

Baths & Circulators

Heating Baths

Shaking & Heating Baths

Viscometer Heating Baths

Heating Bath Circulators

Refrigerated & Heating Bath Circulators

Cold Trap Bath



» General Applications

Heating Baths

Routine laboratory applications, Coliform determinations, Sample thawing, Bacteriological examinations, Microbiological assays, Cell cultivation.

Bath Circulators

External/Internal temperature control, Photometers, Refractometers, Polarimeters, Viscometers, Fermentors, Electrophoresis chambers, Chromatography columns, Rotary evaporators.

Product Name		Heating Baths (Economy)		Heating Baths (General)	Shaking & Heating Baths	Viscometer Heating Baths
Model		BW-B	BW-H (Dual)	BW-G	BS	VB-G
Bath volume (L)		3.5, 11.5, 20	3.5, 11.5, 20	5, 10, 20	17, 25, 37, 55	25, 40
Temp. control	Temp. range [°C/°F]	Amb. +7 to 100 / Amb. +12.6 to 212	Amb. +5 to 100 / Amb. +9 to 212	Amb. +5 to 100 / Amb. +9 to 212	Amb. +5 to 100 / Amb. +9 to 212	Amb. +5 to 150 / Amb. +9 to 302
	Temp. stability at 50 °C ¹⁾ [±°C/°F]	0.5 / 0.9	0.1 / 0.18	0.2 / 0.36	0.2 / 0.36	0.05, 0.1 / 0.09, 0.18
Control	Timer	-	-	Wait on/off	Wait on/off	Wait on/off
	Auto-tuning	-	0	0	0	0
	Program function	-	-	-	-	-
	Computer interface	-	-	-	-	RS-232 port
Safety	Over temp. limit	0	0	0	0	0
	Low fluid level alarm	-	-	0	-	0
	Over current limit	0	0	0	0	0
	Auto-run (power failure)	-	-	0	0	0

1) Technical data according to DIN 12876.

» Technical Benefits

Performance

- Designed and tested in accordance with the international standard DIN 12876.
- Microprocessor PID control for precise temperature control.
- Temperature calibration and auto-tuning functions for optimizing the unit to the various test environment.
- Bath circulators are suitable for both internal and external bath environments.
- Programmable models are specially designed for satisfying convenient sophisticated control.
 - Intelligent program and scheduler.
 - Digital input and output control.

Convenience

- Wide selection covers all of your application needs.
 - Temperature / Volume / Control type / Circulation.
- Easy maintenance design.
 - Rounded corners for easy cleaning.
 - Corrosion resistant, seamless, leak-proof, stainless steel interior bath.
 - Dirt-repellent external surface with power coating.
- User-friendly functions for easy operating.
 - Wait on/off dual timer. (except for BW-B and BW-H / CTB)
 - Three commonly used temperature memories.
- Intuitive touch LCD controller with easy icons and logical menus for easy operating. (for programmable models)

Safety

- Patented CLS-CS (Custom Logical Safe Control System)
 - Protection against low fluid level and dry running.
 - Automatic power cut-off system against overheating.
 - Protection system by fuses against overcurrent.
 - Automatic run or Manual run after power interruption.
- Eco-friendly CFC-free refrigerant use (for refrigerated models)

Heating Bath Circulators (General)	Heating Bath Circulators (Programmable)	Refrigerated & Heating Bath Circulators (General)		Refrigerated & Heating Bath Circulators (Programmable)		Cold Trap Bath
CW3	CW3-P	RW3		RW3-P		CTB
5, 10, 20, 30	5, 10, 20, 30	5, 10, 20, 30		5, 10, 20, 30		4.8
Amb. +5 to 150 / Amb. +9 to 302	Amb. +5 to 150 / Amb. +9 to 302	-25 to 150 / -13 to 302	-35 to 150 / -31 to 302	-25 to 150 / -13 to 302	-35 to 150 / -31 to 302	Down to -40 / -40
0.05, 0.08 / 0.09, 0.14	0.05, 0.08 / 0.09, 0.14	0.05 / 0.09		0.05 / 0.09		-
Wait on/off	Wait on/off	Wait on/off		Wait on/off		-
0	0	0		0		-
-	0	-		0		-
RS-232 port (RS-232 to USB serial converter is provided)	RS-232 port (RS-232 to USB serial converter is provided)	RS-232 port (RS-232 to USB serial converter is provided)		RS-232 port (RS-232 to USB serial converter is provided)		-
0	0	0		0		0
0	0	0		0		-
0	0	0		0		0
0	0	0		0		-

Heating Baths (Economy-Analog)



Economical water baths for optimal temperature control.



BW-10B

with optional transparent PP gable cover, test tube rack

Optional accessories see page 28-29

- Stainless steel flat covers
- Open-ring covers, Test tube racks
- Spring wire racks, Half-shelf adjusters

Performance

- Temperature range from ambient +7 °C to 100 °C.
- On/off temperature control.

