Make Air Treatment Healthier and More Energy-Efficient

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Factory code: HDY202441 Marketing code: 202504

HFM SERIES

DC Inverter DX Air Handling Unit

Heat Recovery and Purification Type

Everyone needs to breathe

25,000 times

per day

- *Clean and fresh air is essential*
- *HOLTOP keeps working on providing you with integrated fresh, clean, comfortable and intelligent air solutions.*
- *HOLTOP delivers fresh and clean air, just for your healthy breathing!*

Contents

ABOUT HOLTOP

2002 HOLTOP WAS FOUND

200000+ Units Production Capacity

70000+ m^2 Area

100+ Countries Exportation

30+ Sales Organizations

ISO Certifications

Dozens of National Patents Owner

China Industrial Standards Participated

World Leading Manufacturer

Zhongguancun&National High-tech Enterprise

Equipment Supplier for Beijing Olympics and The Shanghai World Expo

Make Air Treatment Healthier and More Energy-Efficient HOLTOP

MAKE AIR TREATMENT HEALTHIER AND MORE ENERGY-EFFICIENT

To make the air fresh and the sky blue, to ensure every breath is safer, to utilize energy more sustainably and to make air treatment healthier and more energy-efficient, this is the mission to which we have been dedicated.

DEVELOPMENT HISTORY

2002
- On 27th May, Holtop was founded, and Holtop brand products were put into the market.

2003
- During SARS period, Holtop overcame difficulties and won the "Outstanding Contribution Award for Combating SARS" issued by Beijing Municipal Government.

2004
- Holtop 5-metre diameter heat recovery wheel put into engineering application.

2005
- Holtop new 30,000 square metre factory in Haidian District, Beijing, was put into operation;
- Holtop was certified by ISO14001.

2006
- Holtop self-developed heat recovery air handling unit launched and received a good market response.

2007
- Holtop Invited to participate in the compilation of the national standard "Air to Air Energy Recovery Device".

2008
- During the Beijing Olympic Games, 24-hour guarding of the venues Holtop fresh air system, obtained title of "Olympic excellent protection enterprise".

2009
- Holtop was designated supplier of air heat recovery devices for Shanghai World Expo, and supported heat recovery fresh air devices for Shandong National Games venues.

2010
- Holtop overseas sales and service agencies quantity reached 18, sales network covering the whole country; Obtained the
- "National Industrial Products Production Licence".

2011
- Holtop heat recovery device certified by European Eurovent, laying the foundation for the development of overseas markets.

2012
- Holtop Successfully signed a contract with Beijing Benz automobile plant project, realising a major breakthrough of air-conditioning products in the automobile industry.

2013
- Holtop whole series of fresh air ventilators obtained the "Energy-saving Certification for Architectural Engineering".

2014
- Holtop participated in compiling the national standard for "Air-to-air heat exchanger unit for unitary ventilation and air conditioning".

2015
- Holtop Badaling's production base in Yanqing Park of Zhongguancun, Yanqing District was put into operation.

2016
- Holtop acknowledged as "Zhongguancun High-tech Enterprise"; Holtop signed
- the first overseas large-scale project "Geely Belarus Plant".

2017
- Holtop acknowledged as "National High-tech Enterprise";
- Holtop Forest Oxygen Bar home air conditioning products were released.

2018
- Holtop Environmental Protection Company was recognised as "National High-tech Enterprise";
- "Holtop Science and Technology Park" was put into use.

2019
- Holtop Self-developed DX heat recovery purification AHU went on sale.

2020
- Holtop acted against the epidemic by donating fresh air equipment together with Zhong Nanshan Foundation; provided fresh air system for Wuhan Square Cabin Hospital. .....

2021
- Holtop Company and Holtop Environmental Protection Company were both recognized as "Specialized and New Enterprise" and "Small Giant Enterprise".

2022
- Holtop fresh air ventilators and air handling units provide 24-hour service to the Olympic Winter Games.

DC Inverter DX Air Handling Unit

Heat Recovery and Purification Type

Holtop HFM series DX outdoor unit includes DC inverter and fixed frequency type. The cooling capacity of DC inverter unit is 10~20P, while the fixed frequency unit is 5~60P. On the basis of fixed frequency unit, the newly developed DX inverter unit adopts the enhanced vapor injection refrigerant technology to guarantee the super heating performance when at low ambient temperature condition. The advance air-conditioning system design and selft-developed control program guarantee the product performance and bring user a more comfortable indoor air quality.

Combined Type Heat Recovery Indoor Unit

Air-cooled Outdoor Unit

Item/Series			DC Inverter Series	Constant Frequency Series	Three-Pipe Series
Cooling Capacity (kw)			25 - 509	12 - 730	25 - 509
Heating Capacity (kw)			28 - 569	18 - 420	28 - 569
Airflow (m^3/h)			5500 - 95000	2500 - 80000	5500 - 95000
Frequency Range of Compressor (Hz)			20 - 120	-	20 - 120
Allowable pipe length (m)			70	50	50
Height difference (m)			25	25	25
Operating Range	Cooling	Outdoor DB Temperature (°C)	-5 - 52	15 - 43	15 - 43
		Indoor WB Temperature (°C)	15 - 24	15 - 23	15 - 23
	Heating	Indoor DB Temperature (°C)	15 - 27	10 - 27	10 - 27
		Outdoor WB Temperature (°C)	-20 - 27	-10 - 15	-10 - 15

Features of Indoor Unit

Core Heat Recovery Technology

With Holtop core heat recovery technology, the cooling and heating loads caused by ventilation are effectively reduced, ensuring energy efficiency and environmental protection.

Healthy Breathing

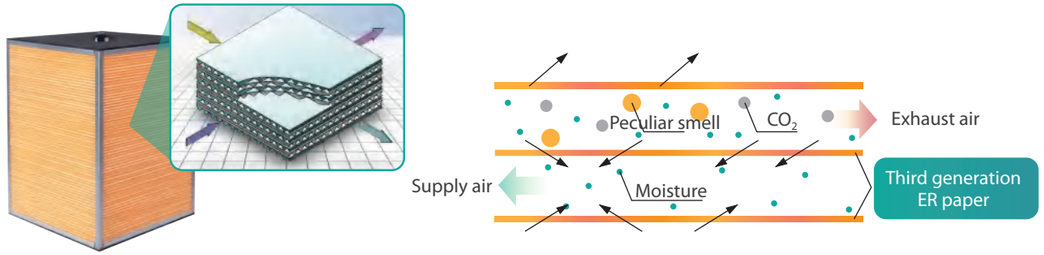
Blocks harmful substances such as indoor/outdoor dust, particulate matter, formaldehyde, and odors, allowing you to embrace nature and breathe healthily.

Comfortable Ventilation

Our goal is to bring you the comfortable and clean air.

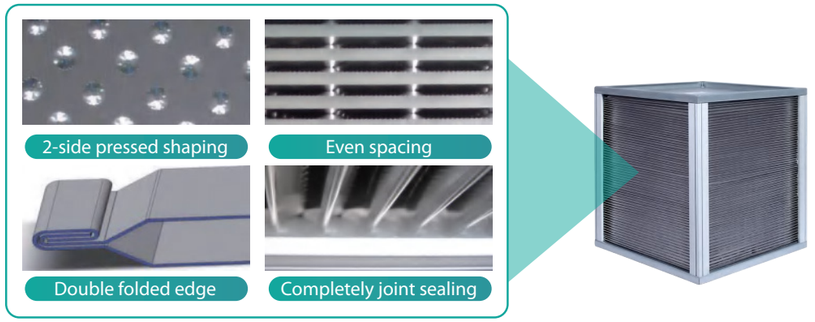
CROSSFLOW TOTAL HEAT EXCHANGER

Holtop crossflow total heat exchanger was made of imported ER paper, the thin corrugated paper produced with special technology will make sure the higher heat transmissibility, fire resistance(grade up to B2) stronger tire resistance and mold prevent(grade up to level 0).



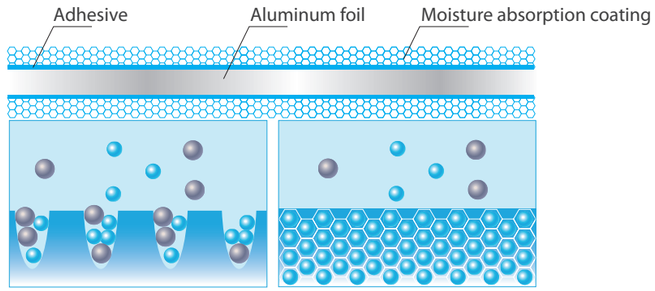
CROSS FLOW PLATE HEAT EXCHANGER

Holtop cross flow plate heat exchanger was made of aluminum foils with 0.12mm thickness. In order to avoid the two airflows come cross without touch, Holtop have been committed to the research of cross-flow plate heat exchangers for many years. Multiple special processes are adopted to ensure the air tightness and improve the heat exchange performance, so that the heat exchange efficiency is highly improved.



ROTARY HEAT EXCHANGER

The surface of the wheel is coated with a 3A molecular sieve coating, which has the functions of heat storage and moisture adsorption (total heat), and exchanges energy with the fresh air and exhaust air passing through, to realize the energy recovery and saving.



Silicon gel absorbs both moisture and odor by capillarity

Molecular sieve selectively absorbs moisture and expels odor by molecular lattice

PM2.5 SOLUTION

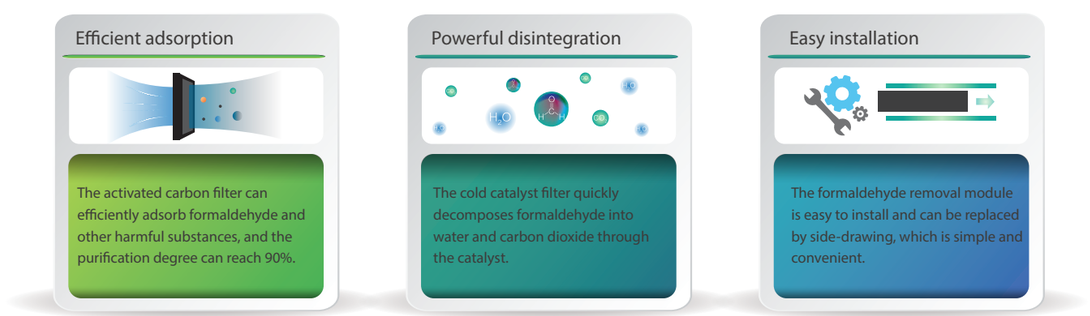
Equipped with a high-efficiency filtration filters, it can effectively remove PM2.5 particles carried by the air and ensure clean indoor air quality.

CONSTANT TEMPERATURE AND HUMIDITY

Precisely control the outlet air condition, with tolerance within ±2℃ on temperature, and ±5% on humidity.

INDOOR FORMALDEHYDE REMOVAL SOLUTION

The indoor unit can optionally be equipped with a formaldehyde removal module, which can effectively filter and decompose formaldehyde molecules; coupled with fresh air replacement and dilution, double removal of formaldehyde.



BRING OUTDOOR FRESH AIR

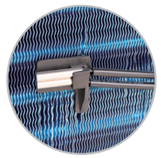
With this FAHU, the outdoor air is introduced into the room, and the indoor air quality will be highly improved by increasing oxygen concentration, decreasing carbon dioxide and remove the peculiar smell and other harmful gas.

ANTI-COLD WIND DESIGN

When the heating is turned on, the heat exchanger fins of the indoor unit will start to supply air after preheating; during the defrosting, the indoor unit will shut down according to the judgement of smart program to prevent the cold air being sent into the room.

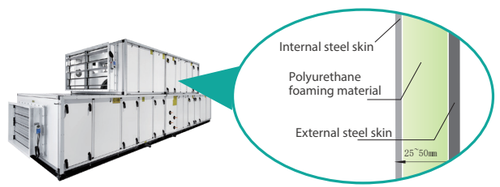
HIGH PRECISION SENSOR

Using high-quality temperature and pressure sensors, it can accurately detect subtle temperature and pressure changes, and adjust the fan speed and compressors, in time and precise, making temperature control more accurate.



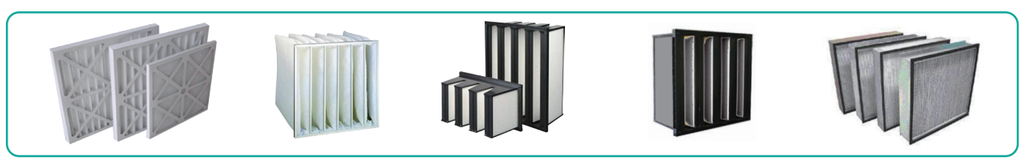
PATENTED CASING STRUCTURE

1. Double skin panel with high-density PU injection, the thermal transmittance is T2 Class.
2. Unique cold bridge structure, with cold bridge factor TB2 Class.
3. Proprietary frame structure makes casing mechanical strength D1 Class (Highest class of EU standard).



VARIOUS FILTRATION CLASS

By selecting the plate type, bag type, chemical type, electronic purification type and other filters, it can meet the requirements of different filtration level ranging from G3-H13. At the same time, It provides the fresh air and a comfortable breathing environment by filtering, absorbing and decomposing the harmful substances.



Features of Outdoor Unit

High efficiency heat exchange

Multiple leading technologies, building a stronger, more stable and efficient cooling system.

Silence operation

Innovative noise control technology, minimizing the operation noise for both indoor and outdoor unit, creating a silent environment.

Compact design

New casing design with better stability and appearance. The inner refrigerant components is from world famous brands to ensure high quality.

NEWLY DEVELOPED U-SHAPED HEAT EXCHANGER

Based on many years of outdoor unit development and manufacturing experience and user feedback, Holtop has developed a new generation of U-shaped heat exchanger with three-sided heat exchange. The heat exchanger is the core component of the refrigeration system, and it's performance directly determines the reliability and energy efficiency of the air conditioning system.

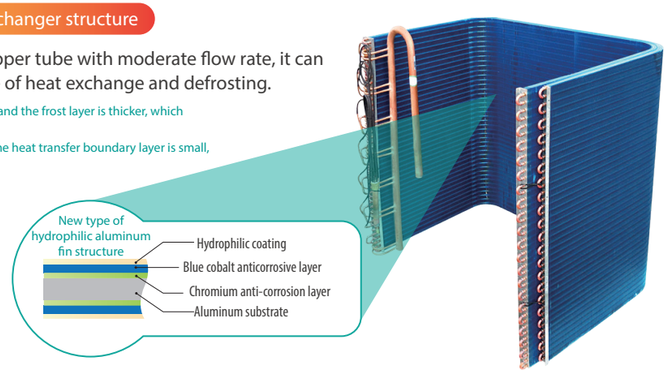
- The U-shaped heat exchanger with three-sided heat exchange can effectively use the airflow of the fan, maximize the heat exchange area and greatly improve the heat exchange efficiency without increasing the size of the unit.
- Compact structure, high strength, more convenient for installation and maintenance.
- The hydrophilic aluminum fin is used to improve the heat transfer coefficient of the heat exchange wet film and the overall heat transfer coefficient of the unit.

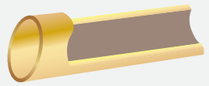
Three-sided heat exchange U-shaped heat exchanger structure

- Adopting ø7.94 high-tooth high-threaded copper tube with moderate flow rate, it can achieve the best comprehensive performance of heat exchange and defrosting.

The distance between ø7 copper pipes is small, frost is easy to form, and the frost layer is thicker, which affects the defrosting time and heat exchange efficiency.

The diameter of the ø9.52 copper pipes is large, the disturbance to the heat transfer boundary layer is small, and the heat transfer efficiency is low.

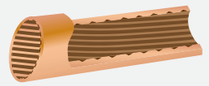




Traditional tube

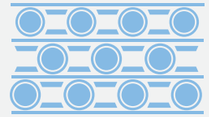
The inner surface is smooth, the disturbance of the heat transfer boundary layer is small, and the heat transfer efficiency is low.

VS



High tooth high internal thread copper tube

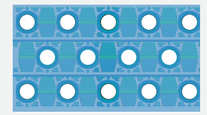
Effectively increase the internal surface area, improve the perturbation of the heat transfer boundary layer and the overall performance of the heat exchanger.



Traditional Window fins

ø9.52mm pipe diameter aluminum fin, small window area, low heat exchange efficiency under the same heat exchange area.

