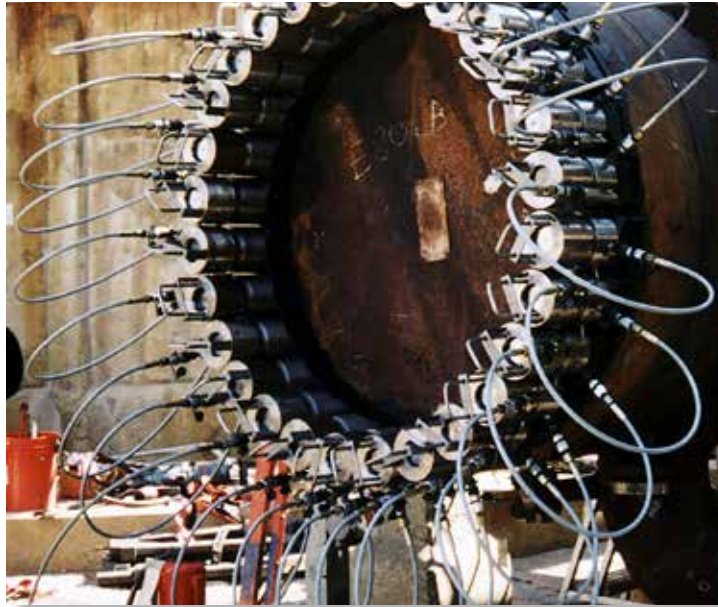


ZipTENSIONER

Stud Tensioner



- **For Subsea, Nuclear, Wind and other specialty applications**
- **Simultaneously tensions multiple fasteners**
- **Half the time required by conventional tensioners**
- **One piece installation**
- **Compact and light weight**
- **Ideal for wind turbine, subsea and nuclear**
- **Available in fixed and variable styles**

LEADING PROVIDER OF BOLT LOADING & REMOVAL SOLUTIONS

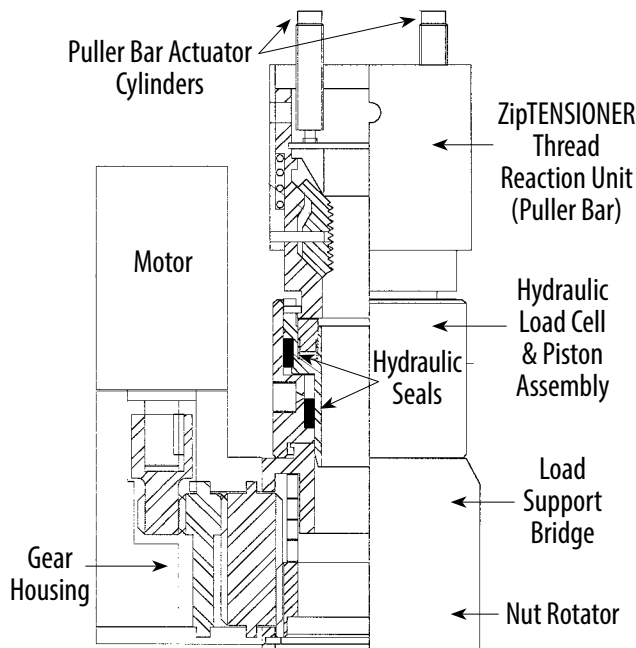
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2013

ZipTENSIONER Stud Tensioners

Designed to provide subsea, nuclear, and wind industries with the latest technology and flexibility.

- Incorporates the ZipNut® Double Zip® technology.
- The ZipNut® Double Zip® spring loaded thread segments allow the tensioner to slide over the protruding stud threads, eliminating the time consuming task of threading the puller nut.
- Can be used for all standard tensioning operations.
- Compact design allows 100% stud coverage from one side of any ANSI or API flange. For example, the body diameter of a 1 5/8" Stud Tensioner is only 3.538" (90mm) thus improving the ability to fit non-standard applications.
- Allows for one piece installation.
- Can be fitted with special hydraulic release mechanism and hydraulic motor driven nut rotator for subsea applications – ROV and diver compatible.
- Ideal for multi-stud tensioning systems.
- All parts are stainless steel, nickel-plated or coated to provide corrosion protection.
- Automatic retraction available with specially equipped FASTORQ® Power Unit Model HTP-2000.
- Lightweight compared to competitor models.
- Also ideal for offshore, petrochemical, steel and mining.



