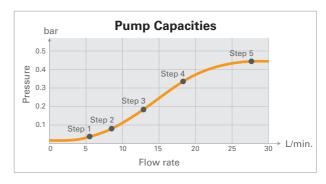
# Refrigerated & Heating Bath Circulators (General)

Rapid heating and cooling throughout the entire temperature range.





Pump Step	1	2	3	4	5
Max. pressure (psi)	0.5	1.1	2.4	4.9	5.9
Max. flow rate (L/min)	5.6	8.0	12.8	18.8	28.0

<sup>\*</sup> Bath fluid: water at the normal temperature.

## RW3-2025

Standard accessories

- Stainless steel flat cover
- Silicone rubber tubing (1ft length / 12mm inner dia.)

Optional accessories see page 28-29

• Test tube racks, Spring wire racks



Easy maintenance of condenser by removable gridded vent



Condenser air-filter for refrigerating efficiency



Comfortable front access drain





















#### **Performance**

- · Temperature range.
- RW3-35 models from -35 °C to 150 °C.
- RW3-25 models from -25  $^{\circ}$ C to 150  $^{\circ}$ C.
- · Microprocessor PID control.
- Three point temperature calibration / Automatic tuning / Automatic run.
- · Suitable for both internal and external bath environments due to reduced turbulence by using five-speed adjustable pump and built-in cooling coil. (1 to 3 steps of the pump for internal circulation and 4 to 5 steps for external circulation)

#### Convenience

- Bright VFD display with quick adjustable dial knob. (0.1 °C resolution)
- Dual wait on/off timer modes. (1 min. to 99 hr. 59 min.)
- · Convenient memory function of up to three frequently set temperature.

- · Corrosion-resistant, leak-proof, round-cornered, and easy-to-clean stainless steel bath with front access drain valve.
- Detachable condenser air-filter for easy maintenance of refrigerating efficiency.
- CFC-free refrigerant (R-507, R-404A) and a double service valve for leakage prevention.
- Quick-release front grill for easy cleaning of the condenser.
- RS-232 interface for external control and data collection. (RS-232 to USB serial converter is provided.)
- Side handles enables convenience handling and transport.

#### Safety

- · Isolated design of agitator, heater, and sensor by a baffle plate to minimize the turbulence in the bath fluid and also to protect users and samples against direct contact.
- · Complete safety protection system with warning alarms.
- Low fluid level and dry-running, over-temperature, over-current.
- Keypad lock function prevents accidental changes during operation.

#### for temperature range from -25 $^{\circ}$ C to 150 $^{\circ}$ C

	Model	RW3-0525	RW3-1025	RW3-2025	RW3-3025
Bath volume (L/	cu ft)	5/0.2 10/0.4 20/0.7 30/1.1			30 / 1.1
	rature range (°C / °F)	-25 to 150 / -13 to 302			
Temperature sta	ability <sup>1)</sup> (±°C / °F)	0.05 / 0.09			
	at -20°C (-4°F), W	30	50	260	390
Cooling	at 0 °C (+32°F), W	230	250	410	570
capacity 2) (bath fluid: ethanol)	at +20°C (+68°F), W	320	380	560	680
(batti ilaia. Ctilailoi)	Refrigerator	1/3 LBP, R-507	1/3 LBP, R-507	1/2 LBP, R-404A	3/4 LBP, R-404A
Pump	Max. pressure	5.9 PSI (406.8 millibar)			
(bath fluid: water)	Max. flow rate	7.4 gallons / minute (28 liters / minute)			
	Bath opening / depth	150×99, 160	211×154, 180	290×214, 200	300×264, 230
	(W×L, D) (mm / inch)	/ 5.9×3.9, 6.3	/ 8.3×6.1, 7.1	/ 11.4×8.4, 7.9	/ 11.8×10.4, 9
Dimension	Exterior	309x480x733	367x532x780	387x602x825	447x662x895
	(W×L×H) (mm / inch)	/ 12.2x18.9x28.9	/ 14.4x20.9x30.7	/ 15.2x23.7x32.5	/ 17.6x26.1x35.2
	Net weight (kg / lbs)	38 / 83.8	44 / 97	60 / 132.2	67 / 147.7
Electrical requir	rements (230V, 60Hz)	11A	11A	12.5A	13.5A
Cat. No.		AAH57041K	AAH57051K	AAH57061K	AAH57071K
Electrical requirements (230V, 50Hz) 11A 11A 12.5A		13.5A			
Cat. No.	at. No. AAH57042K AAH57052K AAH57062K AA		AAH57072K		
Electrical requir	rements (120V, 60Hz)	12.6A 12.6A			
Cat. No.		AAH57043U AAH57053U			-