VS

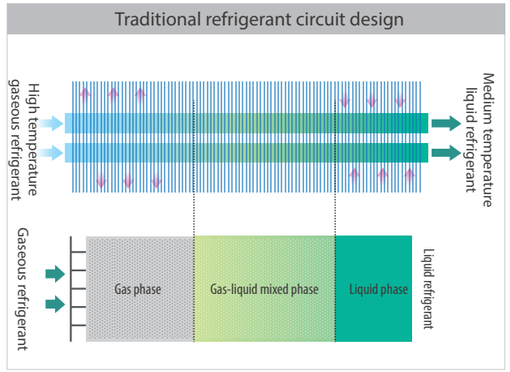


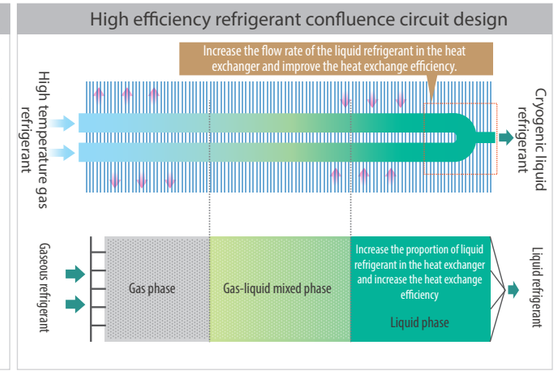
Window fins with high efficiency and low pressure loss

ø7.94mm pipe diameter hydrophilic window-opening aluminum fin, the same heat exchange area, its heat exchange is more sufficient, and the efficiency can be increased by 25%.

HIGH-EFFICIENCY REFRIGERANT HEAT EXCHANGE FLOW PATH

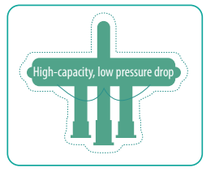
The high-efficiency 2in1 refrigerant confluence technology reduces the space occupied by the liquid-phase refrigerant on the heat transfer pipeline, and at the same time increases the degree of subcooling, making the long connecting pipe more efficient.





UPGRADED FOUR-WAY VALVE

The new four-way valve has better design to improve its pressure relief capability, so to avoid liquid hammering. Under same conditions, its capability is 25% higher than other brands. The sider material upgrade to PPS which allowing the valve to work under -25~120°C, and max 130°C. (Other brands is using PA and PTFE material, which can stand -25~100°C, and max 120°C.)



STREAMLINED FAN

The cooling fan of the top discharge outdoor unit adopts 750mm large-diameter axial fan, and the contact between the airflow and the blades is smoother, reducing the noise caused by eddy currents, increasing the air volume and significantly reducing the operating noise.

Other brand fan

Holtop fan

HFM08 adopts 470mm axial fan blades, and HFM30 and HFM60 use 850mm streamlined fan blades.

ENVIRONMENTAL-FRIENDLY REFRIGERANT

Better performance

HOLTOP DX AHU is using R410A refrigerant, which do not contain any tritium, so its ODP equals to 0. It can lower the CO2 emission, so to avoid damaging the ozone layer.

Moreover, R410A is not flammable, has great thermal stability and volumetric refrigeration capacity, making the unit more energy saving and environmental-friendly.

Refrigerant Type	R22	R407C	R410A
Volumetric cooling capacity	1.0	0.9	1.4
ODP	0.05	0	0

MODULE ASSEMBLY

Through outdoor unit alternate operation technology, the operation time of each outdoor unit is balanced, the safety and reliability of the system are improved, and the service life of the unit is prolonged.

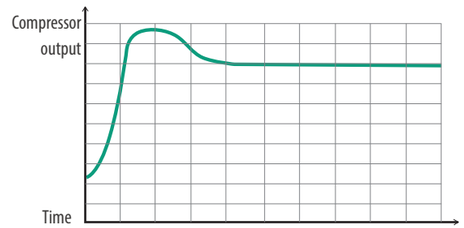
HUMANIZED FREE COMBINATION OF OUTDOOR UNIT

- The outdoor unit is modular design, when multiple units are arranged in a neat and consistent area, can effectively save space.
- The outdoor unit has a complete range of specifications, which can be adjusted to match various cooling requirements through the combination of modules.
- The unit can reasonably select a combination of modules according to the limitations of transportation and installation space to meet on-site installation requirements.

INHERENT FEATURES OF INVERTER DX AHU

FULL DC INVERTER DESIGN, QUICK RESPONSE TO COOL DEMAND

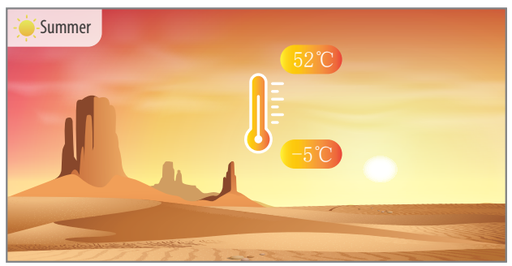
The compressor as well as the condensing fan motor has been upgraded to DC inverter type, and the cooling or heating capacity can be rapidly adjust according to the working condition of the indoor unit, thus to meet variable cooling and heating needs.

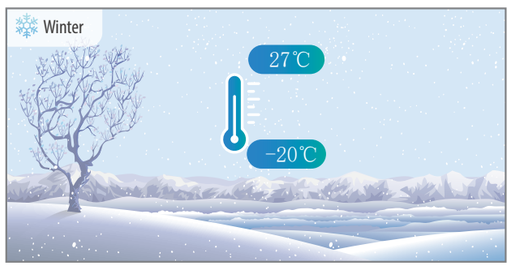


RELIABLE OPERATION AND FLEXIBLE APPLICATION

Wide range of operating conditions, satisfying cooling and heating under extreme ambient temperature

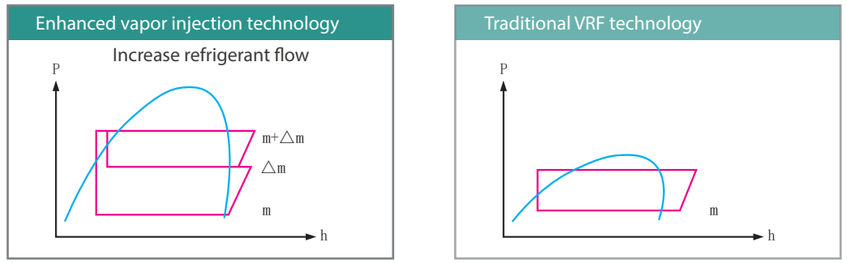
The DC inverter outdoor unit is still capable of cooling even the ambient temperature as low as -5°C. And it still capable of heating even the ambient temperature as low as -20°C.





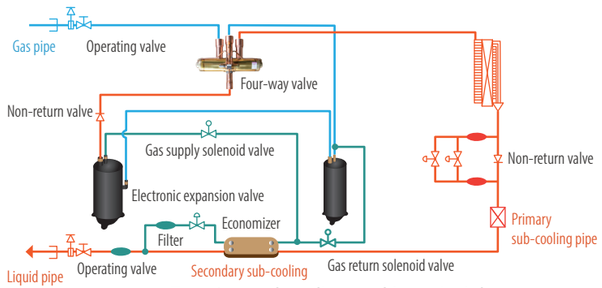
ENHANCED VAPOR INJECTION (EVI) TECHNOLOGY

EVI high pressure chamber scroll compressor adopt expansion valve throttling and air injection technology in the middle of the compression chamber to achieve enthalpy increase effect. After passing through the plate heat exchanger, the refrigerant is supplemented into the middle of the compressor, and after mixing and recompression, the refrigerant flow in the main flow is increased, and the heating capacity of the unit is greatly improved.

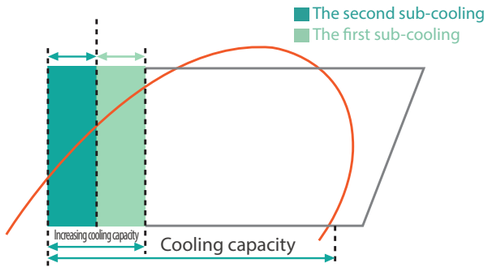


DOUBLE SUBCOOLING TECHNOLOGY

Upgrade the outdoor unit heat exchanger to lower the subcooling class, and to use a high efficiency subcooling plate heat exchanger, in this way to achieve double subcooling and max the subcooling temperature to 28°C, thus increasing the pipe connection length and guarantee the whole unit efficiency.



Two stage subcooling working principle



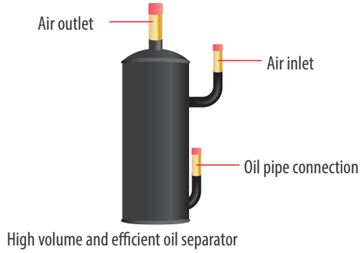
System compress-enthalpy diagram

Normal copper pipe heat exchanger(or double heat exchanger) is larger in size, so the heat loss is larger and the heat exchange efficiency is lower.

Stainless steel plate heat exchanger is smaller in size and with inside groove design to enhance the turbulence of refrigerant flow, so the heat loss is little and the heat exchange efficiency is higher.

HIGH EFFICIENT OIL SEPARATOR

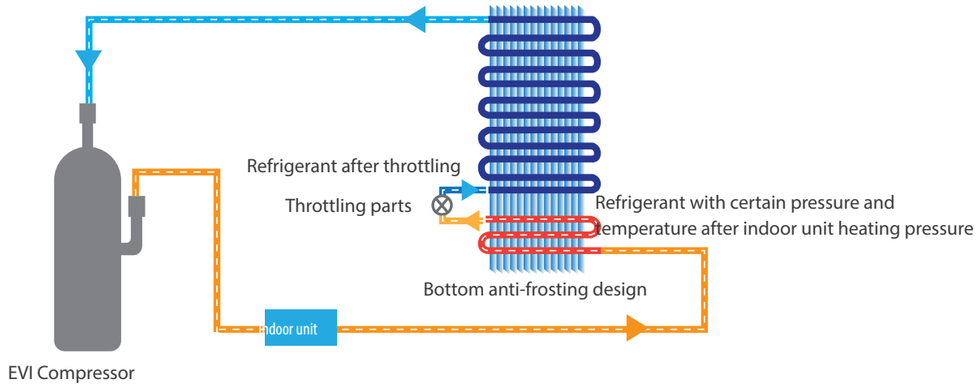
The coil separator adopts the high efficiency centrifugal steerable rotary design, forcing the high pressure gas to form a high speed rotary air steam. Under the force of centrifugal and gravity, the lubricating coil will be separated and running down on the cylinder wall, and return to the compressor via the coil pipe.



High volume and efficient oil separator

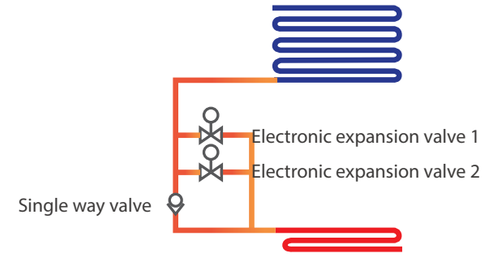
BETTER ANTI-FROSTING DESIGN

New heat exchanging flow design ensuring high heat exchange efficiency. Bottom anti-frosting design making defrosting and heating more efficient.

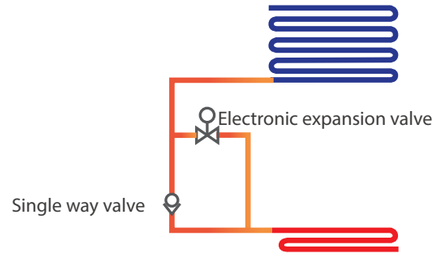


STABLE AND EFFICIENT INNOVATIVE THROTTLING DESIGN

Adopt parallel two electronic expansion valves design for those big cooling capacity outdoor units. With combined electronic expansion control, the refrigerant flow can be precisely controlled.



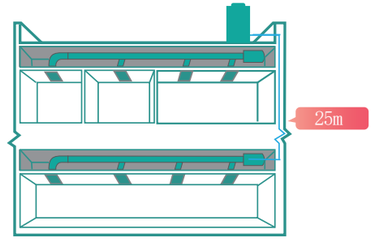
Two electronic expansion valves and one single way valve with parallel design



One electronic expansion valves and one single way valve with parallel design

LONG PIPING DESIGN

The equivalent length of the piping connection between the DC inverter outdoor unit and the indoor unit is 70m, and the maximum height different is 25m. The on-site installation and layout of indoor and outdoor units are more flexible.



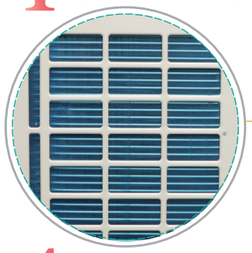
MULTIPLE SENSORS FOR RELIABLE HEATING

There are 12 temperature sensors and 2 pressure sensors to detect the real-time status. With these data and our self-developed control program, the compressor and all other parts will be adjusted accordingly, ensuring running stability and efficiency.

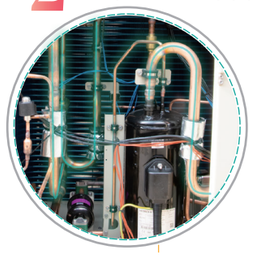
STRUCTURAL FEATURES OF INVERTER OUTDOOR UNIT

8 Standard designs of inverter DX AHU

1 High ventilation rate grille

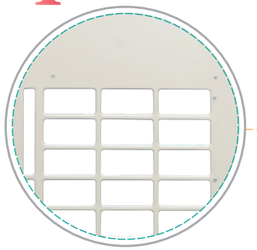


2 Low pressure drop pipeline design



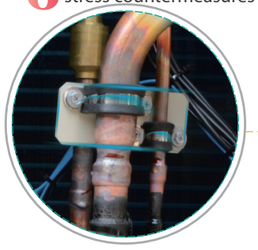
3 Environmental friendly weather-proof material

4 One time molding design

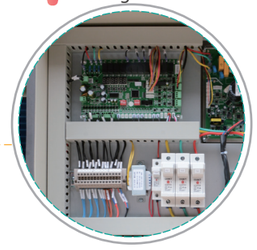


5 Reinforced membrane tendon design

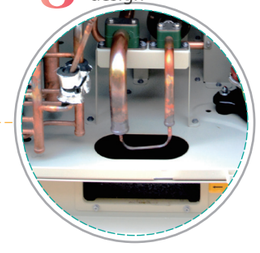
6 High-standard piping stress countermeasures



7 Maintenance-friendly design



8 Installation-friendly design



STRUCTURAL FEATURES OF THE TOP DISCHARGE OUTDOOR UNIT

9 Low-noise technologies

1 Low-speed high-efficiency motor

4 New vortex axial fan blade

5 Large size outlet grille

6 Low noise wind deflector design

7 Analysis of outlet air flow simulation

2 Hermetic scroll compressor

3 Special rubber shock pad for ompressor

8 Optimized design of pipe shock absorption, fixed in proper position to avoid vibration noise

9 Reducing refrigerant flow rate noise

Humanized Design

Intelligent control

Plentiful, practical and user-friendly control functions, making operation easier and more reliable.

Flexible combination

Beyond imagination, simplied design, let our DX air handling unit more convenient and exible.

CUSTOMIZED MODE SELECTION FUNCTION

Multiple running mode can be selected according to customer's requirements. Both cooling and heating mode have 3 options: air-conditioning function, fresh air function, and comfortable air function, improving user experience and making users more comfortable.

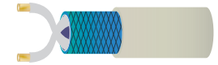
SELF-DEVELOPED CONTROLLER

The self-developed HFM series controller has advanced control logic. It has the intelligent functions including system protection, safety, comfort, alarm, etc., to make the system running more reliable and safety.

DC inverter controller Standard controller

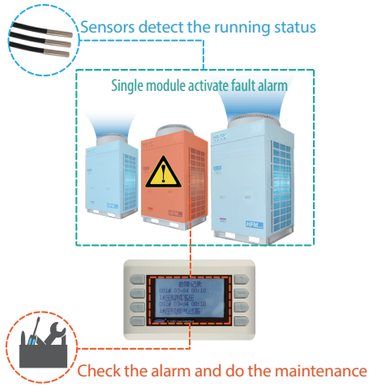
RS485 COMMUNICATION

MODBUS RTU communication protocol is available with strong compatibility, making the connection more convenient



AUTOMATIC JUDGMENT OF REFRIGERANT CHARGE

The system is equipped with high precision sensor to judge automatically the charge conditions of refrigerant, and monitor the running status in real time.



FULL REDUNDANCY WITH EASY PARTS MANAGEMENT

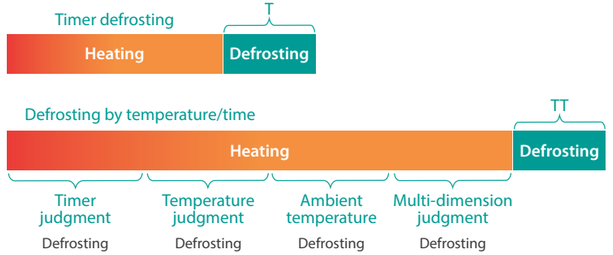
A central controller allows you to decide the quantity of modules active at any time. If a module requires maintenance, other modules in the system will continue to operate, ensuring minimal capacity loss.