Convenience

- Simple and quick control panel.
- Corrosion-resistant stainless steel construction allowing other bath fluids as well as water and silicone fluids.
- Low-profile design with sloped control panel for easier access and better safety.
- Variety of accessories are available to meet application demands.

Safety

- Isolated design of heater, and sensor by a baffle plate to protect users and samples against direct contact.
- Complete safety protection system with warning alarms.
 - Over-temperature, over-current protection.
- Splash-proof keypad.



Wide selection of accessories



Simple and quick control

Model		BW-05B		BW-10B		BW-20B	
Bath volume (L / cu ft)		3.5 / 0.1		11.5 / 0.4		20 / 0.7	
Working temperature range (°C / °F)		Amb. +7 to 100 / Amb. +12.6 to 212					
Temperature stability ¹⁾ (±°C / °F)		0.5 / 0.9					
Dimension	Bath opening / depth (WxL, D) (mm / inch)	240×136, 115 / 9.4×5.4, 4.5		300×240, 165 / 11.8×9.5, 6.5		498×300, 165 / 19.6×11.8, 6.5	
	Exterior (WxLxH) (mm / inch)	303×242×245 / 11.9×9.5×9.6		357×330×290 / 14.1×13×11.4		564×392×290 / 22.2×15.4×11.6	
	Net weight (kg / lbs)	6.5 / 14.3		10 / 22		18.5 / 40.8	
Electrical requirements (230V)		60Hz, 3A 50Hz, 3A		60Hz, 4.3A 50Hz, 4.3A		60Hz, 8.7A 50Hz, 8.7A	
Cat. No.		AAH46011K	AAH46012K	AAH46021K	AAH46022K	AAH46031K	AAH46032K
Electrical requirements (120V)		60Hz, 5.8A		60Hz, 8.3A		60Hz, 8.3A	
Cat. No.		AAH46013U		AAH46023U		AAH46033U	

1) Technical data according to DIN 12876. (bath fluid : water at 50 °C)
 * FDA establishment registered company. FDA listed products.



Performance

- Temperature range from ambient +5 °C to 100 °C.
- Microprocessor PID control / Automatic tuning / Calibration.
- Powerful circulation system using our patented agitator.

Convenience

- Two independently controlled reservoirs merged into a single unit for space saving. (for Dual models)
- Digital LED displays with quick adjustable dial knob. (0.1 °C resolution)
- Low-profile design with sloped control panel for easier access and better safety.

Safety

- Isolated design of heater, and sensor by a baffle plate to protect users and samples against direct contact.
- Complete safety protection system with warning alarms.
 - Over-temperature, over-current protection.
- Keypad lock function prevents accidental changes during operation.

Economical, digital heating baths.
Model selection between single and dual baths.



BW-10H / BW-0510H

with optional accessories

- Optional accessories** see page 28-29
- Transparent PP gable covers
 - Test tube racks, Open-ring covers



Powerful circulation by built in agitator



Accurate value setting and display

Digital Model		BW-05H	BW-10H	BW-20H	
Bath volume (L / cu ft)		3.5 / 0.1	11.5 / 0.4	20 / 0.7	
Working temperature range (°C / °F)		Amb. +5 to 100 / Amb. +9 to 212			
Temperature stability ¹⁾ (±°C / °F)		±0.1 / 0.18			
Dimension	Bath opening / depth (WxL, D) (mm / inch)	240×136, 150 / 9.4×5.4, 5.9	300×240, 200 / 11.8×9.5, 7.9	498×300, 200 / 19.6×11.8, 7.9	
	Exterior(WxLxH) (mm / inch)	307×216×266 / 12.1×8.5×10.5	364×316×318 / 14.3×12.4×12.5	564×372×318 / 22.2×14.6×12.5	
	Net weight (kg / lbs)	6.5 / 14.3	9.5 / 21	15.5 / 34.2	
Electrical requirements (230V, 50 / 60Hz)		3.0A	4.3A	8.7A	
Cat. No.		AAH45115K	AAH45125K	AAH45135K	
Electrical requirements (120V, 60Hz)		5.8A	8.3A	8.3A	
Cat. No.		AAH45113U	AAH45123U	AAH45133U	
Dual Model		BW-0505H	BW-0510H	BW-1010H	BW-1020H
Bath volume (L / cu ft)		3.5 & 3.5 / 0.1 & 0.1	3.5 & 11.5 / 0.1 & 0.4	11.5 & 11.5 / 0.4 & 0.4	11.5 & 20 / 0.4 & 0.7
Working temperature range (°C / °F)		Amb. +5 to 100 / Amb. +9 to 212			
Temperature stability ¹⁾ (±°C / °F)		±0.1 / 0.18			
Dimension	Bath opening / depth (WxL, D & WxL, D) (mm / inch)	240×136, 150per chamber / 9.4×5.4, 5.9 per chamber	240×136, 150 & 300×240, 200 / 9.4×5.4, 5.9 & 11.8×9.5, 7.9	300×240, 200 per chamber / 11.8×9.5, 7.9 per chamber	300×240, 200 & 498×300, 200 / 11.8×9.5, 7.9 & 19.6×11.8, 7.9
	Exterior (WxLxH) (mm / inch)	590×216×265 / 23.2×8.5×10.4	544×316×318 / 21.4×12.4×12.5	706×300×318 / 27.8×11.8×12.5	844×372×318 / 33.2×14.6×12.5
	Net weight (kg / lbs)	9.7 / 21.3	12.4 / 27.3	14 / 30.8	17.6 / 38.7
	Electrical requirements (230V, 50 / 60Hz)	3 & 3A	3 & 4.3A	4.3A & 4.3A	4.3A & 8.7A
Cat. No.		AAH47115K	AAH47125K	AAH47135K	AAH47145K
Electrical requirements (120V, 60Hz)		5.8A & 5.8A	5.8A & 8.3A	8.3A & 8.3A	8.3A & 8.3A
Cat. No.		AAH47113U	AAH47123U	AAH47133U	AAH47143U

