



## **Immersion Coolers Cold Baths**

Adding one of our Immersion Coolers or Cold Baths to your laboratory is a wise investment. Both are designed to eliminate the use of dry ice or liquid nitrogen, and feature durable, heavy-duty refrigeration systems that can operate continuously without trouble. Choose an Immersion Cooler, with its cold finger probe, or a Cold Bath, with the cold finger built into a self contained reservoir. If you calculate the cost of buying a year's worth of dry ice or LN<sub>2</sub>, and compare it with the cost of running either, you'll be pleasantly surprised. Our systems often beat the price of chemical refrigerants.

## Immersion Coolers - CC Series

When we pioneered the concept of an immersion cooler years ago, our aim was to provide convenient, efficient cooling to replace chemical refrigerants and to free-up the time required for the constant feeding of cold traps. Two models of cold-finger coolers, the CC-65 and CC-100, deliver low end temperatures to  $-90^{\circ}\text{C}$ , with a choice of three different cooling probes, each delivering the maximum amount of cooling area possible. Designed to run continuously, the CC Series eliminates the need for frequent feeding of chemical refrigerants. You'll have no more trips to the storeroom and no

### *R probe*

This short, rigid probe is excellent for immersion in containers such as dewars. It is available on both the CC-65 and CC-100

### *F probe*

This small diameter cooling probe is flexible and designed for cooling vacuum traps, vapor traps, or containers with small diameter openings. A flexible design allows for coiling. This probe is available on the CC-100

### *FV probe*

This probe is similar to the F probe but has a smaller diameter. It is available on both the CC-65 and CC-100

more waiting for the dry ice delivery. Heavy-duty refrigeration systems employing complete CFC-free refrigerants provide quick cool downs and repeatable temperatures, which translate to more accurate results. Choose our accessory Cryotrol Temperature Controller for control of temperatures and stability to  $\pm 0.5^{\circ}\text{C}$ . We've been building immersion coolers longer than anyone and with thousands in use in the field, you can trust a NESLAB Cryocool to deliver consistent, trouble free cooling.



# Immersion Cooler Specifications

MODEL	CC-65	CC-100
TEMPERATURE RANGE	-20°C to -55°C	-25°C to -90°C
TEMPERATURE STABILITY	±0.5°C	±0.5°C
LOW TEMPERATURE 50 Hz Models	-60°C with No Load -50°C with No Load	-90°C with No Load -87°C with No Load
COOLING CAPACITY 50 Hz Models	55 Watts at -40°C 45 Watts at -40°C	80 Watts at -70°C 83 Watts at -65°C
HOSE DIMENSIONS (L x Diam.) In. Cm.	44 x 1 <sup>1/4</sup> 111.8 x 3.2	65 x 1 <sup>1/2</sup> 165.1 x 3.81
PROBE DIMENSIONS (L x Diam.) In. Cm.	FV: 25 x 1/2 R: 7 <sup>1/4</sup> x 1 <sup>1/4</sup> FV: 63.5 x 1.3 R: 18.4 x 3.2	FV: 25 x 1/2 R: 7 <sup>1/4</sup> x 1 <sup>1/4</sup> F: 18 x 5/8 FV: 63.5 x 1.3 R: 18.4 x 3.2 F: 45.7 x 1.6
DIMENSIONS (H x W x D) In. Cm.	15 <sup>1/4</sup> x 7 <sup>1/2</sup> x 10 <sup>1/4</sup> 38.7 x 19.1 x 26	20 <sup>1/2</sup> x 14 1/2 x 17 3/4 52.1 x 36.8 x 45.1
POWER REQUIREMENTS 50 Hz Models:	115V, 60 Hz, 3.5 Amps 220-240V, 50 Hz, 1.7 Amps	115V, 60 Hz, 12 Amps 220-240V, 50 Hz, 5 Amps
SHIPPING WEIGHT	41 Lbs/18.6 Kgs	130 Lbs/59 Kgs

Specifications obtained using fluid with specific heat of 0.5, in a 2 liter container, at ambient 20°C. Time to temperature determined once fluid temperature stabilized, for 60Hz, 50Hz may vary. Specifications subject to change.

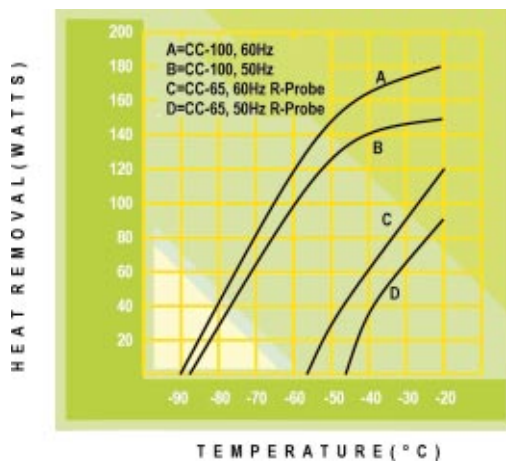
## APPLICATIONS

- Vapor Trapping
- Vacuum Pumps
- Solvent Trapping
- Lyophilization
- Freezing Points
- Impact Testing

