

## CORIO CP-310F Refrigerated / heating circulator

Refrigerated circulators from the CORIO CP range are suitable for applications with a temperature range up to +200°C. The enhanced pump performance ensures they are suitable for easy temperature control tasks in combination with external applications.

### With natural refrigerant

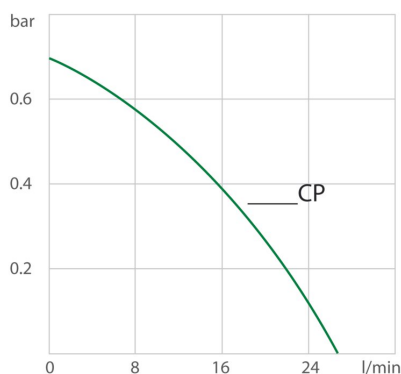
The CORIO CP-310F is available with natural refrigerant. Order No. 9 013 713.N1



### Product features

- Models for internal and external applications
- Bright, white, easy to read display
- Very quiet
- powerful and infinitely adjustable pressure pump
- USB connection
- RS232 interface for online communication
- Bath lid and drain tap included
- removable ventilation grid
- Refrigeration unit without side vents
- Class III (FL) according to DIN 12876-1
- easy switching between internal and external circulation
- Integrated pump connection M16×1
- Space-saving cooling coil design yields more usable space in the bath tank
- early warning system for low liquid level

### Pump capacity



Medium: Water



### Performance values

<b>230V/50Hz (Schuko Plug - CEE 7/4 Plug Type F)</b>	
Heating capacity kW	2
Viscosity max. cSt	50
Pump capacity flow rate l/min	8 ... 27
Pump capacity flow pressure bar	0.1 ... 0.7
Power consumption A	13

### Refrigerant variants

Order No.	9013713.N1.33				
<b>Cooling capacity (Ethanol)</b>					
°C	20	0	-10	-20	-30
kW <sup>1</sup>	0.3	0.27	0.21	0.12	0.02
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.					
<b>Refrigerant stage 1</b>					
Refrigerant	R290				
Filling weight g	30				
Global Warming Potential for R290	3				
Carbon dioxide equivalent t	9.0E-5				

Order No.	9013713.S1.33				
<b>Cooling capacity (Ethanol)</b>					
°C	20	0	-10	-20	-30
kW <sup>1</sup>	0.3	0.27	0.21	0.12	0.02
<b>Refrigerant stage 1</b>					
Refrigerant	R449A				
Filling weight g	63				
Global Warming Potential for R449A	1397				
Carbon dioxide equivalent t	0.088011				

<sup>1</sup> 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

<b>Available voltage versions</b>		<b>Cooling</b>	
Order No.	9 013 713	Cooling of compressor	1-stage Air
Available voltage versions:			
9013713.N1.01	100V/50-60Hz (Nema N5-15 Plug) (R290)		
9013713.S1.01	100V/50-60Hz (Nema N5-15 Plug) (R449A)		
9013713.N1.02	115V/60Hz (Nema N5-15 Plug) (R290)		

9013713.S1.02	115V/60Hz (Nema N5-15 Plug) (R449A)
9013713.N1.33	200-230V/50-60Hz (Schuko Plug - CEE 7/4 Plug Type F) (R290)
9013713.S1.33	200-230V/50-60Hz (Schuko Plug - CEE 7/4 Plug Type F) (R449A)
9013713.N1.33.chn	200-230V/50-60Hz (CN Plug) (R290)
9013713.S1.33.chn	200-230V/50-60Hz (CN Plug) (R449A)
9013713.N1.04	200-230V/50-60Hz (UK Plug Type BS1363A) (R290)
9013713.S1.04	200-230V/50-60Hz (UK Plug Type BS1363A) (R449A)
9013713.N1.05	200-230V/50-60Hz (CH Plug Type SEV 1011) (R449A)
9013713.S1.05	200-230V/50-60Hz (CH Plug Type SEV 1011) (R449A)

Bath	
Bath tank	Stainless steel
Bath cover	integrated
Usable bath opening cm (W x L / D)	13 x 15 / 15

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

Electronics	
Interfaces	RS232, USB
Temperature control	PID1
Absolute temperature calibration	3 Point Calibration
Temperature display	LED
Temperature setting	Keypad
Electronic Timer h:min	0 ... 999

Dimensions and volumes	
Weight kg	25.6
Barbed fittings inner diameter mm	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 ... +200
Temperature stability °C	±0.03
Ambient temperature °C	+5 ... +40
Setting the resolution of the temperature display °C	0.01 ... 0.1

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

## All Benefits



### Brilliant.

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



### Switch on. And off you go.

Intelligent operating concept. Ready for operation with just a few quick and easy steps.



**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.



**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.



**Connection. Easy.**  
Inclined pump connections (M16x1) facilitate the connection of applications. Each unit includes 2 barbed fittings of 8/12 mm diameter each.



**Powerful. Adjustable.**  
Strong pressure pump, continuously adjustable.



**Early warning system for low liquid level.**  
Maximum safety for your application. Optical and audible alarm allows user to refill bath fluid in time.



**Connectivity.**  
Remote control made easy. CORIO CP circulators feature a USB connection and RS232 interface.



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



**Highest measuring accuracy**  
'Absolute Temperature Calibration' for manual compensation of a temperature difference, 3-point calibration



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



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