

FP50-HE Refrigerated/Heating Circulator

The powerful upper class unit for demanding applications.

JULABO Refrigerated & Heating Circulators for heating and cooling are suitable for external temperature tasks and for temperature applications directly in the bath. A model from three different series' with different capacities can be selected. Powerful circulating pump systems and high heating and cooling capacities guarantee short heat-up and cool-down times. The inevitable dust accumulation that occurs in refrigeration systems is solved by means of an easily removed venting grid, which allows for easy cleaning. Depending on the model, the units are equipped with handles or castors for an easy transportation. All models have a drain tap on the front allowing the fluid to be drained easily. The compact assembly of each unit enables space to be saved in the laboratory.



Your advantages

- VFD COMFORT DISPLAY
- Keypad for setpoints, warning/safety values and menu functions
- ICC (Intelligent Cascade Control), self-optimizing temperature control
- ATC3 3-Point-Calibration
- Pt100 External sensor connection for measurement and control
- SMART PUMP, electronically adjustable pump stages
- Adjustable pressure and suction pump
- Early warning system for low liquid level (DBGM 203 06 059.8)
- Adjustable high temperature cut-out, visible via display
- RS232 interface for online communication
- Optional: analogue interfaces
- Integrated programmer for 10 program steps
- Active Cooling Control

Technical Data

Order No.	9212650
Model series	HighTech
Category	Refrigerated - Heating Circulators
Working temperature range (°C)	-50... 200
Temperature stability (°C)	±0.01
Setting / display resolution	0.01 °C
Integrated programmer	1x10 steps

Temperature Display	VFD
Heating capacity (kW)	2
Cooling capacity (Medium Ethanol)	
20°C	0.9 kW
0°C	0.8 kW
-20°C	0.5 kW
-40°C	0.16 kW
Pump capacity flow rate (l/min)	22-26
Pump capacity flow pressure (bar)	0.4-0.7
Pump capacity flow suction (bar)	0.2-0.4
Bath opening / bath depth (W x L / D cm)	18 x 12 / 15
Pump connections	M16x1
Barbed fittings diameter (inner dia. / mm)	8 / 12
Filling volume liters	8
Refrigerant	R404a
External Pt100 sensor connection	integrated
Digital interface	RS232 Optional Profibus
Ambient temperature	5...40 °C
Dimensions W x L x H (cm)	42 x 49 x 72
Weight (kg)	57
Classification according to DIN12876-1	Classification III (FL) according to DIN 12876-1
Included with each unit	2 each barbed fittings for tubing 8 and 12 mm inner dia. (pump connections M16x1 female).
Cooling of compressor	Air
Power requirement V / Hz / A	230/50/14

Available voltage versions

230 V / 50 Hz

230 V / 60 Hz

Characteristics

VFD Comfort Display

Backlit indicator



with simultaneous indication of 3 values, warning functions, high temperature cut-off, pump stages (resolution 0.01 °C)



for selected pump stage and filling volume on Presto® PLUS, Magnum 91 and Forte HT



Keypad 2

with additional menu functions for pump stages, calibration, control parameters, programmer, warnings etc.



ICC Intelligent Cascade Control

for best results, self-optimizing and precise, temperature stability ± 0.005 °C internally, $< \pm 0.05$ °C externally



TCF Temperature Features

for supervising the control dynamics, access to all important control parameters for optimized operation



Absolute Temperature Calibration 3-point

3-point calibration



Intelligent pump system

Electronically adjustable pump stages



External Pt100 sensor connection

or precise measurement and control directly in the external system



RS232 interface

for PC control, data communication and recording of measured values



Integrated programmer for 1 temperature profile

with 10 steps max., with real time clock



Proportional cooling control

Automatic adjustment of cooling power or temporary switch-off of compressor as needed to save energy (FP models)



Removable venting grid

for quick and easy cleaning, to maintain cooling performance

Other characteristics

Optional: Electronic module with analog connections for external programming, temperature recorder, standby, alarm (Order no. 8 900 100).

Technical changes without prior notification.
Images may deviate from the original.



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