



As part of plant optimization offering, Ansaldo Energia can offer the OTC Compact Flange solution to eliminate the need to perform a Non Destructive Test inspection at every planned short outage (every 6000 or 7000 EOH).

Once-through coolers (OTC) are heat exchangers that use the heat energy of compressed air to produce steam from feed water. The steam outlet piping of HP OTCs (and in certain cases LP OTCs) is composed of stainless and ferritic materials joined by means of a mixed weld seam (MWS). Demanding steam parameters, steep transient conditions during certain operations modes (i.e. start-up), as well as inherent residual stress of such welded material transitions contribute to a stress situation in the mixed weld seam. This occurs between the Inconel 625 and buttered P91 pipe, which can eventually lead to cracking and consequential risk of steam leaks.

Metallurgical investigations and root cause analysis revealed that the welded solutions may not always be consistent with the operational needs of long inspection intervals in combined cycle power plant applications. Current industry norms applicable to flanges also do not cover such specific and demanding boundary conditions.

How You Benefit

The OTC compact flange is suitable for all GT26 units and eliminates the need to perform a Non Destructive Test (NDT) inspection at every planned short outage (every 6000 or 7000 EOH). The potential for steam leaks is reduced, offering additional plant safety.

CUSTOMER BENEFITS

- Improve safety on site
- Increase availability by avoiding NDT inspection of the mixed weld seam every 6000/7000 EOH

TECHNICAL FEATURES

- Compact flange able to withstand high steam pressure and temperature provided



Technical Description

Ansaldo's advanced flange solution with double sealing using an integrated Inconel sealing ring has been successfully validated under commercial operation. To ensure the highest quality and reliability, and to minimize on site implementation time, the flange is delivered completely assembled and hydro tested. Inspection intervals of the Advanced Flange are subsequently aligned with the recommended GT combustion inspections.

Technical characteristics:

Total length: 1300 mm

Total weight: 95 kg

Bolts: tensioned not torqued

Sealing: metallic + Inco625 seal ring

Inspections: Intervals aligned with GT C Inspections

Lifetime: replacement after 100,000 OHs and/or 5200 cycles



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