MAGIO MS-1000F 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. The devices offer extra strong pressure and suction pumps, thus fulfilling the highest demands for temperature control of external applications. Whether in basic research, material testing or technical systems – the MAGIO refrigerated circulators offer high-tech solutions for high customer requirements.

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

- Ideal for demanding external applications
- Simple control of complex applications
- Continuously adjustable, extremely powerful pressure / suction pump
- Flow rate 16 ... 31 l / min, pressure 0.24 ... 0.92 bar, suction 0.03 ... 0.4 bar
- Large, high-resolution TFT touch display with multilingual user interface
- Parts being in contact with the medium made of stainless steel
- Integrated programmer
- Integrated external Pt100 connection
- USB connection
- RS232 interface for online communication
- Ethernet
- analog interfaces (accessory)
- Class III (FL) according to DIN 12876-1
- Modbus
- Profibus DP (Accessory)
- RS232/RS485 interface for online communication
- Connections for solenoid valve

Technical data

Available voltage versions	
Order No.	9 032 707
Available voltage versions:	
9 032 707.02	115V/60Hz (Nema N5-20 Plug)
9 032 707.05	200-230V/50-60Hz (CH Plug Type SEV 1011)
9 032 707.04	200-230V/50-60Hz (UK Plug Type BS1363A)
9 032 707.33	200-230V/50-60Hz (Schuko Plug - CEE 7/4 Plug Type F)
9 032 707.33.chn	200-230V/50-60Hz (CN Plug)

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

Cooling	
Cooling of compressor	1-stage Air

Other	
Classification	Classification III (FL)
IP Code	IP 21
Pump function	Pressure Suction Pump
Pump type	Immersion Pump

Electronics	
External pt100 sensor connection	integrated
Integrated programmer	8x60 steps
Temperature control	ICC
Absolute temperature calibration	10 Point Calibration
Temperature displayTemperature display	7" TFT Touchscreen
Temperature settingTemperature setting	Touchscreen
Electronic Timer hr:min	00:00 ... 99:59

Dimensions and volumes	
Weight lbs	119.3
Dimensions in. (W × L × H)	16.5 x 19.3 x 27.6
Filling volume l	5 ... 7.5
Pump connections	M16x1 male

Temperature values	
Setting the resolution of the temperature display °C	0.01
Working temperature range °C	-50 ... +200.0
Temperature stability °C	+/-0.01
Ambient temperature °C	+10.0 ... +40.0
Temperature display resolution °C	0.01

Performance values

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

115V/60Hz							
Heating capacity kW	1						
Cooling capacity (Ethanol)							
°C	20	10	0	-10	-20	-30	-40
kW	1	0.96	0.96	0.7	0.51	0.25	0.11
Viscosity max. cST	70						
Refrigerant	R449A						
Filling volume g	190						
Global Warming Potential for R449A	1397						
Carbon dioxide equivalent t	0.265						
Pump capacity flow rate l/min	16 ... 31						
Pump capacity flow pressure psi	3.5 ... 13.3						
Maximum suction psi	-0.4 ... -5.8						
Power	16 A						

200-230V/50-60Hz (CH Plug Type SEV 1011)

200V/50Hz							
Heating capacity kW	1.6						
Cooling capacity (Ethanol)							
°C	20	10	0	-10	-20	-30	-40
kW	1	0.96	0.96	0.7	0.51	0.25	0.11
Viscosity max. cST	70						
Refrigerant	R449A						
Filling volume g	190						
Global Warming Potential for R449A	1397						
Carbon dioxide equivalent t	0.265						
Pump capacity flow rate l/min	16 ... 31						
Pump capacity flow pressure psi	3.5 ... 13.3						
Maximum suction psi	-0.4 ... -5.8						
Power	10 A						

200V/60Hz							
Heating capacity kW	1.6						
Cooling capacity (Ethanol)							
°C	20	10	0	-10	-20	-30	-40
kW	1	0.96	0.96	0.7	0.51	0.25	0.11
Viscosity max. cST	70						
Refrigerant	R449A						
Filling volume g	190						
Global Warming Potential for R449A	1397						
Carbon dioxide equivalent t	0.265						
Pump capacity flow rate l/min	16 ... 31						
Pump capacity flow pressure psi	3.5 ... 13.3						
Maximum suction psi	-0.4 ... -5.8						
Power	10 A						

