



Innovative Tools & Technology

- Bolt Installation & Removal
- Subsea/ROV Tooling
- ZipNut® Technology
- Engineered Lubricants
- Training & Applications

AutoTORQ

Hydraulic Chain Pipe Wrench



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- Incredible safety benefits
- Portable & tough
- 9,675 to 77,607 ft-lb of torque
- Pipe diameters from 1" to 14"
- 6,000 psi operating pressure

The AutoTORQ Hydraulic Chain Pipe Wrench is specifically designed to be a portable solution to tighten and loosen threaded pipe connections. It replaces tongs and other manual methods for "making" and "breaking" these connections. It provides a safer and faster alternative to the hands-on set up of tongs and come-a-longs and helps eliminate more than half of the injuries on a rig and in shop environments.

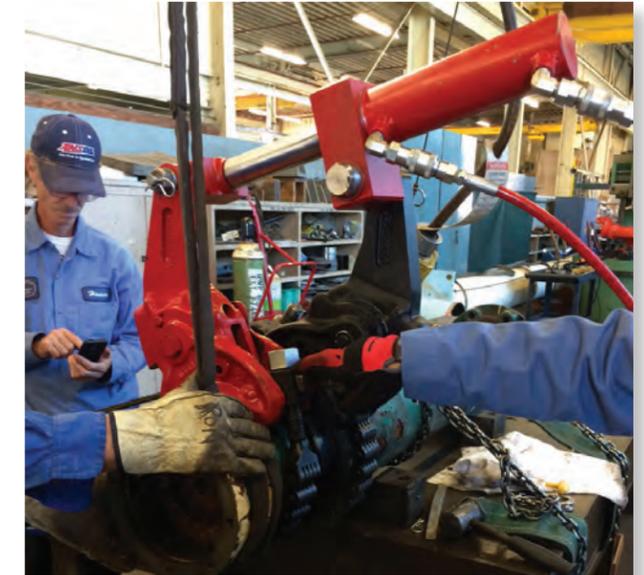
With the press of a button, the AutoTORQ Hydraulic Chain Pipe Wrench allows the user to move away from the dangerous, and even deadly, radius around the pipe.

Available in five models, pipe make-up and break-out is a breeze. Just by latching the chain around the pipe and adjusting the slack with the tensioning nut, tightening and loosening of tubular threaded joints are no problem.

When used with the FASTORQ 610A Power Unit, FASTORQ's five chain pipe wrench models provide maximum speed and torque output from 9,675 to 77,607 ft-lb.

In addition to its unmatched safety, the AutoTORQ Hydraulic Chain Pipe Wrench gives operators the portability to go anywhere it's needed.

When compared to the lack of portability offered by table-top models, there is no comparison.



Pipe make-up and break-out with tongs is one of the biggest drilling safety hazards to workers today. It's a major concern for OSHA. So, why are you still using tongs and come-a-longs when there is a safe, easy and dependable tool available from FASTORQ. Stop risking worker safety and get an AutoTORQ Hydraulic Chain Pipe Wrench today.

AutoTORQ

Hydraulic Chain Pipe Wrench, Continued

The AutoTORQ Advantage

Competing products are tongs or products based on off-the-shelf tongs. Following are some of the advantages the AutoTORQ Hydraulic Chain Pipe Wrench has over these products.

Safe

Once the AutoTORQ is set up on the pipe, the operator stands a safe distance away from the tool and watches it do the work. Tongs are either operated by hand or with the assistance of some type of chain or cable with a mechanical or motorized winch. This is extremely dangerous as the cables or chains can break.

Compact

The AutoTORQ has wrench arms that are much shorter than tong handles allowing it to work in tight places.

Stable

The AutoTORQ is designed to maintain a secure footing on the pipe through the entire power stroke. Tongs are

extremely prone to side loading making it difficult to break loose pipe connections requiring higher torque.

Powerful

The AutoTORQ has 20% or more torque output than competing tools.

Portable

The AutoTORQ is preferable to "bucking machines" that are not portable (unless you consider pulling a trailer with the machine mounted on it portable). It is also designed to be assembled on the pipe in pieces making it easier to handle.

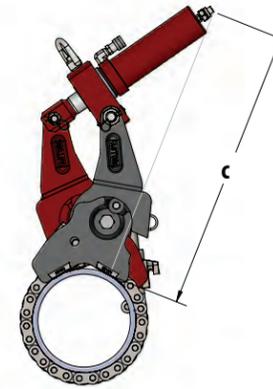
Low Profile Reaction Unit

For piping connections with space restrictions, an optional Low Profile Reaction Unit is available. It incorporates ZipNut Technology for fast installations and removal on the pipe. Specific information available upon request.

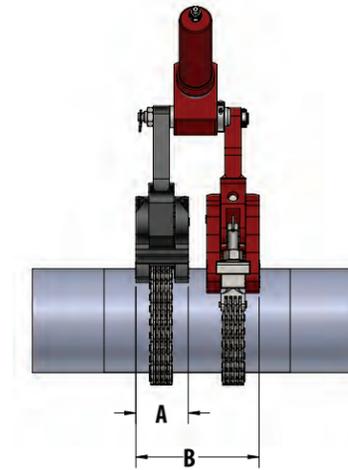
Low profile unit



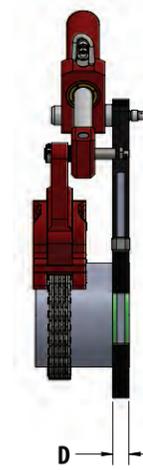
Side View



Back View



Low Profile



AutoTORQ Hydraulic Chain Pipe Wrench							
Model Number	Pipe Outside Diameter Inches (mm)	Maximum Torque ft-lb. (Nm)	A inches (mm)	B inches (mm)	C inches (mm)	D inches (mm)	Tool Weight lb (kg)
PW1	1 to 6 (25-152)	10,367 (14,056)	4 (102)	8.25 (210)	19 (483)	1.75 (45)	60 (27)
PW2	2-1/8 to 5 (54-127)	23,158 (31,398)	4-1/2 (114)	9.25 (235)	23 (584)	2.00 (51)	114 (52)
PW3	3 to 8-1/4 (76-210)	24,380 (33,055)	5 (127)	10.25 (260)	25 (635)	2.00 (51)	136 (62)
PW4	4-1/4 to 10-3/4 (108-273)	46,620 (63,208)	5 (127)	10.25 (260)	27 (686)	2.63 (68)	189 (86)
PW5	4 to 14 (102-356)	83,998 (113,886)	7-1/4 (184)	15.75 (400)	32 (813)	3.50 (89)	350 (159)

Visit the FASTORQ YouTube Channel to see videos about the AutoTORQ Hydraulic Chain Pipe Wrench:

<http://www.youtube.com/user/FASTORQ>

Or visit our website: <http://www.fastorq.com/resources/video-library/> | Videos are available in English, Spanish, Portuguese and Russian.

Power Units for AutoTORQ, ThinLINE and RatchetTORQ



610A

10,000 psi. high flow air driven hydraulic power unit delivers 470 in³/min. @ 0 psi. and 150 in³/min. @ 10,000 psi.



FHFA-10K

10,000 psi. compact air driven hydraulic power unit delivers 620 in³/min. @ 0 psi. and 62 in³/min. @ 10,000 psi.



FHFE-10K

10,000 psi. compact electric driven hydraulic power unit delivers 620 in³/min. @ 0 psi. and 62 in³/min. @ 10,000 psi.

SpinTORQ Wrench

360° Continuously Rotating Torque Wrench



- More than 36 times faster than ratcheting wrenches
- Full power forward and reverse
- Hydraulic, electric and pneumatic models available
- Patented design
- Fits tight spaces
- Custom sizes available

There's only one like it in the world!

When speed matters, only one torque wrench blows all the others out of the water: SpinTORQ.

SpinTORQ is the only low-profile, continuously rotating torque wrench available today. It provides 360-degree continuous rotation at incredibly fast speeds that are from 36 to more than 100 times faster at turning a nut than ratcheting hydraulic wrenches. Pair this speed with SpinTORQ's ability to deliver full power in both forward and reverse, and you have dramatic timesaving benefits.

Ratcheting hydraulic wrenches only rotate the nut 10 to 15 degrees for each extension of the cylinder. Each time the cylinder extends, the power unit must build pressure. This tedious process makes turning a nut a very slow ordeal. SpinTORQ's hydraulic and pneumatic models don't understand the meaning of slow. With their continuous turn, they build pressure one time!

The SpinTORQ electric model is even faster since it doesn't rely on a pressurized system.

A specially designed, double-enveloping worm gear gives SpinTORQ the power to get the job done fast. SpinTORQ never locks up and is removed with ease.

Applications and specifications

Everyone knows that dive time is expensive. A subsea flange that normally takes two hours to make-up with a hydraulic ratcheting wrench can be completed in less than 30 minutes with the SpinTORQ!

The SpinTORQ is a game changer in shutdown/turnaround situations where multiple ranges must be bolted and equipment needs hydrostatic testing to bring a unit back online. SpinTORQ has the power to bring any unit back



online a full day or more earlier than scheduled. This can easily add up to millions of dollars in profit!

SpinTORQ's 2,500 psi system easily adapts to ROVs without the use of a hydraulic hose down line.

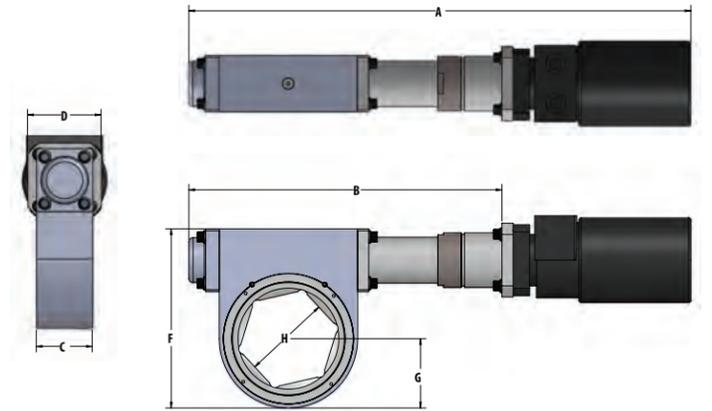
The durability of a stainless steel body and the dependability of the FASTORQ Total Assurance Guarantee ensure you not only get innovation but reliability when you purchase a SpinTORQ. All SpinTORQ models are covered for three years with the added benefit of free warranty extension with our annual free inspection and calibration program.

In addition to the 10 standard models, FASTORQ engineers will design and custom build SpinTORQ wrenches to meet a customer's special needs.

Don't let ratcheting hydraulic torque wrenches slow your project down any longer. Save time and money with SpinTORQ.

SpinTORQ Hydraulic

The 2,500 psi. hydraulic system allows the SpinTORQ Hydraulic Torque Wrench to be connected to an ROV or rig hydraulic source. It also eliminates the need for slow and problematic 10,000 psi. power units. The lower operating pressure is also a safety benefit.



