



Huawei Data Center Facilities Solutions

Catalogue →

HUAWEI TECHNOLOGIES CO., LTD.



3

Huawei Energy Powering the Future Huawei Smart Cooling Solutions





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In-row Smart Cooling Product



NetCol5000-C
(30-65kW)

NetCol5000-A
(25-46kW)

In-room Smart Cooling Product



A: Air cooled
C: Chilled water
E: Evaporative Cooling

In-row Air Cooled Cooling Product

NetCol5000-A

Introduction

NetCol5000-A is the in-row air cooled smart cooling product developed by Huawei. It is configured with DC inverter compressor, EC fans, PTC electric heater and electrode humidifier. Cooling capacity is 21kW, 25kW, 42kW. It is usually installed between the IT racks, closely coupled with heat source so as to provide in-row cooling solution for medium-high density data centers. NetCol5000-A supports piping and cabling from both top and bottom side of the unit, and can be accessed from both front and back side. It is an efficient, reliable and simple solution, helps to build next generation green data center.



NetCol5000-A050H

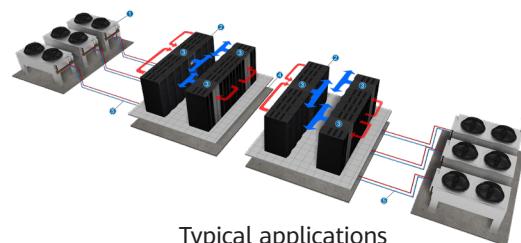
Application Scenarios

- Modularized data center
- Small and Medium sized Enterprise data center
- Carrier base, city/district level data center
- Financial branches

Value & Features

Efficient

- DC inverter: inverter compressor and EC fan, 10%-100% stepless capacity regulation, high efficiency at partial load
- Group control: maximum 32 units can be group controlled, precision management for capacity and power consumption
- Without heating water, save 95%+ energy compared with traditional humidifier



Typical applications

Reliable

- Dehumidification at low load: reliable dehumidification at minimum 10% load, eliminate condensation risk
- Expansion valve shut automatically: Expansion valve will shut automatically after unexpected power cut, eliminate liquid return which may hit compressor
- Refrigerant detection: AI algorithm detects the refrigerant content, generating charging prompt when the refrigerant is insufficient



Simple

- Intelligent display: 7" true color screen, clear and friendly operation interface, easy O&M
- No welding maintain: compressor uses Rotalock connection, no welding on maintenance
- Malfunction self-diagnosis: remove irrelevant reason intelligently, guiding O&M engineer maintain quickly



DC inverter scroll compressor
EC fan

Technical Specification

NetCol5000-A Technical Specification

Unit model	Unit	NetCol5000-A025H	NetCol5000-A050H
Air discharge direction	-	Horizontal	Horizontal
Total cooling capacity ¹	kW	25.0	46.0
Sensible cooling capacity	kW	25.0	46.0
Air flow	m ³ /h	5,000	9,000
Power supply	V/Ph/Hz	380/400/415Vac, 50/60Hz, 3Ph+N+PE	
Refrigerant	-	R410A	R410A
Heating capacity	kW	4	6
Humidifier capacity	kg/h	1.5	3
Full load current ²	A	20.0	46.0
Dimensions: W*D*H	mm	300*1100*2000	600*1,200*2,000
Net Weight	kg	230	305

Notes:

1. Nominal condition: indoor: return air temp. 37°C/RH20%, outdoor: 35°C.
2. Heating and humidification function are optional.

Outdoor Air-cooled Condenser Technical Specification

Item	Unit	NetCol500-A026	NetCol500-A036	NetCol500-A060	NetCol500-A080	NetCol500-A120
Power supply	V/Ph/Hz	220-240/1/50	380-415/3/50(60)	Power supply from indoor unit		
Fan quantity	pcs	1	1	1	2	2
Liquid pipe	in.	5/8	5/8	Diameter 5/8 in		
Gas pipe	in.	3/4	7/8	Diameter 7/8 in		
Full load current	A	3.3	2.5	3.3, 2.5	2.5	2.5
Dimensions: W*D*H	mm	1110×1094×1053	1370×1094×1156	1356×1094×1107	2186×1094×1107	2189×1356×1107

