



**NetCol8000-A Air Cooled In-room Precision Air
Conditioner
V500R001**

Product Description

Issue **Draft A**
Date **2014-06-12**

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About This Document

Purpose

This document describes the NetCol8000-A, in terms of its benefits, product composition, environment specifications and technical specifications of the product. It helps users rapidly learn the feature and appliance.





Intended Audience


This document is intended for:

- Sales personnel
- Technical support personnel
- System engineers

Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
 DANGER	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
 DANGER	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
 CAUTION	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
 NOTICE	Indicates a potentially hazardous situation which, if not avoided, could result in equipment damage, data loss, performance deterioration, or unanticipated results. NOTICE is used to address practices not related to personal injury.

Symbol	Description
 NOTE	Calls attention to important information, best practices and tips. NOTE is used to address information not related to personal injury, equipment damage, and environment deterioration.

Change History

Changes between document issues are cumulative. The latest document issue contains all the changes made in earlier issues.

Issue Draft A (2014-06-12)

This issue is the first official release.

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1 Benefits

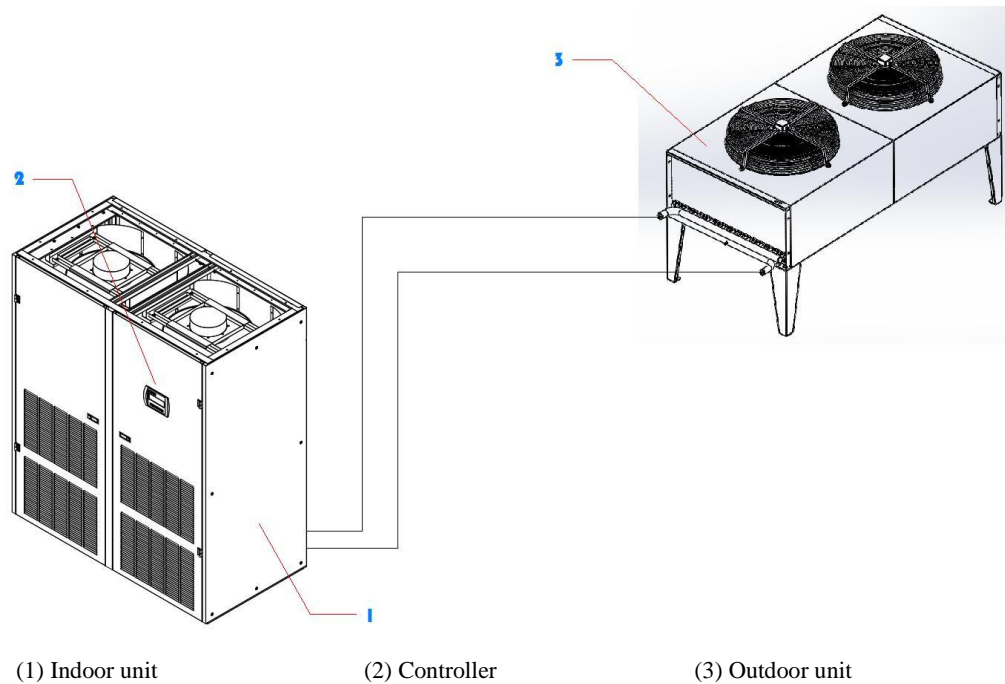
The NetCol8000-A has the following benefits:

