

## TECHNOLOGY . QUALITY . CONVENIENCE

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# ICT PRODUCT

Lead the new technology of digital energy and create a new environment of green intelligence  
Become a first-class digital and energy solution, product and service provider in the industry

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\* The table of this brochure is only part of the parameters, and specific configuration is subject to the nameplate.  
For more information about parameters or non-standard customization, please contact Haiwu Company.



# HAIWU TECHNOLOGY





## COMPANY PROFILE

Established in 1995, Haiwu is dedicated to providing full cycle energy saving solutions for the digital world. Haiwu is an industry-leading international high-tech enterprise with business covering a wide range of products and service such as: IDC consulting; R&D; Manufacturing; Marketing and sales; After sales support; Mechanical and electrical general contracting; Products and installations testing and certification; Comprehensive maintenance; Optimization and upgrading of existing installations.

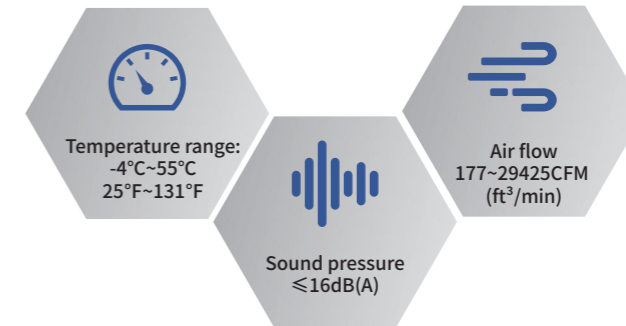
Haiwu is committed to provide innovative products and systems based on environmentally friendly, energy saving and sustainable technologies. The wide product range covers: Telecom and computer room air conditioners; Electrical, monitoring and clean energy products; Telecom and computer room solutions; Tailor-made full cycle and energy saving solutions for customers in telecom, government, energy, finance, education, medical care, transportation and other industrial applications.

Haiwu, with head office in Beijing and R&D and manufacturing plants in the Guangdong province, has its own consulting and research institute, 8 subsidiaries and 29 branches. It employs more than 5,000 certified technical service engineers in more than 500 after-sales service outlets across the country to provide high-quality service.

# ACCREDITED LABORATORY

## Overview

Haiwu Test Center covers a total area of 215,200ft<sup>2</sup>, and it is the base of all the company R&D, testing and quality assurance activities on products, components and raw materials. The Test Center has 5 laboratories to verify the products, components and materials performances at different and extreme ambient temperatures, 1 laboratory to test noise emissions of products at working conditions and 1 laboratory to test the performances of components and accessories.



## NATIONAL ACCREDITED LABORATORY

No.:CNASL11799

Test center of Guangdong Haiwu Technology Co., Ltd

One of the best accredited laboratories in the industry,  
working in full compliance with GB and IEC  
Standard requirements for sound and performances management and testing systems.

**Testing results are recognized by local authorities  
in 65 countries and regions.**



Products that can be tested: air-cooled chillers / water-cooled chillers, water-cooled chillers / chilled water units, fan coils, air source heat pumps / heat pump water heaters, etc.

# Precision Air Conditioner



Small Backpack DC Aircon



Small Precision Air Conditioner



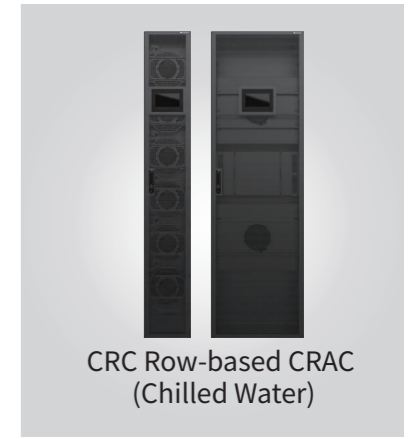
Inverter Backpack Aircon



CRA/CRF  
Row-based Inverter CRAC  
(Air-cooled/Refrigerant Pump)



Row - based  
Precision  
Air Conditioner



CRC Row-based CRAC  
(Chilled Water)



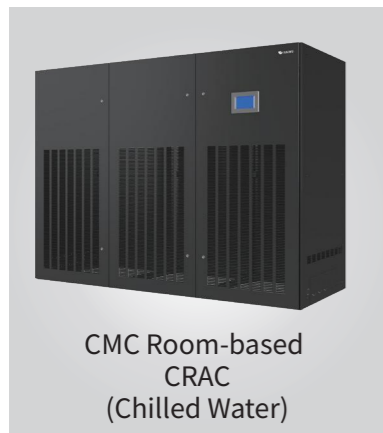
JFC DC Heat Pipe Aircon



CSA Precision Inverter CRAC



CDA Rack Inverter CRAC



CMC Room-based  
CRAC  
(Chilled Water)



Room - based Precision  
Air Conditioner



CMA/CMF  
Room-based Inverter CRAC  
(Air-cooled/Refrigerant Pump)



HIEC Indirect Evaporating  
Cooling System



Indirect  
Evaporating  
Cooling System



HPEC Evaporative Cooling  
Unit with Refrigerant Pump

# Small Backpack DC Aircon

## Introduction

Small backpack DC aircon, as an AC integrated cabinet air conditioner, specially designed for cooling high heat cabinet, with compressor refrigeration, completely sealed and independent circulation of indoor and outdoor, the equipment can effectively ensure the service life and work stability of electronic components.

Application scenarios: telecom base station cabinet, switching network cabinet, industrial control cabinet, electrical cabinet, new energy storage cabinet, etc.

## Picture



## Advantages

- ◆ Made of high molecular material, with strong impact strength & corrosion resistance
- ◆ Optional metal shell, highly fire-proof, potential safety trouble eliminated
- ◆ Full inverter design
- ◆ Excellent aerodynamic performance, low vibration, low sound pressure and long working life
- ◆ Super compact, convenient for delivery, installation and maintenance
- ◆ Electric control box with full metal sealing, fire prevention function
- ◆ Multiple protection and alarm output. Self diagnosis of incoming calls for self start fault

## Specification

Small Backpack DC Aircon			
Model		JGB015	JGB030
Rated operation voltage	V	DC48V (-15%~+20%)	DC48V (-15%~+20%)
Refrigerant	/	R134a	R134a
Performance parameter			
Cooling capacity	kW	1.6	3
Input power	kW	0.44	0.81
Compressor QTY	/	1	1
Fan type	/	DC Centrifugal fan	
Fan QTY	/	2	2
Internal circulating air flow	CFM (ft <sup>3</sup> /min)	235	383
Heating capacity (optional)	kW	0.5	0.5
Weight and dimension			
Dimension (W*D*H)	mm (inch)	446*200*746 (18*8*29)	446*300*746 (18*12*29)
Dimension of flange (W*D*H)	mm (inch)	483*200*783 (19*8*31)	483*300*783 (19*12*31)
Weight	lbs	49	77
Operation environment and installation			
Installation		Door-mounted	Door-mounted
Operation temperature	°C (°F)	-40~55 (-40~131)	-40~55 (-40~131)
IP grade	/	IPX5	IPX5
Notes :			
1. Standard working conditions: indoor and outdoor ambient temperature 35°C (95°F);			
2. Cooling or cooling + electric heating type can be selected.			

# Inverter Backpack Aircon

## Introduction

Inverter backpack aircon is specially designed for scenarios such as energy storage containers. It can be used in the places where the equipment generates a lot of heat and the equipment is sensitive to the ambient temperature, especially in the field of power and new energy. The product adopts an integral structure, with large air volume and upper air outlet supply. The air supply distance is far, avoiding local hot spots, and providing a safe, reliable, efficient and energy-saving temperature control solution for the energy storage system.

Application scenarios: energy storage containers, outdoor power cabinets, new energy storage cabinets, etc.

## Picture



## Advantages

- ◆ Energy saving fan and efficient inverter compressor are used to effectively control the relative humidity of the environment
- ◆ Standard electrical heating function
- ◆ It has the functions of autostart, delayed start, power off memory
- ◆ RS485 interface, supporting group control and remote monitoring functions
- ◆ With MODBUS-RTU communication protocol

## Specification

Inverter Backpack Aircon				
Model		JGB080	JGB125	JGB200
Main power supply	Volts-Hz-ph	208-230-60-1	460-60-3	460-60-3
Refrigerant	/	R134a	R410A	R410A
Performance parameter				
Cooling capacity	kW	8	12.5	20
Input power	kW	2.8	4	8.5
Compressor QTY	/	1	1	1
Fan type	/	EC Centrifugal fan		
Fan QTY	/	2	2	2
Internal circulating air flow	CFM (ft <sup>3</sup> /min)	1354	1766	3413
Heating capacity	kW	3	6	9
Weight and dimension				
Dimension (W*D*H)	mm (inch)	550*300*1700 (22*12*67)	800*906*2100 (32*36*83)	800*906*2100 (32*36*83)
Dimension of flange (W*D*H)	mm (inch)	620*300*1770 (24*12*70)	890*906*2145 (35*36*85)	890*906*2145 (35*36*85)
Weight	lbs	265	441	507
Installation				
Installation	/	Wall mounted installation		
Operation temperature	°C (°F)	-20~55 (-4~131)	-20~45 (-4~113)	-20~45 (-4~113)
IP grade	/	IPX5	IPX5	IPX5
Note:				
Standard working conditions: indoor and outdoor ambient temperature 35°C (95°F).				

