Haier

Intelligent Buildings

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Haier
Intelligent Buildings

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Haier

Intelligent Buildings

CHILLER

2024 General Catalogue

Haier

Intelligent Buildings

Haier Brand Story

Established in 1984, Haier Group is a world-leading provider of a better life and digital transformation solutions.

With users at the center of all we do, we have deployed 10 R&D centers, 71 research institutes, 33 industrial parks, 133 manufacturing centers and more than 230,000 sales networks worldwide. We are the world's only IoT ecosystem brand that has been ranked on the list of BrandZ Top 100 Most Valuable Global Brands for four years straight and topped Global Major Appliances Brand Rankings by Euromonitor International for 13 consecutive years. In 2021, our global revenue reached USD 52.2 billion, and our brand value reached USD 74.3 billion.

We own three listed companies. Our subsidiary Haier Smart Home is among the list of Fortune Global 500 and Fortune World's Most Admired Companies. We own seven global high-end brands, namely Haier, Casarte, Leader, GE Appliances, Fisher & Paykel, AQUA and Candy; and the world's first smart home scenario brand - THREE WINGED BIRD. In addition, we have built the world's leading Industrial Internet platform COSMOPlat and the great healthcare brand Yingkang Healthcare. Our entrepreneurship acceleration platform HCH has successfully incubated 7 unicorn companies, 102 gazelle companies, and 80 specialized and sophisticated enterprises.

As a representative of the real economy, we have been constantly focusing on the industry and develop businesses in smart home and living, Industrial Internet, and great healthcare sectors; and have been building high-end, scenario and ecosystem brands. Through technological innovation, we aim to customize a personalized smart living experience for global users, help corporate clients with digital transformation, and promote high-quality and sustainable economic and social development.

Haier Global Network

Haier has owned 10+N R&D centers, 35 industrial park, 138 factories, 108 marketing centers across the world, and the sales network over 200 countries or regions.

Haier has seven major household appliance brands across the world: Haier, Casarte, Leader, AQUA, Fisher & Paykel, GE Appliances (GEA) and CANDY. All these brands together have constituted Haier's global brand cluster, which can fully meet the best experience of different consumer groups in different regions all across the world.

The World's Only IoT Ecosystem Brand For 4 Years

Global No.1 Major Appliance Brand * 14 Consecutive Years

Haier Smart Home was named one of Fortune's most admired companies in the world.

In 2020,Haier Smart Home was once again listed on the Fortune Global 500, ranking 13 up from last year.

Candy Turkey Factory

Candy Italy Factory

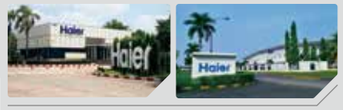
Haier Refrigerator Factory in Romania

Haier Russia Smart Ecosystem Industrial Park

Japan R&D Center

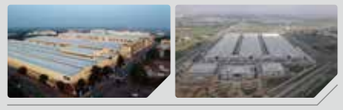
Japan IoT Laundry Factory

Haier Pakistan Economic Zone



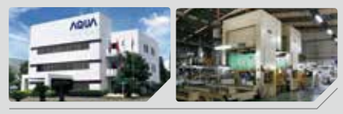
Haier Thailand Factory

Haier Indonesia Factory



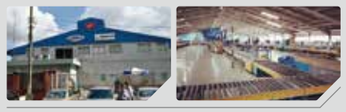
Haier India Pune Industrial Park

Haier India Greater Noida Industrial Park



AQUA Vietnam Factory

GE Appliance Park, Louisville, U.S.



Haier Nigeria Factory

Haier AC Factory in Egypt

FISHER & PAYKEL New Zealand R&D Center

Haier
Candy
Europe

Casarte
Haier
Fisher & Paykel GE Appliances
Candy AQUA Leader
China

AQUA
Haier
Japan

Haier
Candy
South Asia

Haier
AQUA
Candy
Southeast Asia

GE Appliances
Haier
Candy
Middle East & Africa

Haier
GE Appliances
Latin America

Café
Monogram
GE Profile GE Appliances
Haier Hotpoint
North America

Fisher & Paykel
Haier
Australasia

200+ Countries or Regions
10+N R&D Centers
35 Industrial Parks
138 Manufacturing Centers
108 Marketing Centers

Haier Global Manufacturing Capacity

In China, Haier owns 8 air conditioner factories, 1 of which is MHAQ, a JV between Haier and Mitsubishi Heavy. Besides China, Haier runs another 8 overseas air conditioner factories. These factories have a total production capacity of over 27.2 million units per year.

The First Batch of Chinese Local Enterprise Selected as "Lighthouse Factory" in the world

Haier R&D Center

Haier Air Conditioning R&D Center, located in Qingdao, China, completed in December 2013, covers 20,000 square meters. It has more than 120 laboratories, including testing laboratories, key part research laboratories and all-weather user experience simulation laboratories. The R&D center also has the world tallest "drop tower" for testing long refrigerant piping tests(106 meters tall).

Haier & Mitsubishi
Joint Laboratory

Haier & HIGHLY
Joint Laboratory

In April 2014, Haier established joint laboratories with Highly for research in heating & cooling technology and with Mitsubishi Electric for innovative technology for user experience. Research by the user experience center covers the fields of user comfort evaluation, aerodynamics, acoustics, EMC(Electro-Magnetic Compatibility) and mechanics etc. The labs can carry out more than 600 international tests as per ISO, IEC, EN, CISPR and ANSI etc. to meet the requirements of Europe, Asia, America, Australia, Middle East and other 100 countries and regions.

The user experience center gains recognition by domestic well-known certification and testing institutions, also is recognized by international organizations like TUV and Intertek etc. At Haier, we believe that the best air conditioning is one that builds on uncompromising quality control worldwide, developing and manufacturing fine products and delivering them to customers everywhere.

R&D Labs


EMC Test Lab


Water-spray Test Lab


Psychrometric Test Lab


Safety Test Lab


Full-anechoic Test Lab


Centralized Control


Simulated Snow Test Lab


Simulated Sunshine Test Lab


Environmental Evaluation Test Lab


Humidity Evaluation Test Lab

Double 85 Test Lab


Height Drop Test Lab

Global Certification

Haier Chiller Milestones

For 13 years, Haier created the history of Magnetic Bearing Centrifugal Chiller in China, starting the era of oil free.

2003

The first magnetic bearing compressor was born in the world

2006

The first true-meaning high temperature magnetic bearing centrifugal chiller in China was born in Haier

2009

The first magnetic bearing centrifugal water source heat pump in China came out in Haier

2011

The first air-cooled magnetic bearing centrifugal chiller in China came out from Haier, whose energy efficiency is over 8% of state level one energy efficiency

2013

The first modular magnetic bearing centrifugal chiller in China appeared on the market, small enough to saving space, applying to renovation projects

2014

The large cooling capacity of 2,210 tons magnetic bearing centrifugal chiller appeared on the China market

2015

The first magnetic bearing centrifugal chiller with failing film evaportator in China

2016

Air-cooled magnetic bearing centrifugal chiller with free cooling shocked the China market

2018

IOT technology used in magnetic bearing centrifugal chiller

2019

Haier launched **Evaporatively-cooled magnetic bearing centrifugal chiller**

2021

Haier launched **R1234ze(E) magnetic bearing centrifugal chiller**

CONTENTS

Models Line-up

Cooling capacity
Heating capacity

0 500 1000 1500 2000 2500 8000 (kW)

Water-cooled Magnetic Bearing Centrifugal Chiller		R134a AHRI CERTIFIED®	439.6~8792kW
Water-cooled Magnetic Bearing Centrifugal Chiller		R513A	439.6~2814kW
Water-cooled Magnetic Bearing Centrifugal Chiller		R1234ze(E) AHRI CERTIFIED®	344.1~1829kW
Water-cooled Magnetic Bearing Centrifugal Chiller		R515B	344.1~1829kW
Modular Water-cooled Magnetic Bearing Centrifugal Chiller		R134a AHRI CERTIFIED®	316.5/422/499.4kW
Air-cooled Magnetic Bearing Centrifugal Chiller		R134a AHRI CERTIFIED®	315~1760kW
Evaporatively-cooled Magnetic Bearing Centrifugal Chiller		R134a	315/440/528kW
Water-cooled Centrifugal Chiller	NEW 	R134a	2286-4220kW
Inverter Water-cooled Centrifugal Chiller		R134a	1965~5274kW

Models Line-up

Cooling capacity
Heating capacity

0 500 1000 1500 2000 2500 8000 (kW)

Inverter Water-cooled Screw Chiller

R134a
AHRI CERTIFIED

530~2094kW

Water-cooled Screw Chiller

NEW

R134a

386.9~1899kW

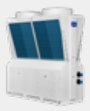
Air-cooled Screw Chiller(Cooling Only)

NEW

R134a

316.5/439.6/527.6kW

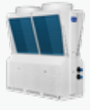
Inverter Modular Chiller



R410A
CE

60~960kW
65~1040kW

Full Heat Recovery Modular Chiller



R410A

65~1040kW
70~1120kW

Modular Chiller

R410A
CE

30~2080kW
33~2160kW

Fan Coil & Air Handling Unit

Fan Coil

Ceiling Concealed Type

AHRI CERTIFIED CE
1.78-13.2kW
117-2380 m³/h

Round Way Hydro Cassette Fan Coil

AHRI CERTIFIED
1.78~13.2kW
117~2380m³/h

Air Handling Unit

Air Handling Unit

11.8-817kW
2000-50000m³/h

Modular Air Handling Unit

AHRI CERTIFIED
4.7-1791.2kW
1863-203635m³/h

MAGNETIC BEARING CENTRIFUGAL CHILLER

Magnetic Bearing Centrifugal Chiller

Advanced Technology | High Reliability | Professional | Convenient | Smart

Advanced Technology

High efficiency direct-driven technology

High speed motor drives the rotor and impeller directly, which eliminates the need for the gear system of conventional centrifugal compressor. It reduces the mechanical friction loss and noise, improves the efficiency and reliability greatly.

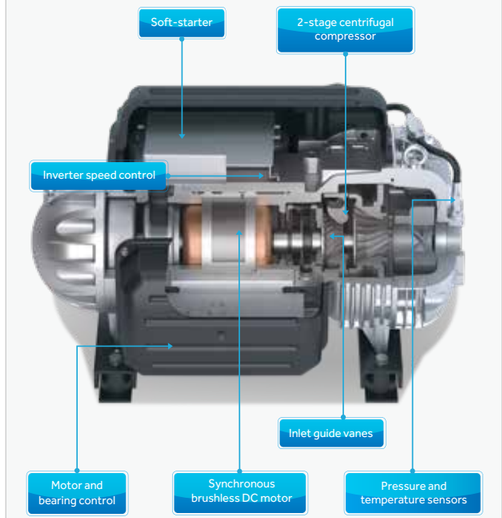
Conventional centrifugal compressor

Magnetic bearing centrifugal chiller

Advanced Technology

The magnetic bearing water centrifugal chiller has added three new types of refrigerant applications, which are safe and reliable and not subject to the Montreal Protocol. the GWP value is significantly reduced and greenhouse gas emissions are effectively reduced.

- CCWU series: Using R513A refrigerant, the refrigeration characteristics are the same as R134a, GWP=537 non-toxic and non-combustible.
- CCWR series: Use R1234ze(E) refrigerant, GWP < 1, non-toxic and slightly combustible.
- CCWV series: Using R515B refrigerant, GWP=299, non-toxic and non-combustible.



Variable frequency drive

• Built-in IGBT (Insulated Gate Bipolar Transistor) is an inverter that converts a DC voltage, into an adjustable three-phase AC voltage.

• Signals from the motor/bearing controller determine the inverter output frequency, voltage and phase, thereby regulating the motor speed to meet different capacity output demands.

Two-stage compressor

The compressor is a two-stage centrifugal type compressor utilizing variable speed as the principle means of capacity control with inlet guide vanes (IGVs) assisting when required, which allows a wider range of operation.

Permanent-magnet synchronous motor

• Powered by PWM (pulse width modulated) voltage supply.

• High-speed variable frequency operation affords high efficiency, compactness and soft start benefits.

Soft start module

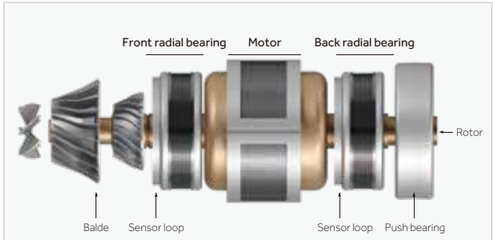
Significantly reduces high in-rush current at startup, providing advantages to line power systems and reducing thermal stress on the stator.

Magnetic bearing technology

• Sensor rings, located at each magnetic bearing, feed information to the bearing controller to ensure the shaft is positioned correctly.

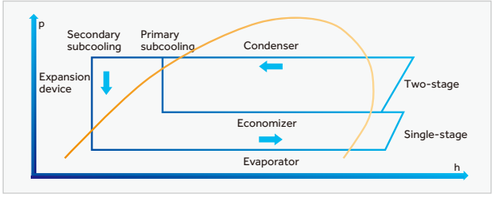
• Radial and axial magnetic bearings levitate the rotor shaft when the compressor is energized, which completely eliminates any metal-to-metal contact and wear surfaces.

• Magnetic bearing frictionless movement system provides quiet, reliable operation and eliminates the requirement of oil lubrication. Removing of oil system eliminates complexity, reduces maintenance and minimizes risk of catastrophic failure compared to traditional oiled designs.



Subcooling technology

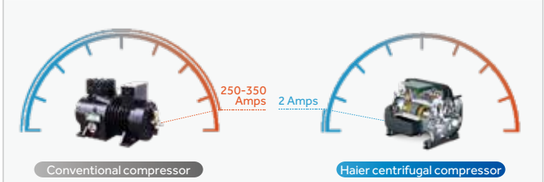
Subcooling design is adopted for partial models of units. combined with the use of economizer, the highest supercooling degree can be up to 15°C, which increases cooling capacity by 8% and energy efficiency by 7%.



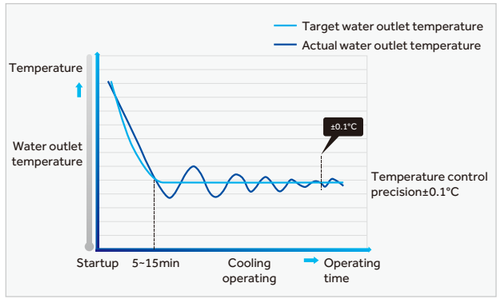
High Reliability

Low sound level and vibration

The compressor startup in-rush current is only 2amps while conventional compressors in this tonnage range are up to 250-350 amps, which can greatly minimize the shock to power grid.



High Reliability



Accurate water temperature

The chiller can realize stepless load adjustment and accurate water outlet temperature control. the temperature control precision is only ±0.1℃.

Quick startup (optional)

For some specific application scenarios, such as the data center, Haier offers customized products with quick cooling function to avoid the loss caused by long cooling time. also in case of power outages, Haier offers customized products to realize automatic restart once the power recovers to ensure quick recovery of cooling.

Professional

Haier magnetic bearing centrifugal chiller owns professional design, manufacturing, testing and after-sales service, providing the high reliability of whole process.

Design

The chiller adopts compressor, EXV, controller and other key components of famous brands. all kinds of sensors, valves, electrical parts must be carried out more than 100 tests to ensure the reliability of the use of components. Industrial-grade PLC control achieves wider working temperature range and higher protection level.

Magnetic bearing centrifugal compressor eliminates the need for the gear system and oil lubrication system, which means simpler structures and lower possibility of failure. in addition, haier unique system design and control logic brings higher efficiency and reliability for the chiller.

Manufacture

Haier smart interconnected factory provides the automatic intelligent manufacturing, which improves the production efficiency and quality reatly.

Automaticly expanding tube

ABB robot detects the position of copper tubes through visual recognition system and feeds back the parameters of expanding tube to realize expanding tube automaticly. the positioning tolerance is only ±0.25mm, ensuring no defect and no missing expanding.

Automatic cutting and welding

The robot finds the position for cutting and welding through the intelligent positioning system, which realizes full automation and greatly improves the efficiency. cutting tolerance is less than 1mm to ensure high quality.

Automatic leak detection

ABB walking robot detects the position of copper tubes through visual recognition system, automatically finds the position and detects leakage, automatically checks system drawings, and automatically marks, so as to realize automatic leak detection.

Convenient

Testing

All models are qualified for AHRI certificate, so the products capacity and energy efficiency are guaranteed. moreover, all the units will be tested comprehensively at factory before the unit ships to the jobsite. And an optional witness test in our testing facility can be scheduled. In addition, Haier’ s test facility is capable of evaluating the performance of the unit based on customer defied parameters. Haier’ s laboratories are certified to provide professional evaluation of your products.

Convenient

Operating

Haier magnetic bearing centrifugal chillers are used in thousands of projects, including hotels, offices, hospitals, factories, shopping mall, universities, data centers, etc. excellent application experience helps Haier continuously improve the design and optimize the product, which brings the chiller high stability and reliability.

After sale service

Years of experience and a well-structured service organization allow Haier after sale service team to guarantee short reaction times and rapid trouble shooting.

Smart

Cloud service

Through the built-in internet cloud service protocol module, the chiller operating data can be collected to the cloud service center via 4G and ethernet, thereby achieving remote monitoring, fault alarm, energy consumption analysis and historical error.

*Available in some regions

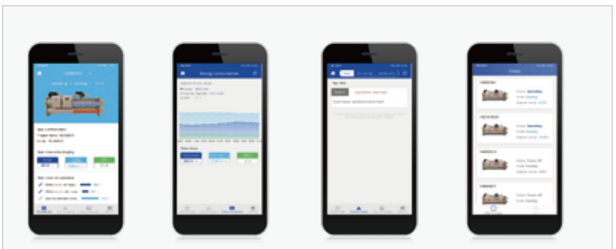
Fault alarm

During the operation time, real-time prediction can be made according to the operation condition of the unit, and early alarm will be given for possible faults.

Energy consumption analysis

The cloud service interface displays the accumulated electric consumption, accumulated cooling capacity, average COP, etc. of the last 7 days. users can also query the energy consumption data or graphic data trend in any period according to their needs, and download the energy consumption analysis report.

In addition, all the above function can be used via the smart APP. It’s more convenient.



Historical error

When the unit occurs error, installers can check the error records, including the fault time and reason, and quickly give response.

Remote monitoring

Haier intelligence cloud service realizes remote monitoring of unit operation data on real time, including water temperature, instantaneous load and power input, energy efficiency and so on.

Building automation system

The modbus and BACnet communication modules are provided for the seamless connection with building automation system.

Water-cooled Magnetic Bearing Centrifugal Chiller

R1234ze(E) | High Efficiency | Comfortable | High Reliability | Convenient

Nomenclature

C C W P 3170 S X N EN CN N 1

- Chiller
- Magnetic bearing centrifugal chiller
- Cooling type: W-Water-cooled
- Refrigerant: P-R134a; U-R513A; V-515B; R-R1234ze(E)
- Cooling capacity, kW
- Structure: M-Multi circuit; S-Single circuit; T-Modular type chiller
- Compressor type: T-TT;V-VTT; X-VTX;H-TTH;G-TG M-Mix compressor
- Power supply: N-3Ph/380V/50Hz; K-3Ph/460V/60Hz; B-3Ph/400V/50Hz; L-3Ph/380V/60Hz;
- Evaporator type: E-Flooded; F-Falling film Type: A, B....
- Condenser type
- Economizer: E-With; N-Without
- Design serial number: 1-'Line' type 2-'U' type 3-Model 1400 with 3 compressors; Model 2640 with 5 compressors; Model 2810 with 5 compressors

R1234ze(E)

Environmental impact

Solstice ze has a GWP of <1, exceeding existing climate protection goals.
- Helps with eco-design directives
- Reduces direct CO_2 emissions by 99.6 percent
- Reduces indirect CO_2 emissions due to the lower energy consumption

Safety

Solstice ze refrigerant is significantly safer in use than alternatives such as hydrocarbons and ammonia, which are either extremely flammable or highly toxic.

High Efficiency

Oil free system

Conventional compressors and chillers consume more energy due to the presence of lubricating oil that hinders heat transfer. even a chiller with an oil content of 4% may lose 9% efficiency. friction-free magnetic bearings eliminate the cost of those inefficiencies as well as the maintenance costs associated with oil service.

Energy saving

Haier water-cooled magnetic bearing centrifugal chiller can achieve up to 11.5 IPLV at AHRI conditions. comparing with conventional chiller, it can save 30%~50% of energy to reduce the operating cost.

Smart control

Except the magnetic bearing technology, Haier patented control technology helps enhance the energy efficiency greatly. it provides the best operating solution for the chiller. when the unit has multiple compressors, the load will be distributed to each compressor reasonably to ensure the optimal operating state of the compressors.

* The compressor optimal operating state is at 30%~70% load.

Comfortable

Low sound level and vibration

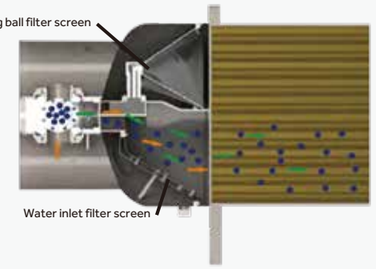
Because of the completely levitated moving parts assembled by motor rotor shaft and impeller, there is no metal-to-metal contact between moving parts. very low sound and almost vibration-free level of the chiller are achieved. consequently, floor mounted spring isolators are not usually required. and the chiller's operation noise is as low as 75dB(A) at 1 meter, while the conventional chiller is higher than 85dB(A).

High Reliability

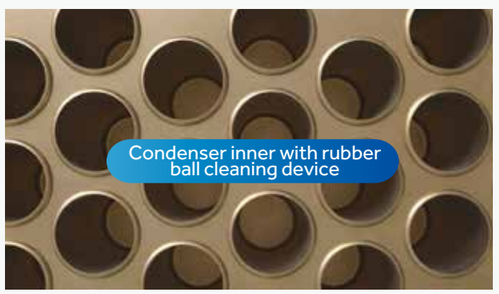
Condenser rubber ball cleaning system (optional)

Haier provides optional condenser rubber ball cleaning device for customers to solve the condenser fouling and scaling problems. the cleaning system runs fully automatically. the cleaning balls are introduced and removed from the system through the ball collector. the frequency and times of the ball service are adjusted according to the chiller operating condition, and the ball is powered by water pressure to clean the tube.

Water flow direction
Rubber ball movement direction



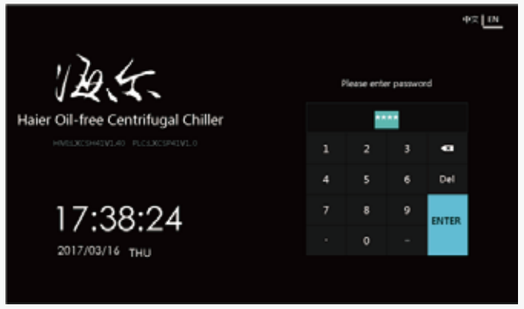
The use of condenser rubber ball cleaning device can maintain the cleanness of the condenser tubes, optimize heat exchange efficiency and eliminate the requirement of manual cleaning in shut down times. thus the operating and maintenance costs will be greatly reduced.



Convenient

User-friendly operation

The chiller is equipped with a 10 inch high-resolution touch screen, which provides an user-friendly operator interface with key operating parameters on the screen. this controller sets three access levels of account for users, maintenance and plant operators to ensure safe using.



Alarm history records

Haier control system has fault analysis function. users can easily access chiller alarm history via intuitive touch-screen buttons for troubleshooting. through the alarm records maintenance personnel will find fault date, action taken and the cause of the alarm.

Options/Accessories

Accessories		Standard	Optional
Power supply		3~/380V/50Hz	3~/380V/60Hz; 3~/400V/50Hz; 3~/460V/60Hz
Communication protocal		Cloud service	Modbus/BACnet
Harmonic filter		X	√
Surge suppressors		√	/
EMC/EMI filter		√	/
Economizer	≤800RT	√	/
	>800RT	X	√
Water inlet/outlet connection type	<DN300	Victaulic	Flange
	≥DN300	Flange	/
Thermal insulation thickness		30mm	25mm/40mm
Water side working pressure		1.0Mpa	1.6MPa/2.0MPa/2.5MPa
ASME pressure vessel		X	√
Chilled water flowmeter		X	√
Automatic online rubber ball cleaning device		X	√
Channel steel base		X	√
Refrigeration cycle system	≤800RT	Modular refrigeration cycle system	Incorporative refrigeration cycle system
	>800RT	Incorporative refrigeration cycle system	/

50% Energy saving than conventional chiller

Low sound level 75dB(A)

Vibration close to 0

Intelligent cloud service available

MODEL			CCWP0440 MTN0000E1	CCWP0530 MTN0101E1	CCWP0740 MTN0000E1	CCWP0880 MTN0000E1	CCWP1100 MTN0101E1	CCWP1230 MTN0605E1	CCWP1330 MTN0202E1	CCWP1400 MTN0605E1	CCWP1580 MTN0000E1	CCWP1760 MTN0000E2	CCWP1930 MTN0000E2	CCWP2110 MTN0101E2	CCWP2640 MTN0605E2	CCWP2810 MTN0605E2
Cooling capacity		Ton	125	150	200	250	300	350	380	400	450	500	550	600	750	800
		kW	439.6	527.6	703.4	879.2	1055	1231	1336	1407	1583	1758	1934	2110	2638	2814
Power input		kW	73.13	87.36	117.1	141.6	169.5	197.7	211.5	226.8	250.5	275.4	300.8	329.6	418.9	447.3
COP		kW/kW	6.01	6.04	6.01	6.21	6.23	6.23	6.32	6.20	6.32	6.39	6.43	6.40	6.30	6.29
		kW/Ton	0.585	0.582	0.585	0.567	0.565	0.565	0.557	0.567	0.557	0.551	0.547	0.549	0.559	0.559
Starting amps of single compressor		A	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Min circuit amps.(Max. running current)		A	178	180	225	178×2	180×2	180+225	178×3	225×2	180×3	178×4	180×4	180×4	180+225×3	225×4
Max. power input		kW	109	110	138	109×2	110×2	110+138	109×3	138×2	110×3	109×4	110×4	110×4	110+138×3	138×4
Safe protection		/	High/low pressure protection, safety protection, short of water relay protection, anti-freezed protection, motor overload, phase sequence and lack of phase protection													
Compressor	Type	/	Magnetic bearing compressor													
	Starting mode	/	Soft start													
Power supply			3~/380V/50Hz													
Refrigerant throttle type			Electronic expansion valve													
Controller type			PLC													
Refrigerant	Type		R134a													
	Charge	kg	160	170	280	320	340	400	540	460	600	760	760	800	860	920
Evaporator	Type		Flooded type													
	Chilled water inlet/outlet temp.		12°C/7°C													
	Connection size	DN	150	150	150	200	200	200	200	200	250	250	250	250	300	300
	Rated water flow	m^3/h	75.6	90.7	121.0	151.2	181.5	211.7	229.8	242.0	272.3	302.4	332.6	362.9	453.7	484.0
	Fouling factor	m^2•°C/kW	0.018													
	Standard pressure	MPa	1													
	Pass	/	4	4	2	2	2	2	1	2	1*	2	2	2	2	2
	Water side pressure drop	kPa	73.6	74.2	63.5	68.9	68.9	72.3	39.6	99.0	39.6	63.7	75.5	63.5	79.0	96.0
Condenser	Type		Shell&tube heat exchanger													
	Cooling water inlet/outlet temp.		30°C/35°C													
	Connection size	DN	150	150	150	200	200	200	200	200	250	250	250	250	300	300
	Rated water flow	m^3/h	88.2	105.8	141.1	175.6	210.6	245.7	266.2	281.0	315.4	349.7	384.4	419.6	525.8	560.9
	Fouling factor	m^2•°C/kW	0.044													
	Standard pressure	MPa	1													
	Pass		4	4	2	2	2	2	1*	2	1*	2	2	2	2	2
	Water side pressure drop	kPa	67.6	62.5	42.7	64.0	59.4	65.6	37.0	91.3	35.6	57.7	69.2	53.8	70.0	84.8
External dimension	Unit length	mm	2250	2250	3250	3830	3830	4150	6400	4450	6400	4800	4800	4800	4800	4800
	Unit width	mm	1300	1300	1300	1300	1300	1300	1300	1300	1300	2260	2260	2260	2260	2260
	Unit height	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
Weight	Net weight	kg	2270	2380	2550	3740	4030	4530	5130	4880	5350	8200	8300	8350	9600	9900
	Gross weight	kg	2310	2420	2590	3790	4080	4580	5200	4930	5420	8280	8380	8430	9680	9980
	Operation weight	kg	2520	2680	2900	4170	4500	5130	5880	5530	6100	9200	9400	9450	10700	11000

Note:
1. Specification is based on the following condition:
   Evaporator chilled water outlet temperature 7 ℃, chilled water inlet temperature 12 ℃, fouling factor=0.0180m2K/kW.
   Condenser cooling water inlet water temperature 30 ℃, cooling water outlet temperature 35 ℃, fouling factor=0.0440m2K/kW.
2. Due to decimal point retention restrictions, some data may have slight differences when manually calculated.
3. Above products water side pressure is 1.0MPa. Contact with Haier local agencies, if you need higher pressure product.
4. Above parameters are based on the standard products. For customized products, please contact Haier local agencies.
5. Due to our policy of innovation, some specifications maybe changed without notification.
6. *Can be configured as 2pass, please consult Haier sales staff.

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50% Energy saving than conventional chiller

Low sound level 75dB(A)

Vibration close to 0

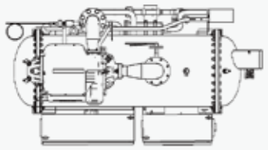
Intelligent cloud service available

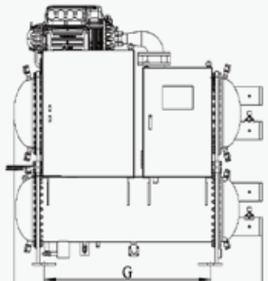
MODEL			CCWP3170 SXNENCNN1	CCWP3520 SMNENCNN1	CCWP4220 SMNENCNN1	CCWP4570 SXNENCNN1	CCWP5280 SMNENCNN1	CCWP5630 SXNENCNN1	CCWP5980 SXNENCNN1	CCWP7030 SXNENCNN1	CCWP8800 SXNENCNN1
Cooling capacity		Ton	900	1000	1200	1300	1500	1600	1700	2000	2500
		kW	3165	3517	4220	4572	5276	5627	5979	7034	8792
Power input		kW	489.9	558.7	666.9	707.7	828.6	878.1	927.0	1084	1352
COP		kW/kW	6.46	6.30	6.33	6.46	6.37	6.41	6.45	6.49	6.50
Max.power input		kW	0.544	0.559	0.556	0.544	0.552	0.549	0.545	0.542	0.541
Starting amps of single compressor		A	2	2	2	2	2	2	2	2	2
Min circuit amps. (Max. running current)		A	419×2	180+419×2	180×2+419×2	419×3	180+419×3	419×4	419×4	419×5	419×6
Max. power input		kW	256×2	110+256×2	110×2+256×2	256×3	110+256×3	256×4	256×4	256×5	256×6
Safe protection		/	High/low pressure protection, safety protection, short of water relay protection, anti-freezed protection, motor overload, phase sequence and lack of phase protection								
Compressor	Type	/	Magnetic bearing compressor								
	Starting mode	/	Soft start								
Power supply			3~/380V/50Hz								
Refrigerant throttle type			Electronic expansion valve								
Controller type			PLC control								
Refrigerant	Type		R134a								
	Charge	kg	1000	1100	1600	1700	1900	2500	2600	2900	3000
Evaporator	Type		Flooded type								
	Chilled water inlet/outlet temp.		12°C/7°C								
	Connection size	DN	300	300	350	350	400	400	400	450	500
	Rated water flow	m³/h	544.4	604.8	725.8	786.2	907.6	967.9	1028.5	1210.0	1512.4
	Fouling factor	m² •°C/kW	0.018								
	Standard pressure	MPa	1								
	Pass	/	2	2	2	2	2	2	2	2	2
	Water side pressure drop	kPa	55.1	57.0	79.0	81.1	80.1	42.0	35.0	55.0	61.0
Condenser	Type		Shell&tube heat exchanger								
	Cooling water inlet/outlet temp.		30°C/35°C								
	Connection size	DN	300	300	350	350	400	400	400	450	500
	Rated water flow	m³/h	628.6	701.0	840.6	908.1	1049.9	1118.9	1187.8	1396.3	1744.8
	Fouling factor	m² •°C/kW	0.044								
	Standard pressure	MPa	1								
	Pass		2	2	2	2	2	2	2	2	2
	Water side pressure drop	kPa	66.9	70.0	78.9	80.0	85.0	60.0	49.0	75.0	74.7
External dimension	Unit length	mm	4600	4600	5500	5800	5800	6500	6500	7260	7260
	Unit width	mm	2400	2800	3000	3000	3200	3450	3450	3450	4000
	Unit height	mm	2600	2400	2450	2450	2500	2550	2550	3000	3000
Weight	Net weight	kg	11440	13000	14500	16320	18320	20290	21290	24580	28660
	Gross weight	kg	11590	13150	14650	16470	18470	20440	21440	24730	28810
	Operation weight	kg	13440	15200	17000	19320	21320	24290	25500	29580	34660

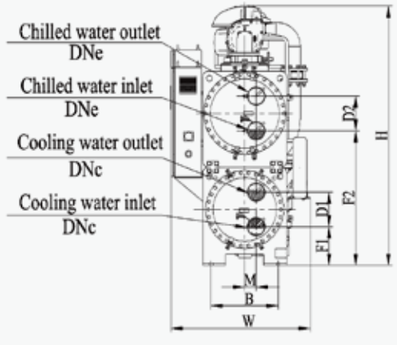
Note:
1. Specification is based on the following condition:
   Evaporator chilled water outlet temperature 7 ℃, chilled water inlet temperature 12 ℃, fouling factor=0.0180m2K/kW.
   Condenser cooling water inlet water temperature 30 ℃, cooling water outlet temperature 35 ℃, fouling factor=0.0440m2K/kW.
2. Due to decimal point retention restrictions, some data may have slight differences when manually calculated.
3. Above products water side pressure is 1.0MPa. Contact with Haier local agencies, if you need higher pressure product.
4. Above parameters are based on the standard products. For customized products, please contact Haier local agencies.
5. Due to our policy of innovation, some specifications maybe changed without notification.

Dimensions

Outline dimension

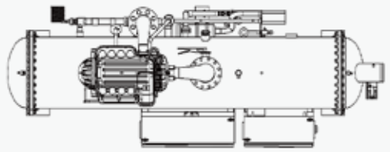


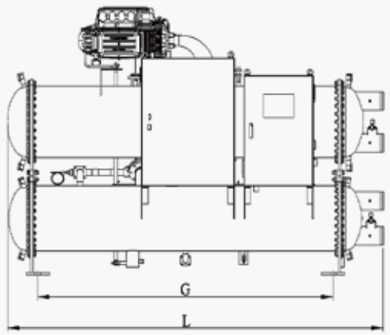


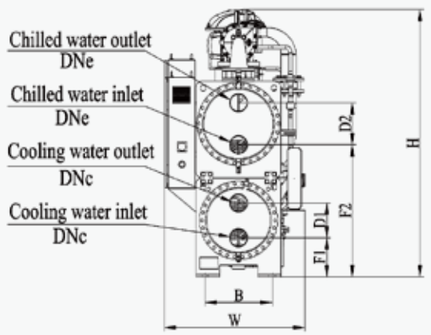


Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)		Nozzle Dimensions(mm)					
	L	W	H	B	G	F1	D1	F2	D2	M	DNe	DNc
CCWP0440MTN0000E1	2250	1300	2260	580	1440	335	300	1125	300	100	DN150	DN150
CCWP0530MTN0101E1	2250	1300	2260	580	1440	335	300	1125	300	100	DN150	DN150

*Please acquire detailed dimensions from Haier technicians.





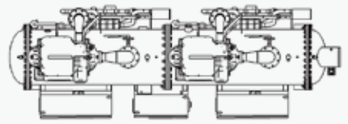


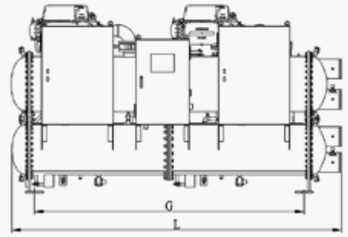
Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)		Nozzle Dimensions(mm)					
	L	W	H	B	G	F1	D1	F2	D2	DNe	DNc
CCWP0740MTN0304E1	3250	1300	2260	580	2540	335	300	1095	360	DN150	DN150

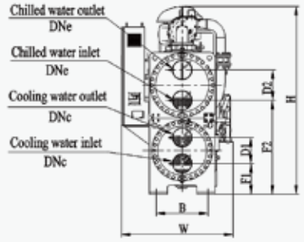
*Please acquire detailed dimensions from Haier technicians.

Outline dimension

Standard units of CCWP0880~1100MTN are 'Line' type, 'U' type products of which can be customized.

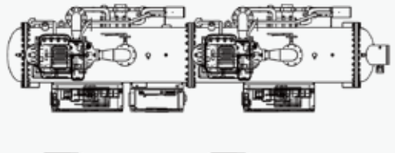


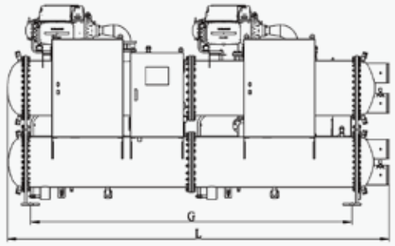


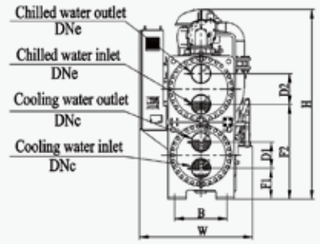


Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)		Nozzle Dimensions(mm)					
	L	W	H	B	G	F1	D1	F2	D2	DNe	DNc
CCWP0880MTN0000E1	3830	1300	2260	580	3010	340	290	1105	340	DN200	DN200
CCWP1100MTN0101E1	3830	1300	2260	580	3010	340	290	1105	340	DN200	DN200

*Please acquire detailed dimensions from Haier technicians.







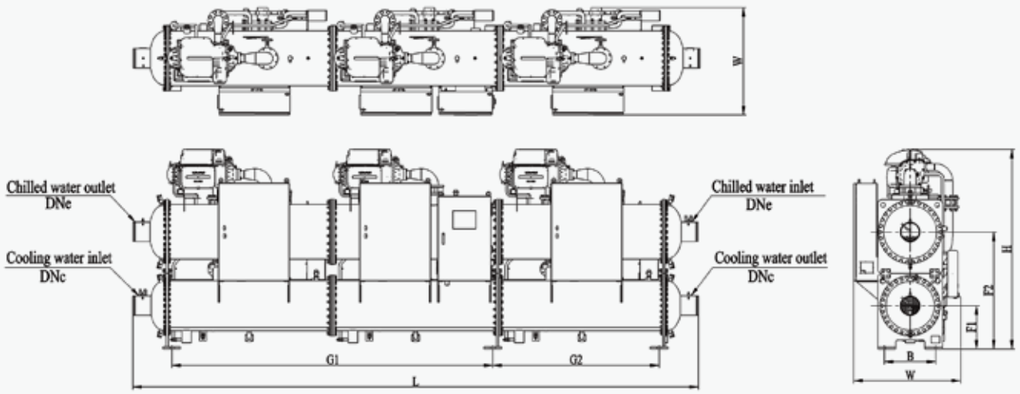
Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)		Nozzle Dimensions(mm)					
	L	W	H	B	G	F1	D1	F2	D2	DNe	DNc
CCWP1230MTN0605E1	4150	1300	2260	580	3310	340	290	1105	340	DN200	DN200
CCWP1400MTN0605E1	4450	1300	2260	580	3610	340	290	1105	340	DN200	DN200

*Please acquire detailed dimensions from Haier technicians.

Dimensions

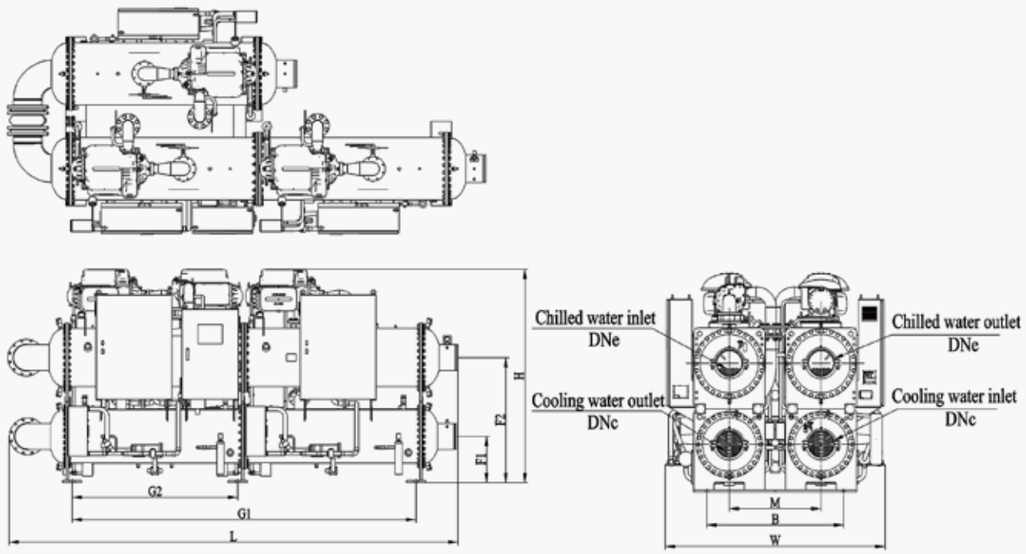
Outline dimension

Standard units of CCWP1330~1580MTN are 'Line' type, 'U' type products of which can be customized.



Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)			Nozzle Dimensions(mm)			
	L	W	H	B	G1	G2	F1	F2	DNe	DNc
CCWP1330MTN0202E1	6400	1300	2260	580	3610	1870	485	1275	DN200	DN200
CCWP1580MTN0000E1	6400	1300	2260	580	3610	1870	485	1275	DN250	DN250

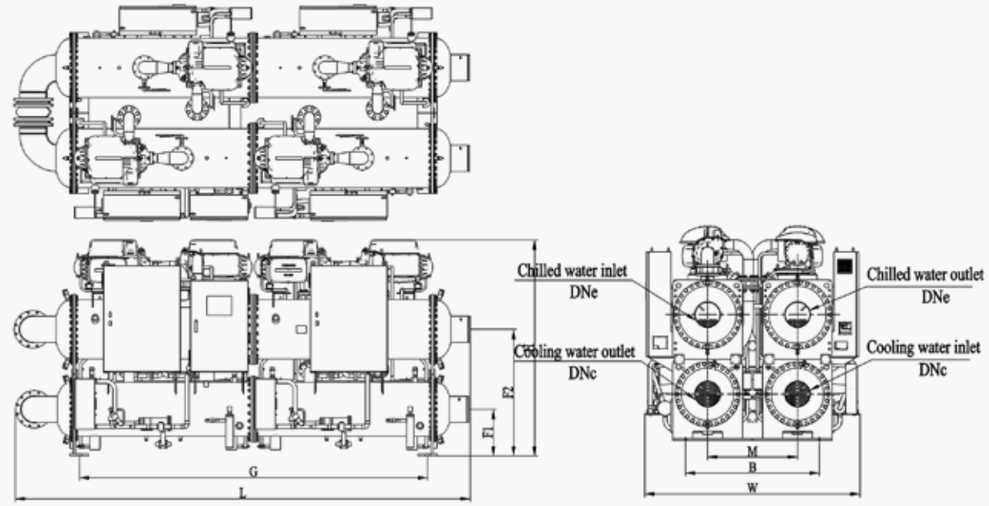
*Please acquire detailed dimensions from Haier technicians.



Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)			Nozzle Dimensions(mm)				
	L	W	H	B	G1	G2	F1	F2	M	DNe	DNc
CCWP1330MTN0202E2	4800	2260	2260	1520	3610	1740	485	1275	940	DN200	DN200
CCWP1580MTN0000E2	4800	2260	2260	1520	3610	1740	485	1275	940	DN250	DN250

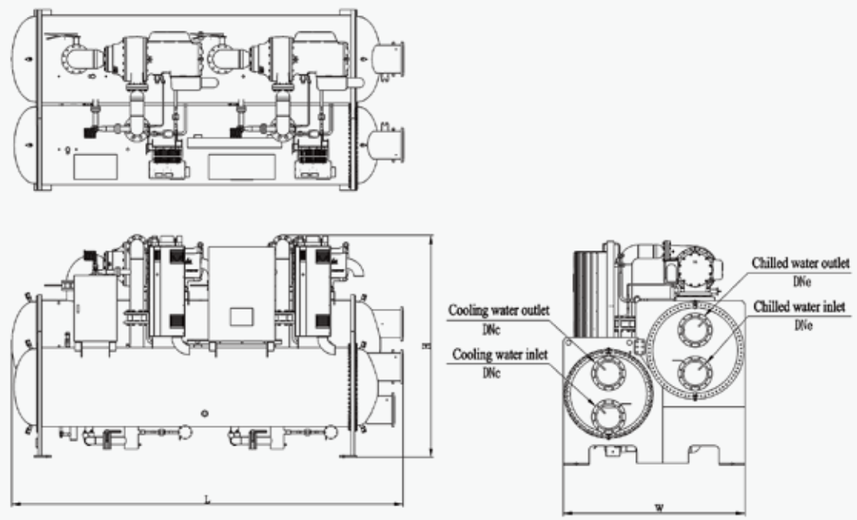
*Please acquire detailed dimensions from Haier technicians.

Outline dimension



Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)		Nozzle Dimensions(mm)				
	L	W	H	B	G	F1	F2	M	DNe	DNc
CCWP1760MTN0000E2	4800	2260	2260	1400	3610	485	1275	940	DN250	DN250
CCWP1930MTN0000E2	4800	2260	2260	1400	3610	485	1275	940	DN250	DN250
CCWP2110MTN0101E2	4800	2260	2260	1400	3610	485	1275	940	DN250	DN250
CCWP2640MTN0605E2	4800	2260	2260	1400	3610	485	1275	940	DN300	DN300
CCWP2810MTN0605E2	4800	2260	2260	1400	3610	485	1275	940	DN300	DN300

*Please acquire detailed dimensions from Haier technicians.

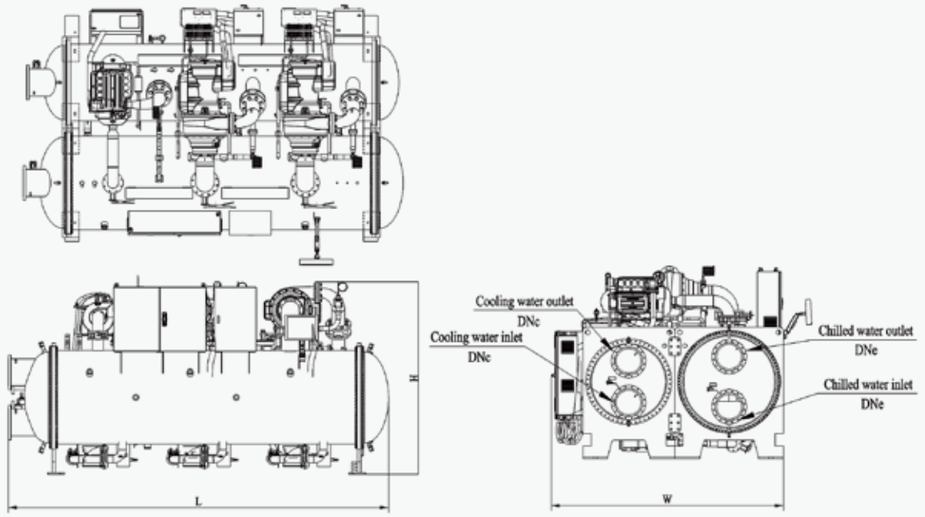


Model \ Code	Boundary Dimensions(mm)			Nozzle Dimensions(mm)	
	L	W	H	DNe	DNc
CCWP3170SXNENCNN1	4600	2400	2600	DN300	DN300

*Please acquire detailed dimensions from Haier technicians.

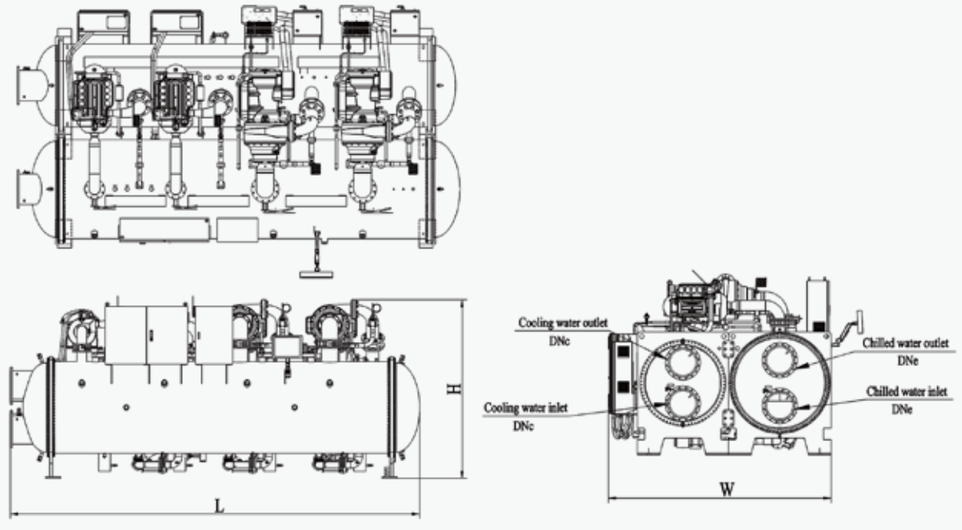
Dimensions

Outline dimension



Model \ Code	Boundary Dimensions(mm)			Nozzle Dimensions(mm)	
	L	W	H	DNe	DNc
CCWP3520SMNENCNN1	4600	2800	2400	DN300	DN300

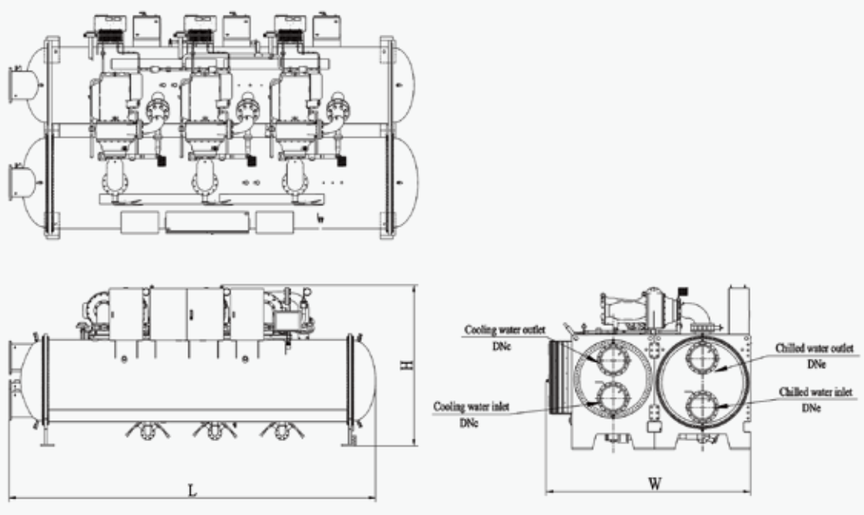
*Please acquire detailed dimensions from Haier technicians.



Model \ Code	Boundary Dimensions(mm)			Nozzle Dimensions(mm)	
	L	W	H	DNe	DNc
CCWP4220SMNENCNN1	5500	3000	2450	DN350	DN350

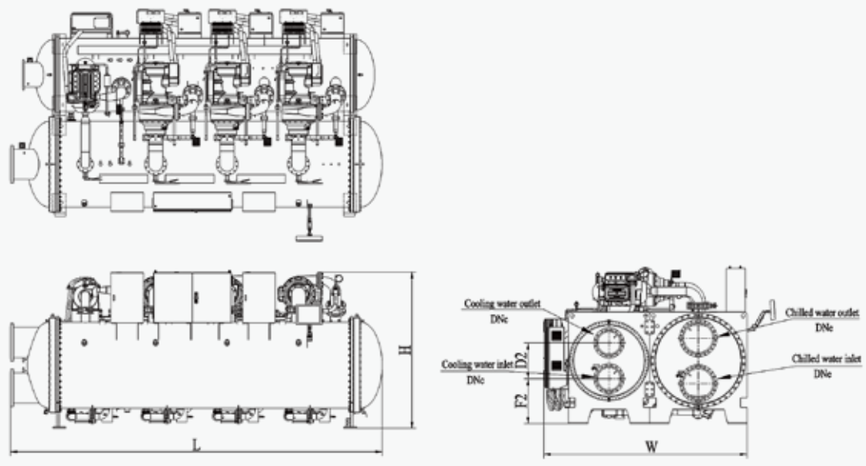
*Please acquire detailed dimensions from Haier technicians.

Outline dimension



Model \ Code	Boundary Dimensions(mm)			Nozzle Dimensions(mm)	
	L	W	H	DNe	DNc
CCWP4570SXNENCNN1	5800	3000	2450	DN350	DN350

*Please acquire detailed dimensions from Haier technicians.

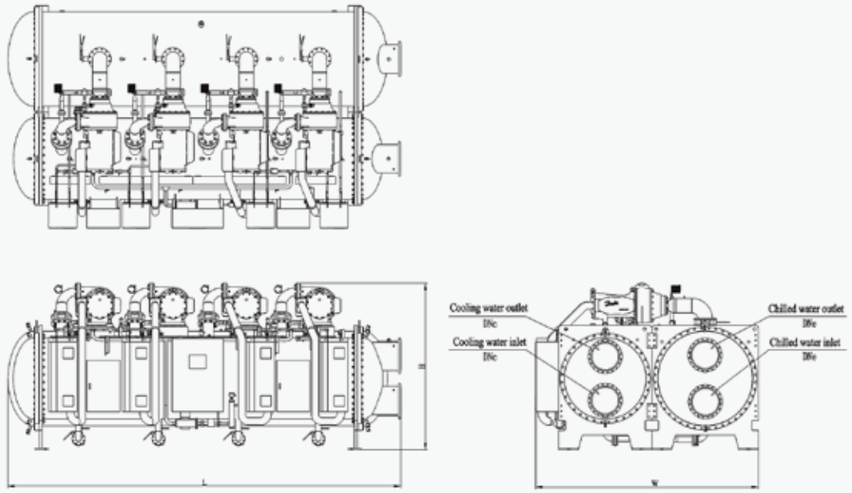


Model \ Code	Boundary Dimensions(mm)			Nozzle Dimensions(mm)	
	L	W	H	DNe	DNc
CCWP5280SMNENCNN1	5800	3200	2500	DN400	DN400

*Please acquire detailed dimensions from Haier technicians.

