Julabo

THE TEMPERATURE CONTROL COMPANY

New Models 2023

Highly Dynamic Temperature Control Systems

PRESTO™ & FORTE HT

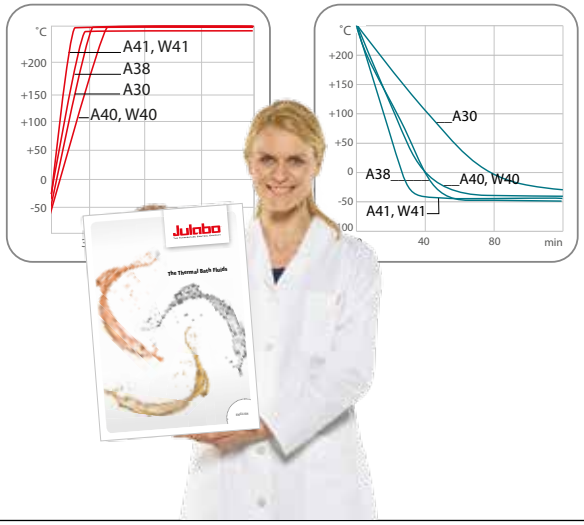
ENGLISH

PRESTO™

BEST PERFORMANCE IN HIGHLY DYNAMIC

HIGHLIGHTS

- Ideal for highly precise, external temperature control tasks from -93 °C to +250 °C
- Wide working temperature ranges using one thermal fluid
- Rapid heating and cooling
- Powerful circulation pumps, electronically adjustable in stages or by setting the pressure value

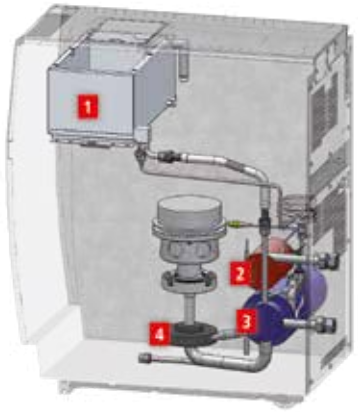


The PRESTO principle

Expansion vessel (1)

Heat exchanger:
Heating section (2)
Refrigeration section (3)

Circulation pump (4)



Flexible set up

Space saving design

JULABO PRESTO are the only highly dynamic temperature control systems with closed side panels without ventilation slits. Save space by placing PRESTO units directly next to each other or your application.

TEMPERATURE CONTROL SYSTEMS

COMFORT

- Side panels without ventilation slits
- Important interfaces directly accessible from the front
- Easy to transport
- Hydraulically sealed to prevent unpleasant vapors and odors

SAFETY

- Actively cooled expansion vessel compensates for temperature-induced volume changes in the heat exchanger
- Simple and safe filling procedure
- Hot or cold thermal bath fluid does not come into contact with oxygen
- Three user levels with password protection

PERFORMANCE

- Rapid heating and cooling
- Heating capacity up to 36 kW
- Cooling capacity up to 33 kW
- Wide temperature ranges covered with only one thermal fluid
- Powerful, magnetically coupled pumps (free of seals and leak free)

PROCESS SAFETY

- Fully automated degassing procedure
- eproducible results
- Maximum uptime
- Electronically adjustable pumps in stages or by setting the pressure value (except A30)

COST EFFICIENCY

- Less thermal bath fluid needed compared to open bath circulators
- Smaller footprint

PRESTO™

THE PERFECT **TEMPERATURE**

PRESTO for extremely wide temperature ranges

PRESTO is the perfect solution if you need to cover wide working temperature ranges. The PRESTO are designed to work in wide temperature ranges with one and the same thermal fluid. Forget about frequently changing the bath fluid and reduce your stock.

Filling is made easy: The filling funnel can be easily accessed from the top of the PRESTO allowing safe and easy filling.

PRESTO systems are closed

The closed system design of the PRESTO prevents the hot or cold thermal fluid from getting in contact with ambient air. This lowers oxidation of the fluid at high temperatures to a minimum and prevents crystallization of humidity at low temperatures. In addition, the built-in expansion vessel is actively cooled.
Your benefit: Increased user safety and an extended life expectancy of the thermal fluid.

The absolute asset: Thanks to the closed design, the PRESTO prevents unpleasant oil vapor.

CONTROL SOLUTION

PRESTO with maximum performance

Providing strong cooling and heating capacities, the PRESTO systems cover a working temperature range of -93 °C to +250 °C. Highly efficient components compensate exothermic and endothermic reactions in no time (extremely fast).

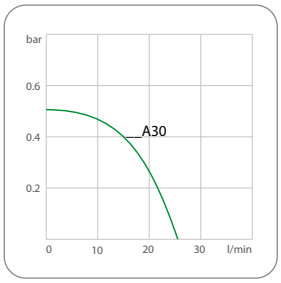
The smaller active heat exchange volume ensures faster heat-up and cool-down times.

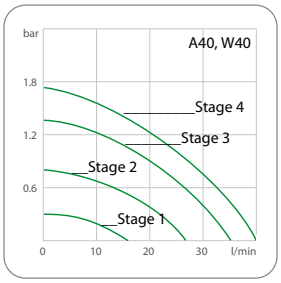
PRESTO pump capacity

PRESTO units generate the desired pressure at any time – to protect your applications and investments. The pumps even dynamically compensate for viscosity changes in the heat transfer fluid (except A30). Permanent internal monitoring and magnetically coupled pumps (without seals and leak free) provide best performance and maximum uptime.

BOOST the PRESSURE
use the JULABO Booster Pump to increase pump pressure

Pump capacity





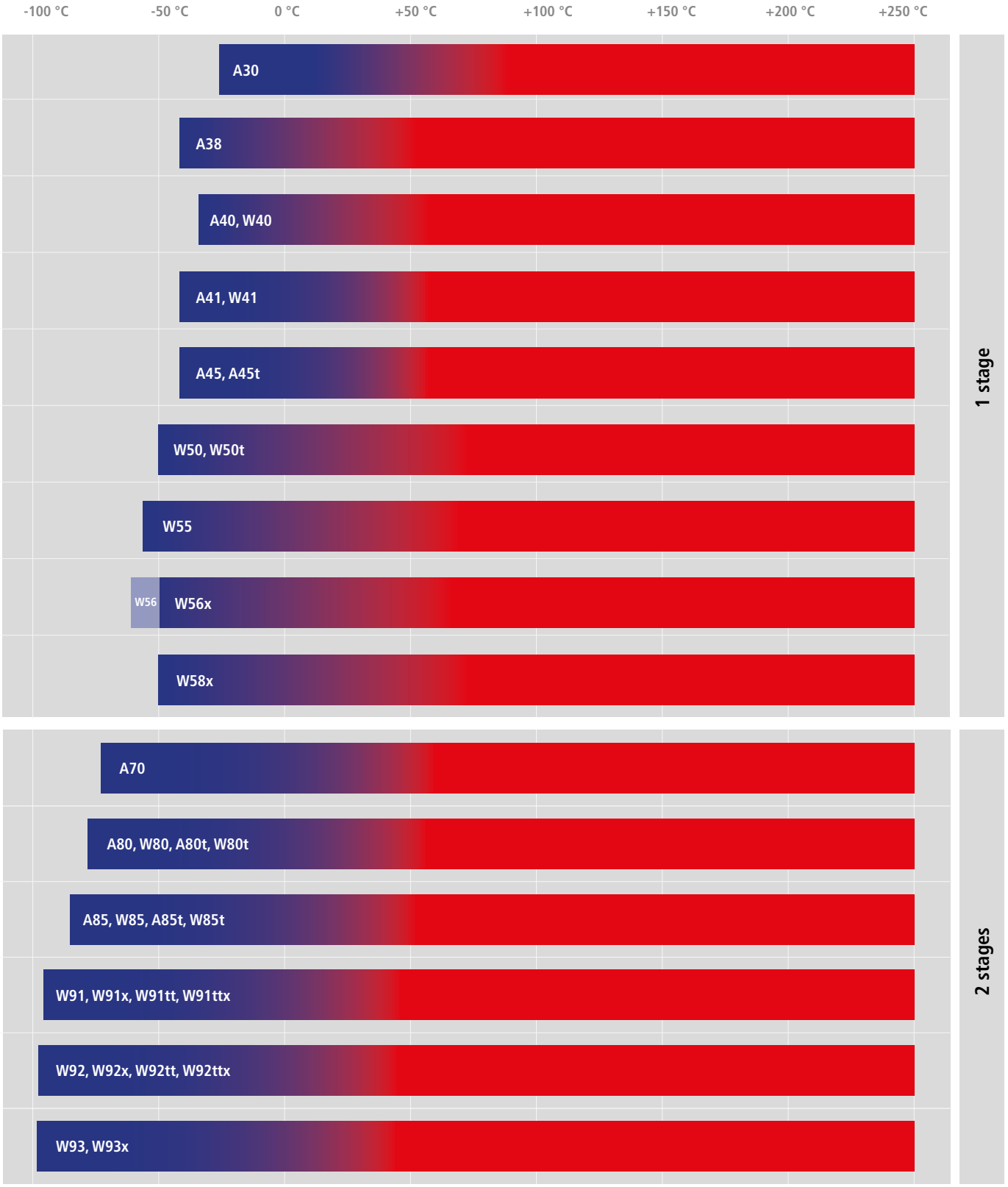
The pump capacity can be adjusted gradually or by using a pressure value (except A30). The pressure build-up is constantly monitored. Viscosity changes are compensated interactively.

PRESTO™

THE **BEST CHOICE** FOR EVERY

	Heating capacity / kW	Cooling capacity / kW						
		+20 °C	0 °C	-20 °C	-30 °C	-40 °C	-60 °C	-80 °C
 **PRESTO A30**	2.7	0.5	0.4	0.2	0.02			
 **PRESTO A38**	2.7	0.79	0.73	0.44	0.28	0.05		
 **PRESTO A40 and W40**	2.7	1.2	0.9 (A40) 1 (W40)	0.4	0.15 (A40) 0.12 (W40)			
 **PRESTO A41 and W41**	2.7	1.33	1.24	0.46	0.31	0.07		
 **PRESTO A45 and A45t**	6 (A45) 12 (A45t)	3.5	3.3	1.8	1	0.3		
 **PRESTO W50 and W50t**	6 (W50) 12 (W50t)	7.5	6.5	2.8	1.6	0.6		
 **PRESTO W55**	15	15	10	4	2.5	1.2		
 **PRESTO W56 and W56x**	27	25.8	23.1	11.5	7.1	3.5		
 **PRESTO W58x**	27	33	32	19	12	7		
 **PRESTO A70**	1.8	1	0.91	0.84	0.79	0.75	0.38	
 **PRESTO A80 and W80 Series**	1.8 (A80, W80) 3.4 (A80t, W80t)	1.2	1.2	1.1	1.1	1.1	0.65	0.1
 **PRESTO A85 and W85 Series**	6 (A85, W85) 15 (A85t, W85t)	2.5	2.4	2.4	2.4	2.4	2.2	0.4
 **PRESTO W91 Series**	18 (W91, W91x) 36 (W91tt, W91ttx)	11	11	11	10.5	10.5	8	2
 **PRESTO W92 Series**	18 (W92, W92x) 36 (W92tt, W92ttx)	27	20	11	10.5	10.5	8	2
 **PRESTO W93 Series**	27	19.5	19.5	19.5	19.5	19.5	13	3.5

APPLICATION



PRESTO – small and powerful

For working temperatures from -45 °C to +250 °C

All the advantages of the PRESTO series for a working temperature range of -45 °C up to +250 °C.

- Heating capacity up to 2.7 kW
- Cooling capacity up to 1.33 kW
- Temperature stability ±0.01 °C ... ±0.05 °C
- Built-in 5.7" industrial color touchscreen
- Ports for USB, Ethernet, RS232, Modbus
- Alarm output
- External Pt100 sensor connection
- Analog connections, RS485, Profibus DP (accessory)
- Second external Pt100 sensor connection for A40 and W40 (accessory)

TIP

NATURAL REFRIGERANT

Units with this symbol work with environmentally friendly, natural refrigerants.

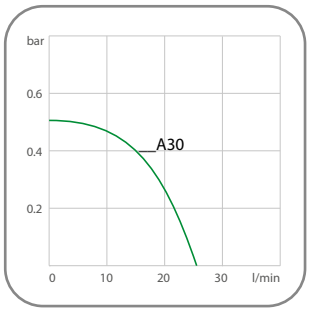
Air-cooled or water-cooled

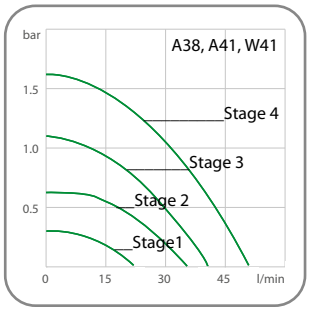
TIP

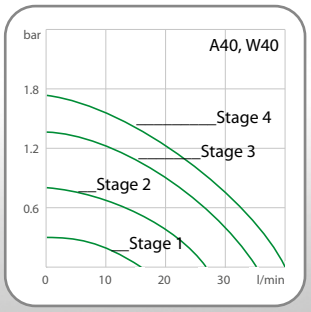
The PRESTO units are available as air-cooled or water-cooled units. Air-cooled units do not require water and can be installed anywhere. If you are looking for a flexible solution or if you expect to move the unit frequently, an air-cooled unit will be the best choice. However, it is important to know that air-cooled units slightly elevate the ambient temperature during operation.

Water-cooled units must be connected to an existing cooling water line. These units are even more quiet and can be virtually enclosed during operation. Robust heat exchangers are installed in the water-cooled PRESTO units.
Clogging up the heat exchanger by particles or impure water is virtually impossible.

