

REALLY HOT BATHS



Really Hot Baths

Models 6045 and 6050H

- Eliminates messy sand baths
- Electronically adjustable temperature cutouts
- Stability of $\pm 0.008^{\circ}\text{C}$ at 550°C

You'll find more Hart baths in national calibration labs than any other brand, and there's a reason for that. No one else can match the stability, uniformity, and performance of a Hart bath, and we absolutely guarantee it.

These models are designed for high-temperature work—up to 550°C . Most labs use them as salt baths for calibration of thermocouples, RTDs, and SPRTs. In fact, these baths are so good you can even do comparison calibrations of SPRTs with them. These baths are stable to $\pm 0.005^{\circ}\text{C}$ or better at 300°C .

Each bath has a drain, electronically adjustable temperature cutouts, optional floor carts, and optional automation software and interface packages. (The 6050H comes with an insulated cover.)

Hart is the only company that offers complete automated calibration software packages that work with the bath interface option. Our optional software is not just a data acquisition package; it actually controls the calibration, including bath temperatures.

Choose the model that most closely matches your needs. These baths are com-

patible with salt for higher temperatures and also with oils for lower temperatures.

Hart sells a complete selection of salt and fluids for your bath. You can find these on page 104. Salt baths offer better performance and less mess than sand baths. SPRT comparison calibrations in a sand bath aren't reliable the way they are in a Hart salt bath.

All options, including the automation interface package, are available for the 6050H. It is the finest-quality salt bath you can buy!

Model 6045

This bath has a temperature range of 60°C to 400°C and is perfect for thermocouples and RTDs.

It has a large well opening (5 by 10 inches) so you can calibrate a number of sensors at once. It's 12 inches deep and uses 27 liters of fluid.

Ranges from 60°C to 550°C

The automation interface package gives you complete PC control of the bath, including precalibration setup. It's available with an RS-232 or IEEE-488 interface.

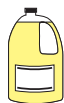
Model 6050H

If you need to reach the maximum temperature possible in a salt bath, the Hart 6050H goes to 550°C and is 10 to 100 times more stable than alternative calibration devices.



It, too, is 12 inches deep and has a 5-by-10-inch well opening for easy access. Ports in the rear of the bath access cooling coils if you want to cool the bath rapidly with external fluids.

Ordering Information

6045	Standard Bath, 60°C to 400°C
6050H	Standard Bath, 60°C to 550°C
2001-6045	Automation Package for 6045
2001-6050	Automation Package for 6050H
2001-IEEE	Add for IEEE-488 (requires Automation Package)
2072	Floor Cart with Casters
2007	Access Cover, 5" x 10", Stainless Steel (6045 only)
2014	Spare Access Cover (for use with salt only; included with 6050H; optional for 6045)
2196	Holding Fixture, 13 probes, 5" x 10"
5001	Bath Salt, 125 lb.
2024	Fast Start Heater, 13.5" (6045)
2023	Fast Start Heater, 16.5" (6050H)
2016-6045	Fluid Level Adapter, 6045 (page 106)
2016-6050H	Fluid Level Adapter, 6050H (page 106)
2069	8X Magnifier Scope, with mounts (page 106)
2035	Salt Drain Pan
5031	Salt Bath Safety Equipment Package (includes protective lab coat, heat-resistant gloves, and face shield)



See our selection of bath fluids on page 104.

Specifications	6045	6050H
		
Range	60°C to 400°C	60°C to 550°C
Stability	±0.002°C at 100°C (oil 5012) ±0.005°C at 300°C (oil 5017) ±0.004°C at 400°C (salt)	±0.002°C at 200°C (salt) ±0.004°C at 300°C (salt) ±0.008°C at 550°C (salt)
Uniformity	±0.004°C at 300°C (oil 5017) ±0.007°C at 400°C (salt)	±0.005°C at 200°C (salt) ±0.020°C at 550°C (salt)
Temperature Setting	Digital display with push-button data entry	
Set-Point Resolution	0.01°C; high-resolution mode, 0.00018°C	
Display Temperature Resolution	0.01°C	
Digital Setting Accuracy	±1°C	
Digital Setting Repeatability	±0.02°C	
Heaters	350, 1000, and 1700 Watts	400, 1200, and 2000 Watts
Access Opening	5" x 10" (127 x 254 mm)	
Depth	12" (305 mm)	
Wetted Parts	304 stainless steel	
Power	115 VAC (±10%), 18 A or 230 VAC (±10%), 9 A, specify, 50/60 Hz	230 VAC (±10%), 50/60 Hz, 10 A
Volume	7.1 gallons (27 liters), requires 112 lb. of bath salt	
Weight	160 lb. (73 kg)	180 lb. (82 kg)
Size	26.5" H x 19" W x 23" D (673 x 483 x 584 mm)	28.5" H x 20.4" W x 24.5" D (724 x 518 x 622 mm)
Automation Package	Interface- <i>it</i> software and RS-232 computer interface are available for setting bath temperature via remote computer. For IEEE-488, add the 2001-IEEE to the automation package.	

Technical Tip

Periodic Bath Testing

All calibration apparatus should either be tested or calibrated. Calibration baths are no different. Although the accuracy is often of secondary importance, bath instability and non-uniformity directly affect calibration uncertainties.

To ensure continued performance, these bath characteristics should be tested periodically. The tests should be carried out at all temperatures commonly used and under typical conditions.

Additionally, since the goal of the tests is to determine the contribution to uncertainty, these tests should be conducted only over the "calibration zone" used in your process, not over the entire zone available. The tests can be conducted with several sensors or with a single sensor moved from one location to the next.

Map the differences and include them in your uncertainty analysis. In most cases, with a Hart bath, the values observed will be significantly smaller than the published specifications.



Read about our accredited calibration services on page 156.