FP89-ME Ultra-Low Refrigerated-Heating Circulator

The Ultra-Low Refrigerated Circulators of the TopTech Series are equipped with a dual-stage cascade refrigeration system for continuous operation of internal and external temperature applications.

Models with ME circulator
• Heated bath cover plate to prevent condensation or ice build-up
• Pressure pump up to 0.45 bar, electronically adjustable in steps
• ACC Active Cooling Control across the entire temperature range
• Compact design Note: FP models feature an energy-saving proportional cooling control.

Your advantages

• PID3 cascade temperature control
• RS232 interface for online communication
• Integrated programmer for 10 program steps

Technical data

Available voltage versions	
Order No.	9 162 689
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9 162 689.03	230V/50Hz (Schuko Plug - CEE 7/4 Plug Type F)
9 162 689.13	230V/60Hz (Nema N6-20 Plug)

Cooling	
Cooling of compressor	2-stage Air

Electronics	
External pt100 sensor connection	integrated
Integrated programmer	1x10 steps
Temperature control	PID3
Absolute temperature calibration	3 Point Calibration
Temperature display	VFD
Temperature setting	Keypad

Temperature values	
Setting the resolution of the temperature display °C	0.01
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Bath	
Bath tank	Stainless steel
Bath cover	integrated
Usable bath opening cm (W x L / D)	13 x 15 / 16

Other	
Classification	Classification III (FL)
IP Code	IP 21
Pump type	Immersion Pump

Dimensions and volumes	
Weight kg	137
Barbed fittings inner diameter	8/12 mm
Dimensions cm (W × L × H)	55 x 60 x 90
Filling volume l	5.5 ... 8
Pump connections	M16x1 male

Performance values

230V/50Hz (Schuko Plug - CEE 7/4 Plug Type F)

230V/50Hz

Heating capacity kW	1.2

Cooling capacity (Ethanol)

°C	20	0	-20	-40	-60	-80
kW	1	0.92	0.88	0.75	0.58	0.2

Viscosity max. cST	50
Refrigerant	R404A
Filling volume g	500
Global Warming Potential for R404A	3922
Carbon dioxide equivalent t	1.961
Pump capacity flow rate l/min	11 ... 16
Pump capacity flow pressure bar	0.23 ... 0.45

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Benefits

100% Checked.
100% testing. 100% quality. Each JULABO Circulator undergoes thorough quality testing before leaving the factory.

Green technology.
Development consistently applied environmentally friendly materials and technologies.

JULABO. Quality.
Highest standards of quality for a long product life.

Quick start.
Individual JULABO consultation and comprehensive manuals at your disposal.

Satisfied customers.
11 subsidiaries and more than 100 partners worldwide guarantee fast and qualified JULABO support.

Services 24/7.
Around the clock availability. You can find suitable accessories, data sheets, manuals, case studies, and more at www.julabo.com.

Early warning system for high/low temperature limits
Maximum safety for applications, optical and audible alarm, convertible to automated cut-off function

For higher demands
PID Temperature control with drift compensation and adjustable parameters, improved temperature stability for external applications, temperature stability ±0.01 °C internal, <±0.1 °C external.

Clever pump system
Reliable and consistent pump capacity, electronically adjustable pump stages

Control from the external application
External Pt100 sensor connection for precise measurement and control directly in the external application

For flammable bath fluid
Classification III (FL) according to DIN 12876-1

ATC3. Calibration.
'Absolute Temperature Calibration' for compensating a physically caused temperature difference, 3-point calibration.

100 % Cooling capacity
'Active Cooling Control' for cooling available throughout the entire working temperature range, fast cool-down even at higher temperatures

Energy saving cooling
Proportional cooling control for automatic adjustment of cooling power or temporary switch-off of compressor as needed to save up to 90 % energy in comparison to unregulated cooling machines