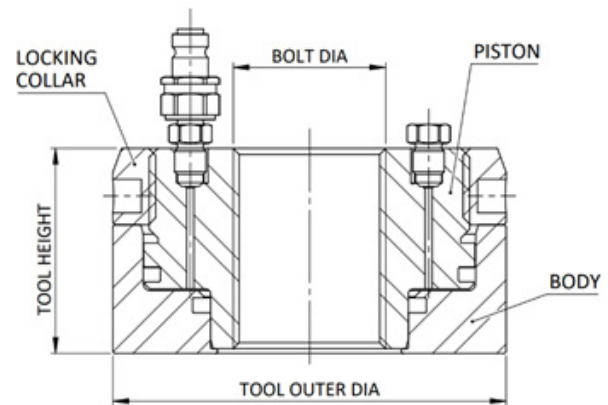


## ACU-TCN™ Hydraulic Nuts – Hydraulic tensioner and fastener, all-in-one

ACUTENSION provide various ranges of hydraulic nut that are used to permanently or temporarily replace existing application standard nuts. Hydraulic nuts allow bolts to be tensioned to high and precise preloads, which are then effortlessly retained using an integral locking mechanism.

Suitable for a variety of industrial applications, **ACU-TCN™** nuts are very quick and easy to install. Multiple nuts can be installed and harnessed together using a common hydraulic feed, yielding enormous time savings. Not only does this ensure identical, precise preloading of all bolts at once, but it greatly accelerates both tightening and loosening procedures; minimising downtime and saving operators significant time and cost.



The **ACU-TCN™** is of ACUTENSION's own top-collar design, which incorporates an external locking collar positioned at the top of the hydraulic nut to retain preload. As **ACU-TCN™** is pressurised, the hydraulic nut will develop a load proportional to the pressure applied. The joint begins to compress and the bolt stretches, in turn creating a gap between the body and collar of the hydraulic nut. The locking collar is subsequently rotated downwards under minimal effort, abutting to the body. Once the hydraulic pressure is then released, this applied hydraulic preload is safely and accurately converted to mechanical preload in the joint.

### Key features:

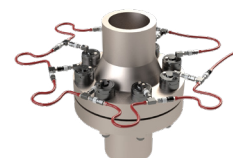
- Bolt sizes from M20 to >M300
- Long stroke designs available
- Single or twin hydraulic ports
- Direct or swivel quick connections
- Superior surface finish for advanced corrosion resistance
- Safe over-stroke mechanism
- Long life performance
- Custom designs to suit tight, narrow, confined spaces
- Bottom collar versions also available
- High temperature versions available
- Ingress protection caps available



\*All tools shown below are rated to 250 MPa maximum working pressure.

