

## HYDRAULIC BOLT TENSIONING

### Turbine Cylinder Closure System

The Boltight 'Hydraulic Closure System' is a fast and reliable method for the temporary tightening of a turbine cylinder casing.

When inspecting casing geometries to establish correct gaps for optimum operational efficiency, the 'Hydraulic Closure System' provides accurate and repeatable bolt loading and uniform casing compression. It also reduces time and improves the final tightening of casings and steam valves.

The 'Hydraulic Closure System' is custom designed and comprises hydraulic nuts, a hydraulic hose arrangement and a hydraulic pump.

#### System operation

Designed to suit the specific turbine, the hydraulic nuts locate on the existing fasteners and are screwed down on to the casing. A closed loop hydraulic harness then connects all of the hydraulic nuts to a pump.

When pressurised, the system simultaneously tensions the bolts and exerts a uniform and accurate force on the turbine casing to close the cylinder flange faces. A quick, simple and accurate method of squeezing the turbine cylinder for rotor clearance, distortion and alignment checks. The system operates at ambient temperature and eliminates the need for bolt heating or torque tightening.

#### Benefits:

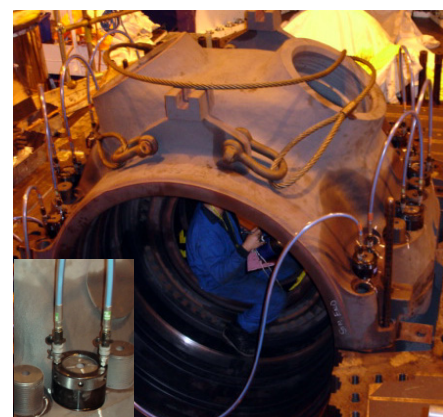
- ✓ Fast and reliable
- ✓ Accurate and repeatable
- ✓ Improves final casing assembly
- ✓ Saves time
- ✓ Uses existing bolts
- ✓ No torque or heating
- ✓ Suits all turbine geometries
- ✓ Improves valve assembly



*Typical Closure System Hydraulic Nuts*



*Typical Air Driven Pump and Hose*



*Closure System in use on an IP Inner Casing*



**BOLTIGHT<sup>®</sup>**  
HYDRAULIC BOLT TENSIONING

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