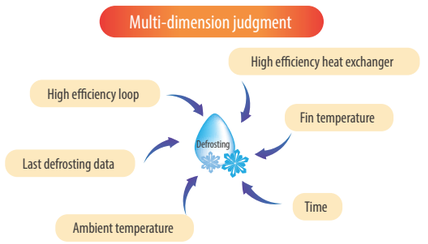
INTELLIGENT FAULT ALARM FOR BOTH INDOOR UNIT AND OUTDOOR UNIT

The controller for indoor unit and outdoor unit can display fault information in text, which is convenient for users and service personnel to know about the fault information and make fast maintenance.

EFFICIENT DEFROSTING

With the self-developed high efficiency, low pressure heat exchanger and low-noise large-impeller fan, it can improve the heat exchange efficiency of outdoor unit, which can postpone the frosting process, and reduce defrosting time effectively. The defrosting logic will judge the device defrosting condition according to multiple aspects, like fin temperature, environmental temperature and running time, etc., precisely get the right timing to enter or exit defrosting process, reduce defrosting frequency and time, to ensure the indoor comfort.





PROPOSAL 1. COMFORT CONTROL SYSTEM

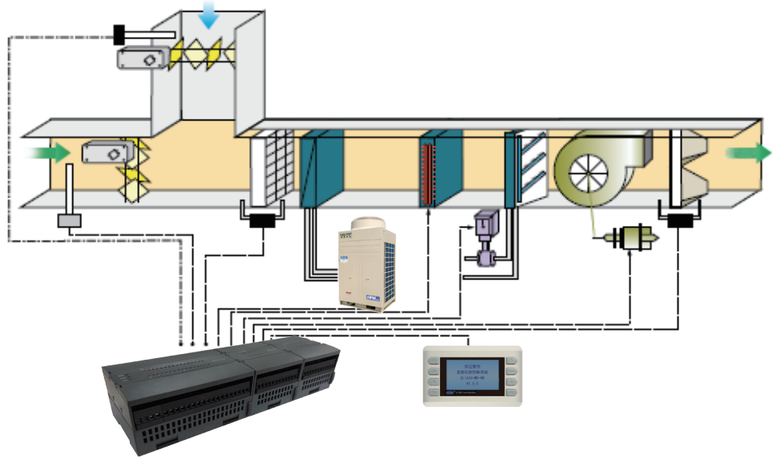
Dedicated controller, combines the convenience of independent controller and the functions of group control in centralized controller, can control multiple outdoor units in the same time, it is flexible and widely used in medium or small office-level business space.

Functions and Explanation

- Heat pump type: cooling/heating/supply air/ Constant temperature and humidity
- Timer ON/OFF
- Auxiliary electric heating
- LCD control panel can display setting temperature, working mode, system Real-Time Clock(optional), week(optional), ON/OFF status and fault display, etc.
- Power to restart(optional)

PROPOSAL 2. FUNCTIONAL CONTROL SYSTEM

Building management systems based on the MODBUS protocol, can be directly connected to the centralized control system through the standard MODBUS communication interface of the unit, it can achieve centralized intelligent monitoring without access to conversion equipment, which is suitable for large and medium-sized air-conditioning places.



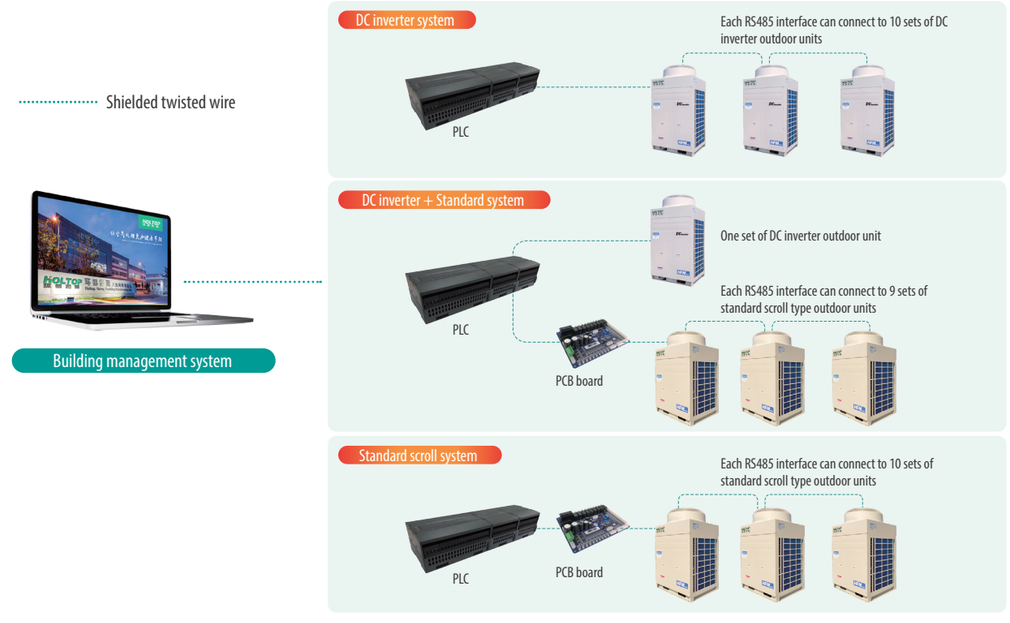
PLC CONTROLLER

The functions and explanation for PLC controller

The PLC controller with 485 communication function has the ability to access the same layer of network to communicate with other PLCs and share data information through its communication module. It can also access into a distributed system to form substations, complete substation monitoring tasks, and communicate with the central control station or building management system at the same time. Each PLC controller can handle more data points through the I/O extention card, and can connect up to 32pcs indoor units and 320pcs outdoor units to meet the air conditioning needs of most projects. At the same time, it can be connected to the building management system through MODBUS.

- Display the current running, stopping or fault status of the fans and units.
- Monitoring the pressure drop of primary, secondary and HEPA filters. When the resistance value exceeds the standard, it prompts to replace or clean the filter.
- Remotely monitor the operation of each unit (such as remote on/off of the unit, fault alarm, etc.).
- Monitor the temperature and humidity of supply air, return air, and each air-conditioning room, and the system can give the value and status for each monitoring point.
- When the unit is turned off, the fresh air valve will close immediately while the fan will stop after a while. The return air will dry the coil and equipment with air to ensure the dryness of inside AHU
- Monitor the working condition of the fire damper and connect it with the fire signal. If a fire alarm occurs, the valves of the unit can be closed, the supply fan and exhaust fan will stop, and the exhaust fan will start.
- The air damper of fresh air, return air, and supply air can be regulated according to the enthaply value of supply air, return air and indoor traget temperature and humidity, so as to reduce energy consumption as much as possible while ensuring indoor air quality.
- When the unit is running, the corresponding signal can be output through the PID program calculation in the controller to achieve the purpose of adjusting the start or stop of the compressor, modulating the steam valve, opening of the humidifier etc, so as to keep the temperature of the air-conditioning area within the required range.
- All parameter information can be automatically stored through the computer. The operation plan of the unit can be optimized by analyzing the operation fault alarm information of the unit to realize intelligent and low-power operation.

TOPOLOGY DIAGRAM FOR CONTROL NETWORK



SPECIFICATIONS OF DC INVERTER DX AIR HANDLING UNIT

Specification		Indoor Unit	HZN-10KCZ1-Y-DC-BZ	HZN-12KCZ1-Y-DC-BZ	HZN-15KCZ1-Y-DC-BZ
		Outdoor Unit	HFM-10HA1-DC	HFM-12HA1-DC	HFM-15HA1-DC
Nominal cooling capacity		kW	25.5	28.3	33.8
Nominal heating capacity		kW	28.3	31.8	37.9
Power supply		-	380V/3PH/50Hz		
Indoor Unit	Airflow	m^3/h	5500	6500	8000
	E.R.P	Pa	360	360	360
	Fan type	-	Multi-blade high-efficiency centrifugal fan		
	Fan power	kW	1.8	1.8	3
	Electrical control box model	-	DKG-B-(HZN-10K-DC)	DKG-B-(HZN-12K-DC)	DKG-B-(HZN-15K-DC)
	LxWxH	mm	2140×1140×1810	2240×1240×1040	2240×1440×1240
	Net weight	kg	239	240	328
Outdoor Unit	Compressor type	-	DC inverter compressor		
	Cooling power	kW	6.34	7.36	10.21
	Heating power	kW	6.83	7.81	10.42
	LxWxH	mm	990×850×1810	990×850×1810	990×850×1810
	Net weight	kg	210	216	225
Refrigerant	Type	-	R410A		
	Charging volume	kg	8.3	8.4	8.5
Connecting pipe	Connection method	-	Welding		
	Liquid pipe diameter	mm	ø15.88	Ø15.88	Ø15.88
	Gas pipe diameter	mm	Ø25.4	Ø25.4	Ø25.4
	Drainage pipe	-	DN32		

Specification		Indoor Unit	HZN-18KCZ1-Y-DC-BZ	HZN-20KCZ1-Y-DC-BZ	HZN-24KCZ1-Y-DC-BZ
		Outdoor Unit	HFM-18HA1-DC	HFM-20HA1-DC	HFM-12HA1-DC×2
Nominal cooling capacity		kW	40.4	50.9	56.6
Nominal heating capacity		kW	45.4	56.9	63.6
Power supply		-	380V/3PH/50Hz		
Indoor Unit	Airflow	m^3/h	9000	10000	12000
	E.R.P	Pa	360	360	560
	Fan type	-	Multi-blade high-efficiency centrifugal fan		
	Fan power	kW	3	4	5.5
	Electrical control box model	-	DKG-B-(HZN-18K-DC)	DKG-B-(HZN-20K-DC)	DKG-B-(HZN-24K-DC)
	LxWxH	mm	2240×1440×1240	2340×1740×1240	2440×1740×1240
	Net weight	kg	355	400	434
Outdoor Unit	Compressor type	-	DC inverter compressor		
	Cooling power	kW	11.61	15.82	7.36×2
	Heating power	kW	12.93	17.14	7.81×2
	LxWxH	mm	1345×850×1810	1345×850×1810	990×850×1810×2
	Net weight	kg	270	280	216×2
Refrigerant	Type	-	R410A		
	Charging volume	kg	9.2	12	8.4×2
Connecting pipe	Connection method	-	Welding		
	Liquid pipe diameter	mm	ø15.88	Ø15.88	Ø15.88×2
	Gas pipe diameter	mm	Ø28.58	Ø28.58	Ø25.4×2
	Drainage pipe	-	DN32		

Note:
1. Nominal cooling capacity is tested under the conditions of indoor dry/wet bulb temperature 27°C/19°C and outdoor dry/web bulb temperature 35°C/24°C;
2. Nominal heating capacity is tested under the conditions of indoor dry/wet bulb temperature 20°C/15°C and outdoor dry/web bulb temperature 7°C/6°C;
3. All indoor and outdoor units are not charged with refrigerant out of factory;
4. The above charging volume of refrigerant is based on the distance of the indoor and outdoor connecting pipes of 8 meters. The charging volume is only for reference, please adjust it according to the actual situation on site.

SPECIFICATIONS OF DC INVERTER DX AIR HANDLING UNIT

Specification		Indoor Unit	HZN-30FCZ1-Y-DC-BZ	HZN-40KCZ1-Y-DC-BZ	HZN-50KCZ1-Y-DC-BZ
		Outdoor Unit	HFM-30HB1-DC	HFM-30HB1-DC+HFM-10HA1-DC	HFM-30HB1-DC+HFM-20HA1-DC
Nominal cooling capacity		kW	73.0	98.5	123.9
Nominal heating capacity		kW	78.0	106.3	134.9
Power supply		-	380V/3PH/50Hz		
Indoor Unit	Airflow	m^3/h	15000	18000	25000
	E.R.P	Pa	560	560	560
	Fan type	-	Multi-blade high-efficiency centrifugal fan		
	Fan power	kW	7.5	7.5	11.0
	Electrical control box model	-	DKG-B-(HZN-30K-DC)	DKG-B-(HZN-40K-DC)	DKG-B-(HZN-50K-DC)
	LxWxH	mm	2640×1940×1340	2640×2140×1740	3180×2140×1940
	Net weight	kg	541	771	771
Outdoor Unit	Compressor type	-			
	Cooling power	kW	24.4	24.4+6.34	24.4+15.82
	Heating power	kW	23.8	23.8+6.38	23.8+17.14
	LxWxH	mm	1310×1080×1820	1310×1080×1820+990x850x1080	1310×1080×1820+1345x850x1810
	Net weight	kg	380	380+210	380+280
Refrigerant	Type	-	R410A		
	Charging volume	kg	18.5	18.5+8.3	18.5+12
Connecting pipe	Connection method	-	Welding		
	Liquid pipe diameter	mm	ø22.22	Ø22.22+Ø15.88	Ø22.22+Ø15.88
	Gas pipe diameter	mm	Ø34.93	Ø34.93+Ø25.4	Ø34.93+Ø28.58
	Drainage pipe	-	DN32		DN40

Specification		Indoor Unit	HZN-60FCZ1-Y-DC-BZ	HZN-70KCZ1-Y-DC-BZ
		Outdoor Unit	HFM-60HB1-DC	HFM-60HB1-DC+HFM-10HA1-DC
Nominal cooling capacity		kW	146.0	171.5
Nominal heating capacity		kW	156.0	184.3
Power supply		-	380V/3PH/50Hz	
Indoor Unit	Airflow	m^3/h	30000	35000
	E.R.P	Pa	760	774
	Fan type	-	Multi-blade high-efficiency centrifugal fan	
	Fan power	kW	15.0	22.0
	Electrical control box model	-	DKG-B-(HZN-60K-DC)	DKG-B-(HZN-70K-DC)
	LxWxH	mm	3380×2140×2440	3480×2240×2840
	Net weight	kg	1164	1630
Outdoor Unit	Compressor type	-	DC inverter compressor	
	Cooling power	kW	48.8	48.8+6.34
	Heating power	kW	47.6	47.6+6.83
	LxWxH	mm	2180×1110×2200	2180×1110×2200+990x850x1810
	Net weight	kg	740	380+210
Refrigerant	Type	-	R410A	
	Charging volume	kg	18.5x2	18.5+8.3
Connecting pipe	Connection method	-	Welding	
	Liquid pipe diameter	mm	ø22.22x2	Ø22.22x2+Ø15.88
	Gas pipe diameter	mm	Ø34.93x2	Ø34.93x2+Ø25.4
	Drainage pipe	-	DN40	

Note:
1. Nominal cooling capacity is tested under the conditions of indoor dry/wet bulb temperature 27°C/19°C and outdoor dry/web bulb temperature 35°C/24°C;
2. Nominal heating capacity is tested under the conditions of indoor dry/wet bulb temperature 20°C/15°C and outdoor dry/web bulb temperature 7°C/6°C;
3. All indoor and outdoor units are not charged with refrigerant out of factory;
4. The above charging volume of refrigerant is based on the distance of the indoor and outdoor connecting pipes of 8 meters. The charging volume is only for reference, please adjust it according to the actual situation on site.

