Julabo

# CORIO™ | DYNEO™ | MAGIO™

## Heating and Refrigerated Circulators




ENGLISH

# Welcome to the universe of JULABO circulators



# MAGIO™




JULABO's refrigerated and heating circulators have served as reliable companions in the daily work of numerous laboratories, research facilities, and industrial enterprises for decades. Employing pioneering technologies, these circulators are captivating users around the world in a wide range of applications. Thanks to JULABO's proven premium quality, each model meets the highest standards of precision, reliability, and functionality.

With our three brands CORIO, DYNEO, and MAGIO, our broad product portfolio offers powerful models for a wide range of requirements. From the simplest routine task in an internal bath to the most demanding external application, with JULABO, you are guaranteed to find the best solution for your specific temperature control application.

# The perfect temperature control system for any requirement

All JULABO circulators, refrigerated and heating baths are developed and built to be modular.
Combined with our extensive range of accessories, the result is a wide range of options that are perfectly tailored to any customer requirement or application.



## The bath

Various cooling machines or heating baths with different performance classes, materials, and sizes.

**Your individual product solution**



**DYNEO**
The sophisticated

**MAGIO**
The all-rounder





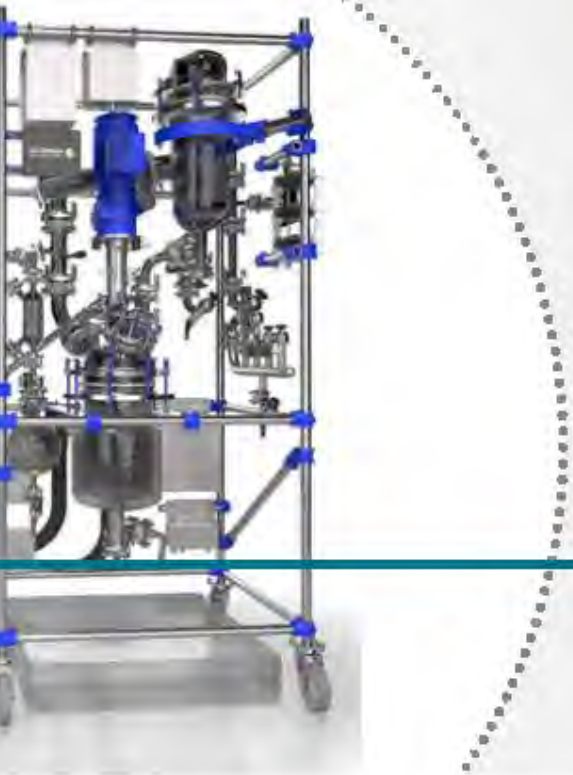
**CORIO**
The beginner





## The circulator

Different circulators with different working temperature ranges, operating concepts, and interfaces.






## The accessories

Tubing, sensors, bath fluids, bath lids, and much more – so that you can perfectly adapt your refrigerated or heating circulator to your application.

# Overview of heating baths and cooling machines

Different applications or laboratory experiments require different solutions with respect to the working temperature range, bath volume, material, or heating and cooling capacities of the circulators used. Our broad portfolio of cooling machines and heating baths offers a high degree of flexibility when selecting the right device for almost every conceivable requirement.

## Product features of heating baths




### Open stainless steel bath tanks

- Working temperature range: +20 °C … +150 °C
- 7 basic variants with bath volumes of 3.5 l … 41 l
- All components that come into contact with medium made of stainless steel
- Integrated drain screw (except for B5)




B = bath
BT = bath transparent
BC = bath closed

### Transparent bath tanks

- Working temperature range: +20 °C … +90 °C
- 4 basic variants with bath volumes of 3.5 l … 27 l
- All components that come into contact with medium made of tritan




### Stainless steel bath tanks with bath cover

- Working temperature range: +20 °C … +300 °C
- 4 basic variants with bath volumes of 3 l … 26 l
- All components that come into contact with medium made of stainless steel
- Integrated drain tap for safe and easy drainage
- Integrated cooling coil for counter cooling

## Tailored solutions

Not all applications can be temperature controlled with a standard solution. Existing systems may need to be upgraded, adapted, or expanded.

Our Business Unit Solutions has its own in-house development team of engineers and designers and specializes in optimizing or modifying existing equipment in order to meet individual customer requirements.

## Product features of cooling machines

- Wide selection of different performance classes with cooling capacities from 200 W … 2500 W
- Working temperature range of -90 °C to +200 °C depending on cooling capacity
- Bath volume of 3 l … 56 l
- Space-saving design (ventilation outlets and connections on front and rear only)
- Optimized cooling coil design provides more space in the bath
- Easily removable venting grid on air-cooled models
- Bath cover and drain tap included



## High energy efficiency

The majority of JULABO cooling machines have been developed with a focus on energy efficiency. This means significant savings with respect to the operating costs for numerous applications, which also means faster payback of the procurement cost. At the same time, the lower energy consumption positively contributes to climate protection.

## Climate-friendly refrigerants

Many models work with natural, climate-friendly refrigerants like propane or propylene. These natural refrigerants have a very low GWP and no or very little influence on the greenhouse effect.

CORIO™

# Heating and refrigerated circulators

The CORIO series offers the best price-performance ratio in the entry-level range of circulator technology. Equipped with all important core functions, the CORIO models are optimized for simple, daily routine work and are an integral tool at the laboratories of many research institutions and industrial enterprises worldwide.

The plain, modern design of CORIO circulators focuses on simple, user-friendly operation and provides quick access to all necessary functions. With a wide selection of accessories, all CORIO models are modular and can be adapted individually to the customer's application.

## Product features of CORIO

- Working temperature range of -50 °C … +200 °C depending on model
- Models for internal and external applications
- Heating capacity of 2 kW
- Bright display that is easy to read from a distance
- Internal timer function
- Particularly quiet
- ATC (Absolute Temperature Calibration), PID1 Control, and Active Cooling Control for precise temperature control
- Automatic shut-off in case of high temperature or low liquid level
- Connectivity: CORIO CD features a USB port, while CORIO CP features a USB port and a RS232 interface



**Applications**
Temperature control for samples in a circulator bath, or temperature control for external applications such as measuring cells, refractometers, polarimeters, photometers, viscometers, fermenters, electrophoresis chambers, chromatography columns, rotary evaporators, rheometers, and more.



## Best price-performance ratio.

The CORIO series is manufactured in Germany to the highest quality standards and offers the best price-performance ratio for the entry-level range of circulator technology.



## Internal & external.

The pump is adjusted using the lever located directly below the display. This makes it easy to switch between internal and external circulation (CORIO CD / CP).




## Exact.

PID1 Control and Active Cooling Control for precise temperature control.



## Easy maintenance.

The front grid of the refrigerated circulators can be easily removed for cleaning and maintenance. Without tools.

For more information:
www.julabo.com/corio





CORIO™

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## CORIO C

- Working temperature range of +20 °C …. +100 °C
- Circulating pump for internal bath applications (water only)
- Circulation flow rate/pressure: 6 l/min | 0.1 bar
- Class I (NFL) according to DIN 12876-1

## CORIO CD

- Working temperature range of -40 °C … +150 °C
- Pressure pump for internal and external applications
- Pump flow rate/pressure: 15 l/min | 0.35 bar
- Easy pump switching between internal and external circulation (external pump connections M16x1)
- USB port
- Class III (FL) according to DIN 12876-1

## CORIO CP

- Working temperature range of -50 °C … +200 °C
- Continuously adjustable pressure pump for internal and external applications
- Pump flow rate/pressure: 8 … 27 l/min | 0.1 … 0.7 bar
- Easy pump switching between internal and external circulation (external pump connections M16x1)
- USB port and RS232 interface
- Early warning system for low liquid level
- Class III (FL) according to DIN 12876-1



### Optional pump set.

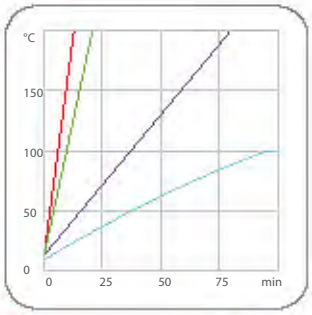
Mount a pump set on the CORIO CD and CP heating immersion circulator in just a few easy steps. In no time at all, your circulator is ready for temperature control of an external application.