1) Technical data according to DIN 12876. (bath fluid : water at 50°C)

* FDA establishment registered company. FDA listed products.

Heating Baths (General)



Outstanding temperature control water baths for diverse applications.



BW-05G

- Standard accessories**
- Stainless steel flat cover
- Optional accessories**
see page 28-29
- Open-rings covers, Test tube racks
 - Spring wire racks, Half-shelf adjusters

Performance

- Temperature range from ambient +5 °C to 100 °C.
- Microprocessor PID control / Automatic tuning / Calibration.

Convenience

- Easy readout digital LED displays. (0.1 °C resolution)
- Dual wait on/off timer modes. (1 min. to 99 hr. 59 min.)
- Programming functions are ideal for critical research quality control, and regulatory tests.
- Convenient memory function of up to three frequently set temperature.
- Corrosion-resistant stainless steel construction allowing other bath fluids as well as water and silicone fluids.
- Low-profile reservoir design.

Safety

- Isolated design of heater, and sensor by a baffle plate 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.
- Splash-proof keypad.

Model		BW-05G	BW-10G	BW-20G
Bath volume (L / cu ft)		5 / 0.2	10 / 0.4	20 / 0.7
Working temperature range (°C / °F)		Amb. +5 to 100 / Amb. +9 to 212		
Temperature stability ¹⁾ (± °C / °F)		0.2 / 0.36		
Dimension	Bath opening / depth (WxL, D) (mm / inch)	231×150, 160 / 9.1×5.9, 6.3	285×211, 180 / 11.2×8.3, 7.1	345×290, 200 / 13.6×11.4, 7.9
	Exterior with gable cover (WxLxH) (mm / inch)	355×260×334 / 14×10.2×13.1	410×311×354 / 16.1×12.2×14	471×390×374 / 18.5×15.4×14.7
	Net weight (kg / lbs)	10 / 22	14 / 31	18 / 40
Electrical requirements (230V, 50 / 60Hz)		3A	4.4A	8.7A
Cat. No.		AAH41405K	AAH41415K	AAH41425K
Electrical requirements (120V, 50 / 60Hz)		5.8A	8.3A	8.3A
Cat. No.		AAH41406U	AAH41416U	AAH41426U

¹⁾ Technical data according to DIN 12876. (bath fluid : water at 50 °C)

* FDA establishment registered company. FDA listed products.



Performance

- Temperature range from ambient +5 °C to 100 °C.
- Microprocessor PID control / Automatic tuning / Calibration.
- Separate control keys for shaker mechanism allows the unit also to be used as heating bath.

Convenience

- Multiple LED displays (0.1 °C and 1 rpm resolution) for setting various values.
- Dual wait on/off timer modes. (1 min. to 99 hr. 59 min.)
- Minimal shock to the samples thanks to the shaker's gentle start feature.
- Spring wire rack is easy to equip and the height of the rack is easily adjustable.
- Gable cover minimizes the liquid loss and prevents dripping of the bath liquid into the samples.
- Silent and anti-vibration BLDC motor.
- SUS 304 spring wire rack (two tier rack with flexible crossed spring) provides various ways of glassware settings.

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.
 - Over-temperature, over-current protection.



Specially designed inner gable cover for protection of sample contamination

Reciprocal shaking & heating baths.

Ideal for sample incubation conditions for DNA, tissue, or cell culture applications.



