1. Introduction

Deeray CRA series large and medium-sized precision air conditioners are specially designed to ensure high precision temperature and humidity environment. It adopts a modular structure, and different modules can be combined to achieve different cooling capacity. The cooling capacity of air conditioner covers from 25kW to 100kW, and the refrigerant can be an environmentally friendly R410a.

The unit adopts a modular design to reduce the area occupied by the air conditioner in the machine room, and can be carried in different modules to reduce the difficulty of carrying and avoid the quality risk caused by the on-site assembly of modules.

Deeray CRA series precision air conditioners have a variety of air return modes, such as upper air channel supply, upper air cap supply, lower air supply, EC fan sinking air supply, etc. There are options of single cooling type, single heating type, single humidification type and constant temperature and humidity type etc., which can be selected and matched according to the on-site situation.

Application:

- ✓ Switch room
- ✓ Computer room and electronic information room
- ✓ High-precision laboratory
- ✓ Industrial control room
- ✓ Precision machining equipment room
- ✓ Standard testing room
- ✓ UPS room
- ✓ Battery house
- ✓ Biochemical culture room
- ✓ Hospital equipment room
- ✓ Others

2 air supply modes:

Air-cooled (RA) lower air supply module

Air-cooled (RA) upper air supply module

Product advantages:

- The unit has a wide range of adaptation, can be used in any computer room nationwide, in the outdoor temperature range of -40℃ to 45℃, Liyao air conditioners can run well.
- A wide control range and high control accuracy:

  Range: temperature 15--32℃, humidity 30--80%

  Accuracy: temperature±1℃, humidity±5%

- The unit adopts a modular structure, and can be carried in different modules to avoid the quality risk caused by the on-site assembly of modules.
- The unit is with full frontal maintenance, and there is no need to leave maintenance space on the side and back.
- Modular structure, the unit covers only a small area.

High-end configuration:

High-precision control system

- Standard 7-inch color touch screen, good man-machine interface, high-precision control, and the control is accurate and reliable, can display:
  - Unit parameters
  - Running status of the unit
  - Operating status of main components
  - Operating time of the unit and the main components
  - Real-time alarms and historical alarms
  - The curve of temperature and humidity
  - Other parameters

- The control system adopts three levels of password security protection, so that you can have different levels of control for different people.
- With the group control function, using a more reliable CAN group control mode, it can achieve group control of 32 units, to achieve the polling, hot backup, fault backup, to avoid competitive operation and other functions.
- The standard with RS485 interface, supports ModBUS protocol, SNMP card can be configured, and TCP/IP can be selected.
- With a variety of protection functions:
  - Power protection

- Water leakage alarm
- Temperature and humidity over-limit alarm
- System device protection
- Other alarm protection

Evaporator

- The evaporator of the unit adopts the "A" type or "V" type design concept, with the internal threaded copper pipe, hydrophilic aluminum fin production, compact structure, with the minimum space to obtain the maximum heat exchange effect.
- Two evaporators are used for each refrigeration system, the surface air volume of evaporator is even.

Scroll Compressor

- Using a valley wheel scroll compressor, the stable design achieves high reliability and durability. It is able to achieve low noise, low vibration and high energy efficiency during the entire operation.
- There are few activity parts in scroll compressor, so that the noise and vibration of the unit is reduced. The compression process of compressor is continuous and stable, and the scroll compressor without high and low pressure valve which will reduce the valve loss, prevent liquid strike and low starting current.
- Equipped with high and low voltage protection function, safer operation.

Throttle Device

- Thermal expansion valve or electronic expansion valve are available.
- Fast adjustment and precise flow control to ensure the system runs stably in various environments.

Outdoor Unit

- The outdoor condenser adopts copper tube and aluminum fin material, which has a large heat dissipation area, to reduce wind resistance and maintenance times.
- The outdoor units adopt aluminum alloy shell structure, which can adapt to various harsh environments.
- The outdoor fan adopts high-efficiency axial flow fan made by German ZIEHL-ABEGG, and equipped with a self-developed fan controller, which can run stepless speed regulation according to the pressure of the refrigeration system, ensuring the stable operation of the system in a wide temperature range.
- EC fan is optional to achieve energy saving and high efficiency.

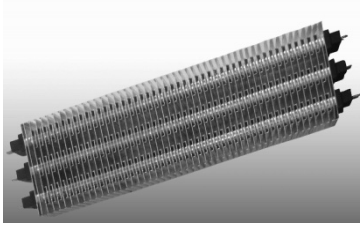
EC Fan

- It uses aviation composite material anti-corrosion blades, light weight, high efficiency, low energy consumption.
- EC Fan adopts brushless DC motor, which can run 0-100% stepless speed adjustment. It is energy saving, high efficiency and low noise.

- The EC fan adopts soft startup to reduce the impact on the power grid.

High-end auxiliary heating configuration

- Configured with semiconductor PTC ceramic electric heater, which heats up quickly, and can achieve automatic temperature adjustment and heating evenly.
- The electric heater adopts multi-stage control, which is more suitable for the high precision of temperature in the machine room.
- Configured with over-temperature protection device, it is safe and reliable.



Humidifying unit

- The electrode humidifier can wash the unit repeatedly. The humidifier has the advantages of small volume, large humidification capacity, fast humidification speed and can produce pure steam and so on.
- Humidifiers can be washing repeatedly on-site to reduce maintenance costs.