### Flexible installation.

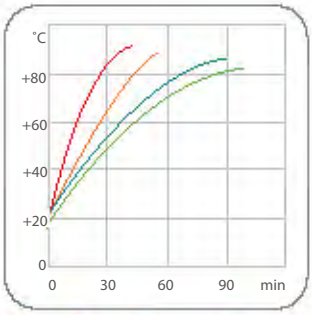
A universal bath attachment clamp is included with orders of CORIO heating immersion circulators. This clamp makes it easy to mount the circulators on both rectangular and round bath tanks.

**Heat-up time**
Medium: Thermal



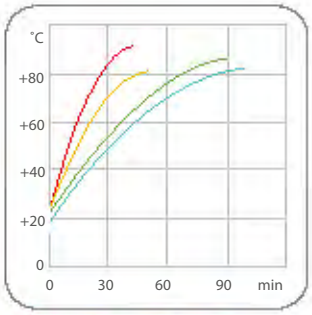

200F / 201F / 310F / 450F 449F
650F / 800F / 1200F/W 1201F

**Heat-up time**
Medium: Water



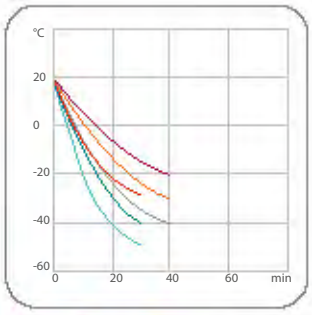

B5 B13 B17 / B19 B27

**Heat-up time**
Medium: Water



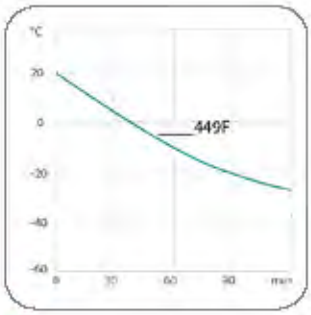

BT5 BT9 BT19 BT27

**Cool-down time**
Medium: Ethanol



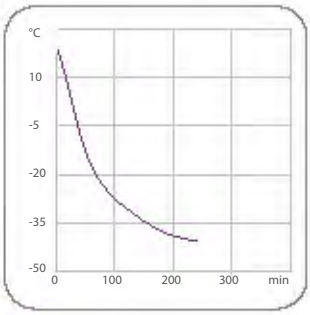

200F 450F 310F 650F
800F 1200F/W

**Cool-down time**
Medium: Ethanol



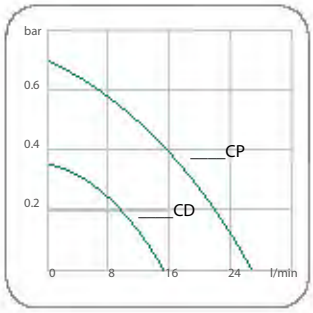

449F

**Cool-down time**
Medium: Ethanol




1201F

**Pump capacity**
Medium: Water






# CORIO™

| | Model | Order no. | Working temperature range (°C) | Temperature stability (°C) | Cooling capacity (°C) | | | | | | Pump | | Bath volume (l) | Usable bath opening W x D / BT (cm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 20 | 0 | -10 | -20 | -30 | -40 | Pressure (bar) | Flow rate (l/min) | | |
| **Heating immersion circulators** | **C** | 9 011 000 | +20 … +100 | ±0.03 | - | - | - | - | - | - | 0.1 | 6 | - | - |
| | **CD** | 9 012 000 | +20 … +150 | ±0.03 | - | - | - | - | - | - | 0.35 | 15 | - | - |
| | **CP** | 9 013 000 | +20 … +200 | ±0.02 | - | - | - | - | - | - | 0.1 ... 0.7 | 8 ... 27 | - | - |
|  CORIO C | | | | | | | | | | | | | | |
| **Open heating bath circulators** | **C-BT5** | 9 011 305 | +20 … +90 | ± 0.03 | - | - | - | - | - | - | 0.1 | 6 | 3.5 … 5 | 15 × 15 / 15 |
| | **C-BT9** | 9 011 309 | +20 … +90 | ± 0.03 | - | - | - | - | - | - | 0.1 | 6 | 6 … 9 | 23 × 15 / 15 |
| | **C-BT19** | 9 011 319 | +20 … +90 | ± 0.03 | - | - | - | - | - | - | 0.1 | 6 | 14 … 19 | 30 × 35 / 15 |
| | **C-BT27** | 9 011 327 | +20 … +90 | ± 0.03 | - | - | - | - | - | - | 0.1 | 6 | 20 … 27 | 30 × 35 / 20 |
|  CORIO C-BT9 | **C-B5** | 9 011 405 | +20 … +100 | ± 0.03 | - | - | - | - | - | - | 0.1 | 6 | 3.5 … 5 | 15 × 15 / 15 |
| | **C-B13** | 9 011 413 | +20 … +100 | ± 0.03 | - | - | - | - | - | - | 0.1 | 6 | 9 … 13 | 30 × 18 / 15 |
| | **C-B17** | 9 011 417 | +20 … +100 | ± 0.03 | - | - | - | - | - | - | 0.1 | 6 | 13 … 17 | 30 × 18 / 20 |
| | **C-B19** | 9 011 419 | +20 … +100 | ± 0.03 | - | - | - | - | - | - | 0.1 | 6 | 14 … 19 | 30 × 35 / 15 |
| | **C-B27** | 9 011 427 | +20 … +100 | ± 0.03 | - | - | - | - | - | - | 0.1 | 6 | 17 … 27 | 30 × 35 / 20 |
|  CORIO C-B17 | | | | | | | | | | | | | | |
| **Heating circulators with open bath** | **CD-BT5** | 9 012 305 | +20 … +90 | ± 0.03 | - | - | - | - | - | - | 0.35 | 15 | 3.5 … 5 | 15 × 15 / 15 |
| | **CD-BT19** | 9 012 319 | +20 … +90 | ± 0.03 | - | - | - | - | - | - | 0.35 | 15 | 14 … 19 | 30 × 35 / 15 |
| | **CD-BT27** | 9 012 327 | +20 … +90 | ± 0.03 | - | - | - | - | - | - | 0.35 | 15 | 20 … 27 | 30 × 35 / 20 |
| | **CD-B5** | 9 012 405 | +20 … +150 | ± 0.03 | - | - | - | - | - | - | 0.35 | 15 | 3.5 … 5 | 15 × 15 / 15 |
|  CORIO CD-BT19 | **CD-B13** | 9 012 413 | +20 … +150 | ± 0.03 | - | - | - | - | - | - | 0.35 | 15 | 9 … 13 | 30 × 18 / 15 |
| | **CD-B17** | 9 012 417 | +20 … +150 | ± 0.03 | - | - | - | - | - | - | 0.35 | 15 | 13 … 17 | 30 × 18 / 20 |
| | **CD-B19** | 9 012 419 | +20 … +150 | ± 0.03 | - | - | - | - | - | - | 0.35 | 15 | 14 … 19 | 30 × 35 / 15 |
| | **CD-B27** | 9 012 427 | +20 … +150 | ± 0.03 | - | - | - | - | - | - | 0.35 | 15 | 17 … 27 | 30 × 35 / 20 |
| | **CD-B33** | 9 012 433 | +20 … +150 | ± 0.03 | - | - | - | - | - | - | 0.35 | 15 | 26 … 39 | 66 × 32 / 15 |
|  CORIO CD-B19 | **CD-B39** | 9 012 439 | +20 … +150 | ± 0.03 | - | - | - | - | - | - | 0.35 | 15 | 35 … 41 | 33 × 30 / 30 |
| **Heating circulators** | **CD-BC4** | 9 012 504 | +20 … +150 | ± 0.03 | - | - | - | - | - | - | 0.35 | 15 | 3 … 4.5 | 13 × 15 / 15 |
| | **CP-BC4** | 9 013 504 | +20 … +200 | ± 0.02 | - | - | - | - | - | - | 0.1 … 0.7 | 8 … 27 | 3 … 4.5 | 13 × 15 / 15 |
| | **CD-BC6** | 9 012 506 | +20 … +150 | ± 0.03 | - | - | - | - | - | - | 0.35 | 15 | 6 … 7.5 | 13 × 15 / 20 |
|  CORIO CP-BC4 | **CP-BC6** | 9 013 506 | +20 … +200 | ± 0.02 | - | - | - | - | - | - | 0.1 … 0.7 | 8 … 27 | 6 … 7.5 | 13 × 15 / 20 |
| | **CD-BC12** | 9 012 512 | +20 … +150 | ± 0.03 | - | - | - | - | - | - | 0.35 | 15 | 8.5 … 12 | 22 × 15 / 20 |
| | **CP-BC12** | 9 013 512 | +20 … +200 | ± 0.02 | - | - | - | - | - | - | 0.1 … 0.7 | 8 … 27 | 8.5 … 12 | 22 × 15 / 20 |
| | **CD-BC26** | 9 012 526 | +20 … +150 | ± 0.03 | - | - | - | - | - | - | 0.35 | 15 | 19 … 26 | 26 × 35 / 20 |
|  CORIO CP-BC12 | **CP-BC26** | 9 013 526 | +20 … +200 | ± 0.02 | - | - | - | - | - | - | 0.1 .. 0.7 | 8 … 27 | 19 … 26 | 26 × 35 / 20 |

