

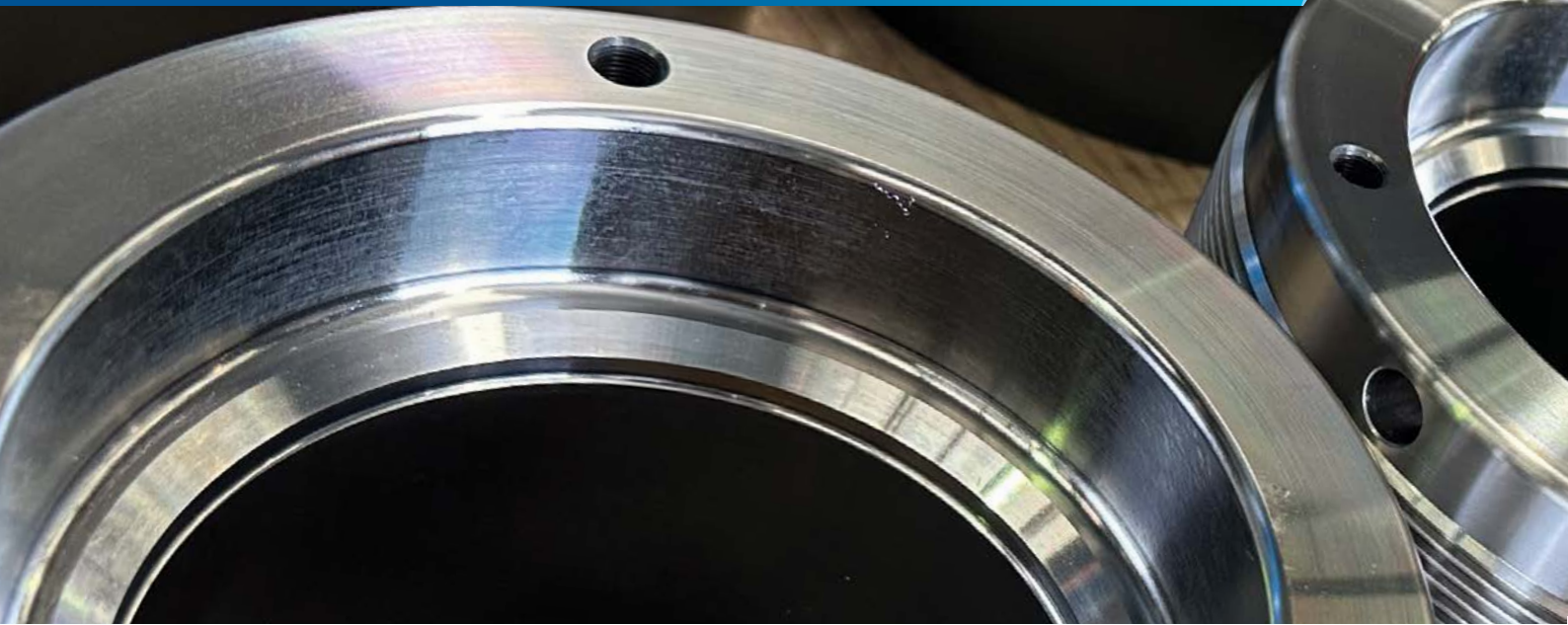


A New Generation  
in Fasteners



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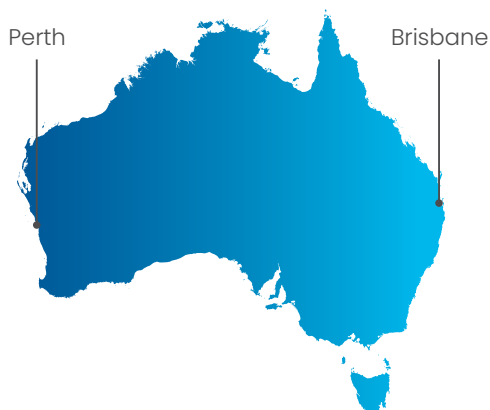
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Technofast has been providing innovative and economical bolt tensioning solutions to industry around the world from its Australian base for over thirty years. The company's Products utilize hydraulic power for applying the high forces needed to correctly tension bolts and shafts, and have been fitted in a wide variety of applications. Industries using Technofast's products include, Mining & Quarrying, Oil & Gas, Steelmaking, Shipbuilding, Power Generation and Agriculture.

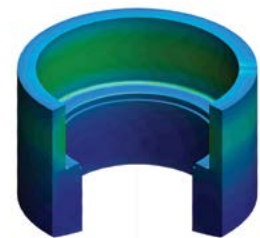
**Brisbane, QLD** Location of the Technofast Head Office and manufacturing facilities. The Crestmead site, in the Western Corridor is ideally located for Technofast's activities of Design, Manufacture, Assembly and Testing of the company's products. Technofast also maintains facilities for extensive Research and Development activities.

**Perth, WA** Technofast's Service Division operates from the industrial Rockingham precinct, specializing in Equipment Rental, On-site machining and bolting services.



## Design

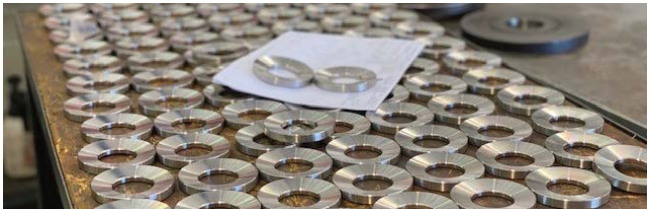
Our engineering staff utilise state of the art drawing and 3D modelling packages to design Technofast's unique fasteners. This digital approach to design allows the virtual models to be effectively assessed for performance before any prototypes are made and tested. The method is efficient, allowing significant reductions in overall size of components, and economical as significant cost reductions can be achieved, resulting in savings for clients.



## Manufacturing

All components are produced using modern CNC machines, ensuring that exceptional quality is maintained throughout the manufacturing process. Certified alloy steels are typically used for these to ensure toughness and durability. Products can also be finished with a variety of surface treatments to suit environmental conditions. Processes include:

- CNC Milling
- CNC Turning
- Laser Engraving



## Quality Assurance

Technofast has in place a well proven ISO 9001 compliant Quality Management System to ensure that exceptional product quality is maintained. The company has also manufactured to exacting standards such as the US Dept of Energy's (USDOE) Nuclear Regulatory Commission (NRC) 10CFR50 Appendix B for nuclear applications.

Other Certifications and approvals, such as DNV, Lloyds Register, RINA or ASME Standards such as NQA-1 "Q" class can be met by Technofast as required.

Technofast is a registered Australian manufacturer and proudly applies the *Australian Made* logos to its products.



## Testing

All finished products are rigorously tested prior to despatch, entailing physical checking for conformity of finish, final measurement, and performance under load. For many of the company's innovative solutions, a full R&D program may be undertaken to take a concept to performance prior to full scale manufacture.

This may include:

- Prototyping
- Cycle Testing
- Full Load and Overload Testing of Components
- Pressure Testing
- Failure Analysis

## Sales & Aftermarket Support

Technofast has an extensive network of Distributors and Representatives within Australia and internationally who are trained to assist with enquiries, installations and product support. The company's Sales and Engineering staff travel regularly to assist with training and consultation with customers. All goods produced by Technofast are warranted against failure due to design, materials, or manufacturing faults. Details are available from Technofast's Warranty Policy.



# What is Bolt Tensioning?



Bolts function to join components against working forces in two ways, Shear and Tension. In the first, the shank of the Bolt resists lateral forces tending to cut or shear it sideways. Tension is applied to Bolts to prevent the joint opening up under load and to clamp the faces together, locked by friction to resist any slippage.

Steel is very elastic, and wants to return to its original length, so when a force is applied to stretch it, a Bolt will apply that same force to clamp the joint together. A well designed bolted joint has sufficient fasteners tensioned with a combined force able to resist separation and shear.

Bolt 'stretch' can be achieved by:

- **Thermal elongation** - where the Bolt is heated, put in place then allowed to cool. The Bolt wants to return to its original free length, thereby exerting a clamping force on the joint between its retaining Nut as it cools.
- **Torque methods** - screw threads provide a mechanical advantage, so that when a lever is used to rotate a Nut with turning force (torque) against the joint face, the Bolt is stretched by the force generated by translation through the screw into the Bolt shank. The application of torque may be by any means from hand tools to sophisticated hydraulic or electric powered wrenches.
- **Direct Tension Methods** - equipment such as Hydraulic Nuts and Bolt Tensioners are configured to incorporate a simple sealed annulus which can be pressurised with fluid from an external source. When attached to a Bolt through a joint, an applied external pressure acts to generate an axial force in its shank. At a predetermined pressure, the locking mechanism is engaged and pressure released to transfer all the hydraulically induced force to mechanical components.



Comparing these methods, it can be seen that thermal elongation is generally only used as a last option for Bolts in difficult circumstances. Examples would be for tie bars in large metal pressing equipment and for bolting together steam turbine casings. Typically such Bolts are of large diameter and difficult to access. Torque methods are widely used, but do experience a degree of inaccuracy in applying the appropriate target Bolt tension due to the vagaries of friction between opposing surfaces in the thread path and the contact areas between Nut and joint face. The physical size and difficulty of handling equipment required to deliver the very high torque values needed for the tensioning of large sized bolts often renders the method inappropriate.

Hydraulic Bolt Tensioning is very accurate, as the resultant tensile forces are simply calculated from the responsive hydraulic pressure area (HPA) of the Hydraulic Nut or Bolt Tensioner being used and the input pressure. Using digital technology engineers are able to provide the highest standard of calculated Bolt loading and therefore avoid many of the losses and dangers associated with other methods of tensioning fasteners.

There are many instances where torque methods are the method of choice. These would include bolting of non-specific items such as streetlight poles and structural items. However, where speed of application, personal safety, accuracy of applied Bolt tension and mechanical efficacy are primary considerations, then Hydraulic 'Direct Tension' methods are best practice.

### Why use Direct Tension?

- Safe
- Accurate
- Calculated
- Fast
- Versatile
- Reliable
- User Friendly

# EziTite® Hydraulic Nut

- Safe
- Easy to operate
- Accurate bolt tensioning
- Multiple tensioning



The EziTite® Hydraulic Nut is a precision engineered, high pressure, high performance, hydraulically operated bolt tensioning device that can be quickly and easily fitted when used with Technofast pumping equipment (e.g. Hand Pumps, Electric/ Hydraulic or Air / Hydraulic). It is manufactured in a choice of alloy or stainless steel of tensile strength to suit the required application.

## Operation

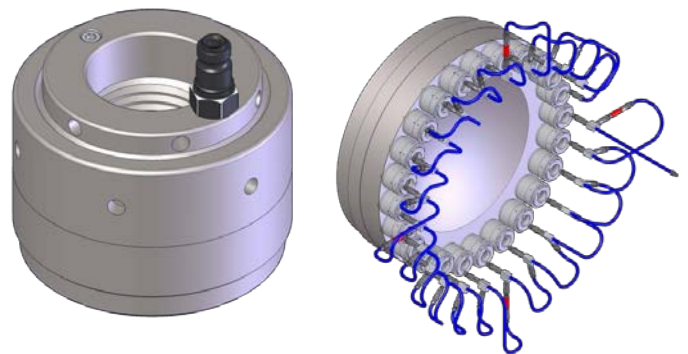
The EziTite® Hydraulic Nut assembly is screwed by hand onto the bolt (replacing the original Nut) until the base is tight against the working face. Hydraulic pressure is then applied through the nipple fitting on top of the nut body into the sealed chamber, forcing the piston and the nut body apart, thus stretching and tensioning the bolt through the joint.

The threaded lock ring, mounted on the nut body, is then screwed against the abutting face to retain the induced load in the bolt. The pressure is then simply released and the hydraulic coupling reversed from the nipple fitting to complete the operation.

