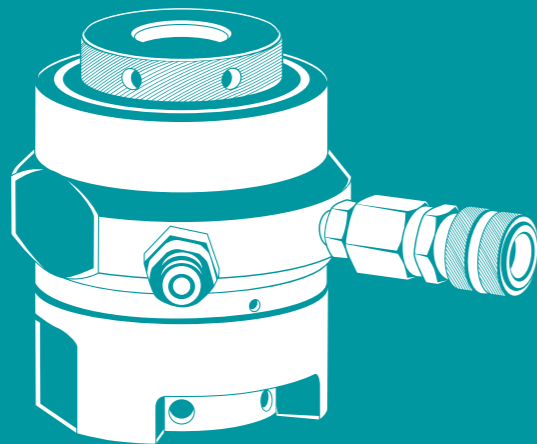
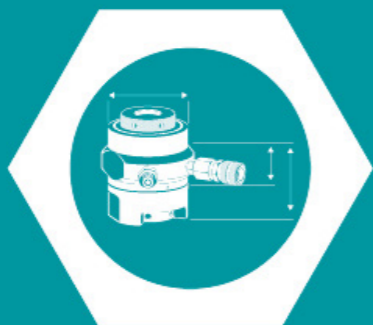


TENTEC HYDRAULIC BOLT TENSIONING SYSTEMS



REACTION FREE
OPERATION



CUSTOM
ENGINEERING



SIMULTANEOUS
TENSIONING



TENTEC CTST

TOPSIDE HYDRAULIC BOLT TENSIONER

The 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.

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

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

HYDRAULIC CONNECTIONS
User configurable quick release connections.

VERSATILE
Detachable and Interchangeable bridge component.

THREAD INSERT
Contains a matching female thread to the bolt being tensioned.

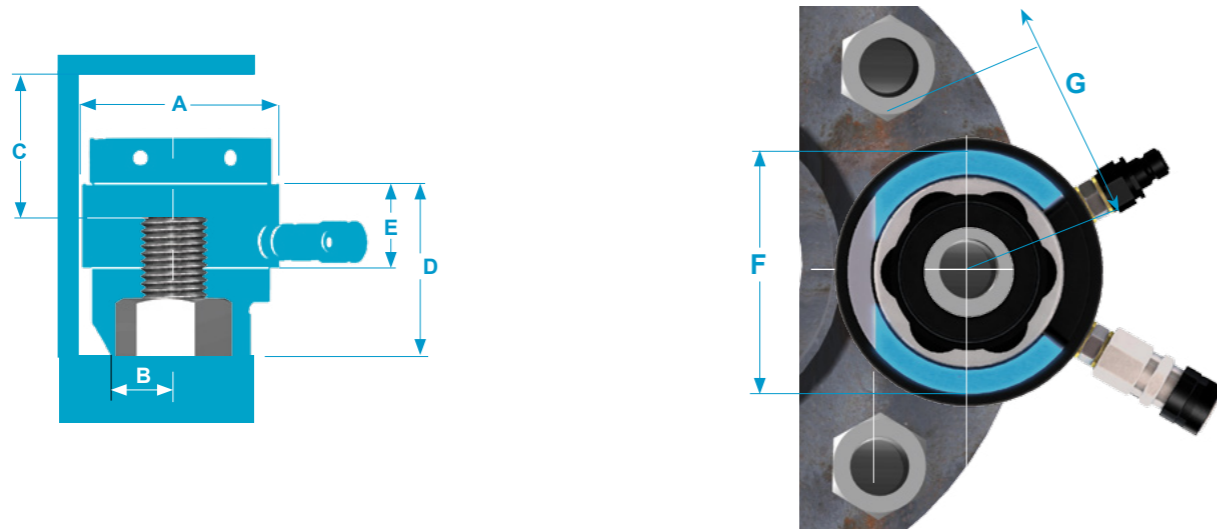
LOAD CELL ASSEMBLY
The load generating part of the tensioner.

BRIDGE
Part of the conversion kit.

NUT ROTATING SOCKET (NRS)
Fits around the bolted joint nut to allow for easy rotation.