| Dimensions W x D x H (cm) | Weight (kg) | Classified in accordance with DIN 12876-1 | USB port | RS232 interface | Available mains voltages / heating capacity (kW) | | | | | | | Model |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 230 V 50 Hz | 208-230 V 60 Hz | 208-230 V 50/60 Hz | 100-115 V 50/60 Hz | 115 V 60 Hz | 100 V 50/60 Hz | 200 V 50/60 Hz | |
| 13.2 × 16 × 36.2 | 1.9 | I (NFL) | - | - | - | - | 1.6 … 2 | 0.8 … 1 | - | - | - | **C** |
| 13.2 × 16 × 36.6 | 2.6 | III (FL) | yes | - | 2 | 1.6 … 2 | - | - | 1 | 0.8 | - | **CD** |
| 13.2 × 16 × 36.2 | 2.5 | III (FL) | yes | yes | - | - | 1.6 … 2 | 0.8 … 1 | - | - | - | **CP** |
| | | | | | | | | | | | | |
| 23 × 38 × 38 | 4.8 | I (NFL) | - | - | - | - | 1.6 … 2 | 0.8 … 1 | - | - | - | **C-BT5** |
| 32 × 38 × 38 | 3.9 | I (NFL) | - | - | - | - | 1.6 … 2 | 0.8 … 1 | - | - | - | **C-BT9** |
| 38 × 58 × 38 | 7 | I (NFL) | - | - | - | - | 1.6 … 2 | 0.8 … 1 | - | - | - | **C-BT19** |
| 38 × 58 × 43 | 7.2 | I (NFL) | - | - | - | - | 1.6 … 2 | 0.8 … 1 | - | - | - | **C-BT27** |
| 23 × 38 × 41 | 7.3 | I (NFL) | - | - | - | - | 1.6 … 2 | 0.8 … 1 | - | - | - | **C-B5** |
| 38 × 40 × 42 | 8.2 | I (NFL) | - | - | - | - | 1.6 … 2 | 0.8 … 1 | - | - | - | **C-B13** |
| 38 × 40 × 47 | 9.3 | I (NFL) | - | - | - | - | 1.6 … 2 | 0.8 … 1 | - | - | - | **C-B17** |
| 38 × 58 × 42 | 10.5 | I (NFL) | - | - | - | - | 1.6 … 2 | 0.8 … 1 | - | - | - | **C-B19** |
| 38 × 58 × 47 | 13 | I (NFL) | - | - | - | - | 1.6 … 2 | 0.8 … 1 | - | - | - | **C-B27** |
| | | | | | | | | | | | | |
| 23 × 38 × 38 | 5.7 | III (FL) | yes | - | 2 | 1.6 … 2 | - | - | 1 | 0.8 | - | **CD-BT5** |
| 38 × 58 × 38 | 8 | III (FL) | yes | - | 2 | 1.6 … 2 | - | - | 1 | 0.8 | - | **CD-BT19** |
| 38 × 58 × 43 | 8.1 | III (FL) | yes | - | 2 | 1.6 … 2 | - | - | 1 | 0.8 | - | **CD-BT27** |
| 23 × 38 × 41 | 8.2 | III (FL) | yes | - | 2 | 1.6 … 2 | - | - | 1 | 0.8 | - | **CD-B5** |
| 38 × 40 × 42 | 9.1 | III (FL) | yes | - | 2 | 1.6 … 2 | - | - | 1 | 0.8 | - | **CD-B13** |
| 38 × 40 × 47 | 9.3 | III (FL) | yes | - | 2 | 1.6 … 2 | - | - | 1 | 0.8 | - | **CD-B17** |
| 38 × 58 × 42 | 11.5 | III (FL) | yes | - | 2 | 1.6 … 2 | - | - | 1 | 0.8 | - | **CD-B19** |
| 38 × 58 × 47 | 13 | III (FL) | yes | - | 2 | 1.6 … 2 | - | - | 1 | 0.8 | - | **CD-B27** |
| 91 × 36 × 43 | 21 | III (FL) | yes | - | 2 | 1.6 … 2 | - | - | 1 | 0.8 | - | **CD-B33** |
| 54 × 34 × 57 | 18 | III (FL) | yes | - | 2 | 1.6 … 2 | - | - | 1 | 0.8 | - | **CD-B39** |
| | | | | | | | | | | | | |
| 23 × 41 × 42 | 8.8 | III (FL) | yes | - | 2 | 1.6 … 2 | - | - | 1 | 0.8 | - | **CD-BC4** |
| 23 × 41 × 42 | 8.5 | III (FL) | yes | yes | - | - | 1.6 … 2 | 0.8 … 1 | - | - | - | **CP-BC4** |
| 24 × 44 × 47 | 10 | III (FL) | yes | - | 2 | 1.6 … 2 | - | - | 1 | 0.8 | - | **CD-BC6** |
| 24 × 44 × 47 | 10 | III (FL) | yes | yes | 2 | - | 1.6 … 2 | 0.8 … 1 | - | - | - | **CP-BC6** |
| 33 × 49 × 47 | 12.2 | III (FL) | yes | - | 2 | 1.6 … 2 | - | - | 1 | 0.8 | - | **CD-BC12** |
| 33 × 49 × 47 | 12 | III (FL) | yes | yes | - | - | 1.6 … 2 | 0.8 … 1 | - | - | - | **CP-BC12** |
| 39 × 62 × 48 | 19 | III (FL) | yes | - | 2 | 1.6 … 2 | - | - | 1 | 0.8 | - | **CD-BC26** |
| 39 × 62 × 48 | 19 | III (FL) | yes | yes | - | - | 1.6 … 2 | 0.8 … 1 | - | - | - | **CP-BC26** |

Unless specified otherwise, all data relates to operation at nominal voltage/frequency and an ambient temperature of +20°C.
Cooling capacity measured according to DIN 12876-2. For information on the refrigerants used, visit: www.julabo.com.

