

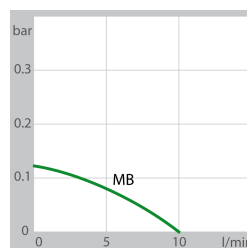
## MB-5M Heating Circulator with Open Bath

### Middle class for a broad range of applications

JULABO open heating bath circulators with stainless steel, Plexiglass, or Makrolon bath tanks for internal and external temperature control. They are primarily used for internal temperature control (directly within the bath tank). Closed external systems may be connected via integrated pump connections. Models of the Economy and TopTech series are available with a variety of bath sizes and functional characteristics. Bath covers and a variety of bath inserts for laboratory glassware are available as accessories.

### Your advantages

- MULTI-DISPLAY (LED) for actual and setpoint values, warning/safety functions and pump stage
- Keypad for setpoints, warning/safety values and menu functions
- PID2 temperature control with drift compensation
- ATC3 3-Point-Calibration
- Early warning system for low liquid level (DBGM 203 06 059.8)
- Adjustable high temperature cut-out, visible via display
- RS232 interface for online communication



● Pump capacity (H<sub>2</sub>O)

### Technical Data

Order No.	9142505
Model series	TopTech
Category	Heating Circulators with Open Bath
Working temperature range (°C)	+20 ... +100
Temperature stability (°C)	±0.02
Setting / display resolution	0.01 (-9.99...99.99) / 0.1 °C
Temperature Display	LED
Heating capacity (kW)	2
Pump capacity flow rate (l/min)	10
Pump capacity flow pressure (bar)	0.12
Bath opening / bath depth (W x L / D cm)	12 x 24 / 15
Pump connections	M10x1
Barbed fittings diameter (inner dia. / mm)	8 / 10
Filling volume liters	5
Digital interface	RS232 Optional: Profibus

Ambient temperature	5...40 °C
Dimensions W x L x H (cm)	14 x 40 x 35
Weight (kg)	5.2
Classification according to DIN12876-1	Classification I (NFL)
Included with each unit	2 barbed fittings suitable for tubing 8 and 10 mm inner dia. (pump connections M10x1 female)
Cooling coil	integrated
Bath tank	Makrolon
Available voltage versions	230 V / 50-60 Hz 115 V / 50-60 Hz 100 V / 50-60 Hz

## Characteristics

### Display



#### Several values at a glance

Large Multi-Display (LED), easy to read across the room, for actual value and up to 3 setpoints, warning functions, high temperature cut-off, selected pump stages (resolution 0.01/0.1 °C)

### Operation



#### Comfortable and detailed

Comfortable keypad with additional menu functions for pump stages, calibration, control parameters, programmer, warnings, etc.

### Temperature Control



#### Highly precise

PID Temperature control with drift compensation and adjustable control parameters, temperature stability  $\pm 0.01 \dots \pm 0.02$  °C



#### Highest measuring accuracy

'Absolute Temperature C alibration' for manual compensation of a temperature difference, 3-point calibration

### Technical Features



#### Serial connection

RS232 interface for PC connection, e.g. for data communication and recording of measured values

### Warning & Safety Functions



#### Early warning system for low liquid level

Maximum safety for applications, optical and audible alarm, allows user to refill bath fluid before the unit shuts down



#### Early warning system for high/low temperature limits

Maximum safety for applications, optical and audible alarm, convertible to automated cut-off function



#### Protective functions

Adjustable high temperature cut-off or dry-running protection



#### Only for non-flammable bath fluids

Classification I (NFL) according to DIN 12876-1

**JULABO Contact**

JULABO GmbH  
Eisenbahnstr. 45  
77960 Seelbach / Germany

Tel. +49 (0) 7823 51-0  
[info.de@julabo.com](mailto:info.de@julabo.com)

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