Wrench Head Model	Motor Model	Hex Sizes Inches (mm)	Torque Range ft-lb (N-m)	Dimension inches (mm)								Weight Hex Head lb. (kg)	Weight Motor lb. (kg)
				A	B	C	D	E	F	G	H		
IL360113	IL360M2	1-13/16 (46)	200-700 (272-950)	15.50 (394)	9.75 (248)	3.62 (93)	3.28 (84)	1.31 (34)	3.88 (99)	1.40 (36)	1-13/16 (46)	5.0 (2.3)	10.3 (4.7)
IL360200	IL360M2	2 (50)	200-900 (272-1220)	15.50 (394)	10.25 (261)	3.63 (93)	3.28 (84)	1.50 (39)	5.00 (127)	1.88 (48)	2 (50)	6.5 (2.9)	10.3 (4.7)
IL360203	IL360M2	2-3/16 (55)	300-1200 (407-1627)	16.00 (406)	3.63 (93)	3.63 (93)	3.28 (83)	1.50 (39)	5.00 (127)	1.88 (48)	2-3/16 (55)	6.5 (2.9)	10.3 (4.7)
IL360206	IL36M2	2-3/8 (60)	400-1600 (543-2170)	17.63 (448)	11.75 (299)	3.63 (93)	3.28 (84)	1.88 (48)	5.63 (143)	2.00 (51)	2-3/8 (60)	12.0 (5.4)	10.3 (4.7)
IL360209	IL360M4	2-9/16 (65)	600-2200 (814-2983)	18.50 (470)	12.75 (324)	3.63 (93)	3.28 (84)	2.00 (51)	6.13 (156)	2.25 (58)	2-9/16 (65)	15.5 (7.0)	11.5 (5.3)
IL360212	IL360M4	2-3/4 (70)	800-2800 (1085-3797)	18.50 (470)	12.75 (323)	3.63 (93)	3.28 (84)	2.00 (51)	6.13 (156)	2.25 (58)	2-3/4 (70)	14.5 (6.6)	11.5 (5.3)
IL360215	IL360M4	2-15/16 (75)	1000-3400 (1356-4601)	19.00 (483)	13.25 (337)	3.75 (96)	3.28 (84)	2.25 (58)	6.52 (166)	2.29 (59)	2-15/16 (75)	18.0 (8.2)	11.5 (5.3)
IL360302	IL360M4	3-1/8 (80)	1200-4000 (1627-5424)	19.00 (483)	13.25 (337)	3.75 (96)	3.28 (84)	2.40 (61)	7.25 (185)	2.75 (70)	3-1/8 (80)	23.0 (10.5)	11.5 (5.3)
IL360308	IL360M5	3-1/2 (90)	1400-5000 (1900-6780)	21.50 (547)	14.00 (356)	4.00 (102)	3.28 (84)	2.50 (64)	8.00 (204)	3.00 (77)	3-1/2 (90)	28.0 (12.7)	16.3 (7.4)
IL360314	IL360M5	3-7/8 (98)	2100-7000 (2848-9491)	21.50 (547)	14.00 (356)	4.00 (102)	3.28 (84)	2.50 (64)	8.00 (204)	3.00 (77)	3-7/8 (98)	28.0 (12.7)	16.3 (7.4)

Power Units for SpinTORQ Hydraulic



603A
2,500 psi. high flow air motor driven hydraulic power unit. Oil delivery is 7 gal./min. Requires 100 psi. @ 150 scfm. Input air.



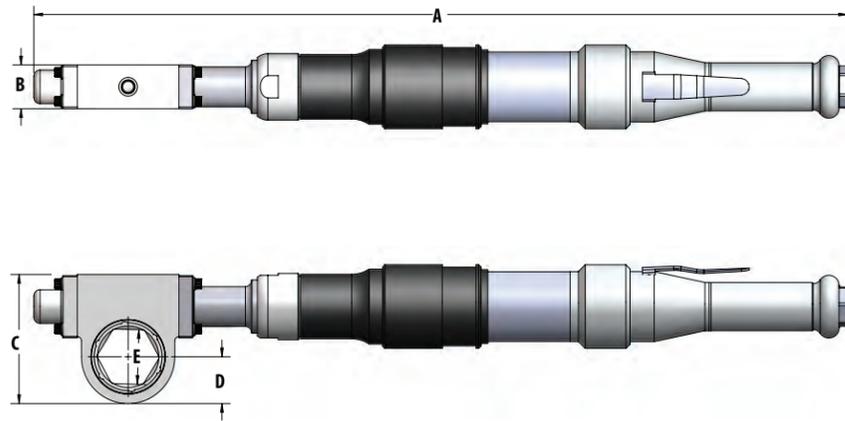
603E
2,500 psi. high flow electric motor driven hydraulic power unit. Oil delivery is 14 gal./min. Requires 480V, 3-phase, 60 Hz. input power.



ST-CU
2,500 psi. hydraulic control unit. Allows rig hydraulics or other hydraulic power source to be used with the SpinTORQ Hydraulic Model.

SpinTORQ Pneumatic

When hydraulic oil becomes a problem on the job site or in a shop environment, the solution is the SpinTORQ Pneumatic Torque Wrench. It eliminates the mess of hydraulic fluid and the requirement for a separate power supply. Torque is set by use of the regulator on an FRL.



Wrench Head Model	Motor Model	Hex Sizes Inches (mm)	Torque Range ft-lb (N-m)	Dimension inches (mm)					Weight lb. (kg)
				A	B	C	D	E	
IL360113A	IL360MA1	1-13/16 (46)	200-700 (270-950)	27.02 (687)	1.31 (34)	3.88 (99)	1.40 (36)	1-13/16 (46)	15.0 (6.9)
IL360200A	IL360MA1	2 (50)	200-900 (270-1221)	27.52 (700)	1.50 (39)	5.00 (127)	1.88 (48)	2 (50)	16.5 (7.5)
IL360203A	IL360MA2	2-3/16 (55)	300-1200 (407-1627)	27.52 (700)	1.50 (39)	5.00 (127)	1.88 (48)	2-3/16 (55)	16.5 (7.5)
IL360206A	IL360MA2	2-3/8 (60)	400-1600 (543-2170)	29.02 (738)	1.88 (48)	5.63 (143)	2.00 (51)	2-3/8 (60)	22.0 (10.0)
IL360209A	IL360MA3	2-9/16 (65)	600-2200 (814-2983)	30.42 (773)	2.00 (51)	6.13 (156)	2.25 (58)	2-9/16 (65)	25.5 (11.6)
IL360212A	IL360MA3	2-3/4 (70)	800-2800 (1085-3797)	30.42 (773)	2.00 (51)	6.13 (156)	2.25 (58)	2-3/4 (70)	25.5 (11.6)
IL360215A	IL360MA4	2-15/16 (75)	1000-3400 (1356-4610)	30.92 (786)	2.25 (58)	6.52 (166)	2.29 (59)	2-15/16 (75)	28.0 (12.8)
IL360302A	IL360MA4	3-1/8 (80)	1200-4000 (1627-5424)	30.92 (786)	2.40 (61)	7.25 (185)	2.75 (70)	3-1/8 (80)	33.0 (15.0)
IL360308A	IL360MA5	3-1/2 (90)	1400-5000 (1900-6780)	33.57 (853)	2.50 (64)	8.00 (204)	3.00 (77)	3-1/2 (90)	40.0 (18.2)
IL360314A	IL360MA5	3-7/8 (100)	2100-7000 (2848-9491)	33.57 (853)	2.50 (64)	8.00 (204)	3.00 (77)	3-7/8 (100)	40.0 (18.2)

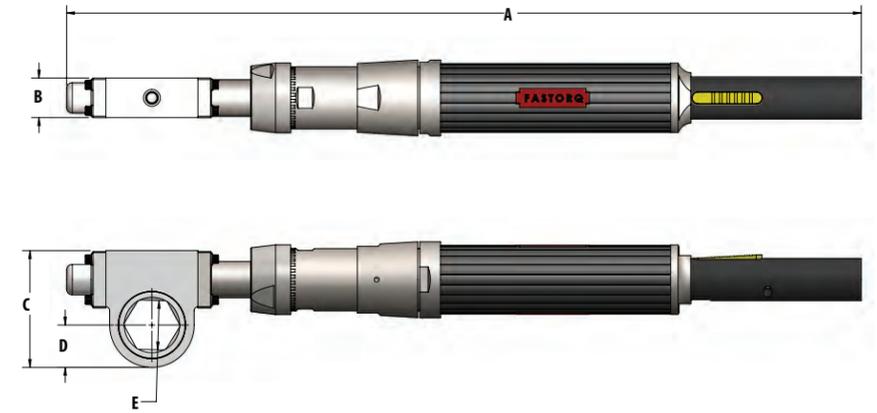
L360FRL Model Control Unit

100 psi. air input @ 35 cfm. is all you need to power the SpinTORQ Pneumatic wrench. The wrench is designed to stall at the desired torque value set on the regulator of the FRL. Start, stop and reverse are controlled right on the SpinTORQ wrench itself making operation by one person easy and safe.



SpinTORQ Electric

When precision, accuracy and quality control are important; choose the SpinTORQ Electric Torque Wrench. Operators can control torque, angle, speed and many other variables via the Control Unit. The wrench can be operated locally or remotely via multiple communication protocols.



Wrench Head Model	Hex Sizes Inches (mm)	Torque Range ft-lb (N-m)	Dimension inches (mm)					Weight lb. (kg)
			A	B	C	D	E	
IL360113E	1-13/16 (46)	200-700 (270-950)	27.02 (687)	1.312 (34)	3.88 (99)	1.40 (36)	1-13/16 (46)	15.0 (6.9)
IL360200E	2 (50)	200-900 (270-1221)	27.52 (700)	1.50 (39)	5.00 (127)	1.88 (48)	2 (50)	16.5 (7.5)
IL360203E	2-3/16 (55)	300-1200 (407-1627)	27.52 (700)	1.50 (39)	5.00 (127)	1.88 (48)	2-3/16 (55)	16.5 (7.5)
IL360206E	2-3/8 (60)	400-1600 (543-2170)	29.02 (738)	1.88 (48)	5.63 (143)	2.00 (51)	2-3/8 (60)	22.0 (10.0)
IL360209E	2-9/16 (65)	600-2200 (814-2983)	30.42 (773)	2.00 (51)	6.13 (156)	2.25 (58)	2-9/16 (65)	25.5 (11.6)
IL360212E	2-3/4 (70)	800-2800 (1085-3797)	30.42 (773)	2.00 (51)	6.13 (156)	2.25 (58)	2-3/4 (70)	25.5 (11.6)
IL360215E	2-15/16 (75)	1000-3400 (1356-4610)	30.92 (786)	2.25 (58)	6.52 (166)	2.29 (59)	2-15/16 (75)	28.0 (12.8)
IL360302E	3-1/8 (80)	1200-4000 (1627-5424)	30.92 (786)	2.40 (61)	7.25 (185)	2.75 (70)	3-1/8 (80)	33.0 (15.0)
IL360308E	3-1/2 (90)	1400-5000 (1900-6780)	33.57 (853)	2.50 (64)	8.00 (204)	3.00 (77)	3-1/2 (90)	40.0 (18.2)
IL360314E	3-7/8 (100)	2100-7000 (2848-9491)	33.57 (853)	2.50 (64)	8.00 (204)	3.00 (77)	3-7/8 (100)	40.0 (18.2)

Alpha Model Control Unit

115-230 VAC powered DC drive control for SpinTORQ Electric Models provides exact measurement and control for torque, angle or turn-of-nut, and speed control algorithm. Store, print or save results. Remote wrench control available through browser interface.



AutoSPLITTER



Nut Splitters

- Cuts through the hardest of nuts – quickly & safely
- Cuts more nut sizes per models than competitors
- Precision, re-sharpenable chisel cuts only the nut
- Perform dozens of cuts before chisel needs sharpening
- Double Cutting & Angle Head models also available

AutoSPLITTER can cut through the largest frozen nuts in just seconds, with virtually no risk of injury or accident. It's easy. Simply slip AutoSPLITTER head over the nut and apply hydraulic pressure. One cut frees even the most corroded nut so it can be turned. Or make two cuts, 180 degrees apart, to cleanly cut the nut away.

FAST - To remove a 3-1/2" nut with a torch or hammer and chisel might take up to 20 minutes. But you only need 20-30 seconds with the AutoSPLITTER. Setup is fast as well. AutoSPLITTER goes from the toolbox to use in less than five minutes.

SAFE - No hammers or flame are used. The operator has hands off during operation. No hot work permits are required. AutoSPLITTER cuts smoothly so that there is no danger to the operator or the surrounding equipment.

VERSATILE - AutoSPLITTER cuts through even the hardest nuts, including ASTM A194 2H from 11/16" to 6-1/8" (17 - 156 mm) across the flats. You can use it for both inch and metric sizes, and with virtually any shape nut. Round, Square, 12-point and other special nuts will require the use of an adapter. Competing nut splitters require up to 17 models to cover the same size range the AutoSPLITTER does in 9 models (and even as few as 4 models if the Duo and Trio packages are purchased)!

QUIET - All you'll hear is the hum of the hydraulic pump and a reassuring "snap" when the nut is cut. With AutoSPLITTER, there's no noise pollution or risk of noise-related injury.

PRECISE - You can easily calibrate the cutting chisel so only the nut is cut, with no damage to the bolt or stud threads.

