



## **"Budget" Water-cooled Water Chiller**

SIC-5W-EB

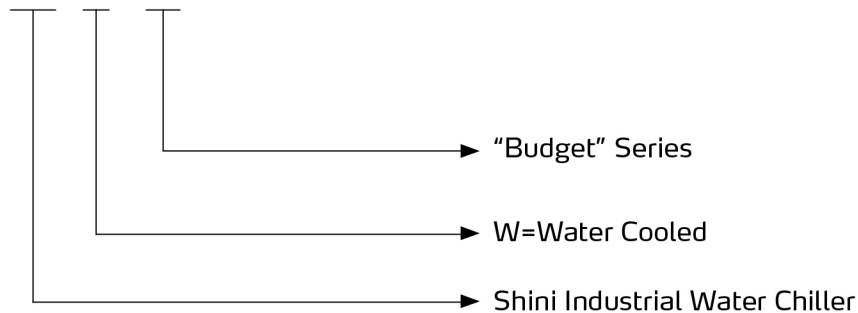


Refer carefully to this manual before operation.

# SIC-W-EB Series

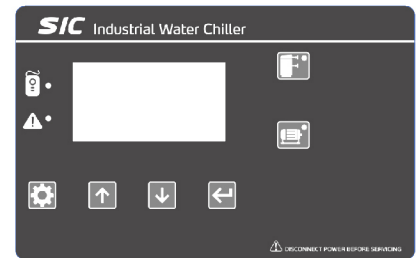
## ■ Coding Principle

SIC - W - EB



## ■ Features

- Cooling range 7~25℃.
- Environmentally insulated water tank, with prolonged service life and free of contamination.
- Adopt R410 A refrigerant with good refrigeration effect.
- Refrigeration loop controlled by high and low pressure switches for accurate detection of system pressure.
- The compressor and pump both have current protection function
- Shell and tube condenser with quick heat conduction and good dissipation effect.
- Adopt tube and shell evaporator. The SUS304 pipe is directly mounted on water tank that is economical and practical.
- Adopt microcomputer control for precise temperature control.



Control Panel

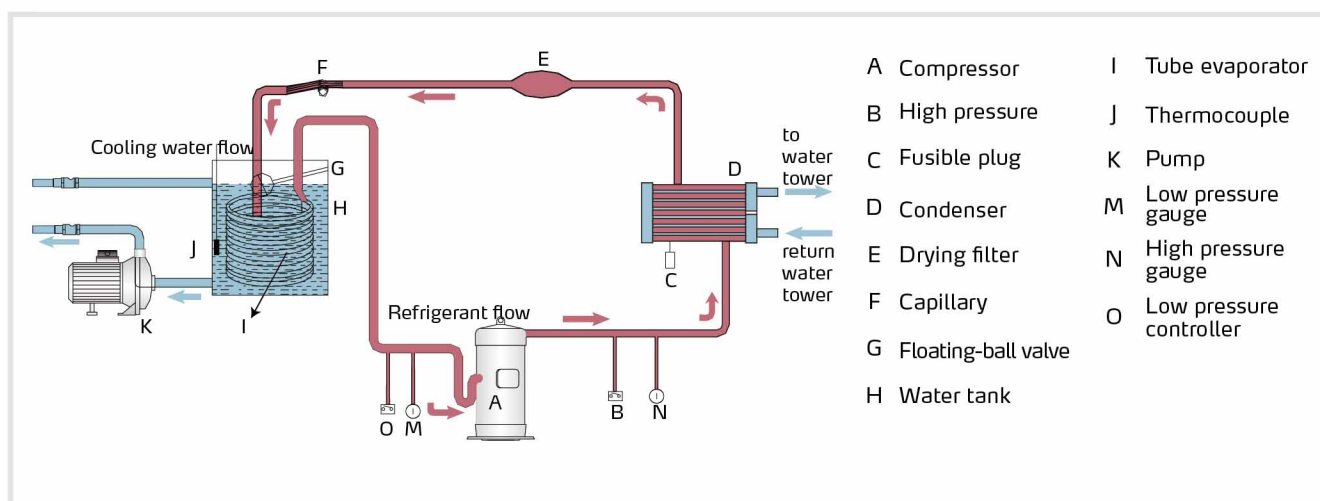
## ■ Application

SIC-W-EB series are applicable for cooling moulds to reduce products molding cycle time; also they are available in the cooling of equipments in order to maintain a normal temperature. Besides, they are suitable for other industries with the need of cooling.

