

Icon feature description of technical benefits



LED temperature display
for actual value and setpoint.
Resolution 0.1 °C



MULTI-DISPLAY (LED) for actual value, up to 3 setpoints, high/low temperature warning functions, high temperature cut-off, selected pump stage.
Resolution 0.1 °C



VFD¹⁾ COMFORT-DISPLAY features the functions of the MULTI-DISPLAY.
Simultaneous indication of 3 values: actual value, setpoint and external actual value.
Resolution 0.1 °C or 0.01 °C



Illuminated display for selected pump stage and filling volume on 'Presto[®]', 'Magnum91' & 'Forte HT' models



LCD DIALOG-DISPLAY
backlit, offers interactive operation in easy-to-read text with 4 lines x 20 digits



Keypad 1
for setpoint adjustments, automatic toggle to display the actual value



Keypad 2 like keypad 1, with additional warning and safety functions for high and low temperatures



Keypad 3 like keypad 2 with additional menu functions for pump stage, calibration ATC³, band limit TCF, program, etc.

NEW



Keypad 4 like keypad 1 for recirculating coolers of the 'FL' series



PID 1 PID temperature control:
Temperature stability $\pm 0.02 \dots \pm 0.2$ °C



PID 2 PID temperature control with drift compensation:
Temperature stability $\pm 0.01 \dots \pm 0.02$ °C



PID 3 PID cascade temperature control
Temperature stability ± 0.01 °C internally, $< \pm 0.1$ °C externally



Intelligent Cascade Control, self-optimizing, for optimal results.
Temperature stability ± 0.005 °C internally, ± 0.05 °C externally



Temperature Control Features for band limit, limit setting, co-speed factor, control dynamics



Absolute Temperature Calibration
1-point calibration



Absolute Temperature Calibration
3-point calibration



Intelligent pump system
Electronically adjustable pump stages



External Pt100 sensor connection for precise measurement and control directly in the external system



Interface –
Online communication



Interface – Online communication for highest demands, upgradeable with Profibus DP

JULABO early warning systems (patented) with intermittent tone and optical signal



- for low liquid level, ability to refill bath fluid before unit shuts down!



- for high temperature and
- low temperature limits, adjustable to automated cut-off



Integrated programmer with real time clock and keypad operation for 1 x 10 program steps



Integrated programmer with real time clock and convenient keypad operation for 6 x 60 program steps



'Stake' connections for solenoid valve or HSP booster pump/HST booster heater



Maintain cooling performance!

- Removable venting grid: Hassle-free cleaning of the condenser
- Front drain accessibility



Active Cooling Control: Cooling available throughout the entire temperature range



Proportional cooling control for powerful FP models (e.g. FP50-HL)



Heated bath cover plate: prevents condensation or ice build-up



Adjustable high temperature cut-off or dry-running protection



High temperature cut-off adjustable via display

Classification (according to DIN 12876-1) with first failure safe cut-off functions and signal



S1 High temperature cut-off/dry running protection for non-flammable bath fluids (NFL)



S3 High temperature cut-off and low liquid level protection for flammable bath fluids (FL)

¹⁾ VFD: Vacuum Fluorescence Display

Please note the information on pages 4 to 6!

Please keep this page open!

The 'TopTech' Series
for working temperatures to +200 °C

- External temperature control application to closed systems
 - Simultaneous operation in the circulator bath
 - Electronically adjustable pump capacity 'Smart Pump'
 - Built-in cooling coil
 - Optional use of the MVS controller and solenoid valve (see pages 33 & 34) requires only low tap water consumption
 - Warning and safety installations such as early detection system in case of fluid losses or if the setpoint temperature is exceeded
 - RS232 interface
- There are 4 'MC' model combinations with differing filling volumes, bath openings and bath depths.

Additional benefits of the 'ME' circulators:

- External measurement and control with ext. Pt100 sensor
- VFD COMFORT-DISPLAY
- Temperature and time-dependent processes with integrated programmer
- Automatic control of exothermic reactions using tap water cooling (see pages 33 & 34 for details)

Accessories (see pages 32 & 33)

- External Pt100 sensor
- Bath lid with special cooling coil
- MVS controller and solenoid valve

Applications

for circulators on pages 16 to 19
External temperature control applications for

- Refractometers
- Polarimeters
- Photometers
- Rotary viscometers

With early warning system at low liquid level

External Pt100 sensor (accessory)

ME-4

ME-6

ME-12

ME-26 with immersion-height adjustable platform

Heat-up times (230 V)
Bath fluid: Thermal H

Pump capacities
Bath fluid: Water

JULABO Order No.	JULABO Model	Working temp. range °C ¹⁾	Temp. stab. °C	Heat. cap. kW ²⁾	Pump capacity Flow rate/Pressure l/min./bar	Cooling coil	Bath opening/ bath depth W x L / D cm	Filling volume liters	Dimensions W x L x H cm	Weight kg
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Technical features
(see fold-out page)



