

## PRESTO W50t Process system

The rapid compensation of reactions even at higher ambient temperatures is the domain of the water-cooled W50 units. High heating and cooling capacity paired with powerful pumps.

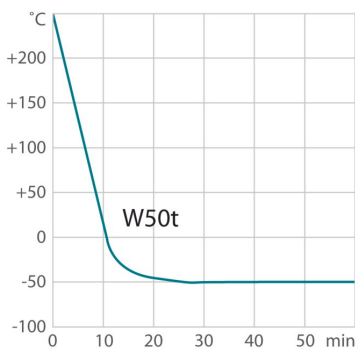
The highly dynamic temperature control systems PRESTO are designed for high-precision temperature control for a wide range of applications such as reactor vessels or material stress tests. Moreover, by using efficient components, the process systems can compensate exothermic and endothermic reactions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

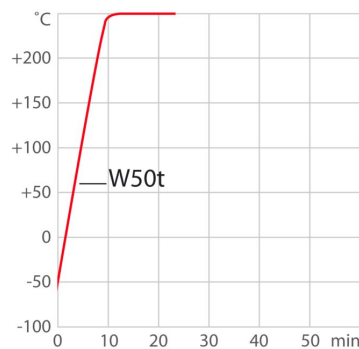
- Cooling capacity up to 7.5 kW
- Temperature stability  $\pm 0.05\text{ °C}$  ...  $\pm 0.1\text{ °C}$
- External Pt100 sensor connection
- Analog connections, RS485, Profibus DP (accessory)
- Second external Pt100 sensor connection (accessory)
- Built-in 5.7" industrial color touchscreen
- Alarm output
- Heating capacity up to 12 kW
- Pump pressure up to 3 bar, max. flow rate 80 l/min

### Cool-down time



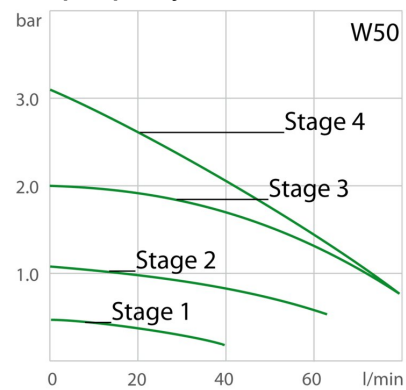
Medium: Thermal HL

### Heat-up time



Medium: Thermal HL

### Pump capacity



### Performance values

400V/3PNPE/50Hz (Plug 32A CEE)

Heating capacity kW	12
Viscosity max. cSt	50
Pump capacity flow pressure l/min	0 ... 80
Pump capacity pressure psi	1.5 ... 43.5
Power consumption A	25

## Refrigerant variants

Order No. 9421502.07.T

## Cooling capacity (Ethanol)

°C	200	20	0	-10	-20	-30	-40
kW <sup>1</sup>	7	7.5	6.5	4.5	2.8	1.6	0.6

## Refrigerant stage 1

Refrigerant R452A

Filling weight g 1100

Global Warming Potential for R452A 2140

Carbon dioxide equivalent t 2.354

Order No. 9421502.S1.07.T

## Cooling capacity (Ethanol)

°C	20	0	-10	-20	-30	-40
kW <sup>1</sup>	7.6	7.1	4.5	2.7	1.4	0.6

## Refrigerant stage 1

Refrigerant R449A

Filling weight g 1050

Global Warming Potential for R449A 1397

Carbon dioxide equivalent t 1.46685

<sup>1</sup> 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

Order No. 9 421 502.T

## Available voltage versions:

9421502.07.T	400V/3PNPE/50Hz (Plug 32A CEE) (R452A)
9421502.S1.07.T	400V/3PNPE/50Hz (Plug 32A CEE) (R449A)
9421502.16.T	208-230V/3PPE/60Hz (Without Plug) (R507)
9421502.S1.16.T	208-230V/3PPE/60Hz (Without Plug) (R449A)
9421502.06.T	230V/3PPE/50Hz (Plug 63A CEE) (R452A)

## Cooling

Cooling of compressor 1-stage Water

Cooling water pressure max. psi 87

Max. heat dissipated by unit into cooling water kW 13

## Recommended cooling water properties

Cooling water temperature range °C 10 ... 15

Cooling water difference pressure psi 21.8 ... 87

Cooling water consumption l/min <sup>2</sup> 8 ... 12

## Permissible cooling water properties

Cooling water temperature range °C 5 ... 35

Cooling water difference pressure psi <sup>3</sup> 7.3 ... 87

<sup>2</sup> Cooling water consumption may vary outside recommended cooling water properties.

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

## Other

Sound pressure level dbA

65

## Electronics

Classification	Classification III (FL)
IP Code	IP 20
Pump type	Centrifugal Pump

## Interfaces

Alarm output, Ethernet, Modbus, 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	7.5
Minimal process volume l	7.5
Active heat exchanger volume l	3.5
Weight lbs	463
Cooling Water Connection in	G¾
Dimensions in. (W x L x H)	20.9 x 26.2 x 49.6
Pump connections	M30x1.5 male

## Temperature values

Setting the resolution of the temperature display °C	0.01
Working temperature range °C	-50 ... +250
Temperature stability °C	±0.05 ... ±0.1
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.

**100 % Cooling capacity**

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

**Full control**

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

**Highest measuring accuracy**

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

**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

**Intelligent temperature control.**

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

**Control of the external application**

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

**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](http://www.julabo.com).