Tentec CTST
Tensioner Datasheet

CTST BOLT TENSIONERS



Technical Specifications

Maximum Working Pressure = 1500bar

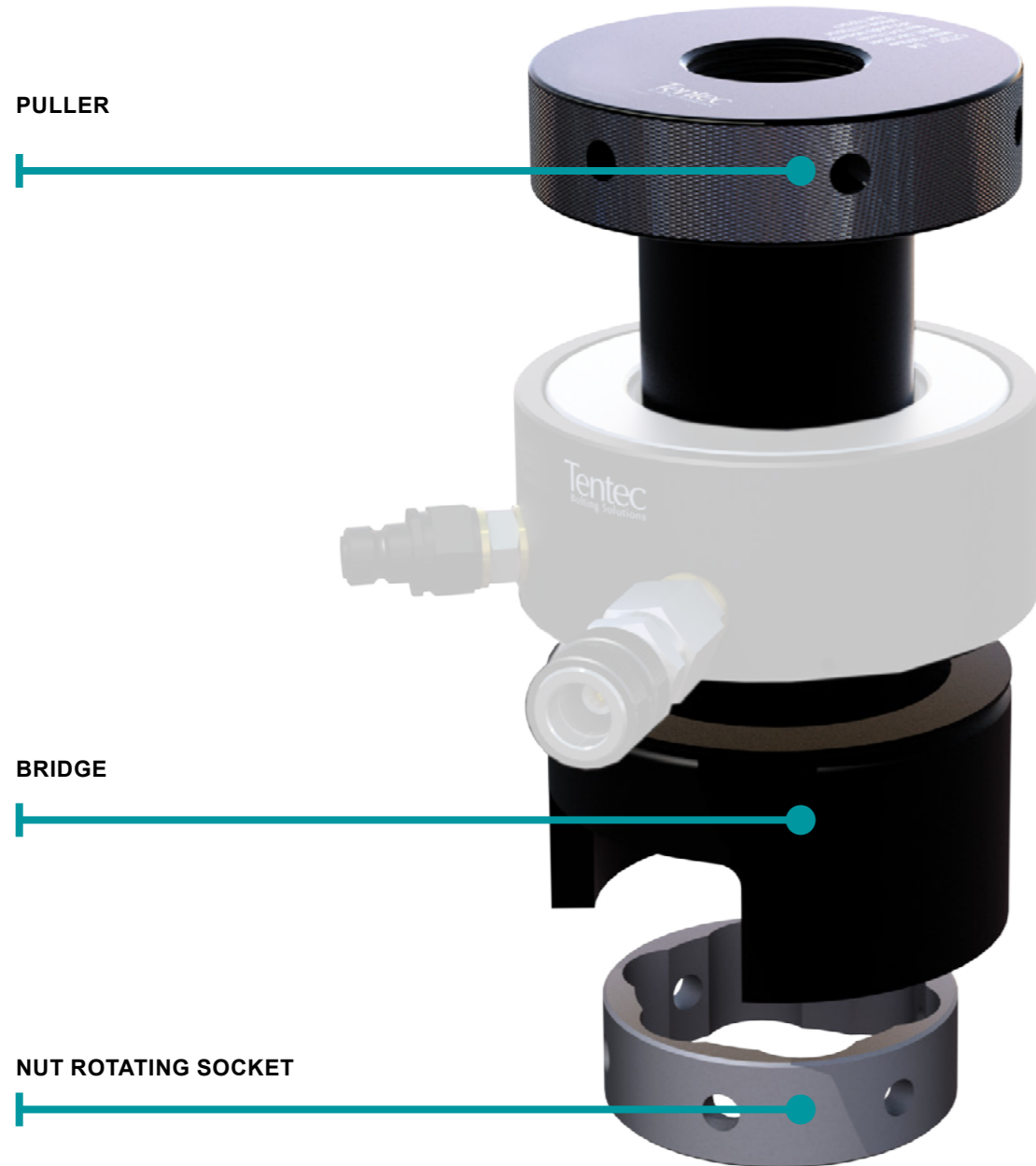
Tool Ident	Part No	Thread Size		Part No	Bolt Load		Ram Area		Stroke	Weight	Dimensions (mm)							Metric Conversion Kit	Inch Conversion Kits
		Imperial	Inch		mm	Metric	Kn	Ton			In²	mm²	A	B	C	D	E		
1	HTT.9551.0750	3/4"-10UNC	M20x2.5	HTT.9551.M20	227.81	22.86	2.354	1518.76	10	2.0	73.50	21.0	67.00	71.0	45	62	49.5	HTT.9551.521	HTT.9551.536
	HTT.9551.0875	7/8"-9UNC	M22x2.5	HTT.9551.M22						1.9		24.0	64.00	71.0	63	53		HTT.9551.523	HTT.9551.580
	HTT.9551.1000	1"-8UN	M24x3	HTT.9551.M24						1.9		24.0	69.00	78.0	69	58.5		HTT.9551.525	HTT.9551.502
	HTT.9551.1125	1.1/8"-8UN	M27x3	HTT.9551.M27						1.9		24.0	66.00	79.0	74	63.5		HTT.9551.528	HTT.9551.520
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	HTT.9552.528	HTT.9552.520
			M30x3.5	HTT.9552.M30						4.9		32.0	85.00	93.0	85	69		HTT.9552.532	
	HTT.9552.1250	1.1/4"-8UN	M33x3.5	HTT.9552.M33						4.6		31.0	84.00	95.0	85	72		HTT.9552.534	HTT.9552.516
	HTT.9552.1375	1.3/8"-8UN	M36x4	HTT.9552.M36						4.6		34.0	84.00	98.0	91	78		HTT.9552.537	HTT.9552.540
HTT.9552.1500	1.1/2"-8UN	M39x4	HTT.9552.M39						4.7		36.5	82.00	100.0	90	80		HTT.9552.514	HTT.9552.511	
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.9553.540	HTT.9553.514
	HTT.9553.1625	1.5/8"-8UN	M42x4.5	HTT.9553.M42						9.0		37.5	93.00	107.0	110	92.5		HTT.9553.543	HTT.9553.516
	HTT.9553.1750	1.3/4"-8UN	M45x4.5	HTT.9553.M45						9.3		40.5	98.50	116.0	115	98		HTT.9553.546	HTT.9553.536
	HTT.9553.1875	1.7/8"-8UN	M48x5	HTT.9553.M48						9.0		42.5	95.00	116.0	116	101		HTT.9553.549	HTT.9553.580
HTT.9553.2000	2"-8UN	M52x5	HTT.9553.M52						8.6		50.0	93.50	117.0	120	106		HTT.9553.553	HTT.9553.502	
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.9554.549	HTT.9554.580
	HTT.9554.2000	2"-8UN	M52x5	HTT.9554.M52						15.7		46.0	102.50	117.0	124	108		HTT.9554.553	HTT.9554.502
	HTT.9554.2250	2.1/4"-8UN	M56x5.5	HTT.9554.M56						15.8		55.0	103.00	123.0	134	118.5		HTT.9554.557	HTT.9554.516
	HTT.9554.2500	2.1/2"-8UN	M64x6	HTT.9554.M64						15.1		58.0	102.50	130.0	147	130.5		HTT.9554.568	HTT.9554.511
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	HTT.9555.565	HTT.9555.514
			M68x6	HTT.9555.M68						23.6		80.0	111.00	141.0	160	138		HTT.9555.570	
	HTT.9555.2750	2.3/4"-8UN	M72x6	HTT.9555.M72						24.7		72.0	115.00	147.0	161	143		HTT.9555.573	HTT.9555.536
HTT.9555.3000	3"-8UN	M76x6	HTT.9555.M76						22.2		77.0	108.00	146.0	170	153		HTT.9555.577	HTT.9555.502	
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	HTT.9556.577	HTT.9556.502
			M80x6	HTT.9556.M80						38.3		78.0	117.00	154.0	178	155.5		HTT.9556.582	
	HTT.9556.3250	3.1/4"-8UN	M85x6	HTT.9556.M85						38.1		78.0	114.00	154.0	182	165.5		HTT.9556.586	HTT.9556.516
	HTT.9556.3500	3.1/2"-8UN	M90x6	HTT.9556.M90						37.0		86.0	114.00	160.0	191	174.5		HTT.9556.591	HTT.9556.511
	HTT.9556.3750	3.3/4"-8UN	M95x6	HTT.9556.M95						37.0		99.0	116.00	168.0	210	189.5		HTT.9556.596	HTT.9556.536
HTT.9556.4000	4"-8UN	M100x6	HTT.9556.M100						36.4		105.0	116.00	174.0	220	200		HTT.9556.501	HTT.9556.542	

CTST ORDERING NUMBERS

Item	Description	Ordering no.	Item	Description	Ordering no.
HTT.9551.000A	CTST No.1 Loadcell	8434 2200 69	HTT.9554.178.A	1.7/8" CTST Tensioner	8434 2201 00
HTT.9551.034.A	3/4" CTST Tensioner	8434 2200 70	HTT.9554.200.A	2" CTST Tensioner	8434 2201 01
HTT.9551.020.A	M20 CTST Tensioner	8434 2200 71	HTT.9554.212.A	2.1/2" CTST Tensioner	8434 2201 02
HTT.9551.078.A	7/8" CTST Tensioner	8434 2200 72	HTT.9554.048.A	M48 CTST Tensioner	8434 2201 03
HTT.9551.022.A	M22 CTST Tensioner	8434 2200 73	HTT.9554.214A	2.1/4" CTST Tensioner	8434 2201 04
HTT.9551.100.A	1" CTST Tensioner	8434 2200 74	HTT.9554.052.A	M52 CTST Tensioner	8434 2201 05
HTT.9551.024.A	M24 CTST Tensioner	8434 2200 75	HTT.9554.056.A	M56 CTST Tensioner	8434 2201 06
HTT.9551.118.A	1.1/8" CTST Tensioner	8434 2200 76	HTT.9554.060.A	M60 CTST Tensioner	8434 2201 07
HTT.9551.027.A	M27 CTST Tensioner	8434 2200 77	HTT.9554.064.A	M64 CTST Tensioner	8434 2201 08
HTT.9551.003.A	CTST No.1 Spare Seal Kit	4222 2700 26	HTT.9554.003.A	CTST No.4 Spare Seal Kit	4222 2700 29
HTT.9552.000A	CTST No.2 Loadcell	8434 2200 78	HTT.9555.000A	CTST No.5 Loadcell	8434 2201 09
HTT.9552.118.A	1.1/8" CTST Tensioner	8434 2200 79	HTT.9555.212.A	2.1/2" CTST Tensioner	8434 2201 10
HTT.9552.027.A	M27 CTST Tensioner	8434 2200 80	HTT.9555.234.A	2.3/4" CTST Tensioner	8434 2201 11
HTT.9552.114A	1.1/4" CTST Tensioner	8434 2200 81	HTT.9555.300.A	3" CTST Tensioner	8434 2201 12
HTT.9552.030.A	M30 CTST Tensioner	8434 2200 82	HTT.9555.064.A	M64 CTST Tensioner	8434 2201 13
HTT.9552.033.A	M33 CTST Tensioner	8434 2200 83	HTT.9555.068.A	M68 CTST Tensioner	8434 2201 14
HTT.9552.138.A	1.3/8" CTST Tensioner	8434 2200 84	HTT.9555.072.A	M72 CTST Tensioner	8434 2201 15
HTT.9552.036.A	M36 CTST Tensioner	8434 2200 85	HTT.9555.076.A	M76 CTST Tensioner	8434 2201 16
HTT.9552.112.A	1.1/2" CTST Tensioner	8434 2200 86	HTT.9555.003.A	CTST No.5 Spare Seal Kit	4222 2700 30
HTT.9552.039.A	M39 CTST Tensioner	8434 2200 87	HTT.9556.000A	CTST No.6 Loadcell	8434 2201 24
HTT.9552.003.A	CTST No.2 Spare Seal Kit	4222 2700 27	HTT.9556.314.A	3.1/4" CTST Tensioner	8434 2201 25
HTT.9553.000A	CTST No.3 Loadcell	8434 2200 88	HTT.9556.300.A	3" CTST Tensioner	8434 2201 26
HTT.9553.112.A	1.1/2" CTST Tensioner	8434 2200 89	HTT.9556.312.A	3.1/2" CTST Tensioner	8434 2201 27
HTT.9553.158.A	1.5/8" CTST Tensioner	8434 2200 90	HTT.9556.334.A	3.3/4" CTST Tensioner	8434 2201 28
HTT.9553.134.A	1.3/4" CTST Tensioner	8434 2200 91	HTT.9556.400.A	4" CTST Tensioner	8434 2201 29
HTT.9553.178.A	1.7/8" CTST Tensioner	8434 2200 92	HTT.9556.076.A	M76 CTST Tensioner	8434 2201 30
HTT.9553.200.A	2" CTST Tensioner	8434 2200 93	HTT.9556.080.A	M80 CTST Tensioner	8434 2201 31
HTT.9553.039.A	M39 CTST Tensioner	8434 2200 94	HTT.9556.085.A	M85 CTST Tensioner	8434 2201 32
HTT.9553.042.A	M42 CTST Tensioner	8434 2200 95	HTT.9556.090.A	M90 CTST Tensioner	8434 2201 33
HTT.9553.045.A	M45 CTST Tensioner	8434 2200 96	HTT.9556.095.A	M95 CTST Tensioner	8434 2201 34
HTT.9553.048.A	M48 CTST Tensioner	8434 2200 97	HTT.9556.100.A	M100 CTST Tensioner	8434 2201 35
HTT.9553.052.A	M52 CTST Tensioner	8434 2200 98	HTT.9556.003.A	CTST No.6 Spare Seal Kit	4222 2700 31
HTT.9553.003.A	CTST No.3 Spare Seal Kit	4222 2700 28			
HTT.9554.000A	CTST No.4 Loadcell	8434 2200 99			

