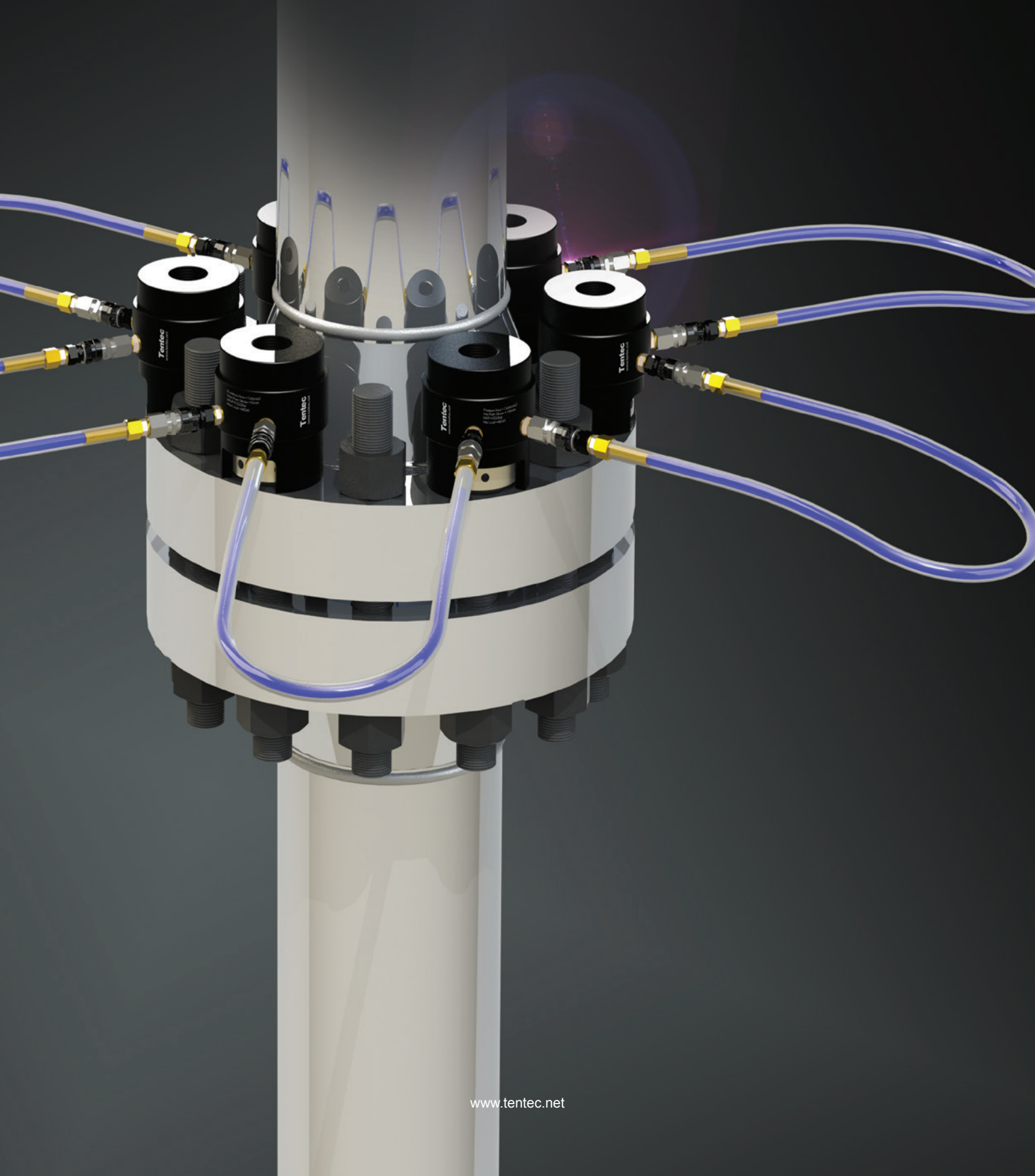


Tentec[®]
www.tentec.net

CTST : Topside Bolt Tensioning

Model: CTST 9000 Series

Custom Tensioners
Available on Request



Model CTST: Topside Bolt Tensioners.