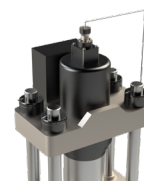
## ACU-TCN™ – STANDARD RANGE

| Nut Size Number | Bolt Diameter |       | Hydraulic Pressure Area (HPA) | Max Load |       | Max Stroke |     | Nut Outer Diameter |     | Nut Height. Ex fittings |     | Total Nut Weight |      |
|-----------------|---------------|-------|-------------------------------|----------|-------|------------|-----|--------------------|-----|-------------------------|-----|------------------|------|
|                 | mm            | Inch  |                               | kN       | klbf  | mm         | in  | mm                 | in  | mm                      | in  | kg               | lbs  |
| ACU-TCN-1       | M22           | 3/4   | 841                           | 191      | 43.0  | 6          | 0.2 | 51                 | 2.0 | 53                      | 2.1 | 0.7              | 1.5  |
| ACU-TCN-2       | M24           | 7/8   | 933                           | 212      | 47.7  | 6          | 0.2 | 53                 | 2.1 | 53                      | 2.1 | 0.7              | 1.5  |
| ACU-TCN-3       | M27           | 1     | 1106                          | 252      | 56.6  | 6          | 0.2 | 58                 | 2.3 | 53                      | 2.1 | 0.8              | 1.8  |
| ACU-TCN-4       | M30           | 1 1/8 | 1355                          | 308      | 69.3  | 6          | 0.2 | 64                 | 2.5 | 62                      | 2.4 | 1.2              | 2.6  |
| ACU-TCN-5       | M33           | 1 1/4 | 1673                          | 381      | 85.5  | 6          | 0.2 | 71                 | 2.8 | 62                      | 2.4 | 1.5              | 3.3  |
| ACU-TCN-6       | M36           | 1 3/8 | 1974                          | 449      | 100.9 | 6          | 0.2 | 77                 | 3.0 | 63                      | 2.5 | 1.8              | 4.0  |
| ACU-TCN-7       | M39           | 1 1/2 | 2149                          | 489      | 109.9 | 6          | 0.2 | 80                 | 3.1 | 68                      | 2.7 | 2                | 4.4  |
| ACU-TCN-8       | M42           | 1 5/8 | 2224                          | 506      | 113.8 | 6          | 0.2 | 85                 | 3.3 | 68                      | 2.7 | 2.2              | 4.9  |
| ACU-TCN-9       | M45           | 1 3/4 | 2590                          | 589      | 132.4 | 6          | 0.2 | 92                 | 3.6 | 68                      | 2.7 | 2.6              | 5.7  |
| ACU-TCN-10      | M48           | 1 7/8 | 2914                          | 663      | 149.0 | 8          | 0.3 | 98                 | 3.9 | 77                      | 3.0 | 3.4              | 7.5  |
| ACU-TCN-11      | M52           | 2     | 3487                          | 793      | 178.3 | 8          | 0.3 | 105                | 4.1 | 77                      | 3.0 | 3.9              | 8.6  |
| ACU-TCN-12      | M56           |       | 4026                          | 916      | 205.9 | 8          | 0.3 | 113                | 4.4 | 77                      | 3.0 | 4.5              | 9.9  |
| ACU-TCN-13      | M60           | 2 1/4 | 4679                          | 1065     | 239.3 | 8          | 0.3 | 122                | 4.8 | 77                      | 3.0 | 5.3              | 11.7 |
| ACU-TCN-14      | M64           | 2 1/2 | 5318                          | 1210     | 272.0 | 8          | 0.3 | 130                | 5.1 | 77                      | 3.0 | 6                | 13.2 |
| ACU-TCN-15      | M68           | 2 3/4 | 6047                          | 1376     | 309.2 | 10         | 0.4 | 137                | 5.4 | 83                      | 3.3 | 7.2              | 15.9 |
| ACU-TCN-16      | M72           |       | 6861                          | 1561     | 350.9 | 10         | 0.4 | 146                | 5.7 | 83                      | 3.3 | 8.2              | 18.1 |
| ACU-TCN-17      | M76           | 3     | 7707                          | 1753     | 394.1 | 10         | 0.4 | 151                | 5.9 | 93                      | 3.7 | 9.7              | 21.4 |
| ACU-TCN-18      | M80           |       | 8601                          | 1957     | 439.9 | 10         | 0.4 | 162                | 6.4 | 93                      | 3.7 | 11.3             | 24.9 |
| ACU-TCN-19      | M85           | 3 1/4 | 9739                          | 2225     | 500.3 | 10         | 0.4 | 175                | 6.9 | 93                      | 3.7 | 13.3             | 29.3 |
| ACU-TCN-20      | M90           | 3 1/2 | 10964                         | 2516     | 565.7 | 10         | 0.4 | 184                | 7.2 | 93                      | 3.7 | 14.6             | 32.2 |
| ACU-TCN-21      | M95           | 3 3/4 | 12245                         | 2822     | 634.5 | 10         | 0.4 | 194                | 7.6 | 93                      | 3.7 | 16.3             | 35.9 |
| ACU-TCN-22      | M100          | 4     | 13587                         | 3145     | 707.1 | 15         | 0.6 | 205                | 8.1 | 106                     | 4.2 | 20.8             | 45.9 |