## Features

The patented design of the EziTite® has given it improved technical efficiency of operation and cost/benefit advantages over other tensioning devices. The EziTite® Hydraulic Nut provides advantages such as:

- Reduced maintenance down time
- Improved safety on the job
- Reliable and precise tensioning
- Is user-friendly
- Fast to fit and remove





# Specifications



Model Part #	Thread Size	Force (kN)	(A) Nut OD (mm)	(B) Height Short Stroke (mm)	(B) Height Long Stroke (mm)	Short Stroke (mm)	Long Stroke (mm)	(C) Washer Diameter	Weight Approx. Short (kg)	Weight Approx. Long (kg)
EZI-CM24X3	M24	57	Ø58	61	73	6	12	Ø52	1	1.21
EZI-CI100U	1	64	Ø58	61	73	6	12	Ø52	0.99	1.19
EZI-CI102U	1.125	80	Ø64	63.5	75.8	6	12	Ø58	1.22	1.46
EZI-CM30X35	M30	86	Ø68	66.2	78.2	6	12	Ø62	1.48	1.72
EZI-CI104U	1.25	106	Ø72	65.5	77.5	6	12	Ø68	1.62	1.91
EZI-CI106U	1.375	119	Ø78	68	80	6	12	Ø74	1.97	2.31
EZI-CM36X4	M36	135	Ø78	68	80	6	12	Ø74	1.91	2.27
EZI-CI108U	1.5	143	Ø82	69.7	81	6	12	Ø78	2.17	2.56
EZI-CI110U	1.625	177	Ø88	72.5	84.5	6	12	Ø82	2.57	3.01
EZI-CM42X45	M42	177	Ø88	72.5	84.5	6	12	Ø82	2.54	2.99
EZI-CI112U	1.75	186	Ø94	79.2	102.2	8	20	Ø86	3.21	4.17
EZI-CM48X5	M48	234	Ø104	80.2	103.2	8	20	Ø98	4	5.18
EZI-CI200U	2	245	Ø108	86.9	108.9	8	20	Ø102	4.62	5.83
EZI-CM56X55	M56	335	Ø122	90.6	112.6	8	20	Ø116	6.14	7.7
EZI-CI204U	2.25	335	Ø122	90.6	112.6	8	20	Ø116	6.13	7.66
EZI-CI208U	2.5	439	Ø136	96.1	116.1	8	20	Ø132	8.17	9.88
EZI-CM64X6	M64	439	Ø136	96.1	116.1	8	20	Ø132	8.13	9.86
EZI-CI212U	2.75	527	Ø150	105	122.9	8	20	Ø146	10.86	12.83
EZI-CM72X6	M72	527	Ø150	105	122.9	8	20	Ø146	10.74	12.68
EZI-CI300U	3	638	Ø160	107	124	8	20	Ø156	12.57	14.66
EZI-CM80X6	M80	706	Ø170	108.5	125.5	8	20	Ø162	14.38	16.77

Commercial grade Imperial EziTite® nuts are calculated at approximately 65% proof load of a SAE Grade 2 bolt. Commercial grade Metric EziTite® nuts are calculated at approximately 65% proof load of a Grade 4.6 bolt. **Maximum operating pressure for commercial grade is 700 Bar**

Model Part #	Thread Size	Force Produced (kN)	Nut OD (mm)	Height Short Stroke (mm)	Height Long Stroke (mm)	Short Stroke (mm)	Long Stroke (mm)	Washer Diameter	Weight Approx. Short (kg)	Weight Approx. Long (kg)
EZI-HM24X3	M24	160	Ø70	59.9	72	6	12	Ø66	1.52	1.84
EZI-HI100U	1	160	Ø70	59.9	72	6	12	Ø66	1.52	1.82
EZI-HI102U	1.125	171.9	Ø74	62.3	74.3	6	12	Ø68	1.67	2.01
EZI-HM30X35	M30	249.3	Ø84	65	77	6	12	Ø80	2.32	2.79
EZI-HI104U	1.25	249.3	Ø84	65	77	6	12	Ø80	2.3	3
EZI-HI106U	1.375	277.9	Ø92	68.3	80.3	6	12	Ø88	2.89	3.42
EZI-HM36X4	M36	357	Ø100	69.6	80.6	6	12	Ø96	3.52	4.09
EZI-HI108U	1.5	332.5	Ø100	69.6	80.6	6	12	Ø96	3.46	4.03
EZI-HI110U	1.625	409	Ø110	78.9	88.9	6	12	Ø106	4.68	5.34
EZI-HM42X45	M42	456	Ø114	78.3	88.3	6	12	Ø110	5.02	5.74
EZI-HI112U	1.75	456	Ø114	80.3	103.3	8	20	Ø110	5.11	6.66
EZI-HM48X5	M48	629.3	Ø128	84	106	8	20	Ø124	6.84	8.72
EZI-HI200U	2	598.5	Ø128	84	106	8	20	Ø124	6.74	8.61
EZI-HM56X55	M56	821.1	Ø146	89.5	110.5	8	20	Ø142	9.52	11.9
EZI-HI204U	2.25	785.4	Ø146	89.5	110.5	8	20	Ø142	9.47	11.81
EZI-HI208U	2.5	940.5	Ø156	95.6	115.6	8	20	Ø152	11.47	13.9
EZI-HM64X6	M64	1108.4	Ø166	95.8	115.8	8	20	Ø162	13.26	16.05
EZI-HI212U	2.75	1128.3	Ø172	100.6	120.6	8	20	Ø168	14.82	17.85
EZI-HM72X6	M72	1474.9	Ø190	99.5	119.5	8	20	Ø186	18.29	22.09
EZI-HI300U	3	1379.9	Ø190	99.9	119.9	8	20	Ø186	17.99	21.78
EZI-HM80X6	M80	1770.3	Ø206	105.9	124.9	8	20	Ø202	22.8	26.98

High Tensile Grade Imperial are calculated at approximately 65% proof load of a SAE Grade 5 bolt. High Tensile Grade Metric are calculated at approximately 65% proof load of a Grade 8.8 bolt. **Maximum operating pressure for High Tensile Grade is 1000 Bar**

All standard EziTite® Hydraulic Nuts are equipped with CEJN type male snap fittings, 1/8" BSPP porting and bleed plugs.

- EziTite® Hydraulic Nuts are supplied with spherical self-aligning washers as standard.
- Maximum force is generated using the stated maximum pressure.

If the standard range above does not suit, our technical staff will modify the design to suit the application. Long Stroke part numbers have an 'L' at the end of the part number. e.g. EZI-CI112UL

# EziTite® TR High Temperature Hydraulic Nuts



- Unique Metal Seals for extreme temperature service environments.

The patented design of the high-temperature resistant EziTite® Hydraulic Nut has given it improved technical efficiency of operation and cost/benefit advantages over other tensioning devices.

## Features

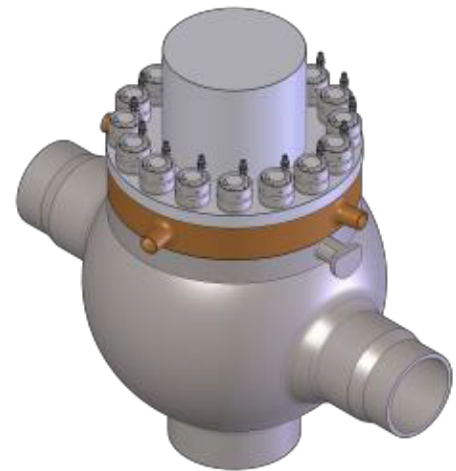
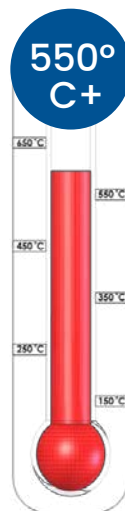
- The patented metal to metal seal design allows for applications to 550°C and higher (using special alloys)
- Compact design for confined space applications
- Smart design to eliminate load losses
- Secondary backup release mechanism (Sacrificial Ring)
- Multiple tensioning provides even bolt loads with short assembly and disassembly to reduce down time

## Benefits

- Reduces maintenance down time
- Improves safety on the job
- Gives reliable and precise tensioning
- Is user-friendly
- Fast to fit and remove
- Requires little physical effort
- Is ideal for difficult or confined spaces

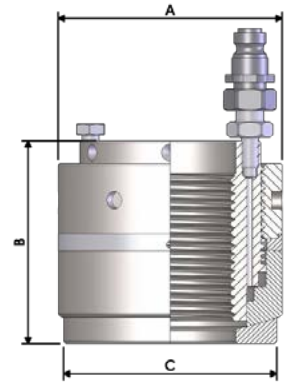
## Applications

- Pressure Vessel Closure (i.e. Autoclaves, Boilers, etc)
- Flange Makeup
- Gas Turbine Casings
- Steam Turbine Half-joints
- High Temperature applications in Refineries, Processing and Steelworks



# Specifications

Model Part #	Thread Size	Force (kN)	(A) Nut OD (mm)	(B) Height (mm)	Stroke (mm)	(C) Washer Diameter	Weight (kg)
H-EZI-M24X25	M24	380.1	Ø74.0	87.2	8	Ø71.0	2.41
H-EZI-1100X8U	1	380.1	Ø74.0	87.2	8	Ø71.0	2.41
H-EZI-1102X8U	1.125	390	Ø77.0	87	8	Ø74.0	2.56
H-EZI-M30X35	M30	400	Ø80.0	87.9	8	Ø77.0	2.72
H-EZI-1104X8U	1.25	400	Ø80.0	87.9	8	Ø77.0	2.72
H-EZI-1106X8U	1.375	410	Ø83.0	88.7	8	Ø80.0	2.91
H-EZI-M36X40	M36	455.9	Ø90.0	89.2	8	Ø87.0	3.4
H-EZI-1108X8U	1.5	455.9	Ø90.0	89.2	8	Ø87.0	3.4
H-EZI-1110X8U	1.625	542	Ø97.0	90.6	8	Ø94.0	3.97
H-EZI-M42X45	M42	635.6	Ø103.0	91.1	8	Ø100.0	4.52
H-EZI-1112X8U	1.75	635.6	Ø103.0	91.1	8	Ø100.0	4.52
H-EZI-M48X50	M48	845.2	Ø117.0	91.9	8	Ø114.0	5.88
H-EZI-1200X8U	2	845.2	Ø117.0	91.9	8	Ø114.0	5.88
H-EZI-M56X55	M56	1084.6	Ø132.0	96.5	8	Ø129.0	7.77
H-EZI-1204X8U	2.25	1084.6	Ø132.0	96.5	10	Ø129.0	7.77
H-EZI-1208X8U	2.5	1353.7	Ø146.0	103.4	10	Ø143.0	10.26
H-EZI-M64X60	M64	1353.7	Ø146.0	103.4	10	Ø143.0	10.26
H-EZI-1212X8U	2.75	1495.3	Ø148.0	105.7	10	Ø145.0	10.55
H-EZI-M72X60	M72	1792.8	Ø163.0	108.4	10	Ø160.0	10.55
H-EZI-1300X8U	3	1792.8	Ø163.0	108.4	10	Ø160.0	13.14
H-EZI-M80X60	M80	2044.2	Ø172.0	110.3	10	Ø169.0	15.83
H-EZI-1308X8U	3.5	2468.6	Ø188.0	113.3	10	Ø185.0	18.26



If the standard nut does not fit within your space restrictions or load requirements other models and custom designs are available upon request.

## EziTite® TR secondary release mechanism

If the EziTite® should be damaged in service, for example by misalignment which may have disrupted seal integrity, it may be removed by carefully splitting the Sacrificial Ring. When the Sacrificial Ring is removed, the EziTite® Hydraulic Nut will retract normally.



(note: protective cover shown)



# EziTite® Bearing Setter

- Safe
- User friendly
- Repeatability
- Accurate bearing mounting



Major bearing manufacturers estimate that around 16% of bearings fail prematurely due to poor fitting. Breakdowns are expensive, and rework as a result of poor technique proves particularly frustrating.

The use of the EziTite® Bearing Setter employs hydraulic power to guide bearings into place effortlessly, and provides optimum preload as required.

## Operation

The EziTite® Bearing Setter assembly is screwed by hand onto the shaft or adaptor sleeve until the base is tight against the bearings inner race. Hydraulic pressure is then applied through the nipple fitting on top or side of the nut body into the sealed chamber, forcing the piston and the nut body apart, thus driving the bearing into position.

Once the desired bearing drive up has been achieved the pressure is relieved, the Bearing Setter can be removed and is then replaced with a standard locking nut.

## Features

The EziTite® Bearing Setter has been designed with the operator in mind, offering many optional extras readily available to ensure trouble-free operation. Some features of the EziTite® Bearing Setter are:

- Dial gauge mounting point as standard
- Visible maximum stroke indicator
- Custom thread sizes available on request
- Split nut designs available on request
- Designs can be engineered to suit individual applications
- Requires little physical effort

Technofast's' unique split design bearing setters can be placed over the shaft and be used for bearing preload reset without the need to disassemble a whole machine.



