

## PRESTO A45 Process system

The A45 air-cooled process system can be used flexibly and independently of cooling water supply. They compensate exothermic and endothermic reactions extremely quickly.

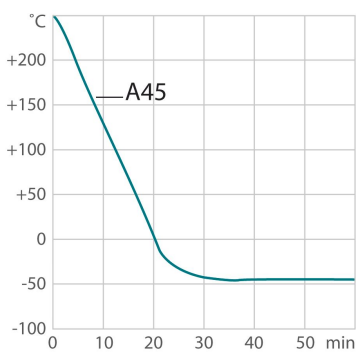
The highly dynamic temperature control systems PRESTO are designed for high-precision temperature control for a wide range of applications such as reactor vessels or material stress tests. Moreover, by using efficient components, the process systems can compensate exothermic and endothermic reactions exceptionally fast. Permanent internal monitoring and self-lubricating pumps ensure a long life-time. In addition, numerous interfaces offer many remote control possibilities across networks or for integration into higher-level control systems.



### Product features

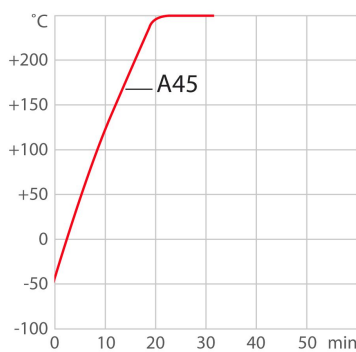
- Heating capacity up to 12 kW
- Cooling capacity up to 3.5 kW
- External Pt100 sensor connection
- Analog connections, RS485, Profibus DP (accessory)
- Removable ventilation grid
- Built-in 5.7" industrial color touchscreen
- Second external Pt100 sensor connection (accessory)
- Pump pressure up to 3.2 bar, max. flow rate 76 l/min
- Temperature stability  $\pm 0.05\text{ }^{\circ}\text{C}$  ...  $\pm 0.1\text{ }^{\circ}\text{C}$
- Alarm output

### Cool-down time



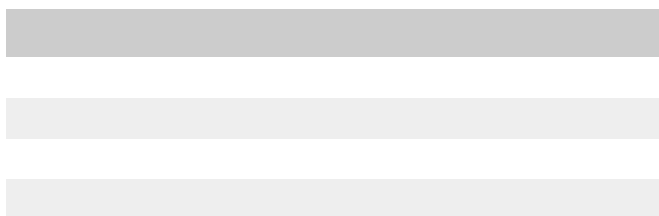
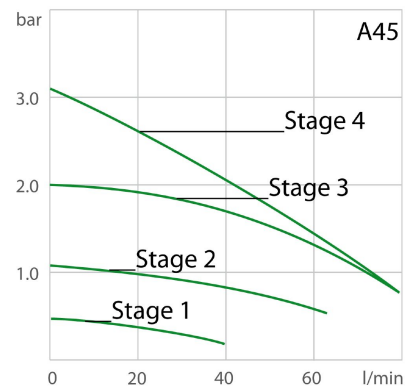
Medium: Thermal HL

### Heat-up time



Medium: Thermal HL

### Pump capacity



## Performance values

| 400V/3PNPE/50Hz (Plug 16A CEE)  |              |
|---------------------------------|--------------|
| Heating capacity kW             | 6            |
| Viscosity max. cSt              | 50           |
| Pump capacity flow rate l/min   | 35 ... 76    |
| Pump capacity flow pressure bar | 0.48 ... 3.2 |
| Power A                         | 13           |

| Order No.  |       | 9420452.07 |     |     |     |     |     |
|--|-------|------------|-----|-----|-----|-----|-----|
| Cooling capacity 1 (Ethanol)   |       |            |     |     |     |     |     |
| °C   | 200   | 20         | 0   | -10 | -20 | -30 | -40 |
| kW   | 3.4   | 3.5        | 3.3 | 2.6 | 1.8 | 1   | 0.3 |
| * Performance specifications measured in accordance with DIN 12876. 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 weight g   | 1320  |            |     |     |     |     |     |
| Global Warming Potential for R452A   | 2140  |            |     |     |     |     |     |
| Carbon dioxide equivalent t  | 2.825 |            |     |     |     |     |     |