SPECIFICATIONS OF DX AIR HANDLING UNIT

Specification		Indoor Unit	HZN-80KCZ1-Y-DC-BZ	HZN-90KCZ1-Y-DC-BZ
		Outdoor Unit	HFM-60HB1-DC+HFM-20HA1-DC	HFM-60HB1-DC+HFM-30HB1-DC
Nominal cooling capacity		kW	196.9	219
Nominal heating capacity		kW	212.9	234
Power supply		-	380V/3PH/50Hz	
Indoor Unit	Airflow	m^3/h	40000	45000
	E.R.P	Pa	760	769
	Fan type	-	Multi-blade high-efficiency centrifugal fan	
	Fan power	kW	22	30
	Electrical control box model	-	DKG-B-(HZN-80K-DC)	DKG-B-(HZN-90K-DC)
	LxWxH	mm	3680×2240×2840	3980×2290×3390
	Net weight	kg	1960	2400
Outdoor Unit	Compressor type	-	DC inverter compressor	
	Cooling power	kW	48.8+15.82	48.8+24.4
	Heating power	kW	47.6+17.14	47.6+23.8
	LxWxH	mm	2180×1110×2200+1345×850×1810	2180×1110×2200+1310×1080×1820
	Net weight	kg	740+280	740+380
Refrigerant	Type	-	R410A	
	Charging volume	kg	18.5×2+12	18.5×3
Connecting pipe	Connection method	-	Welding	
	Liquid pipe diameter	mm	ø22.22×2+ø15.88	Ø22.22×3
	Gas pipe diameter	mm	Ø34.93×2+Ø28.58	Ø34.93×3
	Drainage pipe	-	DN40	

Specification		Indoor Unit	HZN-100KCZ1-Y-DC-BZ	HZN-120KCZ1-Y-DC-BZ
		Outdoor Unit	HFM-60HB1-DC+HFM-30HB1-DC+HFM-10HA1-DC	HFM-60HB1-DC×2
Nominal cooling capacity		kW	244.5	292
Nominal heating capacity		kW	262.3	312
Power supply		-	380V/3PH/50Hz	
Indoor Unit	Airflow	m^3/h	50000	60000
	E.R.P	Pa	762	768
	Fan type	-	Multi-blade high-efficiency centrifugal fan	
	Fan power	kW	30	37
	Electrical control box model	-	DKG-B-(HZN-100K-DC)	DKG-B-(HZN-120K-DC)
	LxWxH	mm	4280×2390×3390	4480x3090×3390
	Net weight	kg	2570	3160
Outdoor Unit	Compressor type	-	DC inverter compressor	
	Cooling power	kW	48.8+24.4+6.34	48.8*2
	Heating power	kW	47.6+23.8+6.83	47.6*2
	LxWxH	mm	2180×1110×2200+1310×1080×1820+990×850×1810	2180X1110X2200×2
	Net weight	kg	740+380+210	740×2
Refrigerant	Type	-	R410A	
	Charging volume	kg	18.5×2+12	18.5×3
Connecting pipe	Connection method	-	Welding	
	Liquid pipe diameter	mm	ø22.22×3+ø15.88	Ø22.22×4
	Gas pipe diameter	mm	Ø34.93×3+Ø25.4	Ø34.93×4
	Drainage pipe	-	DN40	

Note:
1. Nominal cooling capacity is tested under the conditions of indoor dry/wet bulb temperature 27°C/19°C and outdoor dry/web bulb temperature 35°C/24°C;
2. Nominal heating capacity is tested under the conditions of indoor dry/wet bulb temperature 20°C/15°C and outdoor dry/web bulb temperature 7°C/6°C;
3. All indoor and outdoor units are not charged with refrigerant out of factory;
4. The above charging volume of refrigerant is based on the distance of the indoor and outdoor connecting pipes of 8 meters. The charging volume is only for reference, please adjust it according to the actual situation on site.

SPECIFICATIONS OF FRESH AIR DC INVERTER DX AIR HANDLING UNIT

Specification		Indoor Unit	HZN-10FCZ1-Y-DC-BZ	HZN-12FCZ1-Y-DC-BZ	HZN-15FCZ1-Y-DC-BZ	HZN-18FCZ1-Y-DC-BZ
		Outdoor Unit	HFM-10HA1-DC	HFM-12HA1-DC	HFM-15HA1-DC	HFM-18HA1-DC
Nominal cooling capacity		kW	25.5	28.3	33.8	40.4
Nominal heating capacity		kW	28.3	31.8	37.9	45.4
Power supply		-	380V/3PH/50Hz			
Indoor Unit	Airflow	m^3/h	3000	4000	5000	5500
	E.R.P	Pa	360	360	360	360
	Fan type	-	Multi-blade high-efficiency centrifugal fan			
	Fan power	kW	1.1	1.5	1.8	1.8
	Electrical control box model	-	DKG-B-(HZN-10F-DC)	DKG-B-(HZN-10F-DC)	DKG-B-(HZN-15F-DC)	DKG-B-(HZN-18F-DC)
	LxWxH	mm	1440×1040×840	1440×1140×940	1540×1140×940	1540×1140×940
	Net weight	kg	174	220	240	240
Outdoor Unit	Compressor type	-	DC inverter compressor			
	Cooling power	kW	6.34	7.36	10.21	11.61
	Heating power	kW	6.83	7.81	10.42	12.93
	LxWxH	mm	990×850×1810	990×850×1810	990×850×1810	1345×850×1810
	Net weight	kg	210	216	225	270
Refrigerant	Type	-	R410A			
	Charging volume	kg	8.3	8.4	8.5	9.2
Connecting pipe	Connection method	-	Welding			
	Liquid pipe diameter	mm	ø15.88	Ø15.88	Ø15.88	Ø15.88
	Gas pipe diameter	mm	Ø25.4	Ø25.4	Ø25.4	Ø28.58
	Drainage pipe	-	DN32			

Specification		Indoor Unit	HZN-20FCZ1-Y-DC-BZ	HZN-24FCZ1-Y-DC-BZ	HZN-30FCZ1-Y-DC-BZ	HZN-36FCZ1-Y-DC-BZ
		Outdoor Unit	HFM-20HA1-DC	HFM-12HA1-DCx2	HFM-30HA1-DC	HFM-18HA1-DCx2
Nominal cooling capacity		kW	50.9	56.6	73.0	80.8
Nominal heating capacity		kW	56.9	63.6	78.0	90.8
Power supply		-	380V/3PH/50Hz			
Indoor Unit	Airflow	m^3/h	6500	6500	8000	10000
	E.R.P	Pa	360	360	360	360
	Fan type	-	Multi-blade high-efficiency centrifugal fan			
	Fan power	kW	2	2	3.0	4.0
	Electrical control box model	-	DKG-B-(HZN-20F-DC)	DKG-B-(HZN-24F-DC)	DKG-B-(HZN-30F-DC)	DKG-B-(HZN-36F-DC)
	LxWxH	mm	1540×1240×1040	1540×1240×1040	1640×1440×1240	1740×1740×1240
	Net weight	kg	235	235	328	400
Outdoor Unit	Compressor type	-	DC inverter compressor			
	Cooling power	kW	15.82	7.36x2	24.4	11.6x2
	Heating power	kW	17.14	7.81x2	23.8	12.93x2
	LxWxH	mm	1345×850×1810	990×850×1810	1310×1080×1820	1345×850×1810×2
	Net weight	kg	280	216x2	380	270x2
Refrigerant	Type	-	R410A			
	Charging volume	kg	12.0	8.4x2	18.5	9.2x2
Connecting pipe	Connection method	-	Welding			
	Liquid pipe diameter	mm	ø15.88	Ø15.88x2	Ø22.22	Ø15.88x2
	Gas pipe diameter	mm	Ø28.58	Ø25.54x2	Ø34.93	Ø28.58x2
	Drainage pipe	-	DN32			

Note:
1. Nominal cooling capacity is tested under the conditions of indoor dry/wet bulb temperature 27°C/19°C and outdoor dry/web bulb temperature 35°C/24°C;
2. Nominal heating capacity is tested under the conditions of indoor dry/wet bulb temperature 20°C/15°C and outdoor dry/web bulb temperature 7°C/6°C;
3. All indoor and outdoor units are not charged with refrigerant out of factory;
4. The above charging volume of refrigerant is based on the distance of the indoor and outdoor connecting pipes of 8 meters. The charging volume is only for reference, please adjust it according to the actual situation on site.

SPECIFICATIONS OF FRESH AIR DC INVERTER DX AIR HANDLING UNIT

Specification		Indoor Unit	HZN-50FCZ1-Y-DC-BZ	HZN-60FCZ1-Y-DC-BZ
		Outdoor Unit	HFM-30HA1-DC+HFM-20HA1-DC	HFM-60HA1-DC
Nominal cooling capacity		kW	123.9	146
Nominal heating capacity		kW	134.9	156
Power supply		-	380V/3PH/50Hz	
Indoor Unit	Airflow	m^3/h	12000	15000
	E.R.P	Pa	560	560
	Fan type	-	Multi-blade high-efficiency centrifugal fan	
	Fan power	kW	5.5	7.5
	Electrical control box model	-	DKG-B-(HZN-50F-DC)	DKG-B-(HZN-60F-DC)
	LxWxH	mm	1740×1740×1240	1840×1940×1340
	Net weight	kg	434	532
Outdoor Unit	Compressor type	-	DC inverter compressor	
	Cooling power	kW	24.4+15.82	48.8
	Heating power	kW	23.8+17.14	47.6
	LxWxH	mm	(1310×1080×1820)+(1345×850×1810)	2180×1110×2200
	Net weight	kg	380+280	740
Refrigerant	Type	-	R410A	
	Charging volume	kg	18.5+12	18.5×2
Connecting pipe	Connection method	-	Welding	
	Liquid pipe diameter	mm	ø28.58+ø15.88	Ø22.22×2
	Gas pipe diameter	mm	Ø34.93+Ø22.22	Ø34.93×2
	Drainage pipe	-	DN32	

Specification		Indoor Unit	HZN-70FCZ1-Y-DC-BZ	HZN-80FCZ1-Y-DC-BZ
		Outdoor Unit	HFM-60HA1-DC+HFM-10HA1-DC	HFM-60HA1-DC+HFM-20HA1-DC
Nominal cooling capacity		kW	171.5	196.9
Nominal heating capacity		kW	184.3	212.9
Power supply		-	380V/3PH/50Hz	
Indoor Unit	Airflow	m^3/h	18000	20000
	E.R.P	Pa	560	560
	Fan type	-	Multi-blade high-efficiency centrifugal fan	
	Fan power	kW	7.5	11
	Electrical control box model	-	DKG-B-(HZN-70F-DC)	DKG-B-(HZN-80F-DC)
	LxWxH	mm	2540×2140×1740	2640×2140×1740
	Net weight	kg	490	820
Outdoor Unit	Compressor type	-	DC inverter compressor	
	Cooling power	kW	48.8+6.34	48.8+15.82
	Heating power	kW	47.6+6.83	47.6+17.14
	LxWxH	mm	(2180×1110×2200)+(990×850×1810)	(2180×1110×2200)+(1345×850×1810)
	Net weight	kg	740+210	740+270
Refrigerant	Type	-	R410A	
	Charging volume	kg	18.5×2+8.3	18.5×2+12
Connecting pipe	Connection method	-	Welding	
	Liquid pipe diameter	mm	ø22.22×2+ø15.88	Ø22.22×2+Ø15.88
	Gas pipe diameter	mm	Ø34.93×2+Ø25.4	Ø34.93×2+Ø22.22
	Drainage pipe	-	DN32	

Note:
1. Nominal cooling capacity is tested under the conditions of indoor dry/wet bulb temperature 27°C/19°C and outdoor dry/web bulb temperature 35°C/24°C;
2. Nominal heating capacity is tested under the conditions of indoor dry/wet bulb temperature 20°C/15°C and outdoor dry/web bulb temperature 7°C/6°C;
3. All indoor and outdoor units are not charged with refrigerant out of factory;
4. The above charging volume of refrigerant is based on the distance of the indoor and outdoor connecting pipes of 8 meters. The charging volume is only for reference, please adjust it according to the actual situation on site.

SPECIFICATIONS OF FRESH AIR DC INVERTER DX AIR HANDLING UNIT

Specification		Indoor Unit	HZN-90FCZ1-Y-DC-BZ	HZN-100FCZ1-Y-DC-BZ
		Outdoor Unit	HFM-60HA1-DC+HFM-30HA1-DC	HFM-60HA1-DC+HFM-30HA1-DC+HFM-10HA1-DC
Nominal cooling capacity		kW	219.0	245
Nominal heating capacity		kW	234.0	262
Power supply		-	380V/3PH/50Hz	
Indoor Unit	Airflow	m^3/h	25000	26500
	E.R.P	Pa	560	560
	Fan type	-	Multi-blade high-efficiency centrifugal fan	
	Fan power	kW	11.0	11.0
	Electrical control box model	-	DKG-B-(HZN-90F-DC)	DKG-B-(HZN-100F-DC)
	LxWxH	mm	2980×2140×1940	3480×2140×2440
	Net weight	kg	1020	1164
Outdoor Unit	Compressor type	-	DC inverter compressor	
	Cooling power	kW	48.8+24.4	48.8+24.4+6.34
	Heating power	kW	47.6+23.8	47.6+23.8+6.83
	LxWxH	mm	(2180×1110×2200)+(1345×850×1810)	(1310×1080×1800)+(990×850×1810)
	Net weight	kg	740+380	740+210
Refrigerant	Type	-	R410A	
	Charging volume	kg	18.5x3	18.5×2+8.3
Connecting pipe	Connection method	-	Welding	
	Liquid pipe diameter	mm	ø22.22x3	Ø22.22x3+Ø15.88
	Gas pipe diameter	mm	Ø34.93x3	Ø34.93x3+Ø25.4
	Drainage pipe	-	DN40	

Specification		Indoor Unit	HZN-110FCZ1-Y-DC-BZ	HZN-120FCZ1-Y-DC-BZ
		Outdoor Unit	HFM-60HA1-DC+HFM-30HA1-DC+HFM-20HA1-DC	HFM-60HA1-DCx2
Nominal cooling capacity		kW	269.9	292.0
Nominal heating capacity		kW	290.9	312.0
Power supply		-	380V/3PH/50Hz	
Indoor Unit	Airflow	m^3/h	28000	30000
	E.R.P	Pa	560	760
	Fan type	-	Multi-blade high-efficiency centrifugal fan	
	Fan power	kW	15.0	15
	Electrical control box model	-	DKG-B-(HZN-110F-DC)	DKG-B-(HZN-120F-DC)
	LxWxH	mm	3480×2140×2440	3480×2140×2440
	Net weight	kg	1434	1460
Outdoor Unit	Compressor type	-	DC inverter compressor	
	Cooling power	kW	48.8+24.4+15.82	48.8x2
	Heating power	kW	47.6+23.8+17.14	47.6x2
	LxWxH	mm	(1310×1080×1820)x3+(1345×850×1810)	(2180×1110×2200)x2
	Net weight	kg	740+380+216	740x2
Refrigerant	Type	-	R410A	
	Charging volume	kg	18.5×3+12	18.5×4
Connecting pipe	Connection method	-	Welding	
	Liquid pipe diameter	mm	ø22.22×3+ø15.88	Ø22.22×4
	Gas pipe diameter	mm	Ø34.93×3+Ø28.58	Ø34.93×4
	Drainage pipe	-	DN40	

Note:
1. Nominal cooling capacity is tested under the conditions of indoor dry/wet bulb temperature 27°C/19°C and outdoor dry/web bulb temperature 35°C/24°C;
2. Nominal heating capacity is tested under the conditions of indoor dry/wet bulb temperature 20°C/15°C and outdoor dry/web bulb temperature 7°C/6°C;
3. All indoor and outdoor units are not charged with refrigerant out of factory;
4. The above charging volume of refrigerant is based on the distance of the indoor and outdoor connecting pipes of 8 meters. The charging volume is only for reference, please adjust it according to the actual situation on site.

SPECIFICATIONS OF FRESH AIR DC INVERTER DX AIR HANDLING UNIT

Specification		Indoor Unit	HZN-135FCZ1-Y-DC-BZ	HZN-150FCZ1-Y-DC-BZ
		Outdoor Unit	HFM-60HA1-DC×2+HFM-15HA1-DC	HFM-60HA1-DC×2+HFM-30HA1-DC
Nominal cooling capacity		kW	325.8	365
Nominal heating capacity		kW	349.9	390
Power supply		-	380V/3PH/50Hz	
Indoor Unit	Airflow	m^3/h	35000	40000
	E.R.P	Pa	774	769
	Fan type	-	Multi-blade high-efficiency centrifugal fan	
	Fan power	kW	22	22
	Electrical control box model	-	DKG-B-(HZN-135F-DC)	DKG-B-(HZN-150F-DC)
	LxWxH	mm	3480×2240×2840	3880×2290×3390
	Net weight	kg	1860	2340
Outdoor Unit	Compressor type	-	DC inverter compressor	
	Cooling power	kW	48.8×2+10.21	48.8×2+24.4
	Heating power	kW	47.6×2+10.42	47.6×2+23.8
	LxWxH	mm	(2180×1110×2200)×2+(990×850×1810)	(2180×1110×2200)×2+(1310×1080×1820)
	Net weight	kg	740×2+225	740×2+380
Refrigerant	Type	-	R410A	
	Charging volume	kg	18.5×4+8.5	18.5×5
Connecting pipe	Connection method	-	Welding	
	Liquid pipe diameter	mm	ø22.22×4+ø15.88	Ø22 .22×5
	Gas pipe diameter	mm	Ø34.93×4+Ø25.4	Ø34.93×5
	Drainage pipe	-	DN40	

Specification		Indoor Unit	HZN-180FCZ1-Y-DC-BZ	HZN-210FCZ1-Y-DC-BZ	HZN-240FCZ1-Y-DC-BZ
		Outdoor Unit	HFM-60HA1-DC×3	HFM-60HA1-DC×3+HFM-30HA1-DC	HFM-60HA1-DC×4
Nominal cooling capacity		kW	438	511	584
Nominal heating capacity		kW	468	546	624
Power supply		-	380V/3PH/50Hz		
Indoor Unit	Airflow	m^3/h	45000	50000	60000
	E.R.P	Pa	769	762	769
	Fan type	-	Multi-blade high-efficiency centrifugal fan		
	Fan power	kW	30	30	37
	Electrical control box model	-	DKG-B-(HZN-180F-DC)	DKG-B-(HZN-210F-DC)	DKG-B-(HZN-240F-DC)
	LxWxH	mm	3880×2290×3390	4080×2390×3390	4280×3090×3390
	Net weight	kg	2360	2550	3080
Outdoor Unit	Compressor type	-	DC inverter compressor		
	Cooling power	kW	48.8×3	48.8×3+24.4	48.8×4
	Heating power	kW	47.6×3	47.6×3+23.8	47.6×4
	LxWxH	mm	(2180×1110×2200)×3	(2180×1110x2200)×3+(1310×1080×1800)	(2180×1110×2200)×4
	Net weight	kg	740×3	740×3+380	740×4
Refrigerant	Type	-	R410A		
	Charging volume	kg	18.5×6	18.5×7	18.5×8
Connecting pipe	Connection method	-	Welding		
	Liquid pipe diameter	mm	ø22.22×6	Ø34.93×7	Ø22.22×8
	Gas pipe diameter	mm	Ø34.93×6	Ø22.22×7	Ø34.93×8
	Drainage pipe	-	DN40		

Note:
1. Nominal cooling capacity is tested under the conditions of indoor dry/wet bulb temperature 27°C/19°C and outdoor dry/web bulb temperature 35°C/24°C;
2. Nominal heating capacity is tested under the conditions of indoor dry/wet bulb temperature 20°C/15°C and outdoor dry/web bulb temperature 7°C/6°C;
3. All indoor and outdoor units are not charged with refrigerant out of factory;
4. The above charging volume of refrigerant is based on the distance of the indoor and outdoor connecting pipes of 8 meters. The charging volume is only for reference, please adjust it according to the actual situation on site.

