

Section 2 General Information

Description and Intended Use

The Thermo Scientific ADVANCED Series of Heated Immersion Circulators are used with refrigerated and heated baths. All immersion circulators can pump to an external system. All circulators have a digital display and easy-to-use touch pad, five programmable setpoint temperatures, acoustic and optical alarms, and offer adjustable high temperature protection.

The circulator is designed for use in a clean laboratory environment and in accordance with the Letter of Compliance located at the end of this manual.

ADVANCED Heated Immersion Circulators

	AC150	AC200
Temperature Range °C °F	Ambient +13 to +150 Ambient +23 to +302	Ambient +13 to +200 Ambient +23 to +392
Temperature Stability °C	±0.01	±0.01
Heater Capacity 230V/115V watts	2000/1200	2000/1200
Circulator Dimensions (H x W x D) mm inches	372 x 165 x 199 14.6 x 6.4 x 7.8	372 x 165 x 199 14.6 x 6.4 x 7.8
Reservoir Depth Requirement mm inches	150 5.9	150 5.9
Fill Level mm (from top of reservoir)	57.22	57.22
Required Reservoir Depth mm	150	150
Net Weight kg/lb	4.2/9.3	4.2/9.3
Pumping Capacity Max flow rate lpm/gpm Max pressure (mbar/psi) Max suction Pump speed steps	20/5.3 475/6.89 330/4.85 3	20/5.3 475/6.89 330/4.85 3
Electrical Requirements (Voltage ±10%)	100 V/50 Hz 100 V/60 Hz or 115 V/60 Hz or 230 V/50.60 Hz	100 V/50 Hz 100 V/60 Hz or 115 V/60 Hz or 230 V/50.60 Hz
Connectivity Remote sensor port USB port Multi function port RS232/RS485/Ethernet/LAN Analog I/O	Yes No No Optional No	Yes Yes Yes Optional Optional

- Performance specifications established in accordance with DIN 12876 (using water at 70°C).
- Lower temperature ranges available with supplemental cooling.
- The maximum bath wall thickness for circulators that have a factory installed clamp is 26 mm.
- Thermo Fisher Scientific reserves the right to change specifications without notice.

ARCTIC Refrigerated/Heated Bath Circulator Specifications

Stainless Steel Refrigerated/Heated Bath Circulators					
	A10	A25	A28	A28F	A40
AC150 Temperature Range °C °F	-10 to 100 14 to 212	-25 to 150 -13 to 302	-28 to 150 -18 to 302	-28 to 150 -18 to 302	-28 to 150 -14 to 302
AC200 Temperature Range °C °F	-10 to 100 14 to 212	-25 to 200 -13 to 392	-28 to 200 -18 to 392	-28 to 200 -18 to 392	-40 to 200 -40 to 392
Bath Volume liters gallons	4 - 6 1.1 - 1.6	7 - 12 1.8 - 3.2	6 - 10 1.6 - 2.6	6 - 10 1.6 - 2.6	7 - 12 1.8 - 3.2
Cooling Capacity watts	240	500	320	320	900
Refrigerant	R134a	R134a	R134a	R134a	R404
Overall Dimensions (H x W x D)* mm inches	670 x 220 x 414 26.4 x 8.7 x 16.3	749 x 273 x 483 29.5 x 10.7 x 19.0	749 x 273 x 483 29.5 x 10.7 x 19.0	558 x 514 x 426 22.0 x 20.2 x 16.8	787 x 385 x 519 31.0 x 15.2 x 20.4
Work Area Dimensions (D x W x L) mm inches	150 x 137 x 124 5.9 x 5.4 x 4.9	200 x 173 x 184 8.0 x 6.8 x 7.2	200 x 173 x 129 8.0 x 6.8 x 5.1	200 x 173 x 129 8.0 x 6.8 x 5.1	200 x 173 x 184 8.0 x 6.8 x 7.2
Net Weight kg/lb	27.5/60.6	36.1/79.5	36.0/79.1	35.6/78.3	55.2/121.5
Electrical Requirements** (Voltage ±10%)	100 V/50 Hz 100 V/60 Hz or 115 V/60 Hz or 230 V/50 Hz				

