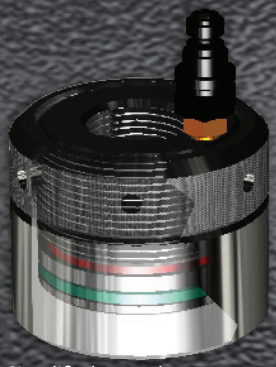
www.torcup.com

Hydraulic Nuts
Series: Top Collar Type



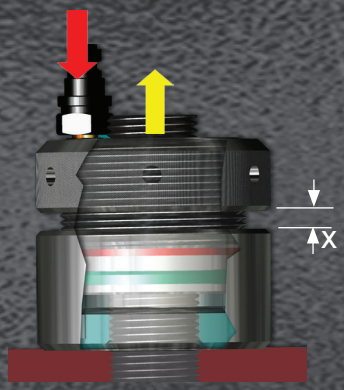
Simplified procedure.
Note: for clarity the pressure hydraulic hose is not shown on the following diagrams.

TorcUP Nuts replace existing hexagon nuts to give a rapid, accurate and uniform bolt load to any bolted joint. The TorcUP Nut offers a method of bolt tensioning multi-bolt applications which greatly improves the integrity of the joint. The speed in which joints can be tensioned and detensioned shows an extraordinary time savings over conventional detachable bolt tensioning systems. An existing oil company has recently reported a massive time saving of 1750% over their old bolt tensioning system, through the use of TorcUP hydraulic nuts.

Assemble the Hydraulic Nut onto the bolt to be tensioned.

The Principle

Hydraulic pressure is applied simultaneously to each TorcUP Nut. All frictional factors connected with conventional bolt tightening methods are alleviated since TorcUP Nuts apply a direct axial force to the bolt which generates bolt elongation. This elongation/tension is permanently retained by means of the load retaining collar. TorcUP Nuts have been designed to be as compact as possible, allowing more nuts to fit on an application. In most cases they produce a residual bolt stress of 45000 lbs/In2 (310N/mm2), which is more than adequate for most bolted joint applications. As pressure is applied to the TorcUP Nuts not only does the bolt elongate but also joint compression occurs. Since many applications incorporate some form of gasket, this joint compression can be substantial. In order to withstand this, all TorcUP Nuts are capable of considerable piston movement. This allows the TorcUP Nuts the ability to tension a complete joint in only one pressurization sequence, which can result in significant high time savings.



Pressurise the hydraulic nut to the target pressure. The bolt will stretch and a gap will appear at X. Hold the pressure.

Using a tommy bar, rotate the load retaining collar up against the main body of the nut. Release the pressure.
The bolt is loaded.

Main Features and Benefits

- Standard TorcUP Hydraulic Nuts are suitable for use in temperatures up to 100ºC. For temperatures above this level special seals are available, contact TorcUP for further details
- The use of machine cut polyurethane seals, ensures a reliable leak free Tensioning system
- TorcUP Nuts can be used with spherical washers where joint members are badly out of square
- Where the standard TorcUP Nuts are not suitable, special designs are available on request

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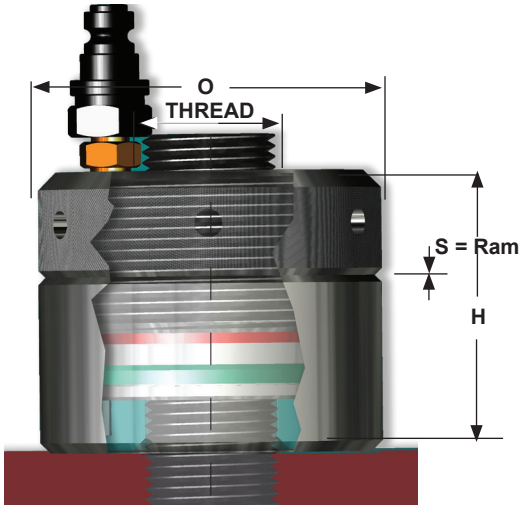


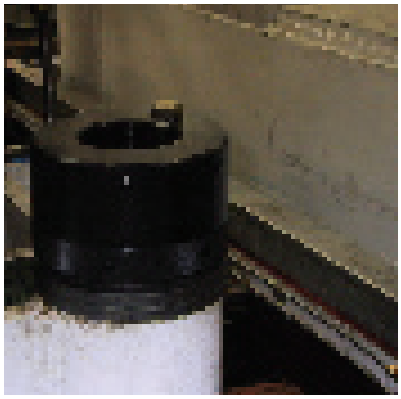
Use either a TorcUP air driven pump unit or a TorcUP hand operated pump unit to apply pressure to TorcUP Hydraulic Nuts.

Notes

Maximum working pressure = 33000 psi : 2275 bar

If the standard Hydraulic Nuts are not suitable TorcUP offer special designs on request.

General Tool Specifications

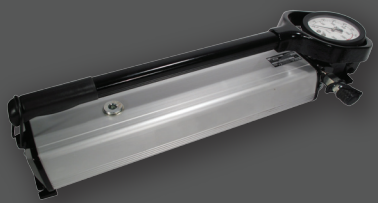


Part No Inch	Thread Inches	Thread Metric	Part No Metric	Load kn	Load Tons	O mm	H mm	S mm
TCHN:0875	7/8	M22	TCHN:0022	190	19.1	54	40	5
TCHN:1000	1	M24	TCHN:0024	205	20.6	57	44	5
TCHN:1125	1 1/8	M27	TCHN:0027	220	22.1	60	46	5
TCHN:1250	1 1/4	M33	TCHN:0033	265	26.6	67	48	5
TCHN:1375	1 3/8	M36	TCHN:0036	325	32.6	73	52	6
TCHN:1500	1 1/2	M39	TCHN:0039	373	37.5	78	56	6
TCHN:1625	1 5/8	M42	TCHN:0042	424	42.6	83	58	6
TCHN:1750	1 3/4	M45	TCHN:0045	445	44.6	86	60	6
TCHN:1875	1 7/8	M48	TCHN:0048	523	52.5	93	64	8
TCHN:2000	2	M52	TCHN:0052	629	63.1	102	72	8
TCHN:2250	2 1/4	M56	TCHN:0056	781	78.3	112	75	8
TCHN:2500	2 1/2	M64	TCHN:0064	941	94.4	124	81	8
TCHN:2750	2 3/4	M68	TCHN:0068	1042	104.5	131	89	8
TCHN:3000	3	M72	TCHN:0072	1246	125.1	144	96	10
TCHN:3250	3 1/4	M80	TCHN:0080	1607	161.3	159	104	10
TCHN:3500	3 1/2	M90	TCHN:0090	2027	203.4	176	114	10
TCHN:3750	3 3/4	M95	TCHN:0095	2160	216.7	182	117	10
TCHN:4000	4	M100	TCHN:0100	2466	247.5	200	126	15
TCHN:4500	4 1/2	M110	TCHN:0110	2814	282.4	215	138	15
TCHN:5000	5	M125	TCHN:0125	3820	383.4	244	150	15
TCHN:5500	5 1/2	M140	TCHN:0140	4954	497.1	272	168	15
TCHN:6000	6	M150	TCHN:0150	5655	567.5	290	174	15

Associated Equipment

High pressure flexible hose

Refer to associated technical datasheet



High pressure Hand Pumps

High pressure Air Pumps