

## 1. Introduction

Deeray DRA series large and medium-sized air-cooled room-level machine room air conditioners are specially designed to ensure high-precision temperature and humidity environments. This series of products adopts a modular structure, which can achieve different cooling capacity through different module combinations. The capacity covers 25kW ~ 100kW, and the refrigerant can be selected as environmentally refrigerant R410a.

The unit adopts a modular design, which reduces the floor space of the machine room air conditioner, and can be transported in modules, which reduces the difficulty of transport and avoids the quality risk caused by on-site assembly of parts.

Deeray DRA series machine room air conditioners have a variety of air supply and return methods, such as upper air duct air supply, upper air supply hood air supply, down air supply, and EC fan sinking air supply, etc. Choose single cooling type, single heating type, single humidification type, constant temperature and humidity type, etc. according to the site conditions.

### Application range:

- ✓ Switch room
- ✓ Computer room and electronic information room
- ✓ High precision laboratory
- ✓ Industrial Control Room
- ✓ Precision processing equipment room
- ✓ Standard testing room
- ✓ UPS Room
- ✓ Battery Room
- ✓ Biochemical culture room
- ✓ Hospital equipment room
- ✓ Other

### Two ways of air supply:



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风冷(RA)上送风机组

**Product advantages:**

- The unit has a wide range of adaptability and can be used in any computer room in the country. In the range of outdoor temperature from -40°C to 45°C, Li Yao air conditioner can operate well.

- The unit has a wide control range and high control accuracy::

Range: temperature 15°C--32°C, humidity 30%--80%

Accuracy: Temperature  $\pm 1^{\circ}\text{C}$ , Humidity  $\pm 5\%$

- The unit adopts a modular structure and can be transported in modules to avoid the quality risk caused by on-site assembly of parts.
- The unit is maintained on the front side, and no maintenance space is left on the side and back.
- Modular structure, the unit occupies a small area.

**High-end configuration:**

**High precision control system**

- Standard 7-inch color touch screen, good man-machine interface, high control precision, accurate and reliable control, and can display:

- Unit parameters
- Unit running status
- Main components running status
- The running time of the unit and main components
- Real-time alarm and historical alarm
- Temperature and humidity curve



- Other parameters
- The control system adopts 3-level password security protection, which allows different personnel to have different control levels.
- It has group control function and adopts the more reliable CAN group control method, which can realize group control of 32 units, and realize functions such as polling, hot backup, fault backup, and avoiding competition operation.
- Standard RS485 interface, support ModBUS protocol, SNMP card can be configured, select TCP/IP protocol.
- Multiple protection functions:
  - Power protection
  - Water leakage alarm
  - Temperature and humidity overrun alarm
  - System device protection
  - Other alarm protection

### **Evaporator**

- The evaporator of the unit adopts the "A" type or "V" type design concept. It is made of internally threaded copper tubes and hydrophilic aluminum fins. It has a compact structure and obtains the maximum heat exchange effect with the smallest space.
- Each refrigeration system adopts two evaporators, and the air volume on the evaporator surface is uniform.

### **Scroll compressor**

- Use Copeland scroll compressor, stable design to achieve high reliability and durability. Enables low noise, low vibration and high energy efficiency during the entire operation.
- The scroll compressor has few moving parts, which reduces the noise and vibration of the unit, and the compression process of the compressor is continuous and stable.
- Equipped with high and low voltage protection function, the operation is safer.



### **Throttle device**

- Two ways of thermal expansion valve or electronic expansion valve are optional.
- Fast section speed and precise flow control to ensure stable operation of the system in various environments.

### **Outdoor unit configuration**

- The outdoor condenser adopts copper tube and aluminum fin material, which has a large heat dissipation area, reduces wind resistance and reduces maintenance times.
- The outdoor unit adopts aluminum alloy shell structure, which can adapt to various harsh environments.
- The outdoor fan adopts the high-efficiency axial flow fan of the German Xerox hundred brand, and is equipped with a self-developed fan controller, which can operate steplessly according to the pressure of the refrigeration system to ensure the stable operation of the refrigeration system in a wide temperature range.
- Optional EC fan configuration, more energy efficient.

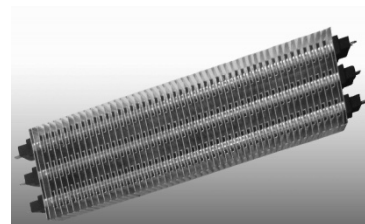
### **EC fan**

- Use aviation composite anti-corrosion blades is light in weight, high in efficiency and low in energy consumption.
- EC fan adopts brushless DC motor, which can run 0-100% stepless speed regulation, high efficiency and energy saving, and reduce operating noise.
- The EC fan adopts soft start to reduce the impact of fan start on the power grid.