Notes: Data are subject to change without prior notice; the pipe diameter only for reference and it may be changed for the actual configuration

Outdoor Water-cooled Module Technical Specification

Item	Unit	NetCol500-W055
Power supply	-	220-240Vac, 50/60Hz, 1Ph+N+PE
Refrigerant Pipe	in	Gas pipe: 7/8; Liquid pipe: 5/8
Water Pipe	-	Inlet/outlet: G1-1/2 internal screw
Full Load Current	A	0.15
Dimensions: W*D*H	mm	1510*262*530
Net weight	kg	60

In-row Chilled Water Cooling Product

NetColC030H&C032H

Introduction

NetCol5000-C is a fan coil unit installed inside the data center, combined together with chiller, chilled water pump and piping etc. to form a complete cooling system. It is configured with EC fan and installed between the IT racks, closely coupled with heat source so as to provide in-row cooling solution for medium to high density DC. NetCol5000-C is an efficient, reliable and simple cooling product, helping to build the next generation green data center.

Application Scenarios

- Medium-large switch room
- Industry control room
- Computer room and prefabricated DC
- Standard test room and calibration center



NetCol5000-C

Value & Features

Efficient

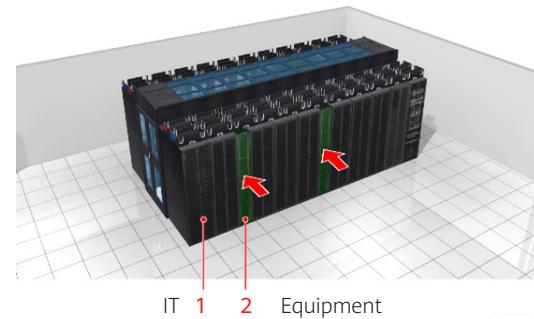
- High efficiency DC power module: Efficiency is up to 93%, unit's total rated power input is only 1.0 kW.
- High efficiency wet-film humidifier: isenthalpic humidification, saving up to 95% of energy compared with electrode humidifier.
- High efficiency heat exchanger: CFD simulation and field synergy improves heat transfer efficiency by 10%.

Reliable

- Dual power sources: automatically switches to backup power source in case of power failure.
- Multi. EC fans: Mutual backup to ensures air flow rate in case of single fan failure. Continuous cooling output during fan maintenance.

Simple

- Malfunction self-diagnosis: analyze malfunction reason intelligently, guiding O&M engineer maintain quickly
- 7-inch LCD colored touch screen features innovative one-touch interface switch and provides temperature & humidity curves display of the last 30 days, bringing an excellent usage experience.



Typical applications



7 inch LCD true color touch screen



EC fan

Technical Specification

NetCol5000-C Technical Specification

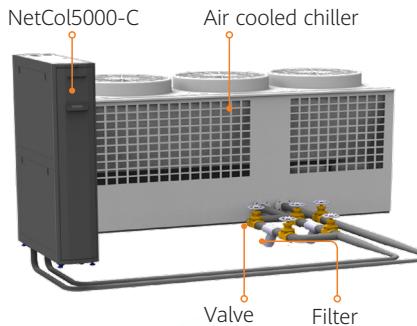
Unit model	Unit	NetCol5000-C030H	NetCol5000-C032H
Air Discharge Direction	-	Horizontal	Horizontal
Total Cooling Capacity ^①	kW	30.0	32.0
Sensible Cooling Capacity	kW	30.0	32.0
Air Flow Rate	m ³ /h	5,000	5,000
Power Supply	V/Ph/Hz	220-240/1/50(60)	220-240/1/50(60)
Water Flow Rate	l/s	1.5	1.6
Humidification Capacity (Optional)	kg/h	1.5	1.5
Full Load Current	A	9.5	9.5
Dimension: W × D × H	mm	300×1200×2000	300×1200×2200
Net Weight	kg	166	176

Notes:

