

PRESTO W50t

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.



Made
in Germany

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

Technical Data

Order No.	9421502.T
Category	Temperature Control PRESTO
Working temperature range (°C)	-50 ... +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)	<table><tr><td>°C</td><td>200</td><td>20</td><td>0</td><td>-10</td><td>-20</td><td>-30</td><td>-40</td></tr><tr><td>kW</td><td>7</td><td>7.5</td><td>6.5</td><td>5</td><td>3</td><td>1.8</td><td>0.6</td></tr></table>	°C	200	20	0	-10	-20	-30	-40	kW	7	7.5	6.5	5	3	1.8	0.6
°C	200	20	0	-10	-20	-30	-40										
kW	7	7.5	6.5	5	3	1.8	0.6										
Pump capacity flow rate (l/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	R507																
Filling volume refrigerant stage 1 (g)	1000																
Global Warming Potential for	3985																
Carbon dioxide equivalent stage 1 (t)	3.985																
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)	65																
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 Water																
Cooling water connection	G ¾" male with barbed fittings for tubing ½" ID																
Cooling water consumption (l/min)	8...12																
Cooling water temperature (°C)	<30																
Cooling water differential pressure (bar)	0.5																
Available voltage versions	3 x 208-230V/60Hz (+/- 5%) / 36A @ 208V, 39A @ 230V / Without Plug 3 x 230V/50Hz (+/- 10%) / 39A / Plug 64A CEE 3 x 400V/50Hz (+/- 10%) / 25A / Plug 32A CEE																

Tip: Counter-cooling your PRESTO with a Recirculating Cooler

If there is no cooling water, the PRESTO W50t can be cooled down with a recirculating cooler with a cooling capacity of 13 kW at a flow temperature of 15°C. The required circulating pump has to ensure a flow rate of 13 l/min at a counter-pressure of 0.5 bar. The recommended minimum tank volume is 50 liters.

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

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



Control from 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



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



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

Technical Features



Intelligent pump system

Reliable and consistent pump 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 Profibus DP



Comfortable program control

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



Easy transport by one person

Ergonomic design facilitates moving and positioning by one person



Filling level at a glance

Backlit indicator for selected pump stages and filling volume

Temperature Control



For perfect results

'Intelligent Cascade Control', automatic & self optimizing adjustment of PID control parameters, temperature stability $\pm 0.01\text{ °C}$... $\leq \pm 0.2\text{ °C}$



Full control

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

Warning & Safety Functions**Early warning system for high/low temperature limits**

Maximum safety for applications, optical and audible signal when limits are exceeded.

**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