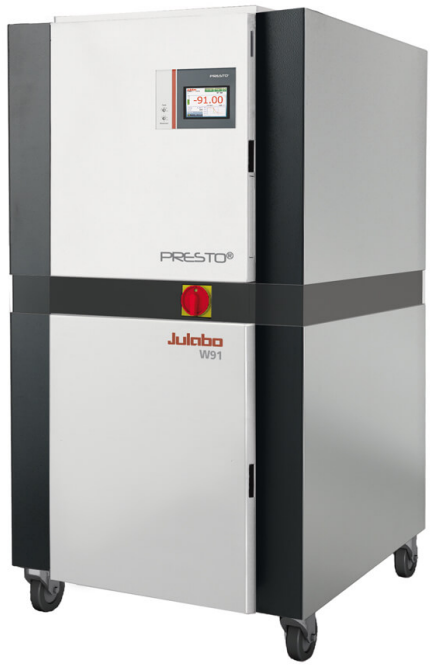
PRESTO W91



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)	°C	200	100	20	0	-20	-30	-40	-60	-80
	kW	11	11	11	11	11	10.5	10.5	8	2
Pump capacity flow rate (l/min)	26 ... 80									
Pump capacity flow pressure (bar)	0.5 ... 3.0									
Viscosity max. (cSt)	50									

Pump connections	M38x1.5
Refrigerant stage 1	R404A
Filling volume refrigerant stage 1 (g)	4500
Global Warming Potential for R404A	3922
Carbon dioxide equivalent stage 1 (t)	17.649
Refrigerant stage 2	R23
Filling volume refrigerant stage 2 (g)	1250
Global Warming Potential for R23	14800
Carbon dioxide equivalent stage 2 (t)	18.5
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)	95 x 127 x 190
Weight (kg)	870
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 ¾‘‘ male with barbed fittings for tubing ½’’ ID
Cooling water consumption (l/min)	16…43
Cooling water temperature (°C)	<30
Cooling water differential pressure (bar)	0.5
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/dm³.

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
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