BS-31

Standard accessories

- Stainless steel gable cover
- Spring wire rack

Optional accessories

see page 27

- Universal platforms
- Dedicated platforms, Flask clamps

Model		BS-06	BS-11	BS-21	BS-31
Bath volume (L / cu ft)		17 / 0.6	25 / 0.9	37 / 1.3	55 / 1.9
Working temperature range (°C / °F)		Amb. +5 to 100 / Amb. +9 to 212			
Temperature stability ¹⁾ (±°C / °F)		0.2 / 0.36			
Shaking system	Motion / Speed range (rpm)	Reciprocating / 20 to 180			
	Recip stroke length (mm / inch)	25, 30, 35 / 1.0, 1.2, 1.4 available - Standard 30 / 1.2			
Dimension	Bath opening / depth (WxL, D) (mm / inch)	199x300, 235 / 7.8x11.8, 9.3	319x300, 235 / 12.6x11.8, 9.3	479x300, 235 / 18.9x11.8, 9.3	629x350, 235 / 24.8x13.8, 9.3
	Exterior (WxLxH) (mm / inch)	430x440x355 / 16.9x17.3x14	550x440x355 / 21.7x17.3x14	710x440x355 / 28x17.3x14.3	860x490x355 / 33.9x19.3x14
	Net weight (kg / lbs)	26 / 57	30 / 66	35 / 77	42 / 93
Electrical requirements (230V, 60Hz)		3.7A	4.6A	8.9A	8.9A
Cat. No.		AAH44061K	AAH44111K	AAH44211K	AAH44311K
Electrical requirements (230V, 50Hz)		3.7A	4.6A	8.9A	8.9A
Cat. No.		AAH44062K	AAH44112K	AAH44212K	AAH44312K
Electrical requirements (120V, 60Hz)		7.1A	8.8A	-	-
Cat. No.		AAH44063U	AAH44113U	-	-

1) Technical data according to DIN 12876. (bath fluid : water at 50 °C)

* FDA establishment registered company. FDA listed products.

Viscometer Heating Baths



Ultra precise temperature control with excellent visibility.



VB-40G

Standard accessories

- Stainless steel covers for holes on the top
- Cooling coil

Optional accessories

see page 29

- Viscometer tube holders
- Cooling Circulators

Performance

- Temperature range from ambient +5 °C to 150 °C.
- Microprocessor PID control / Automatic tuning / Calibration.
- Optimal temperature equilibrium achieved by a vane type stirrer with strong circulation power.

Convenience

- Easy readout digital LED displays.
(0.01 °C resolution at 0 to 99.9 °C / 0.1 °C resolution at 100 to 150 °C)
- Dual wait on/off timer modes. (1 min. to 99 hr. 59 min.)
- Convenient memory function of up to three frequently set temperature.
- Clear visibility provided by double tempered safety glass windows in front and rear sides.
- Operations at below or slightly above ambient temperature allowed by stainless steel cooling coil.
(for operation from 10 °C, use an optional cooling circulator)
- Ø 51 mm holes (for glass capillary viscometer tubes) and a Ø12.6 mm hole. (for a thermometer)
- RS-232 interface for external control and data collection.

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.



Ideal for application requiring high visibility



Easy holding of U-shaped viscometer glass tubes (optional)

Model		VB-25G		VB-40G	
Bath volume (L / cu ft)		25 / 0.9		40 / 1.4	
Working temperature range ²⁾ (°C / °F)		Amb. +5 to 150 / Amb. +9 to 302			
Temperature stability ¹⁾ (±°C / °F)		0.05 / 0.09		0.1 / 0.18	
Dimension	Bath opening / depth (WxL, D) (mm / inch)	145x265, 330 / 5.7x10.4, 13		295x265, 330 / 11.6x10.4, 13	
	Cover lids / Hole for thermometer (mm)	5ea / Ø51, 1ea / Ø12.6		8ea / Ø51, 1ea / Ø12.6	
	Exterior (WxLxH) (mm / inch)	492x374x536 / 19.4x14.7x21.1		642x374x536 / 25.3x14.7x21.1	
	Net weight (kg / lbs)	28 / 61.7		37 / 81.6	
Electrical requirements (230V)		60Hz, 13A	50Hz, 13A	60Hz, 13A	50Hz, 13A
Cat. No.		AAH43301K	AAH43302K	AAH43401K	AAH43402K

1) Technical data according to DIN 12876. (bath fluid : water at 50 °C)

2) If you want to operate the unit below Amb. + 5 °C, an optional cooling circulator is required.

The lowest temperature when using an optional cooling circulator is +10 °C. For ordering information, see page 22 to 25.

* FDA establishment registered company. FDA listed products.



