

CORIO CD-310F 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-310F is alternatively available with natural refrigerant. Order No. 9 012 713.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. 9012713.N1.02

Cooling capacity (Ethanol)

| °C | 20 | 0 | -10 | -20 | -30 |
|----|------|------|------|------|------|
| kW | 0.31 | 0.28 | 0.22 | 0.13 | 0.03 |

*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 25

Global Warming Potential for R290 3

Carbon dioxide equivalent t 0

Order No. 9012713.S1.02

Cooling capacity (Ethanol)

| °C | 20 | 0 | -10 | -20 | -30 |
|----|------|------|------|------|------|
| kW | 0.31 | 0.28 | 0.22 | 0.13 | 0.03 |

*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 60

Global Warming Potential for R449A 1397

Carbon dioxide equivalent t 0.084

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. 9012713.N1.13

Cooling capacity (Ethanol)

| °C | 20 | 0 | -10 | -20 | -30 |
|----|------|------|------|------|------|
| kW | 0.31 | 0.28 | 0.22 | 0.13 | 0.03 |

*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 25

Global Warming Potential for R290 3

Carbon dioxide equivalent t 0

Order No. 9012713.S1.13

Cooling capacity (Ethanol)

| °C | 20 | 0 | -10 | -20 | -30 |
|----|------|------|------|------|------|
| kW | 0.31 | 0.28 | 0.22 | 0.13 | 0.03 |

*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 60

Global Warming Potential for R449A 1397

Carbon dioxide equivalent t 0.084

Technical data

Available voltage versions

| | |
|-----------------------------|---|
| Order No. | 9 012 713 |
| Available voltage versions: | |
| 9012713.N1.01 | 100V/50-60Hz (Nema N5-15 Plug) (R290) |
| 9012713.S1.01 | 100V/50-60Hz (Nema N5-15 Plug) (R449A) |
| 9012713.N1.02 | 115V/60Hz (Nema N5-15 Plug) (R290) |
| 9012713.S1.02 | 115V/60Hz (Nema N5-15 Plug) (R449A) |
| 9012713.N1.03 | 230V/50Hz (Schuko Plug - CEE 7/4 Plug Type F) (R290) |
| 9012713.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 |

| | |
|-------------------|---|
| 9012713.N1.03.chn | 230V/50Hz (CN Plug) (R290) |
| 9012713.S1.03.chn | 230V/50Hz (CN Plug) (R449A) |
| 9012713.N1.04 | 230V/50Hz (UK Plug Type BS1363A) (R290) |
| 9012713.S1.04 | 230V/50Hz (UK Plug Type BS1363A) (R449A) |
| 9012713.N1.05 | 230V/50Hz (CH Plug Type SEV 1011) (R290) |
| 9012713.S1.05 | 230V/50Hz (CH Plug Type SEV 1011) (R449A) |
| 9012713.N1.13 | 230V/60Hz (Schuko Plug - CEE 7/4 Plug Type F) (R290) |
| 9012713.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 display | LED |
| Temperature setting | Keypad |

Dimensions and volumes

| | |
|--------------------------------|-------------------|
| Weight lbs | 55.6 |
| 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