- Energy-conservation and small footprint: The NetCol8000-A reduces the initial investment and capital expenditure (CAPEX).
- High feasibility: The NetCol8000-A has a high operating range and high reliability.
- Easy installation and maintenance: The NetCol8000-A can be flexibly installed and conveniently maintained.
- Environmental protection: The NetCol8000-A uses environmentally friendly refrigerant and produces no pollution.
- Energy saving and environmental protection: The NetCol8000-A adopts the advanced scroll compressor, highly efficient coils, and EC fans, with low power consumption, high efficiency, and environmental friendliness.
- High control precision: The NetCol8000-A adopts the advanced control logic. The highly efficient cooling system, with the use of electric heaters and electrode humidifiers, ensures that the fluctuation of indoor temperatures is less than ± 1 °C and the fluctuation of indoor humidity less than $\pm 5\%$ RH.
- Wide application scenarios: The condensate blower of the NetCol8000-A is equipped with a speed regulator to ensure that the units can start normally while the ambient temperature is -20 °C to $+45$ °C.
- Good durability: The NetCol8000-A is designed with world-leading technologies, together with brand components, excellent performance, and long service life. Liquid leakage does not occur during system operation.
- Elegant appearance: The NetCol8000-A cabinets are processed by electrostatic spray technology and enjoy smooth and tidy surfaces.
- Easy installation and maintenance: Each component is designed with maintenance space reserved.

2 Product Composition

A NetCol8000-A consists of the indoor unit, controller, outdoor unit, and cooling components. [Figure 2-1](#) shows the composition of a double-system NetCol8000-A.

Figure 2-1 Product composition



2.1 Indoor Unit

Composition

An indoor unit consists of a compressor, evaporator, thermostatic expansion valve, electrode humidifier, indoor fan (EC), electric heater, dry filter and air filter.

- Compressor

The highly efficient scroll compressor is adopted and R407C refrigerant is used, which is environmentally friendly.

- High reliability
- Low noise
- A long service life
- Easy installation

- Evaporator

The finned tube evaporator with a high cooling efficiency adopts the synergy field principle and the Computational Fluid Dynamics (CFD) to optimize the process design, which improves the heat exchange efficiency greatly.

- Thermostatic expansion valve

The external equalizer type thermostatic expansion valve precisely regulates the flow of refrigerant.

- Humidifier

- The humidifier has low water quality requirements and high environmental adaptation.
- The humidifier has a simple structure and is easy to remove, clean, and maintain.
- The lamp of the humidifier features quick start, high efficiency, and large humidification amount.
- The humidifier uses agile and highly efficient water supply and drainage solenoid valves to precisely control water flow.
- The electrode humidifier is made of rare metal composite material which is non-toxic and non-corrosion.

- Indoor fan(EC)

- The high-end fan adopted features high reliability and long service life.
- The EC highly efficient fan reduces more than 40% energy than common fans.
- The direct drive that the indoor fan adopts has higher transmission efficiency than the belt drive, which reduces the belt replacement and routine checks.
- Compared with the fan speed control by the belt drive, the fan speed control by direct drive has a wider application range and is not subject to the transmission ratio.

- Electrical heater

- The positive temperature coefficient (PTC) electric heater automatically adjusts heating capacity and provides multiple protections to ensure the secure and reliable operating.
- The heater features quick start, large heating capacity, and even heating.

- Dry filter

The dry filter absorbs the water in the refrigerant pipes and filters the foreign matter, which reduces damage rates of the components and ensures the efficient and reliable operating.

- Liquid storage tank

The liquid storage tank is safe and reliable. When the outdoor temperature changes, the tank adjusts the refrigerant flow in the system to ensure normal startup of the system and create and maintain a stable operation environment.

2.2 Outdoor Unit

This topic describes the NetCol500 series products in terms of the model description, typical models, appearance, composition, and technical specifications.

- Rack

The rack adopts aluminum frame, with good rigidity and corrosion resistance can adapt to variety environments.

- Condenser

The finned tube evaporator with a high cooling efficiency adopts the synergy field principle and the Computational Fluid Dynamics (CFD) to optimize the process design, which improves the heat exchange efficiency greatly.

- Fan

The indoor fan from a high-end Germany brand features high reliability and a long service life. Condenser fan speed control can automatically adjust the operation speed of the condenser fan according to pressure changes in internal condenser tube.

2.2.1 Model

Figure 2-2 describes the models of the NetCol500 outdoor unit.

