

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)

External pt100 sensor connection

- 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 vers	ions:		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 1011)	SEV		
9 032 707.04	200-230V/50-60Hz (UK Plug Type BS1363A)			
9 032 707.33	200-230V/50-60Hz (Schuko Plug - 7/4 Plug Type F)	CEE		
9 032 707.33.chn	200-230V/50-60Hz (CN Plug)			
Cooling			Other	
Cooling of compresso	r 1-stage Air		Classification	Classification III (FL)
			IP Code	IP 20
			Pump function	Pressure Suction Pump
			Pump type	Immersion Pump
Electronics			Dimensions and volumes	

Weight kg

integrated

54.1



Integrated programmer	8x60 steps	
Temperature control	ICC	
Absolute temperature calibration	3 Point Calibration	
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	
	.10.0 .40.0	
Ambient temperature °C	+10.0 +40.0	

Performance values

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

115V	//60H	lz						
Heatin	ıg capa	acity k	W			•	1	
Coolin	g capa	acity (E	thano	l)				
°C	200	20	10	0	-10	-20	-30	-40
kW	1	1	0.96	0.96	0.7	0.51	0.25	0.11
Viscos	sity ma	ıx. cST				į	50	
Refrig	erant					ı	R449A	
Filling	volum	e g				•	190	
Global	Warm	ing Po	tentia	for R4	149A	•	1397	
Carbo	n dioxi	de equ	ıivalen	t t		(0.265	
Pump	capac	ity flov	v rate l	/min			16 3	1
Pump	capac	ity flov	v press	sure ba	ar	(0.24	0.92
Maxim	num su	ction l	bar			-	0.03	0.4

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

200	V/50H	lz							20	00V/	'60H	Z						
Heati	ng cap	acity k	W				1.6		Не	eating	ј сара	city k	W				1.6	
Cooli	ng capa	acity (Ethano	l)					Co	ooling	сара	city (E	thano	l)				
°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	٧	1	1	0.96	0.96	0.7	0.51	0.25	0.11
Visco	sity ma	ax. cS	Γ			į	50		Vis	scosit	ty ma	x. cST	•			!	50	
Refri	gerant					F	R449A		Re	efriger	rant					ı	R449A	
Filling	g volum	ie g				-	190		Fill	lling v	olum	e g					190	
Globa	al Warm	ning P	otentia	l for R4	149A	-	1397		Glo	obal V	Warm	ing Po	otentia	l for R4	149A		1397	
Carbo	on dioxi	ide eq	uivalen	t t		(0.265		Ca	arbon	dioxi	de equ	uivalen	t t		(0.265	
Pump	о сарас	ity flo	w rate	l/min			16 3	1	Pu	ımp c	apaci	ty flo	v rate	l/min			16 3	1
Pump	о сарас	ity flo	w pres	sure ba	ar	(0.24	0.92	Pu	ımp c	apaci	ty flov	v pres	sure ba	ar	(0.24	0.92



Maxin	num su	ıction	bar			-	0.03	0.4	Maxim	num su	ıction	bar			-	-0.03	0.4
230\	//50H	Z							230V	//60H	Z						
Heatir	ng capa	acity k	W			2	2		Heatir	ng capa	acity k	W			:	2	
Coolir	ng capa	city (E	thano	l)					Coolin	ıg capa	city (E	thano	l)				
°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
Visco	sity ma	x. cST	-				50		Viscos	sity ma	x. cST	-				50	
Refrig	erant					F	R449A		Refrig	erant					ı	R449A	
Filling	volum	e g				1	190		Filling	volum	e g					190	
Globa	l Warm	ing Po	otentia	l for R4	149A	1	1397		Globa	l Warm	ing Po	otentia	for R4	149A		1397	
Carbo	n dioxi	de equ	uivalen	t t		(0.265		Carbo	n dioxi	de equ	uivalen	t t		(0.265	
Pump	capaci	ity flov	w rate l	/min		1	16 3	1	Pump	capac	ity flov	w rate l	/min			16 3	1
Pump	capaci	ity flov	w press	sure ba	ar	().24	0.92	Pump	capac	ity flov	w press	sure ba	ır	(0.24	0.92
Maxin	num su	ction	bar			-	0.03	0.4	Maxim	านm รเ	ıction	bar			-	20.0	0.4

