

Water Baths

A comprehensive range of general purpose water baths are available from Techne. Twenty different water bath combinations allow the use of accurate temperatures from -40°C up to 200°C; ensuring a solution for most laboratory applications. (See page 19 for our High Performance Liquid Calibration Baths).

First select the unheated stainless steel bath (see page 14) which has the appropriate volume for the application, for example B-26 which has a volume of 26 liters.



Then add a thermoregulator (see page 15-16) suitable for the required temperature range, for example the TE-10D Tempette is a digital thermoregulator for temperatures between -40°C and 120°C.



Select any accessories that are required, for example, both gabled and flat lids are available for all bath sizes. Gabled lids particularly allow tall tubes to be accommodated.



If sub-ambient temperatures are required it is necessary to add a cooling mechanism to the bath. Techne recommends the use of a Dip or Flow Cooler for temperatures down to -35°C. For example, the RU-200 can lower temperatures down to -20°C. It is also possible to use the cooling coil with a water supply for temperatures from 5°C above the water temperature to ambient.



To assemble the complete system shown opposite the following products are required:



Product Code	Description
1023300	B-26 stainless steel bath, 26 liter capacity
1016200	TE-10D, digital thermoregulator, 117V
7012549	Flat lid for 18 or 26 liter bath
1070500	RU-200 dip cooler, 117V

All specifications are affected by, but not limited to, the size of the bath, the volume of the item(s) being submersed in the bath and the ambient of the test area. Please contact Techne for assistance.

Unheated Baths

Designed to be used with a clip-on Tempette or Tempunit thermoregulator, these baths are equipped with carrying handles for added safety. All baths have stoved enameled steel outer cases and are supplied with bridge mounting plate to hold the thermoregulator.

Polypropylene spheres can be used to create a ball blanket so as to reduce evaporation and heat loss, while providing instant access to the bath.

Four bath capacities – 8, 12, 18 and 26 liters

- Stainless steel construction
- Seam-free and corrosion resistant stainless steel inner for easy cleaning
- Rugged splash-proof case
- Integrated carrying handle
- All models come with a standard 3 year warranty

48 liter

- 48 liters capacity
- Welded construction
- All submerged parts are made from stainless steel
- Rugged splash-proof case

Technical Specifications

Capacity liters		8	12	18	26	48
Dimensions (cm)	Length	26.5	35.4	53	53	59.4
	Width	32.5	32.5	32.5	32.5	36.5
	Height	17.2	17.2	17.2	22.2	29.8
Internal Dimensions (cm)	Length	24	32.9	50.5	50.5	55.9
	Width	30	30	30	30	33
	Height	15	15	15	20	27.4
Top of bath to liquid level max depth (cm)		6.5	6.5	6.5	6.5	6.5
Working length to thermoregulator (cm)		11.5	20.5	38	38	43
Working depth						
- max/min (cm)		13/10	13/10	13/10	18/15	25.5/22.4
Working capacity						
- max/min (liters)		8.0/6.0	11.6/8.4	18.0/13.2	26.0/20.5	48.5/42.5

Ordering Information

Product Code	Description
1023000	B-8 stainless steel bath, 8 liter capacity
1023100	B-12 stainless steel bath, 12 liter capacity
1023200	B-18 stainless steel bath, 18 liter capacity
1023300	B-26 stainless steel bath, 26 liter capacity
1023400	B-48 stainless steel bath, 48 liter capacity



B-8



B-12



B-18



B-48

Stability
 $\pm 0.01^{\circ}\text{C}$



TE-10A

Stability
 $\pm 0.01^{\circ}\text{C}$



TE-10D

Techne® invented the "Clip On" thermoregulator in 1948 and now offers four "Clip On" units. Thermoregulators are designed to be used with the Techne® unheated water baths or any other suitable laboratory vessels. They will heat, circulate and safely control the temperature of the liquid in the bath within precise limits.

All specifications are affected by, but not limited to, the size of the bath, the volume of the item(s) being submerged in the bath and the ambient of the test area. Please contact Techne for assistance.

