

## FP55-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
- 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

| 208-230V/3PPE/60Hz (Without Plug) |              |
|-----------------------------------|--------------|
| Heating capacity kW               | 3            |
| Viscosity max. cST                | 70           |
| Pump capacity flow rate l/min     | 22 ... 26    |
| Pump capacity flow pressure psi   | 5.8 ... 10.2 |
| Maximum suction psi               | 2.9 ... 5.8  |
| Current Draw A                    | 28           |

Order No. 9352755.16.N

#### Cooling capacity (Ethanol)

| °C | 20  | 0 | -20  | -40  | -50  |
|----|-----|---|------|------|------|
| kW | 5.2 | 4 | 1.95 | 0.67 | 0.26 |

\* Performance specifications measured in accordance with DIN12876. Cooling capacities up to 20 °C measured with ethanol; over 20 °C with thermal oil unless otherwise specified. Performance specifications apply at an ambient temperature of 20 °C. Performance values may differ with other bath fluids.

#### Refrigerant stage 1

|                                    |       |
|------------------------------------|-------|
| Refrigerant                        | R452A |
| Filling volume g                   | 2000  |
| Global Warming Potential for R452A | 2140  |
| Carbon dioxide equivalent t        | 4.28  |

## Technical data

| Available voltage versions                           |  | Bath  |                         |
|--|--|---|-------------------------|
| Order No.  | 9 352 755.N                            | Bath cover  | integrated              |
| Available voltage versions:                          |  |   |                         |
| 9352755.07.N   | 400V/3PNPE/50Hz (Plug 32A CEE) (R452A) |   |                         |
| 9352755.S1.07.N                                      | 400V/3PNPE/50Hz (Plug 32A CEE) (R449A) |   |                         |
| 9352755.16.N   | 208V/3PPE/60Hz (Without Plug) (R452A)  |   |                         |
| Cooling  |  | Other   |                         |
| Cooling of compressor                                | 1-stage Air                            | Classification  | Classification III (FL) |
|  |  | IP Code   | IP 21                   |
| Electronics  |  | Dimensions and volumes  |                         |
| Digital interface                                    | Profibus optional                      | Weight lbs  | 396.8                   |
| External pt100 sensor connection                     | integrated                             | Dimensions in. (W × L × H)  | 33.5 x 29.9 x 45.7      |
| Integrated programmer                                | 6x60 steps                             | Filling volume l  | 27                      |
| Temperature control                                  | ICC                                    | Pump connections  | M16x1 male              |
| Absolute temperature calibration                     | 3 Point Calibration                    |   |                         |
| Temperature display                                  | VFD                                    |   |                         |
| Temperature setting                                  | Keypad                                 |   |                         |
| Temperature values                                   |  | Included in delivery  |                         |
| Setting the resolution of the temperature display °C | 0.01                                   | 2 each Barbed fittings for tubing 8 and 12 mm ID. (Pump connections M16x1 male) |                         |
| Working temperature range °C                         | -55 ... +100                           |   |                         |
| 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.us](http://www.julabo.us).



**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 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



**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.