



## CFC-free Refrigerant Air-cooled Central Water Chiller

SICC-90A-R2



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Refer carefully to this manual before operation.

# SICC-A-R2 Series

## ■ Coding Principle

SICC - xxxA - xx

R2=R410A

First Three Codes: Refrigerating Capacity (kW)

A=Air Cooled

Shini Central Water Chiller

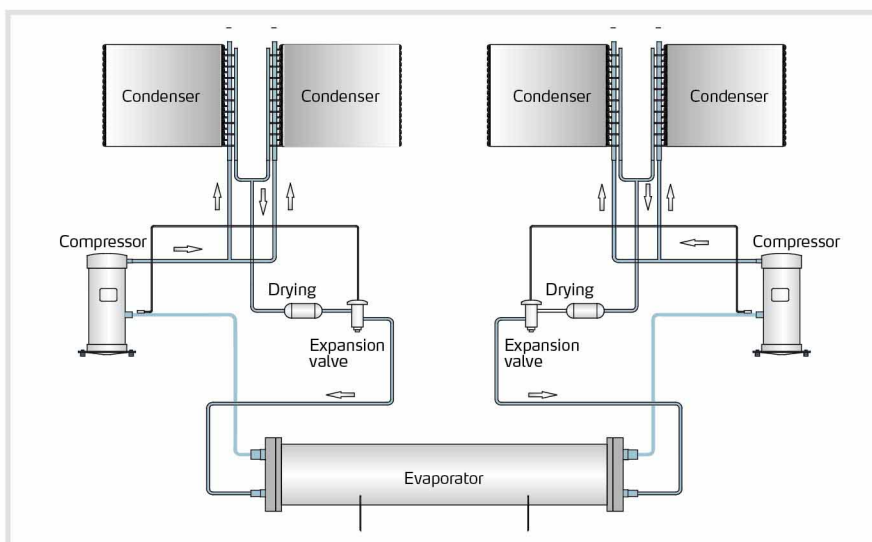
## ■ Features

- Modularized design makes it easier to combine module units 1~15. Cooling capacity can be enlarged by increasing the number of modules or choose appropriate modules to connect to existing system.
- The water route of the modules can be linked via linking one module to the inlet/outlet water tube. No need to install the inlet/outlet water tube for each module alone. The soft rubber tube is used to connect the modules, thus it is very convenient to construct.
- Adopt components like scroll compressor, expansion valve which ensure stable performance. The whole unit will not stop due to one module failure.
- When the unit starts up, the controller of the master unit will automatically ON/OFF and load of each module according to system load. Hence, lowering energy consumption during non-peak hours.
- Link individual controller, capable of detaching any module to realize another cooling system.
- Protection grade: IP54.
- Equipped RS485 communication realizes remote monitoring and network function.

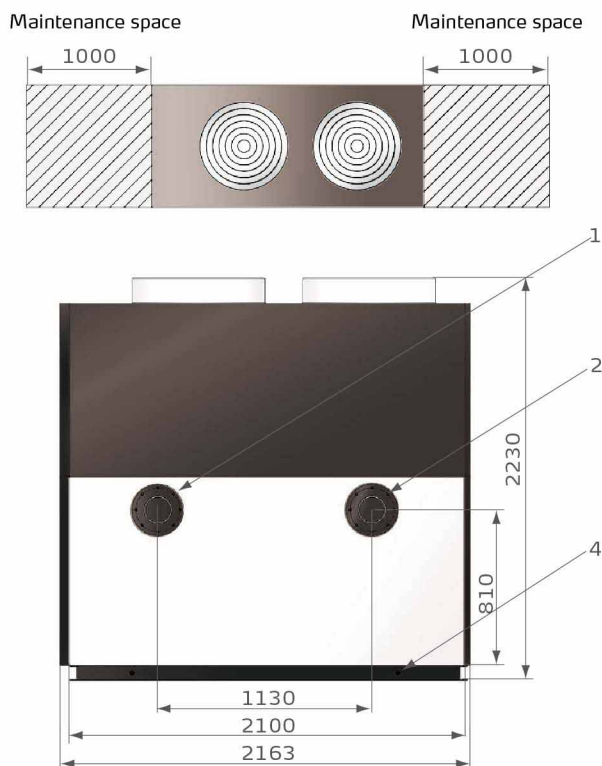
## ■ Application

SICC-A-R2 series are applicable for cooling moulds to reduce the product moulding cycle; they are also available in the cooling of equipment to maintain a normal temperature. Besides, they are suitable for other industries with the need for water cooling.