Performance

- Temperature range from ambient +5°C to 150°C.
- Microprocessor PID control.
- Three point temperature calibration / Automatic tuning / Automatic run.
- Accurate, stable, and efficient temperature management by using a powerful variable-speed pump. (1 to 3 steps of pump for internal circulation and 4 to 5 steps for external circulation)
- Powerful pump pressure and flow rate throughout the whole temperature range.

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.
- 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.

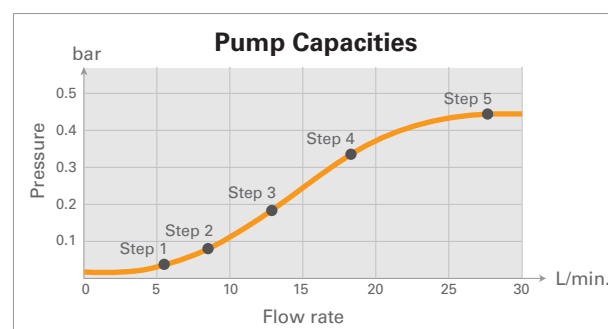
External and internal circulation with powerful pumping capability



CW3-10

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

- Optional accessories**
- Test tube racks, Spring wire racks
- see page 28-29



* Bath fluid : Water at the normal temperature.

Model	CW3-05	CW3-10	CW3-20	CW3-30
Bath volume (L / cu ft)	5 / 0.2	10 / 0.4	20 / 0.7	30 / 1.1
Working temperature range ²⁾ (°C / °F)	Amb. +5 to 150 / Amb. +9 to 302			
Temperature stability ¹⁾ (± °C / °F)	0.05 / 0.09			0.08 / 0.144
Pump	Max. pressure	5.9 PSI (406.8 millibar)		
	Max. flow rate	7.4 gallons / minute (28 liters / minute)		
Dimension	Bath opening / depth (W×L, D) (mm / inch)	150×99, 160 / 5.9×3.9, 6.3	211×154, 180 / 8.3×6.1, 7.1	290×214, 200 / 11.4×8.4, 7.9
	Exterior (W×L×H) (mm / inch)	228×395×424 / 8.9×15.6×16.7	289×450×444 / 11.4×17.7×17.5	368×510×464 / 14.5×20.1×18.3
	Net weight (kg / lbs)	12.5 / 27.6	15 / 33	17.5 / 38.6
Electrical requirements (230V, 50/60 Hz)	8.5A			
Cat. No.	AAH52341K	AAH52351K	AAH52361K	AAH52371K
Electrical requirements (120V, 60 Hz)	8.6A			
Cat. No.	AAH52342U	AAH52352U	AAH52362U	AAH52372U

1) Technical data according to DIN 12876. (bath fluid : water at 50°C)

2) If you operate the unit in 1 to 3 steps of pump, the temperature range can be from Amb. +5°C but in 4 and 5 steps, the range will be from Amb. +15°C.

* FDA establishment registered company. FDA listed products.

Heating Bath Circulators (Programmable)

Highly intuitive user interface is insured by equipping the new smart programmable controller.

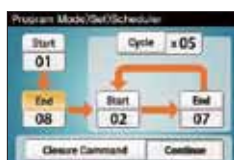
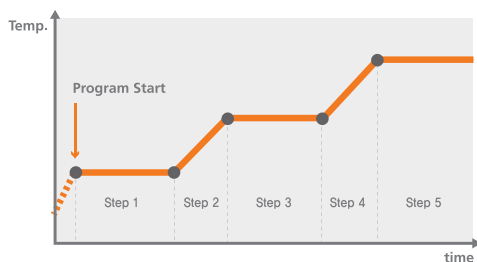


CW3-P models

- 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

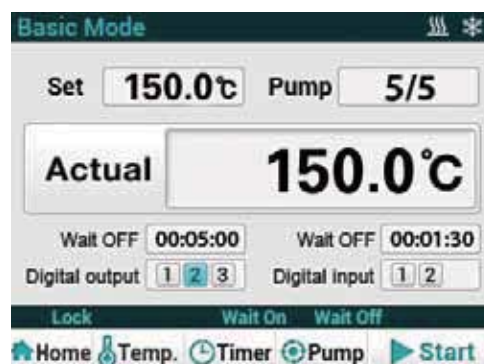
Intelligent program control



Convenient scheduler

Step No.	Temp.	Time	DC Cl.
01	150.0 °C	30:50	3
02	80.0 °C	10:25	4
03	130.0 °C	20:50	3
04	80.0 °C	10:25	4
05	150.0 °C	30:15	1

Program view at a glance



Touch LCD Controller



Intelligent program control

- 10 programs available for temperature ramp up and dwell control.
- 10 steps per a program and 99 hours 59 minutes per a step.
- Stored programs are easily linkable.
- Programs can be repeated up to 99 cycles.
- Pre-heating and heating time are settable before program starts.