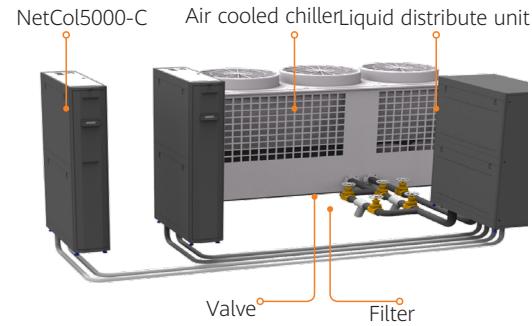
1. Cooling capacity condition: Return air dry bulb temperature 37°C/RH24%, inlet/outlet water temperature 10°C/15°C

NetCol520 liquid distribute unit

Without NetCol520 (Liquid distribute unit)



With NetCol520 (liquid distribute unit)



Items	Parameter description
Unit model	NetCol520-12T (Upper water pipe) / NetCol520-12B (bottom water pipe)
Dimensions	1200*600*1800mm (W*D*H)
Unit weight	300kg
Water flow	43.2 m ³ /h

In-row Chilled Water Cooling Product

NetCol5000-C065 & C080

Introduction

NetCol5000-C is the in-row chilled water cooling product developed by Huawei. Generally, it has a complete cooling system by combining chillers, chilled water pumps and pipes, etc. It is usually deployed near the IT rack and provides the cooling solution for middle-high power density DC. NetCol5000-C helps to build the next generation of green DC.

Application Scenarios

- Carrier base, province/city level data center
- ISP, EDC, IDC
- Finance headquarter, disaster recovery data center
- Smart city, safe city
- E-government

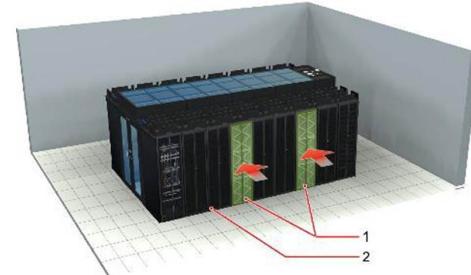


NetCol5000-C065H

Value & Features

Efficient

- ECFan: high efficiency variable frequency EC fan, save 30% energy compared with AC fan
- Wet-film humidifier: save over 95% energy in comparison with electrode humidifier



DS00000065

Application Scenario



7" Touch Screen



ECFan

Reliable

- Dual power supply: the power supply can switch over automatically when main power cut off
- On-line maintenance: the fan can be maintained on-line, the unit can still work when one fan breaks down
- Reliable drainage: standardly configure water pump, support upper & lower drainage, reduce the leakage risk of DC

Simple

- Digital management: 7" colortouch screen, key parameters displayed and uploaded to the management system such as cooling capacity, air volume
- Malfunction self-diagnosis: eliminate irrelevant failure reason intelligently and save pending and maintenance time
- Guide debugging: intelligent guide debugging, automatical logic running, avoiding manual maloperation

Technical Specification

NetCol5000-C (600mm) Technical Specification

Unit Model	Unit	NetCol5000-C065	NetCol5000-C080
AirSupply	□	Horizontal	Horizontal
Total Cooling Capacity ¹	kW	65.0	80.0
Sensible Cooling Capacity	kW	65.0	80.0
Air Volume	m ³ /h	10,000	12,000
Fan Quantity	/	10	12
Power Supply	V/Ph/Hz	220-240/1/50(60)	220-240/1/50(60)
Water Flow	l/s	3.2	3.9
Water Pressure Drop	kPa	100	100
Humidification (Optional)	kg/h	3	3
Full Load Current	A	15	17
Dimension: W ×D ×H	mm	600 ×1,200 ×2,000	600×1,200×2,500
Net Weight	kg	240	300

Notice:

Cooling capacity condition: return air DB temperature 37°C/RH24%, inlet/outletwater temperature 10°C/15°C

In-room Air Cooled Cooling Product

NetCol8000-A013U

Introduction

NetCol8000-A013U is composed of indoor and outdoor unit. Indoor unit is configured with scroll compressor, large surface evaporator, EC fan, wet-film humidifier and electric heater. The cooling capacity is 13kW, and it is commonly deployed around the equipment room. NetCol8000-A013U is an efficient, reliable and simple solution, which helps to build next generation green data center.