Optional Spare Parts

- Long coupler
- Low temperature parts
- Belt leak
- Lightning protection
- Others

2. Technical Specification

Model	DY-CRA025URH
Cooling Capacity kW①	26.5
Sensible capacity kW	24.2
Fan Type	EC fan
Fan Number	1
Air Flow m³/h②	7000
Outside Residual Pressure Pa	Standard 20Pa, 20-300Pa Tuning
Air Filter	G4
Compressor Type	Scroll Compressor
Compressor Number	1
Refrigerant	R22, R410A optional
Electrical Heating kW (selectable)	6
Electrical Heating Current A	10
Electric humidifying kg/h (selectabe)	5
Electric humidifying Current A	6
Power Supply	380v/50HZ 3N~
Full load Current A③	34
Indoor Unit Specifications	
Size Width x Depth x Height mm	915 × 996 × 1975
Weight kg	345
Installation Parameters of Outdoor Units	
Model	DY-CY0351
Number of Outdoor Units	1

① Design condition: 24℃, 50%.

② Standard 20Pa, 20-300Pa Tuning. Please contact us for other requirements of residual pressure.

③ The standard configuration of the unit is maximum current, including heating and

humidification, but excluding the outdoor unit current. Please take On-site power distribution for reference.

Model	**DY-CRA030URH**
Cooling Capacity kW①	32.3
Sensible capacity kW	29.4
Fan Type	EC fan
Fan Number	1
Air Flow m³/h②	8550
Outside Residual Pressure Pa	Standard 20Pa, 20-300Pa Tuning
Air Filter	G4
Compressor Type	Scroll Compressor
Compressor Number	1
Refrigerant	R22, R410A optional
Electrical Heating kW (selectable)	6
Electrical Heating Current A	10
Electric humidifying kg/h (selectabe)	5
Electric humidifying Current A	6
Power Supply	380v/50HZ 3N~
Full load Current A③	38
Indoor Unit Specifications	
Size Width x Depth x Height mm	915 × 996 × 1975
Weight kg	366
Installation Parameters of Outdoor Units	
Model	**DY-CY0451**
Number of Outdoor Units	1

① Design condition: 24℃, 50%.

② Standard 20Pa, 20-300Pa Tuning. Please contact us for other requirements of residual pressure.

③ The standard configuration of the unit is maximum current, including heating and humidification, but excluding the outdoor unit current. Please take On-site power distribution for reference.

Model	**DY-CRA035URH**
Cooling Capacity kW①	36.5
Sensible capacity kW	33.1
Fan Type	EC fan
Fan Number	1
Air Flow m³/h②	9250
Outside Residual Pressure Pa	Standard 20Pa, 20-300Pa Tuning
Air Filter	G4
Compressor Type	Scroll Compressor
Compressor Number	1
Refrigerant	R22, R410A optional
Electrical Heating kW (selectable)	6
Electrical Heating Current A	10
Electric humidifying kg/h (selectabe)	5
Electric humidifying Current A	6
Power Supply	380v/50HZ 3N~
Full load Current A③	43
Indoor Unit Specifications	
Size Width x Depth x Height mm	915 × 996 × 1975
Weight kg	368
Installation Parameters of Outdoor Units	
Model	**DY-CY0522**
Number of Outdoor Units	1

① Design condition: 24℃, 50%.

② Standard 20Pa, 20-300Pa Tuning. Please contact us for other requirements of residual pressure.

③ The standard configuration of the unit is maximum current, including heating and

humidification, but excluding the outdoor unit current. Please take On-site power distribution for reference.

Model	**DY-CRA040URH**
Cooling Capacity kW①	41.9
Sensible capacity kW	38.2
Fan Type	EC fan
Fan Number	1
Air Flow m³/h②	11000
Outside Residual Pressure Pa	Standard 20Pa, 20-300Pa Tuning
Air Filter	G4
Compressor Type	Scroll Compressor
Compressor Number	1
Refrigerant	R22, R410A optional
Electrical Heating kW (selectable)	9
Electrical Heating Current A	14
Electric humidifying kg/h (selectabe)	5
Electric humidifying Current A	6
Power Supply	380v/50HZ 3N~
Full load Current A③	50
Indoor Unit Specifications	
Size Width x Depth x Height mm	1315×996×1975
Weight kg	453
Installation Parameters of Outdoor Units	
Model	**DY-CY0582**
Number of Outdoor Units	1

① Design condition: 24℃, 50%.

② Standard 20Pa, 20-300Pa Tuning. Please contact us for other requirements of residual pressure.

③ The standard configuration of the unit is maximum current, including heating and humidification, but excluding the outdoor unit current. Please take On-site power distribution for reference.

Model	**DY-CRA045URH**
Cooling Capacity kW①	46.2
Sensible capacity kW	42.1
Fan Type	EC fan
Fan Number	1
Air Flow m³/h②	12000
Outside Residual Pressure Pa	Standard 20Pa, 20-300Pa Tuning
Air Filter	G4
Compressor Type	Scroll Compressor
Compressor Number	1
Refrigerant	R22, R410A optional
Electrical Heating kW (selectable)	9
Electrical Heating Current A	14
Electric humidifying kg/h (selectabe)	5
Electric humidifying Current A	6
Power Supply	380v/50HZ 3N~
Full load Current A③	53
Indoor Unit Specifications	
Size Width x Depth x Height mm	1315×996×1975
Weight kg	468
Installation Parameters of Outdoor Units	
Model	**DY-CY0662**
Number of Outdoor Units	1

① Design condition: 24℃, 50%.

② Standard 20Pa, 20-300Pa Tuning. Please contact us for other requirements of residual pressure.

③ The standard configuration of the unit is maximum current, including heating and humidification, but excluding the outdoor unit current. Please take On-site power distribution for reference.