PRESTO A45

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. 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. Permanent internal monitoring and self-lubricating pumps contribute to the new PRESTO's long service life. The integrated 5.7'' industrial touch screen displays all important information clearly and concisely enhancing ease of use considerably.

Your advantages

- For highly precise, external temperature applications
- Rapid heating and cooling
- 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
- NEW USB (Host und Device)
- NEW Ethernet
- NEW SD-Card slot
- RS232 / optional RS485 / optional Profibus DP
- Stand-by input
- Removable venting grid for simplified removal of dust

Technical Data

Order No.	9420452
Category	Temperature Control PRESTO
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)	6 @ 400V; 6 @ 230V; 5.5 @ 208V
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 (l/min)	35 ... 76
Pump capacity flow pressure (bar)	0.48 ... 3.2 @ 400V; 0.48 ... 3.2 @ 230V; 0.48 ... 3 @ 208V
Viscosity max. (cSt)	50
Pump connections	M30x1.5
Refrigerant stage 1	R452A
Filling volume refrigerant stage 1 (g)	1320

Global Warming Potential for R452A	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 (cm)	53 x 66.5 x 126
Weight (kg)	210
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%) / 23A @ 208V, 25A @ 230V / Without Plug 3 x 230V/50Hz (+/- 10%) / 25A / Plug 32A CEE 3 x 400V/50Hz (+/- 10%) / 13A / Plug 16A 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
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

For perfect results
'**I**ntelligent **C**ascade **C**ontrol', automatic & self optimizing adjustment of PID control parameters, temperature stability ±0.01 °C ... <±0.2 °C

Full control
'**T**emperature **C**ontrol **F**eatures', for individual optimization, access to all important control parameters, additional settings for band limit, limits, co-speedfactor etc.

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

Highest measuring accuracy
'**A**bsolute **T**emperature **C**alibration' for manual compensation of a temperature difference, 3-point calibration

Refrigeration Technology

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

100 % Cooling capacity
'**A**ctive **C**ooling **C**ontrol' 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

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