PRESTO A40 Process System

The A30, A40 and W40 process circulators combine high performance and a very compact design with the advantages of the PRESTO series for a working temperature range down to -40 °C.

Your advantages

- For highly precise, external temperature applications
- Rapid heating and cooling
- Wide working temperature ranges without changing fluids
- Highest performance with small footprint
- Space-saving design optimizes space utilization in your lab
- Built-in 5.7” industrial color touchscreen
- USB connection
- Ethernet
- SD-Card slot
- RS232
- Modbus
- RS485 (Accessory)
- Profibus DP (Accessory)
- CCC Anschlüsse für Alarm-Ausgang, Pt100-Externfühler und Standby-Eingang
- Removable ventilation grid
- Heating capacity up to 2.7 kW
- Cooling capacity up to 1.2 kW
- Pump pressure up to 1.7 bar, max. flow rate 40 l/min
- Temperature stability ±0.01 °C ... ±0.05 °C
- Alarm output
- Second external Pt100 sensor connection for A40 and W40 (accessory)

Technical data

Available voltage versions	
Order No.	9 420 401
Available voltage versions:	
9 420 401.33	200-230V/50-60Hz (Schuko Plug - CEE 7/4 Plug Type F)
9 420 401.04	230V/50-60Hz (UK Plug Type BS1363A)
9 420 401.05	230V/50-60Hz (CH Plug Type SEV 1011)
9 420 401.14	208V/60Hz (Nema N6-20 Plug)

Cooling	
Cooling of compressor	1-stage Air

Other	
Sound pressure level dbA	55
Classification	Classification III (FL)
IP Code	IP 21
Hint to the technical data table	Cooling capacities at pump stage 1
Pump type	Centrifugal Pump
Pump type Magnetically coupled	1

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

Dimensions and volumes	
Internal usable expansion volume l	2.7
Minimal process volume l	3.5
Active heat exchanger volume l	1.7
Weight kg	79

Temperature values	
Setting the resolution of the temperature display °C	0.01
Working temperature range °C	-40.0 ... +250.0
Temperature stability °C	±0.01 ... ±0.05

Dimensions cm (W × L × H)	33 x 59 x 67
Pump connections	M24x1.5 male

Ambient temperature °C	+5.0 ... +40.0
Temperature display resolution °C	0.01

Performance values

200-230V/50-60Hz (Schuko Plug - CEE 7/4 Plug Type F)

200V/50Hz								
Heating capacity kW	2.1							
Cooling capacity (Ethanol)								
°C	200	100	20	0	-10	-20	-30	-40
kW	1.2	1.2	1.2	0.9	0.8	0.6	0.3	0.1
Viscosity max. cST	50							
Refrigerant	R449A							
Filling volume g	430							
Global Warming Potential for R449A	1397							
Carbon dioxide equivalent t	0.601							
Pump capacity flow rate l/min	15 ... 36							
Pump capacity flow pressure bar	0.1 ... 1.2							

200V/60Hz								
Heating capacity kW	2.1							
Cooling capacity (Ethanol)								
°C	200	100	20	0	-10	-20	-30	-40
kW	1.2	1.2	1.2	0.9	0.8	0.6	0.3	0.1
Viscosity max. cST	50							
Refrigerant	R449A							
Filling volume g	430							
Global Warming Potential for R449A	1397							
Carbon dioxide equivalent t	0.601							
Pump capacity flow rate l/min	15 ... 36							
Pump capacity flow pressure bar	0.1 ... 1.2							

230V/50Hz								
Heating capacity kW	2.7							
Cooling capacity (Ethanol)								
°C	200	100	20	0	-10	-20	-30	-40
kW	1.2	1.2	1.2	0.9	0.8	0.6	0.3	0.1
Viscosity max. cST	50							
Refrigerant	R449A							
Filling volume g	430							
Global Warming Potential for R449A	1397							
Carbon dioxide equivalent t	0.601							
Pump capacity flow rate l/min	16 ... 40							
Pump capacity flow pressure bar	0.3 ... 1.7							