Performance

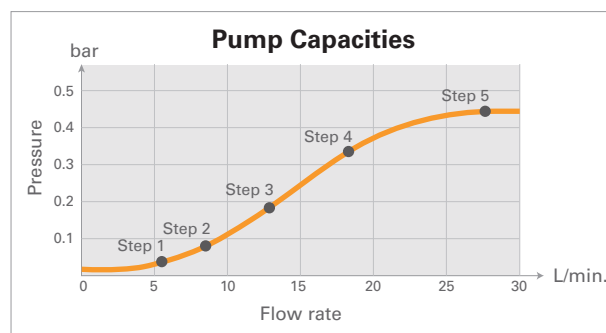
- Temperature range from ambient +5 °C to 150 °C.
- Microprocessor PID control.
- Three point temperature calibration / Automatic tuning / Automatic run.
- Accurate, stable, and efficient temperature management by using a powerful variable-speed pump. (1 to 3 steps of pump for internal circulation and 4 to 5 steps for external circulation)
- Powerful pump pressure and flow rate throughout the whole temperature range.

Convenience

- Intuitive touch screen LCD controller with easy icons and logical menus.
- Dual wait on/off timer modes. (1 min. to 99 hr. 59 min.)
- Digital input and output control function for interlocking external devices.
- Corrosion-resistant, leak-proof, round-cornered, and easy-to-clean stainless steel bath with front access drain valve.
- RS-232 interface for external control and data collection. (RS-232 to USB serial converter is provided)
- Built-in casters and side handles for easy transport and installation.

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.
- Splash-proof keypad.



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

* Bath fluid: water at the normal temperature.

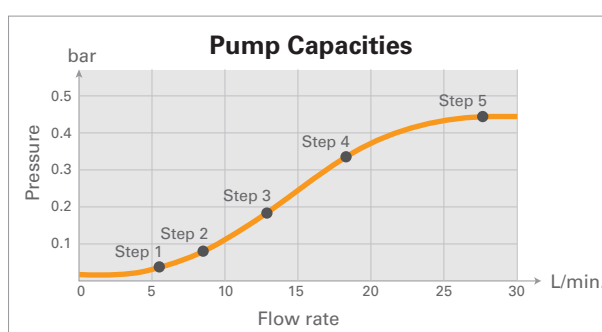
Model	CW3-05P	CW3-10P	CW3-20P	CW3-30P					
Bath volume (L / cu ft)	5 / 0.2	10 / 0.4	20 / 0.7	30 / 1.1					
Working temperature range ²⁾ (°C / °F)	Amb. +5 to 150 / Amb. +9 to 302								
Temperature stability ¹⁾ (±°C / °F)	0.05 / 0.09			0.08 / 0.14					
Pump	Max. pressure								
	5.9 PSI (406.8 millibar)								
Pump	Max. flow rate								
	7.4 gallons / minute (28 liters / minute)								
Dimension	Bath opening / depth (WxL, D) (mm / inch)								
	150×99, 160 / 5.9×3.9, 6.3	211×154, 180 / 8.3×6.1, 7.1	290×214, 200 / 11.4×8.4, 7.9	300×264, 230 / 11.8×10.4, 9					
	Exterior (WxLxH) (mm / inch)								
220×395×424 / 8.7×15.6×16.7	281×450×444 / 11.1×17.7×17.5	360×510×464 / 14.2×20.1×18.3	370×560×494 / 14.6×22×19.4						
Net weight (kg / lbs)		12.5 / 27.6		15 / 33		17.5 / 38.6		19.5 / 43	
Electrical requirements (230V, 50/60 Hz)									
8.5A	8.5A	8.5A	8.5A	8.5A					
Cat. No.									
AAH52741K	AAH52751K	AAH52761K	AAH52771K	AAH52771K					
Electrical requirements (120V, 60 Hz)									
8.6A	8.6A	8.6A	8.6A	8.6A					
Cat. No.									
AAH52742U	AAH52752U	AAH52762U	AAH52772U	AAH52772U					

1) Technical data according to DIN 12876. (bath fluid : water at 50 °C)

2) If you operate the unit in 1 to 3 steps of pump, the temperature range can be from Amb. +5 °C but in 4 and 5 steps, the range will be from Amb. +15 °C.

* FDA establishment registered company. FDA listed products.