Pump capacity

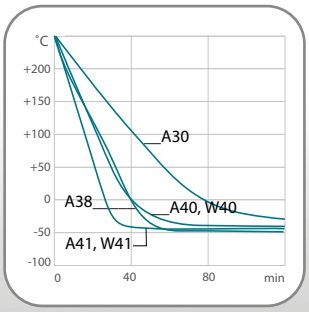






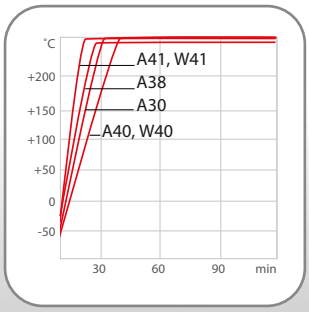
Cool-down time

Bath fluid: Thermal HL



Heat-up time

Bath fluid: Thermal HL



All data refers to the nominal voltage of 230 V, 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.
Cooling capacity measured with Thermal HL (+200 °C) or Ethanol (except +200 °C)

PRESTO™ A30

Order No.	9 420 300		
Working temperature range °C	-30 … +250		
Temperature stability °C	±0.01 … ±0.05		
Cooling capacity kW	**+200 °C** 0.5	**+20 °C** 0.5	**0 °C** 0.4
	-20 °C 0.2	**-30 °C** 0.02	**-40°C** -
Heating capacity kW	2.7		
Pump capacity Flow rate / Pressure	l/min	25	
	bar	0.5	
Process volume min. liters	2.4		
Cooling type	single stage, air cooled		
Dimensions cm	W × L × H 25 × 59 × 62		

PRESTO™ A38

Order No.	9 420 381.N1		
Working temperature range °C	-45 ... +250		
Temperature stability °C	±0.01 … ±0.05		
Cooling capacity kW	**+200 °C** 0.79	**+20 °C** 0.79	**0 °C** 0.73
	-20 °C 0.44	**-30 °C** 0.28	**-40°C** 0.05
Heating capacity kW	2.7		
Pump capacity Flow rate / Pressure	l/min	50	
	bar	0.1 ... 1.6	
Process volume min. liters	3.5		
Cooling type	single stage, air cooled		
Dimensions cm	W × L × H 33 x 75 x 67		

PRESTO™ A40

Order No.	9 420 401		
Working temperature range °C	-40 … +250		
Temperature stability °C	±0.01 … ±0.05		
Cooling capacity kW	**+200 °C** 1.2	**+20 °C** 1.2	**0 °C** 0.9
	-20 °C 0.4	**-30 °C** 0.15	**-40°C** -
Heating capacity kW	2.7		
Pump capacity Flow rate / Pressure	l/min	40	
	bar	0.1 … 1.7	
Process volume min. liters	3.5		
Cooling type	single stage, air cooled		
Dimensions cm	W × L × H 33 × 59 × 67		

PRESTO™ A41

Order No.	9 420 411.N1		
Working temperature range °C	-45 ... +250		
Temperature stability °C	±0.01 … ±0.05		
Cooling capacity kW	**+200 °C** 1.33	**+20 °C** 1.33	**0 °C** 1.24
	-20 °C 0.46	**-30 °C** 0.31	**-40°C** 0.07
Heating capacity kW	2.7		
Pump capacity Flow rate / Pressure	l/min	50	
	bar	0.1 ... 1.6	
Process volume min. liters	3.5		
Cooling type	single stage, air cooled		
Dimensions cm	W × L × H 33 x 75 x 67		

PRESTO™ W40

Order No.	9 421 401		
Working temperature range °C	-40 … +250		
Temperature stability °C	±0.01 … ±0.05		
Cooling capacity kW	**+200 °C** 1.2	**+20 °C** 1.2	**0 °C** 1.0
	-20 °C 0.4	**-30 °C** 0.12	**-40°C** -
Heating capacity kW	2.7		
Pump capacity Flow rate / Pressure	l/min	40	
	bar	0.1 … 1.7	
Process volume min. liters	3.5		
Cooling type	single stage, water cooled		
Dimensions cm	W × L × H 33 × 59 × 67		

PRESTO™ W41

Order No.	9 421 411.N1		
Working temperature range °C	-45 ... +250		
Temperature stability °C	±0.01 … ±0.05		
Cooling capacity kW	**+200 °C** 1.33	**+20 °C** 1.33	**0 °C** 1.24
	-20 °C 0.46	**-30 °C** 0.31	**-40°C** 0.07
Heating capacity kW	2.7		
Pump capacity Flow rate / Pressure	l/min	50	
	bar	0.1 ... 1.6	
Process volume min. liters	3.5		
Cooling type	single stage, water cooled		
Dimensions cm	W × L × H 33 x 75 x 67		

PRESTO A45 / A45t
Air-cooled top performance

For working temperatures from -45 °C to +250 °C

Top PRESTO performance down to -45 °C, increased heating power with the A45t.

- Heating capacity up to 12 kW
- Cooling capacity up to 3.5 kW
- Temperature stability ±0.05 °C ... ±0.1 °C
- Built-in 5.7" industrial color touchscreen
- Ports for USB, Ethernet, RS232, Modbus
- Alarm output
- External Pt100 sensor connection
- Analog connections, RS485, Profibus DP (accessory)
- Second external Pt100 sensor connection (accessory)

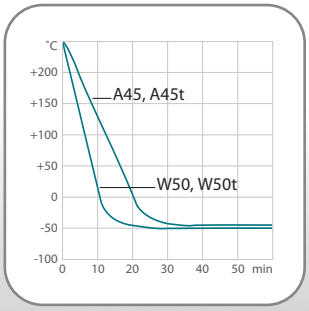
PRESTO™ A45

Order No.	**9 420 452**		
Working temperature range °C	-45 … +250		
Temperature stability °C	±0.05 … ±0.1		
Cooling capacity kW	**+200 °C** 3.4	**+20 °C** 3.5	**0 °C** 3.3
	-20 °C 1.8	**-30 °C** 1	**-40°C** 0.3
Heating capacity kW	6		
Pump capacity Flow rate / Pressure	l/min	80	
	bar	0.1 … 3.0	
Process volume min. liters	7.5		
Cooling type	single stage, air cooled		
Dimensions cm	W × L × H 53 × 66.5 × 126		

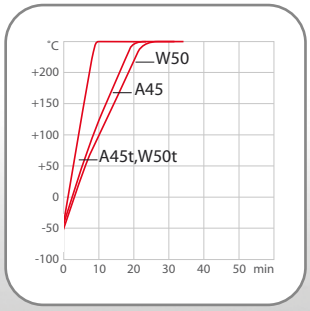
PRESTO™ A45t

Order No.	**9 420 452.T**		
Working temperature range °C	-45 … +250		
Temperature stability °C	±0.05 … ±0.1		
Cooling capacity kW	**+200 °C** 3.4	**+20 °C** 3.5	**0 °C** 3.3
	-20 °C 1.8	**-30 °C** 1	**-40°C** 0.3
Heating capacity kW	12		
Pump capacity Flow rate / Pressure	l/min	80	
	bar	0.1 … 3.0	
Process volume min. liters	7.5		
Cooling type	single stage, air cooled		
Dimensions cm	W × L × H 53 × 66.5 × 126		

Cool-down time
Bath fluid: Thermal HL



Heat-up time
Bath fluid: Thermal HL



All data refers to the nominal voltage of 400 V, 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.
Cooling capacity measured with Thermal HL (+200 °C) or Ethanol (except +200 °C)

PRESTO W50 / W50t
Water-cooled and powerful

For working temperatures from -50 °C to +250 °C

W50 and W50t instruments are able to compensate reactions very fast. Maximum heating and cooling performance paired with powerful pumps.

- Heating capacity up to 12 kW
- Cooling capacity up to 7.5 kW
- Temperature stability ±0.05 °C ... ±0.1 °C
- Built-in 5.7" industrial color touchscreen
- Ports for USB, Ethernet, RS232, Modbus
- Alarm output
- External Pt100 sensor connection
- Analog connections, RS485, Profibus DP (accessory)
- Second external Pt100 sensor connection (accessory)

PRESTO™ W50

Order No.	9 421 502		
Working temperature range °C	-50 … +250		
Temperature stability °C	±0.05 … ±0.1		
Cooling capacity kW	**+200 °C** 7	**+20 °C** 7.5	**0 °C** 6.5
	-20 °C 3	**-30 °C** 1.8	**-40°C** 0.6
Heating capacity kW	6		
Pump capacity Flow rate / Pressure	l/min	80	
	bar	0.1 … 3.0	
Process volume min. liters	7.5		
Cooling type	single stage, water cooled		
Dimensions cm	W × L × H 53 × 66.5 × 126		

PRESTO™ W50t

Order No.	9 421 502.T		
Working temperature range °C	-50 … +250		
Temperature stability °C	±0.05 … ±0.1		
Cooling capacity kW	**+200 °C** 7	**+20 °C** 7.5	**0 °C** 6.5
	-20 °C 3	**-30 °C** 1.8	**-40°C** 0.6
Heating capacity kW	12		
Pump capacity Flow rate / Pressure	l/min	80	
	bar	0.1 … 3.0	
Process volume min. liters	7.5		
Cooling type	single stage, water cooled		
Dimensions cm	W × L × H 53 × 66.5 × 126		

ADJUSTABLE PUMPS FOR MAXIMUM SAFETY

All PRESTO units are equipped with adjustable pumps (except A30). They can be controlled not to exceed the maximum allowed fluid pressure in the application (e.g. in glass reactors). A two-stage, built-in adjustable safety setting is double assurance that the maximum amount of allowed pressure is not exceeded. That means maximum process safety, and an additional external pressure control is not needed – which saves space and budget.

The adjustable pumps also ensure more flexibility in connecting the application: high pump performance allows to bridge long distances or height differences. Set to low pressure, sensitive systems can also be connected with short lines.

PRESTO W55
Water-cooled and powerful

For working temperatures from -55 °C to +250 °C

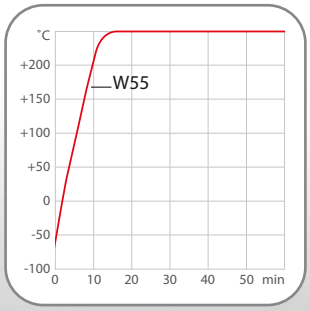
The powerful W55 regulates temperatures with high precision and convinces with faster cool-down and heat-up times. It is ideal for use in large external applications such as reactor temperature control, material stress testing or temperature simulation. By using highly efficient components, the PRESTO W55 compensates for exothermic and endothermic reactions even faster.

- Heating capacity up to 15 kW
- Cooling capacity up to 15 kW
- Temperature stability ± 0.05 ... ±0.1 °C
- Built-in 5.7" industrial color touchscreen
- Connection for alarm output
- Connection for external Pt100 sensor
- RS232, SD memory card, USB, Ethernet, Modbus
- Alarm output, RS485 (accessories), Profibus (accessories)
- Analog inputs / outputs (accessories)

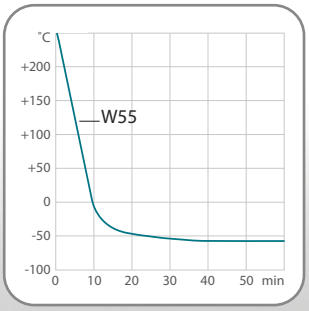
PRESTO™ W55

Order No.	**9 421 552**		
Working temperature range °C	-55 … +250		
Temperature stability °C	±0.05 … ±0.1		
Cooling capacity kW	**+200 °C**	**+20 °C**	**0 °C**
	13.5	15	10
	-20 °C	**-30 °C**	**-40°C**
	4	2.5	1.2
Heating capacity kW	15		
Pump capacity	l/min	80	
Flow rate / Pressure	bar	0.1 … 3.0	
Process volume min. liters	11.5		
Cooling type	single stage, water cooled		
Dimensions cm	W × L × H 61 × 84.5 × 125		

Heat-up time
Bath fluid: Thermal HL



Cool-down time
Bath fluid: Thermal HL



All data refers to the nominal voltage of 400 V, 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.
Cooling capacity measured with Thermal HL (+200 °C) or Ethanol (except +200 °C)

PRESTO W56 / W56x and W58x
Water-cooled and powerful

For working temperatures from -56 °C to +250 °C

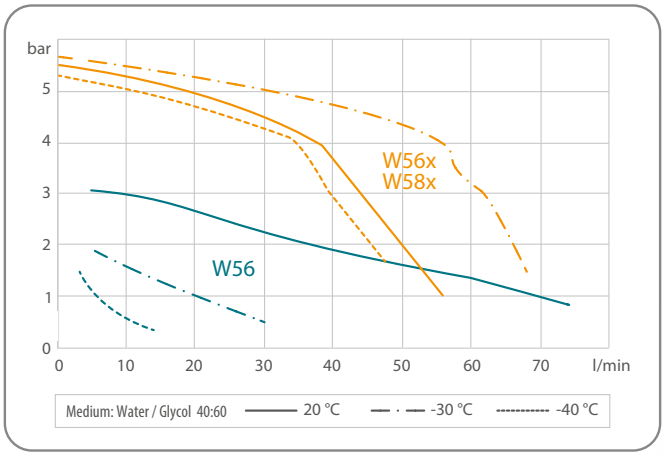
The water-cooled PRESTO W56, W56x and W58x can temperature control applications with high performance requirements very quickly and efficiently. Even at low temperatures they have large power reserves for challenging external applications.

The magnetically coupled pump allows the user to optimally adjust pump capacity to suit the application, even over large distances and height differences, as well as for pressure-sensitive applications. Use of the latest thermodynamic technologies means that the cooling capacity is automatically adjusted to the current power requirements.

The PRESTO W56x and W58x have a gear pump, which also allows use of bath fluids with a higher viscosity.

- Heating capacity up to 27 kW
- Cooling capacity up to 33 kW
- Temperature stability ± 0.05 ... ±0.1 °C
- Connections for alarm output and external Pt100 sensor
- RS232, SD memory card, USB, Ethernet, Modbus
- Alarm output, RS485 (accessories), Profibus (accessories)
- Analog inputs / outputs (accessories)

Overview pump pressure
W56, W56x and W58x



PRESTO™ W56

Order No.	**9 421 562**		
Working temperature range °C	-56 … +250		
Temperature stability °C	±0.05 … ±0.1		
Cooling capacity kW	**+200 °C** 19	**+20 °C** 25.8	**0 °C** 23.1
	-20 °C 11.5	**-30 °C** 7.1	**-40°C** 3.5
Heating capacity kW	27		
Pump capacity Flow rate / Pressure	l/min	80	
	bar	0.1 … 3.0	
Process volume min. liters	11		
Cooling type	single stage, water cooled		
Dimensions cm	W × L × H 60 × 94 × 164		

PRESTO™ W56x

Order No.	**9 421 563**		
Working temperature range °C	-50 ... +250		
Temperature stability °C	±0.05 … ±0.1		
Cooling capacity kW	**+200 °C** 19	**+20 °C** 25.8	**0 °C** 23.1
	-20 °C 11.5	**-30 °C** 7.1	**-40°C** 3.5
Heating capacity kW	27		
Pump capacity Flow rate / Pressure	l/min	70	
	bar	0.1 … 5.5	
Process volume min. liters	11		
Cooling type	single stage, water cooled		
Dimensions cm	W × L × H 60 × 94 × 164		

PRESTO™ W58x

Order No.	**9 421 583.S1**		
Working temperature range °C	-50 ... +250		
Temperature stability °C	±0.05 … ±0.1		
Cooling capacity kW	**+200 °C** 24	**+20 °C** 33	**0 °C** 32
	-20 °C 19	**-30 °C** 12	**-40°C** 7
Heating capacity kW	27		
Pump capacity Flow rate / Pressure	l/min	70	
	bar	0.1 … 5.5	
Process volume min. liters	13		
Cooling type	single stage, water cooled		
Dimensions cm	W × L × H 70 × 108 × 174		

PRESTO A70, A80/A80t and W80/W80t
Low temperatures – no problem

For working temperatures from -80 °C to +250 °C

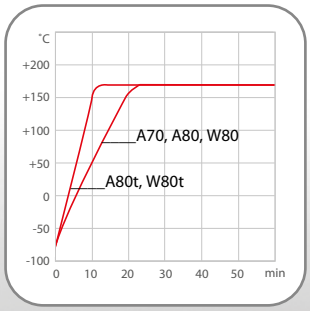
The 2-stage cooling systems provide lower temperatures with all of the other PRESTO advantages.