# JFC DC Heat Pipe Aircon

## Introduction

JFC series precision air conditioner is a 48V DC inverter air conditioner with dual cold sources. The equipment is characterized by high energy efficiency, cascade refrigeration, and two cold sources can be backup to each other.

Application scenarios: various telecom base stations, small telecom computer rooms, railway computer rooms, photovoltaic and energy storage sites.

## Picture



## Advantages

- ◆ Double cooling source design, high refrigeration reliability
- ◆ Fast installation and short equipment maintenance time
- ◆ The equipment can adapt to various environments and can operate normally at -35°C~48 °C (-31°F~118°F)
- ◆ The use of full DC power supply can achieve low carbon and energy saving effect, with the EER of 5.2 and the EER of heat pipe >10
- ◆ Low noise design will not disturb residents' daily life
- ◆ Equipped with intelligent management system, multiple mains power monitoring modes, and power metering

## Specification

JFC Direct Drive Heat Pipe Aircon		
Model of indoor unit		JFC075
Main power supply	Volts	DC48V (-15%~+20%)
Air supply mode	/	Lower front air supply
Refrigerant type	/	R134a
Performance parameters		
Rated cooling capacity (compressor refrigeration)	kW	8
Sensible capacity	/	7.2
Rated power (compressor refrigeration)	kW	2.2
SEER	/	5.2
Rated cooling capacity (Heat pipe mode at 10°C (50°F) ambient temperature difference)	kW	4
Rated power (Heat pipe mode at 10°C (50°F) ambient temperature difference)	kW	0.4
Compressor QTY	/	2
Fan type	/	DC Axial flow fan
Fan QTY	/	2
Circulating air flow	CFM (ft <sup>3</sup> /min)	1471
Connecting pipe size		
Liquid pipe size	mm (inch)	9.52 (0.37)
Gas size	mm (inch)	15.88 (0.63)
Drain pipe	mm (inch)	ID19*OD25 (ID0.75*OD0.98)
Unit dimension and weight		
Dimension of indoor unit (W*D*H)	mm (inch)	580*360*1800 (23*14*71)
Unit edge width	mm (inch)	630 (25)
Indoor unit weight	lbs	247
Model of outdoor unit		
Dimension of outdoor unit	mm (inch)	728*405*1145 (29*16*45)
Unit edge width	mm (inch)	420 (17)
Outdoor unit weight	lbs	106

Notes:  
 1. Standard working conditions: indoor ambient temperature 27°C (81°F), RH 47%, outdoor ambient temperature 35°C (95°F);  
 2. To ensure the normal operation of the heat pipe mode of the unit, the outdoor unit must be installed higher than the indoor unit. It is recommended that the height difference be more than 1.64'.

# CSA Precision Inverter CRAC

## Introduction

CSA precision inverter CRAC is equipped with inverter compressor and high-efficiency EC centrifugal fan. The unit has passed rigorous testing and verification by national-level laboratory, and has significant characteristics of energy saving and stable operation.

Application scenarios: small and medium-sized computer room, equipment room, telecom base station, battery room, substation, power distribution room, monitoring room, etc.

## Picture



## Advantages

- ◆ The unit uses inverter compressor to provide more accurate and flexible temperature control
- ◆ With Wet film humidification, power consumption is greatly reduced
- ◆ Full inverter design
- ◆ It has the functions of power off memory, autostart, group control and flexible configuration, etc.
- ◆ 'Lightning protection component is optional, ensuring the stability of the equipment room
- ◆ "Low temperature components in optional, which can achieve -35°C (-31°F) reliable operation

## Specification

CSA Inverter Precision CRAC					
Indoor unit model		CSA3008	CSA3013	CSA3020	CSA3030
Main power supply	Volts-Hz-ph	460-60-3			
Air supply	/	Up and front air supply			
Refrigerant type	/	R410A			
Performance parameter					
Cooling capacity	kW	7.5	12.5	20	30
Sensible capacity	kW	6.75	11.25	18	27
Compressor QTY	set	1	1	1	1
EC Centrifugal fan					
Fan type	/	EC Centrifugal fan			
Fan QTY	set	1	1	1	1
Circulating air volume	CFM (ft <sup>3</sup> /min)	1295	2119	3237	4414
Heating capacity	kW	3	3	3	6
Humidification	lbs/h	3.31	3.31	6.62	6.62
Connecting pipe size (≤20m)					
Liquid pipe	mm (inch)	6.35 (0.25)	9.52 (0.37)	12.7 (0.5)	15.88
Gas pipe	mm (inch)	15.88 (0.63)	19.05 (0.75)	19.05 (0.75)	22 (0.87)
Humidification inlet pipe (Internal thread)	inch	G 1/2"			
Drain pipe	mm (inch)	ID19*OD25 (ID0.75*OD0.98)			
Dimension and Weight of Indoor Unit					
Dimension (W*D*H)	mm (inch)	550*450*1800 (22*18*71)	650*450*1800 (26*18*71)	800*650*1800 (32*26*71)	900*750*1975 (35*30*78)
Weight	lbs	260.15	304.24	383.6	485.02
Dimension and weight of outdoor unit					
Dimension (W*D*H)	mm (inch)	728*405*762 (29*16*30)	728*405*1370 (29*16*54)	1020*405*1370 (40*16*54)	1300*740*1216 (51*29*48)
Weight	lbs	74.96	116.84	163.14	319.67

Note:  
 Standard working conditions: indoor ambient temperature 24°C (75.2°F), RH50%, outdoor ambient temperature 35°C (95°F).

# CMA Room-based Inverter CRAC (Air-cooled)

## Introduction

CMA room-based inverter CRAC (air-cooled) provides precision temperature and humidity control for large and medium sized data rooms. It adopts high efficiency compressor and EC centrifugal fan to meet the requirements of 24×7 all-weather continuous operation. It is the ideal choice for green and energy-saving data centers and various electronic equipment rooms.

Application scenarios: data center, telecom equipment and computer room, MRI and CT room, other precision equipment environment, such as precision processing, electronic instrument workshop, museum, archives, high-end wine cellar, medical equipment room, constant temperature and humidity laboratory, etc.

## Picture



## Advantages

- ◆ EC fan, stepless inverter regulation, energy saving 30%
- ◆ EXV automatically adjusts refrigerant flow as required
- ◆ Internal thread copper pipe + high efficiency fin with low pressure loss, large heat transfer area
- ◆ High efficiency electrode/wet film humidification, fast humidification, low power consumption
- ◆ Modular design, full frontal maintenance, pull-out design for control box
- ◆ Power off memory, autostart, group control, flexible configuration, the maximum number of group control units is 32
- ◆ Optional power metering function module, dual power supply module, C-class surge prevention module