230V/50Hz							
Heating capacity kW	2						
Cooling capacity (Ethanol)							
°C	20	10	0	-10	-20	-30	-40
kW	1	0.96	0.96	0.7	0.51	0.25	0.11
Viscosity max. cST	70						
Refrigerant	R449A						
Filling volume g	190						
Global Warming Potential for R449A	1397						
Carbon dioxide equivalent t	0.265						
Pump capacity flow rate l/min	16 ... 31						
Pump capacity flow pressure psi	3.5 ... 13.3						

230V/60Hz							
Heating capacity kW	2						
Cooling capacity (Ethanol)							
°C	20	10	0	-10	-20	-30	-40
kW	1	0.96	0.96	0.7	0.51	0.25	0.11
Viscosity max. cST	70						
Refrigerant	R449A						
Filling volume g	190						
Global Warming Potential for R449A	1397						
Carbon dioxide equivalent t	0.265						
Pump capacity flow rate l/min	16 ... 31						
Pump capacity flow pressure psi	3.5 ... 13.3						

Maximum suction psi	-0.4 ... -5.8
Power	10 A

Maximum suction psi	-0.4 ... -5.8
Power	10 A

200-230V/50-60Hz (UK Plug Type BS1363A)

200V/50Hz

Heating capacity kW	1.6
Cooling capacity	

°C	20	10	0	-10	-20	-30	-40
kW	1	0.96	0.96	0.7	0.51	0.25	0.11

Viscosity max. cST	70
Refrigerant	R449A
Filling volume g	190
Global Warming Potential for R449A	1397
Carbon dioxide equivalent t	0.265
Pump capacity flow rate l/min	16 ... 31
Pump capacity flow pressure psi	3.5 ... 13.3
Maximum suction psi	-0.4 ... -5.8
Power	12 A

200V/60Hz

Heating capacity kW	1.6
Cooling capacity (Ethanol)	

°C	20	10	0	-10	-20	-30	-40
kW	1	0.96	0.96	0.7	0.51	0.25	0.11

Viscosity max. cST	70
Refrigerant	R449A
Filling volume g	190
Global Warming Potential for R449A	1397
Carbon dioxide equivalent t	0.265
Pump capacity flow rate l/min	16 ... 31
Pump capacity flow pressure psi	3.5 ... 13.3
Maximum suction psi	-0.4 ... -5.8
Power	12 A

230V/50Hz

Heating capacity kW	2
Cooling capacity (Ethanol)	

°C	20	10	0	-10	-20	-30	-40
kW	1	0.96	0.96	0.7	0.51	0.25	0.11

Viscosity max. cST	70
Refrigerant	R449A
Filling volume g	190
Global Warming Potential for R449A	1397
Carbon dioxide equivalent t	0.265
Pump capacity flow rate l/min	16 ... 31
Pump capacity flow pressure psi	3.5 ... 13.3
Maximum suction psi	-0.4 ... -5.8
Power	13 A

230V/60Hz

Heating capacity kW	2
Cooling capacity (Ethanol)	

°C	20	10	0	-10	-20	-30	-40
kW	1	0.96	0.96	0.7	0.51	0.25	0.11

Viscosity max. cST	70
Refrigerant	R449A
Filling volume g	190
Global Warming Potential for R449A	1397
Carbon dioxide equivalent t	0.265
Pump capacity flow rate l/min	16 ... 31
Pump capacity flow pressure psi	3.5 ... 13.3
Maximum suction psi	-0.4 ... -5.8
Power	13 A

200-230V/50-60Hz (Schuko Plug - CEE 7/4 Plug Type F)

200V/50Hz

Heating capacity kW	1.6
Cooling capacity (Ethanol)	

°C	20	10	0	-10	-20	-30	-40
kW	1	0.96	0.96	0.7	0.51	0.25	0.11

Viscosity max. cST	70
Refrigerant	R449A
Filling volume g	190
Global Warming Potential for R449A	1397
Carbon dioxide equivalent t	0.265
Pump capacity flow rate l/min	16 ... 31

200V/60Hz

Heating capacity kW	1.6
Cooling capacity (Ethanol)	