Figure 2-2 Model

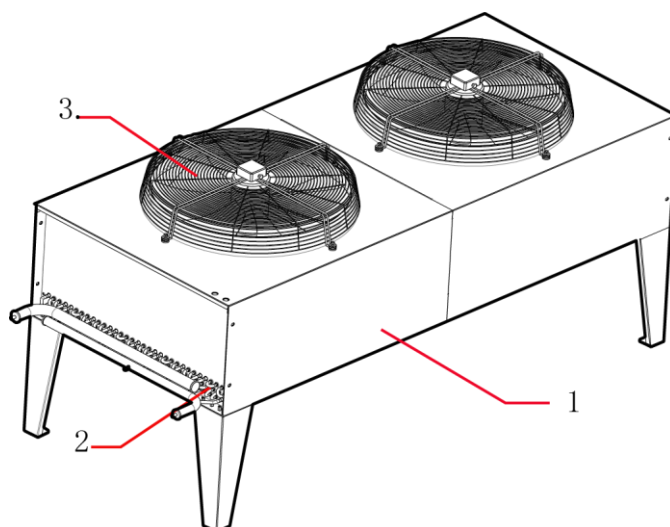
NetCol	500	-	A	029	S	C	3	1	E	X
1	2	3	4	5	6	7	8	9	10	11

<p>1 Date Center Precision Air Conditioner</p> <p>2 Number Series 500-Outdoor Unit</p> <p>3 Hyphen</p> <p>4 System Type A- Air Cooled</p> <p>5 Heat Rejection Capacity 072- Heat Rejection Capacity 72kW 038- Heat Rejection Capacity 38kW</p> <p>6 Power Supply M- 380-415V,3PH,50Hz N- 208-230V,3PH,60Hz P- 220-240V,3PH,50Hz Q- 380V,3PH,60Hz</p>	<p>R- 460-480V,3PH,60Hz S- 220-240V,1PH,50Hz T- 208-230V,1PH,60Hz U- 277V,1PH,60Hz 1- 200-277V,1PH,50/60Hz 2- 200-240V,1PH,50/60Hz 3- 200-240V,3PH,50/60Hz 4- 380-415V,3PH,50/60Hz 5- 380-480V,3PH,50/60Hz</p> <p>7 Climate C- Common Ambient Temperature L- Low Ambient Temperature</p> <p>8 Cooling System 1- R410A Single System 2- R410A Dual System 3- R407C Single System 4- R407C Dual System</p>	<p>5- R22 Single System 6- R22 Dual System 7- R134a Single System 8- R134a Dual System 9- Others</p> <p>9 Fan Type 1- AC Fan 2- EC Fan 3- DC Fan</p> <p>10 Packaging D- Domestic E- Export</p> <p>11 Order Special Features 0- None X- Non-Standard Feature</p>
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2.2.2 Product Composition

The NetCol500 series outdoor unit consists of the condenser, rack, and fan, as shown in Figure 2-3. For the configuration of the outdoor units of various models, see Table 2-1.

Figure 2-3 NetCol500 composition



(1) Rack

(2) Condenser

(3) Fan

Table 2-1 NetCol500 configurations

Model	Composition
NetCol500-A029S	One condenser, rack, and fan
NetCol500-A035S	One condenser, rack, and fan
NetCol500-A045S	One condenser, rack, and fan
NetCol500-A052S	One condenser, one rack, and two fans

Table 2-2 Model and Number of Outdoor Unit Corresponding to Indoor Unit

Indoor unit	Outdoor Unit	Number of outdoor unit
NetCol8000-A020	NetCol500-A029S	1
NetCol8000-A030	NetCol500-A045S	1
NetCol8000-A040	NetCol500-A029S	2
NetCol8000-A060	NetCol500-A045S	2

2.2.3 Technical Specifications

Figure 2-4 shows the dimensions of the NetCol500 outdoor unit.