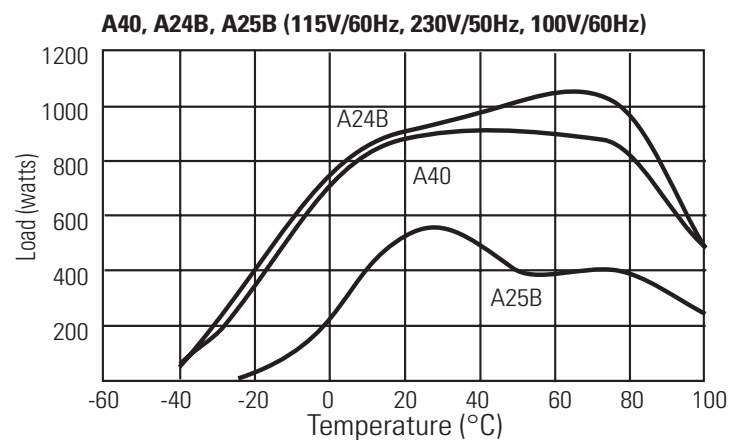
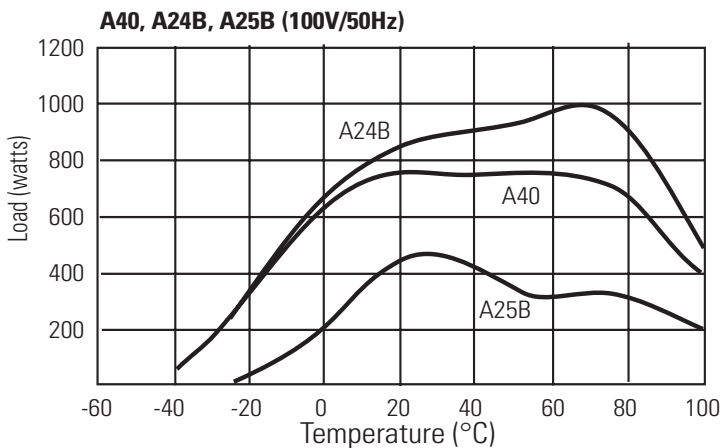
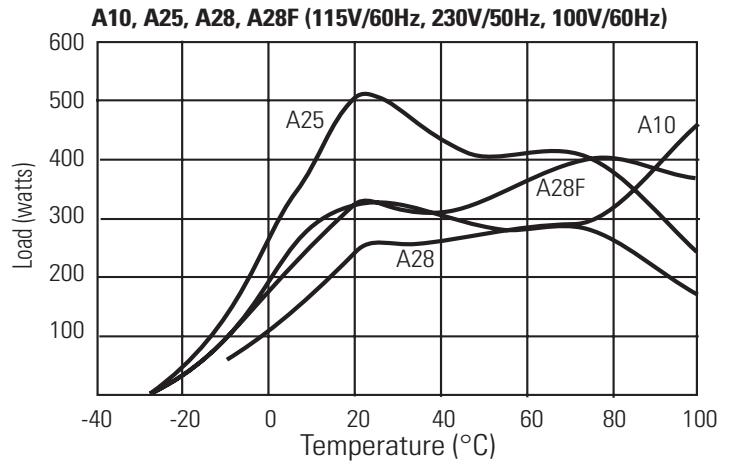
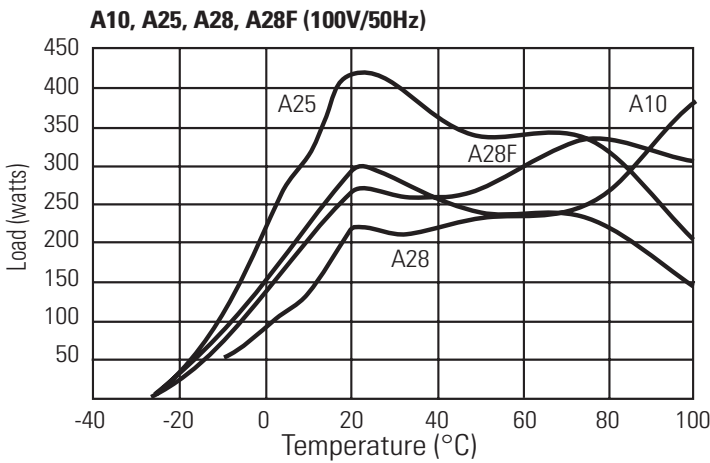
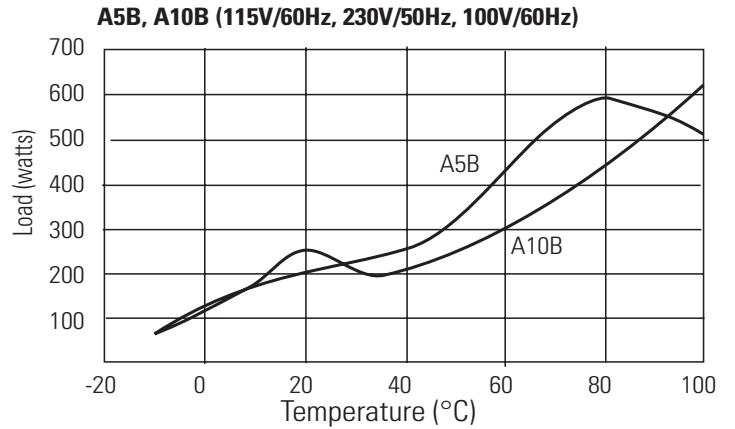
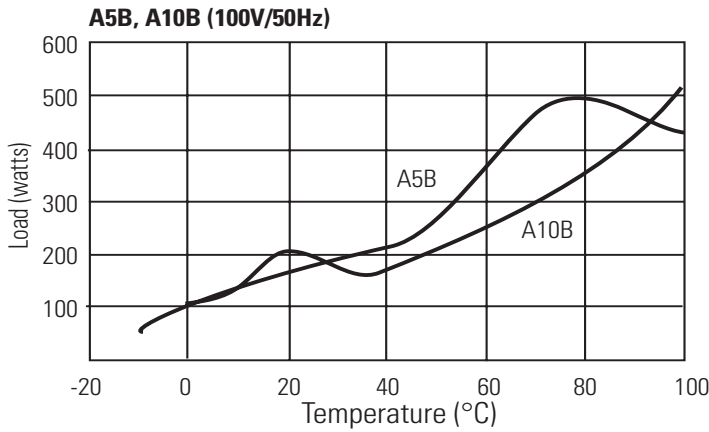
Stainless Steel Refrigerated/Heated Bath Circulators				
	A5B	A10B	A24B	A25B
AC150 Temperature Range °C °F	-5 to 100 23 to 212	-10 to 100 14 to 212	-24 to 150 -11 to 302	-25 to 150 -13 to 302
AC200 Temperature Range °C °F	-5 to 100 23 to 212	-10 to 100 14 to 212	-24 to 200 -11 to 392	-25 to 200 -13 to 392
Bath Volume liters gallons	12 - 21 3.2 - 5.5	17 - 30 4.5 - 7.9	16 - 27 4.2 - 7.1	13 - 21 3.4 - 5.5
Cooling Capacity watts	200	250	900	500
Refrigerant	R134a	R134a	R404	R134a
Overall Dimensions (H x W x D)* mm inches	509 x 429 x 738 20.0 x 16.9 x 29.1	509 x 429 x 913 20.0 x 16.9 x 35.9	612 x 765 x 610 24.1 x 30.1 x 24.0	778 x 324 x 541 30.6 x 12.8 x 21.3
Work Area Dimensions (D x W x L) mm inches	200 x 297 x 190 7.9 x 11.7 x 7.5	200 x 297 x 365 7.9 x 11.7 x 13.4	200 x 297 x 313 7.9 x 11.7 x 12.3	233 x 224 x 244 9.2 x 8.8 x 9.6
Net Weight kg/lb	40.0/88.9	44.5/97.9	58.6/128.9	42.3/93.1
Electrical Requirements** (Voltage ±10%)	100 V/50 Hz 100 V/60 Hz or 115 V/60 Hz or 230 V/50 Hz			

