

HL-4 Heating Circulator

Superior models for most demanding applications +20 °C ... +300 °C

JULABO constant temperature circulators with a stainless steel bath tank for internal and external temperature control tasks. They are designed primarily for external temperature control. They have elevated performance for controlling the temperature of large or open systems. Smaller objects may be inserted directly into the circulator's bath at the same time. Models of the TopTech and HighTech 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

- VFD COMFORT DISPLAY
- LCD DIALOG DISPLAY backlit for convenient interactive operation
- Keypad for setpoints, warning/safety values and menu functions
- ICC (Intelligent Cascade Control), self-optimizing temperature control
- TCF Temperature Control Features to optimize the control behaviour
- 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/RS485 interface for online communication
- Integrated programmer for 6 x 60 program steps
- Connections for solenoid valve and HSP booster pump

Technical Data

Order No.	9312504
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	6x60 steps
Temperature Display	VFD, LCD
Heating capacity (kW)	1
Pump capacity flow rate (l/min)	22-26
Pump capacity flow pressure (psi)	5.8-10.2
Pump capacity flow suction (psi)	2.9-5.8
Bath opening / bath depth (W x L / D inch)	5.1 x 5.9 / 5.9
Pump connections	M16x1
Barbed fittings diameter (inner dia. / mm)	8 / 12
Filling volume liters	4.5
External Pt100 sensor connection	integrated

Digital interface	RS232, RS485 Optional: Profibus
Ambient temperature	5...40 °C
Dimensions W x L x H (inch)	8.3 x 16.5 x 15.7
Weight (LBS)	24.2
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
Power requirement V / Hz / A	115/60/10
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)



Additional plain text information

Comfortable LCD dialog display for interactive operation with plain text display



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, $< \pm 0.05$ °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



Connection compliant to standard

RS232/RS485 dual-interface for serial data transmission according to EIA-485 industry standard (2-wire bus technology), upgradable with Profibus DP



Optimal program control

For the execution of time and temperature dependant profiles, 6 temperature profiles with 60 steps max., with real time clock



Automatic control of operating time

Electronic countdown-timer function for timer-programmed unit shut-down, standby mode after programmed time expires

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