

MAGIO MS-1000F Refrigeration / 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.



Your advantages

- Combined RS232/RS485 interface for serial data transmission according to the EIA-485 industry standard (2-wire bus technology), upgradeable with Profibus DP
- Parts being in contact with the medium made of stainless steel
- Large, high-resolution TFT touch display with multilingual user interface
- 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
- Simple control of complex applications
- Ideal for demanding external applications
- analog interfaces (accessory)
- Integrated external Pt100 connection
- RS232 interface for online communication
- USB connection
- Class III (FL) according to DIN 12876-1
- Integrated programmer

Technical data

Available voltage versions		Bath	
Order No.	9 032 707	Bath tank	Stainless steel
Available voltage versions:		Bath cover	integrated
9 032 707.02	115V/60Hz (Nema N5-20 Plug)	Usable bath opening cm (W x L / D)	18 x 13 / 15
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)		
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
Electronics		Dimensions and volumes	
External pt100 sensor connection	integrated	Weight kg	54.1

Integrated programmer	8x60 steps	Dimensions cm (W x L x H)	42 x 49 x 70
Temperature control	ICC	Filling volume l	5 ... 7.5
Absolute temperature calibration	3 Point Calibration	Pump connections	M16x1 male
Temperature display	7" TFT Touchscreen		
Temperature setting	Touchscreen		
Electronic Timer hr:min	00:00 ... 00:00		

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	200	20	10	0	-10	-20	-30	-40
kW	1	1	0.96	0.96	0.7	0.51	0.25	0.11
Viscosity max. cST	50							
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 bar	0.24 ... 0.92							
Maximum suction bar	-0.03 ... -0.4							

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

200V/50Hz

Heating capacity kW	1.6							
Cooling capacity (Ethanol)								
°C	200	20	10	0	-10	-20	-30	-40
kW	1	1	0.96	0.96	0.7	0.51	0.25	0.11
Viscosity max. cST	50							
Refrigerant	R449A							
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Carbon dioxide equivalent t	0.265							
Pump capacity flow rate l/min	16 ... 31							
Pump capacity flow pressure bar	0.24 ... 0.92							

200V/60Hz

Heating capacity kW	1.6							
Cooling capacity (Ethanol)								
°C	200	20	10	0	-10	-20	-30	-40
kW	1	1	0.96	0.96	0.7	0.51	0.25	0.11
Viscosity max. cST	50							
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 bar	0.24 ... 0.92							

Maximum suction bar	-0.03 ... -0.4							
230V/50Hz								
Heating capacity kW	2							
Cooling capacity (Ethanol)								
°C	200	20	10	0	-10	-20	-30	-40
kW	1	1	0.96	0.96	0.7	0.51	0.25	0.11
Viscosity max. cST	50							
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							
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Carbon dioxide equivalent t	0.265							
Pump capacity flow rate l/min	16 ... 31							
Pump capacity flow pressure bar	0.24 ... 0.92							
Maximum suction bar	-0.03 ... -0.4							

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

200V/50Hz								
Heating capacity kW	1.6							
Cooling capacity								
°C	200	20	10	0	-10	-20	-30	-40
kW	1	1	0.96	0.96	0.7	0.51	0.25	0.11
Viscosity max. cST	50							
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Heating capacity kW	1.6							
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°C	200	20	10	0	-10	-20	-30	-40
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Maximum suction bar	-0.03 ... -0.4							

230V/50Hz								
Heating capacity kW	2							
Cooling capacity (Ethanol)								
°C	200	20	10	0	-10	-20	-30	-40
kW	1	1	0.96	0.96	0.7	0.51	0.25	0.11
Viscosity max. cST	50							
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Pump capacity flow rate l/min	16 ... 31							
Pump capacity flow pressure bar	0.24 ... 0.92							
Maximum suction bar	-0.03 ... -0.4							

230V/60Hz								
Heating capacity kW	2							
Cooling capacity (Ethanol)								
°C	200	20	10	0	-10	-20	-30	-40
kW	1	1	0.96	0.96	0.7	0.51	0.25	0.11
Viscosity max. cST	50							
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 bar	0.24 ... 0.92							
Maximum suction bar	-0.03 ... -0.4							