#### for temperature range from $-35\,^{\circ}\mathrm{C}$ to $150\,^{\circ}\mathrm{C}$

	Model	RW3-0535	RW3-1035	RW3-2035	RW3-3035
Bath volume (L/	cu ft)	5 / 0.2	5/0.2 10/0.4 20/0.7 30/1.1		30 / 1.1
Working tempe	rature range (°C / °F)	-35 to 150 / -31 to 302	2		
Temperature sta	ability <sup>1)</sup> (±°C / °F)	0.05 / 0.09			
0 "	at -20 °C (-4°F), W	80	150	400	440
Cooling	at 0°C (+32°F), W	150	330	660	700
capacity 2) (bath fluid: ethanol)	at +20°C (+68°F), W	280	450	800	880
(batil liulu, etilaliol)	Refrigerator	1/2 LBP, R-404A	1/2 LBP, R-404A	3/4 LBP, R-404A	1 LBP, R-404A
Pump	Max. pressure	5.9 PSI (406.8 millibar)			
(bath fluid: water)	Max. flow rate	7.4 gallons / minute (28 liters / minute)			
	Bath opening / depth	150×99, 160	211×154, 180	290×214, 200	300×264, 230
	(W×L, D) (mm / inch)	/ 5.9×3.9, 6.3	/ 8.3×6.1, 7.1	/ 11.4×8.4, 7.9	/ 11.8×10.4, 9
Dimension	Exterior	309x480x733	367x532x780	387x602x825	447x662x895
	(W×L×H) (mm / inch)	/ 12.2x18.9x28.9	/ 14.4x20.9x30.7	/ 15.2x23.7x32.5	/ 17.6x26.1x35.2
	Net weight (kg / lbs)	38 / 83.8	44 / 97	60 / 132.2	67 / 147.7
Electrical requir	rements (230V, 60Hz)	12.5A 12.5A 13.5A 14.5A		14.5A	
Cat. No.		AAH57141K AAH57151K AAH57161K AAH57171			AAH57171K
Electrical requir	rements (230V, 50Hz)	12.5A 12.5A 13.5A 14.5A			14.5A
Cat. No.		AAH57142K AAH57152K AAH57162K AAH57172			AAH57172K

- 1) Technical data according to DIN 12876. (bath fluid : ethanol at -10  $^{\circ}\text{C}$  )
- 2) The cooling capacity is measured under 230V / 60Hz electrical condition.
- \* FDA establishment registered company. FDA listed products.

# **Accessories & Options**

## for Heating Baths & Bath Circulators







Transparent polypropylene gable covers Stainless steel flat covers

Open-rings covers

### Transparent polypropylene gable covers

Designed to protect samples from contamination due to direct dripping of the bath liquid.

Cat. No.	Suitable for	
AAA45531	BW-05H / BW-05B	
AAA45532	BW-10H / BW-10B	
AAA45533	BW-20H / BW-20B	

### Stainless steel flat covers

Made of stainless steel to prevent corrosion and rust.

Cat. No.	Suitable for	
AAA45541	BW-05H / BW-05B	
AAA45542	BW-10H / BW-05B	
AAA45543	BW-20H / BW-05B	

#### **Open-rings covers**

Beakers or Erlenmeyer flasks can be placed directly onto the perforated stainless steel half-shelf adjuster or water tank bottom. By adjusting ring size for each glassware, liquid loss due to evaporation is minimized.

Cat. No.		Description	Suitable for
AAA45521	with 2 openings	Ø80mm / Ø3.1″	DIALOCII / DIALOCD
AAA45524	with 1 opening	Ø110mm / Ø4.3″	BW-05H / BW-05B
AAA45522	with 4 openings	Ø80mm / Ø3.1″	
AAA45525	with 2 openings	ø110mm / ø4.3″	BW-10H / BW-10B
AAA45526	with 1 opening	Ø185mm / Ø7.3″	
AAA45523	with 8 openings	Ø80mm / Ø3.1″	
AAA45527	with 6 openings	ø110mm / ø4.3″	BW-20H / BW-20B
AAA45528	with 2 openings	Ø185mm / Ø7.3″	
AAA41561	with 2 openings	Ø80mm / Ø3.1″	DIMAGE
AAA41564	with 1 opening	Ø110mm / Ø4.3″	BW-05G
AAA41562	with 4 openings	Ø80mm / Ø3.1″	
AAA41565	with 2 openings	Ø110mm / Ø4.3″	BW-10G
AAA41566	with 1 opening	Ø185mm / Ø7.3″	
AAA41563	with 6 openings	Ø80mm / Ø3.1″	
AAA41567	with 4 openings	Ø110mm / Ø4.3″	BW-20G
AAA41568	with 1 opening	Ø185mm / Ø7.3″	

### **Test tube racks**

Highly durable stainless steel test tube racks feature adjustable angle and tube height support without requiring any base plate. You can easily mount and release test tube racks.