CTST CONVERSION KITS

Conversion Kits offer a very economical way to expand your inventory of bolt tensioning tools. Kits are available to convert a CTST tensioner to suit an alternative bolt size within its size range. Kits consist of three items: 1) Puller, 2) Bridge and 3) Nut Rotating Socket.



PULLER

BRIDGE

NUT ROTATING SOCKET

CTST CONVERSION KIT ORDERING NUMBERS

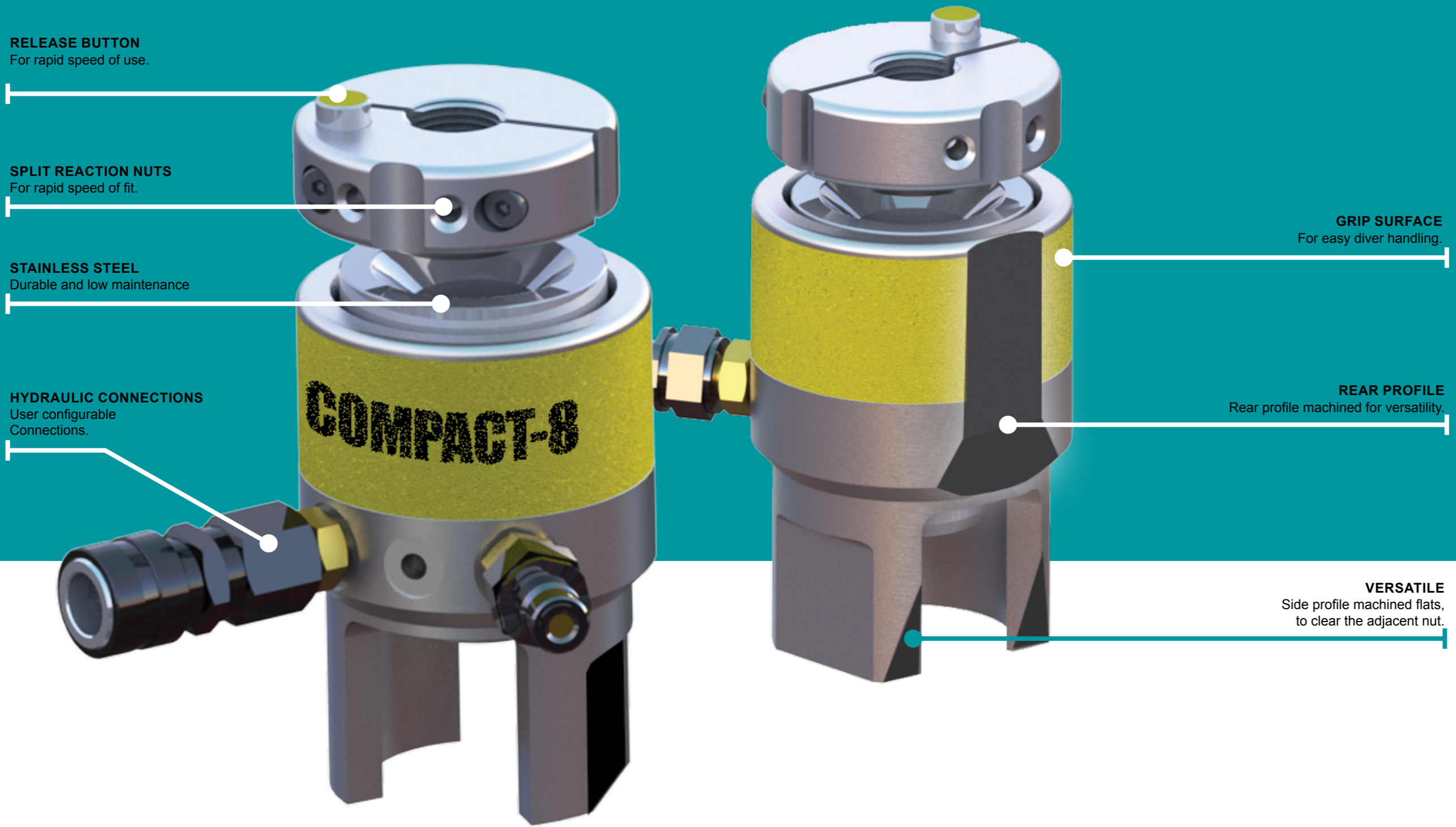
Item	Description	Ordering No.
HTT.9551.536.A	3/4" Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 01
HTT.9551.521.A	M20 Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 02
HTT.9551.580.A	7/8" Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 03
HTT.9551.523.A	M22 Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 04
HTT.9551.502.A	1" Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 05
HTT.9551.525.A	M24 Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 06
HTT.9551.520.A	1.1/8" Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 07
HTT.9551.528.A	M27 Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 08
HTT.9552.516.A	1.1/4" Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 09
HTT.9552.528.A	M27 Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 10
HTT.9552.532.A	M30 Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 11
HTT.9552.520.A	1.1/8" Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 12
HTT.9552.534.A	M33 Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 13
HTT.9552.540.A	1.3/8" Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 14
HTT.9552.537.A	M36 Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 15
HTT.9552.511.A	1.1/2" Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 16
HTT.9552.514.A	M39 Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 17
HTT.9553.514.A	1.1/2" Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 18
HTT.9553.540.A	M39 Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 19
HTT.9553.516.A	1.5/8" Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 20
HTT.9553.543.A	M42 Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 21
HTT.9553.536.A	1.3/4" Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 22
HTT.9553.546.A	M45 Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 23
HTT.9553.580.A	1.7/8" Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 24
HTT.9553.549.A	M48 Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 25
HTT.9553.502.A	2" Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 26
HTT.9553.553.A	M52 Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 27