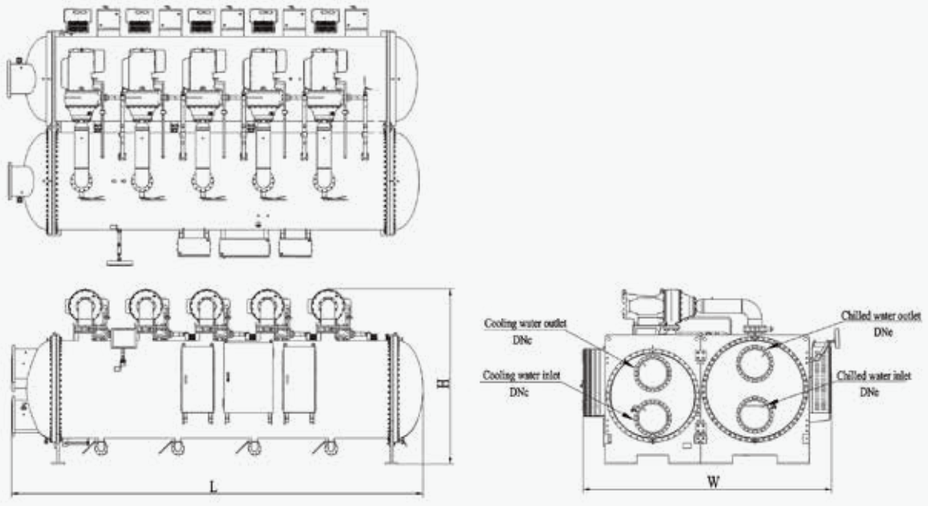
Dimensions

Outline dimension



Model \ Code	Boundary Dimensions(mm)			Nozzle Dimensions(mm)	
	L	W	H	DNe	DNc
CCWP5630SXNENCNN1	6500	3450	2550	DN400	DN400
CCWP5980SXNENCNN1					

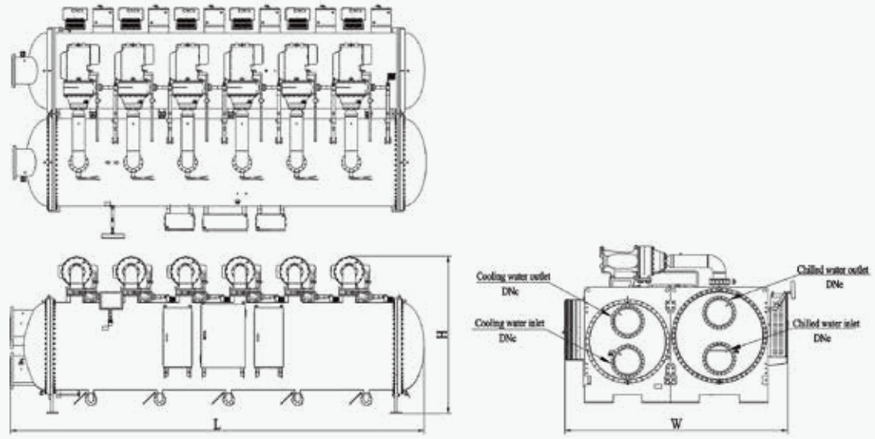
*Please acquire detailed dimensions from Haier technicians.



Model \ Code	Boundary Dimensions(mm)			Nozzle Dimensions(mm)	
	L	W	H	DNe	DNc
CCWP7030SXNENCNN1	7260	3450	3000	DN450	DN350

*Please acquire detailed dimensions from Haier technicians.

Outline dimension



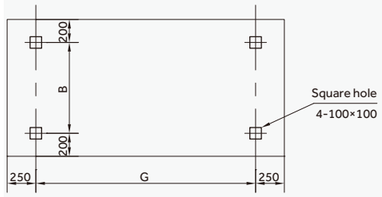
Model \ Code	Boundary Dimensions(mm)			Nozzle Dimensions(mm)	
	L	W	H	DNe	DNc
CCWP8800SXNENCNN1	7260	4000	3000	DN500	DN500

*Please acquire detailed dimensions from Haier technicians.

Dimensions

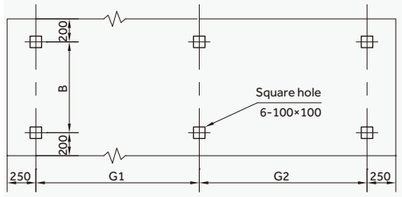
Installation foundation drawing

CCWP0440MTN0000E1~CCWP1230MTN0605E1, CCWP1400MTN0605E1



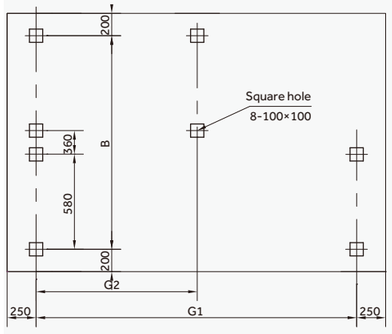
Model	G(mm)	B(mm)
CCWP0440MTN0000E1	1440	580
CCWP0530MTN0101E1	1440	580
CCWP0740MTN0000E1	2540	580
CCWP0880MTN0000E1	3010	580
CCWP1100MTN0101E1	3010	580
CCWP1230MTN0605E1	3310	580
CCWP1400MTN0605E1	3610	580

CCWP1330MTN0202E1, CCWP1580MTN0000E1(Line type)



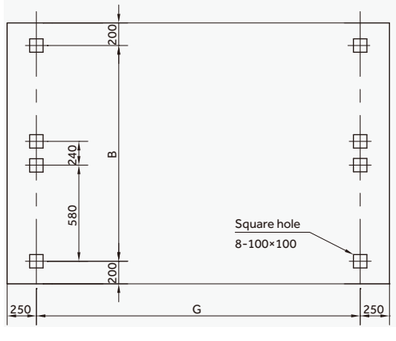
Model	G1(mm)	G2(mm)	B(mm)
CCWP1330MTN0202E1	3610	1870	580
CCWP1580MTN0000E1	3610	1870	580

CCWP1330MTN0202E2, CCWP1580MTN0000E2(U type)



Model	G1(mm)	G2(mm)	B(mm)
CCWP1330MTN0202E2	3610	1740	1520
CCWP1580MTN0000E2	3610	1740	1520

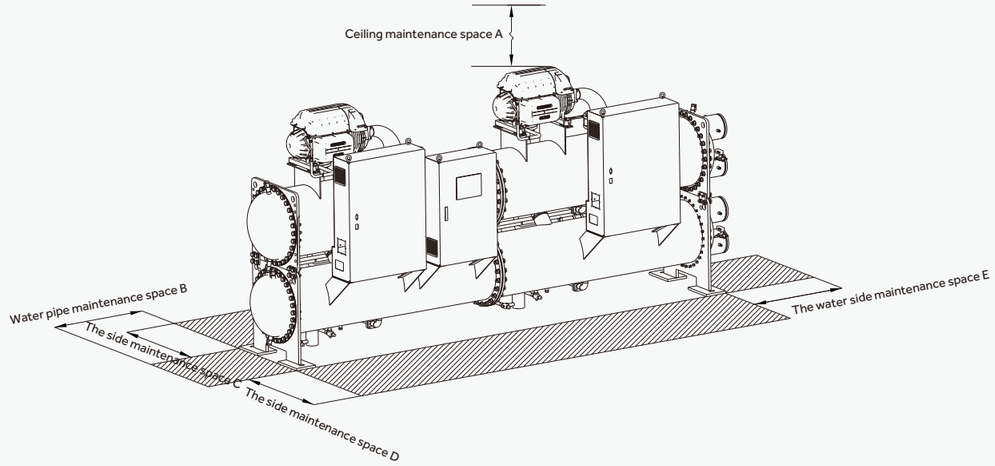
CCWP1760MTN0000E2~CCWP2810MTN0605E2



Model	G(mm)	B(mm)
CCWP1760MTN0000E2	3610	1400
CCWP1930MTN0000E2	3610	1400
CCWP2110MTN0101E2	3610	1400
CCWP2640MTN0605E2	3610	1400
CCWP2810MTN0605E2	3610	1400

Service space requirements

Water-cooled magnetic bearing centrifugal chiller installation space diagram



Model	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)
CCWP0440MTN0000E1/CCWP0530MTN0101E1	500	1700	1500	1500	1500
CCWP0740MTN0000E1	500	2800	1500	1500	1500
CCWP0880MTN0000E1/CCWP1100MTN0101E1	500	1700	1500	1500	1700
CCWP1230MTN0605E1	500	1700	1500	1500	2000
CCWP1400MTN0605E1	500	2000	1500	1500	2000
CCWP1330MTN0202E1/CCWP1580MTN0000E1	500	2000	1500	1500	2000
CCWP1760MTN0000E2~CCWP2810MTN0605E2	500	2000	1500	1500	2000

Note: Above data is minimum dimension.
For >800RT installation fundation drawings, please contact Haier staff.

50% Energy saving than conventional chiller

Low sound level 75dB(A)

Vibration close to 0

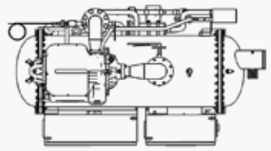
R513A

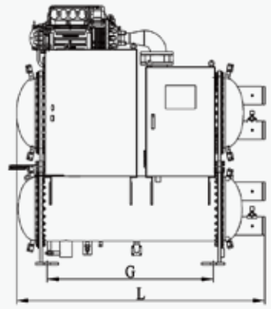
MODEL			CCWU0440 MTNFNCNE1	CCWU0530 MTNFNCNE1	CCWU0740 MTNFNCNE1	CCWU0880 MTNFNCNE1	CCWU1100 MTNFNCNE1	CCWU1230 MTNFNCNE1	CCWU1330 MTNFNCNE1	CCWU1400 MTNFNCNE1	CCWU1580 MTNFNCNE1	CCWU1760 MTNFNCNE2	CCWU1930 MTNFNCNE2	CCWU2110 MTNFNCNE2	CCWU2640 MTNFNCNE2	CCWU2810 MTNFNCNE2
Cooling capacity		Ton	125	150	200	250	300	350	380	400	450	500	550	600	750	800
		kW	439.6	527.6	703.4	879.2	1054	1231	1336	1407	1583	1758	1934	2110	2638	2814
Power input		kW	74.22	88.50	118.9	146.0	171.9	200.8	217.5	230.6	257.7	285.8	313.9	341.9	427.0	453.8
COP		kW/kW	5.92	5.96	5.92	6.02	6.13	6.13	6.15	6.10	6.14	6.15	6.16	6.17	6.18	6.20
		kW/Ton	0.594	0.590	0.594	0.584	0.574	0.574	0.572	0.577	0.573	0.572	0.571	0.570	0.569	0.567
Starting amps of single compressor		A	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Min circuit amps.(Max. running current)		A	178	180	225	178×2	180×2	180+225	178×3	225×2	180×3	178×4	180×4	180×4	180+225×3	225×4
Max. power input		kW	109	110	138	109×2	110×2	110+138	109×3	138×2	110×3	109×4	110×4	110×4	110+138×3	138×4
Safe protection		/	High/low pressure protection, safety protection, short of water relay protection, anti-freezed protection, motor overload, phase sequence and lack of phase protection													
Compressor	Type	/	Magnetic bearing compressor													
	Starting mode	/	Soft start													
Power supply			3~/380V/50Hz													
Refrigerant throttle type			Electronic expansion valves													
Controller type			PLC													
Refrigerant	Type		R513A													
	Charge	kg	160	170	280	320	340	400	540	460	600	760	760	800	860	920
Evaporator	Type		Falling film													
	Chilled water inlet/outlet temp.		12°C/7°C													
	Connection size	DN	150	150	150	200	200	200	200	200	250	250	250	250	300	300
	Rated water flow	m³/h	75.6	90.7	121.0	151.2	181.3	211.7	229.8	242.0	272.3	302.4	332.6	362.9	453.7	484.0
	Fouling factor	m²•°C/kW	0.0180													
	Standard pressure	MPa	1.0													
	Pass	/	4	4	2	2	2	2	1*	2	1*	2	2	2	2	2
	Water side pressure drop	kPa	83.0	81.0	47.0	75.0	76.9	94.9	48.2	99.0	49.1	74.8	86.0	73.0	93.0	99.0
Condenser	Type		Shell&tube heat exchanger													
	Cooling water inlet/outlet temp.		30°C/35°C													
	Connection size	DN	150	150	150	200	200	200	200	200	250	250	250	250	300	300
	Rated water flow	m³/h	88.4	106.0	141.4	176.3	210.9	246.3	267.2	281.7	316.6	351.5	386.6	421.7	527.2	562.1
	Fouling factor	m²•°C/kW	0.0440													
	Standard pressure	MPa	1.0													
	Pass		4	4	2	2	2	2	1*	2	1*	2	2	2	2	2
	Water side pressure drop	kPa	77.1	70.0	42.7	72.0	67.9	96.9	46.2	97.0	43.9	72.0	81.0	67.8	79.9	95.0
External dimension	Unit length	mm	2250	2250	3250	3830	3830	4150	6400	4450	6400	4800	4800	4800	4800	4800
	Unit width	mm	1300	1300	1300	1300	1300	1300	1300	1300	1300	2260	2260	2260	2260	2260
	Unit height	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
Weight	Net weight	kg	2270	2380	2550	3740	4030	4530	5130	4880	5350	8200	8300	8350	9600	9900
	Gross weight	kg	2310	2420	2590	3790	4080	4580	5200	4930	5420	8280	8380	8430	9680	9980
	Operation weight	kg	2520	2680	2900	4170	4500	5130	5880	5530	6100	9200	9400	9450	10700	11000

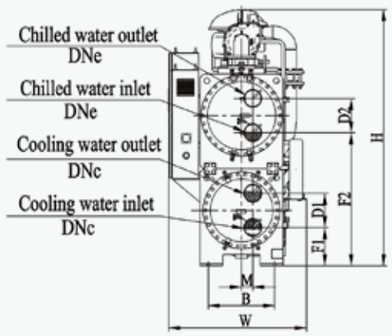
Note:
1. Specification is based on the following condition:
   Evaporator chilled water outlet temperature 7 ℃, chilled water inlet temperature 12 ℃, fouling factor=0.0180m2K/kW.
   Condenser cooling water inlet water temperature 30 ℃, cooling water outlet temperature 35 ℃, fouling factor=0.0440m2K/kW.
2. Due to decimal point retention restrictions, some data may have slight differences when manually calculated.
3. Above products water side pressure is 1.0MPa. Contact with Haier local agencies, if you need higher pressure product.
4. Above parameters are based on the standard products. For customized products, please contact Haier local agencies.
5. Due to our policy of innovation, some specifications maybe changed without notification.
6. *Can be configured as 2pass, please consult Haier sales staff.

Dimensions

Outline dimension

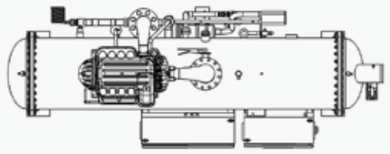


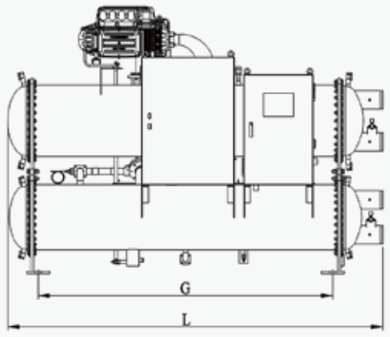


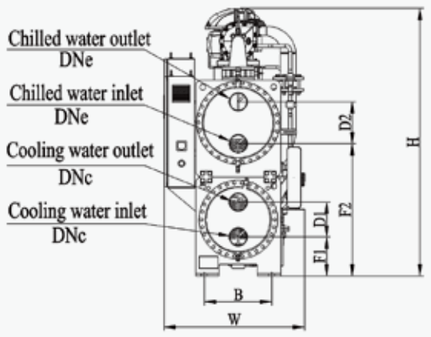


Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)		Nozzle Dimensions(mm)					
	L	W	H	B	G	F1	D1	F2	D2	M	DNe	DNc
CCWU0440MTN0000E1	2250	1300	2260	580	1440	335	300	1125	300	100	DN150	DN150
CCWU0530MTN0101E1	2250	1300	2260	580	1440	335	300	1125	300	100	DN150	DN150

*Please acquire detailed dimensions from Haier technicians.



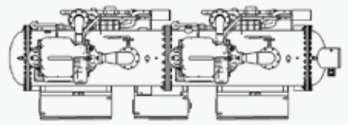


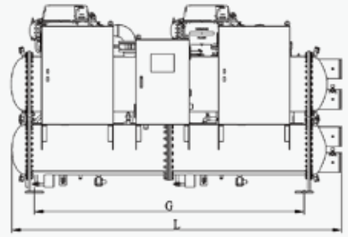


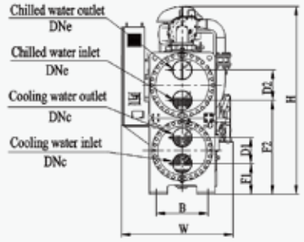
Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)		Nozzle Dimensions(mm)					
	L	W	H	B	G	F1	D1	F2	D2	DNe	DNc
CCWUO740MTN0000E1	3250	1300	2260	580	2540	335	300	1095	360	DN150	DN150

*Please acquire detailed dimensions from Haier technicians.

Outline dimension

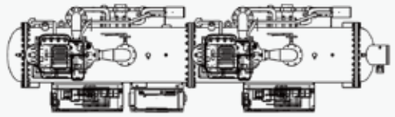


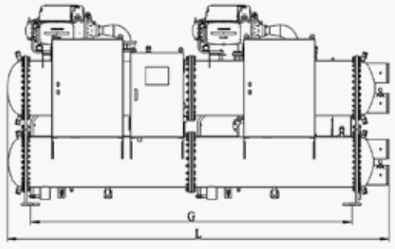


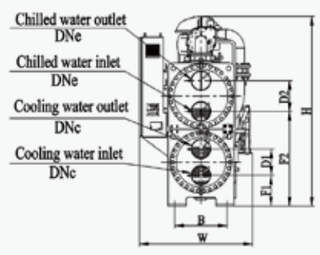


Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)		Nozzle Dimensions(mm)					
	L	W	H	B	G	F1	D1	F2	D2	DNe	DNc
CCWU0880MTN0000E1	3830	1300	2260	580	3010	340	290	1105	340	DN200	DN200
CCWU1100MTN0101E1	3830	1300	2260	580	3010	340	290	1105	340	DN200	DN200

*Please acquire detailed dimensions from Haier technicians.





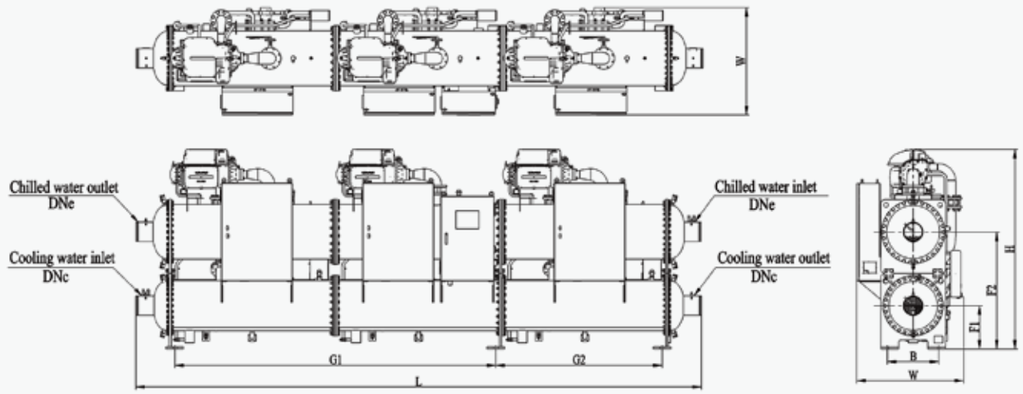


Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)		Nozzle Dimensions(mm)					
	L	W	H	B	G	F1	D1	F2	D2	DNe	DNc
CCWU1230MTN0605E1	4150	1300	2260	580	3310	340	290	1105	340	DN200	DN200
CCWU1400MTN0605E1	4450	1300	2260	580	3610	340	290	1105	340	DN200	DN200

*Please acquire detailed dimensions from Haier technicians.

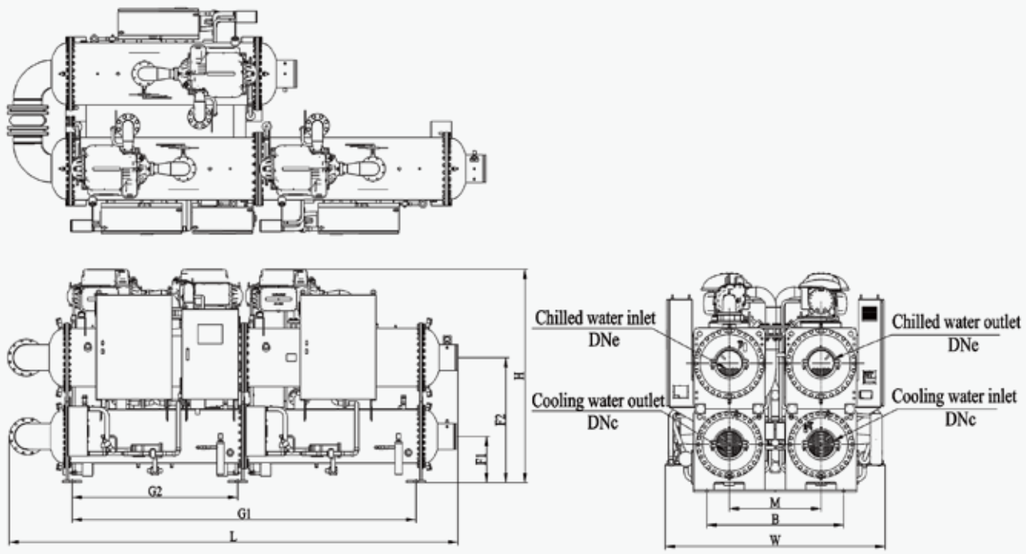
Dimensions

Outline dimension



Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)			Nozzle Dimensions(mm)			
	L	W	H	B	G1	G2	F1	F2	DNe	DNc
CCWU1330MTL0202E1	6400	1300	2260	580	3610	1870	485	1275	DN200	DN200
CCWU1580MTL0000E1	6400	1300	2260	580	3610	1870	485	1275	DN250	DN250

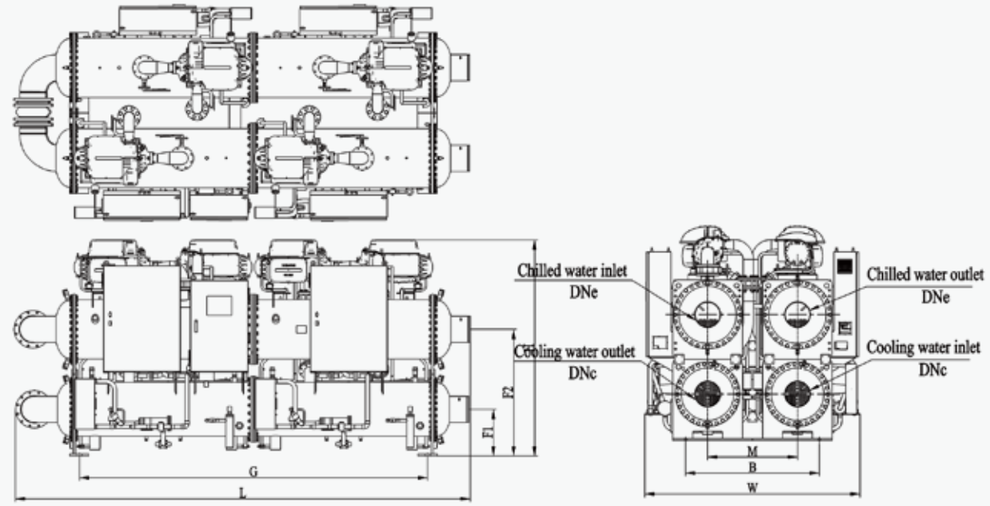
*Please acquire detailed dimensions from Haier technicians.



Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)			Nozzle Dimensions(mm)				
	L	W	H	B	G1	G2	F1	F2	M	DNe	DNc
CCWU1330MTN0202E2	4800	2260	2260	1520	3610	1740	485	1275	940	DN200	DN200
CCWU1580MTN0000E2	4800	2260	2260	1520	3610	1740	485	1275	940	DN250	DN250

*Please acquire detailed dimensions from Haier technicians.

Outline dimension

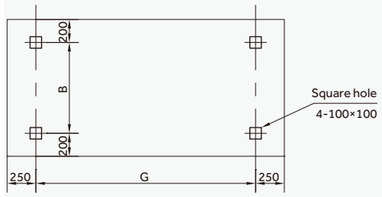


Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)		Nozzle Dimensions(mm)				
	L	W	H	B	G	F1	F2	M	DNe	DNc
CCWU1760MTN0000E2	4800	2260	2260	1400	3610	485	1275	940	DN250	DN250
CCWU1930MTN0000E2	4800	2260	2260	1400	3610	485	1275	940	DN250	DN250
CCWU2110MTN0101E2	4800	2260	2260	1400	3610	485	1275	940	DN250	DN250
CCWU2640MTN0605E2	4800	2260	2260	1400	3610	485	1275	940	DN300	DN300
CCWU2810MTN0605E2	4800	2260	2260	1400	3610	485	1275	940	DN300	DN300

Dimensions

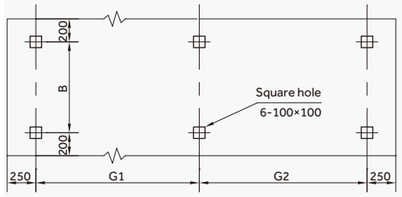
Installation foundation drawing

CCWU0440MTN0000E1~CCWU1230MTN0605E1CCWU1400MTN0605E1



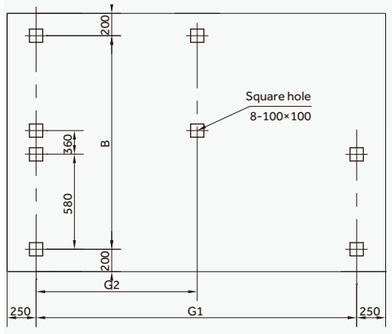
Model	G(mm)	B(mm)
CCWU0440MTN0000E1	1440	580
CCWU0530MTN0101E1	1440	580
CCWU0740MTN0000E1	2540	580
CCWU0880MTN0000E1	3010	580
CCWU1100MTN0101E1	3010	580
CCWU1230MTN0605E1	3310	580
CCWU1400MTN0605E1	3610	580

CCWU1330MTN0202E1、CCWU1580MTN0000E1 (Line type)



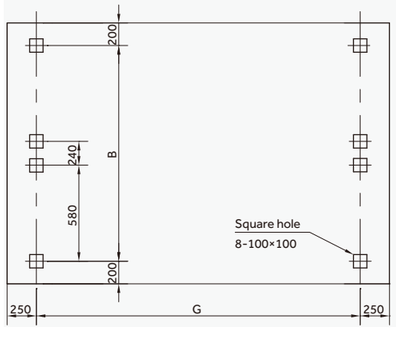
Model	G1(mm)	G2(mm)	B(mm)
CCWU1330MTN0202E1	3610	1870	580
CCWU1580MTN0000E1	3610	1870	580

CCWU1330MTN0202E2、CCWU1580MTN0000E2(U type)



Model	G1(mm)	G2(mm)	B(mm)
CCWU1330MTN0202E2	3610	1740	1520
CCWU1580MTN0000E2	3610	1740	1520

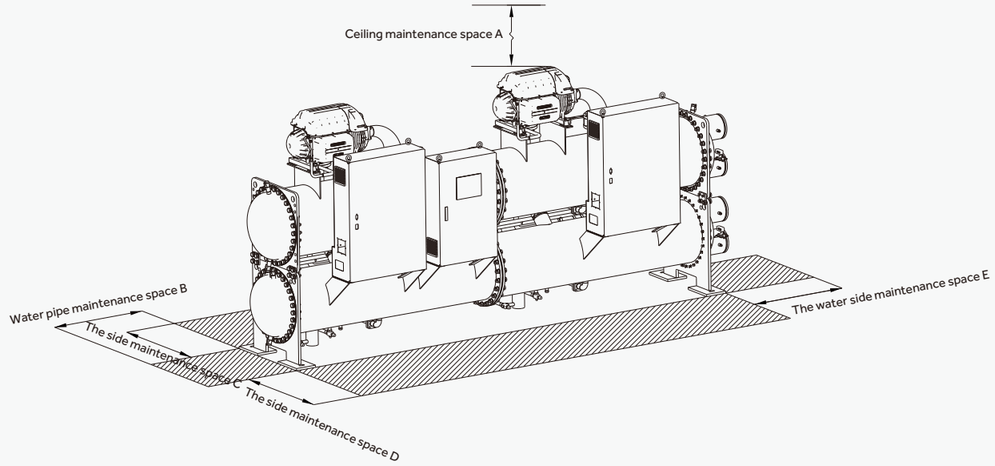
CCWU1760MTN0000E2~CCWU2810MTN0605E2



Model	G(mm)	B(mm)
CCWU1760MTN0000E2	3610	1400
CCWU1930MTN0000E2	3610	1400
CCWU2110MTN0101E2	3610	1400
CCWU2640MTN0605E2	3610	1400
CCWU2810MTN0605E2	3610	1400

Service space requirements

Water-cooled magnetic bearing centrifugal chiller installation space diagram



Model	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)
CCWU0440MTN0000E1/CCWU0530MTN0101E1	500	1700	1500	1500	1500
CCWU0740MTN0000E1	500	2800	1500	1500	1500
CCWU0880MTN0000E1/CCWU1100MTN0101E1	500	1700	1500	1500	1700
CCWU1230MTN0605E1	500	1700	1500	1500	2000
CCWU1400MTN0605E1	500	2000	1500	1500	2000
CCWU1330MTN0202E1/CCWU1580MTN0000E1	500	2000	1500	1500	2000
CCWU1760MTN0000E2~CCWU2810MTN0605E2	500	2000	1500	1500	2000

Note: Above data is minimum dimension

50% Energy saving than conventional chiller

Low sound level 75dB(A)

Vibration close to 0

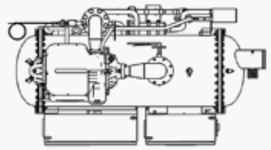
R1234ze(E)

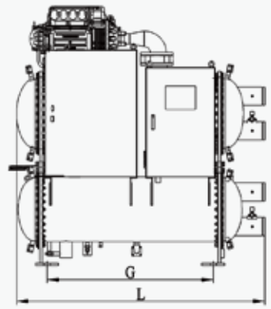
MODEL			CCWR0340 MGNFNCNE1	CCWR0390 MGNFNCNE1	CCWR0460 MGNFNCNE1	CCWR0670 MGNFNCNE1	CCWR0780 MGNFNCNE1	CCWR0850 MGNFNCNE1	CCWR0920 MGNFNCNE1	CCWR1000 MGNFNCNE1	CCWR1160 MGNFNCNE1	CCWR1230 MGNFNCNE1	CCWR1370 MGNFNCNE1	CCWR1550 MGNFNCNE2	CCWR1690 MGNFNCNE2	CCWR1830 MGNFNCNE2
Cooling capacity		Ton	95	110	130	190	220	240	260	285	330	350	390	440	480	520
		kW	334.1	386.9	457.2	668.2	773.7	844.1	914.4	1002	1161	1231	1372	1547	1688	1829
Power input		kW	57.73	66.23	79.48	114.6	131.7	146.0	159.3	169.3	189.6	201.2	223.6	248.9	273.6	293.9
COP		kW/kW	5.79	5.84	5.75	5.83	5.87	5.78	5.74	5.92	6.12	6.12	6.13	6.22	6.17	6.22
		kW/Ton	0.608	0.602	0.611	0.603	0.599	0.608	0.613	0.594	0.575	0.575	0.573	0.566	0.570	0.565
Starting amps of single compressor		A	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Min circuit amps.(Max. running current)		A	150	123	210	150×2	123×2	123+210	210×2	150×3	123×3	123×2+210	210×3	123×4	123×2+210×2	210×4
Max. power input		kW	92	75	129	92×2	75×2	75+129	129×2	92×3	75×3	75×2+129	129×3	75×4	75×2+129×2	129×4
Safe protection		/	High/low pressure protection, safety protection, short of water relay protection, anti-freezed protection, motor overload, phase sequence and lack of phase protection													
Compressor	Type	/	Magnetic bearing compressor													
	starting mode	/	Soft start													
Power supply			3~/380V/50Hz													
Refrigerant throttle type			Electronic expansion valves													
Controller type			PLC													
Refrigerant	Type		R1234ze(E)													
	Charge	kg	160	170	230	320	340	400	460	540	600	630	690	800	860	920
Evaporator	Type		Falling film													
	Chilled water inlet/outlet temp.		12/7°C													
	Connection Size	DN	125	125	150	150	150	200	200	200	200	200	200	250	250	250
	Rated water flow	m^3/h	57.5	66.5	78.6	114.9	133.1	145.2	157.3	172.4	199.6	211.7	235.9	266.2	290.4	314.6
	Fouling factor	$m^2 \cdot °C/kW$	0.0180													
	Standard pressure	MPa	1.0													
	Pass	/	4	4	4	2	2	2	2	1*	1*	1*	1*	2	2	2
	Water side pressure drop	kPa	70.0	75.0	68.0	70.0	75.0	75.0	68.0	50.0	50.0	55.0	55.0	65.0	65.0	66.0
Condenser	Type		Shell&tube heat exchanger													
	Cooling water inlet/outlet temp.		30/35°C													
	Connection size	DN	125	125	150	150	150	200	200	200	200	200	200	250	250	250
	Rated water flow	m^3/h	67.4	77.9	92.3	134.6	155.7	170.3	184.7	201.5	232.2	246.3	274.4	309.0	337.4	365.0
	Fouling factor	$m^2 \cdot °C/kW$	0.0440													
	Standard pressure	MPa	1.0													
	Pass		4	4	4	2	2	2	2	1*	1*	1*	1*	2	2	2
	Water side pressure drop	kPa	75.0	78.0	70.0	75.0	78.0	77.0	70.0	53.0	53.0	55.0	54.9	68.0	69.9	67.9
External dimension	Unit length	mm	2250	2250	2510	3830	3830	4150	4450	6400	6400	6400	6400	4800	4800	4800
	Unit width	mm	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300	2260	2260	2260
	Unit height	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
Weight	Net weight	kg	2220	2330	2400	3790	3890	3990	4180	5130	5430	5880	6160	8000	8100	8200
	Gross weight	kg	2260	2370	2440	3840	3940	4040	4230	5200	5500	5950	6230	8080	8180	8280
	Operation weight	kg	2520	2680	2750	4290	4390	4490	4730	5880	6200	6660	6960	9000	9150	9300

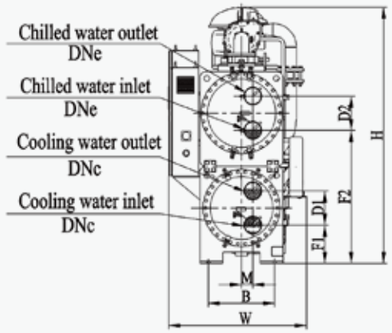
Note:
1. Specification is based on the following condition:
   Evaporator chilled water outlet temperature 7 C , chilled water inlet temperature 12 C , fouling factor=0.0180m2K/kW.
   Condenser cooling water inlet water temperature 30 C , cooling water outlet temperature 35 C , fouling factor=0.0440m2K/kW.
2. Due to decimal point retention restrictions, some data may have slight differences when manually calculated.
3. Above products water side pressure is 1.0MPa. Contact with Haier local agencies, if you need higher pressure product.
4. Above parameters are based on the standard products. For customized products, please contact Haier local agencies.
5. Due to our policy of innovation, some specifications maybe changed without notification.
6. *Can be configured as 2pass, please consult Haier sales staff.

Dimensions

Outline dimension

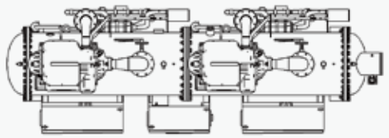


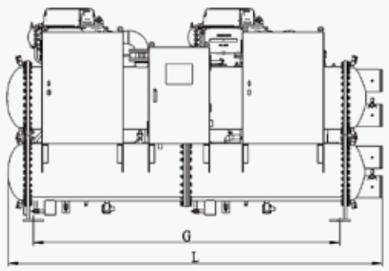


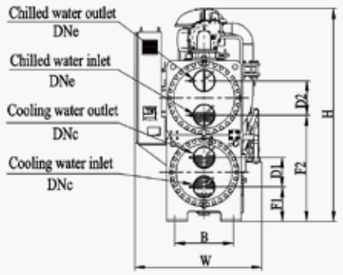


Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)		Nozzle Dimensions(mm)						
	L	W	H	B	G	F1	D1	F2	D2	M	DNe	DNc
CCWR0340MGNFNCNE1	2250	1300	2260	580	1440	335	300	1125	300	100	DN150	DN150
CCWR0390MGNFNCNE1												
CCWR0460MGNFNCNE1	2510	1300	2260	580	1440	335	300	1125	300	100	DN200	DN200

*Please acquire detailed dimensions from Haier technicians.



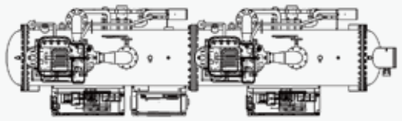


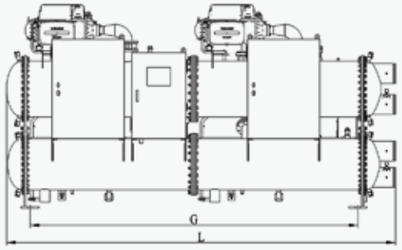


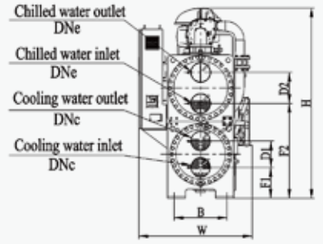
Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)		Nozzle Dimensions(mm)					
	L	W	H	B	G	F1	D1	F2	D2	DNe	DNc
CCWR0670MGNFNCNE1	3830	1300	2260	580	3010	340	290	1105	340	DN150	DN150
CCWR0780MGNFNCNE1											

*Please acquire detailed dimensions from Haier technicians.

Outline dimension

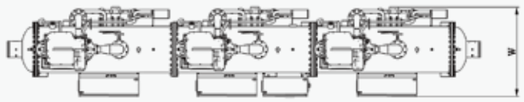


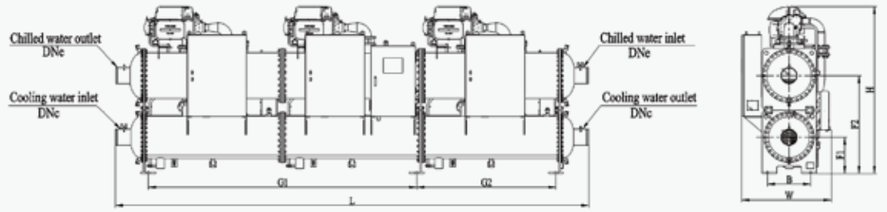




Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)		Nozzle Dimensions(mm)					
	L	W	H	B	G	F1	D1	F2	D2	DNe	DNc
CCWR0850MGNFNCNE1	4150	1300	2260	580	3310	340	290	1105	340	DN200	DN200
CCWR0920MGNFNCNE1	4450	1300	2260	580	3310	340	290	1105	340	DN200	DN200

*Please acquire detailed dimensions from Haier technicians.



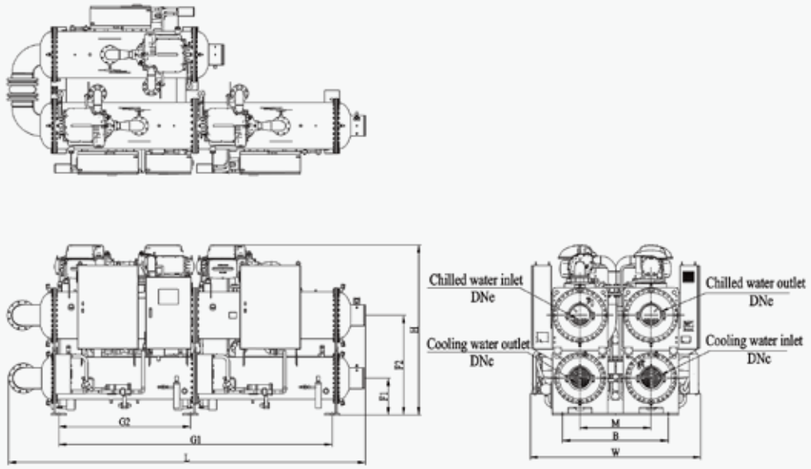


Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)			Nozzle Dimensions(mm)			
	L	W	H	B	G1	G2	F1	F2	DNe	DNc
CCWR1000MGNFNCNE1	6400	1300	2260	580	3610	1870	485	1275	DN200	DN200
CCWR1160MGNFNCNE1										
CCWR1230MGNFNCNE1										
CCWR1370MGNFNCNE1										

*Please acquire detailed dimensions from Haier technicians.

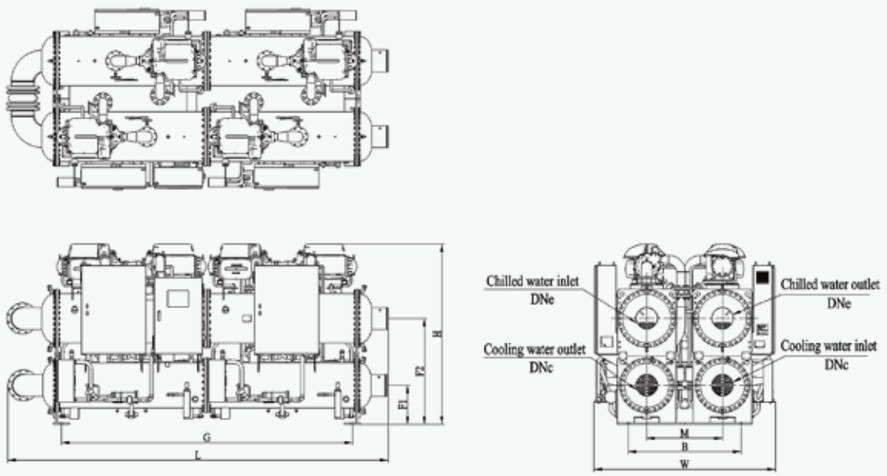
Dimensions

Outline dimension



Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)			Nozzle Dimensions(mm)				
	L	W	H	B	G1	G2	F1	F2	M	DNe	DNc
CCWR1000MGNFNCNE2 CCWR1160MGNFNCNE2 CCWR1230MGNFNCNE2 CCWR1370MGNFNCNE2	4800	2260	2260	1520	3610	1740	485	1275	940	DN200	DN200

*Please acquire detailed dimensions from Haier technicians.

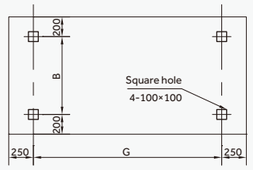


Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)		Nozzle Dimensions(mm)				
	L	W	H	B	G	F1	F2	M	DNe	DNc
CCWR1550MGNFNCNE2 CCWR1690MGNFNCNE2 CCWR1830MGNFNCNE2	4800	2260	2260	1400	3610	485	1275	940	DN250	DN250

*Please acquire detailed dimensions from Haier technicians.

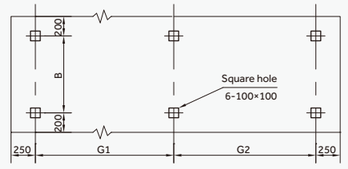
Installation foundation drawing

CCWR0340MGNFNCNE1~
CCWR0920MGNFNCNE1



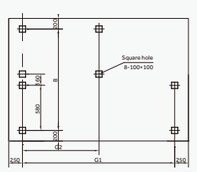
Model	G(mm)	B(mm)
CCWR0340MGNFNCNE1	1440	580
CCWR0390MGNFNCNE1	1440	580
CCWR0460MGNFNCNE1	1740	580
CCWR0670MGNFNCNE1	3010	580
CCWR0780MGNFNCNE1	3010	580
CCWR0850MGNFNCNE1	3310	580
CCWR0920MGNFNCNE1	3610	580

CCWR1000MGNFNCNE1~
CCWR1370MGNFNCNE1 (Line type)



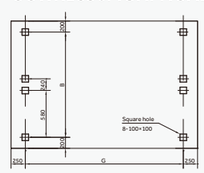
Model	G1(mm)	G2(mm)	B(mm)
CCWR1000MGNFNCNE1	3610	1870	580
CCWR1160MGNFNCNE1	3610	1870	580
CCWR1230MGNFNCNE1	3610	1870	580
CCWR1370MGNFNCNE1	3610	1870	580

CCWR1000MGNFNCNE2~
CCWR1370MGNFNCNE2 (U type)



Model	G1(mm)	G2(mm)	B(mm)
CCWR1000MGNFNCNE2	3610	1740	1520
CCWR1160MGNFNCNE2	3610	1740	1520
CCWR1230MGNFNCNE2	3610	1740	1520
CCWR1370MGNFNCNE2	3610	1740	1520

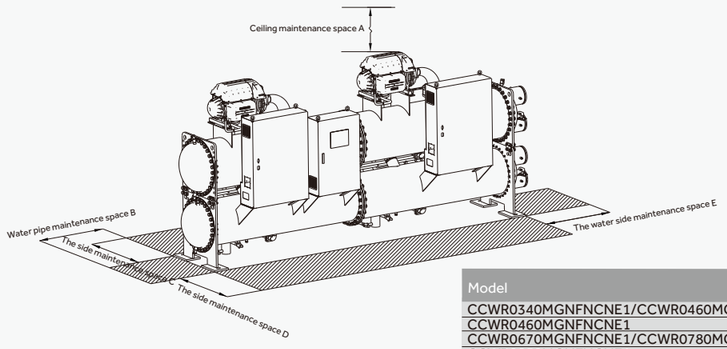
CCWR1550MGNFNCNE2~
CCWR1830MGNFNCNE2



Model	G(mm)	B(mm)
CCWR1550MGNFNCNE2	3610	1400
CCWR1690MGNFNCNE2	3610	1400
CCWR1830MGNFNCNE2	3610	1400

Service space requirements

Water-cooled magnetic bearing centrifugal chiller installation space diagram



Model	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)
CCWR0340MGNFNCNE1/CCWR0460MGNFNCNE1	500	1700	1500	1500	1500
CCWR0460MGNFNCNE1	500	2000	1500	1500	1500
CCWR0670MGNFNCNE1/CCWR0780MGNFNCNE1	500	1700	1500	1500	1700
CCWR0850MGNFNCNE1	500	1700	1500	1500	2000
CCWR0920MGNFNCNE1	500	2000	1500	1500	2000
CCWR1000MGNFNCNE1~CCWR1370MGNFNCNE1	500	2000	1500	1500	2000
CCWR1550MGNFNCNE1~CCWR1830MGNFNCNE1	500	2000	1500	1500	2000

Note: Above data is minimum dimension

50% Energy saving than conventional chiller

Low sound level 75dB(A)

Vibration close to 0

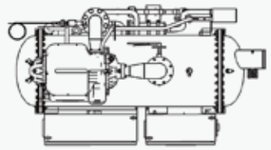
R515B

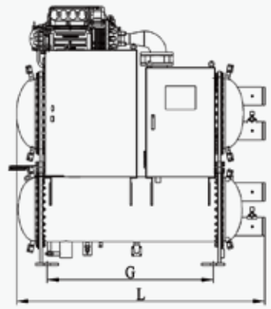
MODEL			CCWV0340 MGNFNCNE1	CCWV0390 MGNFNCNE1	CCWV0460 MGNFNCNE1	CCWV0670 MGNFNCNE1	CCWV0780 MGNFNCNE1	CCWV0850 MGNFNCNE1	CCWV0920 MGNFNCNE1	CCWV1000 MGNFNCNE1	CCWV1160 MGNFNCNE1	CCWV1230 MGNFNCNE1	CCWV1370 MGNFNCNE1	CCWV1550 MGNFNCNE2	CCWV1690 MGNFNCNE2	CCWV1830 MGNFNCNE2
Cooling capacity		Ton	95	110	130	190	220	240	260	285	330	350	390	440	480	520
		kW	334.1	386.9	457.2	668.2	773.7	844.1	914.4	1002	1161	1231	1372	1547	1688	1829
Power input		kW	57.73	66.23	79.48	114.6	131.7	146.0	159.3	169.3	189.6	201.2	223.6	248.9	273.6	293.9
COP		kW/kW	5.79	5.84	5.75	5.83	5.87	5.78	5.74	5.92	6.12	6.12	6.13	6.22	6.17	6.22
		kW/Ton	0.608	0.602	0.611	0.603	0.599	0.608	0.613	0.594	0.575	0.575	0.573	0.566	0.570	0.565
Starting amps of single compressor		A	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Min circuit amps.(Max. running current)		A	150	123	210	150×2	123×2	123+210	210×2	150×3	123×3	123×2+210	210×3	123×4	123×2+210×2	210×4
Max. power input		kW	92	75	129	92×2	75×2	75+129	129×2	92×3	75×3	75×2+129	129×3	75×4	75×2+129×2	129×4
Safe protection		/	High/low pressure protection, safety protection, short of water relay protection, anti-freezed protection, motor overload, phase sequence and lack of phase protection													
Compressor	Type	/	Magnetic bearing compressor													
	starting mode	/	Soft start													
Power supply			3~/380V/50Hz													
Refrigerant throttle type			Electronic expansion valve													
Controller type			PLC													
Refrigerant	Type		R515B													
	Charge	kg	160	170	230	320	340	400	460	540	600	630	690	800	860	920
Evaporator	Type		Falling film													
	Chilled water inlet/outlet temp.		12/7°C													
	Connection Size	DN	125	125	150	150	150	200	200	200	200	200	200	250	250	250
	Rated water flow	m^3/h	57.5	66.5	78.6	114.9	133.1	145.2	157.3	172.4	199.6	211.7	235.9	266.2	290.4	314.6
	Fouling factor	$m^2 \cdot °C/kW$	0.0180													
	Standard pressure	MPa	1.0													
	Pass	/	4	4	4	2	2	2	2	1*	1*	1*	1*	2	2	2
	Water side pressure drop	kPa	70.0	75.0	68.0	70.0	75.0	75.0	68.0	50.0	50.0	55.0	55.0	65.0	65.0	66.0
Condenser	Type		Shell&tube heat exchanger													
	Cooling water inlet/outlet temp.		30/35°C													
	Connection size	DN	125	125	150	150	150	200	200	200	200	200	200	250	250	250
	Rated water flow	m^3/h	67.4	77.9	92.3	134.6	155.7	170.3	184.7	201.5	232.2	246.3	274.4	309.0	337.4	365.0
	Fouling factor	$m^2 \cdot °C/kW$	0.0440													
	Standard pressure	MPa	1.0													
	Pass		4	4	4	2	2	2	2	1*	1*	1*	1*	2	2	2
	Water side pressure drop	kPa	75.0	78.0	70.0	75.0	78.0	77.0	70.0	53.0	53.0	55.0	54.9	68.0	69.9	67.9
External dimension	Unit length	mm	2250	2250	2510	3830	3830	4150	4450	6400	6400	6400	6400	4800	4800	4800
	Unit width	mm	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300	2260	2260	2260
	Unit height	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
Weight	Net weight	kg	2220	2330	2400	3790	3890	3990	4180	5130	5430	5880	6160	8000	8100	8200
	Gross weight	kg	2260	2370	2440	3840	3940	4040	4230	5200	5500	5950	6230	8080	8180	8280
	Operation weight	kg	2520	2680	2750	4290	4390	4490	4730	5880	6200	6660	6960	9000	9150	9300

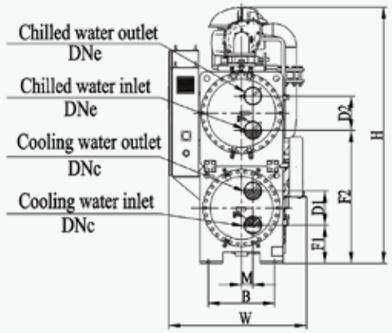
Note:
1. Specification is based on the following condition:
   Evaporator chilled water outlet temperature 7 C , chilled water inlet temperature 12 C , fouling factor=0.0180m2K/kW.
   Condenser cooling water inlet water temperature 30 C , cooling water outlet temperature 35 C , fouling factor=0.0440m2K/kW.
2. Due to decimal point retention restrictions, some data may have slight differences when manually calculated.
3. Above products water side pressure is 1.0MPa. Contact with Haier local agencies, if you need higher pressure product.
4. Above parameters are based on the standard products. For customized products, please contact Haier local agencies.
5. Due to our policy of innovation, some specifications maybe changed without notification.
6. *Can be configured as 2pass, please consult Haier sales staff.

Dimensions

Outline dimension

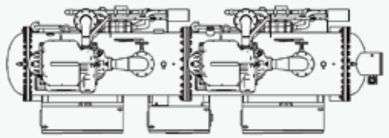


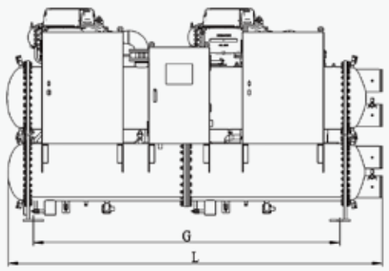


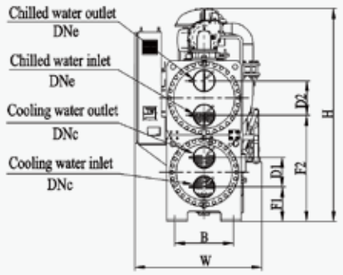


Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)		Nozzle Dimensions(mm)						
	L	W	H	B	G	F1	D1	F2	D2	M	DNe	DNc
CCWV0340MGNFNCNE1	2250	1300	2260	580	1440	335	300	1125	300	100	DN150	DN150
CCWV0390MGNFNCNE1												
CCWV0460MGNFNCNE1	2510	1300	2260	580	1740	335	300	1125	300	100	DN200	DN200

*Please acquire detailed dimensions from Haier technicians.