*See page 2-5. Add ~26 mm (1 inch) to D for drain fitting.

**See Section 3 for additional information.

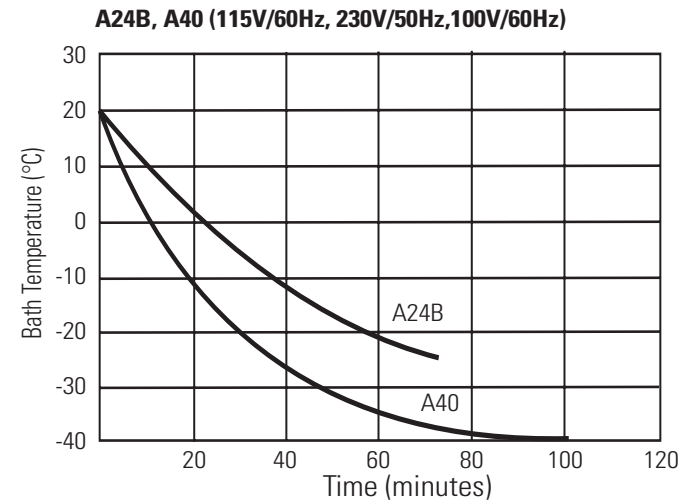
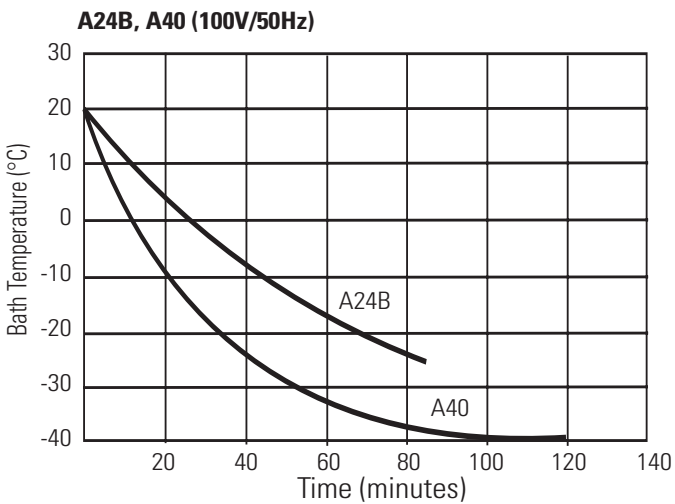
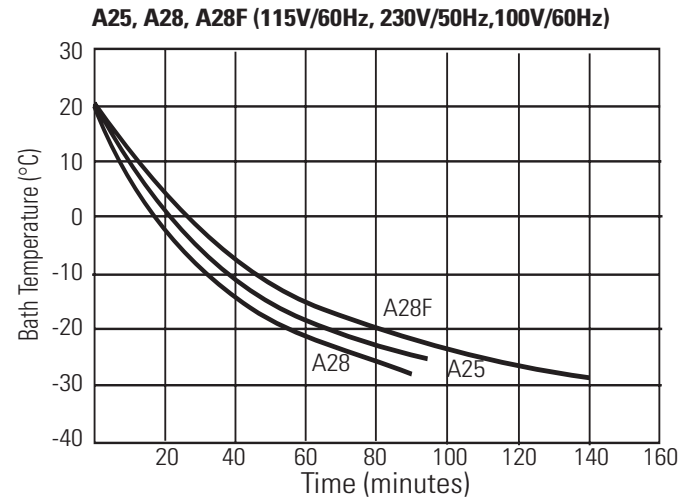
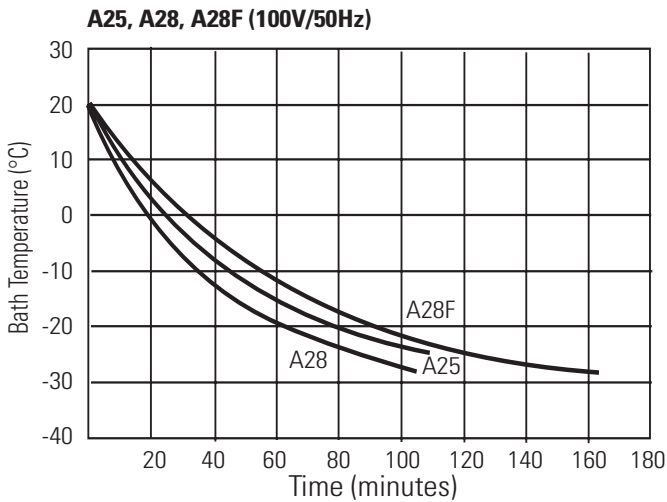
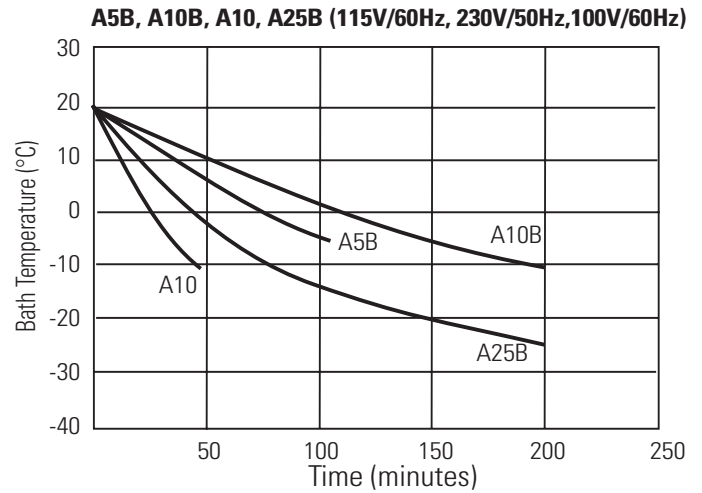
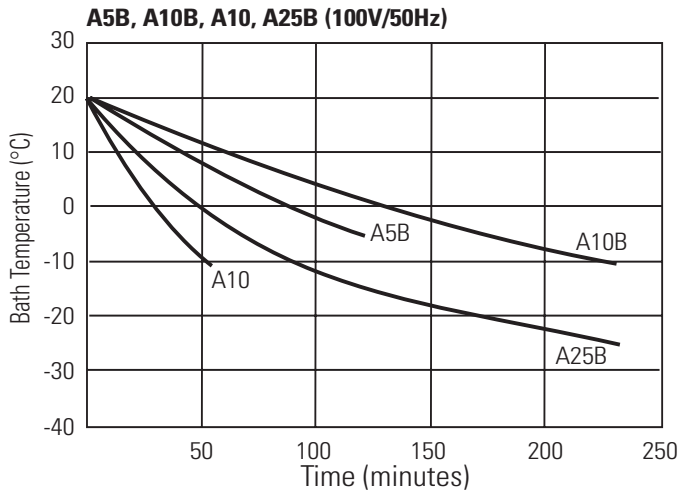
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Cooling Capacity



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. Pump specifications are nominal values of ±10%. Specifications are for reference only and are subject to change

Time to Temperature



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. Pump specifications are nominal values of ±10%. Specifications are for reference only and are subject to change