Stud Dia. (IN)	Metric Diam.	Max. Initial Load ¹ (Lbs.)	Max Load (% Yield*)	Hydraulic Area (IN ²)	Max Oper. (psi)	Tensioner OD (IN)
3/4	M18	26.3	75	1.013	26,000	1.855
7/8	M22	36.4	75	1.399	26,000	2.142
1	M24	47.4	75	1.823	26,000	2.429
1 1/8	M27	62.2	75	2.391	26,000	2.635
1 1/4	M30/33	78.8	75	3.029	26,000	2.883
1 3/8	M36	97.1	75	3.736	26,000	3.159
1 1/2	M39	101.4	65	3.900	26,000	3.270
1 5/8	M42	120.9	65	4.650	26,000	3.538
1 3/4	M45	142.1	65	5.465	26,000	3.793
1 7/8	M48	164.7	65	6.335	26,000	4.078
2	M52	189.2	65	7.275	26,000	4.356
2 1/8	M56	215.1	65	8.273	26,000	4.632
2 1/4	M60	242.8	65	9.338	26,000	4.912
2 3/8	-----	272.1	65	10.465	26,000	5.189
2 1/2	M64	253.2	60	9.738	28,000	5.178
2 5/8	-----	303.9	60	11.688	28,000	5.57
2 3/4	M72	309.0	60	11.036	28,000	5.643
2 7/8	-----	339.3	60	12.118	28,000	5.904
3	M76	370.8	60	13.243	28,000	6.159
3 1/8	M80	403.7	60	14.419	28,000	6.457
3 1/4	M85	438.0	60	15.643	28,000	6.68
3 3/8	-----	473.8	60	16.920	28,000	6.947
3 1/2	M90	510.9	60	18.246	28,000	7.195
3 5/8	-----	549.4	60	19.620	28,000	7.448
3 3/4	M95	589.2	60	21.043	28,000	7.709
3 7/8	-----	630.6	60	22.521	28,000	7.97
4	M100	673.2	60	24.043	28,000	8.231

*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.

← ZipTENSIONER Subsea Stud Tensioner with remote operated nut rotator and release.



ZipTENSIONER

Reaction Nuts

FASTORQ® Reaction Nuts with ZipNut® Double Zip® action is a direct fit replacement part and can be retro-fitted to existing tensioners with minimal modifications.

- Directly replaces the thread-on puller bars of multi-stud tensioner systems built for steam generator manways.
- Reduces maintenance crew time and fatigue is avoided when overhead installation of tensioners is required.
- "Push on, pull off" technology zips on rusty or damaged threads, tensions the stud and zips off.
- Simple and fast, no twisting or turning.

ZipNut

The push on threaded nut is ASTM A194 Grade 2H equivalent and measures one wrench size larger across the flats than standard heavy hex nuts.

- Eliminates tedious turning, turning and turning.
- Eliminates cross threading.
- Fits standard bolts - available in sizes 1/2" - 1".
- Replaces heavy hex nuts.

Power Units

For optimum performance and fast turnaround, power FASTORQ Stud Tensioners with a FASTORQ power unit.

Model HTP-2000

- 30,000 psi air-driven
- Filter, regulator and lubricator
- Rugged steel cage
- Power fluid return pump

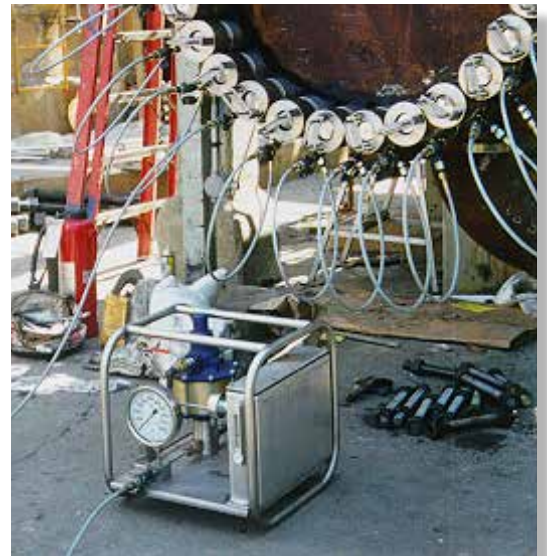
Model HTP-1000

- Same as Model HTP-2000, includes drain port for fluid return.

Link Line: 4:1 Safety burst ratio - Quick disconnect couplers

"ZipNut" and "Double Zip" are Trademarks of Thread Technology, Inc.

The ZipNut® Double Zip® is protected under Patent (Numbers 4,378,187; 5,324,150; 5,427,488; 5,378,100; 5,580,200; Foreign Patents; and Patents Pending) and is utilized by FASTORQ® under an exclusive agreement with Thread Technology, Inc.



Fastorq Model HTP-2000 is powering 28 ZipTENSIONER Stud Tensioners, size 2 1/2".



Power Unit HTP-2000

Reduces Tensioning Time By Up To 50%

Model Number	HTP2000
Type	Air
Requirement	75cfm @100psi
Maximum Pressure (psi)	30,000psi
Oil Delivery (Cubic Inches/Min.) @ No Load @Full Pressure Per Stroke ci	32 16 .123
Motor Size (Hp)	1.5
Air Piston Diameter	7"
Stroke	2.5"
Hydraulic Piston Diameter	.25"
Reservoir Capacity (Gallons)	2.5
Dimensions (Inches) Length Width Height Weight (With Oil) Lbs.	19.5 19.5 19.5 120
Valve Type	Manual



Features:

HTP-2000 dual hydraulic power unit, air operated, complete with air driven vacuum return pump.

