Boiler Tube Wall Temperature Measurement using a BTB

Product Application

The Patented Boiler Tube Block (BTB) thermocouple is a specialized temperature sensor designed for use inside steam generation process equipment. The main purpose of the BTB Thermocouples is to accurately measure the boiler tube wall temperature.

Boiler tube temperature monitoring is very important to the efficient operation of a production facility for a number of reasons. The boiler tube temperature is a very good indication of what is going on inside and outside the boiler tubes themselves. The outside temperature of the tube is elevated due to the ambient air and flame impingement. This reducing atmosphere can cause a coke build up on the outside of the tubes. The inside surface of the boiler tube is affected by the product inside the tube and the accumulation of deposits or scale build up on the inner wall of the tubes. It is important to accurately monitor both the inner and outer tube temperatures – the wall, not the outer surface or the inner surface but the inside wall of the tube to effectively monitor for changes in tube wall temperatures. Higher tube wall temperatures may mean that there is a scale or coke buildup thus reducing the efficiency of the plant. Any reduction in plant throughput translates into reduced revenue for the company. Improperly installed or inaccurate temperature sensors will result in a premature interpretation of scale buildup and thus premature reduction in plant throughput. Eventually, if the tube wall integrity has been compromised an unplanned shutdown or turnaround will be necessary.

Typical Applications:

- Once Through Steam Generators (OTSG)
- Heat Recovery Steam Generators (HRSG)
- Industrial Boilers & Furnaces
- Heat Exchangers
- Fired Process Equip-

The Aircom BTB is very easy to install with minimal welding and minimal room for install error. The shroud or hood will protect the sensor from flame impingement thus delivering the most accurate measurement of the inner tube wall. The Aircom BTB utilizes an exposed junction thermocouple that is directly fused to the tube skin. This direct mounting of the thermocouple junction ensures that the thermocouple junction does not lift off of the tube (creating massive error potential) as seen with other tube skin temperature sensors. For more information on the BTB application please contact us directly.

Industries Served:

- Enhanced Oil Recovery
- Petrochemical Refining
- Natural Gas Processing
- Power Generation

Pulp and Paper Processing

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