

## Constant Low Temp. Water Baths | Benchtop Type

## BBL111C/311C

Temp. control range -10~80°C

Temp. distribution accuracy ±0.3°C

Internal capacity 8L 13L

**Benchtop constant low temperature water baths that ensure a wide temperature range and ample water bath space.**

### Features

- Achieves precise temperature control with an adjustment accuracy of  $\pm 0.1^\circ\text{C}$ .
- Expands the usability of the water bath itself and fully guarantees effective space within the bath.
- Equipped with an external circulation function.
- Switching between internal and external circulation can be easily achieved by operating the water valve.
- Shelf height can be adjusted in 2 segments, allowing for the use of small containers.
- Features automatic stop operation, automatic start operation, RS485 communication function, and temperature output terminal (4~20mA) as standard.

### Safety

- Self-diagnosis function, leakage circuit breaker to prevent overcurrent, pressure detection for the refrigeration unit, anti-dry heating float switch, overload protection relay for the refrigeration unit, delay function for refrigeration unit protection.

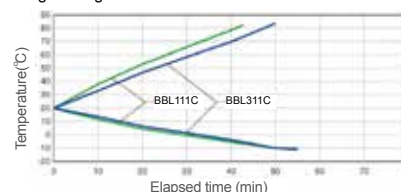


### Specifications

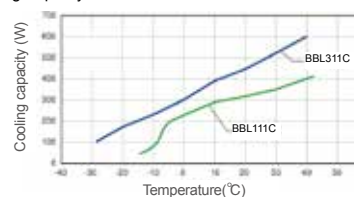
Model		BBL111C	BBL311C	
System		Pump-circulated cooling/External closed-loop circulation		
Performance	Operating temp. range	-10~80°C		
	Temp. adjusting accuracy	$\pm 0.1^\circ\text{C}$		
	Temp. distribution accuracy	$\pm 0.3^\circ\text{C}$		
	Temp. unit	0.1°C		
	Cooling capacity	Approx. 300W (260Kcal/h), at liquid temp. 15°C	Approx. 410W (350Kcal/h), at liquid temp. 15°C	
Composition	Temp. control	PID control		
	Operation functions	Fixed temp. operation, auto start, quick auto stop, auto stop		
	Temp. sensor	Temperature regulator: Pt thermal resistor, for overheat protection: K-type thermocouple		
	Temp. setting, display	Digital setting, digital display		
	Refrigerator, refrigerant	Air cooling		
		160W, R134A	350W, R404A	
	Stirring method	Magnetic pump		
	Device circulation capacity (50/60Hz)	Max. flow rate	3.7/4.7L/min	
		Max. lift head	1/1.5m	
	Heater	700W	900W	
	Cooling pipe	Nickel-plated copper		
	External circulation port	Both the outlet and return ports have an outer diameter of 11mm		
Operating ambient temp. range	5~30°C			
Safety device	Self-diagnosis function, overload protection relay for the refrigeration unit, pressure detection for the refrigeration unit, anti-dry heating float switch, delay function for refrigeration unit protection, key lock function, automatic overheating protection function, leakage protection switch for over-current, overheating protector			
Other functions	Water valve, condenser filter, RS485 communication function, temperature output terminal (4~20mA), refrigeration unit pressure indicator, deviation correction function, power failure compensation function			
Specifications	Water bath dimensions (W×D×H mm)	300×150×177.5	300×240×177.5	
	Effective water bath dimensions (W×D×H mm)	238×100×85	238×190×85	
	Internal bath capacity (effective capacity)	8L (6.75L)	13L (11.5L)	
	External dimensions (W×D×H mm)	500×530×500	500×600×500	
	Power supply (50Hz)	AC220V 5A	AC220V 6A	
Weight	Approx. 35kg	Approx. 55kg		
Accessories	Shelves, top cover, drainage pipe, overflow pipe			

### Heating/cooling · cooling capacity curve

Heating Cooling Curve

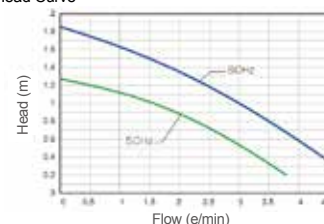


Cooling Capacity Curve



### Flow/head curve

Flow/Head Curve



1 Sterilizers

2 Granulation and Spray Dryers

3 Furnaces

4 Ovens

5 Incubators

6 Plasma Equipment

7 Water Purifiers

8 Baths

9 Water Circulators

10 Rotary Evaporators

11 Stirrers &amp; Shakers

12 Options