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The New PRESTO[®]



Thermodynamic Power

Julabo
THE TEMPERATURE CONTROL COMPANY

Hot & Cold

A Brand New Generation of Highly Dynamic Temperature Control Systems by JULABO

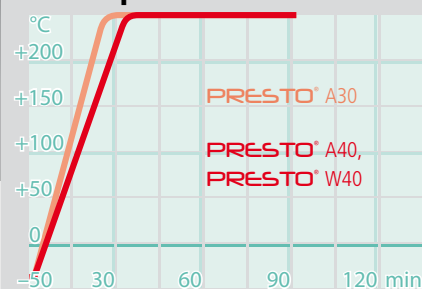
Reactor temperature control, tests for all kinds of substances or temperature simulation – the new **PRESTO**® are made for highly precise temperature control and rapid temperature changes.

PRESTO® provide large heating and cooling capacities covering a working temperature range from -40 °C to +250 °C. Highly efficient components allow extremely fast compensation of exothermic and endothermic reactions.

For optimized performance during operation the maximum heating capacity adjusts automatically to the power input of the main power supply (A40, W40).

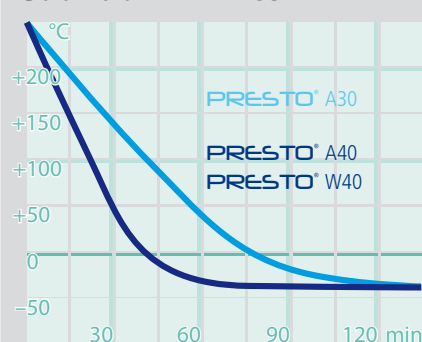
The **PRESTO**® is hydraulically sealed. Temperature induced volume changes within the heat exchanger are accommodated by an integrated, cooled expansion vessel.

Heat-up Times



Maximum pump capacity (Voltage 230 V)
Bath fluid: JULABO Thermal HL45

Cool-down Times

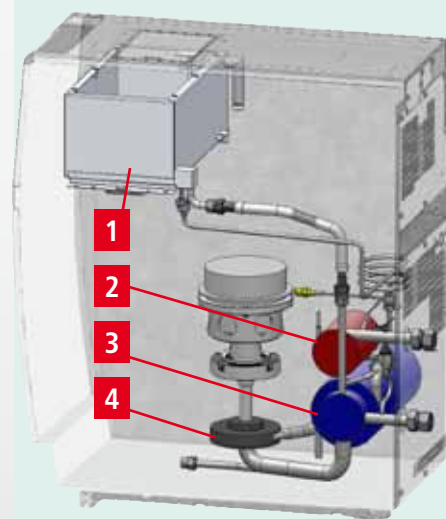


Maximum pump capacity (Voltage 230 V)
Bath fluid: JULABO Thermal HL45



The PRESTO® Principle (with integrated refrigeration system)

- Expansion vessel (1)
- Heat exchanger
 - Heating section (2)
 - Refrigeration section (3)
- Circulating pump (4)



Stay in Touch

JULABO Sets New Standards for Intuitive Operation



A special feature of the new **PRESTO**® is the integrated 5.7" industrial touch screen. All important information is displayed clearly and concisely enhancing ease of use considerably. The new **PRESTO**® can be operated intuitively with the tip of your finger.

All essential information is presented in three pre-set views – everything important at a glance. In addition to the pre-set views you can customize your own views anytime. A total of eight languages are available.

Smooth laboratory workflow through innovative features: Password management permits the installation of two additional user levels via an administrator level. The administrator can prioritize and schedule recurring daily tasks. This allows for easy execution by limited access users.