Item	Description	Ordering No.
HTT.9554.580.A	1.7/8" Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 28
HTT.9554.549.A	M48 Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 29
HTT.9554.502.A	2" Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 30
HTT.9554.553.A	M52 Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 31
HTT.9554.516.A	2.1/4" Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 32
HTT.9554.557.A	M56 Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 33
HTT.9554.562.A	M60 Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 34
HTT.9554.511.A	2.1/2" Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 35
HTT.9554.565.A	M64 Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 36
HTT.9555.514.A	2.1/2" Conversion Kit (Insert/Bridge/Nut Socket)	8434 2201 17
HTT.9555.565.A	M64 Conversion Kit (Insert/Bridge/Nut Socket)	8434 2201 18
HTT.9555.570.A	M68 Conversion Kit (Insert/Bridge/Nut Socket)	8434 2201 19
HTT.9555.536.A	2.3/4" Conversion Kit (Insert/Bridge/Nut Socket)	8434 2201 20
HTT.9555.573.A	M72 Conversion Kit (Insert/Bridge/Nut Socket)	8434 2201 21
HTT.9555.502.A	3" Conversion Kit (Insert/Bridge/Nut Socket)	8434 2201 22
HTT.9555.577.A	M76 Conversion Kit (Insert/Bridge/Nut Socket)	8434 2201 23
HTT.9556.502.A	3" Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 37
HTT.9556.577.A	M76 Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 38
HTT.9556.582.A	M80 Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 39
HTT.9556.516.A	3.1/4" Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 40
HTT.9556.586.A	M85 Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 41
HTT.9556.511.A	3.1/2" Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 42
HTT.9556.591.A	M90 Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 43
HTT.9556.536.A	3.3/4" Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 44
HTT.9556.596.A	M95 Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 45
HTT.9556.542.A	4" Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 46
HTT.9556.501.A	M100 Conversion Kit (Insert/Bridge/Nut Socket)	4222 2600 47

TENTEC COMPACT 8

SUBSEA HYDRAULIC BOLT TENSIONER

The COMPACT-8 range of subsea bolt tensioning tools brings a new generation of bolting solutions. Comprising just 8 bolt tensioning tools, the COMPACT-8 series is capable of tensioning most standard flanges and Compact flanges. The COMPACT-8 series is made from high strength stainless steel which greatly reduces maintenance work to a minimum after subsea use.



RELEASE BUTTON
For rapid speed of use.

SPLIT REACTION NUTS
For rapid speed of fit.

STAINLESS STEEL
Durable and low maintenance

HYDRAULIC CONNECTIONS
User configurable Connections.

GRIP SURFACE
For easy diver handling.

REAR PROFILE
Rear profile machined for versatility.

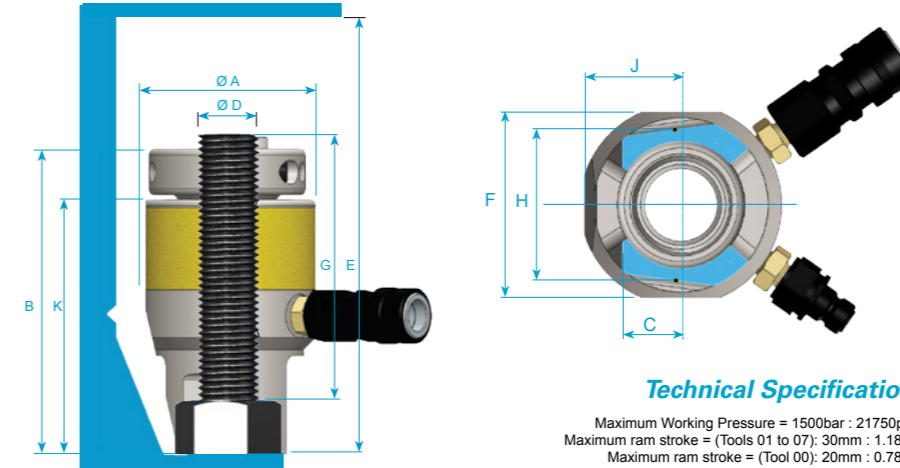
VERSATILE
Side profile machined flats, to clear the adjacent nut.

Tentec Compact 8
Tensioner Datasheet

COMPACT 8 TECHNICAL DATA

Model	Bolt Dia D Inch	Thread Pitch	Tool Dia A mm	Side Dia F mm	Tool Height B mm	Radial Dim'n C mm	Max Initial Bolt Load kN	Hyd Area mm ²	Ram Stroke mm	Extra Stud Length G mm	Headroom Dimension E mm	AF H mm	Radial Dim'n J mm	Dim'n K mm
C8-00	0.75	UNC	66.0	66.0	123	20	190.21	1268.420	20	113.5	214.5	50.2	31.6	97.00
	0.875	UNC	66.0	66.0	123	20	190.21	1268.420	20	110.3	214.5	50.2	31.6	97.00
C8-01	1	8-UN	87.0	87.0	153	25	328.87	2193.020	30	137.1	270.5	65	41.5	127.00
	1.125	8-UN	87.0	87.0	153	25	328.87	2193.020	30	134.0	270.5	65	41.5	127.00
C8-02	1.25	8-UN	104.5	104.5	165	28	514.84	3433.170	30	142.8	286.5	82.5	50.15	135.00
	1.375	8-UN	104.5	104.5	165	28	514.84	3433.170	30	139.6	286.5	82.5	50.15	135.00
C8-03	1.5	8-UN	123.1	118.3	184.5	35	746.70	4979.300	30	155.9	321.5	90	59.1	150.50
	1.625	8-UN	123.1	118.3	184.5	35	746.70	4979.300	30	152.8	321.5	90	59.1	150.50
C8-04	1.75	8-UN	150.0	143.5	210.75	48	1177.31	7850.800	30	175.8	365.0	110	71.7	169.75
	1.875	8-UN	150.0	143.5	210.75	48	1177.31	7850.800	30	172.7	365.0	110	71.7	169.75
	2	8-UN	150.0	143.5	210.75	48	1177.31	7850.800	30	169.5	365.0	110	71.7	169.75
C8-05	2.25	8-UN	182.5	174.3	235.75	59	1904.04	12696.940	30	188.1	393.0	136	87.1	179.75
	2.5	8-UN	182.5	174.3	235.75	59	1904.04	12696.940	30	181.8	393.0	136	87.1	179.75
C8-06	2.75	8-UN	210.0	210.0	259.75	65	2542.11	16951.840	30	199.4	432.0	163.5	105	199.75
	3	8-UN	210.0	210.0	259.75	65	2542.11	16951.840	30	193.1	432.0	163.5	105	199.75
C8-07	3.25	8-UN	258.1	258.1	302.8	85	4059.32	27069.190	30	229.8	492.6	204	129	232.25
	3.5	8-UN	258.1	258.1	302.8	85	4059.32	27069.190	30	223.4	492.6	204	129	232.25
	3.75	8-UN	258.1	258.1	302.8	85	4059.32	27069.190	30	217.1	492.6	204	129	232.25
Metric Threads														
C8-00	20	2.5	66.0	66.0	123	20	190.21	1268.420	20	110.5	212.5	50.2	31.6	97.00
	22	2.5	66.0	66.0	123	20	190.21	1268.420	20	108.5	212.5	50.2	31.6	97.00
C8-01	24	3	87.0	87.0	153	25	328.87	2193.020	30	138	270	65	41.5	127.00
	27	3	87.0	87.0	153	25	328.87	2193.020	30	135	270	65	41.5	127.00
	30	3.5	87.0	87.0	153	25	328.87	2193.020	30	133.5	271.5	65	41.5	127.00
C8-02	33	3.5	104.5	104.5	165	28	514.84	3433.170	30	142.5	287.5	82.5	50.15	135.00
	36	4	104.5	104.5	165	28	514.84	3433.170	30	141	289	82.5	50.15	135.00
C8-03	39	4	123.1	118.3	184.5	35	746.70	4979.300	30	157.5	324	90	59.1	150.50
	42	4.5	123.1	118.3	184.5	35	746.70	4979.300	30	156	325.5	90	59.1	150.50
C8-04	45	4.5	150.0	143.5	210.8	48	1177.31	7850.800	30	179.25	369	110	71.7	169.75
	48	5	150.0	143.5	210.8	48	1177.31	7850.800	30	177.75	370.5	110	71.7	169.75
	52	5	150.0	143.5	210.8	48	1177.31	7850.800	30	173.75	370.5	110	71.7	169.75
C8-05	56	5.5	182.5	174.3	235.8	59	1904.04	12696.940	30	196.25	400	136	87.1	179.75
	60	5.5	182.5	174.3	235.8	59	1904.04	12696.940	30	192.25	400	136	87.1	179.75
	64	6	182.5	174.3	235.8	59	1904.04	12696.940	30	189.75	401.5	136	87.1	179.75
C8-06	68	6	210.0	210.0	259.8	65	2542.11	16951.840	30	209.75	440.5	163.5	105	199.75
	72	6	210.0	210.0	259.8	65	2542.11	16951.840	30	205.75	440.5	163.5	105	199.75
	76	6	210.0	210.0	259.8	65	2542.11	16951.840	30	201.75	440.5	163.5	105	199.75
C8-07	80	6	258.1	258.1	302.8	85	4059.32	27069.190	30	240.8	501.05	204	129	232.25
	85	6	258.1	258.1	302.8	85	4059.32	27069.190	30	235.8	501.05	204	129	232.25
	90	6	258.1	258.1	302.8	85	4059.32	27069.190	30	230.8	501.05	204	129	232.25
	95	6	258.1	258.1	302.8	85	4059.32	27069.190	30	225.8	501.05	204	129	232.25

