

FW95-SL Ultra-Low Refrigerated / Heating Circulator

Ultra-Low Refrigerated Circulators with SL circulator impress with their high heating, cooling and pump capacities for external temperature control applications.

Product features

- 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 behavior
- 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
- RS232/RS485 interface for online communication
- Integrated programmer for 6 x 60 program steps
- Connections for solenoid valve and HSP booster pump
- Proportional cooling control



Performance values

400V/3PNPE/50Hz (Plug 32A CEE)

Heating capacity kW	3
Viscosity max. cST	70
Pump capacity flow rate l/min	22 ... 26
Pump capacity flow pressure bar	0.4 ... 0.7
Maximum suction bar	0.2 ... 0.4
Power A	24

Order No. 9352796N.07

Cooling capacity (Ethanol)

°C	0	-20	-40	-60	-80
kW	1.7	1.5	1.3	1.1	0.36

Refrigerant stage 1

Refrigerant R404A

Filling volume g 800

Global Warming Potential for R404A 3922

Carbon dioxide equivalent t 3.138

Refrigerant stage 2

Refrigerant R23

Filling volume g 380

Global Warming Potential for R23 14800

Carbon dioxide equivalent t 5.624

Technical data

Available voltage versions		Bath	
Order No.	9 352 796N	Bath cover	integrated
Available voltage versions:			
9352796N.07	400V/3PNPE/50Hz (Plug 32A CEE) (R404A)		
9352796N.16	208V/3PPE/60Hz (Without Plug) (R404A)		
Cooling		Other	
Cooling of compressor	2-stage Water	Classification	Classification III (FL)
Cooling water temperature max. °C	20	IP Code	IP 21
Cooling water pressure max. bar	6		
Cooling water difference pressure bar	3.5		
Electronics		Dimensions and volumes	
Digital interface	Profibus optional	Weight kg	198
External pt100 sensor connection	integrated	Cooling Water Connection in	G $\frac{3}{4}$
Integrated programmer	6x60 steps	Dimensions cm (W × L × H)	59 x 76 x 116
Temperature control	ICC	Filling volume l	22
Absolute temperature calibration	3 Point Calibration	Pump connections	M16x1 male
Temperature display	VFD		
Temperature setting	Keypad		
Temperature values			
Setting the resolution of the temperature display °C	0.01		
Working temperature range °C	-95 ... 0		
Temperature stability °C	±0.05		
Ambient temperature °C	+5 ... +40		
Temperature display resolution °C	0.01		

All Benefits



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



Green technology.
Development consistently applied environmentally friendly materials and technologies.



JULABO. Quality.
Highest standards of quality for a long product life.



Quick start.
Individual JULABO consultation and comprehensive manuals at your disposal.

**Satisfied customers.**

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

**Services 24/7.**

Around the clock availability. You can find suitable accessories, data sheets, manuals, case studies, and more at www.julabo.com.

**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

**For flammable bath fluid**

Classification III (FL) according to DIN 12876-1

**Process. Under control.**

Full regulation of the dynamics control, 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

**Control of the external application**

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

**ATC3. Calibration.**

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