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

200V	/50H	Z							200V	/60H	Z							
Heatin	g capa	city k	W				1.6		Heatin	g capa	acity k	W				1.6		
Coolin	g capa	city							Coolin	g capa	city (E	thano	l)					
°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	
Viscos	ity ma	x. cST				!	50		Viscos	ity ma	x. cST					50		
Refrige	erant						R449A		Refrig	erant						R449A		
Filling	volume	e g					190		Filling	volum	e g					190		
Global	Warm	ing Po	tentia	for R4	149A		1397		Global	Warm	ing Po	tentia	l for R4	149A		1397		
Carbor	n dioxid	de equ	ıivalen	t t		(0.265		Carbo	n dioxi	de equ	ıivalen	t t			0.265		
Pump	capaci	ty flov	v rate l	/min			16 3	1	Pump	capac	ity flov	v rate	/min			16 3	1	
Pump	capaci	ty flov	v press	sure ba	ar	(0.24	0.92	Pump	capac	ity flov	v pres	sure ba	ır	-	0.24	0.92	
Maxim	num su	ction	bar			•	0.03	0.4	Maxim	num su	ıction	bar				-0.03	0.4	
230V	/50H	z							230V	/60H	Z							
Heatin	g capa	city k	W			:	2		Heatin	g capa	acity k	W			:	2		
Coolin	g capa	city (E	thano	l)					Coolin	g capa	city (E	thano	I)					
°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	
Viscos	ity ma	x. cST				!	50		Viscos	sity ma	x. cST	•				50		
Refrige	erant					I	R449A		Refrig	erant						R449A		
Filling	volume	e g					190		Filling	volum	e g					190		
Global	Warm	ing Po	tentia	for R4	149A		1397		Global	Warm	ing Po	tentia	l for R4	149A		1397		
Carbor	n dioxid	de equ	uivalen	t t		(0.265		Carbo	n dioxi	de equ	uivalen	t t			0.265		
Pump	capaci	ty flov	v rate l	/min			16 3	1	Pump	capac	ity flov	v rate	/min			16 3	1	
Pump	capaci	ty flov	v press	sure ba	ar	(0.24	0.92	Pump	capac	ity flov	v pres	sure ba	ar		0.24	0.92	
Maxim	num su	ction	bar				0.03	0.4	Maxim	num su	iction	bar				-0.03	0.4	

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



200V	//50H	Z						
Heatir	ng capa	acity k	W				1.6	
Coolin	ng capa	acity (E	thano	l)				
°C	200	20	10	0	-10	-20	-30	-40
kW	1	1	0.96	0.96	0.7	0.51	0.25	0.11
Viscos	sity ma	x. cST					50	
Refrig	erant					F	R449A	
Filling	volum	e g				-	190	
Globa	l Warm	ing Po	tentia	for R4	149A	-	1397	
Carbo	n dioxi	de equ	ıivalen	t t		(0.265	
Pump	capac	ity flov	v rate l	/min			16 3	1
Pump	capac	ity flov	v press	sure ba	ar	(0.24	0.92
Maxin	num su	ction l	bar			-	0.03	0.04



200V	//60H	Z						
Heatir	ng capa	acity k	W				1.6	
Coolin	ng capa	acity (E	thano	l)				
°C	200	20	10	0	-10	-20	-30	-40
kW	1	1	0.96	0.96	0.7	0.51	0.25	0.11
Viscos	sity ma	x. cST					50	
Refrig	erant					F	R449A	
Filling	volum	e g				•	190	
Globa	l Warm	ing Po	tentia	for R4	149A		1397	
Carbo	n dioxi	de equ	ıivalen	t t		(0.265	
Pump	capac	ity flov	v rate l	/min			16 3	1
Pump	capac	ity flov	v press	sure ba	ar	(0.24	0.92
Maxin	num su	ction l	bar			-	0.03	0.4



230V	//50H	Z						
Heatir	ng capa	acity k	W			2	2	
Coolin	ıg capa	city (E	thano	l)				
°C	200	20	10	0	-10	-20	-30	-40
kW	1	1	0.96	0.96	0.7	0.51	0.25	0.11
Viscos	sity ma	x. cST					50	
Refrig	erant					ı	R449A	
Filling	volum	e g				-	190	
Globa	l Warm	ing Po	tentia	for R4	149A		1397	
Carbo	n dioxi	de equ	ıivalen	t t		(0.265	
Pump	capac	ity flov	v rate l	/min			16 3	1
Pump	capac	ity flov	v press	sure ba	ar	(0.24	0.92
Maxim	num su	ction l	bar			-	0.03	0.4



230V	//60H	Z						
Heatir	ng capa	acity k	W			2	2	
Coolin	ng capa	city (E	thano	l)				
°C	200	20	10	0	-10	-20	-30	-40
kW	1	1	0.96	0.96	0.7	0.51	0.25	0.11
Viscos	sity ma	x. cST				į	50	
Refrig	erant					ı	R449A	
Filling	volum	e g					190	
Globa	l Warm	ing Po	tentia	for R4	149A	-	1397	
Carbo	n dioxi	de equ	ıivalen	t t		(0.265	
Pump	capaci	ity flov	v rate l	/min			16 3	1
Pump	capaci	ity flov	v press	sure ba	ar	(0.24	0.92
Maxim	num su	ction	bar			-	0.03	0.4



