

SERIES: TCS Turbine Closure System



Quick bolt loading system for temporary closure of Turbine casings

SAFE AND RELIABLE

- CE marked
- Fast and reliable
- Uses existing bolts
- No torque or heating
- Special design to suit casing geometry
- Full colour operating and safety manual
- Long life performance

LATEST TECHNOLOGY

- Latest seal technology
- Ergonomic design
- Colour coded nut ID
- Integrated system with TensionPro pumps and hoses

PROCESS IMPROVEMENT

SAVE TIME ON CRITICAL PATH

Suitable for:

Rotor clearance checks
Casing distortion checks
Alignment checks

The **TCS Turbine Closure System** is a method for the temporary tightening of a turbine cylinder casing without requiring the use of bolt heating or dangerous manual methods to tighten the bolts.

The TCS offers quick and fast, temporary loading of the casing bolts using a special design of hydraulic nut. The hydraulic nuts give hands free loading of the bolts and as no heat is involved allow for immediate inspection and measurement without any time period to allow for a casing to cool down.

When inspecting casing geometries to establish correct gaps for optimum operational efficiency, the TCS Turbine Closure System provides accurate and repeatable bolt loading and uniform casing compression. The hydraulic nut loads are typically designed to give 0.1% bolt strain that will be sufficient to bring the casing flange to cover and remove distortion.

The system can also reduce time and improve the final tightening of casings and steam valves when used in conjunction with the normal bolt tightening method.

The TCS is custom designed to suit the specific turbine, the hydraulic nuts locate on the existing fasteners and are screwed down on to the casing. A hydraulic harness then connects all of the hydraulic nuts to a pump.

When pressurised, the system provides uniform bolt loads that impart an accurate force to close the turbine 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.