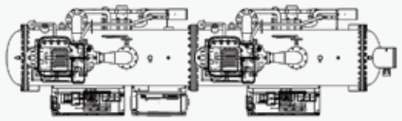


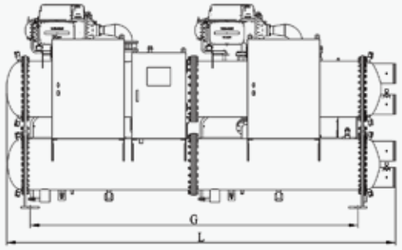


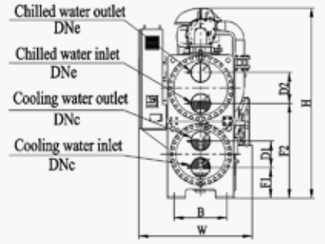
Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)		Nozzle Dimensions(mm)					
	L	W	H	B	G	F1	D1	F2	D2	DNe	DNc
CCWV0670MGNFNCNE1	3830	1300	2260	580	3010	340	290	1105	340	DN150	DN150
CCWV0780MGNFNCNE1											

*Please acquire detailed dimensions from Haier technicians.

Outline dimension

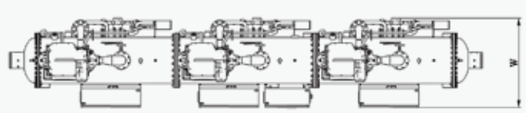


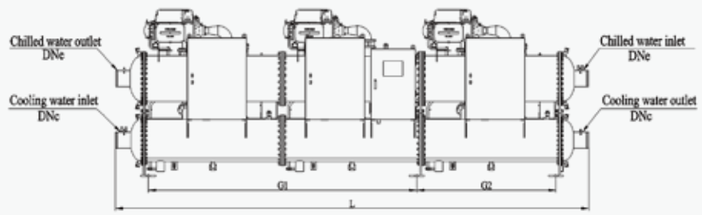


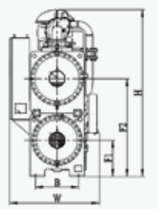


Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)		Nozzle Dimensions(mm)					
	L	W	H	B	G	F1	D1	F2	D2	DNe	DNc
CCWV0850MGNFNCNE1	4150	1300	2260	580	3310	340	290	1105	340	DN200	DN200
CCWV0920MGNFNCNE1	4450	1300	2260	580	3310	340	290	1105	340	DN200	DN200

*Please acquire detailed dimensions from Haier technicians.





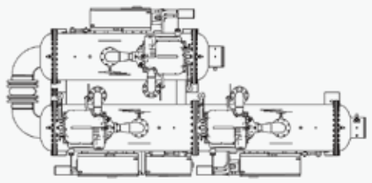


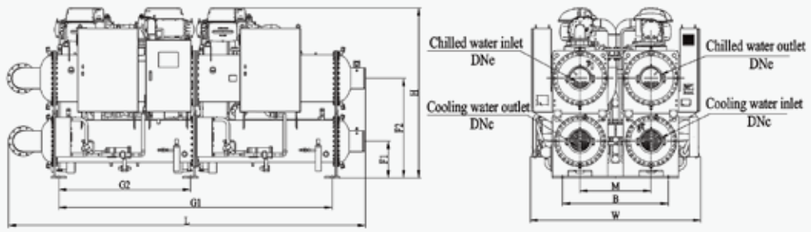
Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)			Nozzle Dimensions(mm)			
	L	W	H	B	G1	G2	F1	F2	DNe	DNc
CCWV1000MGNFNCNE1	6400	1300	2260	580	3610	1870	485	1275	DN200	DN200
CCWV1160MGNFNCNE1										
CCWV1230MGNFNCNE1										
CCWV1370MGNFNCNE1										

*Please acquire detailed dimensions from Haier technicians.

Dimensions

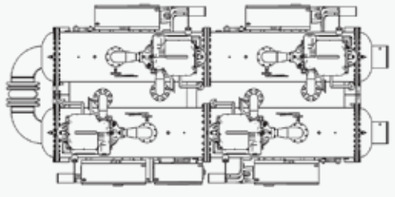
Outline dimension

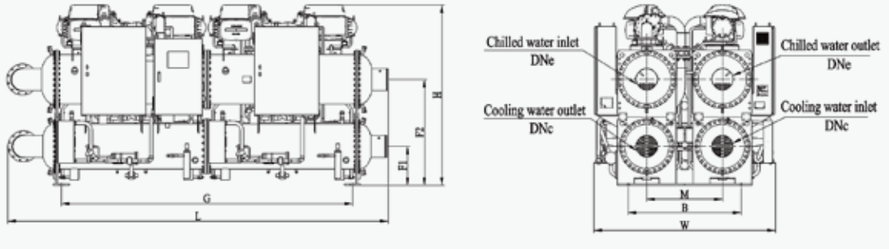




Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)			Nozzle Dimensions(mm)				
	L	W	H	B	G1	G2	F1	F2	M	DNe	DNc
CCWV1000MGNFNCNE2 CCWV1160MGNFNCNE2 CCWV1230MGNFNCNE2 CCWV1370MGNFNCNE2	4800	2260	2260	1520	3610	1740	485	1275	940	DN200	DN200

*Please acquire detailed dimensions from Haier technicians.



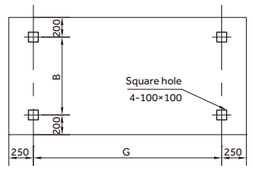


Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)		Nozzle Dimensions(mm)				
	L	W	H	B	G	F1	F2	M	DNe	DNc
CCWV1550MGNFNCNE2 CCWV1690MGNFNCNE2 CCWV1830MGNFNCNE2	4800	2260	2260	1400	3610	485	1275	940	DN250	DN250

*Please acquire detailed dimensions from Haier technicians.

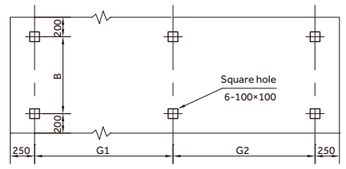
Installation foundation drawing

CCWV0340MGNFNCNE1~
CCWV0920MGNFNCNE1



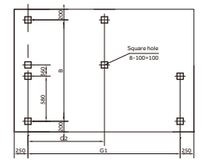
Model	G(mm)	B(mm)
CCWV0340MGNFNCNE1	1440	580
CCWV0390MGNFNCNE1	1440	580
CCWV0460MGNFNCNE1	1740	580
CCWV0670MGNFNCNE1	3010	580
CCWV0780MGNFNCNE1	3010	580
CCWV0850MGNFNCNE1	3310	580
CCWV0920MGNENCNE1	3610	580

CCWV1000MGNFNCNE1~
CCWV1370MGNFNCNE (Line type)



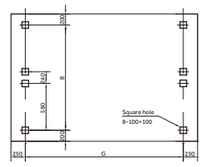
Model	G1(mm)	G2(mm)	B(mm)
CCWV1000MGNFNCNE1	3610	1870	580
CCWV1160MGNFNCNE1	3610	1870	580
CCWV1230MGNFNCNE1	3610	1870	580
CCWV1370MGNFNCNE1	3610	1870	580

CCWV1000MGNFNCNE2 ~
CCWV1370MGNFNCNE2 (U type)



Model	G1(mm)	G2(mm)	B(mm)
CCWV1000MGNFNCNE2	3610	1740	1520
CCWV1160MGNFNCNE2	3610	1740	1520
CCWV1230MGNFNCNE2	3610	1740	1520
CCWV1370MGNFNCNE2	3610	1740	1520

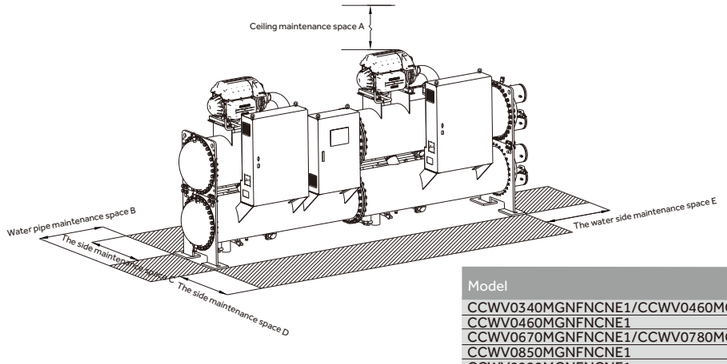
CCWV1550MGNFNCNE2 ~
CCWV1830MGNFNCNE2



Model	G(mm)	B(mm)
CCWV1550MGNFNCNE2	3610	1400
CCWV1690MGNFNCNE2	3610	1400
CCWV1830MGNFNCNE2	3610	1400

Service space requirements

Water-cooled magnetic bearing centrifugal chiller installation space diagram



Model	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)
CCWV0340MGNFNCNE1/CCWV0460MGNFNCNE1	500	1700	1500	1500	1500
CCWV0460MGNFNCNE1	500	2000	1500	1500	1500
CCWV0670MGNFNCNE1/CCWV0780MGNFNCNE1	500	1700	1500	1500	1700
CCWV0850MGNFNCNE1	500	1700	1500	1500	2000
CCWV0920MGNFNCNE1	500	2000	1500	1500	2000
CCWV1000MGNFNCNE1~CCWV1370MGNFNCNE1	500	2000	1500	1500	2000
CCWV1550MGNFNCNE1~CCWV1830MGNFNCNE1	500	2000	1500	1500	2000

Note: Above data is minimum dimension

Modular Water-cooled Magnetic Bearing Centrifugal Chiller

Convenient

Convenient

Replacement solution

For renovation project, conventional solution will spend a lot of time and cost to replace the units.

❶ Dismantling walls

Spend a lot of time; Affect the normal operation of buildings; Costs caused by the use of large equipment.


Conventional Solution

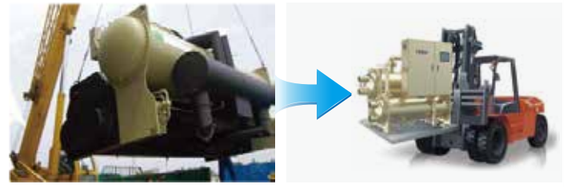
❷ Disassembling the unit

Spend a lot of time; low reliability.


Small footprint, easy to transport

The modular magnetic bearing centrifugal chiller is very compact, which can save 45% installation space than conventional chiller. and it is easily transported by the elevator.

The crane and other large-scale equipment are not needed for handling after unit arrives at the work site. only the forklift is needed to save installation time and costs.



Haier modular water-cooled magnetic bearing centrifugal chiller with small size and light weight can perfectly solve the problems of conventional replacement.

Management of more units in cascade

The scalable system can be extended for bigger available capacity. the compact design allows the combination of multiple units in confined spaces. the control allows to coordinate up to 16 units managing automatically the operation with maximum efficiency.

the master unit shall manage the slave units connected in series to balance the running hours and the load between the units.

Nomenclature

C C W P 0315 T T N EA CA N 1

- Chiller
- Magnetic bearing centrifugal chiller
- Cooling type: W-Water-cooled
- Refrigerant: P- R134a; U-R513A; R-R1234ze(E)
- Cooling capacity, kW
- Structure: M-Multi circuit; S-Single circuit; T-Modular type chiller
- Compressor type: T-TT; X-VTX
- Power supply: N-3Ph/380V/50Hz; K-3Ph/460V/60Hz; B-3Ph/400V/50Hz; L-3Ph/380V/60Hz;
- Evaporator type: E-Flooded; F-Falling film Type: A, B....
- Condenser type
- Economizer: E-With; N-Without
- Design serial number: 1-'Line' type 2-'U' type

Options/Accessories

Accessories	Standard	Optional
Power supply	3N~/380V/50Hz	3N~/380V/60Hz; 3N~/400V/50Hz; 3N~/460V/60Hz
Communication protocal	Cloud service	Modbus/BACnet
Harmonic filter	X	√
Surge suppressors	√	/
EMC/EMI filter	√	/
Water inlet/outlet connection type	Victaulic	Flange
Thermal insulation thickness	30mm	25mm/40mm
Water side working pressure	1.0Mpa	1.6MPa/2.0MPa/2.5MPa
ASME pressure vessel	X	√
Chilled water flowmeter	X	√
Automatic online rubber ball cleaning device	X	√
Channel steel base	X	√

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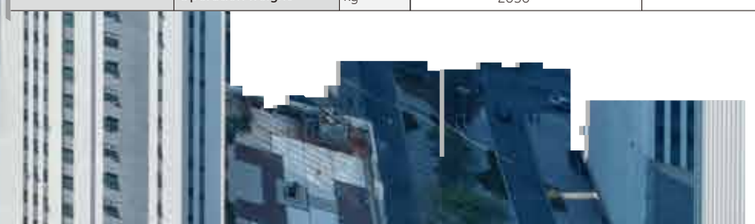
Small footprint, easy to transport

50% Energy saving than conventional chiller

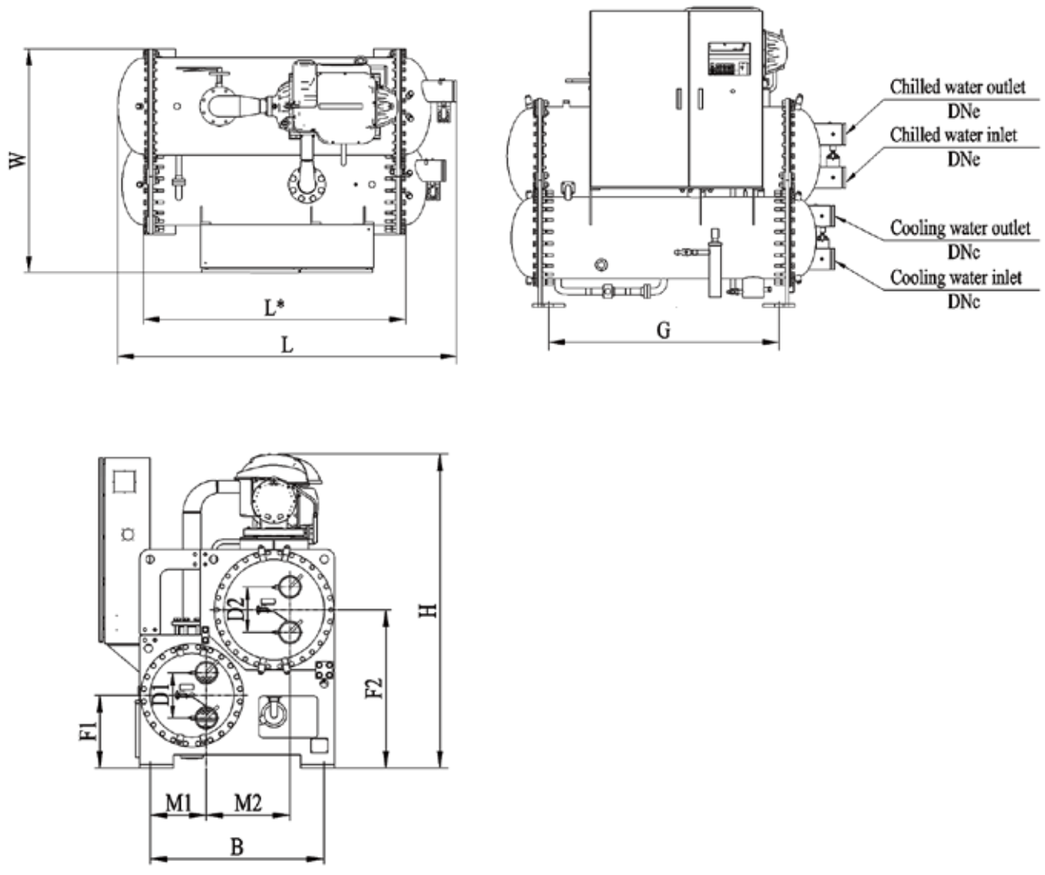
MODEL			CCWP0315TTNEACAN1	CCWP0420TTNEBCBN1	CCWP0500TTNECCCN1
Cooling capacity		Ton	90	120	142
		kW	316.5	422	499.4
Power input		kW	60.23	75.92	88.58
COP		kW/kW	5.26	5.56	5.64
		kW/Ton	0.669	0.633	0.624
Starting amps of single compressor		A	2	2	2
Min circuit amps. (Max. running current)		A	140	178	180
Max. power input		kW	86	109	110
Safe protection			High/low pressure protection, safety protection, short of water relay protection, anti-freezed protection, motor overload, phase sequence and lack of phase protection		
Compressor	Type		Magnetic bearing compressor		
	Starting mode		Soft start		
Power supply			3~/380V/50Hz		
Refrigerant throttle type			Electronic expansion valve		
Controller type			PLC control		
Refrigerant	Type		R134a		
	Charge	kg	130	150	160
Evaporator	Type		Flooded type		
	Water inlet/outlet temp.	°C	12°C/7°C		
	Inlet/outlet pipe	DN	125	125	150
	Rated water flow	m^3/h	54.4	72.6	85.9
	Fouling Factor	$m^2 \cdot °C/kW$	0.018		
	Standard pressure	MPa	1		
	Pass		4	4	4
	Water side resistance	kPa	52.2	59.0	53.9
Condenser	Type		Shell&tube heat exchanger		
	Water side pressure drop		30°C/35°C		
	Inlet/outlet pipe	DN	125	125	150
	Rated water flow	m^3/h	64.8	85.6	101.1
	Fouling factor	$m^2 \cdot °C/kW$	0.044		
	Standard pressure	MPa	1		
	Pass		4	4	4
	Water side pressure drop	kPa	61.2	66.9	84.7
External dimension	Unit length	mm	2200	2200	2200
	Unit width	mm	1400	1400	1400
	Unit height	mm	1900	1900	1900
Weight	Net weight	kg	1780	1860	1900
	Gross weight	kg	1820	1900	1940
	Operation weight	kg	2030	2110	2150

Note:
1. Specification is based on the following condition:
   Evaporator chilled water outlet temperature 7 ℃, chilled water inlet temperature 12 ℃, fouling factor=0.0180m2K/kW.
   Condenser cooling water inlet water temperature 30 ℃, cooling water outlet temperature 35 ℃, fouling factor=0.0440m2K/kW.
2. Due to decimal point retention restrictions, some data may have slight differences when manually calculated.
3. Above products water side pressure is 1.0MPa. Contact with Haier local agencies, if you need higher pressure product.
4. Above parameters are based on the standard products. For customized products, please contact Haier local agencies.
5. Due to our policy of innovation, some specifications maybe changed without notification.



Dimensions

Outline dimension

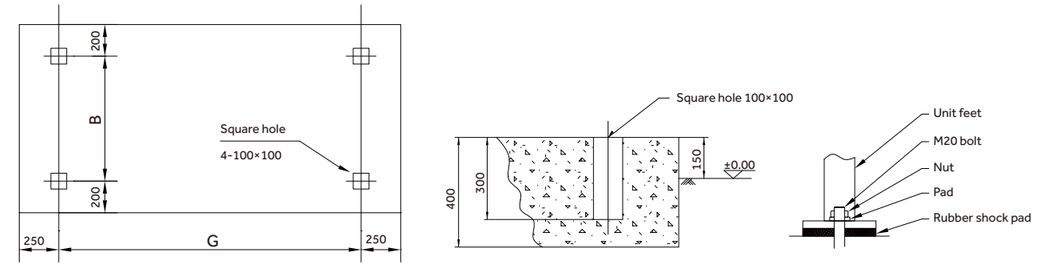


Note: If the unit with the length of "L" cannot access the elevator, the water boxes on both sides can be removed to make the length of "L*", then the elevator can be accessed.

Code / Model	Boundary Dimensions(mm)				Installation Dimensions(mm)		Nozzle Dimensions(mm)							
	L	L*	W	H	B	G	D1	D2	F1	F2	M1	M2	DNe	DNc
CCWP0315TTNEACAN1	2200	1680	1400	1900	1035	1440	270	270	435	945	333	500	DN125	DN125
CCWP0420TTNEBCBN1	2200	1680	1400	1900	1035	1440	270	270	435	945	333	500	DN125	DN125
CCWP0500TTNECCCN1	2200	1680	1400	1900	1035	1440	270	270	435	945	333	500	DN150	DN150

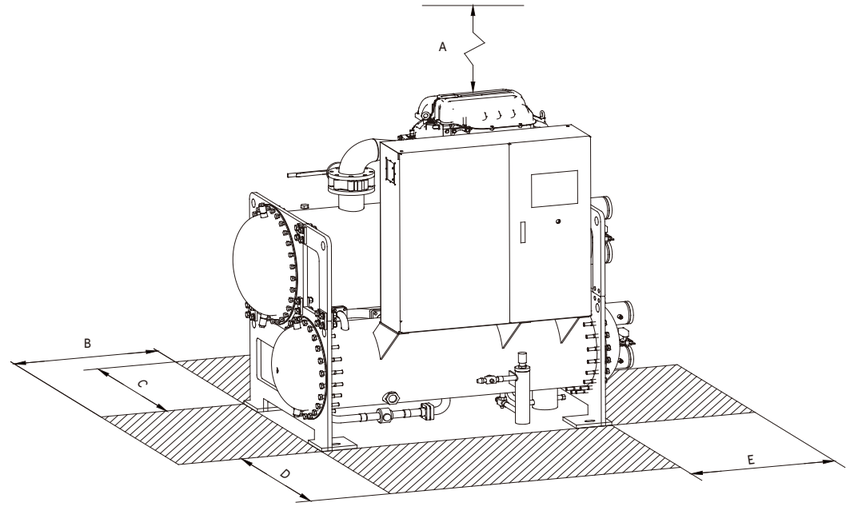
Installation foundation drawing

CCWP0315TTNEACAN1~CCWP0500TTNECCCN1



Model	G(mm)	B(mm)
CCWP0315TTNEACAN1	1440	1035
CCWP0420TTNEBCBN1	1440	1035
CCWP0500TTNECCCN1	1440	1035

Space diagram

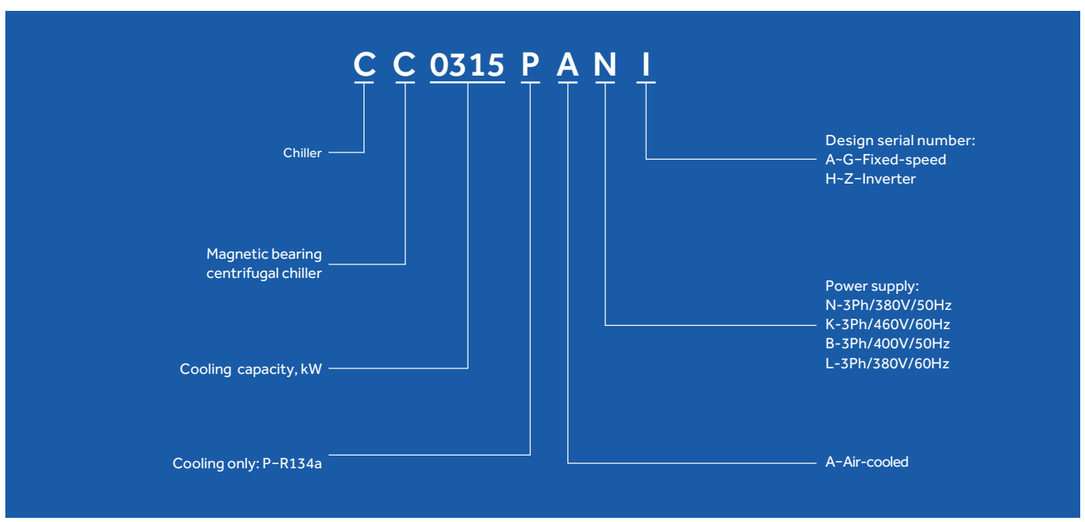


Space Data					
Model	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)
CCWP0315TTNEACAN1	500	1700	1500	1500	1500
CCWP0420TTNEBCBN1	500	1700	1500	1500	1500
CCWP0500TTNECCCN1	500	1700	1500	1500	1500

Air-Cooled Magnetic Bearing Centrifugal Chiller

High Efficiency | Smart | Comfortable | High Reliability

Nomenclature



High Efficiency

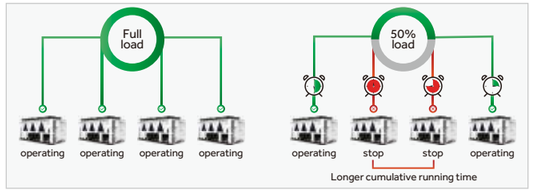
High efficiency

Top-level efficiency thanks to advanced technological solutions, including magnetic bearing centrifugal compressors, flooded evaporator.

Smart

Smart control

When multiple units are working together, Haier unique control can balance the running hours of each compressor and the load between the units, avoiding faults caused by long time of continuous running. this can effectively extend the service life of the units.



Comfortable

Low sound level and vibration

Because of the introduce of magnetic bearing compressor, extremely silent operation and highly reduced vibrations are achieved.

Rugged design

1. Top protection against splash water
2. Durable, corrosion-resistant components for the highest standards

Increased refrigerating performance

1. Significant increase in airflow to the high-performance heat exchanger
2. Enables heat exchanger downsizing

Lower sound emission

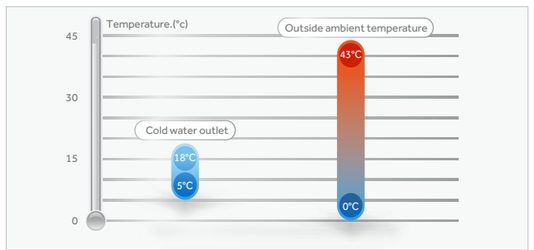
1. Optimized aerodynamics
2. Noise reduction up to 8 dB(A)

High Reliability

Wide working range

Outside ambient temperature 15˚C~43˚C.

※ For other operating temperature, please contact Haier local agencies.



Options/Accessories

Accessories	Standard	Optional
Power supply	3N~/380V/50Hz	3N~/380V/60Hz; 3N~/400V/50Hz; 3N~/460V/60Hz
Communication protocal	Cloud service	Modbus/BACnet
Harmonic filter	X	√
Surge suppressors	√	/
EMC/EMI filter	√	/
Water inlet/outlet connection type	Victaulic	Flange
Water side working pressure	1.0Mpa	1.6Mpa
Fan	AC fan	VSD fan
ASME pressure vessel	X	√
Chilled water flowmeter	X	√
Pipe connection between modules	Pipe and victaulic	Flexible connection
Thermal insulation thickness	30mm	25mm/40mm

Oil free inverter technology

2A starting current

MODEL			CC0315PANI	CC0350PANI	CC0440PANI	CC0630PANI	CC0700PANI	CC0790PANI	CC0880PANI
Combination			A	B	C	2*A	2*B	B+C	2*C
Cooling capacity		kW	315.0	350.0	440.0	630.0	700.0	790.0	880.0
Total power input		kW	92.60	102.0	125.0	185.2	203.0	226.0	246.5
COP		kW/kW	3.402	3.431	3.520	3.402	3.448	3.496	3.570
Starting current(Compressor)		A	2	2	2	2	2	2	2
Max. running current		A	200	250	280	400	500	530	560
Max. power input		kW	110	148	166	220	296	314	332
Power supply			3N~/380V/50Hz						
Refrigerant throttle type			Electronic expansion valve						
Safe protection			Compressor overload protection, safe protection, low water flow protection, antifreezing protection, fan motor overload protection, lack of phase protection						
Compressor	Type		Magnetic bearing compressor						
	Quantity		1	1	1	2	2	2	2
Refrigerant	Type		R134a						
	Charge	kg	200	220	270	400	440	490	540
Air side heat exchanger	Type		High efficiency copper tube+hydroponic alunminum foil						
	Fan typ		Axial fan with low noise						
	Fan quantity		6	6	8	12	12	14	16
Water side heat exchanger	Type		Flood type						
	Rated water flow	m^3/h	54	60	76	108	120	136	151
	Inlet/outlet pipe	DN	150	150	150	150	150	150	150
	Fouling factor	$m^2 \cdot ℃/kW$	0.018						
	Standard pressure	MPa	1						
	Water side pressure drop	kPa	70	75	88	72	76	84	90
External dimension	Unit length	mm	4020	4020	5220	7650	7650	8850	10040
	Unit width	mm	2240	2240	2240	2240	2240	2240	2240
	Unit height	mm	2420	2420	2420	2420	2420	2420	2420
Weight	Net weight	kg	3060	3130	3700	6070	6210	6780	7350
	Gross weight	kg	3110	3180	3765	6170	6310	6895	7480
	Operation weight	kg	3260	3330	3945	6350	6490	7080	7730

Note:
1. Specification is based on the following condition: Evaporator chilled water outlet temperature 7°C, chilled water inlet temperature 12°C, fouling factor=0.018m^2•K/kW. Outdoor ambient temperature 35°C.
2. Above products water side pressure is 1.0MPa. Contact with Haier local agencies, if you need higher pressure product.
3. Above parameters are based on the standard products. For customized products, please contact Haier local agencies.
4. Except the basic models CC0315PANI/CC0350PANI/CC0440PANI, other models are combined by the basic models. And they are also separately transported.
5. Due to our policy of innovation, some specifications maybe changed without notification.

Oil free inverter technology

2A starting current

MODEL			CC0980PANI	CC1050PANI	CC1140PANI	CC1230PANI	CC1320PANI
Combination			2*A+B	3*B	2*B+C	B+2*C	3*C
Cooling capacity		kW	980.0	1050	1140	1230	1320
Total power input		kW	287.2	303.0	325.5	348.5	364.6
COP		kW/kW	3.412	3.465	3.502	3.529	3.620
Starting current(Compressor)		A	2	2	2	2	2
Max. running current		A	650	750	780	810	840
Max. power input		kW	368	444	462	480	498
Power supply			3N~/380V/50Hz				
Refrigerant throttle type			Electronic expansion valve				
Safe protection			Compressor overload protection, safe protection, low water flow protection, antifreezing protection, fan motor overload protection, lack of phase protection				
Compressor	Type		Magnetic bearing compressor				
	Quantity		3	3	3	3	3
Refrigerant	Type		R134a				
	Charge	kg	620	660	710	760	810
Air side heat exchanger	Type		High efficiency copper tube+hydroponic alunminum foil				
	Fan typ		Axial fan with low noise				
	Fan quantity		18	18	20	22	24
Water side heat exchanger	Type		Flood type				
	Rated water flow	m^3/h	169	181	196	212	227
	Inlet/outlet pipe	DN	250	250	250	250	250
	Fouling factor	$m^2.°C/kW$	0.018				
	Standard pressure	MPa	1				
	Water side pressure drop	kPa	38	40	42	43	45
External dimension	Unit length	mm	11270	11270	12470	13660	14870
	Unit width	mm	2240	2240	2240	2240	2240
	Unit height	mm	2420	2420	2420	2420	2420
Weight	Net weight	kg	9150	9290	9860	10430	11000
	Gross weight	kg	9300	9440	10025	10610	11195
	Operation weight	kg	9580	9720	10385	11100	11815

Note:
1. Specification is based on the following condition: Evaporator chilled water outlet temperature 7°C, chilled water inlet temperature 12°C, fouling factor=0.018m²•K/kW. Outdoor ambient temperature 35°C.
2. Above products water side pressure is 1.0MPa. Contact with Haier local agencies, if you need higher pressure product.
3. Above parameters are based on the standard products. For customized products, please contact Haier local agencies.
4. Except the basic models CC0315PANI/CC0350PANI/CC0440PANI, other models are combined by the basic models. And they are also separately transported.
5. Due to our policy of innovation, some specifications maybe changed without notification.

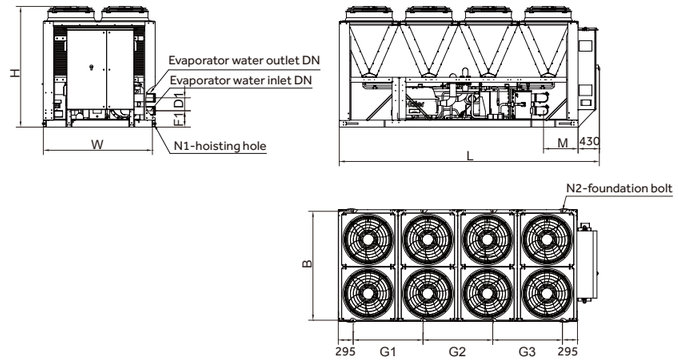
MODEL			CC1400PANI	CC1490PANI	CC1580PANI	CC1670PANI	CC1760PANI
Combination			4*B	3*B+C	2*B+2*C	B+3*C	4*C
Cooling capacity		kW	1400	1490	1580	1670	1760
Total power input		kW	400.0	423.8	445.0	462.6	482.2
COP		kW/kW	3.500	3.516	3.551	3.610	3.650
Starting current(Compressor)		A	2	2	2	2	2
Max. running current		A	1000	1030	1060	1090	1120
Max. power input		kW	592	610	628	646	664
Power supply			3N~/380V/50Hz				
Refrigerant throttle type			Electronic expansion valve				
Safe protection			Compressor overload protection, safe protection, low water flow protection, antifreezing protection, fan motor overload protection, lack of phase protection				
Compressor	Type		Magnetic bearing compressor				
	Quantity		4	4	4	4	4
Refrigerant	Type		R134a				
	Charge	kg	880	930	980	1030	1080
Air side heat exchanger	Type		High efficiency copper tube+hydroponic alunminum foil				
	Fan typ		Axial fan with low noise				
	Fan quantity		24	26	28	30	32
Water side heat exchanger	Type		Flood type				
	Rated water flow	m^3/h	241	256	272	287	303
	Inlet/outlet pipe	DN	250	250	250	250	250
	Fouling factor	$m^2 \cdot °C/kW$	0.018				
	Standard pressure	MPa	1				
	Water side pressure drop	kPa	75	78	80	86	90
External dimension	Unit length	mm	14900	16100	17300	18480	19680
	Unit width	mm	2240	2240	2240	2240	2240
	Unit height	mm	2420	2420	2420	2420	2420
Weight	Net weight	kg	12370	12940	13510	14080	14650
	Gross weight	kg	12570	13155	13740	14325	14910
	Operation weight	kg	13100	13585	13300	15015	15730

Note:
1. Specification is based on the following condition: Evaporator chilled water outlet temperature 7°C, chilled water inlet temperature 12°C, fouling factor=0.018m^2•K/kW. Outdoor ambient temperature 35°C.
2. Above products water side pressure is 1.0MPa. Contact with Haier local agencies, if you need higher pressure product.
3. Above parameters are based on the standard products. For customized products, please contact Haier local agencies.
4. Except the basic models CC0315PANI/CC0350PANI/CC0440PANI, other models are combined by the basic models. And they are also separately transported.
5. Due to our policy of innovation, some specifications maybe changed without notification.

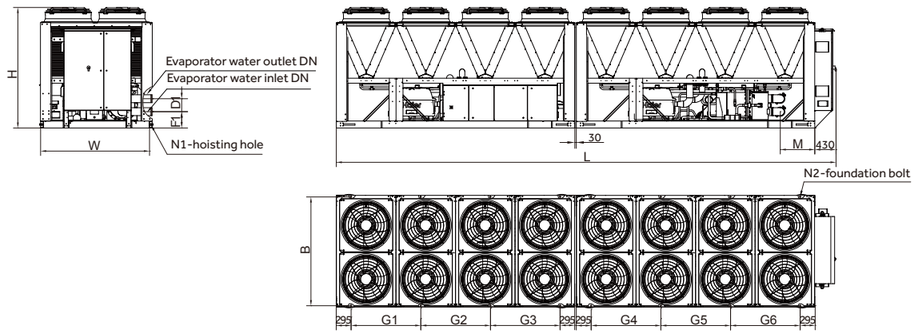
Dimensions

Outline dimension

Air-cooled magnetic bearing centrifugal chiller dimension diagram



Model	Dimension(mm)			Installation dimensions(mm)				Pipe connection dimension(mm)				Hoisting hole number	Foundation bolt number
	L	W	H	B	G1	G2	G3	D1	F1	M	DN	N1	N2
CC0315PANI	4020	2240	2420	2190	1500	1500		260	330	355	DN150	6	6
CC0350PANI	4020	2240	2420	2190	1500	1500		260	330	355	DN150	6	6
CC0440PANI	5220	2240	2420	2190	1400	1400	1400	260	330	690	DN150	6	8

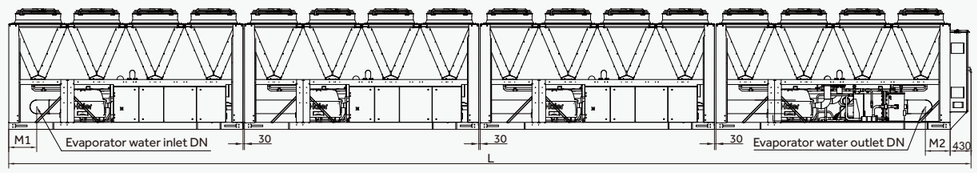


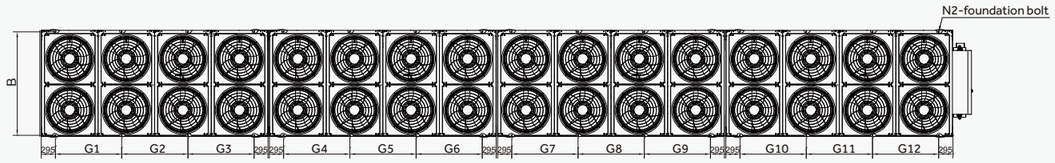
Model	Dimension(mm)			Installation dimensions(mm)							Pipe connection dimension(mm)				Hoisting hole number	Foundation bolt number
	L	W	H	B	G1	G2	G3	G4	G5	G6	D1	F1	M	DN	N1	N2
CC0630PANI	7650	2240	2420	2190	1500	1500		1500	1500		260	330	355	DN150	12	12
CC0700PANI	7650	2240	2420	2190	1500	1500		1500	1500		260	330	355	DN150	12	12
CC0790PANI	8850	2240	2420	2190	1500	1500		1400	1400	1400	260	330	690	DN150	12	14
CC0880PANI	10040	2240	2420	2190	1400	1400	1400	1400	1400	1400	260	330	690	DN150	12	16

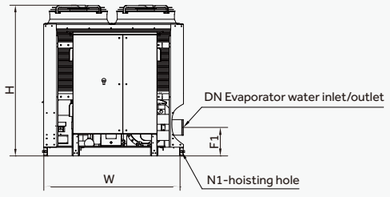
Dimensions

Outline dimension

Air-cooled magnetic bearing centrifugal chiller dimension diagram



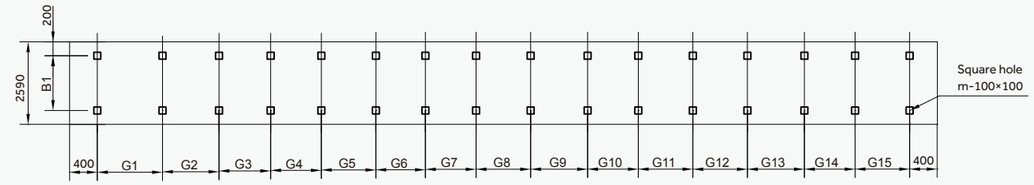


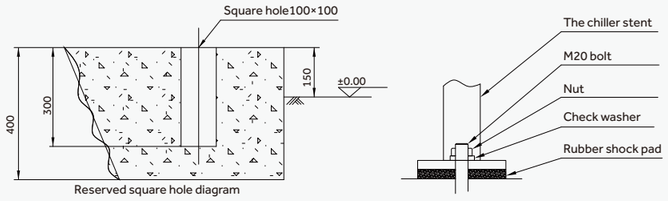


Model	Dimension(mm)			Installation dimensions(mm)													Pipe connection dimension(mm)				Hoisting hole number	Foundation bolt number
	L	W	H	B	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12	F1	M1	M2	DN	N1	N2
CC0980PANI	11270	2240	2420	2190	1500	1500		1500	1500		1500	1500					460	355	355	DN250	18	18
CC1050PANI	11270	2240	2420	2190	1500	1500		1500	1500		1500	1500					460	355	355	DN250	18	18
CC1140PANI	12470	2240	2420	2190	1500	1500		1500	1500		1400	1400	1400				460	355	450	DN250	18	20
CC1230PANI	13660	2240	2420	2190	1500	1500		1400	1400	1400	1400	1400	1400				460	355	450	DN250	18	22
CC1320PANI	14870	2240	2420	2190	1400	1400	1400	1400	1400	1400	1400	1400	1400				460	570	450	DN250	18	24
CC1400PANI	14900	2240	2420	2190	1500	1500		1500	1500		1500	1500		1500	1500		460	355	355	DN250	24	24
CC1490PANI	16100	2240	2420	2190	1500	1500		1500	1500		1500	1500		1400	1400	1400	460	355	450	DN250	24	26
CC1580PANI	17300	2240	2420	2190	1500	1500		1500	1500		1400	1400	1400	1400	1400	1400	460	355	450	DN250	24	30
CC1670PANI	18480	2240	2420	2190	1500	1500		1400	1400	1400	1400	1400	1400	1400	1400	1400	460	355	450	DN250	24	32
CC1760PANI	19680	2240	2420	2190	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	460	570	450	DN250	24	32

Installation foundation drawing

Air-cooled magnetic bearing centrifugal chiller installed base

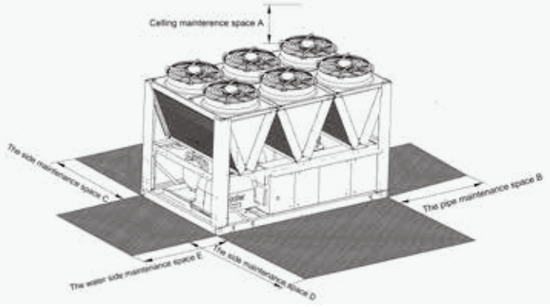




Model	B1(mm)	G1(mm)	G2(mm)	G3(mm)	G4(mm)	G5(mm)	G6(mm)	G7(mm)	G8(mm)	G9(mm)	G10(mm)	G11(mm)	G12(mm)	G13(mm)	G14(mm)	G15(mm)	m
CC0315PANI	2190	1500	1500														6
CC0350PANI	2190	1500	1500														6
CC0440PANI	2190	1400	1400	1400													8
CC0630PANI	2190	1500	1500	625	1500	1500											12
CC0700PANI	2190	1500	1500	625	1500	1500											12
CC0790PANI	2190	1500	1500	620	1400	1400	1400										14
CC0880PANI	2190	1400	1400	1400	620	1400	1400	1400									16
CC0980PANI	2190	1500	1500	625	1500	1500	620	1500	1500								18
CC1050PANI	2190	1500	1500	625	1500	1500	625	1500	1500								18
CC1140PANI	2190	1500	1500	625	1500	1500	620	1400	1400	1400							20
CC1230PANI	2190	1500	1500	620	1400	1400	1400	620	1400	1400	1400						22
CC1320PANI	2190	1400	1400	1400	620	1400	1400	1400	620	1400	1400	1400					24
CC1400PANI	2190	1500	1500	625	1500	1500	625	1500	1500	625	1500	1500					24
CC1490PANI	2190	1500	1500	625	1500	1500	625	1500	1500	620	1400	1400	1400				26
CC1580PANI	2190	1500	1500	625	1500	1500	620	1400	1400	1400	620	1400	1400	1400			28
CC1670PANI	2190	1500	1500	620	1400	1400	1400	620	1400	1400	1400	620	1400	1400	1400		30
CC1760PANI	2190	1400	1400	1400	620	1400	1400	1400	620	1400	1400	1400	620	1400	1400	1400	32

Service space requirements

Air-cooled magnetic bearing centrifugal chiller installation space diagram



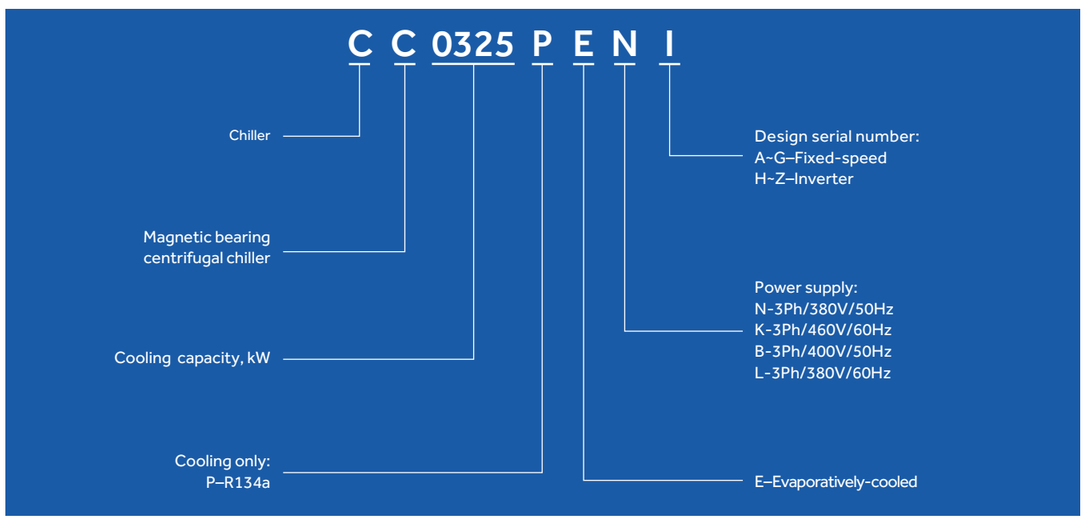
Model	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)
CC0315-0440PANI	2000	2000	1500	2000	1500
CC0630-1760PANI	3000	2000	1500	2000	1500

Note: above data is minimum dimension

Evaporatively-Cooled Magnetic Bearing Centrifugal Chiller

High Efficiency | Economical | Comfortable | Convenient | High Reliability

Nomenclature



High Efficiency

High efficiency

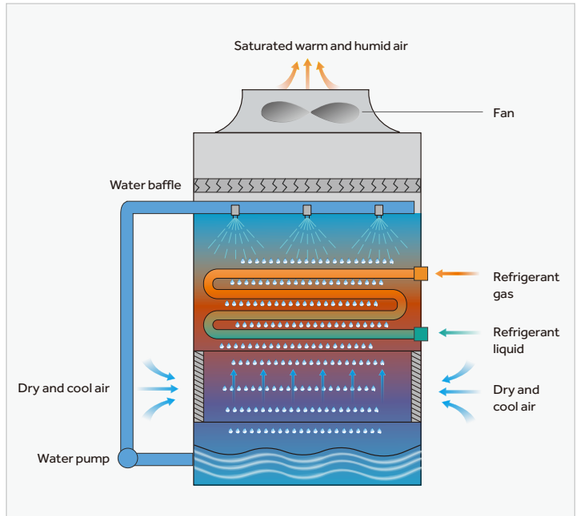
As a new generation of energy-saving chiller, Haier evaporatively-cooled magnetic bearing centrifugal chiller achieves breakthrough in combination of magnetic bearing technology and evaporative cooling technology. the unit adopts high efficiency evaporatively-cooled condenser, which improved heat exchange efficiency by more than 10%. combined with magnetic bearing oil free inverter technology, the chiller is 30% energy saving than air-cooled chiller and over 15% energy saving than water-cooled system (including chiller and cooling tower).

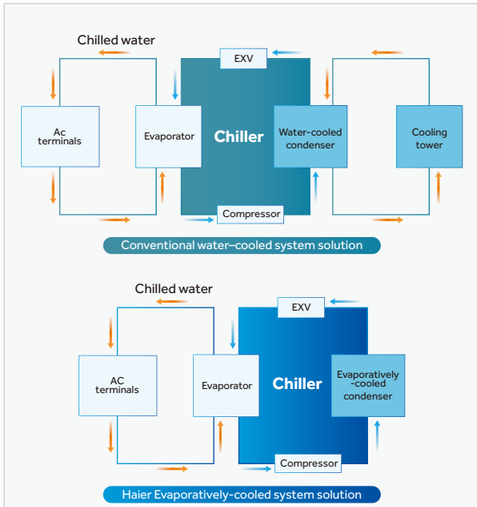
Condenser type	Air cooled condenser	Water cooled condenser	Evaporatively-cooled condenser
Heat-exchange ways	Large volume axial fans allow air to take away the sensible heat of condensation.	Need high power cooling pump and large air volume cooling tower fan.	The condensing heat is carried away through the evaporation of water film in the evaporatively-cooled condenser, and then the latent heat is carried to the atmosphere by the small axial fan.
Air volume(m^3/(h·kW))	420~500	/	110~135
Cooling water circulation volume per 100kW cooling capacity	/	20~23	≤11.6
Cooling pump head	/	20~40	≈5
Condensing temperature	45~53	38~40	30~35
Energy consumption per 1kW cooling capacity	0.023~0.092	0.02~0.04	≈0.014

Evaporatively-cooled condenser

• Air flow and water evaporation take away the condensation heat of refrigerant.

• Condensing temp. can be lower than that of air-cooled and water-cooled condensers.

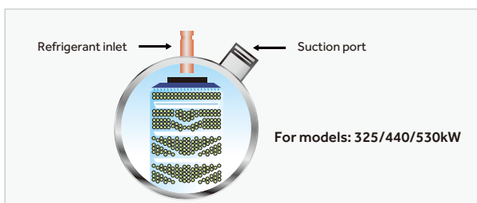




Falling film evaporator

• The falling film evaporator is more efficient. because the refrigerant is sprayed over the tubes, heat transfer can be improved greatly.

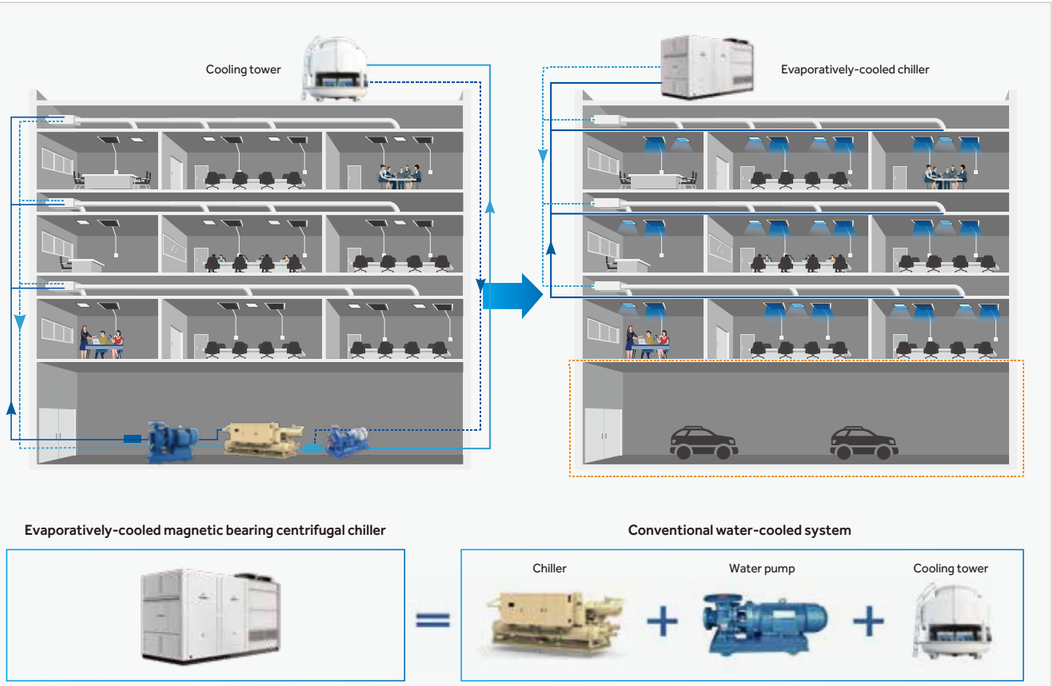
• The refrigerant charge volume can be reduced by 30%.



Economical

Saving costs and space

Thanks to the evaporatively-cooled condenser, which acts as a cooling tower itself, the system does not require a cooling tower, cooling water pumps, cooling water pipes and other equipments, reducing the installation cost and footprint. avoiding the problem of water pumps and water treatment caused by heavy use of water, which greatly reduces the operating cost. in addition, the compact design of the evaporatively-cooled magnetic bearing centrifugal chiller also greatly reduces the floor space.



Evaporatively-cooled magnetic bearing centrifugal chiller

Conventional water-cooled system

Saving water

Each 1 kg of cooling water can remove 16.75 ~ 25.12 kJ of heat in water-cooled condenser, while it can remove about 2428 kJ of heat by evaporation at atmospheric pressure. therefore, the theoretical water consumption of evaporatively-cooled condenser is only 1% of that of water-cooled condenser. In fact, the water consumption of evaporatively-cooled is about 5% ~ 10% of that of the water-cooled condenser due to blowing loss, sewage water exchange.

Comfortable

Low sound level

The unit adopts the magnetic bearing centrifugal compressor, fully frictionless operation making the noise lower. compared with water-cooled system, the evaporatively-cooled chiller uses small air volume fan to dissipate heat rather than cooling tower, which greatly reduces the noise of the whole system.

Convenient

Flexible installation

The integrated design makes installation easier and more free. the chiller can be installed in the plant room (exhaust fan should be used for ventilation) or installed on the rooftop. in some specific application scenarios where there are no outdoor space and plant room for installation, like metro project, it can be installed in the air conditioning shaft.

Installation site	Air-cooled	Water-cooled	Evaporatively-cooled	Remark
Outdoor installation	●	X	●	Both air-cooled and evaporatively- cooled units can be installed outdoors. but evaporatively-cooled chiller has higher efficiency than air-cooled chiller
Plant room	X	●	●	The water-cooled system also needs additional cooling tower installed in outdoor space.
Air conditioning shaft	●	X	●	The air volume demand of the unit is only 1/3 of that of the air-cooled chiller. Poor ventilation of the shaft reduces efficiency of air-cooled chiller greatly.

Master/slave function

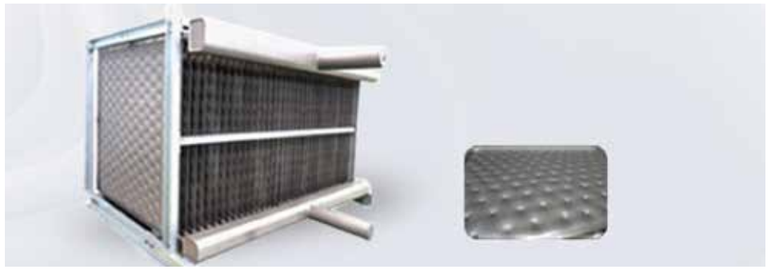
• All models have master/slave function, which allows maximum 4 units to be managed in the same system without the need of external control devices. once one unit is set to be the master, the others will operate as slaves based on the inputs provided by the master.

• Master/slave control is possible to balance the working hours of the compressors to enhance reliability and extend the service life of the system.

High Reliability

Anticorrosion design

The whole evaporatively-cooled condenser adopts integral hot dipping zinc with a zinc layer thickness of up to 0.07mm, which improves the anticorrosion ability greatly.