COMPACT 8 ORDERING NUMBERS



Item	Description	Ordering No.
HTT.9700.102.A	No.0 Compact-8 Spare Seal Kit	4222 2700 04
HTT.9700.000.A	No.0 Compact-8 Subsea Loadcell	8434 2200 54
HTT.9701.102.A	No.1 Compact-8 Spare Seal Kit	4222 2700 05
HTT.9701.000.A	No.1 Compact-8 Subsea Loadcell	8434 2200 55
HTT.8824.500.A	No.1 Split Nut - 1" Thread	8434 2200 18
HTT.8824.501.A	No.1 Split Nut - 1.1/8" Thread	8434 2200 19
HTT.8824.510.A	No.1 Split Nut - M24 Thread	8434 2200 20
HTT.8824.511.A	No.1 Split Nut - M27 Thread	8434 2200 21
HTT.8824.512.A	No.1 Split Nut - M30 Thread	8434 2200 22
HTT.9702.102.A	No.2 Compact-8 Spare Seal Kit	4222 2700 06
HTT.9702.000.A	No.2 Compact-8 Subsea Loadcell	8434 2200 56
HTT.8825.500.A	No.2 Split Nut - 1.1/4" Thread	8434 2200 23
HTT.8825.501.A	No.2 Split Nut - 1.3/8" Thread	8434 2200 24
HTT.8825.510.A	No.2 Split Nut - M33 Thread	8434 2200 25
HTT.8825.511.A	No.2 Split Nut - M36 Thread	8434 2200 26
HTT.9703.102.A	No.3 Compact-8 Spare Seal Kit	4222 2700 07
HTT.9703.000.A	No.3 Compact-8 Subsea Loadcell	8434 2200 57
HTT.8826.500.A	No.3 Split Nut - 1.1/2" Thread	8434 2200 27
HTT.8826.510.A	No.3 Split Nut - M39 Thread	8434 2200 29
HTT.8826.511.A	No.3 Split Nut - M42 Thread	8434 2200 30
HTT.8826.501.A	No.3 Split Nut 1.5/8" Thread	8434 2200 28
HTT.9704.102.A	No.4 Compact-8 Spare Seal Kit	4222 2700 08
HTT.9704.000.A	No.4 Compact-8 Subsea Loadcell	8434 2200 58
HTT.8827.500.A	No.4 Split Nut - 1.3/4" Thread	8434 2200 31
HTT.8827.501.A	No.4 Split Nut - 1.7/8" Thread	8434 2200 32
HTT.8827.502.A	No.4 Split Nut - 2" Thread	8434 2200 33
HTT.8827.510.A	No.4 Split Nut - M45 Thread	8434 2200 34
HTT.8827.511.A	No.4 Split Nut - M48 Thread	8434 2200 35

Item	Description	Ordering No.
HTT.8827.512.A	No.4 Split Nut - M52 Thread	8434 2200 36
HTT.9705.102.A	No.5 Compact-8 Spare Seal Kit	4222 2700 09
HTT.9705.000.A	No.5 Compact-8 Subsea Loadcell	8434 2200 59
HTT.8828.501.A	No.5 Split Nut - 2.1/2" Thread	8434 2200 38
HTT.8828.500.A	No.5 Split Nut - 2.1/4" Thread	8434 2200 37
HTT.8828.510.A	No.5 Split Nut - M56 Thread	8434 2200 39
HTT.8828.511.A	No.5 Split Nut - M60 Thread	8434 2200 40
HTT.8828.512.A	No.5 Split Nut - M64 Thread	8434 2200 41
HTT.9706.102.A	No.6 Compact-8 Spare Seal Kit	4222 2700 10
HTT.9706.000.A	No.6 Compact-8 Subsea Loadcell	8434 2200 60
HTT.8829.500.B	No.6 Split Nut - 2.3/4" Thread	8434 2200 42
HTT.8829.501.B	No.6 Split Nut - 3" Thread	8434 2200 43
HTT.8829.510.B	No.6 Split Nut - M68 Thread	8434 2200 44
HTT.8829.511.B	No.6 Split Nut - M72 Thread	8434 2200 45
HTT.8829.512.B	No.6 Split Nut - M76 Thread	8434 2200 46
HTT.9707.102.A	No.7 Compact-8 Spare Seal Kit	4222 2700 11
HTT.9707.000.A	No.7 Compact-8 Subsea Loadcell	8434 2200 61
HTT.8830.501.B	No.7 Split Nut - 3.1/2" Thread	8434 2200 48
HTT.8830.500.B	No.7 Split Nut - 3.1/4" Thread	8434 2200 47
HTT.8830.502.A	No.7 Split Nut - 3.3/4" Thread	8434 2200 49
HTT.8830.510.B	No.7 Split Nut - M80 Thread	8434 2200 50
HTT.8830.511.B	No.7 Split Nut - M85 Thread	8434 2200 51
HTT.8830.512.B	No.7 Split Nut - M90 Thread	8434 2200 52
HTT.8830.513.A	No.7 Split Nut - M95 Thread	8434 2200 53

TENTEC WTB

WIND TURBINE HYDRAULIC BOLT TENSIONER

These feature-packed tensioners have been designed with rapid tensioning in mind and offer a safe, reliable and consistent method of simultaneously tensioning many bolts.

AUTOMATIC RESET

Internal heavy duty springs automatically resets the tensioner once the pressure has been released.

HIGH LIFE PULLER

All Aero WTB tensioners have a device that ensures the tool fails safely in the unlikely event of a puller failure.

“SNAP DOWN” NUT DRIVE

To increase speed all Aero WTB tensioners are fitted with a spring loaded device that automatically engages the tensioner drive socket with the hexagon nut.