## Specification

CMA Room-based Inverter CRAC (Air-cooled)								
Indoor unit model		CMA3030	CMA3040	CMA3050	CMA4060	CMA4080	CMA4100	CMA4040
Main power supply	Volts-Hz-ph	460-60-3						
Air supply	/	Up/Down						
Refrigerant type	/	R410A						
<b>Performance parameter</b>								
Cooling capacity	kW	30	40	50	60	80	100	40
Sensible capacity	kW	27	36	45	54	72	90	36
Compressor QTY	/	1	1	1	2	2	2	2
Fan Type	/	EC Centrifugal fan						
Fan QTY	/	1	1	1	2	2	2	1
Circulating air volume	CFM (ft <sup>3</sup> /min)	5450	6800	7950	10850	13550	15900	6500
Heating capacity	kW	6.0	9.0	9.0	9.0	15.0	15.0	9.0
Humidification	lbs/h	11.0	13.2	17.6	17.6	22.0	22.0	11.0
<b>Connecting pipe size (30m)</b>								
Liquid pipe	mm (inch)	15.88 (0.63)	22 (0.87)	22 (0.87)	15.88 (0.63)	22 (0.87)	22 (0.87)	12.7 (0.50)
Gas pipe	mm (inch)	22 (0.87)	28 (1.10)	28 (1.10)	22 (0.87)	28 (1.10)	28 (1.10)	19.05 (0.75)
Humidification inlet pipe (Internal thread)	inch	G 1/2"						
Drain pipe	mm (inch)	ID19*OD25 (ID0.75*OD0.98)						
<b>Unit dimension and weight</b>								
Dimension (W*D*H)	mm (inch)	780*996*1975 (31*39*78)	1130*996*1975 (44*39*78)	1130*996*1975 (44*39*78)	1530*996*1975 (60*39*78)	2230*996*1975 (88*39*78)	2230*996*1975 (88*39*78)	1130*996*1975 (44*39*78)
Weight	lbs	628	1014	1014	1521	1940	1940	948
<b>Outdoor unit performance parameter</b>								
Centralized outdoor unit	/	CMT050SF	CMT066SF	CMT088SF	CMT099SH	CMT132SH	CMT176SH	CST020SP1A
Dimension (W*D*H)	mm (inch)	1275*1100*2200 (50*43*87)	1275*1100*2200 (50*43*87)	1275*1100*2200 (50*43*87)	2400*1100*2200 (94*43*87)	2400*1100*2200 (94*43*87)	2400*1100*2200 (94*43*87)	1020*405*1370 (40*16*54)
Weight	lbs	397	463	529	661	728	794	163
<b>Notes:</b>								
1. Standard working conditions: indoor ambient temperature 24°C (75.2°F), RH 50%, outdoor ambient temperature 35°C (95°F), ESP=100Pa (For CMA4040, ESP=75Pa) .								
2. Only cooling+electric heating or constant temperature and humidity type can be selected. The maximum working current and the recommended air switch are configured according to the constant temperature and humidity unit.								
3. Water-cooled outdoor unit is optional.								

# CMC Room-based CRAC (Chilled Water)

## Introduction

CMC room-based CRAC (chilled water) is a product further developed on the basis of CMA room-based air conditioner. It usually forms a refrigeration system together with chiller units, water pump, chilled water pipe, etc., which has the characteristics of high refrigeration efficiency and remarkable energy saving.

Application scenarios: data center, telecom equipment and computer room, constant temperature and humidity process environment, constant temperature and humidity storage environment, other precision instruments and equipment environment, such as precision machining, electronic instrument workshop, museum, archives, high-grade wine cellar, medical equipment room, constant temperature and humidity laboratory, etc.

## Picture



## Advantages

- ◆ EC centrifugal fan, stepless inverter regulation, energy saving 30%
- ◆ Efficient electrode humidification, faster humidification, less power consumption
- ◆ Centralized cold source for efficient refrigeration, EER≥18
- ◆ Proportional adjustment of the solenoid valve parts, with excellent control stability, good sealing, prevent water leakage
- ◆ Modular design, pull-out design, 100% frontal maintenance
- ◆ Efficient group control mode, the maximum number of group control units is 32
- ◆ Optional dual power supply, surge protection device and power metering function module

## Specification

CMC Room-based CRAC (Chilled Water)							
Indoor unit model		CMC0050	CMC0060	CMC0100	CMC0120	CMC0150	CMC0180
Main power supply	Volts-Hz-ph	460-60-3					
Air supply	/	Up/Down					
Refrigerant type	/	Water					
<b>Performance parameter</b>							
①Cooling capacity	kW	50	56	99	111	149	167
①Sensible capacity	kW	46	53	92	106	138	158
②Cooling capacity	kW	60	68	121	137	181	205
②Sensible capacity	kW	60	68	121	137	181	205
Fan Type	/	EC Centrifugal fan					
Fan QTY	/	1	1	2	2	3	3
Circulating air volume	CFM (ft <sup>3</sup> /min)	6500	7650	13000	15300	19500	23000
Heating capacity	kW	6.0	6.0	9.0	9.0	9.0 (15.0 optional)	9.0 (15.0 optional)
Humidification	lbs/h	8.8	8.8	17.6	17.6	17.6 (33.1 optional)	17.6 (33.1 optional)
<b>Connecting pipe size (30m)</b>							
Water inlet pipe	mm (inch)	40 (1.57)	40 (1.57)	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)
Water outlet pipe	mm (inch)	40 (1.57)	40 (1.57)	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)
Humidification inlet pipe (Internal thread)	inch	G 1/2"					
<b>Unit dimension and weight</b>							
Dimension (W*D*H)	mm (inch)	930*996*1975 (37*39*78)	930*996*1975 (37*39*78)	1830*996*1975 (72*39*78)	1830*996*1975 (72*39*78)	2730*996*1975 (107*39*78)	2730*996*1975 (107*39*78)
Weight	lbs	893	893	1653	1653	1753	1812
<b>Notes:</b>							
1. Standard working conditions:							
①Indoor ambient temperature 23.9°C (75°F), RH 44%, inlet/outlet water temperature 7.2/12.7°C (45/55°F),ESP=100Pa;							
②Indoor ambient temperature 32.2°C (90°F), RH 27%, inlet/outlet water temperature 10/18.9°C (50/66°F),ESP=100Pa;							
2. Only cooling or constant temperature and humidity type can be selected. The maximum working current and the recommended air switch are configured according to the constant temperature and humidity unit;							
3. Pump cabinet is optional .							



# CMF Room-based Inverter CRAC (Refrigerant Pump)

## Introduction

CMF room-based inverter CRAC (refrigerant pump) can use atmospheric natural cold source for cooling computer room. The natural cooling efficiency of CRAC with refrigerant pump is 10 times that of compressor refrigeration mode at low ambient, which can effectively reduce the PUE value of the room.

Application scenarios: data center, telecom equipment and computer room, electronic instrument workshop, museum, archives, high-grade wine cellar, medical equipment room, constant temperature and humidity laboratory, etc.

## Picture



## Advantages

- ◆ Inverter design of compressor and fan, high efficiency and energy saving
- ◆ Three operating modes, automatic switching, real-time adjustment
- ◆ The pump cabinet is integrated on the outdoor side. The "V" shape design of condenser greatly improves the outdoor heat transfer effect
- ◆ EXV to achieve high control accuracy
- ◆ Adopting wet film humidification, more energy saving and environmental protection; PTC three-stage ceramic electric heating
- ◆ Modular design, pull-out design, 100% frontal maintenance
- ◆ Efficient group control mode, the Max. number of group control is 32
- ◆ Optional dual power supply, lightning protection device and power metering function module

## Specification

CMF Room-based Inverter CRAC (Refrigerant Pump)							
Indoor unit model	Unit	CMF3030	CMF3040	CMF3050	CMF4060	CMF4080	CMF4100
Main power supply	Volts-Hz-ph	460-60-3					
Air supply	/	Up/Down					
Refrigerant type	/	R410A					
Performance parameter							
Cooling capacity	kW	30	40	50	60	80	100
Sensible capacity	kW	27	36	45	54	72	93
Compressor QTY	/	1	1	1	2	2	2
Fan Type	/	EC Centrifugal fan					
Fan QTY	/	1	1	1	2	2	2
Circulating air volume	CFM (ft <sup>3</sup> /min)	4750	6800	7400	9450	13550	15900
Heating capacity	kW	6	9	9	9	15	15
Humidification	lbs/h	13	13	13	22	22	22
Connecting pipe size (30m)							
Liquid pipe	mm (inch)	15.88 (0.63)	22 (0.87)	22 (0.87)	15.88 (0.63)	22 (0.87)	22 (0.87)
Gas pipe	mm (inch)	22 (0.87)	28 (1.10)	28 (1.10)	22 (0.87)	28 (1.10)	28 (1.10)
Humidification inlet pipe (Internal thread)	inch	G 1/2"					
Drain pipe	mm (inch)	ID19*OD25 (ID0.75*OD0.98)					
Unit dimension and weight							
Dimension (W*D*H)	mm (inch)	780*996*1975 (31*39*78)	1130*996*1975 (44*39*78)	1130*996*1975 (44*39*78)	1530*996*1975 (60*39*78)	2230*996*1975 (88*39*78)	2230*996*1975 (88*39*78)
Weight	lbs	628	992	992	1521	1940	1940
Outdoor unit performance parameter							
Centralized outdoor unit model	/	CMT050FP	CMT066FP	CMT088FP	CMT099FD	CMT132FD	CMT176FD
Dimension (W*D*H)	mm (inch)	1275*1100*2200 (50*43*87)	1275*1100*2200 (50*43*87)	1275*1100*2200 (50*43*87)	2400*1100*2200 (94*43*87)	2400*1100*2200 (94*43*87)	2400*1100*2200 (94*43*87)
Weight	lbs	452	518	584	772	838	904
Notes:							
1. Standard working conditions: indoor ambient temperature 24°C (75.2°F), RH 50%, outdoor ambient temperature 35°C (95°F), ESP=100Pa;							
2. Only cooling or constant temperature and humidity type can be selected. The maximum working current and the recommended air switch are configured according to the constant temperature and humidity unit.							
3. Pump cabinet is optional.							

