



## 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

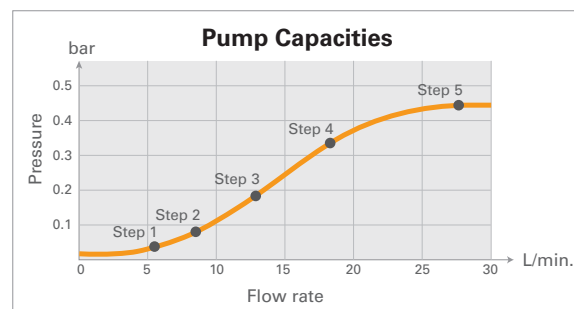
#### Standard accessories

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

#### Optional accessory

see page 28-29

- Test tube racks, Spring wire racks



\* 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 <sup>2)</sup> (°C / °F)	Amb. +5 to 150 / Amb. +9 to 302			
Temperature stability <sup>1)</sup> (± °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 (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
	Exterior (WxLxH) (mm / inch)	228x395x424 / 8.9x15.6x16.7	289x450x444 / 11.4x17.7x17.5	368x510x464 / 14.5x20.1x18.3
	Net weight (kg / lbs)	12.5 / 27.6	15 / 33	17.5 / 38.6
Electrical requirements (230V, 50/60 Hz)	8.5A	8.5A	8.5A	8.5A
Cat. No.	AAH52341K	AAH52351K	AAH52361K	AAH52371K
Electrical requirements (120V, 60 Hz)	8.6A	8.6A	8.6A	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.

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



### CW3-P models

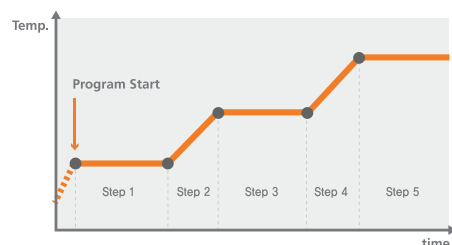
#### Standard accessories

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

#### Optional accessories see page 28-29

- Test tube racks, Spring wire racks

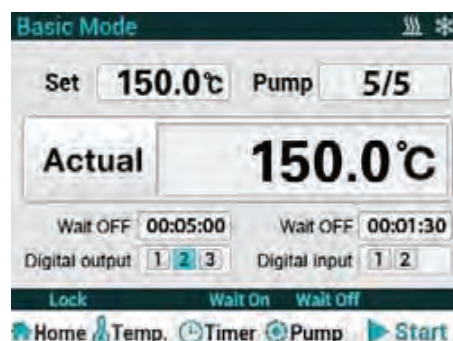
#### Intelligent program control



Convenient scheduler

Prog. No.	Temp.	Time	Wait	Wait Off	Wait On	Wait Off	Wait On
01	150.0	20:50	1				
02	90.0	19:25	4				
03	100.0	19:25	4				
04	100.0	19:25	4				
05	100.0	19:25	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

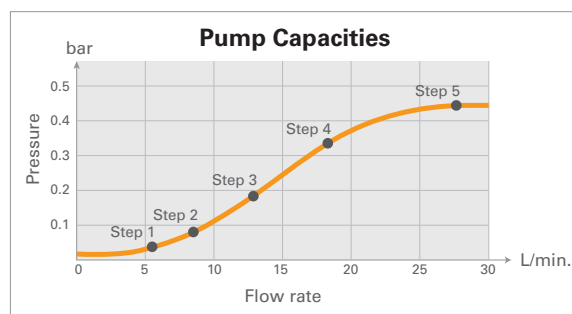
- Temperature range from ambient +5°C to 150°C.
- Microprocessor PID control.
- Three point temperature calibration / Automatic tuning / Automatic run.
- Accurate, stable, and efficient temperature management by using a powerful variable-speed pump. (1 to 3 steps of pump for internal circulation and 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.
- Temperature warning indicator simply shows inner reservoir's temperature by three different colors.
- 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 <sup>2)</sup> (℃ / ℉)		Amb. +5 to 150 / Amb. +9 to 302			
Temperature stability <sup>1)</sup> (±℃ / ℉)		0.05 / 0.09			0.08 / 0.14
Pump	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)	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
Cat. No.		AAH52741K	AAH52751K	AAH52761K	AAH52771K
Electrical requirements (120V, 60 Hz)		8.6A	8.6A	8.6A	8.6A
Cat. No.		AAH52742U	AAH52752U	AAH52762U	AAH52772U

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