Options/Accessories

Accessories	Standard	Optional
Power supply	3N~/380V/50Hz	3N~/380V/60Hz; 3N~/400V/50Hz; 3N~/460V/60Hz
Communication protocal	Cloud service	Modbus/BACnet
Active power filter	X	√
Water inlet/outlet connection type	Victaulic	Flange
Water side working pressure	1.0Mpa	1.6MPa/2.0MPa/2.5MPa
ASME pressure vessel	X	√
Chilled water flowmeter	X	√
Thermal insulation thickness	30mm	25mm/40mm
Fan	AC fan	VSD fan

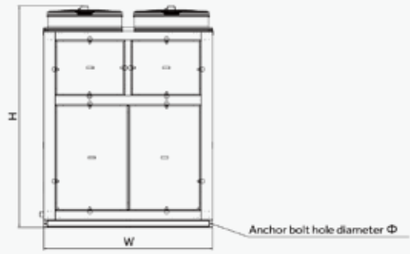
MODEL			CC0325PENI	CC0440PENI	CC0530PENI
Cooling capacity		kW	315	440	528
		Ton	90	125	150
Power input		kW	68.2	90.6	110.4
COP		kW/kW	4.62	4.86	4.78
Power supply			3N~/380V/50Hz		
Starting current (Compressor)		A	2	2	2
Max. running current		A	175.7	196.5	213.3
Compressor	Type		Magnetic bearing centrifugal compressor		
	Quantity		1	1	1
Capacity control			2%~100%		
Refrigerant	Type		R134a		
	Charge	kg	170	210	250
Evaporator	Type		Falling type		
	Fouling factor	m²•℃/kW	0.018		
	Water inlet/outlet temp.	℃	12℃/7℃		
	Rated Water flow	m³/h	54	76	91
	Inlet/outlet pipe	DN	100	125	125
	Water side pressure drop	kPa	<80		
Condenser	Ambient dry/wet bulb temp.	℃	24℃		
	Type		Evaporatively-cooled condenser		
	Fan type		Axial fan		
	Water consumption	m³/h	0.53	0.63	0.72
External dimension	Length	mm	4800	5600	4700
	Width	mm	2300	2300	3000
	Height	mm	3000	3000	3000
Weight	Net weight	kg	5650	5950	7100
	Operation weight	kg	7500	8200	9600

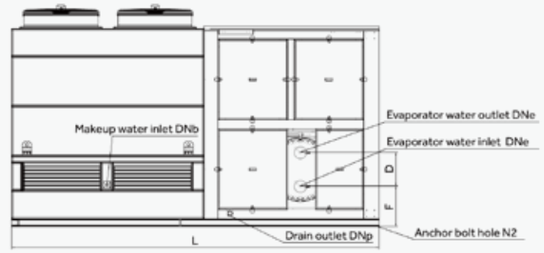
Note:
1.Nominal cooling conditions: chilled water inlet/outlet temperature: 12/7℃, dry/wet bulb temperature: 35℃/24℃.
2.Supplementing cooling water temp.: 30℃， Supplementing water pressure: 0.06~0.15MPa.
3.When the unit is installed in the machine room and needs to take over the inlet and outlet of the unit, the condensation exhaust resistance must be taken into account in the equipment selection. External static pressure of the condensing exhaust fan should be calculated according to the air velocity of the inlet louver in the machine room ≤2.0m/s and meeting the design air demand of the unit.
4.Water treatment scheme is recommended for water replenishment system.
5.Except above standard models, Haier can be customized non-standard products according to customer requirements.
6.Due to our policy of innovation some specifications maybe changed without notification.
7.Please consult technical personnel for detailed water pipes connection.

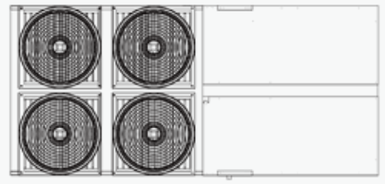
Dimensions

Outline dimension

CC0325PENI Unit dimension

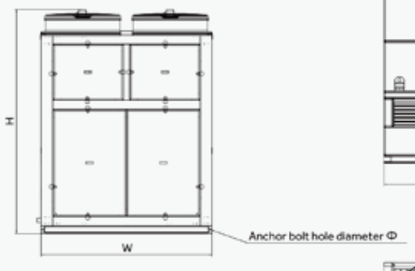


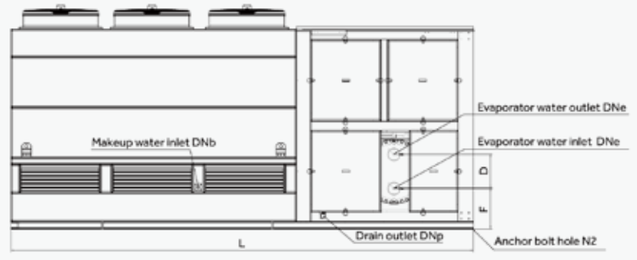


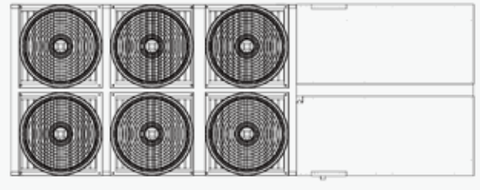


Model \ Code	Dimension(mm)			Installation dimensions(mm)		Pipe connection dimension(mm)			Anchor bolt hole diameter	Anchor bolt hole number
	L	W	H	D	F	DNe	DNb	DNp	Φ	N2
CC0325PENI	5180	2200	2850	440	515	DN100	DN25	DN50	18	6

CC0440PENI ~ CC0530PENI Unit dimension





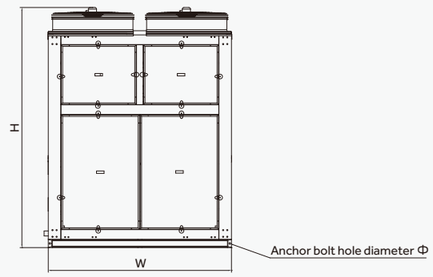


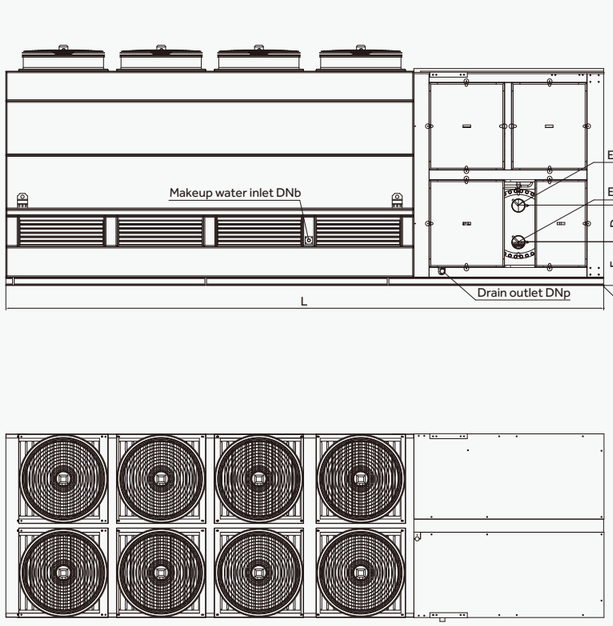
Model \ Code	Dimension(mm)			Installation dimensions(mm)		Pipe connection dimension(mm)			Anchor bolt hole diameter	Anchor bolt hole number
	L	W	H	D	F	DNe	DNb	DNp	Φ	N2
CC0440PENI	5780	2200	2850	440	515	DN125	DN25	DN50	18	6
CC0530PENI	6380	2200	2850	440	515	DN125	DN25	DN50	18	6

Dimensions

Outline dimension

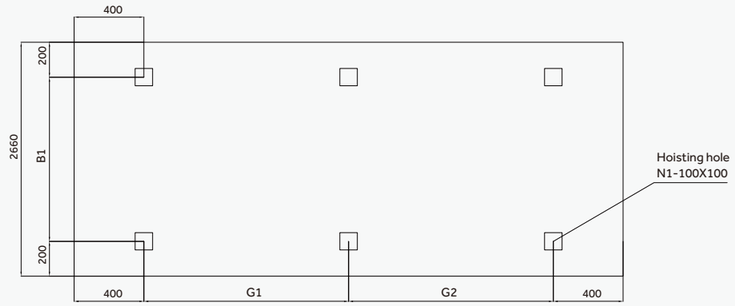
CC0630PENI ~ CC0700PENI Unit dimension



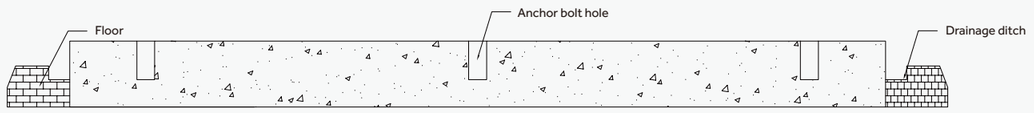


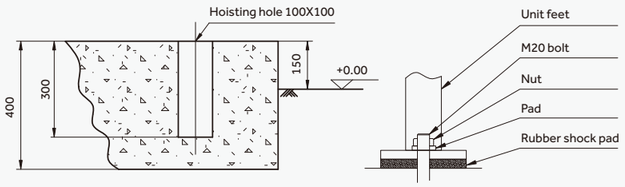
Code / Model	Dimension(mm)			Installation dimensions(mm)		Pipe connection dimension(mm)			Anchor bolt hole diameter	Anchor bolt hole number
	L	W	H	D	F	DNe	DNb	DNp	Φ	N2
CC0630PENI	7180	2200	2850	440	515	DN150	DN25	DN50	18	6
CC0700PENI	7880	2200	2850	440	515	DN150	DN25	DN50	18	6

Installation foundation drawing



Model	B1 (mm)	G1 (mm)	G2 (mm)	N1
CC0325PENI	2160	2565	2565	6
CC0440PENI	2160	2865	2865	6
CC0530PENI	2160	3165	3165	6
CC0630PENI	2160	3565	3565	6
CC0700PENI	2160	3915	3915	6



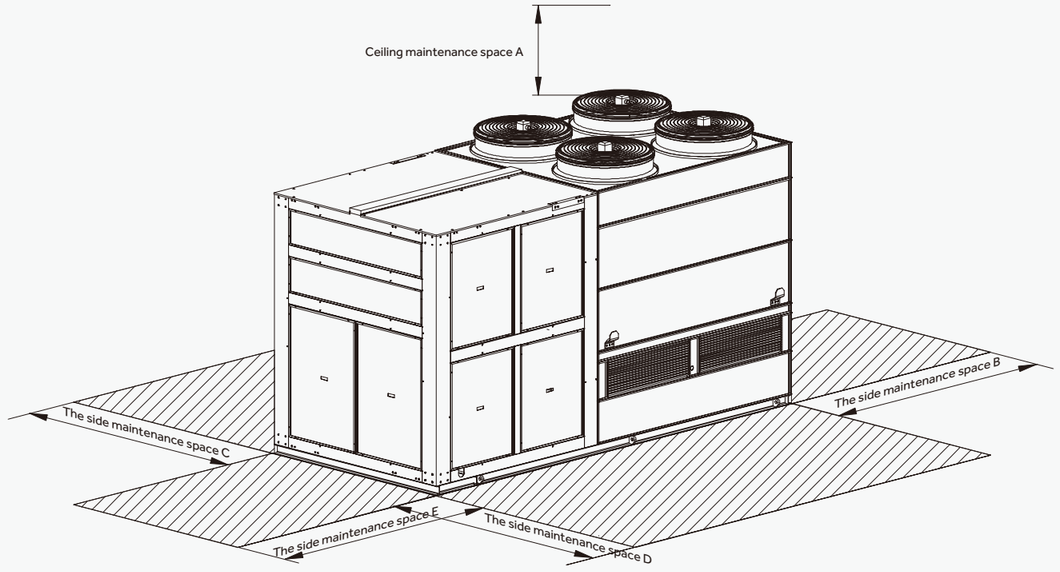


Schematic diagram of reserved square hole of foundation

Note:
1.The unit needs to use anchor bolts to fix the unit on the foundation, which should be higher than 350mm on the floor for maintenance and drainage. There should be drainage floor drains around, so as to discharge sewage in the pipeline during the operation of the unit and discharge water when the unit is shut down for maintenance, and the edges of the foundation should be smooth.
2.If the machine room is on the floor, the floor shall be strong enough to bear the operating weight of the unit.
3.Correct horizontal and longitudinal center lines and horizontal lines and conduct alignment and leveling to ensure that the inclination of the unit after installation shall not exceed 0.5% of the corresponding direction.
4.The standard concrete contains 1:2:4 of cement, sand and pebble.

Dimensions

Service space requirements



Model	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)
CC0325PENI	2000	1500	2000	2000	2000
CC0440PENI	2000	1500	2000	2000	2000
CC0530PENI	2000	1500	2000	2000	2000
CC0630PENI	2000	1500	2000	2000	2000
CC0700PENI	2000	1500	2000	2000	2000

Water quality management

The poor quality of chilled water and cooling water will not only cause fouling of heat exchanger, affect exchange efficiency and reduce unit performance, but also cause serious failure of heat exchanger. customers should treat water according to GB 50050-2007, code for <design of industrial recirculating cooling water treatment>. soft water shall be used when the chilled water system is a closed system. during the operation of the unit, the cooling water (chilled water of the open system) shall be sampled and analyzed regularly. the water quality needs meet the requirements in the following table. if it fails to meet the requirements, the water quality shall be treated.

In order to ensure the safe operation of the unit, the water source of the unit must not cause corrosion, blockage and other damage. for projects whose water quality fails to meet the requirements of relevant standards, it is suggested that users install secondary heat exchange or conduct corresponding water treatment. if the water quality fails to meet the above requirements, Haier shall not be responsible for the consequences. water quality standards are as follows:

Item			Cooling water system		Trend	
			Circulating water	Makeup water	Corrosion	Scaling
Basic item	**pH(25°C)**		6.5~8.2	6.5~8.0	○	○
	Conductance(25°C)	(Ms/m)	＜80	＜30	○	○
	Cl-	mgCl-/L	＜200	＜50	○	-
	SO_4^{2-}	mgSO_4^{2-}/L			○	-
	Acid consumption(pH4.8)	mg$CaCO_3$/L	＜100		-	○
	Total hardness	mg$CaCO_3$/L	＜200	＜70	-	○
	Calcium hardness	mg$CaCO_3$/L	＜150	＜50	-	○
	Ionic Silica	mgSiO_2/L	＜50	＜30	-	○
Reference items	**Fe**	mgFe/L	＜1.0	＜0.3	○	○
	Cu	mgCu/L	＜0.3	＜0.1	○	-
	S^{2-}	mgS^{2-}/L	Undetectable	Undetectable	○	-
	NH4+	mgNH4+/L	＜1.0	＜0.1	○	-
	Residuum	mgCl-/L	＜0.3	＜0.3	○	-
	Free carbonic acid	mgCO_2/L	＜0.4	＜0.4	○	-
	Stability index		6.0~7.0	-	○	○
	Bacterial count	cfu/ml	＜10000	＜10000	-	○

"○":There are trends. "-":There is no trend.

Note:
1.Total hardness of water (mg$CaCO_3$/L)
2.Water hardness≤150, the water quality is good. Set magnetized deduster in the cooling water circulation pipeline.
3.150≤Water hardness≤300, the water quality is general. Design the first level of softening water treatment in the makeup water pipeline, and set magnetized deduster in the cooling water circulation pipeline.
4.300≤Water hardness≤600, the water quality is of high hardness. Design the second level of softening water treatment in the makeup water pipeline, and set magnetized deduster in the cooling water circulation pipeline.
5.600≤Water hardness, the water quality hardness is very high. Design the multilevel of softening water treatment in the makeup water pipeline, and set magnetized deduster in the cooling water circulation pipeline.

CENTRIFUGAL CHILLER

Water-cooled Centrifugal Chiller

Unit Feature | High Reliability | High Efficiency | Intelligent

Nomenclature

C N W P 2460 M F N EA CA E 1

- Chiller
- Centrifugal compressor
- Cooling type: W-Water-cooled
- Refrigerant: P-R134a
- Cooling capacity,kW
- Structure: M-Multi circuit S-Single circuit
- Compressor type: F-Fixed-speed
- Power supply: N-3Ph/380V/50Hz
- Evaporator type: E-Flooded; F-Falling film Type:A,B.....
- Condenser type
- Economizer: E-With;N-Without
- Design serial number

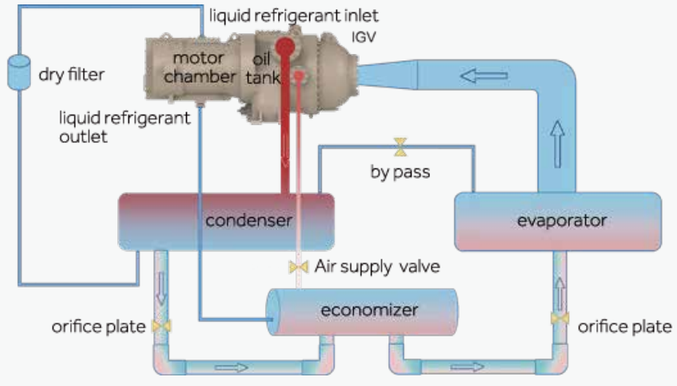
Unit Feature

High Reliability

Semi-hermetic motor, stable performance

Compressor adopts semi-hermetic high-efficiency motor, which has compact design with the benefit of light weight, low noise. And there is no need shaft seal, which avoid the leakage of refrigerant and oil.

The motor use spray cooling with refrigerant, the operating temperature is lower, and the efficiency is higher. The chiller plant needs just conventional ventilation, which greatly saves the equipment investment cost.



High strength ball bearing, more reliable operation

Low friction resistance bearing, and gear increase drive reduce transmission losses by 2%

Low resistance bearings and gears

Anti-surge technology, three-grade safety protection

Intelligent anti-surge technology: prevention + control + alarm, chiller has multiple measures to prevent surge, and with hot gas bypass to ensure the stable operation of the chiller.

The anti-surge balancing valve can adjust the compressor pressure ratio quickly, protect the compressor effectively, and extend the service life of the compressor.

Prevention

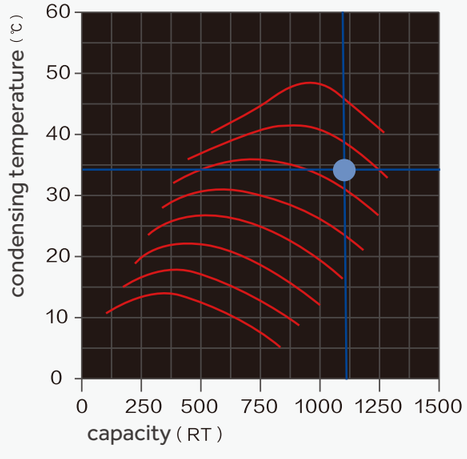
By accurate calculation of the surge curve, the chiller automatically adjusts its operating state when it is approaching the surge curve.

Control

Adjust the operating state in time when the chiller surges are detected, prevent the surge effectively.

Alarm

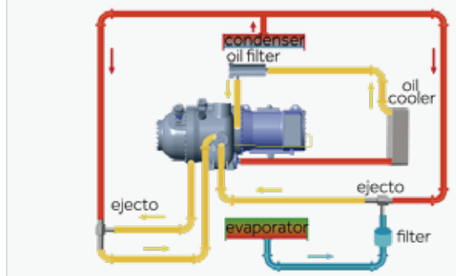
When there is surge, the chiller will alarm and shutdown.



compressor load diagram

Leading oil return technology, built-in oil-separator, sustainable security

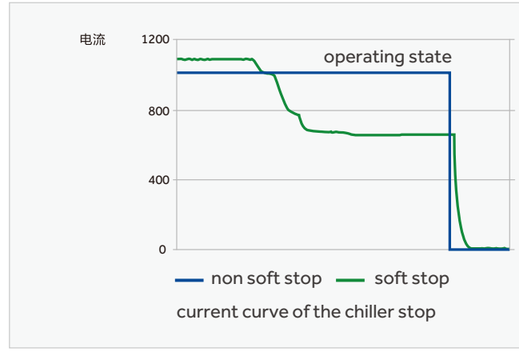
The chiller adopts the leading oil reclaim technology; the compressor built-in oil-separator reduce the amount of oil in the system. By sight glass, the effect of oil return is visible.



Multiple electrical protection, more reliable operation

The chiller is equipped with unmounted start cabinet, main circuit breaker with shunt trip, three-phase current imbalance protection etc., which greatly improves the operation reliability of the chiller.

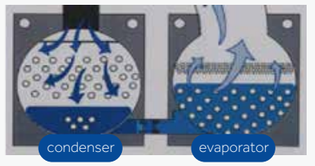
Soft stop function - When the chiller receives the stop instruction, it turns off the guide vane firstly, then the electric current reaches to the preset value the motor shutdown. The soft stop function extends the service life of the compressor effectively.



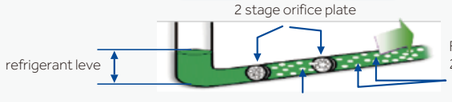
current curve of the chiller stop

Efficient and reliable throttling technology, auto self-adjusting at various working conditions

Orifice plates can adaptively adjust, no need control and free of maintenance.

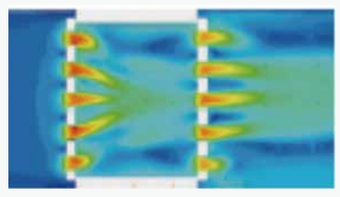


2 stage orifice plate

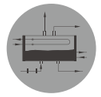


Flash refrigerant vapor through 2nd stage and 1st stage throttling

Flash refrigerant vapor through the first stage throttling



2 stage orifice plate diagram



Economizer, oil cooler and oil reclaim heat exchanger

High efficient condenser

R134a

Refrigerant by using R134a

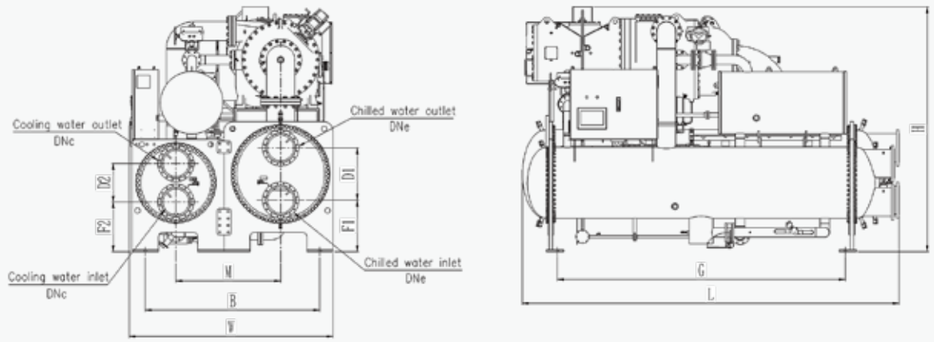
NEW

MODEL			CNWP2290 MFNEACAN1	CNWP2460 MFNEACAN1	CNWP2640 MFNEACAN1	CNWP2810 MFNEACAN1	CNWP2990 MFNEACAN1	CNWP3170 MFNEACAN1	CNWP3340 MFNEACAN1	CNWP3520 MFNEACAN1	CNWP3870 MFNEACAN1	CNWP4220 MFNEACAN1
Cooling capacity		Ton	650	700	750	800	850	900	950	1000	1100	1200
		kW	2286	2462	2638	2814	2989	3165	3341	3517	3869	4220
Power input		kW	346.2	372.8	399.1	423.1	448.8	483.3	510.8	531.4	583.5	635.3
COP		kW/kW	6.60	6.60	6.61	6.65	6.66	6.55	6.54	6.62	6.63	6.64
Compressor	Type	—	Semi-Hermetic centrifugal compressor									
	Quantity	EA	1									
Power supply		—	3～/380V /50Hz									
Starting mode		—	Y-△									
Starting current		A	1491	1491	1698	1698	1698	1967	1967	2153	2567	2567
Switching current		A	3327	3327	3789	3789	3789	4389	4389	4805	5729	5729
Max. running current		A	811	811	936	936	936	1078	1078	1179	1401	1401
Max. power input		kW	466	466	544	544	544	643	643	710	815	815
Capacity control		—	30~100%									
Controller type		—	PLC									
Refrigerant throttle type		—	Orifice plate									
Refrigerant	Type	—	R134a									
	Charge	kg	780	780	780	940	940	1050	1050	1150	1300	1360
Evaporator	Type	—	Flooded type									
	Chilled water inlet/outlet temp.	℃	12 / 7									
	Rated water flow	m^3/h	393	423	454	484	514	544	575	605	665	726
	Water side pressure drop	kPa	78	78	78	71	78	74	81	75	75	76
	Connection size	DN	250	250	250	300	300	300	300	300	350	350
	Fouling factor	m^2•℃/kW	0.018									
	Pass	—	2									
	Standard pressure	MPa	1.0									
Condenser	Type	—	Shell&tube heat exchanger									
	Cooling water inlet/outlet temp.	℃	30 / 35									
	Rated water flow	m^3/h	453	488	522	557	591	628	663	696	766	835
	Water side pressure drop	kPa	69	71	69	67	72	69	74	70	70	72
	Connection size	DN	250	250	250	300	300	300	300	300	350	350
	Fouling factor	m^2• ℃/kW	0.044									
	Pass	—	2									
	Standard pressure	MPa	1.0									
External dimension	Chiller length	mm	4300	4300	4400	4400	4400	4400	4400	4400	4450	4450
	Chiller width	mm	2110	2110	2350	2350	2350	2350	2350	2350	2550	2550
	Chiller height	mm	2550	2550	2850	2850	2850	2850	2850	2850	2950	2950
Weight	Net weight	kg	10300	10500	12700	13000	13000	13500	13500	14000	15200	15500
	Gross weight	kg	10500	10700	12900	13200	13200	13700	13700	14200	15400	15700
	Operation weight	kg	11600	11800	14200	14500	14500	15200	15200	15800	17400	17700

Note:
1.Except above standard models.Haier can be customized non-standard products according to customer requirements.
2.Due to our policy of innovation some specifications maybe changed without notification.

Dimensions

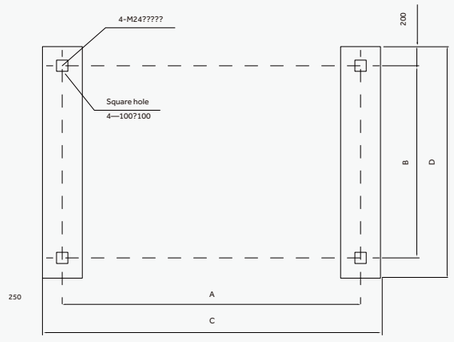
Outline dimension

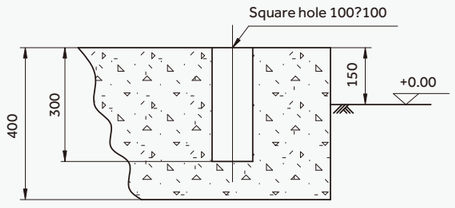


Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)		Nozzle Dimensions(mm)						
	L	W	H	B	G	D1	D2	F1	F2	M	DNe	DNc
CNWP2290MFNEACAE1	4300	2110	2550	1805	3300	500	410	595	540	1105	DN250	DN250
CNWP2460MFNEACAE1	4300	2110	2550	1805	3300	500	410	595	540	1105	DN250	DN250
CNWP2640MFNEACAE1	4400	2350	2850	2000	3300	600	440	590	570	1200	DN300	DN300
CNWP2810MFNE ACAE1	4400	2350	2850	2000	3300	600	440	590	570	1200	DN300	DN300
CNWP2990MFNEACAE1	4400	2350	2850	2000	3300	600	440	590	570	1200	DN300	DN300
CNWP3170MFNEACAE1	4400	2350	2850	2000	3300	600	440	590	570	1200	DN300	DN300
CNWP3340MFNEACAE1	4400	2350	2850	2000	3300	600	440	590	570	1200	DN300	DN300
CNWP3520MFNEACAE1	4400	2350	2850	2000	3300	600	440	590	570	1200	DN300	DN300
CNWP3870MFNEACAE1	4450	2550	2950	2205	3300	600	500	645	595	1305	DN350	DN350
CNWP4220MFNEACAE1	4450	2550	2950	2205	3300	600	500	645	595	1305	DN350	DN350

*Please acquire detailed dimensions from Haier technicians.

Installation foundation drawing

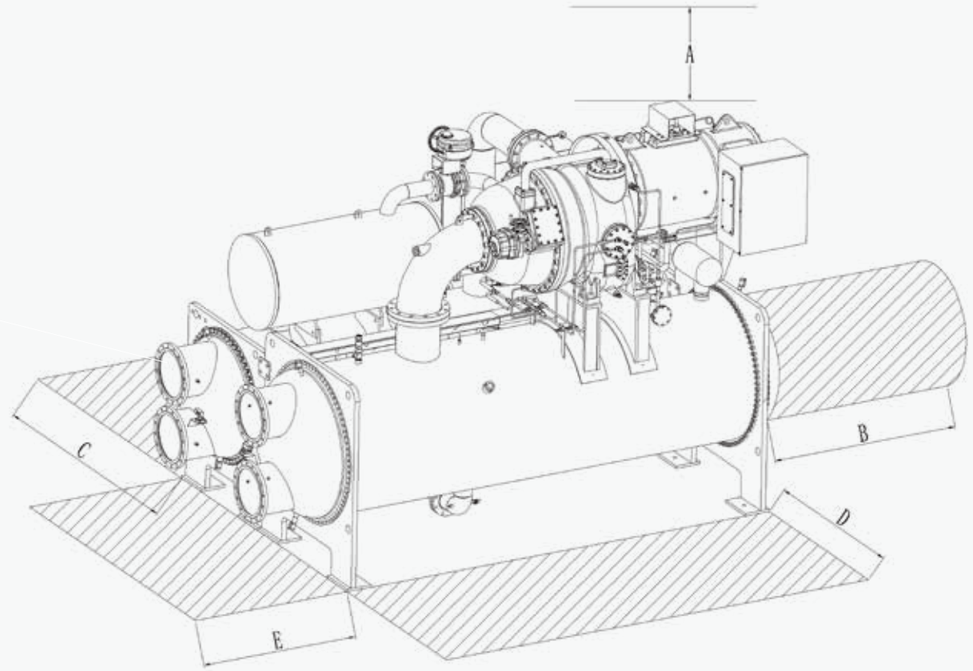




Reserved square hole on the base diagram

Model \ CODE	Installation Dimension mm			
	A	B	C	D
CNWP2290MFNEACAE1	3300	1805	3800	2205
CNWP2460MFNEACAE1	3300	1805	3800	2205
CNWP2640MFNEACAE1	3300	2000	3800	2400
CNWP2810MFNE ACAE1	3300	2000	3800	2400
CNWP2990MFNEACAE1	3300	2000	3800	2400
CNWP3170MFNEACAE1	3300	2000	3800	2400
CNWP3340MFNEACAE1	3300	2000	3800	2400
CNWP3520MFNEACAE1	3300	2000	3800	2400
CNWP3870MFNEACAE1	3300	2205	3800	2605
CNWP4220MFNEACAE1	3300	2205	3800	2605

Service space requirements

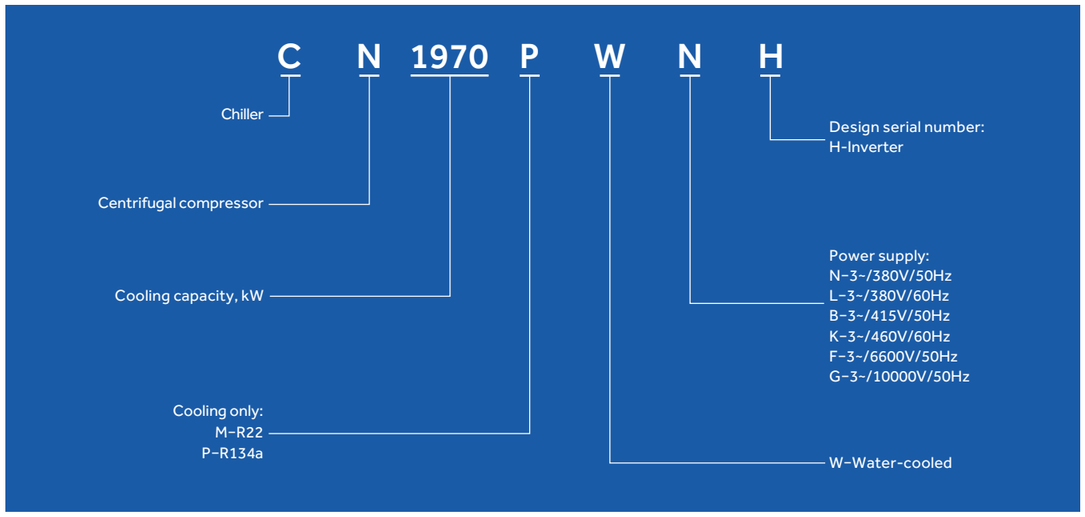


Model \ CODE	Reserved Space Dimension mm				
	A	B	C	D	E
CNWP2290MFNEACAE1	1200	3500	1500	1500	2000
CNWP2460MFNEACAE1	1200	3500	1500	1500	2000
CNWP2640MFNEACAE1	1200	3500	1500	1500	2000
CNWP2810MFNE ACAE1	1200	3500	1500	1500	2000
CNWP2990MFNEACAE1	1200	3500	1500	1500	2000
CNWP3170MFNEACAE1	1200	3500	1500	1500	2000
CNWP3340MFNEACAE1	1200	3500	1500	1500	2000
CNWP3520MFNEACAE1	1200	3500	1500	1500	2000
CNWP3870MFNEACAE1	1200	3500	1500	1500	2000
CNWP4220MFNEACAE1	1200	3500	1500	1500	2000

Inverter Water-cooled Centrifugal Chiller

Unit Feature | High Reliability | High Efficiency | Intelligent

Nomenclature



Unit Feature

• HFC refrigerant by using R134a, is adopted on Haier's chiller, which is recognized as a environment-friendly refrigerant internationally.

• R134a is a kind of positive pressure refrigerant, so Discharge device is no-need, and a simple ventilation design of motor room is ok.

• Two stage centrifugal compressor is adopted on Haier's chiller.

• High efficient falling film evaporator(spray style) is adopted.

• Built-in oil cooler is adopted, cooled by the refrigerant, less maintenance.

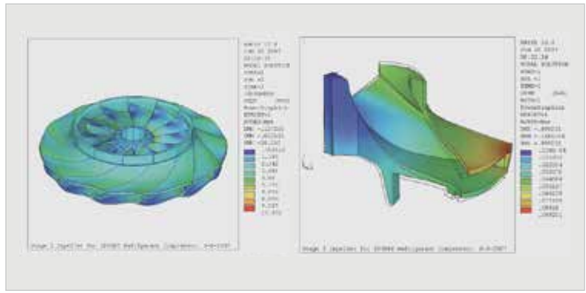
• Independent oil-returning system (jet pump) is adopted to ensure oil-returning in time under any loading conditions.

• Oil pump is built in the compressor oil tank, no oil leakage.

• A fixed orifice plate throttling device is adopted, without moving parts, which can adjust refrigerant flow under variable loads and variable conditions without hysteresis, which can ensure system operation stable.

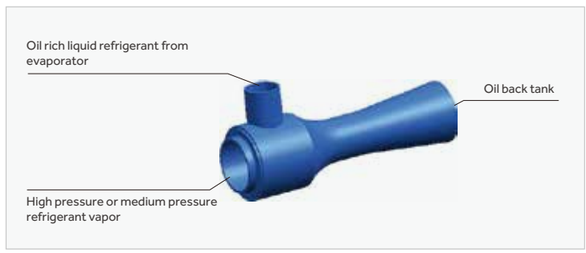
• It is convenient to operate by using microcomputer control system, displaying all the working data clearly. Chinese/English can be selected.

High Reliability



Professional design

The compressor imported scientific research achievements of taiwan scientific research institutions-the Industrial Technology Research Institute and the United States professional centrifugal consultant firm NREC, and the C-series centrifugal compressor has been launched in 2008 Shanghai Refrigeration Exhibition officially.



Reliable oil reclaim device-ejector pump

The ejector pump is used to recovery oil in low pressure side by medium pressure flash gas, without energy-loss on Haier water chiller.

Certification authority

We have the most advanced and large on-line test lab of centrifugal unit in the industry, which is qualified through the national quality supervision and Inspection center of compressor refrigeration equipment (hefei general mechanical research Institute) for examination and verification. this test lab is strict in accordance with the requirements of the national standard GB/T10870-2001, GB/T18430.1-2007, with the capacity of 2000RT. each unit undergoes a full performance test strictly before delivery, to ensure the quality of the final unit.

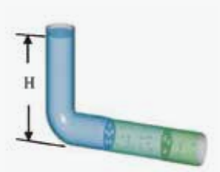
High Reliability

Control components of refrigerant flow-orifice plate

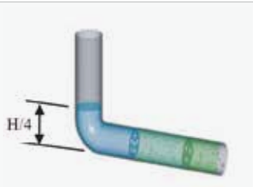
• Orifice plate is adopted as the refrigerant flow control device. each orifice plate is designed in accordance with the unit's performance to achieve the best matching degree.

• 2-3 pieces of orifice plates are adopted as a set of throttling device. the first one is used as liquid seal and the rest 2 pieces are used to throttle and pressure drop, in order to adjust the refrigerant flow that the evaporator required by using the dynamic balance of refrigerant itself under full load, partial load and different conditions.

• As there are no moving parts of the orifice plate, its reliability is much better than all kinds of throttling valves of mechanical transmission.

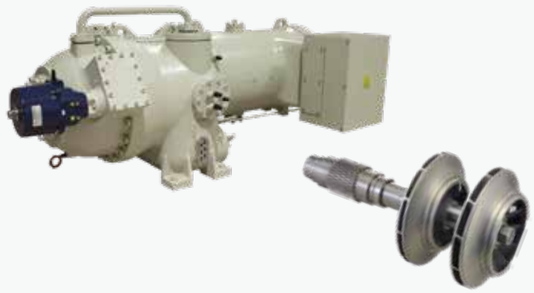


When full load operation, liquid column height is H, and the static pressure generated by liquid column will deliver refrigerant required from the first orifice plate to the second one.



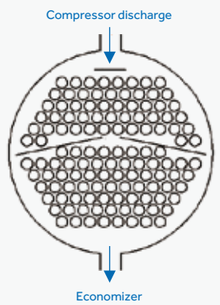
When half load operation, liquid column height is H/4, and the refrigerant through the first orifice plate becomes half because of insufficient static pressure. there is flash phenomenon generated between two orifice plates, which is caused by the up steam flow reduction. the refrigerant flow will decrease by half as liquid refrigerant mixed with large amount of flashing gas through the second orifice plate together.

High Efficiency



Centrifugal compressor

Centrifugal compressor has two stages, with high strength alloy main-shaft, aluminum alloy material hermetic impeller and high precision gears internally. the bearing is not the plain one but the roller/ball bearing, therefore it does not matter if the compressor stops emergently. meanwhile, the start-up interval can be shortened to 10 minutes, and the life of the bearing can be over 80000 hours.



High efficient condenser

The condenser is divided into two parts-the up one and the low one by the air deflector which can divert the liquid refrigerant to the edge of the shell, so as to greatly improve the heat exchange efficiency of the lower layer tube and reduce the condensation temperature by 0.5-1˚C. this design is very effictive for large capacity unit.

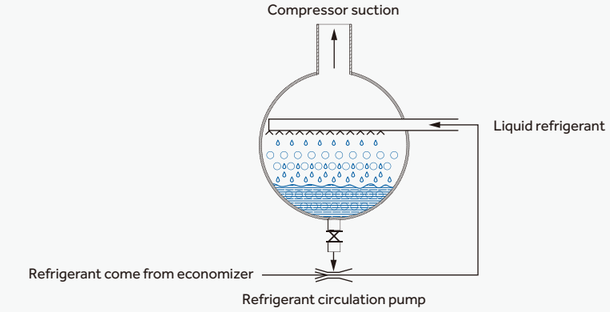
High Efficiency

Spray type (falling film) evaporator

• The liquid refrigerant, running into the evaporator, sprays on the heat exchange tube array from top to bottom. because the liquid refrigerant forms a thin film on the tube wall and falls downward, the evaporator is also known as falling film one. as it is covered with a layer of liquid refrigerant film on the surface of the heat exchanger tube, the heat exchange efficiency is excellent.

• There is only little liquid refrigerant in the bottom of the evaporator so that the refrigerant filling capacity is low, which can meet the requirements of environmental protection.

• The lubrication oil concentrates in the bottom of the evaporator after a large amount of refrigerant evaporation. the oil can be extracted by scavenge pump successfully and return to the oil tank.

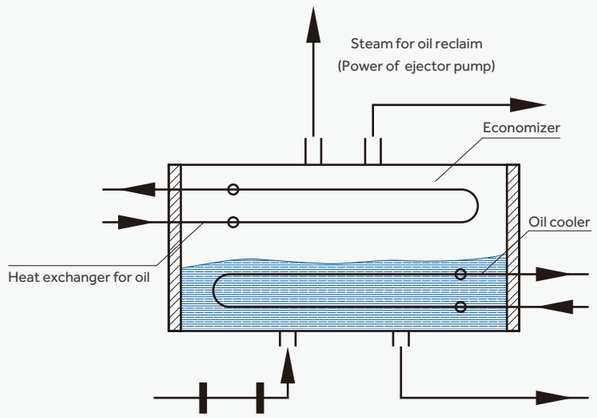


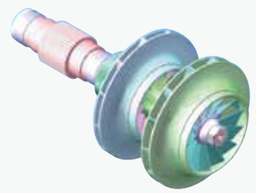
Economizer, oil cooler and oil reclaim heat exchanger

• Application of the combination of economizer, oil cooler and oil heat exchanger technology can improve the medium pressure saturated flashing gas and the medium pressure saturated liquid refrigerant to separate effectively in the economizer. the medium pressure saturated flashing gas after separation will be injected into the compressor to complete the two-stage compression.

• The oil rich liquid refrigerant from the evaporator is heated into the refrigerant vapor and oil, and then turns back to the oil tank.

• The high temperature oil from the compressor enters into the economizer first to be cooled to proper temperature, and then injected into the compressor parts that need to lubricate.





Heat recover device

Heat recovery unit with specially designed heat recovery device can effectively heat the service water or the water during the production process. It can not only achieve the waste heat utilization to reduce the heat pollution of condensation to the environment, but also decrease the operation cost and noise of the cooling tower.

Advanced Control

Micro-computer controller

Our centrifugal chillers are equipped with advanced microcomputer controller and adopt the core components of double CPU, with 0.25ms operation speed while executing 1K Words program, to ensure the unit operation stable.

Man-machine interface

The touch screen with storage space has high reaction speed, so the users can grasp the integrated running states in time. Intuitive operating screen with the language selection of English and Chinese, all you have to do is to click on the menu for operating and setting the unit.

PID control function

Micro-computer controller adopts advanced PID control function, adjusting the unit load automatically according to the integer of the cold&hot water outlet temperature and target temperature to meet the requirements in the shortest time; and making the outlet- water temperature stable within ±0.3°C.

Unit protection function

Protection of over voltage, lacking voltage, three phase unbalance and lacking&anti-phase, provided for user's power. In addtion, there are more than 30 kinds of protecting functions.

- Including compressor overload, overheat protection; system high pressure&low pressure, too low outlet-water temperature of evaporator; and anti-freezing protection, too low inlet-water temperature of condenser, water-flow abnomal protection, etc.
- With the password protection function, preventing the unit fault by the non-authorized person's Error operation.
- With the self-checking function when switched on, to avoid abnormal start-up.
- With the cleaning-remindering on the condenser.

Multiple anti-surge functions

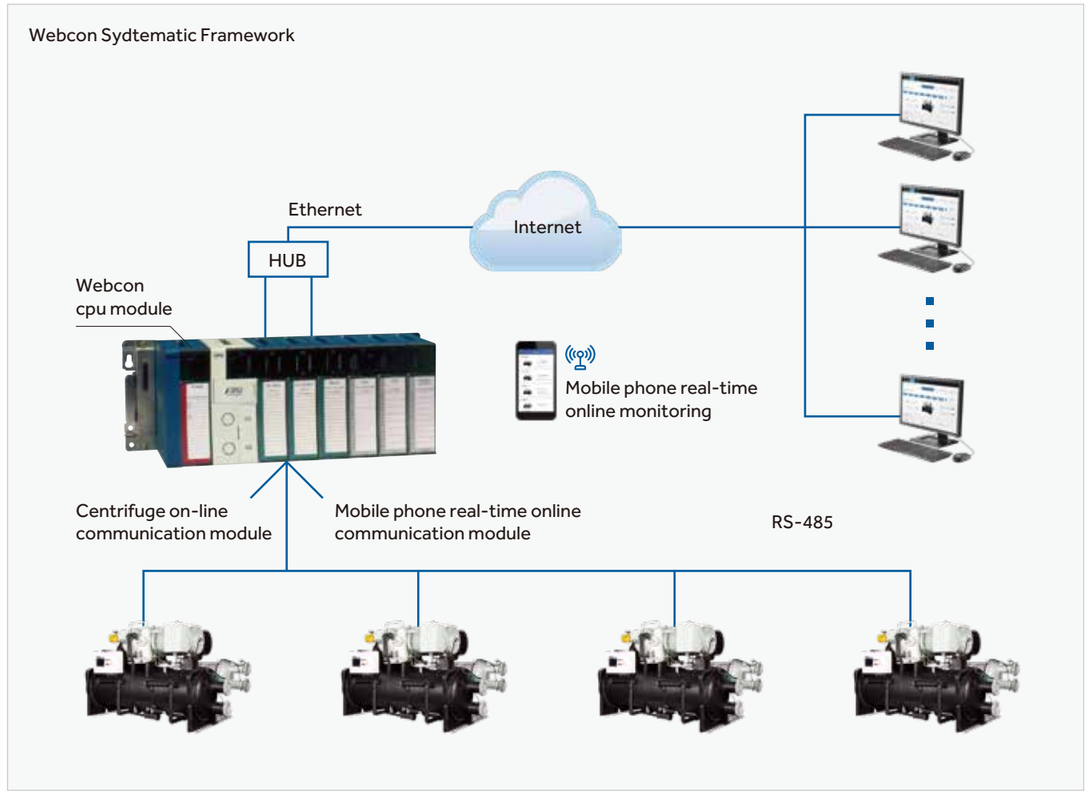
Unit has advanced multi anti-surge function, with the combination methods of prevention, control and alarm, to enable the unit to meet the customer's demand of refrigerating capacity in the safe operating range.

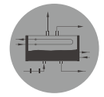
- Prevention: the unit will adjust state automatically when the running condition approximately approaches the surge line through accurate calculating of surge curve.
- Control: the unit will adjust running status timely when surge occurs, controling the surge effectively.
- Alarm: if unit surge lasts for a period of time, it will alert to remind customers and execute the stop operation.

Advanced Control

Reserve connection points for users, and provide cloud-based service

- Reserve the control points of: the fan of cooling tower, cooling water pump and chilling water pump for users, and make the fan and water pump controlled by the unit, optimizing the organization of the customer's system. Reserve out-putting point of alarm, for the remote alarming display.
- Reserve the central monitoring connection point (RS-485 communication protocol), so that the unit can be seamlessly connected to the building monitoring system.
- Provide cloud-based service, to achieve operating data for real-time monitoring, to ensure the reliable operation of the unit.





Economizer, oil cooler and oil reclaim heat exchanger

High efficient condenser

Spray type (falling film) evaporator

R134a

Refrigerant by using R134a

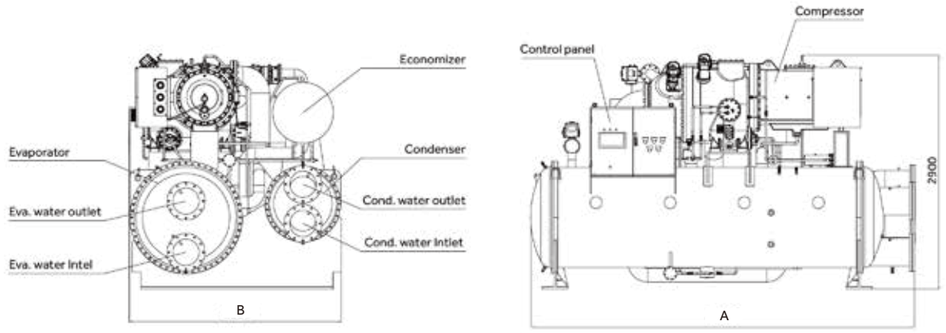
MODEL			CN1970PWNH	CN2500PWNH	CN3580PWNH	CN4320PWNH	CN5270PWNH
Cooling capacity		Ton	560	710	1020	1230	1500
		kW	1965	2497	3575	4323	5274
Power input		kW	333	422	609	732	898
COP		kW/kW	5.90	5.92	5.87	5.91	5.87
		kW/Ton	0.60	0.59	0.60	0.60	0.60
Compressor	Type		Centrifugal				
	Quantity		1				
Power supply			3N~/380V/50Hz				
Refrigerant	Type		R134a				
	Charge	kg	495	630	900	1080	1350
Evaporator	Type		Falling film				
	Water inlet/outlet temp.	°C	12/7				
	Water connection type		Flange				
	Water inlet/outlet pipe	DN	250	250	300	350	350
	Fouling factor	m²•°C/kW	0.018				
	Water side pressure	MPa	1				
	Flow rate	m³/h	338	429	615	744	907
	Water pressure drop	kPa	60	72	90	95	95
Condenser	Type		Shell&tube heat exchanger				
	Water inlet/outlet temp.	°C	30°C/35°C				
	Water connection type		Flange				
	Water inlet/outlet pipe	DN	250	250	300	350	350
	Fouling factor	m²•°C/kW	0.044				
	Water side pressure	MPa	1				
	Flow rate	m³/h	395	502	720	869	1062
	Water pressure drop	kPa	66	76	95	98	98
External dimension	A(length)	mm	3920	4120	4570	4780	4780
	B(width)	mm	2320	2380	2550	2800	2800
	C(height)	mm	2450	2500	2900	2950	2950
Weight	Gross weight	kg	9600	11200	13200	15500	19500
	Operation weight	kg	10550	12350	14800	17500	21500

Note:
1. Specification is based on the following condition:
Evaporator chilled water outlet temperature 7°C , chilled water inlet temperature 7°C, fouling factor 0.018m²•K/kW.
Condenser cooling water inlet temperature 30°C, cooling water outlet temperature 35°C, fouling factor 0.044m²•K/kW.
2. Above products water side pressure is 1.0MPa. Contact with Haier local agencies, if you need higher pressure product.
3. Above products power supply is 3N~/380V/50Hz. Contact with Haier local agencies, if you need another power supply, such as 3~/6000V/50Hz, 3~/10000V/50Hz.
4. Due to our policy of innvation, some specifications maybe changed without notification.

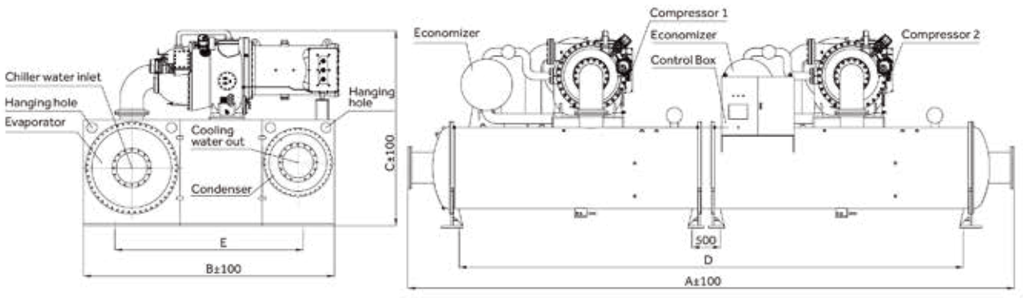
Dimensions

Outline dimension

Single unit



Double units



Unit outline

High-voltage chiller (single unit)

High-voltage power cabinet

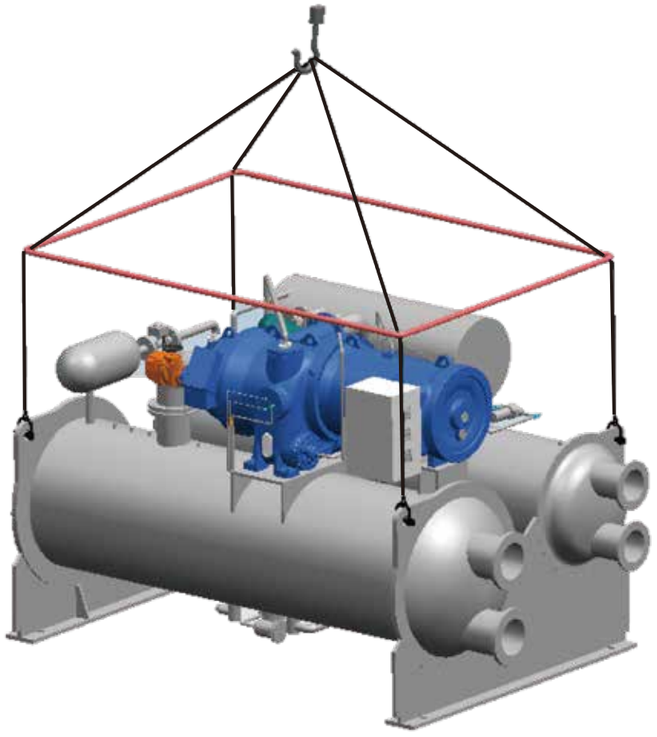
Low-voltage chiller (single unit)

Low-voltage power cabinet

Chiller (double units)

Dimensions

Unit lifting diagram



Installation environment

• The unit should be kept away from fire and flammable materials. Pay more attention to the influence of thermal radiation if the unit is installed together with the boiler and other heating bodies.

• Better to choose the place where the room temperature is below 45˚C and ventilation is smooth. Environmental relative humidity should be below 90%. It is forbidden to install and storage unit outdoor.

• Choose less dust places (dust is one factor for electrical fault).

• The installation site should have good lighting in order to be convenient for maintenance and inspection.

• The sufficient space around the unit should be reserved for maintenance, inspection and cleaning the heat exchange tube of evaporator condenser.

• Install the travelling crane and rotating crane in order to lift and examine the unit conveniently and ensure the enough height of the machine room.

• Around the unit and the machine room. There should be good drain system.

• Keep away from direct sunlight.

Installation basement

The centrifugal compressor rotor goes through strict static and dynamic balance; therefore the dynamic load of the foundation is very small. In order to prevent the corrosion of the unit footing parts, it requires that drain system around the unit should be unobstructed and the plane surface corresponding to the unit base plate should be smooth. Specific requirements are as follows.

• The levelness should be within 3mm among each basement.

• The basement should be 250mm higher than the ground for convenient maintenance and inspection.