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

200V/50Hz

Heating capacity kW 1.6

Cooling capacity (Ethanol)

°C	200	20	10	0	-10	-20	-30	-40
kW	1	1	0.96	0.96	0.7	0.51	0.25	0.11

Viscosity max. cST 50

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 bar 0.24 ... 0.92

Maximum suction bar -0.03 ... -0.04

200V/60Hz

Heating capacity kW 1.6

Cooling capacity (Ethanol)

°C	200	20	10	0	-10	-20	-30	-40
kW	1	1	0.96	0.96	0.7	0.51	0.25	0.11

Viscosity max. cST 50

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 bar 0.24 ... 0.92

Maximum suction bar -0.03 ... -0.4

230V/50Hz

Heating capacity kW 2

Cooling capacity (Ethanol)

°C	200	20	10	0	-10	-20	-30	-40
kW	1	1	0.96	0.96	0.7	0.51	0.25	0.11

Viscosity max. cST 50

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 bar 0.24 ... 0.92

Maximum suction bar -0.03 ... -0.4

230V/60Hz

Heating capacity kW 2

Cooling capacity (Ethanol)

°C	200	20	10	0	-10	-20	-30	-40
kW	1	1	0.96	0.96	0.7	0.51	0.25	0.11

Viscosity max. cST 50

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 bar 0.24 ... 0.92

Maximum suction bar -0.03 ... -0.4

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

200V/50Hz									200V/60Hz								
Heating capacity kW			1.6						Heating capacity kW			1.6					
Cooling capacity (Ethanol)									Cooling capacity (Ethanol)								
°C	200	20	10	0	-10	-20	-30	-40	°C	200	20	10	0	-10	-20	-30	-40
kW	1	1	0.96	0.96	0.7	0.51	0.25	0.11	kW	1	1	0.96	0.96	0.7	0.51	0.25	0.11
Viscosity max. cST			50						Viscosity max. cST			50					
Refrigerant			R449A						Refrigerant			R449A					
Filling volume g			190						Filling volume g			190					
Global Warming Potential for R449A			1397						Global Warming Potential for R449A			1397					
Carbon dioxide equivalent t			0.265						Carbon dioxide equivalent t			0.265					
Pump capacity flow rate l/min			16 ... 31						Pump capacity flow rate l/min			16 ... 31					
Pump capacity flow pressure bar			0.24 ... 0.92						Pump capacity flow pressure bar			0.24 ... 0.92					
Maximum suction bar			-0.03 ... -0.4						Maximum suction bar			-0.03 ... -0.4					
230V/50Hz									230V/60Hz								
Heating capacity kW			2						Heating capacity kW			2					
Cooling capacity (Ethanol)									Cooling capacity (Ethanol)								
°C	200	20	10	0	-10	-20	-30	-40	°C	200	20	10	0	-10	-20	-30	-40
kW	1	1	0.96	0.96	0.7	0.51	0.25	0.11	kW	1	1	0.96	0.96	0.7	0.51	0.25	0.11
Viscosity max. cST			50						Viscosity max. cST			50					
Refrigerant			R449A						Refrigerant			R449A					
Filling volume g			190						Filling volume g			190					
Global Warming Potential for R449A			1397						Global Warming Potential for R449A			1397					
Carbon dioxide equivalent t			0.265						Carbon dioxide equivalent t			0.265					
Pump capacity flow rate l/min			16 ... 31						Pump capacity flow rate l/min			16 ... 31					
Pump capacity flow pressure bar			0.24 ... 0.92						Pump capacity flow pressure bar			0.24 ... 0.92					
Maximum suction bar			-0.03 ... -0.4						Maximum suction bar			-0.03 ... -0.4					

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.



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.



Connection. Easy.
Inclined pump connections (M16x1) facilitate the connection of applications. Each unit includes 2 barbed fittings of 8/12 mm diameter each.



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.



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



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



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



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



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



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



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.



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.



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.



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.



Most powerful pump.
The integrated pressure/suction pump with performance values of 0.9 bar and -0.5 bar is the most powerful in its class and continuously adjustable.



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



Multi-lingual.
Operation in multiple languages.



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



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