°C	20	10	0	-10	-20	-30	-40
kW	1	0.96	0.96	0.7	0.51	0.25	0.11

Viscosity max. cST	70
Refrigerant	R449A
Filling volume g	190
Global Warming Potential for R449A	1397
Carbon dioxide equivalent t	0.265
Pump capacity flow rate l/min	16 ... 31

Pump capacity flow pressure psi	3.5 ... 13.3
Maximum suction psi	-0.4 ... -0.6
Power	15 A

230V/50Hz

Heating capacity kW	2
Cooling capacity (Ethanol)	

°C	20	10	0	-10	-20	-30	-40
kW	1	0.96	0.96	0.7	0.51	0.25	0.11

Viscosity max. cST	70
Refrigerant	R449A
Filling volume g	190
Global Warming Potential for R449A	1397
Carbon dioxide equivalent t	0.265
Pump capacity flow rate l/min	16 ... 31
Pump capacity flow pressure psi	3.5 ... 13.3
Maximum suction psi	-0.4 ... -5.8
Power	16 A

230V/60Hz

Heating capacity kW	2
Cooling capacity (Ethanol)	

°C	20	10	0	-10	-20	-30	-40
kW	1	0.96	0.96	0.7	0.51	0.25	0.11

Viscosity max. cST	70
Refrigerant	R449A
Filling volume g	190
Global Warming Potential for R449A	1397
Carbon dioxide equivalent t	0.265
Pump capacity flow rate l/min	16 ... 31
Pump capacity flow pressure psi	3.5 ... 13.3
Maximum suction psi	-0.4 ... -5.8
Power	16 A

200-230V/50-60Hz (CN Plug)

200V/50Hz

Heating capacity kW	1.6
Cooling capacity (Ethanol)	

°C	20	10	0	-10	-20	-30	-40
kW	1	0.96	0.96	0.7	0.51	0.25	0.11

Viscosity max. cST	70
Refrigerant	R449A
Filling volume g	190
Global Warming Potential for R449A	1397
Carbon dioxide equivalent t	0.265
Pump capacity flow rate l/min	16 ... 31
Pump capacity flow pressure psi	3.5 ... 13.3
Maximum suction psi	-0.4 ... -5.8
Power	13 A

200V/60Hz

Heating capacity kW	1.6
Cooling capacity (Ethanol)	

°C	20	10	0	-10	-20	-30	-40
kW	1	0.96	0.96	0.7	0.51	0.25	0.11

Viscosity max. cST	70
Refrigerant	R449A
Filling volume g	190
Global Warming Potential for R449A	1397
Carbon dioxide equivalent t	0.265
Pump capacity flow rate l/min	16 ... 31
Pump capacity flow pressure psi	3.5 ... 13.3
Maximum suction psi	-0.4 ... -5.8
Power	13 A

230V/50Hz

Heating capacity kW	2
Cooling capacity (Ethanol)	

°C	20	10	0	-10	-20	-30	-40
kW	1	0.96	0.96	0.7	0.51	0.25	0.11

Viscosity max. cST	70
Refrigerant	R449A
Filling volume g	190
Global Warming Potential for R449A	1397
Carbon dioxide equivalent t	0.265
Pump capacity flow rate l/min	16 ... 31
Pump capacity flow pressure psi	3.5 ... 13.3

230V/60Hz

Heating capacity kW	2
Cooling capacity (Ethanol)	

°C	20	10	0	-10	-20	-30	-40
kW	1	0.96	0.96	0.7	0.51	0.25	0.11

Viscosity max. cST	70
Refrigerant	R449A
Filling volume g	190
Global Warming Potential for R449A	1397
Carbon dioxide equivalent t	0.265
Pump capacity flow rate l/min	16 ... 31
Pump capacity flow pressure psi	3.5 ... 13.3

Maximum suction psi	-0.4 ... -5.8	Maximum suction psi	-0.4 ... -5.8
Power	14 A	Power	14 A

All Benefits

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

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

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

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

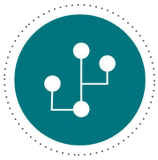
Quick start.
Individual JULABO consultation and comprehensive manuals at your disposal.

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

Services 24/7.
Around the clock availability. You can find suitable accessories, data sheets, manuals, case studies, and more at www.julabo.com.

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

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.



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.

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.

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.

Multi-lingual.
Operation in multiple languages.

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.

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.

Stable. Mobile.

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

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.

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

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.