# CRA Row-based Inverter CRAC (Air-cooled)

## Introduction

CRA row-based inverter CRAC (air-cooled) is designed for the medium and high thermal density data center. It is installed close to the heat source, shorten the flow path of cold air to accurately process the sensible heat generated by the server. It is the ideal choice for the green energy-saving data center and various electronic equipment rooms.

Application scenarios: small and medium-sized data centers, modular data centers, cabinet cold (hot) aisle transformation, medium and high thermal density telecom equipment and computer rooms, etc.

## Picture



## Advantages

- ◆ Key components are selected from well-known brand, full EC inverter design, automatic adjustment of cooling-capacity and air volume output
- ◆ Wet film humidifier, saving 99% of humidification energy
- ◆ "I" or "U" shape design of evaporator, large area, small wind resistance
- ◆ Centralized outdoor unit, "V" shape design of condenser, three side return air, high return air temperature design, significantly improve energy efficiency
- ◆ Front and back maintenance, pull-out design for control box
- ◆ Group control, flexible configuration
- ◆ Optional power metering function module

## Specification

CRA Row-based Inverter CRAC (Air-cooled)					
Indoor unit model		CRA3025	CRA3040	CRA3050	CRA3060
Main power supply	Volts-Hz-ph	460-60-3			
Air supply	/	Front air supply			
Refrigerant type	/	R410A			
Performance parameter					
Cooling capacity	kW	25	40	50	60
Sensible capacity	kW	25	40	50	60
Compressor QTY	/	1	1	1	1
Fan Type	/	EC Centrifugal fan			
Fan QTY	/	6	2	3	3
Circulating air volume	CFM (ft <sup>3</sup> /min)	2950	4750	6400	7100
Heating capacity	kW	3	6	9	9
Humidification	lbs/h	3.3	6.6	9.9	9.9
Connecting pipe size (30m)					
Liquid pipe	mm (inch)	15.88 (0.63)	15.88 (0.63)	15.88 (0.63)	15.88 (0.63)
Gas pipe	mm (inch)	22 (0.87)	22 (0.87)	22 (0.87)	22 (0.87)
Humidification inlet pipe (Internal thread)	inch	G 3/4"			
Water pump drain pipe	mm (inch)	ID9.53*OD17.02 (ID0.38*OD0.67)			
Natural drain pipe	mm (inch)	ID16*OD24 (ID0.63*OD0.94)			
Unit dimension and weight					
Dimension-W	mm (inch)	300 (12)	600 (24)	600 (24)	600 (24)
Dimension-D	mm (inch)	1100/1200 (43/47)	1100/1200 (43/47)	1100/1200 (43/47)	1100/1200 (43/47)
Dimension-H	mm (inch)	2000/2200 (79/87)	2000/2200 (79/87)	2000/2200 (79/87)	2000/2200 (79/87)
Weight	lbs	463	551	683	683
Outdoor unit performance parameter					
Centralized outdoor unit model	/	CMT044SF	CMT066SF	CMT088SF	CMT099SF
Dimension (W*D*H)	mm (inch)	1275*1100*2200 (50*43*87)	1275*1100*2200 (50*43*87)	1275*1100*2200 (50*43*87)	1275*1100*2200 (50*43*87)
Weight	lbs	397	463	529	529
Notes:					
1. Standard working conditions: indoor return air temperature 37°C (98.6°F) RH 24%, outdoor ambient temperature 35°C (95°F), ESP=10Pa;					
2. Only cooling+electric heating or constant temperature and humidity type can be selected. The maximum working current and the recommended air switch are configured according to the constant temperature and humidity unit.					

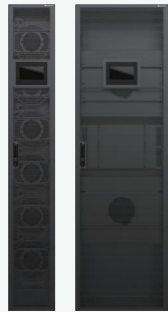
# CRC Row-based CRAC (Chilled Water)

## Introduction

CRC row-based CRAC (chilled water) is more suitable for scenarios with limited on-site installation (no need to install outdoor units) while maintaining accurate cooling characteristics and close to the heat source, helping the continuous development of green data centers.

Application scenarios: small and medium-sized data centers, modular data centers, cabinet cold (hot) aisle transformation, medium and high thermal density telecom equipment and computer rooms, etc.

## Picture



## Advantages

- ◆ Key components are selected from well-known brand
- ◆ EC centrifugal fan, automatically adjust cooling capacity and air volume output
- ◆ Wet film humidifier, saving 99% of humidification energy
- ◆ "/" shape design of evaporator, large area, small wind resistance
- ◆ High return air temperature design, significantly improve energy efficiency
- ◆ Front and back maintenance, pull-out design for control box
- ◆ Group control, flexible configuration
- ◆ Optional power metering function module

## Specification

CRC Row-based CRAC (Chilled Water)			
Indoor unit model		CRC0030	CRC0060
Main power supply	Volts-Hz-ph	208-230-60-1	460-60-3
Air supply	/	Front air supply	
Refrigerant type	/	Water	
Performance parameter			
Cooling capacity	kW	30	60
Sensible capacity	kW	30	60
Fan Type	/	EC Centrifugal fan	
Fan QTY	/	6	2
Circulating air volume	CFM (ft³/min)	2950	6800
Heating capacity	kW	3	6
Humidification	lbs/h	3.3	6.6
Connecting pipe size (30m)			
Water inlet pipe	mm (inch)	25 (0.98)	32 (1.26)
Water outlet pipe	mm (inch)	25 (0.98)	32 (1.26)
Humidification inlet pipe (Internal thread)	inch	G 3/4"	
Water pump drain pipe	mm (inch)	ID12 (ID0.47)	
Natural drain pipe	mm (inch)	ID16*OD24 (ID0.63*OD0.94)	
Unit dimension and weight			
Dimension (W*D*H)	mm (inch)	300*1200*2000 (12*47*79)	600*1200*2000 (24*47*79)
Weight	lbs	364	452
Note: Standard working conditions: indoor return air temperature 37°C (98.6°F), RH 24%, inlet/outlet water temperature 10/15°C (50/59°F).			

# CRF Row-based Inverter CRAC (Refrigerant Pump)

## Introduction

CRF row-based inverter CRAC (refrigerant pump) can use atmospheric natural cold source for cooling computer room. It is installed close to the heat source, shorten the flow path of cold air, and accurately process the sensible heat generated by the server. It is an ideal choice for green and energy-saving data centers and all kinds of electronic equipment rooms.

Application scenarios: small and medium-sized data centers, modular data centers, cabinet cold (hot) aisle transformation, medium and high thermal density telecom equipment and computer rooms, etc.

## Picture



## Advantages

- ◆ Key components are selected from well-known brand, full EC inverter design, automatic adjustment of cooling capacity and air volume output
- ◆ Wet film humidifier, saving 99% of humidification energy
- ◆ "/" or "U" shape design of evaporator, large area, small wind resistance
- ◆ High return air temperature design, significantly improve energy efficiency
- ◆ Three operating modes, automatic switching, real-time adjustment
- ◆ The pump cabinet is integrated on the outdoor side, without requiring additional space for placement
- ◆ Integrated efficient energy-saving algorithm, support group control

## Specification

CRF Row-based Inverter CRAC (Refrigerant Pump)				
Indoor unit model		CRF3025	CRF3040	CRF3060
Main power supply	Volts-Hz-ph	460-60-3		
Air supply	/	Front air supply		
Refrigerant type	/	R410A		
Performance parameter				
Cooling capacity	kW	25.0	40.0	60.0
Sensible capacity	kW	25.0	40.0	60.0
Compressor QTY	/	1	1	1
Fan Type	/	EC Centrifugal fan		
Fan QTY	/	6	2	3
Circulating air volume	CFM (ft³/min)	2950	4750	7100
Heating capacity	kW	3.0	6.0	9.0
Humidification	lbs/h	3.3	6.6	9.9
Connecting pipe size (30m)				
Liquid pipe	mm (inch)	15.88 (0.63)	15.88 (0.63)	15.88 (0.63)
Gas pipe	mm (inch)	22 (0.87)	22 (0.87)	22 (0.87)
Humidification inlet pipe (Internal thread)	inch	G 3/4"		
Water pump drain pipe	mm (inch)	ID16*OD24 (ID0.63*OD0.94)		
Natural drain pipe	mm (inch)	ID12*OD16 (ID0.47*OD0.63)		
Unit dimension and weight				
Dimension (W*D*H)	mm (inch)	300*1200*2000 (12*47*79)	600*1200*2000 (24*47*79)	600*1200*2000 (24*47*79)
Weight	lbs	463	551	683
Outdoor unit performance parameter				
Centralized outdoor unit model	/	CMT044FP	CMT066FP	CMT099FP
Dimension (W*D*H)	mm (inch)	1275*1100*2200 (50*43*87)	1275*1100*2200 (50*43*87)	1275*1100*2200 (50*43*87)
Weight	lbs	452	518	584
Notes: 1. Standard working conditions: indoor ambient temperature 37°C (98.6°F), RH 24%, outdoor ambient temperature 35°C (95°F), ESP=10Pa; 2. Only cooling+electric heating or constant temperature and humidity type can be selected. The maximum working current and the recommended air switch are configured according to the constant temperature and humidity unit.				

