

# Hot water circulator HC-03/06/09/12/15/24

**Circulation of hot water up to +80°C with high accuracy  $\pm 0.5^\circ\text{C}$ . Various customized options such as heater output and pump capacity are available upon request.**



HC-12

**Hot water circulator with high accuracy. Various customized such as heater output and number of pumps, etc.**

Heating temperature control with high accuracy  $\pm 0.5^\circ\text{C}$  in temperature range  $+40^\circ\text{C}$  to  $+80^\circ\text{C}$ .

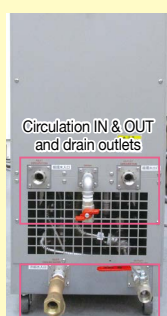
Various customized options such as heater output, number of pumps, piping material, etc. based on the following models. Please feel free to contact us.

Model	HC-03	HC-06	HC-09	HC-12	HC-15	HC-24
Temperature range (*1)	$+40^\circ\text{C}$ to $+80^\circ\text{C}$					
Control accuracy (*2)	PID controller, $\pm 0.5^\circ\text{C}$					
Heater output	3.0 kW	6.0 kW	9.0 kW	12.0 kW	15.0 kW	24.0 kW
Pumping capacity (50/60 Hz)	Max. discharge pressure [MPa]			0.59		
	Flow rate [L/min] (*3)			42/55		
	Motor output [kW]			0.75		
Water bath capacity (at 80% water level)	28 L			110 L		
Safety device/function	Short/Over current breaker, Phase-reversal relay, Warning and Cut off for low water, Circulating water high temperature, Pump overcurrent, Overheating protection					
Connecting pipe diameter (Circulating fluid in/out)	Rc3/4			Rc1		
Dimensions (W×D×H)	386 × 512 × 865 mm			627 × 772 × 1130 mm		
Weight	approx. 90 kg	approx. 95 kg	approx. 105 kg	approx. 120 kg	approx. 130 kg	approx. 140 kg
Power Supply (three phase AC 200 V, 50/60 Hz)(*4)	15 A	30 A	40 A	50 A	60 A	100 A
Operation current (50/60 Hz)	12 A	21 A	29 A	38 A	46 A	72 A

(\*1) The lower limit may change depending on operating conditions. Cannot be used for applications on circulating water returns for temperature increases. (\*2) Cooling water is required up to approx.  $+60^\circ\text{C}$ . (\*3) Capacity when using tap water. The value when the discharge pressure at 0.3 MPa. (\*4) Need a step-down transformer outside when used.

•The sensitivity current in ELCB should be set larger than 30 mA. •The primary cooling water is required when the cooling function is added. The cooling capacity depends on the cooling water conditions (Water temperature and Flow rate).

## Examples of Customization



Primary cooling water IN & OUT nozzle outlets

### •The primary cooling water is required when cooling function added.

The hot water circulators in the HC series are not equipped with compressors and use heaters to heat the water.

When operating at temperatures below  $60^\circ\text{C}$  or when the temperature of the return water rises, a heat-absorbing mechanism with primary cooling water circulation must be added. The photo on the left shows an example of the specification with an additional cooling water circulation port.

\*The primary cooling water is required when the cooling function added. The cooling capacity depends on the cooling water conditions (Water temperature and Flow rate).

To maintain circulation at high temperatures, connect with hoses, etc. with specifications that are heat resistant or insulated.

### •Addition of Pump (up to 4 units)



Modified HC-06



Back side

The standard is One unit. Up to 4 units as an option.

\*The external dimensions may be changed depending on the number of pumps. Please ask us for details.

Example of Pump 2 units mounted