

▼ FTR-Series, Foundation Bolt Tensioners Round



- FTR-Series Foundation Bolt Tensioners provide fast, accurate and easy tightening of external or internal-ring wind tower foundations
- Standard models are available for 75, 150 ksi and metric style Williams®, Dyson® and Macalloy® bar types
- Long-stroke options accelerate process with single-pull tensioning.

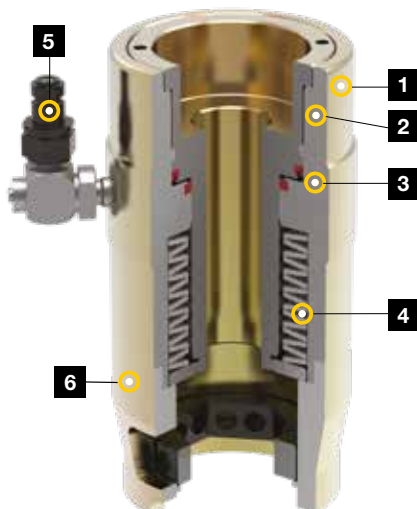
High-Precision, Low Maintenance



FTR-Series Foundation Bolt Tensioners

FTR-Series Foundation Bolt Tensioners are designed specifically for tensioning wind tower foundation bolts. These tensioners provide the speed and precision required by this critical application. Potential thread fit problems are eliminated through the use of existing rebar hex nuts as a reaction point.

The FTR-Series includes long-stroke models, which provide greater speed and ease of use by enabling applications to be completed in a single pull.



1. **Corrosion protection:** Zinc coating provides best-in-class corrosion resistance.
2. **Over-stroke indicator:** Extends life by helping to prevent over-stroking of cylinder.
3. **Long-life seals:** For maximum durability and extended service life intervals.
4. **Auto-retract piston:** Simplifies use and improves speed of operation.
5. **Quick-disconnect coupler:** For safe, simple hydraulic connection. Optional 360° swivel available for additional hose positioning flexibility.
6. **Interchangeable bridge:** For optimal application fit.

▼ FTR-Series Foundation Bolt Tensioner. Manual wrench (not included) required to apply up to 30 Nm of torque during installation of models that feature run down gears.



Foundation Bolt Tensioners

▼ This is how a FTR-Series Foundation Bolt Tensioner model number is built up:

FTR	75	14	20	SW	G
1 Product Type	2 Bar Grade	3 Bar Size Designation	4 Stroke	5 Fitting Type	6 Run Down Gear *

1 Product Type

FTR = Foundation Tensioner, Round

2 Bar Grade

75 = 75 ksi
150 = 150 ksi
 (or metric designation)

3 Bar Size Designation

Example
14 = No. 14 bar size

4 Maximum Stroke

Example:
20 = 20 mm max. stroke

5 Fitting Type

SW = Includes swivel manifold with single male fitting

6 Run Down Gear

G = Includes Nut Run Down Gear
 * available in select models

FTR Series



Maximum Load Capacity:

2736 kN

Maximum Operating Pressure ¹⁾:

1170 - 1500 bar

¹⁾ Max. pressure varies, see specifications table for details.



Tensioning Pumps

Electric, pneumatic and manual high-pressure tensioning pumps are available for use with Enerpac hydraulic tensioners.



Hoses and Fittings

High-pressure hoses and fittings for use with Enerpac tensioning systems are available.

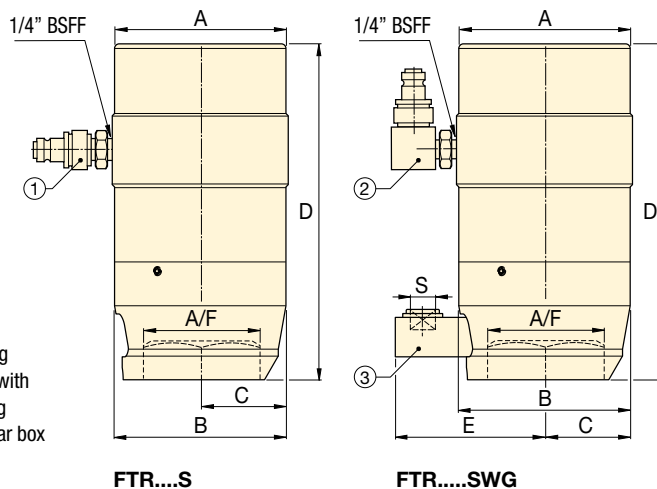
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Bolting Integrity Software

The software offers Tool selection, Bolt Load calculations and Tool pressure settings, as well as, a combined Application data sheet and Joint completion report. Custom Joint information can also be entered.