# CDA Rack Inverter CRAC

## Introduction

CDA rack inverter CRAC is a cabinet type temperature control product, especially designed for high thermal density data centers. Placed closely to the heat source on the cabinet rack, it can accurately process the high sensible heat generated by the servers in the cabinet, effectively prevent local hot spots, and help green data centers to develop continuously.

Application scenarios: all kinds of small and micro distributed computer rooms, data centers, modular data centers, IT cabinets for blade servers, medium and high thermal density telecom equipment and computer rooms, etc.

## Picture



## Advantages

- ◆ Supports temperature sensing management at the top of cabinet to prevent local hot spots
- ◆ Multiple drainage and anti-flooding design to prevent cabinet flooding
- ◆ Intelligent self-detection of refrigerant capacity and intelligent warning
- ◆ High efficiency inverter compressor, super precise PID control technology
- ◆ Electronic expansion valve enables smooth adjustment of throttle;
- ◆ EC centrifugal fan, adjust air volume output ratio in real time as required
- ◆ Extremely wide power grid adaption, which can meet  $\pm 20\%$  voltage range

## Specification

CDA Rack Inverter CRAC				
Indoor unit model		CDA0005	CDA0008	CDA0013
Dimension-D (mm)	/		760	
Main power supply	Volts-Hz-ph		208-230-60-1	
Air supply	/		Three side air supply	
Refrigerant type	/		R410A	
Unit performance parameter				
Cooling capacity	kW	5.0	7.5	12.5
Sensible capacity	kW	5.0	7.5	12.5
Compressor QTY	/	1	1	1
Fan type	/		EC Centrifugal fan	
Fan QTY	/	2	1	2
Circulating air volume	CFM (ft <sup>3</sup> /min)	650	1000	1300
Heating capacity	kW	1.0	1.0	2.0
Humidification	lbs/h	2.2	3.3	6.6
Connecting pipe size				
Liquid pipe	mm (inch)	9.52 (0.37)	12.7 (0.50)	12.7 (0.50)
Gas pipe	mm (inch)	15.88 (0.63)	19.05 (0.75)	19.05 (0.75)
Humidification inlet pipe (Internal thread)	inch		G 3/4"	
Water pump drain pipe	mm (inch)		PU pipe ID5*OD8 (ID0.20*OD0.31)	
Natural drain pipe	mm (inch)		Silicone hose ID10*OD14 (ID0.39*OD0.55)	
Unit dimension and weight				
Dimension (W*D*H)	mm (inch)	443*715*218 (17*28*9)	443*715*351 (17*28*14)	443*715*440 (17*28*17)
Weight	lbs	62	79	93
Outdoor unit performance parameter				
Outdoor unit model	/	CDT007SP1A	CDT010SP1A	CDT016SP1A
Dimension (W*D*H)	mm (inch)	794*310*537 (31*12*21)	1045*431*760 (41*17*30)	1045*431*1375 (41*17*54)
Weight	lbs	75	132	187
Notes:				
1. Standard working conditions: indoor environment 35°C (95°F), wet bulb temperature 20°C (68°F), outdoor environment temperature 35°C (95°F);				
2. 760 depth indoor unit can choose only cooling+electric heating or constant temperature and humidity type, the maximum working current and recommended air switch according to the constant temperature and humidity unit configuration;				
3. 760 depth rack air conditioner for cabinets with a depth of 1000mm to 1400mm (39 inches to 55 inches).				

# HIEC Indirect Evaporating Cooling System

## Introduction

HIEC indirect evaporative cooling unit is an energy-saving air conditioner that makes full use of natural cold sources to cool the data room. The indoor and outdoor air can realize heat transfer without exchanging. This air conditioner is usually deployed on the roof or one side of the data center, which is an ideal choice for large and medium-sized data centers.

Application scenarios: data centers, modular data centers, high heat density telecom equipment and computer rooms, etc.

## Picture



## Advantages

- ◆ Minimal system: the equipment is directly connected to the air supply and return ducts of the data center
- ◆ Energy saving: industry first two air inlet channel layout with low wind resistance and high energy efficiency, CLF is as low as 0.084
- ◆ Space saving: the system is easy to manage, and the unit can save 30% of space
- ◆ Short construction period: only main modules need to be assembled on site
- ◆ Module design: multiple units can be installed in parallel to achieve expansion
- ◆ Customization of cooling supplement: DX/CW is optional, and the unit can be equipped with cooling supplement module using electromagnetic levitation

## Specification

HIEC Indirect Evaporative Cooling System					
Model		HIEC260	HIEC300	HIEC400	HIEC450
Power supply	Volts-Hz-ph	460-60-3, standard dual power supply (optional)			
Indoor air supply and return mode	/	Horizontal air supply and return (horizontal on the same side or the opposite side)			
Outdoor air inlet and discharge mode	/	Air inlet on the side, air discharge on the top			
Supplementary cooling type	/	DX(R410A)or CW(water)(optional)			
Performance parameter					
Cooling capacity 1					
Return air temperature: 100.4 °F/38 °C	kW	260	300	400	450
Supply air temperature: 77 °F/25 °C					
Cooling capacity 2					
Return air temperature: 98.6°F/37°C	kW	240	280	380	430
Supply air temperature: 75.2°F/24°C					
Cooling capacity 3					
Return air temperature: 95°F/35°C	kW	220	260	350	400
Supply air temperature: 71.6°F/22°C					
Indoor circulating air flow	CFM (ft <sup>3</sup> /min)	36487	41195	55319	58850
Outdoor circulating air flow	CFM (ft <sup>3</sup> /min)	41195	45903	61793	70620
Adjustable range of supplementary cooling capacity	/	0-80% (optional)			
External residual pressure of indoor circulation	Pa	50-200			
External residual pressure of outdoor circulation	Pa	50-150			
Filter grade	/	Inside: G4; Outside: G2			
Material of heat exchange core	/	Metal core/Polymer core			
Spray mode	/	The standard mode is water spray, and two-stage humidification (water spray+mist spray) is optional			
Structure	/	Container			
Overall dimension (L*W*H)	mm (inch)	4400*2900*3600 (173*114*142)	6058*3100*4150 (239*122*163)	6058*3100*4150 (239*122*163)	6500*3100*4150 (256*122*163)
Static weight	lbs	12125	14330	18739	20944
Operating weight	lbs	14330	16535	20944	22046
Notes:					
1. The applicable ambient temperature of the unit is - 25-40 °C(-13-104°F). If it exceeds the range, the manufacturer shall be consulted;					
2. Anti freezing devices are required in low temperature areas;					
3. The above parameters are rated at 0m above sea level. Attenuation shall be considered for areas with an altitude of more than 1000m.					

# HPEC Evaporative Cooling Unit with Refrigerant Pump

## Introduction

HPEC evaporative cooling unit with refrigerant pump is an integrated equipment that makes full use of natural cold source and low-power refrigerant pump to achieve the cooling of data room. The unit can automatically switch between compressor refrigeration, mixed refrigeration and refrigerant pump refrigeration. The unit can provide long-term, stable and efficient cooling, and is usually deployed on the roof or one side of the data center.