The **PRESTO**® Operation

- **NEW** 5.7" industrial color touch screen
- **NEW** User defined views
- **NEW** 3 user levels with password protection
- Clearly structured display
- Intuitive menu navigation (multi-lingual)



Pump Power

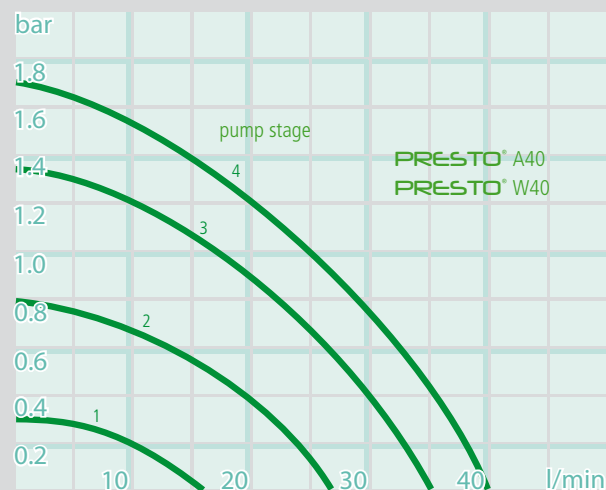
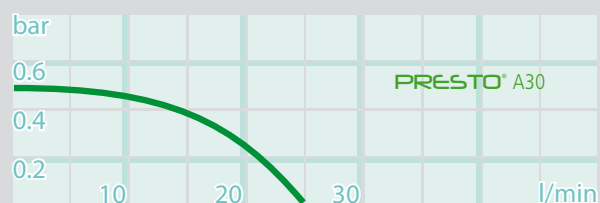
Powerful Pumps Provide High Flow Rates at Constant Pressure

Continuous parameter monitoring provides for the right pressure at any time. The pumps dynamically compensate for any viscosity changes of the temperature control fluid (A40, W40). Permanent internal monitoring and self-lubricating pumps ensure a long operating life of the new **PRESTO**[®].

The new **PRESTO**[®] feature a closed temperature control circuit. The bath fluid has no contact with ambient air. Ergo: no moisture, no oxidation. Thus the lifetime of the bath fluid is increased significantly.

The closed circuit prevents the new **PRESTO**[®] from releasing oil vapors.

Pump Characteristics



The **PRESTO**[®] Pump

- **NEW** The pump capacity of the **PRESTO**[®] A40 and W40 can be adjusted in four stages or via a specified pressure value
- Permanently monitored pressure build-up
- Dynamic compensation of viscosity changes



Always Ready

Many Useful Features Simplify your Laboratory Routine

The new **PRESTO**[®] work with one bath fluid covering the entire working temperature range. That saves you from frequently changing the bath fluid and stocking extra bath fluid. The filling funnel of the new **PRESTO**[®] is easily accessible on top of the unit.

As the new **PRESTO**[®] operate whisper quiet, you will hardly hear them in your laboratory. Even high room temperatures of up to +40 °C will not make the new **PRESTO**[®] sweat. Maintenance-free pumps and drives guarantee operational readiness.

All this ensures the maximum performance of the new **PRESTO**[®]. JULABO provides comprehensive support and short response times – anywhere in the world.

Application tips

Air or Water Cooling

The new **PRESTO**[®] are available with air or water cooling.

Air-cooled units do not use water and permit free positioning. We especially recommend air-cooled units when you look for a mobile solution. However, please note that the units use ambient air and heat-up the surroundings slightly.

Water-cooled units are connected to existing cooling water lines. These units are even quieter and can be completely encased by the respective application. Robust, wear-free heat exchangers guarantee the water-cooling of the new **PRESTO**[®]. This improves the efficiency of the heat exchanger drastically.

Your **PRESTO**[®] Benefits

- Continuous operation at ambient temperatures **up to +40 °C**
- Just one bath fluid needed for the entire working temperature range
- Maximum efficiency and performance



Interfaces Unlimited

Extensive Interfaces. Remote Control via Network and Integration in Master Control Systems

The new **PRESTO**® feature an Ethernet interface for network connection. This interface permits full access to all operational functions of the new **PRESTO**®. To permit remote control via a network, the user interface of the touch panel is displayed 1:1 on the screen of the network PC. The USB interface – a novelty for dynamic temperature control systems – permits wireless control of the new **PRESTO**® from your workstation. Wireless remote control of the new **PRESTO**® can easily be done by using the *WirelessTEMP* products.



