

# **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 tem-perature control of small objects.

### Your advantages

- 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
- ATC3 3-Point-Calibration
- TCF Temperature Control Features
- · Adjustable high temperature cut-out, visible via display
- Classification 3 according to DIN12876-1
- Pump connections for external temperature applications
- · Bath opening for temperature control of small objects in the bath
- Front drain



### Technical data

Temperature stability °C

Ambient temperature °C

Available volta	age versions		Bath		
Order No.	9 400 341		Bath tank	Stainless steel	
Available voltage	versions:		Bath cover	integrated	
9 400 341.13	230V/60Hz (Nema N	6-20 Plug)	Usable bath opening cm (W x L / D) 19 x 3 / 19		
9 400 341.02	115V/60Hz (Nema N	5-20 Plug)			
9 400 341.03	230V/50Hz (Schuko   Type F)	Plug - CEE 7/4 Plug			
9 400 341.04	230V/50Hz (UK Plug	Type BS1363A)			
Cooling			Other		
Cooling of compressor 1		1-stage Air	Classification	Classification III (FL)	
			IP Code	IP 21	
			Pump type	Immersion Pump	
Electronics			Dimensions and volumes		
Digital interface RS485		RS485	Weight kg	44	
External pt100 sensor connection integrated		Barbed fittings inner diameter	8/12 mm		
Integrated programmer 6x60 steps		6x60 steps	Dimensions cm ( $W \times L \times H$ )	28 x 46 x 46	
Temperature control		ICC	Filling volume l	4 5.5	
Absolute temperature calibration 3 Point Calib		3 Point Calibration	Pump connections	M16x1 male	
Temperature disp	blay	LCD			
Temperature	values				
Working tempera	ture range °C	-40 +200			

±0.02

+5 ... +40

Product data sheet - CF41

Temperature display resolution °C

0.01

Julabo

## Performance values

## 230V/60Hz (Nema N6-20 Plug)

230V/60Hz							
Heating capacity kW						2	
Cooling capacity (Ethanol)							
°C	20	0	-20	-30			
kW	0.47	0.4	0.28	0.12			
Viscosity max. cST						70	
Refrigerant						R449A	
Filling	volum	e g		153			
Globa	l Warm	ing Po	49A	1397			
Carbo	n dioxi	de equ		0.214			
Pump	capac	ity flov		22 26			
Pump	capac	ity flov	ar	0.4 0.7			
Maximum suction bar						0.2 0.4	

## 115V/60Hz (Nema N5-20 Plug)

115V/60Hz							
Heating capacity kW						1	
Coolin							
°C	20	0	-20	-30			
kW	0.47	0.4	0.28	0.12			
Viscosity max. cST						70	
Refrig	erant			R449A			
Filling	volum	e g		153			
Global	Warm	ing Po	49A	1397			
Carbo	n dioxi	de equ		0.214			
Pump	capac	ity flov		22 26			
Pump	capac	ity flov	ar	0.4 0.7			
Maxim	าum su	iction	bar	0.2 0.4			

## 230V/50Hz (Schuko Plug - CEE 7/4 Plug Type F)

230V/50Hz							
Heatir	ng capa	acity k'	W		2		
Cooling capacity (Ethanol)							
°C	20	0	-20	-30			
kW	0.47	0.4	0.28	0.12			
Viscosity max. cST						70	
Refrigerant						R452A	
Filling	volum	e g				153	
Globa	l Warm	ing Po	tentia	for R4	52A	2140	



Carbon dioxide equivalent t	0.327
Pump capacity flow rate I/min	22 26
Pump capacity flow pressure bar	0.4 0.7
Maximum suction bar	0.2 0.4

## 230V/50Hz (UK Plug Type BS1363A)

## 230V/50Hz

2004/00112								
Heatir	ng capa	acity k	2					
Cooling capacity (Ethanol)								
°C	20	0	-20	-30				
kW	0.47	0.4	0.28	0.12				
Viscos	sity ma	x. cST		70				
Refrig	erant			R452A				
Filling	volum	e g		153				
Global	l Warm	ing Po	2140					
Carbo	n dioxi	de equ	0.327					
Pump	capac	ity flov		22 26				
Pump	capac	ity flov	ar	0.4 0.7				
Maxim	num su	iction		0.2 0.4				

## All Benefits



Early warning system for high/low temperature limits Maximum safety for applications, optical and audible alarm, convertible to automated cut-off function



JULABO. Quality. Highest standards of quality for a long product life.

11 subsidiaries and more than 100 partners

worldwide guarantee fast and qualified

## Green technology. Development consistently applied environmentally friendly materials and technologies.

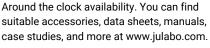


#### 100% Checked.

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



Services 24/7.





For flammable bath fluid Classification III (FL) according to DIN 12876-1



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

Satisfied customers.

JULABO support.



Intelligent temperature control. Intelligent cascade control - automatic and self-optimizing adaptation of the PID control parameters with external stability of +/- 0.05 °C.



°C. ATC3. Calibration.

#### 'Absolute Temperature Calibration' for compensating a physically caused temperature difference, 3-point calibration.

'Absolute Te



100 % Cooling capacity

temperatures

ACC

'Active Cooling Control' for cooling available

throughout the entire working temperature

range, fast cool-down even at higher



#### Process. Under control.

Full regulation of the dynamics control, access to all important control parameters for individual process optimization.



### 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