

# **PRESTO W91**

# Powerful Temperature Control Systems for demanding applications with a temperature range from -91 °C to +250 °C

The PRESTO W91 Highly Dynamic Temperature Control Systems are amongst the most powerful units available. Their impressive power is harnessed by cutting-edge control technology. The W91 provides extraordinary heating, cooling, and pumping performance. But it also comes with the functions and features that make the new generation of PRESTO so unique.

# Your advantages

- · Extremely fast cool-down and heat-up times
- · Wide working temperature range without changing the bath fluid
- · Very fast compensation of exothermic and endothermic reactions
- Unsurpassed power and efficiency
- · Heating capacity up to 36 kW
- Ambient temperature range +5 °C to +40 °C
- Space optimized design creates more room directly next to the units
- Integrated 5.7" industrial color touchscreen displays all essential information and enables simple fingertip control
- Extensive warning, protection, and monitoring functions with detailed self-explanatory messages
- · ICC cascade control for extraordinary precision, temperature stability ±0.05 °C ... ±0.2 °C
- · Integrated programmer with real-time clock
- · Filling level indicator and pump capacity displayed electronically
- · Powerfol circulating pumps, electronically adjustable in stages or by setting the pressure value
- Interface for SD memory card
- · Connections for USB, Ethernet, RS232, and Alarm output
- Optional analog connections, RS485, Profibus DP, Modbus

# **Technical Data**

Order No.	9421912		
Category	Temperature Control PRESTO		
Working temperature range (°C)	-91 +250		
Temperature control	ICC		
Temperature stability (°C)	±0.05 ±0.2		
Setting / display resolution	0.01 °C		
Temperature Display	TFT Touchscreen		
Heating capacity (kW)	18		
Cooling capacity (Medium: JULABO Thermal   Ethanol)	°C200100200-20-40-60-80kW1111119.596.51.5		
Pump capacity flow rate (I/min)	26 80		
Pump capacity flow pressure (psi)	7.2543.51		
Viscosity max. (cSt)	50		







Pump connections	M38x1.5
Refrigerant	R23, R404A
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)	37.4 x 50 x 74.8
Weight (LBS)	1698
Sound pressure level (distance 1 m) max. (dBA)	74
Process volume min. (active heat exchanger volume) liters	28 (16)
Internal usable expansion vol. (liters)	40
Classification according to DIN12876-1	Classification III (FL)
Cooling of compressor	2-stage Water
Cooling water connection	G $^{3\!$
Cooling water consumption (I/min)	1643
Cooling water temperature (°C)	<30
Cooling water differential pressure (bar)	0.5
Power requirement V / Hz / A	3x 480/60/38
Available voltage versions	3 x 400V/50Hz (+/- 10%) Without Plug 3 x 480V/60Hz (+/- 10%) Without Plug

All data refers to the nominal voltage of 400 V, 3-phase, nominal frequency of 50 Hz and ambient temperature of +20 °C. Cooling capacity measured at max. pump stage. All pump data refers to a bath fluid with a specific density of 1 kg/dm<sup>3</sup>.

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

If there is no cooling water, the PRESTO W91 can be cooled down with a recirculating cooler with a cooling capacity of 25 kW at a flow temperature of 15°C. The required circulating pump has to ensure a flow rate of 26 l/min at a counter-pressure of 0.5 bar. The recommended minimum tank volume is 100 liters.

# Characteristics

### Display

	State-of-the-art display technology	1
ISPLAY	technology	

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





**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



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 ±0.01 °C ... <±0.2 °C

# TCF 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 ATC<sup>3</sup>

'Absolute Temperature Calibration' for manual compensation of a temperature difference, 3-point calibration

#### **Refrigeration Technology**

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# Consistent cooling capacity Easily removable venting grid for

quick and easy cleaning

# ACC 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

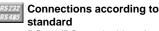
Reliable and consistent pump capacity, electronically adjustable pump stages or pressure value, automatic adjustment of pump capacity to viscosity

**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



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





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

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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.

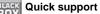
# 00 Duplicate safety

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



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