

Technical Specification for a Calibration 9103/9140 Field Dry-Well

Equipment Requirements:

Accuracy to ± 0.25 °C

RS-232 and Interface-it software included

9140

The 9140 must have temperature range of 35 °C to 350 °C, and it reach its maximum temperature in 12 minutes.

The unit must have a stability of ± 0.05 °C or better and a uniformity of at least 0.4 °C in the largest-diameter wells and 0.1 °C in the smaller wells.

9103

The 9103 must below-ambient temperatures as low as -25 °C, stable to ± 0.02 °C, and its display calibrated to an accuracy of ± 0.25 °C at all temperatures within its range.

The 9103 must reach temperatures 50 °C below ambient, so -25 °C is reached under normal ambient conditions.

Specifications	9103	9140
Range	-25°C to 140°C (-13°F to 284°F) at 23°C ambient	35°C to 350°C (95°F to 662°F)
Accuracy	$\pm 0.25^{\circ}\text{C}$ (holes greater than $1/4"$ [6.35mm]): $\pm 1^{\circ}\text{C}$)	$\pm 0.5^{\circ}\text{C}$ (holes greater than $1/4"$ [6.35mm]): $\pm 1^{\circ}\text{C}$)
Stability	$\pm 0.02^{\circ}\text{C}$ at -25°C $\pm 0.04^{\circ}\text{C}$ at 140°C	$\pm 0.03^{\circ}\text{C}$ at 50°C $\pm 0.05^{\circ}\text{C}$ at 350°C
Well-to-well uniformity	$\pm 0.1^{\circ}\text{C}$ between similarly sized wells	$\pm 0.1^{\circ}\text{C}$ with similarly sized wells
Heating times	18 minutes from ambient to 140°C	12 minutes from ambient to 350°C

Cooling times	20 minutes from ambient to -25°C	15 minutes from 350°C to 100°C
Stabilization time	7 minutes	7 minutes
Immersion depth	124 mm (4.875 in)	124 mm (4.875 in)
Inserts	Insert A, B, C, or D included (specify when ordering)	
Outside insert dimensions	31.8 mm dia. x 124 mm (1.25 x 4.88 in)	
Computer interface	RS-232 included with free Interface-it software (Model 9930)	
Power	115 V AC ($\pm 10\%$), 1.3 A or 230 V AC ($\pm 10\%$), 0.7 A, switchable, 50/60 Hz, 150 W	115 V AC ($\pm 10\%$), 4.4 A or 230 V AC ($\pm 10\%$), 2.2 A, switchable, 50/60 Hz, 500 W
Size (W x H x D)	143 x 261 x 245 mm (5.63 x 10.25 x 9.63 in)	152 x 86 x 197 mm (6 x 3.375 x 7.75 in)
Weight	5.7 kg (12 lb)	2.7 kg (6 lb)
NIST-traceable certificate	Data at -25°C , 0°C , 25°C , 50°C , 75°C , 100°C , and 140°	Data at 50°C , 100°C , 150°C , 200°C , 250°C , 300°C , and 350°C