DYNEO DD-1200F 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.

With a working temperature range of -50 ... +200 °C°C, the Refrigerated / heating circulator DYNEO DD-1200F delivers an outstanding cooling capacity of 1.24 kW at 20 °C despite its compact design.

This cooling machine works with natural, environmentally-friendly refrigerant and was developed with a focus on energy efficiency. This means significant savings on the operating costs for numerous applications, which also means rapid amortization of the procurement cost. At the same time, the lower energy consumption positively contributes to climate protection.

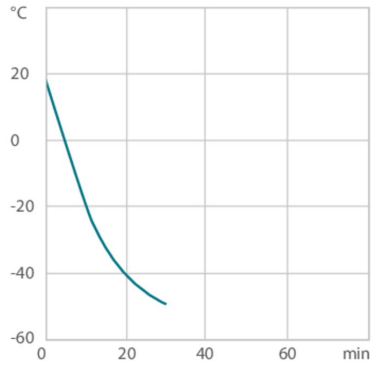
Optional analog and digital interface

DYNEO circulators 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

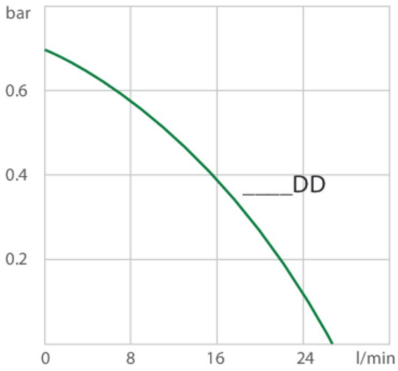
- Optimized cooling coil design saves space in the bath tank
- powerful and infinitely adjustable pressure pump
- Flow rate 27 l/min, pressure 0.7 bar
- easy switching between internal and external circulation
- large color TFT display, multilingual interface
- central rotary knob (controller) simplifies 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
- Integrated pump connection M16×1
- For internal and external applications

Cool-down time



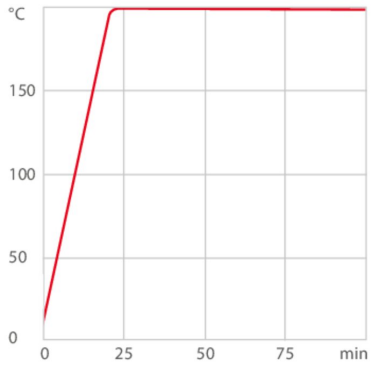
Medium: Ethanol

Pump capacity



Medium: Water

Heat-up time



Medium: Thermal

Performance values

100V/50Hz (Nema N5-20 Plug)	
Heating capacity kW	0.8
Viscosity max. cSt	50
Pump capacity flow pressure l/min	8 ... 27
Pump capacity pressure psi	1.5 ... 10.2
Power consumption A	11

	9021717.N1.22				
Cooling capacity 1 (Ethanol)					
°C	20	0	-20	-30	-40
kW [1]	1.24	1.09	0.62	0.37	0.2

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.

Refrigerant stage 1	
Refrigerant	R1270
Filling weight g	85
Global Warming Potential for R1270	2
Carbon dioxide equivalent t	0.00017

[1] 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.

100V/60Hz (Nema N5-20 Plug)	
Heating capacity kW	0.8
Viscosity max. cSt	50
Pump capacity flow pressure l/min	8 ... 27
Pump capacity pressure psi	1.5 ... 10.2
Power consumption A	11

	9021717.N1.22				
Cooling capacity 2 (Ethanol)					
°C	20	0	-20	-30	-40
kW [2]	1.24	1.09	0.62	0.37	0.2

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Refrigerant stage 1	
Refrigerant	R1270
Filling weight g	85
Global Warming Potential for R1270	2
Carbon dioxide equivalent t	0.00017

[2] 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.

115V/50Hz (Nema N5-20 Plug)

Heating capacity kW	1
Viscosity max. cSt	50
Pump capacity flow pressure l/min	8 ... 27
Pump capacity pressure psi	1.5 ... 10.2
Power consumption A	12

	9021717.N1.22				
Cooling capacity 3 (Ethanol)					
°C	20	0	-20	-30	-40
kW [3]	1.24	1.09	0.62	0.37	0.2

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Refrigerant stage 1	
Refrigerant	R1270
Filling weight g	85
Global Warming Potential for R1270	2
Carbon dioxide equivalent t	0.00017

[3] 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.

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

Heating capacity kW	1
Viscosity max. cSt	50
Pump capacity flow pressure l/min	8 ... 27
Pump capacity pressure psi	1.5 ... 10.2
Power consumption A	12

9021717.N1.22					
Cooling capacity 4 (Ethanol)					
°C	20	0	-20	-30	-40
kW [4]	1.24	1.09	0.62	0.37	0.2

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Refrigerant stage 1	
Refrigerant	R1270
Filling weight g	85
Global Warming Potential for R1270	2
Carbon dioxide equivalent t	0.00017

[4] 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.

