

## SL-12 Heating Circulator

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
- TCF Temperature Control Features to optimize the control behavior
- RS232/RS485 interface for online communication
- Keypad for setpoints, warning/safety values and menu functions
- Integrated programmer for 6 x 60 program steps
- ICC (Intelligent Cascade Control), self-optimizing temperature control
- Connections for solenoid valve and HSP booster pump
- ATC3 3-Point-Calibration
- Pt100 External sensor connection for measurement and control
- SMART PUMP, electronically adjustable pump stages
- Adjustable high temperature cut-out, visible via display



### Technical data

Available voltage versions		Bath	
Order No.	9 352 512	Bath tank	Stainless steel
Available voltage versions:		Bath cover	integrated
9 352 512.33	230V/50-60Hz (Schuko Plug - CEE 7/4 Plug Type F)	Usable bath opening in. (W x L / D)	8.7 x 5.9 / 7.9
Cooling		Other	
Cooling coil	integrated	Classification	Classification III (FL)
		IP Code	IP 21
Electronics		Dimensions and volumes	
Digital interface	Profibus optional	Weight lbs	30.9
External pt100 sensor connection	integrated	Dimensions in. (W x L x H)	11.8 x 16.9 x 18.5
Integrated programmer	6x60 steps	Filling volume l	12
Temperature control	ICC	Pump connections	M16x1 male
Absolute temperature calibration	3 Point Calibration		
Temperature display	Temperature display		
Temperature setting	Temperature setting		
	Keypad		
Temperature values			
Setting the resolution of the temperature display °C	0.01		
Working temperature range °C	+20 ... +300		
Temperature stability °C	±0.01		
Ambient temperature °C	+5.0 ... +40.0		
Temperature display resolution °C	0.01		

## Performance values

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

208V/60Hz		230V/50Hz	
Heating capacity kW	2.5	Heating capacity kW	3
Viscosity max. cST	50	Viscosity max. cST	50
Pump capacity flow rate l/min	22 ... 26	Pump capacity flow rate l/min	22 ... 26
Pump capacity flow pressure psi	5.8 ... 10.2	Pump capacity flow pressure psi	5.8 ... 10.2
Maximum suction psi	2.9 ... 5.8	Maximum suction psi	2.9 ... 5.8
230V/60Hz			
Heating capacity kW	3		
Viscosity max. cST	50		
Pump capacity flow rate l/min	22 ... 26		
Pump capacity flow pressure psi	5.8 ... 10.2		
Maximum suction psi	2.9 ... 5.8		

## All Benefits



### JULABO. Quality.

Highest standards of quality for a long product life.



### Green technology.

Development consistently applied environmentally friendly materials and technologies.



### Satisfied customers.

11 subsidiaries and more than 100 partners worldwide guarantee fast and qualified JULABO support.



### 100% Checked.

100% testing. 100% quality. Each JULABO Circulator undergoes thorough quality testing before leaving the factory.



### Quick start.

Individual JULABO consultation and comprehensive manuals at your disposal.



### Services 24/7.

Around the clock availability. You can find suitable accessories, data sheets, manuals.



### Intelligent temperature control.

Intelligent cascade control - automatic and self-optimizing adaptation of the PID control parameters with external stability of +/- 0.05 °C.



### Connection of additional equipment

Stakei connections for solenoid valve, HSP booster pump and HST booster heater



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

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



### 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



**For flammable bath fluid**  
Classification III (FL) according to DIN 12876-1



**ATC3. Calibration.**  
'Absolute Temperature Calibration' for compensating a physically caused temperature difference, 3-point calibration.



**Process. Under control.**  
Full control of the dynamic, access to all important control parameters for individual process optimization.



**100 % Cooling capacity**  
'Active Cooling Control' for cooling available throughout the entire working temperature range, fast cool-down even at higher temperatures



**Energy saving cooling**  
Proportional cooling control for automatic adjustment of cooling power or temporary switch-off of compressor as needed to save up to 90 % energy in comparison to unregulated cooling machines



**Condensation and ice protection**  
A heated cover plate prevents condensation or ice build-up in the bath