

Product data sheet

CF41 Cryo-compact circulator

The top class for demanding tasks in any environment

The cryo-compact circulators of the CF Series provide powerful cooling and heating capabilities in a space-saving, compact design. The instruments feature 2 kW heating capacity and classification III according to DIN 12876-1. The cryo-compact circulators have pump connections for external temperature control applications and a bath opening for temperature control of small objects.



Product Features

- ✓ Ergonomic design and easy operation
- ✓ Small overall dimensions for lowest space requirement
- ✓ Splash-proof keypad
- ✓ Bright VFD display and interactive LCD dialog display
- ✓ Highly precise ICC cascade temperature control
- ✓ RS232/RS485 interface for PC connection
- ✓ SMART PUMP, electronically adjustable pump stages
- ✓ Pt100 External sensor connection for measurement and control

Performance values

230V/50Hz (UK Plug Type BS1363A)		
Heating capacity kW		2
Viscosity max. cSt		70
Pump capacity flow rate l/min		22 ... 26
Pump capacity pressure bar		0.4 ... 0.7
Maximum suction bar		0.2 ... 0.4
Power consumption A		13
Voltage Tolerance %		230V ±10

Order number including voltage version (230V/50Hz)		9400341.04		
Cooling capacity (Ethanol)				
°C	20	0	-20	-30
kW ¹	0.47	0.4	0.28	0.12
Refrigerant stage 1				
Refrigerant			R452A	
Filling weight g			153	
Global Warming Potential for R452A			2140	
Carbon dioxide equivalent t			0.32742	

¹ Performance specifications measured in accordance with DIN 12876. Cooling capacities up to 20 °C measured with ethanol; over 20 °C with thermal oil unless otherwise specified. Performance specifications apply at an ambient temperature of 20 °C. Performance values may differ with other bath fluids.

Technical data

Available voltage versions	
Order No.	9400341
9400341.13	230V 60Hz (Nema N6-20 Plug) (R449A)
9400341.02	115V 60Hz (Nema N5-20 Plug) (R449A)
9400341.03	230V 50Hz (Schuko Plug - CEE 7/4 Plug Type F) (R452A)
9400341.04	230V 50Hz (UK Plug Type BS1363A) (R452A)

Cooling	
Cooling of compressor	1-stage Air

Bath	
Bath tank	Stainless steel
Bath cover	integrated
Usable bath opening cm (W x L / D)	19 x 3 / 19

Electronics	
Interfaces	RS232
External pt100 sensor connection	integrated
Integrated programmer	6x60 steps
Temperature control	ICC
Absolute temperature calibration	3 Point Calibration
Temperature display	LCD

Dimensions and volumes	
Weight kg	44
Barbed fittings inner diameter mm	8/12 mm
Total dimensions cm (W x L x H)	28 x 46 x 46
Filling volume l	4 ... 5.5
Pump connections	M16x1 male

Temperature values

Working temperature range °C	-40 ... 200
Temperature stability °C	±0.02
Ambient temperature °C	+5 ... +40
Temperature display resolution °C	0.01

Other

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

Included in delivery

2 Barbed fittings for tubing 8 and 12 mm ID. (Pump connections M16x1 male)

All Benefits

S3

For flammable bath fluid

Classification III (FL) according to DIN 12876-1

ATC3

ATC3. Calibration.

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

TCF

Process. Under control.

Full regulation of the dynamics control, access to all important control parameters for individual process optimization.

ACC

100 % Cooling capacity

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



Early warning system for high/low temperature limits

Maximum safety for applications, optical and audible alarm, convertible to automated cut-off function



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



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.



Intelligent temperature control.

Intelligent cascade control - automatic and self-optimizing adaptation of the PID control parameters with external stability of $\pm 0.05\text{ }^{\circ}\text{C}$.