# Specifications



Tool #	Metric Size ISO	Thread Pitch mm	Tool # Imperial	Size Imp	Threads Per Inch	Max Force kN	HPA	Pressure (Bar)	(A)	(B)	(C)	(D)	(E)	Pin Spanner Hole Size	Stroke
BP-03-M00	M60	2	BP-03-U00	2.36	18	230.6	3293.6	700	120	38	4	60.5	96	8mm	7mm
BP-04-M00	M65	2	BP-04-U00	2.548	18	248.3	3546.95	700	126	38	4	65.5	102	8mm	7mm
BP-05-M00	M70	2	BP-05-U00	2.751	18	257.2	3673.83	700	132	38	4	70.5	108	8mm	7mm
BP-06-M00	M75	2	BP-06-U00	2.933	12	274.9	3927.18	700	136	38	4	75.5	116	8mm	7mm
BP-07-M00	M80	2	BP-07-U00	3.137	12	292.7	4180.54	700	142	38	5	80.5	118	8mm	7mm
BP-08-M00	M85	2	BP-08-U00	3.34	12	310.4	4433.89	700	148	38	5	85.5	124	8mm	7mm
BP-09-M00	M90	2	BP-09-U00	3.527	12	319.2	4560.77	700	154	38	5	90.5	132	8mm	7mm
BP-10-M00	M95	2	BP-10-U00	3.73	12	337	4813.72	700	160	38	5	95.5	138	8mm	7mm
BP-11-M00	M100	2	BP-11-U00	3.918	12	355.8	5075.85	700	164	44	6	100.5	140	8mm	7mm
BP-12-M00	M105	2	BP-12-U00	4.122	12	327.4	5456.7	600	176	45	5	105.5	154	8mm	7mm
BP-13-M00	M110	2	BP-13-U00	4.325	12	327.4	5456.7	600	176	45	5	110.5	154	8mm	8mm
BP-14-M00	M115	2	BP-14-U00			365.5	6090.86	600	190	45	5	115.5	166	8mm	8mm
BP-15-M00	M120	2	BP-15-U00	4.716	12	365.5	6090.86	600	190	45	5	120.5	166	8mm	8mm
BP-16-M00	M125	2	BP-16-U00			364.8	6080.49	600	195	45	5	125.5	172	8mm	8mm
BP-17-M00	M130	2	BP-17-U00	5.106	12	423.2	7053.2	600	200	45	5	130.5	172	8mm	8mm
BP-18-M00	M135	2	BP-18-U00			411.1	6852.12	600	208	45	5	135.5	186	8mm	8mm
BP-19-M00	M140	2	BP-19-U00	5.497	12	411.1	6852.12	600	208	45	5	140.5	186	8mm	8mm
BP-20-M00	M145	2	BP-20-U00			426.4	7105.88	600	222	46	6	145.5	199	8mm	8mm
BP-21-M00	M150	2	BP-21-U00	5.888	12	426.4	7105.88	600	222	46	6	150.5	199	8mm	8mm
BP-22-M00	M155	3	BP-22-U00			580.3	9672.28	600	234	47	6	155.5	210	8mm	8mm
BP-23-M00	M160	3	BP-23-U00	6.284	8	580.3	9672.28	600	234	47	6	160.5	210	8mm	8mm
BP-24-M00	M165	3	BP-24-U00			618.4	10306.46	600	250	47	6	165.5	224	8mm	8mm
BP-25-M00	M170	3	BP-25-U00	6.659	8	618.4	10306.46	600	250	47	6	170.5	224	8mm	8mm
BP-26-M00	M175	3	BP-26-U00			637.4	10623.55	600	256	50	6	175.5	230	8mm	8mm
BP-27-M00	M180	3	BP-27-U00	7.066	8	637.4	10623.55	600	256	50	6	180.5	230	10mm	10mm
BP-28-M00	M185	3	BP-28-U00			675.5	11257.74	600	268	50	6	185.5	242	10mm	10mm
BP-29-M00	M190	3	BP-29-U00	7.472	8	675.5	11257.74	600	268	50	6	190.5	242	10mm	10mm
BP-30-M00	M195	3	BP-30-U00			713.5	11891.92	600	282	51	7	195.5	256	10mm	10mm
BP-31-M00	M200	3	BP-31-U00	7.847	8	713.5	11891.92	600	282	51	7	200.5	256	10mm	10mm
BP-32-M01	TR205	4	BP-32-U00			731.6	12192.65	600	290	51	7	205.5	262	10mm	10mm
BP-33-M01	TR210	4	BP-33-U00			731.6	12192.65	600	290	51	7	210.5	262	10mm	10mm
BP-34-M01	TR215	4	BP-34-U00			770.6	12843.19	600	304	53	9	215.5	274	10mm	10mm
BP-35-M01	TR220	4	BP-35-U00	8.628	8	770.6	12843.19	600	304	53	9	220.5	274	10mm	10mm
BP-36-M01	TR225	4	BP-36-U00			807.6	13459.42	600	315	53	9	225.5	286	10mm	10mm
BP-37-M01	TR230	4	BP-37-U00			807.6	13459.42	600	315	53	9	230.5	286	10mm	10mm
BP-38-M01	TR235	4	BP-38-U00			846.7	14111.56	600	334	55	9	235.5	300	10mm	10mm
BP-39-M01	TR240	4	BP-39-U00	9.442	6	846.7	14111.56	600	334	55	9	240.5	300	10mm	10mm
BP-40-M01	TR250	4	BP-40-U00			956.7	14726.19	600	359	54	9	250.5	325	12mm	12mm
BP-41-M01	TR260	4	BP-41-U00	10.192	6	956.7	15945.62	600	359	54	9	260.5	325	12mm	12mm
BP-42-M01	TR270	4	BP-42-U00	10.604	6	960.9	16014.1	600	372	58	9	272	338	12mm	12mm
BP-43-M01	TR280	4	BP-43-U00	11.004	6	960.9	16014.1	600	372	58	9	282	338	12mm	12mm
BP-44-M01	TR290	4	BP-44-U00			1140.1	19001.11	600	404	59	9	292	365	12mm	14mm
BP-45-M01	TR300	4	BP-45-U00	11.785	6	1140.1	19001.11	600	404	59	9	302	365	12mm	14mm
BP-46-M01	TR310	5	BP-46-U00			1238.8	20647.89	600	412	50	9	312	374	12mm	14mm
BP-47-M01	TR320	5	BP-47-U00	12.562	6	1463	24383.48	600	430	52	10	322	390	12mm	14mm
BP-48-M01	TR330	5	BP-48-U00			1508.6	25142.89	600	440	52	10	332	400	12mm	14mm
BP-49-M01	TR340	5	BP-49-U00	13.339	5	1578.4	26307.37	600	454	52	10	342	412	12mm	14mm
BP-50-M01	TR350	5	BP-50-U00			1594.3	26571.84	600	466	52	10	352	424	12mm	14mm
BP-51-M01	TR360	5	BP-51-U00	14.17	5	1614.1	26902.33	600	472	52	10	362	430	12mm	14mm
BP-52-M01	TR370	5	BP-52-U00			1635.9	27266.12	600	490	56	12	372	448	12mm	16mm
BP-53-M01	TR380	5	BP-53-U00	14.957	5	1709.3	28488.71	600	500	56	12	382	454	12mm	16mm
BP-54-M01	TR390	5	BP-54-U00			1776.9	29616.1	600	512	56	12	392	464	12mm	16mm
BP-55-M01	TR400	5	BP-55-U00	15.745	5	1804.7	30078.56	600	522	56	12	402	476	12mm	16mm

If the standard range above does not suit, our technical staff will modify the design to suit the application. For specialised thread and sizing requirements, don't hesitate to contact [sales@technofast.com](mailto:sales@technofast.com) for assistance.

# EziTite® Hydraulic Bolt

- Safe
- Easy to operate
- Accurate bolt tensiing
- Multiple tensiing



The EziTite® Hydraulic Bolt is a precision engineered, high pressure, high performance device, incorporating an hydraulically operated tensiing mechanism that can be quickly and easily fitted and used with Technofast's hand operated, Electric Hydraulic or Air Hydraulic Pumps or other standard pumping equipment.

The Hydraulic Bolt is extremely resistant to vibration and shock loads. Hydraulic Bolts are used to minimise the time required to carry out critical bolting procedures. They are manufactured in a choice of alloy or stainless steel of tensile strength to suit the required application.

## Operation

The EziTite® Hydraulic Bolt replaces the standard fastener used in the application. Hydraulic pressure is then applied through the quick connect fitting on top of the nut body into the sealed chamber, forcing the piston and the nut body apart, thus stretching and tensiing the bolt through the joint.

The threaded lock ring, which is mounted on the piston, is then screwed against the abutting face to retain the induced load in the bolt. The pressure is then simply released and the hydraulic coupling disconnected

to complete the operation. This guarantees no galling of threads, no torsional stresses and ease of future removal as Lock Rings are unscrewed without friction by a simple reversal of the EziTite® Hydraulic Bolt fitting process.

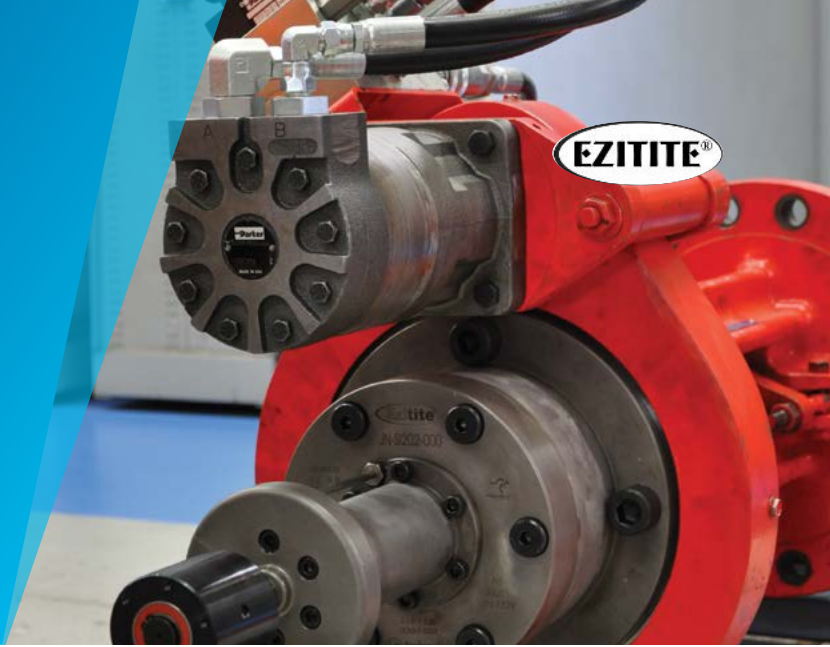
## Features

- Standard range—20mm (7/8") to 100mm
- (4") bolt diameter. Other sizes available
- Custom threads
- Unique Lockring thread technology ensures maximum retained load
- Spherical seat gives alignment to joint face
- Variety of seal designs for temperature/pressure requirements
- Quick connect fittings



# EziTite® Hydraulic Clamp Nut

- Safe
- Easy to operate
- Accurate bolt tensioning



EziTite® Hydraulic Clamp Nuts are the modern, safe and efficient way to ensure precise tool clamping. EziTite® Hydraulic Clamp Nuts replace conventional torque-loaded threaded nuts to make shaft tensioning a simple, efficient and safe hydraulically assisted operation. They are also widely used to set large shaft bearings in place.

EziTite® Hydraulic Clamp Nuts are manufactured in a wide range of sizes to suit applications throughout many industries, and are made in a standard range to suit thread sizes from 50mm to 300mm. Other sizes are available by request.

## Operation

The EziTite® Hydraulic Clamp Nut is screwed by hand onto the bolt until the base is tight against the working face. Hydraulic pressure is then applied through the nipple fitting on top of the nut body into the sealed chamber, forcing the piston and the nut body apart, thus applying a specified joint clamping force.

The threaded lock ring, mounted on the nut body, is then screwed against the abutting face to retain the induced load tension in the assembly. The pressure is then simply released and the hydraulic coupling removed from the nipple fitting, to complete the operation.

If required, the EziTite® Hydraulic Clamp Nut can be manufactured with Technofast Industries' patented Sacrificial Ring. Therefore, if for some reason the nut becomes locked on to the application, it can be released and removed by breaking out the sacrificial ring. This component can then be replaced and the EziTite® Hydraulic Clamp returned to service.