200V/50Hz (Schuko Plug - CEE 7/4 Plug Type F)

Heating capacity kW	1.5
Viscosity max. cSt	50
Pump capacity flow pressure l/min	8 ... 27
Pump capacity pressure psi	1.5 ... 10.2
Power consumption A	10

9021717.N1.33					
Cooling capacity 1 (Ethanol)					
°C	20	0	-20	-30	-40
kW [5]	1.24	1.09	0.62	0.37	0.2

Note about natural refrigerants:
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Refrigerant stage 1	
Refrigerant	R1270
Filling weight g	85
Global Warming Potential for R1270	2
Carbon dioxide equivalent t	0.00017

[5] 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.

200V/60Hz (Schuko Plug - CEE 7/4 Plug Type F)

Heating capacity kW	1.5
Viscosity max. cSt	50
Pump capacity flow pressure l/min	8 ... 27
Pump capacity pressure psi	1.5 ... 10.2
Power consumption A	10

9021717.N1.33					
Cooling capacity 2 (Ethanol)					
°C	20	0	-20	-30	-40
kW [6]	1.24	1.09	0.62	0.37	0.2

Note about natural refrigerants:
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Refrigerant stage 1	
Refrigerant	R1270
Filling weight g	85
Global Warming Potential for R1270	2
Carbon dioxide equivalent t	0.00017

[6] 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.

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

Heating capacity kW	2
Viscosity max. cSt	50
Pump capacity flow pressure l/min	8 ... 27
Pump capacity pressure psi	1.5 ... 10.2
Power consumption A	11

9021717.N1.33					
Cooling capacity 3 (Ethanol)					
°C	20	0	-20	-30	-40
kW [7]	1.24	1.09	0.62	0.37	0.2

Note about natural refrigerants:
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Refrigerant stage 1	
Refrigerant	R1270
Filling weight g	85
Global Warming Potential for R1270	2
Carbon dioxide equivalent t	0.00017

[7] 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.

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

Heating capacity kW	2
Viscosity max. cSt	50
Pump capacity flow pressure l/min	8 ... 27
Pump capacity pressure psi	1.5 ... 10.2
Power consumption A	11

9021717.N1.33					
Cooling capacity 4 (Ethanol)					
°C	20	0	-20	-30	-40
kW [8]	1.24	1.09	0.62	0.37	0.2

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.

Refrigerant stage 1	
Refrigerant	R1270
Filling weight g	85
Global Warming Potential for R1270	2
Carbon dioxide equivalent t	0.00017

[8] 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

Available voltage versions	
9021717	
Available voltage versions:	
9021717.N1.04	200-230V/50-60Hz (UK Plug Type BS1363A) (R1270)
9021717.N1.05	200-230V/50-60Hz (CH Plug Type SEV 1011) (R1270)
9021717.N1.33	200-230V/50-60Hz (Schuko Plug - CEE 7/4 Plug Type F) (R1270)
9021717.N1.33.chn	200-230V/50-60Hz (CN Plug) (R1270)
9021717.N1.22	100-115V/50-60Hz (Nema N5-20 Plug) (R1270)

Cooling	
Cooling of compressor	1-stage Air

Bath	
Bath tank	Stainless steel
Bath cover	integrated
Usable bath opening in. (W x L / D)	7.1 x 5.1 / 5.9

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	
Interfaces	Alarm output optional, REG/EPROG optional, RS232 optional, Standby-Input optional, USB
External pt100 sensor connection	integrated

Dimensions and volumes	
Weight lbs	97
Barbed fittings inner diameter mm	8/12 mm
Total dimensions in. (W × L × H)	13 x 18.5 x 27.6
Filling volume l	5 ... 7.5
Pump connections	M16x1 male

Integrated programmer	8x60 steps
Temperature control	PID3
Absolute temperature calibration	3 Point Calibration
Temperature display	3.5" TFT Display
Temperature setting	Shaft Encoder
Electronic Timer h:min	00:00 ... 99:59

Temperature values

Setting the resolution of the temperature display °C	0.01
Working temperature range °C	-50 ... +200
Temperature stability °C	±0.01
Ambient temperature °C	+5 ... +40
Temperature display resolution °C	0.01

Included in delivery

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

All Benefits

Handle with ease.
Makes day-to-day work easy. Comfortably move your CORIO around by using the ergonomic handles (front and rear).

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

Information. Everything clear.
Information in plain text on a large color screen.

Turn. Push. Go.
Easy operation of all parameters using the central controller.

Powerful. Adjustable.
Strong pressure pump, continuously adjustable.

RS232.
Standard connection using the serial RS232 interface.

Highly precise
PID Temperature control with drift compensation and adjustable control parameters, temperature stability ±0.01...±0.02 °C

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

Multi-lingual.
Operation in multiple languages.

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

USB.
Remote control made easy using the integrated USB interface.

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

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.

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

Process. Under control.
Full control of the dynamic, access to all important control parameters for individual process optimization.

ATC3. Calibration.
'Absolute Temperature Calibration' for compensating a physically caused temperature difference, 3-point calibration.

Stable. Mobile.

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

100 % Cooling capacity
'Active Cooling Control' for cooling available throughout the entire working temperature range, fast cool-down even at higher temperatures