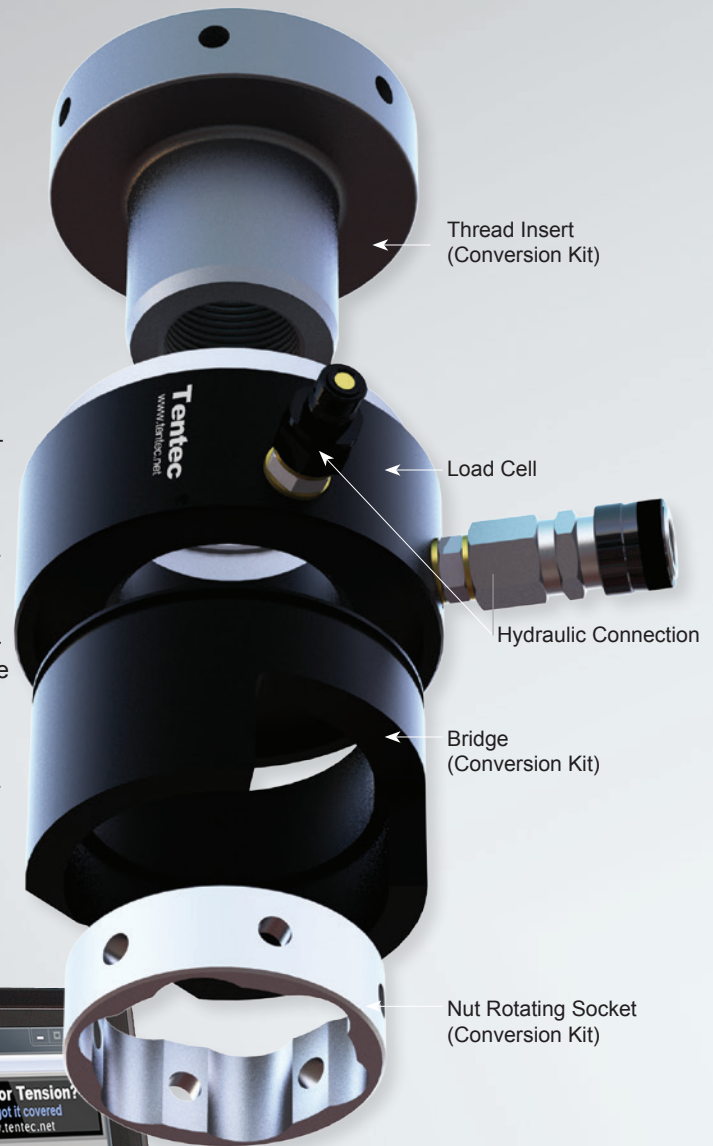
Model: CTST 9000 Series

The CTST range of topside bolt tensioning tools from Tentec consist of 6 base tools covering bolt sizes from 3/4" to 4" (M20 to M100). The tools are designed to fit on to most ANSI B16.5, ANSI B16.47 Series 1, MSS-SP44, API-6A and API-17D flanges. Each base tool can be converted for use on a different bolts size by the use of a conversion kit.

To Suit Flange Specifications:
 ANSI B16.5
 ANSI B16.47 Series A
 MSS-SP44
 API-6A
 API-17D