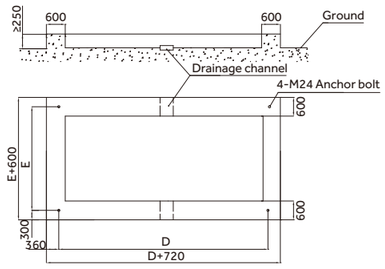
• Set up drain grooves around the unit.

• An adjusting pad should be inserted between the base steel plate and the concrete basement, for keeping no space between base steel plate and the unit baseboard.

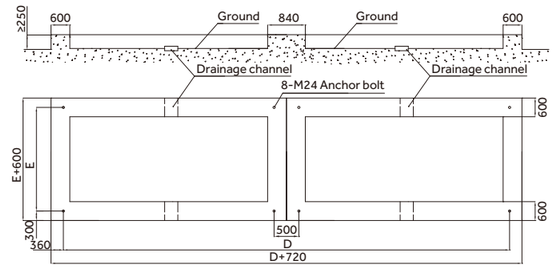
• Adjust the base steel plate to level. The levelness between them should be within 1mm.

• Lift the chiller. Put the shock absorption rubber on the base steel plate, and then put the chiller on the rubber.

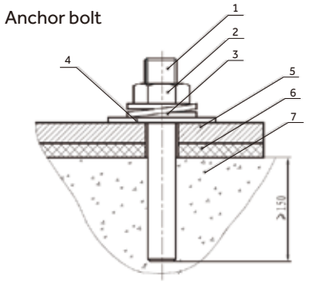
Cooling water chiller (single unit)



Cooling water chiller (double units)

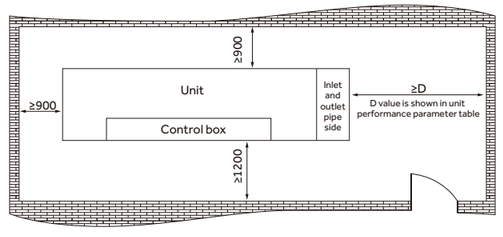


Anchor bolt



NO.	1	2	3	4	5	6	7
Name	Anchor bolts	Nut	Spring washer	Plain washer	Unit base	Rubber damping pad	Foundation platform

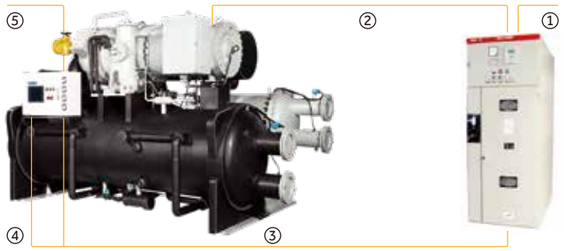
Dimension of installation & repairing space



Dimensions

Electrical installation of products

Connection diagram for high voltage centrifugal chiller



Notice:
Chiller appearance may be some updated because of the improving design.
It is subject to base on practicality

High voltage wiring instructions:

• Line ① is the power cord from the high voltage distribution cabinet of the customer to the power cabinet(three phase with zero line, ground wire). Specification of wire and wire diameter requirements is showed on electrical parameter list.

• Line ② is the power cable from the power cabinet to the main motor of the centrifugal chiller(Three-phase, Five wires). Specification of wire and wire diameter requirements is showed on electrical parameter list.

• Line ③ is the power cable from the customer to the control cabinet of centrifugal chiller((Three-phase, Five wires), and the wires should be 5 cores sheathed cable with the diameter 2.5 mm². Notice: The power should be provided by the users.

• Line ④ is the signal control wire from the power cabinet to the main control box of the centrifugal chiller, it requires the Shielded wire or twisted pair with the diameter 1.0 mm² .

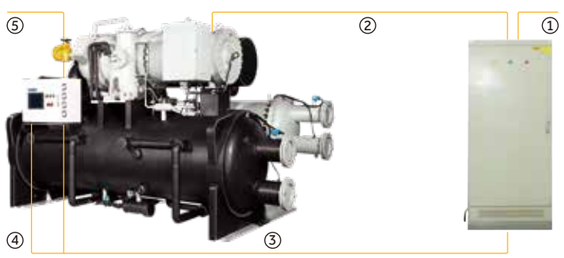
• Line ⑤ is the signal control wire from the control box to the water pump control box and remote switch , it requires the Shielded wire or twisted pair with the diameter 1.0 mm². Notice: Water pump control cabinet should be provided by the customers.

• It's essential to set the power cord, power line and signal control wire apart, not to put them at the same line channel.

• Wiring instructions: inlet at the top of cabinet, outlet at the underneath of cabinet.

• All the wires above should be prepared by customers themselves.

Connection diagram for low voltage centrifugal unit. low voltage wiring instructions



Notice:
Unit appearance may be some updated because of the improving design.
It is subject to base on practicality

Low voltage wiring instructions:

• Line ① is the power cord (three phase with zero line, ground wire) from the high voltage distribution cabinet of the customer to the power cabinet.

• Line ② is the power cable from the power cabinet to the main motor of the centrifugal unit. Specification of wire and wire diameter requirements is showed on electrical parameter list.

• Line ③ is the signal control wire (there phase with zero line, ground line wire) from the power cabinet to the main control box of the centrifugal chiller, and the wires should be 5 cores sheathed cable with the diameter 2.5 mm².

• Line ④ is the signal control wire from the power cabinet to the main control box of the centrifugal chiller. It requires the Shielded wire or twisted pair with the diameter 1.0 mm².

• Line ⑤ is the signal control wire from the main control box to the water pump control box and remote switch ,The diameter should be 1.0 mm2 or more. It requires the Shielded wire or twisted pair with the diameter 1.0 mm². Notice: Water pump control cabinet should be provided by the customers.

• It' s essential to set the power cord, power line and signal control wire apart, not to put them at the same line channel.

• Wiring instructions: inlet at the top of cabinet ,outlet at the underneath of cabinet.

• All the wires above should be prepared by customers themselves.

Electrical parameter

Model			CN1970PW**	CN2500PW**	CN3580PW**	CN4320PW**	CN5270PW**
Power (kW)			320	406	586	704	863
6kV unit	Max. running current(A)		47	55	77	105	105
	Starting current (A)		244	284	410	536	567
10kV unit	Max. running current(A)		28	33	46	63	63
	Starting current (A)		147	170	246	321	340
460V unit	Max. running current(A)		581	670	981	1357	1357
	Starting current (A)	Y-△start	1060	1231	1779	-	-
		Y-△transfer	2366	2748	3969	-	-
		Soft-start	1547	1797	2595	-	-
		Inverter-start	501	581	840	1098	1163
380V unit	Max. running current(A)		702	811	1177	1632	1632
	Starting current (A)	Y-△start	1284	1491	2153	-	-
		Y-△transfer	2865	3327	4805	-	-
		Soft-start	1873	2175	3142	-	-
		Inverter-start	606	704	1016	1329	1407

Note:
The electrical parameters above are theoretical calculation values, please take the actual parameters as the standard.

Model			CN6450PW**	CN7150PW**	CN8280PW**	CN9850PW**
Power (kW)			526+526	586+586	647+704	805+805
6kV unit	Max. running current(A)		71+71	77+77	91+105	105+105
	Starting current (A)		374+374	410+410	488+536	567+567
10kV unit	Max. running current(A)		42+42	46+46	54+63	63+63
	Starting current (A)		225+225	246+246	293+321	340+340
460V unit	Max. running current(A)		908+908	981+981	1179+1357	1357+1357
	Starting current (A)	Y-Δstart	1625+1625	1779+1779	-	-
		Y-Δtransfer	3626+3626	3969+3969	-	-
		Soft-start	2371+2371	2595+2595	-	-
		Inverter-start	767+767	840+840	1001+1098	1163+1163
380V unit	Max. running current(A)		1088+1088	1177+1177	1410+1632	1632+1632
	Starting current (A)	Y-Δstart	1967+1967	2153+2153	-	-
		Y-Δtransfer	4389+4389	4805+4805	-	-
		Soft-start	2870+2870	3142+3142	-	-
		Inverter-start	928+928	1016+1061	1212+1329	1407+1407

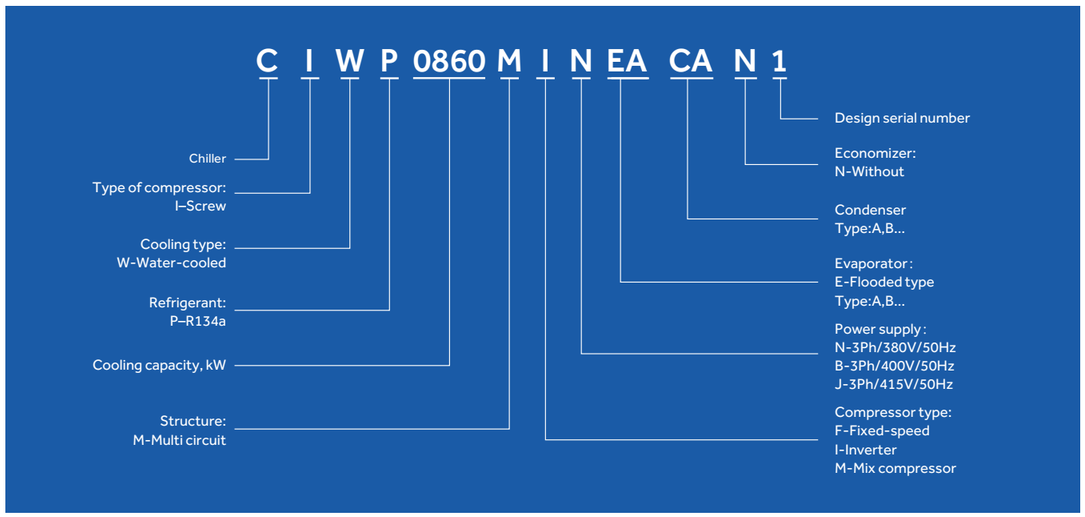
Note:
The electrical parameters above are theoretical calculation values, please take the actual parameters as the standard.

SCREW CHILLER

Inverter Water-cooled Screw Chiller

Convenient | Intelligent | High Efficiency | High Reliability

Nomenclature



Convenient

- One-touch start/stop - automatic operation
- Countdown timer - easy to operate, easy to see, less waiting
- Timer function - unattended, increase efficiency
- Intelligent memory function: abnormal unit operation fault memory storage, easy for manual

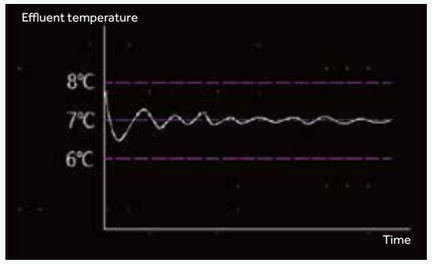
nvestigation and processing

- Self-applicable control function: the unit monitors the changes of each parameter in real time
- Automatic adjustment of operating status for continuous safe operation
- Scaling cleaning tips - automatic judgement, intelligent operation and maintenance

Umanized design of the human-machine interface

7-inch colour touch screen Real-time display of parameters, easy to operate and easy to understand.

Intelligent



PID control water outlet temperature curve

PID automatic adjustment

According to the trend of water temperature change combined with PID adjustment, automatically adjust the energy state of the unit, the water temperature fluctuation is small.

- With Modbus communication protocol, RS-485 communication interface reserved.
- Users have a need for centralised control and hosts can be used without increasing their budget Access to a group control system for remote management.

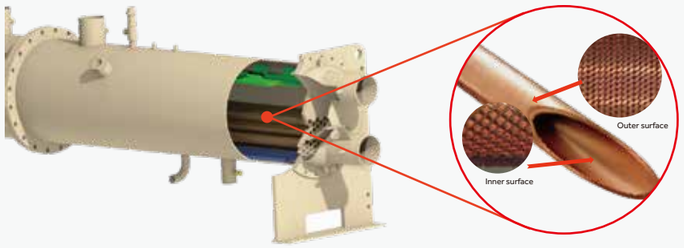
High Efficiency

Single screw compressor

Symmetrical arrangement, uniform forces, low vibration, low noise and high performance.

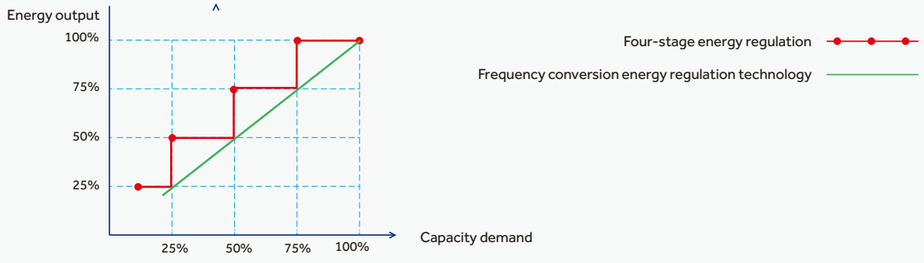
Flooded type evaporator

Using high efficiency heat exchanger tubes.



Variable frequency adjustment

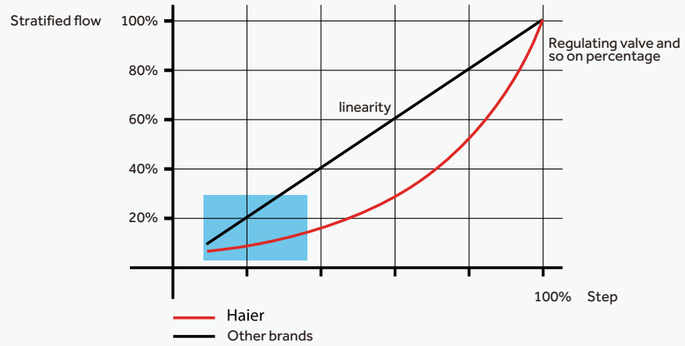
The water-cooled screw unit comes with an energy-saving control button. When the user selects the energy-saving operation status, the unit can calculate and output the most energy-saving operation parameters according to the external environment and automatically adjust the unit's operation status in combination with the advanced variable frequency energy adjustment technology system to achieve the most energy-saving operation.



High Reliability

Electronic expansion valve throttling

The use of international brand electronic expansion valve throttling technology, the corresponding speed, rapid adjustment, energy adjustment range. The equal percentage characteristic of the control valve is ideally suited for operation with inverter compressor sets by virtue of the precise control of the refrigerant under partial load.



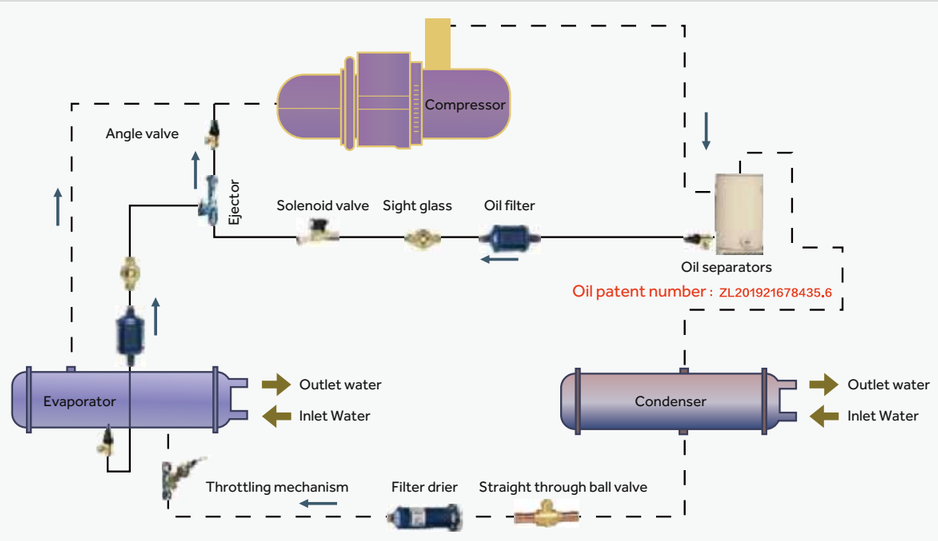
Leading-edge oil return system design

The screw chillers are designed with a technologically advanced "3+2+1" oil return system to ensure reliable operation.

"3": the compressor comes with three levels of oil separation measures, holding me that low oil carrying capacity.

"2": external cyclone oil separator + no pump priming oil return technology, control oil separation effect up to 99.99%, while ensuring that no oil is stored in the evaporator, to enhance the system heat transfer efficiency.

"1" external oil distribution 1 high-definition sight glass, real-time detection of oil return effect Oil return system inlet and outlet are equipped with shut-off valves for easy maintenance and replacement of oil circuit components Dual head units are designed as independent systems, eliminating the need for oil balancing problems and providing greater reliability.



▲ Advanced oil circuit control system

High efficiency

Sub cooling design

MODEL			CIWP0530 MINEACAN1	CIWP0580 MINEACAN1	CIWP0620 MINEACAN1	CIWP0740 MINEACAN1	CIWP0860 MINEACAN1	CIWP0900 MINEACAN1	CIWP1000 MINEACAN1	CIWP1060 MINEACAN1	CIWP1270 MINEACAN1	CIWP1320 MINEACAN1	CIWP1690 MMNEACAN1	CIWP2100 MMNEACAN1
Cooling capacity		Ton	151	165	175	210	244	255	285	300	360	375	481	595
		kW	530.0	582.0	617.0	740.0	858.0	896.0	1004.0	1056.0	1265.0	1320.0	1690.0	2094.0
		10^4kcal/h	45.6	50.0	53.0	63.6	73.8	77.0	86.3	90.8	108.8	113.5	145.3	180.0
Power input		kW	102.0	111.0	116.0	135.0	156.0	163.0	180.0	188.0	224.0	233.5	295.0	355.0
Max. power input		kW	140	153	160	186	217	224	250	261	312	328	401	494
COP		W/W	5.20	5.24	5.32	5.48	5.50	5.50	5.58	5.62	5.65	5.65	5.73	5.90
IPLV		W/W	8.13	8.16	8.16	8.18	8.17	8.16	8.17	8.23	8.27	8.28	8.32	8.32
Starting amps		A	＜240	＜262	＜274	＜320	＜372	＜383	＜429	＜447	＜534	＜562	＜686	＜844
Min circuit amps		A	240	262	274	320	372	383	429	447	534	562	686	844
Compressor	Quantity	_	1										2	
	Type	_	Semi-Hermetic Screw											
Power supply		_	3N~/380V/50Hz											
Controller type		_	PCB											
Starting mode		_	VSD										VSD+Y/△	
Refrigerant throttle type		_	Electronic expansion valve											
Refrigerant	Type	_	R134a											
	Charge	kg	230	240	240	240	260	300	320	360	370	390	530	770
Evaporator	Type	_	Flooded type											
	Chilled water inlet/outlet temp.		12°C/7°C											
	Rated water flow	m^3/h	91	100	106	127	148	154	173	182	218	227	291	360
	Water side pressure drop	kPa	53	56	56	63	65	60	60	55	55	62	92	94
	Connection size	DN(mm)	125	125	150	150	150	150	200	200	200	200	200	200
	Fouling factor	m^2·°C/kW	0.018											
	Standard pressure	MPa	1.0											
Condenser	Type	_	Shell & tube heat exchanger											
	Cooling water inlet/outlet temp.		30°C/35°C											
	Rated water flow	m^3/h	109	119	126	151	174	182	204	214	256	267	341	421
	Water side pressure drop	kPa	67	64	66	69	69	68	68	65	70	70	89	90
	Connection size	DN(mm)	125	150	150	150	200	200	200	200	200	200	200	200
	Fouling factor	m^2·°C/kW	0.044											
	Standard pressure	MPa	1.0											
External dimension	Unit length	mm	3370	3370	3370	3420	3420	3500	3500	3500	3500	3500	5120	5220
	Unit width	mm	1350	1400	1400	1500	1580	1770	1770	1870	1870	1870	1890	2040
	Unit height	mm	2050	2150	2150	2150	2420	2430	2430	2580	2700	2700	2510	2630
Weight	Net weight	kg	3200	3450	3600	3850	4200	4700	4950	5350	6700	7500	11500	12700
	Gross weight	kg	3235	3485	3635	3885	4235	4735	4985	5385	6735	7535	11535	12735
	Operation weight	kg	3685	3935	4085	4335	4685	5185	5435	5735	7185	7985	11985	13185

Note:
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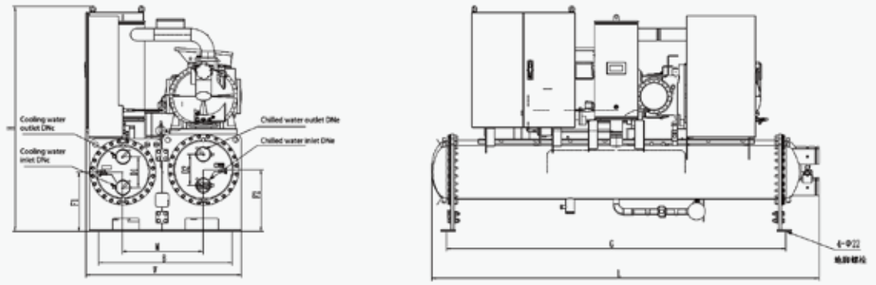
2.Due to our policy of innovation some specifications maybe changed without notification.

Dimensions

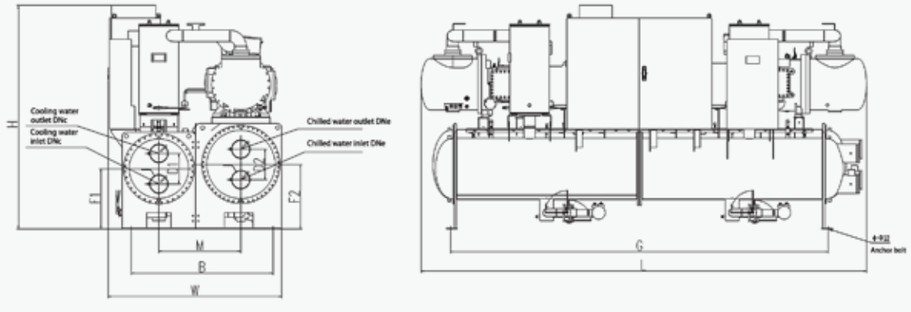
Outline dimension



Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)		Nozzle Dimensions(mm)						
	L	W	H	B	G	D1	D2	F1	F2	M	DNe	DNc
CIWP0530MINEACAN1	3370	1350	2050	1160	2950	270	270	514	534	700	DN125	DN125
CIWP0580MINEACAN1	3370	1400	2150	1160	2950	250	270	514	534	700	DN150	DN150
CIWP0620MINEACAN1	3370	1400	2150	1160	2950	250	270	514	534	700	DN150	DN150
CIWP0740MINEACAN1	3420	1500	2150	1160	2950	250	270	514	534	730	DN150	DN150
CIWP0860MINEACAN1	3420	1580	2420	1160	2950	250	270	582	602	730	DN150	DN150
CIWP0900MINEACAN1	3500	1770	2430	1270	2950	390	320	620	670	790	DN200	DN200
CIWP1000MINEACAN1	3500	1770	2430	1270	2950	390	320	620	670	790	DN200	DN200
CIWP1060MINEACAN1	3500	1870	2580	1270	2950	290	360	700	700	810	DN200	DN200
CIWP1270MINEACAN1	3500	1870	2700	1270	2950	290	360	627	627	810	DN200	DN200
CIWP1320MINEACAN1	3500	1870	2700	1270	2950	290	360	627	627	810	DN200	DN200

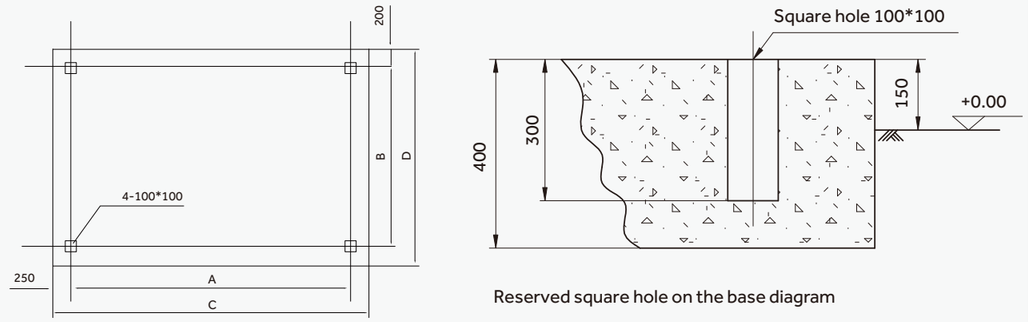
*Please acquire detailed dimensions from Haier technicians.

Outline dimension



Model \ Code	Boundary Dimensions(mm)			Installation Dimensions(mm)		Nozzle Dimensions(mm)						
	L	W	H	B	G	D1	D2	F1	F2	M	DNe	DNc
CIWP1690MMNEACAN1	5120	1890	2510	1400	3823	360	360	654	704	860	DN200	DN200
CIWP2100MMNEACAN1	5220	2040	2630	1730	4423	360	360	704	754	960	DN200	DN200

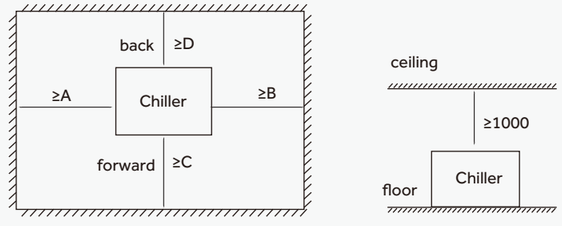
Installation foundation drawing



Reserved square hole on the base diagram

Model \ CODE	Installation Dimension mm			
	A	B	C	D
CIWP0530MINEACAN1	2950	1160	3450	1560
CIWP0580MINEACAN1	2950	1160	3450	1560
CIWP0620MINEACAN1	2950	1160	3450	1560
CIWP0740MINEACAN1	2950	1160	3450	1560
CIWP0860MINEACAN1	2950	1160	3450	1560
CIWP0900MINEACAN1	2950	1270	3450	1670
CIWP1000MINEACAN1	2950	1270	3450	1670
CIWP1060MINEACAN1	2950	1270	3450	1670
CIWP1270MINEACAN1	2950	1270	3450	1670
CIWP1320MINEACAN1	2950	1270	3450	1670
CIWP1690MMNEACAN1	3823	1400	4323	1800
CIWP2100MMNEACAN1	4423	1730	4923	2130

Reserved Space Dimension



Model \ CODE	Reserved Space Dimension mm mm			
	A	B	C	D
CIWP0530MINEACAN1	3000	1200	1200	800
CIWP0580MINEACAN1	3000	1200	1200	800
CIWP0620MINEACAN1	3000	1200	1200	800
CIWP0740MINEACAN1	3000	1200	1200	800
CIWP0860MINEACAN1	3000	1200	1200	800
CIWP0900MINEACAN1	3000	1200	1200	800
CIWP1000MINEACAN1	3000	1200	1200	800
CIWP1060MINEACAN1	3000	1200	1200	800
CIWP1270MINEACAN1	3000	1200	1200	800
CIWP1320MINEACAN1	3000	1200	1200	800
CIWP1690MMNEACAN1	2000	2000	1200	800
CIWP2100MMNEACAN1	2300	2300	1200	800

Water-cooled Screw Chiller

High Efficiency

High Reliability

Options/Accessories

Accessories	Standard	Optional
Compressor type	Single-screw	Twin-screw
Evaporator	Flooded	Falling film
Power supply	3N~/380V/50Hz	3N~/400V/50Hz 3N~/415V/50Hz
Thermal insulation thicknes	20mm	30mm
Water side working pressure	1.0MPa	1.6MPa/2.5MPa
Automatic online rubber ball cleaning device	×	√
Channel steel base	×	√
Controller	PCB	PLC
Touch screen	7-inch	10-inch

MODEL (NEW)			CIWP0390 MFNEACAN1	CIWP0440 MFNEACAN1	CIWP0510 MFNEACAN1	CIWP0580 MFNEACAN1	CIWP0710 MFNEACAN1
Cooling capacity		Ton	110	125	145	165	200
		kW	386.9	439.6	510.0	580.3	703.4
Power input		kW	71.26	78.72	93.83	103.4	125.1
COP		W/W	5.429	5.585	5.435	5.612	5.623
		—	1				
Compressor	Quantity	—	Semi-Hermetic screw compressor				
	Type	—	3N～/380V/50Hz				
Power supply		—	Y-△				
Starting mode		A	450	450	704	704	768
Mix. Current		A	171	186	219	256	291
Mix. Power input		kW	98	109	125	149	169
Capacity control		—	25~100%				
Controller type		—	PCB				
Refrigerant throttle type		—	Electronic expansion valve				
Refrigerant	Type	—	R134a				
	Charge	kg	160	160	160	190	200
Evaporator	Type	—	Flooded type				
	Chilled water inlet/outlet temp.		12°C/7°C				
	Rated water flow	m^3/h	67	76	88	100	121
	Water side pressure drop	kPa	76	81	80	80	84
	Connection size	DN	125	125	150	150	150
	Fouling factor	$m^2 \cdot °C/kW$	0.018				
	Pass		2				
	Standard pressure	MPa	1.0				
Condenser	Type	—	Shell&tube heat exchanger				
	Cooling water inlet/outlet temp.		30°C/35°C				
	Rated water flow	m^3/h	79	89	104	118	143
	Water side pressure drop	kPa	77	79	83	83	82
	Connection size	DN	125	125	150	150	150
	Fouling factor	$m^2 \cdot °C/kW$	0.044				
	Pass		2				
	Standard pressure	MPa	1.0				
External dimension	Unit length	mm	2420	2520	2520	2630	2770
	Unit width	mm	1700	1700	1700	1790	1750
	Unit height	mm	1890	1890	1890	1970	2060
Weight	Net weight	kg	2750	2970	3265	3660	3950
	Gross weight	kg	2795	3015	3310	3705	3995
	Operation weight	kg	3100	3220	3740	3990	

Note:
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High efficiency

Sub cooling design

MODEL (NEW)			CIWP0780 MFNEACAN1	CIWP0880 MFNEACAN1	CIWP1020 MFNEACAN1	CIWP1200 MFNEACAN1	CIWP1410 MFNEACAN1	CIWP1590 MFNEACAN1	CIWP1690 MFNEACAN1	CIWP1900 MFNEACAN1
Cooling capacity		Ton	220	250	290	340	400	450	480	540
		kW	773.7	879.3	1020	1196	1407	1583	1688	1899
Power input		kW	137.7	156.1	180.6	205.7	241.2	266.9	280.2	318.1
COP		W/W	5.619	5.633	5.647	5.813	5.833	5.930	6.025	5.970
Compressor	Quantity	—	2							
	Type	—	Semi-Hermetic screw compressor							
Power supply		—	3N~/380V/50Hz							
Starting mode		—	Y-△							
Starting current		A	619	633	909	930	1139	1417	1389	1389
Max. running current		A	342	373	438	512	583	700	756	888
Max.Power Input		kW	196	219	251	298	339	412	450	511
Capacity control		—	12.5~100%							
Controller type		—	PCB							
Refrigerant throttle type		—	Electronic expansion valve							
Refrigerant	Type	—	R134a							
	Charge	kg	280	290	320	360	380	450	500	520
Evaporator	Type	—	Flooded type							
	Chilled water inlet/outlet temp.		12°C/7°C							
	Rated water flow	m^3/h	133	151	175	206	242	272	290	327
	Water side pressure drop	kPa	79	83	82	85	83	84	89	88
	Connection size	DN	150	200	200	200	200	200	200	200
	Fouling factor	$m^2 \cdot °C/kW$	0.018							
	Pass		2							
	Standard pressure	MPa	1.0							
Condenser	Type	—	Shell&tube heat exchanger							
	Cooling water inlet/outlet temp.		30°C/35°C							
	Rated water flow	m^3/h	157	178	206	241	283	318	339	381
	Water side pressure drop	kPa	80	84	83	86	87	88	86	84
	Connection size	DN	150	200	200	200	200	200	200	200
	Fouling factor	$m^2 \cdot °C/kW$	0.044							
	Pass		2							
	Standard pressure	MPa	1.0							
External dimension	Unit length	mm	4550	4830	4830	5180	5250	5250	5170	5380
	Unit width	mm	1580	1580	1610	1670	1710	1840	1910	1910
	Unit height	mm	2030	2030	2030	2040	2060	2160	2210	2250
Weight	Net weight	kg	5200	5310	6100	7965	8700	9350	11100	12800
	Gross weight	kg	5260	5370	6160	8025	8760	9410	11160	12860
	Operation weight	kg	5620	5740	6570	8600	9410	10600	11900	13500

Note:
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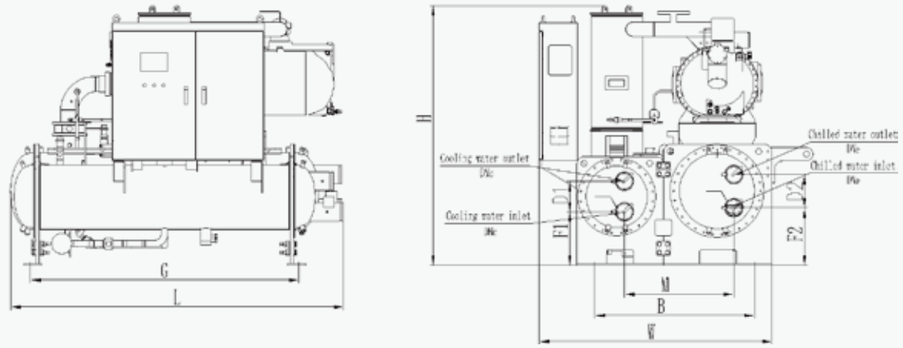
Dimensions

Outline dimension

Single Compressor Chiller

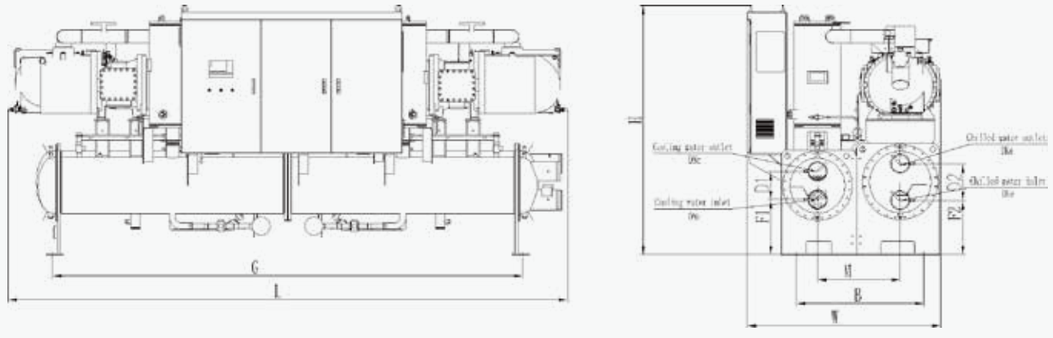


Dimmension: mm

Code / Model	Dimension			Installation Dimension		Dimension of Pipe						
	L	W	H	B	G	F1	D1	F2	D2	M	DNe	DNc
CIWP0390MFNEACAN1	2420	1700	1890	1160	1950	387	220	416	240	795	DN125	DN125
CIWP0440MFNEACAN1	2520	1700	1890	1160	1950	387	220	416	240	795	DN125	DN125
CIWP0510MFNEACAN1	2520	1700	1890	1160	1950	387	220	416	240	795	DN150	DN150
CIWP0580MFNEACAN1	2630	1790	1970	1160	1950	382	280	421	280	820	DN150	DN150
CIWP0710MFNEACAN1	2770	1750	2060	1160	2250	401	241	476	241	775	DN150	DN150

Note: In consideration of continuous improvement of products, the size of the unit may be changed

Double Corpressors Chiller



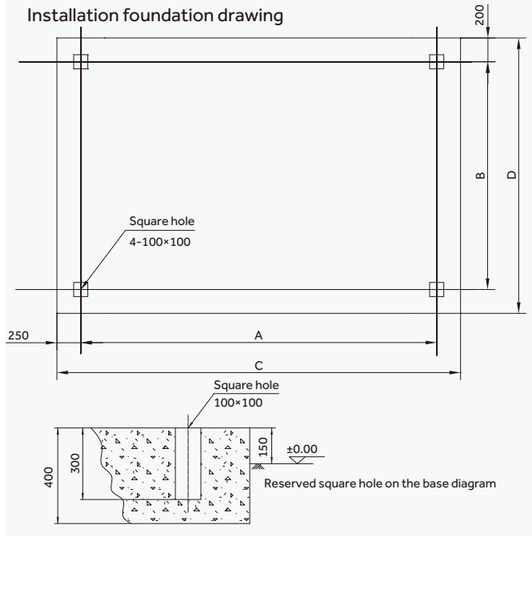
Dimmension: mm

Code / Model	Dimension			Installation Dimension		Dimension of Pipe						
	L	W	H	B	G	D1	D2	F1	F2	M	DNe	DNc
CIWP0780MFNEACAN1	4550	1580	2030	1035	3823	232	300	564	592	675	DN150	DN150
CIWP0880MFNEACAN1	4830	1580	2030	1035	3823	232	300	564	592	675	DN200	DN200
CIWP1020MFNEACAN1	4830	1610	2030	1035	3823	274	290	564	617	697	DN200	DN200
CIWP1200MFNEACAN1	5180	1670	2040	1035	4424	274	290	564	617	697	DN200	DN200
CIWP1410MFNEACAN1	5250	1710	2060	1160	4423	274	290	522	617	745	DN200	DN200
CIWP1590MFNEACAN1	5250	1840	2160	1270	4423	274	290	617	642	830	DN200	DN200
CIWP1690MFNEACAN1	5170	1910	2210	1270	4423	274	290	617	642	830	DN200	DN200
CIWP1900MFNEACAN1	5380	1910	2250	1270	4423	274	290	617	642	830	DN200	DN200

Note: In consideration of continuous improvement of products, the size of the unit may be changed

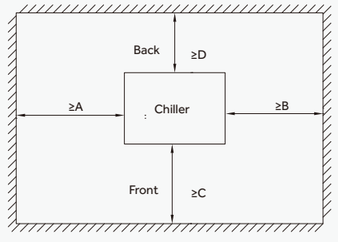
Installation foundation drawing

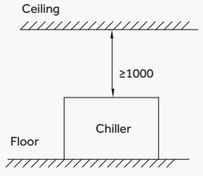
Installation foundation drawing



Code / Model	Installation Dimension(mm)			
	A	B	C	D
CIWP0390MFNEACAN1	1950	1160	2450	1560
CIWP0440MFNEACAN1	1950	1160	2450	1560
CIWP0510MFNEACAN1	1950	1160	2450	1560
CIWP0580MFNEACAN1	1950	1160	2450	1560
CIWP0710MFNEACAN1	2250	1160	2750	1560
CIWP0780MFNEACAN1	3823	1035	4323	1435
CIWP0880MFNEACAN1	3823	1035	4323	1435
CIWP1020MFNEACAN1	3823	1035	4323	1435
CIWP1200MFNEACAN1	4423	1035	4923	1435
CIWP1410MFNEACAN1	4423	1160	4923	1560
CIWP1590MFNEACAN1	4423	1270	4923	1670
CIWP1690MFNEACAN1	4423	1270	4923	1670
CIWP1900MFNEACAN1	4423	1270	4923	1670

Reservedspace size





Code / Model	Installation Dimension(mm)			
	A	B	C	D
CIWP0390MFNEACAN1	1900	1200	1200	800
CIWP0440MFNEACAN1	1900	1200	1200	800
CIWP0510MFNEACAN1	1900	1200	1200	800
CIWP0580MFNEACAN1	1900	1200	1200	800
CIWP0710MFNEACAN1	2200	1200	1200	800
CIWP0780MFNEACAN1	1900	1900	1200	800
CIWP0880MFNEACAN1	1900	1900	1200	800
CIWP1020MFNEACAN1	1900	1900	1200	800
CIWP1200MFNEACAN1	2200	2200	1200	800
CIWP1410MFNEACAN1	2200	2200	1200	800
CIWP1590MFNEACAN1	2200	2200	1200	800
CIWP1690MFNEACAN1	2200	2200	1200	800
CIWP1900MFNEACAN1	2200	2200	1200	800

Air-cooled Screw Chiller

High Efficiency　High Reliability　Convenient

Nomenclature

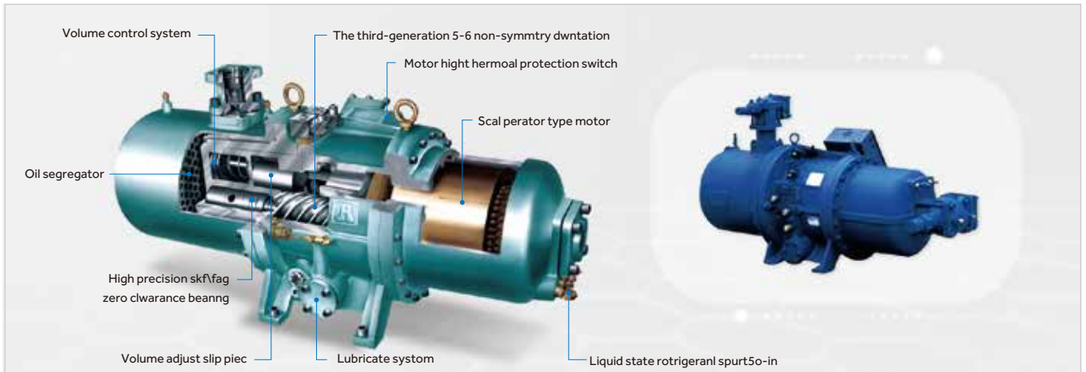
C I 0360 P A N F

- Chiller
- Type of compressor: I-Screw
- Cooling capacity, kW
- Cooling only: P-R134a
- A-Air-cooled
- Power supply: N-3Ph/380V/50Hz B-3Ph/400V/50Hz J-3Ph/415V/50Hz
- Design serial number: A~G-Fixed-speed H~Z-Inverter

High Efficiency

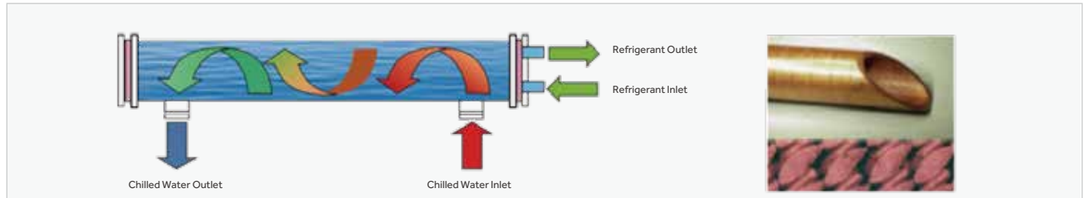
High efficiency compressor

- The unit adopts high efficient twin-screw compressor.
- High efficiency: the compressor adopts 5:6 non-symmetry bear design with large volume and high efficiency.
- The units adopt multi-stage adjustment. Each unit can realize 25%-50%-75%-100% capacity control to meet different demands.
- Motor adopts Y-Δ start method, which has low start current and low impact to the power network.
- High precise manufacturing process avoids any leakage, and increases the compressor efficiency.
- The inner refrigerant suction system is cooled by the refrigerant, avoiding any capacity loss.
- The suction side adopts temperature insulation material, avoiding any condensing and energy loss.



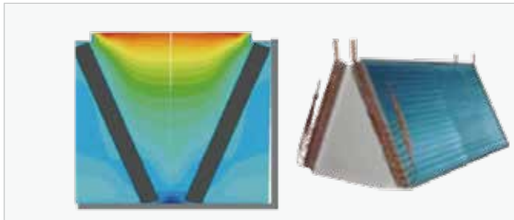
Water-side heat exchanger

Shell &tube type evaporator is having refrigerant in the shell and chilled water inside the tubes. Advantage of this type evaporator is reduced refrigerant charge.



Air-side heat exchanger

Condenser coils are constructed from copper tubes with spiral grooves on their inside surface to maximize heat transfer effi ciency.



EXV design

The chiller adopts EXV to control the refrigerant flow accurately according to the demands, increasing the COP and keeping the products more stable.

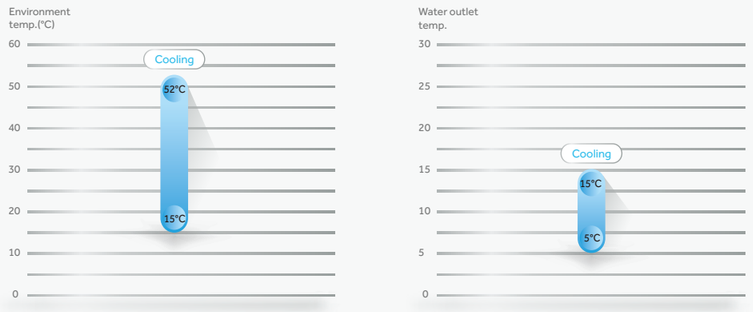
Economizer sub-cooling design

The chiller takes high efficiency plate heat exchanger as economizer, which sub cools the refrigerant for another 18 degrees in high pressure side, increasing the COP by 3-5%.

High Reliability

Wide running application

For all models, the units can realize cooling at 52°C high ambient temperature.



Convenient

Password design

The controller can set password, so only the administrator can operate the chiller.

Functional control screen

7 inch colorful touch screen.

Status: Water temperature, pressure/current/pump/running curve/history curve

Timer: Weekly timer

Error : Error history check

User: Local control/BMS control

COOLING ONLY

MODEL			MASTER MODULE			SLAVE MODULE		
			CI0320PANF	CI0440PANF	CI0530PANF	CI0320PANG	CI0440PANG	CI0530PANG
Cooling capacity		Ton	90	125	150	90	125	150
		kW	316.5	439.6	527.6	316.5	439.6	527.6
Power input		kW	105.1	141.1	174.3	105.1	141.1	174.3
COP		kW/kW	3.012	3.116	3.027	3.012	3.116	3.027
Compressor	Type	—	Semi-Hermetic screw compressor			Semi-Hermetic screw compressor		
	Quantity	EA	1	1	1	1	1	1
Power supply		—	3N~/380V/50Hz			3N~/380V/50Hz		
Starting mode		—	Y-△			Y-△		
Max. Current		A	290	387	480	290	387	480
Max. Power input		kW	162	220	271	162	220	271
Capacity control		—	25%、50%、75%、100%			25%、50%、75%、100%		
Controller type			PCB			PCB		
Refrigerant throttle type			Electronic expansion vavle			Electronic expansion vavle		
Refrigerant	Type	—	R134a			R134a		
	Charge	kg	90	135	150	90	135	150
Air side heat exchanger	Type	—	Inner grooved copper pipe & hydrophilic aluminum fin coil			Inner grooved copper pipe & hydrophilic aluminum fin coil		
	Dry-bulb temperature	°C	35			35		
	Fan type	—	Low sound axial fan			Low sound axial fan		
	Fan Quantity	EA	6	8	10	6	8	10
Water side heat exchanger	Type	—	Dry-type			Dry-type		
	Chilled water inlet/outlet temp.	°C	12/7			12/7		
	Rated water flow	m^3/h	54.4	75.6	90.7	54.4	75.6	90.7
	Water side pressure drop	kPa	50	50	70	50	50	70
	Connection Size	DN	100	125	150	100	125	150
	Fouling Factor	m^2•°C/kW	0.018			0.018		
	Standard pressure	MPa	1.0			1.0		
External dimension	Unit length	mm	3450	4600	5750	3450	4600	5750
	Unit width	mm	2050	2050	2050	2050	2050	2050
	Unit height	mm	2520	2520	2520	2520	2520	2520
Weight	Net weight	kg	3660	4690	5600	3660	4690	5600
	Gross weight	kg	3700	4730	5640	3700	4730	5640
	Operation weight	kg	3840	4890	5820	3840	4890	5820

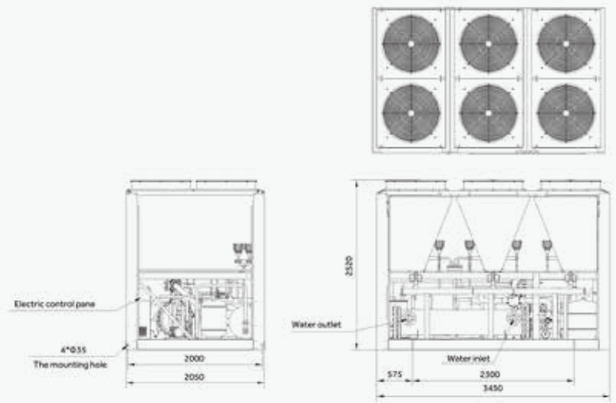
Note:
1.When multiple modules are combined, only one master module must be combined , and maximum 4 module combinations.
2.Due to our policy of innovation some specifications maybe changed without notification.

MODEL	Water outlet temp.°C	Ambient temp.°C		18	24	30	35	41	43
CI0320PANF	5	Cooling capacity	kW	338.3	329.2	314.1	302.0	286.9	277.9
		Power input	kW	73.5	83.0	93.5	103.0	115.4	123.1
	7	Cooling capacity	kW	354.4	344.9	329.1	316.5	300.6	291.1
		Power input	kW	74.7	84.5	95.2	105.1	117.6	125.3
	9	Cooling capacity	kW	375.2	365.1	348.4	335.0	318.2	308.2
		Power input	kW	76.1	86.0	96.9	106.9	119.8	127.7
	11	Cooling capacity	kW	394.3	383.7	366.1	352.1	334.5	323.9
		Power input	kW	76.7	86.7	97.7	107.7	120.7	128.7
	13	Cooling capacity	kW	414.5	403.5	384.9	370.1	351.6	340.5
		Power input	kW	77.4	87.5	98.6	108.7	121.8	129.8
	15	Cooling capacity	kW	434.1	422.4	403.1	387.6	368.2	356.6
		Power input	kW	79.9	90.3	101.7	112.1	125.5	133.8
CI0440PANF	5	Cooling capacity	kW	469.7	457.1	436.2	419.4	398.5	385.9
		Power input	kW	98.7	111.5	125.6	138.5	155.2	165.5
	7	Cooling capacity	kW	492.1	479.0	457.0	439.6	417.5	404.2
		Power input	kW	100.5	113.7	128.1	141.1	158.2	168.6
	9	Cooling capacity	kW	521.1	507.1	483.8	465.2	442.0	428.0
		Power input	kW	102.4	115.7	130.4	143.8	161.0	171.7
	11	Cooling capacity	kW	547.6	532.9	508.5	488.9	464.4	449.8
		Power input	kW	103.2	116.6	131.4	144.8	162.3	173.1
	13	Cooling capacity	kW	575.6	560.2	534.6	513.9	488.2	472.9
		Power input	kW	104.2	117.7	132.6	146.1	163.8	174.5
	15	Cooling capacity	kW	602.8	586.6	559.8	538.3	511.3	495.2
		Power input	kW	107.4	121.3	136.7	150.7	168.9	180.0
CI0530PANF	5	Cooling capacity	kW	563.9	548.8	523.6	503.4	478.3	463.1
		Power input	kW	122.0	137.9	155.3	171.1	191.8	204.4
	7	Cooling capacity	kW	590.7	574.9	548.5	527.6	501.0	485.2
		Power input	kW	124.3	140.4	158.2	174.3	195.3	208.3
	9	Cooling capacity	kW	625.4	608.6	580.8	558.4	530.5	513.7
		Power input	kW	126.6	143.0	161.1	177.6	199.0	212.1
	11	Cooling capacity	kW	657.2	639.6	610.3	586.8	557.5	539.9
		Power input	kW	127.5	144.1	162.4	179.0	200.5	213.7
	13	Cooling capacity	kW	691.0	672.4	641.6	616.9	586.1	567.6
		Power input	kW	128.7	145.4	163.8	180.6	202.3	215.7
	15	Cooling capacity	kW	723.6	704.3	671.9	646.1	613.8	594.4
		Power input	kW	132.7	149.9	168.9	186.1	208.7	222.4

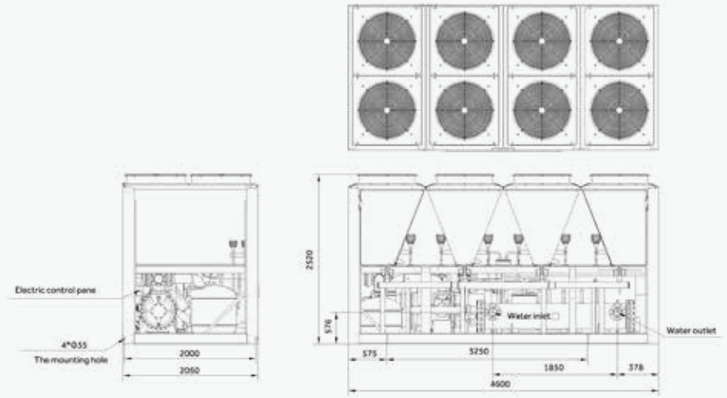
Dimensions

Outline dimension

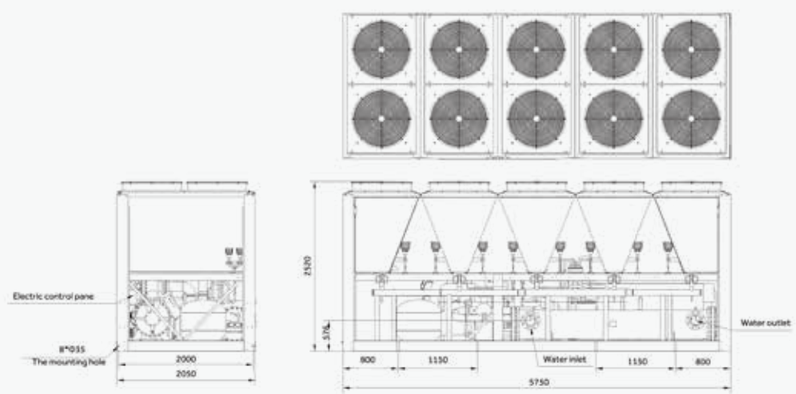
C10320PANF



CI0440PANF

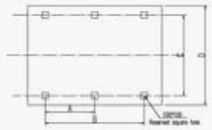


C10530PANF



Note: In consideration of continuous improvement of products, the size of the unit may be changed

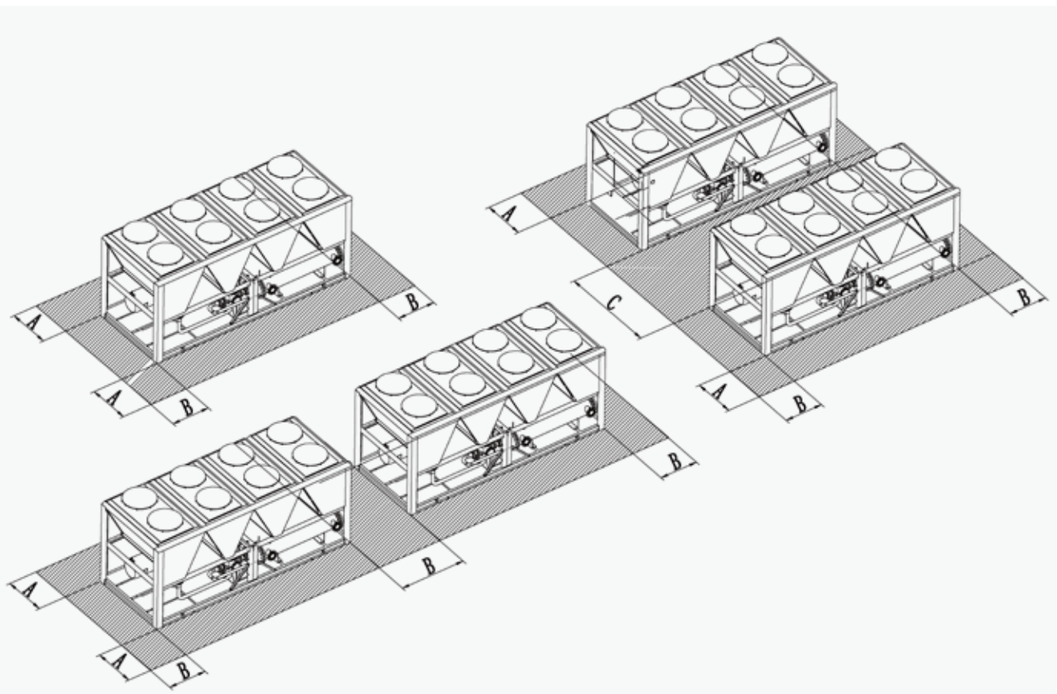
Installation foundation drawing



Model	A (mm)	B (mm)	C (mm)	D (mm)
CI0320PANF/CI0320PANG	2100		2000	2300
CI0440PANF/CI0440PANG	3250		2000	2300
CI0530PANF/CI0530PANG	2200	4400	2000	2300

Note: In consideration of continuous improvement of products, the size of the unit may be changed

Service space requirements



Installation space diagram(mm)		
A	B	C
≥1500	≥1200	≥2000

Note: In consideration of continuous improvement of products, the size of the unit may be changed

MODULAR CHILLER

Inverter Modular Chiller

High Efficiency | Comfortable | High Reliability | Convenient

Nomenclature

Inverter **C A 0065 E A N R**

- Chiller
- Type of unit: A-Modular chiller
- Capacity, kW
- Cooling only: Q-R410A; Heat pump: E-R410A
- A-Air-cooled
- Power supply: N-3Ph/380V/50Hz
- Design serial number: A-G-Fixed-speed H-Z-Inverter

High Efficiency

'Y' shape appearance

'Y' shape design is more fasion and increases the heat exchanger area.