## Features

- Vastly reduces downtime and maintenance problems
- Improves productivity
- Is user friendly, fast and easy to fit
- Greatly enhances tool life
- Repeatable accuracy of the tensioning operation reduces product variation e.g. for metal slitting
- Achieves faster throughput without compromising product quality
- Minimises risk of personal injury and collateral damage to capital equipment during blade and tool changes
- Threaded locking collar configured to counteract loosening forces of impact on rotating shafts



# CamNut™

- Tension in minutes instead of hours
- Improve Bolt load accuracy



## Operation

Technofast's revolutionary CamNut™ system brings an affordable and efficient solution, in a compact system which is simple, safe and easy to use.

Normally, a bolt tensioning tool pulls on the bolt threads protruding above the regular hex nut, which is then screwed down to retain the loads induced by hydraulic operation of the tool. With no available thread, the CamNut™ performs as the connection to the bolt for the operation. Its integral collar expands to take up the bolt's elongation under force and retains the load when the hydraulic charging pressure is released.

## Features

The patented design of the CamNut™ is inexpensive and has the following advantages:

- User friendly, fast to fit & remove
- Requires little physical effort
- Quick connection from nut to Tensioner
- Ideal for situations with short bolt grip length
- Modular construction reduces overall tool weight
- Operating temperatures from -40°C to +650°C
- No longer any need to replace expensive studs to provide sufficient grip length for Bolt Tensioning

## CamNut™ Specifications

Please contact Technofast Industries for further information and technical specifications.

This product is covered by numerous patents worldwide.

Patent No: PCT/WO2005/123345



## Applications

- Pressure Vessel Closure (for example, Autoclaves, Boilers, etc)
- Crusher Liner Bolts
- Flange Makeup
- Turbine Joints
- High Temperature Applications



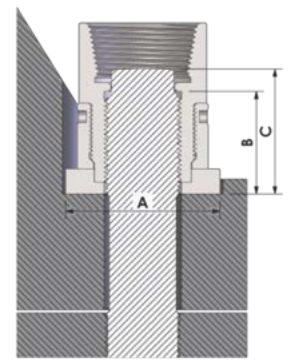
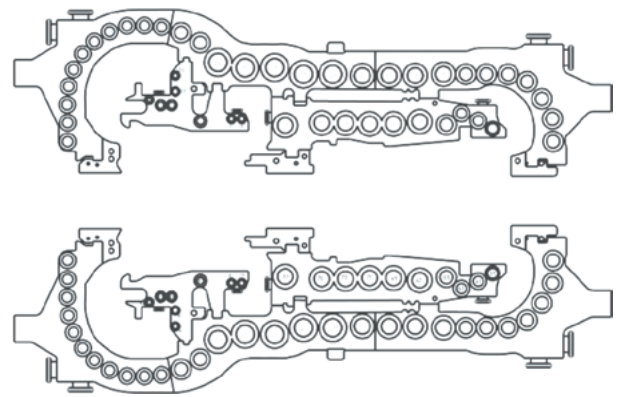


# H1 & H2 Series CamNut

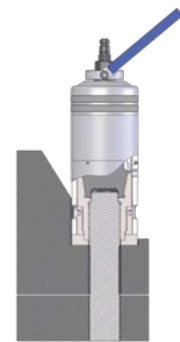
Technofast's H1 & H2 series CamNut™ tensioning systems are designed to work at temperatures from -400°C to +560°C and fit within the specifications of standard OEM machines without modifications to the spot faces or existing bolts. This allows the user to extend the benefits of direct hydraulic bolt tensioning to turbines, valves or other hardware.

## Why Convert To Direct Tension?

- Eliminate thread galling
- Increase bolt load accuracy
- Reduce downtime
- Increase the life of the hardware
- Improve site safety
- No hardware modifications needed



Installed Configuration



Tensioning Configuration

Tensioner	Model Part # -40°C to 400°C.	Model Part # 400°C to 560°C.	Thread Size	Force Produced (kN)	(A) Nut OD (mm)	(B) Maximum Stud Length	(C) Maximum Stud Length with Hex	Nut Weight
CT-HS-04	HI-CN-112X8	H2-CN-112X8	1.75"	587.03	Ø74	64.0	66.55	2.03
CT-HS-05	HI-CN-200X8	H2-CN-200X8	2"	814.14	Ø84	70.0	73.15	2.75
CT-HS-06	HI-CN-204X8	H2-CN-204X8	2.25"	1011.14	Ø94	72.0	82.55	3.44
CT-HS-07	HI-CN-208X8	H2-CN-208X8	2.5"	1245.75	Ø104	79.0	88.9	4.47
CT-HS-08	HI-CN-212X8	H2-CN-212X8	2.75"	1418.95	Ø114	85.0	98.55	5.60
CT-HS-09	HI-CN-300X8	H2-CN-300X8	3"	1788.20	Ø124	86.0	98.55	7.07
CT-HS-10	HI-CN-308X8	H2-CN-308X8	3.5"	2425.10	Ø144	94.0	117.35	9.90
CT-HS-11	HI-CN-400X8	H2-CN-400X8	4"	3041.60	Ø164	107.0	130.05	14.45
CT-HS-12	HI-CN-408X8	H2-CN-408X8	4.5"	4069.32	Ø183	119.0	146.05	18.79
CT-HS-13	HI-CN-500X8	H2-CN-500X8	5"	4782.12	Ø203	129.0	158.75	25.13
CT-HS-14	HI-CN-508X8	H2-CN-508X8	5.5"	6112.58	Ø223	145.0	177.80	33.72
CT-HS-15	HI-CN-600X8	H2-CN-600X8	6"	7088.87	Ø244	154.0	190.50	41.53

If the standard CamNut™ does not fit within your space restrictions or load requirements other models and custom designs are available upon request.



# B2 Dedicated EziJac Hydraulic Bolt Tensioner

- Safe
- Easy to operate
- Accurate bolt tensioning



Each Technofast Industries B2 EziJac Bolt Tensioner is dedicated to one bolt size and thread type to provide an economical solution for various applications.

The B2 EziJac dedicated stud tensioner utilises the power of hydraulic pressure to produce the force necessary to tension bolts and studs both accurately and safely. The B2 EziJac dedicated stud tensioner provides the answer to many of the fitting problems associated with using larger tensioning equipment. They are also ideal for single task applications which do not require interchangeability of thread sizes. Any number of B2 EziJacs can be interlinked to provide simultaneous tensioning over multiple studs or bolts as required.

## Features

- Long Stroke
- Stroke Indicator
- Leak-free low friction seals
- Nitride hardening for increased tool life
- Optional second port for interconnection
- Dedicated tool with long service life

## Benefits

- Reduces maintenance down time
- Improves safety on the job by eliminating hammer tightening or bolt heating
- Gives reliable and precise tensioning
- Is user friendly - fast to fit and remove
- Requires little physical effort
- Is ideal for confined spaces or difficult locations
- Multiple tensioning for leak-free flange makeup

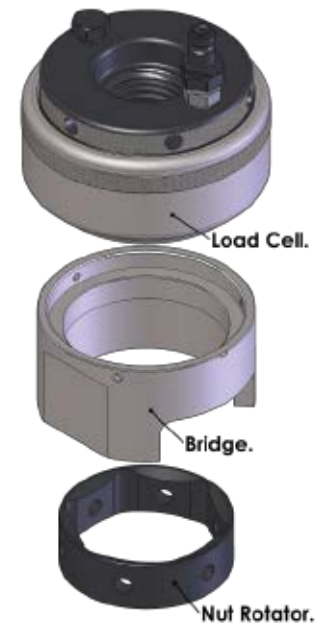
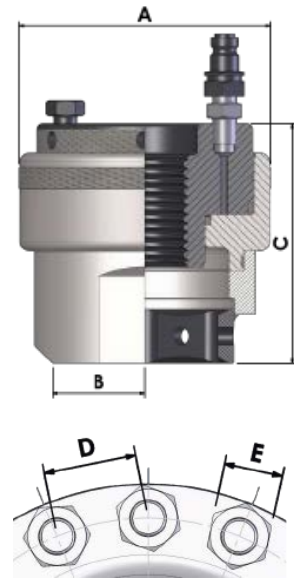
## An ideal solution when

- Accurate and repeatable loading is required
- Rotational or torsional stresses are a problem
- Regular maintenance requires repeated adjustments or removal of nuts
- Confined and difficult nut locations
- Simultaneous tensioning of bolts is required (e.g. Flanges).



# Specifications

Model #	Size Imp	Size ISO	Max Force kN	O.D. (A)	Min Pitch (D)	Relief (B)	Height (C)	Nut A.F. (E)	Weight (kg)
B2-I014X9	7/8"	22.2	285.7	72	53	26	89	36.5	1.78
B2-M24X30		M24	285.7	72	57	29	90	41	1.78
B2-I100X8	1"	25.4	367.4	79	57	29	102	41.3	2.48
B2-M27X30		M27	367.4	79	64	32	103	46	2.48
B2-I102X8	1.1/8"	28.5	428.1	86	64	32	105	46	2.96
B2-M30X35		M30	428.1	86	69	36	107	50	2.96
B2-I104X8	1.1/4"	31.75	570.3	97	70	36	111	50.8	3.94
B2-M33X35		M33	570.3	97	72	36	113	55	3.94
B2-I106X8	1.3/8"	34.9	664.6	104	74	39	114	55.6	4.52
B2-M36X40		M36	664.6	104	77	39	116	60	4.52
B2-I108X8	1.1/2"	38.1	765.7	112	79	42	120	60.3	5.39
B2-M39X40		M39	765.7	112	82	42	120	65	5.39
B2-M42X45		M42	909.6	122	91	45	125	70	6.5
B2-I110X8	1.5/8"	41.27	909.6	122	89	45	124	65.1	6.5
B2-M45X45		M45	1027.2	129	91	49	128	75	6.7
B2-I112X8	1.3/4"	44.45	1027.2	129	94	49	128	69.9	7.56
B2-M48X50		M48	1192.2	139	103	51	132	80	8.93
B2-I114X8	1.7/8"	47.6	1192.2	139	100	51	132	74.6	8.93
B2-M52X50		M52	1283	143	106	54	136	85	9.41
B2-I200X8	2"	50.8	1283	143	103	54	135	79.4	9.41
B2-M56X55		M56	1456.6	158	117	60	142	90	12.13
B2-I204X8	2.1/4"	57.15	1456.6	158	116	60	144	88.9	12.13
B2-M60X55		M60	1456.6	158	126	65	146	95	12.13
B2-M64X60		M64	1822.2	173	129	65	152	100	15.16
B2-I208X8	2.1/2"	63.5	1822.2	173	128	65	152	98.4	15.16
B2-M68X60		M68	2213.9	192	142	71	158	105	19.53
B2-M72X60		M72	2213.9	192	145	71	162	110	19.53
B2-I212X8	2.3/4"	69.85	2213.9	192	143	71	161	108	19.53
B2-I300X8	3"	76.2	2657.1	206	155	77	171	117.5	23.24
B2-M76X60		M76	2657.1	206	153	77	170	115	23.24
B2-M80X60		M80	2657.1	206	170	77	174	120	23.24
B2-I304X8	3.1/4"	82.55	3061	220	170	87	181	127	28.14
B2-M85X60		M85	3061	220	169	87	182	125	28.14
B2-I308X8	3.1/2"	88.9	3720.2	242	175	93	190	136.5	34.63
B2-M90X60		M90	3720.2	242	174	93	191	135	34.63
B2-I312X8	3.3/4"	95.25	4195.3	256	196	99	200	146.1	40.93
B2-M95X60		M95	4195.3	256	196	99	200	145	40.93
B2-I400X8	4"	101.6	4605.3	269	209	105	207	155.6	47.61
B2-M100X60		M100	4605.3	269	206	105	205	150	47.61



Stroke for all Models is 15.0 mm

Maximum Force is generated at 150 MPa (1500 Bar)

Dimensions in millimetres unless noted otherwise.

If the standard product does not fit within your space restrictions or load requirements, custom designs are our speciality and are available upon request. These dimensions are a guide only. Technofast are continually working on product development and changes may occur at any time. Please contact Technofast for up to date information.