WirelessTEMP®

The **PRESTO**® Interfaces

- **NEW** USB (host and device)
- **NEW** Ethernet interface
- **NEW** Slot for SD cards
- RS232

- Connections for
 - Alarm output
 - Pt100 external sensor
 - Standby input (Accessory)
 - Analog inputs and outputs (Accessory)
 - Flow sensors and pressure sensors (for **PRESTO**® A40, W40)

- Optional Interfaces:
 - Profibus DP
 - RS485
 - Modbus



One of a Kind

State-of-the-Art Technology Designed for Requirements in Modern Laboratories

The new **PRESTO**® are the only highly dynamic temperature control systems with closed sides – a JULABO tradition. A key requirement for development is the consistent channelling of airflow from the front to the back. This design does away with venting slots at the sides. The required installation space is reduced to an absolute minimum. **PRESTO**® easily fits into tight spaces.

The design of the new **PRESTO**® also conforms to ergonomic criteria. The new **PRESTO**® can be transported by a single person as easily as pulling a cart. Slightly lift the new **PRESTO**® with its integrated telescopic handle at the front and move it on the back rollers.



Your **PRESTO**® Benefits

- Sides without venting slots
- Quiet as a whisper
- Easy to transport

The new PRESTO® by JULABO:



JULABO Model

PRESTO A30

Working temperature range	-30 ... +250 °C							
Temperature stability	±0.01 ... ±0.05 °C							
Temperature control	ICC (Intelligent Cascade Control)							
User Interface								
Temperature setting / Display	5.7" industrial color TFT touch screen							
Operating languages	German, English, French, Spanish, Italian, Chinese, Japanese, Russian							
Setting / Display resolution	±0.01 °C							
Graphical user interface	Intuitive with interactive user guidance and password management of user levels							
Heating Capacity								
	2.7 kW @ 230 V 2.3 kW @ 208 V 2.1 kW @ 200 V							
Cooling Capacity	°C	+200	+100	+20	0	-10	-20	-30
(JULABO Thermal HL Ethanol)	kW	0.5	0.5	0.5	0.4	0.3	0.2	0.05
Pump								
Pump capacity	0.5 bar							
Flow rate max. (at 0 bar)	25 l/min							
Compatible thermal fluids	JULABO Thermal, Silicon Oil, Fluorinert™, Galden®							
Viscosity max.	50 mm²/s (50 cSt)							
Pump connections	M24 x 1.5 male							
Process volume min. (active heat exchanger volume)	2.4 liters (1.4 liters)							
Internal usable expansion volume	1.5 liters							
Digital / Analog Interfaces								
Standard	Pt100 External Temperature Sensor, USB, USB Host, SD Memory Card (up to 2 GB), Ethernet, RS232, Alarm out							
Accessory	Analog Interface Module (Input, Output, Standby-In), RS485, Profibus DP, Modbus							
Safety Installations (according to IEC 61010-2-010)								
Excess temperature protection	Tank and Reservoir, adjustable							
Low liquid level protection	Float switch							
Classification according to DIN 12876-1	Class III (FL)							
Additional JULABO Safety Installations								
Supervision of working sensors	Plausibility control							
Reciprocal sensor monitoring between working and safety sensors	Difference > 25 °C							
Alarm message	Optical and audible							
Refrigeration unit	1-stage, air-cooled							
Cooling water connection	---							
Permissible ambient temperature range	+5 ... +40 °C							
Noise level (distance 1 m)	54 dBA							
Power requirement	200-230 V (-5%,+10%) / 50 Hz (15 A) or 208 V (±10%) / 60 Hz (13.5 A)							
Weight	62.0 kg							
Overall dimensions W x L x H	242 x 583 x 612 mm							
JULABO Order No.	9 420 300							

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.

Technical changes without prior notification reserved.

