

# COLD BATHS



Baths

## Cold Baths Models 7040, 7041, 7037, 7012, 7011, and 7030

Excellent for maintaining triple point of water or mercury cells

Best digital temperature controller available

Optional interface package controls all settings

Stability to  $\pm 0.0008^{\circ}\text{C}$

Hart Scientific's temperature calibration baths are known around the world as the best calibration baths made. If you're looking for a cold bath, no one gives you more choices than Hart.

These six baths operate at temperatures as low as  $-40^{\circ}\text{C}$ , and each one is built using CFC-free refrigerants. Hart's proprietary controller design and unique tank construction produce bath stabilities to  $\pm 0.001^{\circ}\text{C}$  or better. These baths are so stable and uniform that national labs use them for comparison calibrations and fixed-point cell maintenance.

Each bath is fully automatable with a bath interface package and one of Hart's

automation software packages described on page 80. When we automate a bath, we automate it completely with computer-controlled solenoid valves for precision balancing of the heating and cooling system. Our optional *Calibrate-it* software package performs all calibration tasks automatically, using your PC.

With a Hart cold bath, you can forget external coolants. The complete range of each bath is 100% covered by internal refrigeration.

Not only are these the best-performing calibration baths in the industry, they're also the most reasonably priced. Hart is the largest manufacturer

of temperature calibration baths, and larger volume means better pricing.

Each bath has unique characteristics that make it perfect for specific jobs. Some baths are excellent for SPRTs, some are great with thermistors, and some are perfect for maintaining triple point of water cells. Regardless of your application, Hart has a bath that gets the job done, and done better than anyone else can do it. Call us today and tell us about your application.

Most cold baths may be ordered with an optional pumping lid for external cooling requirements.

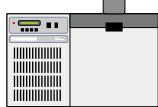
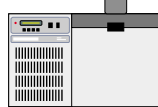
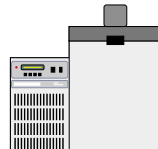
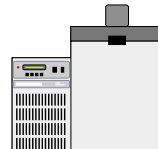
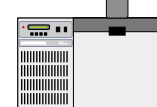



See our selection of bath fluids on page 110.



See page 109 for computer interface information and page 78 for calibration software packages.

# Ranges from $-40^{\circ}\text{C}$ to $150^{\circ}\text{C}$

Specifications	7040	7041	7037	7012	7011	7030
						
Range	$-40^{\circ}\text{C}$ to $110^{\circ}\text{C}$			$-10^{\circ}\text{C}$ to $110^{\circ}\text{C}$		$-30^{\circ}\text{C}$ to $150^{\circ}\text{C}$
Stability	$\pm 0.002^{\circ}\text{C}$ at $-40^{\circ}\text{C}$ (ethanol) $\pm 0.0015^{\circ}\text{C}$ at $25^{\circ}\text{C}$ (water) $\pm 0.003^{\circ}\text{C}$ at $100^{\circ}\text{C}$ (oil)			$\pm 0.0008^{\circ}\text{C}$ at $0^{\circ}\text{C}$ (ethanol) $\pm 0.0008^{\circ}\text{C}$ at $25^{\circ}\text{C}$ (water) $\pm 0.003^{\circ}\text{C}$ at $100^{\circ}\text{C}$ (oil)		$\pm 0.006^{\circ}\text{C}$ full range (oil)
Uniformity	$\pm 0.004^{\circ}\text{C}$ at $-40^{\circ}\text{C}$ (ethanol) $\pm 0.002^{\circ}\text{C}$ at $25^{\circ}\text{C}$ (water) $\pm 0.004^{\circ}\text{C}$ at $100^{\circ}\text{C}$ (oil)			$\pm 0.003^{\circ}\text{C}$ at $0^{\circ}\text{C}$ (ethanol) $\pm 0.002^{\circ}\text{C}$ at $25^{\circ}\text{C}$ (water) $\pm 0.004^{\circ}\text{C}$ at $100^{\circ}\text{C}$ (oil)		$\pm 0.010^{\circ}\text{C}$ full range
Temperature Setting	Digital display with push-button data entry					
Set-Point Resolution	0.01 $^{\circ}\text{C}$ ; high-resolution mode, 0.00007 $^{\circ}\text{C}$			0.002 $^{\circ}\text{C}$ ; high-resolution mode, 0.00003 $^{\circ}\text{C}$		0.01 $^{\circ}\text{C}$ ; high-resolution mode, 0.00018 $^{\circ}\text{C}$
Display Resolution	0.01 $^{\circ}\text{C}$					
Digital Setting Accuracy	$\pm 1^{\circ}\text{C}$					$\pm 0.2^{\circ}\text{C}$
Digital Setting Repeatability	$\pm 0.01^{\circ}\text{C}$			$\pm 0.005^{\circ}\text{C}$		$\pm 0.01^{\circ}\text{C}$
Heaters	500 and 1000 Watts					
Access Opening (call for customs)	5" x 10" (127 x 254 mm)	7.25" x 12.75" (184 x 324 mm)	5" x 10" (127 x 254 mm)	6.38" x 11.5" (162 x 292 mm)	5" x 10" (127 x 254 mm)	2.6" diameter (66 mm)
Depth	12" (305 mm)	13.25" (337 mm)	18" (457 mm)	18" (457 mm)	12" (305 mm)	11" (279 mm)
Wetted Parts	304 stainless steel					
Power	115 VAC ( $\pm 10\%$ ), 60 Hz, 16 A or 230 VAC ( $\pm 10\%$ ), 50 or 60 Hz, 9 A, 1950 W (specify voltage and frequency)			115 VAC ( $\pm 10\%$ ), 60 Hz, 14 A or 230 VAC ( $\pm 10\%$ ), 50 Hz, 7 A, specify, 1575 W		
Volume	7.2 gallons (27 liters)	11.2 gallons (42 liters)	11.1 gallons (42 liters)		7.2 gallons (27 liters)	1.6 gallons (6 liters)
Weight	140 pounds (63.5 kg)		150 pounds (68 kg)		125 pounds (56.7 kg)	120 pounds (54.4 kg)
Size	24.5" H x 30.25" W x 19" D (622 x 768 x 483 mm)		30.5" H x 30.25" W x 19" D (775 x 768 x 483 mm)		30" H x 27" W x 15.8" D (762 x 686 x 401 mm)	22" H x 27" W x 15.8" D (559 x 686 x 401 mm)
Automation Package	Interface- <i>it</i> software and RS-232 computer interface are available for setting the bath temperature via an external computer. For IEEE-488, add the 2001-IEEE to the automation package. (Interfaces not available for Model 7011.)					

## Ordering Information

7040	Bath	2001-7012	Automation Package for 7012	2009	Access Cover, 7.25" x 12.75", Stainless Steel
7041	Bath	2001-7030	Automation Package for 7030	2030	Fast Start Cooler
7037	Bath	2001-IEEE	Add for IEEE-488 (requires Automation Package)	2027-5900	TPHg Fixture
7012	Bath	2010	Access Cover, 5" x 10", Lexan	2027-5901	TPW Fixture
7011	Bath	2007	Access Cover, 5" x 10", Stainless Steel	2027-5903	Ga Cell Fixture
7030	Bath	2011	Access Cover, 7.25" x 12.75", Lexan	2071	Bath Cart (7011, 7012)
2001-7040	Automation Package for 7040			2073	Bath Cart (7040, 7041, 7037)
2001-7041	Automation Package for 7041			2019	Fluid Level Adapter, 7030
2001-7037	Automation Package for 7037				

Baths