

Portable Infrared Calibrators



Features

- Certify IR pyrometers from $-30\text{ }^{\circ}\text{C}$ to $500\text{ }^{\circ}\text{C}$ ($-22\text{ }^{\circ}\text{F}$ to $932\text{ }^{\circ}\text{F}$)
- Large 57 mm (2.25 in) blackbody target
- RTD reference well for high precision
- Small, compact design

Whether you're using in-line or handheld infrared pyrometers, you need good calibration standards to verify their accuracy. Hart Scientific's portable IR calibrators provide stable blackbody targets for calibrating noncontact IR thermometers from -30°C to 500°C .

These portable and accurate units feature a large, temperature controlled blackbody target with a diameter of 2.25" (57 mm), which offers a large field of view area for optical variations in infrared thermometers. The emissivity of the isothermal target is set at 0.95 ($\pm 0.02\%$), and the target temperature can be controlled in set-point increments of 0.1° from -30°C to 500°C .

For even higher precision, a well is located directly behind the blackbody surface for contact calibration of the blackbody.

Hart Scientific's portable IR calibrators are as easy to use as "point and shoot." Simply set the desired blackbody temperature from the convenient front panel control buttons, wait a few minutes for equilibrium, and point the gun at the target. The radiated energy from the blackbody is measured by your IR thermometer. Simply compare its reading to the display on the blackbody and record the difference.

Model 9132

For IR calibrations above normal ambient, the Hart Scientific Model 9132 provides a stable blackbody target up to 500°C (932°F). With accuracy to $\pm 0.5^\circ\text{C}$ and stability to $\pm 0.1^\circ\text{C}$, this portable IR unit can certify most handheld pyrometers.

Short heating and cooling times mean you won't have to wait long to get your work done. From room temperature to 500°C the Hart Scientific Model 9132 will be stable within 30 minutes. You won't find a more compact IR calibrator.

Model 9133

If you're calibrating IR guns at cold temperatures, you'll love the Hart Scientific Model 9133. With solid-state cooling technology, this new IR calibrator reaches -30°C (22°F) in normal ambient conditions. With a conveniently located dry gas fitting on the front bezel, ice build up on the target can be avoided. At the upper end of its range, the Model 9133 provides stable temperatures to 160°C (320°F).



With heating and cooling times of about 15 minutes from ambient to either extreme, the Hart Scientific Model 9133 gets you to temperature quickly and performs when it gets there. Compare your IR devices to the temperature display which is factory calibrated to be within $\pm 0.4^\circ\text{C}$ ($\pm 0.7^\circ\text{F}$).

No other IR calibrators give you this level of precision in such compact packages. Whatever your temperature application, trust a Hart Scientific portable infrared calibrator to solve it.

Ordering Information

9132	Portable IR Calibrator, 500 °C
9308	Rugged Carrying Case, 9132
9133	Portable IR Calibrator, -30°C
9302	Rugged Carrying Case, 9133



Specifications	9133	9132
Temperature Range	-30 °C to 150 °C at 23 °C ambient (-22 °F to 302 °F at 73 °F ambient)	50 °C to 500 °C (122°F to 932°F)
Accuracy	±0.4 °C (±0.72 °F)	±0.5 °C at 100 °C (±0.9°F at 212°F) ±0.8 °C at 500 °C (±1.4 °F at 932 °F)
Stability	±0.1 °C (±0.18 °F)	±0.1°C at 100°C (±0.18°F at 212°F) ±0.3°C at 500°C (±0.54°F at 932°F)
Target Size	57 mm (2.25 in)	
Target Emissivity	0.95 (±0.02 from 8 to 14 μm)	
Resolution	0.1 °	
Heating Time	15 minutes (25 °C to 150 °C)	30 minutes (50 °C to 500 °C)
Cooling Time	15 minutes (25 °C to -20 °C)	30 minutes (500 °C to 100 °C)
Computer Interface	RS-232 I/O included with 9930 Interface- <i>it</i> software	
Power	115 VAC (±10 %), 1.5 A, or 230 VAC (±10 %), 1.0 A, switchable, 50/60 Hz, 200 W	115 VAC (±10 %), 3 A or 230 VAC (±10 %), 1.5 A, switchable, 50/60 Hz, 340 W
Size (HxWxD)	152 x 286 x 267 mm (6 x 11.25 x 10.5 in)	102 x 152 x 178 mm (4 x 6 x 7 in)
Weight	4.6 kg (10 lb)	1.8 kg (4 lb)
NIST-Traceable Contact Calibration	Data at -30°C, 0°C, 25°C, 75°C, 100°C, 125°C, and 150°C	Data at 50°C, 100°C, 200°C, 250°C, 300°C, 400°C, and 500°C

