

INDUSTRIAL DUAL-BLOCK CALIBRATOR



Industrial Dual-Block Calibrator

Model 9009

- Temperatures from -15°C to 350°C in one unit
- Two wells in each block for simultaneous comparison calibrations
- Rugged, lightweight, watertight enclosure

You've been asking for it and now we're making it for you. Hart's 9009 Industrial Dual-Block Calibrator lets you calibrate at hot and cold temperatures at the same time. Double your productivity or cut your calibration time in half—either way you look at it, your in-field temperature calibrations just got easier.

The 9009 includes two independently controlled temperature blocks. The hot block provides temperatures from 50°C to 350°C , while the cold block covers the range -15°C to 110°C . Each block is controlled by a precision Hart Scientific temperature controller. These aren't some off-the-shelf controllers we glued into a box. These are Hart Scientific controllers from the leading temperature company in the world.

Each temperature block includes two wells with removable inserts. You can calibrate four probes at once, or you can calibrate two probes at the same time with an

external reference (like Hart's 1521 LLK Thermometer on page 37), or you can use the two temperature wells to get quick "zero" and "span" references for transmitter calibrations.

Need portability and durability? The 9009 is housed in a tough Pelican™ case that is both airtight and watertight. It's a small package weighing only 10 pounds, yet it fits everything you need, including a power cord and four extra inserts. Inserts are available to accommodate sensors of any size from $1/16"$ (1.6 mm) to $7/16"$ (11.1 mm). This rugged system can go anywhere.

Of course, the 9009 also delivers the performance you expect from a Hart Scientific temperature source. The cold block is calibrated to within $\pm 0.2^{\circ}\text{C}$ with stability of $\pm 0.05^{\circ}\text{C}$. The hot block's display is accurate to $\pm 0.6^{\circ}\text{C}$ with stability of $\pm 0.05^{\circ}\text{C}$. A NIST-traceable calibration is included for each of the two test blocks.

For use with automated systems, the 9009 comes with an RS-232 connection and our Model 9930 Interface-it software, which allows you to control and monitor temperatures from your PC. For completely automated calibrations, Hart's MET/TEMP II software (page 75) also integrates with the 9009.

Two blocks in one unit, a total range of -15°C to 350°C , portability, durability, versatility, performance, and automation. Hart Scientific delivers it all.



The 9009 is built into a small, lightweight, rugged enclosure that holds everything you need and comes in black or yellow.

Technical Tip

Increase Dry-Well Performance with a Reference Thermometer

To increase the performance of a block calibrator and the accuracy level of your calibrations, add a reference thermometer to your system. The Tweener Thermometers and Handheld Thermometers on pages 37–41 can bring your NIST-traceable uncertainty from $\pm 0.5^{\circ}\text{C}$ to $\pm 0.05^{\circ}\text{C}$.

Using a comparison technique, users insert both the test and reference probe into the same block at the same time, which yields a much better calibration. Both probes, if inserted at the same depth with similar size and diameters, will be sensing more of the same temperature than a single probe inserted and compared to the sensor that feeds the display.

Tweener and Handheld Thermometers are used with a high-accuracy reference PRT or thermistor calibrated to the ITS-90 scale and included with a certificate and calibration coefficients.

We designed many of our field calibrators with removable insert sleeves that have multiple holes drilled for use with a reference thermometer system.

Ranges from -15°C to 350°C

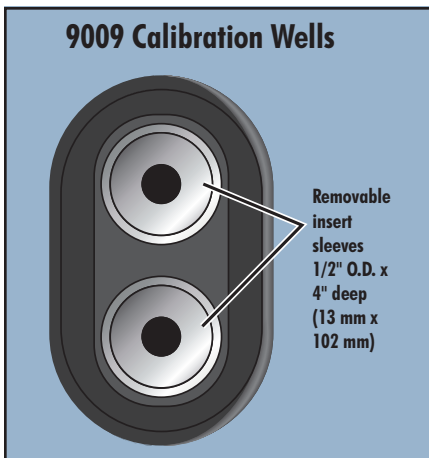
Specifications	Hot Block	Cold Block
Range	50°C to 350°C (122°F to 662°F)	-15°C to 110°C (5°F to 230°F) (-8°C [18°F] with hot block at 350°C [662°F])
Accuracy	±0.6°C	±0.2°C
Stability	±0.05°C	
Well-to-Well Uniformity	±0.1°C	
Display Resolution	0.1°	
Heating Times	10 minutes from 25°C to 350°C	15 minutes from 25°C to 110°C
Cooling Times	30 minutes from 350°C to 100°C	16 minutes from 25°C to -15°C
Stabilization Times	8 minutes	
Well Depth	4" (102 mm)	
Removable Inserts	Two 1/4" (6.4 mm) and two 3/16" (4.8 mm) inserts included; see Ordering Information for other available inserts	
Computer Interface	RS-232 included with free Interface- <i>it</i> software	
Power	115 VAC (±10%), 3 A, or 230 VAC (±10%), 2 A, specify, 50/60 Hz, 280 W	
Size	7" H x 10.5" W x 9.75" D (178 x 267 x 248 mm)	
Weight	10 lb. (4.5 kg)	
NIST-Traceable Calibration	Data at 50°C, 100°C, 150°C, 200°C, 250°C, 300°C, and 350°C	Data at -8°C, 0°C, 25°C, 50°C, 75°C, 100°C, and 110°C

Ordering Information

- 9009-X Industrial Dual-Block Dry-Well (X = case color. Specify "B" for black or "Y" for yellow.) Includes two 1/4" (6.4 mm) and two 3/16" (4.8 mm) inserts.
- 3102-0 Insert, Blank
- 3102-1 Insert, 1/16" (1.6 mm)
- 3102-2 Insert, 1/8" (3.2 mm)
- 3102-3 Insert, 3/16" (4.8 mm)
- 3102-4 Insert, 1/4" (6.4 mm)
- 3102-5 Insert, 5/16" (7.9 mm)
- 3102-6 Insert, 3/8" (9.5 mm)
- 3102-7 Insert, 7/16" (11.1 mm)
- 3102-8 Insert, 5/32" (4 mm)



Use MET/TEMP II software and a reference thermometer to recalibrate your own heat sources!.



Each block contains two wells, which accept removable inserts. A 1/4" and a 3/16" insert are included for each block. Additional sizes (including custom sizes) are available.



Orem city gardening champ Barbara (international invoicing) gets ready to order her next set of seeds.