# B3S Modular Series EziJac

- Safe
- Easy to operate
- Accurate bolt tensioning



The B3S Series EziJac is a modular style hydraulic bolt tensioner featuring a spring return mechanism which automatically resets the tool to full working stroke. The modular design allows multiple Adaptor Kits to be interchanged with the one Load Cell.

The EziJac uses hydraulic pressure to tension a bolt to the exact load required. Once the bolt has been tensioned, the standard nut is wound down the thread to retain the load. The EziJac is then depressurised, reset to full stroke by the return mechanism, and removed from the application ready for use again.

## Features

- Stroke Indicator
- Long Stroke
- Spring return piston
- Interchangeable adaptor kits
- Leak-free low friction seals
- Accurate
- Nitride hardening for increased tool life
- Optional second port
- Quality assured manufacture for long service life

## Benefits

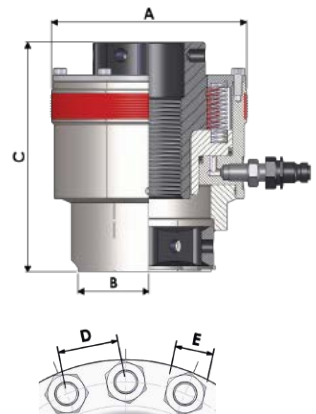
- Reduces maintenance down time
- Improves safety on the job by eliminating hammer tightening and pinch points
- Gives reliable and precise tensioning
- Is user friendly - fast to fit and remove
- Requires little physical effort
- Is ideal for confined spaces or difficult

## An ideal solution when

- Accurate and repeatable loading is required
- Rotational or torsional stresses are a problem
- Regular maintenance requires repeated adjustments or removal of nuts
- Confined and difficult nut locations
- Simultaneous tensioning of bolts is required. (e.g. Flanges)

## Specifications

Tool #	Size Imp	Size ISO	Kit # (P= TPI pitch)	Max Force kN	Total O.D. (A)	Min Pitch (D)	Relief (B)	Total Height (C)	Nut A.F. (E)	Nut A.C.	Nut Height.	Weight (kg)
B3S-L2	7/8"		SL2-014XP			59	26	122	36.5	22.5	22.5	
	1"		SL2-100XP			59	29	122	41.3	25.7	25.7	
		M24	SL2-M24X30	361.9	88	59	29	123.5	41	24.2	24.2	3.1
	1.1/8"		SL2-102XP			60	32	125	46	28.9	28.9	
		M27	SL2-M27X30			60	32	124.5	46	27.6	27.6	
B3S-L3		M30	SL3-M30X35			72	36	137.5	50	30.7	30.7	
	1.1/4"		SL3-104XP			73	36	140.5	50.8	31.8	31.8	
		M33	SL3-M33X35	547.4	105	73	36	142	55	33.7	33.7	5
	1.3/8"		SL3-106XP			76	39	143.5	55.6	35	35	
	M36	SL3-M36X40			76	39	144	60	36.6	36.6		



# Specifications (CONTINUED)

Tool #	Size Imp	Size ISO	Kit # (P= TPI pitch)	Max Force kN	Total O.D. (A)	Min Pitch (D)	Relief (B)	Total Height (C)	Nut A.F. (E)	Nut A.C.	Nut Height.	Weight (kg)
B3S-L4	1.1/4"		SL4-104XP			77	36	142	50.6	31.8	31.8	6.3
		M33	SL4-M33X35			77	36	146	55	33.7	33.7	
	1.3/8"		SL4-106XP	667.6	116	78	39	148.5	55.8	35	35	
		M36	SL4-M36X40			78	39	149	60	36.6	36.6	
B3S-L5	1.1/2"		SL4-108XP			80	42	150	60.3	38.2	38.2	9.2
		M39	SL4-M39X40			80	42	150	65	39.6	39.6	
	1.5/8"		SL5-108XP			89	42	161.5	60.3	38.2	38.2	
		M39	SL5-M39X40			89	42	165	65	39.6	39.6	
B3S-L6	1.5/8"		SL5-110XP	965.4	134	91	45	166.5	65.1	41.5	41.5	11.6
		M42	SL5-M42X45			91	45	167	70	42	42	
	1.3/4"		SL5-112XP			94	49	170.5	69.9	44.7	44.7	
		M45	SL5-M45X45			94	49	168	75	45	45	
B3S-L7	1.5/8"		SL6-110XP			99	45	166.5	65.1	41.5	41.5	14.5
		M42	SL6-M42X45			99	45	169	70	42	42	
	1.3/4"		SL6-112XP			101	49	170.5	69.9	44.7	44.7	
		M45	SL6-M45X45	1217	149	101	49	172	75	45	45	
B3S-L8	1.7/8"		SL6-114XP			102	51	173.5	74.6	47.9	47.9	20
		M48	SL6-M48X50			102	51	178	80	48	48	
	2"		SL6-200XP			105	54	176.5	79.4	51.1	51.1	
		M52	SL6-M52X50			105	54	178	85	52	52	
B3S-L9	1.7/8"		SL7-114XP			110	51	171.5	74.6	47.9	47.9	26.2
		M48	SL7-M48X50			110	51	170	80	48	48	
	2"		SL7-200XP	1498	162	112	54	174.5	79.4	51.1	51.1	
		M52	SL7-M52X50			112	54	177	85	52	52	
B3S-L10	2.1/4"		SL7-204XP			119	59	180.5	88.9	57.2	57.2	31.1
		M56	SL7-M56X55			119	59	180	90	56	56	
	2.1/4"		SL8-204XP			124	59	185	88.9	57.2	57.2	
		M56	SL8-M56X55			124	59	184	90	56	56	
B3S-L11	2.1/2"		SL8-208XP	1901	184	131	65	187	95	60	60	39
		M60	SL8-M60X55			131	65	187	95	60	60	
	2.1/2"		SL8-208XP			131	65	192	98.4	63.6	63.6	
		M64	SL8-M64X60			131	65	192	100	64	64	
B3S-L12	2.1/2"		SL9-208XP			136	65	193.5	98.4	63.6	63.6	55.9
		M64	SL9-M64X60			136	65	193	100	64	64	
	2.3/4"		SL9-212XP	2510	204	146	71	197.5	105	68	68	
		M68	SL9-M68X60			146	71	200.5	108	70.1	70.1	
B3S-L13	2.3/4"		SL9-212XP			146	71	200.5	108	70.1	70.1	31.1
		M72	SL9-M72X60			146	71	201.5	110	72	72	
	3"		SL10-212XP	2905	219	150	71	203	108	70.1	70.1	
		M72	SL10-M72X60			150	71	205	110	72	70.1	
B3S-L14	3"		SL10-300XP			157	77	212	117.5	76.5	72	39
		M76	SL10-M76X60			157	77	209	115	76	76.5	
	3"		SL11-300XP			161	77	209	117.5	76.5	76	
		M76	SL11-M76X60			161	77	209	115	76	76.5	
B3S-L15	3.1/4"		SL11-304XP	3 687	247	175	87	216	127	82.6	80	55.9
		M80	SL11-M80X60			163	77	213	120	80	76	
	3.1/2"		SL11-308XP			175	87	217	125	85	82.6	
		M85	SL11-M85X60			175	87	217	125	85	82.6	
B3S-L16	3.1/2"		SL11-M90X60			177	93	222	136.5	89.1	85	55.9
		M90	SL11-M90X60			177	93	223	135	90	89.1	
	3.3/4"		SL12-312XP			202	99	232.5	146.1	95.5	90	
		M95	SL12-M95X60			202	99	235	145	95	95.5	
B3S-L17	4"		SL12-400XP	4929	284	212	105	242.5	155.6	102	95	55.9
		M100	SL12-M100X60			212	105	240	150	100	102	
		M100	ML12-M100X60			212	105	215	150	173.21	100	



Stroke for all models is 15mm. Maximum force is generated at 150MPa. If the standard product does not fit within your space restrictions or load requirements custom designs are our speciality and are available upon request. These dimensions are a guide only. Technofast are continually working on product development and changes may occur at any time. Please contact Technofast for up to date information. The Ezijac is ordered as a complete tool, for example: B3S-L4-M36X40 is specified to suit M36 x 4. Adaptor kits are ordered separately, for example SL4-M36X40 is specified to suit M36 X 4. For Imperial Sizes, P = Thread Pitch in Threads Per Inch (TPI).

# 2-Stage X2 & Y2 Series EziJac

- Fast
- Simple
- Safe



Technofast's X2 & Y2 2-Stage EziJacs encompass a large range of slim bodied tensioners to enable bolt tensioning and maintenance on any application with restricted space.

The 2-Stage series of hydraulic bolt tensioners are a lightweight, user friendly range of tools which are quickly and easily fitted in restricted spaces. These Tensioners provide very high tensioning forces within a restricted footprint and provide accurate and versatile tensioning of bolts and studs whilst being fast, simple and safe to use.

## Features

- Stroke Indicator
- Long Stroke
- Spring return piston
- The slim fit design allows these Tensioners to operate in restricted space
- Leak-free low friction seals
- Nitride hardening of surfaces for increased tool life
- Optional side gear box for simple nut run-down

## An ideal solution when

- There are confined spaces or difficult locations
- When high loads are required
- Simultaneous tensioning of bolts is required. (e.g. Flanges)
- Accurate and repeatable loading is required
- Regular maintenance requires repeated adjustments or removal of nuts
- Rotational or torsional stresses during bolting are a problem



# FastaJac Plate Heat Exchanger Bolt Tensioners

- Unique cam lock design
- Tri nut locks into tool, even in upside down position
- Quick connect fittings
- No Pinch Points



Technofast's FastaJac saves on production, labour and maintenance costs for manufacturers and end users of plate heat exchangers. The use of a lightweight hollow cylinder jack in conjunction with the patented Tri-Nut allows the compression of plates and gaskets to be carried out evenly and efficiently in use. The hydraulic cylinders simultaneously compress the plates at a constant and even rate.

The Tri-Nut is designed to fit over the major diameter of the thread until it engages into its spherical seat. The mechanism is then activated by rotating the components counter wise. This action allows the internal segments to engage the bolt thread prior to commencement of the hydraulic tensioning operation. The removal of the tensioner from the job is also simplified as the Tri-Nut locks open, using the reverse action, and the assembly can be slid off the tension bar.

This facilitates speedy fitting and removal of the tools, eliminating the need for 'running down' the tensioner retaining nut over the full length of the thread.

## Features

- The Patented 'Tri Nut' allows the tensioner to be removed and installed on the exchanger quickly
- The hydraulic cylinders simultaneously compress the assembly so that compression of plates is carried out evenly and efficiently



Load Cell #	Max Pressure (Bar)	Max Force (kN)	Max Stroke	A	B	C	D	E	Load Cell Weight (kg)	Tri-Nut Size Imperial	Tri-Nut Size Metric	Tri-Nut #
FJ-C27-000	700	403.95	90	132.0	339.5	152.0	120.9	90.0	19.9	1"	M24	C27-I100X8-000
										1.1/8"		C27-I102X8-000
											M27	C27-M27X30-000
											M30	C39-I104X8-000
										1.1/4"		C39-I104X8-000
FJ0C39-000	700	461.5	100	132.0	357.0	157.0	120.0	90.0	20.58	1.3/8"	M33	C39-M33X35-000
												C39-I106X8-000
											M36	C39-M36X40-000
										1.1/2"		C39-I108X8-000
											M39	C39-M39X40-000
FJ-C46-000	700	600.7	100	140.0	401.0	192.0	124.5	100.0	21.1	1.5/8"	M42	C46-I110X8-000
												C46-M42X45-000
										1.3/4"		C46-I112X8-000
											M45	C46-M45X45-000
										1.7/8"		C52-I114X8-000
FJ-C52-000	700	639.2	100	154.0	422.5	214.0	140.0	106.0	28.90		M48	C52-M48X50-000
												C52-I200X8-000
											M52	C52-M52X50-000

# EziTite® Hydraulic Head Nut

- Safe
- Easy to operate
- Accurate mantle seating



Since the development of the gyratory crusher the quarrying industry has sought better means for effectively tightening mantle head nuts.

Technofast Industries have successfully developed the EziTite® Hydraulic HeadNut system to replace standard mantle head nuts. In addition to technical and performance criteria, major considerations of the design are aimed at protection of operators from strike or shrapnel injuries commonly occurring when hammering tight or removing the standard mantle head nut.

The EziTite® HeadNut features a hydraulic clamping nut with an integral sacrificial protective cover which can be constructed according to the abrasive nature of the material being crushed.

