Proceq Flaw Detector 100

Detecting defects in small bore welds of thermal power plants

Defects are common in the welds of small diameter pipes used in thermal power plants due to the restricted welding access and existing codes and procedures require full inspection of the weld volume and Heat Affected Zone (HAZ) after welding. These inspections can be carried out using radiography, but this requires total shutdown of plant activities while this is taking place, or an ultrasonic inspection using the Proceq Flaw Detector 100. Unlike radiographic testing, the ultrasonic scans can take place in close proximity to the welding work in progress - and the inspection results are available immediately. In a Heat Recovery Steam Generator (HRSG) any defective pipes are traditionally cut and plugged. Plugging the tubes reduces the heating surface and therefore reduces the heat transfer efficiency of the plant and increases operating costs.

As customers have discovered, the Proceq Flaw Detector 100 is the most cost-effective product available to perform these inspections to code requirements. Using the product with only the 16:16 phased array option activated, a 16-element phased array probe is used to create a sector scan. The in-built ray tracing visualizes where the multiple phased array beams will go into the component, to ensure the inspection of the entire weld and HAZ. Due to access restrictions, a low profile manual scanner is required to position the phased array probe around the full circumference of the pipe. The Proceq Flaw Detector 100 is compatible with all the major scanners, including the Olympus Cobra, GE PALM, SIUI LPS-01 and Phoenix WrapIt.

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