

## 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  $\pm 0.01$  °C ...  $\pm 0.05$  °C
- Alarm output
- Second external Pt100 sensor connection for A40 and W40 (accessory)



### Technical data

<b>Available voltage versions</b>		<b>Cooling</b>	
Order No.	9 420 401	Cooling of compressor	1-stage Air
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)		
<b>Other</b>		<b>Electronics</b>	
Sound pressure level dbA	55	External pt100 sensor connection	integrated
Classification	Classification III (FL)	2nd external Pt100 sensor connection	accessory
IP Code	IP 21	Integrated programmer	8x60 steps
Hint to the technical data table	Cooling capacities at pump stage 1	Temperature control	ICC
Pump type	Centrifugal Pump	Absolute temperature calibration	3 Point Calibration
Pump type Magnetically coupled	1	Temperature display	5.7" TFT Touchscreen
		Temperature setting	Touchscreen
<b>Dimensions and volumes</b>		<b>Temperature values</b>	
Internal usable expansion volume l	2.7	Setting the resolution of the temperature display °C	0.01
Minimal process volume l	3.5	Working temperature range °C	-40.0 ... +250.0
Active heat exchanger volume l	1.7	Temperature stability °C	$\pm 0.01$ ... $\pm 0.05$
Weight kg	79		

Dimensions cm (W x L x H)	33 x 59 x 67	Ambient temperature °C	+5.0 ... +40.0
Pump connections	M24x1.5 male	Temperature display resolution °C	0.01

### Performance values

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

200V/50Hz									200V/60Hz								
Heating capacity kW									2.1								
Cooling capacity (Ethanol)									Cooling capacity (Ethanol)								
°C	200	100	20	0	-10	-20	-30	-40	°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	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									230V/60Hz								
Heating capacity kW									2.7								
Cooling capacity (Ethanol)									Cooling capacity (Ethanol)								
°C	200	100	20	0	-10	-20	-30	-40	°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	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									230V/60Hz								
Heating capacity kW									1.8								
Cooling capacity (Ethanol)									Cooling capacity (Ethanol)								
°C	200	100	20	0	-10	-20	-30	-40	°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	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.



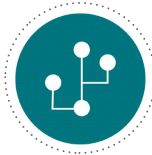
**Control from the external application**  
 External Pt100 sensor connection for precise measurement and control directly in the external application



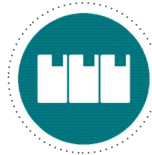
**Highest measuring accuracy**  
 'Absolute Temperature Calibration' for manual compensation of a temperature difference, 3-point calibration



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