

Deep-Well Baths



- Constant liquid levels through concentric-tube design
- Special design for sighting LIG thermometers
- Depth up to 24 inches (61 cm)
- Optional interface packages control all settings

The Hart Models 7007, 6054, and 6055 have extra-deep wells for use with liquid-in-glass thermometers, SPRT calibrations, or other thermometry work requiring extra tank depth. They were originally designed for NIST.

Well depths vary from 17 to 24 inches to eliminate stem conduction effects in probes that require more than 12 inches of immersion. Originally developed for a national standards lab, these baths are optimized for the visual calibration of liquid-in-glass thermometers.

The 7007 is designed for the temperature range of -5°C to 110°C , has built-in refrigeration, and is 24 inches deep. The 6054 covers the temperature range of 50°C to 300°C and is also 24 inches

deep. The 6055 is engineered for the temperature range of 200°C to 550°C with salt and is 17 inches deep. Specific size differences and various specifications are shown in the comparison table.

The Model 6055, operating up to 550°C , uses molten salts with a pumping system for maintaining the necessary consistent fluid level required for liquid-in-glass thermometer calibrations. A viewing channel is built into the top cover for a clear visual path to your glass thermometers.

The 6055 also has an optional thermometer carousel for holding several glass thermometers in the correct calibration position without exposing them to the hot salts in the bath. The Model 2018

Carousel is completely constructed of stainless steel and has an elevated handle for rotating your thermometers to the viewing position.

These deep-well baths are built to the same performance standards as all Hart baths, which means you can't find another bath that has better stability or uniformity.

Ordering Information

7007	Refrigerated Deep-Well Bath
6054	Mid-Range Deep-Well Bath
6055	Hi-Temp Deep-Well Bath
2001-7007	Automation Package for 7007
2001-6054	Automation Package for 6054
2001-6055	Automation Package for 6055
2001-IEEE	Add for IEEE-488 (requires Automation Package)
2018	Carousel Holding Fixture for 6055
2069	LIG Telescope with Mounting, 8X magnification



Model 2018 carousel for protecting your glass thermometers.

Deep-Well Baths

Specifications	7007	6054	6055
Range	-5 °C to 110 °C	50 °C to 300 °C	200 °C to 550 °C
Stability	±0.001 °C at 0 °C (ethanol) ±0.003 °C at 100 °C (oil 5012)	±0.003 °C at 100 °C (oil 5012) ±0.005 °C at 300 °C (oil 5017)	±0.003 °C at 200 °C (salt) ±0.01 °C at 550 °C (salt)
Uniformity	±0.004 °C at 0 °C (ethanol) ±0.007 °C at 100 °C (oil 5012)	±0.007 °C at 100 °C (oil 5012) ±0.015 °C at 300 °C (oil 5017)	±0.005 °C at 200 °C (salt) ±0.010 °C at 550 °C (salt)
Temperature Setting	Digital display with push-button data entry		
Set-Point Resolution	0.002 °C, high res. 0.00003 °C	0.01 °C, high res. 0.00018 °C	
Display Temperature Resolution	0.01 °C		
Digital Setting Accuracy	±1 °C		
Digital Setting Repeatability	±0.005 °C	±0.01 °C	
Heaters	250 to 1000 W	250 to 1000 W	225 to 1800 W
Working Area	178 mm dia. (7 in)	196 mm dia. (7.7 in)	107 mm dia. (4.2 in)
Depth	610 mm (24 in) deep, 178 mm dia. (7 in), removable polycarbonate cover	610 mm deep (24 in), 196 mm dia. (7.7 in), removable SST lid	432 mm deep (17 in), 107 mm dia. (4.2 in), removable SST lid, special viewing channel for LIG sighting
Wetted Parts	304 stainless steel		
Power	230 VAC (±10 %), 50 or 60 Hz, 14 A (Specify frequency, contact Hart if CE mark required.)	230 VAC (±10 %), 50/60 Hz, 10.7 A	230 VAC (±10 %), 50/60 Hz, 7.8 A
Volume	42 liters (11.2 gal.)	50 liters (13.2 gal.)	19.8 liters (5.2 gal., 43 kg [95 lb.] of bath salt)
Size (DxWxH)	470 x 775 x 194 mm to working surface (18.5 x 30.5 x 47 in), 1397 mm (55 in) to top of stir motor, 914 mm (36 in) to control panel	572 x 762 x 1219 mm to working surface (22.5 x 30 x 48 in), 1422 mm (56 in) to top of stir motor box, 914 mm (36 in) to control panel	572 x 775 x 1219 mm to working surface (22.5 x 30.5 x 48 in), 1524 mm (60 in) to top of stir motor box, 914 mm (36 in) to control panel
Distance from Line of Sight to Top of Fluid	9.5 mm (3/8 in)	15.9 mm (5/8 in)	
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 automaton package.		

Viscosity matters

Viscosity is a measure of resistance to fluid flow. The temperature homogeneity, or uniformity, within a bath is directly related to the ability of the stirrer to circulate the fluid around the tank. Any resistance to that fluid circulation will impede the mixing and transfer of heat throughout the bath that is necessary to establish temperature uniformity.

In general, the lower the viscosity, the better. Kinematic viscosity is measured in centistokes (cs). Water at 20 °C has a viscosity of about 1 cs. A viscosity of less than 10 cs will give good performance. As a rule of thumb, as viscosities approach 50 cs (less for a Micro-Bath), uniformity in particular can be degraded. Keeping probes close together can stretch the useful viscosity range of a fluid.