## ACU-TCN™ – HIGH LOAD (10.9 / 95% YIELD) RANGE

| Nut Size Number | Bolt Diameter |       | Hydraulic Pressure Area (HPA) | Max Load |        | Max Stroke |     | Nut Outer Diameter |      | Nut Height. Ex fittings |     | Total Nut Weight |      |
|-----------------|---------------|-------|-------------------------------|----------|--------|------------|-----|--------------------|------|-------------------------|-----|------------------|------|
|                 | mm            | Inch  |                               | kN       | klbf   | mm         | in  | mm                 | in   | mm                      | in  | kg               | lbs  |
| ACU-TCN109-1    | M22           | 3/4   | 1172                          | 267      | 59.9   | 6          | 0.2 | 58                 | 2.3  | 53                      | 2.1 | 0.9              | 2.0  |
| ACU-TCN109-2    | M24           | 7/8   | 1304                          | 297      | 66.7   | 6          | 0.2 | 60.5               | 2.4  | 53                      | 2.1 | 1                | 2.2  |
| ACU-TCN109-3    | M27           | 1     | 1698                          | 386      | 86.8   | 6          | 0.2 | 69                 | 2.7  | 53                      | 2.1 | 1.2              | 2.6  |
| ACU-TCN109-4    | M30           | 1 1/8 | 2073                          | 472      | 106.0  | 6          | 0.2 | 75.5               | 3.0  | 62                      | 2.4 | 1.7              | 3.7  |
| ACU-TCN109-5    | M33           | 1 1/4 | 2563                          | 583      | 131.1  | 6          | 0.2 | 84                 | 3.3  | 62                      | 2.4 | 2                | 4.4  |
| ACU-TCN109-6    | M36           | 1 3/8 | 3019                          | 687      | 154.4  | 6          | 0.2 | 91                 | 3.6  | 62                      | 2.4 | 2.4              | 5.3  |
| ACU-TCN109-7    | M39           | 1 1/2 | 3605                          | 820      | 184.4  | 6          | 0.2 | 100                | 3.9  | 68                      | 2.7 | 3.5              | 7.7  |
| ACU-TCN109-8    | M42           | 1 5/8 | 4142                          | 942      | 211.8  | 6          | 0.2 | 106                | 4.2  | 68                      | 2.7 | 3.9              | 8.6  |
| ACU-TCN109-9    | M45           | 1 3/4 | 4824                          | 1097     | 246.7  | 6          | 0.2 | 113.5              | 4.5  | 68                      | 2.7 | 4.4              | 9.7  |
| ACU-TCN109-10   | M48           | 1 7/8 | 5492                          | 1249     | 280.9  | 8          | 0.3 | 123                | 4.8  | 77                      | 3.0 | 6                | 13.2 |
| ACU-TCN109-11   | M52           | 2     | 6485                          | 1475     | 331.7  | 8          | 0.3 | 133                | 5.2  | 77                      | 3.0 | 7                | 15.4 |
| ACU-TCN109-12   | M56           |       | 7485                          | 1703     | 382.8  | 8          | 0.3 | 141                | 5.6  | 77                      | 3.0 | 7.9              | 17.4 |
| ACU-TCN109-13   | M60           | 2 1/4 | 8720                          | 1984     | 446.0  | 8          | 0.3 | 152                | 6.0  | 77                      | 3.0 | 9                | 19.8 |
| ACU-TCN109-14   | M64           | 2 1/2 | 9873                          | 2246     | 504.9  | 8          | 0.3 | 162                | 6.4  | 77                      | 3.0 | 10.6             | 23.4 |
| ACU-TCN109-15   | M68           | 2 3/4 | 11262                         | 2562     | 576.0  | 10         | 0.4 | 173                | 6.8  | 83                      | 3.3 | 12.8             | 28.2 |
| ACU-TCN109-16   | M72           |       | 12767                         | 2904     | 652.9  | 10         | 0.4 | 184                | 7.2  | 83                      | 3.3 | 14.2             | 31.3 |
| ACU-TCN109-17   | M76           | 3     | 14339                         | 3262     | 733.4  | 10         | 0.4 | 198                | 7.8  | 93                      | 3.7 | 19               | 41.9 |
| ACU-TCN109-18   | M80           |       | 16032                         | 3647     | 819.9  | 10         | 0.4 | 207                | 8.1  | 93                      | 3.7 | 20.9             | 46.1 |
| ACU-TCN109-19   | M85           | 3 1/4 | 18175                         | 4153     | 933.6  | 10         | 0.4 | 220                | 8.7  | 93                      | 3.7 | 23.3             | 51.4 |
| ACU-TCN109-20   | M90           | 3 1/2 | 20453                         | 4694     | 1055.2 | 10         | 0.4 | 235                | 9.3  | 93                      | 3.7 | 25.8             | 56.9 |
| ACU-TCN109-21   | M95           | 3 3/4 | 22831                         | 5263     | 1183.0 | 10         | 0.4 | 245                | 9.6  | 93                      | 3.7 | 28.4             | 62.6 |
| ACU-TCN109-22   | M100          | 4     | 25341                         | 5866     | 1318.8 | 15         | 0.6 | 260                | 10.2 | 106                     | 4.2 | 35.4             | 78.0 |



## ACU-TCN™ – Security assured.

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