MONEY SAVING - Nut removal takes less time so downtime is reduced. With AutoSPLITTER, you can also avoid costly



damage to bolts, studs and surrounding equipment.

FLEXIBLE - AutoSPLITTER is specially designed, so you can work from more angles and in more applications than with competing models. AutoSPLITTER fits all API and ANSI flanges and virtually all valve bonnets.

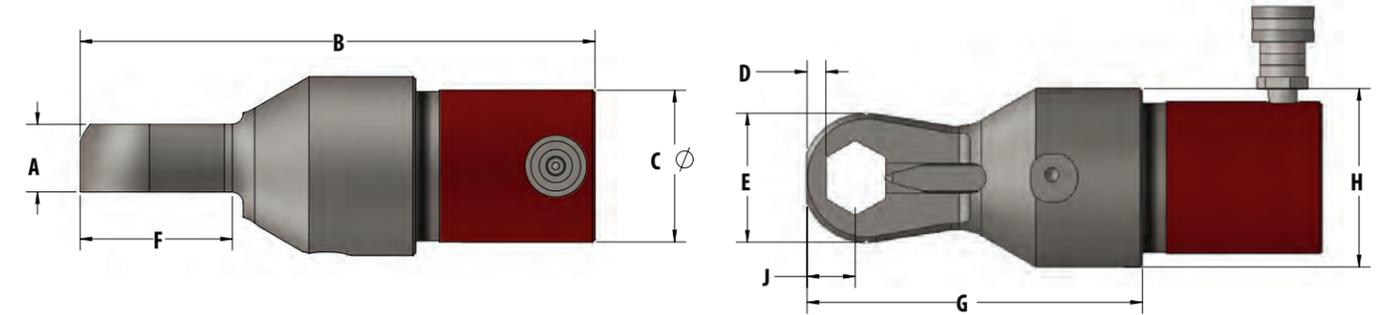
DURABLE - AutoSPLITTER is made to last. Our special metallurgy, geometry and hardening process make our chisels good for dozens of cuts before resharpening and many resharpenings before replacing! Because of its unique compound angle chisel design, the AutoSPLITTER even cuts stainless steel nuts! All AutoSPLITTER products come with FASTORQ's No B.S. Lifetime Guarantee!

AutoSPLITTER Standard Model

Standard Model

FASTORQ straight head nut splitters offer versatility with a large cutting range (from 11/16 inch to 6-1/8 inches); cylinders that accept usually two to three heads and adapters that cut round, square, 12-point, Huck bolts and uniquely shaped nuts.

The Standard AutoSPLITTER fits most API and ANSI flanges as well as valve bonnets and BOPs. Custom-built nut splitters are also available when the need arises.



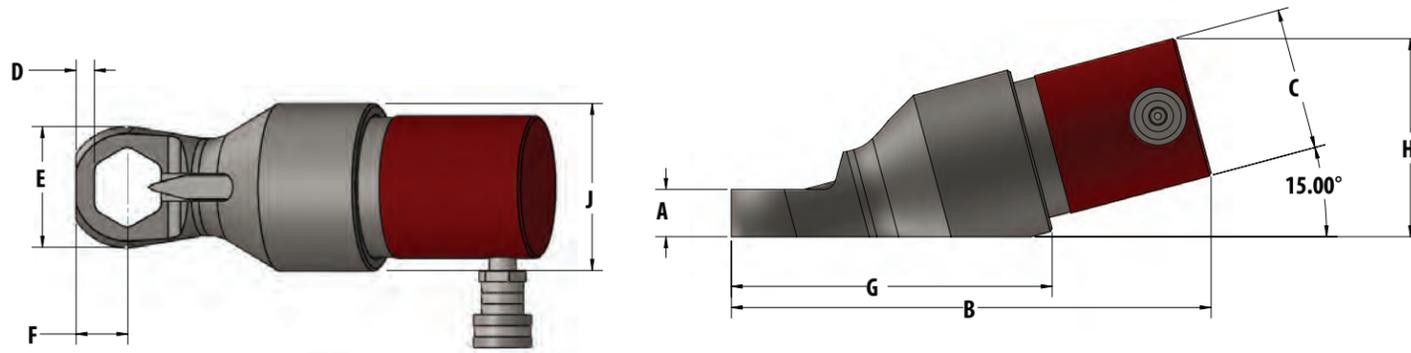
Duo/Trio Kits	Model	Stud Diameter inches (metric)	Nut Size ATF inches (mm)	A inches (mm)	B inches (mm)	C inches (mm)	D inches (mm)	E inches (mm)	F inches (mm)	G inches (mm)	H inches (mm)	J inches (mm)	Weight lb. (kg.)
ASDU025	AS105	5/16 - 7/8 (M8-M22)	11/16 - 1-7/16 (16-36)	1.50 (39)	11.5 (292)	3.40 (86)	0.42 (11)	2.87 (73)	3.39 (86)	7.48 (190)	3.97 (100)	1.08 (27)	20 (9)
	AS200	7/8 - 1-1/4 (M22-M33)	1-7/16 - 2 (36-55)	1.50 (39)	12 (305)	3.40 (86)	0.50 (13)	3.63 (92)	3.88 (99)	8.00 (203)	3.97 (100)	1.63 (41)	21 (10)
ASDU055	AS204	1-1/4 - 1-1/2 (M30-M39)	1-3/16 - 2-3/8 (50-65)	2.25 (58)	15.8 (401)	5.00 (127)	0.69 (18)	4.42 (112)	5.05 (128)	11.47 (292)	5.87 (149)	1.74 (44)	61 (28)
	AS210	1-3/8 - 1-3/4 (M36-M45)	2-7/16 - 2-3/4 (60-75)	2.25 (58)	15.7 (399)	5.00 (127)	0.67 (17)	4.50 (114)	5.44 (138)	11.38 (289)	5.97 (149)	2.06 (52)	62 (28)
ASDU0100	AS308	1-3/4 - 2-1/4 (M45-M56)	2-3/4 - 3-1/2 (75-90)	2.93 (74)	19.1 (485)	6.25 (159)	0.88 (22)	6.28 (160)	6.00 (152)	13.12 (333)	7.25 (184)	2.63 (67)	95 (43)
	AS314	2 - 2-1/2 (M52-M64)	3-1/8 - 3-7/8 (85-100)	3.13 (80)	19.3 (490)	6.25 (159)	0.88 (22)	6.25 (159)	6.19 (157)	13.31 (338)	7.38 (187)	2.81 (71)	100 (45)
ASTRIO	AS404	2-1/2 - 2-3/4 (M64-M72)	3-3/4 - 4-1/4 (95-110)	3.75 (95)	19.4 (493)	8.50 (216)	1.13 (29)	7.50 (191)	6.73 (171)	13.66 (347)	9.44 (240)	3.25 (83)	205 (93)
	AS500	3 - 3-1/4 (M76-M85)	4-7/8 - 5 (115-135)	4.13 (105)	19.6 (498)	8.50 (216)	1.13 (29)	9.00 (229)	7.06 (179)	19.92 (506)	9.94 (240)	3.59 (91)	210 (95)
	AS506	3-1/4 - 3-1/2 (M85-M90)	4-7/8 - 5-3/8 (125-135)	4.13 (105)	19.9 (505)	8.50 (216)	1.13 (29)	9.31 (236)	7.29 (185)	14.23 (361)	9.94 (240)	3.81 (97)	215 (98)
	AS608	3-3/4 - 4 (M95-M100)	5-3/4 - 6-1/8 (140-155)	5.00 (127)	22.8 (579)	10.5 (267)	1.41 (36)	11.72 (298)	9.55 (243)	16.97 (431)	12.5 (318)	4.77 (121)	387 (176)

Power Units for AutoSPLITTER on following page

AutoSPLITTER Angle Head Model

Angle Head Standard Model

Looking to get around obstructions or cut on flat surfaces? The angle head nut splitter can't be beat. With a cutting range from 11/16 inch to 3-7/8 inches, the angle head goes where straight head nut splitters cannot. Avoid frustration and invest in the versatile and innovative Angle Head AutoSPLITTER.



Duo/Trio Kits	Model	Stud Diameter inches (metric)	Nut Size ATF inches (mm)	A inches (mm)	B inches (mm)	C inches (mm)	D inches (mm)	E inches (mm)	F inches (mm)	G inches (mm)	H inches (mm)	J inches (mm)	Weight lb. (kg.)
ASDU025AH	AS105AH	5/16 - 7/8 (M8-M22)	5/8 - 1-7/16 (16-36)	1.13 (29)	11.43 (290)	3.38 (86)	0.44 (11)	2.87 (73)	1.22 (31)	7.6 (193)	4.71 (120)	3.97 (101)	20.0 (9)
	AS200AH	7/8 - 1-1/4 (M22-M33)	1-5/16 - 2 (36-55)	1.38 (35)	11.95 (304)	3.38 (86)	0.50 (13)	3.63 (92)	1.63 (41)	8.16 (207)	4.72 (120)	3.97 (101)	21.0 (10)
ASDU055AH	AS204AH	1-1/4 - 1-1/2 (M30-M39)	1-7/8 - 2-3/8 (50-65)	1.75 (44)	15.84 (402)	5.00 (127)	0.69 (18)	4.00 (102)	1.87 (47)	11.8 (300)	6.68 (170)	5.87 (149)	61.0 (28)
	AS210AH	1-3/8 - 1-3/4 (M36-M45)	2-3/16 - 2-3/4 (60-75)	2.00 (51)	16.49 (419)	5.00 (127)	0.75 (19)	4.75 (121)	2.14 (54)	12.39 (315)	6.07 (154)	5.97 (152)	62.0 (28)
ASDU0100AH	AS308AH	1-3/4 - 2-1/4 (M45-M56)	2-5/8 - 3-1/2 (75-90)	2.50 (64)	19.25 (489)	6.25 (159)	0.88 (22)	6.28 (160)	2.63 (67)	13.62 (346)	8.32 (211)	7.25 (184)	95.0 (43)
	AS314AH	2 - 2-1/2 (M52-M64)	3 - 3-7/8 (85-100)	2.50 (64)	19.74 (501)	6.25 (159)	0.88 (22)	6.30 (160)	2.74 (70)	14.1 (358)	8.27 (210)	7.38 (187)	100.0 (45)

Power Units for AutoSPLITTER

AutoSPLITTER products require 10,000 PSI hydraulic pump (sold separately). We supply electric, air and manually driven power units. When electricity or air power are not available, select Model 150H. With each pump you will receive 12 feet of hydraulic hose plus all fittings and quick disconnects needed.

610A

10,000 psi. high flow air driven hydraulic power unit delivers 470 in³/min. @ 0 psi. and 150 in³/min. @ 10,000 psi.



FHFA-10K

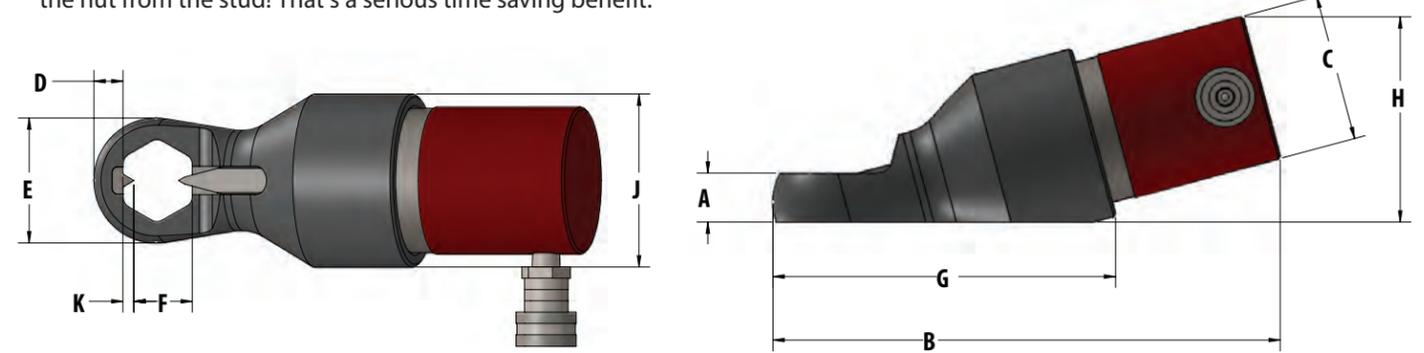
10,000 psi. compact air driven hydraulic power unit delivers 620 in³/min. @ 0 psi. and 62 in³/min. @ 10,000 psi.



