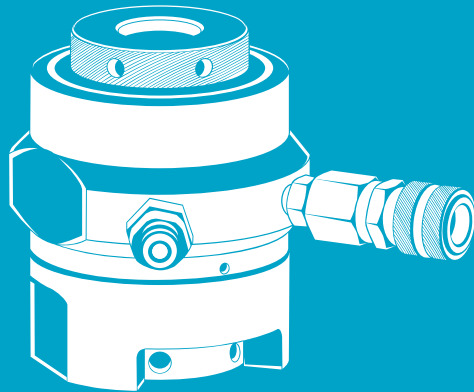
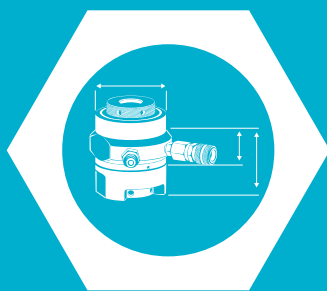


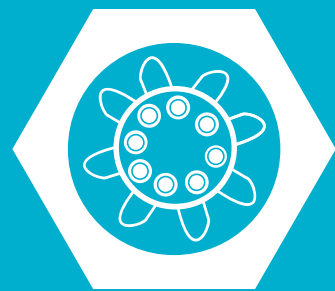
# Hydraulic bolt tensioning systems



*Reaction free  
operation*



*Custom  
engineering*



*Simultaneous  
tensioning*



# Tentec CTST

## Topside hydraulic bolt tensioner

### Thread insert

Contains a matching female thread to the bolt being tensioned.

### Reliable seals

Proven seal technology ensures many 1000's of tool pressure cycles.

### Piston stroke

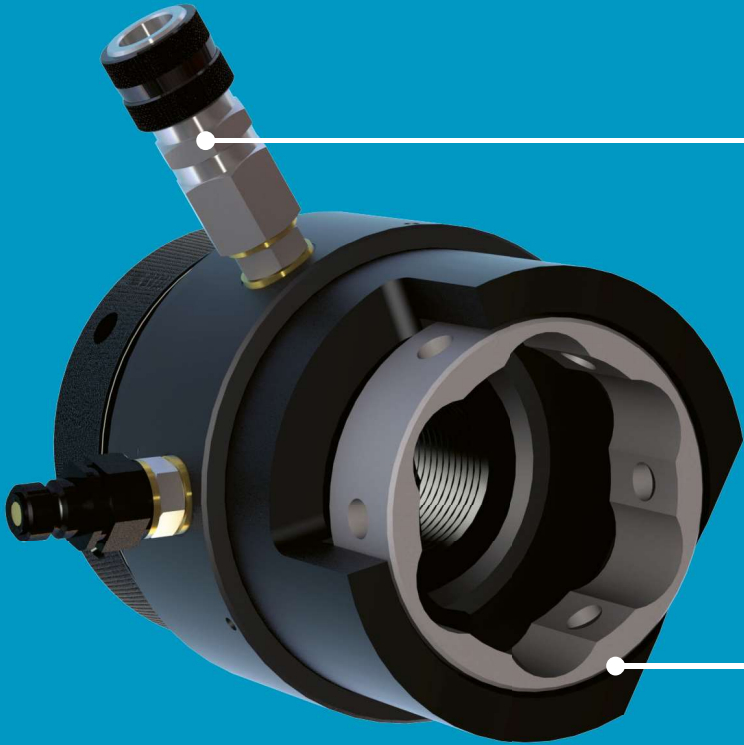
15mm piston/ram stroke capability on models CTST 02 - CTST 06.

### Versatile

Detachable and Interchangeable bridge component.



Tentec CTST range of topside bolt tensioning tools comprises 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 with different bolt sizes using a conversion kit.



**Hydraulic connections**

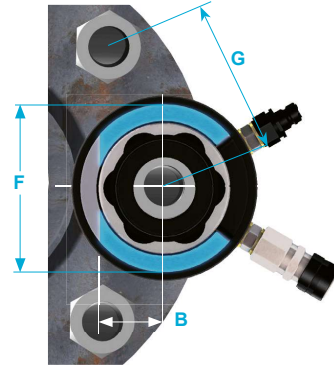
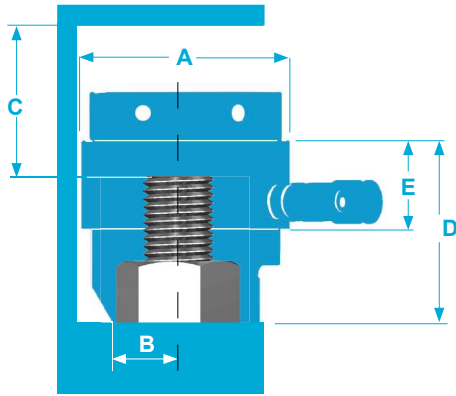
User configurable quick release connections.

