



# Innovative hydraulic bolting solutions offer optimum outcomes for motor and gearbox alignment

Used extensively across a wide range of industries, electric motors and drives can operate for significant periods of time with few reliability issues. However, if they are poorly mounted or misaligned, serious and often costly problems can occur very quickly.

Having the motors and drives poorly mounted or misaligned can cause problems such as bearing and seal breakdown, coupling failure and possible consequential damage to other components.

The problem often occurs when components are assembled or replaced in working environments where there is urgency to recommission the machinery.

Often drive motors and gearboxes are swapped out with replacements which may have some differences in mounting hardware, or originate from different manufacturers.

Technofast Founder and CEO John Bucknell explains that the correct alignment of the two components is always required when changing one or the other.

“Large machines are often aligned using laser equipment to ensure best outcomes. Normally, the procedure requires linear adjustment and shim packing for correct height alignment.”

After each alignment adjustment, the mounting bolts must be tightened and the alignment measured to assess the outcome. This may require a number of passes to get the required result and often takes many hours of labour and downtime.



Mr Bucknell says the use of Technofast's EziTite Hydraulic Nuts dramatically reduces installation times as mounting bolts do not have to be screwed down and fully tightened repeatedly with torque wrenches or other means.

When used in conjunction with the correct alignment tooling, EziTite Hydraulic Nuts and Bolts allow the operator to bring all corners of the component motor or gearbox down simultaneously for measurement of alignment.

Necessary linear adjustments or shim packing can be done by releasing the hydraulic pressure, making changes, then reapplying it to achieve the optimum result.

“When all is to spec, the EziTite's Lock Ring is simply nipped up tight, the pressure released and pressurizing equipment removed from the finished job. The whole process takes just minutes, not hours.”

Mr Bucknell said the EziTite Hydraulic Nuts and Bolts are ideal for simultaneously tensioning bolting arrays such as fasteners on a flange, joint or cover, often loading 100% of the fasteners at once.

“This gives an extremely accurate even load onto the bolted joint, ensuring a leak-free start-up.”

He says the use of EziTite Hydraulic Nuts and Bolts offer the user additional benefits including vastly improved safety, by removing flogging spanners and larger wrenches, along with greater accuracy and much reduced downtime on vital equipment.

“Plus of course there is minimal physical effort required to operate Technofast hydraulic bolting systems. Even in tight spaces, as long as you can connect the pressure hose, then you can tighten the bolt,” Mr Bucknell added.

EziTite Hydraulic Nuts and Bolts can be used to secure motors and drives found right across the world in a wide range of industries including mining, heavy engineering, manufacturing, oil and gas facilities and power generation.

Applications include conveyor drives, crushers, milling and rolling equipment, turbines, pumps, fans, blowers, vibrating screens and sieves, pipe flanges, reactor joints and covers, autoclaves and foundation bolts.



EziTite Hydraulic Nuts and Bolts will drastically minimise the time required to carry out critical bolting procedures and are extremely resistant to vibration and shock loads.

They can be specified and manufactured using high strength alloy or stainless steels to suit application requirements, with protective covers or optional surface treatments available.

The EziTite hydraulic bolts are precision engineered, high performance, hydraulically operated fasteners which incorporate mechanisms for tensioning. They can be quickly and easily fitted using standard pumping equipment such as Technofast's hand operated, electric hydraulic or air hydraulic pumps.

The EziTite hydraulic nuts can be rapidly applied by being installed on bolt studs then hydraulically actuated, stretching the bolt to the precise tension required and then locking it in place mechanically with a locking device.

The reverse procedure permits equally rapid disassembly when it is eventually required for maintenance, for example.

EziTite hydraulic nuts and bolts are ideal where:

- Accurate and reliable loading is required on bolting.
- Vibrational or torsional stresses are a problem.
- Regular maintenance requires repeated adjustment or removal of nuts.
- There are confined or difficult nut locations.

Standard range of the EziTite hydraulic bolt is 20mm (7/8") to 100mm (4") bolt diameter and features a unique lock-ring thread technology to ensure maximum retained load and a spherical seat ensures correct alignment to the joint face.

Available in a variety of seal designs for temperature/pressure requirements, the maximum pressure of EziTite hydraulic bolts is 100MPA, though custom designs may be higher.

All standard EziTite hydraulic bolts are fitted with a stroke indicator, quick connect fittings and CEJN type male snap fittings, 1/8" BSPP porting and bleed plugs.



The EziTite hydraulic nut is a precision engineered, high pressure, high performance, hydraulically operated bolt tensioning device that can be quickly and easily fitted and used with Technofast pumping equipment.

## About Technofast technologies

Technofast technologies such as EziTite nuts and bolts and complementary CamNut ranges are currently being taken up by some of the world's largest resources, energy and engineering companies –including BHP Billiton, Bechtel and Rio Tinto – with worldwide applications including Australasia, Asia and North America.

Recent relocation to the company's purpose built factory in the industrial precinct of Crestmead allows streamlining of manufacture and a significant increase in production to address increasing demand for these innovative fastener systems.

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