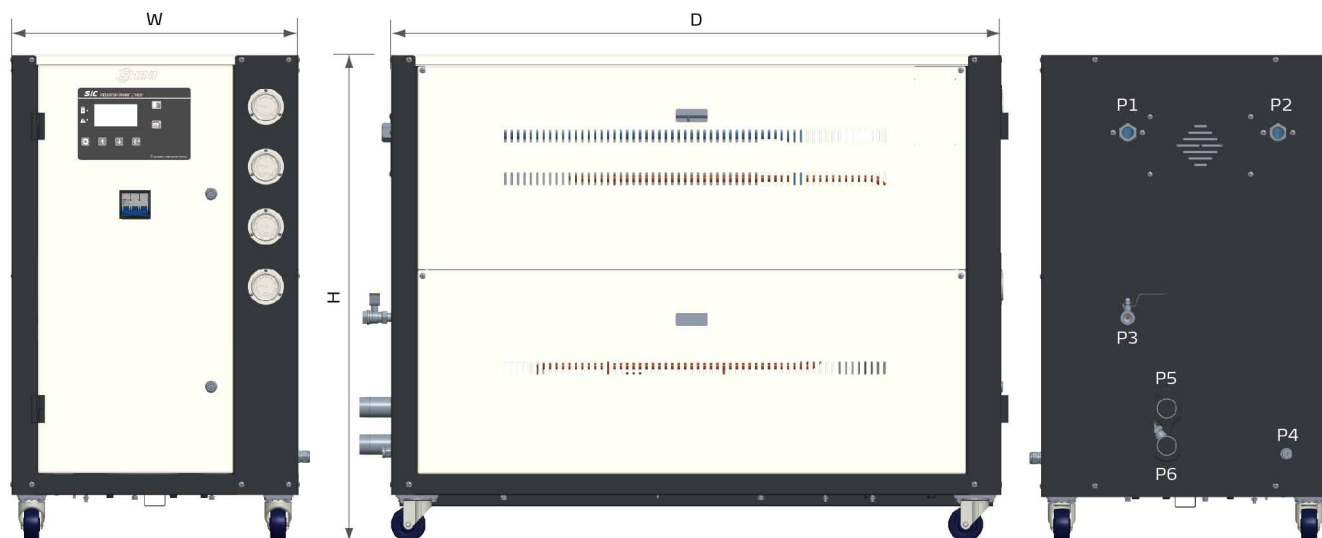
## ■ Working Principle

SIC-W-EB water-cooled water chiller mainly consists of compressor, condenser, capillary and tube evaporator. Adopting single-stage vapor compression refrigerating system, gas-liquid conversion of refrigerant, and the principle of heat adsorption and release, it achieves the cooling effect.

When SIC-W-EB water-cooled water chiller starting up, compressor (A) starts working. Refrigerant is compressed into high temperature high pressure gas, and then be cooled when passing through condenser (D) and changed into liquid. Heat is taken away by the cooling water. The liquid high pressure refrigerant passes through the capillary (F), and partial refrigerant is changed into gas under reduced pressure. At this time, the refrigerant is mixed with gas and liquid, which cools down the chilled water into required temperature after passing through the tube evaporator (I). By heat adsorption, the liquid refrigerant changes to gas and returns the compressor for this circulation.



## ■ Outline Drawings



SIC-W-EB

# SIC-W-EB Series

## Outline Drawings

| Model      | H (mm) | W (mm) | D (mm) | P1 (inch)<br>Chilled Water Inlet | P2 (inch)<br>Chilled Water Outlet | P3 (inch)<br>Water Tank Outlet Port | P4 (inch)<br>Water Tank Overflow Port | P5 (inch)<br>Cooling Water Outlet | P6 (inch)<br>Cooling Water Inlet | Weight (kg) |
|------------|--------|--------|--------|----------------------------------|-----------------------------------|-------------------------------------|---------------------------------------|-----------------------------------|----------------------------------|-------------|
| SIC-5W-EB  | 1065   | 542    | 965    | 1                                | 1                                 | 1/2                                 | 1/2                                   | 1 1/2                             | 1 1/2                            | 240         |
| SIC-10W-EB | 1140   | 695    | 1515   | 1                                | 1                                 | 1/2                                 | 1/2                                   | 1 1/2                             | 1 1/2                            | 310         |
| SIC-15W-EB | 1205   | 905    | 1855   | 1.5                              | 1.5                               | 1/2                                 | 1/2                                   | 2 1/2                             | 2 1/2                            | 450         |