## Operation

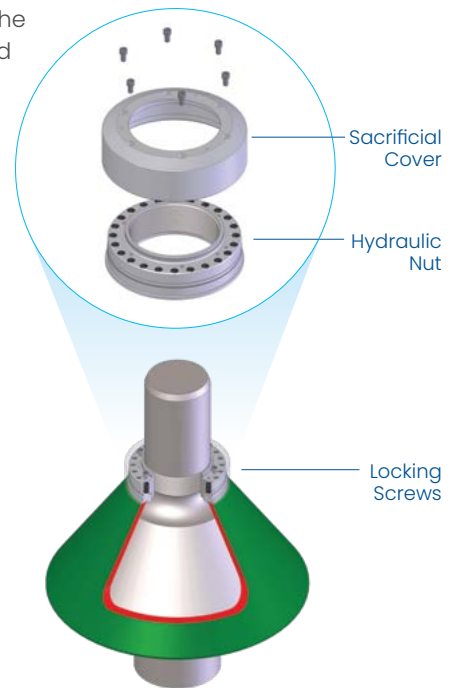
The EziTite® Hydraulic HeadNut assembly is screwed by hand onto the crusher shaft (replacing the original nut) until the base is tight against the working face of the mantle. Hydraulic pressure is then applied through the nipple fitting on top of the nut body into the sealed chamber, forcing the piston and the nut body apart, thus seating the mantle on to the machines taper.

When it is time to remove the EziTite® Hydraulic HeadNut the installation procedure is reversed and the nut is removed by hand eliminating the need for large hammers and flame cutting of the burn ring, thereby improving site safety.

## Features

Precise clamping forces are generated by hydraulic pressure acting on a constrained area within the assembly. The EziTite® HeadNut is fitted with mechanical locking screws to retain these tensile loads.

In the unlikely situation that there is a hydraulic malfunction, a simple patented sacrificial ring that is positioned between the lock ring and the piston can be used to release the load on the shaft.



Patent No:  
PCT/WO2006/037173

Australian and  
International Patents  
Granted and Pending





# LiftaJac

- Available in single acting or double acting configurations



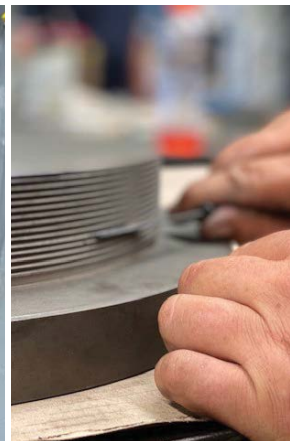
The Technofast LiftaJac typically utilises high hydraulic pressure to generate high forces for lifting large loads. Technofast lifting jacks come in various sizes and configurations. The compact design of the Technofast lifting jack yields optimal load while maintaining minimal size and weight. Whether it's a double acting, single acting, hollow or solid, short stroke or long stroke, Technofast can ensure that there will be a design that suits your application.

## Features

- Custom finishes available upon request
- High strength alloy steels to ensure safety and durability
- Eyebolts or handles available for easy manoeuvring of the tool
- Available in a wide range of sizes, load capacity, and stroke lengths

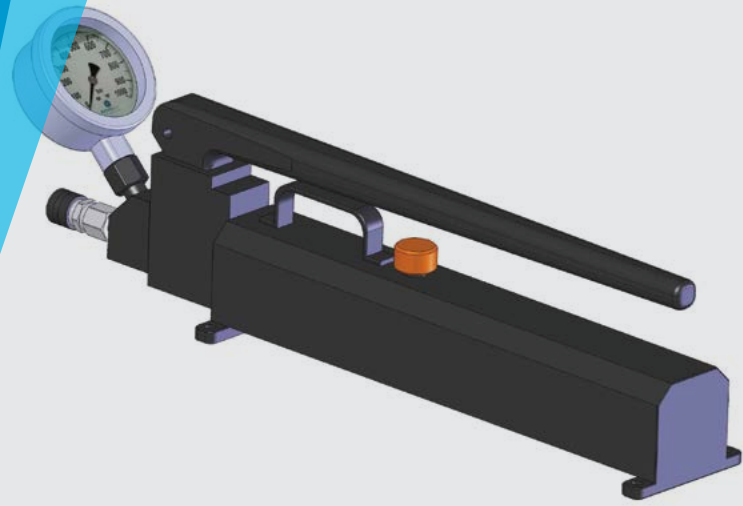


- 1. Top cap**  
Contact surface.
- 2. Eye bolts**  
to assist in lifting the tool to desired location. Removable/ side mounted for convenience.
- 3. Hydraulic nipple 2**  
(Double Acting models) Hydraulic pressure inlet to stroke down the lifting jack to its retracted position.
- 4. Pressure cylinder**  
Cylinder where hydraulic pressure is maintained
- 5. Hydraulic nipple 1**  
Hydraulic high pressure inlet.
- 6. Interlink ports**



# Lightweight Hand Pumps

- Double Stage
- Externally adjustable low & high pressure Relief valves
- Carry handle & fixing holes



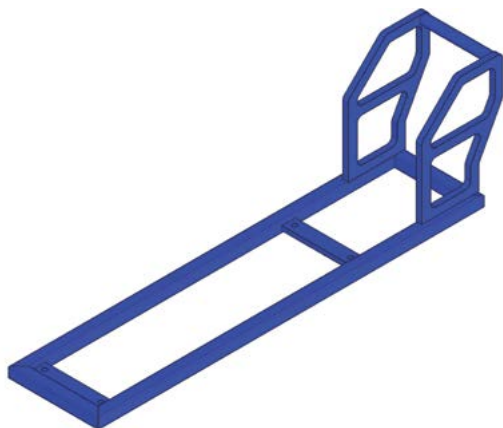
Technofast recommends the use of its pumps with hydraulic tensioning products. For simple applications, the lightweight Hand Pump is suggested. These products are made from light alloy metal that is normally used in the aviation field due to its durability and strength, and are half the weight of comparative steel-bodied pumps.

Another important feature is the low handle effort required to achieve the typically high hydraulic pressures needed for bolt tensioning operations.

Operator training is available and servicing of pumps supported by Technofast.

## Accessories

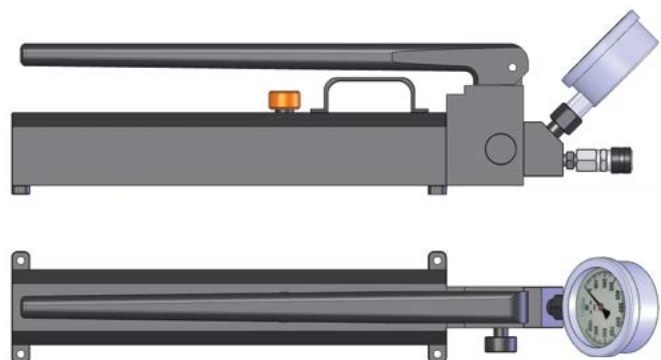
- Roll Cage
- Gauges and Gauge Adaptors
- Fittings
- Spare parts



## Specifications

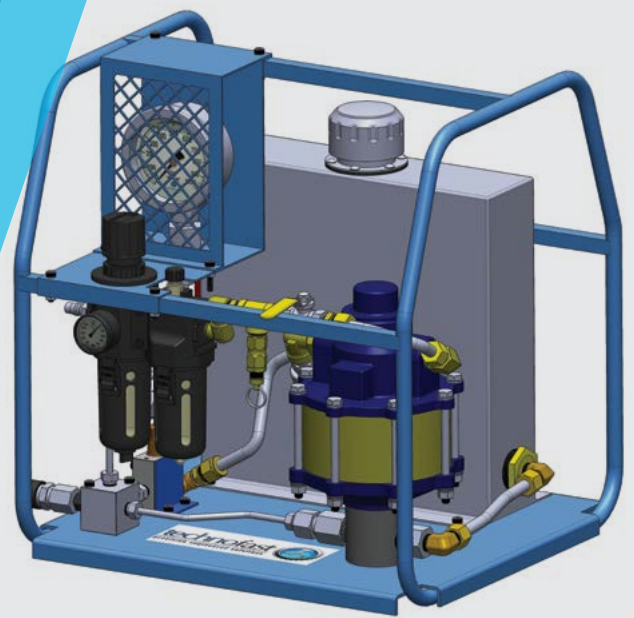
Model #	Pressure 1st Stage (Bar)	Pressure 2nd Stage (Bar)	Handle Effort (N)	Reservoir Capacity (l)	Usable oil Volume (l)	Dimensions (mm)			Weight (kg)
						A	B	C	
PU-SHP700C	-	700	363	1.3	1.1	-	-	123	5
PU-HP700C	-	700	363	2.3	1.9	-	-	123	6.4
PU-HP1800CJ	20	1800	522	2.2	1.8	695	266	125	10

Other models available by request.



# High Pressure Air Hydraulic Pumps

- Compact Technofast High Pressure Pump Range



Technofast's range of Air/Hydraulic Pumps are the lightweight but fully-featured compact models. These are recommended for most applications where hand pumps would be inefficient or simply too physically demanding.

## Features

- High Quality Pump Unit
- Robust build for Reliability
- Competitive pricing
- Stainless steel oil tank fitted on standard models
- Roll cage
- Safety pressure relief system
- Inline lubrication system

## Specifications

Model #	Working Pressure (Bar)	Low Pressure Flow 0-600 Bar (L/M)	Low Pressure Flow 0-2000 Bar (L/M)	High Pressure Flow 0-2500 Bar (L/M)	High Pressure Flow 2000-4000 Bar (L/M)	Pump Ratio	Reservoir Capacity (L)	Air Consumption (scfm)	Dimensions (mm)			Weight (kg)
									A	B	C	
PU-AH2000H-S	2000	0.3	-	0.15	-	440:1	4	28	410	350	260	17.6
PU-AH2000H	2000	0.3	-	0.15	-	440:1	8	28	464	493	425	31.6
PU-AH2500H	2500	0.6	-	0.3	-	460:1	8	56	464	493	425	31.6
PU-AH4000H	4000	-	0.3	-	0.15	740:1	8	56	464	493	425	31.6

Other models available by request. Operator training is available and servicing of pumps supported by Technofast



# High Pressure Air and Electric Hydraulic Pumps



Technofast offer a full range of hydraulic pumps to suit all tensioning and lifting jobs. All pumps sold by Technofast Industries are supplied fully assembled and tested ready for operation.

Technofast Industries also offers a design service for pumping systems. Requirements which restrict component materials or those for different site specifications can be considered for design and supply of suitable pumps.

## 2000 Bar Air Hydraulic Pump Unit c/w Stainless Steel Fittings and Stainless Steel Roll Cage; also 1 x Female Coupler & Gauge

Model #	Working Pressure (Bar)	Flow Rate (L/M)	Pump Ratio	Reservoir Capacity (L)	Air Consumption (scfm)	Dimensions (mm)			Weight (kg)
						L	W	H	
PU-AH2000M	2000	0.8 max	265:1	25L	28	380	370	650	44.5

Other models available by request.



## 240V Electric Pump (2000 bar) C/W Female Coupler, Gauge, Roll Cage and 5 metre Remote Pendant

Model #	Pressure 1st Stage (Bar)	Pressure 2nd Stage (Bar)	Flow Rate (L/M)	Reservoir Capacity (L)	Usable Oil Volume (L)	Dimensions (mm)			Weight (kg)
						L	W	H	
PU-EH2000SC	200	2000	0.1-2.0	7	6	405	325	505	26.6

Other models available by request.



## 240V Electric Single Phase Double Acting Pump (700 bar) c/w 2 Female Couplers, Gauge & Roll Cage

Ideal for Lifting Jacks and Technofast Industries FastaJac system.

Model #	Pressure 1st Stage (Bar)	Pressure 2nd Stage (Bar)	Flow Rate (L/M)	Reservoir Capacity (L)	Usable Oil Volume (L)	Dimensions (mm)			Weight (kg)
						L	W	H	
PU-EH0700HEC	100	700	0.45-2.5	10	7.7	440	555	595	

Other models available by request.



