



# Fluorine Pump

**Intelligent Dual Cycle Refrigerant system  
Precision Air Conditioning**

# CMF Series

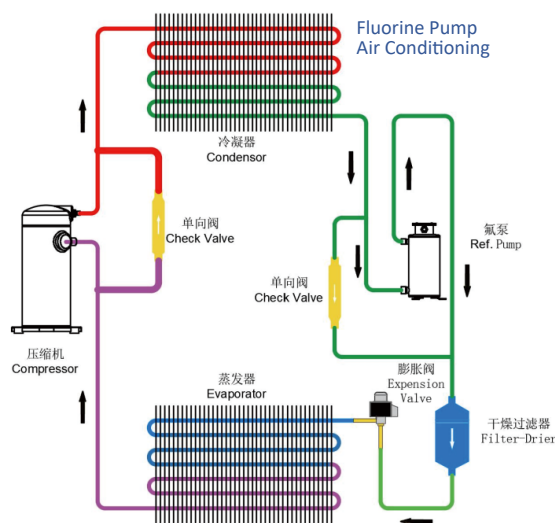
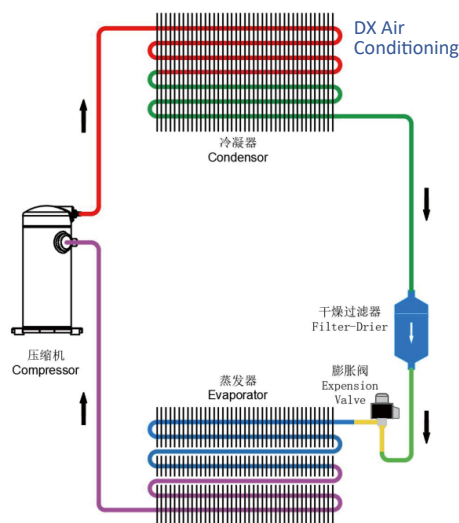
## Room-level Fluorine Pump Precision Air Conditioning

Coolnet fluorine pump series dual-cycle refrigerant system is a high-efficiency and energy-saving precision air conditioner. It provides precise temperature and humidity control for large and medium-size data rooms. Dual cycle system makes full use of outdoor natural cold sources and uses a set of refrigeration systems to achieve three refrigeration modes. It adopts high efficiency compressor and EC centrifugal fan to meet the requirements of 24 X 7 all weather continuous operation.



## Applications

- Power Room/Computer Room
- Data Center
- Communications Equipment Room
- Equipment Rooms That Require High Precision Control of Temperature and Humidity.

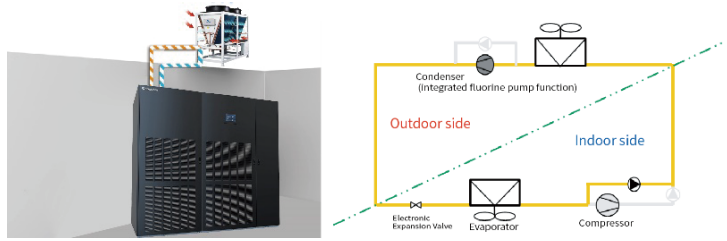


## Energy-efficient cooling mode - utilizing natural cooling

Three Operating Modes, Automatic Adjustment, Suitable For Various Working Conditions and Environments

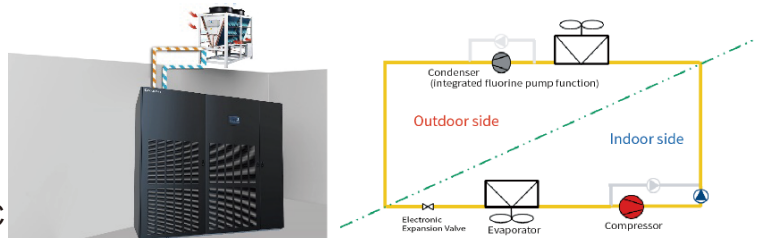
### Natural Cooling Mode of Fluorine Pump

