

EziTite[®] hydraulic bolts slash water turbine maintenance downtime



Technofast EziTite M125 hydraulic bolts being used as an alternative to heater rods previously employed in turbine maintenance programs.

Technofast hydraulic bolting technology is dramatically reducing maintenance times on water turbine shutdown programs around the world, while considerably reducing OH&S concerns at the same time.

The bolting technology – which is applicable to gas, steam, water and wind turbines widely used in energy, resources and industrial applications – is used in many areas of



the turbine, one of which is the critical joint connecting the blades to the main generator shaft.

The use of the EziTite[®] hydraulic bolts in a hydro power project in South Korea has removed the need for outdated heater rods which can be very time consuming to use and have inherent OH&S concerns.

Current case studies are demonstrating impressive savings in turbine downtime of over 75%, with one hydro power station reducing a major shutdown on a water turbine from 95-105 days to just 15 days.

Technofast Founder and CEO Mr John Bucknell says downtime savings of 75% are commonly achieved on a range of turbines used in industries throughout Australasia and the Asia-Pacific, including resources and energy applications, where there can be major cost penalties if electrical supplies go offline for extended periods.

“In the case of the hydro power project in South Korea, downtime has been cut by close to 80%.

“In fact, the system has been so successful and saved so much time and money that funds have been allocated to change over all other water turbines onsite to use EziTite[®] hydraulic fasteners over a three year period,” Mr Bucknell said.

The compact size of the M125 EziTite hydraulic bolts was a major advantage on the hydro power station application, where they enhanced safety by reducing the effort, hours and handling required while also increasing the precision of the job.

Mr Bucknell said such safety benefits are true in many applications.

“EziTite hydraulic nuts are ideal for tensioning all the studs on a flange, joint or cover simultaneously, loading 100% of the fasteners at once.

“This gives an extremely accurate even load onto the flange/joint, enhancing ongoing safety and reliability of the machinery in service,” he explained.



EziTite® hydraulic nuts and bolts are rapidly applied by being installed in place of the standard hex nuts and bolts and 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.

Typical applications include turbines and associated valves, which are used to generate electricity and in marine and locomotive propulsion.

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/bolts.
- There are confined or difficult locations.

EziTite® hydraulic bolts minimise the time required to carry out critical bolting procedures and can be specified and manufactured using alloy or stainless steels to suit application requirements.

Available in a wide range of standard sizes, from 20mm to 100mm bolt diameters, the EziTite hydraulic bolts feature a unique locking ring thread technology which ensures the maximum retained load, plus a spherical seat which gives alignment to the joint face.

A variety of seal designs for temperature/pressure requirements are also available.

Technofast technologies such as EziTite® Hydraulic Nuts and Bolts and the complementary CamNut range are employed worldwide in applications including Australasia, Europe, Asia and North America.

They are particularly valued in applications where avoidance of downtime and reduced maintenance time is critical, including nuclear, hydro, gas and coal electricity generation plants as well as mining and industrial applications.



Recent relocation to the company's purpose built factory in the industrial precinct of Crestmead, in the southern suburbs of Brisbane, has allowed the streamlining of the manufacturing process, and a significant increase in production to address increasing demand for these innovative fastener systems.

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