**Nut Rotating Socket (NRS)**

Fits around the bolted joint nut to allow for easy rotation.



# CTST Bolt tensioners

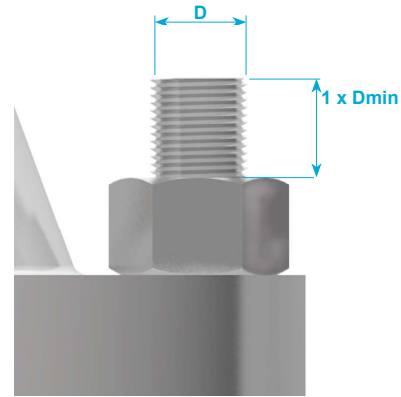


Tool	Item Imperial	Thread Size		Item Metric	Bolt Load		Ram Area		Stroke Weight		A	B	C	D	E	F	G
		Inch	mm		Kn	Ton	In <sup>2</sup>	mm <sup>2</sup>	mm	kg							
No 1	HTT.9551.034	3/4"-10UNC	M20x2.5	HTT.9551.020	22781	22.86	2.354	1518.76	10	2.0	73.50	21.0	67.00	71.0	45	62	49.5
	HTT.9551.078	7/8"-9UNC	M22x2.5	HTT.9551.022						1.9		24.0	64.00	71.0	63	53	
	HTT.9551.100	1"-8UN	M24x3	HTT.9551.024						1.9		24.0	69.00	78.0	69	58.5	
	HTT.9551.118	1 1/8"-8UN	M27x3	HTT.9551.027						1.9		24.0	66.00	79.0	74	63.5	
No 2	HTT.9552.118	1 1/8"-8UN	M27x3	HTT.9552.027	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.9552.030						4.9		32.0	85.00	93.0	85	69	
	HTT.9552.114	1 1/4"-8UN	M33x3.5	HTT.9552.033						4.6		31.0	84.00	95.0	85	72	
	HTT.9552.138	1 3/8"-8UN	M36x4	HTT.9552.036						4.6		34.0	84.00	98.0	91	78	
	HTT.9552.112	1 1/2"-8UN	M39x4	HTT.9552.039						4.7		36.5	82.00	100.0	90	80	
No 3	HTT.9553.112	1 1/2"-8UN	M39x4	HTT.9553.039	810.85	81.38	8.379	5405.70	15	9.5	133	36.5	98.00	109.0	56	97	83.5
	HTT.9553.158	1 5/8"-8UN	M42x4.5	HTT.9553.042						9.0		37.5	93.00	107.0	110	92.5	
	HTT.9553.134	1 3/4"-8UN	M45x4.5	HTT.9553.045						9.3		40.5	98.50	116.0	115	98	
	HTT.9553.178	1 7/8"-8UN	M48x5	HTT.9553.048						9.0		42.5	95.00	116.0	116	101	
	HTT.9553.200	2"-8UN	M52x5	HTT.9553.052						8.6		50.0	93.50	117.0	120	106	
No 4	HTT.9554.178	1 7/8"-8UN	M48x5	HTT.9554.048	1273.16	127.78	13.159	8489.96	15	16.1	163	43.5	106.00	118.0	57	130	108
	HTT.9554.200	2"-8UN	M52x5	HTT.9554.052						15.7		46.0	102.50	117.0	124	108	
	HTT.9554.214	2 1/4"-8UN	M56x5.5	HTT.9554.056						15.8		55.0	103.00	123.0	134	118.5	
			M60x5.5	HTT.9554.060						18.3		54.0	121.50	145.5	150	127	
	HTT.9554.212	2 1/2"-8UN	M64x6	HTT.9554.064						15.1		58.0	102.50	130.0	147	130.5	
No 5	HTT.9555.212	2 1/2"-8UN	M64x6	HTT.9555.064	1828.99	183.56	18.905	12196.45	15	22.7	193	64.0	107.50	133.0	60	147	130.5
			M68x6	HTT.9555.068						23.6		80.0	111.00	141.0	160	138	
	HTT.9555.234	2 3/4"-8UN	M72x6	HTT.9555.072						24.7		72.0	115.00	147.0	161	143	
	HTT.9555.300	3"-8UN	M76x6	HTT.9555.076						22.2		77.0	108.00	146.0	170	153	
No 6	HTT.9556.300	3"-8UN	M76x6	HTT.9556.076	2643.43	265.30	27.323	17627.48	15	38.5	233	77.0	120.00	153.0	64	170	153
			M80X6	HTT.9556.080						38.3		78.0	117.00	154.0	178	155.5	
	HTT.9556.314	3 1/4"-8UN	M85X6	HTT.9556.085						38.1		78.0	114.00	154.0	182	165.5	
	HTT.9556.312	3 1/2"-8UN	M90X6	HTT.9556.090						37.0		86.0	114.00	160.0	191	174.5	
	HTT.9556.334	3 3/4"-8UN	M95X6	HTT.9556.095						37.0		99.0	116.00	168.0	210	189.5	
	HTT.9556.400	4"-8UN	M100X6	HTT.9556.100						36.4		105.0	116.00	174.0	220	200	