High efficiency parts and unique design ensure the chiller high efficiency COP up to 3.0.

Compressor

The unit adopts full DC inverter rotary compressor, driven by high-efficiency permanent magnet DC motor to improve the energy efficiency greatly. the high-efficiency oil supply and oil separation parts ensure the low friction, low noise, stable and reliable operation of the compressor.

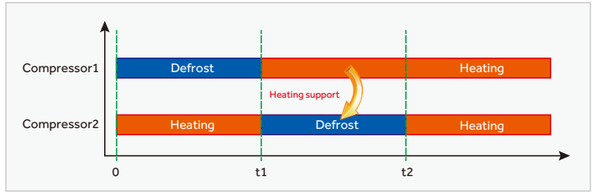
Motor

Low sound power level EC fans, together with high efficiency DC inverter motor, greatly reducing the power consumption. special 0-91Hz stepless variable frequency speed regulation ensures the stable and reliable operation of the unit.

Comfortable

Precise temperature control

EXV adopts PID control, accurate control refrigerant distribution, outlet water temp. ±5% of the set temperature .



Special defrosting design

Fast defrosting speed, small water temp. fluctuation.

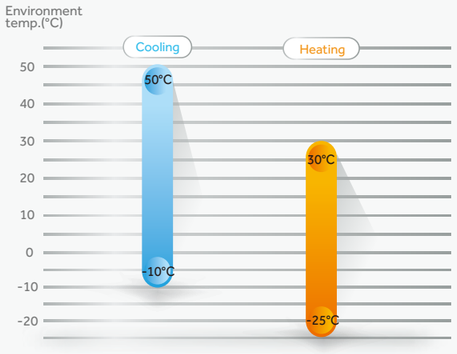
Power cut memory function

The system will record the operating state before the power cut. when the power supply is restored, the system will automatically return to the state before the power cut without setting again.

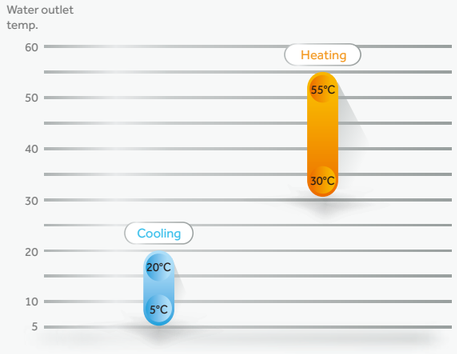
High Reliability

Wide working ambient temperature range

-25°C in heating, 50°C in cooling.



Water outlet temp. up to 55°C



Shell & tube heat exchanger

The new modular chiller adopts shell & tube heat exchanger (65/100/130kW) to avoid dirty plugging, bringing higher efficiency and reliability.

Filter drier

Filter drier absorbs moisture in the system to avoid the emergence of the "ice block".

Pressure sensor control

The pressure sensor helps realize real-time detecting, quickly and accurately control of the system, to ensure the unit efficient and stable operation.

Three phase fan motor

Compared with one phase fan motor, three phase fan motor owns low starting current, high speed and stability.

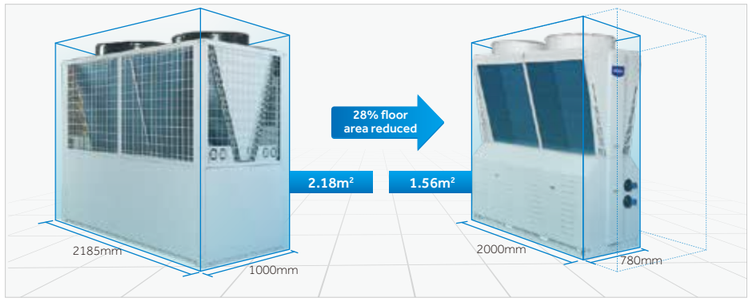
Backup operation function

When multiple units are combined to use, if one module has malfunction, another module will start automatically to meet the air conditioning demands of the users.

Convenient

Compact design, small footprint

'Y' shape design increases the heat exchange area. compact design ensures small floor area, which is reduced by 28% compared with the old model.



Modular design, flexible combination

The unit adopts modular design, and max.16 modules can be combined in each group, which can meet the load demand of different buildings. the combination can be "full inverter units solution" or "inverter units and fixed speed units solution" .

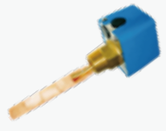
Full inverter units solution
【Inverter unit(main module)+N×inverter units(auxiliary modules)】

Inverter units and fixed speed units solution
【Inverter unit(main module)+N×fixed speed units(auxiliary modules)】

One module ◄----► 16 modules

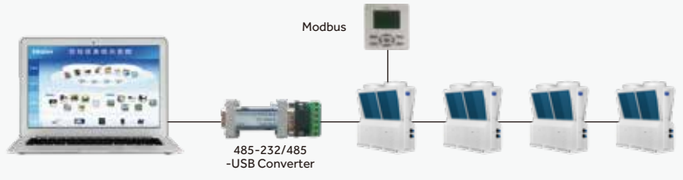
Standard flow switch

Standard flow switch is provided with the product for convenient installation.



Modbus function

MODBUS interface is reserved for units, which can be connected to building automation systems for centralized control, easy to realize intelligent management and remote control.



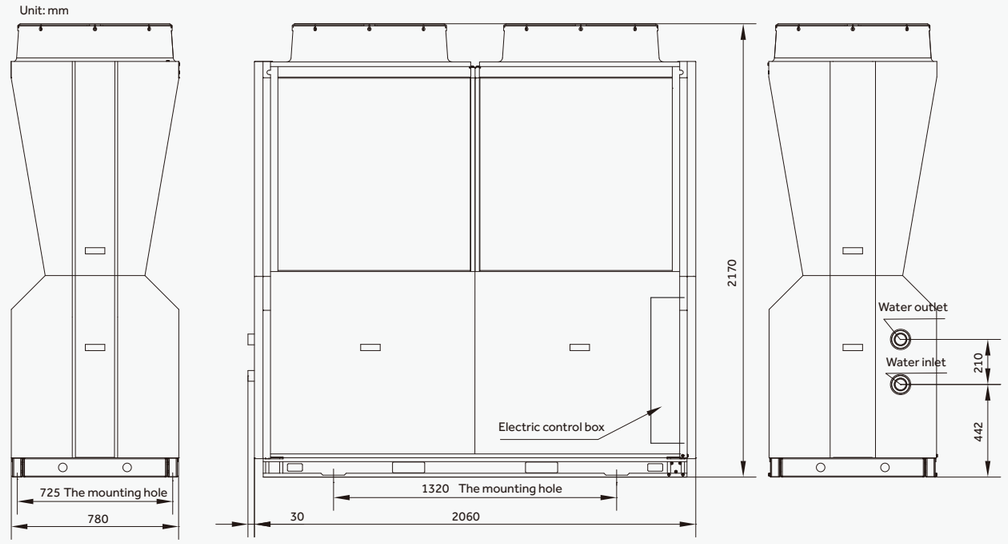
MODEL			CA0065EANR
Cooling	Cooling capacity	kW	60
	Power input	kW	20
	Running current	A	38
Heating	Heating capacity	kW	65
	Power input	kW	19.4
	Running current	A	36.8
COP_R		kW/kW	3.00
COP_H		kW/kW	3.35
Max. power input		kW	31.6
Max. running current		A	60
Power supply			3N~/380V/50Hz/60Hz
Refrigerant throttle type			Electronic expansion valve
Capacity control			Stepless
Safety & functional protections			High/low Pressure Protection,Water Lackage delay Protection, Freeze Protection,Overload & Overheat Protection, Phase Loss, Phase Sequence Protection
Compressor	Type		Rotary
	Quantity		2
	Input power	kW	9.5×2
Refrigerant	Type		R410A
	Charge	kg	6×2
Air side heat exchanger	Type		(Slit fin & efficient inner grooved copper tube)Inner grooved copper pipe & hydrophilic aluminum fin coil
	Fan power	kW	0.8×2
	Fan type		Axial flow fan
	Fan quantity		2
Water side heat exchanger	Type		Shell and tube heat exchanger
	Rated water flow	m^3/h	10.32
	Inlet/outlet pipe		R2"
	Fouling factor	$m^2 \cdot °C/kW$	0.018
	Standard pressure	Mpa	1.0
	Water resistance	kPa	45
Sound pressure level		dB(A)	65
External dimension	Unit length	mm	2060
	Unit width	mm	780
	Unit height	mm	2170
Package dimension	Unit length	mm	2200
	Unit width	mm	830
	Unit height	mm	2270
Weight	Unit weight	kg	700
	Gross weight	kg	715
	Operation weight	kg	750

Note:
1.Specifications are based on the following conditions:• Cooling: chilled water inlet/outlet: 12°C/7°C, and outdoor ambient temp. 35°CDB; • Heating: warm water inlet/outlet: 40°C/45°C, and outdoor ambient temp. 7°CDB/6°CWB; • Water side fouling factor: 0.018$m^2 \cdot K/kW$; • 1m away in open field(sound pressure)
2.Due to our policy of innovation, some specifications may be changed without notification

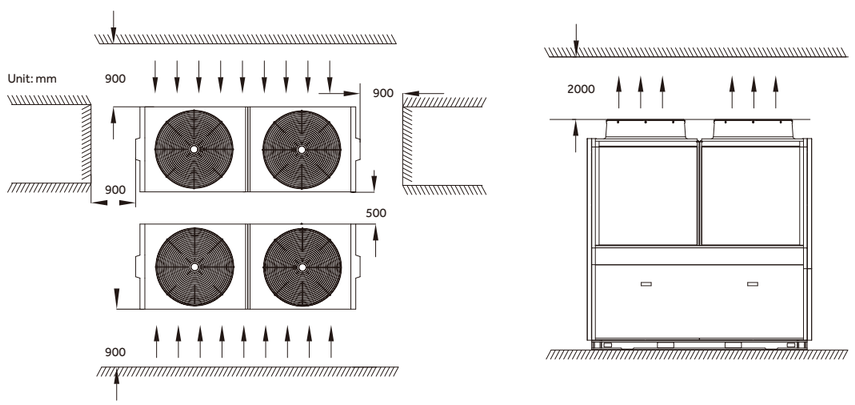
Dimensions

Unit dimension diagram

R410a Y-shape air-cooled modular chiller dimension
CA0065EANR Model



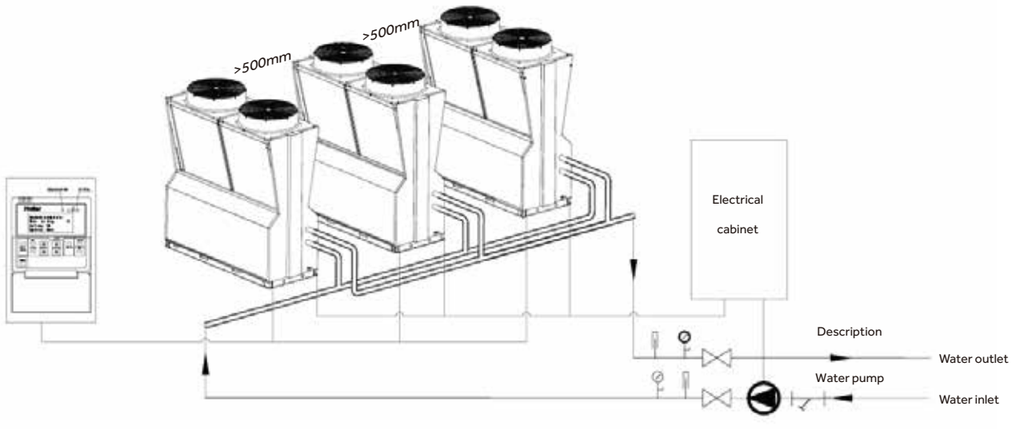
Installation & maintenance space



Dimensions

Chiller water system and control wiring diagram

Water pipe and control wiring connection diagram for multi-modular chiller

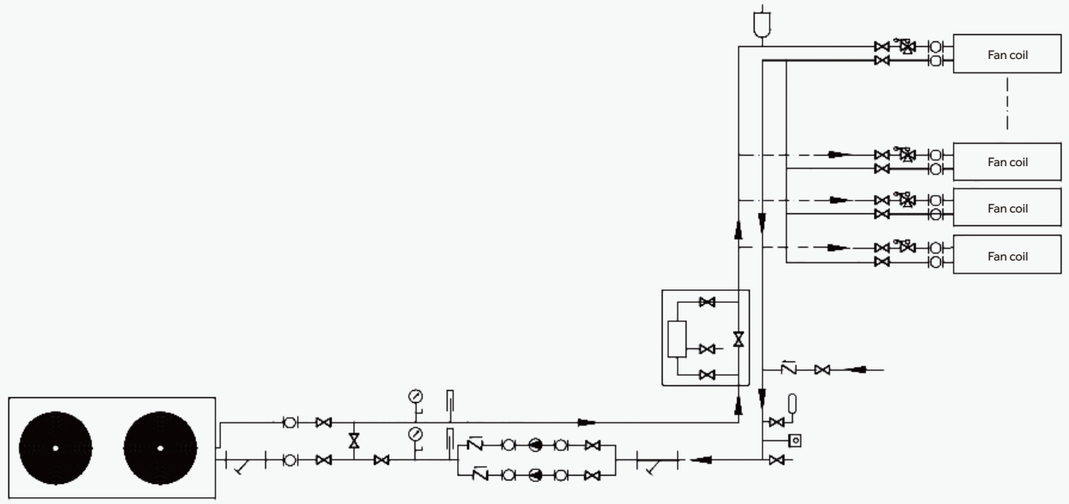


Control wiring diagram

For example the model CA0065EANR

Screen interface | 1 Master Module | Module | N Modules(N≤16)

Water system installation sketch



Graphic symbol	Description
	Check valve
	Automatic exhaust valve
	Water filter
	Stop valve
	Thermometer
	Pressure gauge
	Water pump
	flexible connection
	Expansion tank
	Electronic water processor
	3-way valve
	2-way valve

Fullheat Recovery Modular Chiller

R1234ze(E) | High Efficiency | Comfortable | High Reliability | Convenient

Haier full heat recovery air cooled modular chiller uses air as the cold and heat source and water as the heat transfer medium. This unit can realize cooling in summer, heating in winter and annual supply of domestic hot water. The basic module is 65kW and max. 16 modules can be combined up to 1040kW. The product is applicable to hotel, hospital, restaurant, entertainment center, commercial building, office building, plant and other places.

Nomenclature

C A 0070 E A N D-HR

- C — Chiller
- A — Type of unit: A–Modular chiller
- 0070 — Capacity, kW
- E — Cooling only: Q–R410A; Heat pump: E–R410A
- A — A–Air-cooled
- N — Power supply: N-3Ph/380V/50Hz
- D — Design serial number: A~G–Fixed-speed; H-Z–Inverter
- HR — Heat recovery

High Efficiency

High efficiency

The COP is up to 3.1 and the comp can be 8.28 under the heat recovery mode.

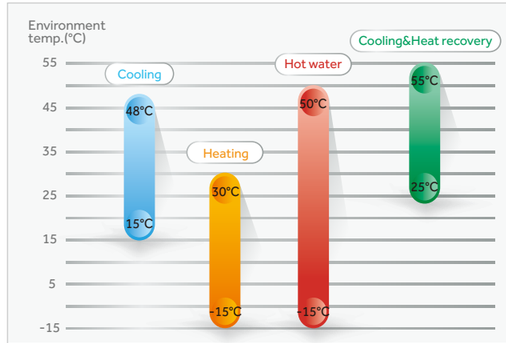
Full heat recovery

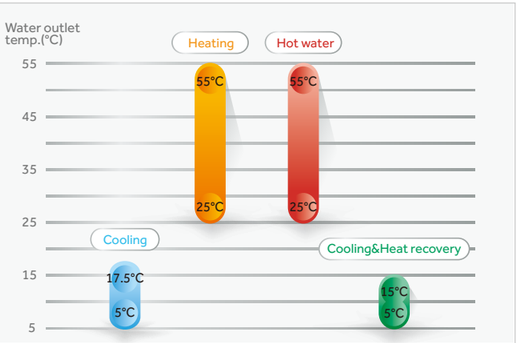
During cooling, the condensation heat can be recovered 100%, and the heat recovery is up to 84kW, which can provide the users with the constant temperature requirement of hot water.

High Reliability

Wide working ambient temperature range

Units can realize cooling at 48°C high ambient temperature and heating at -15°C low ambient temperature.





Convenient

Multiple use

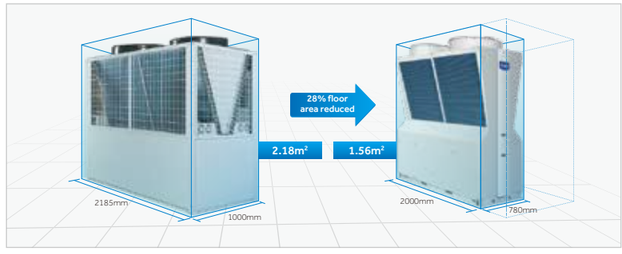
Five efficient operation modes: cooling, heating, hot water, (automatic switch for heating or hot water according to the actual demand), summer smart mode(automatic switch for cooling, heating or heat recovery according to the actual demand).

Flexible design

Up to 16 units can be combined into one system in order to reach the required capacity demand.

Small footprint

'Y' shape design increases the heat exchange area. compact design ensures small floor area, which is reduced by 28% compared with the old model.



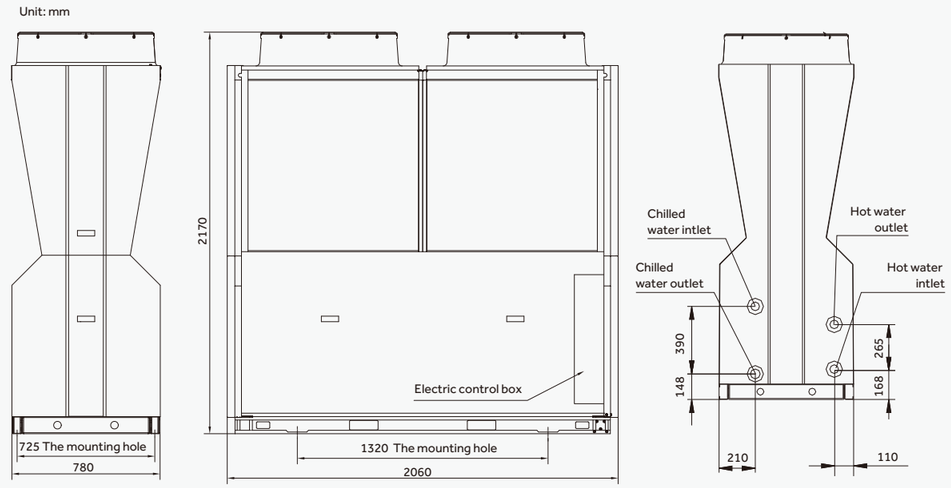
MODEL			CA0070EAND-HR
Cooling	Cooling capacity	kW	65
	Power input	kW	21
	Running current	A	36.3
Heating	Heating capacity	kW	70
	Power input	kW	20.7
	Running current	A	35.7
Hot water	Heating capacity	kW	85
	Power input	kW	21.2
	Running current	A	36.6
Heat recovery	Cooling capacity	kW	65
	Heating capacity	kW	84
	Power input	kW	19.5
	Running current	A	33.7
COP_R		kW/kW	3.10
COP_H		kW/kW	3.38
Max. power input		kW	28
Max. running current		A	48.3
Power supply			3N~/380V/50Hz
Refrigerant throttle type			Electronic expansion valve
Capacity control			50%,100%
Safety & functional protections			High/low Pressure Protection,Water Lackage delay Protection, Freeze Protection,Overload & Overheat Protection, Phase Loss, Phase Sequence Protection
Compressor	Type		Scroll compressor
	Quantity		2
	Input power	kW	18
Refrigerant	Type		R410A
	Charge	kg	7(A)+8(B)
Air side heat exchanger	Type		(Slit fin & efficient inner grooved copper tube)Inner grooved copper pipe & hydrophilic aluminum fin coil
	Fan power	kW	1.5
	Fan type		Axial flow fan
	Fan quantity		2
Air-conditioning water side heat exchanger	Type		Plate heat exchanger
	Rated water flow	m^3/h	12
	Inlet/outlet pipe		R 2" (external screw thread)
	Fouling factor	$m^2 \cdot °C/kW$	0.018
	Standard pressure	Mpa	1.0
	Water resistance	kPa	45
Hot water side heat exchanger	Type		Tube and shell heat exchanger
	Rated water flow	m^3/h	14.6
	Inlet/outlet pipe		R 2" (internal screw thread)
	Fouling factor	$m^2 \cdot °C/kW$	0.018
	Standard pressure	Mpa	1.0
	Water resistance	kPa	68
Sound pressure level		dB(A)	65
External dimension	Unit length	mm	2060
	Unit width	mm	780
	Unit height	mm	2170
Package dimension	Unit length	mm	2200
	Unit width	mm	830
	Unit height	mm	2310
Weight	Unit weight	kg	700
	Gross weight	kg	715
	Operation weight	kg	750

Note:
1.Specifications are based on the following conditions:• Cooling: chilled water inlet/outlet: 12°C/7°C, and outdoor ambient temp. 35°CDB; • Heating: warm water inlet/outlet: 40°C/45°C, and outdoor ambient temp. 7°CDB/6°CWB; • Hot water: hot water inlet/outlet:40°C/45°C,and outdoor ambient temp. 20°CDB/15°CWB; • Heat recovery: chilled water inlet/outlet: 12°C/7°C,and hot water inlet/outlet:40°C/45°C; •Water side fouling factor: 0.018m²·°C/kW; •1m away in open field(sound pressure)
2.Due to our policy of innovation, some specifications may be changed without notification.

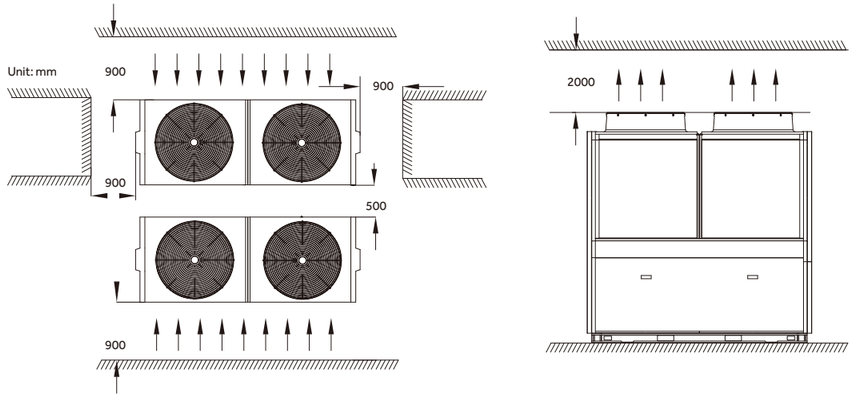
Dimensions

Unit dimension diagram

CA0070EAND-HR Model



Installation & maintenance space

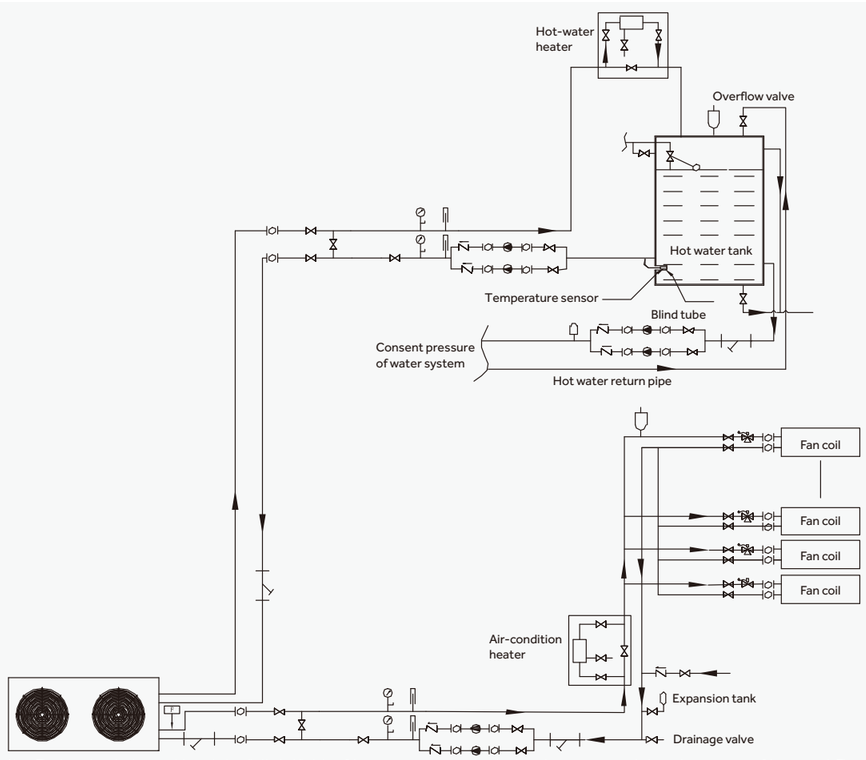


Dimensions

Control wiring diagram

Screen interface | 1 Master module | Module | N Modules(N≤16)

Water system installation sketch



Note: The thermal conductive material must be installed in the blind pipe of the temperature sensor, otherwise the probe can not accurately detect the temperature of the water tank. The unit has a temperature probe with a length of 6 meters.

Water system installation sketch

Graphic symbol	Description
	Check valve
	Automatic exhaust valve
	Water f ilter
	Globe valve
	Thermometer
	Pressure gauge
	Pump
	Soft connection
	Electric water treatment instrument
	Three-way valve
	Two-way valve
	Expansion tank
	Constant pressure tank
F	Flow switch

Modular Chiller

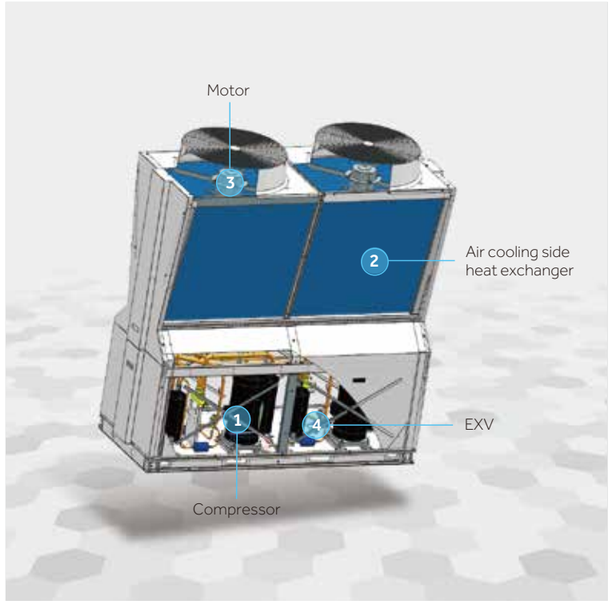
High Efficiency High Reliability

Nomenclature

C A 0070 E A N E

- Chiller
- Type of unit: A-Modular chiller
- Capacity, kW
- Cooling only: Q-R410A; Heat pump: E-R410A
- A-Air-cooled
- Power supply: N-3Ph/380V/50Hz
- Design serial number: A~G-Fixed-speed H-Z-Inverter

High Efficiency

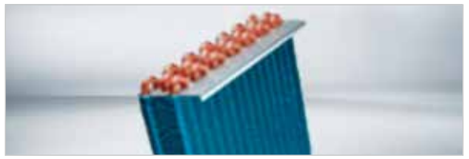


Compressor

Famous brand scroll compressor with low sound power level and high efficiency is adopted.

Air cooling side heat exchanger

The heat exchange area is enlarged by 5% to increase energy efficiency, which is bigger than normal modular chiller.



EXV design

Adopt high efficient EXV to adjust the refrigerant flow by adjusting the system superheat. with the high efficiency evaporator, the COP at full load and partial load reaches the best state.

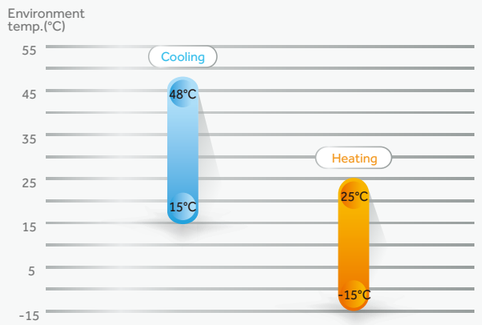
Motor

Low sound power level axial fan, together with the high efficient motor, making higher efficiency and lower sound power level.

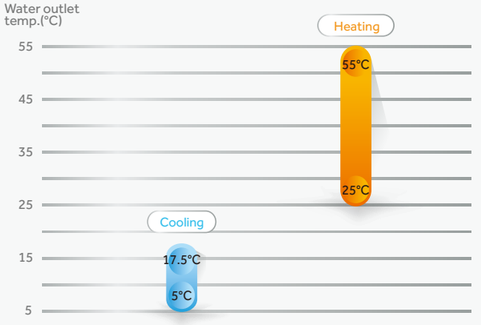
High Reliability

Wide working ambient temperature range

-15°C in heating, 48°C in cooling.



Water outlet temp. up to 55°C



HEAT PUMP

COOLING ONLY

MODEL			CA0035EANE	CA0070EANE	CA0100EANE	CA0130EANE
Cooling	Cooling capacity	kW	30	65	98	130
	Power input	kW	9.4	19.2	28.9	38.4
	Running current	A	15.8	34.6	53.2	75.4
Heating	Heating capacity	kW	33	70	103	135
	Power input	kW	9.6	19.1	28.7	38.2
	Running current	A	16.2	34.4	52.8	75
COP_R		kW/kW	3.19	3.39	3.39	3.39
COP_H		kW/kW	3.44	3.66	3.59	3.53
Max. power input		kW	16.3	28	45.6	56
Max. running current		A	27.5	55	82.5	110
Power supply			3N~/380V/50Hz			
Refrigerant throttle type			Electronic expansion valve			
Capacity control			100%	50%, 100%	33%, 67%, 100%	25%, 50%, 75%, 100%
Safety & functional protections			High/low Pressure Protection, Water Lackage delay Protection, Freeze Protection, Overload & Overheat Protection, Phase Loss, Phase Sequence Protection			
Compressor	Type		scroll compressor			
	Quantity		1	2	3	4
	Input power	kW	9	18	27	36
Refrigerant	Type		R410A			
	Charge	kg	5.5	6*2	5.8*3	5.8*4
Air side heat exchanger	Type		(Slit fin & efficient inner grooved copper tube)Inner grooved copper pipe & hydrophilic aluminum fin coil			
	Fan power	kW	0.7	1.5	2.3	3
	Fan type		Axial flow fan			
	Fan quantity		1	2	3	4
Water side heat exchanger	Type		Plate heat exchanger	Shell & Tube heat exchanger		
	Rated water flow	m^3/h	5.6	12	17.7	24
	Inlet/outlet pipe		R 2" (external screw thread)	R 2" (external screw thread)	R 2" (external screw thread)	R 2 1/2" (external screw thread)
	Fouling factor	m^2•°C/kW	0.018			
	Standard pressure	Mpa	1.0	1.0	1.0	1.0
	Water resistance	kPa	40	45	50	60
Sound pressure level		dB(A)	60	65	67	68
External dimension	Unit length	mm	785	2060	2060	2060
	Unit width	mm	1038	780	1603	1603
	Unit height	mm	1810	2170	2170	2170
Package dimension	Unit length	mm	810	2200	2200	2200
	Unit width	mm	1070	830	1650	1650
	Unit height	mm	1880	2280	2280	2280
Weight	Unit weight	kg	270	630	960	1090
	Gross weight	kg	290	645	990	1125
	Operation weight	kg	280	670	1010	1245

Note:
Specifications are based on the following conditions: • Cooling: chilled water inlet/outlet: 12°C/7°C, and outdoor ambient temp. 35°CDB; • Heating: warm water inlet/outlet: 40°C/45°C, and outdoor ambient temp. 7°CDB/6°CWB; • Water side fouling factor: 0.018m^2•K/kW; • 1m away in open field(sound pressure)

MODEL			CA0140QANE
Cooling	Cooling capacity	kW	140
	Power input	kW	42
	Running current	A	82.5
COP_R		kW/kW	3.33
Max. power input		kW	56
Max. running current		A	110
Power supply			3N~/380V/50Hz
Refrigerant throttle type			Electronic expansion valve
Capacity control			25%,50%,75%,100%
Safety & functional protections			High/low Pressure Protection,Water Lackage delay Protection, Freeze Protection,Overload & Overheat Protection, Phase Loss, Phase Sequence Protection
Compressor	Type		Scroll compressor
	Quantity		4
	Input power	kW	40
Refrigerant	Type		R410A
	Charge	kg	8*4
Air side heat exchanger	Type		(Slit fin & efficient inner grooved copper tube)Inner grooved copper pipe & hydrophilic aluminum fin coil
	Fan power	kW	3
	Fan type		Axial flow fan
	Fan quantity		4
Water side heat exchanger	Type		Shell & Tube heat exchanger
	Rated water flow	m^3/h	24
	Inlet/outlet pipe		R 3" (external screw thread)
	Fouling factor	m^2•°C/kW	0.018
	Standard pressure	Mpa	1.0
	Water resistance	kPa	55
Sound pressure level		dB(A)	68
External dimension	Unit length	mm	2060
	Unit width	mm	1603
	Unit height	mm	2170
Package dimension	Unit length	mm	2200
	Unit width	mm	1650
	Unit height	mm	2280
Weight	Unit weight	kg	1065
	Gross weight	kg	1100
	Operation weight	kg	1160

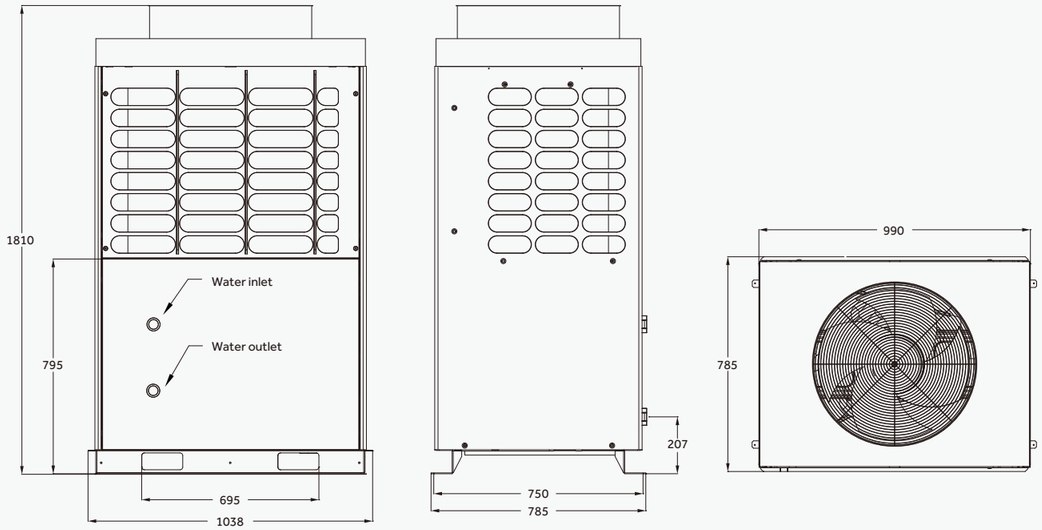
Note:
1.Specifications are based on the following conditions: • Cooling: chilled water inlet/outlet: 12°C/7°C, and outdoor ambient temp. 35°CDB; • Heating: warm water inlet/outlet: 40°C/45°C, and outdoor ambient temp. 7°CDB/6°CWB; • Water side fouling factor: 0.018m^2•K/kW; • 1m away in open field(sound pressure)
2.Due to our policy of innovation, some specifications may be changed without notification

Dimensions

Outline dimension

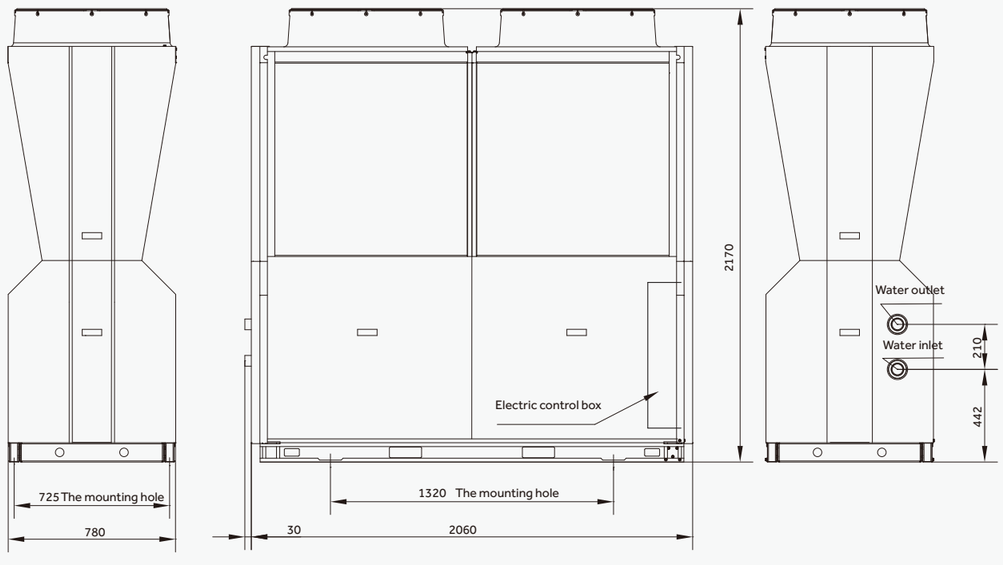
CA0035EANE Model

Unit: mm



CA0070EANE Model

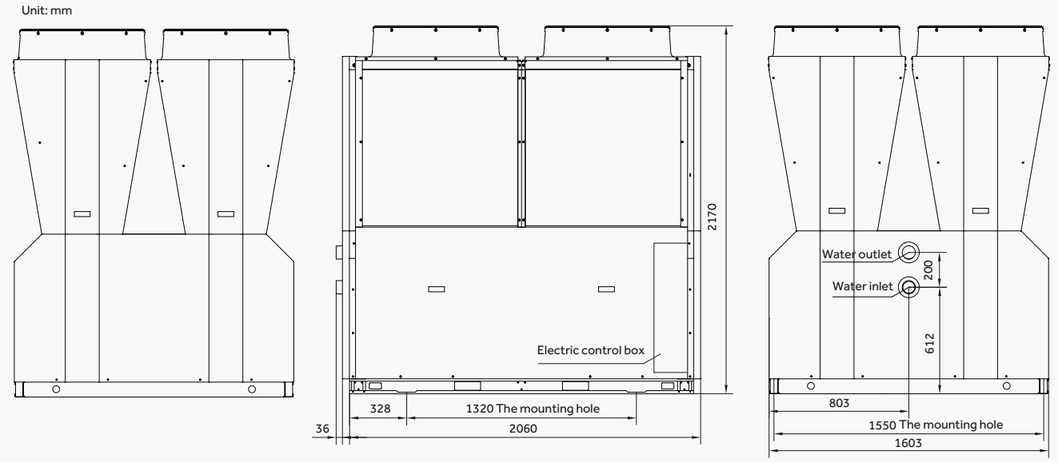
Unit: mm



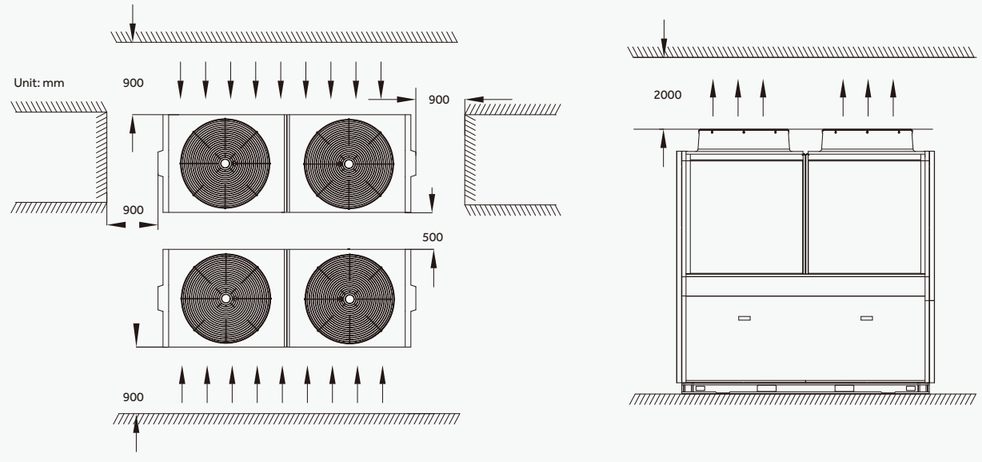
Unit dimension diagram

R410a Y-shape air-cooled modular chiller dimension
CA0100EANE/CA0130EANE/CA0140QANE Model

Unit: mm



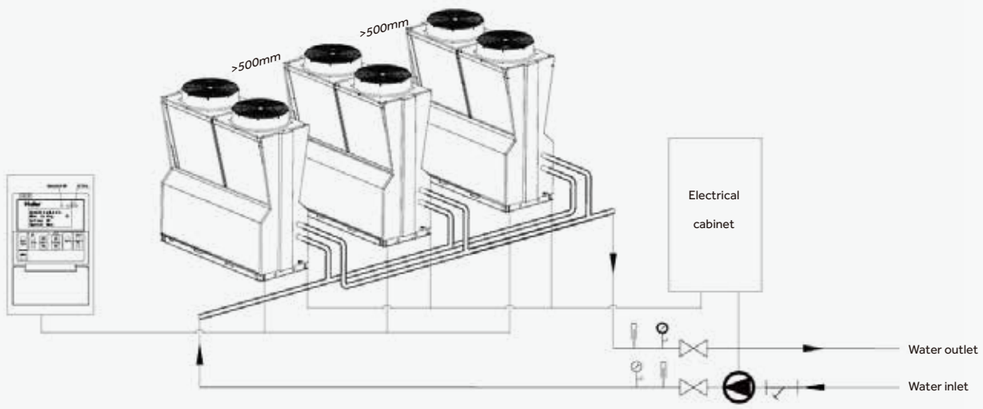
Installation & maintenance space



Dimensions

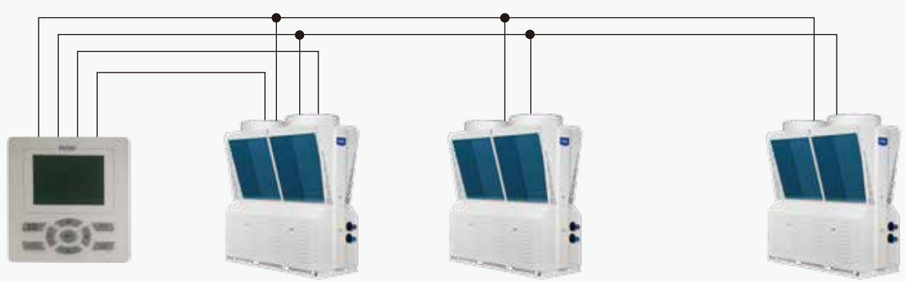
Chiller water system and control wiring diagram

Water pipe and control wiring connection diagram for multi-modular chiller

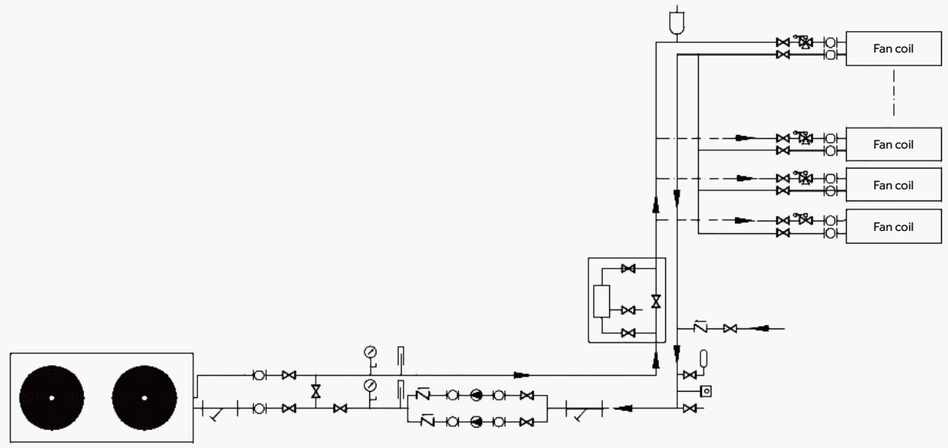


Control wiring diagram

For example the model CA0070EANE



Water system installation sketch



Graphic symbol	Description
	Check valve
	Automatic exhaust valve
	Water filter
	Stop valve
	Thermometer
	Pressure gauge
	Water pump
	flexible connection
	Expansion tank
	Electronic water processor
	3-way valve
	2-way valve

FAN COIL UNITS & AIR HANDLING UNITS

Ceiling Concealed Fan Coil

High Reliability Convenient

Nomenclature

FC E-051 A C N 2 B

- Fan coil
- Type of unit: E–Ceiling concealed horizontal type
- Airflow: ×10m³/h
- External static pressure: A–0 or 12Pa; B–30Pa; C–50Pa
- Installation type: C–Concealed
- Air return type: B–Rear type; D–Bottom type; N–Without air return box
- Power supply: 2–1/220~240V/50Hz
- Design serial number

High Reliability

Steel fan and housing

The fan and housing take steel material design to raise fire protection rating.

Convenient

Optional three way valve

Haier can supply the three way valve to match with the fan coil on customer request, giving the flexibility for design work.

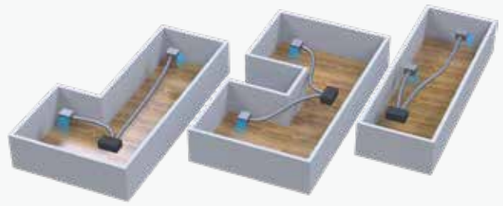
Personalized customization

The unit provides different ESP, air return boxes, filters and enlarged water pan as optional to meet different requirements.

Flexible design

1 Optional ESP

According to customer need, the products ESP can be 50Pa, 12Pa or 30pa as optional.



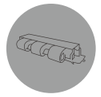
2 Return air box

Friendly design of rear air return or bottom air return is available.

HW-CA101AGK
(Optional)

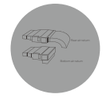
YCZ-A004
(Optional)

ESP 12/30/50Pa



Steel fan and
scroll shell

Three way valve
optional



Return air box&
filter optional

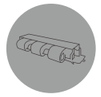
MODEL			FCE-034CCN2B	FCE-051CCN2B	FCE-068CCN2B	FCE-085CCN2B	FCE-102CCN2B	FCE-136CCN2B	FCE-170CCN2B	FCE-204CCN2B	FCE-238CCN2B
	No air return box&filter		FCE-034CCN2B	FCE-051CCN2B	FCE-068CCN2B	FCE-085CCN2B	FCE-102CCN2B	FCE-136CCN2B	FCE-170CCN2B	FCE-204CCN2B	FCE-238CCN2B
	Rear air return box&filter		FCE-034CCB2B	FCE-051CCB2B	FCE-068CCB2B	FCE-085CCB2B	FCE-102CCB2B	FCE-136CCB2B	FCE-170CCB2B	FCE-204CCB2B	FCE-238CCB2B
	Bottom air return box&filter		FCE-034CCD2B	FCE-051CCD2B	FCE-068CCD2B	FCE-085CCD2B	FCE-102CCD2B	FCE-136CCD2B	FCE-170CCD2B	FCE-204CCD2B	FCE-238CCD2B
Air volume	m³/h	H	340	510	680	850	1020	1360	1700	2040	2380
		M	258	388	517	646	775	1034	1292	1550	1809
		L	177	265	354	442	530	707	884	1061	1238
ESP	pa		50					50			
Cooling capacity	W	H	2410	3550	4550	5510	6200	8600	10800	12000	13200
		M	2169	3195	4095	4959	5580	7740	9720	10800	11880
		L	1783	2627	3367	4077	4588	6364	7992	8880	9768
Heating capacity	W	H	3700	5600	7450	8800	10200	13800	17500	21000	22500
		M	3219	4872	6482	7656	8874	12006	15225	18270	19575
		L	2701	4088	5439	6424	7446	10074	12775	15330	16425
Power input	W	H	49	66	84	100	118	174	210	250	300
Power supply	Ph/V/Hz		1/220~240/50					1/220~240/50			
Noise level	dB(A)	H	42	44	46	47	49	50	52	54	55
Water flow	l/min		6.9	10.2	13.0	15.8	17.8	24.7	31.0	34.4	37.8
Water pressure drop	kPa		30	30	30	30	40	40	40	40	50
Water inlet/outlet connection pipe			Rc3/4"					Rc3/4"			
Condensate water connection pipe			R3/4"					R3/4"			
Net weight (no air return box)	kg		11.6	14.1	15.8	17.5	18.4	26.2	29.1	32.8	35.1
Gross weight (no air return box)	kg		13.9	16.6	18.5	20.4	21.6	30.1	33.4	38.1	40.4
Net weight (with air return box)	kg		14.2	17.2	19.2	21.2	22.5	31.4	34.8	39.2	42.2
Gross weight (with air return box)	kg		16.4	19.4	21.6	23.8	25.5	34.7	38.5	44.0	46.9
Net dimension (L/W/H) (no air return box)	mm		693/470/225	823/470/225	928/470/225	1013/470/225	1143/470/225	1443/470/225	1593/470/225	1813/470/225	2013/470/225
Shipping dimension (L/W/H) (no air return box)	mm		740/542/248	870/542/248	975/542/248	1060/542/248	1190/542/248	1490/542/248	1640/542/248	1860/542/248	2060/542/248
Net dimension (L/W/H) (with rear air return box)	mm		693/511/225	823/511/225	928/511/225	1013/511/225	1143/511/225	1443/511/225	1593/511/225	1813/511/225	2013/511/225
Shipping dimension (L/W/H) (with rear air return box)	mm		740/542/248	870/542/248	975/542/248	1060/542/248	1190/542/248	1490/542/248	1640/542/248	1860/542/248	2060/542/248
Net dimension (L/W/H) (with bottom air return box)	mm		693/492/246	823/492/246	928/492/246	1013/492/246	1143/492/246	1443/492/246	1593/492/246	1813/492/246	2013/492/246
Shipping dimension (L/W/H) (with bottom air return box)	mm		740/522/263	870/522/263	975/522/263	1060/522/263	1190/522/263	1490/522/263	1640/522/263	1860/522/263	2060/522/263
Controller (optional)	Wired		HW-CA101AGK	HW-CA101AGK	HW-CA101AGK	HW-CA101AGK	HW-CA101AGK	HW-CA101AGK	HW-CA101AGK	HW-CA101AGK	HW-CA101AGK
Three way valve (optional)			3VFCE	3VFCE	3VFCE	3VFCE	3VFCE	3VFCE	3VFCE	3VFCE	3VFCE

Options: 1.Three way valve; 2. The enlarged drain pan ;
Note: 1. Specifications are based on the following conditions: Cooling: Dry bulb temperature 27°C, wet bulb temperature 19.5°C, the water inlet temperature 7°C, 5°C temperature difference between water inlet and water outlet; Heating: Dry bulb temperature 21°C, the water inlet temperature 60°C, the water flow is the same to that at the cooling test condition.
2. The sound pressure level is measured in a semi-anechoic chamber by units without air return box &filter. The measured sound pressure level may be different from the data in the table due to the using condition or other reasons. The sound pressure level of the unit with the air return box &filter is higher than that of the unit without the air return box &filter.
3. The ESP, air volume, cooling and heating capacity of the above table are measured by the units without the air return box &filter. For the units with the air return box &filter, the air volume, cooling and heating capacity shall be multiplied by the correction factor of 0.9.
4. The unit has left water inlet or right water inlet type, which can be temporarily adjusted on site. It is not recommended to adjust, because the cooling and heating capacity hall be multiplied by the correction factor of 0.92 after the adjustment.
5. Due to the our policy of innovation, some specifications may be changed without notification.