9 150 504	MC-4	20 ... 200	±0.01	2/1	11-16	0.23-0.45	Integrated	13 x 15 / 15	4.5	21 x 42 x 38	9.6
9 150 506	MC-6	20 ... 200	±0.01	2/1	11-16	0.23-0.45	Integrated	13 x 15 / 20	6	21 x 43 x 42	12.5
9 150 512	MC-12	20 ... 200	±0.01	2/1	11-16	0.23-0.45	Integrated	22 x 15 / 20	12	30 x 43 x 45	13.0
9 150 526	MC-26	20 ... 200	±0.01	2/1	11-16	0.23-0.45	Integrated	22 x 30 / 20	26	36 x 61 x 45	26.0

Technical features: The red framed icons signify the differences to the 'MC' model



9 160 504	ME-4	20 ... 200	±0.01	2/1	11-16	0.23-0.45	Integrated	13 x 15 / 15	4.5	21 x 42 x 38	9.6
9 160 506	ME-6	20 ... 200	±0.01	2/1	11-16	0.23-0.45	Integrated	13 x 15 / 20	6	21 x 43 x 42	12.5
9 160 512	ME-12	20 ... 200	±0.01	2/1	11-16	0.23-0.45	Integrated	22 x 15 / 20	12	30 x 43 x 45	13.0
9 160 526	ME-26	20 ... 200	±0.01	2/1	11-16	0.23-0.45	Integrated	22 x 30 / 20	26	36 x 61 x 45	26.0

¹⁾ For temperature applications at or near ambient: counter-cooling with tap water via built-in cooling coil. Included with each unit: 2 each barbed fittings for tubing 8 and 10 mm inner dia. (pump connections M10x1 female)

²⁾ At voltage 230V/50-60Hz / 115V/60Hz

The 'HighTech' Series
for working temperatures to +300 °C

- External temperature control application to closed or open systems
- Highest precision and display resolution
- VFD COMFORT-DISPLAY for SIMULTANEOUS indication of 3 temperature values
- Powerful pressure and suction pump with electronically adjustable pump capacity 'Smart Pump'
- Adjustment of pump capacity for varying viscosity levels of bath fluids
- Built-in cooling coil
- Programmer (1 x 10 program steps)
- Automatic control of exothermic reactions using tap water
- Professional PC connection – bus capability

Additional features of the top-of-the-line 'HL' circulators:

- Backlit LCD DIALOG-DISPLAY offers interactive operation in easy-to-read text
- Integrated programmer (6 x 60 steps)
- RS232 / RS485 interface
- Switchable between °C / °F

Accessories (see pages 32 & 33)

- Electronic module
- External Pt100 sensor
- Bath lid with special cooling coil
- Solenoid valve

Applications

External temperature application processes, particularly e.g. a distillation apparatus or a miniplant installation

JULABO Order No.	JULABO Model	Working temp. range °C ¹⁾	Temp. stab. °C	Heat. cap. kW ²⁾	Pump capacity Flow rate Pressure l/min./bar	Suction bar	Bath opening/ Bath depth W x L / D cm	Filling volume liters	Dimensions W x L x H cm	Weight kg
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Technical features: The red framed icons signify the differences to the 'ME' model (page 16)



9 210 504	HE-4	20 ... 250	±0.01	2/1	22-26	0.4-0.7	0.2-0.4	13 x 15 / 15	4.5	21 x 42 x 40	11
9 250 506	SE-6	20 ... 300	±0.01	3/-	22-26	0.4-0.7	0.2-0.4	13 x 15 / 20	6	21 x 43 x 44	13.5
9 250 512	SE-12	20 ... 300	±0.01	3/-	22-26	0.4-0.7	0.2-0.4	22 x 15 / 20	12	30 x 43 x 47	14
9 250 526	SE-26	20 ... 300	±0.01	3/-	22-26	0.4-0.7	0.2-0.4	22 x 30 / 20	26	36 x 61 x 47	27

Technical features: The red framed icons signify the differences to the 'HE'/'SE' models



9 310 504	HL-4	20 ... 250	±0.01	2/1	22-26	0.4-0.7	0.2-0.4	13 x 15 / 15	4.5	21 x 42 x 40	11
9 350 506	SL-6	20 ... 300	±0.01	3/-	22-26	0.4-0.7	0.2-0.4	13 x 15 / 20	6	21 x 43 x 44	13.5
9 350 512	SL-12	20 ... 300	±0.01	3/-	22-26	0.4-0.7	0.2-0.4	22 x 15 / 20	12	30 x 43 x 47	14
9 350 526	SL-26	20 ... 300	±0.01	3/-	22-26	0.4-0.7	0.2-0.4	22 x 30 / 20	26	36 x 61 x 47	27

¹⁾ For temperature applications at or near ambient: counter-cooling with tap water via built-in cooling coil. Included with each unit: 2 each barbed fittings for tubing 8 and 12 mm inner dia. (pump connections M16x1 male)

²⁾ At voltage 230V/50-60Hz / 115V/60Hz