# CORIO™

## Refrigerated circulators


CORIO CD-200F


CORIO CD-450F


CORIO CD-449F


CORIO CD-1200F

| Model | Order no. | Working temperature range (°C) | Temperature stability (°C) | Cooling capacity (°C) | | | | | | Pump | | Bath volume (l) | Usable bath opening W x D / BT (cm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 20 | 0 | -10 | -20 | -30 | -40 | Pressure (bar) | Flow rate (l/min) | | |
| **CD-200F** | 9 012 701.N1 | -20 … +150 | ± 0.03 | 0.22 | 0.17 | 0.13 | 0.06 | - | - | 0.35 | 15 | 3 … 4 | 13 × 15 / 15 |
| **CP-200F** | 9 013 701.N1 | -20 … +200 | ± 0.03 | 0.2 | 0.15 | 0.1 | 0.02 | - | - | 0.1 … 0.7 | 8 … 27 | 3 … 4 | 13 × 15 / 15 |
| **CD-201F** | 9 012 702.N1 | -20 … +150 | ± 0.03 | 0.22 | 0.16 | 0.12 | 0.06 | - | - | 0.35 | 15 | 3 … 4 | 13 × 15 / 15 |
| **CP-201F** | 9 013 702.N1 | -20 … +200 | ± 0.03 | 0.2 | 0.15 | 0.1 | 0.02 | - | - | 0.1 … 0.7 | 8 … 27 | 3 … 4 | 13 × 15 / 15 |
| **CD-310F** | 9 012 713.N1 | -30 … +150 | ± 0.03 | 0.31 | 0.28 | 0.22 | 0.13 | 0.03 | - | 0.35 | 15 | 3 … 4 | 13 × 15 / 15 |
| **CP-310F** | 9 013 713.N1 | -30 … +200 | ± 0.03 | 0.3 | 0.27 | 0.21 | 0.12 | 0.02 | - | 0.1 … 0.7 | 8 … 27 | 3 … 4 | 13 × 15 / 15 |
| **CD-449F** | 9 012 716.N1 | -32 … +150 | ± 0.03 | 0.45 | 0.36 | 0.28 | 0.21 | 0.07 | - | 0.35 | 15 | 20 … 26 | 28 × 35 / 20 |
| **CP-449F** | 9 013 716.N1 | -32 … +200 | ± 0.03 | 0.44 | 0.35 | 0.27 | 0.2 | 0.06 | - | 0.1 … 0.7 | 8 … 27 | 20 … 26 | 28 × 35 / 20 |
| **CD-450F** | 9 012 714.N1 | -30 … +150 | ± 0.03 | 0.45 | 0.38 | 0.28 | 0.17 | 0.07 | - | 0.35 | 15 | 3 … 4 | 13 × 15 / 15 |
| **CP-450F** | 9 013 714.N1 | -30 … +200 | ± 0.03 | 0.44 | 0.37 | 0.27 | 0.16 | 0.06 | - | 0.1 … 0.7 | 8 … 27 | 3 … 4 | 13 × 15 / 15 |
| **CD-650F** | 9 012 730.N1 | -40 … +150 | ± 0.03 | 0.68 | 0.55 | 0.27 | - | 0.12 | - | 0.35 | 15 | 5 … 7.5 | 18 × 13 / 15 |
| **CP-650F** | 9 013 730.N1 | -40 … +200 | ± 0.03 | 0.67 | 0.54 | 0.26 | - | 0.11 | - | 0.1 … 0.7 | 8 … 27 | 5 … 7.5 | 18 × 13 / 15 |
| **CD-800F** | 9 012 715.N1 | -40 … +150 | ± 0.03 | 0.85 | 0.75 | 0.58 | 0.4 | 0.25 | 0.11 | 0.35 | 15 | 5 … 7.5 | 18 × 13 / 15 |
| **CP-800F** | 9 013 715.N1 | -40 … +200 | ± 0.03 | 0.84 | 0.74 | 0.57 | 0.39 | 0.24 | 0.1 | 0.1 … 0.7 | 8 … 27 | 5 … 7.5 | 18 × 13 / 15 |
| **CD-1200F** | 9 012 717.N1 | -40 … +150 | ± 0.03 | 1.25 | 1.1 | 0.88 | 0.63 | 0.38 | 0.21 | 0.35 | 15 | 5 … 7.5 | 18 × 13 / 15 |
| **CP-1200F** | 9 013 717.N1 | -50 … +200 | ± 0.03 | 1.24 | 1.09 | 0.87 | 0.62 | 0.37 | 0.2 | 0.1 … 0.7 | 8 … 27 | 5 … 7.5 | 18 × 13 / 15 |
| **CD-1200FW** | 9 012 728.N1 | -40 … +150 | ± 0.03 | 1.25 | 1.1 | 0.88 | 0.63 | 0.38 | 0.21 | 0.35 | 15 | 5 … 7.5 | 18 × 13 / 15 |
| **CP-1200FW** | 9 013 728.N1 | -50 … +200 | ± 0.03 | 1.24 | 1.09 | 0.87 | 0.62 | 0.37 | 0.2 | 0.1 … 0.7 | 8 … 27 | 5 … 7.5 | 18 × 13 / 15 |
| **CD-1201F** | 9 012 718.N1 | -40 … +100 | ± 0.03 | 1.25 | 1.1 | 0.85 | 0.54 | 0.30 | 0.05 | 0.35 | 15 | 48 … 56 | 35 × 41 / 30 |
| **CP-1201F** | 9 013 718.N1 | -40 … +100 | ± 0.03 | 1.25 | 1.1 | 0.85 | 0.54 | 0.30 | 0.05 | 0.1 ... 0.7 | 8 ... 27 | 48 … 56 | 35 × 41 / 30 |

Note:

- Units with natural refrigerant are marked with the following symbol:
- Refrigerated circulators with the letter "W" in their name are water-cooled, while all other refrigerated circulators are air-cooled

| Dimensions W x D x H (cm) | Weight (kg) | Classified in accordance with DIN 12876-1 | USB port | RS232 interface | Available mains voltages / heating capacity (kW) | | | | | | | Model |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 230 V 50 Hz | 208-230 V 60 Hz | 208-230 V 50/60 Hz | 100-115 V 50/60 Hz | 115 V 60 Hz | 100 V 50/60 Hz | 200 V 50/60 Hz | |
| 23 × 39 × 65 | 26 | III (FL) | yes | - | 2 | 1.6 … 2 | - | - | 1 | 0.8 | - | **CD-200F** |
| 23 × 39 × 65 | 26 | III (FL) | yes | yes | - | - | 1.6 … 2 | 0.8 … 1 | - | - | - | **CP-200F** |
| 44 × 41 × 44 | 25 | III (FL) | yes | - | 2 | 1.6 … 2 | - | - | 1 | 0.8 | - | **CD-201F** |
| 44 × 41 × 44 | 24.7 | III (FL) | yes | yes | - | - | 1.6 … 2 | 0.8 … 1 | 1 | 0.8 | - | **CP-201F** |
| 23 × 40 × 65 | 25.2 | III (FL) | yes | - | 2 | 1.6 … 2 | - | - | 1 | 0.8 | - | **CD-310F** |
| 23 × 40 × 65 | 25.6 | III (FL) | yes | yes | - | - | 1.6 … 2 | 0.8 … 1 | 1 | 0.8 | - | **CP-310F** |
| 37 × 59 × 69 | 39.5 | III (FL) | yes | - | 2 | 1.6 … 2 | - | - | 1 | 0.8 | - | **CD-449F** |
| 37 × 59 × 69 | 39.5 | III (FL) | yes | yes | - | 1.6 … 2 | 1.6 … 2 | 0.8 … 1 | - | - | - | **CP-449F** |
| 23 × 40 × 65 | 25.1 | III (FL) | yes | - | 2 | 1.6 … 2 | - | - | 1 | 0.8 | - | **CD-450F** |
| 23 × 40 × 65 | 25.6 | III (FL) | yes | yes | - | 1.6 … 2 | 1.6 … 2 | 0.8 … 1 | 1 | 0.8 | - | **CP-450F** |
| 33 × 47 × 70 | 36 | III (FL) | yes | - | 2 | 1.6 … 2 | - | - | 1 | - | - | **CD-650F** |
| 33 × 47 × 70 | 35.7 | III (FL) | yes | yes | - | - | 1.6 … 2 | - | 1 | - | - | **CP-650F** |
| 33 × 47 × 70 | 42 | III (FL) | yes | - | 2 | 1.6 … 2 | - | - | 1 | 0.8 | 1.5 | **CD-800F** |
| 33 × 47 × 70 | 42 | III (FL) | yes | yes | - | - | 1.6 … 2 | - | 1 | 0.8 | 1.5 | **CP-800F** |
| 33 × 47 × 70 | 42 | III (FL) | yes | - | 2 | 1.6 … 2 | - | - | 1 | 0.8 | 1.5 | **CD-1200F** |
| 33 × 47 × 70 | 42 | III (FL) | yes | yes | - | - | 1.6 … 2 | - | 1 | 0.8 | 1.5 | **CP-1200F** |
| 33 × 47 × 70 | 42 | III (FL) | yes | - | 2 | 1.6 … 2 | - | - | 1 | 0.8 | 1.5 | **CD-1200FW** |
| 33 × 47 × 70 | 42 | III (FL) | yes | yes | - | - | 1.6 … 2 | - | 1 | 0.8 | 1.5 | **CP-1200FW** |
| 45 × 64 × 95 | 68 | III (FL) | yes | - | 2 | 1.6 … 2 | - | - | 1 | 0.8 | 1.5 | **CD-1201F** |
| 45 × 64 × 95 | 68 | III (FL) | yes | yes | - | - | 1.6 … 2 | - | 1 | 0.8 | 1.5 | **CP-1201F** |

Unless specified otherwise, all data relates to operation at nominal voltage/frequency and an ambient temperature of +20°C. Cooling capacity measured according to DIN 12876-2. For information on the refrigerants used, visit: www.julabo.com.

