

FTS Systems Flexi-Cool with EDC Controller

Immersion Cooler



FC55

FC100

Features

- Refrigerant expands directly inside the probe.
- Choice of three standard probe options.
- Mechanically refrigerated.
- Digital control with remote sensor.
- RS232 interface.

Benefits

- No secondary medium to introduce additional heat load.
- Meets requirements for a variety of applications.
- Continuous low temperature cooling without dry ice.
- Precise temperature control at your process.
- Allows control and data collection from a remote location.

Applications

- Laboratory dewars.
- Vapor trapping.
- CCD camera.
- Differential scanning calorimeter.
- Reaction vessels.
- Thermostatic baths.
- ASTM plastic and metal tests.
- Parylene coating systems.

Performance Specifications

	FC55	FC100
Maximum Low Temperature	-50 °C	-100 °C
Temperature Control	Optional	Optional
Cooling Rate* (2-liter Dewar)	30 min / -50 °C	50 min / -80 °C
Controls (Standard, Control)	On/Off, Digital/RS232	On/Off, Digital/RS232
Indication (Control Only)	0.1 °C with digital	0.1 °C with digital

Heat Removal

	FC55	FC100
20 °C	220 W, 750 Btu/hr	180 W, 610 Btu/hr
0 °C	200 W, 680 Btu/hr	170 W, 545 Btu/hr
-20 °C	170 W, 575 Btu/hr	160 W, 545 Btu/hr
-40 °C	70 W, 235 Btu/hr	140 W, 475 Btu/hr
-60 °C	N/A	110 W, 375 Btu/hr
-80 °C	N/A	60 W, 205 Btu/hr

Electrical Requirements

	FC55	FC100
60 Hz Option	120 V, 4 A	120 V, 11 A
50 Hz Option [†]	220 V, 2 A	220 V, 5 A

Dimensional Data

	FC55	FC100
Width	10.5 in (26.7 cm)	10 in (25.4 cm)
Depth	16.5 in (41.9 cm)	20 in (50.8 cm)
Height	9.25 in (23.5 cm)	18.5 in (47.9 cm)
Weight	50 lbs (22.7 kg)	70 lbs (31.7 kg)

Probes

	P1	P2	P4
Description	Smooth Cylinder	Flexible Corrugated	Smooth Coil
Material	304 SS	316 SS	304 SS
Outside Diameter	.75 in (1.9 cm)	.46 in (1.2 cm)	5 in (12.7 cm)
Length	7 in (1.78 mm)	25 in (63 cm)	8 in (20.3 cm)
Outside Diameter	N/A	N/A	5 in (12.7 cm)
Inner Bend Radius	N/A	1 in (2.5 cm)	N/A
Heat Removal Multiplier [‡]	0.78	0.9	1



P1 Probe

P2 Probe

P4 Probe

* Cooling rates based on time to cool to a given temperature with a quantity of well-stirred fluid, with a specific heat of 0.6 and a specific gravity of 0.8 from 20 °C in a well-insulated dewar.

[†] 50 Hz option decreases heat removal by 17%.

[‡] Heat removal specifications are based on units equipped with the P4 cooling probe. For units equipped with the P1 or P2 cooling probe, use the following multipliers to determine heat removal specifications: P1 probe, heat removal x 0.78, P2 probe, heat removal x 0.9.