Cooling Water Circulator (Externally Opened Circulation)

High-precision temp.control

CLH312C/411C/610C

Operating temp. range	-10~+80°C CLH312C	-15~+80°C CLH411C/610C

Temp. control accuracy	±0.1°C

Bath capacity	1.5L CLH312C	3L CLH411C/610C

Precision external open cooling water circulator with temp. control accuracy of ±0.1°C.

Operation and functions

- Precision external open cooling water circulator with temp. range of -10~+80°C and -15~+80°C.
- Use the flow control valve to freely adjust the circulating pump's flow according to bath size.
- Use the flow sensor to monitor the pipeline flow, in case of pipe clogging, the red lamp lights up, with auto stop protection device.
- Configurated with quick auto stop, auto stop, auto start operations, temp. output terminal, deviation correction, power outage compensation.

Safety features

- Overcurrent ELB, self-diagnosis, key lock, power outage compensation, flow monitor, refrigerator monitor, refrigerator delay timer of protection, abnormal flow or high pressure, etc..

Specifications

Model		CLH312C	CLH411C	CLH610C
Method		External opened circulation		
Operating temperature range		-10~+80°C	-15~+80°C	
Temperature control accuracy		±0.1°C		
Cooling capacity		~450W (387Kcal/h), at fluid temp.15°C	~570W (490 Kcal/h), at fluid temp.15°C	~820W (705 Kcal/h), at fluid temp.15°C
Temperature control		PID control		
Temperature sensor		Temp. controller: Pt thermal resistance, overheat protection: K thermocouple		
Heater		Stainless steel pipe heater		
		750W	900W	1.5kW
Temperature setting, display		Digital setting and display		
Refrigerator, refrigerant		Air cooling		
		200W, R404A	350W, R404A	600W, R404A
Circulating pump		Magnetic drive pump		
Unit circulation ability (50/60Hz)	Max. flow	5.4 / 6.2L/min	5.4 / 6.3L/min	6.7 / 7.8L/min
	Pump capacity	(10.0 / 11.0L/min)	(10.0 / 11.0L/min)	(15.0 /17.0L/min)
	Max. lift	3.5 / 5.0m	3.7 / 5.3m	6.2 / 8.7L/m
	Pump capacity	(4.9 / 6.9m)	(4.9 / 6.9m)	(8.0 / 11.0L/min)
Cooling coil		Nickel-clad copper		
External circulation nozzle		O.D.13mm of water outlet and return port		
Operating environmental temp. range		5~30°C		
Safety device		Overcurrent ELB, Self-diagnosis, Key lock, Power outage compensation, flow monitor, Refrigerator monitor, Refrigerator delay timer of protection, Abnormal flow or high pressure, etc..		
Other functions		Flow control valve, Drain valve, Condenser filter screen, Deviation correction, Key lock, Temp. output terminal, Power outage compensation		
Bath dimension		I.D.120×D200mm	I.D.150×D200mm	
Bath materials		Stainless steel		
Bath capacity		1.5L	3L	
External dimensions (W×D×Hmm)		410×460×550	380×460×720	380×565×720
Power supply (50/60Hz)		AC220V 6A	AC220V 8A	AC220V 12A
Weight		~40kg	~45kg	~60kg
Accessories		Circulating heat preservation pipe-1, Pump circulating tube-1, Hoop-4, Drain pipe-1		

Control Panel

Water level monitor,
Refrigerator monitor,
Refrigerator operation
indicator

Rear

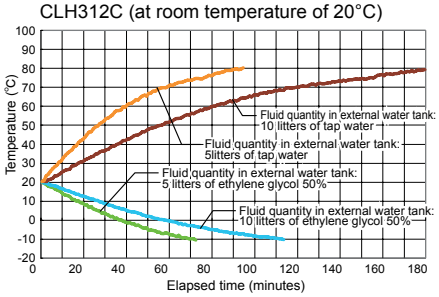
- Water stop valve at the back of the unit allows easy switch of external circulation.
- RS485 external communication
- Temp. output terminal

Sample case

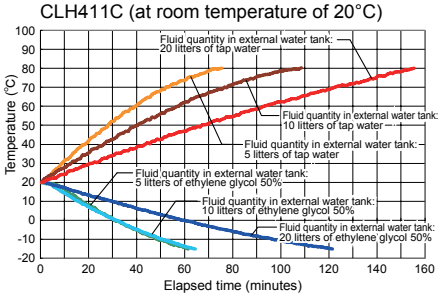
Optional test bath

Cooling curve

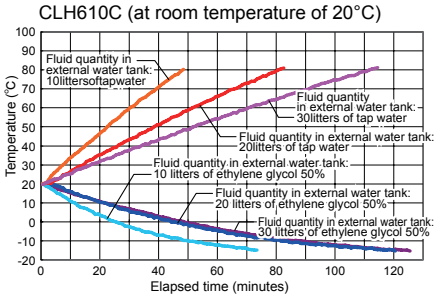
CLH312C (at room temperature of 20°C)



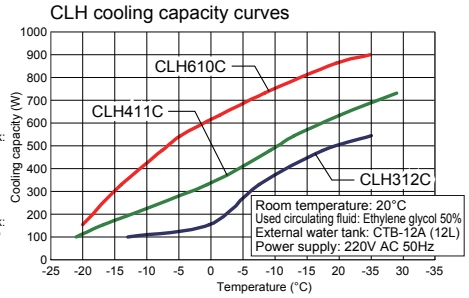
CLH411C (at room temperature of 20°C)



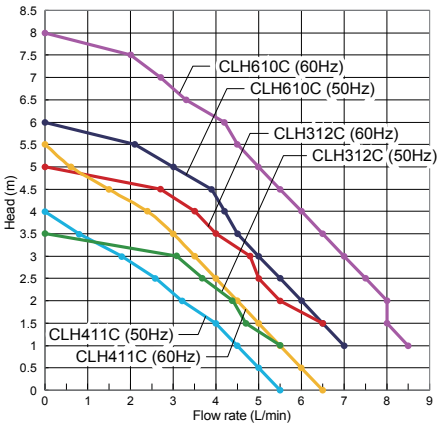
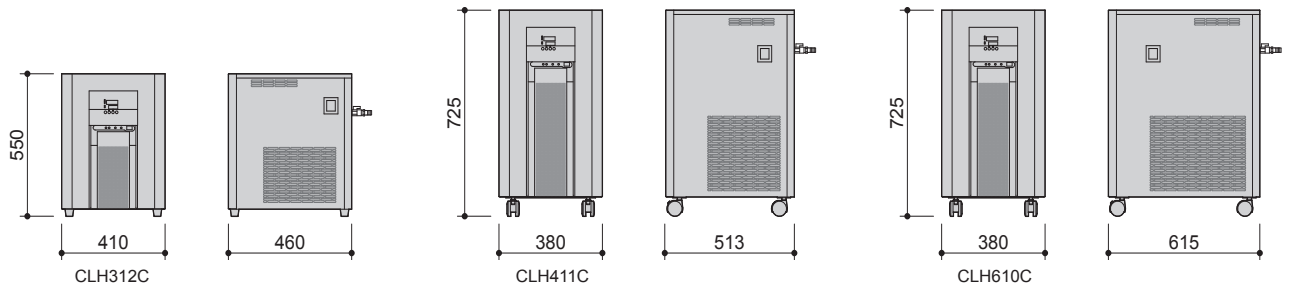
CLH610C (at room temperature of 20°C)



CLH cooling capacity curves



Flow / lift curve



Dimensions (mm)