AutoSPLITTER Double Cutting Model

Double Cutting Model

Some jobs just call for speed. When time matters, double your performance with FASTORQ's Double Cutting Nut Splitter™. Available in 11/16 inch to 4-1/4 inch cutting range, cutting across the flats just became faster and easier. The Double Cutting AutoSPLITTER works by eliminating the need to move the nut splitter to a second position 180 degrees from the first to break the nut from the stud! That's a serious time saving benefit.



Duo/Trio Kits	Model	Stud Diameter inches (metric)	Nut Size ATF inches (mm)	A In. (mm)	B In. (mm)	C In. (mm)	D In. (mm)	E In. (mm)	F In. (mm)	G In. (mm)	H In. (mm)	J In. (mm)	K In. (mm)	Weight lb. (kg.)
ASDU025AHDC	AS105AHDC	5/16 - 3/4 (M8-M20)	11/16 - 1-1/4 (16-36)	1.13 (29)	11.67 (296)	3.38 (86)	0.67 (17)	2.87 (73)	1.35 (34)	7.90 (201)	3.38 (86)	3.97 (101)	0.25 (6)	20 (9)
	AS200AHDC	7/8 - 1-1/8 (M22-M30)	1-7/16 - 1-11/16 (36-41)	1.38 (35)	12.39 (315)	3.38 (86)	0.94 (24)	3.62 (92)	2.00 (51)	8.60 (218)	4.72 (120)	3.97 (101)	0.25 (6)	21 (10)
ASDU055AHDC	AS204AHDC	1-1/4 - 1-3/8 (M33-M36)	1-13/16 - 2-3/16 (46-60)	1.75 (45)	16.4 (417)	5.00 (127)	1.14 (29)	4.48 (114)	2.32 (59)	12.34 (313)	6.68 (170)	5.87 (149)	0.37 (9)	61 (28)
	AS210AHDC	1-3/8 - 1-1/2 (M36-M39)	2-3/16 - 2-3/8 (55-65)	2.00 (51)	16.71 (424)	5.00 (127)	0.97 (25)	4.75 (121)	2.42 (61)	12.61 (320)	6.75 (171)	5.97 (152)	0.42 (11)	62 (28)
ASDU0100AHDC	AS308AHDC	1-3/4 - 2 (M45-M52)	2-5/8 - 3-1/8 (65-90)	2.50 (64)	19.88 (505)	6.25 (159)	1.51 (38)	6.28 (160)	3.14 (80)	14.26 (362)	8.32 (211)	7.25 (184)	0.63 (16)	95 (43)
	AS314AHDC	2 - 2-1/4 (M52-M56)	3 - 3-5/8 (80-90)	2.75 (70)	20.69 (526)	6.25 (159)	1.75 (44)	6.75 (171)	3.71 (94)	14.97 (380)	8.32 (211)	7.38 (187)	0.71 (18)	100 (45)
	AS404AHDC	2 3/4 - 3-1/4 (M72-M85)	3-3/4 - 4-1/4 (95-110)	3.73 (95)	21.44 (545)	8.50 (216)	2.09 (53)	7.75 (197)	4.30 (109)	15.74 (400)	14.36 (365)	9.44 (240)	0.54 (14)	206 (94)

FHFE-10K

10,000 psi. compact electric driven hydraulic power unit delivers 620 in³/min. @ 0 psi. and 62 in³/min. @ 10,000 psi.



150H

10,000 psi. 2-stage manual hydraulic power unit delivers 0.66 in³/min. @ 325 psi. and 0.16 in³/min. @ 10,000 psi.



105A

10,000 psi. air driven, foot actuated hydraulic power unit delivers 68 in³/min. @ 0 psi. and 4 in³/min. @ 10,000 psi.



ZipNut® Technology

Space Age Meets Energy Industry



- **Revolutionary technology**
- **Originally developed for NASA**
- **Fast & efficient**
- **Durable**
- **Reduces time & labor costs**
- **No cross-threading**
- **Custom sizes & materials available**

Space Age Technology

ZipNuts were first developed to NASA's requirements for a Space Shuttle flight in 1989. Since then, ZipNuts have been used not only aboard the Shuttle, but in construction of the International Space Station and during repair of the Hubble Space Telescope.

Imagine trying to turn a nut on a bolt wearing heavy work gloves and the ultimate in "coveralls" – a space suit – while you and your tools float weightlessly. Working in space isn't easy.

The technology works like this: A ZipNut can be installed by simply pushing it onto a bolt in one motion, eliminating the difficulty of threading a traditional nut. When the ZipNut reaches the end of the bolt's threads, it can then be tightened by simply twisting it.

While ZipNuts may sound like a new breakfast cereal; they're actually a Space Age answer to some nuts-and-bolts assembly problems. Now this same technology used by astronauts for assembly and repair jobs in space is offering many down-to-earth solutions, as well.



ZipNuts like these are designed for construction and repair work in space.



Astronaut Steven L. Smith, payload commander on STS-103, stands on the mobile foot restraint at the end of the remote manipulator system (RMS). ZipNuts were used to service the Hubble Space Telescope during this December 1999 mission. Image credit: NASA

This innovation improves both the speed and accuracy of the task. That translates into a big savings in many work environments, not only in dollars, but sometimes even in lives. One such life-saving use is in mechanisms for extracting victims of auto crashes, building collapses, cave-ins and construction accidents. When time is of the essence, the quick connect and release can mean the difference between life and death.

Now produced in a number of different sizes and materials – such as stainless steel, aluminum, titanium, Ferralium, brass and even plastic – the earth-bound industries that benefit from them are as diverse as the materials themselves.

ZipNuts can be found in medical equipment, tire manufacturing machines, subsea pipe laying equipment, power plants and fire hoses, just to name a few.

These fastening mechanisms are used in the same ways as their traditional counterparts, but with the added flexibility of speedy installation and removal, and in some cases, even added strength. One such strength benefit is in high-pressure connections, where the pressure actually works with the connector to make it more secure.

ZipNuts in a variety of materials and sizes are utilized in diverse industries.



Another big advantage ZipNuts have over traditional threaded fasteners is their ability to work in spite of problems like rust, paint and damage that would normally prevent traditional connections from being made.

ZipNuts also come in a Double Zip® option that slides onto the nut in the same manner as the original, but give users the option to also remove the nut the same way with one quick turn and slide off the bolt. It doesn't get much easier than that!

ZipNut Technology at work

FASTORQ's ZipNut Technology is now back on earth and available not only as a superior solution to standard nut threading troubles, but part of many FASTORQ tools designed to make quick work of your toughest problems.

ZipBOLT®

The patented technology of the ZipBOLT was developed to replace threaded fasteners in applications where quick installation and removal times are required. They also offer several other advantages such as no alignment or threading issues since ZipNut collapsible thread technology is utilized. Threaded segments are collapsed in the installer's hand by simply squeezing the bolt (double-action of pulling and pressing against the palm of your hand). This will allow the bolt to be installed or removed quickly. Once the threaded segments are fully extended, they are locked into place and the bolt can be tightened or loosened as desired.

ZipTENSIONER

These stud tensioners cut job time by 90 percent. ZipTENSIONER is the ultimate in reliability and speed for bolt loading applications. The one-piece design provides 100-percent coverage on the same side of the flange and simultaneous tension of multiple fasteners. By evenly loading on all fasteners in the joint, ZipTENSIONERS

eliminate elastic interactions (cross talk), provide uniform bolt load and achieve leak-free joints.

ZipPULLER

Ideal for challenging subsea flange connections and alignment or heavy equipment positioning and maneuvering, the ZipPULLER flange puller has the largest load capacity pulling system on the market. Its versatile and compact design works great with ROVs, hard suits and divers.

ZipLIFT

By using Double Zip Technology, the ZipLIFT load connector and crane grapple provides safe and reliable industrial strength lifting in hazardous work areas.

AutoZIP VIV Mechanism Fastener

Vortex Induced Vibration (VIV) is extremely destructive to subsea risers and moorings. FASTORQ's AutoZIP VIV Mechanism Fasteners provide rugged, permanent and irreversible fastening of VIV suppression system fairings on subsea risers.

Applications and Specifications

ZipNut Technology is a viable option for many industries where speed, accuracy and reliability are important and even life saving. Additionally, robotic adaptability makes ZipNuts and ZipNut Technology tools ideal for subsea, land-based, wind and nuclear applications.

Standard ZipNuts replace heavy hex nuts and on standard bolts.

When you are ready to step up to the fastening technology NASA trusted with its equipment, give FASTORQ a call and ask for the one and only ZipNut Technology.



FastSYSTEM

ZipTENSIONER Fully Automated Stud Tensioner



- Maximum safety benefits
- Operates on rig hydraulic system
- 100% joint integrity
- Over 90% time savings
- Revolutionary ZipNut Technology

How it Works

The FAST (Fully Automated Stud Tensioner) in the frames to the right is for an API 21-3/4" 5,000 psi. flange with 24, 2" diameter bolts. It is currently in operation in the Gulf of Mexico.

FAST operates hands-free from a Hydraulic Control Console operating on rig hydraulics to control all functions for the tool.

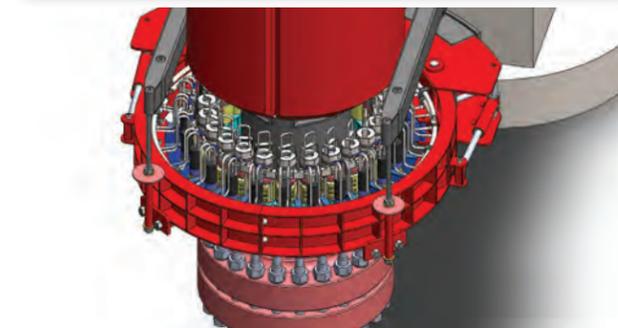
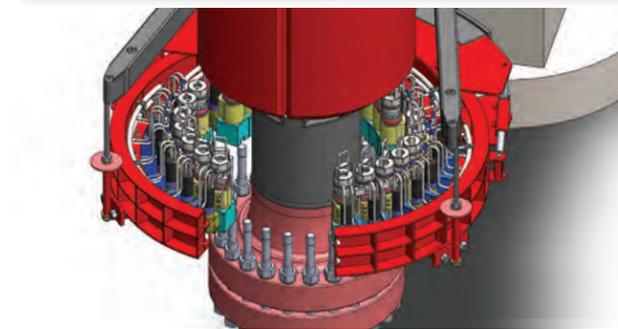
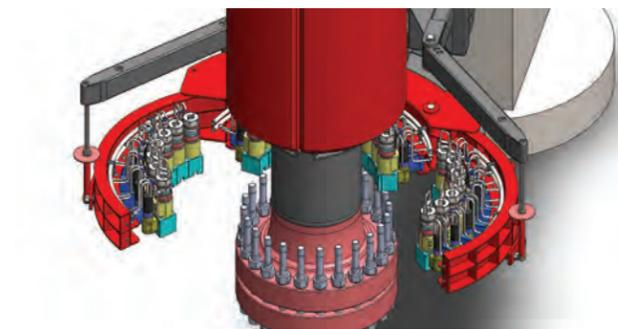
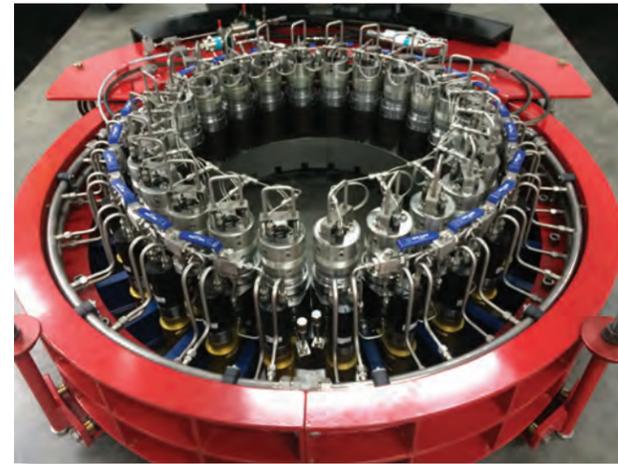
FAST has wings that open to wrap around the riser (1). The tool can be delivered to well center via an articulating arm, a rail driven frame or an overhead lift system.