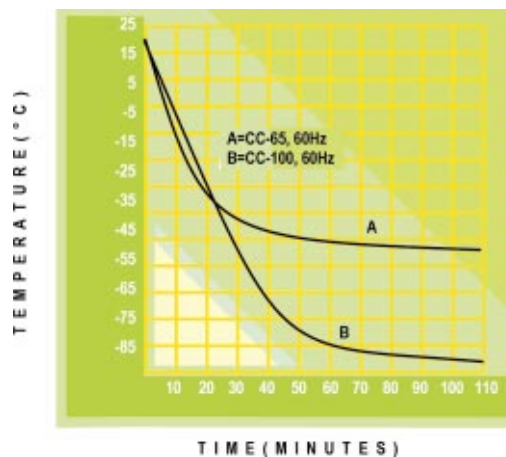
## ACCESSORY

- Cryotrol Temperature Controller

### Cooling Capacity



### Time to Temperature



## Immersion Coolers

### PBC/IBC Series

Use a PBC or IBC when you need quick cool-down or below ambient temperatures in a fluid vessel. Easy-to-use, these cold finger coolers provide temperatures to  $-25^{\circ}\text{C}$  and are ideal for replacing dry ice use. Choose from three models depending on your heat load removal requirements. Each is designed for continuous duty with a trouble-free hermetically sealed refrigeration compressor. For applications requiring temperature control, use our accessory Cryotrol Temperature Controller.

## Accessory Temperature Controller Cryotrol

Enhance your low temperature work with a NESLAB Cryotrol. Designed for use with NESLAB Immersion Coolers and Cold Baths, this electronic temperature device allows you to control cooling of your application, a major improvement if you currently use dry ice or other chemical refrigerants to achieve low temperatures. To cool your fluid to a selected temperature, plug the Cryotrol into the socket of the NESLAB Immersion Coolers and Cold Bath. Simply immerse the controller sensing probe into the fluid and set the control dial to the desired temperature.

#### *Optimum Cooling-Efficiency*

Efficient nickel-plated bronze cooling probe design allows for optimum cooling and the proper surface area for optimum efficiency

#### *Flexible Hose*

The cooling head is mounted on a flexible insulated hose which aids in positioning the probe in hard to reach spots.





# Immersion Coolers Specifications

MODEL	IBC-4	PBC-2	PBC-75
TEMPERATURE RANGE	+40°C to -25°C	+40°C to -25°C	+40°C to -25°C
COOLING CAPACITY 50 Hz Models	400 Watts at 20°C 325 Watts at 20°C	1000 Watts at 20°C 830 Watts at 20°C	1550 Watts at 20°C 1285 Watts at 20°C
HOSE DIMENSIONS (Length x Diameter) In. Cm.	42 x 1 106.7 x 2.5	54 x 1 <sup>3</sup> / <sub>4</sub> 137.2 x 4.4	54 x 1 <sup>3</sup> / <sub>4</sub> 137.2 x 4.4
PROBE DIMENSIONS (Length x Diameter) In. Cm.	4 <sup>3</sup> / <sub>8</sub> x 2 11.1 x 5.1	7 <sup>3</sup> / <sub>4</sub> x 1 <sup>3</sup> / <sub>4</sub> 19.7 x 4.4	12 x 1 <sup>3</sup> / <sub>4</sub> 30.5 x 4.4
DIMENSIONS (H x W x D) In. Cm.	13 <sup>9</sup> / <sub>16</sub> x 8 <sup>1</sup> / <sub>4</sub> x 11 <sup>1</sup> / <sub>2</sub> 34.4 x 20.9 x 29.2	14 <sup>1</sup> / <sub>2</sub> x 15 x 21 36.8 x 38.1 x 53.3	16 <sup>1</sup> / <sub>2</sub> x 17 <sup>1</sup> / <sub>4</sub> x 22 <sup>1</sup> / <sub>2</sub> 41.9 x 43.8 x 57.2
POWER REQUIREMENTS 50 Hz Models:	115V, 60 Hz, 4 Amps 220-240V, 50 Hz, 3 Amps	115V, 60 Hz, 10 Amps 220-240V, 50 Hz, 6 Amps	115V, 60 Hz, 14 Amps 220-240V, 50 Hz, 8 Amps
SHIPPING WEIGHT	42 Lbs/19 Kgs	125 Lbs/56.7 Kgs	150 Lbs/68 Kgs

Specifications obtained using fluid with specific heat of 0.5, in a 2 liter container, at ambient 20°C. Specifications subject to change

## APPLICATIONS

- Replace ice baths
- Rapid cool down
- Reaction heat removal
- Trapping
- Freezing points

