

Cooling Water Circulators | External Opened Loop, Standard

CLS312C/411C/610C

Operating temp. range CLS312C: -10°C~RT CLS411C/610C: -15°C~RT Temp. adjusting accuracy ±1.5~2°C

Strong cooling capacity, external opened cooling water circulator with ON-OFF control of the refrigeration unit.

Features

- External opened system cooling water circulator with a minimum operating temperature of -10°C and -15°C is used.
- 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 start, deviation correction, power outage compensation, temperature output terminal, and other functions.

Safety

- Feature self-diagnosis function, overcurrent leakage protection switch, key lock, power outage compensation function, flow monitoring, refrigeration unit monitoring, refrigeration unit protection time delay timer, flow anomalies, high-pressure anomalies, and other safety protection devices.



Specifications

Model		CLS312C	CLS411C	CLS610C	
System		External opened loop circulation by circulation pump			
Performance	Operating temp. range	-10°C~RT	-15°C~RT		
	Temp. adjusting accuracy	±1.5~2°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	
Composition	Temp. control	Refrigeration Unit ON-OFF Control			
	Temp. sensor	T-type thermocouple			
	Temp. setting, display	Digital setting, digital display			
	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, flow monitoring, refrigeration unit monitoring, refrigeration unit protection time delay timer, high-pressure anomalies				
Other functions	Operation monitor, drain tap, temperature output terminal				
Specifications	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 3A	AC220V 3.5A	AC220V 5.5A	
	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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Usage cases



The test bath is an optional product

Control panel



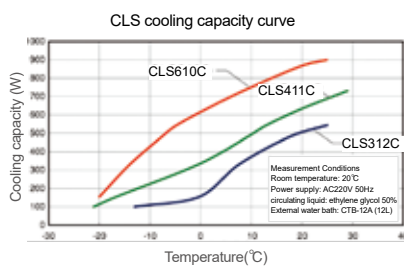
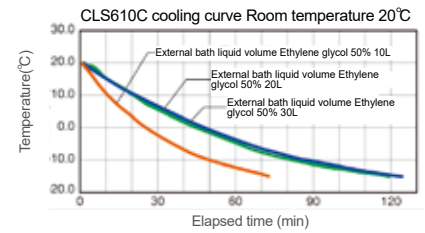
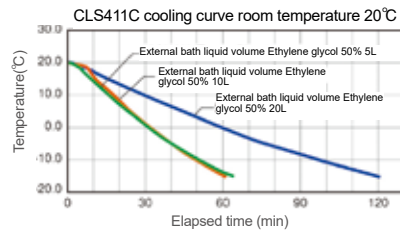
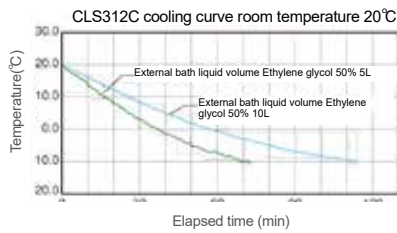
Water level monitoring, refrigeration unit monitoring, refrigeration unit action indicator

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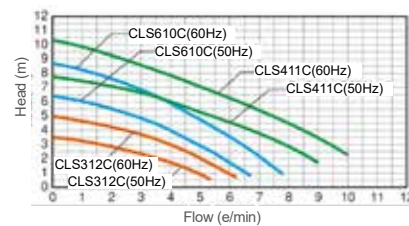


- Due to the installation of a shut-off valve on the discharge side, external circulation can be switched using a quick connector.
- RS485 external communication
- Temperature output terminal

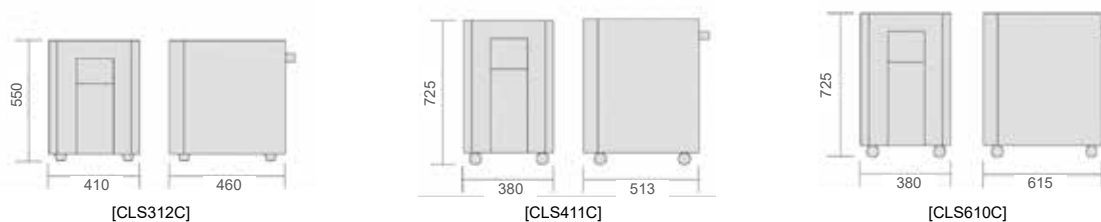
Cooling curve



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
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