### **High-end auxiliary heat configuration**

- Equipped with semiconductor PTC ceramic electric heater, which can heat up quickly and can automatically adjust the temperature and generate even heat.
- The electric heater adopts multi-level control, which is more suitable for the high-precision temperature of the equipment room.



- Equipped with over-temperature protection device, safe and reliable.

### **Humidification configuration**

- Use the electrode humidifier that can be washed repeatedly.  
The humidifier has the advantages of small volume, large humidification capacity, fast humidification speed, and can produce pure steam.
- The humidifier can be washed repeatedly on site, reducing maintenance costs.



### **Choose accessories**

- Long tube assembly
- Cryogenic components
- Belt type water leakage alarm assembly
- Lightning protection components
- Other components

## 2. Technical parameter

<b>Model</b>	<b>DY-CRA042DRH</b>
Total cooling capacity kW①	43.6
Sensible cooling capacity kW	39.6
Fan type	EC fan
Number of fans	1
Air volume m <sup>3</sup> /h②	11000
External residual pressure/Pa	Standard external pressure is 20Pa, adjustable from 20~300Pa
Air filter	G4
Compressor type	scroll compressor
Number of compressors	2
Type of refrigerant	R22, optional R410A
Electric heating kW (Specifications optional)	9
Electric heating current A	14
Electrode humidification kg/h (Specifications optional)	5
Electrode humidification current A	6
Power system	380v/50HZ 3N~
Full load current A③	50
Internal unit installation parameters	
Dimensions L×W×H mm	1315×996×1975
Weight/kg	472
<b>External unit installation parameters</b>	
<b>Model</b>	<b>DY-CY0291</b>
Number of external machines	2

①Design conditions: 24°C, 50%。

②Standard external pressure 20pa, 20~300pa adjustable. Consult our company for other residual pressure requirements.

③The maximum current of the standard configuration of the unit (including heating and humidification), excluding the current of the outdoor unit, refer to the on-site power distribution.

<b>Model</b>	<b>DY-CRA052URH</b>
Total cooling capacity kW①	51.8
Sensible cooling capacity kW	47.1
Fan type	EC fan
Number of fans	1
Air volume m <sup>3</sup> /h②	13000
External residual pressure/Pa	Standard external pressure is 20Pa, adjustable from 20~300Pa
Air filter	G4
Compressor type	scroll compressor
Number of compressors	2
Type of refrigerant	R22, optional R410A
Electric heating kW (Specifications optional)	9
Electric heating current A	14
Electrode humidification kg/h (Specifications optional)	13
Electrode humidification current A	15
Power system	380v/50HZ 3N~
Full load current A③	57
Internal unit installation parameters	
Dimensions L×W×H mm	1315×996×1975

Weight/kg	492
<b>External unit installation parameters</b>	
<b>Model</b>	<b>DY-CY0351</b>
Number of external machines	2

①Design conditions: 24°C, 50%。

②Standard external pressure 20pa, 20~300pa adjustable. Consult our company for other residual pressure requirements.

③The maximum current of the standard configuration of the unit (including heating and humidification), excluding the current of the outdoor unit, refer to the on-site power distribution.

<b>Model</b>	<b>DY-CRA062URH</b>
Total cooling capacity kW①	65.6
Sensible cooling capacity kW	59.9
Fan type	EC fan
Number of fans	2
Air volume m³/h②	17000
External residual pressure/Pa	Standard external pressure is 20Pa, adjustable from 20~300Pa
Air filter	G4
Compressor type	Scroll compressor
Number of compressors	2
Type of refrigerant	R22, optional R410A
Electric heating kW (Specifications optional)	9
Electric heating current A	14
Electrode humidification kg/h (Specifications optional)	13



Electrode humidification current A	15
Power system	380v/50HZ 3N~
Full load current A③	67
Internal unit installation parameters	
Dimensions L×W×H mm	1790×996×1975
Weight/kg	652
<b>External unit installation parameters</b>	
<b>Model</b>	<b>DY-CY0451</b>
Number of external machines	2

①Design conditions: 24°C, 50%。

②Standard external pressure 20pa, 20~300pa adjustable. Consult our company for other residual pressure requirements.

③The maximum current of the standard configuration of the unit (including heating and humidification), excluding the current of the outdoor unit, refer to the on-site power distribution.

