

FTS Systems Bio-Cool™

Controlled Rate Freezer



Bio-Cool™ BC80

Key Features

- Mechanically refrigerated.
- Hinged and insulated reservoir lid for easy bath access.
- Convenient tabletop design.

Key Benefits

- Built in magnetic stirrer and vortex breaker to ensure isothermal bath conditions.
- Liquid medium increases temperature uniformity and stability of specimen.
- Operates on standard 120 volt or 220 volt power sources.
- Lowers cost and eliminates hazards associated with expendable refrigerants.

Electrical Requirements

Item	BC-IV-40	BC80
60 Hz Option	120 VAC 9 Amps	120 VAC 12 Amps
50 Hz Option	220 VAC 5 Amps	220 VAC 6 Amps

Agency Approval

UL #61010-1; CAN/CSA 22.2 #61010-1; CE (2006/42/EC), (2006/95/EC), (2006/108/EC)

Technical Specifications

Item	BC-IV-40	BC80
Maximum Low Temperature (°C)	-40	-80
Operating Temperature Range (°C)	-40 to 30	-80 to 30
Temperature Control	Yes	Yes
Temperature Control Range (°C)	-40 to 30	-80 to 20
Temperature Control Tolerance* (°C)	± 0.1	± 0.1
Bath Volume (L)	1.5	1.5
Magnetic Stirrer	Yes	Yes
Computer Interface†	USB	USB

Note: Performance specifications are based on SP Scientific test data from units using methanol and operating at an ambient room temperature of approximately 22 °C (72 °F). Higher ambient temperatures and/or different fluids may interfere in the system's ability to achieve its ultimate low temperature.

Maximum Cooling Rates‡

Item	BC-IV-40	BC80
20 to -20 °C / minute(s)	3 / 1	2.5 / 1
-20 to -30 °C / minute(s)	2 / 1	2.5 / 1
-30 to -40 °C / minute(s)	1 / 1	2.5 / 1
-40 to -60 °C / minute(s)	N/A	2.5 / 1
-60 to -80 °C / minute(s)	N/A	1.3 / 1

Dimensional Data

Item	BC-IV-40	BC80
Width (in / cm)	10.5 / 26.7	13 / 33
Depth (in / cm)	20.5 / 52.1	25.5 / 64.8
Height (in / cm)	14.5 / 36.8	19 / 48.3
Height to Work Surface Above Bench Top (in / cm)	11 / 27.9	13.5 / 34.3

Optional Straw Racks

SR-36



Maximum capacity of 36 straws (0.25cc or 0.50cc) Made of Lexan®, Delrin® and stainless steel. (standard)

SR-12



Maximum capacity of 12 ampules up to 5 ml. Configured of polycarbonate and stainless steel. (standard)

SR-15



Maximum capacity of 15 ampules up to 5ml. Configured of polycarbonate and stainless steel. (standard)

Disclaimer: The Bio-Coo™ is not an FDA registered medical device.

* Temperature control is accomplished by means of a, proportional-integral-derivative (PID) microprocessor control which offers rapid temperature stabilization and displays a bright, continuous read of temperature with 0.1 °C indication

† Computer interface not available on BC-IV-40

‡ Rates calculated at 22 °C (72 °F) ambient with clean methanol