

## HE-4 Heating Circulator

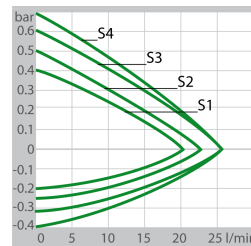
### Heating Circulator with stainless-steel bath tank for internal and external temperature applications

JULABO Heating Circulators with stainless steel bath tanks are mainly used for internal and external temperature tasks. The new range of these models now have increased capacities, allowing for temperature application of larger external systems, as well as open systems. Simultaneous temperature applications of smaller objects can also be carried out directly in the internal bath of the circulator. Models from the TopTech and HighTech Series' are available with different bath sizes and features. Accessories for these units include test tube racks, bath covers etc. An integrated cooling coil is provided for temperature applications at near ambient or just below.



### Your advantages

- VFD COMFORT DISPLAY
- Keypad for setpoints, warning/safety values and menu functions
- ICC (Intelligent Cascade Control), self-optimizing temperature control
- ATC3 3-Point-Calibration
- Pt100 External sensor connection for measurement and control
- SMART PUMP, electronically adjustable pump stages
- 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
- Integrated programmer for 10 program steps



● Pump capacity (Water)

### Technical Data

Order No.	9212504
Model series	HighTech
Category	Heating Circulators
Working temperature range (°C)	+20 ... +250
Temperature stability (°C)	±0.01
Setting / display resolution	0.01 °C
Integrated programmer	1x10 steps
Temperature Display	VFD
Heating capacity (kW)	2
Pump capacity flow rate (l/min)	22-26
Pump capacity flow pressure (bar)	0.4-0.7
Pump capacity flow suction (bar)	0.2-0.4
Bath opening / bath depth (W x L / D cm)	13 x 15 / 15
Pump connections	M16x1
Barbed fittings diameter (inner dia. / mm)	8 / 12
Filling volume liters	4.5

External Pt100 sensor connection	integrated
Digital interface	RS232 Optional: Profibus
Ambient temperature	5...40 °C
Dimensions W x L x H (cm)	21 x 42 x 40
Weight (kg)	11
Classification according to DIN12876-1	Classification III (FL)
Included with each unit	2 each barbed fittings for tubing 8 and 12 mm inner dia. (pump connections M16x1 female).
Cooling coil	integrated
Bath tank	Stainless steel
Available voltage versions	230 V / 50-60 Hz 100-115 V / 50-60 Hz

Built-in cooling coil for tap water connection for temperature applications below or near ambient temperatures are integrated.

## Characteristics

### Display



#### A perfect view

Ample, easy to read VFD Comfort display for simultaneous display of 3 values, warning functions, high temperature cut-off, pump stages (resolution 0.01 °C)



#### Pump stage and liquid level

Backlit indicator for selected pump stages and filling volume on Presto® PLUS, Magnum 91 & Forte HT

### Operation



#### Comfortable and detailed

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

### Temperature Control



#### For perfect results

'Intelligent Cascade Control', automatic & self optimizing adjustment of PID control parameters, temperature stability ±0.005 °C internal, <±0.05 °C external



#### Full control

'Temperature Control Features' for individual optimization, access to all important control parameters, additional settings for band limit, limits, Co-Speedfactor etc.



#### Highest measuring accuracy

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

### Technical Features



#### Clever pump system

Reliable and consistent pump capacity, electronically adjustable pump stages



#### Control from the external application

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



#### Serial connection

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



#### Easy program control

Integrated programmer for the execution of time and temperature dependant profiles, 1 temperature profile with 10 steps max., with real time clock



### 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



#### Enhanced protective functions

Maximum safety, adjustable high temperature cut-off or dry-running protection, additional display of setpoints permits easy and precise adjustments



#### For flammable bath fluids

Classification III (FL) according to DIN 12876-1