<b>Model</b>	<b>DY-CRA072URH</b>
Total cooling capacity kW①	71.6
Sensible cooling capacity kW	65.2
Fan type	EC fan
Number of fans	2
Air volume m <sup>3</sup> /h②	186000
External residual pressure/Pa	Standard external pressure is 20Pa, adjustable from 20~300Pa

Air filter	G4
Compressor type	Scroll compressor
Number of compressors	2
Type of refrigerant	R22, optional R410A
Electric heating kW (Specifications optional)	9
Electric heating current A	14
Electrode humidification kg/h (Specifications optional)	13
Electrode humidification current A	15
Power system	380v/50HZ 3N~
Full load current A③	80
Internal unit installation parameters	
Dimensions L×W×H mm	1790×996×1975
Weight/kg	655
<b>External unit installation parameters</b>	
<b>Model</b>	<b>DY-CY0522</b>
Number of external machines	2

①Design conditions: 24°C, 50%。

②Standard external pressure 20pa, 20~300pa adjustable. Consult our company for other residual pressure requirements.

③The maximum current of the standard configuration of the unit (including heating and humidification), excluding the current of the outdoor unit, refer to the on-site power distribution.

<b>Model</b>	<b>DY-CRA082URH</b>
Total cooling capacity kW①	82.5

Sensible cooling capacity kW	75.3
Fan type	EC fan
Number of fans	2
Air volume m <sup>3</sup> /h②	21500
External residual pressure/Pa	Standard external pressure is 20Pa, adjustable from 20~300Pa
Air filter	G4
Compressor type	Scroll compressor
Number of compressors	2
Type of refrigerant	R22, optional R410A
Electric heating kW (Specifications optional)	12
Electric heating current A	19
Electrode humidification kg/h (Specifications optional)	13
Electrode humidification current A	15
Power system	380v/50HZ 3N~
Full load current A③	91
Internal unit installation parameters	
Dimensions L×W×H mm	2190×996×1975
Weight/kg	708
<b>External unit installation parameters</b>	
<b>Model</b>	<b>DY-CY0582</b>
Number of external machines	2

①Design conditions: 24°C, 50%。

②Standard external pressure 20pa, 20~300pa adjustable. Consult our company for other residual pressure requirements.

③The maximum current of the standard configuration of the unit (including heating and humidification), excluding the current of the outdoor unit, refer to the on-site power distribution.

<b>Model</b>	<b>DY-CRA092URH</b>
Total cooling capacity kW①	92.2
Sensible cooling capacity kW	83.9
Fan type	EC fan
Number of fans	2
Air volume m <sup>3</sup> /h②	23800
External residual pressure/Pa	Standard external pressure is 20Pa, adjustable from 20~300Pa
Air filter	G4
Compressor type	Scroll compressor
Number of compressors	2
Type of refrigerant	R22, optional R410A
Electric heating kW (Specifications optional)	12
Electric heating current A	19
Electrode humidification kg/h (Specifications optional)	13
Electrode humidification current A	15
Power system	380v/50HZ 3N~
Full load current A③	98
Internal unit installation parameters	
Dimensions L×W×H mm	2190×996×1975

Weight/kg	716
<b>External unit installation parameters</b>	
<b>Model</b>	<b>DY-CY0662</b>
Number of external machines	2

①Design conditions: 24°C, 50%。

②Standard external pressure 20pa, 20~300pa adjustable. Consult our company for other residual pressure requirements.

③The maximum current of the standard configuration of the unit (including heating and humidification), excluding the current of the outdoor unit, refer to the on-site power distribution.

<b>Model</b>	<b>DY-CRA102URH</b>
Total cooling capacity kW①	101.5
Sensible cooling capacity kW	92.2
Fan type	EC fan
Number of fans	2
Air volume m <sup>3</sup> /h②	25500
External residual pressure/Pa	Standard external pressure is 20Pa, adjustable from 20~300Pa
Air filter	G4
Compressor type	Scroll compressor
Number of compressors	2
Type of refrigerant	R22, optional R410A

Electric heating kW (Specifications optional)	12
Electric heating current A	19
Electrode humidification kg/h (Specifications optional)	13
Electrode humidification current A	15
Power system	380v/50HZ 3N~
Full load current A③	106
Internal unit installation parameters	
Dimensions L×W×H mm	2190×996×1975
Weight/kg	735
<b>External unit installation parameters</b>	
<b>Model</b>	<b>DY-CY0742</b>
Number of external machines	2

①Design conditions: 24°C, 50%。

②Standard external pressure 20pa, 20~300pa adjustable. Consult our company for other residual pressure requirements.

③The maximum current of the standard configuration of the unit (including heating and humidification), excluding the current of the outdoor unit, refer to the on-site power distribution.