

Cooling pump CHA-500~2200/CHW-900~2200

The Simple chiller series can respond to various needs from consumers by selecting various options. We are proud of our various kinds of pump abilities that are available to meet a high flow rate and a high pump head. Pure water, etc. are available as an option.

External dimensions --> P.183



Features

- The air-cooled integrated chiller does not require primary cooling water and plumbing
- The water-cooled integrated type is ideal for cleanroom
- Available in various optional pump units by select
- The enhancement for the precision of temperature control, pure water, etc. are available as an option

Standard specifications: Air-cooled type

(Specifications can be modified as an option)

Model	CHA-500	CHA-900	CHA-1500	CHA-2200
Temperature range	+7°C to +25°C			
Ambient temperature range	+5°C to +35°C			
Control accuracy (*1)★	±2.0°C Compressor On-Off control			
Compressor output, Refrigerant	0.5 kW, R407C	0.9 kW, R407C	1.5 kW, R407C	2.2 kW, R407C
Cooling capacity [kW] (50/60 Hz) (*2)	Circulation temperature at 10°C	1.0/1.1	1.7/2.1	4.0/4.3
	Circulation temperature at 20°C	1.2/1.3	2.7/2.9	4.5/4.7
Pumping capacity★ (50/60 Hz) (*3)	Max. discharge pressure [MPa]	0.13/0.18	0.14/0.19	0.52
	Flow rate [L/min]	16/35	15/27	22/31
	Motor output [kW]	0.15/0.22	0.1/0.15	0.4
Water bath capacity (at 80% water level)	24 L	26 L	56 L	
Safety device/function★	Alarm and warning for water shortage, Compressor pressure abnormal, Compressor overload, Pump overcurrent, Water temperature abnormal, Warning indicator lamp			
Connecting pipe diameter (Circulating fluid in/out)	Rp 1/2	Rc 1/2	Rc 1	
Dimensions	361×573×1043H mm	500×555×896H mm	570×677×1286H mm	570×677×1427H mm
Weight	approx. 80 kg	approx. 110 kg	approx. 178 kg	approx. 190 kg
Power Supply (three phase AC 200 V, 50/60 Hz)	10 A	15 A	20 A	30 A
Operation current [A] (50/60 kHz)	3.3/3.4	4.7/5.3	8.2/8.6	10.5/10.9

(*1)There may be a case where the temperature performance cannot be maintained due to environmental temperature, heat load, circulation pipe distance, etc. (*2)Capacity when the ambient temperature below +25°C. (*3)Capacity when using tap water. Flow rate when the discharge pressure of CHA-500/900 is at 0.125 MPa and of CHA-1500/2200 at 0.3 MPa. •Power cable is not included. •Pure water is available as an option. •The cooling capacity may not be maintained if the unit is placed in direct sunlight and hindrance of exhausting. •Please ask us when mixing chemicals for water treatment to circulating fluid. •The fee for Delivery and Installing are quoted separately.

★Can upgrade the abilities and add some functions by selecting the following options. ① To improve accuracy of temperature adjustment (changes to Hot gas bypass control or Pulse width modulation expansion valve). ② To improve capacity of the pump unit (changes to Large flow rate / High head; Several types). ③ To add safety devices (No-fuse breaker and Earth leakage breaker). ④ To change materials such as the valve for pure water, the cooling coil, the circulating fluid piping for the antifreeze, and the ball tap. ⑤ Additional functions (Special order/Option : Remote control box, To reduce noise by fan speed controller). ⑥ Other (Device fixing brackets).