Application Scenarios

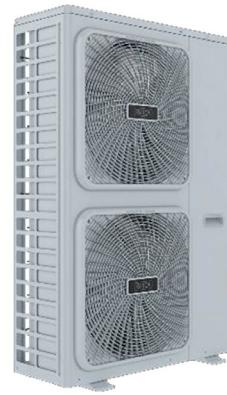
- Data center power distribution room
- Small computer room
- Communication room

NetCol8000-A013U

Value & Features

Efficient

- Full DC variable frequency design, cooling capacity stepless regulation, high efficiency at partial load
- Wet-film humidifier, save energy 95%+ compared with electrode humidifier



Condenser Appearance

Reliable

- 6kV surge protection level, greatly reduces the risk of lightning strike
- Works stably at extremely ambient temperature, with less cooling capacity derating

Simple

- The unit is delivered with refrigerant for 30m long pipes, fast install on-site
- The connectors of indoor and outdoor unit adopt welding-free design, easy to install and maintain

Technical Specification

Indoor Unit Technical Specification

Unit Model	Unit	NetCol8000-A013U
AirDischarge Direction	□	Upflow
Total Cooling Capacity ¹	kW	13.0
Sensible Cooling Capacity	kW	11.7
AirVolume	m ³ /h	3600
PowerSupply Voltage	V/Ph/Hz	380-415/3/50(60)
Refrigerant	□	R410A
Heating Capacity (Optional)	kW	4.0
HumidifierCapacity (Optional)	kg/h	3.0
Dimension:W×D×H	mm	800×664×1886
NetWeight ²	kg	141(153)

1. Nominal cooling condition: Return air dry bulb temperature 24°C/RH50%, outdoor temperature 35°C.

2. The data in bracket is suitable for the unit with heater and humidifier.

Outdoor Condenser Technical Specification

Model	Unit	NetCol500-A022
Power Supply	V/Ph/Hz	220-240/1/50(60)
FanQuantity	-	2
Liquid Pipe Diameter	in	3/8 in (outer diameter)
Gas Pipe Diameter	in	3/4 in (outer diameter)
FullLoad Current	A	30
Dimension: W×D×H	mm	903×320×1325
Net Weight	kg	117

Notice: The pipe diameter is only for reference and it may be changed based on the actual configuration. If the pipe length is longer than 60m, please contact Huawei system engineer.

In-room Air Cooled Cooling Product

NetCol8000-A045/060/090/120

Introduction

NetCol8000-A is in-room air cooled smart cooling product, composed of indoor and outdoor unit, it adopts all-variable-frequency design, supports upflow and downflow to meets the cooling requirements for different computer rooms. It is usually deployed around the computer room, and supply the efficient, reliable and simple cooling solution for middle-small sized low power density computer room, helps to build next generation green data center.



NetCol8000-A

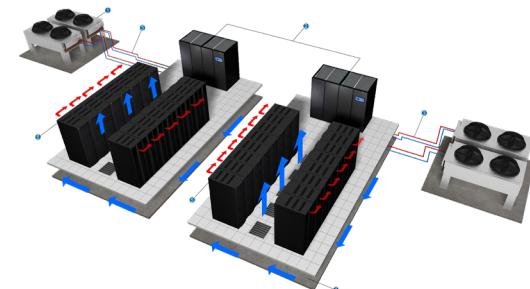
Application Scenarios

- Medium and large exchange room and data room
- Computer room and data center
- High-tech environment and lab
- UPS and battery room

Value & Features

Efficient

- All-variable-frequency design: Inverter compressor, EC fan and electronic expansion valve, saving 30% energy compared with fixed-frequency system
- iCooling algorithm: intelligently optimize operation, AEER can be increased by 8%+
- Wet-film humidifier: Without heating water, "0" power consumption for humidification



Typical Application

Reliable

- Refrigerant detection: AI algorithm detects the refrigerant content, generating charging prompt when the refrigerant is insufficient
- Stable operation: Reliable the dehumidification at minimum 10% load, eliminate condensation risk



Simple

- Intelligent display: Display key parameters real-time, promptly knows the unit running status
- Fault self-diagnosis: Intelligently locate the malfunction, guiding O&M engineer maintain quickly
- Fast installation for fan: No need for auxiliary tools, saving fan installation time 70%+