DYNEO™

# Heating and refrigerated circulators

With the DYNEO series, we offer our customers the ideal instruments for internal and external applications in a wide working temperature range of -50 °C to +200 °C. Whether used in basic research, material testing, or technical systems, DYNEO heating and refrigerated circulators offer functional solutions for every requirement and budget.

The modern instruments are designed for easy and time-saving operation and provide quick access to all relevant functions via a central rotary knob. With a wide selection of accessories, all DYNEO devices are modular and can be adapted individually to the customer's application.

## Product features of DYNEO

- Working temperature range of -50 °C … +200 °C depending on model
- Models for internal and external applications
- Heating capacity of 2 kW
- 3.5" color display with high brightness, easy to see from a distance
- Level indicator for bath medium on display
- Integrated programmer for automatically running temperature time profiles
- ATC3 (Absolute Temperature Calibration, 3-point) and PID3 Control with interference compensation and adjustable parameters for high-precision temperature control
- Powerful, infinitely adjustable pressure pump (external pump connections M16x1)
- Flow rate 8 … 27 l/min, pressure: 0.1 … 0.7 bar
- External Pt100 sensor connection for highly precise measurement and control directly in the external application.
- Connectivity: Integrated USB port, digital RS232 or analog interface available as option



**Applications**
Temperature control for samples in a circulator bath, or temperature control for external applications such as measuring cells, refractometers, polarimeters, photometers, viscometers, fermenters, electrophoresis chambers, chromatography columns, rotary evaporators, rheometers, and more.



## Turn. Press. Done.

Easy control over all parameters via central rotary knob.



## Powerful. Adjustable.

Powerful, infinitely adjustable pressure pump for temperature control of external applications, even over long distances.



## Temperature. Under control.

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



For more information:
www.julabo.com/dyneo

DYNEO™

# Heating and refrigerated circulators

With the DYNEO series, we offer our customers the ideal instruments for internal and external applications in a wide working temperature range of -50 °C to +200 °C. Whether used in basic research, material testing, or technical systems, DYNEO heating and refrigerated circulators offer functional solutions for every requirement and budget.

The modern instruments are designed for easy and time-saving operation and provide quick access to all relevant functions via a central rotary knob. With a wide selection of accessories, all DYNEO devices are modular and can be adapted individually to the customer's application.

**Optional interfaces**

All DYNEO circulators can be equipped, upon customer request, with an additional digital or analog interface for integration into larger process systems.




## DYNEO .A

- Analog interface
- Simply add an ".A" at the end of the order number
- E.g: 9021504.A

## DYNEO .D

- Digital interface
- Simply add a ".D" at the end of the order number
- E.g: 9021504.D

ATC3

## ATC3 calibration.

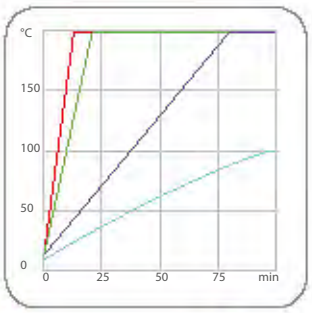
"Absolute Temperature Calibration" to compensate for physically related temperature differences, 3-point calibration.

PID3

## For higher requirements.

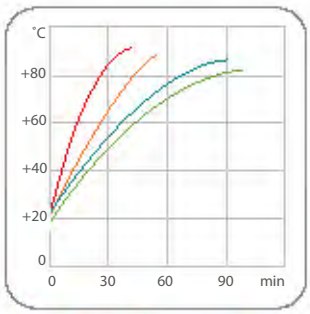
PID Temperature Control with drift compensation and adjustable parameters, improved temperature stability for external applications, temperature stability ±0.01°C internal, < ±0.1°C external.

**Heat-up time**
Medium: Thermal



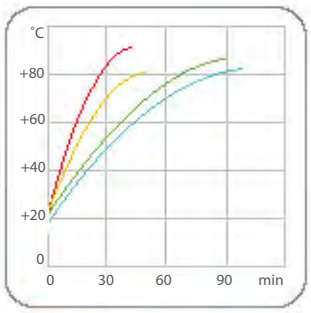

200F / 201F / 310F / 450F 449F
650F / 800F / 1200F/W 1201F

**Heat-up time**
Medium: Water



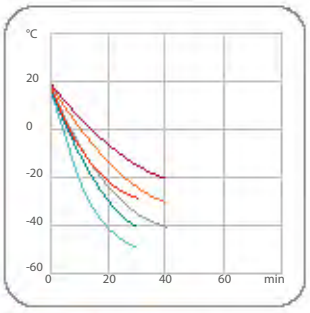

B5 B13 B17 / B19 B27

**Heat-up time**
Medium: Water



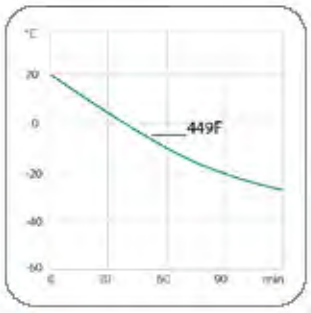

BT5 BT9 BT19 BT27

**Cool-down time**
Medium: Ethanol



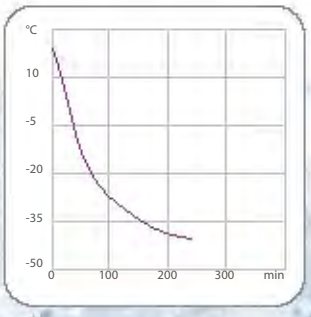

200F 450F 310F 650F
800F 1200F/W

**Cool-down time**
Medium: Ethanol



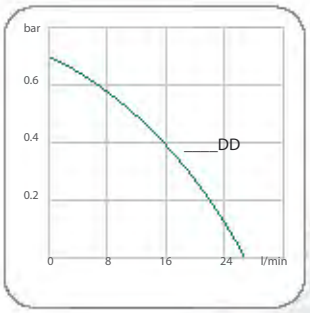

449F

**Cool-down time**
Medium: Ethanol




1201F

**Pump capacity**
Medium: Water






# DYNEO™

| | Model | Order no. | Working temperature range (°C) | Temperature stability (°C) | Cooling capacity (°C) | | | | | | Pump | | Bath volume (l) | Usable bath opening W x D / BT (cm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 20 | 0 | -10 | -20 | -30 | -40 | Pressure (bar) | Flow rate (l/min) | | |
| **Heating immersion circulators** | **DD** | 9 021 000 | +20 … +200 | ± 0.01 | - | - | - | - | - | - | 0.1 … 0.7 | 8 … 27 | - | - |
| **Heating circulators** | **DD-BC4** | 9 021 504 | +20 … +200 | ± 0.01 | - | - | - | - | - | - | 0.1 … 0.7 | 8 … 27 | 3 … 4.5 | 13 × 15 / 15 |
| | **DD-BC6** | 9 021 506 | +20 … +200 | ± 0.01 | - | - | - | - | - | - | 0.1 … 0.7 | 8 … 27 | 6 … 7.5 | 13 × 15 / 20 |
| | **DD-BC12** | 9 021 512 | +20 … +200 | ± 0.01 | - | - | - | - | - | - | 0.1 … 0.7 | 8 … 27 | 8.5 … 12 | 22 × 15 / 20 |
| | **DD-BC26** | 9 021 526 | +20 … +200 | ± 0.01 | - | - | - | - | - | - | 0.1 … 0.7 | 8 … 27 | 19 … 26 | 26 × 35 / 20 |
| **Refrigerated circulators** | **DD-200F** | 9 021 701.N1 | -20 … +200 | ± 0.01 | 0.2 | 0.15 | 0.1 | 0.02 | - | - | 0.1 … 0.7 | 8 … 27 | 3 … 4 | 13 × 15 / 15 |
| | **DD-201F** | 9 021 702.N1 | -20 … +200 | ± 0.01 | 0.2 | 0.15 | 0.1 | 0.02 | - | - | 0.1 … 0.7 | 8 … 27 | 3 … 4 | 13 × 15 / 15 |
| | **DD-310F** | 9 021 713.N1 | -30 … +200 | ± 0.01 | 0.3 | 0.27 | 0.21 | 0.12 | 0.02 | - | 0.1 … 0.7 | 8 … 27 | 3 … 4 | 13 × 15 / 15 |
| | **DD-450F** | 9 021 714.N1 | -30 … +200 | ± 0.01 | 0.44 | 0.37 | 0.27 | 0.16 | 0.06 | - | 0.1 … 0.7 | 8 … 27 | 3 … 4 | 13 × 15 / 15 |
| | **DD-449F** | 9 021 714.N1 | -32 … +200 | ± 0.01 | 0.44 | 0.35 | 0.27 | 0.2 | 0.06 | - | 0.1 … 0.7 | 8 … 27 | 20 … 26 | 28 × 35 / 20 |
| | **DD-650F** | 9 021 730.N1 | -40 … +200 | ± 0.01 | 0.67 | 0.54 | - | 0.26 | 0.11 | - | 0.1 … 0.7 | 8 … 27 | 5 … 7.5 | 18 × 13 / 15 |
| | **DD-800F** | 9 021 715.N1 | -40 … +200 | ± 0.01 | 0.84 | 0.74 | 0.57 | 0.39 | 0.24 | 0.1 | 0.1 … 0.7 | 8 … 27 | 5 … 7.5 | 18 × 13 / 15 |
| | **DD-1200F** | 9 021 717.N1 | -50 … +200 | ± 0.01 | 1.24 | 1.09 | 0.87 | 0.62 | 0.37 | 0.2 | 0.1 … 0.7 | 8 … 27 | 5 … 7.5 | 18 × 13 / 15 |
| | **DD-1200FW** | 9 021 728.N1 | -50 … +200 | ± 0.01 | 1.24 | 1.09 | 0.87 | 0.62 | 0.37 | 0.2 | 0.1 … 0.7 | 8 … 27 | 5 … 7.5 | 18 × 13 / 15 |
| | **DD-1201F** | 9 021 718.N1 | -40 … +100 | ± 0.01 | 1.25 | 1.1 | 0.85 | 0.54 | 0.30 | 0.05 | 0.1 … 0.7 | 8 … 27 | 48 … 56 | 35 × 41 / 30 |