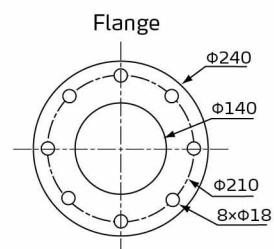
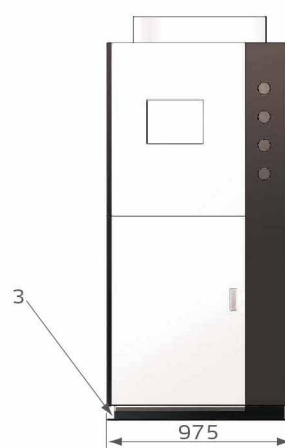
## ■ Working Principle



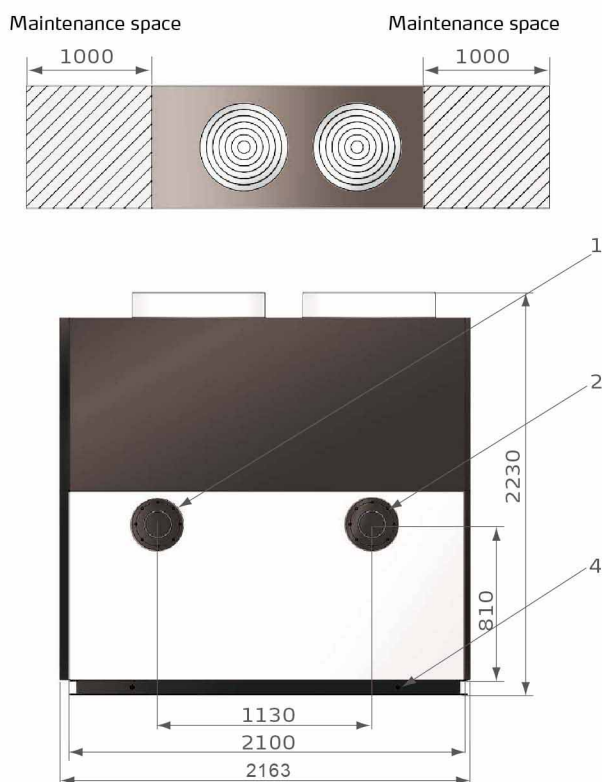
## Outline Drawings



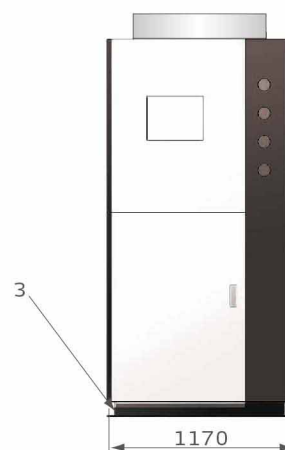
SICC-60A-R2



1. 5 inch Chilled Water Outlet
2. 5 inch Chilled Water Inlet
3.  $\Phi 16/\Phi 0.63$  inch Bearing hole
4. M16/M0.63 inch Stationary Ring Bolt