# CTST Ordering numbers

## Bolt protrusion

CTST-Series tensioners need a minimum of 1 x bolt diameter protruding above the hexagon or round nut.



### Metric

Item	Description	Ordering No.
HTT.9551.020	M20 CTST Tensioner	8434 2200 71
HTT.9551.022	M22 CTST Tensioner	8434 2200 73
HTT.9551.024	M24 CTST Tensioner	8434 2200 75
HTT.9551.027	M27 CTST Tensioner	8434 2200 77
HTT.9552.027	M27 CTST Tensioner	8434 2200 80
HTT.9552.030	M30 CTST Tensioner	8434 2200 82
HTT.9552.033	M33 CTST Tensioner	8434 2200 83
HTT.9552.036	M36 CTST Tensioner	8434 2200 85
HTT.9552.039	M39 CTST Tensioner	8434 2200 87
HTT.9553.039	M39 CTST Tensioner	8434 2200 94
HTT.9553.042	M42 CTST Tensioner	8434 2200 95
HTT.9553.045	M45 CTST Tensioner	8434 2200 96
HTT.9553.048	M48 CTST Tensioner	8434 2200 97
HTT.9553.052	M52 CTST Tensioner	8434 2200 98
HTT.9554.048	M48 CTST Tensioner	8434 2201 03
HTT.9554.052	M52 CTST Tensioner	8434 2201 05
HTT.9554.056	M56 CTST Tensioner	8434 2201 06
HTT.9554.060	M60 CTST Tensioner	8434 2201 07
HTT.9554.064	M64 CTST Tensioner	8434 2201 08
HTT.9555.064	M64 CTST Tensioner	8434 2201 13
HTT.9555.068	M68 CTST Tensioner	8434 2201 14
HTT.9555.072	M72 CTST Tensioner	8434 2201 15
HTT.9555.076	M76 CTST Tensioner	8434 2201 16
HTT.9556.076	M76 CTST Tensioner	8434 2201 30
HTT.9556.080	M80 CTST Tensioner	8434 2201 31
HTT.9556.085	M85 CTST Tensioner	8434 2201 32
HTT.9556.090	M90 CTST Tensioner	8434 2201 33
HTT.9556.095	M95 CTST Tensioner	8434 2201 34
HTT.9556.100	M100 CTST Tensioner	8434 2201 35

### Imperial

Item	Description	Ordering No.
HTT.9551.034	3/4" CTST Tensioner	8434 2200 70
HTT.9551.078	7/8" CTST Tensioner	8434 2200 72
HTT.9551.100	1" CTST Tensioner	8434 2200 74
HTT.9551.118	1 1/8" CTST Tensioner	8434 2200 76
HTT.9552.118	1 1/8" CTST Tensioner	8434 2200 79
HTT.9552.114	1 1/4" CTST Tensioner	8434 2200 81
HTT.9552.138	1 3/8" CTST Tensioner	8434 2200 84
HTT.9552.112	1 1/2" CTST Tensioner	8434 2200 86
HTT.9553.112	1 1/2" CTST Tensioner	8434 2200 89
HTT.9553.158	1 5/8" CTST Tensioner	8434 2200 90
HTT.9553.134	1 3/4" CTST Tensioner	8434 2200 91
HTT.9553.178	1 7/8" CTST Tensioner	8434 2200 92
HTT.9553.200	2" CTST Tensioner	8434 2200 93
HTT.9554.178	1 7/8" CTST Tensioner	8434 2201 00
HTT.9554.200	2" CTST Tensioner	8434 2201 01
HTT.9554.214	2 1/4" CTST Tensioner	8434 2201 04
HTT.9554.212	2 1/2" CTST Tensioner	8434 2201 02
HTT.9555.212	2 1/2" CTST Tensioner	8434 2201 10
HTT.9555.234	2 3/4" CTST Tensioner	8434 2201 11
HTT.9555.300	3" CTST Tensioner	8434 2201 12
HTT.9556.300	3" CTST Tensioner	8434 2201 26
HTT.9556.314	3 1/4" CTST Tensioner	8434 2201 25
HTT.9556.312	3 1/2" CTST Tensioner	8434 2201 27
HTT.9556.334	3 3/4" CTST Tensioner	8434 2201 28
HTT.9556.400	4" CTST Tensioner	8434 2201 29

