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**thermo scientific**



## Refrigerated and heated bath circulators

Customizable solutions designed to  
meet your needs today and tomorrow

**ThermoFisher**  
SCIENTIFIC

# Arctic and Sahara Series refrigerated and heated bath circulators

Your application is as individual as you are. Bath circulators provide temperature-controlled fluid circulation to support diverse workflows in laboratory and process applications. Bath circulators support water conservation by replacing tap water for cooling and heating, saving thousands of dollars per year.

Using over 50 years of expertise, we designed Thermo Scientific™ bath circulators to meet the demands of temperature-control applications in scientific, research, and industrial labs. Our reliable immersion circulators can be used alone or with one of the bath solutions for analytical instrumentation, jacketed reactors, and rotary evaporators.

## Customizable solutions designed to meet your needs today and tomorrow

- Extensive choice of temperature ranges, pumping capacities, and bath volumes, with leading warranty coverage
- Selection of intuitive displays to support your application and budget
- A range of accessories and inserts for sample security and management

## Robust reliability even in the most demanding applications

- Digital control technology for precise temperature control and stability
- Powerful pumping capacity for external fluid circulation
- Corrosion-resistant stainless steel work area

## Support for you and the environment

- Technical expertise and support at your fingertips
- Service provided by dedicated local, depot, and technical support team
- Sustainability in mind with water conservation, energy-saving options, and zero-waste manufacturing



# Flexibility to customize

All systems and immersion circulators come standard with external circulation connections



## Immersion circulators

Choice of 8 controllers that can be paired to an existing tank, vessel, or bath to heat the fluid

## Bath circulators

Choice of heating and cooling temperature control with a large selection of stainless steel baths as well as economical polypropylene baths

## Accessories

An extensive selection of accessories, from work area covers to racks and inserts to heat transfer fluids to provide ultimate flexibility

# Immersion circulators

Thermo Scientific™ Standard, Advanced, and Premium Series heated immersion circulators offer advanced, precise sample temperature control. Powerful, integrated pumps ensure uniform temperature distribution for external circulations usage or internal temperature control.

- Programmable with temperature set points and ramping
- The controller can be indexed 90° for optimal viewing
- Real temperature adjustment (RTA) for calibration
- Audio/visual alarms for temperature and levels
- Adjustable pump speeds for flow or bath agitation
- Auto-restart after power failure
- On/off timer with real-time clock
- USB/serial communication options

## Standard (SC) Series—choose from 3 versions

Designed for ease of use with powerful pumping and heating capabilities for closed-loop applications, this economical choice offers solid performance for applications with temperatures ranging from +13°C above ambient to 150°C.

## Advanced (AC) Series—choose from 2 versions

This series offers greater pumping performance, ramp programming, application alarms, and temperature ranges from +13°C above ambient to 200°C.

## Premium (PC) Series—choose from 3 versions

This series is ideal for applications that require sophisticated control, multiple ramp programming, and extreme temperature performance, ranging from +13°C above ambient to 300°C.



Thermo Scientific™ SC100 Immersion Circulator



Thermo Scientific™ AC150 Immersion Circulator



Thermo Scientific™ PC200 Immersion Circulator

	Standard Series			Advanced Series		Premium Series		
Model	SC100	SC150	SC150L	AC150	AC200	PC200	PC201	PC300
Maximum temperature (°C)	100	150	150	150	200	200	200	300
Temperature stability (°C)**	0.02			0.01		0.01		
Heater capacity (kW) 230 V/115 V	2/1.2			2/1.2		2/1.2	3†	3†
Maximum flow rate (L/min)	17			20		24		
Maximum pressure (mbar/psi)	300/4.35			475/6.89		560/8.12		
Maximum suction (mbar/psi)	–			330/4.78		380/5.51		
Tank depth requirement (mm)	150	150	200	150	200			
Programmable set point temperatures	5							
Ramp programs	–	–	–	–	1	10		
High temperature warning	–	–	–	Yes		Yes		
Low level warning	–	Yes	Yes	Yes		Yes		
Application threshold alarm	–	–	–	Yes		Yes		
Fluid selection with predefined temperature limits	–	Yes						
Remote sensor port				Y	Y	Y	Y	Y
USB port		Y	Y		Y	Y	Y	Y
Multifunction port					Y	Y	Y	Y
Safety	–	Automatic shutdown for high temperature, low liquid level, or motor overload						
Pump	2 speed			3 speed		Incremental speed 40% to 100%		
Languages	English, German, French			English, German, French, Spanish, Italian		English, German, French, Spanish, Italian, Chinese, Japanese		

