

PRESTO W91 Process system

Best heating capacity combined with high cooling capacity – those are the key features of the W91 units. The units are just as ready for embedding into pilot plants as they are for use in material and component testing.

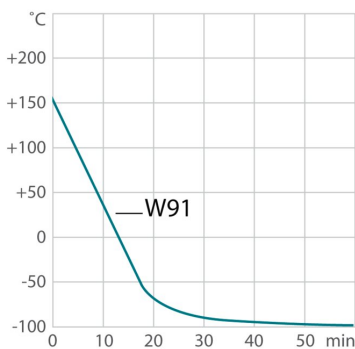
The highly dynamic temperature control systems PRESTO are designed for high-precision temperature control for a wide range of applications such as reactor vessels or material stress tests. Moreover, by using efficient components, the process systems can compensate exothermic and endothermic reactions exceptionally fast. Permanent internal monitoring and self-lubricating pumps ensure a long life-time. In addition, numerous interfaces offer many remote control possibilities across networks or for integration into higher-level control systems.



Product features

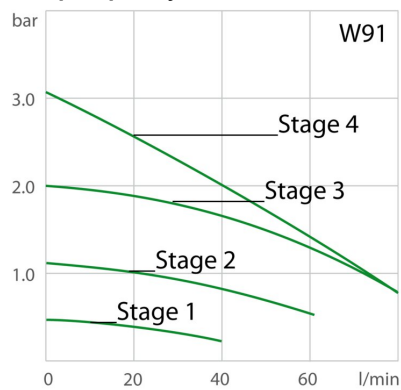
- Cooling capacity up to 11 kW
- Temperature stability $\pm 0.05 \dots \pm 0.2^\circ\text{C}$
- Ambient temperature range $+5^\circ\text{C}$ to $+40^\circ\text{C}$
- Built-in 5.7" industrial color touchscreen
- Analog connections, RS485, Profibus DP (accessory)
- External Pt100 sensor connection
- Second external Pt100 sensor connection (accessory)
- Alarm output
- Pump pressure up to 3 bar, max. flow rate 80 l/min

Cool-down time



Medium: Thermal HL

Pump capacity



Performance values

480V/3P(N)PE/60Hz (Without Plug)

Heating capacity kW	18
Viscosity max. cSt	50
Pump capacity flow pressure l/min	0 ... 80
Pump capacity pressure psi	1.5 ... 43.5
Power consumption A	38

Order No.			9421912.17				
Cooling capacity 1 (Ethanol)							
°C	20	0	-20	-40	-60	-80	-90
kW ¹	12.2	12.1	11.9	11.4	8.6	2	0.4
Refrigerant stage 1				Refrigerant stage 2			
Refrigerant		R404A		Refrigerant		R23	
Filling weight g		4500		Filling weight g		1250	
Global Warming Potential for R404A		3922		Global Warming Potential for R23		14800	
Carbon dioxide equivalent t		17.649		Carbon dioxide equivalent t		18.5	

¹ Performance specifications measured in accordance with DIN 12876. Cooling capacities up to 20 °C measured with ethanol; over 20 °C with thermal oil unless otherwise specified. Performance specifications apply at an ambient temperature of 20 °C. Performance values may differ with other bath fluids.

Technical data

Available voltage versions		Cooling	
Order No.	9 421 912	Cooling of compressor	2-stage Water
Available voltage versions:		Cooling water pressure max. psi	87
9421912.07	400V/3PNPE/50Hz (Without Plug) (R404A)	Max. heat dissipated by unit into cooling water kW	28
9421912.S1.07	400V/3PNPE/50Hz (Without Plug) (R449A)	Recommended cooling water properties	
9421912.17	480V/3P(N)PE/60Hz (Without Plug) (R404A)	Cooling water temperature range °C	10 ... 15
		Cooling water difference pressure psi	21.8 ... 87
		Cooling water consumption l/min ²	16 ... 20
		Permissible cooling water properties	
		Cooling water temperature range °C	5 ... 35
		Cooling water difference pressure psi ³	7.3 ... 87
Other		Electronics	
Sound pressure level dbA	74	Interfaces	Alarm output, Ethernet, Modbus, Profibus optional, REG/EPROG optional, RS232, RS485 optional, SD memory card, Standby-Input optional, USB
Classification	Classification III (FL)	External pt100 sensor connection	integrated
IP Code	IP 21	2nd external Pt100 sensor connection	accessory
Pump type	Centrifugal Pump	Integrated programmer	8x60 steps
Pump type Magnetically coupled	1	Temperature control	ICC
		Absolute temperature calibration	3 Point Calibration
		Temperature display	5.7" TFT Touchscreen
		Temperature setting	Touchscreen

² Cooling water consumption may vary outside recommended cooling water properties.

³ At cooling water temperatures of 25 °C and higher, the minimum differential pressure is 1 bar.

Dimensions and volumes

Internal usable expansion volume l	40
Minimal process volume l	28
Active heat exchanger volume l	16
Weight lbs	1918
Cooling Water Connection in	G¾
Dimensions in. (W × L × H)	37.4 x 50 x 74.8
Pump connections	M38x1.5 male

Temperature values

Setting the resolution of the temperature display °C	0.01
Working temperature range °C	-91 ... +250
Temperature stability °C	±0.05 ... ±0.2
Ambient temperature °C	+5 ... +40
Temperature display resolution °C	0.01

All Benefits



Touch display. Perfect operation.

With the touch display, the user always has an overview of all values and functions. The intuitive and multilingual menu structure enables perfect control.



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



100 % Cooling capacity

'Active Cooling Control' for cooling available throughout the entire working temperature range, fast cool-down even at higher temperatures



Intelligent temperature control.

Intelligent cascade control - automatic and self-optimizing adaptation of the PID control parameters with external stability of +/- 0.05 °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 of 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



Intelligent pump system

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



Many interfaces.

Straight-forward remote control, data management, and integration into process structures. USB, Ethernet, RS232, SD card, and alarm off are permanently integrated. Further interfaces available as accessories.



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



Maximum safety.

Classification III according to DIN12876-1 enables safe operation, even with flammable fluids. Automatic switch-off in the event of high temperature or low liquid level.



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



100% Checked.

100% testing. 100% quality. Each JULABO Circulator undergoes thorough quality testing before leaving the factory.



Green technology.

Development consistently applied environmentally friendly materials and technologies.



JULABO. Quality.

Highest standards of quality for a long product life.



Quick start.

Individual JULABO consultation and comprehensive manuals at your disposal.



Satisfied customers.

11 subsidiaries and more than 100 partners worldwide guarantee fast and qualified JULABO support.



Services 24/7.

Around the clock availability. You can find suitable accessories, data sheets, manuals, case studies, and more at www.julabo.com.