PRESTO W41 Process system



JULABO's water-cooled PRESTO W41 process system uses environmentally friendly, natural refrigerant. It combines high performance and a very compact design with all the advantages of the PRESTO series for a working temperature range from -45 °C to +250 °C.

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

- Second external Pt100 sensor connection (accessory)
- Second external Pt100 sensor connection for A40 and W40 (accessory)

Performance values

230V/50Hz (Schuko Plug - CEE 7/4 Plug Type F)	
Heating capacity kW	2.7
Viscosity max. cST	50
Pump capacity flow rate l/min	22 ... 51
Pump capacity flow pressure bar	0.3 ... 1.6
Power A	17

Order No.	9421411.N1.03

Cooling capacity 1 (Ethanol)

°C	20	10	0	-10	-20	-30	-40
kW	1.47	1.45	1.26	0.87	0.56	0.39	0.19

*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.

Cooling capacity 1 = capacity at minimum pump level, cooling capacity 2 = capacity at maximum pump level

Cooling capacity 2 (Ethanol)

°C	20	10	0	-10	-20	-30	-40
kW	1.33	1.31	1.24	0.84	0.46	0.31	0.07

*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.

Cooling capacity 1 = capacity at minimum pump level, cooling capacity 2 = capacity at maximum pump level

Cooling capacity 3 (Thermal HL60)

°C	250	200	20	0	-20	-40
kW	1.43	1.32	1.32	1.04	0.38	0.06

*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.

Cooling capacity 1 = capacity at minimum pump level, cooling capacity 2 = capacity at maximum pump level

Note about natural refrigerants:
Temperature control units using natural refrigerants are often subject to regulatory requirements regarding the installation site, operation, transport or disposal of the units. If you have any questions, we will be happy to advise you.

Refrigerant stage 1	
Refrigerant	R1270
Filling weight g	120
Global Warming Potential for R1270	2
Carbon dioxide equivalent t	0

Technical data

Available voltage versions	
Order No.	9 421 411
Available voltage versions:	
9421411.N1.03	230V/50Hz (Schuko Plug - CEE 7/4 Plug Type F) (R1270)

Cooling	
Cooling of compressor	1-stage Water
Cooling water temperature max. °C	35
Cooling water pressure max. bar	6
Cooling water difference pressure bar	0.5
Cooling water consumption l/min	1

Other	
Sound pressure level dbA	60
Classification	Classification III (FL)
IP Code	IP 20

Electronics	
Interfaces	Alarm output, Ethernet, Modbus, Profibus optional, RS232, RS485 optional, Reg/Eprog optional, SD memory card, Standby-Input optional, USB

Hint to the technical data table	Cooling capacity 1 = capacity at minimum pump level, cooling capacity 2 = capacity at maximum pump level
Pump type	Centrifugal Pump
Pump type Magnetically coupled	1

External pt100 sensor connection	integrated
2nd external Pt100 sensor connection	accessory
Integrated programmer	8x60 steps
Temperature control	ICC
Absolute temperature calibration	3 Point Calibration
Temperature display	5.7" TFT Touchscreen
Temperature setting	Touchscreen

Dimensions and volumes

Internal usable expansion volume l	2.7
Minimal process volume l	3.5
Active heat exchanger volume l	1.7
Weight kg	83
Dimensions cm (W × L × H)	33 x 75 x 67
Pump connections	M24x1.5 male

Temperature values

Setting the resolution of the temperature display °C	0.01
Working temperature range °C	-45 ... +250
Temperature stability °C	±0.01 ... ±0.05
Ambient temperature °C	+5 ... +40
Temperature display resolution °C	0.01

All Benefits



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



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



Services 24/7.
Around the clock availability. You can find suitable accessories, data sheets, manuals, case studies, and more at www.julabo.com.



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



Quick start.
Individual JULABO consultation and comprehensive manuals at your disposal.



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



For flammable bath fluid
Classification III (FL) according to DIN 12876-1



Duplicate safety
Adjustable high temperature cut-off for internal tank and for integrated expansion vessel



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.



Continuous operation up to +40 °C
Robust temperature control instrument, continuous operation even at ambient temperatures of up to +40 °C



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



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.

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

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

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

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

100 % Cooling capacity
'Active Cooling Control' for cooling available throughout the entire working temperature range, fast cool-down even at higher temperatures

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

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.