Figure 2-4 NetCol500 dimensions

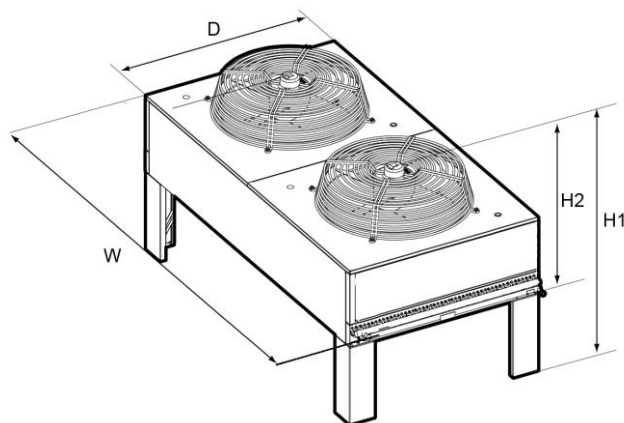


Table 2-3 describes the NetCol500 technical specifications.

Table 2-3 NetCol500 technical specifications

Item	NetCol500-A029	NetCol500-A035	NetCol500-A045	NetCol500-A052
Power system	220 V 1Ph 50 Hz	220 V 1Ph 50 Hz	220 V 1Ph 50 Hz	220 V 1Ph 50 Hz
Allowed power deviation	Rated voltage $\pm 10\%$	Rated voltage $\pm 10\%$	Rated voltage $\pm 10\%$	Rated voltage $\pm 10\%$
Allowed frequency deviation	± 3 Hz	± 3 Hz	± 3 Hz	± 3 Hz
Maximum current (A) of the outdoor unit	2.9	2.9	2.9	5.8
Fan air capacity (m ³ /h)	7920	8280	9612	11988
Number of fans	1	1	1	2
Dimensions (H1 x W x D) (mm)	960 x 1230 x 1076	960 x 1230 x 1178	960 x 1300 x 1076	960 x 2140 x 873
Dimensions (H2 x W x D) (mm)	540 x 1229 x 1076	540 x 1230 x 1178	540 x 1300 x 1076	540 x 2140 x 873
Net weight (kg)	73	79	87	120
Operating temperature ^a	-20 °C to +45 °C	-20 °C to +45 °C	-20 °C to +45 °C	-20 °C to +45 °C
Storage temperature	-20 °C to +54 °C			

Item	NetCol500-A029	NetCol500-A035	NetCol500-A045	NetCol500-A052
Storage humidity	5% RH–85% RH (non-condensing)			
Altitude (m)	0–1000 m, derated when the altitude is greater than 1000 m.			

3 Environment Specifications

Table 3-1 Environmental parameters of the NetCol8000-A series product

Item	Specifications
Operating voltage	380–415 V AC ($\pm 10\%$) 3Ph 50 Hz
Operating humidity	20% RH to 80% RH
Indoor temperature	Indoor unit: 0–40 °C
Indoor cooling temperature	18 °C–32 °C
The temperature range of the outdoor unit	–20 °C to +45 °C
Protection level	Indoor unit: IP20 Outdoor unit: IPX5
Storage temperature	–20 °C to +54 °C
Storage humidity	5% RH to 85% RH (non-condensing)
Altitude ^a	0 to 1000 m. If the altitude is greater than 1000 m



NOTE

Note a: For the detailed derated data, contact Huawei.

4 Technical Specifications

Table 4-1 lists the product parameters.

Table 4-1 Product parameters

Item	20 kW	30 kW	40 kW	60 kW
Cooling capacity	20kW	30 kW	40 kW	60 kW
Refrigerant	R407C	R407C	R407C	R407C
Sensible cooling capacity	18.1 kW	27.1 kW	36.1 kW	54.1 kW
Electrical heater power	6 kW	6 kW	9 kW	9 kW
Humidifying capacity	4.5 kg/h	4.5 kg/h	4.5 kg/h	9 kg/h
Voltage and frequency	340–440V 47–53Hz	340–440V 47–53Hz	340–440V 47–53Hz	340–440V 47–53Hz
Level of filters	G4	G4	G4	G4
Dimensions (H x W x D) (mm)	1980×850×890	1980×850×890	1980×1700×890	1980×1700×890
Safety regulation certification	GB4706.1 GB4706.32	GB4706.1 GB4706.32	GB4706.1 GB4706.32	GB4706.1 GB4706.32
Whether to meet CE requirements	Yes	Yes	Yes	Yes