\* In combination with a Thermo Scientific™ PT100 sensor probe (Cat. No. 3330818 and 3330429) connected to the external application.

\*\* Temperature stability data measured according to DIN 12876.

† Available only in 230 V.

# Thermo Scientific™ Arctic™ Series refrigerated bath circulators

Choose from multiple capacities with a variety of reservoir openings and depth dimensions for maximum application flexibility



## Arctic Series refrigerated bath circulators

Controller/bath	A10	A25	A45HC
SC100	-10 to 100°C	-25 to 100°C	—
SC150	-10 to 100°C	-25 to 150°C	—
SC150L	—	-25 to 150°C	-28 to 150°C
AC150	-10 to 100°C	-25 to 150°C	—
AC200	-10 to 100°C	-25 to 200°C	-45 to 200°C
PC200	—	-25 to 200°C	-45 to 200°C
Cooling capacity at 20°C	240 W	500 W	900 W
Maximum bath volume (liters)*	6	12	12
Work area (D x W x L) mm (in.)	150 x 136.7 x 123.5 (5.9 x 5.4 x 4.9)	200 x 173 x 183.7 (7.9 x 6.8 x 7.2)	200 x 173 x 183.7 (7.9 x 6.8 x 7.2)
Net weight (kg/lb)	27.5/60.6	36.1/79.5	55.2/121.5
Compliance	CE/ROHS/WEEE	CE/ROHS/WEEE	CE/ROHS/WEEE

\* Fluid volume varies depending on the fluid used, temperature range, and items inserted in the reservoir.