# Hose Setup Guide

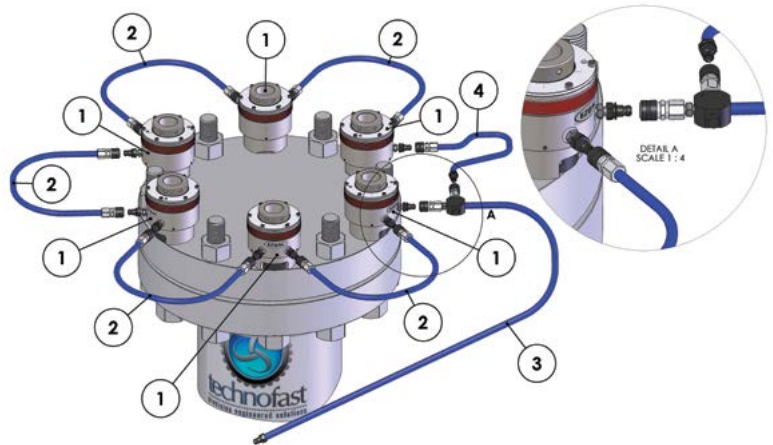
## Daisy Chain

The Daisy chain hose package is an affordable means of interconnecting multiple Tensioners, Hydraulic Nuts or Bolts. Operators should be aware that as return oil must pass through a number of Tensioners, this layout may have extended reset times for Spring Return tools.

### Daisy Chain Components

1. Bolt tensioner or Hydraulic nut/bolt (Supplied with an additional nipple)
2. Interconnect hose
3. T-Blocked hose. (Feed hose from pump)
4. Link hose. (Linking the loop)

**Note:** In smaller setups Item 3 can be changed with a link hose and item 4 can be removed

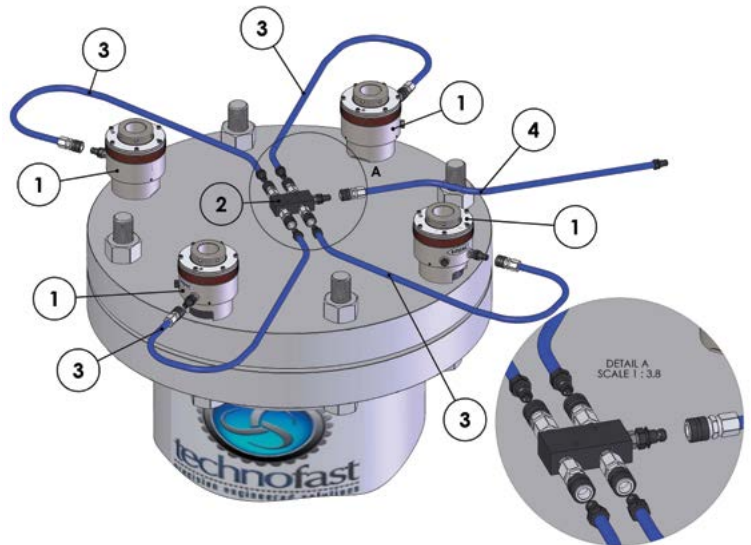


## Manifold

The manifold hose package is suited for multiple tensioning in groups of 4 to 8 or more tensioners. This set up is best used if there are grouped tools to tension.

### Manifold Components

1. Bolt tensioner or Hydraulic nut/bolt
2. 5 Way Manifold
3. Link hose
4. Link hose. (Feed hose from pump)

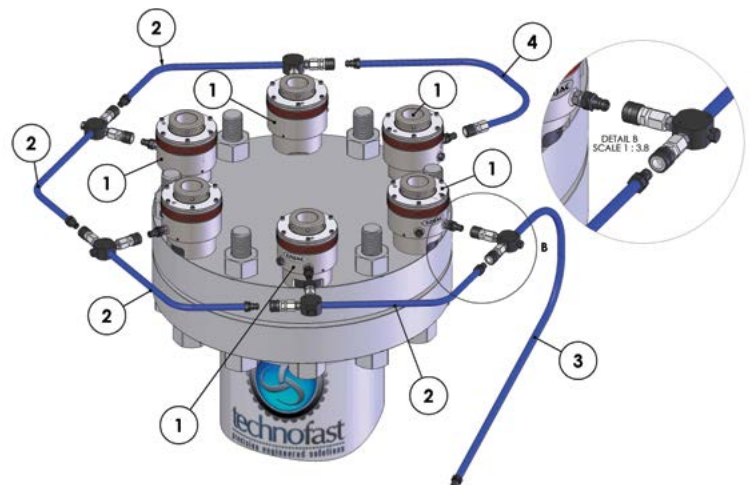


## T-Block

The T-Blocked hose package is suited for multiple tensioning in large groups. This set up is a 100% external hydraulic system allowing for quick tool return speeds and even flow of oil.

### T-Block Components

1. Bolt tensioner or Hydraulic nut/bolt.
2. T-blocked hose
3. T-blocked hose. (Feed hose from pump)
4. Link hose



# Pre-Assembled Hose Specifications

Technofast offer a full range of hydraulic hoses to suit all tensioning and lifting applications. All hoses sold by Technofast are supplied fully assembled and tested ready for operation.

## Link Hose - Hose comes complete with 2 CEJN male and female fitted



Part #	Max Working Pressure (Bar)	Min Burst Pressure (Bar)	(A) Hose length (m)	Min Bend Radius (mm)
PU-HG090L	1500	3000	0.9	130
PU-HG150L	1500	3000	1.5	130
PU-HG300L	1500	3000	3.0	130
PU-HG400L	1500	3000	4.0	130
PU-HG500L	1500	3000	5.0	130
PU-HG800L	1500	3000	8.0	130

Longer or higher pressure hoses are available upon request.

## Inter-connect Hose - Hose comes complete with 2 CEJN female couplers fitted



Part #	Max Working Pressure (Bar)	Min Burst Pressure (Bar)	(A) Hose Length (m)	Min Bend Radius (mm)
PU-HG090	1500	3000	0.9	130
PU-HG150	1500	3000	1.5	130
PU-HG300	1500	3000	3.0	130
PU-HG400	1500	3000	4.0	130
PU-HG500	1500	3000	5.0	130
PU-HG800	1500	3000	8.0	130

Longer or higher pressure hoses are available upon request.

## T-Blocked Hose - Hose comes complete with 3 CEJN male and female fitted



Part #	Max Working Pressure (Bar)	Min Burst Pressure (Bar)	(A) Hose Length (m)	Min Bend Radius (mm)
PU-HG090TB	1500	3000	0.9	130
PU-HG150TB	1500	3000	1.5	130
PU-HG300TB	1500	3000	3.0	130
PU-HG400TB	1500	3000	4.0	130
PU-HG500TB	1500	3000	5.0	130
PU-HG800TB	1500	3000	8.0	130

Longer or higher pressure hoses are available upon request.

# General Servicing

To ensure your equipment is maintained to the highest quality, Technofast Industries offers general servicing of all hydraulic bolt tensioning tooling. This includes hydraulic nuts, hydraulic bolt tensioners and various ancillary equipment that support these tools.

The range of applications and complexity of hydraulic bolt tensioners has increased markedly with the increased popularity of this type of tool. Many designs incorporate highly stressed components which have a finite usage cycle life, and care must be taken to observe correct operating procedures and also to perform a range of tests upon components to ensure that these are suitable for operation. All precautions for dealing with high pressure tooling should be strictly observed.

The main reasons for catastrophic component failure of hydraulic bolt tensioners are generally related to overuse or misuse. All highly stressed components will have a finite service life, and this will be considerably shortened by factors such as over pressurization of the tool, operation of the tool on uneven surfaces, insufficient engagement with stud protrusion and a range of other incorrect procedures. Other noted problems are physical damage to components, such as from hammer blows or grinding to make them fit tight applications. Technofast utilize a range of Inspection Procedures to identify apparent and latent faults.

During service all tooling is inspected after having being stripped completely undergoing comprehensive assessment by both Technofast's Production and Engineering teams. Comprehensive finding, testing and completed service reports are generated documenting the process, and provided for your records.

## Hose Pressure Testing and Certification

Flexible Hoses used for Hydraulic Bolt Tensioning operations are subjected to any number of situations which may impair their continued safe use. Hoses may sustain damage from having been stretched, twisted, crushed, cut or coiled inside their recommended minimum bend radius. Any such defect has the potential

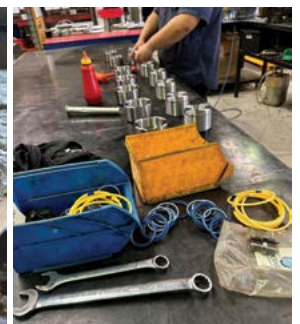
to cause leakage under pressure or catastrophic failure by bursting. Any such incident is extremely dangerous, often with life-threatening consequences. As part of acceptable workplace practice, pressure hoses and fittings should be regularly inspected and tested to relevant standards.

In accordance with procedures detailed in ISO 6605 and SAE J343 Standards, High Pressure Hydraulic Hose assemblies used in heavy duty hydraulic tensioning services and heavy industry worksites' require annual testing and recertification to meet standard performance criteria.

Technofast industries provides a complete Hose Testing, Certification and Identification service to ensure the safety and integrity of high pressure hoses. The sole purpose of governing regular preventative maintenance for hydraulic pressure hoses used within heavy industries ensures the integrity of the equipment, reducing risk to the user and improves overall site safety.

## Technofast Hose Service includes:

- Full visual inspection
- Thorough Clean and Oil Replacement
- Stringent Pressure Testing to above maximum working pressure
- Test Tag; installed and updated stating the next test due date
- Provision of a Technofast Serial Number; allowing the full working history of the Hose to be recorded for future reference
- An ongoing Maintenance Record retained by Technofast
- Failure Reports generated as required



# EziTite & EziJac Ancillary Items



## C-Spanners

Part #	Description
Walter 68/75	C-Spanner to Suit Dia. 68mm to 75mm
Walter 80/90	C-Spanner to Suit Dia. 80mm to 90mm
Walter 95/100	C-Spanner to Suit Dia. 95mm to 100mm
Walter 110/115	C-Spanner to Suit Dia. 110mm to 115mm
Walter 135/145	C-Spanner to Suit Dia. 135mm to 145mm
Walter 155/165	C-Spanner to Suit Dia. 155mm to 165mm
Walter 180/195	C-Spanner to Suit Dia. 180mm to 195mm
Walter 205/220	C-Spanner to Suit Dia. 205mm to 220mm

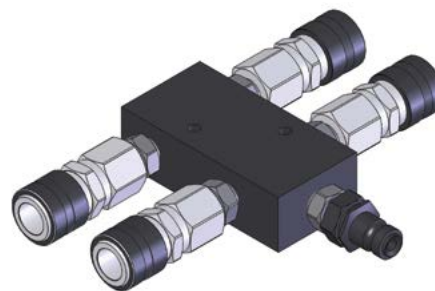


## Pin Spanners

Part #	Description
TB-06X150-000	Pin Spanner to suit Dia. 6mm hole
TB-08X160-000	Pin Spanner to suit Dia. 8mm hole
TB-10X170-000	Pin Spanner to suit Dia. 10mm hole
TB-12X170-000	Pin Spanner to suit Dia. 12mm hole
TB-14X170-000	Pin Spanner to suit Dia. 14mm hole

## Hydraulic Fittings

Part #	Description
HNCP001	Std 1/8" BSP Male 116 Series Nipple (10 116 6281)
HNCP002	Std Female 116 Series Snap Coupler (10 116 1202)
HNCP003	Male Nipple to 1/4" Female port
HNCP011	Nipple Extension Adaptor
HNCP012	1/8" BSP to M8 Cone Seat Nipple Extension
HNCP018	1/8" BSP Grub Screw
HNCP019	Adaptor M10x1.25 -1/4" BSP Nipple Adaptor
HNCP022	1/8" Blanking Plug
HNCP028	1/4" male TO 1/4" BSP Male Nipple Extension
HNCP029	Banjo Fitting 1/8" BSP with Dowty Seals
HNCP043	1/8" BSP Dowty Seal Plug Recessed
HNCP069	Modified HNCP001 Nipple 1.9 mm Shorter Stem
HNCP094	1/4" Blanking Plug to suit 4-Way Manifold
HNCP117	90 degree 116 Series Swivel Coupler
HNCP190	1/8" BSP to M6 Cone Seat Nipple Extension
HNCP212	T-Block (c/w 1 Male & 2 Female Fittings)
HNCP214	5 Way Manifold (c/w 1 Male & 4 Female Fittings)





# Ancillary Items

Technofast Industries are approved Distributors of both CEJN and SITEC Products within Australia, and recommend the use of these products for all high pressure connection of Bolt Tensioning tools and equipment.