Cat. No.		Description	Insert Capacity	of Racks*	
AAA44581	for 86 test tubes	Ø8mm / Ø0.3″	BW-10G		
AAA44582	for 86 test tubes	Ø10mm / Ø0.4"	CW-20G/P 30G/P		
AAA44583	for 58 test tubes	Ø12mm / Ø0.5″	RW3-2025/P, 2040/P	BW-20G	
AAA44585	for 32 test tubes	Ø16mm / Ø0.6"	RW-33025/P, 3040/P		
AAA44586	for 19 test tubes	ø25mm / ø1.0″	2ea	3ea	
AAA41531	for 50 test tubes	Ø8mm / Ø0.3″			
AAA41532	for 50 test tubes	Ø10mm / Ø0.4″	BW-05H	RW3-1025/P RW3-1040/P CW3-10/P	
AAA41533	for 33 test tubes	ø12mm / ø0.5″	BW-05B BW-05G		
AAA41535	for 16 test tubes	Ø16mm / Ø0.6″			
AAA41539	for 10 test tubes	ø25mm / ø1.0″	Tea	Tea 1ea	
AAA45551	for 176 test tubes	Ø8mm / Ø0.3″			
AAA45552	for 176 test tubes	Ø10mm / Ø0.4″	BW-10H	BW-20H	
AAA45554	for 84 test tubes	ø12mm / ø0.5″	BW-10B	BW-20B	
AAA45556	for 68 test tubes	Ø16mm / Ø0.6″			
AAA45561	for 33 test tubes	ø25mm / ø1.0″	1ea	2ea	

<sup>\*</sup> No declination.



#### **Spring wire racks**

Ideal for holding a wide variety of tubes, flasks, and other glassware. All components are made of stainless steel.

Cat. No.	Suitable for
AAA45502	BW-10H / BW-10B
AAA45503	BW-20H / BW-20B
AAA41502	BW-10G
AAA41503	BW-20G
AAA51522	CW3-20/P / RW3-2025/P, 2040/P
AAA51523	CW3-30/P / RW3-3025/P, 3040/P



Spring wire racks (two tier rack with flexible crossed spring)

## Half-shelf adjusters

Stainless steel perforated sample tray shelves with adjustable height support prevent leaks and guard against rust and contamination.

Cat. No.	Suitable for
AAA45511	BW-05H / BW-05B
AAA45512	BW-10H / BW-10B
AAA45513	BW-20H / BW-20B
AAA41551	BW-05G
AAA41552	BW-10G
AAA41553	BW-20G



Half-shelf adjusters

## for Viscometer Heating Baths

### Viscometer tube holders

Specially designed to hold a two-opening viscometer glass tube and made of Bakelite, renowned for its high thermal endurance.

Cat. No.	Suitable for	
AAA43501	VB-25G (need max. 5 holders)	
AAA43301	VB-40G (need max. 8 holders)	





Viscometer tube holders

## **Cooling circulators**

The temperature range of viscometer heating baths can be lowered up to  $+10^{\circ}$ C ( $+50^{\circ}$ F) when used with an optional cooling circulator.

Cat. No.	Description	Suitable for	
AAH57051K	RW3-1025 (230V, 60Hz)	VP 2FC (200) (2015)	
AAH57651K	RW3-1025P (230V, 60Hz)	VB-25G (230V, 60Hz)	
AAH57052K	RW3-1025 (230V, 50Hz)	VP 25C (222)/ 5011-)	
AAH57652K	RW3-1025P (230V, 50Hz)	VB-25G (230V, 50Hz)	
AAH57061K	RW3-2025 (230V, 60Hz)	VB-40G (230V, 60Hz)	
AAH57661K	RW3-2025P (230V, 60Hz)		
AAH57062K	RW3-2025 (230V, 50Hz)	VP 40C (200) 501-1	
AAH57662K	RW3-2025P (230V, 50Hz)	VB-40G (230V, 50Hz)	

<sup>\*</sup> Refer to p.22 to 25 for more information on the cooling circulators.