Includes: filter, regulator, lubricator, 30,000 psi gauge, 2.5 gallon reservoir, pressure control needle valve and features an air driven vacuum return pump.

All contained in a rugged stainless steel tubular frame for maximum component protection.

For use with all variable, fixed and multiple tensioner systems.



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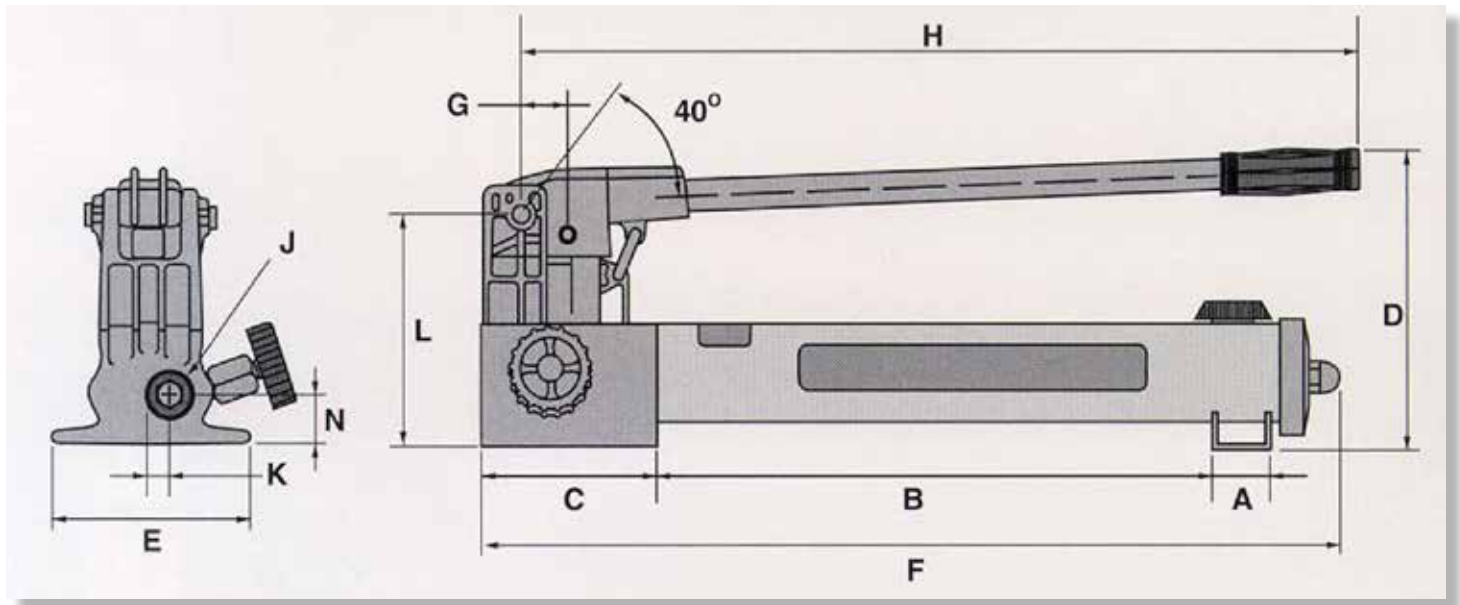


Hand Power Unit HTP-40H

- 40,000 PSI Pressure Capability – for specialized ultra high pressure applications
- Two-Speed Operation – reduces cycle time for increased productivity
- Durable Glass Filled Nylon Reservoir and Encapsulated Pump Head – resists corrosion
- Large Release Valve – better control of pressure release

Shipped with 30,000 PSI Pressure Gauge and Fittings

New two-speed operation and pumping chamber design make it fast and easy to use, while reducing handle effort at 40,000 PSI.



DIMENSION CHART INCHES (Metric)

Model Number	A	B	C	D	E	F	G	H	J	K	L	N
HTP – 40H	1.4 (35,5)	13.6 (345)	5.25 (133)	9.00 (229)	4.74 (120)	22.00 (559)	1.16 (29.5)	20.75 (527)	3/4 - 16 CONE PORT	0.49 (12.4)	5.49 (139)	1.24 (31,5)

SELECTION CHART

Model Number	Pump Speed	Max. Pressure Rating*	Oil Volume Per Stroke	Reservoir Capacity	Piston Diameter	Piston Stroke	Weight
HTP – 40H	2 Speed	1 st Stage – 200 PSI	.99 in ³	60 in ³ (.983L)	1.123 in	1.00 in.	14 lbs.
		2 nd Stage – 40,000 PSI	.037 in ³		.218 in		

Note: Pump is not equipped with an internal relief valve. A pressure gauge must be used to prevent over-pressurization.