## Structure of Water-cooled Models



Budget water tank for circulating water storage

Scroll compressor, excellent energy efficiency ratio, with low noise level

Drying filter



Tube

Refrigerant system low pressure gauge. It used to display low pressure of refrigerant system.

Pump pressure gauge, It used to display pump pressure.



Large-flow three-phase water pump which is not easy to block, and large start torque

Tube and shell condenser with quick heat conduction and good dissipation effect

Rack and controller adopt power coating, in solid design

## ■ Specifications

| Model                                  |                           |    | SIC-5W-EB                                 |                     | SIC-10W-EB                   |  | SIC-15W-EB      |  |
|--|---------------------------|----|---|---------------------|------------------------------|--|-----------------|--|
| Refrigerant <sup>(1)</sup><br>Capacity | kW                        |    | 10  |                     | 20                           |  | 30              |  |
|  | kcal/hr                   |    | 8,609                                     |                     | 17,217                       |  | 25,800          |  |
| Compressor                             | Type                      |    |   |                     | Scroll                       |  |                 |  |
|  | Input power               | kW | 3.3                                       |                     | 6.6                          |  | 13.3            |  |
|  |                           | HP | 5   |                     | 8                            |  | 20              |  |
| Refrigerant                            | Filling Volume (kg)       |    | 3.1                                       |                     | 6.2                          |  | 10              |  |
|  | Control Mode              |    | Capillary                                 |                     |                              |  | Expansion valve |  |
|  | Type                      |    | R410A                                     |                     |                              |  |                 |  |
| Evaporator                             | Type                      |    | Tube style                                |                     |                              |  |                 |  |
| Condenser                              | Type                      |    | Tube-in-shell style                       |                     |                              |  |                 |  |
|  | Inlet/outlet pipe (inch)  |    | 1.5                                       |                     | 1.5                          |  | 2.5             |  |
|  | Cooling water flow(L/min) |    | 65  |                     | 90                           |  | 136             |  |
|  | Water Tank Capacity (L)   |    | 55  |                     | 145                          |  | 161             |  |
| Water pump<br>(50Hz)                   | Power (kW)                |    | 0.37                                      |                     | 0.75                         |  | 1.5             |  |
|  | Pump flow (L/min)         |    | 60  |                     |                              |  | 133             |  |
|  | Working pressure (Bar)    |    | 2.0                                       |                     |                              |  | 3.0             |  |
|  | Total power (kW)          |    | 3.67                                      |                     | 7.35                         |  | 14.8            |  |
| Pipe Coupling<br>(inch)                | Chilled Water Outlet      |    | 1   |                     |                              |  | 1.5             |  |
|  | Chilled Water Inlet       |    | 1   |                     |                              |  | 1.5             |  |
|  | Water Tank Drainage Port  |    | 1/2                                       |                     |                              |  |                 |  |
|  | Water Tank Overflow Port  |    | 1/2                                       |                     |                              |  |                 |  |
| Protective<br>Devices                  | Compressor                |    | Built-in protective switch/Overload relay |                     |                              |  |                 |  |
|  | Pump                      |    | Overload relay                            |                     |                              |  |                 |  |
|  | Refrigerant loop          |    | High/low pressure controller              |                     |                              |  |                 |  |
| Power <sup>(2)</sup>                   |                           |    | 3 Φ, 400VAC, 50Hz                         |                     |                              |  |                 |  |
| Measures Exchange                      |                           |    | 1 kW = 860 kcal/hr                        | 1 RT= 3,024 kcal/hr | 10,000 Btu/hr= 2,520 kcal/hr |  |                 |  |

Note: 1) The refrigeration capacity is measured based on the outlet temperature (20℃) of chilled water under the environment temperature of 30℃.

2) Special orders of machine voltage can be acceptable according to customers's request.

We reserve the right to change specifications without prior notice.

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