TE-10A Tempette

- Temperature range of -20°C^* to 95°C
- Excellent temperature stability: $\pm 0.01^{\circ}\text{C}$ at 40°C
- Simple to use analog control
- Suitable for most routine laboratory applications
- User adjustable over-temperature cut-out for unbeatable safety

TE-10D Tempette

- Temperature range of -40°C^* to 120°C
- Excellent temperature stability: $\pm 0.01^{\circ}\text{C}$ at 40°C
- 4 digit setting with a bright LED digital temperature display
- Suitable for most routine laboratory applications
- User adjustable over-temperature cut-out
- Low liquid level cut-out as standard

Technical Specifications

Specifications to DIN 12876	TE-10A	TE-10D
Temperature range*	-20°C to $+95^{\circ}\text{C}$	-40°C to $+120^{\circ}\text{C}$
Temperature selection	Analog	Digital
Temperature stability using water @ 40°C	$\pm 0.01^{\circ}\text{C}$	$\pm 0.01^{\circ}\text{C}$
Method of control	Proportional	PID
Temperature sensor	Thermistor	PRT
Adjustable over-temperature cut-out	Yes	Yes
Low liquid level cut-out	Yes	Yes
Heating/Pumping		
Nominal heater power at 120V (W)	1000	1000
Nominal heater power at 240V (W)	1000	1000
Pump capacity liters/minute	10	10
Pump capacity (mbar)	145	145
Dimensions		
Extension below base (cm)	14.5	14.5
Dimensions L x W x H (cm)	23.7 x 12.4 x 26	23.7 x 12.4 x 26

* Refrigeration or cooling coil required for near or below ambient operation.
(See Flow and Dip Coolers and the cooling coil).

Cooling coil

Connects to the mains water supply; the water being circulated through the coil should be at least 5°C cooler than the set of the bath temperature. (Fits to any TE or TU unit).

Ordering information

Product Code	Description
1016100	TE-10A, analog thermoregulator, -20°C to 95°C , (supplied with clamp), 120V
1016600	TE-10A, analog thermoregulator, -20°C to 95°C , (supplied with clamp), 240V
1016200	TE-10D, digital thermoregulator, -40°C to 120°C , (supplied with clamp), 120V
1016700	TE-10D, digital thermoregulator, -40°C to 120°C ,



TU-20D Tempunit®

- A wider temperature range of -40°C* to 200°C
- Excellent temperature stability: $\pm 0.005^\circ\text{C}$ at 40°C
- 4 digit setting with a bright LED digital temperature display
- This unit incorporates an RS232 connection
- User adjustable over-temperature cut-out
- Low liquid level cut-out as standard

TU-20HT Tempunit®

- This sophisticated Tempunit® covers a wide temperature range of -40°C* to 250°C
- Excellent temperature stability: $\pm 0.005^\circ\text{C}$ at 40°C
- 4 digit setting with a bright LED digital temperature display
- RS232 connection supplied with TechneWorks software package and connecting lead as standard
- User adjustable over-temperature cut-out with an audible alarm fitted
- Low liquid level cut-out as standard



TU-20D

Technical Specifications

Specifications to DIN 12876	TU-20D	TU-20HT
Temperature range *	-40°C to +200°C	-40°C to +250°C
Temperature selection	Digital	Digital
Temperature stability using water @ 40°C	$\pm 0.005^\circ\text{C}$	$\pm 0.005^\circ\text{C}$
Method of control	PID	PID
Temperature sensor	PRT	PRT
Adjustable over-temperature cut-out	Yes	Yes
Low liquid level cut-out	Yes	Yes
PC Interface	Yes RS232	Yes RS232
Heating/Pumping		
Pump capacity liters/minute	10	N/A internal circulation only
Pump capacity (mbar)	145	-
Nominal heater power at 120V (W)	1500	1500
Nominal heater power at 240V (W)	1800	1800
Cooling coil	Option	Option
Extension below base (cm)	14.5	14.5
Dimensions L x W x H (cm)	23.7 x 12.4 x 26	23.7 x 12.4 x 26
TechneWorks software package	TechneWorks#	TechneWorks#

* Refrigeration or cooling coil required for near or below ambient operation. (See Techne Flow and Dip Coolers and the cooling coil). The TU-20HT can only be used with the Dip Coolers.

