

Thermodynamics

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Dew Point	(-90 to 10) °C dp	0.25 °C dp	Thunder Scientific 3900
Temperature – Measuring Equipment Triple Point Cell	0.010 °C	0.00012 °C	Fluke (Hart) 5901A-G
Temperature <sup>3</sup> – Measure	(0 to 100) °C  (0 to 250) °C (250 to 1000) °C (1000 to 1400) °C (1400 to 1450) °C  (-200 to 660) °C	0.01 °C  0.74 °C 0.76 °C 3.7 °C 4.1 °C  0.016 °C	Hart Black Stack w/ thermistor  Hart Scientific 5650 Type “S” thermocouple w/ Fluke 525A  Rosemount 162CE PRT w/ Hart Scientific 1575 super thermometer
Humidity	(10 to 95) % RH	0.75 % RH	Thunder Scientific 1200 Thunder Scientific 2500
Temperature – Measuring Equipment Dry Blocks	(-40 to 140) °C  (35 to 99) °C (100 to 299) °C (300 to 600) °C  (600 to 1200) °C	0.056 °C  0.075 °C 0.15 °C 0.46 °C  2.7 °C	Hart Scientific 9107 monitored w/ Rosemount 162CE PRT & Hart Scientific 1575  Hart Scientific 9122, monitored w/ Rosemount 162CE PRT & Hart Scientific 1575  Hart Scientific 9150, monitored w/ Hart Scientific 5650 Type “S” TC & Fluke 525A <sup>8</sup>
Temperature IR – Measuring Equipment Black Body	(-15 °C to 120) °C  (35 to 200) °C (> 200 to 350) °C (> 350 to 500) °C	1.0 °C  1.0 °C 2.0 °C 3.0 °C	Hart Scientific 4180 IR target  Hart Scientific 4181 IR target

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Temperature – Measuring Equipment Calibration Bath	(-40 to 102) °C	0.016 °C	Hart Scientific 7040 (oil) monitored Rosemount 162CE PRT & Hart Scientific 1575
	(0.0 to 100) °C	0.01 °C	Hart Scientific 7040 (oil) monitored w/ Hart Blackstack & thermistor
	(100 to 180) °C	0.017 °C	Hart Scientific 6045 (oil) monitored Rosemount 162CE PRT & Hart Scientific 1575
	(170 to 500) °C	0.023 °C	Hart Scientific 6050 (salt) monitored w/ Rosemount 162CE PRT & Hart 1575