- Heating capacity up to 3.4 kW
- Cooling capacity up to 1.2 kW
- Temperature stability ±0.01 °C ... ±0.05 °C
- Built-in 5.7" industrial color touchscreen
- Ports for USB, Ethernet, RS232, Modbus
- Alarm output
- External Pt100 sensor connection
- Analog connections, RS485, Profibus DP (accessory)
- Second external Pt100 sensor connection (accessory)

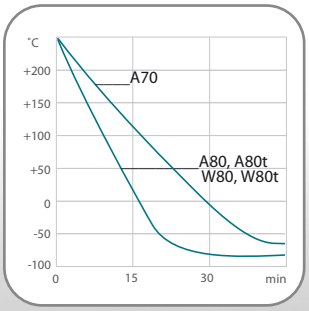
PRESTO™ A70

Order No.	**9 420 701.N1**		
Working temperature range °C	-75 ... +250		
Temperature stability °C	±0.01 … ±0.05		
Cooling capacity kW	**+200 °C** 1.3	**+20 °C** 1	**0 °C** 0.91
	-40 °C 0.75	**-60 °C** 0.38	**-70 °C** 0.12
Heating capacity kW	1.8		
Pump capacity Flow rate / Pressure	l/min	40	
	bar	0.1 … 1.7	
Process volume min. liters	3.9		
Cooling type	2-stage, air cooled		
Dimensions cm	W × L × H 57 × 74.5 × 88		

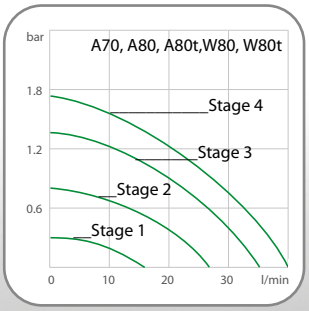
Heat-up time
Bath fluid: Thermal HL



Cool-down time
Bath fluid: Thermal HL



Pump capacity



All data refers to the nominal voltage of 230 V, nominal frequency of 50 Hz (respectively 400 V, 3Ph., 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.
Cooling capacity measured with Thermal HL (+200 °C) or Ethanol (except +200 °C)

PRESTO™ A80

Order No.	9 420 801
Working temperature range °C	-80 … +250
Temperature stability °C	±0.01 … ±0.05
Cooling capacity kW	**+200 °C** 1.2 / **+20 °C** 1.2 / **0 °C** 1.2 **-40 °C** 1.1 / **-60 °C** 0.65 / **-80 °C** 0.1
Heating capacity kW	1.8
Pump capacity Flow rate / Pressure	l/min 40 bar 0.1 … 1.7
Process volume min. liters	3.9
Cooling type	2-stage, air cooled
Dimensions cm	W × L × H 43 × 65 × 126

PRESTO™ W80

Order No.	9 421 801
Working temperature range °C	-80 … +250
Temperature stability °C	±0.01 … ±0.05
Cooling capacity kW	**+200 °C** 1.2 / **+20 °C** 1.2 / **0 °C** 1.2 **-40 °C** 1.1 / **-60 °C** 0.65 / **-80 °C** 0.1
Heating capacity kW	1.8
Pump capacity Flow rate / Pressure	l/min 40 bar 0.1 … 1.7
Process volume min. liters	3.9
Cooling type	2-stage, water cooled
Dimensions cm	W × L × H 43 × 65 × 126

PRESTO™ A80t

Order No.	9 420 801.T
Working temperature range °C	-80 … +250
Temperature stability °C	±0.01 … ±0.05
Cooling capacity kW	**+200 °C** 1.2 / **+20 °C** 1.2 / **0 °C** 1.2 **-40 °C** 1.1 / **-60 °C** 0.65 / **-80 °C** 0.1
Heating capacity kW	3.4
Pump capacity Flow rate / Pressure	l/min 40 bar 0.1 … 1.7
Process volume min. liters	3.9
Cooling type	2-stage, air cooled
Dimensions cm	W × L × H 43 × 65 × 126

PRESTO™ W80t

Order No.	9 421 801.T
Working temperature range °C	-80 … +250
Temperature stability °C	±0.01 … ±0.05
Cooling capacity kW	**+200 °C** 1.2 / **+20 °C** 1.2 / **0 °C** 1.2 **-40 °C** 1.1 / **-60 °C** 0.65 / **-80 °C** 0.1
Heating capacity kW	3.4
Pump capacity Flow rate / Pressure	l/min 40 bar 0.1 … 1.7
Process volume min. liters	3.9
Cooling type	2-stage, water cooled
Dimensions cm	W × L × H 43 × 65 × 126

PRESTO A85 / A85t and W85 / W85t Power packages

For working temperatures from -85 °C to +250 °C

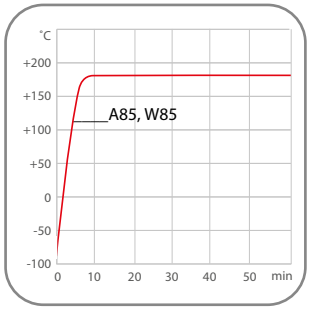
High cooling capacities enable extremely low temperatures down to -85 °C possible. The high heating capacity, particularly with the A85t and the W85t, provides even more flexibility in the application.

- Heating capacity up to 15 kW
- Cooling capacity up to 2.8 kW
- Temperature stability ±0.05 °C ... ±0.1 °C
- Built-in 5.7" industrial color touchscreen
- Ports for USB, Ethernet, RS232, Modbus
- Alarm output
- External Pt100 sensor connection
- Analog connections, RS485, Profibus DP (accessory)
- Second external Pt100 sensor connection (accessory)

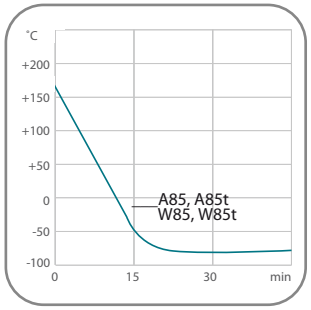
PRESTO™ A85

Order No.	**9 420 852**		
Working temperature range °C	-85 … +250		
Temperature stability °C	±0.05 … ±0.1		
Cooling capacity kW	**+200 °C** 2.8	**+20 °C** 2.5	**0 °C** 2.4
	-40 °C 2.4	**-60 °C** 2.2	**-80 °C** 0.4
Heating capacity kW	6		
Pump capacity Flow rate / Pressure	l/min	80	
	bar	0.1 … 3.0	
Process volume min. liters	9.5		
Cooling type	2-stage, air cooled		
Dimensions cm	W × L × H 61 × 108 × 125		

Heat-up time
Bath fluid: Thermal HL



Cool-down time
Bath fluid: Thermal HL



BEST PERFORMANCE

PRESTO provides the best values in heating and cooling performance and enables rapid compensation of temperature changes in the application. Powerful magnetically coupled pumps (with no seals and leak free) keep the lab clean and achieve high flow rates without damaging the application connected.

PRESTO is suitable for a wide range of applications such as double-jacketed reactors, autoclaves, combinatorial chemistry, reaction blocks and much more. The W91 and W92 systems are especially well suited for use in pilot plants, material and component testing as well as for environmental testing and simulations.

All data refers to the nominal voltage of 400 V, 3Ph., 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.
Cooling capacity measured with Thermal HL (+200 °C) or Ethanol (except +200 °C)

PRESTO™ A85t

Order No.	9 420 852.T
Working temperature range °C	-85 … +250
Temperature stability °C	±0.05 … ±0.1
Cooling capacity kW	**+200 °C** 2.8 **+20 °C** 2.5 **0 °C** 2.4 **-40 °C** 2.4 **-60 °C** 2.2 **-80 °C** 0.4
Heating capacity kW	15
Pump capacity Flow rate / Pressure	l/min 80 bar 0.1 … 3.0
Process volume min. liters	9.5
Cooling type	2-stage, air cooled
Dimensions cm	W × L × H 61 × 108 × 125

PRESTO™ W85

Order No.	9 421 852
Working temperature range °C	-85 … +250
Temperature stability °C	±0.05 … ±0.1
Cooling capacity kW	**+200 °C** 2.8 **+20 °C** 2.5 **0 °C** 2.4 **-40 °C** 2.4 **-60 °C** 2.2 **-80 °C** 0.4
Heating capacity kW	6
Pump capacity Flow rate / Pressure	l/min 80 bar 0.1 … 3.0
Process volume min. liters	9.5
Cooling type	2-stage, water cooled
Dimensions cm	W × L × H 61 × 84.5 × 125

PRESTO™ W85t

Order No.	9 421 852.T
Working temperature range °C	-85 … +250
Temperature stability °C	±0.05 … ±0.1
Cooling capacity kW	**+200 °C** 2.8 **+20 °C** 2.5 **0 °C** 2.4 **-40 °C** 2.4 **-60 °C** 2.2 **-80 °C** 0.4
Heating capacity kW	15
Pump capacity Flow rate / Pressure	l/min 80 bar 0.1 … 3.0
Process volume min. liters	9.5
Cooling type	2-stage, water cooled
Dimensions cm	W × L × H 61 × 84.5 × 125

Booster Pump

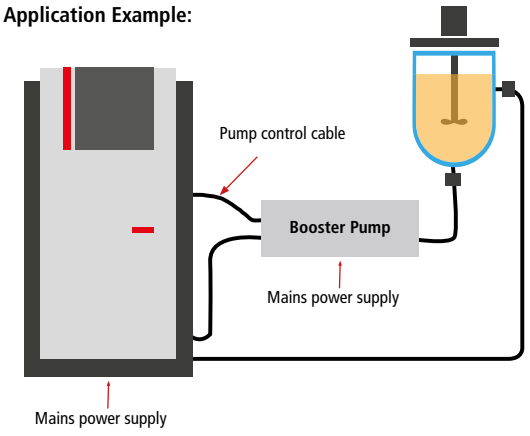
The JULABO magnetically coupled Booster Pump is the ideal solution to increase the pressure or flow rate in your application. The Booster Pump is specifically designed to be easily connected between PRESTO units and your application.

The Mag Drive Booster Pump can increase your fluid pressure up to 2.1 bar. The stainless steel design of the pump provides excellent chemical resistivity. The magnetically coupled design guarantees 100 % leakage free operation over an extraordinary temperature range of -90 °C … +250 °C.

BOOST the PRESSURE

use the JULABO Booster Pump to increase pump pressure

Application Example:



PRESTO W91

For working temperatures from -91 °C to +250 °C

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

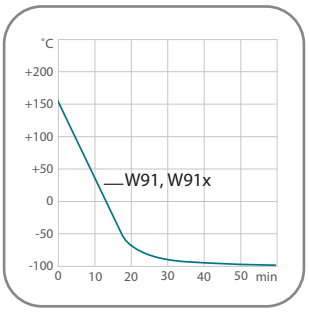
The W91x and W91ttx models have a gear pump, which also allows use of bath fluids with a higher viscosity.

- Heating capacity up to 36 kW
- Cooling capacity up to 11 kW
- Temperature stability ±0.05 °C ... ±0.2 °C
- Built-in 5.7" industrial color touchscreen
- Ports for USB, Ethernet, RS232, Modbus
- Alarm output
- External Pt100 sensor connection
- Analog connections, RS485, Profibus DP (accessory)
- Second external Pt100 sensor connection (accessory)

BEST PUMP PERFORMANCE

All PRESTO units are equipped with powerful, magnetically coupled pumps (without seals and leak free). The W91 and W92 models can also be equipped with a gear pump. The instruments with gear pumps are indicated with an 'x'. The gear pumps provide a higher fluid pressure and a more constant flow rate than the centrifugal pumps, especially when high viscosity fluids are used.

Cool-down time
Bath fluid: Thermal HL



PRESTO™ W91				
Order No.	**9 421 912**			
Working temperature range °C	-91 … +250			
Temperature stability °C	±0.05 … ±0.2			
Cooling capacity kW	**+200 °C** 11	**+20 °C** 11	**0 °C** 11	
	-40 °C 10.5	**-60 °C** 8	**-80 °C** 2	
Heating capacity kW	18			
Pump capacity Flow rate / Pressure	l/min	80		
	bar	0.1 … 3.0		
Process volume min. liters	28			
Cooling type	2-stage, water cooled			
Dimensions cm	W × L × H 95 × 127 × 190			

PRESTO™ W91tt				
Order No.	**9 421 912.TT**			
Working temperature range °C	-91 … +250			
Temperature stability °C	±0.05 … ±0.2			
Cooling capacity kW	**+200 °C** 11	**+20 °C** 11	**0 °C** 11	
	-40 °C 10.5	**-60 °C** 8	**-80 °C** 2	
Heating capacity kW	36			
Pump capacity Flow rate / Pressure	l/min	80		
	bar	0.1 … 3.0		
Process volume min. liters	28			
Cooling type	2-stage, water cooled			
Dimensions cm	W × L × H 95 × 127 × 190			

All data refers to the nominal voltage of 400 V, 3 Ph., 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. Cooling capacity measured with Thermal HL (+200 °C) or Ethanol (except +200 °C)

Top performance for demanding temperature applications

TIP

JULABO PRESTO is synonymous with best performance in highly dynamic temperature control systems. In temperature ranges from -93 °C to +250 °C, PRESTO provides highest heating and cooling capacity paired with powerful and maintenance-free pumps. The PRESTO portfolio features a wide range of units for various applications.

PRESTO systems are ideal for reactor temperature control.

Various reactors can be connected to the PRESTO system using the available tubing. Such as the PRESTO A80. With a heating capacity of 1.8 kW, the PRESTO A80 can heat up a reactor with the thermal bath fluid in it from 0 °C to +50 °C in 1 hour and 30 minutes without overheating*.

