

CF41 Cryo-compact circulator

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
- Integrated programmer for 6 x 60 program steps
- Unique early warning system for low liquid level
- ATC3 3-Point-Calibration
- TCF Temperature Control Features
- Adjustable high temperature cut-out, visible via display
- Pump connections for external temperature applications
- Bath opening for temperature control of small objects in the bath
- Front drain
- Extra bright displays, easy to read from a distance
- Precise temperature control
- Class III (FL) according to DIN 12876-1

Performance values

230V/50Hz (Schuko Plug - CEE 7/4 Plug Type F)	
Heating capacity kW	2
Viscosity max. cSt	70
Pump capacity flow rate l/min	22 ... 26
Pump capacity flow pressure bar	0.4 ... 0.7
Maximum suction bar	0.2 ... 0.4
Power consumption A	13

Order No. 9400341.03

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		Cooling	
Order No.	9 400 341	Cooling of compressor	1-stage Air
Available voltage versions:			
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)		
Bath		Other	
Bath tank	Stainless steel	Classification	Classification III (FL)
Bath cover	integrated	IP Code	IP 21
Usable bath opening cm (W x L / D)	19 x 3 / 19	Pump type	Immersion Pump
Electronics		Dimensions and volumes	
Interfaces	Alarm output optional, REG/EPROG optional, RS485, Standby-Input optional	Weight kg	44
External pt100 sensor connection	integrated	Barbed fittings inner diameter mm	8/12 mm
Integrated programmer	6x60 steps	Dimensions cm (W x L x H)	28 x 46 x 46
Temperature control	ICC	Filling volume l	4 ... 5.5
Absolute temperature calibration	3 Point Calibration	Pump connections	M16x1 male
Temperature display	LCD		
Temperature values		Included in delivery	
Working temperature range °C	-40 ... +200	2 Barbed fittings for tubing 8 and 12 mm ID. (Pump connections M16x1 male)	
Temperature stability °C	±0.02		
Ambient temperature °C	+5 ... +40		
Setting the resolution of the temperature display °C	0.01		

All Benefits

	<p>For flammable bath fluid Classification III (FL) according to DIN 12876-1</p>		<p>ATC3. Calibration. 'Absolute Temperature Calibration' for compensating a physically caused temperature difference, 3-point calibration.</p>
	<p>Process. Under control. Full regulation of the dynamics control, access to all important control parameters for individual process optimization.</p>		<p>100 % Cooling capacity 'Active Cooling Control' for cooling available throughout the entire working temperature range, fast cool-down even at higher temperatures</p>
	<p>Early warning system for high/low temperature limits Maximum safety for applications, optical and audible alarm, convertible to automated cut-off function</p>		<p>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</p>
	<p>100% Checked. 100% testing. 100% quality. Each JULABO Circulator undergoes thorough quality testing before leaving the factory.</p>		<p>Green technology. Development consistently applied environmentally friendly materials and technologies.</p>
	<p>JULABO. Quality. Highest standards of quality for a long product life.</p>		<p>Quick start. Individual JULABO consultation and comprehensive manuals at your disposal.</p>
	<p>Satisfied customers. 11 subsidiaries and more than 100 partners worldwide guarantee fast and qualified JULABO support.</p>		<p>Services 24/7. Around the clock availability. You can find suitable accessories, data sheets, manuals, case studies, and more at www.julabo.com.</p>
	<p>Intelligent temperature control. Intelligent cascade control - automatic and self-optimizing adaptation of the PID control parameters with external stability of +/- 0.05 °C.</p>		