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

	//50H	Z							200V	/60H	Z						
Heatin	ng capa	city k	W			-	1.6		Heatin	g capa	city k	W			1	1.6	
Coolin	ıg capa	city (E	Ethanol)					Coolin	g capa	city (E	thanol)				
°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
Viscos	sity ma	x. cST	-			į	50		Viscos	ity ma	x. cST	-			į	50	
Refrig	erant					F	R449A		Refrige	erant					F	R449A	
Filling	volum	e g				1	190		Filling	volum	e g				1	190	
Global	l Warm	ing Po	otential	for R4	49A	1	1397		Global	Warm	ing Po	otential	for R4	149A	1	1397	
Carbo	n dioxi	de equ	uivalen	t t		(0.265		Carbo	n dioxi	de equ	uivalen	t t		(0.265	
Pump	capaci	ity flov	w rate I	/min		1	16 3 [.]	1	Pump	capaci	ty flov	v rate l	/min		1	16 3	1
Pump	capaci	ity flov	w press	sure ba	r	(0.24	0.92	Pump	capaci	ty flov	w press	sure ba	ır	().24	0.92
Maxim	num su	ction	bar			-	0.03	0.4	Maxim	num su	ction	bar			-	0.03	0.4
230V	//50H	Z							230V	/60H	Z						
			۱۸/			2	2		Heatin	g capa	city k	W			2	2	
Heatin	ig capa	icity k	* *														
		-	 Ethanol)					Coolin	g capa	city (E	Ethanol)				
		-		0	-10	-20	-30	-40	Coolin °C	g capa 200	city (E 20	Ethanol 10	0	-10	-20	-30	-40
Coolin	ıg capa	city (E	Ethanol 10		-10 0.7	-20 0.51	-30 0.25						0	-10 0.7	-20 0.51	-30 0.25	
°C kW	g capa 200	city (E 20 1	Ethanol 10 0.96	0		0.51			°C	200	20	10 0.96	0		0.51		
°C kW	200 1 sity ma	city (E 20 1	Ethanol 10 0.96	0		0.51	0.25		°C kW	200 1 sity ma	20	10 0.96	0		0.51	0.25	0.11
°C kW Viscos Refrige	200 1 sity ma	20 1 x. cST	Ethanol 10 0.96	0		0.51	0.25		°C kW Viscos	200 1 sity ma erant	20 1 x. cST	10 0.96	0		0.51	0.25 50	0.11
Cooling °C kW Viscos Refrigo	200 1 sity ma erant	20 1 x. cST	Ethanol 10 0.96	0	0.7	0.51	0.25 50 R449A		°C kW Viscos Refrigo Filling	200 1 sity ma erant volum	20 1 x. cST	10 0.96	0	0.7	0.51	0.25 50 R449A	0.11
Coolin °C kW Viscos Refrigo Filling Global	200 1 sity ma erant volume	20 1 x. cST e g	Ethanol 10 0.96	0 0.96 for R4	0.7	0.51	0.25 50 R449A 190		°C kW Viscos Refrigo Filling Global	200 1 sity ma erant volume Warm	20 1 x. cST e g ing Po	10 0.96	0 0.96 for R4	0.7	0.51	0.25 50 R449A 190	0.11
Coolin °C kW Viscos Refrigo Filling Global Carbon	200 1 sity ma erant volume I Warm	20 1 x. cST e g ing Po	Ethanol 10 0.96	0 0.96 for R4	0.7	0.51	0.25 50 R449A 190	0.11	°C kW Viscos Refrigo Filling Global Carbot	200 1 sity ma erant volume Warm n dioxid	20 1 x. cST e g ing Po	10 0.96	0 0.96 for R4	0.7	0.51 F	0.25 50 R449A 190 1397	0.11
Cooling °C kW Viscos Refrigo Filling Global Carbon Pump	200 1 sity ma erant volume I Warm n dioxid	20 1 x. cST e g ing Pode equity flow	10 0.96 - otential	0 0.96 for R4 t t /min	0.7 49A	0.51	0.25 50 R449A 190 1397 0.265	0.11	°C kW Viscos Refrigo Filling Global Carbot Pump	200 1 sity ma erant volume Warm n dioxid	20 1 x. cST e g ing Po de equ ty flow	10 0.96 otential	0 0.96 for R4 t t /min	0.7 149A	0.51 §	0.25 50 R449A 190 1397 0.265	0.11

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 $^{\circ}\text{C}.$



JULABO. Quality.

Highest standards of quality for a long product



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 (M16×1) 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 heattransfer 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.