

## 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.

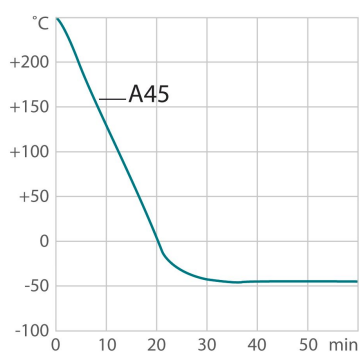
The highly dynamic temperature control systems PRESTO are designed for high-precision temperature control for a wide range of applications such as reactor vessels or material stress tests. Moreover, by using efficient components, the process systems can compensate exothermic and endothermic reactions 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

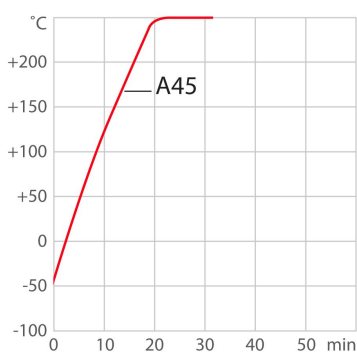
- Heating capacity up to 12 kW
- Cooling capacity up to 3.5 kW
- External Pt100 sensor connection
- Analog connections, RS485, Profibus DP (accessory)
- Removable ventilation grid
- Built-in 5.7" industrial color touchscreen
- Second external Pt100 sensor connection (accessory)
- Temperature stability  $\pm 0.05\text{ }^{\circ}\text{C}$  ...  $\pm 0.1\text{ }^{\circ}\text{C}$
- Alarm output
- Pump pressure up to 3 bar, max. flow rate 80 l/min

### Cool-down time



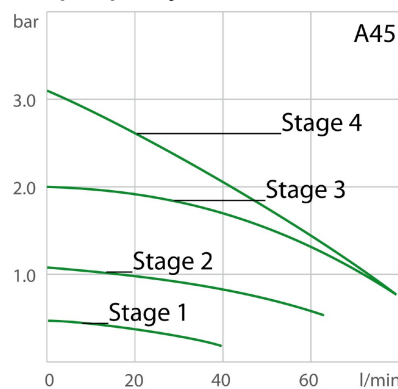
Medium: Thermal HL

### Heat-up time



Medium: Thermal HL

### Pump capacity



## Performance values

## 230V/3PPE/60Hz (Without Plug)

Heating capacity kW	6
Viscosity max. cSt	50
Pump capacity flow rate l/min	0 ... 80
Pump capacity flow pressure psi	1.5 ... 43.5
Power consumption A	25

Order No. 9420452.16

## Cooling capacity (Ethanol)

°C	200	20	0	-10	-20	-30	-40
kW	3.4	3.5	3.1	2.5	1.8	0.7	0.2

\* 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	R449A
Filling weight g	1050
Global Warming Potential for R449A	1397
Carbon dioxide equivalent t	1.46685

## 208V/3PPE/60Hz (Without Plug)

Heating capacity kW	5.5
Viscosity max. cSt	50
Pump capacity flow rate l/min	0 ... 80
Pump capacity flow pressure psi	1.5 ... 43.5
Power consumption A	23

Order No. 9420452.16

## Cooling capacity (Ethanol)

°C	200	20	0	-10	-20	-30	-40
kW	3.4	3.5	3.1	2.5	1.8	0.7	0.2

\* 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	R449A
Filling weight g	1050
Global Warming Potential for R449A	1397
Carbon dioxide equivalent t	1.46685

## Technical data

Available voltage versions		Cooling	
Order No.	9 420 452	Cooling of compressor	1-stage Air
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		Electronics	
Sound pressure level dbA	69	Interfaces	Alarm output, Ethernet, Modbus, Profibus optional, REG/EPROG optional, RS232, RS485 optional, SD memory card, Standby-Input optional, USB
Classification	Classification III (FL)	External pt100 sensor connection	integrated
IP Code	IP 20	2nd external Pt100 sensor connection	accessory
Pump type	Centrifugal Pump	Integrated programmer	8x60 steps
Pump type Magnetically coupled	1	Temperature control	ICC
		Absolute temperature calibration	3 Point Calibration
		Temperature display	5.7" TFT Touchscreen
		Temperature setting	Touchscreen
Dimensions and volumes		Temperature values	
Internal usable expansion volume l	7.5	Setting the resolution of the temperature display °C	0.01
Minimal process volume l	7.5	Working temperature range °C	-45 ... +250
Active heat exchanger volume l	3.5	Temperature stability °C	±0.05 ... ±0.1
Weight lbs	463	Ambient temperature °C	+5 ... +40
Dimensions in. (W × L × H)	20.9 x 26.2 x 49.6	Temperature display resolution °C	0.01
Pump connections	M30x1.5 male		

## 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.



### 100 % Cooling capacity

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



### 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



### 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.



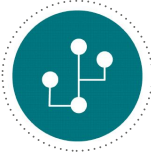
**Control of the external application**  
 External Pt100 sensor connection for precise measurement and control directly in the external application



**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.



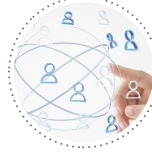
**Green technology.**  
 Development consistently applied environmentally friendly materials and technologies.



**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).