## Technical data

| Available voltage versions  |   |
|-----------------------------|---|
| Order No.                   | 9 420 452                                 |
| Available voltage versions: |   |
| 9420452.07                  | 400V/3PNPE/50Hz (Plug 16A CEE) (R452A)    |
| 9420452.16                  | 208-230V/3PPE/60Hz (Without Plug) (R449A) |
| 9420452.06                  | 230V/3PPE/50Hz (Plug 32A CEE) (R452A)     |

| Other                          |                         |
|--------------------------------|-------------------------|
| Sound pressure level dbA       | 69                      |
| Classification                 | Classification III (FL) |
| IP Code                        | IP 20                   |
| Pump type                      | Centrifugal Pump        |
| Pump type Magnetically coupled | 1                       |

| Cooling                              |   |
|--------------------------------------|---|
| Cooling of compressor                | 1-stage Air   |
| Electronics                          |   |
| Interfaces                           | Alarm output, Ethernet, Modbus, Profibus optional, RS232, RS485 optional, Reg/Eprog optional, SD memory card, Standby-Input optional, USB |
| External pt100 sensor connection     | integrated  |
| 2nd external Pt100 sensor connection | accessory   |
| Integrated programmer                | 8x60 steps  |
| Temperature control                  | ICC   |
| Absolute temperature calibration     | 3 Point Calibration   |
| Temperature display                  | 5.7" TFT Touchscreen  |

| Dimensions and volumes             |                 |
|------------------------------------|-----------------|
| Internal usable expansion volume l | 7.5             |
| Minimal process volume l           | 7.5             |
| Active heat exchanger volume l     | 3.5             |
| Weight kg                          | 210             |
| Dimensions cm (W x L x H)          | 53 x 66.5 x 126 |
| Pump connections                   | M30x1.5 male    |

| Temperature setting                                  | Touchscreen    |
|--|----------------|
| Temperature values                                   |                |
| Setting the resolution of the temperature display °C | 0.01           |
| Working temperature range °C                         | -45 ... +250   |
| Temperature stability °C                             | ±0.05 ... ±0.1 |
| Ambient temperature °C                               | +5 ... +40     |
| Temperature display resolution °C                    | 0.01           |

### All Benefits



**Touch display. Perfect operation.**  
With the touch display, the user always has an overview of all values and functions. The intuitive and multilingual menu structure enables perfect control.



**Convenience for several users**  
Administrator level for customizing instrument settings, user levels with limited permissions for fast and safe defined access, password protection, all levels adjustable



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



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



**Full control**  
'Temperature Control Features', for individual optimization, access to all important control parameters, additional settings for band limit, limits, co-speedfactor etc.



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



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



**Intelligent pump system**  
Reliable and consistent pump capacity, electronically adjustable pump stages or pressure value, automatic adjustment of pump capacity to viscosity



**Many interfaces.**  
Straight-forward remote control, data management, and integration into process structures. USB, Ethernet, RS232, SD card, and alarm off are permanently integrated. Further interfaces available as accessories.



**Space-saving footprint**  
All connections as well supply and exhaust air are located at the front or rear, no venting grids on the sides, units can be placed close to each other or the application



**Continuous operation up to +40 °C**  
Robust temperature control instrument, continuous operation even at ambient temperatures of up to +40 °C



**Maximum safety.**  
Classification III according to DIN12876-1 enables safe operation, even with flammable fluids. Automatic switch-off in the event of high temperature or low liquid level.



**Duplicate safety**  
Adjustable high temperature cut-off for internal tank and for integrated expansion vessel



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



**Quick support**

If an error occurs, the integrated Black-Box function permits fast diagnosis by the JULABO service team



**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](http://www.julabo.com).