# Cryotrol Specifications

MODEL	CRYOTROL
TEMPERATURE RANGE	-100°C to +20°C
SENSOR	Stainless Steel 4'(1.2M) lead
SENSOR DIMENSIONS (Diameter x Length) In. Cm.	3/16 x 10 .5 x 25.4
POWER REQUIREMENTS 50 Hz Models:	115V, 60 Hz, .6 Amps 220-240V, 50 Hz, .3 Amps
SHIPPING WEIGHT	6 Lbs/2.7 Kgs

Specifications subject to change

### ±0.5°C Stability

A Cryotrol Temperature Controller can produce excellent stability from -90°C to +20°C. Improve your results with predictable, even temperatures



## Cold Baths - CB Series

NESLAB's Cold Baths are convenient, all purpose baths that eliminate the inconvenience of using dry ice or liquid nitrogen in a dewar flask. Simple to operate, the units quickly cool-down to low end temperatures, or can be controlled with an accessory Cryotrol Temperature Controller, which plugs directly into the Cold Bath and allows you to set the temperature via an analog control dial (see page 25).

NESLAB Cold Baths are equipped with a seamless, stainless steel reservoir for excellent fluid compatibility. A rugged, solid state magnetic stirrer ensures excellent fluid mixing and temperature stability and is designed to handle increasing fluid viscosity at low end temperatures. A PVC reservoir cover is included and features a gasket to provide a tight seal and reduce fluid evaporation or ice build-up from condensation.

### *No More Dry Ice*

NESLAB Cold Baths can pay for themselves within one year by eliminating the cost of handling and storage problems associated with liquid nitrogen and solid CO<sub>2</sub>

### *Excellent Stability*

The CB-60 and CB-80 feature a solid state reversible magnetic stirrer and a user adjustable torque control for temperature uniformity



### *Gasketed Cover*

The PVC reservoir cover features a gasket to provide a tight seal and reduce fluid evaporation or ice build-up



# Cold Bath Specifications

MODEL	CB-60	CB-80
TEMPERATURE RANGE	-25°C to -50°C	-25°C to -80°C
TEMPERATURE STABILITY	±0.5°C	±0.5°C
LOW TEMPERATURE 50 Hz Models	-50°C with no load -50°C with no load	-80°C with no load -75°C with no load
COOLING CAPACITY 50 Hz Models	75 Watts at -30°C 60 Watts at -30°C	120 Watts at -50°C 100 Watts at -50°C
WORK AREA (Diam. x Depth) In. Cm.	6 <sup>1</sup> / <sub>2</sub> x 6 16.5 x 15.2	7 <sup>3</sup> / <sub>4</sub> x 7 <sup>3</sup> / <sub>4</sub> 19.7 x 19.7
BATH VOLUME Gallons/Liters:	1/3.8	2/7.6
DIMENSIONS (H x W x D) In. Cm.	19 <sup>3</sup> / <sub>4</sub> x 11 <sup>3</sup> / <sub>4</sub> x 13 <sup>3</sup> / <sub>4</sub> 50.2 x 29.8 x 34.9	40 x 16 x 22 <sup>1</sup> / <sub>2</sub> 101.6 x 40.6 x 57.2
POWER REQUIREMENTS 50 Hz Models:	115V, 60 Hz, 6 Amps 220-240V, 50 Hz, 3 Amps	115V, 60 Hz, 9 Amps 220-240V, 50 Hz, 4.5 Amps
SHIPPING WEIGHT	75 Lbs/34 Kgs	215 Lbs/97.5 Kgs

Specifications obtained using fluid with specific heat of 0.5, at ambient 20°C. Time to temperature determined once fluid temperature stabilized, for 60Hz. 50Hz may vary. Specifications subject to change.

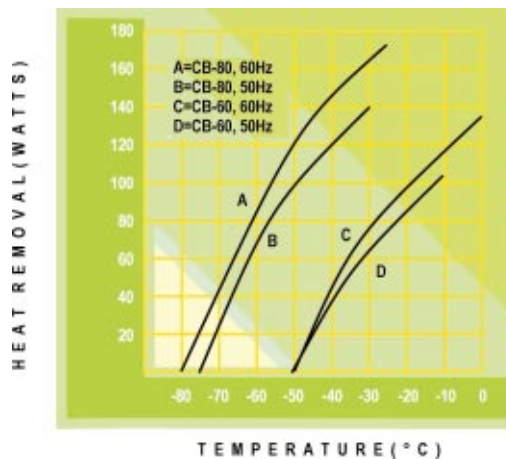
## APPLICATIONS

- Vapor Trapping
- Freeze Drying
- Solvent Trapping
- Lyophilization
- Freezing Points
- Impact Testing
- Shell Freezing
- Replacing Dry Ice
- Laboratory Cooling

## ACCESSORIES

- Cryotrol Temperature Controller

### Cooling Capacity



### Time to Temperature

