

DYNEO DD-1000FW Refrigerated / heating circulator

Refrigerated circulators of the DYNEO series distinguish themselves with a great price-performance ratio. The instruments offer high heating/cooling capacities for short heat-up and cool-down times. The refrigerated circulators work precisely and reliably even at higher ambient temperatures up to +40 °C. Either in basic research, in material testing or in technical systems – the DYNEO refrigerated circulators offer functional solutions for every requirement and budget.

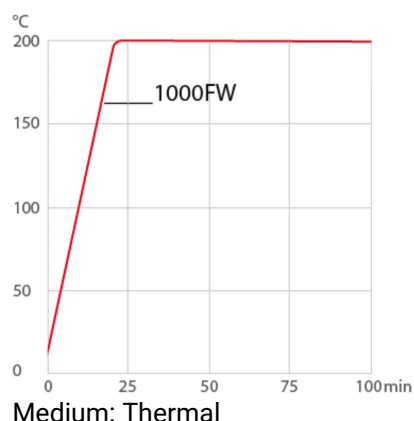
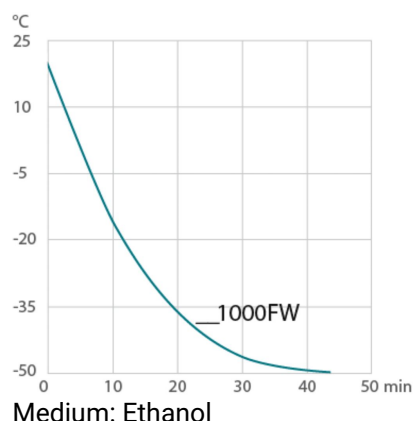
Optional analog and digital interface

DYNEO thermostats can optionally be equipped with analogue or digital interfaces. To request the options, order number must be extended with .d for the digital and .a for the analog interface (9XXX XXXX.A / 9XXX XXX.D)



Product features

- Optimized cooling coil design saves space in the bath tank
- powerful and infinitely adjustable pressure pump
- Flow rate 27 l/min, pressure 0.7 bar
- easy switching between internal and external circulation
- large color TFT display, multilingual interface
- central rotary knob (controller) simplifies operation
- Integrated programmer
- Integrated external Pt100 connection
- USB connection
- RS232 interface or analog interfaces (optional)
- integrated drain makes emptying liquid easy and safe.
- Bath cover included with delivery
- removable ventilation grid
- Powerful cooling machines
- For internal and external applications
- For internal and external applications



Performance values

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

Heating capacity kW	1
Viscosity max. cSt	50
Pump capacity flow rate l/min	8 ... 27
Pump capacity flow pressure bar	0.1 ... 0.7
Power consumption A	16

Order No. 9021727.02

Cooling capacity (Ethanol)

°C	20	10	0	-10	-20	-30	-40
kW	1	1	0.96	0.73	0.51	0.25	0.11

* 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.

Refrigerant stage 1

Refrigerant R449A

Filling weight g 190

Global Warming Potential 1397
for R449ACarbon dioxide equivalent 0.265
t

Technical data

Available voltage versions

Order No.	9 021 727
Available voltage versions:	
9021727.02	115V/60Hz (Nema N5-20 Plug) (R449A)
9021727.04	230V/50-60Hz (UK Plug Type BS1363A) (R449A)
9021727.05	230V/50-60Hz (CH Plug Type SEV 1011) (R449A)
9021727.33	230V/50-60Hz (Schuko Plug - CEE 7/4 Plug Type F) (R449A)
9021727.33.chn	230V/50-60Hz (CN Plug) (R449A)

Bath

Bath tank	Stainless steel
Bath cover	integrated
Usable bath opening cm (W x L / D)	18 x 13 / 15

Cooling

Cooling of compressor	1-stage Water
Cooling water temperature max. °C	30
Cooling water pressure max. bar	6
Cooling water difference pressure bar	0.3
Cooling water consumption l/min	1.1

Other

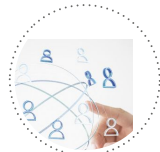
Classification	Classification III (FL)
Pump function	Pressure Pump
Pump type	Immersion Pump
User Interface Language	Chinese, English, French, German, Italian, Japanese, Korean, Portuguese, Russian, Spanish

Electronics

Dimensions and volumes

Interfaces	Alarm output optional, REG/EPROG optional, RS232 optional, Standby-Input optional, USB	Weight kg	51.2
External pt100 sensor connection	integrated	Barbed fittings inner diameter	8/12 mm
Integrated programmer	8x60 steps	Dimensions cm (W x L x H)	42 x 49 x 74
Temperature control	PID3	Filling volume l	5 ... 7.5
Absolute temperature calibration	3 Point Calibration	Pump connections	M16x1 male
Temperature display	3.5" TFT Display		
Temperature setting	Shaft Encoder		
Electronic Timer hr:min	00:00 ... 99:59		
Temperature values		Included in delivery	
Setting the resolution of the temperature display °C	0.01	2 Barbed fittings for tubing 8 and 12 mm ID. (Pump connections M16x1 male)	
Working temperature range °C	-50 ... +200		
Temperature stability °C	±0.01		
Ambient temperature °C	+5 ... +40		
Temperature display resolution °C	0.01		

All Benefits



Satisfied customers.

11 subsidiaries and more than 100 partners worldwide guarantee fast and qualified JULABO support.



100% Checked.

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



Quick start.

Individual JULABO consultation and comprehensive manuals at your disposal.



Services 24/7.

Around the clock availability. You can find suitable accessories, data sheets, manuals, case studies, and more at www.julabo.com.



Quick support

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



Handle with ease.

Makes day-to-day work easy. Comfortably move your JULABO Circulator around by using the ergonomic handles (front and rear).



Highly precise

PID Temperature control with drift compensation and adjustable control parameters, temperature stability $\pm 0.01 \dots \pm 0.02$ °C



Wide range.

Refrigerated and heating circulator in various combinations, circulator in various sizes. Maximum flexibility through a large selection of accessories.



Turn. Push. Go.

Easy operation of all parameters using the central controller.



USB.

Remote control made easy using the integrated USB interface.

**RS232.**

Connection using the optional RS232 interface.

**Analog I/O.**

Analog interfaces for integration into process control systems (optional).

**Process stability.**

Early warning - visual and acoustic - of critical states increases process stability.

**Connection. Easy.**

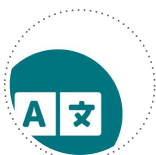
Inclined pump connections (M16×1) facilitate the connection of applications. Each unit includes 2 barbed fittings of 8/12 mm diameter each.

**Brilliance. In color.**

Large color display with vivid luminance is easy to read, even from a large distance.

**Information. Everything clear.**

Information in plain text on a large color screen.

**Multi-lingual.**

Operation in multiple languages.

**Programmer. Integrated.**

The integrated internal programmer makes it possible to automatically run temperature time profiles.

**Powerful. Adjustable.**

Strong pressure pump, continuously adjustable.

**Temperature. Under control.**

External Pt100 sensor connection for precise measurement and control directly in the external application.

**Fill level. Monitored.**

Fill level indicator on the display for heat-transfer liquid.

**Stable. Mobile.**

Rubber feet keep JULABO Circulators standing firm. Larger and more powerful units also have integrated rollers for easy handling.

**ATC3. Calibration.**

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

**100 % Cooling capacity**

'Active Cooling Control' for cooling available throughout the entire working temperature range, fast cool-down even at higher temperatures

**Process. Under control.**

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