

## **PRESTO A45t**

## temperature control system / process system

Reactor temperature control, tests for all kinds of substances or temperature simulation - the new PRESTO are made for highly precise temperature control and rapid temperature changes.

PRESTO provide large heating and cooling capacities covering a working temperature range from -92 °C to +250 °C. Highly efficient components allow extremely fast compensation of exothermic and endothermic reactions.

Lab users benefit from high flow rates, constant pressure, and a controlled build-up of pump pressure. Changes in the temperature-control liquid's viscosity are balanced dynamically. Permanent internal monitoring and self-lubricating pumps contribute to the new PRESTO®'s long service life. A special feature of the new PRESTO is the integrated 5.7" industrial touch screen.

All important information is displayed clearly and concisely enhancing ease of use considerably.

The new PRESTO can be operated intuitively with the tip of your finger. As the new PRESTO operate whisper quiet, you will hardly hear them in your laboratory. Even high room temperatures of up to +40 °C will not make the new PRESTO sweat. Maintenance-free pumps and drives guarantee operational readiness. Multiple interfaces permit remote control of the PRESTO® across networks and in superordinated control systems. The Design does away with venting slots at the sides. The required installation space is reduced to an absolute minimum.

## Your advantages

- For highly precise, external temperature applications
- Rapid heating and cooling
- · Fast compensation of exothermic reaction
- · Wide working temperature ranges without changing fluids
- Highest performance with small footprint
- Space-saving design optimizes space utilization in your lab
- NEW 5,7" industrial color TFT touch screen
- · well-organized view of important information with unmatched, intuitive user friendliness
- · Up to 3 user level with password management
- NEW USB (Host und Device)
- NEW Ethernet
- NEW SD-Card slot
- RS232 / optional RS485 / optional Profibus DP
- · Stand-by input
- · Filling system accessible from the top
- · Removable venting grid for simplified removal of dust

## **Technical Data**

**Temperature Control PRESTO** 

Order No. Category







Working temperature range (°C)	-45 +250
Temperature control	ICC
Temperature stability (°C)	±0.05 ±0.1
Setting / display resolution	0.01 °C
Integrated programmer	8x60 steps
Temperature Display	TFT Touchscreen
Heating capacity (kW)	10 @ 208V; 12 @ 230V; 12 @ 400V
Cooling capacity (Medium: JULABO Thermal   Ethanol)	°C 200 20 0 -10 -20 -30 -40   kW 3.4 3.5 3.3 2.6 1.8 1 0.3
Pump capacity flow rate (I/min)	35 76
Pump capacity flow pressure (psi)	6.74 43.5 @ 208V; 6.74 46.4 @ 230V; 6.74 46.4 @ 400V
Viscosity max. (cSt)	50
Pump connections	M30x1.5
Refrigerant stage 1	R452A
Filling volume refrigerant stage 1 (g)	1320
Global Warming Potential for	2140
Carbon dioxide equivalent stage 1 (t)	2.825
External Pt100 sensor connection	integrated
Digital interface	RS232, SD memory card, USB, Ethernet, Modbus, Alarm-out Optional: RS485, Profibus
Analog connection input / output	Optional
Ambient temperature	5 40 °C
Dimensions W x L x H (inch)	20.9 x 26.2 x 49.6
Weight (LBS)	463
Sound pressure level (distance 1 m) max. (dBA)	69
Process volume min. (active heat exchanger volume) liters	7.5 (3.5)
Internal usable expansion vol. (liters)	7.5
Classification according to DIN12876-1	Classification III (FL)
Cooling of compressor	1-stage Air
Available voltage versions	3 x 208-230V/60Hz (+/- 5%) / 38A @ 208V, 40A @ 230V / Without Plug 3 x 230V/50Hz (+/- 10%) / 40A / Plug 63A CEE 3 x 400V/50Hz (+/- 10%) / 22A / Plug 32A CEE



## Characteristics

## Display

## State-of-the-art display

technology TFT Display for comfortable user guidance, colored display of measurement values, graphs and control options, user-defined views

## Operation

#### Optimal ease of use 1

Touch screen for direct operation via display



## Instructions inside

Help menus and explanations in plain text for all control options, help messages and warning messages

## Multilingual user guidance

Language selection for display of control options, notifications and warning messages via touchscreen

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

## **Temperature Control**

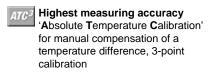
66	For perfect results 'Intelligent Cascade Control',
00	'Intelligent Cascade Control',
	automatic & self optimizing
	adjustment of PID control
	parameters, temperature stability
	±0.01 °C <±0.2 °C

### Full control

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

#### Control from the external Pt 100

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



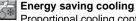
## **Refrigeration Technology**



Consistent cooling capacity Easily removable venting grid for quick and easy cleaning



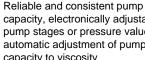
### 100 % Cooling capacity 'Active Cooling Control' for cooling available throughout the entire working temperature range, fast cool-down even at higher temperatures



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

### **Technical Features**

## Intelligent pump system



capacity, electronically adjustable pump stages or pressure value, automatic adjustment of pump capacity to viscosity

**Communication via networks** For the remote control of instruments via Ethernet networks, full access to all functions of the unit via a networkcapable PC



Intelligent communication USB connection for data exchange (e.g. service data) or for wireless remote control via WirelessTEMP®



Data exchange via SD-Card For data exchange (e.g. service data) via SD memory card



Connections according to standard RS232/RS485 dual-interface for serial data transmission according to EIA-485 industry standard (2-wire

bus technology), upgradable with

## Comfortable program control

Profibus DP

Integrated programmer for the execution of time and temperature dependant profiles, 8 temperature profiles with 60 steps max., with real time clock

# Quiet as a whisper

Efficient components produce only a minimal sound decibel level

## Space-saving footprint

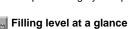
All connections as well supply and exhaust air are located at the front or rear, no venting grids on the sides, units can be placed close to each other or the application

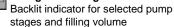


### Continuous operation up to +40 °C

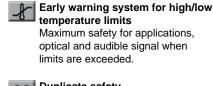
Robust temperature control instrument, continuous operation even at ambient temperatures of up to +40 °C





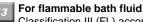


## Warning & Safety Functions



## **Duplicate safety**

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



Classification III (FL) according to DIN 12876-1

# BLACK Quick support

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