

## CORIO CD-450F Refrigerated / heating circulator

Refrigerated / heating circulators of the new 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 alternatively 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
- Space-saving cooling coil design provides more usable space in the bath tank
- Bath lid and drain tap included
- Removable ventilation grid
- Refrigeration unit without side vents
- Class III (FL) according to DIN 12876-1
- High-quality bath tanks made of stainless steel with bath lid and drain tap

### Performance values

115V/60Hz (Nema N5-15 Plug)	
Heating capacity kW	1
Viscosity max. cST	50
Pump capacity flow rate l/min	16
Pump capacity flow pressure psi	4.8
Power A	12

## Refrigerant variants

Order No. 9012714.N1.02

## 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 DIN12876. 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.

## Refrigerant stage 1

Refrigerant R290

Filling volume g 31

Global Warming Potential for R290 3

Carbon dioxide equivalent t 0

Order No. 9012714.S1.02

## 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 DIN12876. 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.

## Refrigerant stage 1

Refrigerant R449A

Filling volume g 70

Global Warming Potential for R449A 1397

Carbon dioxide equivalent t 0.098

## 230V/60HZ (Schuko Plug - CEE 7/4 Plug Type F)

Heating capacity kW	2
Viscosity max. cST	50
Pump capacity flow rate l/min	17
Pump capacity flow pressure psi	6.2
Power A	13

## Refrigerant variants

Order No. 9012714.N1.13

## 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 DIN12876. 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.

## Refrigerant stage 1

Refrigerant R290

Filling volume g 31

Global Warming Potential for R290 3

Carbon dioxide equivalent t 0

Order No. 9012714.S1.13

## 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 DIN12876. 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.

## Refrigerant stage 1

Refrigerant R449A

Filling volume g 70

Global Warming Potential for R449A 1397

Carbon dioxide equivalent t 0.098

## Technical data

## Available voltage versions

Order No.	9 012 714
Available voltage versions:	
9012714.N1.01	100V/50-60Hz (Nema N5-15 Plug) (R290)
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)

## Bath

Bath tank	Stainless steel
Bath cover	integrated
Usable bath opening in. (W x L / D)	5.1 x 5.9 / 5.9

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

### Other

Classification Classification III (FL)

IP Code IP 21

Pump function Pressure Pump

Pump type Immersion Pump

### Electronics

Digital interface USB

Temperature control PID1

Absolute temperature calibration 1 Point Calibration

Temperature displayTemperature display LED

Temperature settingTemperature setting Keypad

### Dimensions and volumes

Weight lbs 55.3

Barbed fittings inner diameter 8/12 mm

Dimensions in. (W x L x H) 9.1 x 15.7 x 25.6

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



#### 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 (M16x1) 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