



SP FTS FlexiCool™

Low Temperature Immersion Probe

Features & Benefits

- Digital control with external RTD allows for accurate process control
- Choice of three probe options allows cooling for a variety of applications
- Optional USB adapter, 2m cable and software permit data logging and remote control
- Mechanical refrigeration eliminates costs and hazards associated with expendable refrigerants
- Refrigerant expands directly inside probe (direct cooling)

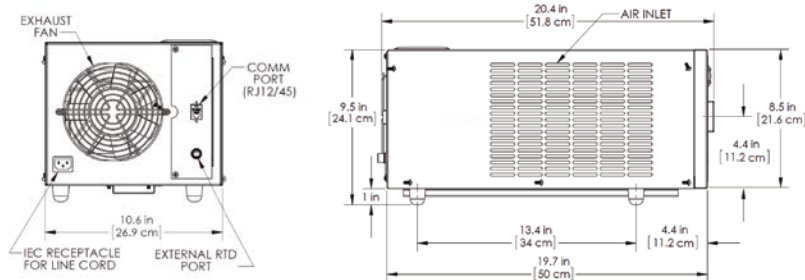


Performance Specifications

| Description | FC50 | FC100 |
|---|-----------------|-----------------|
| Maximum Low Temperature | -50 °C | -100 °C |
| Temperature Control | Optional | Optional |
| Temperature Control Range | -50 to 20 °C | -100 to 20 °C |
| Temperature Control Stability ² | ± 0.5 °C | ± 0.5 °C |
| Temperature Indication Display ¹ | 0.1 °C | 0.1 °C |
| Cooling Rate ³ (2-liter Dewar) | 45 min / -50 °C | 50 min / -80 °C |
| Compressor | 1 @ 0.25 hp | 2 @ 0.25 hp |
| Communication Interface (Control Only) | RS485 | RS485 |

Notes: Performance specifications are based on SP 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 for parameter/command list.

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Heat Removal⁴

| Description | FC50 | FC100 |
|-------------|-------------------|-------------------|
| 20 °C | 220 W, 751 BTU/hr | 180 W, 615 BTU/hr |
| 0 °C | 200 W, 683 BTU/hr | 170 W, 580 BTU/hr |
| -20 °C | 170 W, 580 BTU/hr | 160 W, 545 BTU/hr |
| -40 °C | 70 W, 239 BTU/hr | 140 W, 478 BTU/hr |
| -60 °C | N/A | 110 W, 375 BTU/hr |
| -80 °C | N/A | 60 W, 204 BTU/hr |

Electrical Requirements

| Description | FC50 | FC100 |
|--------------|-------------------------|--------------------------|
| 60 Hz Option | 120 V, 4 A ⁵ | 120 V, 11 A ⁵ |
| 50 Hz Option | 220 V, 2 A ⁵ | 220 V, 5 A ⁵ |

Note: All equipment configured with the 60 Hz option is supplied with a 5-15P NEMA configuration. All equipment configured with the 50 Hz option is supplied with a NEMA 6-15P power cord.

Dimensional Data

| Description | FC50 | FC100 |
|----------------------|-------------------|-------------------|
| Width | 26.9 cm (10.6 in) | 25.4 cm (10 in) |
| Depth | 50 cm (19.7 in) | 54.2 cm (21.3 in) |
| Height | 24.1 cm (9.5 in) | 47 cm (18.5 in) |
| Weight | 23 kg (50 lbs) | 34 kg (75 lbs) |
| Delivery Line Length | 152.4 cm (5 ft) | 152.4 cm (5 ft) |

Probe Options

| Description | P1 Smooth Cylinder | P2 Flexible Corrugated | P3 Smooth Coil |
|--------------------------------------|--------------------------|------------------------------|-------------------|
| Material | 304 SS | 316 SS | 304 SS |
| Outside Diameter | 1.9 cm (0.75 in) | 1.2 cm (0.46 in) | 12.7 cm (5 in) |
| Length | 17.8 cm (7 in) | 63.5 cm (25 in) | 20.3 cm (8 in) |
| Inner Bend Radius | N/A | 2.5 cm (4 in) | N/A |
| Heat Removal Multiplier ⁶ | 0.78 | 0.9 | 1 |

Optional Accessories

| Item | Description |
|---------|--|
| COMMKIT | Communication Kit, 6.5 ft RJ12 Cable, RS-485 to USB Adapter with drivers, software |
| CK2 | Caster Kit, FC 100 only |

Optional Communication Kit Features

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

¹ Temperature Indication Display is only available on units with temperature control.

² Process dependent (with control).

³ 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.

⁴ 50Hz option decreases heat removal by 17%.

⁵ Maximum continuous amperage drawn by the equipment.

⁶ 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 heat removal multipliers to determine heat removal specifications: P1 probe, heat removal x 0.78, P2 probe, heat removal x 0.9.



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