

## PRESTO A45t 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.

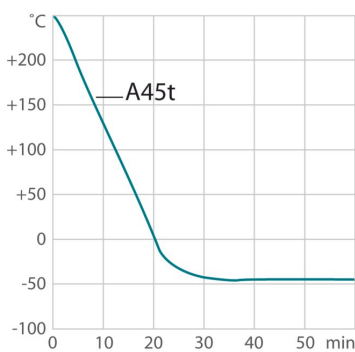
The highly dynamic temperature control systems PRESTO are designed for high-precision temperature control for a wide range of applications such as reactor vessels or material stress tests. Moreover, by using efficient components, the process systems can compensate exothermic and endothermic reactions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

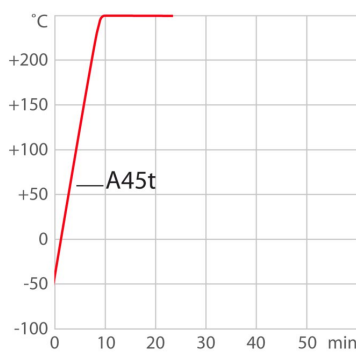
- Heating capacity up to 12 kW
- Cooling capacity up to 3.5 kW
- External Pt100 sensor connection
- Analog connections, RS485, Profibus DP (accessory)
- removable ventilation grid
- Built-in 5.7" industrial color touchscreen
- Second external Pt100 sensor connection (accessory)
- Temperature stability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

### Cool-down time



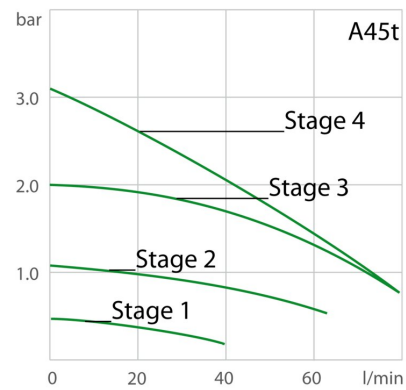
Medium: Thermal HL

### Heat-up time



Medium: Thermal HL

### Pump capacity



## Performance values

400V/3PNPE/50Hz (Plug 32A CEE)	
Heating capacity kW	12
Viscosity max. cSt	50
Pump capacity flow rate l/min	0 ... 80
Pump capacity flow pressure bar	0.1 ... 3
Power consumption A	22

Order No.	9420452.07.T						
Cooling capacity (Ethanol)							
°C	200	20	0	-10	-20	-30	-40
kW <sup>1</sup>	3.4	3.5	3.3	2.6	1.8	1	0.3
Refrigerant stage 1							
Refrigerant	R452A						
Filling weight g	1320						
Global Warming Potential for R452A	2140						
Carbon dioxide equivalent t	2.8248						

<sup>1</sup> 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.

## Technical data

Available voltage versions	
Order No.	9 420 452.T
Available voltage versions:	
9420452.07.T	400V/3PNPE/50Hz (Plug 32A CEE) (R452A)
9420452.16.T	208-230V/3PPE/60Hz (Without Plug) (R449A)
9420452.06.T	230V/3PPE/50Hz (Plug 63A CEE) (R452A)

Cooling	
Cooling of compressor	1-stage Air

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

Electronics	
Interfaces	Alarm output, Ethernet, Modbus, Profibus optional, REG/EPROG optional, RS232, RS485 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
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 kg	210	Ambient temperature °C	+5 ... +40
Dimensions cm (W × L × H)	53 x 66.5 x 126	Setting the resolution of the temperature display °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.



**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).