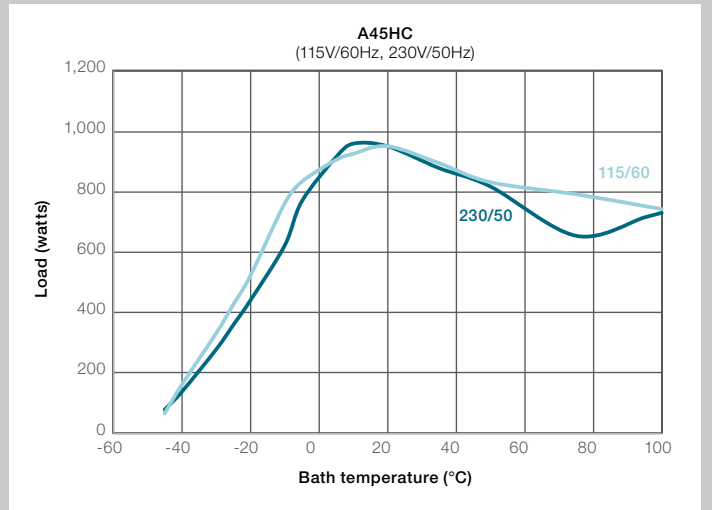
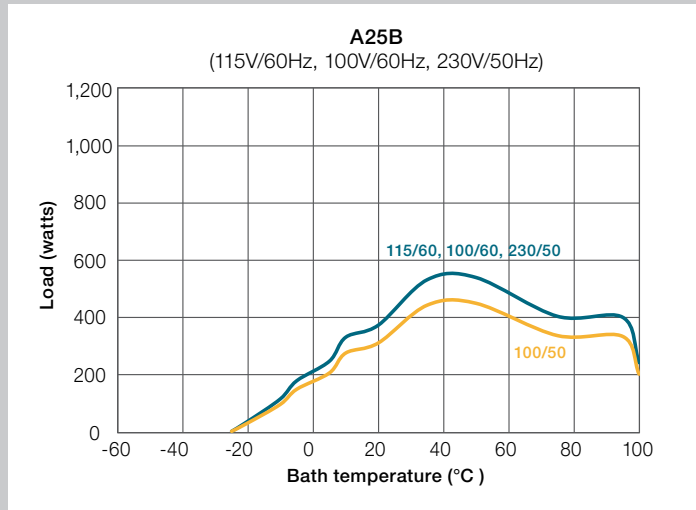
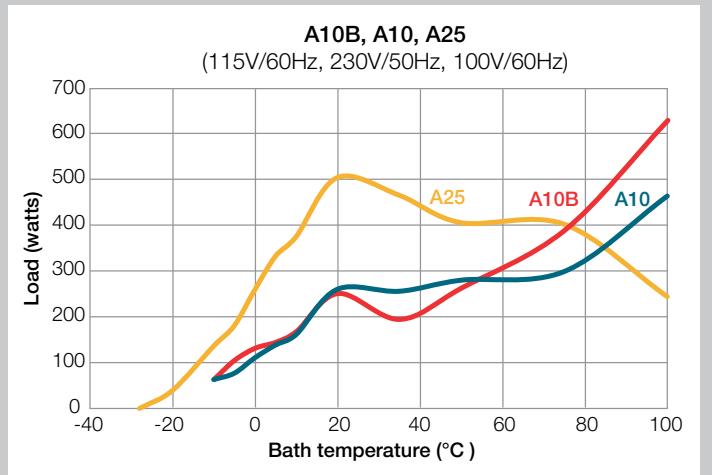
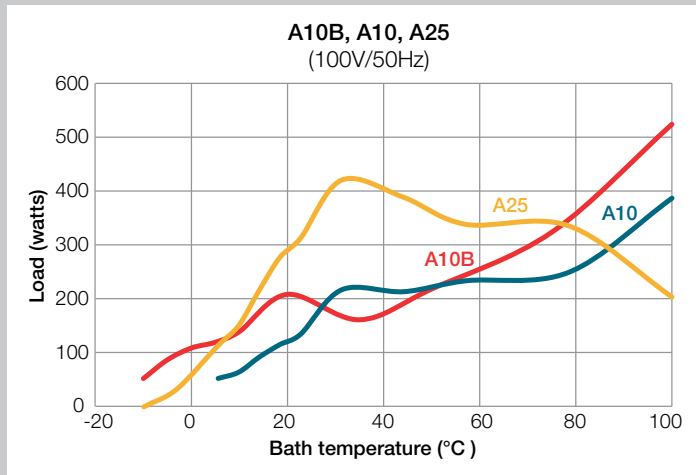
## Arctic Series refrigerated bath circulators, continued

Controller/bath	A10B	A25B
SC100	-10 to 100°C	-25 to 100°C
SC150	-10 to 100°C	-25 to 150°C
SC150L	—	—
AC150	-10 to 100°C	-25 to 150°C
AC200	-10 to 100°C	-25 to 200°C
PC200	—	—
Cooling capacity at 20°C 230 V and 115 V	240 W	500 W
Maximum bath volume (liters)*	30	21
Work area (D x W x L) mm (in.)	200 x 297.2 x 365 (7.9 x 11.7 x 13.4)	233 x 223.8 x 243.8 (9.2 x 8.8 x 9.6)
Net weight (kg/lb)	44.5/97.9	42.3/93.1
Compliance	CE/ROHS/WEEE	CE/ROHS/WEEE

\* Fluid volume varies depending on the fluid used, temperature range, and items inserted in the reservoir.

# Performance curves for refrigerated bath circulators

## Cooling capacity



Specifications obtained at sea level using water (above 5°C to 90°C) or a fluid with a specific heat of 2.3 kJ/kg-K or 0.55 Btu/lb-F (less than 5°C) as the recirculating fluid at a 20°C ambient condition, at nominal operating voltage. Other fluids, process temperatures, ambient temperatures, altitude, or operating voltage will affect performance. Specifications are for reference only and are subject to change.