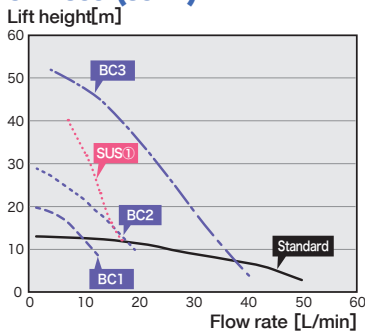
Optional Accessories

(See also "★ mark" in the specification table below)

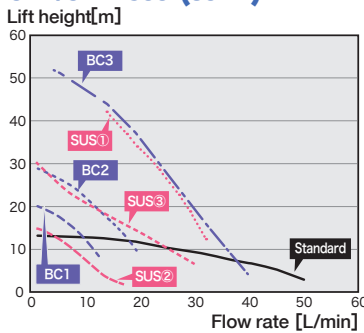
① For the precision of temperature control	Hot gas bypass control (±1.0°C)
	Pulse width modulation expansion valve (±0.5°C)
② Enhancement for the pumping capacity	High flow / High pump head / Stainless steel, Bronze Casting
③ Safety devices / functions added	No-fuse breaker
	Short circuit breaker
④ Materials of wetted part changed	Cooling coil (Stainless steel)•For Pure water
	Piping for Antifreeze
	Ball tap
⑤ CUSTOM-MADE	Remote control box
	Fan speed controller (Noise reduction by revolving speed control for cooling fan)
	Heater loaded
Safety measure	Fixing brackets

Pump Characteristic Curves and Cooling Capacity

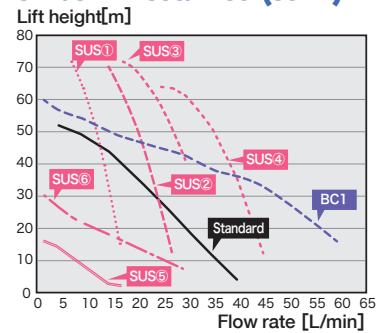
CHA-500 (50 Hz)



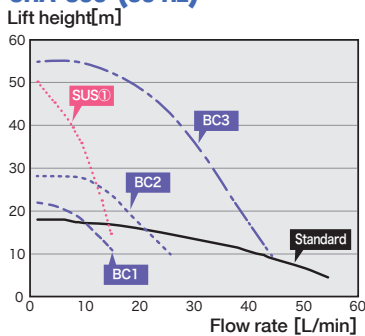
CHA/CHW-900 (50 Hz)



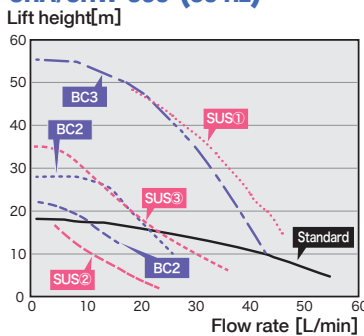
CHA/CHW-1500/2200 (50 Hz)



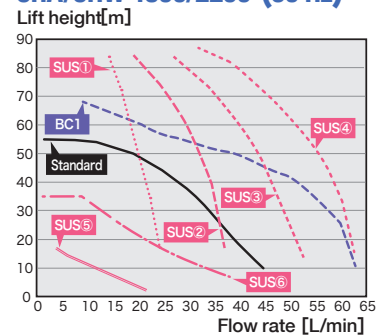
CHA-500 (60 Hz)



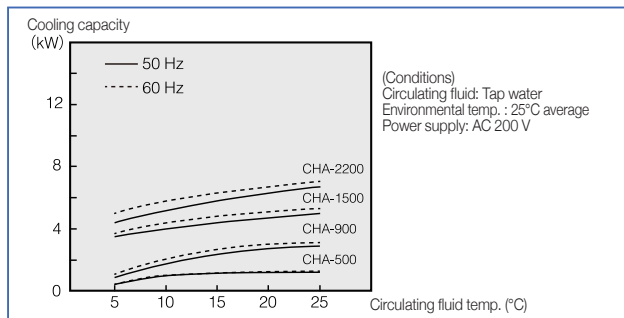
CHA/CHW-900 (60 Hz)



