

## Hart Scientific Metrology Calibration Baths

Laboratory baths with metrology level performance

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- Precision Baths in Four Ranges
- Highly Stable
- Very Accurate

Hart Scientific has four new metrology grade baths for your lab. These new calibration baths maintain a temperature stability as good as  $\pm 0.005^{\circ}\text{C}$ , and cover the range from  $-80^{\circ}\text{C}$  to  $300^{\circ}\text{C}$ . Side by side they take up less room than typical utility baths and can be easily moved around the lab or factory floor.

Each unit comes with an RS-232 interface for automating your calibration work through a PC. IEEE-488 interface is available as an option for all models except the 24512T. Each bath is backed by Hart's reputation as the leader in temperature baths. Their size and performance make these top performers a must for your facility.

### Higher Temperature Applications

The small benchtop metrology bath 24510T, has a range from  $35^{\circ}\text{C}$  to  $300^{\circ}\text{C}$ . Use this bath on a calibration bench or roll this bath around the lab or factory floor using its optional floor cart. With stability to  $\pm 0.005^{\circ}\text{C}$  this unit provides the capabilities that allow it to be called a metrology bath.

### Calibrate at 0 and $100^{\circ}\text{C}$

Doing calibration work below ambient calls for the 24511T or 7340 metrology bath. The 24511T provides  $-20$  to  $150^{\circ}\text{C}$  and maintains a stability of  $\pm 0.005^{\circ}\text{C}$ , and the 7340 provides  $-40$  to  $150^{\circ}\text{C}$  and maintains a stability of  $\pm 0.006^{\circ}\text{C}$ . There is also an optional cart for these models which allows them to be used on a bench or taken out to the factory floor for calibrating temperature devices. The cart includes a hinged front door and storage shelf for storing fluids, probes, and other calibration tools. You can calibrate your sensors at the two most popular industrial calibration points, ( $0^{\circ}\text{C}$  and  $100^{\circ}\text{C}$ ), at the highest performance level in a bath this size.

### Cryogenic Applications

You won't find a colder bath in a more compact package. The new  $-80^{\circ}\text{C}$  metrology bath 23512T reaches  $-80^{\circ}\text{C}$  in less than 120 minutes and maintains a stability of  $\pm 0.006^{\circ}\text{C}$ . It's the first  $-80^{\circ}\text{C}$  bath to deliver true metrology level performance. With sturdy built-in casters and a small footprint (only one foot by two feet), it fits anywhere in your lab. Its dual  $1/4$ -HP compressors are so quiet that you may not realize the bath is running. Each bath ships from the factory individually tested showing actual stability and set-point accuracy.



### Specifications

Mfg#	6330	7320	7340	7380
Range:	35 to $300^{\circ}\text{C}$	$-20$ to $150^{\circ}\text{C}$	$-40$ to $150^{\circ}\text{C}$	$-80$ to $100^{\circ}\text{C}$
Stability:	$\pm 0.005$ at $100^{\circ}\text{C}$	$\pm 0.005^{\circ}\text{C}$ at $-20^{\circ}\text{C}$ $\pm 0.015^{\circ}\text{C}$ at $300^{\circ}\text{C}$	$\pm 0.006^{\circ}\text{C}$ at $-40^{\circ}\text{C}$ $\pm 0.007^{\circ}\text{C}$ at $150^{\circ}\text{C}$	$\pm 0.006^{\circ}\text{C}$ at $-80^{\circ}\text{C}$ $\pm 0.007^{\circ}\text{C}$ at $150^{\circ}\text{C}$
Uniformity:	$\pm 0.007^{\circ}\text{C}$ at $100^{\circ}\text{C}$	$\pm 0.005^{\circ}\text{C}$ at $-20^{\circ}\text{C}$	$\pm 0.006^{\circ}\text{C}$ at $-40^{\circ}\text{C}$	$\pm 0.008^{\circ}\text{C}$ at $-80^{\circ}\text{C}$
Heating Time:	250 min ( $25^{\circ}\text{C}$ to $300^{\circ}\text{C}$ )	80 min ( $25^{\circ}\text{C}$ to $150^{\circ}\text{C}$ )		—
Cooling Time:	—	100 min ( $25^{\circ}\text{C}$ to $-20^{\circ}\text{C}$ )	130 min ( $25^{\circ}\text{C}$ to $-80^{\circ}\text{C}$ )	120 min ( $25^{\circ}\text{C}$ to $-80^{\circ}\text{C}$ )
Stabilization Time:	—	15–20 min		6 min
Temperature Setting:	—	Push-button		
Display Resolution:	—	0.01°		
Setting Accuracy:	—	$\pm 0.5^{\circ}\text{C}$		
Setting Repeatability:	—	$\pm 0.01^{\circ}\text{C}$		
Tank Opening/Depth:	—	6.8 x 3.8 x 9.25" LWD		3.25 x 4.5 x 7.0" LWD
Tank Volume:	—	2.4 gal (9.2 liters)		1.0 gal (4.0 liters)
Power:	—	115 VAC/60 Hz or 230 VAC/50 Hz		
Size:	12 x 21.5 x 18.5" WDH	12 x 24.5 x 23" WDH	12 x 21.5 x 18.5" WDH	12 x 24 x 30" WDH