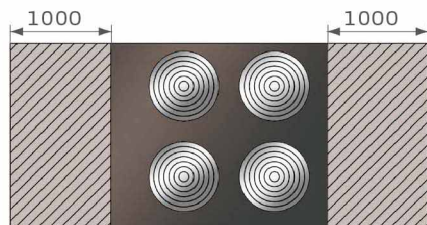


SICC-90A-R2

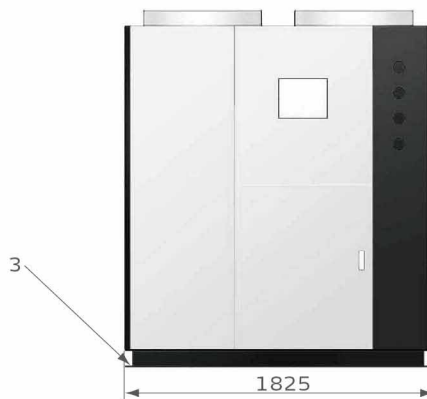
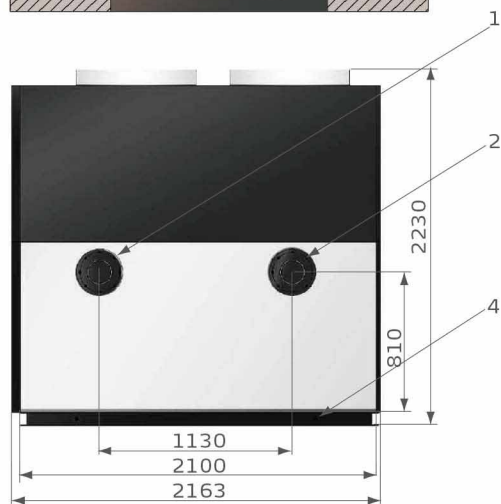


# SICC-A-R2 Series

Maintenance space Maintenance space



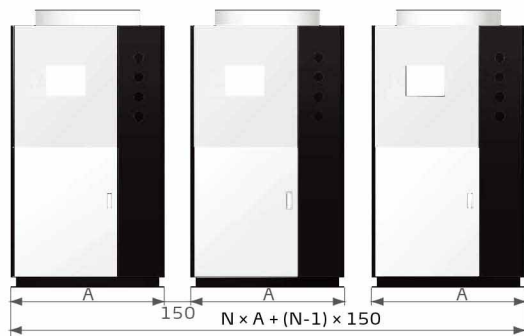
1. 5 inch Chilled Water Outlet
2. 5 inch Chilled Water Inlet
3.  $\Phi 16/\Phi 0.63$  inch Bearing hole
4. M16/M0.63 inch Stationary Ring Bolt



SICC-120A-R2

## Modular combination

Installation



| Type        | Module Model | Model Dimension (A) | Combination Dimension           |
|-------------|--------------|---------------------|---------------------------------|
| Module Unit | SICC-60A-R2  | 975                 | $N \times A + (N-1) \times 150$ |
|             | SICC-90A-R2  | 1170                |                                 |
|             | SICC-120A-R2 | 1825                |                                 |

Notes: Combination of modules unit as shown in left figure. Unit: mm.

| Type         | Model        | Grouping       | Compressor Power (kW) |
|--------------|--------------|----------------|-----------------------|
| Module Model | SICC-60A-R2  | 60A            | 17.2                  |
|              | SICC-90A-R2  | 90A            | 25                    |
|              | SICC-120A-R2 | 120A           | 34                    |
| Module Unit  | SICC-150A-R2 | 60A + 90A      | 42.2                  |
|              | SICC-180A-R2 | 2 × 90A        | 50                    |
|              | SICC-210A-R2 | 90A + 120A     | 59                    |
|              | SICC-240A-R2 | 2 × 120A       | 68                    |
|              | SICC-270A-R2 | 3 × 90A        | 75                    |
|              | SICC-300A-R2 | 2 × 90A + 120A | 84                    |
|              | SICC-330A-R2 | 3 × 90A + 60A  | 92.2                  |
|              | SICC-360A-R2 | 3 × 120A       | 102                   |

| Type        | Model        | Grouping             | Compressor Power (kW) |
|-------------|--------------|----------------------|-----------------------|
| Module Unit | SICC-420A-R2 | 4 × 90A + 60A        | 117.2                 |
|             | SICC-450A-R2 | 5 × 90A              | 125                   |
|             | SICC-480A-R2 | 4 × 120A             | 136                   |
|             | SICC-540A-R2 | 6 × 90A              | 150                   |
|             | SICC-570A-R2 | 4 × 120A + 90A       | 161                   |
|             | SICC-600A-R2 | 5 × 120A             | 170                   |
|             | SICC-660A-R2 | 5 × 120A + 60A       | 187.2                 |
|             | SICC-720A-R2 | 6 × 120A             | 204                   |
|             | SICC-780A-R2 | 6 × 120A + 60A       | 221.2                 |
|             | SICC-840A-R2 | 7 × 120A             | 238                   |
|             | SICC-930A-R2 | 7 × 120A + 90A       | 263                   |
|             | SICC-990A-R2 | 7 × 120A + 90A + 60A | 280.2                 |