Note:

- Units with natural refrigerant are marked with the following symbol:
- Refrigerated circulators with the letter "W" in their name are water-cooled, while all other refrigerated circulators are air-cooled



DYNEO DD-310F



DYNEO DD-800F

| Dimensions W x D x H (cm) | Weight (kg) | Classified in accordance with DIN 12876-1 | Pt100 connection | USB port | RS232 interface | Analog interface | Available mains voltages / heating capacity (kW) | | | | | | | Model |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 230 V 50 Hz | 208-230 V 60 Hz | 208-230 V 50/60 Hz | 100-115 V 50/60 Hz | 115 V 60 Hz | 100 V 50/60 Hz | 200 V 50/60 Hz | |
| 13.2 × 16 × 35.5 | 2.5 | III (FL) | yes | yes | optional | optional | - | - | 1.6 … 2 | 0.8 … 1 | - | - | 1.5 | **DD** |
| | | | | | | | | | | | | | | |
| 23 × 41 × 42 | 8.5 | III (FL) | yes | yes | optional | optional | - | - | 1.6 … 2 | 0.8 … 1 | - | - | 1.5 | **DD-BC4** |
| 24 × 44 × 47 | 9.7 | III (FL) | yes | yes | optional | optional | - | - | 1.6 … 2 | 0.8 … 1 | - | - | 1.5 | **DD-BC6** |
| 33 × 49 × 47 | 11.9 | III (FL) | yes | yes | optional | optional | - | - | 1.6 … 2 | 0.8 … 1 | - | - | 1.5 | **DD-BC12** |
| 39 × 62 × 48 | 18.7 | III (FL) | yes | yes | optional | optional | - | - | 1.6 … 2 | 0.8 … 1 | - | - | 1.5 | **DD-BC26** |
| | | | | | | | | | | | | | | |
| 23 × 39 × 65 | 25.7 | III (FL) | yes | yes | optional | optional | - | - | 1.6 … 2 | - | 1 | 0.8 | - | **DD-200F** |
| 44 × 41 × 44 | 24.7 | III (FL) | yes | yes | optional | optional | - | - | 1.6 … 2 | - | 1 | 0.8 | - | **DD-201F** |
| 23 × 40 × 65 | 27.4 | III (FL) | yes | yes | optional | optional | - | - | 1.6 … 2 | - | 1 | 0.8 | 1.5 | **DD-310F** |
| 23 × 40 × 65 | 27.4 | III (FL) | yes | yes | optional | optional | - | - | 1.6 … 2 | - | 1 | 0.8 | 1.5 | **DD-450F** |
| 37 × 59 × 69 | 39.5 | III (FL) | yes | yes | optional | optional | - | - | 1.6 … 2 | 0.8 … 1 | - | - | 1.5 | **DD-449F** |
| 33 × 47 × 70 | 35.7 | III (FL) | yes | yes | optional | optional | - | - | 1.6 … 2 | - | 1 | - | 1.5 | **DD-650F** |
| 33 × 47 × 70 | 42 | III (FL) | yes | yes | optional | optional | - | - | 1.6 … 2 | 0.8 … 1 | - | - | 1.5 | **DD-800F** |
| 33 × 47 × 70 | 42 | III (FL) | yes | yes | optional | optional | - | - | 1.6 … 2 | 0.8 … 1 | - | - | 1.5 | **DD-1200F** |
| 33 × 47 × 70 | 42 | III (FL) | yes | yes | optional | optional | - | - | 1.6 … 2 | 0.8 … 1 | - | - | 1.5 | **DD-1200FW** |
| 45 × 64 × 95 | 68 | III (FL) | yes | yes | optional | optional | - | - | 1.6 … 2 | 0.8 … 1 | - | - | 1.5 | **DD-1201F** |

Unless specified otherwise, all data relates to operation at nominal voltage/frequency and an ambient temperature of +20°C. Cooling capacity measured according to DIN 12876-2. For information on the refrigerants used, visit: www.julabo.com.



DYNEO DD-BC6



DYNEO DD-BC26

MAGIO™

# Heating and refrigerated circulators

The MAGIO series of heating and refrigerated circulators stands for high-end devices in the highest performance class, offering a broad working temperature range of -90 °C to +300 °C. These units include extra powerful pressure/suction pumps, thus meeting the highest temperature control requirements of demanding external applications.

The high resolution touch display guarantees simple, intuitive operation and optimal visibility of all relevant functions. With a wide selection of accessories, all MAGIO devices are modular and can be adapted individually to the customer's application.

## Product features of MAGIO

- Working temperature range of -90 °C … +300 °C depending on model
- Ideal for demanding external applications
- Heating capacity of up to 3 kW
- Large, high-resolution TFT touch display with multilingual user interface
- Integrated programmer for automatically running temperature time profiles
- ATC10 (Absolute Temperature Calibration, 10-point) and Intelligent Cascade Control (ICC) for automatic, self-optimizing adjustment of PID control parameters for high-precision temperature control
- Highest quality: All parts that come into contact with medium made entirely of stainless steel
- Extremely powerful, infinitely adjustable pressure/suction pump (external pump connections M16x1)
- Flow rate 16 … 31 l/min, supply pressure 0.24 … 0.92 bar, suction 0.03 … 0.4 bar
- External Pt100 sensor connection for highly precise measurement and control directly in the external application.
- Connectivity: USB port, RS232/RS485, Ethernet, and Stakei connection are permanently integrated, analog interface and OPC UA available as accessories



**Applications**
Temperature control for external applications such as measuring cells, refractometers, polarimeters, photometers, viscometers, fermenters, electrophoresis chambers, chromatography columns, rotary evaporators, rheometers, and more.



## Everything made of stainless steel.

The highest level of quality and material compatibility. All parts that come into contact with the medium are made entirely of stainless steel.

## Many interfaces.

Simple remote control, data management and integration into process structures. USB, RS232/ RS485, Ethernet, and Stakei connection are permanently integrated.



## Perfect control.

A high resolution TFT touch display means that the operator always has an eye on all the values and functions. The intuitive menu structure makes easy control possible.

## Most powerful pump.

The integrated pressure/suction pump is the most powerful in its class as well as continuously adjustable, making it ideal for external temperature control applications.

For more information:
www.julabo.com/magio






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The MAGIO series of heating and refrigerated circulators stands for high-end devices in the highest performance class, offering a broad working temperature range of -90 °C to +300 °C. These units include extra powerful pressure/suction pumps, thus meeting the highest temperature control requirements of demanding external applications.

