

Constant-Temperature Circulating Baths

HCTB-3000/RCTB-3000 Series



- ✓ Temperature Stability to $\pm 0.005^{\circ}\text{C}$
- ✓ Temperature Range: -40 to 200°C (-40 to 392°F) Available
- ✓ 5 Bath Sizes from 8 to 48 Liters, or Use with Existing Baths or Containers
- ✓ High Pump Capacity with External Connections
- ✓ Adjustable Over-Temperature Cutoff
- ✓ 120V Power, 240V Optional
- ✓ Includes Mounting Bridge for Liter Baths

Applications

- ✓ Use as Calibration Standard
- ✓ Laboratory and Biological
- ✓ Stress and Shock Testing

A choice of 3 temperature controllers with either analog or digital temperature selectors offers temperature management over the range of -40 to 250°C (-40 to 392°F) with stability as good as $\pm 0.005^{\circ}\text{C}$. Each model has a rugged, splash-proof case with all submerged parts made of either stainless steel or high-temperature, self-extinguishing plastic. Powerful pressure circulating pumps with external circulation connections are standard on all models. With a choice of 3 different temperature controllers and 5 stainless steel baths with a capacity of 8 to 48 liters, a wide range of different systems is available to suit most laboratory and industrial applications. Inlet and outlet pipes



HCTB-3030 shown smaller than actual size with BATH-12.

at the rear of the controller can be used for external circulation to another apparatus or they can be sealed for circulation within the bath itself. The baths are also suitable for below ambient applications, and can be used at sub-ambient temperatures with an optional cooling coil or with RCTB-3000 Series dip and flow coolers.

Unheated Baths

Designed to be used with an HCTB-3000 Series thermoregulator, these baths incorporate attractive carrying handles for added safety. The 4 smaller models have seam-free stainless steel interiors for easy cleaning. The largest bath, BATH-48, is of welded construction. All baths have stoved enamel steel outer cases.

Dip and Flow Coolers

The RCTB-3000 Series dip and flow coolers are designed for use at below-ambient temperatures down to -35°C (-31°F). The flow cooler works in conjunction with a thermoregulator and continually extracts heat from the bath fluid by means of the heat exchanger, which is built into the unit.

The cooling head of the dip cooler fits neatly and unobtrusively into the corner of the bath and can be secured with a specially designed mounting bracket (included). Even if cooling can be achieved by cold tap water, a dip cooler is recommended, since it conserves water and is easier and more convenient to use.



Thermoregulator Specifications

To Order			
Model No. ^{††}	HCTB-3010	HCTB-3020	HCTB-3030
Temperature Range °C (°F)*	-20 to 95 (-4 to 203)	-40 to 120 (-40 to 248)	-40 to 200 (-40 to 392)
Temperature Selection	Analog	Digital	Digital
Temperature Stability Using Water @ 40°C (°C)	±0.01	±0.01	±0.005
Pump Capacity (LPM)	10	10	10
Pump Capacity (mbar)	145	145	145
Method of Control	Proportional	PID	PID
Temperature Sensor	Thermistor	PRT	PRT
Adjustable Over-Temp Cutout	Yes	Yes	Yes
Low Liquid-Level Cutout	No	Yes	Yes
PC Interface	No	No	Yes, RS232
Cooling Coil ^{**}	No	No	No
Dimensions: mm (inch) Extension Below Base	145 (5.7)	145 (5.7)	145 (5.7)
Size H x W x L, mm (inch)	260 x 124 x 237 (10.2 x 4.9 x 9.3)	260 x 124 x 237 (10.2 x 4.9 x 9.3)	260 x 124 x 237 (10.2 x 4.9 x 9.3)

* Refrigeration required for below ambient cooling.

** Available as an option as HCTB-COIL.

†† For 240 Vac power, add suffix “-240V” to model number, no additional cost.

Note: For 4-point NIST calibration, points: -20°C, 60°C, 120°C, 180°C, add suffix “-NIST” to model number, for an additional cost.