* tested with the JULABO Thermal HL80 and 20 l reactor filled with 18 l JULABO Thermal HL40

More case studies can be found at https://case-studies.julabo.com

PRESTO™ W91×

Order No.	**9 421 913**		
Working temperature range °C	-91 … +250		
Temperature stability °C	±0.05 … ±0.2		
Cooling capacity kW	**+200 °C** 11	**+20 °C** 11	**0 °C** 11
	-40 °C 10.5	**-60 °C** 8	**-80 °C** 2
Heating capacity kW	18		
Pump capacity Flow rate / Pressure	l/min	70	
	bar	0.1 … 5.5	
Process volume min. liters	28		
Cooling type	2-stage, water cooled		
Dimensions cm	W × L × H 95 × 127 × 190		

PRESTO™ W91tt×

Order No.	**9 421 913.TT**		
Working temperature range °C	-91 … +250		
Temperature stability °C	±0.05 … ±0.2		
Cooling capacity kW	**+200 °C** 11	**+20 °C** 11	**0 °C** 11
	-40 °C 10.5	**-60 °C** 8	**-80 °C** 2
Heating capacity kW	36		
Pump capacity Flow rate / Pressure	l/min	70	
	bar	0.1 … 5.5	
Process volume min. liters	28		
Cooling type	2-stage, water cooled		
Dimensions cm	W × L × H 95 × 127 × 190		

PRESTO W92

For working temperatures from -92 °C to +250 °C

The W92 class process systems are extremely powerful and can also simulate extreme environmental conditions. They are used, for example, in the temperature control of vacuum chambers for component testing in the aerospace industry.

The W92x and W92ttx models have a gear pump, which also allows use of bath fluids with a higher viscosity.

- Heating capacity up to 36 kW
- Cooling capacity up to 31 kW
- Temperature stability ± 0.05 °C ... ±0.2 °C
- Built-in 5.7" industrial color touchscreen
- Ports for USB, Ethernet, RS232, Modbus
- Alarm output
- External Pt100 sensor connection
- Analog connections, RS485, Profibus DP (accessory)
- Second external Pt100 sensor connection (accessory)

PRESTO™ W92

Order No.	9 421 922		
Working temperature range °C	-92 … +250		
Temperature stability °C	±0.05 … ±0.2		
Cooling capacity kW	**+200 °C** 31	**+20 °C** 27	**0 °C** 20
	-40 °C 10.5	**-60 °C** 8	**-80 °C** 2
Heating capacity kW	18		
Pump capacity Flow rate / Pressure	l/min	80	
	bar	0.1 … 3.0	
Process volume min. liters	28		
Cooling type	2-stage, water cooled		
Dimensions cm	W × L × H 95 × 127 × 190		

PRESTO™ W92tt

Order No.	9 421 922.TT		
Working temperature range °C	-92 … +250		
Temperature stability °C	±0.05 … ±0.2		
Cooling capacity kW	**+200 °C** 31	**+20 °C** 27	**0 °C** 20
	-40 °C 10.5	**-60 °C** 8	**-80 °C** 2
Heating capacity kW	36		
Pump capacity Flow rate / Pressure	l/min	80	
	bar	0.1 … 3.0	
Process volume min. liters	28		
Cooling type	2-stage, water cooled		
Dimensions cm	W × L × H 95 × 127 × 190		

PRESTO™ W92×

Order No.	9 421 923		
Working temperature range °C	-92 … +250		
Temperature stability °C	±0.05 … ±0.2		
Cooling capacity kW	**+200 °C** 31	**+20 °C** 27	**0 °C** 20
	-40 °C 10.5	**-60 °C** 8	**-80 °C** 2
Heating capacity kW	18		
Pump capacity Flow rate / Pressure	l/min	70	
	bar	0.1 … 5.5	
Process volume min. liters	28		
Cooling type	2-stage, water cooled		
Dimensions cm	W × L × H 95 × 127 × 190		

PRESTO™ W92tt×

Order No.	9 421 923.TT		
Working temperature range °C	-92 … +250		
Temperature stability °C	±0.05 … ±0.2		
Cooling capacity kW	**+200 °C** 31	**+20 °C** 27	**0 °C** 20
	-40 °C 10.5	**-60 °C** 8	**-80 °C** 2
Heating capacity kW	36		
Pump capacity Flow rate / Pressure	l/min	70	
	bar	0.1 … 5.5	
Process volume min. liters	28		
Cooling type	2-stage, water cooled		
Dimensions cm	W × L × H 95 × 127 × 190		

PRESTO W93/W93x
Full cooling capacity in the low temperature range

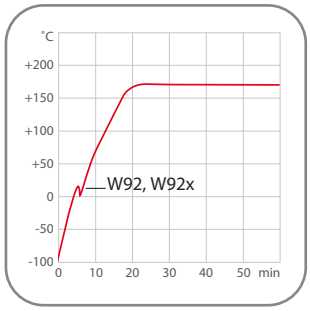
for working temperatures from -93 °C...+250 °C

W93 process systems offer users high cooling capacity even in the lowest temperature ranges for dynamic applications. They work with natural refrigerants and are also very energy efficient thanks to state-of-the-art technologies.

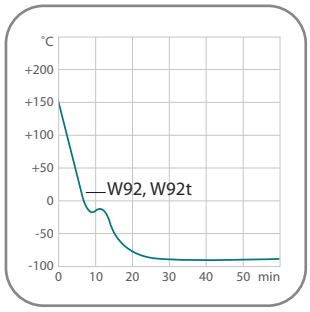
The W93x has a gear pump, which also allows use of bath fluids with a higher viscosity.

- Heating capacity of 27 kW
- Cooling capacity up to 19.5 kW
- Temperature stability ±0.05...±0.2 °C
- Built-in 5.7" industrial color touchscreen
- Ports for USB, Ethernet, RS232, Modbus
- Alarm output
- External Pt100 sensor connection
- Analog connections, RS485, profibus DP (accessory)
- Second external Pt100 sensor connection (accessory)

Heat-up time
Bath fluid: Thermal HL



Cool-down time
Bath fluid: Thermal HL



PRESTO™ W93

Order No.	**9 421 932.N1**		
Working temperature range °C	-93 ... +250		
Temperature stability °C	±0.05 … ±0.2		
Cooling capacity kW		**+20 °C** 19.5	**0 °C** 19.5
	-40 °C 19.5	**-60 °C** 13	**-80 °C** 3.5
Heating capacity kW	27		
Pump capacity Flow rate / Pressure	l/min	80	
	bar	0.1 ... 3.0	
Process volume min. liters	14		
Cooling type	2-stage, water cooled		
Dimensions cm	W × L × H 93 × 148 × 192		

PRESTO™ W93x

Order No.	**9 421 933.N1**		
Working temperature range °C	-93 ... +250		
Temperature stability °C	±0.05 … ±0.2		
Cooling capacity kW		**+20 °C** 19.5	**0 °C** 19.5
	-40 °C 19.5	**-60 °C** 13	**-80 °C** 3.5
Heating capacity kW	27		
Pump capacity Flow rate / Pressure	l/min	70	
	bar	0.1 ... 5.5	
Process volume min. liters	14		
Cooling type	2-stage, water cooled		
Dimensions cm	W × L × H 93 × 148 × 192		

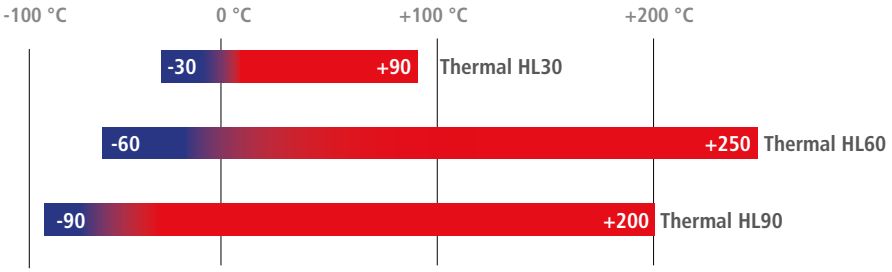
All data refers to the nominal voltage of 400 V, 3 Ph., 50 Hz and ambient temperature of +20 °C. Cooling capacity measured at max. pump stage. All pump data refers to a bath fluid with a specific density of 1 kg/dm³. Cooling capacity measured with Thermal HL (+200 °C) or Ethanol (except +200 °C)

JULABO Thermal bath fluids for the PRESTO

Advantages

- Broad temperature ranges
- Low viscosity
- High stability
- Good thermal conductivity
- Almost odorless
- Long life

Working temperature range



Makes day-to-day work in labs easier
JULABO Thermal bath fluids
with practical drain port included.

Thermal HL30

Order No. 5 liters	**8 940 139**
Order No. 10 liters	**8 940 138**
Suitable for	A30, A38, A40, W40, A41, W41, A45, A45t, W50, W50t, W55, W56, W56x, W58x
Working temperature range °C	-30 … +90
Flash point °C	-
Fire point °C	-
Viscosity, (kinematic at +20 °C) mm^2/s	4.07
Density (at +20 °C) g/cm^3	1.08
Pour point °C	-70
Boiling point °C	+108
Ignition temperature °C	+430
Color	light yellow

Thermal HL60

Order No. 5 liters	**8 940 141**
Order No. 10 liters	**8 940 140**
Suitable for	PRESTO
Working temperature range °C	-60 … +250
Flash point °C	>+120
Fire point °C	+142
Viscosity, (kinematic at +20 °C) mm^2/s	5.66
Density (at +20 °C) g/cm^3	0.92
Pour point °C	-100
Boiling point °C	+288
Ignition temperature °C	+350
Color	clear

Thermal HL90

Order No. 5 liters	**8 940 143**
Order No. 10 liters	**8 940 142**
Suitable for	PRESTO
Working temperature range °C	-90 … +200
Flash point °C	>+80
Fire point °C	+126
Viscosity, (kinematic at +20 °C) mm^2/s	2.16
Density (at +20 °C) g/cm^3	0.91
Pour point °C	-120
Boiling point °C	+220
Ignition temperature °C	+300
Color	clear

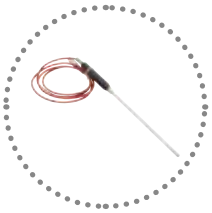
JULABO Thermal bath fluids based on silicone …
… are chemically inert substances which do not affect metals like iron, copper, zinc, aluminum, chrome or nickel. Compared to other fluids, JULABO Thermal fluids have an extraordinarily low electrical conductivity. When properly stored, the fluids will last for 12 months and longer as they are not susceptible to climatic influences.

JULABO Thermal bath fluids based on water-glycol …
… (monoethylenglycol with anti-corrosion additives) have excellent thermal characteristics and a low viscosity. In addition, they provide anti-freeze protection, i.e. they can be applied at temperatures below the freezing point of water.

More information about JULABO Thermal bath fluids …
… in our brochure 'Thermal Bath Fluids' at www.julabo.com.

COST EFFICIENT: LESS THERMAL BATH FLUID

PRESTO instruments need less thermal bath fluid. Compared to conventional bath circulators, PRESTO uses less active heat exchanger volume. The hot or cold fluid does not come in contact with the surrounding air so a larger temperature range can be covered with only one thermal bath fluid.



External Pt100 sensors / Extension Cable

Order No.	Description	Suitable for
8 981 003	200 × 6 mm dia., stainless steel, 1.5 m cable	PRESTO
8 981 006	20 × 2 mm dia., stainless steel, 1.5 m cable	PRESTO
8 981 010	300 × 6 mm dia., stainless steel, 1.5 m cable	PRESTO
8 981 017	200 × 6 mm dia., stainless steel/PTFE coated, 3.0 m cable	PRESTO
8 981 015	300 × 6 mm dia., stainless steel/PTFE coated, 3.0 m cable	PRESTO
8 981 013	600 × 6 mm dia., stainless steel/PTFE coated, 3.0 m cable	PRESTO
8 981 016	900 × 6 mm dia., stainless steel/PTFE coated, 3.0 m cable	PRESTO
8 981 014	1200 × 6 mm dia., stainless steel/PTFE coated, 3.0 m cable	PRESTO
8 981 021	M+R in-line Pt100 sensor, 2 fittings M24 × 1.5 male, 1.5 m cable	PRESTO
8 981 022	M+R in-line Pt100 sensor, 2 fittings M30 × 1.5 male, 1.5 m cable	PRESTO
8 981 023	M+R in-line Pt100 sensor, 2 fittings M38 × 1.5 male, 1.5 m cable	PRESTO
8 981 103	Extension cable 3.5 m for Pt100 sensor	PRESTO
8 900 106	Module with Pt100 connection socket for second external Pt100 sensor	PRESTO (except A30)

Metal tubing flexible, triple insulated, -100 °C to +350 °C

Order No.	Description	Suitable for
8 930 261	1.0 m Metal tubing, 2 fittings M24 × 1.5 female	PRESTO
8 930 262	1.5 m Metal tubing, 2 fittings M24 × 1.5 female	PRESTO
8 930 263	2.0 m Metal tubing, 2 fittings M24 × 1.5 female	PRESTO
8 930 264	3.0 m Metal tubing, 2 fittings M24 × 1.5 female	PRESTO
8 930 271	1.0 m Metal tubing, 2 fittings M30 × 1.5 female	PRESTO
8 930 272	1.5 m Metal tubing, 2 fittings M30 × 1.5 female	PRESTO
8 930 273	2.0 m Metal tubing, 2 fittings M30 × 1.5 female	PRESTO
8 930 274	3.0 m Metal tubing, 2 fittings M30 × 1.5 female	PRESTO
8 930 275	5.0 m Metal tubing, 2 fittings M30 × 1.5 female	PRESTO
8 930 282	1.5 m Metal tubing, 2 fittings M38 × 1.5 female	PRESTO
8 930 283	2.0 m Metal tubing, 2 fittings M38 × 1.5 female	PRESTO
8 930 284	3.0 m Metal tubing, 2 fittings M38 × 1.5 female	PRESTO
8 930 285	5.0 m Metal tubing, 2 fittings M38 × 1.5 female	PRESTO

PTFE tubing -60 °C to +180 °C

Order No.	Description	Suitable for
8 930 140	1 m PTFE Tubing, 8 mm inner dia.	PRESTO
8 930 142	1 m PTFE Tubing, 12 mm inner dia.	PRESTO

Adapters / Valves / Connectors etc.