The high resolution touch display guarantees simple, intuitive operation and optimal visibility of all relevant functions. With a wide selection of accessories, all MAGIO devices are modular and can be adapted individually to the customer's application.




MAGIO bridge mounted circulators combine high temperature control performance with maximum flexibility. The adjustable bridge means that these circulators can be used with any bath tank with a bath volume of up to 100 liters and a bath width of 33 to 68 cm. These models are suitable for internal and external temperature control applications, and include an integrated cooling coil for work below or close to the ambient temperature.

### MAGIO MS-Z

- Immersion depth: 150 mm
- Heating capacity: 2 kW
- Class III according to DIN 12876-1

### MAGIO MX-Z

- Immersion depth: 200 mm
- Heating capacity: 3 kW
- Class III according to DIN 12876-1




## Maximum safety.

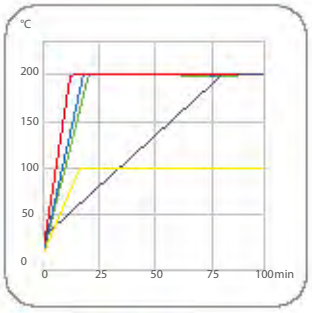
Rated Class III according to DIN12876-1, meaning it can be operated safely even with flammable fluids. Automatic shut-off in case of high temperature or low liquid level.



## Easy connection.

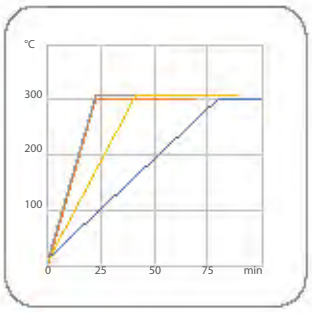
Inclined pump connections (M16×1) for easier connection of applications. Each unit includes 2 barbed fittings for tubing with an inside width of 8/12 mm.

**Heat-up time**
Medium: Thermal



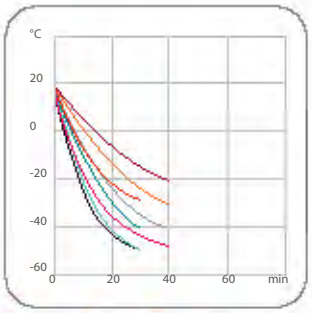

310F/450F 449F
650F / 800F / 1200F/W
1800F/2500F 1000FF

**Heat-up time**
Medium: Thermal



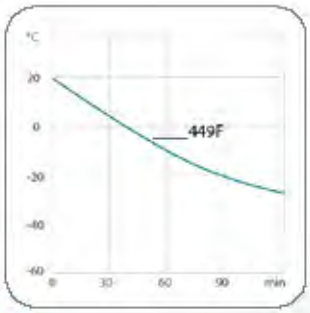

BC4 BC6
BC12 BC26

**Cool-down time**
Medium: Ethanol



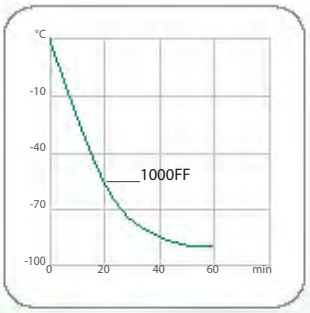

200F 450F 310F 650F
800F 1200F/W 1800F
2500F

**Cool-down time**
Medium: Ethanol



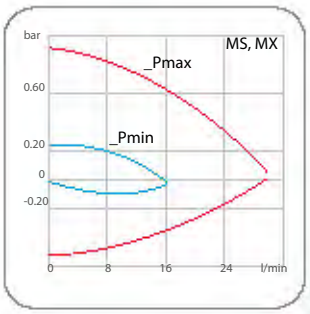

449F

**Cool-down time**
Medium: Ethanol




1000FF

**Pump capacity**
Medium: Water






# MAGIO™

| | Model | Order no. | Working temperature range (°C) | Temperature stability (°C) | Cooling capacity (°C) | | | | | | Pump | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 20 | 0 | -10 | -20 | -30 | -40 | Pressure (bar) | Supply pressure (l/min) | Suction pressure (bar) |
| **Bridge mounted circulators** | **MS-Z** | 9 032 201 | +20 … +300 | ± 0.01 | - | - | - | - | - | - | 0.24 … 0.92 | 16 ... 31 | 0.03 … 0.4 |
| | **MX-Z** | 9 033 201 | +20 … +300 | ± 0.01 | - | - | - | - | - | - | 0.24 … 0.92 | 16 ... 31 | 0.03 … 0.4 |
| **Heating circulators** | **MS-BC4** | 9 032 504 | +20 … +300 | ± 0.01 | - | - | - | - | - | - | 0.24 … 0.92 | 16 ... 31 | 0.03 … 0.4 |
| | **MX-BC6** | 9 033 506 | +20 … +300 | ± 0.01 | - | - | - | - | - | - | 0.24 … 0.92 | 16 ... 31 | 0.03 … 0.4 |
| | **MX-BC12** | 9 033 512 | +20 … +300 | ± 0.01 | - | - | - | - | - | - | 0.24 … 0.92 | 16 ... 31 | 0.03 … 0.4 |
| | **MX-BC26** | 9 033 526 | +20 … +300 | ± 0.01 | - | - | - | - | - | - | 0.24 … 0.92 | 16 ... 31 | 0.03 … 0.4 |
| **Refrigerated circulators** | **MS-310F** | 9 032 713.N1 | -30 … +200 | ± 0.01 | 0.26 | 0.21 | 0.17 | 0.10 | 0.01 | - | 0.24 … 0.92 | 16 ... 31 | 0.03 … 0.4 |
| | **MS-450F** | 9 032 714.N1 | -30 … +200 | ± 0.01 | 0.4 | 0.33 | 0.24 | 0.12 | 0.01 | - | 0.24 … 0.92 | 16 ... 31 | 0.03 … 0.4 |
| | **MS-449F** | 9 032 716.N1 | -30 … +200 | ± 0.01 | 0.4 | 0.31 | 0.24 | 0.19 | 0.05 | - | 0.24 … 0.92 | 16 ... 31 | 0.03 … 0.4 |
| | **MS-650F** | 9 032 730.N1 | -40 … +200 | ± 0.01 | 0.63 | 0.5 | - | 0.22 | 0.07 | - | 0.24 … 0.92 | 16 ... 31 | 0.03 … 0.4 |
| | **MS-800F** | 9 032 715.N1 | -40 … +200 | ± 0.01 | 0.8 | 0.7 | 0.58 | 0.35 | 0.2 | 0.06 | 0.24 … 0.92 | 16 ... 31 | 0.03 … 0.4 |
| | **MS-1200F** | 9 032 717.N1 | -50 … +200 | ± 0.01 | 1.2 | 1.05 | 0.8 | 0.58 | 0.33 | 0.16 | 0.24 … 0.92 | 16 ... 31 | 0.03 … 0.4 |
| | **MS-1200FW** | 9 032 728.N1 | -50 … +200 | ± 0.01 | 1.2 | 1.05 | 0.8 | 0.58 | 0.33 | 0.16 | 0.24 … 0.92 | 16 ... 31 | 0.03 … 0.4 |
| | **MX-1800F** | 9 033 751.N1 | -50 … +200 | ± 0.01 | 1.8 | 1.5 | 1.1 | 0.7 | 0.4 | 0.23 | 0.24 … 0.92 | 16 ... 31 | 0.03 … 0.4 |
| | **MX-2500F** | 9 033 752.N1 | -50 … +200 | ± 0.01 | 2.5 | 1.8 | 1.3 | 0.85 | 0.5 | 0.3 | 0.24 … 0.92 | 16 ... 31 | 0.03 … 0.4 |
| **Ultra-low refrigerated circulators** | **MS-1000FF** | 9 032 757.N1 | -90 … +100 | ± 0.02 | 1.1 | 1 | 0.95 | 0.9 | 0.9 | 0.85 | 0.24 … 0.92 | 16 ... 31 | 0.03 … 0.4 |

Note:

- Units with natural refrigerant are marked with the following symbol:
- Refrigerated circulators with the letter "W" in their name are water-cooled, while all other refrigerated circulators are air-cooled