The wings are closed with hydraulic cylinders that are attached to the frame of the tool (2).

Once the wings are closed (3), the tool can be lowered onto the flange. ZipNuts allow the tool to slide onto the bolts. The tensioner load cells, nut rotators and ZipNut release circuits are all operated remotely from the Hydraulic Control Console.

Once the bolts have been tensioned, the tool is lifted and the wings are opened. The delivery system is then retracted to the starting position.

The entire operation is **LESS THAN 4 MINUTES!**



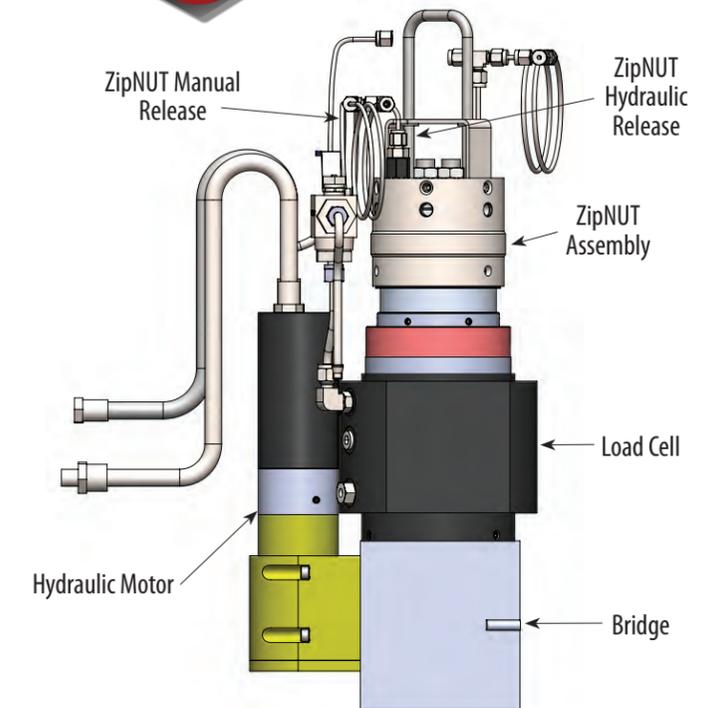
ZipTENSIONER

Hydraulic Stud Tensioner



- Fully automated single unit slides on and off bolt
- Cuts tensioning time up to 90%
- Fastest tensioning available
- 100% same side flange coverage
- Compact & lightweight
- Revolutionary ZipNut® Technology

The ZipTENSIONER is the only diverless tensioner on the market. Others make this claim with tensioners utilizing split nuts that must be manipulated by the ROV. This is very difficult if not impossible. The ZipTENSIONER simply slides on and off the bolt making installation and removal with an ROV possible in a single integrated unit. The ZipTENSIONER is also a huge time saver for nuclear applications and other limited exposure environments.



Stud Dia. (Inches)	Metric Diam.	Max Initial Load1 (lb.)	Max Load (%yield*)	Hydraulic Area (In.2)	Max Oper. (psi)	Tensioner OD (In.)
3/4	M20	26.3	75	1.01	26,000	1.86
7/8	M22	36.4	75	1.40	26,000	2.14
1	M24	47.4	75	1.82	26,000	2.43
1-1/8	M30	62.2	75	2.39	26,000	2.64
1-1/4	M33	78.8	75	3.03	26,000	2.88
1-3/8	M36	97.1	75	3.74	26,000	3.16
1-1/2	M39	101.4	65	3.90	26,000	3.27
1-5/8	M42	120.9	65	4.65	26,000	3.54
1-3/4	M45	142.1	65	5.47	26,000	3.79
1-7/8	M48	164.7	65	6.34	26,000	4.08
2	M52	189.2	65	7.28	26,000	4.36
2-1/4	M56	242.8	65	9.34	26,000	4.91
2-1/2	M64	253.2	60	9.74	28,000	5.18
2-3/4	M72	309.0	60	11.04	28,000	5.64
3	M76	370.8	60	13.24	28,000	6.16
3-1/4	M85	438.0	60	15.64	28,000	6.68
3-1/2	M90	510.9	60	18.25	28,000	7.20
3-3/4	M95	589.2	60	21.04	28,000	7.71
4	M100	673.2	60	24.04	28,000	8.23

*Bolt load as a percentage of yield is based on the minimum yield strength of ASTM A193, B7 bolt material. 1 Maximum load x 1,000 lbs.

ZipPULLER

Flange Puller



- **Fast & easy**
- **Largest load capacity in the industry**
- **ROV and diver friendly**

The ZipPULLER flange puller makes fast work of pulling, aligning or mating a wide range of flange sizes on land or underwater with the largest load capacity pulling system around.

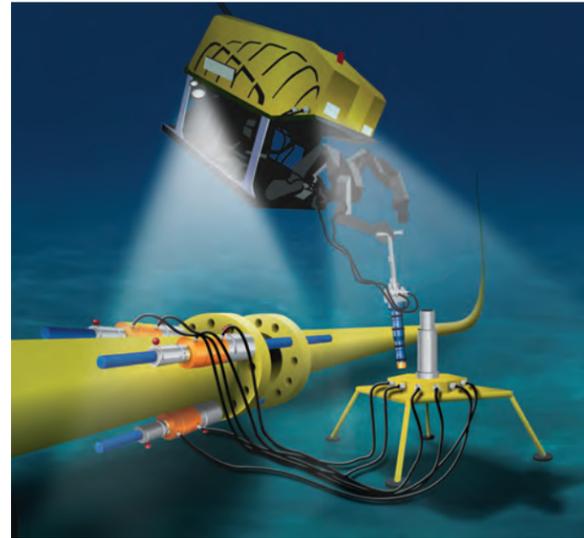
Available in 30-ton (6-inch) and 60-ton (5-inch) stroke models, the ZipPuller powers that difficult flange into place.

Using ZipNut Technology, ZipPULLER slides right over the threaded rod during the retraction process. In addition, it can be pulled off standard threaded rods and has quick release levers to open and close the ZipNuts for fast installation and removal. No more time-consuming tightening of nuts and bolts.

Well-suited for subsea flange pulling and alignment, the versatile ZipPULLER is perfectly suited for use with ROVs, hard suits and divers since it can be operated at any depth.

Designed to provide uniform flange make-up with multiple units and a single hydraulic power unit, ZipPULLER's parts are stainless steel, nickel-plated or coated to provide corrosion protection.

ZipPULLER comes with FASTORQ's Total Assurance Guarantee and 1-Year Warranty.



Multiple ZipPULLER units used on subsea pipeline can be plumbed together so that a single hot stab energizes the hydraulic cylinders to bring the flanges together. Once the cylinders are retracted, the ZipNuts automatically reset and allow the tools to be energized again and again. The ROV can disengage the ZipPULLERS and remove them making this a true diverless tool.



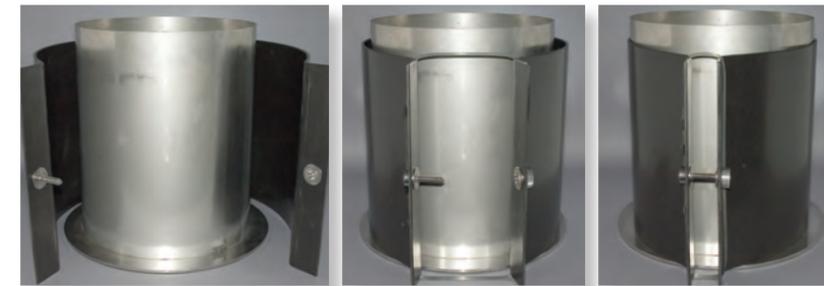
AutoZIP VIV

Fastening Mechanism



Vortex Induced Vibration (VIV) occurs when ocean currents flow past the risers that transport well fluids from the sea floor to the surface/offshore production structures. The vibration is extremely destructive to risers and associated equipment. To counteract VIV, suppression fairings are fastened around the risers using remote operated vehicles (ROV).

The AutoZIP VIV Fastening Mechanism follows the same principle of a check valve, allowing movement only in one direction.



Notice the conical tip on the male component to help alignment for smooth fastening into the female component. To prevent loosening due to vibration or rotation, radial grooves in the components replace the helical threads normally used in fasteners. Once the ZipNut fasteners engage, the action is irreversible.

ZipBOLT

Collapsible Fastener

The patented technology of the ZipBOLT was developed to replace threaded fasteners in applications where quick installation and removal times are required. They also offer several other advantages such as no alignment or threading issues since ZipNut® collapsible thread technology is utilized. Threaded segments are collapsed in the installer's hand by simply squeezing the bolt (double-action of pulling and pressing against the palm of the hand). This will allow the bolt to be installed or removed quickly. Once the threaded segments are fully extended, they are locked into place and the bolt can be tightened or loosened as desired.

The ZipBOLT can be manufactured in a variety of thread forms and materials to suit the specific needs of each customer. Since every application is different, the ZipBOLT is not an "off-the-shelf" item but custom designed by FASTORQ's in-house engineering team.



AutoSPREADER

Flange Spreaders

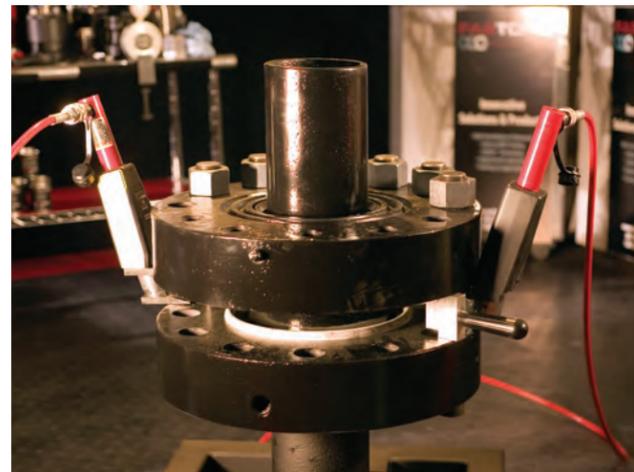
Total Assurance Guarantee 3 Year



- 10,000 lb of force per spreader
- Lightweight – only 13.5 lb
- 3" gap achieved in a single pass
- Fast & easy
- Only requires a 3/16" insertion gap
- Jaws open parallel
- No loose wedges or parts
- Safety blocks included

FASTORQ Manual AutoSPREADERs are simple to use. Just by placing the AutoSPREADER jaws between the flange faces and turning the ratchet handle, you get 10,000 lb of spreading force in one pass. AutoSPREADERs create up to a 3-inch gap with no slipping thanks to their serrated jaws. Perfect for lifting, leveling, lowering and aligning, AutoSPREADERs are a great choice when safety and strength are needed.

Pair the power of hydraulics with the versatility of the FASTORQ Hydraulic AutoSPREADER to get 10,000 lb of spreading force per flange spreader. Multiple spreaders can even be powered by just one standard hand pump. Each AutoSPREADER create up to a 3-inch gap in a single pass and is perfect lifting, leveling, lowering and aligning. With serrated jaws to provide security while spreading, FASTORQ's Hydraulic Auto-SPREADERs are a smart choice when safety and strength are necessary.



Both manual and hydraulic AutoSPREADERs come complete with two safety blocks.

AutoSPREADER Hydraulic Power Unit Model 150H2

2-stage hydraulic hand pump comes complete with (2) 12-foot hydraulic hoses, T-block and load-lowering valve. The load-lowering valve allows the operator to safely control the return of the flange spreaders. This configuration is expandable for more AutoSPREADERs with additional T-blocks and hoses.

Note: Motorized hydraulic power units are not recommended for use with the AutoSPREADER as the higher flow rate and resulting high rate of travel produced is not safe.



