

Product data sheet

PRESTO W41 Process system

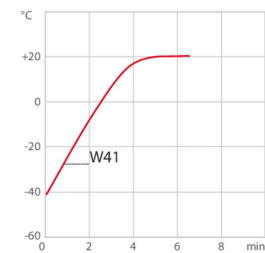
Compact process systems down to -45 °C

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.

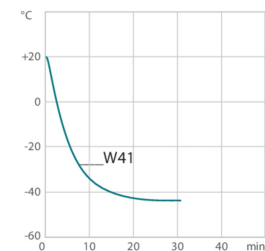
The highly dynamic temperature control systems PRESTO are designed for high-precision temperature control for a wide range of applications such as reactor vessels or material stress tests. Moreover, by using efficient components, the process systems can compensate exothermic and endothermic reactions 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.



Heat-up time Medium: Ethanol



Cool-down time Medium: Ethanol



Product Features

- ✓ Heating capacity up to 2.7 kW
- ✓ Temperature stability ± 0.01 °C ... ± 0.05 °C
- ✓ Alarm output
- ✓ Built-in 5.7" industrial color touchscreen
- ✓ External Pt100 sensor connection
- ✓ Connections for USB, Ethernet, RS232, and Alarm output
- ✓ Analog connections, RS485, Profibus DP (accessory)
- ✓ Second external Pt100 sensor connection (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 pressure l/min 0 ... 50

Pump capacity pressure bar 0.1 ... 1.6

Power consumption A 16

Voltage Tolerance % 230V | ± 10

Order number including voltage version (230V/50Hz) 9421411.N1.03

Cooling capacity 1 (Ethanol)

°C	20	10	0	-10	-20	-30	-40
kW ¹	1.47	1.45	1.26	0.87	0.56	0.39	0.19

Cooling capacity 2 (Ethanol)

°C	20	10	0	-10	-20	-30	-40
kW ¹	1.33	1.31	1.24	0.84	0.46	0.31	0.07

Cooling capacity 3 (Thermal HL60)

°C	250	200	20	0	-20	-40
kW ¹	1.43	1.32	1.32	1.04	0.38	0.06

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 99

Global Warming Potential for R1270 2

Carbon dioxide equivalent t 0.000198

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

Technical data

Available voltage versions

Order No. 9421411

Available voltage versions:

9421411.N1.03 230V 50Hz (Schuko Plug - CEE 7/4 Plug Type F) (R1270)

9421411.N1.03.chn 230V 50Hz (CN Plug) (R1270)

9421411.N1.04 230V 50Hz (UK Plug Type BS1363A) (R1270)

9421411.N1.05 230V 50Hz (CH Plug Type SEV 1011) (R1270)

9421411.N1.05.S3538 230V 50Hz (CH Plug Type T23) (R1270)

Cooling

Cooling of compressor

1-stage
Water

Cooling water pressure max. bar

6

Max. heat dissipated by unit into cooling water
kW

2.4

Recommended cooling water properties

Cooling water temperature range °C

10 ... 15

Cooling water difference pressure bar

1.5 ... 6

Cooling water consumption l/min ²

1

Permissible cooling water properties

Cooling water temperature range °C

5 ... 35

Cooling water difference pressure bar ³

0.5 ... 6

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.

Electronics

Interfaces

Alarm output, Ethernet, Modbus TCP/IP, Profibus optional, REG/EPROG optional, RS232, RS485 optional, SD memory card, Standby-Input optional, USB

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

Total 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

Other

Classification

Classification III (FL)

IP Code

IP 20

Pump type

Centrifugal Pump

Pump type Magnetically coupled

1

Sound pressure level dbA

60

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.

Refer to www.julabo.com for more information regarding the entire JULABO product portfolio. Technical changes without prior notification. Images may deviate from the original. | Datasheet No.EN9421411/260220