

## Accurate Verification of Short Temperature Probes

### ► The Challenge

An American manufacturer of animal health care products needed to verify probes in ultra-low temperature freezers. They had a selection of different temperature calibrators available for this and for other applications that required temperature calibration and verification.

However, the manufacturer had problems verifying short probes, 6 to 8 cm (2.5 to 3 inch) in the 0 to 90°C (32 to 200°F) range. The temperature indicated on the temperature calibrator did not match the probes.

### ► The Solution

The manufacturer started using the JOFRA RTC-156B temperature calibrator, featuring a dual-zone heating feature. This feature allows them to calibrate short sensors that cannot be fully immersed into the calibration zone. By using the RTC-156B calibrator together with the sanitary sensor calibration kit containing the JOFRA short reference sensor STS102A, the manufacturer could now perform calibration of short sensors.



We demonstrated the RTC-156B and explained the dual-zone heating feature of the unit. By using the dual-zone heating feature in combination with the short reference sensor, the manufacturer obtained the high accuracy that they desired even when calibrating difficult short sensors.

The manufacturer could insert the STS102A probe at the same depth as the tip of the device under test and get an exact reading of the two probes. Having them at the same depth eliminated the temperature error that they were seeing using their old method.

### ► The Benefit

After testing and trying out the JOFRA solution, the difference between the original verification and the calibration with the RTC-156B was a deviation of 3°C (5°F) at 54°C (130°F). So when the original device said it was 54°C (130°F) it was actually 51°C (125°F). The JOFRA solution eliminated this error.