# Sahara Series heated bath circulators

13°C above ambient to 300°C

## When your application requires a high temperature, rely on our durable, seamless, stainless steel baths

Thermo Scientific™ Sahara™ Series heated bath circulators are available in capacities from 7 to 53 L, with a variety of work area dimensions to meet your application needs.

- Up to 8 different controllers are available
- The controller can be indexed 90° left or right for easier viewing
- Rugged and corrosion-resistant for high-temperature applications up to 300°C

## Typical applications

- Viscometers
- Spectrophotometers
- Metrology
- Thawing
- Reaction vessels
- General laboratory use



## Sahara Series heated bath circulators

Controller/bath	S7	S13	S21	S45	S49
SC100	Ambient +13* to 100°C	Ambient +13* to 100°C	Ambient +13* to 100°C	Ambient +13* to 100°C	Ambient +13 to 100°C
SC150	Ambient +13* to 150°C	Ambient +13* to 150°C	Ambient +13* to 150°C	Ambient +13* to 150°C	Ambient +13 to 150°C
SC150L	Ambient +13* to 150°C	Ambient +13* to 150°C	—	Ambient +13* to 150°C	Ambient +13 to 150°C
AC150	Ambient +13* to 150°C	Ambient +13* to 150°C	Ambient +13* to 150°C	Ambient +13* to 150°C	Ambient +13 to 150°C
AC200	Ambient +13* to 200°C	Ambient +13* to 200°C	Ambient +13* to 200°C	Ambient +13* to 200°C	Ambient +13 to 200°C
PC200	Ambient +13* to 200°C	Ambient +13* to 200°C	—	Ambient +13* to 200°C	Ambient +13 to 200°C
PC201	Ambient +13* to 200°C	Ambient +13* to 200°C	—	Ambient +13* to 200°C	Ambient +13 to 200°C
PC300	Ambient +13* to 200°C	Ambient +13* to 200°C	—	—	—
Maximum bath volume (liters)**	8	12	19	41	53
Work area (D x W x L) mm (in.)	200 x 154.2 x 111.9 (7.9 x 6.1 x 4.4)	200 x 239.9 x 119.9 (7.9 x 9.4 x 4.4)	150 x 296.5 x 311.9 (5.9 x 11.7 x 12.3)	300 x 298.1 x 311.9 (11.8 x 11.7 x 12.3)	200 x 498 x 429.9 (7.9 x 19.6 x 16.9)
Net weight (kg/lb)	10.6/23.4	12.3/27	14.2/31.2	20.3/44.7	24.3/53.4
Compliance	CE/ROHS/WEEE	CE/ROHS/WEEE	CE/ROHS/WEEE	CE/ROHS/WEEE	CE/ROHS/WEEE

\* The lowest usable temperature may be 13°C (23°F) warmer than room temperature.

\*\* Fluid volume varies depending on the fluid used, temperature range, and items inserted into the reservoir.

# Polypropylene Series heated bath circulators

13°C above ambient to 100°C

## Cost-effective polypropylene (PP)

An economical alternative to stainless steel, Thermo Scientific™ polypropylene baths are thermally resistant up to 100°C and deliver exceptional temperature performance with operational savings. Temperatures are maintained from ambient plus 13°C to 100°C.



## Polypropylene Series heated bath circulators

Controller/bath	S5P	S14P	S21P
SC100	Ambient +13* to 100°C	Ambient +13* to 100°C	Ambient +13* to 100°C
SC150	Ambient +13* to 100°C	Ambient +13* to 100°C	Ambient +13* to 100°C
AC150	—	Ambient +13* to 100°C	Ambient +13* to 100°C
AC200	—	Ambient +13* to 100°C	Ambient +13* to 100°C
Bath volume (liters)**	6	12	19
Work area (D x W x L) mm (in.)	150 x 138 x 223 (5.9 x 5.4 x 8.8)	150 x 302 x 148.9 (5.9 x 11.9 x 5.9)	150 x 302 x 326.9 (5.9 x 11.9 x 12.9)
Net weight (kg/lb)	6.3/13.9	7.3/16.1	8.7/19.1
Compliance	CE/ROHS/WEEE	CE/ROHS/WEEE	CE/ROHS/WEEE

\* The lowest usable temperature may be 13°C (23°F) warmer than room temperature.

