

TSS SERIES SUB SEA BOLT TENSIONERS

TSS Series Bolt Tensioners are specially designed for sub sea applications. These Tensioners are suitable for higher pressure rating flanges also. It's ergonomic design makes it very easy to handle and use by divers under the harsh sea conditions. These tensioners are designed to provide a wide range of flexibility, covering stud sizes 3/4" to 3.1/2" (M-20 to M-85).

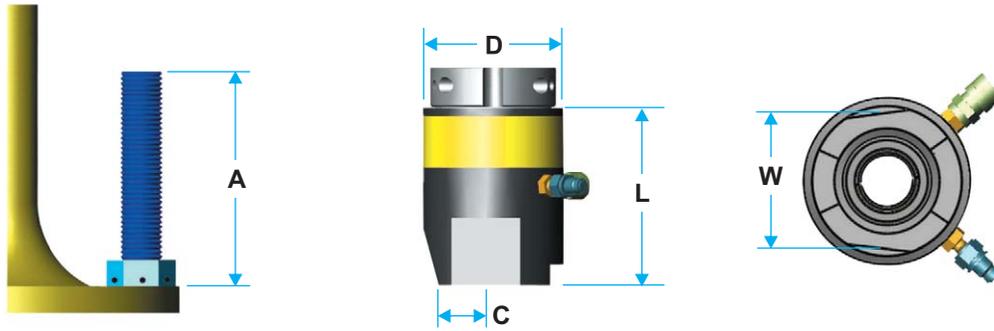
The tool consists of two basic parts - Tensioning Unit and Puller Nut as shown below:



Features :

- **High Strength Stainless Steel Construction:** The Complete tool is made from high strength stainless steel for use in corrosive sea environment and to minimize maintenance. Optional alloy still construction also available.
- **Versatile Design:** Designed to provide a wide range of flexibility, covering stud sizes 3/4" to 3.1/2" (M-20 to M-85) using just 8 load cells.
- **Higher Load generation:** Generates higher load making it suitable for higher pressure rating flanges (API 170 - 10K).
- **Long Stroke And Stroke Indication:** All tensioners have a 25mm long stroke with piston marked with fluorescent rings for indication of stroke and over stroke limit.
- **Safe Design in event of Piston 'Over Stroke':** Designed to release high pressure hydraulic oil inwards in the event of over-stroke, thus saving the operator from any potential exposure.
- **Multi Tensioning:** The tensioning unit cell is provisioned with two connections that act as a manifold for multi tensioning applications.
- **Anti Roll, Composite Material Seals:** Fitted with Anti Roll, Composite Material seals for longer life and high reliability. The seals used have a low coefficient of friction so that the piston can be returned to a closed position with minimal effort. Sub Sea tensioners can be provided with machined PU (poly urethane) seals if requested by the customer.
- **Split Nut:** Optional Split Nut available for fast and easy fitment which ensures most efficient use of expensive diver time.
- **Safe Handling:** Provisioned with detachable hooks and strap for easy handling under water.
- **Non Slip Tool Surface:** Knurled and formed surface allows easy handling.
- **Fluorescent band:** Fluorescent band provided on load cell body for easy tool identification in poor visibility conditions.

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Technical Details:

Model No.		Bolt Size		Max Load		Hyd Area		D	C	W	L	A	Weight
Load Cell	Puller Nut.	inch	mm	Ton	kN	in ²	mm ²	mm	mm	mm	mm	mm	Kg.
TSS-03	PT03-0.12	3/4"		21.2	188	1.95	1256	65	30	46	100	122	2.0*
	PT03-M20		M20										0.3
	PT03-0.14	7/8"											0.3
TSS-04	PT04-M24			34.7	309	3.19	2061	86	30	64	123	153	4.0*
	PT04-1.00	1											0.7
	PT04-M27		M27										0.7
	PT04-1.02	1.1/8"											0.7
	PT04-M30		M30										0.7
TSS-05	PT05-1.04	1.1/4		54.2	482	4.98	3215	98	30	78	138	171	5.5*
	PT05-M33		M33										0.7
	PT05-1.06	1.3/8											0.7
	PT05-M36		M36										0.7
TSS-07	PT07-1.08	1.1/2		79.4	706	7.30	4710	117	30	93	147	186	7.4*
	PT07-M39		M39										0.8
	PT07-1.10	1.5/8											0.8
	PT07-M42		M42										0.8
TSS-11	PT11-1.12	1.3/4		119.1	1060	10.95	7065	138	60	113	152	197	13.5*
	PT11-M45		M45										3.5
	PT11-1.14	1.7/8											3.5
	PT11-M48		M48										3.5
	PT11-2.00	2"											3.8
	PT11-M52		M52										3.8
TSS-15	PT15-M56		M56	174.7	1554	16.06	10362	164	60	141	171	229	20.7*
	PT15-2.04	2.1/4"											5.0
	PT15-M60		M60										5.0
	PT15-2.08	2.1/2"											5.2
	PT15-M64		M64										5.2
TSS-20	PT20-2.12	2.3/4"		219.4	1952	20.17	13011	190	60	166	194	266	23.5*
	PT20-M72		M72										5.2
	PT20-M76		M76										5.2
	PT20-3.00	3"											5.2
TSS-27	PT27-M80		M80	268.7	2390	24.70	15935	214	60	191	208	288	31.5*
	PT27-3.04	3.1/4"											6.5
	PT27-M85		M85										6.5
	PT27-3.08	3.1/2"											6.5

* Weight of Load Cell + Puller Nut.