

## PRESTO W80t

### 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.                      | 9421801.T                  |
| Category                       | Temperature Control PRESTO |
| Working temperature range (°C) | -80 ... +250               |


|   |   |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
|---|---|-----|-----|-----|-----|------|-----|-----|-----|----|-----|-----|-----|-----|-----|------|-----|
| Temperature control                                       | ICC   |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Temperature stability (°C)                                | ±0.01 ... ±0.05   |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Setting / display resolution                              | 0.01 °C   |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Integrated programmer                                     | 8x60 steps  |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Temperature Display                                       | TFT Touchscreen   |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Heating capacity (kW)                                     | 2.8   |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Cooling capacity (Medium: JULABO Thermal   Ethanol)       | <table border="1"> <tr> <td>°C</td> <td>200</td> <td>20</td> <td>0</td> <td>-20</td> <td>-40</td> <td>-60</td> <td>-80</td> </tr> <tr> <td>kW</td> <td>1.2</td> <td>1.2</td> <td>1.2</td> <td>1.1</td> <td>1.1</td> <td>0.65</td> <td>0.1</td> </tr> </table> | °C  | 200 | 20  | 0   | -20  | -40 | -60 | -80 | kW | 1.2 | 1.2 | 1.2 | 1.1 | 1.1 | 0.65 | 0.1 |
| °C  | 200   | 20  | 0   | -20 | -40 | -60  | -80 |     |     |    |     |     |     |     |     |      |     |
| kW  | 1.2   | 1.2 | 1.2 | 1.1 | 1.1 | 0.65 | 0.1 |     |     |    |     |     |     |     |     |      |     |
| Pump capacity flow rate (l/min)                           | 16 ... 40   |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Pump capacity flow pressure (psi)                         | 1.45 ... 18.85  |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Pump connections  | M24x1.5   |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Refrigerant stage 1                                       | R507  |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Filling volume refrigerant stage 1 (g)                    | 720   |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Global Warming Potential for                              | 3985  |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Carbon dioxide equivalent stage 1 (t)                     | 2.869   |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Refrigerant stage 2                                       | R23   |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Filling volume refrigerant stage 2 (g)                    | 500   |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Global Warming Potential for                              | 14800   |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Carbon dioxide equivalent stage 2 (t)                     | 7.4   |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| External Pt100 sensor connection                          | integrated  |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Digital interface   | RS232, SD memory card, USB, Ethernet, Modbus, Alarm-out<br>Optional: RS485, Profibus  |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Analog connection input / output                          | Optional  |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Ambient temperature                                       | 5 ... 40 °C   |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Dimensions W x L x H (inch)                               | 16.9 x 25.6 x 49.5  |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Weight (LBS)  | 357   |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Sound pressure level (distance 1 m) max. (dBA)            | 64  |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Process volume min. (active heat exchanger volume) liters | 3.9 (1.7)   |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Internal usable expansion vol. (liters)                   | 5.6   |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Classification according to DIN12876-1                    | Classification III (FL)   |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Cooling of compressor                                     | 2-stage Water   |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Cooling water connection                                  | G ¾" male with barbed fittings for tubing ½" ID   |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Cooling water consumption (l/min)                         | 2   |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Cooling water temperature (°C)                            | <30   |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Cooling water differential pressure (bar)                 | 0.5   |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Power requirement V / Hz / A                              | 3x 208-220/60/15  |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |
| Available voltage versions                                | 3 x 208-220V/60Hz (+/- 5%) / 18A @ 208V, 20A @ 220V / Without Plug<br>3 x 230V/50Hz (+/- 10%) / 20A / Plug 32A CEE<br>3 x 400V/50Hz (+/- 10%) / 13A / Plug 16A CEE  |     |     |     |     |      |     |     |     |    |     |     |     |     |     |      |     |

### Tip: Counter-cooling your PRESTO with a Recirculating Cooler


If there is no cooling water, the PRESTO W80t can be cooled down with a recirculating cooler with a cooling capacity of 3 kW at a flow temperature of 15°C. The required circulating pump has to ensure a flow rate of 2 l/min at a counter-pressure of 0.5 bar. The recommended minimum tank volume is 15 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

### Temperature Control


 **For perfect results**  
'Intelligent Cascade Control', automatic & self optimizing adjustment of PID control parameters, temperature stability  $\pm 0.01\text{ }^{\circ}\text{C}$  ...  $< \pm 0.2\text{ }^{\circ}\text{C}$


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


 **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


### 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


 **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