230V/60Hz								
Heating capacity kW	2.7							
Cooling capacity (Ethanol)								
°C	200	100	20	0	-10	-20	-30	-40
kW	1.2	1.2	1.2	0.9	0.8	0.6	0.3	0.1
Viscosity max. cST	50							
Refrigerant	R449A							
Filling volume g	430							
Global Warming Potential for R449A	1397							
Carbon dioxide equivalent t	0.601							
Pump capacity flow rate l/min	16 ... 40							
Pump capacity flow pressure bar	0.3 ... 1.7							

230V/50-60Hz (UK Plug Type BS1363A)

230V/50Hz								
Heating capacity kW	1.8							
Cooling capacity (Ethanol)								
°C	200	100	20	0	-10	-20	-30	-40
kW	1.2	1.2	1.2	0.9	0.8	0.6	0.3	0.1
Viscosity max. cST	50							
Refrigerant	R449A							
Filling volume g	430							
Global Warming Potential for R449A	1397							
Carbon dioxide equivalent t	0.601							
Pump capacity flow rate l/min	16 ... 40							
Pump capacity flow pressure bar	0.3 ... 1.7							

230V/60Hz								
Heating capacity kW	1.8							
Cooling capacity (Ethanol)								
°C	200	100	20	0	-10	-20	-30	-40
kW	1.2	1.2	1.2	0.9	0.8	0.6	0.3	0.1
Viscosity max. cST	50							
Refrigerant	R449A							
Filling volume g	430							
Global Warming Potential for R449A	1397							
Carbon dioxide equivalent t	0.601							
Pump capacity flow rate l/min	16 ... 40							
Pump capacity flow pressure bar	0.3 ... 1.7							

230V/50-60Hz (CH Plug Type SEV 1011)

230V/50Hz								
Heating capacity kW	1							
Cooling capacity (Ethanol)								
°C	200	100	20	0	-10	-20	-30	-40
kW	1.2	1.2	1.2	0.9	0.8	0.6	0.3	0.1
Viscosity max. cST	50							
Refrigerant	R449A							
Filling volume g	430							
Global Warming Potential for R449A	1397							
Carbon dioxide equivalent t	0.601							
Pump capacity flow rate l/min	16 ... 40							
Pump capacity flow pressure bar	0.3 ... 1.7							

230V/60Hz								
Heating capacity kW	1							
Cooling capacity (Ethanol)								
°C	200	100	20	0	-10	-20	-30	-40
kW	1.2	1.2	1.2	0.9	0.8	0.6	0.3	0.1
Viscosity max. cST	50							
Refrigerant	R449A							
Filling volume g	430							
Global Warming Potential for R449A	1397							
Carbon dioxide equivalent t	0.601							
Pump capacity flow rate l/min	16 ... 40							
Pump capacity flow pressure bar	0.3 ... 1.7							

208V/60Hz (Nema N6-20 Plug)

208V/60Hz								
Heating capacity kW	2.3							
Cooling capacity (Ethanol)								
°C	200	100	20	0	-10	-20	-30	-40
kW	1.2	1.2	1.2	0.9	0.8	0.6	0.3	0.1
Viscosity max. cST	50							
Refrigerant	R449A							
Filling volume g	430							
Global Warming Potential for R449A	1397							
Carbon dioxide equivalent t	0.601							
Pump capacity flow rate l/min	16 ... 38							
Pump capacity flow pressure bar	0.1 ... 1.3							

Benefits

Touch display. Perfect operation.
With the touch display, the user always has an overview of all values and functions. The intuitive and multilingual menu structure enables perfect control.

Convenience for several users
Administrator level for customizing instrument settings, user levels with limited permissions for fast and safe defined access, password protection, all levels adjustable

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

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

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

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

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

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

Many interfaces.
Straight-forward remote control, data management, and integration into process structures. USB, Ethernet, RS232, SD card, and alarm off are permanently integrated. Further interfaces available as accessories.

Space-saving footprint
All connections as well supply and exhaust air are located at the front or rear, no venting grids on the sides, units can be placed close to each other or the application

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

Maximum safety.
Classification III according to DIN12876-1 enables safe operation, even with flammable fluids. Automatic switch-off in the event of high temperature or low liquid level.

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

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

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

JULABO. Quality.
Highest standards of quality for a long product life.

Green technology.
Development consistently applied 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. Each JULABO Circulator undergoes thorough quality testing before leaving the factory.

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

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