

Aero Model: WTF

The new Aero WTF is a purpose designed range of hydraulic bolt tensioning tools developed by Tentec and designed to suit most wind turbine foundation bolting applications. The Aero WTF tensioning tools can be supplied to suit many different All Thread Bars and the more conventionally ISO metric and Imperial Unified thread forms. These feature packed tensioners have been designed with rapid tensioning in mind and offer a safe, reliable and consistent method to simultaneously tension many foundation bolts. The Tentec Aero WTF range of tensioning tools have been fully site evaluated in the wind energy industry.



Image Courtesy of Nordex GmbH

Long Stroke Foundation Tensioners



Elliptical Foundation Tensioners

Short Stroke Foundation Tensioners

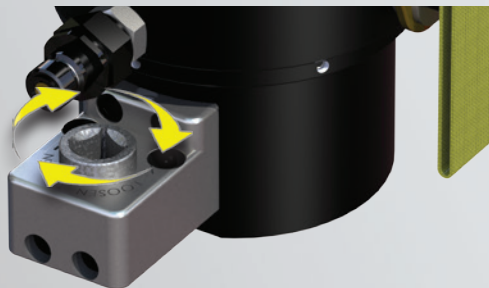
Metric Thread Foundation Tensioner

Wind Turbine Foundation Bolting



25mm (1") Ram stroke for 'One Pull' Tensioning

Due to the unusual length of foundation bolts and the methods used to anchor the bolts into the foundation structure, it is usual to experience relatively large amount of bolt extension during foundation bolt tensioning. For this reason it is very important that the bolt tensioning tool used has plenty of piston/ram stroke capacity. The Aero WTF range of tensioners offer up to 25mm piston/ram stroke capability for "One Pull" uninterrupted tensioning. Shorter stroke foundation tensioners are available from Tentec to be used where bar protrusion is limited.



Geared Nut Run-Down

Tentec offer a gear nut run-down mechanism which provides a very rapid and consistent way of seating the foundation hexagon nuts during the tensioning procedure. A common 1/2" Square drive hand torque wrench can be used to rapidly seat the nuts to the recommended 30Nm (max) torque. Alternatively Tentec offer the same foundation tensioning tools but with manual nut run-down.

- Quick Delivery, Local Stock
- On-Site Support
- On-Site Training
- Technical Assistance
- Easy On-Site Tool Maintenance

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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Suitable Load Capacity for Grade 75ksi & 150ksi All Thread Foundation Bolts.



Variable Bar Diameter, Variable Bar Protrusion

Versatile.

The amount of thread protruding from a foundation bolt nut can vary significantly from turbine to turbine. To overcome this variation the Aero WTF Bolt tensioning tool is available in both short and long stroke variations. An elliptical WTF tool is also available for use when clearance between the bolt and tower wall is restricted.

Long Stud Protrusion Models

When the amount of stud protrusion allows, the long stroke tensioner is ideally suited, offering a 25mm uninterrupted bolt pull.

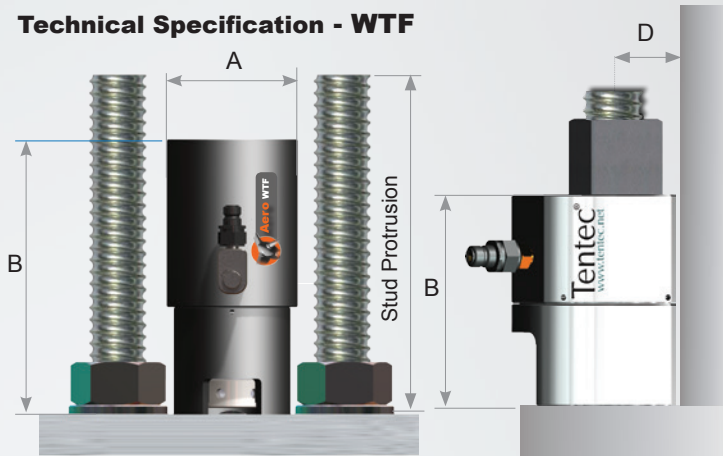
Short Stud Protrusion Models

When the stud protrusion is limited, the long stroke tensioners may not be suitable, in this instance a short stroke WTF tensioner is available.

Automatic Tensioner Reset

Again to increase speed all WTF tensioners are fitted with a spring mechanism that automatically resets the tensioner once the pressure has been released to zero. The tensioner is then ready to tension the next bolt, no operator intervention is required.

Technical Specification - WTF



Maximum Working Pressure = 1350bar

75 KSI - All Thread Bar

Tool Ident	Foundation Bolt Type	Gear Box	Stud Protrusion (mm)		Max Stroke mm	Maximum Load		Hydraulic Pressure Area		Dia A mm	Height B mm	D mm	Weight kg
			#10	#11		kN	lbs	mm2	In2				
WTF-8041	Grade 75ksi All Thread	Y	260	257	25	472.6	106244.7	3500.72	5.426	110	231	56	10.84
WTF-8148	Grade 75ksi All Thread	N	260	257	25	472.6	106244.7	3500.72	5.426	110	231	56	10.47
WTF-8040	Grade 75ksi All Thread	Y	200	197	10	472.6	106244.7	3500.72	5.426	108	158	55	7.06
WTF-8147	Grade 75ksi All Thread	N	200	197	10	472.6	106244.7	3500.72	5.426	108	158	55	6.69
WTF-7566	Grade 75ksi All Elliptical Thread	N	205	198	10	469.3	105502.8	3128.83	4.85	142	144	41	10

150 KSI - All Thread Bar

Tool Ident	Foundation Bolt Type	Gear Box	Stud Protrusion (mm)		Max Stroke mm	Maximum Load		Hydraulic Pressure Area		Dia A mm	Height B mm	D mm	Weight kg
			1.3/8"	1.1/4"		kN	lbs	mm2	In2				
WTF-8342	Grade 150ksi All Thread	Y	270	275	25	762.45	171404.8	5647.79	8.754	125	245	63.5	14.34
WTF-8343	Grade 150ksi All Thread	N	270	275	25	762.45	171404.8	5647.79	8.754	125	245	63.5	14.34
WTF-8340	Grade 150ksi All Thread	Y	215	223	10	762.45	171404.8	5647.79	8.754	123	175	62.5	9.72
WTF-8341	Grade 150ksi All Thread	N	215	223	10	762.45	171404.8	5647.79	8.754	123	175	62.5	9.72

Metric Coarse Threads

Tool Ident	Foundation Bolt Type	Gear Box	Stud Protrusion (mm)		Max Stroke mm	Maximum Load		Hydraulic Pressure Area		Dia A mm	Height B mm	D mm	Weight kg
			Max	Min		kN	lbs	mm2	In2				
WTF-9753	M36x4	Y	250	190	15	579.8	130344	3866	5.992	108	210	50.6	10.27
WTF-9426	M42x4.5	Y	250	199	15	788	177078	5251	8.139	124	210	62	13.25

Contact Tentec for detailed information on the WTF Range of Bolt Tensioning Tools.