Application scenarios: large and medium-sized data centers, modular data centers, high heat density telecom equipment, computer rooms, etc

## Picture



## Advantages

- ◆ Energy and water saving: the unit adopts energy-saving control mode and is equipped with wet film spraying module
- ◆ Water free configuration can be adopted, WUE=0
- ◆ Space saving: integrated high-density integration, which will not occupy the indoor cabinet position, and increase the usable zone of equipment in the computer room by 30%
- ◆ Safe and reliable: after factory commissioning, the unit will be transported as a whole to reduce the risk of on-site commissioning
- ◆ Convenient operation and maintenance: complete outdoor maintenance can be achieved to avoid water ingress, fire and other risks in the computer room

## Specification

HPEC Evaporative Cooling Unit with Refrigerant Pump					
Model		HPEC260	HPEC300	HPEC400	HPEC450
Power supply	Volts-Hz-ph	460-60-3			
Indoor air supply and return mode	/	Horizontal air supply and return (horizontal on the same side or the opposite side)			
Outdoor air inlet and discharge mode	/	Air inlet on the side, air discharge on the top			
Refrigerant	/	R410A			
performance parameter					
Cooling capacity 1	kW	260	300	400	450
Cooling capacity 2	kW	240	280	380	430
Cooling capacity 3	kW	220	260	350	400
Indoor circulating air flow	CFM (ft <sup>3</sup> /min)	36487	41195	55319	58850
Outdoor circulating air flow	CFM (ft <sup>3</sup> /min)	52965	57378.75	76505	88275
External residual pressure of indoor circulation	Pa	50-200			
External residual pressure of outdoor circulation	Pa	50-150			
Filter grade	/	Inside: G4; Outside: G2			
Structure	/	Container			
Dimension of whole unit (L*W*H)	mm (inch)	6058*3000*3600	6058*3000*3600	5500*3000*4150 (217*118*163)	5500*3000*4150 (217*118*163)
Static weight	lbs	12125	13228	16535	17637
Operating weight	lbs	14330	15873	18739	19842
Notes:					
1. The applicable ambient temperature of the unit is - 25-40 °C. If it exceeds the range, the manufacturer shall be consulted;					
2. The parameters are not equipped with wet film module parameters, which support the selection of wet film modules. Antifreeze devices are required in low temperature areas;					
3. The above parameters are rated at an altitude of 0 m. Attenuation should be considered for areas with an altitude of more than 1000 m.					

# Micro Modular Product Series

## HyperBlock 2000

## Double Row Micro Modular Data Center



Haiwu Hyper series data center product is a highly integrated intelligent micro modular products that integrate multiple subsystems such as cabinet system, power supply and distribution system, refrigeration system, generic cabling system and fire protection system. It can meet various application scenarios and data center construction of different scales. Hyper series data center products adopt cold and hot aisles isolation design, high-efficiency refrigeration equipment (refrigerant pump technology), professional design and other technologies to ensure efficient energy conservation of products. Modular design and highly integrated subsystem ensure the rapid construction and minimal installation of the data center.

# HyperBlock "Ring" Single Cabinet Micro Modular Data Center

## Introduction

Hyper Block "Ring" single cabinet micro modular data center, a comprehensive product with more advanced refrigeration, more reliable power supply and distribution, more reasonable air flow layout, safe and intelligent. With small space and large capacity, the usable space is up to 38U. It can better meet the requirements of various harsh, complex and changeable environments, especially applicable to scenarios with strict noise control requirements. Application scenarios: telecom, computer rooms, offices, smart factories, process workshops, smart transportation, etc.

## Picture



## Advantages

- ◆ Integrated overall design, built-in micro environment system
- ◆ The process noise of the whole unit can be greatly reduced to below 53dB (A)
- ◆ Equipped with efficient UPS system, the efficiency is as high as 95%
- ◆ Full isolation of cold and hot aisles & CFD optimal air distribution layout, PUE as low as 1.2
- ◆ Equipped with 800mm wide cabinet structure, the available space for customers is up to 38U
- ◆ Equipped with intelligent large screen management system, adapted to real-time display of dynamic data application scenarios

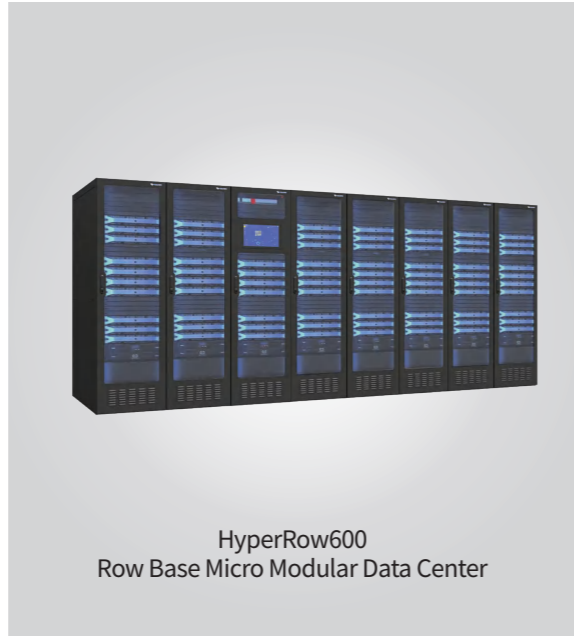
## Specification

HyperBlock "Ring" Single Cabinet Micro Modular Data Center			
Model	/	HB-S (standard)	HB-H (upgraded)
<b>Performance parameter</b>			
PUE	/	<1.2	
Noise	dB(A)	≤53	
<b>Cabinet system</b>			
IT maximum capacity	kW	2.4	4.8
Available space	U	40 (standard 1 battery pack)	38 (standard 2 battery pack)
Dimension (W*D*H)	mm (inch)	800*1200*2000 (31*47*79)	
Closed aisle	/	Closed cold and hot aisles	
Installation site	/	Cement floor/Raised floor	
<b>Refrigeration system</b>			
Cooling capacity	kW	5	
Air flow	CFM (ft <sup>3</sup> /min)	588	
Installation type	/	Rack type side mounting	
<b>Power supply and distribution system</b>			
System input	/	208-230-60-1+N+PE	
Battery type	/	Battery pack/Lead-acid battery pack	
UPS efficiency	/	Up to 95%	
UPS capacity	kVA	3	6
Standby time	min	5	15
<b>Monitoring system</b>			
Local interface size	inch	9.7	10.1
Operation and maintenance function	/	Email/Voice and light/SMS * alarm	Email/Voice and light/Mobile phone APP */Battery monitoring */Third-party fire protection access */SMS * alarm
<b>Equipment &amp; environment monitoring</b>			
/ Air conditioning, UPS, power distribution, temperature and humidity, smoke detection, water immersion			

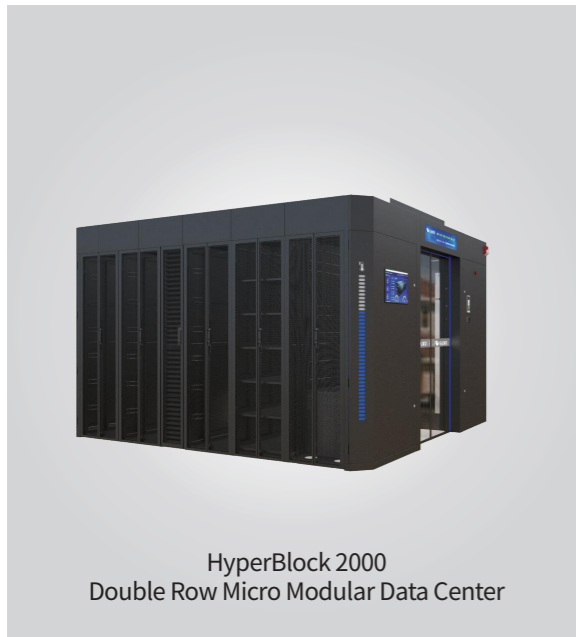
Notes:  
 1. HB-H (upgraded) is optional: mobile phone APP, battery monitoring, third-party fire protection access, SMS alarm function, and HB-S (standard) is optional with SMS alarm function;  
 2. The number of battery packs can be increased or decreased according to the customer's backup needs. The maximum number of battery packs supported is 4. One rack type fire protection can be purchased independently;  
 3. The above configuration can be customized and deepened according to the existing layout, facilities and needs of the computer room.



HyperBlock "Ring"  
Single Cabinet Micro Modular Data Center



HyperRow600  
Row Base Micro Modular Data Center



HyperBlock 2000  
Double Row Micro Modular Data Center



HyperBlock C Container Data Center

# HyperRow600 Row Base Micro Modular Data Center

## Introduction

HyperRow600 row base micro modular data center can be flexibly composed of 1+/1-8 single cabinet micro modules. The cabinets bodies are directly coupled and assembled to form a double-aisle closure on both hot and cold sides, bringing users a safe, reliable, compact and convenient computer room deployment experience.

Application scenarios: smart finance, smart education, smart medical care, smart government, smart communication, smart security, it can also be applied to dust and wet environment, site without special computer room like warehouse.