- Operating Mode Description: The fluorine pump component operates independently of the pump, The gaseous refrigerant completely condenses into liquid in the natural cooling coil, significantly reducing the energy consumption of the unit on of the unit is significantly reduced
- Outdoor Ambient Temperature :  $\leq 5^{\circ}\text{C}$
- Applicable Season : Winter



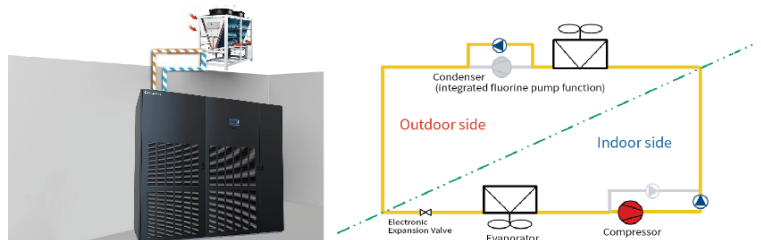
### Mixed Refrigeration Mode

- Operating Mode Description: The fluorine pump component and compressor operate together, resulting in a significant improvement in overall energy efficiency
- Outdoor Ambient Temperature :  $>5^{\circ}\text{C}$ 、 $\leq 15^{\circ}\text{C}$
- Applicable Season : Spring & Autumn



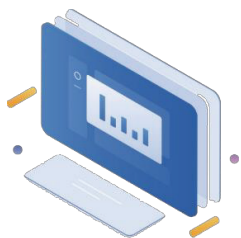
### Compressor Refrigeration Mode

- Activate the compressor mode to meet the normal cooling requirements of the computer room.
- Outdoor Ambient Temperature :  $>15^{\circ}\text{C}$
- Applicable Season : Summer



# Fuorine Pump Precision Air Conditioning

## Features



### ▼ Leading Technology

- Fluorine pump energy-saving dual-cycle air conditioning technology leads the world
- No fresh air circulation system required, it will not affect the air quality in data center , without damage of the building appearance.
- No Ethylene glycol , no worries about water pollution



### ▼ Energy Saving and Efficient

- Full use of natural cold sources, when ambient temperature less than 25°C, the operation of refrigerant pump can reduce the energy consumption of the unit and have significant energy-saving effects.
- AEER can reach 12



### ▼ Reliable Performance

- The indoor unit adopts high-performance EC fan
- The evaporator adopts V-shaped design, with uniform return air and low resistance.
- DC inverter compressor reduces energy consumption

## Product Configurations

### ▼ Controller

- 7-inch color touch screen high-precision control, a variety of group control modes, to achieve 32 units group control, precise and reliable contro.

### ▼ EC Fan

- Energy-saving EC centrifugal fan, large air volume, high static pressure, smooth operation, low noise

### ▼ Humidify System

- Electrode humidification volume, high efficiency and with automatic flushing function.

### ▼ PTC Heater

- PTC electric heating, aluminum alloy fins heat up quickly, can realize automatic temperature adjustment and even heat generation.

### ▼ Scroll Compressor

- Stable design realizes high reliability and durability for easy repair and maintenance. Low noise, low vibration and high energy efficiency throughout the entire operating period.

### ▼ Refrigerant Pumps

- Using a special refrigerant pump, strong adaptive ability ,smoth gas and liquid transportation, with low NPSH and good sealing performance, ensuring reliable operation at low temperatures.