SPECIFICATIONS OF FIXED FREQUENCY DX AIR HANDLING UNIT

Specification		Indoor Unit	HZN-10FCZ1-Y-BZ	HZN-12KCZ1-Y-BZ	HZN-15KCZ1-Y-BZ
		Outdoor Unit	HFM-10HA1	HFM-12HA1	HFM-15HA[1]
Nominal cooling capacity		kW	25.5	30.0	35.4
Nominal heating capacity		kW	30.7	33.6	38.3
Power supply		-	380V/3PH/50Hz		
Indoor Unit	Airflow	m^3/h	5500	6500	8000
	E.R.P	Pa	360	360	360
	Fan type	-	Multi-blade high-efficiency centrifugal fan		
	Fan power	kW	1.8	1.8	3
	LxWxH	mm	2140×1140×940	2240×1240×1040	2240×1440×1240
	Net weight	kg	239	288	328
Outdoor Unit	Compressor type	-	Hermetic scroll type		
	Cooling power	kW	7.6	8.8	10.4
	Heating power	kW	7.8	8.6	10.0
	LxWxH	mm	990×850×1545	990×850×1545	990×850×1810
	Net weight	kg	190	200	225
Refrigerant	Type	-	R410A		
	Charging volume	kg	7.8	8.0	10.5
Connecting pipe	Connection method	-	Welding		
	Liquid pipe diameter	mm	ø15.88	Ø15.88	Ø15.88
	Gas pipe diameter	mm	Ø28.58	Ø28.58	Ø28.58
	Drainage pipe	-	DN32		

Specification		Indoor Unit	HZN-18KCZ1-Y-BZ	HZN-20KCZ1-Y-BZ	HZN-24KCZ1-Y-BZ
		Outdoor Unit	HFM-18HA1	HFM-10HA1×2	HFM-12HA1×2
Nominal cooling capacity		kW	42.0	51.0	60.0
Nominal heating capacity		kW	48.2	61.4	67.2
Power supply		-	380V/3PH/50Hz		
Indoor Unit	Airflow	m^3/h	9000	10000	12000
	E.R.P	Pa	360	360	560
	Fan type	-	Multi-blade high-efficiency centrifugal fan		
	Fan power	kW	3	1.8	5.5
	LxWxH	mm	2240×1440×1240	2340×1740×1240	2440×1740×1240
	Net weight	kg	355	400	434
Outdoor Unit	Compressor type	-	Hermetic scroll type		
	Cooling power	kW	12.6	7.6×2	8.8×2
	Heating power	kW	11.5	7.8×2	8.6×2
	LxWxH	mm	1345×850×1810	(990×850×1545)×2	(990×850×1545)×2
	Net weight	kg	260	190×2	200×2
Refrigerant	Type	-	R410A		
	Charging volume	kg	11.0	7.8×2	8.0×2
Connecting pipe	Connection method	-	Welding		
	Liquid pipe diameter	mm	ø15.88	Ø15.88×2	Ø15.88×2
	Gas pipe diameter	mm	Ø28.58	Ø28.58×2	Ø28.58×2
	Drainage pipe	-	DN32		

Note:
1. Nominal cooling capacity is tested under the conditions of indoor dry/wet bulb temperature 27°C/19°C and outdoor dry/web bulb temperature 35°C/24°C;
2. Nominal heating capacity is tested under the conditions of indoor dry/wet bulb temperature 20°C/15°C and outdoor dry/web bulb temperature 7°C/6°C;
3. All indoor and outdoor units are not charged with refrigerant out of factory;
4. The above charging volume of refrigerant is based on the distance of the indoor and outdoor connecting pipes of 8 meters. The charging volume is only for reference, please adjust it according to the actual situation on site.

SPECIFICATIONS OF FIXED FREQUENCY DX AIR HANDLING UNIT

Specification		Indoor Unit	HZN-30FCZ1-Y-BZ	HZN-40KCZ1-Y-BZ	HZN-42KCZ1-Y-BZ
		Outdoor Unit	HFM-30HA1	HFM-30HA1+HFM-10HA1	HFM-30HA1+HFM-12HA1
Nominal cooling capacity		kW	73.0	98.5	103.0
Nominal heating capacity		kW	78.0	108.7	111.6
Power supply		-	380V/3PH/50Hz		
Indoor Unit	Airflow	m^3/h	15000	18000	20000
	E.R.P	Pa	560	560	560
	Fan type	-	Multi-blade high-efficiency centrifugal fan		
	Fan power	kW	7.5	7.5	11.0
	LxWxH	mm	2640×1940×1340	2640×2140×1740	2740×2140×1740
	Net weight	kg	541	771	771
Outdoor Unit	Compressor type	-	Hermetic scroll type		
	Cooling power	kW	22.5	22.5+7.6	22.5+8.8
	Heating power	kW	21.9	21.9+7.8	21.9+8.6
	LxWxH	mm	1310×1080×1820	Refer to the size of a single outdoor unit	Refer to the size of a single outdoor unit
	Net weight	kg	390	390+190	390+200
Refrigerant	Type	-	R410A		
	Charging volume	kg	19.5	19.5+7.8	19.5+8.0
Connecting pipe	Connection method	-	Welding		
	Liquid pipe diameter	mm	ø22.22	Ø22.22+Ø15.88	Ø22.22+Ø15.88
	Gas pipe diameter	mm	Ø34.93	Ø34.93+Ø28.58	Ø34.93+Ø28.58
	Drainage pipe	-	DN32		

Specification		Indoor Unit	HZN-48KCZ1-Y-BZ	HZN-60KCZ1-Y-BZ	HZN-70KCZ1-Y-BZ
		Outdoor Unit	HFM-30HA1+HFM-18HA[1]	HFM-60HA1	HFM-60HA1+HFM-10HA1
Nominal cooling capacity		kW	115.0	146.0	171.5
Nominal heating capacity		kW	126.2	156.0	186.7
Power supply		-	380V/3PH/50Hz		
Indoor Unit	Airflow	m^3/h	25000	30000	35000
	E.R.P	Pa	560	760	774
	Fan type	-	Multi-blade high-efficiency centrifugal fan		
	Fan power	kW	11.0	15.0	22.0
	LxWxH	mm	3180×2140×1940	3380×2140×2440	3480×2240×2840
	Net weight	kg	897	1164	1633
Outdoor Unit	Compressor type	-	Hermetic scroll type		
	Cooling power	kW	22.5+12.6	22.5×2	22.5×2+7.6
	Heating power	kW	21.9+11.5	21.9×2	21.9×2+7.8
	LxWxH	mm	Refer to the size of a single outdoor unit	2180×1110×2200	Refer to the size of a single outdoor unit
	Net weight	kg	390+260	760	760+190
Refrigerant	Type	-	R410A		
	Charging volume	kg	19.5+11.0	19.5×2	19.5×2+7.8
Connecting pipe	Connection method	-	Welding		
	Liquid pipe diameter	mm	ø22.22+ø15.88	Ø22.22×2	Ø22.22+Ø15.88
	Gas pipe diameter	mm	Ø34.93+Ø28.58	Ø34.93×2	Ø34.93+Ø28.58
	Drainage pipe	-	DN40		

Note:
1. Nominal cooling capacity is tested under the conditions of indoor dry/wet bulb temperature 27°C/19°C and outdoor dry/web bulb temperature 35°C/24°C;
2. Nominal heating capacity is tested under the conditions of indoor dry/wet bulb temperature 20°C/15°C and outdoor dry/web bulb temperature 7°C/6°C;
3. All indoor and outdoor units are not charged with refrigerant out of factory;
4. The above charging volume of refrigerant is based on the distance of the indoor and outdoor connecting pipes of 8 meters. The charging volume is only for reference, please adjust it according to the actual situation on site.

SPECIFICATIONS OF FIXED FREQUENCY DX AIR HANDLING UNIT

Specification		Indoor Unit	HZN-78FCZ1-Y-BZ	HZN-90KCZ1-Y-BZ
		Outdoor Unit	HFM-60HA1+HFM-18HA1	HFM-60HA1+HFM-30HA1
Nominal cooling capacity		kW	188.0	219.0
Nominal heating capacity		kW	204.2	234.0
Power supply		-	380V/3PH/50Hz	
Indoor Unit	Airflow	m^3/h	40000	45000
	E.R.P	Pa	760	769
	Fan type	-	Multi-blade high-efficiency centrifugal fan	
	Fan power	kW	22.0	30.0
	LxWxH	mm	3680×2240×2840	3980×2290×3390
	Net weight	kg	1958	2404
Outdoor Unit	Compressor type	-	Hermetic scroll type	
	Cooling power	kW	22.5x2+12.6	22.5x3
	Heating power	kW	21.9x2+11.5	21.9x3
	LxWxH	mm	Refer to the size of a single outdoor unit	Refer to the size of a single outdoor unit
	Net weight	kg	760+260	760+390
Refrigerant	Type	-	R410A	
	Charging volume	kg	19.5x2+11.0	19.5x3
Connecting pipe	Connection method	-	Welding	
	Liquid pipe diameter	mm	ø22.22+ø15.88	Ø22.22z3
	Gas pipe diameter	mm	Ø34.93+Ø28.58	Ø34.93z3
	Drainage pipe	-	DN40	

Specification		Indoor Unit	HZN-100KCZ1-Y-BZ	HZN-120KCZ1-Y-BZ
		Outdoor Unit	HFM-60HA1+HFM-30HA1+HFM-10HA1	HFM-60HA1x2
Nominal cooling capacity		kW	244.5	292.0
Nominal heating capacity		kW	264.7	312.0
Power supply		-	380V/3PH/50Hz	
Indoor Unit	Airflow	m^3/h	50000	60000
	E.R.P	Pa	762	768
	Fan type	-	Multi-blade high-efficiency centrifugal fan	
	Fan power	kW	30.0	37.0
	LxWxH	mm	4280×2390×3390	4480×3090×3390
	Net weight	kg	2570	3167
Outdoor Unit	Compressor type	-	Hermetic scroll type	
	Cooling power	kW	22.5x3+7.6	22.5×4
	Heating power	kW	21.9x3+7.8	21.9×4
	LxWxH	mm	Refer to the size of a single outdoor unit	Refer to the size of a single outdoor unit
	Net weight	kg	760+390+190	760x2
Refrigerant	Type	-	R410A	
	Charging volume	kg	19.5x3+7.8	19.5×4
Connecting pipe	Connection method	-	Welding	
	Liquid pipe diameter	mm	ø22.22x3+ø15.88	Ø22.22×4
	Gas pipe diameter	mm	Ø34.93x3+Ø28.58	Ø34.93×4
	Drainage pipe	-	DN40	

Note:
1. Nominal cooling capacity is tested under the conditions of indoor dry/wet bulb temperature 27°C/19°C and outdoor dry/web bulb temperature 35°C/24°C;
2. Nominal heating capacity is tested under the conditions of indoor dry/wet bulb temperature 20°C/15°C and outdoor dry/web bulb temperature 7°C/6°C;
3. All indoor and outdoor units are not charged with refrigerant out of factory;
4. The above charging volume of refrigerant is based on the distance of the indoor and outdoor connecting pipes of 8 meters. The charging volume is only for reference, please adjust it according to the actual situation on site.

SPECIFICATIONS OF FIXED FREQUENCY FRESH AIR DX AIR HANDLING UNIT

Specification		Indoor Unit	HZN-10FCZ1-Y-BZ	HZN-12FCZ1-Y-BZ	HZN-15KCZ1-Y-BZ
		Outdoor Unit	HFM-10HA1	HFM-12HA1	HFM-15HA1
Nominal cooling capacity		kW	28.0	32.6	38.8
Nominal heating capacity		kW	26.0	30.6	36.4
Power supply		-	380V/3PH/50Hz		
Indoor Unit	Airflow	m^3/h	3000	4000	5000
	E.R.P	Pa	360	360	360
	Fan type	-	Multi-blade high-efficiency centrifugal fan		
	Fan power	kW	1.1	1.5	1.8
	LxWxH	mm	1440×1040×840	1440×1140×940	1540×1140×940
	Net weight	kg	174	220	240
Outdoor Unit	Compressor type	-	Hermetic scroll type		
	Cooling power	kW	8.1	9.7	11.5
	Heating power	kW	7.2	8.6	10.2
	LxWxH	mm	990×850×1545	990×850×1545	990X850X1810
	Net weight	kg	190	200	225
Refrigerant	Type	-	R410A		
	Charging volume	kg	7.2	7.2	10.0
Connecting pipe	Connection method	-	Welding		
	Liquid pipe diameter	mm	ø15.88	Ø15.88	Ø15.88
	Gas pipe diameter	mm	Ø28.58	Ø28.58	Ø28.58
	Drainage pipe	-	DN32		

Specification		Indoor Unit	HZN-18KCZ1-Y-BZ	HZN-20KCZ1-Y-BZ	HZN-24KCZ1-Y-BZ
		Outdoor Unit	HFM-18HA1	HFM-10HA1×2	HFM-12HA1×2
Nominal cooling capacity		kW	44.0	56.0	65.2
Nominal heating capacity		kW	43.2	52.0	61.2
Power supply		-	380V/3PH/50Hz		
Indoor Unit	Airflow	m^3/h	5500	6500	8000
	E.R.P	Pa	360	360	360
	Fan type	-	Multi-blade high-efficiency centrifugal fan		
	Fan power	kW	1.8	1.8	1.8
	LxWxH	mm	1540×1140×940	1540×1240×1040	1540×1440×1240
	Net weight	kg	240	265	310
Outdoor Unit	Compressor type	-	Hermetic scroll type		
	Cooling power	kW	14.0	8.1×2	9.7×2
	Heating power	kW	12.5	72×2	8.6×2
	LxWxH	mm	1345X850X1810	(990X850X1545)×2	(990X850X1810)×2
	Net weight	kg	260	190×2	200×2
Refrigerant	Type	-	R410A		
	Charging volume	kg	10.0	7.2×2	7.2×2
Connecting pipe	Connection method	-	Welding		
	Liquid pipe diameter	mm	ø15.88	Ø15.88×2	Ø15.88×2
	Gas pipe diameter	mm	Ø28.58	Ø28.58×2	Ø28.58×2
	Drainage pipe	-	DN32		

Note:
1. Nominal cooling capacity is tested under the conditions of indoor dry/wet bulb temperature 27°C/19°C and outdoor dry/web bulb temperature 35°C/24°C;
2. Nominal heating capacity is tested under the conditions of indoor dry/wet bulb temperature 20°C/15°C and outdoor dry/web bulb temperature 7°C/6°C;
3. All indoor and outdoor units are not charged with refrigerant out of factory;
4. The above charging volume of refrigerant is based on the distance of the indoor and outdoor connecting pipes of 8 meters. The charging volume is only for reference, please adjust it according to the actual situation on site.