See page 10 for details

Ordering Information

Product Code	Description
1016300	TU-20D, advanced thermoregulator with RS232, -40°C to 200°C, (supplied with clamp), 120V
1016800	TU-20D, advanced thermoregulator with RS232, -40°C to 200°C, (supplied with clamp), 240V
1017600	TU-20HT, advanced high temperature thermoregulator with RS232 and TechneWorks software, -40°C to +250°C, (supplied with clamp), 120V
1017650	TU-20HT, advanced high temperature thermoregulator with RS232 and TechneWorks software, -40°C to +250°C, (supplied with clamp), 240V



TU-20HT



Dip and Flow Coolers

Techne Dip and Flow Coolers work in conjunction with a Techne thermoregulator (see pages 15 and 16). The bath liquid flows through the Flow Coolers, which continually extracts heat from the bath fluid by means of the heat exchanger. The cooling head of the Techne Dip Cooler fits neatly and unobtrusively into the corner of the bath and can be secured with a specially designed mounting bracket (supplied).

Techne Dip and Flow Coolers are designed for use when operating temperatures down to -35°C are required.

- Four models
- Compact refrigeration units for achieving temperatures down to -20°C or -35°C*
- Cooling head of the Dip Cooler fits neatly into the corner of a Techne liquid bath (RU Series Dip Coolers)
- Designed for use with Techne liquid baths



RU-200 and FC-500 models

Technical Specifications

Cooling (at 20°C ambient)	FC-200	FC-500	RU-200	RU-500
Minimum achievable temperature	-20 °C	-35 °C	-20 °C	-35 °C
Cooling capacity: 20°C (Watts)	140W	210W	145W	240W
Cooling capacity: 0°C (Watts)	140W	210W	145W	240W
Cooling capacity: -10°C (Watts)	110W	200W	110W	230W
Internal capacity (ml)	200ml	200ml	-	-
Nominal dimensions (excluding handles/coil) Overall (cm) -				
width	23.5	37	23.5	37
length	42	43	42	43
height	30	32.5	30	32.5
Coil dimensions (cm)				
length	-	-	8.5	8.5
diameter	-	-	7.5	7.5
Hose length to coil (cm)	-	-	12.5	12.5
Shipping weight (lbs)	41.8	41.8	41.8	41.8

*At an ambient of 20°C, using a mixture of 40% water, 40% antifreeze and 20% ethanol.



Ordering Information

Model#	Product Code	Description
Flow Coolers		
FC-200	1070700	FC-200 Flow Cooler, -20°C, 120V
FC-200	1070750	FC-200 Flow Cooler, -20°C, 240V
FC-500	1070800	FC-500 Flow Cooler, -35°C, 120V
FC-500	1070850	FC-500 Flow Cooler, -35°C, 240V
Dip Coolers		
RU-200	1070500	RU-200 Dip Cooler, -20°C, 120V
RU-200	1070550	RU-200 Dip Cooler, -20°C, 240V
RU-500	1070600	RU-500 Dip Cooler, -35°C, 120V
RU-500	1070650	RU-500 Dip Cooler, -35°C, 240V



FC-200

Model RB-5A Refrigerated Bath

The RB-5A is a complete refrigerated circulating system for open or closed applications for temperature ranges from -20°C to 100°C. It is supplied with a lid and bridging plate and has a bath capacity of 7 liters.

- Circulating bath with built in refrigeration
- By combining the RB-5A with one of our thermoregulators, four different choices are available to match your specifications and budget. For optimum bath performance, Techne recommends its bath liquids. (See page 21)

Technical Specifications

Cooling (at 20°C ambient)	
Minimum achievable temperature ¹	-20°C
Cooling capacity at 20°C	145W
Cooling capacity at 0°C	145W
Cooling capacity at -10°C	110W
Dimensions	
Overall Size - L x W x H (cm) ²	43 x 25 x 56.6
Liquid surface to top of bath - max (cm)	6.5
Internal dimensions - L x W x H (cm)	19.2 x 15.1 x 20
Working length to thermoregulator (cm)	22.4
Working depth - max/min (cm)	18/13.5
Working capacity - max/min (liters)	7/5.5
Shipping weight lbs ³	68

¹ Using a mixture of 50% of water and 50% antifreeze to achieve -20°C.
Alternatively 40% water, 40% antifreeze, 20% alcohol to achieve -35°C.

² Overall size with controller

³ Add thermoregulator and bath shipping weight to get shipping weight of complete bath system.

Ordering Information

Product Code	Description
1071400	RB-5A bath, 120V, 7 liter capacity with built in refrigeration, -20°C to 100°C



RB-5A