Order No.	Description	Suitable for
8 890 110	Adapter M24 × 1.5 male to M24 × 1.5 male	PRESTO
8 890 111	Adapter M30 × 1.5 male to M30 × 1.5 male	PRESTO
8 890 112	Adapter M38 × 1.5 male to M38 × 1.5 male	PRESTO
8 890 120	2 Elbow fittings 90°, M24 × 1.5 female/male	PRESTO
8 890 121	2 Elbow fittings 90°, M30 × 1.5 female/male	PRESTO
8 890 122	2 Elbow fittings 90°, M38 × 1.5 female/male	PRESTO
8 890 034	2 Adapters M30 × 1.5 female to M16 × 1 male, stainless steel	PRESTO
8 890 035	2 Adapters M30 × 1.5 male to M16 × 1 male, stainless steel	PRESTO
8 890 052	2 Adapters M24 × 1.5 female to M16 × 1 male	PRESTO
8 890 053	2 Adapters M24 × 1.5 female to NPT 1/4" female	PRESTO
8 890 054	2 Adapters M24 × 1.5 female to NPT 3/8" female	PRESTO
8 890 055	2 Adapters M24 × 1.5 female to NPT 1/2" female	PRESTO
8 890 056	2 Adapters M24 × 1.5 female to NPT 3/4" female	PRESTO
8 890 057	2 Adapters M24 × 1.5 female to NPT 1" female	PRESTO
8 890 058	2 Adapters M24 × 1.5 female to NPT 1/4" male	PRESTO
8 890 059	2 Adapters M24 × 1.5 female to NPT 3/8" male	PRESTO
8 890 060	2 Adapters M24 × 1.5 female to NPT 1/2" male	PRESTO
8 890 061	2 Adapters M24 × 1.5 female to NPT 3/4" male	PRESTO
8 890 062	2 Adapters M24 × 1.5 female to NPT 1" male	PRESTO
8 890 063	2 Adapters M24 × 1.5 female to tube 1/4"	PRESTO
8 890 064	2 Adapters M24 × 1.5 female to tube 3/8"	PRESTO
8 890 065	2 Adapters M24 × 1.5 female to tube 1/2"	PRESTO
8 890 066	2 Adapters M24 × 1.5 female to tube 1"	PRESTO
8 890 067	2 Adapters M24 × 1.5 female/M24 × 1.5 female	PRESTO
8 890 068	2 Adapters M24 × 1.5 female/M30 × 1.5 male	PRESTO
8 890 069	2 Adapters M24 × 1.5 male/M30 × 1.5 female	PRESTO
8 890 070	2 Adapters M24 × 1.5 female/M30 × 1.5 female	PRESTO
8 890 071	2 Adapters M24 × 1.5 male/M16 × 1 female	PRESTO
8 890 072	2 Adapters M24 × 1.5 male to barbed fitting 12 mm	PRESTO
8 890 080	2 Adapters M30 × 1.5 female/M38 × 1.5 male	PRESTO
8 890 081	2 Adapters M30 × 1.5 male/M38 × 1.5 female	PRESTO
8 890 082	2 Adapters M30 × 1.5 female/M38 × 1.5 female	PRESTO
8 890 083	2 Adapters M30 × 1.5 female to NPT 3/4" male	PRESTO
8 890 084	2 Adapters M30 × 1.5 female to NPT 3/4" female	PRESTO
8 890 085	2 Adapters M30 × 1.5 female to NPT 1" male	PRESTO
8 890 086	2 Adapters M30 × 1.5 female to NPT 1" female	PRESTO

Adapters / Valves / Connectors etc.

Order No.	Description	Suitable for
8 890 087	2 Adapters M30 × 1.5 female to tube 1"	PRESTO
8 890 088	2 Adapters M30 × 1.5 female/M30 × 1.5 female	PRESTO
8 890 089	2 Adapters M38 × 1.5 female/M38 × 1.5 female	PRESTO
8 890 100	2 Adapters M38 × 1.5 female to NPT 1" male	PRESTO
8 890 101	2 Adapters M38 × 1.5 female to NPT 1" female	PRESTO
8 890 102	2 Adapters M38 × 1.5 female to NPT 1 1/4" male	PRESTO
8 890 103	2 Adapters M38 × 1.5 female to NPT 1 1/4" female	PRESTO
8 890 104	2 Adapters M38 × 1.5 female to tube 1"	PRESTO
8 890 130	Twin distributing adapter M24 × 1.5, isolated, 1 × M24 × 1.5 female to 2 × M24 × 1.5 male	PRESTO
8 890 131	Quad distributing adapter M24 × 1.5, isolated, 1 × M24 × 1.5 female to 4 × M24 × 1.5 male	PRESTO
8 890 132	Twin distributing adapter M30 × 1.5, isolated, 1 × M30 × 1.5 female to 2 × M30 × 1.5 male	PRESTO
8 890 133	Quad distributing adapter M30 × 1.5, isolated, 1 × M30 × 1.5 female to 4 × M30 × 1.5 male	PRESTO
8 890 134	Twin distributing adapter M38 × 1.5, isolated, 1 × M38 × 1.5 female to 2 × M38 × 1.5 male	PRESTO
8 890 135	Quad distributing adapter M38 × 1.5, isolated, 1 × M38 × 1.5 female to 4 × M38 × 1.5 male	PRESTO
8 890 140	Twin distributing adapter M24 × 1.5, 1 × M24 × 1.5 female to 2 × M24 × 1.5 male	PRESTO
8 890 141	Quad distributing adapter M24 × 1.5, 1 × M24 × 1.5 female to 4 × M24 × 1.5 male	PRESTO
8 890 142	Twin distributing adapter M30 × 1.5, 1 × M30 × 1.5 female to 2 × M30 × 1.5 male	PRESTO
8 890 143	Quad distributing adapter M30 × 1.5, 1 × M30 × 1.5 female to 4 × M30 × 1.5 male	PRESTO
8 890 144	Twin distributing adapter M38 × 1.5, 1 × M38 × 1.5 female to 2 × M38 × 1.5 male	PRESTO
8 890 145	Quad distributing adapter M38 × 1.5, 1 × M38 × 1.5 female to 4 × M38 × 1.5 male	PRESTO
8 970 495	2 Collar nuts M24 × 1.5	PRESTO
8 970 496	2 Collar nuts M30 × 1.5	PRESTO
8 970 497	2 Collar nuts M38 × 1.5	PRESTO
8 970 850	Shut-off valve M16 × 1 female/male, -60 °C ... +200 °C	PRESTO
8 970 851	Shut-off valve M24 × 1.5 female/male, -60 °C ... +200 °C	PRESTO
8 970 852	Shut-off valve M30 × 1.5 female/male, -60 °C ... +200 °C	PRESTO
8 970 853	Shut-off valve M38 × 1.5 female/male, -60 °C ... +200 °C	PRESTO

Self-sealing coupling

Order No.	Description	Suitable for
8 980 710	Self-sealing coupling (-20 °C … +200°C) Connection M16×1 male Connection temperature: +20 °C Laser engraving with temperature range Materials: Stainless steel Seal: FKM	PRESTO
8 980 711	Self-sealing adapter (-20 °C … +200°C), Connection M16×1 male Connection temperature: +20 °C Laser engraving with temperature range Materials: Stainless steel Seal: FKM	PRESTO
8 980 712	Self-sealing coupling (-20 °C … +200°C), Connection M24×1.5 male Connection temperature: +20 °C Laser engraving with temperature range Materials: Stainless steel Seal: FKM	PRESTO
8 980 713	Self-sealing adapter (-20 °C … +200°C), Connection M24×1.5 male Connection temperature: +20 °C Laser engraving with temperature range Materials: Stainless steel Seal: FKM	PRESTO

Order No.	Description	Suitable for
8 980 714	Self-sealing coupling (-45 °C … +220°C), Connection M16×1 male Connection temperature: +20 °C, Laser engraving with temperature range Materials: Stainless steel 1.4404/1.4571 or equivalent Seal: FFKM	PRESTO
8 980 715	Self-sealing adapter (-45 °C … +220°C), Connection M16×1 male Connection temperature: +20 °C Materials: Stainless steel 1.4404/1.4571 or equivalent Seal: FFKM	PRESTO
8 980 716	Self-sealing coupling (-45 °C … +220°C), Connection M24×1.5 male Connection temperature: +20 °C, Laser engraving with temperature range Materials: Stainless steel 1.4404/1.4571 or equivalent Seal: FFKM	PRESTO
8 980 717	Self-sealing adapter (-45 °C … +220°C), Connection M24×1.5 male Connection temperature: +20 °C, Laser engraving with temperature range Materials: Stainless steel 1.4404/1.4571 or equivalent Seal: FFKM	PRESTO
8 980 720	Self-sealing coupling (-45 °C … +220°C), Connection male Connection temperature: +20 °C, Laser engraving with temperature range Materials: Stainless steel 1.4404/1.4571 or equivalent Seal: FFKM Double-sided shut-off clean-break technology (low-loss and low-inclusion operation)	PRESTO
8 980 721	Self-sealing adapter (-45 °C … +220°C), Connection M16×1 male Connection temperature: +20 °C, Laser engraving with temperature range Materials: Stainless steel 1.4404/1.4571 or equivalent Seal: FFKM Double-sided shut-off cle-an-break technology (low-loss and low-inclusion operation)	PRESTO
8 980 722	Self-sealing coupling (-45 °C … +220°C), M24×1.5 außen Kuppeltemperatur: +20 °C, Lasergravur mit Temperaturbereich Werkstoff: Edelstahl 1.4404/1.4571 oder gleichwertig Dichtung: FFKM Beidseitig absperrende Clean-Break-Technologie (verlust- und einschlussarme Betätigung)	PRESTO
8 980 723	Self-sealing adapter (-45 °C … +220°C), Connection M24×1.5 male Connection temperature: +20 °C, Laser engraving with temperature range Materials: Stainless steel 1.4404/1.4571 or equivalent Seal: FFKM Double-sided shut-off clean-break technology (low-loss and low-inclusion operation)	PRESTO
8 980 724	Self-sealing coupling (-45 °C … +220°C), Connection M30×1.5 male Connection temperature: +20 °C, Laser engraving with temperature range Materials: Stainless steel 1.4404/1.4571 or equivalent Seal: FFKM Double-sided shut-off clean-break technology (low-loss and low-inclusion operation)	PRESTO
8 980 725	Self-sealing adapter (-45 °C … +220°C), Connection M30×1.5 male Connection temperature: +20 °C, Laser engraving with temperature range Materials: Stainless steel 1.4404/1.4571 or equivalent Seal: FFKM Double-sided shut-off clean-break technology (low-loss and low-inclusion operation)	PRESTO

External expansion vessels

Order No.	Description	Suitable for
8 970 832	External expansion vessel, 3 liters	A30, A40, W40, W41
8 970 833	External expansion vessel, 3 liters	A45, A45t, W50, W50t, W55, A80, A80t, W80, W80t, A85, A85t, W85, W85t

Filter mats

Order No.	Description	Suitable for
8 970 920	Filter mat	A30
8 970 921	Filter mat	A40, A41
8 970 922	Filter mat	A80
8 970 923	Filter mat	A45
8 970 924	Filter mat	A85

Cooling water connection

Order No.	Description	Suitable for
8 930 312	1 m Reinforced tubing (pressure proof) ½" inner dia.	W40, W80
8 970 482	2 Tube clamps	W40, W80
8 920 000	Particle filter for cooling water circuit	W40, W41, W50, W50t, W55, W80, W80t, W85, W85t, W91, W92 and W93 models
8 930 331	1.5 m Flexible braided tubing G 3/4" (-30 … +100 °C) with 2 straight fittings with cap nut for cooling water connection	Water-cooled units
8 930 332	2 m Flexible braided tubing G 3/4" (-30 … +100 °C) with 2 straight fittings with cap nut for cooling water connection	Water-cooled units
8 930 341	1.5 m Flexible braided tubing G 3/4" (-30 … +100 °C) 1 straight fitting / 1 elbow fitting 90°, both with cap nut for cooling water connection	Water-cooled units
8 930 342	2 m Flexible braided tubing G 3/4" (-30 … +100 °C) 1 straight fitting / 1 elbow fitting 90°, both with cap nut for cooling water connection	Water-cooled units

Connection plugs

Order No.	Description	Suitable for
8 980 131	External Pt100 connector	PRESTO
8 980 133	Standby connector 3 pin	PRESTO with electronic module 8 900 105
8 980 135	Alarm connector 5 pin	PRESTO
8 980 136	REG+EPROG connector 6 pin	PRESTO with electronic module 8 900 105

Interfaces / Software & Hardware

Order No.	Description	Suitable for
8 900 105	Electronic module with analog connectors (Input, Output, Standby-In)	PRESTO
8 900 020	Profibus DP Interface	PRESTO
8 900 024	RS485 Interface	PRESTO
8 980 771	Pressure sensor, 2 fittings M24 × 1.5 male (-95 ... +250 °C)	PRESTO
8 980 772	Pressure sensor, 2 fittings M30 × 1.5 male (-95 ... +250 °C)	PRESTO
8 980 773	Pressure sensor, 2 fittings M38 × 1.5 male (-95 ... +250 °C)	PRESTO
8 970 815	Sight glass, -100…+280 °C, PN16/Class 230, 2 fittings M30 × 1.5 male	PRESTO
8 901 102	EasyTEMP Software (free of charge at www.julabo.com)	PRESTO
8 901 105	EasyTEMP Professional Software, incl. USB-Dongle	PRESTO
9 900 112	USB 2.0 Repeater extension cable, length 5 m	PRESTO
9 900 114	USB 2.0 Repeater extension cable, length 10 m	PRESTO

Calibration and manufacturer's certificates

Order No.	Description	Suitable for
8 903 035	Manufacturer's Testing Certificate for JULABO Units, Category 3	A30, A38, A40, W40,A41, W41
8 903 045	Manufacturer's Testing Certificate for JULABO Units, Category 4	A45, A45t, W50, W50t, W55, W56, W56x, W58x, A70, A80, A80t, W80, W80t, A85, A85t, W85, W85t, A85, A85t, W85, W85t, W91, W91x, W91tt, W91ttx, W92, W92x, W92tt, W92ttx, W93, W93x

IQ/OQ Documentation

Order No.	Description	Suitable for
2 310 130	IQ/OQ Documentation, Category 3	A30, A38, A40, W40, A41, W41
2 310 140	IQ/OQ Documentation, Category 4	A45, A45t, W50, W50t, W55, W56, W56x, W58x, A70, A80, A80t, W80, W80t, A85, A85t, W85, W85t, A85, A85t, W85, W85t, W91, W91x, W91tt, W91ttx, W92, W92x, W92tt, W92ttx, W93, W93x

Installation

Order No.	Description	Suitable for
2 320 103	Installation JULABO Units, Category 3	A30, A38, A40, W40, A41, W41
2 320 104	Installation JULABO Units, Category 4	A45, A45t, W50, W50t, W55, W56, W56x, W58x, A70, A80, A80t, W80, W80t, A85, A85t, W85, W85t, A85, A85t, W85, W85t, W91, W91x, W91tt, W91ttx, W92, W92x, W92tt, W92ttx, W93, W93x

Booster Pump

Order No.	Description	Suitable for
8 810 020	Booster Pump (magnetically coupled), 2.1 bar (M30 × 1.5 male)	PRESTO

flow control systems

Bestell-Nr.	Bestelltext	Einsetzbar für
S.4090.0008	Flow control solution MID DN 15	W55
S.4090.0010	Flow control solution MID DN 15	A45/A45t/W50/W50t
S.4090.0020	Flow control solution MID DN 25	A45/A45t/W50/W50t
S.4090.0022	Flow control solution MID DN 25	W55
S.4090.0023	Flow control solution MID DN 25	W56, W56x
S.4090.0025	Flow control solution MID DN 15	W56, W56x

FORTE HT

HIGH TEMPERATURES AND A HIGH

FORTE HT – for extremely high temperatures

High temperature circulators of the FORTE HT series are designed for temperature control in closed external systems. These compact units have a closed design that prevents the escape of oil vapors especially at high temperatures.