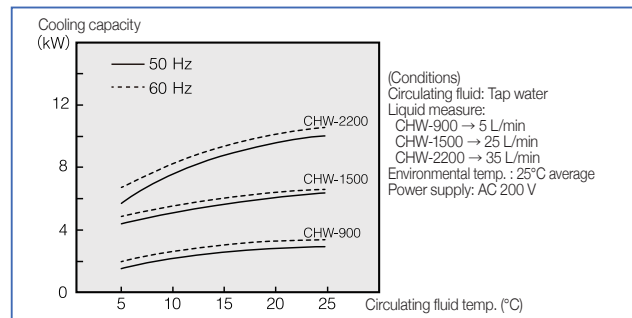
CHA/CHW-1500/2200 (60 Hz)



Cooling capacity curve (Air-cooled type)



Cooling capacity curve (Water-cooled type)



Standard specifications: Water-cooled type (Specifications can be modified as an option)

Model	CHW-900	CHW-1500	CHW-2200
Temperature range/Ambient temperature range	Temperature range: +7°C to +25°C, Ambient temperature range: +5°C to +35°C		
Control accuracy (*1)★	±2.0°C Compressor On-Off control		
Compressor output, Refrigerant	0.9 kW, R407C	1.5 kW, R407C	2.2 kW, R407C
Cooling capacity [kW] (50/60 Hz) (*2)	Circulation temperature at 10°C	2.4/2.8	4.8/5.3
	Circulation temperature at 20°C	2.8/3.3	5.8/6.1
Pumping capacity★ (50/60 Hz) (*3)	Max. discharge pressure [MPa]	0.14/0.19	0.52
	Flow rate [L/min]	15/27	22/31
	Motor output [kW]	0.1/0.15	0.4
Water bath capacity (at 80% water level)	26 L	56 L	
Safety device/function★	Alarm and warning for water shortage, Compressor pressure abnormal, Compressor overload, Pump overcurrent, Water temperature abnormal, Warning indicator lamp		
Required primary cooling water rate [L/min] (*4) (cooling water temperature: +25/+30°C)	5/10	25/50	35/60
Connecting pipe diameter (circulating fluid in/out, primary cooling water in/out)	Rc1/2, Rc1/2 (with valve)	Rc1, Rc1/2 (with valve)	Rc1, Rc3/4 (with valve)
Dimensions	500×555×896H mm	570×677×1236H mm	570×677×1236H mm
Weight	89 kg	approx. 170 kg	approx. 172 kg
Power Supply (three phase AC 200 V, 50/60 Hz)	15 A	20 A	30 A
Operation current [A] (50/60 kHz)	4.4/4.7	7.8/8.0	9.5/10.7

(*1)There may be a case where the temperature performance cannot be maintained due to environmental temperature, heat load, circulation pipe distance, etc. (*2)Capacity when the cooling water temperature below +25°C. (*3)Capacity when using tap water. Flow rate when the discharge pressure of CHW-900 is at 0.12 MPa and of CHW-1500/2200 at 0.3 MPa. (*4)Capacity varies with the water temperature. Please note it may cause a defect if the flow rate does not increase at high temperature, so please confirm if the required flow rate is secured in advance.

•Power cable is not included. •Pure water is available as an option. •Please ask us when mixing chemicals for water treatment to circulating fluid. •The fee for Delivery and Installing are quoted separately.

- ★Can upgrade the abilities and add some functions by selecting the following options. ① To improve accuracy of temperature adjustment (changes to Hot gas bypass control or Pulse width modulation expansion valve) .
- ② To improve capacity of pump unit (changes to Large flow rate / High head; Several types). ③ To add safety devices (No-fuse breaker and Earth leakage breaker). ④ To change materials such as the valve for pure water, the cooling coil, the circulating fluid piping for the antifreeze, and the ball tap. ⑤ Additional functions (Special order/Option : Remote control box, To reduce noise by fan speed controller). ⑥ Other (Device fixing brackets).

● Protuberances are not included in the Dimensions. ● Vessels of photos are not included.

Selection guide

Constant temperature incubator shaker

CO₂ incubator shaker

Shaker

Mixer

Rotator

Bead beater

Aluminum block bath

Water bath

Hybridization oven

Centrifugal concentrator

Freeze dryer

Electrophoresis and blotting apparatus

Constant temperature water circulating system (Chiller)

Appendix