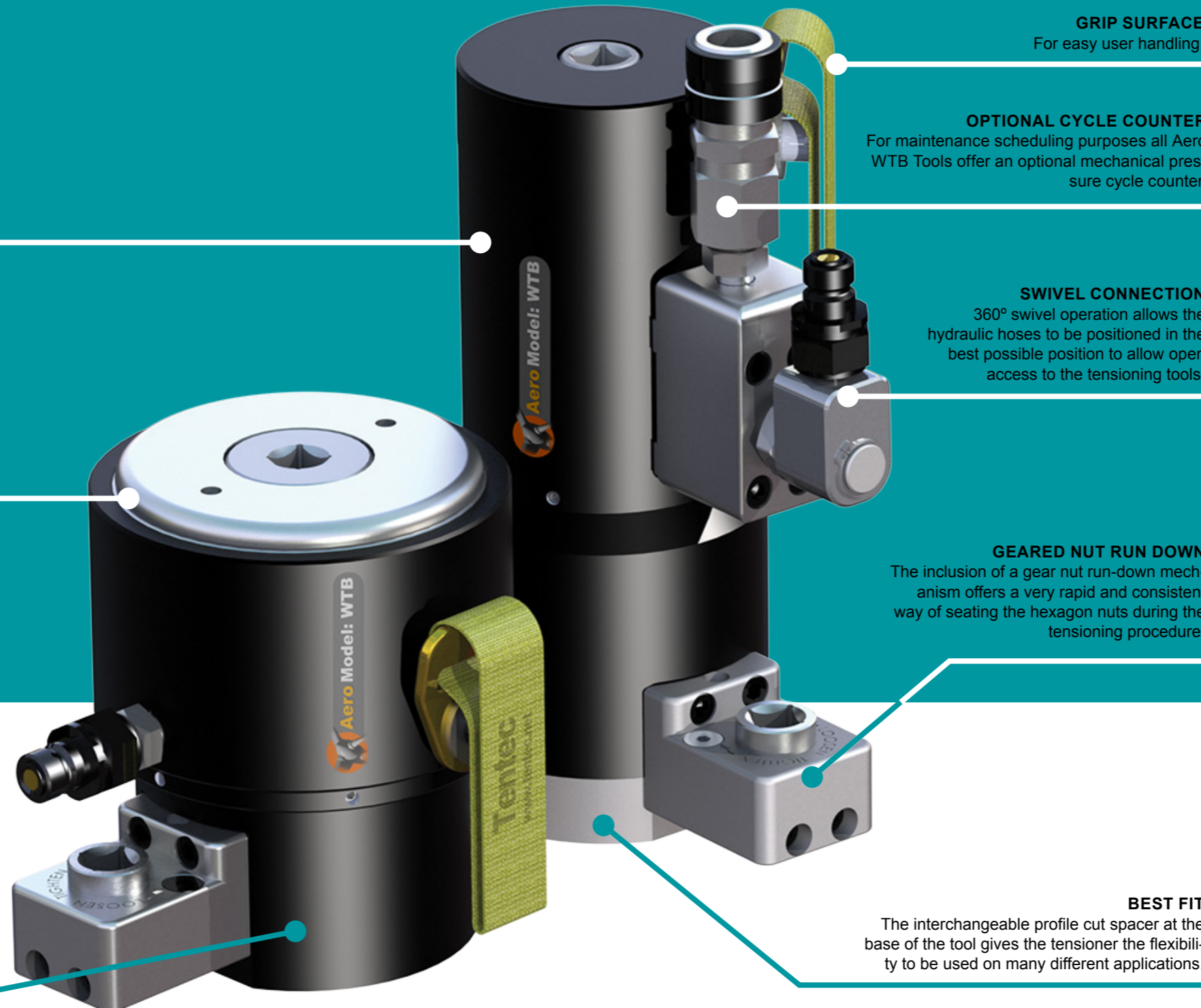
GRIP SURFACE
For easy user handling.

OPTIONAL CYCLE COUNTER
For maintenance scheduling purposes all Aero WTB Tools offer an optional mechanical pressure cycle counter.

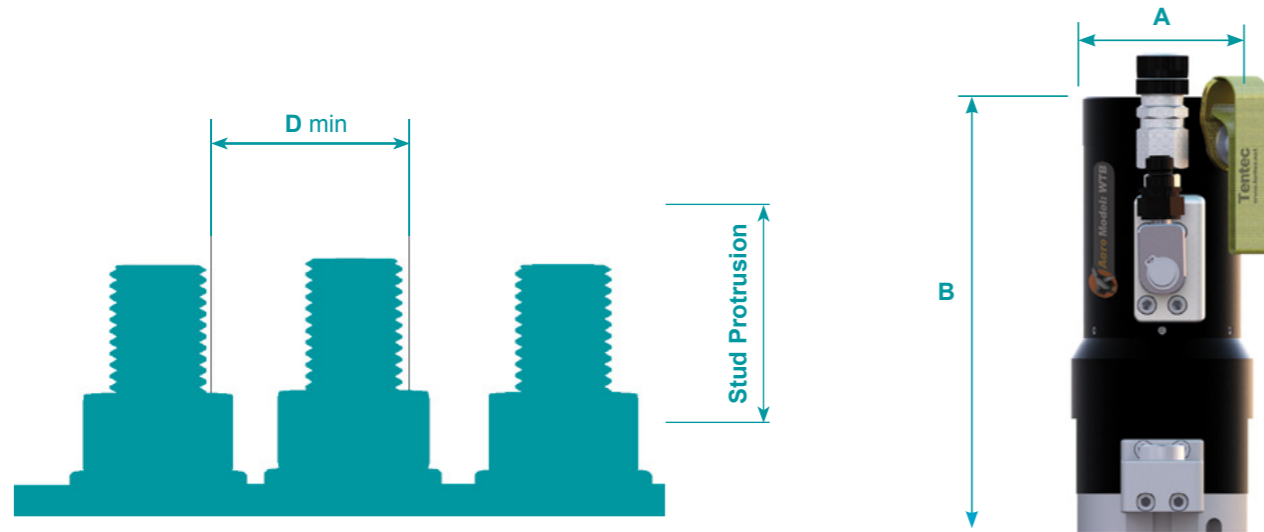
SWIVEL CONNECTION
360° swivel operation allows the hydraulic hoses to be positioned in the best possible position to allow open access to the tensioning tools.

GEARED NUT RUN DOWN
The inclusion of a gear nut run-down mechanism offers a very rapid and consistent way of seating the hexagon nuts during the tensioning procedure.

BEST FIT
The interchangeable profile cut spacer at the base of the tool gives the tensioner the flexibility to be used on many different applications.

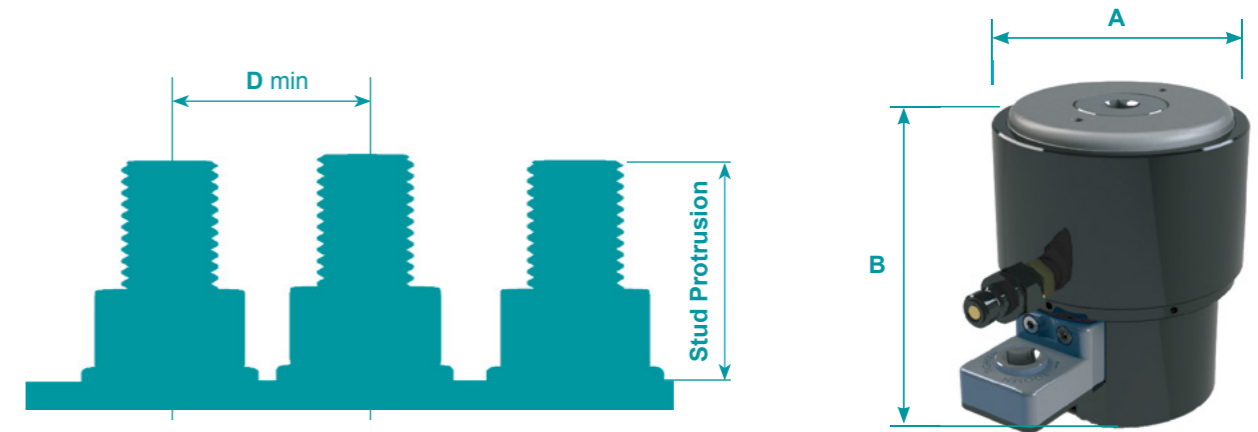


AERO WTB TECHNICAL DATA



Model	Bolt Diameter	Stud Protrusion (Mm)		Max Stroke	Maximum Load		Hydraulic Pressure Area		Dia A	Height B	D	Weight
		min	max		mm	kN	lbs	mm2				
WTB30	M30	59	69	8	465.38	104622	3447.21	5.343	72	205	64	6.16
WTB33	M33	64	73	10	575.80	129444	4265.09	6.611	79	217.5	71	7.24
WTB36	M36	71	81	10	678.26	152478	5024.05	7.787	84.5	229.5	77	8.75
WTB39	M39	76	86	10	810.58	182225	6004.20	9.307	92	263	83	11.12
WTB42	M42	83	93	10	929.67	208999	6886.37	10.674	97	262.5	95	12.75
WTB45	M45	88	98	10	1079.48	242682	7996.12	12.394	105	275.5	94.5	15.86
WTB48	M48	94	104	10	1221.57	274620	9048.67	14.025	111	286.5	100.5	17.84
WTB56	M56	110	120	10	1686.19	379070	12490.29	19.359	132	314	115	26.5
WTB64	M64	124	134	10	2221.00	499300	16461.30	25.515	150	352	124	35