\*\* For use with water only.



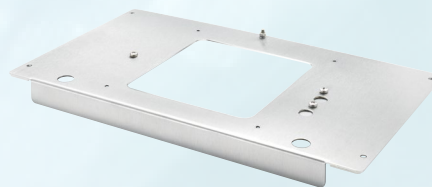
# Accessories

## Ordering information

Accessory	Cat. No.
<b>Racks and inserts for Arctic and Sahara Series units</b>	
<b>Stainless steel rack for bath types A10B, S49, S14P, and S21P. Choose a rack insert below:</b>	<b>1600002</b>
Rack insert—includes top and bottom panels that will hold up to 100 test tubes that are 10 mm	1600003
Rack insert—includes top and bottom panels that will hold up to 60 test tubes that are 16 mm	1600004
Rack insert—includes top and bottom panels that will hold up to 25 test tubes that are 25 mm	1600005
Rack insert—includes top and bottom panels with no holes	1600006
<b>Stainless steel rack for bath types A25B, A45HC, S21. Choose a rack insert below:</b>	<b>1600079</b>
Rack insert—includes top and bottom panels that will hold up to 55 test tubes that are 10 mm	1600072
Rack insert—includes top and bottom panels that will hold up to 32 test tubes that are 16 mm	1600081
Rack insert—includes top and bottom panels that will hold up to 13 test tubes that are 25 mm	1600082
Rack insert—includes top and bottom panel with no holes	1600083
<b>Bridges</b>	
Bath bridge—for immersion cooler; fits S21 and S45 heated baths	1600077
Bath bridge—for tap water cooling coil and auto-refill; fits S21 and S45 heated baths	1600123
Bath bridge—for cooling coil and auto-refill; fits S7 (for SC controller only)	1600131
Bath bridge—for cooling coil and auto-refill; fits S5P	1600135
Bath bridge—for cooling coil and auto-refill; fits S49	1600140
Bath bridge—for auto-refill; fits A25 and A45HC	1600125
Bath bridge—for auto-refill; fits A10B	1600141
Bath bridge—for auto-refill; fits A25B	1600124
Bath bridge—for auto-refill; fits A10	1600126
Bath bridge—for auto-refill; fits S7	1600133
Adjustable bath bridge—400 to 800 mm, for SC, AC, and PC immersion circulators	1600018



Stainless steel rack



Bath bridge

# Accessories

## Ordering information

Accessory	Cat. No.
<b>Lifting platform</b>	
Lifting platform, stainless steel for S21, S21P, S45	1600011
Bath bridge—for lifting platform in S21, S45	1600007
Bath bridge—for lifting platform in S21P and S14P	1600098
Bath bridge—for tap water cooling coil, auto-refill and lifting platform in S21P and S14P	1600136
Lifting platform, stainless steel for S14P	1600012
Lifting platform, stainless steel for A10B	1600142
Bath bridge—for lifting platform in A10B	1600036
Bath bridge—for lifting platform and auto-refill in A10B	1600128
Lifting platform, stainless steel for S49	1600013
Bath bridge—for lifting platform in S49	1600009
Bath bridge—for tap water cooling coil, auto-refill and lifting platform in S49	1600130
<b>Performance accessories</b>	
Fluid displacement block for A25, A45 bath	1600105
Fluid displacement block for A10 bath	1600045
<b>Tap water cooling coils</b>	
Tap water cooling coil for SC100 or SC150 immersion circulator with a clamp	1600015
Tap water cooling coil for SC150 L immersion circulator with a clamp	1600017
Tap water cooling coil for all controllers with S13, S21, S45, S49, S14P	1600014
Tap water cooling coil for SC150 L controller with S13, S45, S49	1600016
Tap water cooling coil for SC100 or SC150 controller with S5P	1600090
Tap water cooling coil for SC100 or SC150 controller with S7	1600092
Tap water cooling coil for SC150 L controller with S7	1600093
Tap water cooling coil for AC150 or AC200 controller with S7	1600094
Solenoid valve (100-230V/50-60Hz) for tap water cooling coil (AC200 and up)	1601000
<b>Connectivity</b>	
RS232 serial communication adapter	1600027
RS485 serial communication adapter	1600075
Communication extension board for Ethernet/LAN	1600076
Interface cable, USB ,1.8 m long	1600033
Interface cable, RS232 and RS485, 1.5 m long	1600034
Interface cable, LAN, 5 m long	1600035
Analog I/O adapter	1600149

