chain of services supports you throughout sourcing, design / production and aftermarket.

Presence in your market

The Nord-Lock Group includes subsidiaries, in-house laboratories on three continents, and a worldwide network of authorized distributors. In addition, our Field Application Engineers and Global Industry Managers with specialist skills are trained to understand your specific needs and challenges. Our philosophy is to be close to our customers, to speak your language and to help you achieve secure and effective bolted joints.

To find the complete list of Nord-Lock representatives, please go to www.nord-lock.com/contact



Nord-Lock global chain of services

Sourcing

Life Cycle Profitability and cost justification

Cost savings generated by optimized bolted joints.

Design / Production

Field Application Engineer, Technical Centers & Project Engineering

Joint calculation and simulation. Real life testing and validation. Custom designs.

Aftermarket

On-site and remote product training as well as service and retrofitting

Increasing the knowledge for operators and engineers. Installation support.

When **safety** really matters



Joining parts together is one of the most critical steps when delivering a product or system. The Nord-Lock Group is focused on solving the toughest bolting challenges. We offer a unique combination of bolting expertise and a wide product range, including wedge-locking technology and Superbolt tensioners — all designed and developed in-house.

Nord-Lock holds decades of documented success in every major industry, including oil and gas, energy, transportation and mining. Our Production System includes rigorous internal testing and full traceability, and our products hold several certificates from independent institutes including AbP, ABS, DIBt, DNV and TÜV.

The tools available through Nord-Lock Performance Services add value throughout a project and ensure that your bolting application pays back multiple times. We can also assist you in the design phase with joint simulation and testing. Additionally, we help you ensure successful operations over time with our onsite support and remote product training.

Our mission is to safeguard human lives and customer investments by securing the world's most demanding applications. The Nord-Lock Group looks forward to being your partner in bolting solutions.

Authorized distributor:

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Bolt securing systems