Opens any size flange with controlled force

Specification	Imperial		Metric	
	HS10K	MS10K	HS10K	MS10K
Weight	12 lbs	13.5 lbs	5.4 kg	6.1 kg
Length	14"	13.25"	355 mm	336 mm
Width of Jaws	4.5"	4.5"	114 mm	114 mm
Width of Body	4.5"	4.5"	114 mm	114 mm
Jaws Closed	0.13"	0.13"	3.2 mm	3.2 mm
Jaws Open	3"	3"	76.2 mm	76.2 mm
Jaw Penetration	1.5"	1.5"	38.1 mm	38.1 mm
Rated Force	10,000 lbs	10,000 lbs	44.5 kn	44.5 kn



UNIVERSAL:

- One Size Fits All Flange Sizes

SAFE:

- No Loose Wedges or Parts
- No Drift – It Stays Put
- Safety Blocks Included
- Jaws Open Parallel
- Can Be Remotely Operated

POWERFUL:

- 10,000 Lbs of Force per Spreader

SIMPLE OPERATION:

- Easy – One Man Operation
- Lightweight – Just 12 Lbs

VERSATILE:

- Gasket Maintenance
- Separate Manways
- Bearing Removal
- Lifting
- Lowering
- Turning Blinds
- Open Vessels
- Impeller Removal
- Leveling
- Aligning



The serrated feet on AutoSPREADER keeps it in place and only needs 3/16" of space to insert.

ThinLINE

Hydraulic Torque Wrench



- Torque in push and pull modes
- Fits tight spaces
- 60-degree turn before reset
- Lightweight and powerful
- Toughest break-out wrench in the business
- Interchangeable wrench heads and reaction units

Strength when strength matters!

When trying to break bolts loose there's no time for a wimpy torque wrench. Only one wrench in the industry can handle break-out without breaking a sweat... and that's ThinLINE.

Designed to fit tight spaces with ease, ThinLINE provides the strength and dependability to get the job done every time without breaking.

Unlike competing hydraulic ratcheting wrenches, ThinLINE has a self-contained, semi-ratcheting mechanism that's not susceptible to breakage. It also delivers 60-degree turn before wrench reset is needed. When paired with the torque power of a long wrench arm and larger cylinder size, ThinLINE's strength is unmatched.

What weakness means to a project.

Nipple-down projects on wellheads are extremely challenging. The tight spaces between the wall of the blowout preventer, the nut and the overhead clearance on the bolt do not allow access for anything bigger than a slugging wrench. Obviously, slugging wrenches do not provide the power or safety to do the job.

Competing low-profile, ratcheting hydraulic torque

wrenches provide limited access to the nuts and more strength than a slugging wrench but still have nowhere near enough strength and power to handle the job. A typical 4-inch wrench arm on a ratchet link only provides about 3,300 to 3,800 ft-lb of torque and is susceptible to breakage when pushed to its limits.

To break-out the same size nut, ThinLINE provides more than two times the torque and a longer wrench arm than other low-profile competitors. A 6-inch ThinLINE wrench arm delivers 8,640 ft-lb of torque and the strength to actually break-out a nut without breaking the wrench.



ThinLINE is the toughest tool on the planet and available in a wide selection of standard sizes.

Model	Maximum Torque		Range of Bolt Sizes		Range of Nut Sizes - ATF		Radial Clearance	
	ft-lb @ 5500 psi	N-m @ 380 Bar	inches	mm	inches	mm	inches	mm
150-4	3,240	4,406	3/4 - 1-1/4	19-32	1-1/4 - 2	32-51	9	228
200-6	8,640	11,710	1-3/8 - 2	33-52	2-3/16 - 3-1/8	55-80	11	280
250-9	20,250	27,450	1-7/8 - 3	48-85	2-5/16 - 4-5/8	75-120	14	365
325-12	41,840	56,730	2-3/4 - 3-1/2	70-89	4-1/2 - 5-3/8	110-135	20	500
325-18	68,440	92,790	3-1/2 - 4 1/4	89-108	5-3/8 - 6-1/2	135-165	25	685
400-24	138,230	187,410	4 - 5 1/4	102-133	6-1/8 - 8	135-210	30	762

Wrench Series	Nut Size (ATF)	Wrench Assembly	Wrench Head Only	Reaction Rings Only
		Model #	Model #	Model #
150-4 Cylinder 3,240 ft-lb at 5,500 psi 4,406 N-m at 380 bar	1-1/4"	TLH104-4	TLH104-4W	TLH104-4R
	1-7/16"	TLH107-4	TLH107-4W	TLH107-4R
	1-5/8"	TLH110-4	TLH110-4W	TLH110-4R
	1-13/16"	TLH113-4	TLH113-4W	TLH113-4R
	2"	TLH200-4	TLH200-4W	TLH200-4R
	32 mm	TLM032-4	TLM032-4W	TLM032-4R
	36 mm	TLM036-4	TLM036-4W	TLM036-4R
	41 mm	TLM041-4	TLM041-4W	TLM041-4R
	46 mm	TLM046-4	TLM046-4W	TLM046-4R
	51 mm	TLM051-4	TLM051-4W	TLM051-4R
200-6 Cylinder 8,640 ft-lb at 5,500 psi 1,750 N-m at 380 bar	2-3/16"	TLH203-6	TLH203-6W	TLH203-6R
	2-3/8"	TLH206-6	TLH206-6W	TLH206-6R
	2-9/16"	TLH209-6	TLH209-6W	TLH209-6R
	2-3/4"	TLH212-6	TLH212-6W	TLH212-6R
	2-15/16"	TLH215-6	TLH215-6W	TLH215-6R
	3-1/8"	TLH302-6	TLH302-6W	TLH302-6R
	55 mm	TLM055-6	TLM055-6W	TLM055-6R
	60 mm	TLM060-6	TLM060-6W	TLM060-6R
	65 mm	TLM065-6	TLM065-6W	TLM065-6R
	70 mm	TLM070-6	TLM070-6W	TLM070-6R
250-9 Cylinder 20,250 ft-lb at 5,500 psi 27,540 N-m at 380 bar	2-15/16"	TLH215-9	TLH215-9W	TLH215-9R
	3-1/8"	TLH302-9	TLH302-9W	TLH302-9R
	3-1/2"	TLH308-9	TLH308-9W	TLH308-9R
	3-7/8"	TLH314-9	TLH314-9W	TLH314-9R
	4-1/4"	TLH404-9	TLH404-9W	TLH404-9R
	4-5/8"	TLH410-9	TLH410-9W	TLH410-9R
	75 mm	TLM075-9	TLM075-9W	TLM075-9R
	80 mm	TLM080-9	TLM080-9W	TLM080-9R
	90 mm	TLM090-9	TLM090-9W	TLM090-9R
	100 mm	TLM100-9	TLM100-9W	TLM100-9R
325-12 Cylinder 41,840 ft-lb at 5,500 psi 56,902 N-m at 380 bar	110 mm	TLM110-9	TLM110-9W	TLM110-9R
	120 mm	TLM120-9	TLM120-9W	TLM120-9R
	4-1/4"	TLH404-12	TLH404-12W	TLH404-12R
	4-5/8"	TLH410-12	TLH410-12W	TLH410-12R
	5"	TLH500-12	TLH500-12W	TLH500-12R
	5-3/8"	TLH506-12	TLH506-12W	TLH506-12R
	110 mm	TLM110-12	TLM110-12W	TLM110-12R
	120 mm	TLM120-12	TLM120-12W	TLM120-12R
	130 mm	TLM130-12	TLM130-12W	TLM130-12R
	135 mm	TLM135-12	TLM135-12W	TLM135-12R
325-18 Cylinder 68,440 ft-lb at 5,500 psi 93,078 N-m at 380 bar	5-3/8"	TLH506-18	TLH506-18W	TLH506-18R
	5-3/4"	TLH512-18	TLH512-18W	TLH512-18R
	6-1/8"	TLH602-18	TLH602-18W	TLH602-18R
	6-1/2"	TLH608-18	TLH608-18W	TLH608-18R
	135 mm	TLM135-18	TLM135-18W	TLM135-18R
	145 mm	TLM145-18	TLM145-18W	TLM145-18R
	155 mm	TLM155-18	TLM155-18W	TLM155-18R
	165 mm	TLM165-18	TLM165-18W	TLM165-18R
	6-1/8"	TLH602-24	TLH602-24W	TLH602-24R
	6-1/2"	TLH608-24	TLH608-24W	TLH608-24R
400-24 Cylinder 138,230 ft-lb at 5,500 psi 187,993 N-m at 380 bar	6-7/8"	TLH614-24	TLH614-24W	TLH614-24R
	7-1/4"	TLH704-24	TLH704-24W	TLH704-24R
	7-5/8"	TLH710-24	TLH710-24W	TLH710-24R
	8"	TLH800-24	TLH800-24W	TLH800-24R
	155 mm	TLM155-24	TLM155-24W	TLM155-24R
	165 mm	TLM165-24	TLM165-24W	TLM165-24R
	175 mm	TLM175-24	TLM175-24W	TLM175-24R
	185 mm	TLM185-24	TLM185-24W	TLM185-24R
	195 mm	TLM195-24	TLM195-24W	TLM195-24R
	210 mm	TLM210-24	TLM210-24W	TLM210-24R

Wrench Series	Nut Size (ATF)	Wrench Assembly	Wrench Head Only	Reaction Rings Only
		Model #	Model #	Model #
325-12 Cylinder 41,840 ft-lb at 5,500 psi 56,902 N-m at 380 bar	4-1/4"	TLH404-12	TLH404-12W	TLH404-12R
	4-5/8"	TLH410-12	TLH410-12W	TLH410-12R
	5"	TLH500-12	TLH500-12W	TLH500-12R
	5-3/8"	TLH506-12	TLH506-12W	TLH506-12R
	110 mm	TLM110-12	TLM110-12W	TLM110-12R
	120 mm	TLM120-12	TLM120-12W	TLM120-12R
	130 mm	TLM130-12	TLM130-12W	TLM130-12R
	135 mm	TLM135-12	TLM135-12W	TLM135-12R
	5-3/8"	TLH506-18	TLH506-18W	TLH506-18R
	5-3/4"	TLH512-18	TLH512-18W	TLH512-18R
325-18 Cylinder 68,440 ft-lb at 5,500 psi 93,078 N-m at 380 bar	6-1/8"	TLH602-18	TLH602-18W	TLH602-18R
	6-1/2"	TLH608-18	TLH608-18W	TLH608-18R
	135 mm	TLM135-18	TLM135-18W	TLM135-18R
	145 mm	TLM145-18	TLM145-18W	TLM145-18R
	155 mm	TLM155-18	TLM155-18W	TLM155-18R
	165 mm	TLM165-18	TLM165-18W	TLM165-18R
	6-1/8"	TLH602-24	TLH602-24W	TLH602-24R
	6-1/2"	TLH608-24	TLH608-24W	TLH608-24R
	6-7/8"	TLH614-24	TLH614-24W	TLH614-24R
	7-1/4"	TLH704-24	TLH704-24W	TLH704-24R
400-24 Cylinder 138,230 ft-lb at 5,500 psi 187,993 N-m at 380 bar	7-5/8"	TLH710-24	TLH710-24W	TLH710-24R
	8"	TLH800-24	TLH800-24W	TLH800-24R
	155 mm	TLM155-24	TLM155-24W	TLM155-24R
	165 mm	TLM165-24	TLM165-24W	TLM165-24R
	175 mm	TLM175-24	TLM175-24W	TLM175-24R
	185 mm	TLM185-24	TLM185-24W	TLM185-24R
	195 mm	TLM195-24	TLM195-24W	TLM195-24R
	210 mm	TLM210-24	TLM210-24W	TLM210-24R

ThinLINE Power Units on page 5.

