

Precision Constant Temp. Water Circulators | External Opened Loop, High-Precision Temp. Control

CLH312C/411C/610C

Operating temp. range CLH312C: -10°C~80°C CLH411C/610C: -15°C~80°C Temp. adjusting accuracy ±0.1°C

Precision type, external opened water circulator with a temperature adjusting accuracy of ±0.1°C.

Features

- Operating temperature range of -10~+80°C and -15~+80°C for external opened cooling water circulator.
- Equipped with a flow adjustment valve to freely adjust the circulation pump flow rate according to the size of water bath.
- Use a flow sensor to monitor pipeline flow, with an automatic stop protection device in case of pipeline blockage, indicated by a flashing red light.
- Include quick automatic stop, automatic stop, automatic start, deviation correction, power outage compensation, temperature output terminal, and other functions.

Safety

- Feature self-diagnosis function, overcurrent leakage protection switch, key lock, power failure compensation function, as well as flow monitoring, refrigerating machine monitoring, delayed timer for refrigerating machine protection, abnormal flow, abnormal high pressure, and other safety protection devices.



Specifications

Model	CLH312C	CLH411C	CLH610C	
System	External opened loop circulation by circulation pump			
Performance	Operating temp. range	-10~80°C	-15~80°C	
	Temp. adjusting accuracy	±0.1°C		
	Cooling capacity	Approx. 450W (387Kcal/h), at liquid temp. 15°C	Approx. 570W (490Kcal/h), at liquid temp. 15°C	Approx. 820W (705Kcal/h), at liquid temp. 15°C
	Temp. control	PID control		
Composition	Temp. sensor	Temperature regulator: Pt thermal resistor, for overheat protection: K-type thermocouple		
	Temp. setting, display	Digital setting, digital display		
	Heater	Stainless steel heating pipe		
		900W	900W	1.5kW
	Refrigerator, refrigerant	Air cooling		
		200W, R404A	350W, R404A	600W, R404A
	Circulation pump	Magnetic pump		
	Device circulation capacity (50Hz)	Max. flow rate	10L/min	15L/min
		Max. lift head	4.9m	8.0m
	Cooling pipe	Copper		
External circulation port	Inlet and outlet ports are outer diameter 13mm			
Operating ambient temp. range	5~30°C			
Safety device	Self-diagnosis function, overcurrent leakage protection switch, refrigerating unit monitoring, delayed timer for refrigerating unit protection, abnormal flow, abnormal high pressure, overheating protector			
Other functions	Operating display, drain plug, temperature output terminal, RS485 communication function			
Specification	Water bath dimensions	Inner diameter 120× depth 200mm	Inner diameter 150× depth 200mm	
	Water bath material	SUS304		
	Water bath capacity	1.5L	3L	
	Power supply (50Hz)	AC220V 6A	AC220V 7.5A	AC220V 11A
	External dimensions (W×D×H mm)	410×460×550	380×513×725	380×615×725
Weight	Approx. 40kg	Approx. 45kg	Approx. 60kg	
Accessories	1 thermal insulation pipe for circulation, 1 pump circulation pipe, 4 clamps, 1 drainage pipe			

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- Granulation and Spray Dryers 2
- Furnaces 3
- Ovens 4
- Incubators 5
- Plasma Equipment 6
- Water Purifiers 7
- Baths 8
- Water Circulators 9
- Rotary Evaporators 10
- Stirrers & Shakers 11
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Usage cases



The test bath is an optional product

Control panel



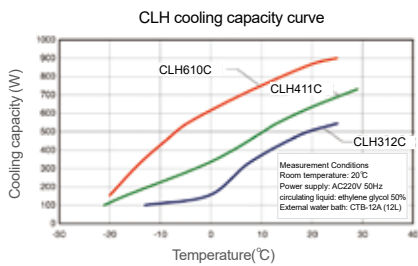
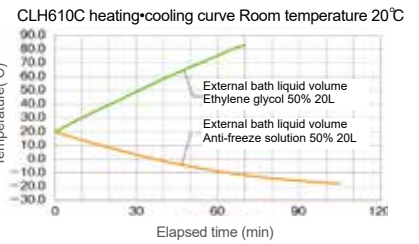
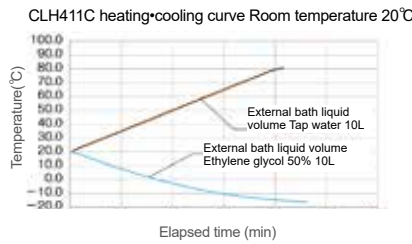
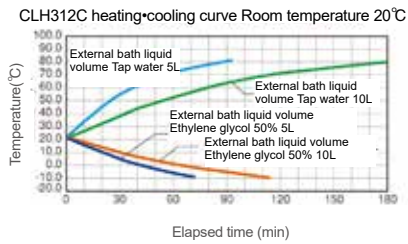
Water level monitoring, refrigeration unit monitoring, refrigeration unit action indicator

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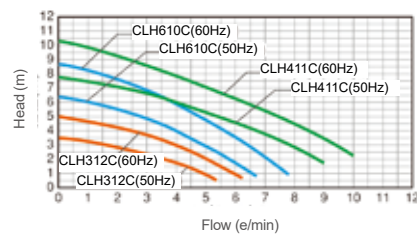


- Due to the installation of a shut-off valve on the discharge side, external circulation can be switched using a quick connector.
- RS485 external communication
- Temperature output terminal

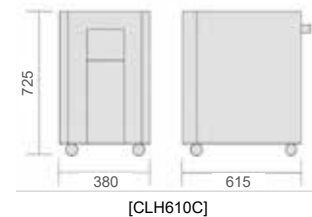
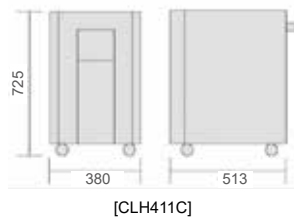
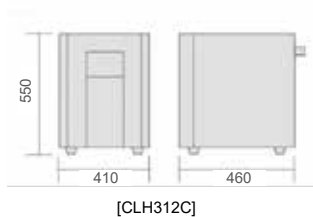
Cooling curve



Flow/head curve



Dimension diagram (mm)



- 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 & Shakers
- 12 Options