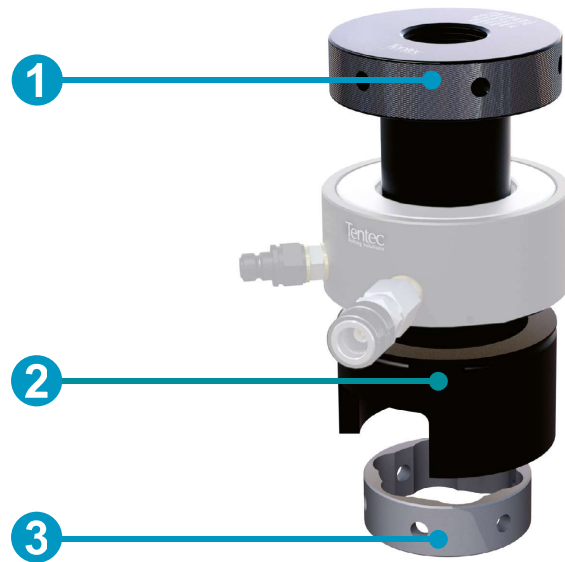
You can order a complete tensioner for the stud size using the table above, or you can order load cells and conversion kits as needed. Many different configurations are available for our CTST bolt tensioners.

## CTST Conversion kits

Conversion Kits offer a very economical way to expand your inventory of bolt tensioning tools. Kits are available to convert a Tentec CTST tensioner to suit an alternative bolt size within its size range.

Kits consist of three items:

- 1 Thread insert
- 2 Bridge piece
- 3 Nut rotating socket

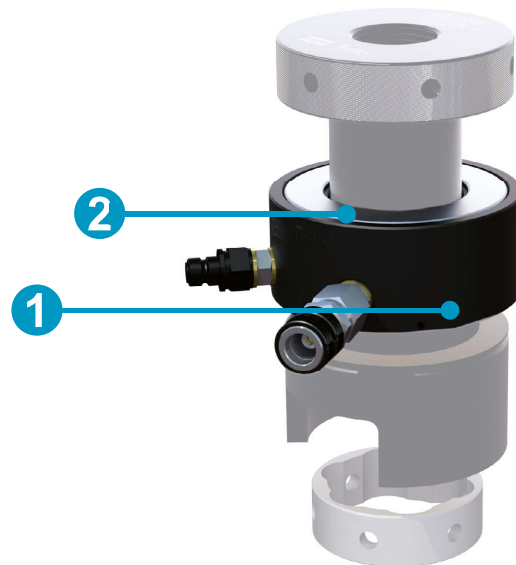


## Load cell and seal kits

The core unit for any tensioner set is composed of two items:

- 1 Load cells
- 2 Seal kit

Comes fitted with hydraulic connections.