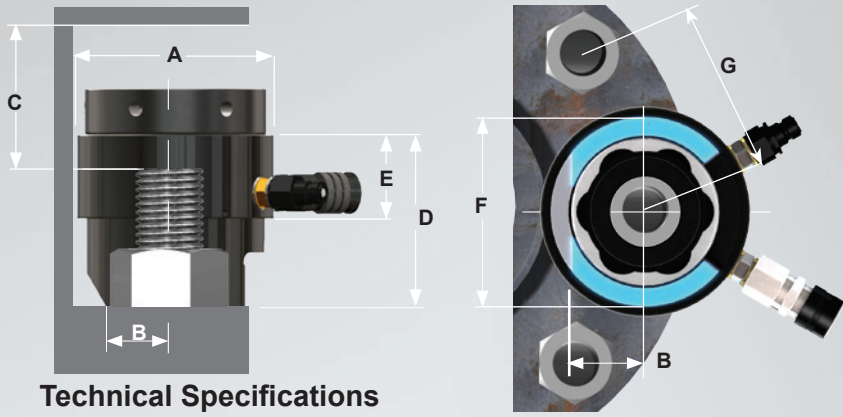
Consistent, Dependable and Safe

- **Consistent:** Using multiple bolt tensioning tools on a bolted joint gives a much improved uniform bolt load across all bolts.
- **Axial Bolt Load:** Bolt load is applied axially to the bolt. Inconsistencies such as friction, bending and lubricant are not a factor when using bolt tensioners. No torsional stresses are involved.
- **Rapid:** Multiple bolt tensioners offer a rapid and accurate method of tightening a bolt.
- **Adaptable:** Conversion kits are available to convert a tensioner from one bolt size to another offering an economical and versatile solution.
- **Accurate:** Bolt load is directly proportional to the pressure applied to the tensioner.
- **Standard Fasteners:** Tensioners are mostly used with standard fasteners, no special or proprietary bolting components are required.
- **Simplified Calculations:** Using the Tentec BTS-Bolt Tightening Software takes away the complexity of calculating tensioner pressures and torque values.



BTS-Software

The use of Tentec's Bolt Load Software package along side the CTST range of bolt tensioning tools completely removes the complexity of calculating what pressure to operate the tensioning tools. A complete bolt tensioning project can be defined and rapid joint specific technical data sheets can be produced with all the information that the operator of the equipment needs to successfully tighten the bolted joint.

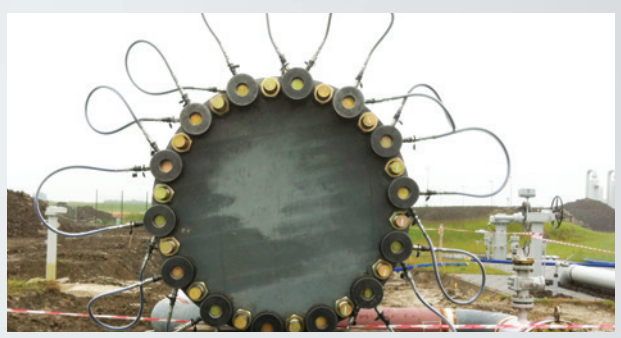


Maximum Working Pressure = 21750 psi : 1500 bar

Non standard metric pitch tensioners available on request.

