AMETEK®
SENSORS, TEST & CALIBRATION

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Ensure Offshore Cooling Systems Remain Efficient with JOFRA Temperature Calibrators

Allerød, Denmark – The cooling system is one of the most critical systems found on many maritime vessels, with the freshwater cooling approach being the most common. Important machinery, including the main engine and auxiliary engines, are kept cool by the high temperature (HT) circuit of the freshwater cooling system. The low temperature (LT) circuit provides the water used to support other machinery, including compressors and air conditioning systems. The HT outlet temperature is typically between 75 and 85 C, and the LT section operates at a much cooler 37 C. A pressure controller manages a three-way valve, which allows the two systems to interact. In addition to lowering temperatures, the heat provided by these systems is reused for other purposes.

While cooling systems consist of many pipes, valves, exchangers, pumps, and tanks, the entire system relies on accurate temperature readings from the temperature sensors or transducers. As the HT circuit temperature rises due to the heat of the engines, the temperature sensors send a signal to the controller, which is working off a set point. Once the temperature surpasses the setpoint, the controller opens a three-way valve that allows the LT water to mix, cooling the HT circuit water. Once the temperature is below the setpoint, the valve closes back up. Temperature sensors and a controller in the LT circuit provide a similar function to divert heated water to the coolers.

As temperature sensors control the whole process, assuring that they remain accurate is an important task that must have priority. Operators have different choices to test and calibrate these sensors, but they should examine important considerations as recalibrations to offshore equipment are costly.

JOFRA has a solution in their Marine Temperature Calibrator (MTC) Series of dry-block temperature calibrators, which covers both the LT and HT temperature ranges, and much more. The MTC offers a temperature range of 28 to 650°C (82 to 1202°F), Stability to ± 0.1°C (± 0.18°F), One-year Accuracy of ± 0.9°C (± 1.62°F) and Three-year Accuracy of ± 1.8°C (± 3.24°F) for the total temperature range. MVI circuitry ensures stability despite mains supply variations.

The MTC also features an intuitive, easy-to-use interface, and popular functions like automatic switch test and auto stepping are available with special one-key-one-function buttons. Colored safety icons make it quick and easy to detect a hot or cold calibrator, reducing injuries. A stability icon and time estimator help users track the current status of the calibration.

The MTC Series calibrators are rugged, lightweight temperature calibrators designed for on-board. The optional carrying case provides improved portability and safety when moving the calibrator from one destination to another. It stores and protects the MTC calibrator, inserts, support rods, wires, manual, plugs, and insert tools altogether.

Because scheduling onshore calibrations can be very time consuming and expensive, the JOFRA MTC features a factory recommended three-year calibration cycle. Only needing to calibrate the reference standard every three years reduces calibration costs and downtime by 66% compared to traditional references, which require annual calibration.

About AMETEK STC and JOFRA

AMETEK STC manufactures and supplies calibration instruments for temperature, pressure, and process signals under the brands JOFRA and Crystal. JOFRA temperature calibrators are known worldwide for their accuracy, stability, and reliability. For more information visit **www.ametekcalibration.com**

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