## CTST Conversion kit ordering numbers

### Metric

Tool Ident	Item	Description	Ordering No.
No 1	HTT.9551.521	M20 Conversion Kit	4222 2600 02
	HTT.9551.523	M22 Conversion Kit	4222 2600 04
	HTT.9551.525	M24 Conversion Kit	4222 2600 06
	HTT.9551.528	M27 Conversion Kit	4222 2600 08
	HTT.9552.528	M27 Conversion Kit	4222 2600 10
No 2	HTT.9552.532	M30 Conversion Kit	4222 2600 11
	HTT.9552.534	M33 Conversion Kit	4222 2600 13
	HTT.9552.537	M36 Conversion Kit	4222 2600 15
	HTT.9552.514	M39 Conversion Kit	4222 2600 17
No 3	HTT.9553.540	M39 Conversion Kit	4222 2600 19
	HTT.9553.543	M42 Conversion Kit	4222 2600 21
	HTT.9553.546	M45 Conversion Kit	4222 2600 23
	HTT.9553.549	M48 Conversion Kit	4222 2600 25
	HTT.9553.553	M52 Conversion Kit	4222 2600 27
	HTT.9554.549	M48 Conversion Kit	4222 2600 29
	HTT.9554.553	M52 Conversion Kit	4222 2600 31
	HTT.9554.557	M56 Conversion Kit	4222 2600 33
No 4	HTT.9554.562	M60 Conversion Kit	4222 2600 34
	HTT.9554.568	M64 Conversion Kit	4222 2600 36
	HTT.9555.565	M64 Conversion Kit	4222 2701 60
	HTT.9555.570	M68 Conversion Kit	4222 2701 61
No 5	HTT.9555.573	M72 Conversion Kit	4222 2701 62
	HTT.9555.577	M76 Conversion Kit	4222 2701 63
	HTT.9556.577	M76 Conversion Kit	4222 2600 38
No 6	HTT.9556.582	M80 Conversion Kit	4222 2600 39
	HTT.9556.586	M85 Conversion Kit	4222 2600 41
	HTT.9556.591	M90 Conversion Kit	4222 2600 43
	HTT.9556.596	M95 Conversion Kit	4222 2600 45
	HTT.9556.501	M100 Conversion Kit	4222 2600 47

### Imperial

Tool Ident	Item	Description	Ordering No.
No 1	HTT.9551.536	3/4" Conversion Kit	4222 2600 01
	HTT.9551.580	7/8" Conversion Kit	4222 2600 03
	HTT.9551.502	1" Conversion Kit	4222 2600 05
	HTT.9551.520	1 1/8" Conversion Kit	4222 2600 07
	HTT.9552.520	1 1/8" Conversion Kit	4222 2600 12
No 2	HTT.9552.516	1 1/4" Conversion Kit	4222 2600 09
	HTT.9552.540	1 3/8" Conversion Kit	4222 2600 14
	HTT.9552.511	1 1/2" Conversion Kit	4222 2600 16
No 3	HTT.9553.514	1 1/2" Conversion Kit	4222 2600 18
	HTT.9553.516	1 5/8" Conversion Kit	4222 2600 20
	HTT.9553.536	1 3/4" Conversion Kit	4222 2600 22
	HTT.9553.580	1 7/8" Conversion Kit	4222 2600 24
No 4	HTT.9553.502	2" Conversion Kit	4222 2600 26
	HTT.9554.580	1 7/8" Conversion Kit	4222 2600 28
	HTT.9554.502	2" Conversion Kit	4222 2600 30
	HTT.9554.516	2 1/4" Conversion Kit	4222 2600 32
	HTT.9554.511	2 1/2" Conversion Kit	4222 2600 35
No 5	HTT.9555.514	2 1/2" Conversion Kit	4222 2701 64
	HTT.9555.536	2 3/4" Conversion Kit	4222 2701 65
	HTT.9555.502	3" Conversion Kit	4222 2701 66
No 6	HTT.9556.502	3" Conversion Kit	4222 2600 37
	HTT.9556.516	3 1/4" Conversion Kit	4222 2600 40
	HTT.9556.511	3 1/2" Conversion Kit	4222 2600 42
	HTT.9556.536	3 3/4" Conversion Kit	4222 2600 44
	HTT.9556.542	4" Conversion Kit	4222 2600 46

## Load cell and seal kits ordering numbers

Item	Description	Ordering No.
HTT.9551.000A	CTST No.1 Loadcell	8434 2200 69
HTT.9551.003.A	CTST No.1 Spare Seal Kit	4222 2700 26
HTT.9552.000A	CTST No.2 Loadcell	8434 2200 78
HTT.9552.003.A	CTST No.2 Spare Seal Kit	4222 2700 27
HTT.9553.000A	CTST No.3 Loadcell	8434 2200 88
HTT.9553.003.A	CTST No.3 Spare Seal Kit	4222 2700 28

Item	Description	Ordering No.
HTT.9554.000A	CTST No.4 Loadcell	8434 2200 99
HTT.9554.003.A	CTST No.4 Spare Seal Kit	4222 2700 29
HTT.9555.000A	CTST No.5 Loadcell	8434 2201 09
HTT.9555.003.A	CTST No.5 Spare Seal Kit	4222 2700 30
HTT.9556.000A	CTST No.6 Loadcell	8434 2201 24
HTT.9556.003.A	CTST No.6 Spare Seal Kit	4222 2700 31