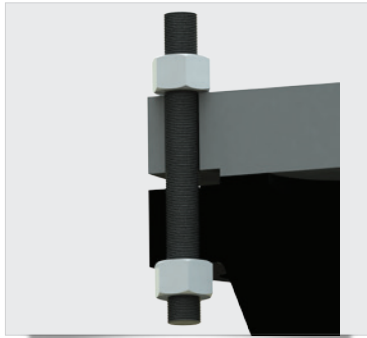
Technical Specifications

Tool Ident	Part No Imperial	Thread Size		Part No Metric	Bolt Load		Ram Area		Stroke mm	Weight kg	A	B	C	D	E	F	G
		Inch	mm		Kn	Ton	In ²	mm ²			mm						
1	HTT.9551:0750	3/4"-10UNC	M20x2.5	HTT.9551:M20	227.81	22.86	2.354	1518.76	10	2.0	73.50	21.0	67.00	71.0	45	62	49.5
	HTT.9551:0875	7/8"-9UNC	M22x2.5	HTT.9551:M22						1.9		24.0	64.00	71.0		63	53
	HTT.9551:1000	1"-8UN	M24x3	HTT.9551:M24						1.9		24.0	69.00	78.0		69	58.5
	HTT.9551:1125	1.1/8"-8UN	M27x3	HTT.9551:M27						1.9		24.0	66.00	79.0		74	63.5
2	HTT.9552:1125	1.1/8"-8UN	M27x3	HTT.9552:M27	443.00	44.46	4.578	2953.69	15	4.8	102	27.0	85.50	92.0	54	82	67.5
			M30x3.5	HTT.9552:M30						4.9		32.0	85.00	93.0		85	69
	HTT.9552:1250	1.1/4"-8UN	M33x3.5	HTT.9552:M33						4.6		31.0	84.00	95.0		85	72
	HTT.9552:1375	1.3/8"-8UN	M36x4	HTT.9552:M36						4.6		34.0	84.00	98.0		91	78
HTT.9552:1500	1.1/2"-8UN	M39x4	HTT.9552:M39						4.7		36.5	82.00	100.0		90	80	
3	HTT.9553:1500	1.1/2"-8UN	M39x4	HTT.9553:M39	810.85	81.38	8.379	5405.70	15	9.5	133	36.5	98.00	109.0	56	97	83.5
	HTT.9553:1625	1.5/8"-8UN	M42x4.5	HTT.9553:M42						9.0		37.5	93.00	107.0		110	92.5
	HTT.9553:1750	1.3/4"-8UN	M45x4.5	HTT.9553:M45						9.3		40.5	98.50	116.0		115	98
	HTT.9553:1875	1.7/8"-8UN	M48x5	HTT.9553:M48						9.0		42.5	95.00	116.0		116	101
	HTT.9553:2000	2"-8UN	M52x5	HTT.9553:M52						8.6		50.0	93.50	117.0		120	106
4	HTT.9554:1875	1.7/8"-8UN	M48x5	HTT.9554:M48	1273.16	127.78	13.159	8489.96	15	16.1	163	43.5	106.00	118.0	57	130	108
	HTT.9554:2000	2"-8UN	M52x5	HTT.9554:M52						15.7		46.0	102.50	117.0		124	108
	HTT.9554:2250	2.1/4"-8UN	M56x5.5	HTT.9554:M56						15.8		55.0	103.00	123.0		134	118.5
			M60x5.5	HTT.9554:M60						18.3		54.0	121.50	145.5		150	127
HTT.9554:2500	2.1/2"-8UN	M64x6	HTT.9554:M64						15.1		58.0	102.50	130.0		147	130.5	
5	HTT.9555:2500	2.1/2"-8UN	M64x6	HTT.9555:M64	1828.99	183.56	18.905	12196.45	15	22.7	193	64.0	107.50	133.0	60	147	130.5
			M68x6	HTT.9555:M68						23.6		80.0	111.00	141.0		160	138
	HTT.9555:2750	2.3/4"-8UN	M72x6	HTT.9555:M72						24.7		72.0	115.00	147.0		161	143
	HTT.9555:3000	3"-8UN	M76x6	HTT.9555:M76						22.2		77.0	108.00	146.0		170	153
6	HTT.9556:3000	3"-8UN	M76x6	HTT.9556:M76	2643.43	265.30	27.323	17627.48	15	38.5	233	77.0	120.00	153.0	64	170	153
			M80x6	HTT.9556:M80						38.3		78.0	117.00	154.0		178	155.5
	HTT.9556:3250	3.1/4"-8UN	M85x6	HTT.9556:M85						38.1		78.0	114.00	154.0		182	165.5
	HTT.9556:3500	3.1/2"-8UN	M90x6	HTT.9556:M90						37.0		86.0	114.00	160.0		191	174.5
	HTT.9556:3750	3.3/4"-8UN	M95x6	HTT.9556:M95						37.0		99.0	116.00	168.0		210	189.5
	HTT.9556:4000	4"-8UN	M100x6	HTT.9556:M100						36.4		105.0	116.00	174.0		220	200