Adding a **lifting platform** to your bath allows you to adjust the submerged depth of your vessels or other objects.

Improve time to temperature by lowering the amount of fluid that needs to be heated or cooled. **Fluid displacement blocks** are used for external circulation only.

Operate heated baths closer to ambient temperature by removing pump heat.

Various **adapter boxes and communication cables** are available to allow for serial and analog communication.



**Tap water cooling coil**

## Ordering information

Accessory	Cat. No.
<b>Work area covers</b>	
Stainless steel work area cover for S5P	1600020
Stainless steel work area cover for S14P	1600021
Stainless steel work area cover for S21P	1600022
Stainless steel work area cover for S21 S45	1600038
Stainless steel work area cover for S49	1600040
Stainless steel work area cover for A10B	1600042
Work area cover with leveling device for A10	1600100
Work area cover with leveling device for S7	1600102
Work area cover with leveling device for S13	1600103
<b>Tubing and accessories</b>	
Adapter M16x1 female/1/4 in. NPTF male	1600028
Adapter M16x1 male/1/4 in. NPTF male	1600029
Plumbing package – includes (4) clamps and (2) 5' Viton tubing (uninsulated), temperature range of -30°C to +200°C, 12mm ø	1600146
Plumbing package – includes (4) clamps and (2) 5' Viton tubing (insulated), temperature range of -30°C to +200°C, 12 mm ø	1600147
<b>Remote temperature sensors</b>	
PT100 probe, teflon coated, flexible, 300 mm long, 3 mm Ø, cable length 3 m	3330818
PT100 probe, 18/8 stainless steel tubing, 150 mm long, 3 mm Ø, 3 m cable length, up to 600°C	3330429
<b>Heat transfer fluids</b>	
Sil 100 Silicone oil bath liquid, temperature range -75 to 75°C, 5 L	9990201
Sil 100 Silicone oil bath liquid, temperature range -75 to 75°C, 10 L	9990202
Algaecide/corrosion inhibitor, Nalco Kit	610000000005
Thermo200 Treated Water Solution w/Nalco, Temp Range +5°C to +95°C, 5 gal	610000000007
Sil 180 Silicone oil bath liquid, temperature range -40 to 200°C, 5 L	9990203
Sil 180 Silicone oil bath liquid, temperature range -40 to 200°C, 10 L	9990204
Sil 300 Silicone oil bath liquid, temperature range 80 to 300°C, 5 L	9990205
Sil 300 Silicone oil bath liquid, temperature range 80 to 300°C, 10 L	9990206
Synth 260 bath liquid, temperature range 40 to 250°C, 5 L	9990213
Synth 260 bath liquid, temperature range 40 to 250°C, 10 L	9990214
Ethyl glycol, 5 gallons (approx. 19 liters) for low-temperature applications to -30°C	610000000001
<b>Software</b>	
NEScom control/monitoring PC software	422000000004
<b>Miscellaneous accessories</b>	
Cage for SC100/SC150 immersion circulator	1600088
Cage for SC150L immersion circulator	1600089
Auto-refill (100-230 V/50-60 Hz) (AC200 and up)	1603000

Directly control temperature of an external batch or application by placing the temperature sensor into the external application.



Stainless steel  
work area cover