MAGIO MS-310F



MAGIO MS-449F

| Bath volume (l) | Usable bath opening W x D / BT (cm) | Dimensions W x D x H (cm) | Pt100 connection | USB port | RS232 interface | Ethernet interface | Stakei interface | Analog interface | Weight (kg) | Classified in accordance with DIN 12876-1 | Available mains voltages / heating capacity (kW) | | | | Model |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | 200-230 V 50/60 Hz | 100-115 V 50/60 Hz | 115 V 60 Hz | 100 V 50/60 Hz | |
| - | - | 34 × 19 × 36 | yes | yes | yes | yes | yes | Accessory | 7.2 | III (FL) | 1.6 … 2 | - | 1 | 0.8 | **MS-Z** |
| - | - | 34 × 19 × 41 | yes | yes | yes | yes | yes | Accessory | 7.6 | III (FL) | 2.3 … 3 | - | - | - | **MX-Z** |
| 3 … 4.5 | 13 × 15 / 15 | 23 × 41 × 42 | yes | yes | yes | yes | yes | Accessory | 11.1 | III (FL) | 1.6 … 2 | - | 1 | 0.8 | **MS-BC4** |
| 6 … 7.5 | 13 × 15 / 20 | 24 × 44 × 47 | yes | yes | yes | yes | yes | Accessory | 12.8 | III (FL) | 2.3 … 3 | - | - | - | **MX-BC6** |
| 8.5 … 12 | 22 × 15 / 20 | 33 × 49 × 47 | yes | yes | yes | yes | yes | Accessory | 14.6 | III (FL) | 2.3 … 3 | - | - | - | **MX-BC12** |
| 19 … 26 | 26 × 35 / 20 | 39 × 62 × 48 | yes | yes | yes | yes | yes | Accessory | 21.4 | III (FL) | 2.3 … 3 | - | - | - | **MX-BC26** |
| 3 … 4 | 13 × 15 / 15 | 23 × 40 × 65 | yes | yes | yes | yes | yes | Accessory | 29 | III (FL) | 1.6 … 2 | - | 1 | 0.8 | **MS-310F** |
| 3 … 4 | 13 × 15 / 15 | 23 × 40 × 65 | yes | yes | yes | yes | yes | Accessory | 29 | III (FL) | 1.6 … 2 | - | 1 | 0.8 | **MS-450F** |
| 18 … 26 | 28 × 35 / 20 | 37 × 59 × 69 | yes | yes | yes | yes | yes | Accessory | 42 | III (FL) | 1.6 … 2 | - | 1 | 0.8 | **MS-449F** |
| 5 … 7.5 | 18 × 13 / 15 | 33 × 47 × 70 | yes | yes | yes | yes | yes | Accessory | 38.3 | III (FL) | 1.6 … 2 | - | 1 | - | **MS-650F** |
| 5 … 7.5 | 18 × 13 / 15 | 33 × 47 × 70 | yes | yes | yes | yes | yes | Accessory | 44 | III (FL) | 1.6 … 2 | - | 1 | 0.8 | **MS-800F** |
| 5 … 7.5 | 18 × 13 / 15 | 33 × 47 × 70 | yes | yes | yes | yes | yes | Accessory | 42 | III (FL) | 1.6 … 2 | - | 1 | 0.8 | **MS-1200F** |
| 5 … 7.5 | 18 × 13 / 15 | 33 × 47 × 70 | yes | yes | yes | yes | yes | Accessory | 42 | III (FL) | 1.6 … 2 | - | 1 | 0.8 | **MS-1200FW** |
| 6.5 … 11 | 18 × 13 / 20 | 40 × 50 × 86 | yes | yes | yes | yes | yes | Accessory | 61 | III (FL) | 2.3 … 3 | - | - | - | **MX-1800F** |
| 6.5 … 11 | 18 × 13 / 20 | 40 × 50 × 86 | yes | yes | yes | yes | yes | Accessory | 61 | III (FL) | 2.3 … 3 | - | - | - | **MX-2500F** |
| | | | | | | | | | | | Available mains voltages / heating capacity (kW) | | | | |
| | | | | | | | | | | | 230 V 50 Hz | | 208-230 V 60 Hz | | |
| 7.5 … 10 | 13 × 15 / 15 | 55 × 60 × 94 | yes | yes | yes | yes | yes | Accessory | 108 | III (FL) | 1.8 | | 1.8 | | **MS-1000FF** |

Unless specified otherwise, all data relates to operation at nominal voltage/frequency and an ambient temperature of +20°C. Cooling capacity measured according to DIN 12876-2. For information on the refrigerants used, visit: www.julabo.com.



MAGIO MS-1200F



MAGIO MX-2500F

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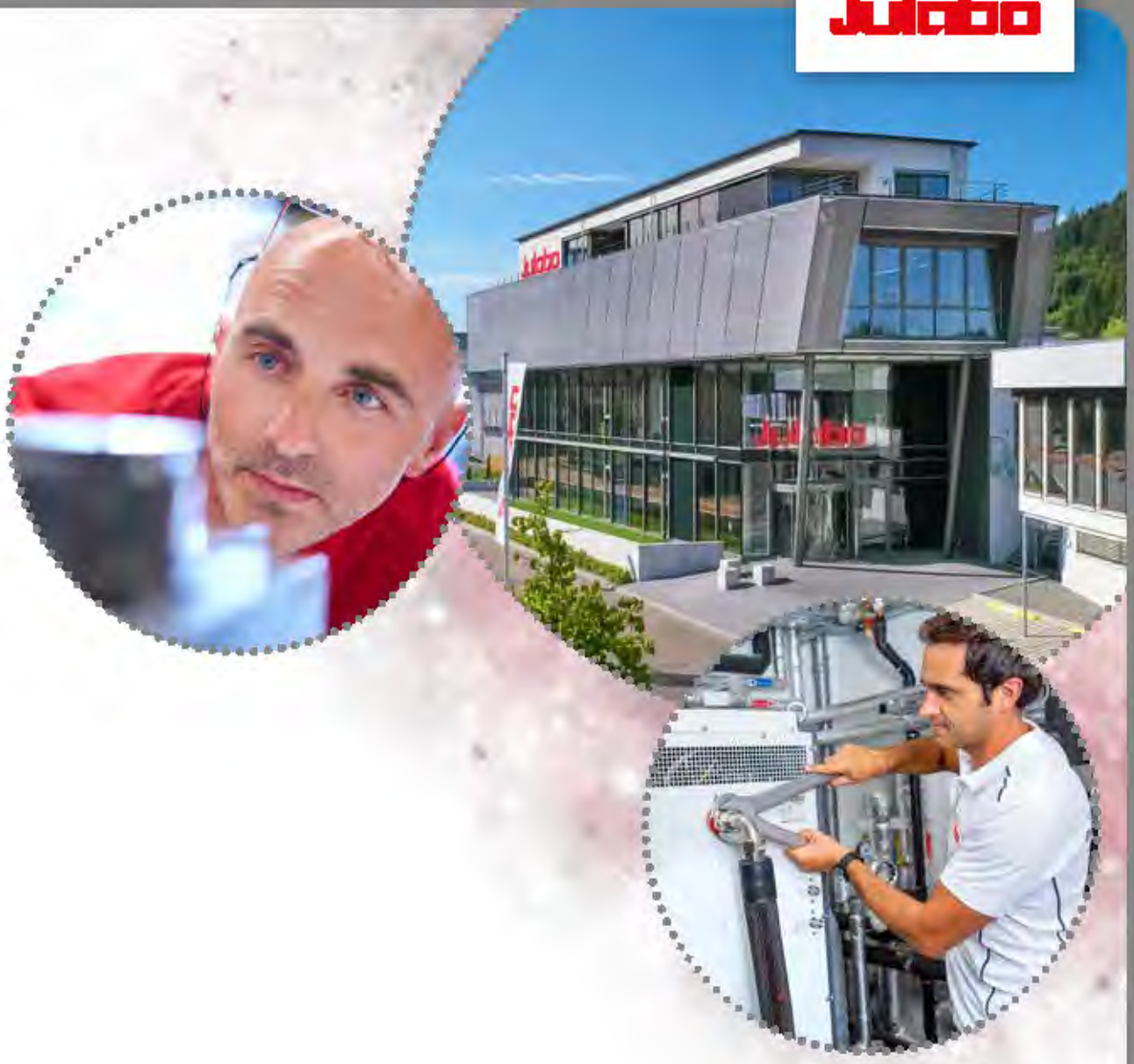
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