## Specifications

| Item                              |                   | Model              | SICC-60A-R2                    | SICC-90A-R2          | SICC-120A-R2                  |
|-----------------------------------|-------------------|--------------------|--------------------------------|----------------------|-------------------------------|
| Cooling <sup>1)</sup><br>Capacity |                   | kW                 | 60                             | 90                   | 120                           |
|                                   |                   | kcal/hr            | 51,600                         | 77,400               | 103,200                       |
| Cooling <sup>2)</sup><br>Capacity |                   | kW                 | 50                             | 75                   | 97                            |
|                                   |                   | kcal/hr            | 43,000                         | 64,500               | 83,420                        |
| Power                             |                   |                    | 3Φ, 400VAC, 50Hz               |                      |                               |
| Total Power                       |                   | kW                 | 19                             | 28                   | 37                            |
| Running Current                   |                   | A                  | 35                             | 50                   | 65                            |
| Startup Current                   |                   | A                  | 140                            | 175                  | 230                           |
| Compressor                        | Type              |                    | Scroll                         |                      |                               |
|                                   | Power             | kW                 | 8.6 × 2                        | 12.5 × 2             | 17 × 2                        |
|                                   | Crank Case Heater | kW                 | 0.09 × 2                       | 0.09 × 2             | 0.12 × 2                      |
| Refrigerant                       | Type              |                    | R410A                          |                      |                               |
|                                   |                   |                    |                                |                      |                               |
| Evaporator                        | Type              |                    | Tube-in-shell Evaporator       |                      |                               |
|                                   | Cooling Flow      | m <sup>3</sup> /hr | 10.3                           | 15.5                 | 20.6                          |
|                                   | Pressure Loss     | kPa                | 27                             | 40                   | 53                            |
|                                   | Pipe Coupler      | inch               | 5                              | 5                    | 5                             |
| Condenser                         | Type              |                    | Fin Style Air-cooled Condenser |                      |                               |
|                                   | Blower Power      | kW                 | 1.6                            | 2.2                  | 3.2                           |
|                                   | Air Quantity      | m <sup>3</sup> /hr | 26,000                         | 39,000               | 52,000                        |
| Machine Dimension                 | W                 | mm                 | 2,163                          |                      |                               |
|                                   |                   | inch               | 85.2                           |                      |                               |
|                                   | D                 | mm                 | 975                            | 1,170                | 1,825                         |
|                                   |                   | inch               | 38.4                           | 46                   | 71.9                          |
|                                   | H                 | mm                 | 2,230                          |                      |                               |
|                                   |                   | inch               | 87.8                           |                      |                               |
| Weight                            | Before Packing    | kg                 | 810                            | 940                  | 1,300                         |
|                                   |                   | lb                 | 1,785.7                        | 2,072.3              | 2,866                         |
|                                   | After Packed      | kg                 | 850                            | 1,000                | 1,370                         |
|                                   |                   | lb                 | 1,873.9                        | 2,204.6              | 3,020.3                       |
| Noise Level dB(A)                 |                   | dB(A)              | 78                             | 80                   | 85                            |
| Unit Conversion                   |                   |                    | 1 kW = 860 kcal/hr             | 1 RT = 3,024 kcal/hr | 10,000 Btu/hr = 2,520 kcal/hr |

### Notes:

- 1) Cooling capacity is measured based on the flow of 0.172m<sup>3</sup>/(h.kW) and the outlet temperature 15°C/59°F of chilled water under the environmental temperature of 35°C/95°F.
- 2) Cooling capacity is measured based on the flow of 0.172m<sup>3</sup>/(h.kW) and the outlet temperature 7°C/44.6°F of chilled water under the environmental temperature of 35°C/95°F.
- 3) Machine operation conditions: ambient environment is at 15~43°C(59~109.4°F), chilling water temperature is at 8~25°C(46.4~77°F), for special requirements, the machine can be customized.

We reserve the right to change specifications without prior notice.

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