- High heating capacity for short heat-up times
- High pump capacity
- Small filling volume
- Cooling water connection for cold oil overlay
- Wide working temperature range without fluid change
- Extended lifetime of the fluid
- Easy to integrate into installations due to the modular concept (separation of circulator and operating panel)
- External Pt100 sensor connection
- Various interfaces

SAFETY LEVEL

FORTE HT with cooling unit

The FORTE HT models with C.U. Cooling units are suitable for temperature control tasks from +40 °C and above. Running tap water through the cooling unit permits rapid cool-down across the entire temperature range. As a result, exothermic reactions can be immediately compensated, especially at high temperatures.

Additional benefits of models with C.U. cooling unit:

- Controlled cooling water supply for temperature applications from +40 °C
- High cooling capacity up to 15 kW (at +20 °C cooling water and +300 °C oil temperature)
- Rapid cooling
- Rapid temperature control i.e. of exothermic reactions

FORTE HT

For working temperatures from +70 °C to +400 °C

High temperature circulators of the FORTE HT series are designed for temperature control in closed external systems. These compact units have a closed design that prevents the escape of oil vapors especially at high temperatures.

- High heating capacity for short heat-up times
- High pump capacity
- Small filling volume
- Cooling water connection for cold oil overlay
- Wide working temperature range without fluid change
- Extended lifetime of the fluid
- Easy to integrate into installations due to the modular concept (separation of circulator and operating panel)
- External Pt100 sensor connection
- Various interfaces
- Reduction of pump pressure via bypass (accessory)

Connections Control unit

① RS232 / RS485
② Analog input
③ Standby input
④ Alarm output
⑤ Connector for control cable to HT Circulator

SAFE EVEN AT HIGH TEMPERATURES

FORTE HT high temperature circulators have a closed design that prevents the escape of oil vapors even at high temperatures.

FORTE HT30-M1

Order No.	**9 800 031**	
Model	**HT30-M1**	
Working temperature range °C	+70 … +400	
Temperature stability °C	±0.01 … ±0.1	
Cooling capacity kW, max. (Water +20 °C)	-	
Heating capacity kW	3	
Pump capacity Flow Rate / Pressure	l/min	14 … 18
	bar	0.8 … 1.2
Filling volume min. liters	2	
Power requirement V/Hz	230 / 50 or 230 / 60	
Dimensions Circulator cm	W × L × H 23 x 23 x 58	
Dimensions Control unit cm	W × L × H 25 x 25 x 18	

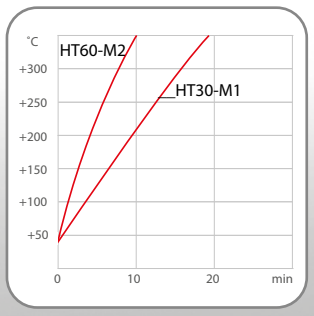
FORTE HT60-M2

Order No.	**9 800 062**	
Model	**HT60-M2**	
Working temperature range °C	+70 … +400	
Temperature stability °C	±0.01 … ±0.1	
Cooling capacity kW, max. (Water +20 °C)	-	
Heating capacity kW	7	
Pump capacity Flow Rate / Pressure	l/min	14 … 18
	bar	0.8 … 1.2
Filling volume min. liters	2	
Power requirement V/Hz	3 x 400 / 50	
Dimensions Circulator cm	W × L × H 23 x 23 x 58	
Dimensions Control unit cm	W × L × H 25 x 25 x 18	

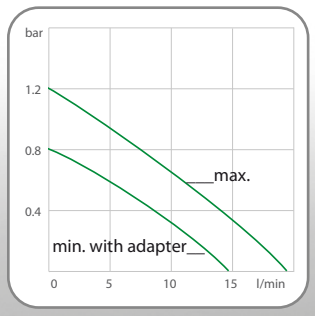
FORTE HT60-M3

Order No.	**9 800 063**	
Model	**HT60-M3**	
Working temperature range °C	+70 … +400	
Temperature stability °C	±0.01 … ±0.1	
Cooling capacity kW, max. (Water +20 °C)	-	
Heating capacity kW	6	
Pump capacity Flow Rate / Pressure	l/min	14 … 18
	bar	0.8 … 1.2
Filling volume min. liters	2	
Power requirement V/Hz	3 x 208 / 60	
Dimensions Circulator cm	W × L × H 23 x 23 x 58	
Dimensions Control unit cm	W × L × H 25 x 25 x 18	

Heat-up time
Bath fluid: Thermal H



Pump capacity
Bath fluid: Thermal H



All data refers to the nominal voltage of 230 V, nominal frequency of 50 Hz (respectively 400 V, 3Ph., 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.

FORTE HT with cooling unit

For working temperatures from +40 °C to +400 °C.

The FORTE HT models with C.U. Cooling unit are suitable for temperature control tasks at +40 °C and above. Running tap water through the cooling unit permits rapid cool-down across the entire temperature range. As a result, exothermic reactions can be immediately compensated, especially at high temperatures.

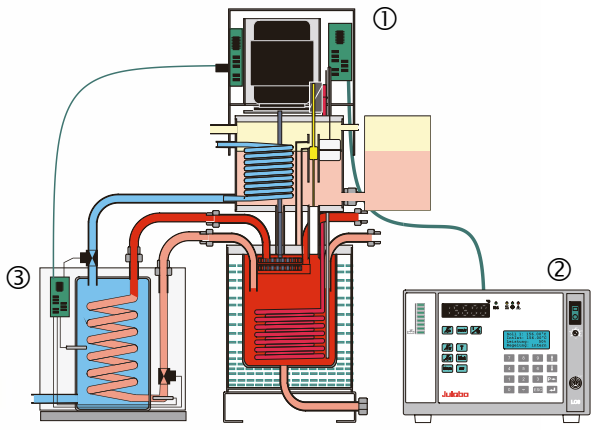
Additional benefits of models with C.U. cooling unit:

- Controlled cooling water supply for temperature applications from +40 °C
- High cooling capacity up to 15 kW
  (at +20 °C cooling water and +300 °C oil temperature)
- Rapid cooling
- Rapid temperature control i. e. of exothermic reactions

FORTE HT with cooling unit

FORTE HT high temperature circulators are designed for applications that require very high temperatures, as high as +400 °C. The closed design of FORTE HT avoids oil vapor contamination even at high temperatures. These units have automated heat-up, filling, and degassing features.

The figure shows the major components of high temperature circulators, with complete separation of circulator ①, control electronics ②, and C.U. cooling unit ③.



FORTE HT30-M1-C.U.

Order No.	**9 800 035**	
Model	**HT30-M1-C.U.**	
Working temperature range °C	+40 … +400	
Temperature stability °C	±0.01 … ±0.1	
Cooling capacity kW, max. (Water +20 °C)	15	
Heating capacity kW	3	
Pump capacity Flow Rate / Pressure	l/min	14 … 18
	bar	0.8 … 1.2
Filling volume min. liters	2	
Power requirement V/Hz	230 / 50 or 230 / 60	
Dimensions Circulator cm	W × L × H 43 x 23 x 58	
Dimensions Control unit cm	W × L × H 25 x 25 x 18	

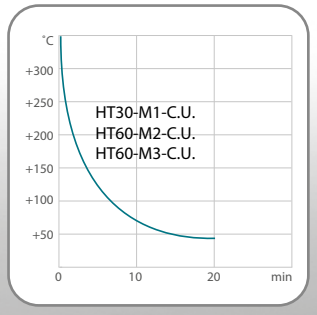
FORTE HT60-M2-C.U.

Order No.	**9 800 065**	
Model	**HT60-M2-C.U.**	
Working temperature range °C	+40 … +400	
Temperature stability °C	±0.01 … ±0.1	
Cooling capacity kW, max. (Water +20 °C)	15	
Heating capacity kW	7	
Pump capacity Flow Rate / Pressure	l/min	14 … 18
	bar	0.8 … 1.2
Filling volume min. liters	2	
Power requirement V/Hz	3 x 400 / 50	
Dimensions Circulator cm	W × L × H 43 x 23 x 58	
Dimensions Control unit cm	W × L × H 25 x 25 x 18	

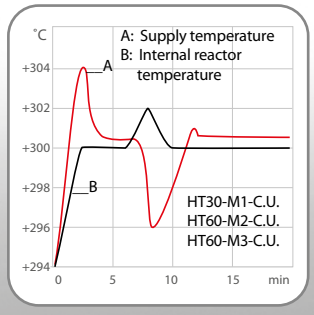
FORTE HT60-M3-C.U.

Order No.	**9 800 066**	
Model	**HT60-M3-C.U.**	
Working temperature range °C	+40 … +400	
Temperature stability °C	±0.01 … ±0.1	
Cooling capacity kW, max. (Water +20 °C)	15	
Heating capacity kW	6	
Pump capacity Flow Rate / Pressure	l/min	14 … 18
	bar	0.8 … 1.2
Filling volume min. liters	2	
Power requirement V/Hz	3 x 208 / 60	
Dimensions Circulator cm	W × L × H 43 x 23 x 58	
Dimensions Control unit cm	W × L × H 25 x 25 x 18	

Cool-down time
Bath fluid: Thermal H



Reaction compensation
5 liter reactor | Bath fluid: Thermal H



All data refers to the nominal voltage of 230 V, nominal frequency of 50 Hz (respectively 400 V, 3Ph., 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.

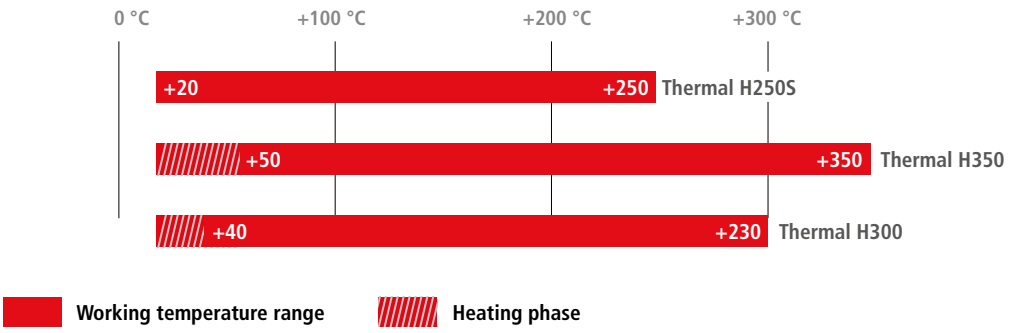
JULABO Thermal bath fluids

JULABO Thermal bath fluids are carefully selected and longterm tested. They are perfectly suited for temperature control tasks in temperature control systems and guarantee safe and reliable operation. Choosing the right thermal bath fluid is very important for achieving optimal temperature control results. The viscosity and thermal conductivity of our thermal bath fluids are designed especially for use with JULABO temperature control instruments.

Advantages

- Broad temperature ranges
- Low viscosity
- High stability
- Good thermal conductivity
- Almost odorless
- Long life

Working temperature range



Thermal H250S

Order No. 5 liters	**8 940 133**
Order No. 10 liters	**8 940 132**
Suitable for	FORTE HT
Working temperature range °C	+20 … +250
Flash point °C	>+200
Fire point °C	+264
Viscosity, (kinematic at +20 °C) mm^2/s	20
Density (at +20 °C) g/cm^3	0.95
Pour point °C	-70
Boiling point °C	+424
Ignition temperature °C	+385
Color	light brown

Thermal H350

Order No. 5 liters	**8 940 111**
Order No. 10 liters	**--**
Suitable for	FORTE HT
Working temperature range °C	+50 …+350
Flash point °C	+200
Fire point °C	+235
Viscosity, (kinematic at +20 °C) mm^2/s	48.3
Density (at +20 °C) g/cm^3	1.04
Pour point °C	-34
Boiling point °C	+390
Ignition temperature °C	+450
Color	clear

Thermal H300

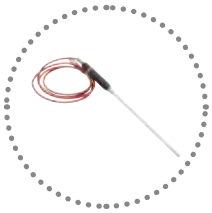
Order No. 5 liters	**8 940 113**
Order No. 10 liters	**-**
Suitable for	FORTE HT
Working temperature range °C	+40 … +300
Flash point °C	+245
Fire point °C	+255
Viscosity, (kinematic at +20 °C) mm^2/s	76.5
Density (at +20 °C) g/cm^3	0.858
Pour point °C	-18
Boiling point °C	+380
Ignition temperature °C	+330
Color	clear

JULABO Thermal bath fluids based on silicone …
… are chemically inert substances which do not affect metals like iron, copper, zinc, aluminum, chrome or nickel. Compared to other fluids, JULABO Thermal fluids have an extraordinarily low electrical conductivity. When properly stored, the fluids will last for 12 months and longer as they are not susceptible to climatic influences.

JULABO Thermal bath fluids based on water-glycol …
… (monoethyleneglycol with anti-corrosion additives) have excellent thermal characteristics and a low viscosity. In addition, they provide anti-freeze protection, i.e. they can be applied at temperatures below the freezing point of water.

More information on JULABO Thermal bath fluids …
… in our brochure ‚Thermal Bath Fluids' at www.julabo.com.