## Technical Parameter —Room cooling

| Model CYA                                | S30F                                                | S35F    | S40F          | S45F    | S50F    | T62F          | T72F    | T82F          | T92F    | T102F   |
|------------------------------------------|-----------------------------------------------------|---------|---------------|---------|---------|---------------|---------|---------------|---------|---------|
| Total Capacity(KW)                       | 30.6                                                | 36      | 41            | 45.8    | 50.4    | 61.6          | 71.8    | 81.6          | 91      | 100.8   |
| Sensible Capacity(KW)                    | 27.6                                                | 32.4    | 36.9          | 41.3    | 45.9    | 55.4          | 65.3    | 73.4          | 87.2    | 90.7    |
| Fan Section                              | EC Fan                                              |         |               |         |         |               |         |               |         |         |
| Fan Quantity                             | 1                                                   | 1       | 1             | 1       | 1       | 2             | 2       | 2             | 2       | 2       |
| Air Flow (m³/h)                          | 9200                                                | 10500   | 11500         | 12800   | 13500   | 18400         | 21000   | 23000         | 25600   | 27000   |
| Excess Pressure Outside Pa               | Standard pressure is 20Pa, adjustable from 20~300Pa |         |               |         |         |               |         |               |         |         |
| Air Fiter                                | G4                                                  |         |               |         |         |               |         |               |         |         |
| Compressor                               | Scroll Compressors                                  |         |               |         |         |               |         |               |         |         |
| Compressor Quantity                      | 1                                                   | 1       | 1             | 1       | 1       | 2             | 2       | 2             | 2       | 2       |
| Refrigerant                              | R410A                                               |         |               |         |         |               |         |               |         |         |
| Electric Heating Type                    | PTC Electrical Heating                              |         |               |         |         |               |         |               |         |         |
| Capacity(KW)                             | 6                                                   | 6       | 9             | 9       | 9       | 9             | 9       | 9             | 15      | 15      |
| Rated Current(A)                         | 10                                                  | 10      | 14            | 14      | 14      | 14            | 14      | 14            | 23      | 23      |
| Humidifier Section                       | Electrode Steam Humidification                      |         |               |         |         |               |         |               |         |         |
| Capacity(kg/h)                           | 5                                                   | 5       | 8             | 8       | 8       | 13            | 13      | 13            | 13      | 13      |
| Rated Current (A)                        | 6                                                   | 6       | 10            | 10      | 10      | 15            | 15      | 15            | 15      | 15      |
| Power Supply                             | 380v/50HZ 3N~                                       |         |               |         |         |               |         |               |         |         |
| Full Loaded Circuit                      | 41                                                  | 47.2    | 53.9          | 60      | 61.6    | 77.5          | 89.8    | 100.4         | 115.4   | 118.6   |
| Humidifier Inlet Pipe(in)                | G1/2"                                               |         |               |         |         |               |         |               |         |         |
| Condensate Drainage DN(mm)               | 18                                                  |         |               |         |         |               |         |               |         |         |
| Gas Pipe (mm)                            | 22                                                  |         |               |         |         |               |         |               |         |         |
| Liquid Pipe (mm)                         | 15.88                                               | 15.88   | 15.88         | 19.05   | 19.05   | 15.88         | 15.88   | 15.88         | 19.05   | 19.05   |
| Installation Parameters for Indoor Units |                                                     |         |               |         |         |               |         |               |         |         |
| Dimension W*D*H (mm)                     | 890*983*1975                                        |         | 1315*983*1975 |         |         | 1740*983*1975 |         | 2165*983*1975 |         |         |
| Weight(kg)                               | 366                                                 | 368     | 453           | 468     | 485     | 652           | 655     | 708           | 716     | 735     |
| Condenser                                |                                                     |         |               |         |         |               |         |               |         |         |
| Model CY                                 | 0522                                                | 0582    | 0662          | 0742    | 0832    | 0522          | 0582    | 0662          | 0742    | 0832    |
| Quantity                                 | 1                                                   | 1       | 1             | 1       | 1       | 2             | 2       | 2             | 2       | 2       |
| Pump Cabinet                             |                                                     |         |               |         |         |               |         |               |         |         |
| Model CN-LAF                             | 1                                                   | 1       | 1             | 1       | 1       | 2             | 2       | 2             | 2       | 2       |
| Dimension                                | 460*220*660                                         |         |               |         |         |               |         |               |         |         |
| Integrated Condenser with Pump           |                                                     |         |               |         |         |               |         |               |         |         |
| Outdoor Temperature 35℃                  | CYP0441                                             | CYP0551 | CYP0551       | CYP0661 | CYP0771 | CYP0882       | CYP1102 | CYP1102       | CYP1322 | CYP1542 |
| Outdoor Temperature 45℃                  | CYP0551                                             | CYP0661 | CYP0661       | CYP0771 | CYP0881 | CYP1102       | CYP1322 | CYP1322       | CYP1542 | CYP1762 |

① Design working condition:24°C, 50%RH。

② Standard residual pressure is 20pa, 20~300pa adjustable. Other residual pressure requirements consult our company.