Dip and Flow Cooler Specifications[†]

Model No. ^{††}	RCTB-3050	RCTB-3060	RCTB-3070	RCTB-3080
Cooler Type	Dip	Dip	Flow	Flow
Minimum Achievable Temperature °C (°F)	-20 (-4)	-35 (-31)	-20 (-4)	-35 (-31)
Cooling Capacity 0°C (W)	145	240	140	210
Cooling Capacity 20°C (W)	145	240	140	210
Cooling Capacity -10°C (W)	110	230	110	200
Internal Capacity (mL)	—	—	200	200
Dimensions H x W x L mm (inch)	300 x 420 x 235 (11.8 x 16.5 x 9.3)	325 x 430 x 370 (12.8 x 16.9 x 14.6)	300 x 420 x 235 (11.8 x 16.5 x 9.3)	325 x 430 x 370 (12.8 x 16.9 x 14.6)
Coil Dimensions L x Dia. mm (inch)	85 x 75 (3.3 x 3.0)	85 x 75 (3.3 x 3.0)	—	—
Hose Length to Coil mm (inch)	1250 (49.2)	1250 (49.2)	—	—
Hose Connection mm (inch)	—	—	16 (5/8)	16 (5/8)

† At ambient of 20°C, using a mixture of 40% water, 40% antifreeze, 20% alcohol to achieve -35°C, in a well-insulated 8 liter bath.

†† For 240 Vac power, add suffix “-240V” to model number, no additional charge.



Both models shown smaller than actual size.

OMEGACARESM extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARESM covers parts, labor and equivalent loaners.



A bridge to mount all circulating baths is included with all baths. See picture on K-44.



Unheated Bath Specifications

To Order					
Model No.	BATH-8	BATH-12	BATH-18	BATH-26	BATH-48
Overall Size H x W x L: mm (inch)	172 x 325 x 265 (6.8 x 12.8 x 10.4)	172 x 325 x 354 (6.8 x 12.8 x 13.9)	172 x 325 x 530 (6.8 x 12.8 x 20.9)	222 x 325 x 530 (8.7 x 12.8 x 20.9)	298 x 365 x 594 (11.7 x 14.4 x 23.4)
Top of Bath to Liquid Level Max Depth: mm (inch)	65 (2.6)	65 (2.6)	65 (2.6)	65 (2.6)	65 (2.6)
Internal Dimensions H x W x L: mm (inch)	150 x 300 x 240 (5.9 x 11.8 x 9.4)	150 x 300 x 329 (5.9 x 11.8 x 13)	150 x 300 x 505 (5.9 x 11.8 x 19.9)	200 x 300 x 505 (7.9 x 11.8 x 19.9)	274 x 330 x 559 (10.8 x 13 x 22.8)
Working Length to Thermoregulator: mm (inch)	115 (4.5)	205 (8.1)	380 (15.0)	380 (15.0)	430 (16.9)
Working Depth Max/Min: mm (inch)	130/100 (5.1/3.9)	130/100 (5.1/3.9)	130/100 (5.1/3.9)	180/150 (7.1/5.9)	255/224 (10.0/8.8)
Working Capacity Max/Min: Liters (Gallons)	8.0/6.0 (2.1/1.6)	11.6/8.4 (3.1/2.2)	18.0/13.2 (4.8/3.5)	26.0/20.5 (6.9/5.4)	48.5/42.5 (12.8/11.2)

Accessories

Model No.	Description
CAL-SOFT	Software
HCTB-COIL	Water-cooling coil
LID-8	Flat lid for use with 8 liter bath and mounting bridge
LID-12	Flat lid for use 12 liter bath and mounting bridge
LID-18	Flat lid for use 18 liter bath and mounting bridge
LID-26	Flat lid for use 26 liter bath and mounting bridge
LID-48	Flat lid for use 48 liter bath and mounting bridge

Comes complete with mounting bridge and operator's manual.

Ordering Examples: HCTB-3030, digital thermoregulator, BATH-18, 18 liter bath, LID-18, flat lid and CAL-SOFT, software. HTCB-3010, digital thermoregulator, BATH-8, 8 liter bath.