### Ordering Information

Order #	Mfg #	Description	Price
MP24510T	6330	Metrology Calibration Bath with RS-232 35 to $300^{\circ}\text{C}$	
MP24511T	7320	Metrology Calibration Bath with RS-232 $-20$ to $150^{\circ}\text{C}$	
MP24512T	7380	Low Temperature Metrology Bath $-80$ to $100^{\circ}\text{C}$	
MP7340	7340	Metrology Calibration Bath with RS-232 $-40$ to $150^{\circ}\text{C}$	
MP24510T-FC	2076-6330	Floor Cart for 24510T	
MP24511T-FC	2076-7320	Floor Cart for 24511T and 7340	
MP23059T-3G	5014-GAL	Silicone Oil, Type 200.50, 1 gallon, $30^{\circ}\text{C}$ to $275^{\circ}\text{C}$	
MP24510T-GAL	5017-GAL	Silicone Oil, Type 710, 1 gallon, $80^{\circ}\text{C}$ to $300^{\circ}\text{C}$	
MP23060T-GAL	5012	Silicone Oil, Type 200.10, 1 gallon, $-30^{\circ}\text{C}$ to $160^{\circ}\text{C}$	
MP24513T	5019	Halocarbon Bath Fluid 0.8 (1 Gal) for 24512T	

NOTE: Bath fluid must be ordered separately

NOTE: For 230V operation, add -220 to catalog number

NOTE: For IEEE Option, add -1 to catalog number and add

Transcat Accredited Calibration with Data  
Transcat Accredited Calibration without Data

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CALL

**Don't forget  
to order bath oil.**

## Transcat/Hart Scientific Portable Calibration Baths

- $\pm 0.25^{\circ}\text{C}$  Accuracy
- The World's Smallest Calibration Baths
- Three Ranges: 35 to 200°C, -5 to 125°C and Low Temperature -30 to 125°C
- Stability to  $\pm 0.015^{\circ}\text{C}$
- Built-In Switch Test—Standard
- RS-232 Interface

These new micro-baths combine the small size and portability of a field dry block with the flexibility of a bath. They can go anywhere in your plant without a heavy cart. A sealing transport lid keeps the bath fluid from spilling.

If you haven't used a calibration bath before, you'll find they are more flexible than a dry block. There's no need for changing inserts or having custom inserts designed—almost any sensor you have will fit the 2" diameter stirred tank. And a bath by nature stabilizes faster than a dry block.

These units are microprocessor controlled and can be programmed from the keypad to run ramp and soak profiles as well as automated temperature switch tests. In switch test mode, the switch contacts are connected to the bath, and the temperature display will hold when the switch makes or breaks contact.

RS-232 interface is standard, and each bath is supplied with a Windows™ software package that lets you control the bath from your PC.



▲ 6102

▲ 7102+9930

▲ 7103

### Ordering Information and Specifications

Model #	6102	7102+9930	7103
Range:	35 to 200°C (95 to 392°F)	-5 to 125°C (23 to 257°F)	-30 to 125°C (-22 to 257°F)
Accuracy:	$\pm 0.25^{\circ}\text{C}$ ( $\pm 0.45^{\circ}\text{F}$ )		
Resolution:	0.01°C		
Stability:	$\pm 0.03^{\circ}\text{C}$ ( $\pm 0.05^{\circ}\text{F}$ ) with 200.20 oil	$\pm 0.03^{\circ}\text{C}$ ( $\pm 0.05^{\circ}\text{F}$ ) with 200.05 oil	$\pm 0.03^{\circ}\text{C}$ ( $\pm 0.05^{\circ}\text{F}$ ) with 200.05 oil
	$\pm 0.015^{\circ}\text{C}$ ( $\pm 0.03^{\circ}\text{F}$ ) with H <sub>2</sub> O		N/A
Uniformity:	$\pm 0.02^{\circ}\text{C}$ ( $\pm 0.036^{\circ}\text{F}$ )		
Operating Temp.:	5 to 45°C (41 to 113°F)		
Heating Time:	40 minutes (25 to 200°C)	30 minutes (25 to 100°C)	35 minutes (25 to 100°C)
Cooling Time:	35 minutes (200 to 100°C)	30 minutes (25 to 0°C)	45 minutes (-20°C)
Well Size:	1.9 diam. x 5.5" depth		
Power Supply:	115 VAC ( $\pm 10\%$ ), 50/60 Hz or 230 VAC ( $\pm 10\%$ ), 50/60 Hz, Switchable		
Size (HWD):	5.5 x 10.4 x 8" (14 x 26 x 20 cm)	7.2 x 12 x 9.5" (18 x 31 x 24 cm)	12.8 x 9 x 10.4" (32 x 21 x 28 cm)
Weight:	10 lb (4.5 kg)	15 lb (6.8 kg)	21.6 lb (9.8 kg)
Order #	MP23059T	MP23064T	MP24350T
Price			

**Each Unit Includes:** Sealing transport lid, RS-232 and software (9930), and manufacturer's certificate of calibration.

**NOTE:** Bath fluids are not included and must be ordered separately. See ordering information.



### Ordering Information

Order #	Mfg #	Description	Price
MP23059T-1	2082-M	Spare Tank Lid (for 23059T)	
MP23065T	2082-P	Spare Tank Lid (for 23064T/24350T)	
MP23066T	2083	3" Tank Extension Adapter (for 23059T or 23064T)	
MP23067T	9311	Carrying Case (for 23064T)	
MP23059T-CS	9310	Carrying Case (for 23059T)	
MP24351T-CS	9317	Carrying Case (for 24350T)	
MP23064T-GLY	5020	Ethylene Glycol, -30 to 90°C (1 Liter)	
MP23064T-SIL	5010-L	Silicone Oil, Type 200.05, -40 to 130°C (1 Liter)	
MP23059T-O	5013-L	Silicone Oil, Type 200.20, 10 to 230°C (1 Liter)	

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Transcat Accredited Calibration without Data	CALL

**The Micro-Bath 2" tank opening lets you calibrate just about any size or shape sensor**



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Calibration Instruments