③ Please contact us for any other customized requirements.

④The maximum current of the unit's standard configuration (including heater and humidifier)is for on-site power distribution reference.

# Fuorine Pump Precision Air Conditioning

## Technical Parameter — Row cooling

| Model CRA                                 | 012F                           | 025F                           | 030F          | 040F          | 050F          | 060F          |
|-------------------------------------------|--------------------------------|--------------------------------|---------------|---------------|---------------|---------------|
| Functionality                             | Constant Coolin and Humidity   |                                |               |               |               |               |
| Air Discharge                             | F/S                            | F/S                            | F             | F             | F             | F             |
| Power Supply                              | 380Vac/3Ph/50Hz                |                                |               |               |               |               |
| Performance Parameter                     |                                |                                |               |               |               |               |
| Total Capacity(KW)                        | 12.5                           | 25                             | 30            | 40            | 50            | 60            |
| Sensible Capacity(KW)                     | 12.5                           | 25                             | 30            | 40            | 50            | 60            |
| Heating Capacity(KW)                      | 2                              | 3                              | 6             | 6             | 6             | 6             |
| Humidifying Capacity(KW)                  | 2                              | 1.5                            | 3             | 3             | 3             | 3             |
| Compressor Parameters                     |                                |                                |               |               |               |               |
| Compressor                                | Inverter Compressor            |                                |               |               |               |               |
| Refrigerant                               | R410A                          |                                |               |               |               |               |
| Fan Parameters                            |                                |                                |               |               |               |               |
| Fan Section                               | DC EC Centrifugal Fan          |                                |               |               |               |               |
| Air Flow (m³/h)                           | 3200                           | 5000                           | 6600          | 8800          | 11100         | 12500         |
| Electric Heating Parameters               |                                |                                |               |               |               |               |
| Electric Heating Type                     | PTC Electrical Heating         |                                |               |               |               |               |
| Capacity(KW)                              | 2                              | 3                              | 6             | 6             | 6             | 6             |
| Humidifier Parameters                     |                                |                                |               |               |               |               |
| Type of Humidification                    | Wet Film Humidifier            |                                |               |               |               |               |
| Max. Humidifying Capacit(kg/h)            | 1.5                            | 1.5                            | 3             | 3             | 3             | 3             |
| Type of Throttle                          | Electronic Expansion Valve     |                                |               |               |               |               |
| Air Fiter                                 | G4                             |                                |               |               |               |               |
| Unit Connection Tubes Pipe                |                                |                                |               |               |               |               |
| Humidifier Inlet Pipe(in)                 | G1/2"                          |                                |               |               |               |               |
| Water Inlet solenoid Valve Connection(in) | G3/4                           |                                |               |               |               |               |
| Condensate Drain Pipe φ(mm)               | 19                             |                                |               |               |               |               |
| Refrigerant Gas Pipe φ(mm)                | 15.88                          | 19.05                          | 19.05         | 19.05         | 22            | 22            |
| Refrigerant Liquid Pipe φ(mm)             | 9.52                           | 15.88                          | 15.88         | 15.88         | 19.05         | 19.05         |
| Electrical Parameters                     |                                |                                |               |               |               |               |
| Max. Operating Current(A)                 | 24.0                           | 41.0                           | 44.0          | 48.0          | 55.0          | 59.0          |
| Power Cable Specifications(mm²)           | 5*4                            | 5*6                            | 5*10          | 5*10          | 5*10          | 5*10          |
| Structural Parameters of Indoor Unit      |                                |                                |               |               |               |               |
| Dimension W*D*H(mm)                       | 300*1200*2000<br>300*1400*2000 | 300*1200*2000<br>300*1400*2000 | 600*1200*2000 | 600*1200*2000 | 600*1200*2000 | 600*1200*2000 |
| Weight(kg)                                | 190                            | 280                            | 280           | 285           | 310           | 330           |
| Condenser                                 |                                |                                |               |               |               |               |
| Model-CY                                  | 0191                           | 0451                           | 0522          | 0622          | 0832          | 0893          |
| Quantity                                  | 1                              |                                |               |               |               |               |
| Pump Cabine                               |                                |                                |               |               |               |               |
| Model CN-LAF                              | 1                              |                                |               |               |               |               |
| Dimension                                 | 460*220*660                    |                                |               |               |               |               |
| Integrated Condenser with Pump            |                                |                                |               |               |               |               |
| Outdoor Temperature 35°C                  | CYP0191                        | CYP0441                        | CYP0441       | CYP0551       | CYP0661       | CYP0881       |
| Outdoor Temperature 45°C                  | CYP0191                        | CYP0441                        | CYP0551       | CYP0661       | CYP0771       | CYP0881       |