SPECIFICATIONS OF FIXED FREQUENCY FRESH AIR DX AIR HANDLING UNIT

Specification		Indoor Unit	HZN-30KCZ1-Y-BZ	HZN-36FCZ1-Y-BZ	HZN-48KCZ1-Y-BZ
		Outdoor Unit	HFM-30HA1×2	HFM-18HA1×2	HFM-30HA1+HFM-18HA1
Nominal cooling capacity		kW	78.0	88.0	122.0
Nominal heating capacity		kW	73.8	86.4	117
Power supply		-	380V/3PH/50Hz		
Indoor Unit	Airflow	m^3/h	10000	11000	14000
	E.R.P	Pa	360	560	560
	Fan type	-	Multi-blade high-efficiency centrifugal fan		
	Fan power	kW	4.0	5.5	7.5
	LxWxH	mm	1640×1440×1240	1740×1740×1240	1840×1940×1340
	Net weight	kg	328	434	532
Outdoor Unit	Compressor type	-	Hermetic scroll type		
	Cooling power	kW	23.4	14.0×2	23.4+14.0
	Heating power	kW	20.9	12.5×2	20.9+12.5
	LxWxH	mm	1310X1080X1820	(1345×850x1810)×2	Refer to the size of a single outdoor unit"
	Net weight	kg	390	434	532
Refrigerant	Type	-	R410A		
	Charging volume	kg	18.2	10.0×2	18.2+10.0
Connecting pipe	Connection method	-	Welding		
	Liquid pipe diameter	mm	ø22.22	Ø15.88×2	Ø22.22+Ø15.88
	Gas pipe diameter	mm	Ø34.93	Ø28.58×2	Ø34.93+Ø28.58
	Drainage pipe	-	DN32		

Specification		Indoor Unit	HZN-60KCZ1-Y-BZ	HZN-75KCZ1-Y-BZ	HZN-90KCZ1-Y-BZ
		Outdoor Unit	HFM-60HA1	HFM-60HA1+HFM-15HA1	HFM-60HA1+HFM-30HA1
Nominal cooling capacity		kW	156.0	194.8	234.0
Nominal heating capacity		kW	147.6	184.0	221.4
Power supply		-	380V/3PH/50Hz		
Indoor Unit	Airflow	m^3/h	20000	25000	30000
	E.R.P	Pa	560	560	760
	Fan type	-	Multi-blade high-efficiency centrifugal fan		
	Fan power	kW	11.0	11.0	15.0
	LxWxH	mm	2980×2140×1940	2980×2140×1940	3480×2140×2440
	Net weight	kg	820	1020	1164
Outdoor Unit	Compressor type	-	Hermetic scroll type		
	Cooling power	kW	23.4×2	23.4×2+11.5	23.4×3
	Heating power	kW	20.9×2	20.9×2+10.2	20.9×3
	LxWxH	mm	2180X1110X2200	Refer to the size of a single outdoor unit	Refer to the size of a single outdoor unit
	Net weight	kg	760	760+225	760+390
Refrigerant	Type	-	R410A		
	Charging volume	kg	18.2×2	18.2×2+10.0	18.2×3
Connecting pipe	Connection method	-	Welding		
	Liquid pipe diameter	mm	ø22.22×2	Ø22.22+Ø15.88	Ø22.22×3
	Gas pipe diameter	mm	Ø34.93×2	Ø34.93+Ø28.58	Ø34.93×3
	Drainage pipe	-	DN32	DN40	

Note:
1. Nominal cooling capacity is tested under the conditions of indoor dry/wet bulb temperature 27°C/19°C and outdoor dry/web bulb temperature 35°C/24°C;
2. Nominal heating capacity is tested under the conditions of indoor dry/wet bulb temperature 20°C/15°C and outdoor dry/web bulb temperature 7°C/6°C;
3. All indoor and outdoor units are not charged with refrigerant out of factory;
4. The above charging volume of refrigerant is based on the distance of the indoor and outdoor connecting pipes of 8 meters. The charging volume is only for reference, please adjust it according to the actual situation on site.

SPECIFICATIONS OF FIXED FREQUENCY FRESH AIR DX AIR HANDLING UNIT

Specification		Indoor Unit	HZN-120KCZ1-Y-BZ	HZN-150KCZ1-Y-BZ	HZN-180KCZ1-Y-BZ
		Outdoor Unit	HFM-60HA1×2	HFM-60HA1×2+HFM-30HA1	HFM-60HA1×3
Nominal cooling capacity		kW	312.0	390.0	468.0
Nominal heating capacity		kW	295.2	369.0	442.8
Power supply		-	380V/3PH/50Hz		
Indoor Unit	Airflow	m^3/h	40000	50000	60000
	E.R.P	Pa	760	762	768
	Fan type	-	Multi-blade high-efficiency centrifugal fan		
	Fan power	kW	22.0	30.0	37.0
	LxWxH	mm	3680×2240×2840	4080×2390×3390	4280×3090×3390
	Net weight	kg	930	2500	3030
Outdoor Unit	Compressor type	-	Hermetic scroll type		
	Cooling power	kW	23.4×4	23.4×5	23.4×6
	Heating power	kW	20.9×4	20.9×5	20.9×6
	LxWxH	mm	(2180X1110X2200)×2	"Refer to the size of a single outdoor unit"	(2180X1110X2200)×3
	Net weight	kg	760×2	760×2+390	760×3
Refrigerant	Type	-	R410A		
	Charging volume	kg	18.2×4	18.2×5	18.2×6
Connecting pipe	Connection method	-	Welding		
	Liquid pipe diameter	mm	ø22.22×4	Ø22.22×5	Ø22.22×6
	Gas pipe diameter	mm	Ø34.93×4	Ø34.93×5	Ø34.93×6
	Drainage pipe	-	DN40		

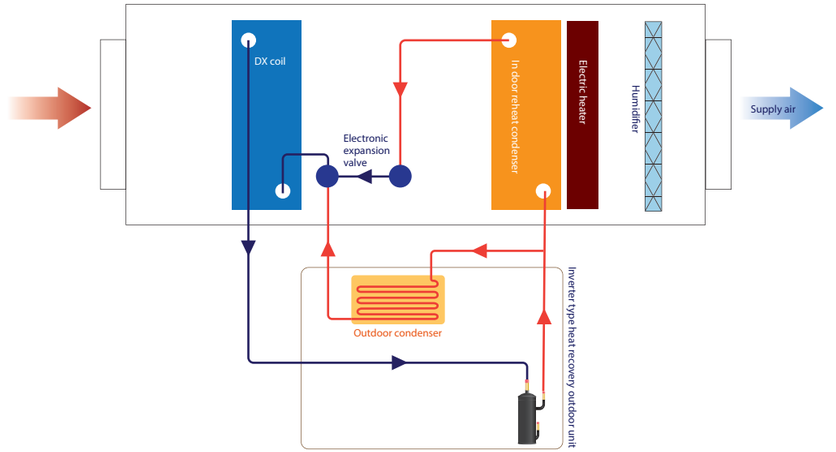
Note:
1. Nominal cooling capacity is tested under the conditions of indoor dry/wet bulb temperature 27°C/19°C and outdoor dry/web bulb temperature 35°C/24°C;
2. Nominal heating capacity is tested under the conditions of indoor dry/wet bulb temperature 20°C/15°C and outdoor dry/web bulb temperature 7°C/6°C;
3. All indoor and outdoor units are not charged with refrigerant out of factory;
4. The above charging volume of refrigerant is based on the distance of the indoor and outdoor connecting pipes of 8 meters. The charging volume is only for reference, please adjust it according to the actual situation on site.

INTRODUCTION TO THREE-PIPE DIRECT EXPANSION UNIT

The "Three-Pipe" system connects indoor and outdoor units with three refrigerant lines (liquid pipe, gas pipe, and reheat pipe, as shown in the diagram).

Its operating principle involves precise refrigerant flow distribution through two electronic expansion valves between the outdoor condenser and indoor reheat condenser.

This enables stepless reheat air temperature control for maintaining a constant indoor temperature and humidity, free heat recovery by repurposing condenser waste heat (normally discharged outdoors) for indoor reheating, and remarkable energy savings (a 50-60% reduction compared to traditional electric/steam reheating).



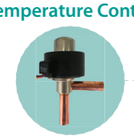
The three-pipe system eliminates the energy-intensive "cool-then-reheat" process of conventional units.

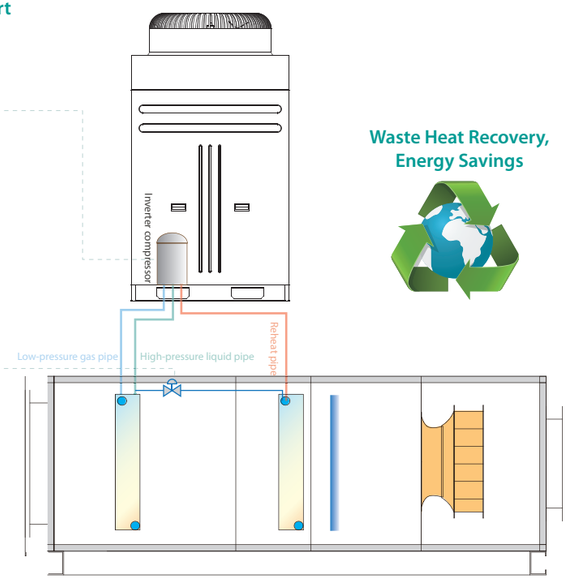
By recycling waste condenser heat for AHU reheating, as opposed to using electric or steam heating, it achieves energy savings of 50-60% and ensures stable operation for precise temperature and humidity control.

THREE-PIPE DIRECT EXPANSION UNIT FEATURES

Dehumidification Without Overcooling, Enhanced Comfort

Stepless Modulation, Precise Temperature Control





Waste Heat Recovery, Energy Savings

SPECIFICATIONS OF DC INVERTER THREE-PIPE DX AIR HANDLING UNIT

Specification		Indoor unit	HZN-10-S	HZN-12-S	HZN-15-S	HZN-18-S	HZN-20-S
		Outdoor unit	HFM-10HB1-DCS	HFM-12HB1-DCS	HFM-15HB1-DCS	HFM-18HB1-DCS	HFM-20HB1-DCS
Nominal cooling capacity		kW	25.5	28.3	33.8	40.4	50.9
Nominal heating capacity		kW	28.3	31.8	37.9	45.4	56.9
Power supply		-	380V/3PH/50Hz				
Indoor Unit	Dimension	-	Subject to specific functional module				
	Airflow	m^3/h	5500	6500	8000	8500	11000
	E.R.P	Pa	120	220	320	320	320
	Fan type	-	Multi-Blade High-Efficiency Centrifugal Fan				
	Fan power	kW	1.5	2.2	3.0	4.0	4.0
Outdoor Unit	Compressor type	-	DC inverter compressor				
	Cooling power	KW	6.34	7.36	10.21	11.61	15.82
	Heating power	kW	6.83	7.81	10.42	12.93	17.14
	LxWxH	mm	990x850x1545	990x850x1454	990x850x1810	1340x850x1810	
	Net weight	kg	210	216	225	270	280
Refrigerant	Type		R410A				
	Charging volume(kg)		11.1	11.2	11.3	12.3	15.6
Connecting pipe	Connection method		Welding				
	Liquid pipe diameter(mm)		ø15.88				
	Gas pipe diameter(mm)		ø25.4			ø28.58	
	Reheat pipe diameter(mm)		ø15.88			ø22.22	
	Drainage pipe		DN32				

Specification		Indoor unit	HZN-24-S	HZN-30-S	HZN-36-S	HZN-40-S
		Outdoor unit	HFM-12HB1-DCSx2	HFM-15HB1-DCSx2	HFM-18HB1-DCSx2	HFM-20HB1-DCSx2
Nominal cooling capacity		kW	56.6	67.6	80.8	101.8
Nominal heating capacity		kW	63.6	75.8	90.8	113.8
Power supply		-	380V/3PH/50Hz			
Indoor Unit	Dimension	-	Subject to specific functional module			
	Airflow	m^3/h	12000	15000	18000	21000
	E.R.P	Pa	320	420	420	420
	Fan type	-	Multi-Blade High-Efficiency Centrifugal Fan			
	Fan power	kW	5.5	7.5	7.5	11.0
Outdoor Unit	Compressor type	-	DC inverter compressor			
	Cooling power	KW	7.36x2	10.21x2	11.61x2	15.82x2
	Heating power	kW	7.81x2	10.42x2	12.93x2	17.14x2
	LxWxH	mm	(990x850x1545)x2	(990x850x1810)x2	1340x850x1810	
	Net weight	kg	216x2	225x2	270x2	280x2
Refrigerant	Type		R410A			
	Charging volume(kg)		11.2x2	11.3x2	12.3x2	15.6x2
Connecting pipe	Connection method		Welding			
	Liquid pipe diameter(mm)		ø15.88x2			
	Gas pipe diameter(mm)		ø25.4x2		ø28.58x2	
	Reheat pipe diameter(mm)		ø15.88x2		ø22.22x2	
	Drainage pipe		DN32			

Note: 1.Nominal cooling capacity is tested under the conditions of indoor dry/wet bulb temperature 27°C/19°C and outdoor dry/web bulb temperature 35°C/24°C;
2.Nominal heating capacity is tested under the conditions of indoor dry/wet bulb temperature 20°C/15°C and outdoor dry/web bulb temperature 7°C/6°C;
3.All indoor and outdoor units are not charged with refrigerant out of factory;
4.The above charging volume of refrigerant is based on the distance of the indoor and outdoor connecting pipes of 8 meters. The charging volume is only for reference, please adjust it according to the actual situation on site;
5.Standard three-pipe units do not come with vapor injection (EVI) functionality. Customization is required if vapor injection is needed

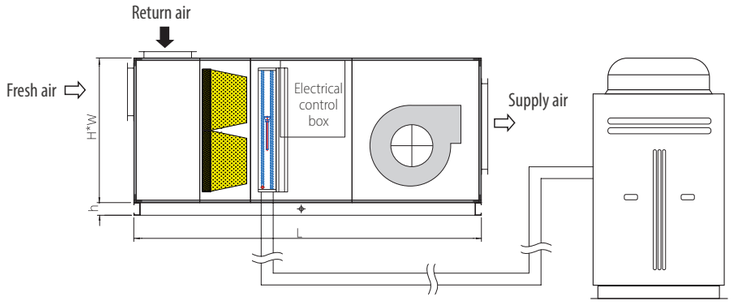
SPECIFICATIONS OF DC INVERTER THREE-PIPE DX AIR HANDLING UNIT

Specification		Indoor unit	HZN-54-S	HZN-60-S	HZN-72-S	HZN-80-S
		Outdoor unit	HFM-18HB1-DCSx3	HFM-20HB1-DCSx3	HFM-18HB1-DCSx4	HFM-20HB1-DCSx4
Nominal cooling capacity		kW	121.2	152.7	161.6	203.6
Nominal heating capacity		kW	136.2	170.7	181.6	227.6
Power supply		-	380V/3PH/50Hz			
Indoor Unit	Dimension	-	Subject to specific functional module			
	Airflow	m^3/h	24000	30000	35000	45000
	E.R.P	Pa	450	520	520	520
	Fan type	-	Multi-Blade High-Efficiency Centrifugal Fan			
	Fan power	kW	11.0	15.0	15.0	15.0
Outdoor Unit	Compressor type	-	DC inverter compressor			
	Cooling power	KW	11.61x3	15.82x3	11.61x4	15.82x4
	Heating power	kW	12.93x3	17.14x3	12.93x4	17.14x4
	LxWxH	mm	(1340x850x1810)x3		(1340x850x1810)x4	
	Net weight	kg	270x3	280x3	270x4	280x4
Refrigerant	Type		R410A			
	Charging volume(kg)		12.3x3	15.6x3	12.3x4	15.6x4
Connecting pipe	Connection method		Welding			
	Liquid pipe diameter(mm)		ø15.88x3		ø15.88x4	
	Gas pipe diameter(mm)		ø28.58x3		ø28.58x4	
	Reheat pipe diameter(mm)		ø22.22x3		ø22.22x4	
	Drainage pipe		DN32			