Versatile, Convenient, Safe and Reliable



JULABO Model

PRESTO A40

PRESTO W40

Working temperature range	-40 ... +250 °C														
Temperature stability	±0.01 ... ±0.05 °C														
Temperature control	ICC (Intelligent Cascade Control)														
User Interface															
Temperature setting / Display	5.7" industrial color TFT touch screen														
Operating languages	German, English, French, Spanish, Italian, Chinese, Japanese, Russian														
Setting / Display resolution	±0.01 °C														
Graphical user interface	Intuitive with interactive user guidance and password management of user levels														
Heating Capacity 2.7 kW @ 230 V 2.3 kW @ 208 V 2.1 kW @ 200 V															
Cooling Capacity	°C	+200	+20	0	-10	-20	-30	-40	+200	+20	0	-10	-20	-30	-40
(JULABO Thermal HL Ethanol)	kW	1.2	1.2	0.9	0.8	0.6	0.3	0.1	1.2	1.2	1.0	0.8	0.55	0.3	0.06
Pump															
Pump capacity	0.3 ... 1.7 bar														
Flow rate max. (at 0 bar)	16 ... 40 l/min														
Compatible thermal fluids	JULABO Thermal, Silicon Oil, Fluorinert™, Galden®														
Viscosity max.	50 mm²/s (50 cSt)														
Pump connections	M24 x 1.5 male														
Process volume min. (active heat exchanger volume)	3.5 liters (1.7 liters)														
Internal usable expansion volume	2.7 liters														
Digital / Analog Interfaces															
Standard	Pt100 External Temperature Sensor, USB, USB Host, SD Memory Card (up to 2 GB), Ethernet, RS232, Alarm out														
Accessory	Analog Interface Module (Input, Output, Standby-In), RS485, Profibus DP, Modbus														
Safety Installations (according to IEC 61010-2-010)															
Excess temperature protection	Tank and Reservoir, adjustable														
Low liquid level protection	Float switch														
Classification according to DIN 12876-1	Class III (FL)														
Additional JULABO Safety Installations															
Supervision of working sensors	Plausibility control														
Reciprocal sensor monitoring between working and safety sensors	Difference > 25 °C														
Alarm message	Optical and audible														
Refrigeration unit	1-stage, air-cooled														
Cooling water connection	---														
Permissible ambient temperature range	+5 ... +40 °C														
Noise level (distance 1 m)	55 dBA														
Power requirement	200 ... 230 V (-5%,+10%) / 50 ... 60 Hz (16 A)														
Weight	79.0 kg														
Overall dimensions W x L x H	323 x 583 x 662 mm														
JULABO Order No.	9 420 401														
	9 421 401														

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.

Technical changes without prior notification reserved.

Original PRESTO® Accessories

JULABO Thermal Bath Fluids

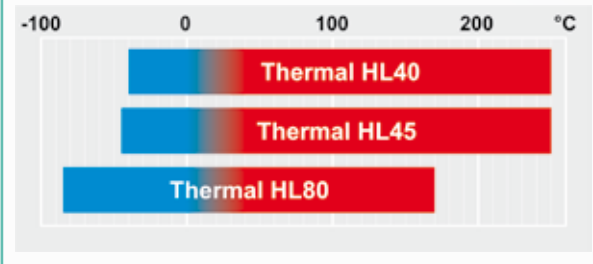
JULABO Description		Thermal HL40	Thermal HL45	Thermal HL80
JULABO Order No.	10 Liters	8 940 136	8 940 122	8 940 120
	5 Liters	8 940 137	8 940 123	8 940 121
Working temperature range	°C	-40 ... +250	-45 ... +250	-85 ... +170
Flash point	°C	+124	>+121	>+63
Fire point	°C	+142	>+162	>+112
Viscosity, kinetic	mm ² /s	<4 at +20 °C	7.5 at 0 °C	5 at 0 °C
Density at +20 °C	g/cm ³	0.93	0.92	0.9
Pour point	°C	-100	<-96	<-108
Boiling point	°C	>+300	>+275	>+200
Ignition temperature	°C	>+400	>+420	>+420
Color		clear	clear	clear

Benefits

- Wide temperature ranges
- Low viscosity
- High stability
- Good heat conductivity
- Minimum odor
- Low corrosion tendency
- Low toxicity



Working temperature range



Pt100 External sensors

JULABO Order No.	Description	A30	A40	W40
8 981 003	200 x 6 mm dia., stainless steel, 1.5 m cable	•	•	•
8 981 006	20 x 2 mm dia., stainless steel, 1.5 m cable	•	•	•
8 981 010	300 x 6 mm dia., stainless steel, 1.5 m cable	•	•	•
8 981 015	300 x 6 mm dia., stainless steel /PTFE coated, 3.0 m cable	•	•	•
8 981 013	600 x 6 mm dia., stainless steel /PTFE coated, 3.0 m cable	•	•	•
8 981 016	900 x 6 mm dia., stainless steel /PTFE coated, 3.0 m cable	•	•	•
8 981 014	1200 x 6 mm dia., stainless steel /PTFE coated, 3.0 m cable	•	•	•
8 981 021	M+R in-line Pt100 sensor, 2 fittings M24x1.5 male, 1.5 m cable	•	•	•
8 981 103	Extension cable 3.5 m for Pt100 sensor	•	•	•