Inverter Compressor

7" Color Screen

Technical Specification

Indoor Unit Technical Specification

Unit Model	Unit	NetCol8000-A045D/U	NetCol8000-A060D/U	NetCol8000-A090D	NetCol8000-A120D
Air Discharge Direction	-	D: Downflow; U: Upflow			
Total Cooling Capacity	kW	45.0	60.0	90.0	120.0
Sensible Cooling Capacity	kW	45.0	60.0	90.0	120.0
Air Volume	m ³ /h	11,250	12,500	22,500	25,000
Power Supply	V/Ph/Hz	380/400/415/3Ph/50/60Hz			
Heating Capacity	kW	6	6	12	12
Humidifier Capacity	kg/h	6	6	10	10
Full Load Current	A	36(40)	41(45)	72(80)	82(90)
Dimension: W×D×H	mm	900*900*2000	1100*1000*2000	1800*1000*2000	2200*1000*2000 2280×890×1980
Net Weight	kg	355	600	643	850

Notice:

1. Nominal cooling condition: return air dry bulb temperature 35°C/RH26%, outdoor temperature 35°C.
2. The current data in brackets are applicable to the indoor unit with electric heater & humidifier (Optional).

Outdoor Condenser Technical Specification

Unit Model	Unit	NetCol500-A060	NetCol500-A080	NetCol500-A090	NetCol500-A120
Power Supply	V/Ph/Hz	Power supply from indoor unit			
Liquid Pipe Diameter	in	5/8	5/8	5/8	5/8
Gas pipe diameter	in	7/8	7/8	7/8	7/8
Full Load Current	A	2.5	4.5	5.0	5.0
Dimension:W×D×H	mm	1356×1094×1107	2186×1094×1107	2710×1270×1148	2189×1356×1107
NetWeight	kg	130	240	290	250

In-room Chilled Water Cooling Product

NetCol8000-C 2.0

Introduction

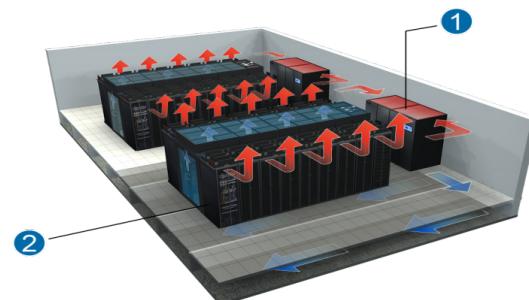
NetCol8000-C is the in-room chilled water smart cooling product developed by Huawei. Normally combined together with chiller, chilled water pump and piping etc., it forms a complete cooling system. Cooling capacity range is from 62kW to 253kW. NetCol8000-C is an efficient, reliable and simple solution, helps to build next generation green data center.



NetCol8000-C

Application Scenarios

- Carrier base, province/city level data center
- ISP, EDC, IDC
- Finance headquarter, disaster recovery data center
- Smart city, safe city
- E-government



1. Smart cooling product 2. IT equipment
Typical applications

Value & Features

Efficient

- Pressure difference control: save 10%+ energy compared with ordinary EC fan with supply and return air control
- Fresh air free cooling: adjust fresh air ratio intelligently, save 30%+ energy comparison with traditional chilled water system
- Wet-film humidifier: save over 95%+ energy in comparison with electrode humidifier

Reliable

- Modular design: no effect on the operation of the other modules even if there is one faulty module
- Dual power sources: dual auto-switch power supply with independent dual 6kV surge protection and power detection
- On-line maintenance: hot swappable for control module and auxiliary power module

Simple

- Digital management: 7" color touch screen, cooling capacity, air flow and power consumption could be displayed
- Malfunction self-diagnosis: eliminate irrelevant failure reason intelligently and save pending and maintenance time 7h+
- De-engineering: prefabricate components including air damper, dynamic balance valve, save installation man-hour max. 10h/unit



Hot swapped module



Discrepable modular design

Technical Specification

NetCol8000-C Technical Specification

Unit model	Unit	NetCol8000-C070D	NetCol8000-C130D	NetCol8000-C190D
Air direction	—	Down flow	Down flow	Down flow
Total cooling capacity ^①	kW	63.2	126.4	189.6
Sensible cooling capacity	kW	51.4	102.8	154.2
Air flow	m ³ /h	13,500	27,000	40,500
Power supply	V/Ph/Hz		380-415/3/50, 380-415/3/60	
Water flow	l/s	3.02	6.03	9.05
Water pressure drop	kPa	62.4	85.4	96.0
Full load current ^②	A	4.7	8.9	13.1
Dimensions:W*D*H	mm	900*1000*2000	1800*1000*2000	2700*1000*2000
Net weight	kg	340	635	930