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

* 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 °C to 150 °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 °C to 150 °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	
Working temperature range (°C / °F)	-25 to 150 / -13 to 302				
Temperature stability ¹⁾ (± °C / °F)	0.05 / 0.09				
Cooling capacity ²⁾ (bath fluid: ethanol)	at -20 °C (-4 °F), W	30	50	260	
	at 0 °C (+32 °F), W	230	250	410	
	at +20 °C (+68 °F), W	320	380	560	
	Refrigerator	1/3 LBP, R-507	1/3 LBP, R-507	1/2 LBP, R-404A	3/4 LBP, R-404A
Pump (bath fluid: water)	Max. pressure	5.9 PSI (406.8 millibar)			
	Max. flow rate	7.4 gallons / minute (28 liters / minute)			
Dimension	Bath opening / depth (WxL, D) (mm / inch)	150x99, 160 / 5.9x3.9, 6.3	211x154, 180 / 8.3x6.1, 7.1	290x214, 200 / 11.4x8.4, 7.9	300x264, 230 / 11.8x10.4, 9
	Exterior (WxLxH) (mm / inch)	309x480x733 / 12.2x18.9x28.9	367x532x780 / 14.4x20.9x30.7	387x602x825 / 15.2x23.7x32.5	447x662x895 / 17.6x26.1x35.2
	Net weight (kg / lbs)	38 / 83.8	44 / 97	60 / 132.2	67 / 147.7
Electrical requirements (230V, 60Hz)	11A		12.5A		
Cat. No.	AAH57041K	AAH57051K	AAH57061K	AAH57071K	
Electrical requirements (230V, 50Hz)	11A		12.5A		
Cat. No.	AAH57042K	AAH57052K	AAH57062K	AAH57072K	
Electrical requirements (120V, 60Hz)	12.6A		12.6A		
Cat. No.	AAH57043U	AAH57053U	-	-	

for temperature range from -35 °C to 150 °C

Model	RW3-0535	RW3-1035	RW3-2035	RW3-3035	
Bath volume (L / cu ft)	5 / 0.2	10 / 0.4	20 / 0.7	30 / 1.1	
Working temperature range (°C / °F)	-35 to 150 / -31 to 302				
Temperature stability ¹⁾ (± °C / °F)	0.05 / 0.09				
Cooling capacity ²⁾ (bath fluid: ethanol)	at -20 °C (-4 °F), W	80	150	400	
	at 0 °C (+32 °F), W	150	330	660	
	at +20 °C (+68 °F), W	280	450	800	
	Refrigerator	1/2 LBP, R-404A	1/2 LBP, R-404A	3/4 LBP, R-404A	1 LBP, R-404A
Pump (bath fluid: water)	Max. pressure	5.9 PSI (406.8 millibar)			
	Max. flow rate	7.4 gallons / minute (28 liters / minute)			
Dimension	Bath opening / depth (WxL, D) (mm / inch)	150x99, 160 / 5.9x3.9, 6.3	211x154, 180 / 8.3x6.1, 7.1	290x214, 200 / 11.4x8.4, 7.9	300x264, 230 / 11.8x10.4, 9
	Exterior (WxLxH) (mm / inch)	309x480x733 / 12.2x18.9x28.9	367x532x780 / 14.4x20.9x30.7	387x602x825 / 15.2x23.7x32.5	447x662x895 / 17.6x26.1x35.2
	Net weight (kg / lbs)	38 / 83.8	44 / 97	60 / 132.2	67 / 147.7
Electrical requirements (230V, 60Hz)	12.5A		13.5A		
Cat. No.	AAH57141K	AAH57151K	AAH57161K	AAH57171K	
Electrical requirements (230V, 50Hz)	12.5A		13.5A		
Cat. No.	AAH57142K	AAH57152K	AAH57162K	AAH57172K	

1) Technical data according to DIN 12876. (bath fluid : ethanol at -10 °C)

2) The cooling capacity is measured under 230V / 60Hz electrical condition.

* FDA establishment registered company. FDA listed products.

Refrigerated & Heating Bath Circulators (Programmable)

Newly developed bath circulator with the Intelligent programmable controller brings the best intuitive control performance to your laboratory.



Intelligent program control

- 10 programs available for temperature ramp up and dwell control.
- 10 steps per a program and 99 hours 59 minutes per a step.
- Stored programs are easily linkable.
- Programs can be repeated up to 99 cycles.
- Pre-heating and heating time are settable before program starts.

RW3-0525P

Standard accessories

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

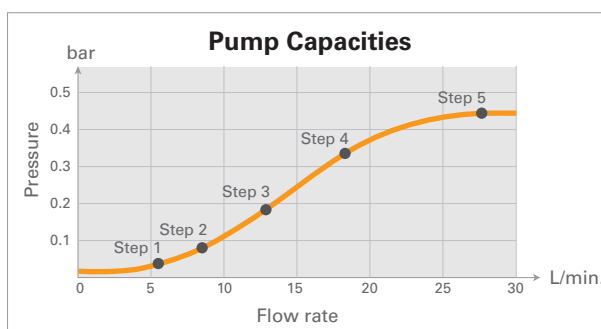
Optional accessories

see page 28-29

- Suction function for pumps
- Test tube racks, Spring wire racks



Touch LCD Controller



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

* Bath fluid: water at the normal temperature.