## Picture



## Advantages

- ◆ 2000mm (79 inches) standard cabinet has 43U available space
- ◆ Support 1+1-8 cabinet combination
- ◆ Without additional components, cabinets are directly assembled, forming a "double-aisle closure on the hot and cold sides" system
- ◆ The cabinets can be installed on the concrete floor and is suitable for the computer room with an elevated floor
- ◆ Ultra wide voltage range: 138-485V
- ◆ Ultra wide temperature range: -40°C -55°C (-40°F~131°F)

## Specification

HyperRow600 Row Base Micro Modular Data Center		
Quantity of cabinets	/	1~9
Reliability	/	IP20, cold & hot aisle
PUE	/	≤1.2
Installation site	m (feet)	≥2.3m(7.5 feet), support direct installation on cement floor/Raised floor
Cabinet system		
Dimensions (W*D*H)	mm (inch)	X*1350*2000(mm), X=600N(N=1,2,8) X*53*79(inch), X=600N(N=1,2,8)
Maximum IT load	kW	≤50
Refrigeration system		
Cooling capacity of rack aircon	kW	3.5/5/7.5/12.5
Cooling capacity of row-based aircon	kW	12.5/25/40/60
Emergency refrigeration	/	Emergency fan assembly
Power supply and distribution system		
Input power system	kVA	6/10/20/30/40/60
Monitoring system		
Local monitoring	/	15.6 inches tablet screen, 3D visualization, Web access, client, mobile APP
Equipment & environmental monitoring	/	Air conditioning, power distribution, UPS, smoke sensor, T&H sensor, water leakage detection, fire linkage
Intelligent monitoring	/	Battery monitoring, video monitoring, SMS alarm, phone alarm, sound and light alarm, warning light shows red
Fire Fighting		
Fire Fighting	/	Fire detection and extinguishing functions, heptafluoropropanegas fire fighting (optional)
Note: The above configuration can be customized and deepened according to the existing layout, facilities, and requirements of the computer room.		

# HyperBlock 2000 Double Row Micro Modular Data Center

## Introduction

HyperBlock 2000 double row micro modular data center integrates subsystems such as cabinets, temperature control, UPS and dynamic environment monitoring. It can be flexibly deployed and expanded based on the Tier level of a data center, further reducing the PUE value of a data center and improving reliability and availability.

Application scenarios: smart finance, smart education, smart healthcare, smart government, smart transportation, smart security, etc.

## Picture



## Advantages

- ◆ Integrated PUE value within the module as low as 1.25(40 ° N)
- ◆ 2000mm (79 inches) standard cabinet has 43U available space
- ◆ The self-made row-based air conditioner provides near-end refrigeration, reducing air static pressure loss by 60%, and supports optional free cooling
- ◆ Self-made UPS, the overall efficiency is 96.8%
- ◆ From the module components to the whole unit, all have passed the 9-level seismic test and meet the A-level /tier3+ standard

## Specification

HyperBlock 2000 Double Row Micro Module Data Center		
Dimensions (W*D*H)	mm (inch)	Double row sealed cold/hot aisle (L * W * H): L * 3600 * 2600mm, L ≤ 15m Double row sealed cold/hot aisle (L * W * H): L * 142 * 102mm, L ≤ 49foot
Number of IT cabinets supported	/	≤48 cabinet
Power supply system	Volts-Hz-ph	460-60, supporting dual input
Single module IT load	kW	380kW (precision power distribution cabinet)
work environment	°C/°F	Ultra low temperature working condition (low-temperature components are required): -35 ° C~45 ° C(-31°F~113°F); Normal working condition (without low-temperature components): -15C~45 ° C(5°F~113°F)
Installation method	/	Directly on cement floor or raised floor
Cabinet system		
Dimensions (W*D*H)	mm (inch)	600*1200*2000 (24*47*79)
Cooling system		
Indoor unit size (W*D*H)	mm (inch)	12.5kW/25kW: 300*1200*2000 (12*47*79) 40kW/50kW/60kW: 600*1200*2000 (24*47*79)
Refrigerant type	/	R410A
Rated input voltage	Volts-Hz-ph	460-60-3
Precision power distribution cabinet		
Rated input voltage	Volts-Hz	460-60, supporting dual input
Input switch specification	A	160/250/400/630
Modular UPS (out of line)		
Rack capacity	kVA	125/200/300/400/500/600
Module capacity	kVA	25/50
Rated input voltage	Volts-Hz-ph	460-60-3
Integrated UPS (listed)		
Input voltage	Volts-Hz-ph	460-60-3
Rated capacity	kVA	25~150
Monitoring system		
function	/	Real-time status, intelligent lighting, alarm information and configuration information of relevant equipment of the micro module (power distribution, air conditioner, electricity, UPS storage battery, temperature and humidity, water leakage detection, smoke, video, etc.), visual interface, web and mobile phone APP access
Note: The above configuration can be customized and deepened according to the existing layout, facilities and needs of the computer room.		

# HyperBlock C Container Data Center

## Introduction

HyperBlock C container data center, an IDC infrastructure container solution that is based on outdoor station, rapid deployment, and professional customization mode. A series of professional data center tests are completed before the product leaves the factory, and the time for on-site assembly and debugging can be compressed to 48 hours.

Application scenarios: smart finance, smart education, smart healthcare, smart government, smart transportation, smart security, etc.

## Picture



## Advantages

- ◆ The BIM is prefabricated to meet users' functional and performance requirements
- ◆ Flexible choice of cabinet body, integrated box, LCL and other different solutions are optional.
- ◆ The factory supports production of 20 boxes offline at the same time to meet the requirements of cluster projects
- ◆ Products are strictly tested by national-level laboratory before leaving the factory
- ◆ The product passes full load and fake load test before leaving the factory
- ◆ Haiwu has the qualification of mechanical and electrical installation and communication engineering construction

## Specification

HyperBlock C Container Data Center					
Model	HyperBlockC20		HyperBlockC40		
Specifications	/	20 inches container (single container)	20 inches container (double containers)	40 inches container (single container)	40 inches container (double containers)
<b>Performance Parameter</b>					
Inner dimension of container (L * W * H)	mm (inch)	6058*3100*3100 (239*122*122)	6058*6225*3100 (239*245*122)	12192*3100*3100 (480*122*122)	12192*6225*3100 (480*245*122)
Number of available IT cabinets	/	4	9	10	20
PUE	/	Annual PUE<1.2			
Support IT cabinet power	kW	Single cabinet 5-12kW optional			
Production and layout	/	Factory pre integration, which can be used only by fixing containers and connecting water and electricity on site, and supports single box, double box splicing and multi-layer stacking			
<b>Cabinet system</b>					
Dimensions (W * D * H)	mm (inch)	600*1200*2200			
User's available IT space	/	Single cabinet 47U available space			
<b>Refrigeration system</b>					
Dimension of air conditioner (W * D * H)	mm (inch)	2500*1400*2620			
Air conditioning form	kW	Integral refrigerant pump double circulation machine room air conditioner (total refrigerating capacity 20+20, 32.5+32.5, 45+45kW optional)			
<b>Power supply and distribution system</b>					
Input power system	Volts-Hz	460-60, supporting dual input			
UPS scheme	/	Modular UPS+backup battery+integrated power distribution			
System standby time	/	15 minutes (Note: the storage time shall not exceed 90 days when the battery is not powered on, or it shall be charged in time)			
<b>Monitoring system</b>					
Monitoring interface	/	Near end 15.6 inch monitoring touch screen, web page, client, APP			
Equipment & Environment Monitoring	/	Air conditioning, power distribution, UPS, temperature and humidity, water leakage detection, smoke detection, door status detection, fire linkage			
Intelligent monitoring	/	Battery patrol inspection, video monitoring, electronic access control, asset management, capacity management, intelligent linkage of external environment cooling, multi site centralized management, GPS positioning management, 3D view			
<b>Fire control</b>					
Fire fighting methods	/	Heptafluoropropane automatic fire extinguishing system			
Trigger fire extinguishing	/	Smoke and temperature sensing (standard configuration), fire alarm system, emergency manual button triggering, post disaster fresh air smoke exhaust system, very early smoke high inlet system			
Note: The above configuration can be customized and deepened according to the existing layout, facilities and needs of the computer room.					

# Edge Integrated Power Supply

## Introduction

Edge integrated power supply is a new generation of highly reliable and high performance wireless micro station communication power system equipment launched by Haiwu. The system is composed of power supply module, battery module, etc.