AERO WTB-LOW HEIGHT TECHNICAL DATA



Model	Bolt Diameter	Stud Protrusion (Mm)		Max Stroke	Maximum Load		Hydraulic Pressure Area		Dia A	Height B	D	Weight
		min	max		mm	kN	lbs	mm2				
WTBLH36	M36	71	91	10	678.14	152452	5023.4	7.79	123	167.5	-	9.97
WTBLH42	M42	83	103	10	930.15	209106	6889.96	10.68	142.5	181.3	-	13.94

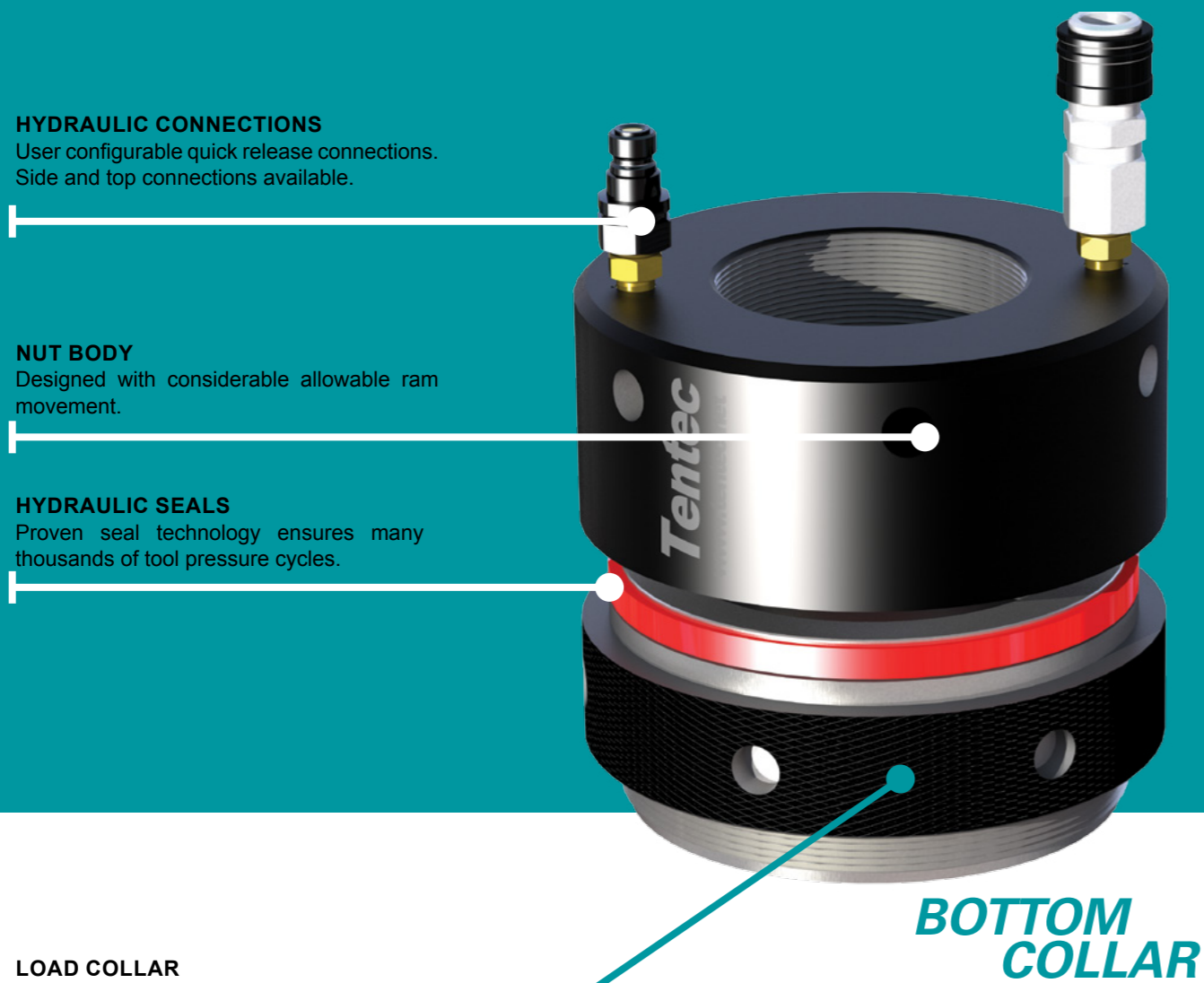
WTB ORDERING NUMBERS

Model	Description	Ordering No.
M30 Blade Tensioner	M30 X 3.5 Wtt	8434 2200 62
M33 Blade Tensioner	M33 X 3.5 Wtt	8434 2200 63
M36 Blade Tensioner	M36 X 4 Wtt	8434 2200 64
M39 Blade Tensioner	M39 X 4 Wtt	8434 2200 65
M42 Blade Tensioner	M42 X 4.5 Wtt	8434 2200 66
M45 Blade Tensioner	M45 X 4.5 Wtt	8434 2200 67
M48 Blade Tensioner	M48 X 5 Wtt	8434 2200 68

TENTEC HYDRAULIC NUTS

TOP COLLAR AND BOTTOM COLLAR MODELS

Hydraulic Nuts offer an extremely rapid and simple method of simultaneously accurately tensioning every bolt on a bolted joint. Hydraulic Nuts become a permanent part of the bolted joint and remain on the joint after the bolt load has been generated.



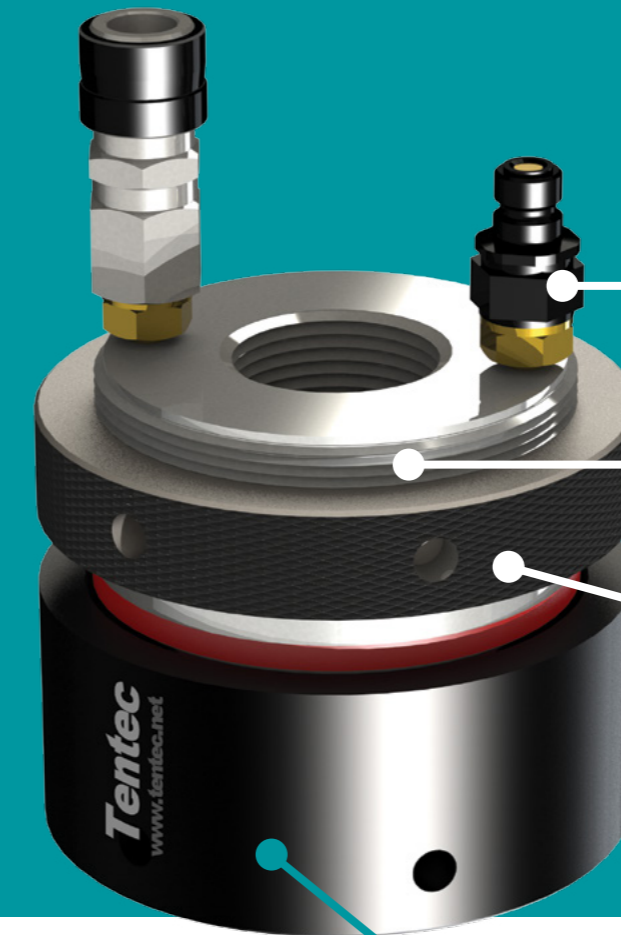
HYDRAULIC CONNECTIONS
User configurable quick release connections. Side and top connections available.