Performance

- Temperature range.
 - RW3-35P models from -35 °C to 150 °C.
 - RW3-25P models from -25 °C to 150 °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

- Intuitive touch screen LCD controller with easy icons and logical menus.
- Dual wait on/off timer modes. (1 min. to 99 hr. 59 min.)
- Digital input and output control function for interlocking external devices.
- RS-232 interface for external control and data collection. (RS-232 to USB serial converter is provided.)

- 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.
- Usage of 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.
- Built-in casters and side handles for easy transport and installation.

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.
- Splash-proof keypad.

for temperature range from -25 °C to 150 °C

Model	RW3-0525P	RW3-1025P	RW3-2025P	RW3-3025P	
Bath volume (L / cu ft)	5 / 0.2	10 / 0.4	20 / 0.7	30 / 1.1	
Working temperature range (°C / °F)	-25 to 150 / -13 to 302				
Temperature stability ¹⁾ (±°C / °F)	0.05 / 0.09				
Cooling capacity ²⁾ (bath fluid: ethanol)	at -20 °C (-4°F), W	30	50	260	
	at 0 °C (+32°F), W	230	250	410	
	at +20 °C (+68°F), W	320	380	560	
	Refrigerator	1/3 LBP, R-507	1/3 LBP, R-507	1/2 LBP, R-404A	3/4 LBP, R-404A
Pump (bath fluid: water)	Max. pressure	5.9 PSI (406.8 millibar)			
	Max. flow rate	7.4 gallons / minute (28 liters / minute)			
Dimension	Bath opening / depth (WxL, D) (mm / inch)	150x99x160 / 5.9x3.9x6.3	211x154x180 / 8.3x6.1x7.1	290x214x200 / 11.4x 8.4x7.9	300x264x230 / 11.8x10.4x9.1
	Exterior (WxLxH) (mm / inch)	302x438x690 / 11.9x17.2x27.2	360x490x780 / 14.2x19.3x30.7	380x560x825 / 14.9x22x32.5	440x620x895 / 17.3x24.4x35.2
	Net weight (kg / lbs)	38 / 83.8	44 / 97	60 / 132.2	67 / 147.7
	Electrical requirements (230V, 60Hz)	11A	11A	12.5A	13.5A
Cat. No.	AAH57641K	AAH57651K	AAH57661K	AAH57671K	
Electrical requirements (230V, 50Hz)	11A	11A	12.5A	13.5A	
Cat. No.	AAH57642K	AAH57652K	AAH57662K	AAH57672K	
Electrical requirements (120V, 60Hz)	12.6A	12.6A	-	-	
Cat. No.	AAH57643K	AAH57653U	-	-	

for temperature range from -35 °C to 150 °C

Model	RW3-0535P	RW3-1035P	RW3-2035P	RW3-3035P	
Bath volume (L / cu ft)	5 / 0.2	10 / 0.4	20 / 0.7	30 / 1.1	
Working temperature range (°C / °F)	-35 to 150 / -31 to 302				
Temperature stability ¹⁾ (±°C / °F)	0.05 / 0.09				
Cooling capacity ²⁾ (bath fluid: ethanol)	at -20 °C (-4°F), W	80	150	400	
	at 0 °C (+32°F), W	150	330	660	
	at +20 °C (68°F), W	280	450	800	
	Refrigerator	1/2 LBP, R-404A	1/2 LBP, R-404A	3/4 LBP, R-404A	1 LBP, R-404A
Pump (bath fluid: water)	Max. pressure	5.9 PSI (406.8 millibar)			
	Max. flow rate	7.4 gallons / minute (28 liters / minute)			
Dimension	Bath opening / depth (WxL, D) (mm / inch)	150x99x160 / 5.9x3.9x6.3	211x154x180 / 8.3x6.1x7.1	290x214x200 / 11.4x 8.4x7.9	300x264x230 / 11.8x10.4x9.1
	Exterior (WxLxH) (mm / inch)	302x438x690 / 11.9x17.2x27.2	360x490x780 / 14.2x19.3x30.7	380x560x825 / 14.9x22x32.5	440x620x895 / 17.3x24.4x35.2
	Net weight (kg / lbs)	38 / 83.8	44 / 97	60 / 132.2	67 / 147.7
	Electrical requirements (230V, 60Hz)	12.5A	12.5A	13.5A	14.5A
Cat. No.	AAH57741K	AAH57751K	AAH57761K	AAH57771K	
Electrical requirements (230V, 50Hz)	12.5A	12.5A	13.5A	14.5A	
Cat. No.	AAH57742K	AAH57752K	AAH57762K	AAH57772K	

1) Technical data according to DIN 12876. (bath fluid : ethanol at -10 °C)

2) The cooling capacity is measured under 230V / 60Hz electrical condition.

* FDA establishment registered company. FDA listed products.