

## CORIO CD-450F Refrigerated / heating circulator

Refrigerated / heating circulators of the CORIO series distinguish themselves with a great price-to-performance ratio. They are ideal for all standard tasks and routine work in laboratories and industry.

### Alternatively with natural refrigerant

The CORIO CD-450F is available with natural refrigerant. Order No. 9 012 714.N1



### Product features

- Models for internal and external applications
- Bright, white, easy to read display
- Very quiet
- Easy pump change-over between internal and external circulation
- External pump connections
- USB connection
- Bath lid and drain tap included
- Removable ventilation grid
- Refrigeration unit without side vents
- 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	50
Pump capacity flow rate l/min	15
Pump capacity flow pressure bar	0.35
Power consumption A	13

Refrigerant variants

Order No. 9012714.N1.03

Cooling capacity (Ethanol)

°C	20	0	-10	-20	-30
kW	0.45	0.38	0.28	0.17	0.07

\*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.

Note about natural refrigerants:

Temperature control units using natural refrigerants are often subject to regulatory requirements regarding the installation site, operation, transport or disposal of the units. If you have any questions, we will be happy to advise you.

Refrigerant stage 1

Refrigerant R290

Filling weight g 33

Global Warming Potential 3  
for R290

Carbon dioxide equivalent 9.9E-5  
t

Order No. 9012714.S1.03

Refrigerant stage 1

Refrigerant R449A

Filling weight g 70

Global Warming Potential 1397  
for R449A

Carbon dioxide equivalent 0.09779  
t

Technical data

Available voltage versions		Bath	
Order No.	9 012 714	Bath tank	Stainless steel
Available voltage versions:		Bath cover	integrated
9012714.N1.01	100V/50-60Hz (Nema N5-15 Plug) (R290)	Usable bath opening cm (W x L / D)	13 x 15 / 15
9012714.S1.01	100V/50-60Hz (Nema N5-15 Plug) (R449A)		
9012714.N1.02	115V/60Hz (Nema N5-15 Plug) (R290)		
9012714.S1.02	115V/60Hz (Nema N5-15 Plug) (R449A)		
9012714.N1.03	230V/50Hz (Schuko Plug - CEE 7/4 Plug Type F) (R290)		
9012714.S1.03	230V/50Hz (Schuko Plug - CEE 7/4 Plug Type F) (R449A)		
9012714.N1.03.chn	230V/50Hz (CN Plug) (R290)		
9012714.S1.03.chn	230V/50Hz (CN Plug) (R449A)		

9012714.N1.04	230V/50Hz (UK Plug Type BS1363A) (R290)
9012714.S1.04	230V/50Hz (UK Plug Type BS1363A) (R449A)
9012714.N1.05	230V/50Hz (CH Plug Type SEV 1011) (R290)
9012714.S1.05	230V/50Hz (CH Plug Type SEV 1011) (R449A)
9012714.N1.13	230V/60Hz (Schuko Plug - CEE 7/4 Plug Type F) (R290)
9012714.S1.13	230V/60Hz (Schuko Plug - CEE 7/4 Plug Type F) (R449A)

### Cooling

Cooling of compressor	1-stage Air
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### Other

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

### Electronics

Interfaces	USB
Temperature control	PID1
Absolute temperature calibration	1 Point Calibration
Temperature display	LED
Temperature setting	Keypad

### Dimensions and volumes

Weight kg	25.1
Barbed fittings inner diameter	8/12 mm
Dimensions cm (W x L x H)	23 x 40 x 65
Filling volume l	3 ... 4
Pump connections	M16x1 male

### Temperature values

Setting the resolution of the temperature display °C	0.1
Working temperature range °C	-30 ... +150
Temperature stability °C	±0.03
Ambient temperature °C	+5 ... +40
Temperature display resolution °C	0.01 ... 0.1

### Included in delivery

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

## All Benefits



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



**ATC.**  
Absolute Temperature Calibration, 1-point calibration (CD).



**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](http://www.julabo.com).



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



**Quick support**  
If an error occurs, the integrated Black-Box function permits fast diagnosis by the JULABO service team



**Timer. Integrated.**  
CORIO circulators include an integrated timer function. When the set time has elapsed, a signal sounds and the device switches off. Setting range: 0 ... 999 minutes.



**Brilliant.**  
Very bright display makes it easy to read even from a distance.



**Connection. Easy.**  
Inclined pump connections (M16×1) facilitate the connection of applications. Each unit includes 2 barbed fittings of 8/12 mm diameter each.



**Everything at the front.**  
All operating controls and safety functions are accessed easily and comfortably from the front.



**Exact.**  
You can rely on it. PID1 control and 'Active Cooling Control' make the new CORIO precise and perfect.



**Locked in.**  
The lockable power plug guarantees safe connection. More process safety.



**Switch on. And off you go.**  
Intelligent operating concept. Ready for operation with just a few quick and easy steps.



**Connectivity.**  
Remote control made easy. CORIO CD circulators feature a USB connection.



**Early warning system for low liquid level**  
Maximum safety for applications, optical and audible alarm, allows user to refill bath fluid before the unit shuts down