

FTS Systems FlexiCool

Immersion Cooler



FC50

Features

- Digital control with external RTD.
- Choice of three (3) probe options.
- Optional USB adapter, 2m cable and software for plug and play operation.
- Mechanically refrigerated.

Benefits

- Allows for accurate process control.
- Allows cooling for a variety of applications.
- Permits complete control of the machine from a PC and allows for data logging
- Eliminates costs and hazards associated with expendable refrigerants.

Agency Approvals

CE (2006/42/EC), (2006/95/EC), (006/108/EC)

Performance Specifications

FC50	
Maximum Low Temperature	-50 °C
Temperature Control	Optional
Temperature Control Range	-50 to 20 °C
Temperature Control Stability	± 0.5 °C
Temperature Indication Display*	0.1 °C
Cooling Rate [†] (2-liter Dewar)	45 min / -50 °C
Compressor	1 @ .25 hp
Communication Interface (Control Only)	RS485

Notes: Performance specifications are based on SP Scientific test data from units using methanol 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.


Communicate remotely through a RJ12/45 port using Modbus RTU or ASCII protocol (Requires custom application). The RJ12/45 port is accessible from the front or rear of the unit. Contact SP Scientific for parameter/command list.

Heat Removal[‡]

FC50	
20 °C	220 W, 751 Btu/hr
0 °C	200 W, 683 Btu/hr
-20 °C	170 W, 581 Btu/hr
-40 °C	70 W, 239 Btu/hr

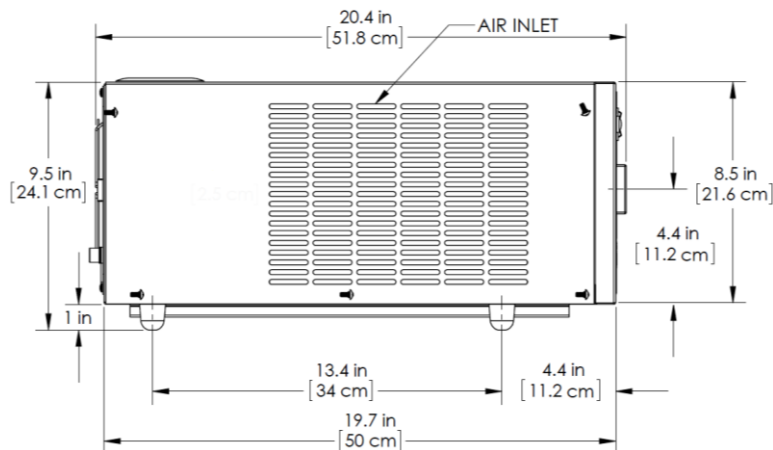
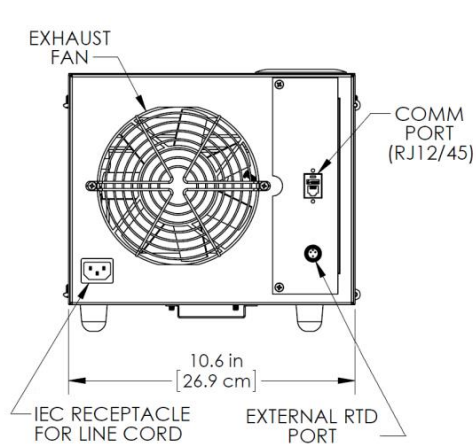
Electrical Requirements

FC50	
60 Hz Option	120 V, 4 A [§]
50 Hz Option	220 V, 2 A [§]

Note: All equipment configured with the 60 Hz option is supplied with a 5-15P NEMA configuration (i.e., ). All equipment configured with the 50 Hz option is supplied with a non-terminated AWG 18-3 power cord.

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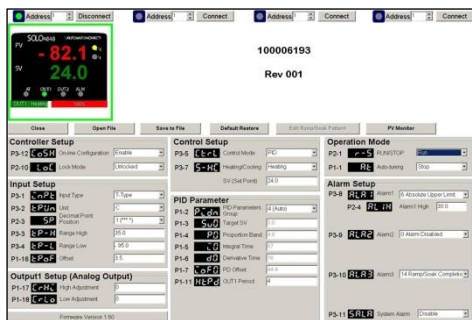


Optional Communication Kit, Solo Control

An optional communication kit "p/n COMMKIT" is available for the FlexiCool. The kit includes a USB adapter, a two (2) meter cable and software.

A PC with the Windows® 98, Windows® NT, Windows® XP, 32-bit Windows Vista®, or 32-bit Windows® 7 operating system is required for bridge and driver installation.

Note: The communication kit will not work with a 64-bit Windows® operating system.



Software



USB Adapter



2 meter cable

Optional Communication Kit Features

- Permits complete control of the FlexiCool from a PC.
- Allows for plug and play operation.
- Allows for data logging.
- Includes a 64 segment ramp soak program.

Dimensional Data

FC50

Width	10.6 in (26.9 cm)
Depth	19.7 in (50 cm)
Height	9.5 in (24.1 cm)
Weight	50 lbs (23 kg)
Delivery Line Length	5 ft (152.4 cm)

Probe Options

	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 (17.8 cm)	25 in (63.5 cm)	8 in (20.3 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

* Temperature Indication Display is only available on units with temperature control.

† Cooling rates based on time to cool to a given temperature with 2 liters 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.

‡ 50Hz option decreases heat removal by 17%.

§ Maximum continuous amperage drawn by the equipment.

¶ 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.