

# PRESTO W40 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  $^\circ\text{C}.$ 

## 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 volta	age versions		Cooling					
Order No.	9 421 401		Cooling of compressor	1-stage Water				
Available voltage	versions:		Cooling water pressure max. bar	6 5.5				
9 421 401.33	200-230V/50-60Hz (S	chuko Plug - CEE 7/4	Cooling water difference pressure bar	0.5				
	Plug Type F)		Cooling water consumption l/min	1				
9 421 401.04	230V/50-60Hz (UK Plu	ug Type BS1363A)	5					
9 421 401.05	230V/50-60Hz (CH Pl	ug Type SEV 1011)						
9 421 401.14	208V/60Hz (Nema N6	-20 Plug)						
Other			Electronics					
Sound pressure le	evel dbA	53	External pt100 sensor connection	integrated				
Classification		Classification III (FL)	2nd external Pt100 sensor connection	accessory				
IP Code		IP 21	Integrated programmer	8x60 steps				

Temperature control

Temperature display

Temperature setting

display °C

**Temperature values** 

Temperature stability °C

Working temperature range °C

Absolute temperature calibration

Setting the resolution of the temperature

olassification	
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

#### **Dimensions and volumes**

Internal usable expansion volume I	2.7
Minimal process volume l	3.5
Active heat exchanger volume I	1.7
Weight kg	78



ICC

0.01

5.7" TFT

Touchscreen

Touchscreen

-40.0 ... +250.0

±0.01 ... ±0.05

**3 Point Calibration** 

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Cooling Water Connection in	G¾	Ambient temperature °C	+5.0 +40.0
Dimensions cm ( $W \times L \times H$ )	33 x 59 x 67	Temperature display resolution °C	0.01
Pump connections	M24x1.5 male		

# Performance values

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

200	V/50H	łz								200V	760H	lz						
Heati	ng capa	acity k	N			2	2.1			Heating capacity kW 2.1								
Cooling capacity (Ethanol)				Coolin	g capa	acity (E	thano	)										
°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	1	0.8	0.55	0.3	0.07		kW	1.2	1.2	1.2	1	0.8	0.55	0.3	0.07
Viscosity max. cST 50				Viscos	sity ma	ax. cST				Ę	50							
Refrig	gerant					F	R449A			Refrige	erant					F	R449A	•
Filling	g volum	ne g				3	880			Filling	volum	ie g				3	380	
Global Warming Potential for R449A 1397				Global	Warm	ning Po	tential	for R4	149A	1	397							
Carbon dioxide equivalent t 0.531				Carbo	n dioxi	ide equ	ivalen	tt		0.531								
Pump capacity flow rate I/min 15 36				Pump capacity flow rate l/min				15 36										
Pump capacity flow pressure bar0.1 1.2				Pump	сарас	ity flov	v press	sure ba	ar	(	).1	1.2						
230V/50Hz			230V	760H	lz													
Heati	ng capa	acity k	N			2	2.7			Heating capacity kW 2.7								
Coolii	ng capa	acity (E	thanol	)						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	1	0.8	0.55	0.3	0.07		kW	1.2	1.2	1.2	1	0.8	0.55	0.3	0.07
Visco	sity ma	ax. cST				Ę	50			Viscos	sity ma	ax. cST				Ę	50	
Dofric	gerant					F	R449A			Refrige	erant					F	R449A	
Reing	lling volume g 380			Filling volume g 380						3	380							
	ı volum	ne g					.00		Global Warming Potential for R449A 1397			Global Warming Potential for R449A				1397		
Filling	•	•	tential	for R4	149A					Global	Warm	ning Po	tential	for R4	149A	1	397	
Filling Globa	•	ning Po			149A	1				Global Carbo		5			149A		1397 ).531	
Filling Globa Carbo	al Warm	ning Po ide equ	ivalen	tt	149A	1	397	0			n dioxi	ide equ	iivalen	tt	149A	(		10

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

200\	200V/50Hz						200V/60Hz											
Heating capacity kW 1.8					Heating capacity kW					-	1.8							
Cooling capacity (Ethanol)					Coolir	ig capa	acity (E	thano	)									
°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	1	0.8	0.55	0.3	0.07		kW	1.2	1.2	1.2	1	0.8	0.55	0.3	0.07
Visco	Viscosity max. cST 50				Viscosity max. cST 50													
Refrig	erant					F	R449A			Refrigerant R44					R449A			
Filling	volum	e g				3	880			Filling volume g					3	380		
Globa	l Warm	ning Po	tential	for R4	449A	1	397			Global Warming Potential for R449A 1397								
Carbo	on dioxi	de equ	ivalent	tt		(	).531			Carbon dioxide equivalent t					(	).531		
Pump	capac	ity flov	v rate l	/min		1	5 3	6		Pump	capac	ity flov	v rate l	/min		-	15 3	6

# Julabo

Pump capacity flow pressure bar	(
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0.1 ... 1.2

Pump capacity flow pressure bar

0.1 ... 1.2

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	1	0.8	0.55	0.3	0.07			
Visco	sity ma	ix. cST				Ę	50				
Refrig	erant					R449A					
Filling	volum	e g				3	380				
Globa	l Warm	ning Po	tentia	l for R4	149A	-	1397				
Carbo	n dioxi	de equ	ivalen	tt		(	).531				
Pump	capac	ity flov	v rate l	/min		-	16 40				
Pump	сарас	ity flov	v press	sure ba	ar	(	).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	1	0.8	0.55	0.3	0.07		
Viscos	sity ma	x. cST				ļ	50			
Refrige	erant					I	R449A			
Filling	volum	e g				:	380			
Global	Warm	ing Po	tentia	for R4	149A	-	1397			
Carbo	n dioxi	de equ	ivalen	tt		(	0.531			
Pump	capac	ity flov	v rate l	/min			16 40			
Pump	capac	ity flov	v press	sure ba	ar	(	<b>).3</b> 1	1.7		