NUT BODY
Designed with considerable allowable ram movement.

HYDRAULIC SEALS
Proven seal technology ensures many thousands of tool pressure cycles.

LOAD COLLAR
Proven seal technology ensures many thousands of tool pressure cycles.

BOTTOM COLLAR



HYDRAULIC CONNECTIONS
User configurable quick release connections. Side and top connections available.

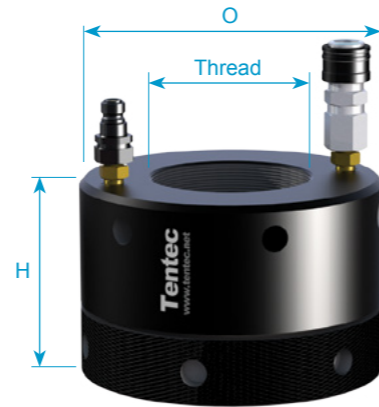
THREADED RAM
Interfaces with the load collar to retain bolt load.

LOAD COLLAR
User configurable quick release connections. Side and top connections available.

TOP COLLAR

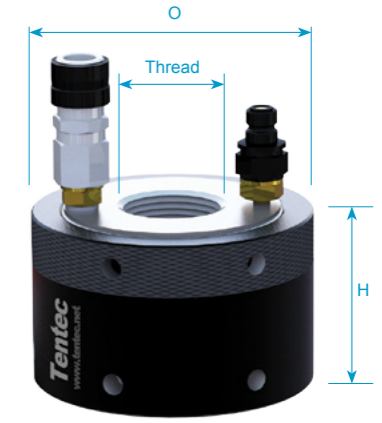
NUT BODY
Designed with considerable allowable ram movement.

BOTTOM COLLAR TECHNICAL DATA



Part No	Thread	Thread	Part No	Bolt Load		O	H	S
Inch	Inches	Metric	Metric	kN	Tons	mm	mm	mm
BCHN:0875	7/8	M22	BCHN:0022	190	19.1	54	48	5
BCHN:1000	1"	M24	BCHN:0024	205	20.6	57	44	5
BCHN:1125	1 1/8	M27	BCHN:0027	220	22.1	60	48	5
BCHN:1250	1 1/4	M33	BCHN:0033	265	26.6	67	51	5
BCHN:1375	1 3/8	M36	BCHN:0036	325	32.6	73	54	6
BCHN:1500	1 1/2	M39	BCHN:0039	373	37.5	78	56	6
BCHN:1625	1 5/8	M42	BCHN:0042	424	42.6	83	58	6
BCHN:1750	1 3/4	M45	BCHN:0045	445	44.6	86	60	6
BCHN:1875	1 7/8	M48	BCHN:0048	523	52.5	93	70	8
BCHN:2000	2	M52	BCHN:0052	629	63.1	102	71	8
BCHN:2250	2 1/4	M56	BCHN:0056	781	78.3	112	75	8
BCHN:2500	2 1/2	M64	BCHN:0064	941	94.4	124	86	8
BCHN:2750	2 3/4	M68	BCHN:0068	1042	104.5	131	90	8
BCHN:3000	3	M72	BCHN:0072	1246	125.1	144	94	10
BCHN:3250	3 1/4	M80	BCHN:0080	1607	161.3	159	104	10
BCHN:3500	3 1/2	M90	BCHN:0090	2027	203.4	176	114	10
BCHN:3750	3 3/4	M95	BCHN:0095	2160	216.7	182	118	10
BCHN:4000	4	M100	BCHN:0100	2466	247.5	200	124	15
BCHN:4500	4 1/2	M110	BCHN:0110	2814	282.4	215	136	15
BCHN:5000	5	M125	BCHN:0125	3820	383.4	244	148	15
BCHN:5500	5 1/2	M140	BCHN:0140	4954	497.1	272	164	15
BCHN:6000	6	M150	BCHN:0150	5655	567.5	290	176	15

TOP COLLAR TECHNICAL DATA



Part No	Thread	Thread	Part No	Bolt Load		O	H	Ram Stroke
Inch	Inches	Metric	Metric	kN	Tons	mm	mm	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

HYDRAULIC NUT ORDERING NUMBERS

Item	Description	Ordering No.
HTT.1671.000.B	M42 X 4.5 Bottom Collar Hydraulic Nut	8434 2200 07
HTT.1671.102.A	Spare M42 Hydraulic Nut Seal Kit	4222 2700 01
HTT.1710.000.C	M36 X 3 Bottom Collar Hydraulic Nut	8434 2200 08
HTT.1710.101.B	Spare M36 Hydraulic Nut Seal Kit	4222 2700 02
HTT.2820.000.D	M30 X 3.5 Bottom Collar Hydraulic Nut	8434 2200 09
HTT.2820.005.B	Spare M30 Hydraulic Nut Seal Kit	4222 2700 03

ANCILLARY PRODUCTS FOR TENTEC BOLT TENSIONERS

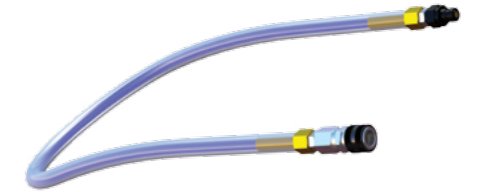
Pumps

Item	Description	Ordering No.
HTT.2065.000.A	0-25,000Psi Low Pressure Hand Pump	8434 2200 03
HTT.2122.000.A	0-40,000Psi Low Pressure Hand Pump	8434 2200 04
HTT.6271.000.E	0-25,000Psi Low Pressure Air Driven Pump Unit	8434 2200 05
HTT.6272.000.E	0-40,000Psi High Pressure Air Driven Pump Unit	8434 2200 06

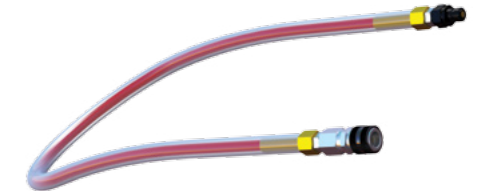


Item	Description	Ordering No.
HTT.4425.130.B	4.Ply 1.3 Meter Long Hose (Low Pressure)	8434 2200 10
HTT.4425.150.B	4.Ply 1.3 Meter Long Hose (Low Pressure)	8434 2200 11
HTT.4425.300.B	4.Ply 1.5 Meter Long Hose (Low Pressure)	8434 2200 12
HTT.4425.500.B	4.Ply 5 Meter Long Hose (Low Pressure)	8434 2200 13
HTT.4444.130.A	6.Ply 1.3 Meter Long Hose (High Pressure)	8434 2200 14
HTT.4444.150.B	6.Ply 1.3 Meter Long Hose (High Pressure)	8434 2200 15
HTT.4444.300.B	6.Ply 1.5 Meter Long Hose (High Pressure)	8434 2200 16
HTT.4444.500.B	6.Ply 5 Meter Long Hose (High Pressure)	8434 2200 17

1500 bar Hydraulic Link Hose



2275 bar Hydraulic Link Hose



Hydraulic Oil

Item	Description	Ordering No.
AWS68	AWS68 - Hyd Oil One Gallon	8434 2200 01
AWS32	AWS32 - Hyd Oil One Gallon	8434 2200 02



Couplers/Nipples

Item	Description	Ordering No.
HTT.3427.000.D	1/4" Male X 1/4" Male Adaptor (Tensioner)	4222 2700 19
HTT.3627.000.C	1/4" Male X 1/4" Cejn Male (Hose)	4222 2700 20
400.021-4490-2	1/4" Dowty Seal	4222 2700 21
C101161202	C116 Female Coupling (Low Pressure)	4222 2700 22
C101166202	C116 Male Nipple (Low Pressure)	4222 2700 23
C101251203	C125 Female Coupling (High Pressure)	4222 2700 24
C101256203	C125 Male Nipple (High Pressure)	4222 2700 25