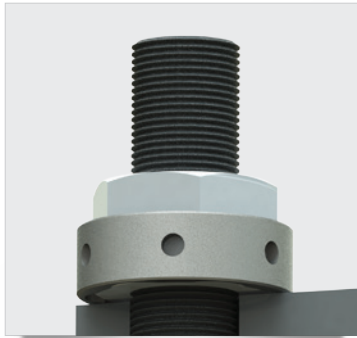


CTST tensioning tools are supplied with two hydraulic connections. This allows for very simple link hose configuration to link multiple bolt tensioning tools together.

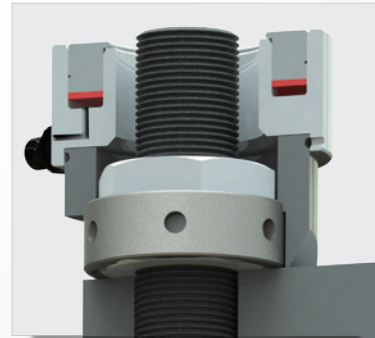
How Bolt Tensioners Work



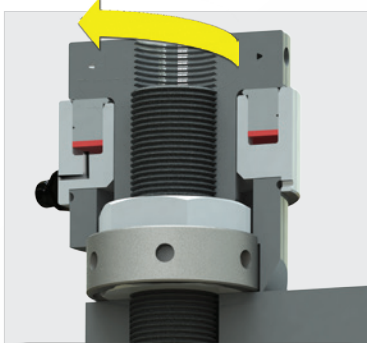
The stud and nut are assembled onto the bolted joint. The two halves of the joint are pulled together.



The nut rotating socket is assembled over the hexagon nut.



The tensioner is assembled over the hexagon nut.



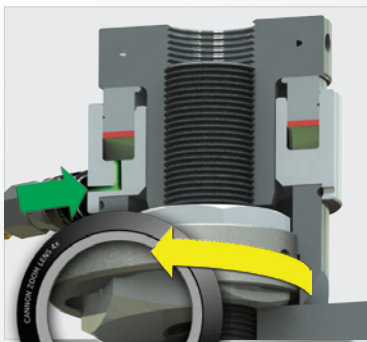
The thread insert (puller) is screwed onto the bolt protrusion.



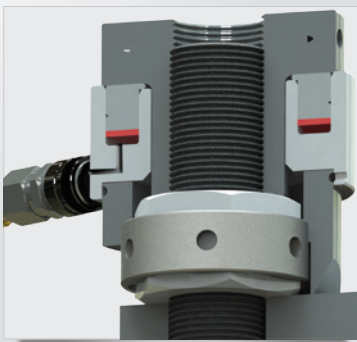
The tensioner is connected to an hydraulic pump unit through high pressure flexible hose.



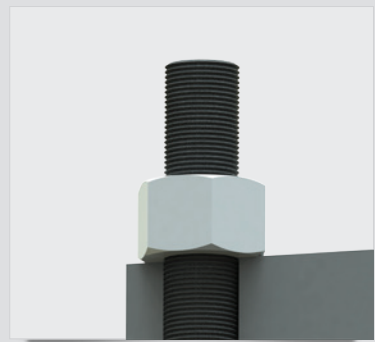
The tensioner is pressurised to the pre-calculated value. Bolt load is directly proportional to hydraulic pressure. The bolt stretches and a gap is formed below the hexagon nut. Once the target pressure is reached, the pressure is held.



While the tool pressure is held, the hexagon nut is rotated down to the joint face and locked down tightly.



The pressure is released, the bolt is tensioned.



The tensioner can be removed.

BTS-Software

The use of the Tentec bolt tightening software package alongside the CTST range of bolt tensioning tools completely removes the complexity of calculating tensioner operating pressures.



Tentec products are subject to continual development and we reserve the right to make changes in the specification and design of products without prior notice.



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