Specification		Indoor unit	HZN-100-S	HZN-120-S	HZN-140-S	HZN-160-S	HZN-200-S
		Outdoor unit	HFM-20HB1-DCSx5	HFM-20HB1-DCSx6	HFM-20HB1-DCSx7	HFM-20HB1-DCSx8	HFM-20HB1-DCSx10
Nominal cooling capacity		kW	254.5	305.4	356.3	407.2	509
Nominal heating capacity		kW	284.5	341.1	398.3	455.2	569
Power supply		-	380V/3PH/50Hz				
Indoor Unit	Dimension	-	Subject to specific functional module				
	Airflow	m^3/h	50000	60000	70000	80000	95000
	E.R.P	Pa	570	570	720	720	720
	Fan type	-	Multi-Blade High-Efficiency Centrifugal Fan				
	Fan power	kW	22.0	22.0	30.0	37.0	45.0
Outdoor Unit	Compressor type	-	DC inverter compressor				
	Cooling power	KW	15.82x5	15.82x6	15.82x7	15.82x8	15.82x10
	Heating power	kW	17.14x5	17.14x6	17.14x7	17.14x8	17.14x10
	LxWxH	mm	(1340x850x1810) x5	(1340x850x1810) x6	(1340x850x1810) x7	(1340x850x1810) x8	(1340x850x1810) x10
	Net weight	kg	280x5	280x6	280x7	280x8	280x10
Refrigerant	Type		R410A				
	Charging volume(kg)		15.6x5	15.6x6	15.6x7	15.6x8	15.6x10
Connecting pipe	Connection method		Welding				
	Liquid pipe diameter(mm)		ø15.88x5	ø15.88x6	ø15.88x7	ø15.88x8	ø15.88x10
	Gas pipe diameter(mm)		ø28.58x5	ø28.58x6	ø28.58x7	ø28.58x8	ø28.58x10
	Reheat pipe diameter(mm)		ø22.22x5	ø22.22x6	ø22.22x7	ø22.22x8	ø22.22x10
	Drainage pipe		DN32				

Note: 1.Nominal cooling capacity is tested under the conditions of indoor dry/wet bulb temperature 27°C/19°C and outdoor dry/web bulb temperature 35°C/24°C;
2.Nominal heating capacity is tested under the conditions of indoor dry/wet bulb temperature 20°C/15°C and outdoor dry/web bulb temperature 7°C/6°C;
3.All indoor and outdoor units are not charged with refrigerant out of factory;
4.The above charging volume of refrigerant is based on the distance of the indoor and outdoor connecting pipes of 8 meters. The charging volume is only for reference, please adjust it according to the actual situation on site;
5.Standard three-pipe units do not come with vapor injection (EVI) functionality. Customization is required if vapor injection is needed

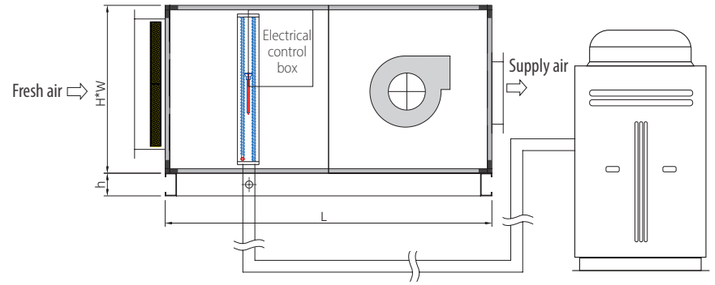
STANDARD DX COIL AIR HANDLING UNIT(RA TYPE)



Indoor unit		Machine dimensions(mm)	Duct dimensions(mm)			Weight (kg)
		L×W×H	OA	RA	SA	
Fixed frequency return air type	HZN-10KCZ1-Y-BZ	2140x1140x940	975x275	975x275	475x375	239
	HZN-12KCZ1-Y-BZ	2240×1240x1040	1075x375	1075×375	475×375	288
	HZN-15KCZ1-Y-BZ	2240x1440x1240	1275x375	1275x375	475×375	328
	HZN-18KCZ1-Y-BZ	2240x1440x1240	1275x375	1275x375	475x475	355
	HZN-20KCZ1-Y-BZ	2340x1740x1240	1575x375	1575×375	475x475	400
	HZN-24KCZ1-Y-BZ	2440x1740x1240	1575x475	1575x475	575x575	434
	HZN-30KCZ1-Y-BZ	2640x1940x1340	1775×475	1775x475	675×675	541
	HZN-40KCZ1-Y-BZ	2640x2140x1740	1975x475	1975x475	675x675	771
	HZN-42KCZ1-Y-BZ	2740×2140x1740	1975x475	1975x475	675x675	771
	HZN-48KCZ1-Y-BZ	3180×2140x1940	1975x575	1975x575	775x775	897
	HZN-60KCZ1-Y-BZ	3380x2140x2440	1975x675	1975x675	875x875	1164
	HZN-70KCZ1-Y-BZ	3480x2240×2840	2075×775	2075x775	875×875	1633
	HZN-78KCZ1-Y-BZ	3680×2240x2840	2075x775	2075x775	875×875	1958
	HZN-90KCZ1-Y-BZ	3980×2290x3390	2075x875	2075x875	975×975	2404
	HZN-100KCZ1-Y-BZ	4280×2390x3390	2175x975	2175×975	1075×1075	2570
	HZN-120KCZ1-Y-BZ	4480x3090x3390	2875x975	2875x975	1175×1175	3167
DC inverter return air type	HZN-10KCZ1-Y-DC-BZ	2140x1140x940	975x275	975×275	475×375	239
	HZN-12KCZ1-Y-DC-BZ	2240x1240×1040	1075x375	1075x375	475×375	240
	HZN-15KCZ1-Y-DC-BZ	2240×1440×1240	1275x375	1275x375	475×375	328
	HZN-18KCZ1-Y-DC-BZ	2240x1440x1240	1275x375	1275x375	475x475	355
	HZN-20KCZ1-Y-DC-BZ	2340×1740x1240	1575x375	1575x375	475x475	400
	HZN-24KCZ1-Y-DC-BZ	2440×1740x1240	1575x475	1575x475	575x575	434
	HZN-30KCZ1-Y-DC-BZ	2640×1940x1340	1775x475	1775x475	675x675	541
	HZN-40KCZ1-Y-DC-BZ	2640×2140x1740	1975x475	1975x475	675x675	771
	HZN-50KCZ1-Y-DC-BZ	3180×2140x1940	1975x575	1975x575	775x775	897
	HZN-60KCZ1-Y-DC-BZ	3380x2140x2440	1975x675	1975x675	875x875	1164
	HZN-70KCZ1-Y-DC-BZ	3480x2240x2840	2075x775	2075x775	875×875	1630
	HZN-80KCZ1-Y-DC-BZ	3680×2240x2840	2075x775	2075x775	875×875	1960
	HZN-90KCZ1-Y-DC-BZ	3980×2290x3390	2075x875	2075x875	975×975	2400
	HZN-100KCZ1-Y-DC-BZ	4280×2390x3390	2175x975	2175×975	1075×1075	2570
	HZN-120KCZ1-Y-DC-BZ	4480x3090x3390	2875x975	2875x975	1175x1175	3160

Note: 1. The above dimensions are only for the unit size with 25mm panels, when equipped with 50mm panels, sizes are L+50mm, W+50mm, H+50mm.
2. H = 100mm.

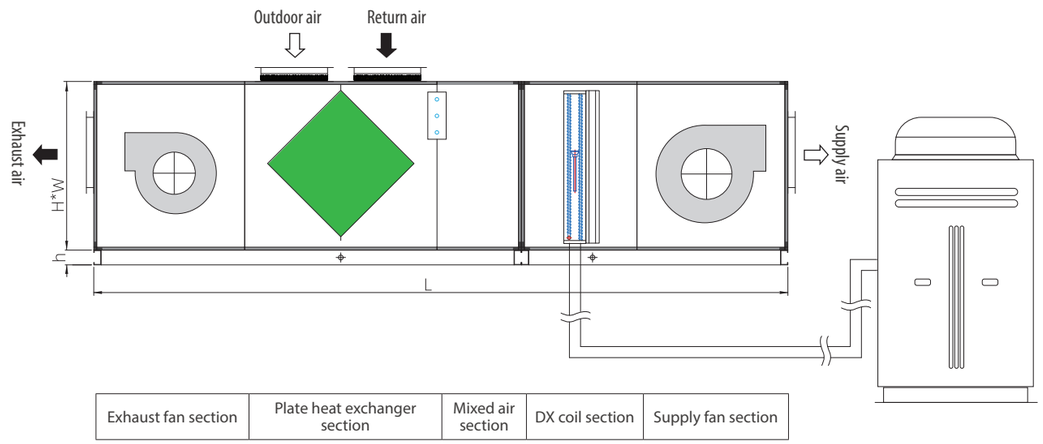
STANDARD DX COIL AIR HANDLING UNIT(OA TYPE)



Indoor unit		Machinedimensions(mm)	Duct dimensions(mm)			Weight (kg)
		L×W×H	OA	RA	SA	
Fixed frequency fresh air type	HZN-10FCZ1-Y-BZ	1440x1040x840	875x575	375x275	174	174
	HZN-12FCZ1-Y-BZ	1440x1140x940	975x675	375x275	220	220
	HZN-15FCZ1-Y-BZ	1540x1140x940	975x×675	475×275	240	240
	HZN-18FCZ1-Y-BZ	1540x1140x940	975x675	475×375	240	240
	HZN-20FCZ1-Y-BZ	1540×1240x1040	1075x775	475x375	265	265
	HZN-24FCZ1-Y-BZ	1540x1440x1240	1275x975	475×375	310	310
	HZN-30FCZ1-Y-BZ	1640×1440x1240	1275x975	475×375	328	328
	HZN-36FCZ1-Y-BZ	1740×1740x1240	1575x975	575x575	434	434
	HZN-48FCZ1-Y-BZ	1840×1940x1340	1775x1075	575x575	532	532
	HZN-60FCZ1-Y-BZ	2640×2140x1740	1975×875	675x675	820	820
	HZN-75FCZ1-Y-BZ	2980x2140x1940	1975x975	775x775	1020	1020
	HZN-90FCZ1-Y-BZ	3480X2140x2440	1975x1275	875x875	1164	1164
	HZN-120FCZ1-Y-BZ	3680×2240×2840	2075×1475	975x975	1930	1930
	HZN-150FCZ1-Y-BZ	4080x2390x3390	2175x1875	1075x1075	2500	2500
	HZN-180FCZ1-Y-BZ	4280x3090x3390	2875x1975	1175×1175	3030	3030
DC inverter fresh air type	HZN-10FCZ1-Y-DC-BZ	1440x1040x840	875×575	375x275	174	174
	HZN-12FCZ1-Y-DC-BZ	1440x1140x940	975x675	375x275	220	220
	HZN-15FCZ1-Y-DC-BZ	1540x1140x940	975x675	475×275	240	240
	HZN-18FCZ1-Y-DC-BZ	1540x1140x940	975x675	475×375	235	235
	HZN-20FCZ1-Y-DC-BZ	1540×1240x1040	1075x775	475×375	235	235
	HZN-24FCZ1-Y-DC-BZ	1540×1440x1240	1275x975	475×375	310	310
	HZN-30FCZ1-Y-DC-BZ	1640x1440x1240	1275x975	475×375	328	328
	HZN-36FCZ1-Y-DC-BZ	1740×1740x1240	1575x975	575x575	434	434
	HZN-48FCZ1-Y-DC-BZ	1840x1940x1340	1775×1075	575x575	532	532
	HZN-60FCZ1-Y-DC-BZ	2640x2140x1740	1975x875	675×675	820	820
	HZN-70FCZ1-Y-DC-BZ	2540x2140x1740	1975x875	675x675	790	790
	HZN-80FCZ1-Y-DC-BZ	2640×2140x1740	1975x875	675x675	820	820
	HZN-90FCZ1-Y-DC-BZ	2980x2140x1940	1975x975	775x775	1020	1020
	HZN-100FCZ1-Y-DC-BZ	3480x2140x2440	1975x1275	875x875	1164	1164
	HZN-110FCZ1-Y-DC-BZ	3480×2140x2440	1975×1275	875×875	1434	1434
	HZN-120FCZ1-Y-DC-BZ	3480x2140x2440	1975×1275	875x875	1460	1460
	HZN-135FCZ1-Y-DC-BZ	3480x2240x2840	2075×1475	875x875	1460	1460
	HZN-150FCZ1-Y-DC-BZ	3880x2290x3390	2075x1775	975x975	2340	2340
	HZN-180FCZ1-Y-DC-BZ	3880×2290x3390	2075X1775	975x975	2360	2360
	HZN-210FCZ1-Y-DC-BZ	4080x2390x3390	2175x1875	1075x1075	2550	2550
	HZN-240FCZ1-Y-DC-BZ	4280x3090x3390	2875x1975	1175×1175	3080	3080

Note: 1. The above dimensions are only for the unit size with 25mm panels, when equipped with 50mm panels, sizes are L+50mm, W+50mm, H+50mm.
2. H = 100mm.

ENERGY RECOVERY INDOOR UNITS WITH PLATE HEAT EXCHANGERS 1



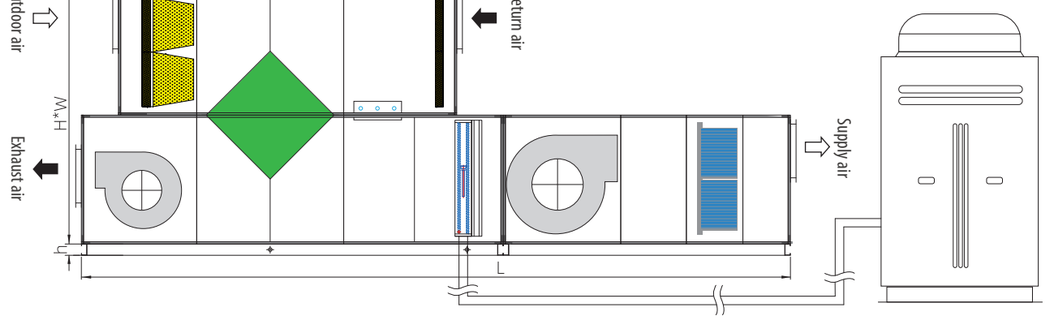
Exhaust fan section	Plate heat exchanger section	Mixed air section	DX coil section	Supply fan section

Indoor unit	Machine dimensions (mm)		Duct size (mm)		Weight (kg)
	L	H * W	OA / RA	SA / EA	
HZN-10	3680	840×1240	1075×275	475×475	793
HZN-12	3680	940×1240	1075×275	475×475	821
HZN-15	4080	940×1340	1175×275	575×575	914
HZN-18	4080	1040×1340	1175×375	575×575	1044
HZN-20	4380	1140×1740	1575×475	575×575	1327
HZN-24	4880	1240×1740	1575×475	675×675	1415
HZN-30	4880	1440×1840	1675×575	775×775	1855
HZN-36	5280	1440×1840	1675×575	775×775	2118

Note: 1. The above dimensions are only for the unit size with 25mm panels, when equipped with 50mm panels, sizes are L+50mm, W+50mm, H+50mm.
2. H = 100mm.

ENERGY RECOVERY INDOOR UNITS WITH PLATE HEAT EXCHANGERS 2

Primary & medium filtration section	Plate heat exchanger section	Primary filtration section

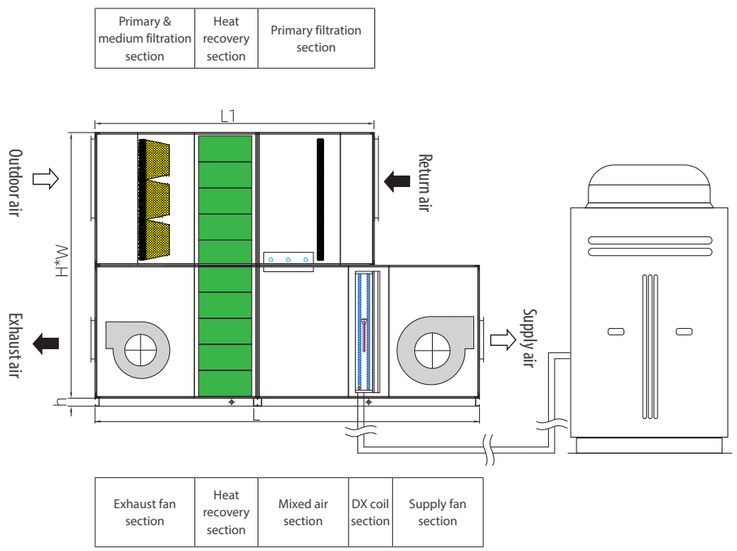


Exhaust fan section	Plate heat exchanger section	Mixed air section	DX coil section	Supply fan section	Diffusing section	HEPA filtration section

Indoor unit	Machine dimensions (mm)			Duct size (mm)		Weight (kg)
	L	L1	H * W	OA / RA	SA / EA	
HZN-10	5380	2540	1680×1240	1075×275	475×475	1575
HZN-12	5380	2540	1880×1240	1075×375	475×475	1630
HZN-15	5780	2740	1880×1340	1175×375	575×575	1775
HZN-18	5780	2740	2080×1340	1175×375	575×575	2110
HZN-20	6080	2740	2280×1740	1575×475	575×575	2576
HZN-24	6580	2940	2680×1740	1575×475	675×675	2916
HZN-30	6580	3940	2880×1840	1675×475	775×775	3661
HZN-36	6680	3240	2880×1840	1675×575	775×775	4181

Note: 1. The above dimensions are only for the unit size with 25mm panels, when equipped with 50mm panels, sizes are L+50mm, W+50mm, H+50mm.
2. H = 100mm.