HW-CA101AGK
(Optional)

YCZ-A004
(Optional)

ESP 12/30/50Pa



Steel fan and
scroll shell

Three way valve
optional

Return air box&
filter optional

MODEL			No air return box&filter	FCE-034BCN2B	FCE-051BCN2B	FCE-068BCN2B	FCE-085BCN2B	FCE-102BCN2B	FCE-136BCN2B	FCE-170BCN2B	FCE-204BCN2B	FCE-238BCN2B
			Rear air return box&filter	FCE-034BCB2B	FCE-051BCB2B	FCE-068BCB2B	FCE-085BCB2B	FCE-102BCB2B	FCE-136BCB2B	FCE-170BCB2B	FCE-204BCB2B	FCE-238BCB2B
			Bottom air return box&filter	FCE-034BCD2B	FCE-051BCD2B	FCE-068BCD2B	FCE-085BCD2B	FCE-102BCD2B	FCE-136BCD2B	FCE-170BCD2B	FCE-204BCD2B	FCE-238BCD2B
Air volume	m³/h	H		340	510	680	850	1020	1360	1700	2040	2380
		M		258	388	517	646	775	1034	1292	1550	1809
		L		177	265	354	442	530	707	884	1061	1238
ESP	pa			30					30			
Cooling capacity	W	H		2410	3550	4550	5510	6200	8600	10800	12000	13200
		M		2169	3195	4095	4959	5580	7740	9720	10800	11880
		L		1783	2627	3367	4077	4588	6364	7992	8880	9768
Heating capacity	W	H		3700	5600	7450	8800	10200	13800	17500	21000	22500
		M		3219	4872	6482	7656	8874	12006	15225	18270	19575
		L		2701	4088	5439	6424	7446	10074	12775	15330	16425
Power input	W	H		44	59	72	87	108	156	174	212	253
Power supply	Ph/V/Hz			1/220~240/50					1/220~240/50			
Noise level	dB(A)	H		39	42	43	45	47	48	50	52	54
Water flow	l/min			6.9	10.2	13.0	15.8	17.8	24.7	31.0	34.4	37.8
Water pressure drop	kPa			30	30	30	30	40	40	40	40	50
Water inlet/outlet connection pipe				Rc3/4"					Rc3/4"			
Condensate water connection pipe				R3/4"					R3/4"			
Net weight (no air return box)	kg			11.6	14.1	15.8	17.5	18.4	26.2	29.1	32.8	35.1
Gross weight (no air return box)	kg			13.9	16.6	18.5	20.4	21.6	30.1	33.4	38.1	40.4
Net weight (with air return box)	kg			14.2	17.2	19.2	21.2	22.5	31.4	34.8	39.2	42.2
Gross weight (with air return box)	kg			16.4	19.4	21.6	23.8	25.5	34.7	38.5	44.0	46.9
Net dimension (L/W/H) (no air return box)	mm			693/470/225	823/470/225	928/470/225	1013/470/225	1143/470/225	1443/470/225	1593/470/225	1813/470/225	2013/470/225
Shipping dimension (L/W/H) (no air return box)	mm			740/542/248	870/542/248	975/542/248	1060/542/248	1190/542/248	1490/542/248	1640/542/248	1860/542/248	2060/542/248
Net dimension (L/W/H) (with rear air return box)	mm			693/511/225	823/511/225	928/511/225	1013/511/225	1143/511/225	1443/511/225	1593/511/225	1813/511/225	2013/511/225
Shipping dimension (L/W/H) (with rear air return box)	mm			740/542/248	870/542/248	975/542/248	1060/542/248	1190/542/248	1490/542/248	1640/542/248	1860/542/248	2060/542/248
Net dimension (L/W/H) (with bottom air return box)	mm			693/492/246	823/492/246	928/492/246	1013/492/246	1143/492/246	1443/492/246	1593/492/246	1813/492/246	2013/492/246
Shipping dimension (L/W/H) (with bottom air return box)	mm			740/522/263	870/522/263	975/522/263	1060/522/263	1190/522/263	1490/522/263	1640/522/263	1860/522/263	2060/522/263
Controller (optional)	Wired			HW-CA101AGK	HW-CA101AGK	HW-CA101AGK	HW-CA101AGK	HW-CA101AGK	HW-CA101AGK	HW-CA101AGK	HW-CA101AGK	HW-CA101AGK
Three way valve (optional)				3VFCE	3VFCE	3VFCE	3VFCE	3VFCE	3VFCE	3VFCE	3VFCE	3VFCE

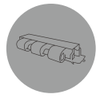
Options: 1.Three way valve; 2. The enlarged drain pan ;
Note: 1. Specifications are based on the following conditions: Cooling: Dry bulb temperature 27°C, wet bulb temperature 19.5°C, the water inlet temperature 7°C, 5°C temperature difference between water inlet and water outlet; Heating: Dry bulb temperature 21°C, the water inlet temperature 60°C, the water flow is the same to that at the cooling test condition.
2. The sound pressure level is measured in a semi-anechoic chamber by units without air return box &filter. The measured sound pressure level may be different from the data in the table due to the using condition or other reasons. The sound pressure level of the unit with the air return box &filter is higher than that of the unit without the air return box &filter.
3. The ESP, air volume, cooling and heating capacity of the above table are measured by the units without the air return box &filter. For the units with the air return box &filter, the air volume, cooling and heating capacity shall be multiplied by the correction factor of 0.9.
4. The unit has left water inlet or right water inlet type, which can be temporarily adjusted on site. It is not recommended to adjust, because the cooling and heating capacity hall be multiplied by the correction factor of 0.92 after the adjustment.
5. Due to the our policy of innovation, some specifications may be changed without notification.

HW-CA101AGK
(Optional)

YCZ-A004
(Optional)

12/30/50 Pa

ESP 12/30/50Pa



Steel fan and scroll shell

Three way valve optional

Return air box& filter optional

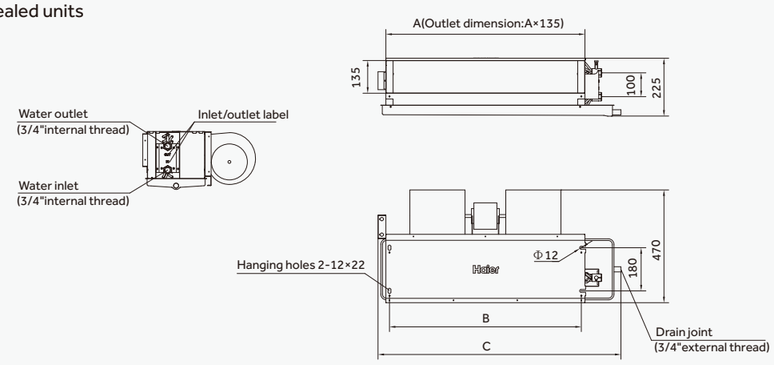
MODEL	No air return box&filter		FCE-034ACN2B	FCE-051ACN2B	FCE-068ACN2B	FCE-085ACN2B	FCE-102ACN2B	FCE-136ACN2B	FCE-170ACN2B	FCE-204ACN2B	FCE-238ACN2B
	Rear air return box&filter		FCE-034ACB2B	FCE-051ACB2B	FCE-068ACB2B	FCE-085ACB2B	FCE-102ACB2B	FCE-136ACB2B	FCE-170ACB2B	FCE-204ACB2B	FCE-238ACB2B
	Bottom air return box&filter		FCE-034ACD2B	FCE-051ACD2B	FCE-068ACD2B	FCE-085ACD2B	FCE-102ACD2B	FCE-136ACD2B	FCE-170ACD2B	FCE-204ACD2B	FCE-238ACD2B
Air volume	m^3/h	H	340	510	680	850	1020	1360	1700	2040	2380
		M	258	388	517	646	775	1034	1292	1550	1809
		L	177	265	354	442	530	707	884	1061	1238
ESP	pa		12(without filter)/0(with filter)		12(without filter)/0(with filter)						
Cooling capacity	W	H	2410	3550	4550	5510	6200	8600	10800	12000	13200
		M	2169	3195	4095	4959	5580	7740	9720	10800	11880
		L	1783	2627	3367	4077	4588	6364	7992	8880	9768
Heating capacity	W	H	3700	5600	7450	8800	10200	13800	17500	21000	22500
		M	3219	4872	6482	7656	8874	12006	15225	18270	19575
		L	2701	4088	5439	6424	7446	10074	12775	15330	16425
Power input	W	H	37	52	62	76	96	134	152	189	228
Power supply	Ph/V/Hz		1/220~240/50		1/220~240/50						
Noise level	dB(A)	H	36	38	39	43	45	46	48	50	52
Water flow	l/min		6.9	10.2	13.0	15.8	17.8	24.7	31.0	34.4	37.8
Water pressure drop	kPa		30	30	30	30	40	40	40	40	50
Water inlet/outlet connection pipe			Rc3/4"		Rc3/4"						
Condensate water connection pipe			R3/4"		R3/4"						
Net weight (no air return box)	kg		11.6	14.1	15.8	17.5	18.4	26.2	29.1	32.8	35.1
Gross weight (no air return box)	kg		13.9	16.6	18.5	20.4	21.6	30.1	33.4	38.1	40.4
Net weight (with air return box)	kg		14.2	17.2	19.2	21.2	22.5	31.4	34.8	39.2	42.2
Gross weight (with air return box)	kg		16.4	19.4	21.6	23.8	25.5	34.7	38.5	44.0	46.9
Net dimension (L/W/H) (no air return box)	mm		693/470/225	823/470/225	928/470/225	1013/470/225	1143/470/225	1443/470/225	1593/470/225	1813/470/225	2013/470/225
Shipping dimension (L/W/H) (no air return box)	mm		740/542/248	870/542/248	975/542/248	1060/542/248	1190/542/248	1490/542/248	1640/542/248	1860/542/248	2060/542/248
Net dimension (L/W/H) (with rear air return box)	mm		693/511/225	823/511/225	928/511/225	1013/511/225	1143/511/225	1443/511/225	1593/511/225	1813/511/225	2013/511/225
Shipping dimension (L/W/H) (with rear air return box)	mm		740/542/248	870/542/248	975/542/248	1060/542/248	1190/542/248	1490/542/248	1640/542/248	1860/542/248	2060/542/248
Net dimension (L/W/H) (with bottom air return box)	mm		693/492/246	823/492/246	928/492/246	1013/492/246	1143/492/246	1443/492/246	1593/492/246	1813/492/246	2013/492/246
Shipping dimension (L/W/H) (with bottom air return box)	mm		740/522/263	870/522/263	975/522/263	1060/522/263	1190/522/263	1490/522/263	1640/522/263	1860/522/263	2060/522/263
Controller (optional)	Wired		HW-CA101AGK	HW-CA101AGK	HW-CA101AGK	HW-CA101AGK	HW-CA101AGK	HW-CA101AGK	HW-CA101AGK	HW-CA101AGK	HW-CA101AGK
Three way valve (optional)			3VFCE	3VFCE	3VFCE	3VFCE	3VFCE	3VFCE	3VFCE	3VFCE	3VFCE

Options: 1.Three way valve; 2. The enlarged drain pan ;
Note: 1. Specifications are based on the following conditions: Cooling: Dry bulb temperature 27°C, wet bulb temperature 19.5°C, the water inlet temperature 7°C, 5°C temperature difference between water inlet and water outlet; Heating: Dry bulb temperature 21°C, the water inlet temperature 60°C, the water flow is the same to that at the cooling test condition.
2. The sound pressure level is measured in a semi-anechoic chamber by units without air return box &filter. The measured sound pressure level may be different from the data in the table due to the using condition or other reasons. The sound pressure level of the unit with the air return box &filter is higher than that of the unit without the air return box &filter.
3. The ESP, air volume, cooling and heating capacity of the above table are measured by the units without the air return box &filter. For the units with the air return box &filter, the air volume, cooling and heating capacity shall be multiplied by the correction factor of 0.9.
4. The unit has left water inlet or right water inlet type, which can be temporarily adjusted on site. It is not recommended to adjust, because the cooling and heating capacity hall be multiplied by the correction factor of 0.92 after the adjustment.
5. Due to the our policy of innovation, some specifications may be changed without notification.

Dimensions

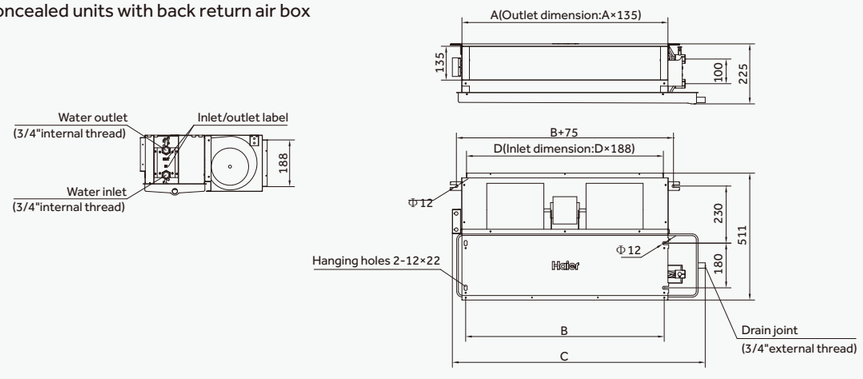
Unit dimension diagram

Ceiling concealed units



Model	Overall dimension(mm)		
	A	B	C
FCE-034	510	480	693
FCE-051	640	610	823
FCE-068	745	715	928
FCE-085	830	800	1013
FCE-102	960	930	1143
FCE-136	1260	1230	1443
FCE-170	1410	1380	1593
FCE-204	1630	1600	1813
FCE-238	1830	1800	2013

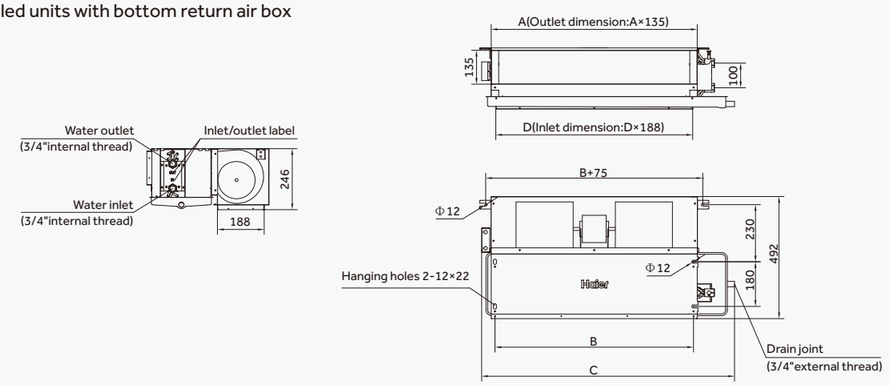
Ceiling concealed units with back return air box



Model	Overall dimension(mm)			
	A	B	C	D
FCE-034	510	480	693	473
FCE-051	640	610	823	603
FCE-068	745	715	928	708
FCE-085	830	800	1013	793
FCE-102	960	930	1143	923
FCE-136	1260	1230	1443	1223
FCE-170	1410	1380	1593	1373
FCE-204	1630	1600	1813	1593
FCE-238	1830	1800	2013	1793

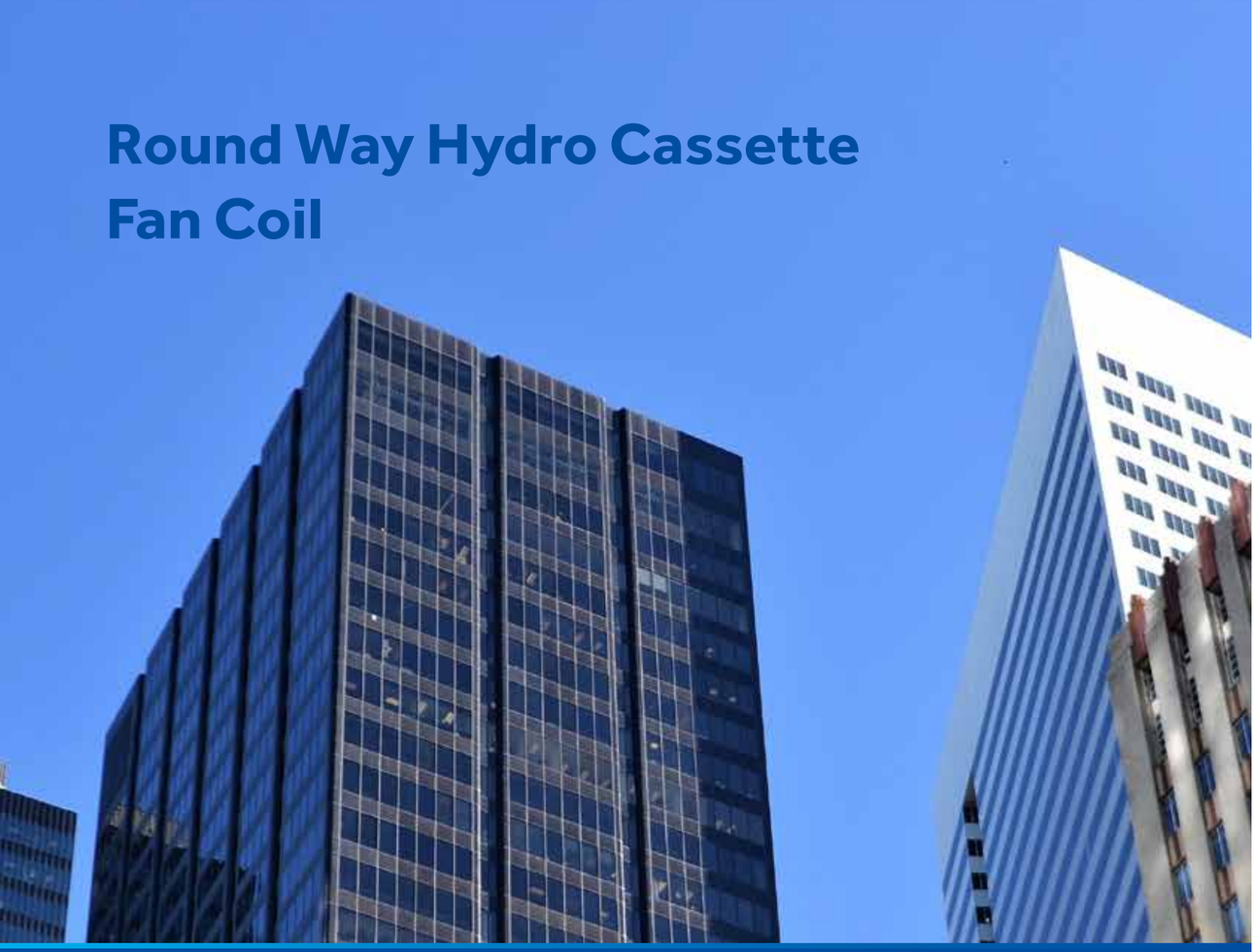
Unit dimension diagram

Ceiling concealed units with bottom return air box



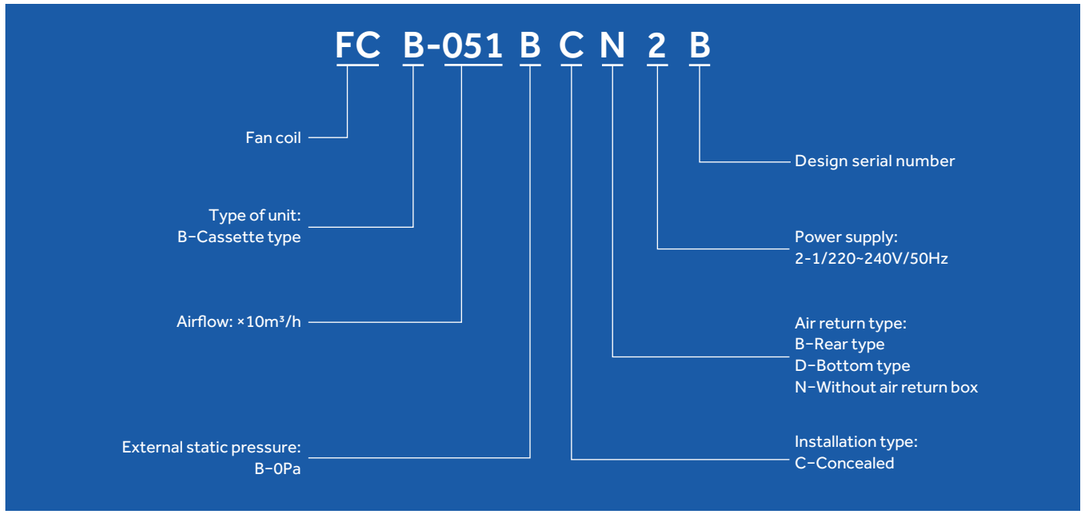
Model	Overall dimension(mm)			
	A	B	C	D
FCE-034	510	480	693	473
FCE-051	640	610	823	603
FCE-068	745	715	928	708
FCE-085	830	800	1013	793
FCE-102	960	930	1143	923
FCE-136	1260	1230	1443	1223
FCE-170	1410	1380	1593	1373
FCE-204	1630	1600	1813	1593
FCE-238	1830	1800	2013	1793

Round Way Hydro Cassette Fan Coil

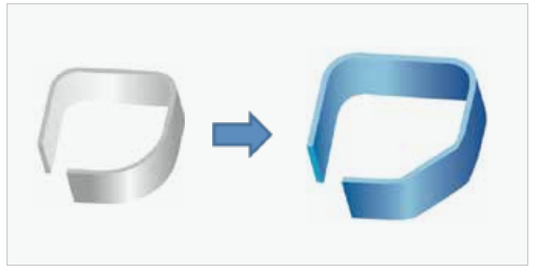


High Efficiency Comfortable High Reliability

Nomenclature



High Efficiency



New heat exchanger design

The area of exchanger is enlarged to increase heating efficiency.

Comfortable

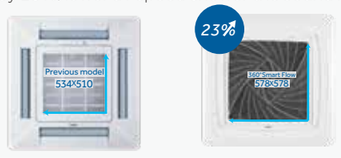
Stylish design

1. **"Spiral " panel**
   "Spiral" concept, "Haier" image.
2. **Abs material panel**
   ABS material makes the panel "piano white" , different from "dark white" PS material color. the panel and flap are the same material. After 10 years , the panel color won' t change to yellow color because the ABS material prevents discoloration against light raying.
3. **Hidden lcd display**
   The 360° smart flow cassette have particular hidden LCD display design. green display for cooling red display for heating, it is very easy identified by opening mode.
4. **Flap is closed when air conditioner off**
   There is no crack from the flap and the panel when the air conditioner off. more elegance.

Low sound level

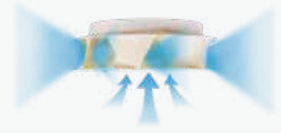
Super big inlet grille 1

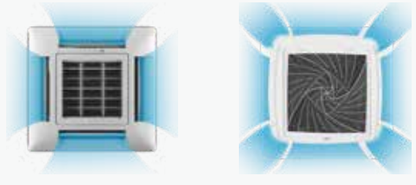
Compared to conventional air inlet grill, we enlarge the air inlet area by 23%, lower air speed & lower the sound level.



New designed fan 2

The diameter of new fan is enlarged based on acrodynamic theory, so that there is the least resistance against airflow. reduce 3dB(A) for sound level.





4 way airflow Unique 360° air flow design

Round-way air supply

Compared to conventional air inlet grill, we enlarge the air inlet area by 23%, lower air speed & lower the sound level.

Comfortable

Individual flap control

The four flaps can be controlled individually according to end users by controller, providing maximum comfort throughout the room, it is a good solution to avoid "air conditioning disease".

High Reliability

Easy design

Ultra thin design

Haier cassette height is 183mm (3.6/3.8/4.0kW), lower 220mm normal product at least, give the designer extreme flexibility in design work.

Three way valve choice

According to customer need Haier can supply the three way valve to match with cassette and duct fan coil, give the flexibility in design work.

Convenient

Flexible design

1 One screw for wiring

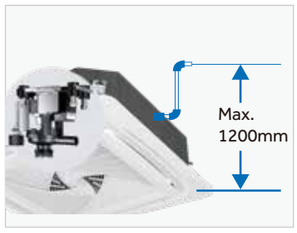
Installer can finish wiring by take down one screw.

2 Square hanger

Innovative square hanger, flexible direction adjustment , avoid second try installation.

3 Convenient clip

There is a clip to lock the panel. just one installer can finish the screwing for panel. save manpower and easy installation.



4 High lift-up drain pump

It can lifts condensed water up to 1000mm, which is more flexible to install the duct according to the layout.

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HYR-HQS01 (Standard)

HW-SA101DBT (Optional)

YCZ-A004 (Optional)

MODEL			FCB-040BCN2B	FCB-058BCN2B	FCB-068BCN2B	FCB-085BCN2B	FCB-102BCN2B
Air volume	m^3/h	H	400	580	680	850	1020
		M	305	465	525	700	840
		L	230	350	420	520	620
Cooling capacity	W	H	3600	3800	4000	4980	5810
		M	3132	3306	3500	4356	4943
		L	2664	2812	2970	3696	4230
Heating capacity	W	H	6000	6200	6500	8100	9450
		M	5280	5456	5780	7208	8315
		L	4560	4712	4940	6155	7182
Power input	W	H	52	55	62	71	80
Power supply	Ph/V/Hz		1/220~240/50				
Noise level	dB(A)	H	33	34	34	36	41
		M	26	28	28	32	35
		L	22	24	24	28	31
Water flow	l/min		10.3	10.9	11.5	14.4	16.7
Water pressure drop	kPa		20	21	22	28	38
Net weight	kg		24.2	24.2	24.2	26	26
Gross weight	kg		30.8	30.8	30.8	32.5	32.5
Water inlet/outlet connection pipe			Rc3/4"				
Condensate water connection pipe			DN20				
External dimension(L/W/H)	mm		840/840/183			840/840/204	
Packing dimension(L/W/H)	mm		983/983/268			983/983/290	
Panel			PB-950KB	PB-950KB	PB-950KB	PB-950KB	PB-950KB
Panel external dimensions(W/D/H)	mm		950/950/50	950/950/50	950/950/50	950/950/50	950/950/50
Panel shipping dimensions(W/D/H)	mm		1000/1000/110	1000/1000/110	1000/1000/110	1000/1000/110	1000/1000/110
Panel net/shipping weight	kg		6.5/9	6.5/9	6.5/9	6.5/9	6.5/9
Controller	wireless(standard)		YR-HQS01	YR-HQS01	YR-HQS01	YR-HQS01	YR-HQS01
	wired(optional)		HW-SA101DBT	HW-SA101DBT	HW-SA101DBT	HW-SA101DBT	HW-SA101DBT
Three way valve (optional)			3VFCB				

Option: 1.Three way valve;

Note: 1. Specifications are based on the following conditions:
Cooling: Dry bulb temperature 27°C, wet bulb temperature 19.5°C, the water inlet temperature 7°C, 5°C temperature difference between water inlet and water outlet.
Heating: Dry bulb temperature 21°C, the water inlet temperature 60°C, the water flow is the same to that at the cooling test condition.
2. Due to the our policy of innovation, some specifications may be changed without notification.

HYR-HQS01
(Standard)

HW-SA101DBT
(Optional)

YCZ-A004
(Optional)

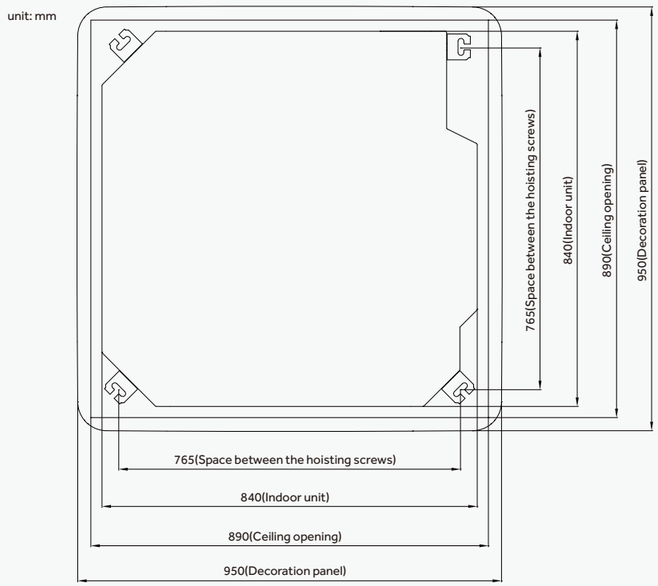
MODEL			FCB-136BCN2B	FCB-170BCN2B	FCB-204BCN2B	FCB-238BCN2B
Air volume	m³/h	H	1360	1700	2040	2380
		M	1120	1400	1650	1960
		L	840	1000	1250	1480
Cooling capacity	W	H	7600	9200	11200	12600
		M	6579	8215	9663	11162
		L	5585	7132	8500	9763
Heating capacity	W	H	12200	14800	17130	18900
		M	11223	12727	14903	16443
		L	9638	10952	12847	14175
Power input	W	H	115	152	180	228
Power supply	Ph/V/Hz		1/220-240/50			
Noise level	dB(A)	H	44	48	50	52
		M	40	40	42	48
		L	34	33	34	43
Water flow	l/min		21.8	26.4	32.1	36.2
Water pressure drop	kPa		33	40	40	50
Net weight	kg		30.5	30.5	33.2	33.2
Gross weight	kg		37.5	37.5	39.7	39.7
Water inlet/outlet connection pipe			Rc3/4"			
Condensate water connection pipe			DN20			
External dimension(L/W/H)	mm		840/840/246		840/840/288	
Packing dimension(L/W/H)	mm		983/983/329		983/983/378	
Panel			PB-950KB	PB-950KB	PB-950KB	PB-950KB
Panel external dimensions(W/D/H)	mm		950/950/50	950/950/50	950/950/50	950/950/50
Panel shipping dimensions(W/D/H)	mm		1000/1000/110	1000/1000/110	1000/1000/110	1000/1000/110
Panel net/shipping weight	kg		6.5/9	6.5/9	6.5/9	6.5/9
Controller	wireless(standard)		YR-HQS01	YR-HQS01	YR-HQS01	YR-HQS01
	wired(optional)		HW-SA101DBT	HW-SA101DBT	HW-SA101DBT	HW-SA101DBT
Three way valve (optional)			3VFCB			

Option: 1.Three way valve;
Note: 1. Specifications are based on the following conditions:
Cooling: Dry bulb temperature 27°C, wet bulb temperature 19.5°C, the water inlet temperature 7°C, 5°C temperature difference between water inlet and water outlet.
Heating: Dry bulb temperature 21°C, the water inlet temperature 60°C, the water flow is the same to that at the cooling test condition.
2. Due to the our policy of innovation, some specifications may be changed without notification.

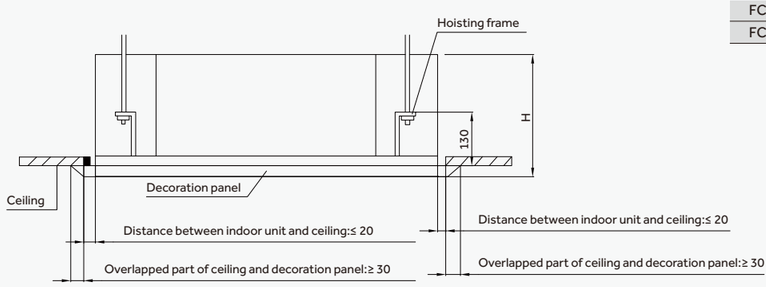
Dimensions

Chilled Water Cassette Dimension

Position of ceiling opening and unit and hoisting screws



Model	H
FCB-040BCN2B	215
FCB-058BCN2B	
FCB-068BCN2B	
FCB-085BCN2B	257
FCB-102BCN2B	
FCB-136BCN2B	299
FCB-170BCN2B	
FCB-204BCN2B	341
FCB-238BCN2B	



Notes:
The overlapped part of ceiling and decoration panel shall be more than 30mm. The distance between indoor unit and ceiling shall be within 20mm. In case the distance between indoor unit and ceiling is more than 20mm, please additionally install the ceiling materials or repair the ceiling.

Air Handling Unit

High Efficiency | Healthy | High Reliability | Convenient

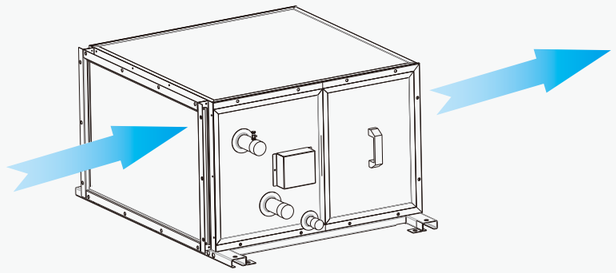
Nomenclature

Haier air handling units are designed for central handling of air, including the essential function of ventilation, cooling, heating, heat recovery, humidifiation, dehumidifiation and cleaning, etc. the unit is widely used in industrial air conditioning systems in electronic, instrument, machinery, metallurgy, chemical, textile, medicine, food, tobacco, and transport, energy and the like. It's also widely used in comfortable air conditioning systems in high-rise buildings, hotels, restaurants, cinemas and theatres, shopping malls, stadiums and other large public buildings.

G - 05 W1 F S S Y X M N R 3G 22

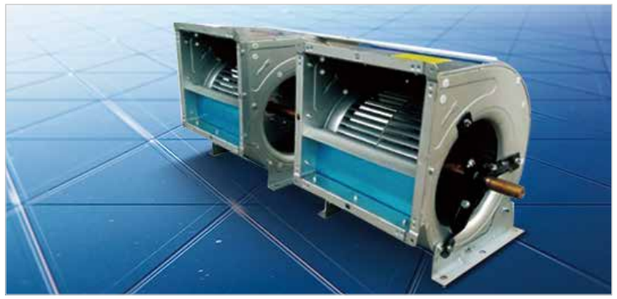
- G — Air handling unit
- 05 — Nominal airflow: 1000m³/h
- W1 — Mounting type:
  W1-Horizon type Nylon filter
  W2-Horizon type G3 filter
  W3-Horizon type G3+F5 filter
  W4-Horizon type G3+ electrostatic dust removal
  Wn-Horizon type Customized
  L-Vertical type
  D-Ceiling suspended type
- F — F-Air supply by duct
- S — Cooling coil:
  S—Standard cooling
  H—High cooling
- S — Air outlet type:
  S-Up air outlet
  C-Side air outlet
- Y — Pipe connection:
  Z-Left handling
  Y-Right handling
- X — Air condition:
  H-Return air condition
  X-Fresh air condition
- M — Humidification method:
  No code-No humidifier
  M-Wet-film humidifier
  S-Dry steam humidifier
  P-High pressure spraying humidifier
- N — Motor type:
  No code-Noninverter motor
  N-Inverter motor
- R — Electric heating:
  No code-Without Electric heat
  R-Electric heat
- 3G — External filter:
  No code-Nylon net filter
  3G-G3 grade
  4G-G4 grade
- 22 — External total pressure: ×10Pa

Orientation



Judgment basis: facing the return air inlet (along the airflow direction), if water inlet and outlet pipe and condensate pipe are in left, then it is left connected type unit, on the contrary, it is right connected type unit. the picture on the left is the right connected type unit.

High Efficiency

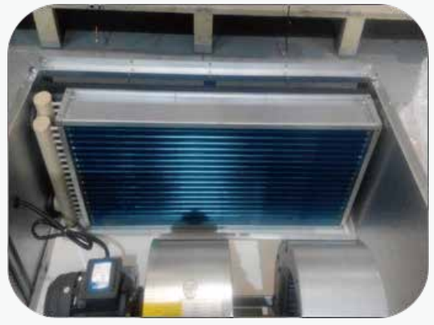


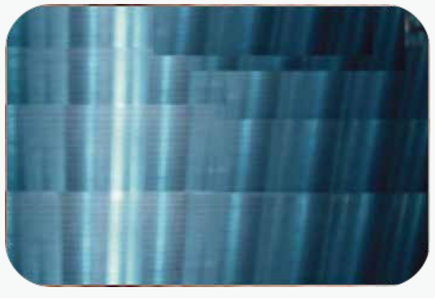
Low sound level

The unit adopts high quality and efficient motor, to make the unit operation more peaceful.

Each fan needs to pass the strict accurate dynamic and static balance test and safety test, to ensure safety and reliability.

The fan has wide optional wind pressures, which can meet the need for more occasions.





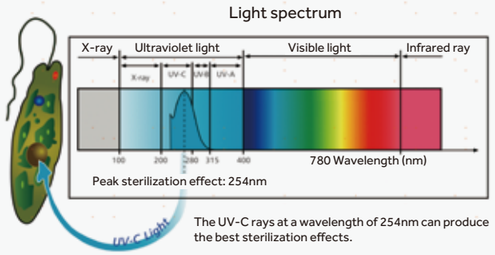
Heat exchanger

Heat exchanger is made of high quality seamless copper tube and corrugated type hydrophilic aluminum foil, with the advanced mechanical or hydraulic tube expanding technology to make them closely integrated, and each heat exchanger passes the pressure seal leakage test, to guarantee the product excellent performance and reliable quality.

The heat exchanger with corrugated sheet has greater heat transfer area than that with ordinary plain film, while the hydrophilic aluminum foil has better resistance to oxidation than ordinary plain foil, with more outstanding heat transfer effect, which effectively guarantee the heat transfer effect and service life of heat exchanger.

Reasonable copper tube arrangement, scientific segment pitch and waterway route, so as to ensure the coil with high heat transfer performance and low air resistance, which can meet the needs of a wide range of cooling and heating. a number of different pipeline cycle designing schemes is enough to provide users with the best water flow rate and reasonable water resistance.

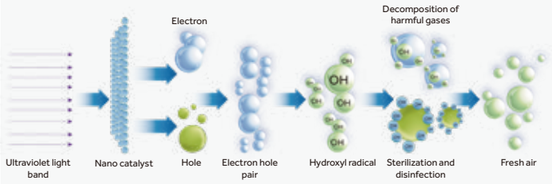
Healthy



UV sterilizer section

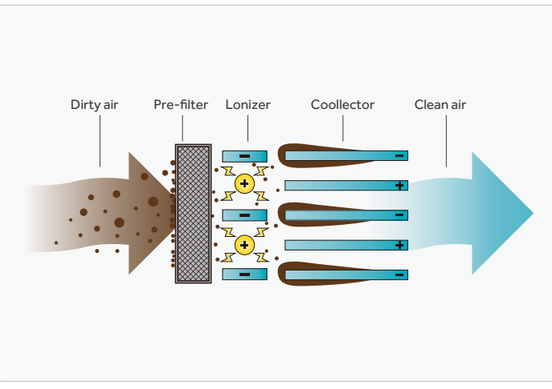
Ultraviolet sterilization: the ultraviolet rays can be divided into four bands by wavelength according to the different biological effects. UV-C, the C band of UV rays, is from 275-200nm.

The UV rays at a wavelength of about 254nm have the strongest bactericidal ability. photonic energy can destroy the molecular structure of microbe DNA and RNA, making them subjected breakage or photochemical reaction to lose the ability to reproduce.



Photocatalyst purification and sterilization section

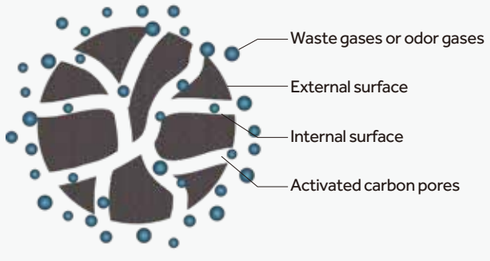
Under the radiation of certain light at a specific wavelength, the nanometer photocatalyst can be activated to produce electron hole pairs which can have the photocatalyst interact with surrounding H_2O molecules and O_2 molecules to form hydroxyl radicals (OH). the hydroxyl radicals can lock up all harmful components in the air layer by layer and break down their molecular structures to inhibit the growth of the bacteria and the virus activity, thus achieving the purposes of sterilization, air purification, deodorization, anti-poison, and air pollution abatement, etc.



Electronic air cleaner section

Floating dust and pollutants in the air are ionized and change the direction of movement as they pass through a high-voltage electric field, and then are captured. then, the positively charged ions move towards the cathode plate (negative plate) under the action of the electric field force. based on the principle of positive and negative attraction, the particles will be captured and adsorbed on the integrated plate by the energies released by the high-voltage charges instantly, thus achieving the purposes of dust removal and sterilization.

PM2.5 one-pass purification efficiency: >90% at 2.5m/s air speed (in coordination with primary efficiency filter)
microorganism one-pass purification efficiency: >90%



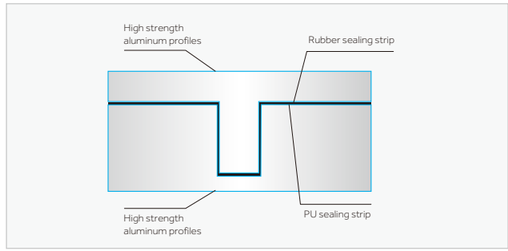
Activated carbon absorber section

The function section is fitted with an activated carbon filter that consists of tiny carbon grain with large surface area and even smaller pores called capillaries. such capillaries have very strong adsorption capacity and relying on the large surface area of the carbon particles, they can come into full contact with impurities in the gases. the impurities in the gases will be absorbed after meeting with the capillaries, so air purification can be achieved.

Activated carbon	N4G1	N4S1	N4A1	N4F1	N4M1
Usage	General gases	Odors	Acid gases	Formaldehyde	Mercury vapor

High Reliability

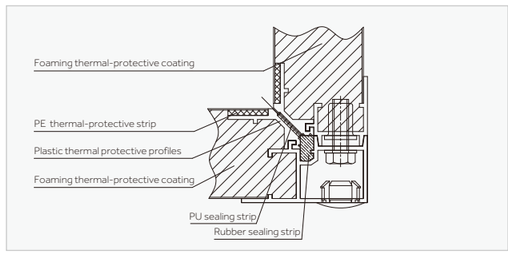
Patented box structure, with more excellent performance



Higher strength, lower air leak

Use the patent of no-frame design, high strength aluminum profiles with concave-convex chamfer embedded type to connect and seal, and be fixed in a way matching the bolting.

Adopt rubber sealing strip, PU sealing strip and tenons of the structure itself contains to triple seal through interlocking connection, fundamentally solving the problem of air leakage, to ensure the strength of box body, and the air leakage rate is no more than 0.13%.



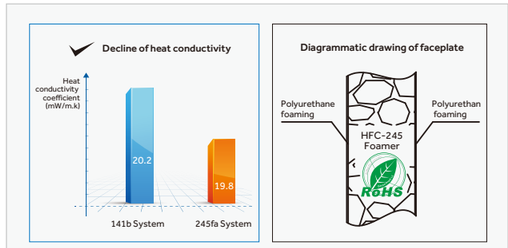
With trebling protections, prevent cold bridge

One protection: Paste PE thermal insulation materials in the metal inner plate to insulate cold, heat from transferring.

Double protection: Use PVC plastic insulating material jointing lap between the metal inner plate and aluminum profiles panel, to insulate cold, heat from transferring.

Triple protection: Fill with environmental foaming material HFC-245fa, between the metal inner plate and metal panel, and the surface of aluminum profiles, the foam density is up to 50 kg/m³.

Environmental protection materials make it safe and secure



The unit materials are all conformed to the requirements of the EU roHS environmental protection certification.

Panel is made of high-pressure polyurethane foam material, and the foamer uses special environmental protection foamer of HFC-245fa, safe and harmless, clean and environmental protection, with good heat preservation and sound insulation.

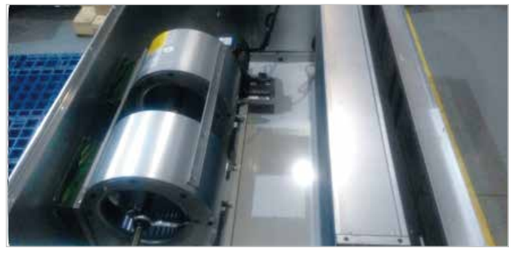
The thermal conductivity of box is no more than 0.0198 W/m°C and better than that of conventional 141 b system foamer by more than 2%, which effectively ensure the cold heat supply capacity of the unit, and reduce the operation cost.

Convenient

Entire condensate plate

Well-designed entire condensate plate and extremely thick lining heat insulation materials ensure the unit to have no condensation dripping water under severe environment conditions.

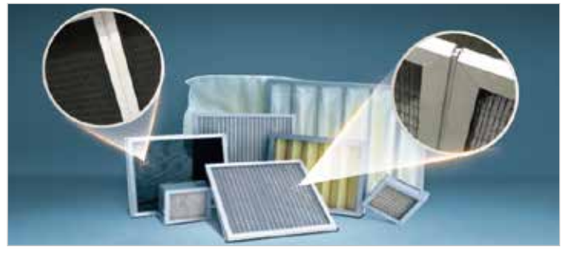
In-time draining of condensate reduce the time of condensate plate "touching water", which can not only reduce the condensate plate corrosion, but also avoid the condensate plate breeding bacteria, so as to ensure the indoor air quality.



Filter

Mouldproof plate type thick nylon filter with standard configuration, has features of small initial resistance, high efficiency, stable performance, easy and simple usage and repeatable cleaning usage etc.

It can provide a higher level of filter efficiency, initial and medium filtration for customer choice, the initial filtration efficiency can reach G3/G4; medium filtration efficiency can reach F5/F6/F7 level, which can effectively remove dust PM2.5 particles.



Ceiling mounted air handling unit

Standard cooling

Model	Nominal airflow (m³/h)	Nominal cooling capacity (kW)		Nominal heating capacity (kW)		Water flow rate (L/s)		Water pressure drop (kPa)		Noise dB(A)	Pipe diameter		Weight (kg)
		Return air condition	Fresh air condition	Return air condition	Fresh air condition	Return air condition	Fresh air condition	Return air condition	Fresh air condition		Water inlet/out pipe(DN)	Condensate water pipe(DN)	
G-02DFS	2000	11.8	25.0	18.9	27.6	0.56	1.20	43.95	51.56	58	40	25	90
G-03DFS	3000	17.6	38.0	27.0	41.2	0.85	1.82	64.08	51.27	58	40	25	100
G-04DFS	4000	25.0	53.0	38.5	56.1	1.19	2.53	79.26	58.91	60	40	25	129
G-05DFS	5000	29.5	67.5	47.0	70.5	1.41	3.23	72.91	98.00	62	50	25	155
G-06DFS	6000	35.9	75.0	56.9	82.1	1.72	3.58	83.12	98.64	62	50	25	159
G-08DFS	8000	47.7	99.5	75.4	108.6	2.28	4.75	60.82	53.95	64	50	25	189
G-10DFS	10000	61.1	127.0	95.0	136.7	2.92	6.07	95.00	48.56	66	50	25	224
G-12DFS	12000	73.9	153.6	114.7	164.9	3.53	7.34	80.24	67.63	68	50	25	270
G-15DFS	15000	93.1	193.3	143.9	206.6	4.45	9.24	82.95	94.00	70	65	25	310

High cooling

Model	Nominal airflow (m³/h)	Nominal cooling capacity (kW)		Nominal heating capacity (kW)		Water flow rate (L/s)		Water pressure drop (kPa)		Noise dB(A)	Pipe diameter		Weight (kg)
		Return air condition	Fresh air condition	Return air condition	Fresh air condition	Return air condition	Fresh air condition	Return air condition	Fresh air condition		Water inlet/out pipe(DN)	Condensate water pipe(DN)	
G-02DFH	2000	14.3	31.6	21.9	32.7	0.69	1.51	20.78	26.45	58	40	25	93
G-03DFH	3000	21.8	47.5	32.9	48.8	1.04	2.27	60.93	75.00	58	40	25	116
G-04DFH	4000	29.7	65.5	44.7	65.8	1.42	3.13	70.93	90.57	60	40	25	138
G-05DFH	5000	37.9	80.7	56.3	81.8	1.81	3.86	39.48	53.00	62	50	25	165
G-06DFH	6000	46.0	97.6	67.9	98.5	2.20	4.66	31.46	46.00	62	50	25	174
G-08DFH	8000	61.2	129.6	90.1	130.7	2.92	6.19	48.42	68.00	64	50	25	195
G-10DFH	10000	74.4	157.5	111.4	161.7	3.55	7.53	90.00	80.75	66	50	25	230
G-12DFH	12000	89.9	190.0	134.2	194.6	4.30	9.08	38.50	87.72	68	50	25	282
G-15DFH	15000	113.2	238.7	168.1	243.6	5.41	11.40	62.02	99.00	70	65	25	317

Note:
1.Standard return air cooling conditions: chilled water inlet/outlet at 7 / 12°C; air inlet at 27°CDB / 19.5°CWB.
2.Standard return air heating conditions: hot water inlet at 60°C; air inlet at 21°CDB. The water flow volume is the same to that of chilled water.
3.Standard fresh air cooling conditions: chilled water inlet/outlet at 7 / 12°C; air inlet at 35°CDB / 28°CWB.
4.Standard fresh air heating conditions: hot water inlet at 60°C; air inlet at 7°CDB. The water flow volume is the same to that of chilled water.
5.Power supply: 3Ph/380V/50Hz

Dimensions

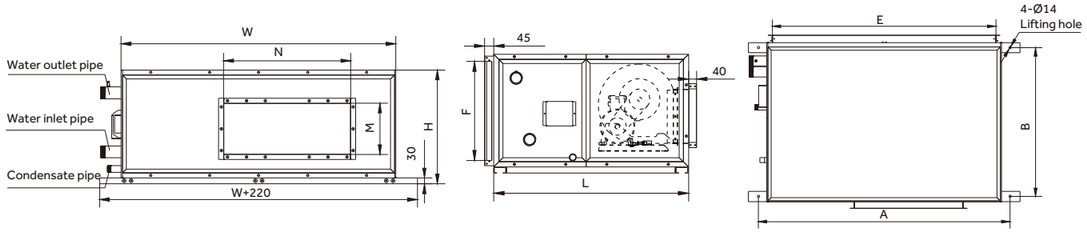
Customizable external total pressure

Ceiling suspended type

Model	Airflow	Motor power (kW) corresponding to external total pressure (Pa)							
	m³/h	120Pa	170Pa	220Pa	270Pa	320Pa	370Pa	420Pa	470Pa
G-02DFS	2000	0.37	0.7	0.7	0.7	0.7	0.75	/	/
G-02DFH		0.7	0.7	0.7	0.7	0.75	/	/	/
G-03DFS	3000	0.7	0.7	0.7	0.75	0.75	/	/	/
G-03DFH		0.7	0.7	0.75	0.75	/	/	/	/
G-04DFS	4000	0.75	0.75	0.75	1.1	1.1	1.1	/	/
G-04DFH		0.75	0.75	1.1	1.1	1.1	1.1	/	/
G-05DFS	5000	1.1	1.1	1.1	1.1	1.5	1.5	/	/
G-05DFH		1.1	1.1	1.1	1.5	1.5	1.5	/	/
G-06DFS	6000	1.1	1.1	1.5	1.5	1.5	2.2	/	/
G-06DFH		1.1	1.5	1.5	1.5	2.2	2.2	/	/
G-08DFS	8000	/	/	1.5	2.2	2.2	2.2	2.2	3
G-08DFH		/	/	2.2	2.2	2.2	2.2	3	3
G-10DFS	10000	/	/	2.2	2.2	3	3	3	3
G-10DFH		/	/	2.2	3	3	3	3	4
G-12DFS	12000	/	/	3	3	4	4	4	4
G-12DFH		/	/	3	4	4	4	4	5.5
G-15DFS	15000	/	/	4	4	4	4	5.5	5.5
G-15DFH		/	/	4	4	4	5.5	5.5	5.5

◆ The values in the table are motor power input under different external total pressure, the bold type values are the motor power input at the nominal pressure.