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

# 200V/50Hz

Heating capacity kW 1											
Cooling capacity (Ethanol)											
°C	200	100	20	20 0 -10 -20 -30 -40							
kW	1.2	1.2	1.2	1	0.8	0.55	0.3	0.07			
Viscosity max. cST 50											
Refrig	erant					F	R449A				
Filling	volum	e g				3	380				
Globa	l Warm	ing Po	tential	for R4	149A	1	397				
Carbo	n dioxi	de equ	ivalen	tt		0.531					
Pump	capac	ity flov	v rate l	/min		1	153	6			
Pump	сарас	ity flov	v press	sure ba	ar	(	).1 1	.2			

# 230V/50Hz

Heatir	ng capa	acity k	W			1				ŀ	
Coolin	ig capa	acity (E	thano					C			
°C	200	100	20	0	-10	-20	-30	-40		٥	
kW	1.2	1.2	1.2	1	0.8	0.55	0.3	0.07		k	
Viscosity max. cST 50										١	
Refrig	erant			F	R449A						
Filling	volum	e g		3	380	) F					
Global	Warm	ing Po	tential	for R4	149A	1	397			C	
Carbo	n dioxi	de equ	(	0.531							
Pump	capac	ity flov	1	16 40							
Pump	capac	ity flov	v press	sure ba	ar	(	).3 1	1.7		F	

200V/60Hz									
Heating capacity kW 1									
Coolin	ig capa	acity (E	thano	)					
°C	200	100	20	0	-10	-20	-30	-40	
kW	1.2	1.2	1.2	1	0.8	0.55	0.3	0.07	
Viscosity max. cST 50									
Refrig	Refrigerant R449A								
Filling	volum	e g				3	380		
Globa	l Warm	ing Po	tentia	for R4	149A	1	397		
Carbo	n dioxi	de equ	ivalen	tt		(	).531		
Pump	capac	ity flov	v rate l	/min		1	15 3	6	
Pump capacity flow pressure bar 0.1 1.2									
230V	//60H	z							
	//60H		N			1			
Heatir		acity k\		)		1			
Heatir	ng capa	acity k\		I) O	-20	-30	-40		
Heatir Coolin	ng capa ng capa	acity k\ acity (E	thano		-20 0.55				
Heatin Coolin °C kW	ng capa ng capa 200	acity k\ acity (E 100 1.2	thano 20 1.2	0		-30 0.3	-40		
Heatin Coolin °C kW	ng capa ng capa 200 1.2 sity ma	acity k\ acity (E 100 1.2	thano 20 1.2	0		-30 0.3	-40 0.07		
Heatin Coolin °C kW Viscos Refrig	ng capa ng capa 200 1.2 sity ma	acity k\ acity (E 100 1.2 x. cST	thano 20 1.2	0		-30 0.3 E	-40 0.07		
Heatir Coolin °C kW Viscos Refrig Filling	ng capa ng capa 200 1.2 sity ma erant	acity kV acity (E 100 1.2 x. cST e g	thanol 20 1.2	0	0.55	-30 0.3 E	-40 0.07 50 R449A		
Heatin Coolin °C kW Viscos Refrig Filling Globa	ng capa g capa 200 1.2 sity ma erant volum	acity kV acity (E 100 1.2 x. cST e g ing Po	ithanol 20 1.2 tential	0 1	0.55	-30 0.3 F	-40 0.07 50 R449A 380		
Heatin Coolin °C kW Viscos Refrig Filling Globa Carbo	ng capa g capa 200 1.2 sity ma erant volum I Warm	acity kV acity (E 100 1.2 x. cST e g ing Po de equ	ithanol 20 1.2 Itential	0 1 for R4	0.55	-30 0.3 F 3 1	-40 0.07 50 8449A 380 1397		

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

# 208V/60Hz

Heating capacity kW

2.3



## Cooling capacity (Ethanol)

3											
°C	200	100	20	0	-10	-20	-30	-40			
kW	1.2	1.2	1.2	1	0.8	0.55	0.3	0.07			
Viscosity max. cST 50											
Refrigerant							R449A				
Filling volume g						380					
Global Warming Potential for R449A							1397				
Carbon dioxide equivalent t						0.531					
Pump capacity flow rate l/min						1	6 3	8			
Pump capacity flow pressure bar						(	).1 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.



# 100 % Cooling capacity

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



# Full control

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



#### Highest measuring accuracy

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



#### 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.



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



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





# Convenience for several users Administrator level for customizing instrument

settings, user levels with limited permissions for fast and safe defined access, password protection, all levels adjustable

#### Intelligent temperature control.

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



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



#### Intelligent pump system

Space-saving footprint

other or the application

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

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





# 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.



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



# Green technology.

Development consistently applied environmentally friendly materials and technologies.



#### 100% Checked.

100% testing. 100% quality. Each JULABO Circulator undergoes thorough quality testing before leaving the factory.



## Services 24/7.

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



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



# Satisfied customers. 11 subsidiaries and more than 100 partners

worldwide guarantee fast and qualified JULABO support.

#### Quick start.

Individual JULABO consultation and comprehensive manuals at your disposal.