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- ① Single male fitting
- ② Swivel manifold with single male fitting
- ③ Nut run down gear box

▼ SPECIFICATION TABLE

Bar Grade	Bolt Diameter		Bar Size Designation	Model Number with single male fitting	Nut Size A/F	Max. Pressure	Hydraulic Pressure Area	Max. Load Capacity	Stroke	Dimensions (mm)					Minimum Bolt Protrusion
	(mm)	(inch)			(mm)	(bar)	(mm ²)	(kN)	(mm)	A	B	C	D	E	(kg)
75 ksi	35	1.38	#10	FTR751010S	51	1200	3134	376,1	10,0	99	88,5	44,3	163	—	5,8
	35	1.38	#10	FTR751025S	51	1200	3123	374,8	25,0	115	102	42	220	—	10,9
	38	1.50	#11	FTR751110S	57	1500	3134	470,1	10,0	99	98	38	178	—	5,5
	38	1.50	#11	FTR751125SG	57	1500	3123	468,5	25,0	115	102	51	226	96	11,5
	48	1.88	#14	FTR751420S	70	1170	6093	712,9	20,0	132	132	66	268	—	18,2
150 ksi	37	1.44	1.25	FTR15012510S	57	1170	5383	629,8	10,0	111	110	40	178	—	8,2
	40	1.56	1.37	FTR15013810S	64	1500	5383	807,5	10,0	111	110	38	178	—	8,1
	70	2.75	2.50	FTR15025025S	108	1500	18.238	2736,0	25,4	215	212	86	348	—	58,0
10.9	36	1.42	36	FTR1093610SG	60	1500	3820	573,0	10,0	102	99	40	176	95	8,6

Gear box square drive dimension S = 1/2 inch.

▼ FTE-Series, Foundation Bolt Tensioner Elliptical



- FTE-Series Foundation Bolt Tensioners provide fast and accurate performance in difficult, narrow access foundation tensioning applications
- Standard models are available for 75, 150 ksi and metric style Williams®, Dyson® and Macalloy® bar types
- Ideal universal solution that fits both standard and narrow access applications.

High-Precision, Low Maintenance



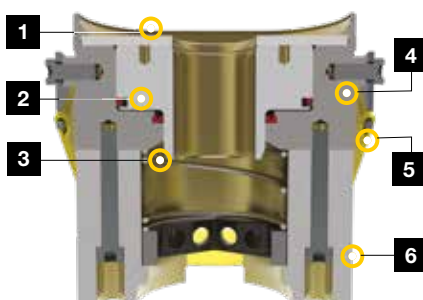
FTE-Series, Foundation Bolt Tensioners

Similar to Standard Foundation Tensioners, Elliptical tensioners were designed specifically for foundation fastening applications on wind towers, and utilize the existing hex nut as a reaction point in order to eliminate thread fit misalignment.

Unlike standard FTR-Series Tensioners, the FTE-Series Tensioners feature an elliptical geometry, which enables fit in narrow access foundation applications, without reducing load capabilities.

Operators may access the nut with a Tommy Bar rather than employing the use of an offset rundown gear.

Elliptical tensioners are ideal for close clearance applications, or as a universal tool that will work in nearly any foundation application, whether standard or narrow access.



1. **Maximum stroke Indicator:** Extends life by helping to prevent over-stroking of cylinder.
2. **Long-life seals:** For maximum durability and extended service life intervals.
3. **Auto-retract piston:** Simplifies use and improves speed of operation.
4. **Elliptical form:** Provides access to close clearance applications.
5. **Corrosion protection:** Zinc coating provides best-in-class corrosion resistance.
6. **Quick-disconnect coupler:** (not shown) For safe, simple hydraulic connection. Optional 360° swivel available for additional hose positioning flexibility.

▼ FTE-Series, Foundation Bolt Tensioner, designed to fit both standard and narrow access foundation applications.



Foundation Bolt Tensioners, Elliptical

▼ This is how a FTE-Series Foundation Bolt Tensioner model number is built up:

FTE	75	10	SW
1 Product Type	2 Bar Grade	3 Bar Size Designation	4 Fitting Type

1 Product Type

FTE = Foundation Tensioner, Elliptical

2 Bar Grade

75 = 75 ksi
150 = 150 ksi
 (or metric designation)

3 Bar Size Designation

Example
10 = No. 10 bar size

4 Fitting Type

SW = Includes swivel manifold with single male fitting

FTE Series



Maximum Load Capacity:

373,0 - 761,1 kN

Maximum Operating Pressure ¹⁾:

1200 - 1500 bar

¹⁾ Max. pressure varies, see specifications table for details.



Tensioning Pumps

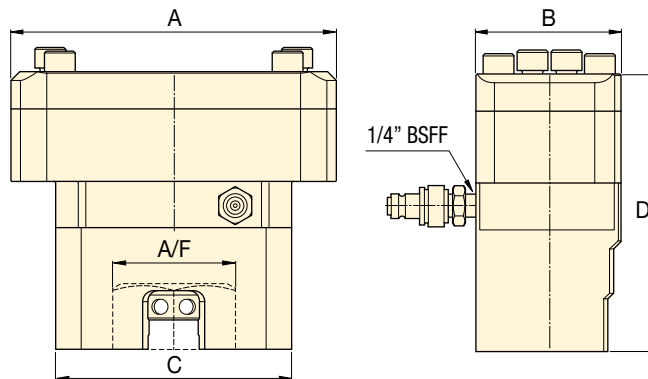
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75 ksi	35	1.38	#10	FTE7510S	51	1200	3108	373,0	10,0	170	82	142	147,5	8,3
	38	1.50	#11	FTE7511S	57	1500	3108	466,2	10,0	170	82	142	147,5	8,3
150 ksi	40	1.56	1.375	FTE150138S	64	1500	5074	761,1	10,0	222	99	161	203,4	18,5
	37	1.44	1.250	FTE150125S	57	1200	5074	608,9	10,0	222	99	161	203,4	18,9
8.8	36	1.42	36	FTE8836S	60	1500	3108	466,2	10,0	142	82	142	147,5	9,7