Accessories



External Pt100 sensors / Extention Cable

Order No.	Description	Suitable for
8 981 003	200 × 6 mm dia., stainless steel, 1.5 m cable	FORTE HT
8 981 006	20 × 2 mm dia., stainless steel, 1.5 m cable	FORTE HT
8 981 010	300 × 6 mm dia., stainless steel, 1.5 m cable	FORTE HT
8 981 017	200 × 6 mm dia., stainless steel/PTFE coated, 3.0 m cable	FORTE HT
8 981 015	300 × 6 mm dia., stainless steel/PTFE coated, 3.0 m cable	FORTE HT
8 981 013	600 × 6 mm dia., stainless steel/PTFE coated, 3.0 m cable	FORTE HT
8 981 016	900 × 6 mm dia., stainless steel/PTFE coated, 3.0 m cable	FORTE HT
8 981 014	1200 × 6 mm dia., stainless steel/PTFE coated, 3.0 m cable	FORTE HT
8 981 020	M+R in-line Pt100 sensor, 2 fittings M16x1 male	FORTE HT
8 981 103	Extension cable 3.5 m for Pt100 sensor	FORTE HT

Accessories for FORTE HT

Order No.	Description	Suitable for
9 790 100	C.U. cooling unit	FORTE HT
8 970 802	Adapter for pump pressure reduction (0.8 bar)	FORTE HT
8 970 811	Level indicator (with sight glass)	FORTE HT
8 970 435	Handle for stand rod attachment	FORTE HT
8 970 801	Expansion vessel (1 liter)	FORTE HT
8 980 125	Extension cable 5 m (control electronics for HT circulator)	FORTE HT
8 980 704	Solenoid valve for cooling water with 2 m tubing 8 mm inner dia.	FORTE HT (without C.U. cooling unit)

Metal tubing

Order No.	Description	Suitable for
Metal tubing flexible, triple insulated, -100 °C to +350 °C		
8 930 209	0.5 m Metal tubing, 2 fittings M16 × 1 female	FORTE HT
8 930 210	1.0 m Metal tubing, 2 fittings M16 × 1 female	FORTE HT
8 930 211	1.5 m Metal tubing, 2 fittings M16 × 1 female	FORTE HT
8 930 214	3.0 m Metal tubing, 2 fittings M16 × 1 female	FORTE HT
Metal tubing flexible, insulated, -50 °C to +200 °C		
8 930 220	0.5 m Metal tubing, 2 fittings M16 × 1 female	FORTE HT
8 930 221	1.0 m Metal tubing, 2 fittings M16 × 1 female	FORTE HT
8 930 222	1.5 m Metal tubing, 2 fittings M16 × 1 female	FORTE HT
8 930 223	3.0 m Metal tubing, 2 fittings M16 × 1 female	FORTE HT
Accessories for connecting metal tubing		
8 970 443	Adapter M16 × 1 male to M16 × 1 male	FORTE HT

Adapters / Valves / Connectors etc.

Order No.	Description	Suitable for
8 970 457	Shut-off valve for loop circuit (-30 °C ... +200 °C), M16 × 1	FORTE HT
8 970 490	2 Collar nuts M16 × 1 female	FORTE HT
8 970 442	2 Elbow fittings 90°, M16 × 1 female/male, side length 2 × 54 mm	FORTE HT
8 970 448	2 Elbow fittings 90°, M16 × 1 female/male, side length 2 × 54 mm / 2 × 120 mm	FORTE HT
8 890 004	2 Adapters M16 × 1 female to NPT 1/4" male	FORTE HT
8 890 005	2 Adapters M16 × 1 female to NPT 1/4" female	FORTE HT
8 890 006	2 Adapters M16 × 1 female to NPT 3/8" male	FORTE HT
8 890 007	2 Adapters M16 × 1 female to NPT 3/8" female	FORTE HT
8 890 008	2 Adapters M16 × 1 female to NPT 1/2" male	FORTE HT
8 890 009	2 Adapters M16 × 1 female to NPT 1/2" female	FORTE HT
8 890 010	2 Adapters M16 × 1 male to NPT 1/4" female	FORTE HT
8 891 008	1 Adapter M16 × 1 male to BSP 1/2" female	FORTE HT
8 891 009	1 Adapter M16 × 1 male to BSP 3/4" female	FORTE HT
8 890 011	2 Adapters M16 × 1 female to tube 1/4" male	FORTE HT
8 890 012	2 Adapters M16 × 1 female to tube 3/8" male	FORTE HT
8 890 013	2 Adapters M16 × 1 female to tube 1/2" male	FORTE HT
8 890 024	2 Adapters M16 × 1 female to M16 × 1 female	FORTE HT

Connection plugs

Order No.	Description	Suitable for
8 980 131	External Pt100 connector	FORTE HT
8 980 133	Standby connector 3 pin	FORTE HT
8 980 135	Alarm connector 5 pin	FORTE HT
8 980 136	REG+EPROG connector 6 pin	FORTE HT

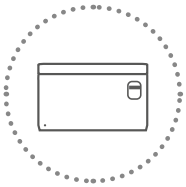
The Julabo advantages at a glance.

JULABO temperature control solutions – high-precision and speed

JULABO products include high-quality temperature control solutions to cover the temperature range -95 °C to +400 °C.

Refrigerated circulators

JULABO refrigerated circulators are suitable for internal and external applications and can be used within the temperature range -95 °C to +200 °C.



Water baths and shaking water baths

JULABO water baths and shaking water baths can be used for a variety of applications within the temperature range +18 °C to +99.9 °C.

Heating circulators

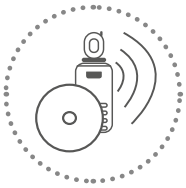
Heating circulators are available in various designs including heating immersion circulators, heating circulators with open bath, and heating circulators to cover a temperature range from +20 °C to +300 °C.

Additional products

In addition, the JULABO product portfolio offers instruments for special requirements such as calibration baths, beer forcing test baths, immersion / flow-through coolers and temperature controllers.

Highly dynamic temperature control systems

The highly dynamic temperature control systems from JULABO can be used for demanding temperature applications ranging from -93 °C to +400 °C. The PRESTO series offers unique high-performance specifications to meet these requirements.



Wireless communication & software solutions

JULABO facilitates the automation of applications. The temperature control instruments can be comfortably controlled and monitored via PC.

Recirculating coolers

The high degree of efficiency of JULABO recirculating coolers makes them an environmentally-friendly and economic alternative to tap water cooling in the temperature range -25 °C to +130 °C.

Accessories

An extensive range of accessories allows for adaptation of JULABO products for research and industry use.

Comprehensive service and on-site support

JULABO takes pride in offering customers expert advice for pairing the proper JULABO temperature control solution to their specific application. JULABO service and support options include installation and calibration, equipment qualification documentation and application training. These invaluable services ensure customer confidence in the operation and maintenance of any JULABO unit.

Custom requirements - custom products

JULABO's wide range of products provide a solution for almost any application. If no standard product can be used for a specific requirement, our specialists will work out a custom solution together with you.

JULABO. Quality.
Highest quality standards to ensure a long product life.

Green technology.
Deliberately engineered with environmentally friendly materials and technologies.

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

100 % checked.
100 % testing. 100 % quality. Every JULABO product is shipped to customers after a successful final inspection.

Quick start.
Individual JULABO consultation and detailed manuals get your instruments up and running on site.

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

PRESTO Highly Dynamic Temperature Control Systems | Process Circulators

Model	Order No.	Working temperature range °C	Display / display resolution	Temp. control	Temperature stabillity °C	Heating capacity kW	Cooling of refrige-ration unit	Cooling capacity kW (Medium: JULABO Thermal | Ethanol) in °C						
								+200	+20	0	-20	-30	-40	-60
A30	9 420 300	-30 ... +250	5.7" TFT /±0.01°C	ICC	±0.01 ... ±0.05	2.7	1-st. Air	0.5	0.5	0.4	0.2	0.02	-	-
A38	9 420 381.N1	-45 ... +250	5.7" TFT /±0.01°C	ICC	±0.01 ... ±0.05	2.7	1-st. Air	0.79	0.79	0.73	0.44	0.28	0.05	-
A40	9 420 401	-40 ... +250	5.7" TFT /±0.01°C	ICC	±0.01 ... ±0.05	2.7	1-st. Air	1.2	1.2	0.9	0.4	0.15	-	-
W40	9 421 401	-40 ... +250	5.7" TFT /±0.01°C	ICC	±0.01 ... ±0.05	2.7	1-st. Water	1.2	1.2	1	0.4	0.12	-	-
A41	9 420 411.N1	-45 ... +250	5.7" TFT /±0.01°C	ICC	±0.01 ... ±0.05	2.7	1-st. Air	1.33	1.33	1.24	0.46	0.31	0.07	-
W41	9 421 411.N1	-45 ... +250	5.7" TFT /±0.01°C	ICC	±0.01 ... ±0.05	2.7	1-st. Water	1.33	1.33	1.24	0.46	0.31	0.07	-
A45	9 420 452	-45 ... +250	5.7" TFT /±0.01°C	ICC	±0.05 ... ±0.1	6	1-st. Air	3.4	3.5	3.3	1.8	1	0.3	-
A45t	9 420 452.T	-45 ... +250	5.7" TFT /±0.01°C	ICC	±0.05 ... ±0.1	12	1-st. Air	3.4	3.5	3.3	1.8	1	0.3	-
W50	9 421 502	-50 ... +250	5.7" TFT /±0.01°C	ICC	±0.05 ... ±0.1	6	1-st. Water	7.0	7.5	6.5	2.8	1.6	0.6	-
W50t	9 421 502.T	-50 ... +250	5.7" TFT /±0.01°C	ICC	±0.05 ... ±0.1	12	1-st. Water	7.0	7.5	6.5	3.0	1.8	0.6	-
W55	9 421 552	-55 ... +250	5.7" TFT /±0.01°C	ICC	±0.05 ... ±0.1	15	1-st. Water	13.5	15	10	4	2.5	1.2	-
W56	9 421 562	-56 ... +250	5.7" TFT /±0.01°C	ICC	±0.05 ... ±0.1	27	1-st. Water	19	25.8	23.1	11.5	7.1	3.5	-
W56x	9 421 563	-50 ... +250	5.7" TFT /±0.01°C	ICC	±0.05 ... ±0.1	27	1-st. Water	19	25.8	23.1	11.5	7.1	3.5	-
W58x	9 421 583.S1	-50 ... +250	5.7" TFT /±0.01°C	ICC	±0.05 ... ±0.1	27	1-st. Water	24	33	32	19	12	7	-
A70	9 420 701.N1	-75 ... +250	5.7" TFT /±0.01°C	ICC	±0.01 ... ±0.05	1.8	2-st. Air	1.3	1	0.91	0.84	0.79	0.75	0.38
A80	9 420 801	-80 ... +250	5.7" TFT /±0.01°C	ICC	±0.01 ... ±0.05	1.8	2-st. Air	1.2	1.2	1.2	1.1	1.1	1.1	0.65
A80t	9 420 801.T	-80 ... +250	5.7" TFT /±0.01°C	ICC	±0.01 ... ±0.05	3.4	2-st. Air	1.2	1.2	1.2	1.1	1.1	1.1	0.65
W80	9 421 801	-80 ... +250	5.7" TFT /±0.01°C	ICC	±0.01 ... ±0.05	1.8	2-st. Water	1.2	1.2	1.2	1.1	1.1	1.1	0.65
W80t	9 421 801.T	-80 ... +250	5.7" TFT /±0.01°C	ICC	±0.01 ... ±0.05	3.4	2-st. Water	1.2	1.2	1.2	1.1	1.1	1.1	0.65
A85	9 420 852	-85 ... +250	5.7" TFT /±0.01°C	ICC	±0.05 ... ±0.1	6	2-st. Air	2.8	2.5	2.4	2.4	2.4	2.4	2.2
A85t	9 420 852.T	-85 ... +250	5.7" TFT /±0.01°C	ICC	±0.05 ... ±0.1	15	2-st. Air	2.8	2.5	2.4	2.4	2.4	2.4	2.2
W85	9 421 852	-85 ... +250	5.7" TFT /±0.01°C	ICC	±0.05 ... ±0.1	6	2-st. Water	2.8	2.5	2.4	2.4	2.4	2.4	2.2
W85t	9 421 852.T	-85 ... +250	5.7" TFT /±0.01°C	ICC	±0.05 ... ±0.1	15	2-st. Water	2.8	2.5	2.4	2.4	2.4	2.4	2.2
W91	9 421 912	-91 ... +250	5.7" TFT /±0.01°C	ICC	±0.05 ... ±0.2	18	2-st. Water	11	11	11	11	10.5	10.5	8
W91tt	9 421 912.TT	-91 ... +250	5.7" TFT /±0.01°C	ICC	±0.05 ... ±0.2	36	2-st. Water	11	11	11	11	10.5	10.5	8
W91x	9 421 913	-91 ... +250	5.7" TFT /±0.01°C	ICC	±0.05 ... ±0.2	18	2-st. Water	11	11	11	11	10.5	10.5	8
W91ttx	9 421 913.TT	-91 ... +250	5.7" TFT /±0.01°C	ICC	±0.05 ... ±0.2	36	2-st. Water	11	11	11	11	10.5	10.5	8
W92	9 421 922	-92 ... +250	5.7" TFT /±0.01°C	ICC	±0.05 ... ±0.2	18	2-st. Water	31	27	20	11	10.5	10.5	8
W92tt	9 421 922.TT	-92 ... +250	5.7" TFT /±0.01°C	ICC	±0.05 ... ±0.2	36	2-st. Water	31	27	20	11	10.5	10.5	8
W92x	9 421 923	-92 ... +250	5.7" TFT /±0.01°C	ICC	±0.05 ... ±0.2	18	2-st. Water	31	27	20	11	10.5	10.5	8
W92ttx	9 421 923.TT	-92 ... +250	5.7" TFT /±0.01°C	ICC	±0.05 ... ±0.2	36	2-st. Water	31	27	20	11	10.5	10.5	8
W93	9 421 932.N1	-93 ... +250	5.7" TFT /±0.01°C	ICC	±0.05 ... ±0.2	27	2-st. Water	-	19.5	19.5	19.5	19.5	19.5	13
W93x	9 421 933.N1	-93 ... +250	5.7" TFT /±0.01°C	ICC	±0.05 ... ±0.2	27	2-st. Water	-	19.5	19.5	19.5	19.5	19.5	13

FORTE HT High Temperature Circulators

Model	Order No.	Working temperature range °C	Setting / display resolution °C	Temperature control	Temperature stability external °C	Heating capacity kW
HT30-M1	9 800 031	+70 ... +400	0.01	ICC	±0.01 ... ±0.1	3
HT60-M2	9 800 062	+70 ... +400	0.01	ICC	±0.01 ... ±0.1	7
HT60-M3	9 800 063	+70 ... +400	0.01	ICC	±0.01 ... ±0.1	6
HT30-M1-C.U.	9 800 035	+40 ... +400	0.01	ICC	±0.01 ... ±0.1	3
HT60-M2-C.U.	9 800 065	+40 ... +400	0.01	ICC	±0.01 ... ±0.1	7
HT60-M3-C.U.	9 800 066	+40 ... +400	0.01	ICC	±0.01 ... ±0.1	6