Unit model	Unit	NetCol8000-C070U	NetCol8000-C130U	NetCol8000-C190U
Air direction	—	Up flow	Up flow	Up flow
Total cooling capacity ^①	kW	61.9	123.8	185.7
Sensible cooling capacity	kW	50.3	100.6	150.9
Air flow	m ³ /h	13,200	26,400	39,600
Power supply	V/Ph/Hz		380-415/3/50, 380-415/3/60	
Water flow	l/s	2.95	5.91	8.86
Water pressure drop	kPa	60.5	82.6	92.7
Full load current ^②	A	4.7 (15.2)	8.9 (29.9)	13.1 (34.1)
Dimensions:W*D*H	mm	900*1000*2000	1800*1000*2000	2700*1000*2000
Net weight	kg	330	615	900

Note:

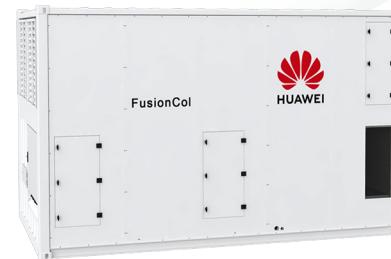
1. 1. Cooling capacity condition: Return air DB temperature 24℃/RH50%, inlet/outlet water temperature 7℃/12℃, ESP: 20Pa

Modular Indirect Evaporative Cooling

NetCol8000-E

Introduction

FusionCol is an indirect evaporative cooling product launched by Huawei. Indirect evaporative cooling technology can extend the free cooling time significantly, reduce the energy consumption of whole data center. Built in DX supplemental cooling system can support continuous cooling. All components include container body structure are prefabricated in the factory. Box transportation support rapid installation. Efficient, reliable and simple solution helps customer to build a green data center.



External

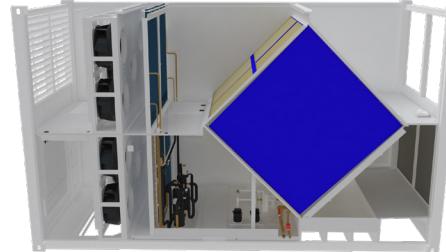
Application Scenarios

- ISP, IDC, EDC

Value & Features

Efficient

- “Fusion-iCooling” extend free cooling time, maximize the use of natural cold sources
- Intelligent recommendation of water-saving & power-saving mode
- Match IT load changes in real time, control air supply accurately
- High efficiency heat exchanger, $p\text{PUE} \leq 0.07^*$
- High efficiency EC fan, 30%-100% stepless adjustment



Internal

Reliable

- Redundant design of components and there is no single failure
- Support dual power input and continuous cooling
- Modular system design, faulted module isolation

Simple

- Container body design, factory pre-installation and pre-test, support fast delivery
- Supports automatic fault diagnosis and easy O&M

* Cooling Model:

- Location: London
- IT load:12MW
- Load ratio:50%

Technical Specification

Type		NetCol8000-E220
Power format		380-415V/3PH/50/60Hz
Total capacity /Sensible capacity		220/220kW
Air Flow		55,000m ³ /h
Supplemental cooling (kW)	Type	Direct Expansion Cooling
	Capacity	22-110kW
Temperature & Humidity	Supply Temp/Relative Humidity	25℃/50%
	Return Temp/Relative Humidity	38℃/25%
Filter(EN779)	Indoor	G4
	Outdoor	G2
Dimension [LxWxH]	FusionCol Without Air duct	6058x2438x3600mm
	Air duct (optional)	5810x2020x800mm
Weight	Static weight/Operating weight	5,750/6,300kg
	Altitude	0-4000m; no derate<1000m
Communication		FE, RS485
Certification		CE/ Eurovent/ RoHS/ REACH/ WEEE

Note: Cooling capacity: Indoor return air temp.38 °C (dry bulb), air supply temp 25°C (dry temp)