

External Open Circulation Type Precision Circulator, Cool Line
CLH302/401/610



Model		
302	401	610
Operating Temp. Range		
-10deg.C to 80deg.C	-15deg.C to 80deg.C	
Temp. Adjustment Accuracy		
±0.1deg.C		

- Circulation Pump flow rate is freely controllable by flow adjustment valve for various tank size.
- Flow sensor can detect the flow decreasing with alarm lamp and stop operation.

■ Specifications

Model	CLH302	CLH401	CLH610
Performance			
Circulation Type	Opened system circulation by pump		
Operating Temperature Range	-10 to +80deg.C	-15 to +80deg.C	
Temp. Adjustment Accuracy/Temp. fluctuation	From ±0.1deg.C (JTMK05) at 10deg.C	From ±0.1deg.C (JTMK05/JIS) at 10deg.C	From ±0.1deg.C (JTMK05), ±0.2deg.C (JIS) at 10deg.C
Temp. Indication Unit	0.1deg.C		
Cooling Capacity	Approx. 450W (387Kcal)	Approx. 600W (517Kcal)	Approx. 785W (676Kcal)
	at Liquid temp. 15deg.C		
Components			
Temp. Control System	PID control		
Temp. Sensor	Pt100Ω(Temp. control) + K-thermocouple (Overheat prevention) (Double sensor)		
Temp. Setting • Display	Digital		
Heater	900W	1000W	1.5kW
Refrigerator • Coolant	Air cooling 250W, R404A	Air cooling 350W, R404A	Air cooling 600W, R404A
Circulation Pump	Magnet pump		
Pump Max. Flow Rate (pump capacity)	5.4/6.2L/min [10/11L/min. (50/60Hz)]	5.4/6.3L/min [10/11L/min. (50/60Hz)]	6.7/7.8L/min [15/17L/min. (50/60Hz)]
Pump Max. Lift	3.5/5.0m [4.9/6.9m (50/60Hz)]	3.7/5.3m [4.9/6.9m (50/60Hz)]	6.2/8.7m [8/11m (50/60Hz)]
Circulation Nozzle	External dimension 13mm		
Surrounding Operation Temp. Range	5 to 30deg.C		
Safety Device			
Safety Countermeasures	Self diagnosis functions, Electric leakage breaker with over current protection, Refrigerator over load relay, Refrigerator protection-delay timer function, Refrigerator high pressure switch, Flow sensor, Circulation pump protection by-pass		
Other Function	Flow rate adjustment valve, Drain cock, Dust prevention filter, Temp. output terminal, Compressor pressure indicator, Calibration off set function, Key lock function, Breakout protection function		
Accessories	Circulation insulation hose 1m x 2pcs. (1pc. with manual pump), Hose band 4pcs. Drain hose 1pc.		
Standard			
Inner Tank Capacity	1.5L, I.D. 120 x H200 mm	3L, I.D. 150 x H200 mm	
External Dimension	W410 x D460 x H550 mm	W380 x D513 x H725 mm	W380 x D615 x H725 mm
Power Source	AC100V 50/60Hz 13.5A(15A)	AC100V 50/60Hz 16.5/15A(30A)	AC200V 50/60Hz 12/11A(15A)
Weight	Approx. 40kg	Approx. 55kg	Approx. 65kg

■ Control Panel



Flow amount monitor, Compressor monitor, Compressor operation

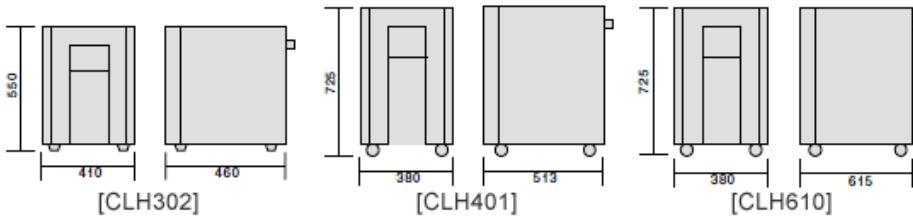
■ Operation Example



■ Back Side



■ Size (mm)



■ Optional Items

Description	Model No.	Product Code
Straight circulation nozzle 10.5m dia Rc3/8	CLH302/401/610	221394
Straight circulation nozzle 13.0m dia Rc3/8	CLH302/401/610	221399
Straight circulation nozzle 16.0m dia Rc3/8	CLH302/401/610	221395
L shape circulation nozzle 10.5m dia Rc3/8	CLH302/401/610	221396
L shape circulation nozzle 13.0m dia Rc3/8	CLH302/401/610	221397
L shape circulation nozzle 16.0m dia Rc3/8	CLH302/401/610	221398
External communication adapter RS485-RS232C changeable	CLH302/401/610	281388
Open type support tank 2L	CLH302/401/610	221588
Testing bath CTB-3A, capacity : 3L	CLH302/401/610	221801
Testing bath CTB-6A, capacity : 6L	CLH302/401/610	221802
Testing bath CTB-12A, capacity : 12L	CLH302/401/610	221803
Testing bath CTB-12S, capacity : 12L	CLH302/401/610	221805
Testing bath CTB-24A, capacity : 24L	CLH302/401/610	221804
Caster stopper	4 pcs	281440



Testing Bath



Circulation nozzle