Unless otherwise indicated, all data relates to the operation at nominal voltage and frequency and +20 °C ambient temperature. Cooling capacity measured according to DIN 12876-2. Information about used refrigerants and regulatory requirements regarding installation site, operation, transport or disposal of devices with natural refrigerants can be found at www.julabo.com

-80	Pump Type ⚙ Gear ⟳ Centrifugal	Pump Pressure bar	Pump max. Pump capacity l/min	Pump connections male	Viscosity max. cSt.	Process volume min. (active heat exchanger volume) liters	Internal usable expansion volume liters	Classification acc. to DIN 12876-1	Power requirement V/Hz/A	Cooling water connection w. barbed fitting for tubing ½" ID Inch	Noise level (distance 1 m) dbA	Cooling water consumption l/min
-	⟳	0.5	25	M24 × 1.5	50	2.4 (1.4)	1.5	III (FL)	230/50/15	-	54	-
-	⟳	0.1 ... 1.6	50	M24 × 1.5	50	3.5 (1.7)	2.7	III (FL)	230/50/16	-	60	-
-	⟳	0.1 ... 1.7	40	M24 × 1.5	50	3.5 (1.7)	2.7	III (FL)	230/50-60/16	-	55	-
-	⟳	0.1 ... 1.7	40	M24 × 1.5	50	3.5 (1.7)	2.7	III (FL)	230/50-60/16	G 3/4"	53	1
-	⟳	0.1 ... 1.6	50	M24 × 1.5	50	3.5 (1.7)	2.7	III (FL)	230/50/16	-	60	-
-	⟳	0.1 ... 1.6	50	M24 × 1.5	50	3.5 (1.7)	2.7	III (FL)	230/50/17	G 3/4"	60	1
-	⟳	0.1 ... 3.0	80	M30 × 1.5	50	7.5 (3.5)	7.5	III (FL)	3 × 400/50/13	-	69	-
-	⟳	0.1 ... 3.0	80	M30 × 1.5	50	7.5 (3.5)	7.5	III (FL)	3 × 400/50/22	-	69	-
-	⟳	0.1 ... 3.0	80	M30 × 1.5	50	7.5 (3.5)	7.5	III (FL)	3 × 400/50/16	G 3/4"	65	8 ... 12
-	⟳	0.1 ... 3.0	80	M30 × 1.5	50	7.5 (3.5)	7.5	III (FL)	3 × 400/50/25	G 3/4"	65	8 ... 12
-	⟳	0.1 ... 3.0	80	M30 × 1.5	50	11.5 (7)	7.5	III (FL)	3 × 400/50/32	G 3/4"	65	8 ... 12
-	⟳	0.1 ... 3.0	80	M38 × 1.5	50	11 (10)	17.5	III (FL)	3 × 400/50/47	G 3/4"	72	14 ... 25
-	⚙	0.1 ... 5.5	70	M38 × 1.5	70	11 (10)	17.5	III (FL)	3 × 400/50/47	G 3/4"	72	14 ... 25
-	⚙	0.1 ... 5.5	70	M38 × 1.5	280	13 (12)	17.5	III (FL)	3 × 400/50/54	G 3/4"	72	21 ... 28
-	⟳	0.1 ... 1.7	40	M24 × 1.5	50	3.9 (1.7)	8	III (FL)	230/50/16	-	69	-
0.1	⟳	0.1 ... 1.7	40	M24 × 1.5	50	3.9 (1.7)	5.6	III (FL)	230/50/16	-	68	-
0.1	⟳	0.1 ... 1.7	40	M24 × 1.5	50	3.9 (1.7)	5.6	III (FL)	3 × 400/50/16	-	68	-
0.1	⟳	0.1 ... 1.7	40	M24 × 1.5	50	3.9 (1.7)	5.6	III (FL)	230/50/16	G 3/4"	64	2
0.1	⟳	0.1 ... 1.7	40	M24 × 1.5	50	3.9 (1.7)	5.6	III (FL)	3 × 400/50/16	G 3/4"	64	2
0.4	⟳	0.1 ... 3.0	80	M30 × 1.5	50	9.5 (5)	7	III (FL)	3 × 400/50/18	-	69	-
0.4	⟳	0.1 ... 3.0	80	M30 × 1.5	50	9.5 (5)	7	III (FL)	3 × 400/50/31	-	69	-
0.4	⟳	0.1 ... 3.0	80	M30 × 1.5	50	9.5 (5)	7	III (FL)	3 × 400/50/18	G 3/4"	69	2 ... 6
0.4	⟳	0.1 ... 3.0	80	M30 × 1.5	50	9.5 (5)	7	III (FL)	3 × 400/50/31	G 3/4"	69	2 ... 6
2	⟳	0.1 ... 3.0	80	M38 × 1.5	50	28 (16)	40	III (FL)	3 × 400/50/43	G 3/4"	74	16 ... 43
2	⟳	0.1 ... 3.0	80	M38 × 1.5	50	28 (16)	40	III (FL)	3 × 400/50/76	G 3/4"	74	16 ... 43
2	⚙	0.1 ... 5.5	70	M38 × 1.5	70	28 (16)	40	III (FL)	3 × 400/50/46	G 3/4"	74	16 ... 43
2	⚙	0.1 ... 5.5	70	M38 × 1.5	70	28 (16)	40	III (FL)	3 × 400/50/76	G 3/4"	74	16 ... 43
2	⟳	0.1 ... 3.0	80	M38 × 1.5	50	28 (16)	40	III (FL)	3 × 400/50/43	G 3/4"	74	16 ... 43
2	⟳	0.1 ... 3.0	80	M38 × 1.5	50	28 (16)	40	III (FL)	3 × 400/50/66	G 3/4"	74	16 ... 43
2	⚙	0.1... 5.5	70	M38 × 1.5	70	28 (16)	40	III (FL)	3 × 400/50/46	G 3/4"	74	16 ... 43
2	⚙	0.1 ... 5.5	70	M38 × 1.5	70	28 (16)	40	III (FL)	3 × 400/50/66	G 3/4"	74	16 ... 43
3.5	⟳	0.1 ... 3.0	80	M38 × 1.5	50	14 (16)	40	III (FL)	400/50/125	G 3/4"	69	9 ... 30
3.5	⚙	0.1 ... 5.5	70	M38 × 1.5	70	14 (16)	35	III (FL)	400/50/125	G 3/4"	69	9 ... 30

Integrated cooling unit C.U.	Cooling capacity (Water, +20 °C) kW, max.	Pump capacity Pressure bar	Pump capacity Flow rate l/min.	Pump connections male	Filling volume liters	Filling volume expansion vessel liters	Classification acc. to DIN 12876-1
-		0.8 - 1.2	14 - 18	M16 × 1	2	1.6+0.9	III (FL)
-		0.8 - 1.2	14 - 18	M16 × 1	2	1.6+0.9	III (FL)
-		0.8 - 1.2	14 - 18	M16 × 1	2	1.6+0.9	III (FL)
yes	15	0.8 - 1.2	14 - 18	M16 × 1	2	1.6+0.9	III (FL)
yes	15	0.8 - 1.2	14 - 18	M16 × 1	2	1.6+0.9	III (FL)
yes	15	0.8 - 1.2	14 - 18	M16 × 1	2	1.6+0.9	III (FL)

Cooling water differential pressure min. bar	Integrated programmer steps	External Pt100 sensor connection	Analog inputs / outputs	Digital interfaces			Permissible ambient temperature °C	Dimensions W × L × H cm	Weight net kg	Model
				RS232, SD-Card, USB, Ethernet, alarm output	RS485 Profibus	2nd external Pt100 sensor				
-	8 × 60	yes	Accessory	yes	Accessory	-	+5 ... +40	25 × 59 × 62	62	**A30**
-	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	33 × 75 × 67	80	**A38**
-	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	33 × 59 × 67	79	**A40**
0.5	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	33 × 59 × 67	78	**W40**
-	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	33 × 75 × 67	80	**A41**
0.5	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	33 × 75 × 67	83	**W41**
-	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	53 × 66.5 × 126	210	**A45**
-	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	53 × 66.5 × 126	210	**A45t**
0.5	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	53 × 66.5 × 126	210	**W50**
0.5	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	53 × 66.5 × 126	210	**W50t**
0.5	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	61 × 84.5 × 125	288	**W55**
0.5	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	60 × 94 × 164	385	**W56**
0.5	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	60 × 94 × 164	385	**W56x**
1.5	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	70 × 108 × 174	486	**W58x**
-	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	57 × 74.5 × 88	150	**A70**
-	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	43 × 65 × 126	164	**A80**
-	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	43 × 65 × 126	167	**A80t**
0.5	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	43 × 65 × 126	159	**W80**
0.5	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	43 × 65 × 126	164	**W80t**
-	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	61 × 108 × 125	365	**A85**
-	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	61 × 108 × 125	365	**A85t**
0.5	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	61 × 84.5 × 125	335	**W85**
0.5	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	61 × 84.5 × 125	335	**W85t**
0.5	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	95 × 127 × 190	870	**W91**
0.5	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	95 × 127 × 190	870	**W91tt**
0.5	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	95 × 127 × 190	870	**W91x**
0.5	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	95 × 127 × 190	870	**W91ttx**
0.5	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	95 × 127 × 190	870	**W92**
0.5	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	95 × 127 × 190	870	**W92tt**
0.5	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	95 × 127 × 190	870	**W92x**
0.5	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	95 × 127 × 190	870	**W92ttx**
0.5	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	93 × 148 × 192	920	**W93**
0.5	8 × 60	yes	Accessory	yes	Accessory	Accessory	+5 ... +40	93 × 148 × 192	930	**W93x**

IP Class acc. to IEC 60529	Power requirement V / Hz / A	Dimensions Circulator W × L × H cm	Dimensions Control unit W × L × H cm	Weight net kg	Model
IP21	230/50/15	23 × 23 × 58	25 × 25 × 18	27	**HT30-M1**
IP21	3 × 400/50/11	23 × 23 × 58	25 × 25 × 18	29	**HT60-M2**
IP21	3 × 208/60/18	23 × 23 × 58	25 × 25 × 18	29	**HT60-M3**
IP21	230/50/15	43 × 23 × 58	25 × 25 × 18	35	**HT30-M1-C.U.**
IP21	3 × 400/50/11	43 × 23 × 58	25 × 25 × 18	37	**HT60-M2-C.U.**
IP21	3 × 208/60/18	43 × 23 × 58	25 × 25 × 18	37	**HT60-M3-C.U.**

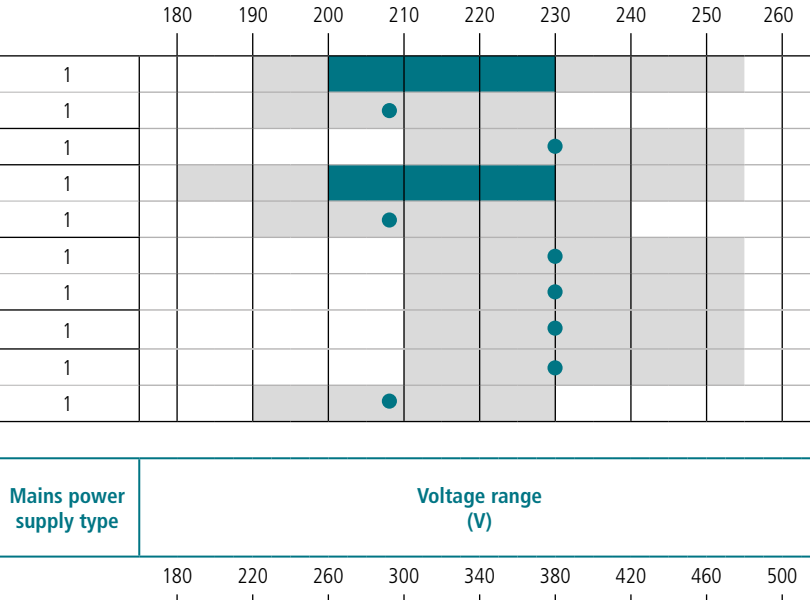
Unless otherwise indicated, all data relates to the operation at nominal voltage and frequency and +20 °C ambient temperature. Cooling capacity measured according to DIN 12876-2. Information about used refrigerants and regulatory requirements regarding installation site, operation, transport or disposal of devices with natural refrigerants can be found at www.julabo.com

Voltage Options

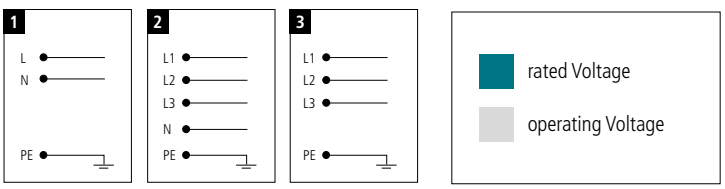
PRESTO

Model	Rated voltage (V)	Frequency (Hz)	Mains power supply type	Heating capacity at rated voltage (kW)
Single phase units				
A30	200 - 230	50	1	2.1 - 2.7
	208	60	1	2.3
A38	230	50	1	2.7
A40 W40	200 - 230	50-60	1	2.1 - 2.7
	208	60	1	2.3
A41 W41	230	50	1	2.7
	230	50	1	2.7
A70	230	50	1	1.8
A80 W80	230	50	1	1.8
	208	60	1	1.5

Model	Rated voltage (V)	Frequency (Hz)	Mains power supply type	Heating capacity at rated voltage (kW)
Three phase units:				
A45 W50	3 × 400	50	2	6
	3 × 230	50	3	6
	3 × 208 - 230	60	3	5.5 - 6
A45t W50t	3 × 400	50	2	12
	3 × 230	50	3	12
	3 × 208 - 230	60	3	10 - 12
W55	3 × 400	50	2	15
	3 × 208 - 230	60	3	15
W56 (x) W58x	3 × 400	50	3	27
	3 × 480	60	3	27
A80t W80t	3 × 400	50	2	3.4
	3 × 230	50	3	3.4
	3 × 208 - 220	60	3	2.8 - 3.1
A85 W85	3 × 400	50	2	6
	3 × 230	50	3	6
	3 × 208 - 230	60	3	5.5 - 6
A85t W85t	3 × 400	50	2	15
	3 × 230	50	3	15
	3 × 208 - 230	60	3	12.5 - 15
W91 (x) W92 (x)	3 × 400	50	2	18
	3 × 480	60	3	18
W91tt (x) W92tt (x)	3 × 400	50	2	36
	3 × 480	60	3	36
W93 W93 (x)	3 × 400	50	2	27
	3 × 400	50	2	27



Mains power supply type



Unless otherwise indicated, all data related to the operation at nominal voltage and frequency and +20 °C ambient temperature.
Cooling capacity measured according to DIN12876-2.

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