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

JULABO Order No.	Description	A30	A40	W40
8 930 261	1.0 m Metal tubing, 2 fittings M24x1.5 female	•	•	•
8 930 262	1.5 m Metal tubing, 2 fittings M24x1.5 female	•	•	•
8 930 263	2.0 m Metal tubing, 2 fittings M24x1.5 female	•	•	•
8 930 264	3.0 m Metal tubing, 2 fittings M24x1.5 female	•	•	•



for Optimal Temperature Control

Interfaces / Software & Hardware

JULABO Order No.	Description	A30	A40	W40
8 900 105	Electronic module with analog connections (Input, Output, Standby-In)	•	•	•
8 900 020	Profibus DP Interface	•	•	•
8 900 022	Modbus Interface	•	•	•
8 900 024	RS485 Interface	•	•	•
8 980 771	Pressure sensor, 2 fittings M24x1.5 male (-95 ... +250 °C)		•	•
8 970 815	Sight glass, -100...+280 °C, PN16/Class 230, 2 fittings M30x1.5 male	•	•	•
8 900 500	WirelessTEMP Remote Control	•	•	•
8 900 505	WirelessTEMP Remote Control, ATEX Version	•	•	•
8 900 540	Wireless USB Stick	•	•	•
8 900 530	WirelessTEMP Router for extending wireless range	•	•	•
8 901 102	EasyTEMP Software (free of charge at www.julabo.de)	•	•	•
8 901 105	EasyTEMP Professional Software, incl. USB-Dongle	•	•	•



Connectors / Valves / Adapters, etc.

JULABO Order No.	Description	A30	A40	W40
8 890 110	Adapter M24x1.5 male to M24x1.5 male	•	•	•
8 890 120	2 Elbow fittings 90°, M24x1.5 female/male	•	•	•
8 890 052	2 Adapters M24x1.5 female to M16x1 male	•	•	•
8 890 053	2 Adapters M24x1.5 female to NPT 1/4" female	•	•	•
8 890 054	2 Adapters M24x1.5 female to NPT 3/8" female	•	•	•
8 890 055	2 Adapters M24x1.5 female to NPT 1/2" female	•	•	•
8 890 056	2 Adapters M24x1.5 female to NPT 3/4" female	•	•	•
8 890 057	2 Adapters M24x1.5 female to NPT 1" female	•	•	•
8 890 058	2 Adapters M24x1.5 female to NPT 1/4" male	•	•	•
8 890 059	2 Adapters M24x1.5 female to NPT 3/8" male	•	•	•
8 890 060	2 Adapters M24x1.5 female to NPT 1/2" male	•	•	•
8 890 061	2 Adapters M24x1.5 female to NPT 3/4" male	•	•	•
8 890 062	2 Adapters M24x1.5 female to NPT 1" male	•	•	•
8 890 065	2 Adapters M24x1.5 female to tube 1/2"	•	•	•
8 890 066	2 Adapters M24x1.5 female to tube 1"	•	•	•
8 970 920	Filter mat	•		
8 970 921	Filter mat		•	
8 970 851	Shut-off valve M24x1.5 female/male, -40...+200 °C	•	•	•
8 970 832	External expansion vessel 3 liters	•	•	•

Cooling water connection

JULABO Order No.	Description	A30	A40	W40
8 930 312	Reinforced tubing (pressure proof) 1/2" inner dia.			•
8 970 482	2 Tube clamps			•
8 920 000	Particle filter for cooling water circuit			•

JULABO - founded in 1967 in Germany - develops and manufactures sophisticated innovative temperature control technology. JULABO units are equipped with state-of-the-art control technology and are in use worldwide whenever temperature accuracy and immediate reaction to temperature changes are required. 400,000 JULABO products have been installed around the globe, highlighting JULABO's prevalent role in industry and science worldwide. "Made in Germany" quality as well as fast and competent support from your local representative in more than 100 countries have made JULABO a leading company for temperature control solutions.

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