RatchetTORQ

Ratcheting Hydraulic Torque Wrenches



- Multi-position hose couplers; no hose interference on all jobs
- Push through square drive; fast switching between tightening & loosening
- Efficient mechanical design; solid construction & high quality materials
- Strongest square drive in the industry
- Manufactured & assembled in the USA



TTX-3 Square Drive Models

Model	Weight	Torque Range	Drive	R1 Inches (mm)	R2 Inches (mm)	L1 Inches (mm)	L2 In. (mm)	H1 Inches (mm)	W1 Inches (mm)	W2 Inches (mm)	W3 Inches (mm)	W4 Inches (mm)	W5 Inches (mm)
TTX-1	5 lbs	168 - 1,235 ft-lb 228 - 1,674 Nm	3/4"	.99" (25)	1.17" (30)	7.74" (196)	4.46" (113)	7.74" (197)	1.97" (50)	2.75" (70)	4.36" (111)	4.65" (118)	1.00" (25)
TTX-3	11 lbs	446 - 3,100 ft-lb 605 - 4,203 Nm	1"	1.31" (33)	1.56" (40)	10.15" (257)	5.79" (147)	10.15" (258)	2.63" (67)	3.69" (94)	5.82" (148)	6.20" (158)	1.34" (3)
TTX-7	26 lbs	1,178 - 8,437 ft-lb 1,597 - 11,439 Nm	1-1/2"	1.85" (47)	2.12" (54)	13.49" (343)	7.56" (192)	13.49" (343)	3.57" (91)	5.07" (129)	7.86" (200)	8.38" (213)	1.81" (46)
TTX-11	35 lbs	1,516 - 10,945 ft-lb 2,055 - 14,839 Nm	1-1/2"	1.97" (50)	2.35" (60)	15.01" (381)	8.51" (217)	15.01" (381)	3.95" (100)	5.50" (140)	8.72" (222)	9.30" (236)	2.00" (51)
TTX-21	60 lbs	2,716 - 19,116 ft-lb 3,682 - 25,917 Nm	2-1/2"	2.29" (58)	2.72" (69)	18.31" (465)	10.51" (267)	18.31" (465)	4.73" (120)	7.13" (181)	10.46" (266)	11.10" (282)	2.39" (61)

TTZ Models for Limited Clearance

Model	Weight	Torque Range	Hex Range Inches (mm)	Radius (R) Inches (mm)	Overall Length (L1) Inches (mm)	Link Center Length (L2) Inches (mm)	Link Height (H1) Inches (mm)	Swivel Height (H2) Inches (mm)	Tool Width (W1) Inches (mm)	Link Width (W2) Inches (mm)
TTZ-2	5 lbs	269 - 1,875 ft-lb 365 - 2,542 Nm	1" - 2-3/8" (24-60)	0.38" (10)	6.97" (177)	5.33" (135)	3.73" (95)	1.09" (28)	1.25" (32)	1.13" (29)
TTZ-4	8 lbs	655 - 4,538 ft-lb 888-6,153 Nm	1-7/16" - 3-1/8" (36-80)	0.51" (13)	9.20" (234)	7.08" (180)	5.51" (140)	1.68" (43)	1.67" (42)	1.50" (38)
TTZ-8	12 lbs	1,202 - 8,308 ft-lb 1,630 - 11,264 Nm	2" - 3-7/8" (50-100)	0.72" (18)	11.62" (295)	8.60" (218)	6.53" (166)	1.68" (43)	2.10" (53)	1.89" (48)
TTZ-14	20 lbs	2,062 - 14,576 ft-lb 2,796 - 19,762 Nm	2-3/4" - 4-5/8" (70-120)	0.73" (19)	13.88" (353)	10.52" (267)	8.04" (204)	1.68" (43)	2.50" (64)	2.36" (60)

Power Units for RatchetTORQ on page 5

AutoGRIPPER



- Reduces maintenance and turnaround man hours
- Non-destructive
- Fast & easy

A frozen stud is not just Daniel Craig filming the latest Bond movie in Northern Russia but a real problem on the job site. When you are ready to save hundreds of man hours and thousands of dollars removing frozen studs... look to FASTORQ's AutoGRIPPER stud extractor.

The AutoGRIPPER removes studs in a fraction of the time needed for conventional methods and is perfect for general maintenance, outages, shutdowns and turnarounds.

Designed with a square drive to accept a pneumatic impact wrench, the AutoGRIPPER houses a one-piece gripping cartridge that contains two gripping jaws. Amazingly, the AutoGRIPPER cartridge is the only moving part in the tool.



The AutoGRIPPER is the tool of choice for removing or inserting studs in a wide variety of applications:

- Turbines
- Flanges
- Diesel Engines
- Stop Valves
- Compressors
- Manway Covers
- Boiler Feed Pumps
- Heavy Equipment
- Heat Exchangers
- Hydrocracker Units
- Pulp Dryers
- Roll Pins

It works when the gripping cartridge slides down over a stud that needs removal. The impact wrench turns the AutoGRIPPER, and the two jaws lock on the stud and form a solid link between the wrench and the stud. The tremendous impact force of the wrench is transmitted evenly down the center of the stud causing it to break free from the threaded imbedment. Once the stud is removed from the hole, simply reverse the impact wrench and the stud is released from the AutoGRIPPER.

The AutoGRIPPER also has an installer version that helps make installing studs a breeze.

Backed by our No B.S. Lifetime Warranty, the AutoGRIPPER is the best stud removal tool available today.

See FASTORQ's Warranty on page 29 for more details.



Lubricants



FastLUBE AG

A superior lubricant for eliminating galling on stainless steel threaded connections and achieving metal-to-metal seal, AG lowers torque requirements, reduces friction under pressure and is equally effective on other gall-susceptible materials, ferrous alloys and more common types of carbon steel. AG contains a high percentage of PTFE flakes that prevent leaks on fluid connections at pressures up to 20,000 psi, and eliminates the need for Teflon tape. In a case study, the threads of a stainless steel bolt were distorted when hit with a hammer. Normally, the threads would be ruined and the bolt discarded. However, FastLUBE AG was applied to the damaged threads and a nut was turned down the bolt. Amazingly, the threads were reformed to nearly their original shape and the mating surfaces were once again smooth and even.



FastLUBE 444

Get excellent protection from wear and grinding pressures of slow-moving machinery with 444. Containing a 40-percent blend of lubricating solids, 444 is ideal for use on open gears and in heavy-duty applications where resistance to water is important. It provides long-term rust and corrosion protection and also contains additives to prevent damage from salt and other corrosives. 444 performs well on splines, u-joints, chucks, pillow block bearings, and most high-impact surfaces and heavily loaded mechanisms.



FastLUBE 70+

70+ provides smooth make-up and break-out, prevents rust and corrosion and even includes an H2S inhibitor! Containing pure molybdenum disulfide, more than any other moly-paste, FastLUBE 70+ is perfect for general use on threaded connections and press fits and ideal for use on nut splitter chisels. Use 70+ for wear-in applications and a variety of jobs where friction is present.



FastLUBE RS18

A film-forming lubricant with strong polar attraction, RS18 applies readily to threads and other machined parts that are subjected to heavy loads and frictional heat. It eliminates wear and gall on stainless steel and other threaded connections. FastLUBE RS18 is completely water-insoluble and recommended for shafts and other gall-susceptible mechanisms. No stirring needed.

Lubricant Function	AG	RS18	444	70+
Anti-Galling	E*	E*	G	G
Water Resistance	F	G	E*	G*
Chemical Resistance	G	G	G	G
Rust/Corrosion Prevention	F	F	E*	E*
Heat Stability	F	F	G	G
Sealing	E*	N	N	N

E=Excellent; G=Good; F=Fair; N=Not Applicable

*Indicates that this feature is the lubricant's primary feature

FastBAK



- Quick release reaction arm
- 12 sizes available
- Easy & safe

An extra hand when you need it most!

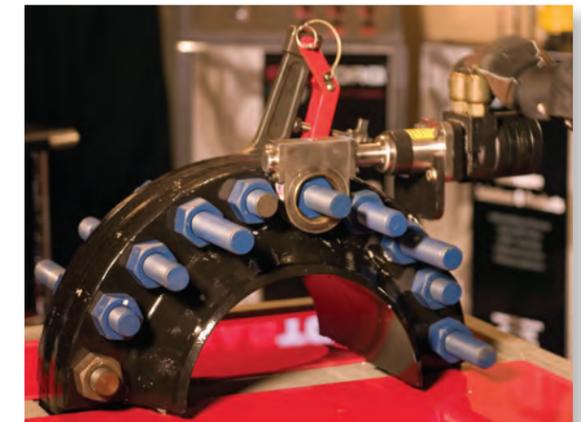
Have you wished for an extra set of hands when tightening and loosening bolts but nobody was around to help you? Wish no longer, FastBAK is here.

FASTORQ's FastBAK is a fast, easy and safe backup and release tool that makes up for the needed set of hands a hammer wrench requires to hold a nut in place during torque.

It not only helps hold the nut in place, but is equipped with a revolutionary quick release reaction arm and adjustment jack to quickly and easily release the FastBAK without the usual hammering required when standard hammer wrenches get stuck during torque.

FastBAK comes in 12 wrench sizes that fit nuts from 1- 1/16 inch to 3-1/8 inches and is available in metric and custom sizes as well. It also works great with FASTORQ's SpinTORQ torque wrench to get the job done even faster!

Stop wishing for extra hands and get the help you need with FastBAK.



Flange Alignment Tool



- Accurate and Safe
- No hammering or prying

Aligning flanges is a pain. No doubt about it.

It's time to stop the painstaking task of hammering and prying a flange to get it aligned. Find the safe, fast and effective pain reliever in FASTORQ's Flange Alignment Tool.

With its tapered shaft, users just need to find a bolt hole aligned enough to fit the flange alignment tool. Once inserted, just turn the Flange Alignment Tool and start inserting flange bolts. It's that simple! If a second Flange Alignment Tool is needed, just insert it the same way as the first to make quick work of flange alignment.

FASTORQ's Flange Alignment Tool is sold individually or in sets and comes packaged in a durable box with a custom insert to hold several Flange Alignment Tools safely and securely.

Rest assured, the Flange Alignment Tool comes with FASTORQ's superior 1-Year Total Assurance Guarantee. See the FASTORQ Warranty page for more details.



Stud Tensioners

Fixed and Variable Tensioners



- Bolt tension independent of friction and torsional loading of fastener
- Reliable low-friction seals
- Overstroke indicator or optional overstroke protection
- Imperial, metric or custom thread forms
- 20,000 and 30,000 operating pressures
- Custom designs available

The quick, safe and accurate method of simultaneously loading multiple threaded fasteners is with FASTORQ Stud Tensioners. A bolted joint is clamped together by the permanent load applied to its optimum specification. If the bolt is loaded (tensioned) improperly, it will not do the job or it will not last on the job. Either way, the bolt fails. Uniform bolt tensioning is critical to the integrity of the joint. FASTORQ reduces the variable risk in critical bolting situations by allowing quick, safe and accurate tensioning.

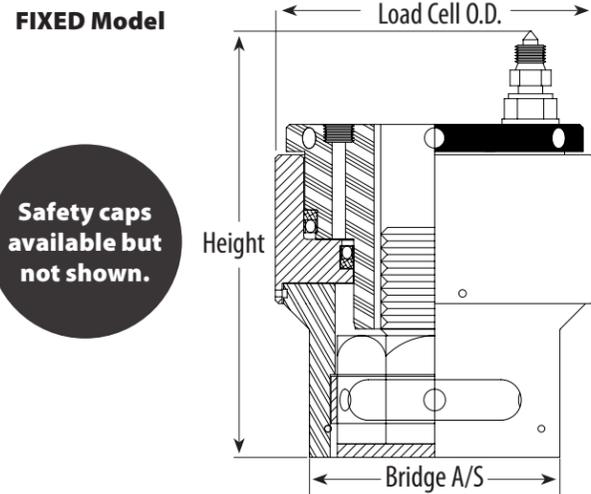
FASTORQ Stud Tensioners are available in several models. FASTORQ offers traditional models, fixed or variable and the exclusive ZipTENSIONER tensioner featuring ZipNut Double Zip technology, all designed for applications such as reactors, flanges, vessel closures, heat exchangers, compressors, turbines, pipelines, clamp-type connectors, subsea and nuclear applications. The ZipTENSIONER Stud Tensioners are especially suited for subsea and nuclear applications or when fast turnaround is required. FASTORQ also offers the ZipNut Double Zip technology as a retro-fit for existing stud tensioners.