## CEJN

CEJN, the quick connect specialist, has since 1955, expanded its product line from compressed air to include and cover all media such as breathing air, hydraulic oil, fluids and gases. Their design is based on small external dimensions and large internal ones. In other words, their couplings and nipples have high capacity while being robust and lightweight. In addition to their couplings and nipples, the CEJN product line includes accessory products, such as adaptors, fittings, hose, hose reels, air-preparation units, and blowguns.

CEJN provide the global market with high performance quick connect components and systems for hydraulics, pneumatics, fluids and gases. With a view of total customer satisfaction CEJN's development focuses on innovative solutions, leading to a superior product. The CEJN product range might be complemented with external products that meet our quality and performance demands.

Their strength lies in their intelligent technical solutions, together with quality and efficiency. Together with their customers, CEJN do not only develop what is in demand today, but also take unexpected inroads into future development.



## High-Pressure Technology

## SITEC

SITEC provides a wide range of precision engineered extreme pressure tubing and fittings internationally from the company's Switzerland factories.

These products are suited to applications requiring durable and reliable hydraulic connections between components. Typical uses are those for laboratories, process control mechanisms, and testing equipment. The high quality Stainless Steel construction enables SITEC products to be used in corrosion prone areas, and those where resistance to chemical attack is necessary.

Technofast Industries proudly represent SITEC in Australasia, and can offer a complete consulting service for the extensive range offered to ensure optimum performance and cost effectiveness for every application.

Please contact Technofast Industries for further information and technical specifications.

# Industrial Laser Marking Services

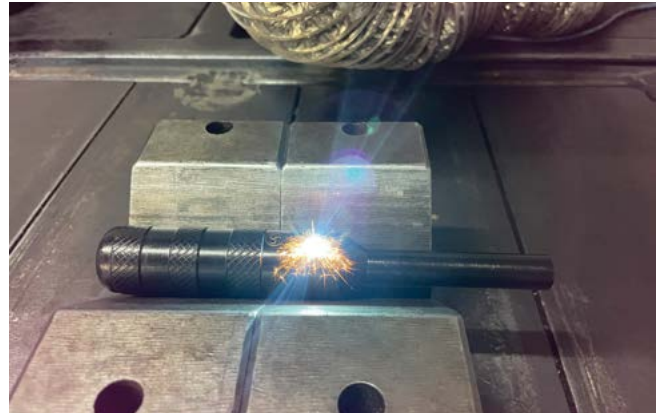
Technofast Industries offers a comprehensive laser marking service utilising the latest in laser technology. Services such as labelling and logo marking through to barcode and QR code marking are provided..

Technofast's computer operated laser is state of the art, guaranteeing precise markings without the use of additives such as chemicals or ink. Currently, Technofast supplies laser marking services to major electrical distribution and transportation companies within Australia.

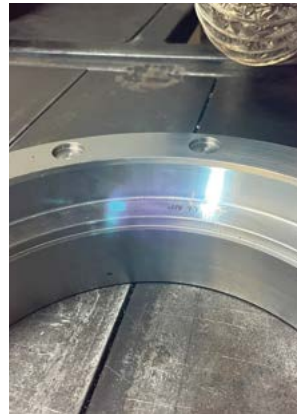
Laser marking can be tailored to meet particular requirements, for example it is ideal for the smallest of pieces through to larger tooling maintained on equipment/asset registers, and much more.

- 4th axis with rotation up to a 300.0 mm diameter and weight of 20.0kg
- Open room laser with no size limitations
- Technofast Industries' laser can mark
- 260.0 mm x 260.0 mm in a single pass. Larger marks can be made in multiple passes

For more information, contact [sales@technofast.com](mailto:sales@technofast.com) and a Technofast representative will be in contact with you to discuss your needs.



Technofast Industries' laser has a fourth axis rotation, as shown above.



## Technofast Industries Hire Fleet

Technofast Industries offers an exclusive range of tooling available for hire; for one off or continued service works.

- EziJac Hydraulic Bolt Tensioners
- Hydraulic Bolt Tensioning Equipment
- Pumps, Hoses & Fittings to suit
- On-site installation utilizing Technofast Products

A hire package can be tailored to meet particular requirements; including specialised tooling and varying hire periods.

For more information, contact [sales@technofast.com](mailto:sales@technofast.com) and a Technofast representative will be in contact with you to discuss your needs.



# Technofast Training

The introduction of new technologies and processes is implemented to achieve benefits such as improvements in safety, mechanical integrity and productivity. To get maximum optimisation, it is vitally important that those responsible for the implementation are fully trained and familiar with the operation and maintenance of such equipment and processes. Technofast therefore offers tailored training packages to ensure that end users are able to achieve maximum benefit from their investment.

Training can cater for small or large groups and can be structured in co-operation with the end user to incorporate specific procedures and relevant site requirements.

Training can be conducted in a venue to suit customers' needs, whether on-site, a nominated local venue or at Technofast Industries' facilities. More complex training which may include engineering demonstrations can be arranged and presented at Technofast Industries' Brisbane Head Office.

## Features

- Training ideally tailored for each site and particular application. Accounts for existing skill sets and knowledge
- On Site; prior to or during an Installation for hands-on experience
- Visual Presentation may be provided
- Comprehensive review of the operation of Technofast Products included
- Reference material supplied for all attendees

## Contact

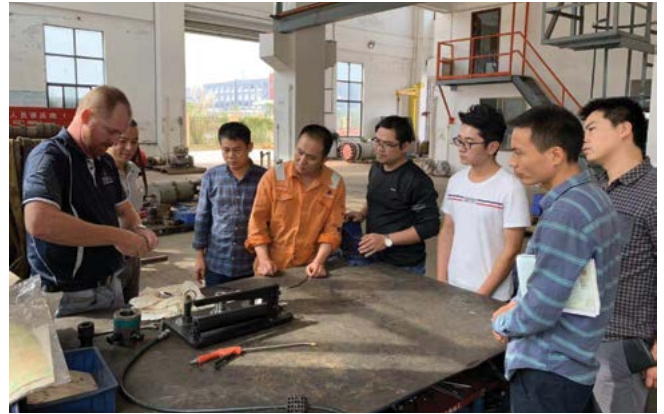
For further information regarding Training Packages, contact Technofast Industries (Head Office)

**Phone** 07 3803 6550

**Email** [sales@technofast.com](mailto:sales@technofast.com)

OR:

**Contact your local Technofast Products Distributor**



# General Machining & Design

Technofast Industries' factory is well equipped and skilled to manufacture precision engineered products, and has a long history of success with achieving exacting standards required by third party certifying organizations.

Technofast are able to offer specialised machining services to customers requiring a high level of attention to detail in design and manufacture.

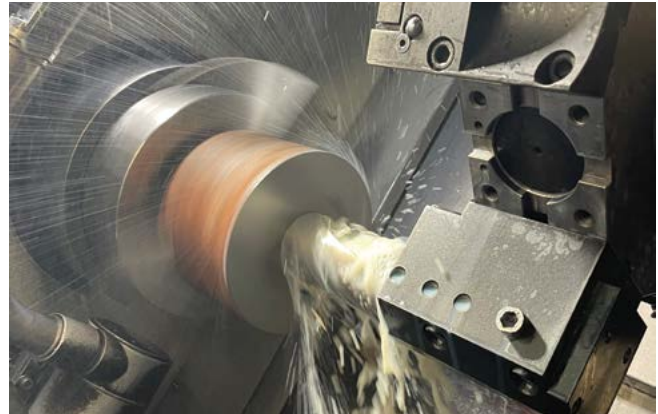
## Services

- CNC milling
- CNC turning
- Laser engraving
- Dot peen marking
- Load testing
- Cycle testing
- Design and Drafting

From custom nuts & bolts, to manufacturing small complex prototype parts, Technofast Industries has the capability to handle all kinds of general engineering work.

## Examples

- Nuts
- Bolts
- Washers
- High pressure fittings
- Couplings
- Shafts
- Spacers



# Technofast Services

Technofast Services, a division of the Technofast Group, is dedicated to assisting our customers with all on-site work relating to tensioning, leak sealing, hot tapping, flange facing and drilling.

A comprehensive range of bolt tensioning and machining equipment is available for hire for short term or extended periods. Skilled operators are available to perform on-site installations of Technofast Products as required. Experienced trainers are also available to assist with on-site training.

Technofast Services is 100% Australian Owned and Operated, and able to offer very competitive prices as well as prompt supply of custom designed solutions.

Technofast has operated from its Western Australian base since 1992, with major projects successfully undertaken with leading industrial clients both within Australia and throughout the Asian region. A comprehensive list is available on request.

## Services Offered

- On-site installation utilizing Technofast
- Products
- Bolt tensioning
- Flange Facing
- Torque Tensioning
- Subsea Bolting operations
- Leak Sealing
- Hot Tapping
- Drilling
- Bolt Load & Flange Stress Calculations
- Staff training for the safe operation of Hydraulic Tensioning Devices

## Hire Products

- Hydraulic Bolt Tensioners
- Hydraulic Torque Wrenches
- Pumps, Hoses & Fittings to suit
- Flange Facing Machines
- X-Y Milling Machines

**For a quote or further information, please contact:**

### Technofast Services

U3, 15 Savery Way Rockingham WA 6168

Phone +61 409 295 776

Email [saleswa@technofast.com](mailto:saleswa@technofast.com)



# Enquiry Form

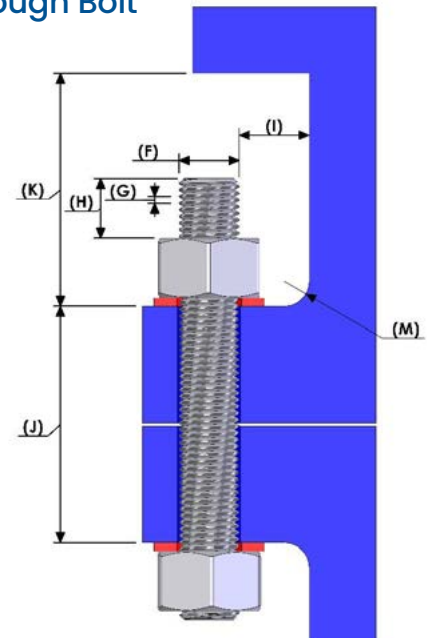
To ensure that any enquiry can be addressed promptly and accurately, Technofast's consultants require particular information to enable specification of appropriate products. To assist this process, please copy this page and complete the following data.

Completed By	
Company	
Date	
Bolt Material	
*Required Bold Load	
Torque or Force	

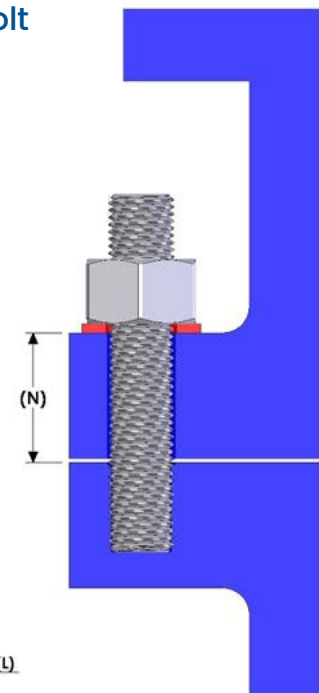
*A	Nut height	
*B	Nut across flats	
C	Nut across corners	
D	Washer Ø	
E	Washer thickness	
*F	Thread size	
*G	Thread pitch	
H	Min.	
H	Max.	
I		
J	Through bolt	
K		
L	Bolt centres	
M	Weld or radius details	
N	Blind bolt	

Comments

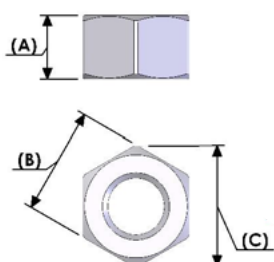
## Through Bolt



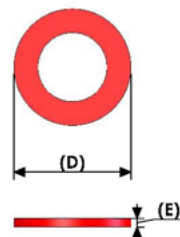
## Blind Bolt



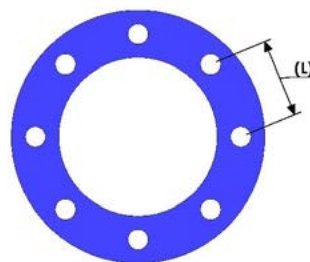
## Nut Details



## Washer Details



## Flange Details







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**Web** [www.technofast.com](http://www.technofast.com)