

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.
- Configured 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.120xD200mm		I.D.150xD200mm	
Bath materials	Stainless steel			
Bath capacity	1.5L	3L		
External dimensions (WxDxHmm)	410x460x550	380x460x720	380x565x720	
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

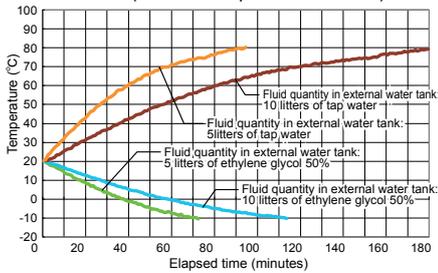
Sample case



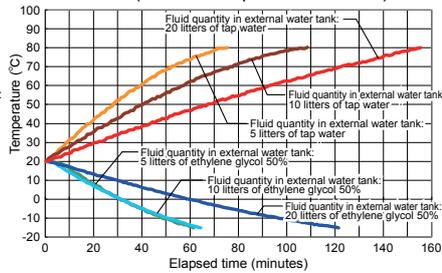
Optional test bath

Cooling curve

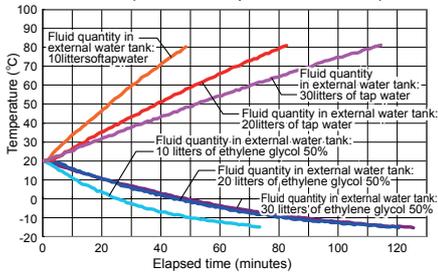
CLH312C (at room temperature of 20°C)



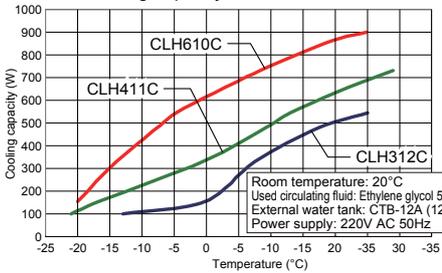
CLH411C (at room temperature of 20°C)



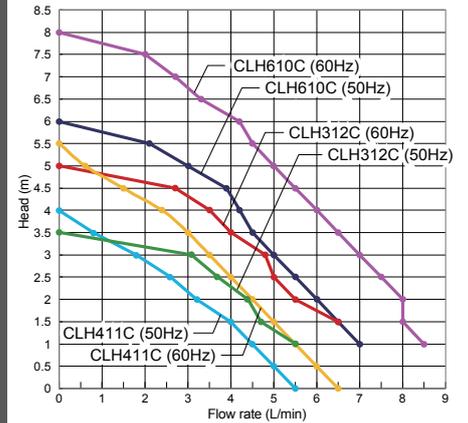
CLH610C (at room temperature of 20°C)



CLH cooling capacity curves



Flow / lift curve



Dimensions (mm)