## Picture



## Advantages

- ◆ Wall-mounted, pole-mounted, angle steel tower installation, "zero" footprint
- ◆ Fanless design, natural cooling, "zero" noise
- ◆ Small size, light weight, easy to install and maintenance-free
- ◆ Die-cast aluminum one-piece molding, IP65, suitable for a variety of outdoor harsh environment
- ◆ The connection terminal supports fast wiring, plugging, waterproof, with locking device and anti-reverse connection, anti-misconnection function
- ◆ Intelligent, support APP wireless (WIFI) connection to view data, remote support full netcom 4G access monitoring network
- ◆ High efficiency and energy saving, the whole machine efficiency>97%

## Specification

Edge integrated Power Supply				
<b>Power supply system</b>				
Model		HWXW0482000	HWXW0483000	HWXW0486000
Capacity	kW	2	3	6
Weight	lbs	<29		<42
Dimension (W*D*H)	mm (inch)	345*97*445 (14*4*18)		340*121*435 (13*5*17)
Operating temperature range	°C (°F)	-40~+55 (-40~131)		
Ingress protection	/	IP65		
Heat dissipating method	/	die-cast aluminum structure, natural heat dissipation		
Input voltage	Volts	AC90~300V(176~284V full load output, 90~176V&284~300V reduced power output)		
Input current	A	<12	<18	<36
Input frequency	Hz	45~65		
Input power factor	/	≥0.99 (Full load)		
Output nominal voltage	Volts	DC-48		
Maximum total output current	A	37	56	112
Output shunt	A	Battery: 1*60		Battery: 2*125
Output shunt protection device	A	Output Shunt: 3*40		
Efficiency	/	40A Easy fuse replacement		
Surge protection device	kA	Over 97% of peak		
Communication interface and method	/	AC Surge protection device: 20kA nominal; DC Surge protection device: 10kA nominal		
Seismic performance	/	3-way DO, RS485/CAN, APP near-end wireless communication, support 4G		
<b>Battery module</b>				
Model		HWLD04850		
Weight	lbs	<71		
Dimension (W*D*H)	mm (inch)	345*155*445 (14*6*18)		
Ingress protection	/	IP65		
Operating temperature range	°C (°F)	-40~+55 (-40~131)		
Number of battery strings	/	16S lithium iron phosphate battery pack		
Capacity	AH	50		
Operating voltage	Volts	40-57.6		
Charging current	A	Default value: 5A(Maximum: 50A)		
Discharge current	A	Maximum value: 50A		
Battery parallel	/	support		
Communication method	/	RS485		
Protection and alarming	/	Over/under voltage, short circuit, overload, over current, and over low temperature protection		
Installation method	/	Support wall-mounted, pole mounted, angle steel tower and other application scenarios, support for flagging, flush mounting, flooring and other installation methods		

# Outdoor C-RAN Cabinet

## Introduction

In order to reduce the investment in base station construction and accelerate telecom construction, the traditional access network architecture has evolved to C-RAN architecture. Haiwu outdoor C-RAN cabinet adopts modular and standardized reliability design to ensure that all subsystems are highly compatible, universal and integrated. Highly integrated power supply and distribution system, battery system, temperature control system, emergency ventilation system, intelligent management system, etc., with small floor space, it can realize plug and play and rapid installation and delivery.

## Picture



## Advantages

- ◆ Fast delivery: The supporting equipment is highly integrated and can be deployed as soon as the day it enters the site, with plug and play function
- ◆ Reliable performance: the protection grade of the computer room is IP55; the structure is stable, safe and reliable
- ◆ Energy saving and high efficiency: the rack air conditioner is adopted, and the air flow organization before and after the air conditioner is used to accurately dissipate heat
- ◆ Intelligent monitoring: It integrates temperature and humidity, access control, smoke detection, water immersion and other intelligent monitoring screen management systems to provide all-round environmental management

## Specification

Outdoor C-RAN Cabinet				
Model		Three sets of outdoor unit	Five sets of outdoor unit	Single set of indoor unit
Dimension of outdoor unit (L*W*H)	mm (inch)	1200*2200*2200 (47*87*87)	1200*3200*2200 (47*126*87)	600*800*2200 (24*31*87)
Dimension of indoor unit (L*W*H)	mm (inch)	2100*1100*1800 (83*43*71)	3100*1100*1800 (122*43*71)	/
Internal mounting height	U	≥40	≥56	≥36
Circulating air volume of air-cooled rack aircon	CFM (ft <sup>3</sup> /min)	8kW with 1 set: ≥ 883	8kW with 2 sets: ≥ 883	4kW with 1 set: ≥470
Cooling air volume of heat dissipation module	CFM (ft <sup>3</sup> /min)	48VDC fan: ≥ 1412	48VDC fan: ≥ 1412	48VDC fan: ≥ 530
Air circulation	/	Double aisles and double closed system shared by cold and hot aisles, and equipped with a special air guide components		
Material of cabinet	/	Non metal outer plate+reinforced steel plate+PU+metal inner plate		
Maintenance mode	/	Front and rear maintenance+side maintenance	Front and rear maintenance+side maintenance	Front and rear maintenance
Installation mode	/	Module assembly/Overall assembly	Module assembly/Overall assembly	Module assembly/Overall assembly
Ingress protection	/	IP55	IP55	IP55
Working temperature	°C (°F)	-40~55 (-40~131)	-40~55 (-40~131)	-40~55 (-40~131)
Full weight	lbs	≤3527	≤5291	≤1102
Optical fiber distribution system	/	288 core fusion, 72 core direct fusion	288 core fusion, 72 core direct fusion	/
Monitoring system	/	48VDC input, including monitoring host (8 serial ports), software, temperature and humidity, smoke sensor	48VDC input, including monitoring host (10 serial ports), software, temperature and humidity, smoke sensor	48VDC input, including 10.1 inch color touch screen monitoring host (8 serial ports), software, temperature and humidity, smoke sensor
Power supply system	Volts-A	48-400	48-600	48-200
AC power distribution module	/		Optional	
DCDU	/		Optional	
Lithium iron battery	/		Optional	
Electronic lock	/		Optional	
Note: Standard working condition of air conditioner: 35 °C/95°F at indoor side, 20 °C/68°F(DB), and 35 °C/95°F at outdoor side.				

# Integrated Energy-saving Cabinet with Heat Pipe Aircon

## Introduction

In the new era, and the power consumption of base stations is rising. The market is in urgent need of a telecom station building scheme with high efficiency and energy conservation. The customized solution of integrated energy-saving cabinet proposed by Haiwu can be flexibly assembled according to the construction environment and business. It is an ideal choice for base station construction.

Application scenarios: urban traffic, power distribution, transmission exchange station, wireless telecom base station and other application scenarios.

## Picture



## Advantages

- ◆ Cabinet modular splicing, simplified installation and dynamic expansion
- ◆ Two types of columns to achieve 19/21 inches equipment compatible installation
- ◆ The indoor and outdoor units of the air conditioner are integrated, no additional installation required, and the replacement of parts is simple
- ◆ Large cooling capacity design of single cabinet air conditioner to solve the high-density deployment of equipment
- ◆ Double cooling source system design, with annual PUE≤1.25
- ◆ The cabinet is equipped with cold and hot air flow isolation structure, plus four operation modes of air conditioner to achieve energy conservation

## Specification

Integrated Energy-saving Cabinet with Heat Pipe Aircon			
<b>Cabinet unit</b>			
Dimension(W*D*H)	Outside	mm(inch)	750*800*2150 (30*32*85)
	Inside	mm(inch)	650*700*1800 (26*28*71)
Internal mounting height		U	40
Cabinet material		/	Non metal outer plate+reinforced steel plate + PU + metal inner plate
Installation type		/	Assembled/Packaged
Working temperature		°C (°F)	-40~55 (-40~131)
Ingress protection		/	IP65
Seismic grade		/	Level 9
Weight of cabinet		lbs	375
<b>Heat pipe aircon unit</b>			
Dimension(W*D*H)		mm(inch)	495*800*2150(20*32*85)
	Rated cooling capacity	kW	Compressor refrigeration:10
kW		Heat pipe refrigeration:6	
EER		/	Compressor refrigeration≥3
		/	Heat pipe refrigeration≥6
Power supply system	Volts		Fan: DC48V
	Volts		Compressor: AC208-230V
Installation type		/	Integrated indoor and outdoor unit
Seismic grade		/	Level 9
Weight of whole unit		lbs	331
Notes: 1.Standard working condition of compressor mode: 40 °C/104°F(DB), 25 °C/77°F(WB) at indoor side. 2.Standard working condition of heat pipe mode: dry bulb temperature at indoor side is 40 °C/104°F(DB) at indoor side, 20 °C/68°F at outdoor side.			