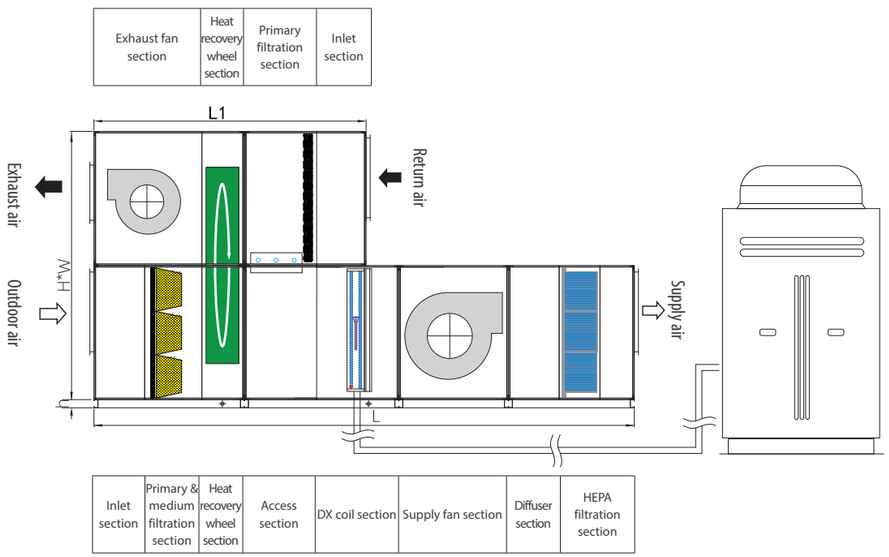
ENERGY RECOVERY INDOOR UNITS WITH PLATE HEAT EXCHANGERS 3



Indoor unit	Machine dimensions (mm)			Duct size (mm)		Weight (kg)
	L	L1	H * W	OA / RA	SA / EA	
HZN-40	5080	3480	3280×2240	1975×575	775×775	2753
HZN-48	5480	3780	3480×2240	2075×675	875×875	2954
HZN-60	6280	4380	3880×2440	2375×675	975×975	3504

Note: 1. The above dimensions are only for the unit size with 25mm panels, when equipped with 50mm panels, sizes are L+50mm, W+50mm, H+50mm.
2. H = 100mm.

ENERGY RECOVERY INDOOR UNITS WITH HEAT RECOVERY WHEEL



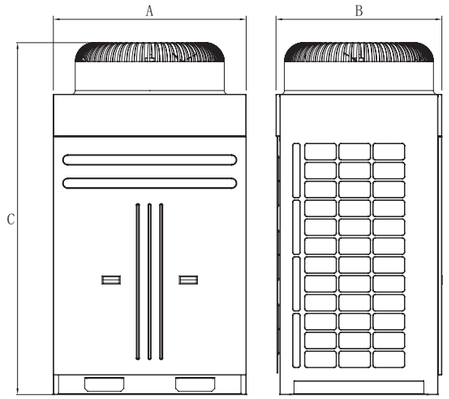
Indoor unit	Machine dimensions (mm)			Duct size (mm)		Weight (kg)
	L	L1	H * W	OA / RA	SA / EA	
HZN-10	5360	2780	1680×1240	1075×275	475×475	1537
HZN-12	5360	2780	1880×1240	1075×275	475×475	1590
HZN-15	5560	2880	1880×1340	1175×375	575×575	1715
HZN-18	5560	2880	2080×1340	1175×375	575×575	2050
HZN-20	5760	2980	2280×1740	1575×475	575×575	2238
HZN-24	5760	2980	2680×1740	1575×475	675×675	2536
HZN-30	5960	3080	2880×1840	1675×475	775×775	2986
HZN-36	6160	3180	2880×1840	1675×575	775×775	3410
HZN-40	6160	3180	3280×2240	2075×575	775×775	3813
HZN-48	6360	3280	3480×2240	2075×675	875×875	4041
HZN-60	6760	3480	3880×2440	2075×675	975×975	4447

Note: 1. The above dimensions are only for the unit size with 25mm panels, when equipped with 50mm panels, sizes are L+50mm, W+50mm, H+50mm.
2. H = 100mm.

TOP DISCHARGE OUTDOOR UNIT

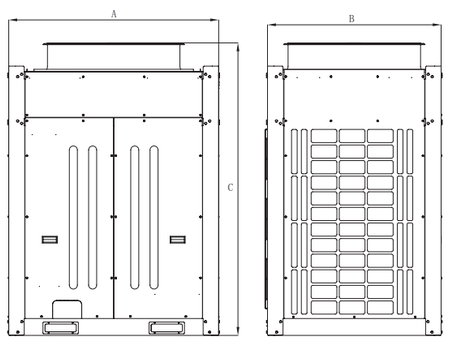
Standard model	A (mm)	B (mm)	C (mm)
HFM-10HA1, HFM-12HA1	990	850	1545
HFM-15HA1	990	850	1810
HFM-18HA1	1345	850	1810

DC inverter model	A (mm)	B (mm)	C (mm)
HFM-10HB1-DC/DCS	990	850	1545
HFM-12HB1-DC/DCS			
HFM-10HA1-DC	990	850	1810
HFM-12HA1-DC			
HFM-15HA1-DC			
HFM-15HB1-DC/DCS			
HFM-18HB1-DC/DCS	1345	850	1810
HFM-20HB1-DC/DCS			

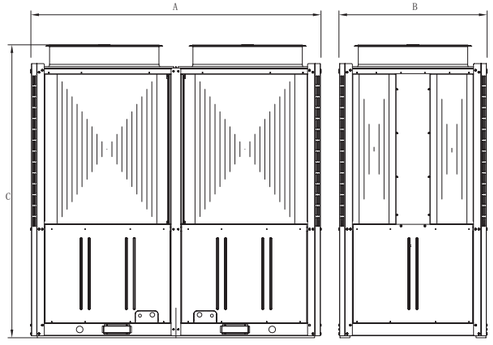


TOP DISCHARGE OUTDOOR UNIT

Model	A (mm)	B (mm)	C (mm)
HFM-30HA1/HFM-30HB1-DC	1310	1080	1820
HFM-60HA1/HFM-60HB1-DC	2180	1110	2200



HFM-30HA1/HFM-30HB1-DC



HFM-60HA1/HFM-60HB1-DC

1. Table of correction coefficient of cooling capacity under different working conditions

Energy coefficient ( ) / Indoor wet bulb temp. (°C) / Outdoor dry bulb temp. (°C)	17	18	19	20	21	22	23
25	1.07	1.10	1.14	1.15	1.17	1.23	1.32
30	1.05	1.07	1.09	1.11	1.14	1.18	1.25
35	0.98	0.99	1.00	1.03	1.06	1.09	1.13
40	0.89	0.91	0.93	0.95	0.97	0.99	1.00
43	0.86	0.88	0.90	0.92	0.94	0.96	0.97

2. Table of correction coefficient of heatling capacity under different working conditions

Energy coefficient ( ) / Outdoor wet bulb temp. (°C) / Indoor dry bulb temp. (°C)	14	12	10	8	6	4	2	0	-2	-4	-6	-8
10	1.23	1.18	1.12	1.07	1.01	0.95	0.89	0.83	0.78	0.74	0.70	0.67
15	1.23	1.17	1.11	1.05	1.00	0.94	0.89	0.83	0.78	0.73	0.69	0.66
20	1.20	1.15	1.10	1.05	1.00	0.94	0.89	0.83	0.77	0.72	0.68	0.65
25	1.15	1.13	1.10	1.05	0.99	0.93	0.88	0.83	0.77	0.72	0.67	0.63

3. Table of air volume impact on cooling capacity

Calculated airflow/Nominal airflow	0.6	0.7	0.8	0.9	1.0	1.2	1.4	1.6	2.0
Actual cooling capacity	0.87	0.91	0.95	0.98	1.00	1.04	1.08	1.12	1.2

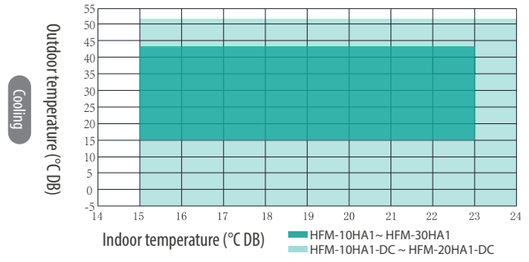
4. Correction table of the influence of the connecting pipe length and installation height difference between indoor and outdoor units on cooling capacity.

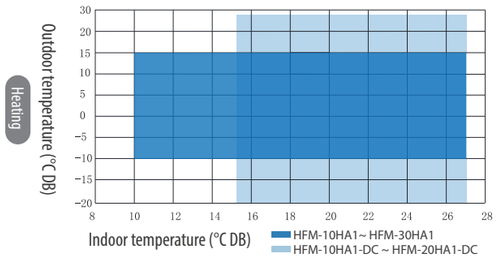
Factors		Correction coefficient of cooling capacity													
Total equivalent length of connecting pipes		5m	10m	15m	20m	25m	30m	35m	40m	45m	50m	55m	60m	65m	70m
Indoor units higher than outdoor units	0m	1.00	0.98	0.96	0.94	0.92	0.90	0.88	0.86	0.84	0.84	0.80	0.78	0.76	0.74
	5m	1.00	0.97	0.95	0.93	0.91	0.89	0.87	0.85	0.83	0.81	0.79	0.77	0.75	0.73
	10m	-	0.96	0.94	0.92	0.90	0.88	0.86	0.84	0.82	0.80	0.78	0.76	0.74	0.72
	15m	-	-	0.93	0.91	0.89	0.87	0.85	0.83	0.81	0.79	0.77	0.75	0.73	0.71
	20m	-	-	-	0.9	0.88	0.86	0.84	0.82	0.80	0.78	0.76	0.74	0.72	0.70
	25m	-	-	-	-	0.87	0.85	0.83	0.81	0.79	0.77	0.75	0.73	0.71	0.69
Indoor units lower than outdoor units	0m	1.00	0.98	0.96	0.94	0.92	0.90	0.88	0.86	0.84	0.82	0.8	0.78	0.76	0.74
	5m	1.00	0.98	0.96	0.94	0.92	0.90	0.88	0.86	0.84	0.82	0.8	0.78	0.76	0.74
	10m	-	0.98	0.96	0.94	0.92	0.90	0.88	0.86	0.84	0.82	0.8	0.78	0.76	0.74
	15m	-	-	0.96	0.94	0.92	0.90	0.88	0.86	0.84	0.82	0.8	0.78	0.76	0.74
	20m	-	-	-	0.94	0.92	0.90	0.88	0.86	0.84	0.82	0.8	0.78	0.76	0.74
	25m	-	-	-	-	0.92	0.90	0.88	0.86	0.84	0.82	0.8	0.78	0.76	0.74

Note: the equivalent total length of the connecting pipe is the sum of the total length of the straight pipe plus the equivalent length of the elbow and the oil storage bend. The equivalent length of elbow and oil storage bend is commonly shown in the following table:

Outer diameter of gas pipes	ø15.88	ø19.05	ø22.22	ø28.58	ø34.93	ø41.28
Elbow	0.25m	0.35m	0.45m	0.50m	0.55m	0.60m
Oil trap	2.0m	2.4m	2.9m	3.7m	4.1m	4.8m

ALLOWABLE OPERATION RANGE OF OUTDOOR UNIT

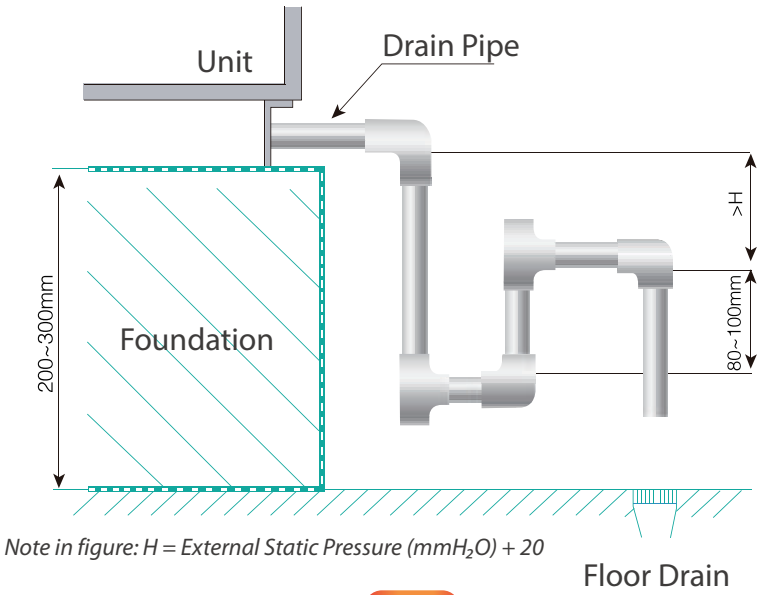




Note: The operating ranges of HFM-10HA1~ HFM-30HA1 and HFM-10HA1-DC ~HFM-20HA1-DC are shown above. If the air conditioning unit is used outside the scope of the above working conditions, the safety protection function will be activated and may lead to abnormal operation.

INDOOR UNIT INSTALLATION GUIDELINES

1. For ceiling-mounted units, select a location minimizing ductwork and piping runs, ensuring the ceiling structure can support the operational weight. Use properly positioned hanger rods to maintain level installation and verify load-bearing safety.
2. Floor-standing units require perfectly level ground.
3. Foundation above floor for condensate trap installation (Fig.1).
4. Maintain enough service space at access side/piping connections.
5. Flush all external water pipes before connecting to unit, never let valves/piping weight stress the unit's structure.
6. Use flexible ducts between unit and air ducts.
7. Ground the chassis properly, with reduced-voltage starting recommended for motors ≥15kW.



Note in figure: H = External Static Pressure (mmH_2O) + 20

Fig.1

OUTDOOR UNIT INSTALLATION GUIDELINES

1. The unit shall be installed on a solid, level concrete foundation or metal frame with adequate load-bearing capacity to prevent vibration and noise. The concrete surface must be finished with leveling mortar and waterproofing treatment, surrounded by drainage channels sloped at minimum 0.5% toward the drain outlet.
2. Install vibration isolation rubber pads beneath the unit to minimize operational vibration transmission.
3. The axial fan design prohibits duct connections, and outdoor/indoor units should be positioned close together to minimize refrigerant line length.
4. Precise leveling is required to ensure even fastener loading.

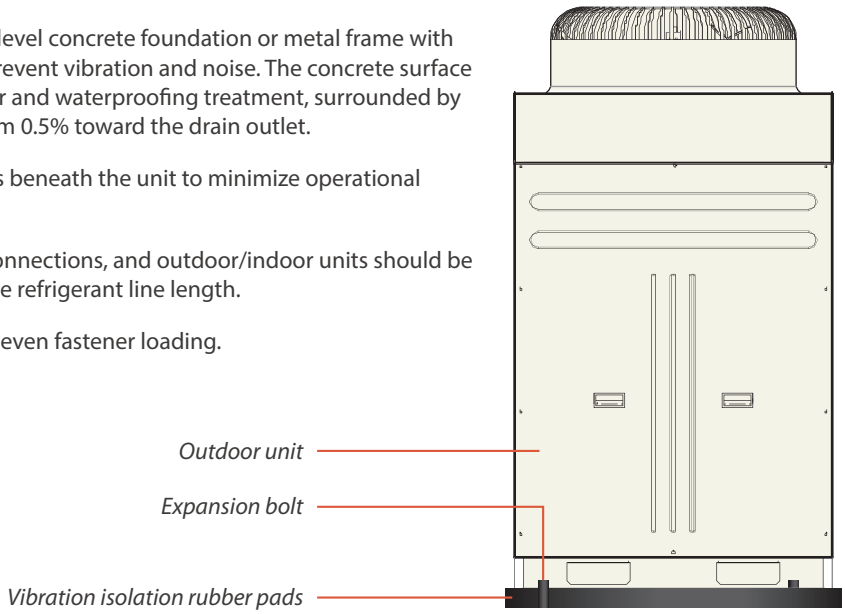


Fig.2