① F: Rear return air front air supply, S: Side return air side air supply

② Standard working conditions: indoor return air dry bulb temperature of 37°C, relative humidity of 24%, outdoor dry bulb temperature of 35°C. The above table is only part of the parameters.

## Split Type Condenser

| Model CY            | 0191         | 0351          | 0451          | 0522          | 0582          | 0622          | 0742          | 0812          | 0893          | 0963          |
|---------------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Power Supply        | 220V/1P/50Hz |               |               |               |               |               |               |               |               |               |
| Max. Current (A)    | 1.7          | 3             | 3             | 6             | 6             | 6             | 6             | 6             | 9             | 9             |
| Weight(kg)          | 65           | 112           | 115           | 156           | 180           | 182           | 206           | 213           | 252           | 290           |
| Dimension W*H*D(mm) | 930*385*1260 | 1225*1165*545 | 1315*1165*545 | 2025*1015*520 | 2125*1165*545 | 2125*1065*545 | 2325*1165*545 | 2425*1165*545 | 2625*1165*545 | 3240*1165*545 |

## Integrated Condenser with Pump

| Model CYP            |                   | 0441                                                       | 0551  | 0661  | 0771  | 0881  | 0882  | 1102   | 1322   | 1542   | 1762   |
|----------------------|-------------------|------------------------------------------------------------|-------|-------|-------|-------|-------|--------|--------|--------|--------|
| Heat Exchange (KW)   |                   | 44.00                                                      | 55.00 | 66.00 | 77.00 | 88.00 | 88.00 | 110.00 | 132.00 | 154.00 | 176.00 |
| Refrigerant          |                   | R410a                                                      |       |       |       |       |       |        |        |        |        |
| Condenser Fan        | Type              | Axial Fan                                                  |       |       |       |       |       |        |        |        |        |
|                      | Qty               | 1                                                          | 1     | 1     | 1     | 1     | 2     | 2      | 2      | 2      | 2      |
|                      | Air Volume (m³/h) | 13000                                                      | 16000 | 19500 | 19500 | 23000 | 26000 | 32000  | 39000  | 39000  | 39000  |
| Fan Speed Control    |                   | Stepless Regulation (Fan speed inverter + pressure sensor) |       |       |       |       |       |        |        |        |        |
| Power Type           |                   | 380Vac/3Ph/50Hz                                            |       |       |       |       |       |        |        |        |        |
| Pipe Connection (mm) | Gas               | 22                                                         | 22    | 22    | 22    | 22    | 22    | 22     | 22     | 22     | 22     |
|                      | Liquid            | 16                                                         | 16    | 16    | 16    | 16    | 16    | 16     | 16     | 16     | 16     |
| Installation         |                   | Vertical                                                   |       |       |       |       |       |        |        |        |        |
| Dimension (mm)       | W                 | 1100                                                       | 1100  | 1100  | 1300  | 1300  | 1100  | 1100   | 1100   | 1300   | 1300   |
|                      | D                 | 1100                                                       | 1100  | 1100  | 1100  | 1100  | 2200  | 2200   | 2200   | 2200   | 2200   |
|                      | H                 | 2014                                                       | 2001  | 2001  | 2001  | 1986  | 2014  | 2001   | 2001   | 2001   | 2002   |



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