

## MAGIO MX-1800F Refrigerated / heating circulator

As with all circulators from the MAGIO range, the refrigerated circulators stand out thanks to their premium quality, high performance and intuitive operation. These devices provide extra powerful pressure and suction pumps and have an incredibly high heating output of 3 kW, enabling even more dynamic temperature control for external applications.

With a working temperature range of -50 ... +200 °C, the Refrigerated / heating circulator MAGIO MX-1800F delivers an outstanding cooling capacity of 1.87 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.



### High resolution TFT touch display

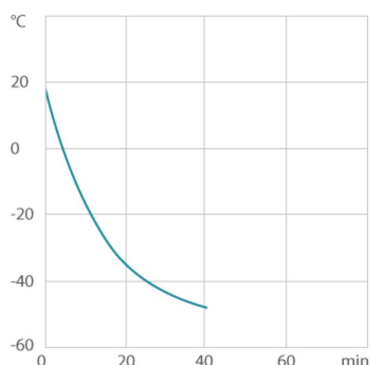
The modern TFT touch display gives you all the important information at a glance. Three large, predefined main screens clearly display data and graphics with various application priorities. Menu navigation is self-explanatory, arranged by relevance to daily operations and easy to operate with the touch of a finger. The in-built help function provides detailed support in case of additional questions.



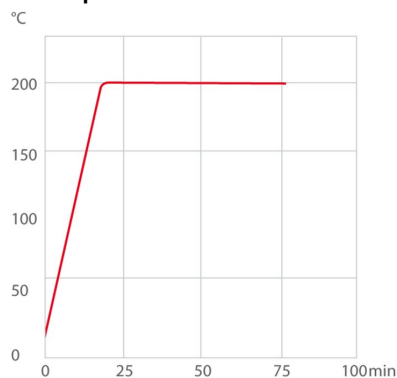
### Product features

- USB connection
- Class III (FL) according to DIN 12876-1
- RS232 interface for online communication
- Integrated programmer
- Integrated external Pt100 connection
- Ethernet
- analog interfaces (accessory)
- Ideal for demanding external applications
- Simple control of complex applications
- Flow rate 16 ... 31 l / min, pressure 0.24 ... 0.92 bar, suction 0.03 ... 0.4 bar
- Continuously adjustable, extremely powerful pressure / suction pump
- Large, high-resolution TFT touch display with multilingual user interface
- Parts being in contact with the medium made of stainless steel
- Connections for solenoid valve
- Integrated pump connection M16x1

### Cool-down time



### Heat-up time



### Performance values

230V/50Hz (Plug 16A CEE)

Heating capacity kW	3
Viscosity max. cSt	70
Pump capacity flow rate l/min	16 ... 31
Pump capacity flow pressure bar	0.24 ... 0.92
Maximum suction bar	-0.03 ... -0.4
Power consumption A	15

Order No. 9033751.N1.33

#### Cooling capacity 1 (Ethanol)

°C	20	0	-20	-30	-40
kW	1.87	1.57	0.77	0.47	0.3

\* 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.

Cooling capacity 1 = capacity at minimum pump level, cooling capacity 2 = capacity at maximum pump level

#### Cooling capacity 2 (Ethanol)

°C	20	0	-20	-30	-40
kW	1.8	1.5	0.7	0.4	0.23

\* 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.

Cooling capacity 1 = capacity at minimum pump level, cooling capacity 2 = capacity at maximum pump level

#### 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	99
Global Warming Potential for R1270	2
Carbon dioxide equivalent	0.000198

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## Technical data

Available voltage versions		Bath	
Order No.	9 033 751	Bath tank	Stainless steel
Available voltage versions:		Bath cover	integrated
9033751.N1.33	200-230V/50-60Hz (Plug 16A CEE) (R1270)	Usable bath opening cm (W x L / D)	18 x 13 / 20
Cooling		Other	
Cooling of compressor	1-stage Air	Classification	Classification III (FL)
		IP Code	IP 20
		Pump function	Pressure Suction Pump
		Pump type	Immersion Pump
		User Interface Language	Chinese, Czech, Dutch, English, French, German, Italian, Japanese, Korean, Polish, Portuguese, Russian, Spanish, Turkish
Electronics		Dimensions and volumes	
Interfaces	Ethernet, Modbus, RS232, RS485, Stakei, USB	Weight kg	61
External pt100 sensor connection	integrated	Dimensions cm (W x L x H)	40 x 50 x 86
Integrated programmer	8x60 steps	Filling volume l	6.5 ... 11
Temperature control	ICC	Pump connections	M16x1 male
Absolute temperature calibration	10 Point Calibration		
Temperature display	7" TFT Touchscreen		
Temperature setting	Touchscreen		
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	+10 ... +40		
Temperature display resolution °C	0.01		

## All Benefits



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



**Many interfaces.**  
Straight-forward remote control, data management, and integration into process structures. USB, Ethernet, RS232, SD card, and alarm off are permanently integrated. Further interfaces available as accessories.



**Touch display. Perfect operation.**  
With the touch display, the user always has an overview of all values and functions. The intuitive and multilingual menu structure enables perfect control.



**Space saving. Free up space.**  
Place your JULABO Circulator right next to an application, another unit, or wall. That saves space. This is made possible by eliminating vents and connections on the sides.



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



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



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



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



**Everything made of stainless steel.**  
Quality and material compatibility at the highest level. All parts in contact with the medium are entirely made of stainless steel.



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



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



**Maximum safety.**  
Classification III according to DIN12876-1 enables safe operation, even with flammable fluids. Automatic switch-off in the event of high temperature or low liquid level.



**Multi-lingual.**  
Operation in multiple languages.



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



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



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



**Energy-saving.**  
The high-quality insulation of all relevant components saves energy.



**Most powerful pump.**  
The integrated pressure/suction pump with performance values of 0.9 bar and -0.4 bar is the most powerful in its class and continuously adjustable.



**Condensation protection.**  
Superb design solution. Integrated ventilation directs air over the bath lid and minimizes condensation.



**Highest measuring accuracy**  
'Absolute Temperature Calibration' for manual compensation of a temperature difference, 10-point calibration