Match FASTORQ Stud Tensioners with FASTORQ Power Units for optimum performance. For the fastest turn around possible on the job, FASTORQ recommends the Model HTP-2000 power unit featuring a power return pump.

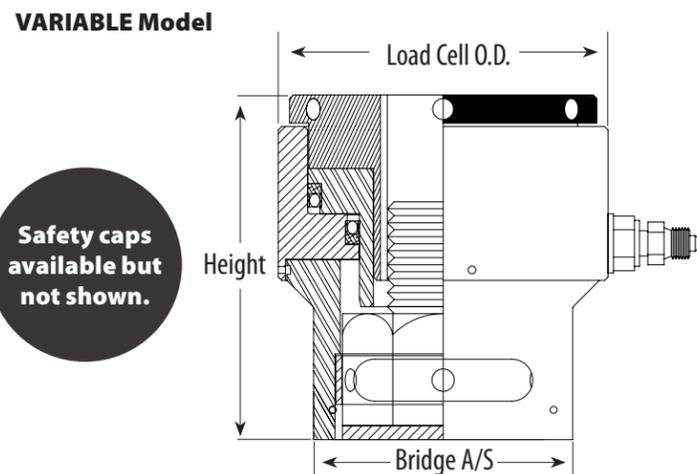


Fixed

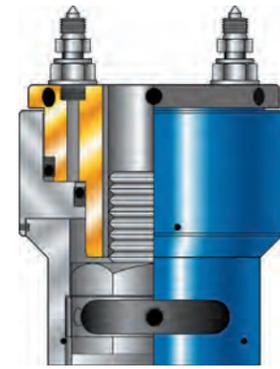
Variable



Safety caps available but not shown.

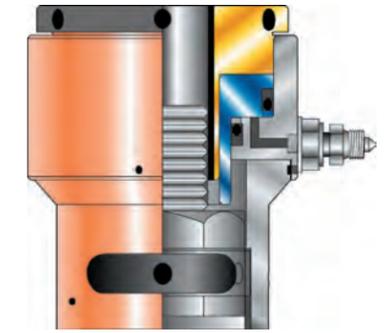


Safety caps available but not shown.



Fixed Models

Part Number	Stud Dia. (In.)	Max Initial Load ¹ (lbs)	Hydraulic Area (Inches ²)	Height (Inches)	Bridge A/S (Inches)	Load Cell OD (Inches)
F012	3/4	43,472	1.976	6.125	2.600	2.198
F014	7/8	54,714	2.488	6.250	2.600	2.474
F100	1	63,360	2.880	6.375	2.600	2.762
F102	1-1/8	86,086	3.913	6.625	3.050	3.196
F104	1-1/4	107,008	4.864	6.750	3.150	3.481
F106	1-3/8	120,186	5.463	6.875	3.500	3.836
F108	1-1/2	139,480	6.340	7.000	3.625	4.152
F110	1-5/8	182,050	8.275	7.250	3.750	4.581
F112	1-3/4	230,230	10.465	7.375	4.375	5.045
F114	1-7/8	234,674	10.667	7.500	4.750	5.238
F200	2	286,176	13.008	7.625	4.812	5.660
F204	2-1/4	287,452	13.066	8.125	5.500	6.304
F208	2-1/2	324,632	14.756	8.500	5.625	6.805
F212	2-3/4	401,214	18.237	9.375	6.250	7.404
F300	3	507,584	23.072	9.500	6.375	8.056
F304	3-1/4	561,638	25.529	9.750	6.560	8.709
F308	3-1/2	690,976	31.408	10.375	7.250	9.431
F312	3-3/4	823,740	37.445	11.000	8.900	10.100
F400	4	922,086	41.913	11.500	9.100	10.500



Variable Models

Part Number	Stud Dia. (In.)	Max Initial Load ¹ (lbs)	Hydraulic Area (Inches ²)	Height (Inches)	Bridge A/S (Inches)	Load Cell OD (Inches)
V012	3/4	42,240	1.920	4.500	2.600	3.700
V014	7/8	42,240	1.920	4.625	2.600	3.700
V100	1	42,240	1.920	4.750	2.600	3.700
V102	1-1/8	77,330	3.515	4.875	3.050	4.300
V104	1-1/4	77,330	3.515	5.032	3.150	4.300
V106	1-3/8	145,244	6.602	5.312	3.500	4.705
V108	1-1/2	145,244	6.602	5.437	3.625	4.705
V110	1-5/8	145,244	6.602	5.562	3.750	4.705
V112	1-3/4	250,338	11.379	5.687	4.375	5.905
V114	1-7/8	250,338	11.379	5.813	4.756	5.905
V200	2	250,338	11.379	5.938	4.812	5.905
V204	2-1/4	259,072	11.776	6.844	5.500	6.937
V208	2-1/2	259,072	11.776	6.969	5.625	6.937
V212	2-3/4	475,640	21.620	7.347	6.250	8.250
V300	3	475,640	21.620	8.032	6.375	8.250
V304	3-1/4	603,922	27.451	8.187	6.560	9.400
V308	3-1/2	603,922	27.451	8.312	7.250	9.400
V312	3-3/4	772,200	35.100	8.500	8.900	10.950
V400	4	772,200	35.100	8.687	9.100	10.950



Power Unit for Stud Tensioner

HTP-2000

30,000 psi. air motor driven hydraulic power unit. Oil delivery is 32 in³/min. @ 0 psi and 16 in³/min. @ full pressure. Requires 100 psi. @ 75 scfm. Input air. Includes vacuum return pump to speed up retraction of tensioners.

DTIs

Direct Tension Indicators



- Verifies correct tension for secure joints
- Load achieved regardless of bolt condition, torque applied
- Simple to install and inspect – no special training

An extra hand when you need it most!

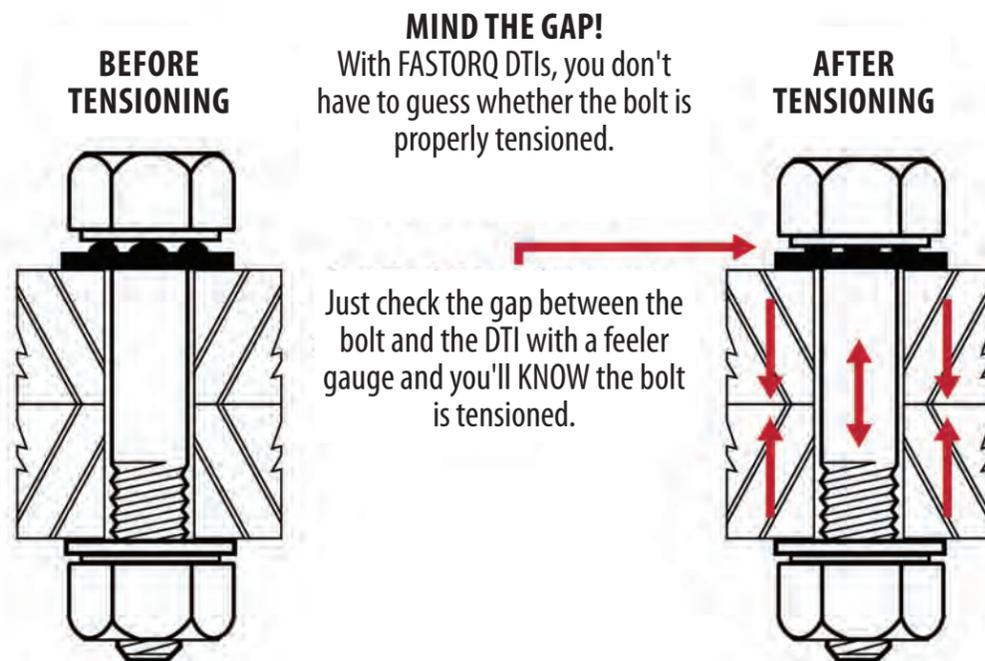
Direct Tension Indicators work when the patented protrusions are compressed as the axial tension force in a bolt or stud is increased by rotating a nut.

Due to the protrusions, the bolt achieves proper tensioning while still leaving a small gap between the bolt head and the surface of the DTI. This gap provides an easy and reliable method of checking the bolt tension, by inserting a feeler gauge between the protrusions (our edge indentations make it easy to find the right place to insert the gauge). When the feeler gauge indicates you have compressed the gap to the proper size, you know the bolt is properly tensioned. It's quick, easy and reliable, and its the best way to ensure proper tensioning.



But what about torque?

Except for sufficient lubrication to allow the nut of the assembly to be rotated under load, "torque" has no effect on the process. (Note: It is bolt tension, not torque that determines the clamped up strength in a joint).



Flexibility in Assembly!

While the recommended method of use is to place the DTI under the bolt head and turn the nut, DTIs can be used in several alternate assembly methods, giving you the flexibility you need: **But what about torque?**

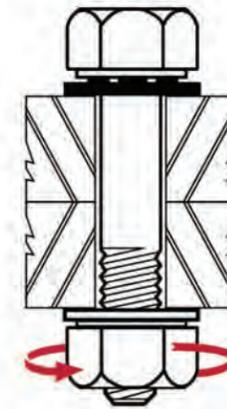
Leave the Hardened Washers Behind

FASTORQ's unique curved protrusions have been shown in studies to work more effectively if the hardened washer is eliminated when tensioning the DTI directly under the

Method 1

(Preferred method)

DTI under head – Turn nut to tighten, bolt head held.

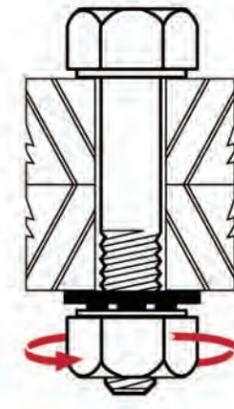


Method 2

DTI under the nut –

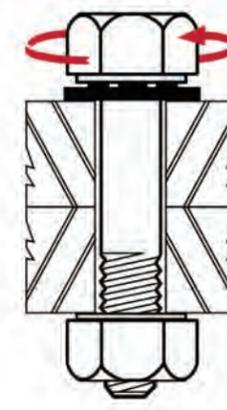
Turn the nut to tension.

(Also applies to the TurnAnut)



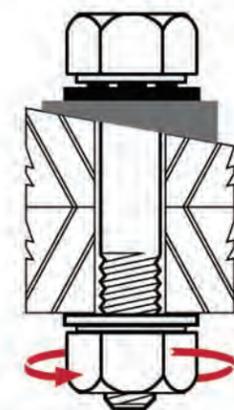
Method 3

DTI under the bolt head – Turn the bolt head to tension.



Method 4

DTIs can also be used with bevel washers to accommodate over a 1:20 bevel.



nuts. That's one less part you have to buy and one less part you have to include in the assembly process!

Respected Worldwide

DTIs are covered by patents and trademarks granted and pending worldwide, including the USA, European Union, India, China and Japan.

FASTORQ DTIs are the ideal solution whenever achieving and maintaining bolt tension is mission-critical. They are in use in some of the biggest buildings, bridges and structures in the world, but they are also the perfect solution for a wide range of other applications.

Energy Industry

Today's bolted joints must be designed with tomorrow's ever stricter safety and environmental challenges in mind. DTIs provide correct tensions for secure leak-free bolted and gasketed joints.

DTIs were introduced to the energy industry at the Offshore Technology Conference in Houston Texas in 1994, where they garnered an Award of Merit, and have been seen continuous use in the industry ever since.

Shortly after that introduction, a DTI user commented on their use in a Sonat pipeline replacement on Platform-Vermilion 265: "We brought the system up to pressure by increments up to a maximum working pressure of 2,140 PSI without a leak! With an accuracy of $\pm 2\%$ in determining individual bolt load, and user friendliness, DTIs should find an important niche in facility safety and environmental protection."

These DTIs are now covered under the ASTM designation ASTM F 2437. They are available for B7 and B16 studs. The unique patented geometry produces protrusions with enhanced load resistance, making it possible to keep hardness below 22RC, per the ASTM maximum hardness requirement for these studs.

DTIs are used by major companies like Shell and BP, which has recently used new enormous 2-3/4" super high load DTIs measuring 535,000 lbs on studs on an offshore platform. Another customer has employed our DTIs on gasketed joints on a major project in Algeria to successfully solve a problem with leaking flanges.



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