

# Guide Specification

## Precision Cooling Inrow DX Type

MODEL: S-020RA



## General Summary

These specifications describe requirements for Mission Critical Cooling system. The system shall be designed to control temperature and humidity conditions in rooms containing electronic equipment, with good insulation and vapour barrier. The manufacturer shall design and furnish all equipment to be fully compatible with heat dissipation requirements of the room.

## Product Specification

### 1. Overall Parameters

- 1)\* The system shall have a total cooling capacity of 21.2kW, with a sensible cooling capacity of 21.2kW, based on an entering air of 37°C dry bulb and 24% Relative Humidity. Air quantity 4920m<sup>3</sup>/h.
- 2)\* The unit is to be supplied with 380-415volt/3ph/50-60Hz for indoor unit and 380-415volt/3ph/50-60Hz for outdoor unit.

### 2. Cabinet & Frame Section

- 1) The exterior panels shall be constructed of zinc coated sheet steel and insulated with foam insulation. The cabinet shall be powder coated in RL9005 color.
- 2) The size of unit is 300mm(width) \* 1100mm(depth) \* 2000mm(height).
- 3) The cabinet comes with wheels and level feet.
- 4) The front & rear door of the cabinet is steel type perforated door with locking.

### 3. Fan Section

- 1)\* The indoor unit fan type is EC Fan with backward curved blades and external rotor. The fan quantity shall be no less than 6.
- 2) The fans shall be located to draw air over the coil to ensure even air distribution and maximum coil performance.
- 3) The fan assembly shall be easy to replace with quick connection terminals.

### 4. Air Filter Section

- 1) The rated efficiency shall be to EU4/MERV8 Standards
- 2) The filters shall be an integral part of the system and withdrawable from the rear of the unit. Filtration shall be provided by flat form, dry disposable media housed in a metal frame.

### 5. Controller and Display System Section

- 1) The controls shall be composed of the following components.
  - a)\* Microprocessor control board of Carel brand housed inside the electrical cabinet.
  - b)\* Standard seven-inch LCD touch screen display (color) mounted and viewed from the front of the unit.
- 2) The microprocessor control board shall contain the settings and programs of all the stored operating parameters which can be used, viewed, and set on the user display interface.
- 3)\* The optional user interface (7-in. LCD touch screen display) shall be password protected, and menu driven.
- 4) The auto restart feature will automatically restart the system after a power failure.
- 5)\* The unit shall include modbus-RTU protocol via RS485 for remote monitoring integration, and an optional network port activated by license to provide management through a computer network SNMP.
- 6) Management through the network shall include the ability to change setpoints and view and clear alarms.
- 7)\* The controller shall come with a web-server that allow browser logon the unit adress to view working status.
- 8)\* The high pressure and low pressure of refrigerant system shall be recorded in the controller and be viewed with curve and data through display.
- 9)\* The controller shall be able to work in teamwork mode with more than 64 units as one group.

10) The electric box shall be drawable from rear side of the unit for easier maintenance.

## **6. Refrigeration System**

- 1). The refrigeration system shall be of the direct expansion type with variable capacity and incorporate one inverter compressor.
- 2) The system shall include a high pressure switch, high & low pressure transducer, electronic expansion valve, high sensitivity refrigerant sight glass, large capacity filter drier.
- 3) The evaporator coil shall be slab shape incorporating draw-through air design for uniform air distribution. The coil shall be constructed of enhanced surface aluminium fins mechanically bonded to enhanced surface copper tubes. The coil frame is fabricated from anti-corrosion aluminium sheetmetal and the stainless steel condensate drip tray.

## **7. Remote Condenser Section**

- 1)\* Factory matched air cooled condensers shall be the low profile, weatherproof type incorporating inverter driver, high efficiency, direct drive, external rotor motor with axial blade fans.
- 2) The condenser shall be constructed from corrosion resistant components.
- 3) The high performance heat exchanger condenser shall include mechanically expanded enhanced surface copper tubes and aluminium fins for efficient heat transfer.

## **8. Optional Components**

- 1) Leaking sensor
- 2) Winter kit for working under -40C temperature
- 3) Condensate pump
- 4) SNMP license