Air handling unit dimension



Model	Dimension(mm)									Water inlet/ outlet pipe(DN)	Condensate water pipe (DN)
	L	W	H	A	B	E	F	M	N		
G-02DF	750	750	530	850	692	687	434	224	302	40	25
G-03DF	750	1000	530	1100	692	937	434	224	302	40	25
G-04DF	900	1050	630	1150	842	987	534	293	335	40	25
G-05DF	900	1300	630	1400	842	1237	534	293	335	50	25
G-06DF	950	1300	730	1400	892	1237	634	345	400	50	25
G-08DF	1050	1450	830	1550	992	1387	734	408	475	50	25
G-10DF	1050	1750	830	1850	992	1687	734	408	475	50	25
G-12DF	950	1950	830	2050	892	1887	734	341	1114	50	25
G-15DF	1050	2250	880	2350	992	2187	784	404	1040	65	25

Specification

Horizontal type

Standard cooling

Model	Nominal airflow (m³/h)	Nominal cooling capacity(kW)		Nominal heating capacity(kW)		Water flow rate (L/s)		Water pressure drop(kPa)		Noise dB(A)	Pipe diameter		Weight (kg)			
		Return air condition	Fresh air condition	Return air condition	Fresh air condition	Return air condition	Fresh air condition	Return air condition	Fresh air condition		Water inlet/out pipe(DN)	Condensate water pipe(DN)	Horizontal type 1	Horizontal type 2	Horizontal type 3	Horizontal type 4
G-02W*FS	2000	11.8	25	18.9	27.6	0.57	1.2	13.1	8.7	58	40	25	127	156	174	188
G-03W*FS	3000	17.9	38.1	28.3	41.2	0.85	1.82	26.6	17.4	58	40	25	146	175	195	215
G-04W*FS	4000	24.5	52.2	38.2	55.7	1.17	2.49	45.1	29	60	40	25	165	199	222	254
G-05W*FS	5000	28.2	65.7	46	69.6	1.35	3.14	9.2	39.5	62	50	25	188	228	247	279
G-06W*FS	6000	33.9	78.8	54.5	83.5	1.62	3.77	9	38.6	62	50	25	211	258	279	312
G-08W*FS	8000	46.1	106.8	74.5	112.2	2.2	5.1	13.2	56.9	64	50	25	253	316	342	387
G-10W*FS	10000	58.3	134.2	93.5	140.3	2.79	6.41	16.8	72.2	66	50	25	313	388	429	493
G-12W*FS	12000	71.2	148.8	113.3	163.3	3.4	7.11	20.8	21.1	68	50	25	338	422	466	531
G-15W*FS	15000	91.3	189.9	142.9	205.5	4.36	9.07	34.3	34.9	70	65	25	419	563	616	712
G-18W*FS	18000	111.4	231.1	172.4	247.6	5.32	11.04	57.7	58.4	70	65	32	484	646	771	817
G-20W*FS	20000	125.9	260.7	198.2	284.8	6.01	12.45	39.2	39.8	72	65	32	542	700	801	917
G-25W*FS	25000	159.9	330.1	249.6	358.2	7.64	15.77	55.6	54.9	72	80	32	612	772	876	1007
G-30W*FS	30000	191.9	396.1	299.7	429.8	9.17	18.93	54.9	54.9	75	80	32	706	949	1023	1177
G-35W*FS	35000	223.9	469.2	349.7	506.1	10.7	22.42	54.3	27.8	75	80*2	32	917	1158	1234	1414
G-40W*FS	40000	231	541.7	376.4	579.8	11.04	25.88	18.5	40.7	78	80*2	32	953	1190	1293	1498
G-45W*FS	45000	259.1	608.1	422.7	651.6	12.38	29.05	17.6	38.7	78	80*2	32	1020	1272	1407	1637
G-50W*FS	50000	289.3	678.8	471.7	726.9	13.82	32.43	17.3	38.2	78	80*2	32	1090	1311	1448	1714

Note:
1.Standard return air cooling conditions: chilled water inlet/outlet at 7 / 12°C; air inlet at 27°CDB / 19.5°CWB.
2.Standard return air heating conditions: hot water inlet at 60°C; air inlet at 21°CDB. The water flow volume is the same to that of chilled water.
3.Standard fresh air cooling conditions: chilled water inlet/outlet at 7 / 12°C; air inlet at 35°CDB / 28°CWB.
4.Standard fresh air heating conditions: hot water inlet at 60°C; air inlet at 7°CDB. The water flow volume is the same to that of chilled water.
5.Power supply: 3PH/380V/50HZ

Horizontal type

High cooling

Model	Nominal airflow (m³/h)	Nominal cooling capacity(kW)		Nominal heating capacity(kW)		Water flow rate (L/s)		Water pressure drop(kPa)		Noise dB(A)	Pipe diameter		Weight (kg)			
		Return air condition	Fresh air condition	Return air condition	Fresh air condition	Return air condition	Fresh air condition	Return air condition	Fresh air condition		Water inlet/out pipe(DN)	Condensate water pipe(DN)	Horizontal type 1	Horizontal type 2	Horizontal type 3	Horizontal type 4
G-02W*FH	2000	14	31.7	21.9	32.7	0.67	1.51	4.1	16.3	58	40	25	133	162	179	193
G-03W*FH	3000	21.4	47.9	32	48.8	1.02	2.29	18.2	33.2	58	40	25	153	182	199	219
G-04W*FH	4000	29.4	64.9	44.4	65.5	1.41	3.1	13.9	55.3	60	40	25	173	206	230	262
G-05W*FH	5000	36.9	81.4	55.2	81.9	1.76	3.89	19.2	76.1	62	50	25	198	238	256	289
G-06W*FH	6000	44.3	97.8	66.8	98.3	2.12	4.67	19.2	76.1	62	50	25	224	271	292	325
G-08W*FH	8000	60	127.8	89.6	130.3	2.87	6.11	28.5	35	64	50	25	270	332	358	404
G-10W*FH	10000	75.6	160.5	112.2	163	3.61	7.67	36.6	44.9	66	50	25	329	404	446	510
G-12W*FH	12000	91.8	194.3	135.4	196.4	4.38	9.28	45.2	55.1	68	50	25	365	448	489	554
G-15W*FH	15000	118.3	245.5	170.1	246.3	5.65	11.73	69.4	89.5	70	65	25	448	591	639	735
G-18W*FH	18000	141.2	285.6	204.5	292.1	6.75	13.65	82.9	57.2	70	65	32	525	686	804	849
G-20W*FH	20000	152.4	320.8	228.7	331.8	7.28	15.33	25.4	37.4	72	65	32	584	743	834	950
G-25W*FH	25000	193.1	405.2	287.6	416.4	9.22	19.36	35	53.1	72	80	32	660	821	913	1042
G-30W*FH	30000	231.7	486.2	345.2	499.7	11.07	23.23	35	53.1	75	80	32	765	1007	1081	1236
G-35W*FH	35000	270.3	567.2	402.7	582.9	12.91	27.1	35	53.1	75	80*2	32	986	1227	1303	1484
G-40W*FH	40000	311.8	652.3	461.3	667.1	14.9	31.17	51.1	77.3	78	80*2	32	1067	1302	1386	1592
G-45W*FH	45000	350.1	732.9	518.6	750	16.73	35.01	48.7	73.7	78	80*2	32	1137	1389	1524	1755
G-50W*FH	50000	390.5	817	603.4	835.4	18.66	39.03	48	72.5	78	80*2	32	1226	1445	1581	1849

Note:
1.Standard return air cooling conditions: chilled water inlet/outlet at 7 / 12°C; air inlet at 27°CDB / 19.5°CWB.
2.Standard return air heating conditions: hot water inlet at 60°C; air inlet at 21°CDB. The water flow volume is the same to that of chilled water.
3.Standard fresh air cooling conditions: chilled water inlet/outlet at 7 / 12°C; air inlet at 35°CDB / 28°CWB.
4.Standard fresh air heating conditions: hot water inlet at 60°C; air inlet at 7°CDB. The water flow volume is the same to that of chilled water.
5.Power supply: 3PH/380V/50HZ

Specification

Customizable external total pressure

Horizontal type 1

Model	Airflow	Motor power (kW) corresponding to external total pressure (Pa)										
	m³/h	120Pa	170Pa	220Pa	270Pa	320Pa	370Pa	420Pa	470Pa	520Pa	570Pa	620Pa
G-02W1FS	2000	0.37	0.37	0.55	0.55	0.55	0.55					
G-02W1FH		0.37	0.55	0.55	0.55	0.55	0.75					
G-03W1FS	3000	0.55	0.55	0.75	0.75	0.75	1.1					
G-03W1FH		0.55	0.75	0.75	0.75	1.1	1.1					
G-04W1FS	4000	0.75	0.75	0.75	1.1	1.1	1.1					
G-04W1FH		0.75	0.75	1.1	1.1	1.1	1.1					
G-05W1FS	5000	0.75	1.1	1.1	1.1	1.5	1.5					
G-05W1FH		1.1	1.1	1.1	1.5	1.5	1.5					
G-06W1FS	6000	1.1	1.1	1.5	1.5	1.5	2.2					
G-06W1FH		1.1	1.5	1.5	1.5	2.2	2.2					
G-08W1FS	8000			1.5	2.2	2.2	2.2	2.2	3			
G-08W1FH				2.2	2.2	2.2	2.2	3	3			
G-10W1FS	10000			2.2	2.2	3	3	3	3			
G-10W1FH				2.2	3	3	3	3	4			
G-12W1FS	12000			3	3	3	3	4	4			
G-12W1FH				3	3	3	4	4	4			
G-15W1FS	15000			4	4	4	4	5.5	5.5			
G-15W1FH				4	4	4	5.5	5.5	5.5			
G-18W1FS	18000			4	5.5	5.5	5.5	5.5	5.5			
G-18W1FH				5.5	5.5	5.5	5.5	5.5	7.5			
G-20W1FS	20000			5.5	5.5	5.5	7.5	7.5	7.5			
G-20W1FH				5.5	5.5	7.5	7.5	7.5	7.5			
G-25W1FS	25000				7.5	7.5	7.5	11	11	11		
G-25W1FH					7.5	7.5	11	11	11	11		
G-30W1FS	30000						11	11	11	15	15	15
G-30W1FH							11	11	15	15	15	15
G-35W1FS	35000						11	11	15	15	15	15
G-35W1FH							11	15	15	15	15	15
G-40W1FS	40000						15	15	15	15	15	18.5
G-40W1FH							15	15	15	15	18.5	18.5
G-45W1FS	45000						15	15	18.5	18.5	18.5	18.5
G-45W1FH							15	18.5	18.5	18.5	18.5	18.5
G-50W1FS	50000						18.5	18.5	18.5	22	22	22
G-50W1FH							18.5	18.5	22	22	22	22

◆ The values in the table are motor power input under different external total pressure, the bold type values are the motor power input at the nominal pressure.

Horizontal type 2

Model	Airflow	Motor power (kW) corresponding to external total pressure (Pa)										
	m³/h	120Pa	170Pa	220Pa	270Pa	320Pa	370Pa	420Pa	470Pa	520Pa	570Pa	620Pa
G-02W2FS	2000	0.55	0.55	0.55	0.55	0.55	0.75					
G-02W2FH		0.55	0.55	0.55	0.75	0.75	0.75					
G-03W2FS	3000	0.75	0.75	0.75	1.1	1.1	1.1					
G-03W2FH		0.75	0.75	1.1	1.1	1.1	1.1					
G-04W2FS	4000	0.75	1.1	1.1	1.1	1.1	1.5					
G-04W2FH		1.1	1.1	1.1	1.1	1.5	1.5					
G-05W2FS	5000	1.1	1.1	1.5	1.5	1.5	1.5					
G-05W2FH		1.1	1.5	1.5	1.5	1.5	2.2					
G-06W2FS	6000	1.5	1.5	1.5	2.2	2.2	2.2					
G-06W2FH		1.5	1.5	2.2	2.2	2.2	2.2					
G-08W2FS	8000			2.2	2.2	2.2	3	3	3			
G-08W2FH				2.2	2.2	3	3	3	3			
G-10W2FS	10000			3	3	3	3	4	4			
G-10W2FH				3	3	3	4	4	4			
G-12W2FS	12000			3	3	4	4	4	5.5			
G-12W2FH				3	4	4	4	5.5	5.5			
G-15W2FS	15000			4	4	5.5	5.5	5.5	5.5			
G-15W2FH				4	5.5	5.5	5.5	5.5	5.5			
G-18W2FS	18000			5.5	5.5	5.5	5.5	7.5	7.5			
G-18W2FH				5.5	5.5	5.5	7.5	7.5	7.5			
G-20W2FS	20000			5.5	7.5	7.5	7.5	7.5	7.5			
G-20W2FH				7.5	7.5	7.5	7.5	7.5	11			
G-25W2FS	25000				7.5	11	11	11	11	11		
G-25W2FH					11	11	11	11	11	11		
G-30W2FS	30000						11	15	15	15	15	15
G-30W2FH							15	15	15	15	15	15
G-35W2FS	35000						15	15	15	15	15	15
G-35W2FH							15	15	15	15	15	18.5
G-40W2FS	40000						15	15	15	18.5	18.5	18.5
G-40W2FH							15	15	18.5	18.5	18.5	18.5
G-45W2FS	45000						18.5	18.5	18.5	18.5	18.5	22
G-45W2FH							18.5	18.5	18.5	18.5	22	22
G-50W2FS	50000						18.5	22	22	22	22	22
G-50W2FH							22	22	22	22	22	30

◆ The values in the table are motor power input under different external total pressure, the bold type values are the motor power input at the nominal pressure.

Customizable external total pressure

Horizontal type 3

Model	Airflow	Motor power (kW) corresponding to external total pressure (Pa)										
	m³/h	120Pa	170Pa	220Pa	270Pa	320Pa	370Pa	420Pa	470Pa	520Pa	570Pa	620Pa
G-02W3FS	2000	0.55	0.55	0.75	0.75	0.75	0.75					
G-02W3FH		0.55	0.75	0.75	0.75	0.75	1.1					
G-03W3FS	3000	0.75	1.1	1.1	1.1	1.1	1.1					
G-03W3FH		1.1	1.1	1.1	1.1	1.1	1.5					
G-04W3FS	4000	1.1	1.1	1.1	1.5	1.5	1.5					
G-04W3FH		1.1	1.1	1.5	1.5	1.5	2.2					
G-05W3FS	5000	1.5	1.5	1.5	1.5	2.2	2.2					
G-05W3FH		1.5	1.5	1.5	2.2	2.2	2.2					
G-06W3FS	6000	1.5	2.2	2.2	2.2	2.2	2.2					
G-06W3FH		2.2	2.2	2.2	2.2	2.2	3					
G-08W3FS	8000			2.2	3	3	3	3	3			
G-08W3FH				3	3	3	3	3	4			
G-10W3FS	10000			3	3	4	4	4	4			
G-10W3FH				3	4	4	4	4	4			
G-12W3FS	12000			4	4	4	5.5	5.5	5.5			
G-12W3FH				4	4	5.5	5.5	5.5	5.5			
G-15W3FS	15000			5.5	5.5	5.5	5.5	5.5	7.5			
G-15W3FH				5.5	5.5	5.5	5.5	7.5	7.5			
G-18W3FS	18000			5.5	5.5	7.5	7.5	7.5	7.5			
G-18W3FH				5.5	7.5	7.5	7.5	7.5	11			
G-20W3FS	20000			7.5	7.5	7.5	7.5	11	11			
G-20W3FH				7.5	7.5	7.5	11	11	11			
G-25W3FS	25000				11	11	11	11	11	11		
G-25W3FH					11	11	11	11	11	15		
G-30W3FS	30000						15	15	15	15	15	15
G-30W3FH							15	15	15	15	15	15
G-35W3FS	35000						15	15	15	15	18.5	18.5
G-35W3FH							15	15	15	18.5	18.5	18.5
G-40W3FS	40000						15	18.5	18.5	18.5	18.5	18.5
G-40W3FH							18.5	18.5	18.5	18.5	18.5	22
G-45W3FS	45000						18.5	18.5	18.5	22	22	22
G-45W3FH							18.5	18.5	22	22	22	22
G-50W3FS	50000						22	22	22	22	30	30
G-50W3FH							22	22	22	30	30	30

◆ The values in the table are motor power input under different external total pressure, the bold type values are the motor power input at the nominal pressure.

Horizontal type 4

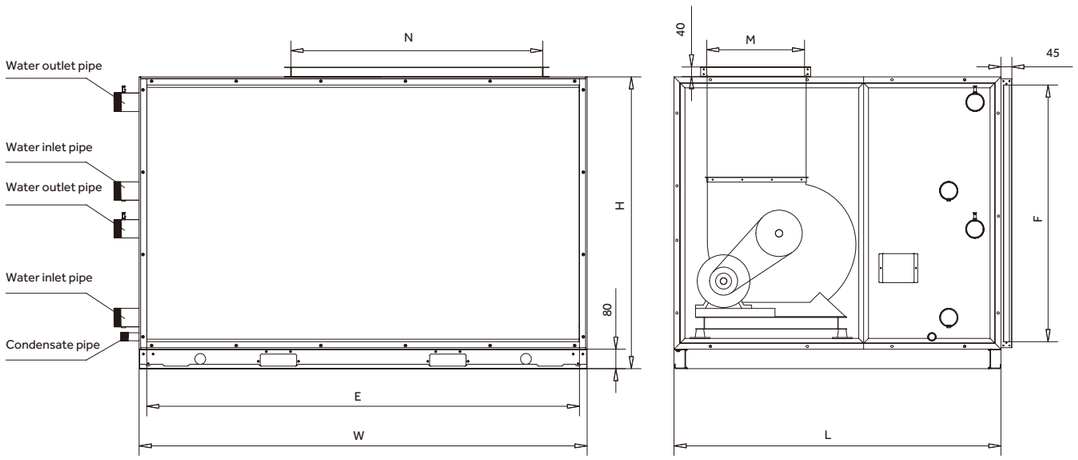
Model	Airflow	Motor power (kW) corresponding to external total pressure (Pa)										
	m³/h	120Pa	170Pa	220Pa	270Pa	320Pa	370Pa	420Pa	470Pa	520Pa	570Pa	620Pa
G-02W4FS	2000	0.55	0.55	0.55	0.75	0.75	0.75					
G-02W4FH		0.55	0.55	0.75	0.75	0.75	0.75					
G-03W4FS	3000	0.75	0.75	1.1	1.1	1.1	1.1					
G-03W4FH		0.75	1.1	1.1	1.1	1.1	1.1					
G-04W4FS	4000	1.1	1.1	1.1	1.1	1.5	1.5					
G-04W4FH		1.1	1.1	1.1	1.5	1.5	1.5					
G-05W4FS	5000	1.1	1.5	1.5	1.5	1.5	2.2					
G-05W4FH		1.5	1.5	1.5	1.5	2.2	2.2					
G-06W4FS	6000	1.5	1.5	2.2	2.2	2.2	2.2					
G-06W4FH		1.5	2.2	2.2	2.2	2.2	2.2					
G-08W4FS	8000			2.2	2.2	3	3	3	3			
G-08W4FH				2.2	3	3	3	3	3			
G-10W4FS	10000			3	3	3	4	4	4			
G-10W4FH				3	3	4	4	4	4			
G-12W4FS	12000			3	4	4	4	5.5	5.5			
G-12W4FH				4	4	4	5.5	5.5	5.5			
G-15W4FS	15000			4	5.5	5.5	5.5	5.5	5.5			
G-15W4FH				5.5	5.5	5.5	5.5	5.5	7.5			
G-18W4FS	18000			5.5	5.5	5.5	7.5	7.5	7.5			
G-18W4FH				5.5	5.5	7.5	7.5	7.5	7.5			
G-20W4FS	20000			7.5	7.5	7.5	7.5	7.5	11			
G-20W4FH				7.5	7.5	7.5	7.5	11	11			
G-25W4FS	25000				11	11	11	11	11	11		
G-25W4FH					11	11	11	11	11	11		
G-30W4FS	30000						15	15	15	15	15	15
G-30W4FH							15	15	15	15	15	15
G-35W4FS	35000						15	15	15	15	15	18.5
G-35W4FH							15	15	15	15	18.5	18.5
G-40W4FS	40000						15	15	18.5	18.5	18.5	18.5
G-40W4FH							15	18.5	18.5	18.5	18.5	18.5
G-45W4FS	45000						18.5	18.5	18.5	18.5	22	22
G-45W4FH							18.5	18.5	18.5	22	22	22
G-50W4FS	50000						22	22	22	22	22	30
G-50W4FH							22	22	22	22	30	30

◆ The values in the table are motor power input under different external total pressure, the bold type values are the motor power input at the nominal pressure.

Dimensions

Horizontal air handling unit dimension

Type 1

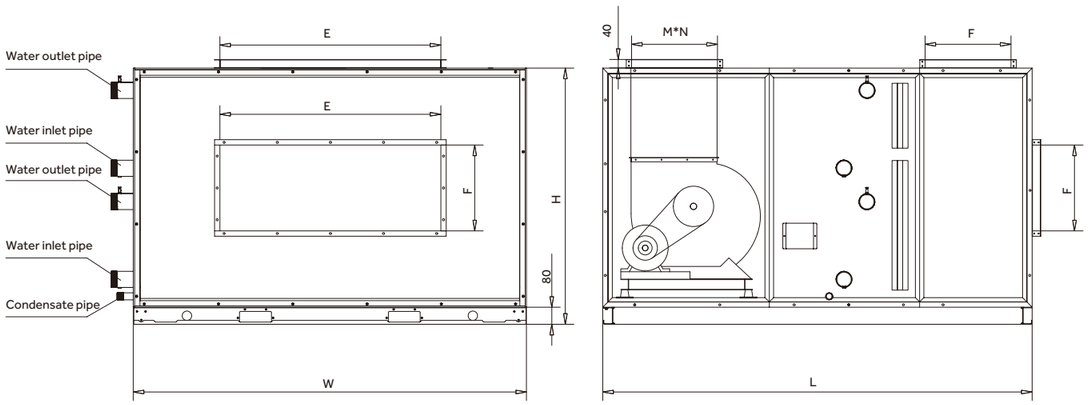


Model	Dimension(mm)							Water inlet/ outlet pipe (DN)	Condensate water pipe (DN)
	L	W	H	E	F	M	N		
G-02W1F	1100	850	680	785	535	262	232	40	25
G-03W1F	1100	1000	680	935	535	262	295	40	25
G-04W1F	1150	1150	730	1085	585	289	331	40	25
G-05W1F	1200	1200	830	1135	685	341	395	50	25
G-06W1F	1200	1250	880	1185	735	341	395	50	25
G-08W1F	1250	1400	980	1335	835	404	471	50	25
G-10W1F	1400	1500	1080	1435	935	478	430	50	25
G-12W1F	1400	1600	1180	1535	1035	478	557	50	25
G-15W1F	1350	1850	1230	1785	1085	404	1040	65	25
G-18W1F	1350	2250	1230	2185	1085	404	1326	65	32
G-20W1F	1500	2500	1180	2435	1035	478	1203	65	32
G-25W1F	1500	2800	1280	2735	1135	478	1572	80	32
G-30W1F	1500	2800	1480	2735	1335	478	1572	80	32
G-35W1F	1600	2800	1730	2735	1585	569	1588	80*2	32
G-40W1F	1700	3050	1780	2985	1635	638	1776	80*2	32
G-45W1F	1700	3050	1980	2985	1835	638	1776	80*2	32
G-50W1F	1700	3050	2180	2985	2035	638	1776	80*2	32

Note:
1.For G-02W1F~G-30W1F, the units have one water inlet pipe and one water outlet pipe. The diameter is shown in the table.
2.For G-35W1F~G-50W1F, the units have two water inlet pipes and two water outlet pipes. 80*2 indicates that the diameter of the two water inlet pipes and water outlet pipes are DN80.
3.For G-02W1F~G-12W1F, the units have a single fan. For G-15W1F ~ G-50W1F the units have a double fan.
4.When G3 and G4 filters are used for horizontal type 1, the flange of return air outlet is increased from 45mm to 100mm.

Horizontal air handling unit dimension

Type 2



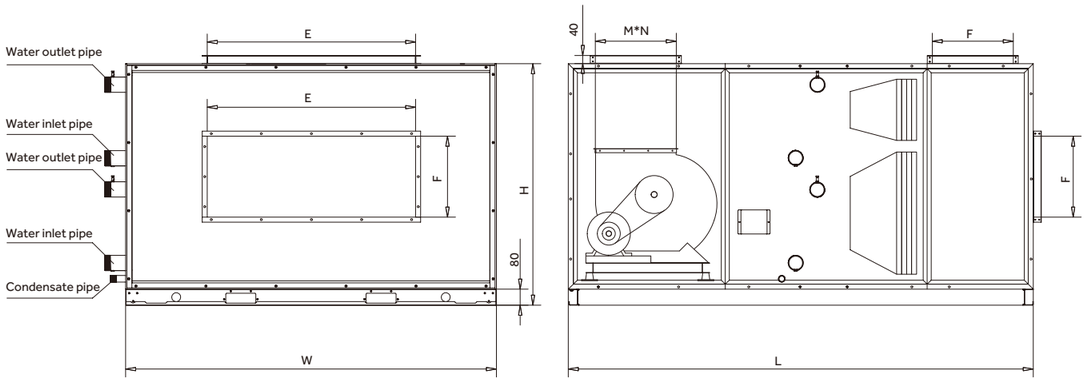
Model	Dimension(mm)							Water inlet/ outlet pipe (DN)	Condensate water pipe (DN)
	L	W	H	E	F	M	N		
G-02W2F	1750	850	680	400	200	262	232	40	25
G-03W2F	1750	1000	680	400	250	262	295	40	25
G-04W2F	1800	1150	730	500	250	289	331	40	25
G-05W2F	1850	1200	830	630	250	341	395	50	25
G-06W2F	1850	1250	880	630	320	341	395	50	25
G-08W2F	2000	1400	980	630	320	404	471	50	25
G-10W2F	2100	1500	1080	800	320	478	430	50	25
G-12W2F	2100	1600	1180	1000	320	478	557	50	25
G-15W2F	2050	1850	1230	1000	400	404	1040	65	25
G-18W2F	2050	2250	1230	1250	400	404	1326	65	32
G-20W2F	2200	2500	1180	1250	400	478	1203	65	32
G-25W2F	2200	2800	1280	1600	400	478	1572	80	32
G-30W2F	2400	2800	1480	1600	500	478	1572	80	32
G-35W2F	2500	2800	1730	2000	500	569	1588	80*2	32
G-40W2F	2600	3050	1780	2000	500	638	1776	80*2	32
G-45W2F	2600	3050	1980	2000	630	638	1776	80*2	32
G-50W2F	2600	3050	2180	2000	630	638	1776	80*2	32

Note:
1.For G-02W2F~G-30W2F, the units have one water inlet pipe and one water outlet pipe. The diameter is shown in the table.
2.For G-35W2F~G-50W2F, the units have two water inlet pipes and two water outlet pipes. 80*2 indicates that the diameter of the two water inlet pipes and water outlet pipes are DN80.
3.For G-02W2F~G-12W2F, the units have a single fan. For G-15W2F ~ G-50W2F the units have a double fan.

Dimensions

Horizontal air handling unit dimension

Type 3

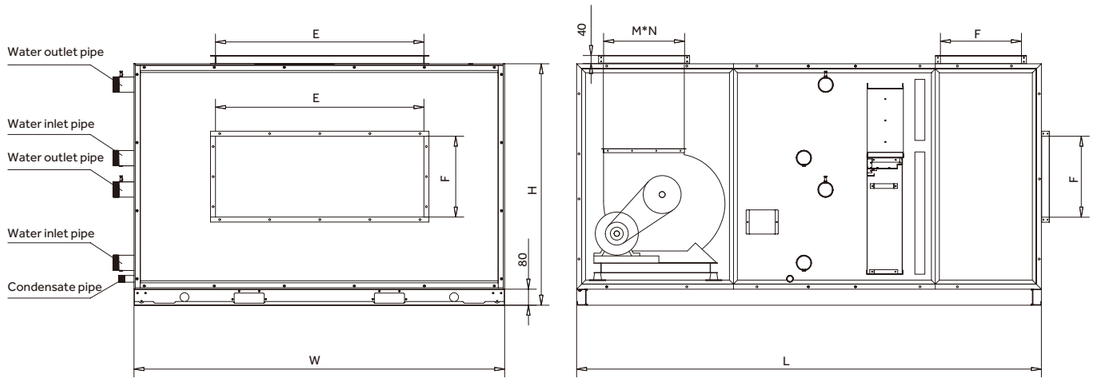


Model	Dimension(mm)							Water inlet/ outlet pipe (DN)	Condensate water pipe (DN)
	L	W	H	E	F	M	N		
G-02W3F	2100	850	680	400	200	262	232	40	25
G-03W3F	2100	1000	680	400	250	262	295	40	25
G-04W3F	2150	1150	730	500	250	289	331	40	25
G-05W3F	2200	1200	830	630	250	341	395	50	25
G-06W3F	2200	1250	880	630	320	341	395	50	25
G-08W3F	2300	1400	980	630	320	404	471	50	25
G-10W3F	2450	1500	1080	800	320	478	430	50	25
G-12W3F	2450	1600	1180	1000	320	478	557	50	25
G-15W3F	2400	1850	1230	1000	400	404	1040	65	25
G-18W3F	2400	2250	1230	1250	400	404	1326	65	32
G-20W3F	2550	2500	1180	1250	400	478	1203	65	32
G-25W3F	2550	2800	1280	1600	400	478	1572	80	32
G-30W3F	2700	2800	1480	1600	500	478	1572	80	32
G-35W3F	2800	2800	1730	2000	500	569	1588	80*2	32
G-40W3F	2900	3050	1780	2000	500	638	1776	80*2	32
G-45W3F	2900	3050	1980	2000	630	638	1776	80*2	32
G-50W3F	2900	3050	2180	2000	630	638	1776	80*2	32

Note:
1.For G-02W3F~G-30W3F, the units have one water inlet pipe and one water outlet pipe. The diameter is shown in the table.
2.For G-35W3F~G-50W3F, the units have two water inlet pipes and two water outlet pipes. 80*2 indicates that the diameter of the two water inlet pipes and water outlet pipes are DN80.
3.For G-02W3F~G-12W3F, the units have a single fan. For G-15W3F ~ G-50W3F the units have a double fan.

Horizontal air handling unit dimension

Type 4



Model	Dimension(mm)							Water inlet/ outlet pipe (DN)	Condensate water pipe (DN)
	L	W	H	E	F	M	N		
G-02W4F	2100	850	680	400	200	262	232	40	25
G-03W4F	2100	1000	680	400	250	262	295	40	25
G-04W4F	2150	1150	730	500	250	289	331	40	25
G-05W4F	2200	1200	830	630	250	341	395	50	25
G-06W4F	2200	1250	880	630	320	341	395	50	25
G-08W4F	2300	1400	980	630	320	404	471	50	25
G-10W4F	2450	1500	1080	800	320	478	430	50	25
G-12W4F	2450	1600	1180	1000	320	478	557	50	25
G-15W4F	2400	1850	1230	1000	400	404	1040	65	25
G-18W4F	2400	2250	1230	1250	400	404	1326	65	32
G-20W4F	2550	2500	1180	1250	400	478	1203	65	32
G-25W4F	2550	2800	1280	1600	400	478	1572	80	32
G-30W4F	2700	2800	1480	1600	500	478	1572	80	32
G-35W4F	2800	2800	1730	2000	500	569	1588	80*2	32
G-40W4F	2900	3050	1780	2000	500	638	1776	80*2	32
G-45W4F	2900	3050	1980	2000	630	638	1776	80*2	32
G-50W4F	2900	3050	2180	2000	630	638	1776	80*2	32

Note:
1.For G-02W4F~G-30W4F, the units have one water inlet pipe and one water outlet pipe. The diameter is shown in the table.
2.For G-35W4F~G-50W4F, the units have two water inlet pipes and two water outlet pipes. 80*2 indicates that the diameter of the two water inlet pipes and water outlet pipes are DN80.
3.For G-02W4F~G-12W4F, the units have a single fan. For G-15W4F ~ G-50W4F the units have a double fan.

Specification

Vertical type

Standard cooling

Model	Nominal airflow (m^3/h)	Nominal cooling capacity (kW)		Nominal heating capacity (kW)		Water flow rate (L/s)		Water pressure drop (kPa)		Noise dB(A)	Pipe diameter		Weight (kg)
		Return air condition	Fresh air condition	Return air condition	Fresh air condition	Return air condition	Fresh air condition	Return air condition	Fresh air condition		Water inlet/out pipe(DN)	Condensate water pipe(DN)	
G-02LFS	2000	11.8	25	18.9	27.6	0.57	1.2	13.1	8.7	58	40	25	132
G-03LFS	3000	17.9	38.1	28.3	41.2	0.85	1.82	26.6	17.4	58	40	25	145
G-04LFS	4000	24.5	52.2	38.2	55.7	1.17	2.49	45.1	29	60	40	25	163
G-05LFS	5000	28.2	65.7	46	69.6	1.35	3.14	9.2	39.5	62	50	25	188
G-06LFS	6000	33.9	78.8	54.5	83.5	1.62	3.77	9	38.6	62	50	25	211
G-08LFS	8000	46.1	106.8	74.5	112.2	2.2	5.1	13.2	56.9	64	50	25	251
G-10LFS	10000	58.3	134.2	93.5	140.3	2.79	6.41	16.8	72.2	66	50	25	325
G-12LFS	12000	71.2	148.8	113.3	163.3	3.4	7.11	20.8	21.1	68	50	25	365
G-15LFS	15000	91.3	189.9	142.9	205.5	4.36	9.07	34.3	34.9	70	65	25	426
G-18LFS	18000	111.4	231.1	172.4	247.6	5.32	11.04	57.7	58.4	70	65	32	491
G-20LFS	20000	125.9	260.7	198.2	284.8	6.01	12.45	39.2	39.8	72	65	32	556
G-25LFS	25000	159.9	330.1	249.6	358.2	7.64	15.77	55.6	54.9	72	80	32	651
G-30LFS	30000	191.9	396.1	299.7	429.8	9.17	18.93	54.9	54.9	75	80	32	770
G-35LFS	35000	223.9	469.2	349.7	506.1	10.7	22.42	54.3	27.8	75	80*2	32	950
G-40LFS	40000	231	541.7	376.4	579.8	11.04	25.88	18.5	40.7	78	80*2	32	1010
G-45LFS	45000	259.1	608.1	422.7	651.6	12.38	29.05	17.6	38.7	78	80*2	32	1072
G-50LFS	50000	289.3	678.8	471.7	726.9	13.82	32.43	17.3	38.2	78	80*2	32	1150

Note:
1.Standard return air cooling conditions: chilled water inlet/outlet at 7 / 12°C; air inlet at 27°CDB / 19.5°CWB.
2.Standard return air heating conditions: hot water inlet at 60°C; air inlet at 21°CDB. The water flow volume is the same to that of chilled water.
3.Standard fresh air cooling conditions: chilled water inlet/outlet at 7 / 12°C; air inlet at 35°CDB / 28°CWB.
4.Standard fresh air heating conditions: hot water inlet at 60°C; air inlet at 7°CDB. The water flow volume is the same to that of chilled water.
5.Power supply: 3PH/380V/50Hz

Vertical type

High cooling

Model	Nominal airflow (m^3/h)	Nominal cooling capacity (kW)		Nominal heating capacity (kW)		Water flow rate (L/s)		Water pressure drop (kPa)		Noise dB(A)	Pipe diameter		Weight (kg)
		Return air condition	Fresh air condition	Return air condition	Fresh air condition	Return air condition	Fresh air condition	Return air condition	Fresh air condition		Water inlet/out pipe(DN)	Condensate water pipe(DN)	
G-02LFH	2000	14	31.7	21.9	32.7	0.67	1.51	4.1	16.3	58	40	25	138
G-03LFH	3000	21.4	47.9	32	48.8	1.02	2.29	18.2	33.2	58	40	25	152
G-04LFH	4000	29.4	64.9	44.4	65.5	1.41	3.1	13.9	55.3	60	40	25	171
G-05LFH	5000	36.9	81.4	55.2	81.9	1.76	3.89	19.2	76.1	62	50	25	198
G-06LFH	6000	44.3	97.8	66.8	98.3	2.12	4.67	19.2	76.1	62	50	25	224
G-08LFH	8000	60	127.8	89.6	130.3	2.87	6.11	28.5	35	64	50	25	268
G-10LFH	10000	75.6	160.5	112.2	163	3.61	7.67	36.6	44.9	66	50	25	341
G-12LFH	12000	91.8	194.3	135.4	196.4	4.38	9.28	45.2	55.1	68	50	25	392
G-15LFH	15000	118.3	245.5	170.1	246.3	5.65	11.73	69.4	89.5	70	65	25	455
G-18LFH	18000	141.2	285.6	204.5	292.1	6.75	13.65	82.9	57.2	70	65	32	532
G-20LFH	20000	152.4	320.8	228.7	331.8	7.28	15.33	25.4	37.4	72	65	32	598
G-25LFH	25000	193.1	405.2	287.6	416.4	9.22	19.36	35	53.1	72	80	32	699
G-30LFH	30000	231.7	486.2	345.2	499.7	11.07	23.23	35	53.1	75	80	32	829
G-35LFH	35000	270.3	567.2	402.7	582.9	12.91	27.1	35	53.1	75	80*2	32	1019
G-40LFH	40000	311.8	652.3	461.3	667.1	14.9	31.17	51.1	77.3	78	80*2	32	1124
G-45LFH	45000	350.1	732.9	518.6	750	16.73	35.01	48.7	73.7	78	80*2	32	1189
G-50LFH	50000	390.5	817	603.4	835.4	18.66	39.03	48	72.5	78	80*2	32	1286

Note:
1.Standard return air cooling conditions: chilled water inlet/outlet at 7 / 12°C; air inlet at 27°CDB / 19.5°CWB.
2.Standard return air heating conditions: hot water inlet at 60°C; air inlet at 21°CDB. The water flow volume is the same to that of chilled water.
3.Standard fresh air cooling conditions: chilled water inlet/outlet at 7 / 12°C; air inlet at 35°CDB / 28°CWB.
4.Standard fresh air heating conditions: hot water inlet at 60°C; air inlet at 7°CDB. The water flow volume is the same to that of chilled water.
5.Power supply: 380V/3PH/50HZ.

Specification

Customizable external total pressure

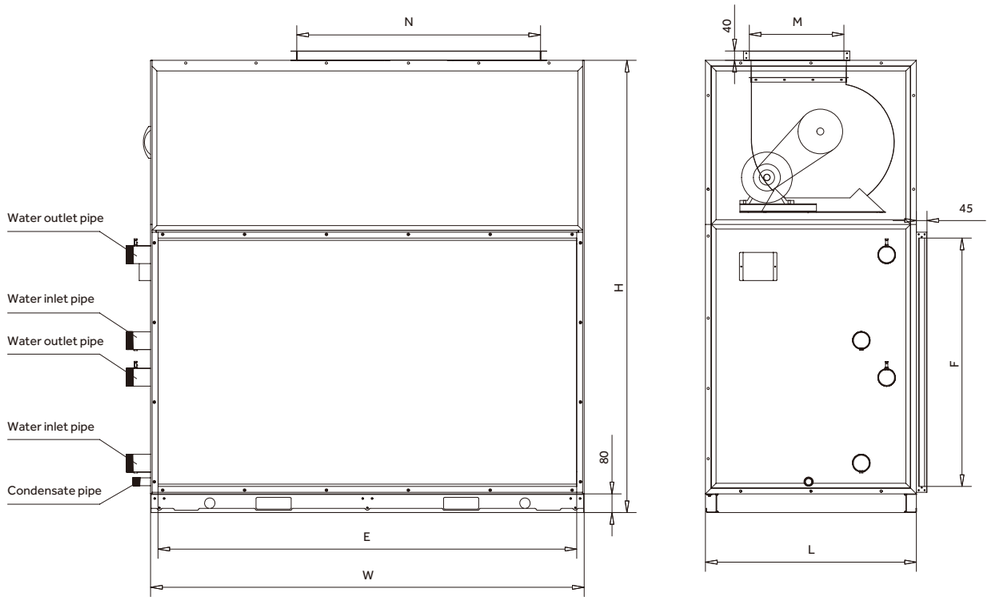
Vertical type

Model	Airflow	Motor power (kW) corresponding to external total pressure (Pa)										
	m³/h	120Pa	170Pa	220Pa	270Pa	320Pa	370Pa	420Pa	470Pa	520Pa	570Pa	620Pa
G02LFS	2000	0.37	0.37	0.55	0.55	0.55	0.55					
G02LFH		0.37	0.55	0.55	0.55	0.55	0.75					
G03LFS	3000	0.55	0.55	0.75	0.75	0.75	1.1					
G03LFH		0.55	0.75	0.75	0.75	1.1	1.1					
G04LFS	4000	0.75	0.75	0.75	1.1	1.1	1.1					
G04LFH		0.75	0.75	1.1	1.1	1.1	1.1					
G05LFS	5000	0.75	1.1	1.1	1.1	1.5	1.5					
G05LFH		1.1	1.1	1.1	1.5	1.5	1.5					
G06LFS	6000	1.1	1.1	1.5	1.5	1.5	2.2					
G06LFH		1.1	1.5	1.5	1.5	2.2	2.2					
G08LFS	8000			1.5	2.2	2.2	2.2	2.2	3			
G08LFH				2.2	2.2	2.2	2.2	3	3			
G10LFS	10000			2.2	2.2	3	3	3	3			
G10LFH				2.2	3	3	3	3	4			
G12LFS	12000			3	3	3	3	4	4			
G12LFH				3	3	3	4	4	4			
G15LFS	15000			4	4	4	4	5.5	5.5			
G15LFH				4	4	4	5.5	5.5	5.5			
G18LFS	18000			4	5.5	5.5	5.5	5.5	5.5			
G18LFH				5.5	5.5	5.5	5.5	5.5	7.5			
G20LFS	20000			5.5	5.5	5.5	7.5	7.5	7.5			
G20LFH				5.5	5.5	7.5	7.5	7.5	7.5			
G25LFS	25000				7.5	7.5	7.5	11	11	11		
G25LFH					7.5	7.5	11	11	11	11		
G30LFS	30000						11	11	11	15	15	15
G30LFH							11	11	15	15	15	15
G35LFS	35000						11	11	15	15	15	15
G35LFH							11	15	15	15	15	15
G40LFS	40000						15	15	15	15	15	18.5
G40LFH							15	15	15	15	18.5	18.5
G45LFS	45000						15	15	18.5	18.5	18.5	18.5
G45LFH							15	18.5	18.5	18.5	18.5	18.5
G50LFS	50000						18.5	18.5	18.5	22	22	22
G50LFH							18.5	18.5	22	22	22	22

◆ The values in the table are motor power input under different external total pressure, the bold type values are the motor power input at the nominal pressure.

Dimensions

Vertical air handling unit dimension



Model	Dimension(mm)							Water inlet/ outlet pipe (DN)	Condensate water pipe (DN)
	L	W	H	E	F	M	N		
G-02LF	700	850	1130	785	535	262	232	40	25
G-03LF	700	1000	1180	935	535	262	295	40	25
G-04LF	700	1150	1280	1085	585	289	331	40	25
G-05LF	800	1200	1430	1135	685	341	395	50	25
G-06LF	800	1250	1480	1185	735	341	395	50	25
G-08LF	800	1400	1680	1335	835	404	471	50	25
G-10LF	900	1500	1880	1435	935	478	430	50	25
G-12LF	900	1600	1980	1535	1035	478	557	50	25
G-15LF	900	1850	1930	1785	1085	404	1040	65	25
G-18LF	900	2250	1930	2185	1085	404	1326	65	32
G-20LF	900	2500	2030	2435	1035	478	1203	65	32
G-25LF	1000	2800	2080	2735	1135	478	1572	80	32
G-30LF	1000	2800	2330	2735	1335	478	1572	80	32
G-35LF	1000	2800	2580	2735	1585	569	1588	80*2	32
G-40LF	1150	3050	2730	2985	1635	638	1776	80*2	32
G-45LF	1150	3050	2930	2985	1835	638	1776	80*2	32
G-50LF	1150	3050	3130	2985	2035	638	1776	80*2	32

Note:
1.For G-02LF-G-30LF, the units have one water inlet pipe and one water outlet pipe. The diameter is shown in the table.
2.For G-35LF-G-50LF, the units have two water inlet pipes and two water outlet pipes. 80*2 indicates that the diameter of the two water inlet pipes and water outlet pipes are DN80.
3.For G-02LF-G-12LF, the units have a single fan. For G-15LF ~ G-50LF the units have a double fan.

Modular Air Handling Unit

High Efficiency | Comfortable | High Reliability | Convenient

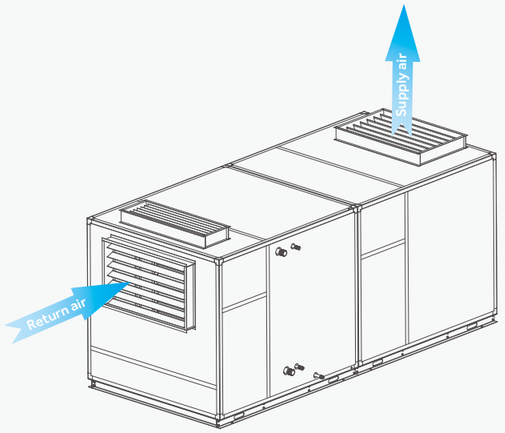
Nomenclature

Haier modular air handling units are designed for central handling of air, including the essential function of ventilation, cooling, heating, heat recovery, humidifiation, dehumidifiation and cleaning, etc. this series has been designed to meet the requirements of all kinds of space cooling and heating, such as office buildings, shopping malls, hospitals, hotels, airports, railway stations, factories and other application scenarios.

ZK 06 07 W A Z A

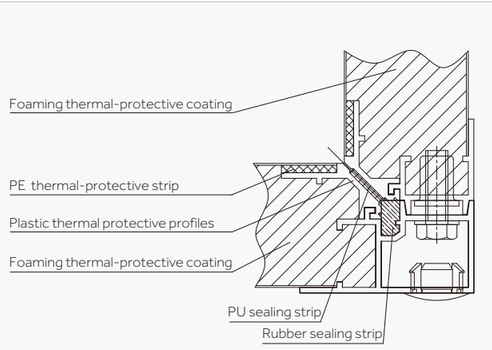
- ZK — Modular air handling unit
- 06 — Height (Modules) 1 module=100mm
- 07 — Width (Modules) 1 module=100mm
- W — Unit configuration: L–Vertical draw through; W–Horizontal draw through
- A — Panel thickness: A–25mm; B–35mm; C–50mm
- Z — Pipe connection: Z–Left handling; Y–Right handling
- A — Design serial number

Orientation



Facing the return air inlet grille and following the direction of the airflow, if water inlet and outlet pipe are on the left side of the unit, then it is left connected type, on the contrary, it is right connected type. the picture on the left is the right connected type unit.

High Efficiency



Patented anti-cooled bridge design

Patented anti-cold bridge technology provides triple measures to prevent cold bridge, and condensation on the surface of the box.

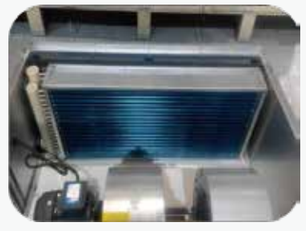
•Paste PE thermal insulation materials to the metal inner plate to insulate cold, heat from transferring.

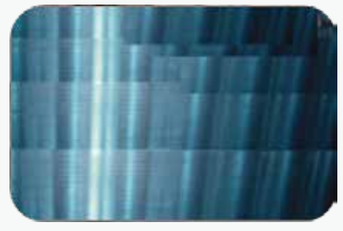
•Use PVC plastic insulating material jointing lap between the metal inner plate and the aluminum panel, to insulate cold, heat from transferring.

• Filling with environmental foaming material HFC-245fa, between the metal inner plate and metal panel, the surface of aluminum panel, the foam density is up to 50 kg/m to insulate cold, heat from transferring.

High efficient heat exchanger

High quality seamless copper tube and corrugated hydrophilic aluminum foil ensure larger heat exchange area. optimal water circuits design, increased heat exchange efficiency and decreased water resistance, improving unit performance efficiency.





No obvious oxidation after long running

Comfortable

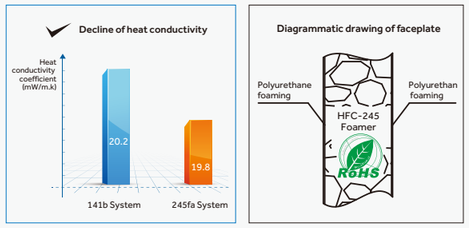
Low sound level

•Flexible connection at air outlet minimizes vibration transmission between fan and unit.

•In order to limit transmission of noise and vibration, the complete fan-motor subbase assembly is equiped with dampers.

•Before the fan leaves the factory, dynamic and static balance tests are carried out to ensure the fan operates efficiently with low noise.

High Reliability



Environmentally-friendly materials

The panels are made of high-pressure polyurethane foam material, which uses special environmental protection foamer of HFC-245fa. It's harmless and environmental-friendly, with good heat isolation and sound insulation.

The thermal conductivity of box is no more than 0.0198 W/m°C, better than that of conventional 141 b foamer by more than 2%, to effectively insulate cold, heat from transferring and reduce the operating cost.

Wide application

Haier modular AHU can be widely used in office buildings, shopping malls, hospitals, hotels, airports, railway stations, factories and other application scenarios, especially these have special requirements of environment space.

Hospital

•According to the requirements of air purification, a stable high-precision control system is provided to automatically adjust the temperature and humidity.

•Setting the fresh air ratio for areas with different purification level, which can save energy and meet the demand for fresh air.

•Filter differential pressure alarm device is set to give intelligent warning of fouling along with filter to avoid pollution of clean air.

•Configurate cooling, heating, humidification, purification and other functional sections according to the requirements of the using areas.

Subway

• The primary filtration and electrostatic dust removal technology are adopted to ensure air quality.

• The using of micro-perforation or impedance sound attenuator provides a good noise reduction effect in a wide frequency range.

• The control cabinet with BAS interface can be configured to accept the monitoring of BAS system.

• It can be configured with high efficiency motor or inverter motor, which can save energy and reduce operating cost.

Convenient

Flexible modular design

Haier modular air handling units are designed and manufactured in modular sections, which can be fully assembled in the factory before shipment or transported in sections and assembled on the job site. major sections such as fans, coils, filters, etc can be arranged in the sequence on request, giving complete flexibility of design.

Easy maintenance

• The easy-to-move panels and access doors offer complete accessibility to fans, coils, filters and dampers.

• All basic component parts are standard and replaceable. filter sections conforms to international standards.

Quick selection table for common units

Model	Rated air flow (m³/h)	Box inner dimension (mm)		Coils face area (m²)	Airflow (m³/h)				
	2.5m/s	Height (mm)	Width (mm)		2.00m/s	2.25m/s	2.50m/s	2.75m/s	3.00m/s
ZK0607	1863	600	700	0.21	1490	1677	1863	2049	2236
ZK0608	2268	600	800	0.25	1814	2041	2268	2495	2722
ZK0710	3762	700	1000	0.42	3010	3386	3762	4138	4514
ZK0712	4752	700	1200	0.53	3802	4277	4752	5227	5702
ZK0812	5616	800	1200	0.62	4493	5054	5616	6178	6739
ZK0813	6201	800	1300	0.69	4961	5581	6201	6821	7441
ZK1012	7344	1000	1200	0.82	5875	6610	7344	8078	8813
ZK1013	8109	1000	1300	0.90	6487	7298	8109	8920	9731
ZK1014	8874	1000	1400	0.99	7099	7987	8874	9761	10649
ZK1016	10404	1000	1600	1.16	8323	9364	10404	11444	12485
ZK1216	12852	1200	1600	1.43	10282	11567	12852	14137	15422
ZK1218	14742	1200	1800	1.64	11794	13268	14742	16216	17690
ZK1320	18216	1300	2000	2.02	14573	16394	18216	20038	21859
ZK1416	15300	1400	1600	1.70	12240	13770	15300	16830	18360
ZK1418	17550	1400	1800	1.95	14040	15795	17550	19305	21060
ZK1420	19800	1400	2000	2.20	15840	17820	19800	21780	23760
ZK1522	23814	1500	2200	2.65	19051	21433	23814	26195	28577
ZK1618	20358	1600	1800	2.26	16286	18322	20358	22394	24430
ZK1620	22968	1600	2000	2.55	18374	20671	22968	25265	27562
ZK1622	25578	1600	2200	2.84	20462	23020	25578	28136	30694
ZK1624	28227	1600	2400	3.14	22582	25404	28227	31050	33872
ZK1626	30840	1600	2600	3.43	24672	27756	30840	33925	37009
ZK1820	25344	1800	2000	2.82	20275	22810	25344	27878	30413
ZK1822	28224	1800	2200	3.14	22579	25402	28224	31046	33869
ZK1826	33644	1800	2600	3.74	26915	30280	33644	37009	40373
ZK1828	36495	1800	2800	4.06	29196	32846	36495	40145	43794
ZK2022	31434	2000	2200	3.49	25148	28291	31434	34578	37721
ZK2024	34642	2000	2400	3.85	27714	31178	34642	38106	41570
ZK2026	37850	2000	2600	4.21	30280	34065	37850	41635	45420
ZK2224	38491	2200	2400	4.28	30793	34642	38491	42340	46189
ZK2226	42055	2200	2600	4.67	33644	37850	42055	46261	50466
ZK2426	46261	2400	2600	5.14	37009	41635	46261	50887	55513
ZK2428	50181	2400	2800	5.58	40145	45163	50181	55199	60217
ZK2628	54743	2600	2800	6.08	43794	49269	54743	60217	65692
ZK2630	59020	2600	3000	6.56	47216	53118	59020	64922	70824
ZK2830	63938	2800	3000	7.10	51151	57544	63938	70332	76726
ZK2832	68571	2800	3200	7.62	54857	61714	68571	75428	82286
ZK2834	73205	2800	3400	8.13	58564	65884	73205	80525	87845
ZK2836	77838	2800	3600	8.65	62270	70054	77838	85622	93405
ZK2838	82471	2800	3800	9.16	65977	74224	82471	90718	98965
ZK3038	88815	3000	3800	9.87	71052	79933	88815	97696	106578
ZK3040	93804	3000	4000	10.42	75044	84424	93804	103185	112565
ZK3042	98794	3000	4200	10.98	79035	88915	98794	108673	118553
ZK3546	126902	3500	4600	14.10	101522	114212	126902	139592	152283
ZK3749	143938	3700	4900	15.99	115150	129544	143938	158332	172726
ZK3755	155058	3700	5500	17.23	124046	139552	155058	170564	186069
ZK4355	181895	4300	5500	20.21	145516	163705	181895	200084	218274
ZK4361	203635	4300	6100	22.63	162908	183272	203635	223999	244362

Note: Due to the large number of models, the above table only lists the rapid selection of some commonly used models.

Specification

Return air cooling condition

Model	Rated air flow (m³/h)	2 rows coil			4 rows coil		
	2.5m/s	Cooling capacity (kW)	Water flow rate (L/s)	water resistance (kPa)	Cooling capacity (kW)	Water flow rate (L/s)	water resistance (kPa)
ZK0607	1863	4.7	0.2	10.2	10.0	0.5	8.5
ZK0608	2268	5.9	0.3	16.3	12.6	0.6	13.5
ZK0710	3762	9.9	0.5	18.4	21.1	1.0	17.0
ZK0712	4752	12.1	0.6	30.2	25.8	1.2	27.3
ZK0812	5616	15.2	0.8	51.6	33.2	1.6	46.4
ZK0813	6201	16.9	0.8	29.3	35.9	1.7	28.1
ZK1012	7344	20.4	1.0	48.8	43.4	2.1	46.4
ZK1013	8109	22.8	1.1	61.7	48.2	2.3	58.1
ZK1014	8874	25.2	1.2	76.6	53.2	2.5	71.7
ZK1016	10404	29.0	1.4	46.5	61.7	3.0	46.1
ZK1216	12852	35.7	1.7	42.8	76.3	3.7	48.0
ZK1218	14742	41.7	2.0	59.8	88.4	4.2	66.2
ZK1320	18216	52.3	2.5	85.2	110.6	5.3	86.5
ZK1416	15300	42.4	2.0	40.4	90.6	4.3	49.0
ZK1418	17550	49.4	2.4	56.5	105.7	5.1	68.5
ZK1420	19800	56.6	2.7	76.0	119.9	5.7	90.9
ZK1522	23814	65.9	3.2	34.3	140.9	6.7	38.7
ZK1618	20358	57.7	2.8	62.7	121.9	5.8	64.7
ZK1620	22968	65.9	3.2	84.2	138.9	6.6	86.4
ZK1622	25578	70.7	3.4	34.3	151.4	7.2	38.7
ZK1624	28227	108.9	5.2	43.4	171.9	8.2	89.6
ZK1626	30840	119.9	5.7	55.7	181.6	8.7	34.4
ZK1820	25344	72.7	3.5	83.8	153.3	7.3	86.6
ZK1822	28224	78.1	3.7	34.3	167.0	8.0	38.7
ZK1826	33644	127.7	6.1	53.4	201.0	9.6	77.2
ZK1828	36495	139.8	6.7	67.5	211.7	10.1	41.7
ZK2022	31434	119.7	5.7	32.7	190.1	9.1	66.1
ZK2024	34642	133.3	6.4	43.2	210.9	10.1	86.7
ZK2026	37850	144.0	6.9	53.7	218.2	10.4	33.2
ZK2224	38491	148.5	7.1	43.4	235.2	11.3	87.3
ZK2226	42055	163.5	7.8	55.7	247.6	11.8	34.4
ZK2426	46261	180.5	8.6	56.0	272.4	13.0	34.4
ZK2428	50181	197.0	9.4	70.4	298.7	14.3	43.6
ZK2628	54743	214.9	10.3	70.4	324.3	15.5	43.3
ZK2630	59020	234.3	11.2	87.9	354.5	17.0	54.2
ZK2830	63938	253.2	12.1	87.5	382.3	18.3	53.8
ZK2832	68571	248.5	11.9	13.8	413.4	19.8	65.8
ZK2834	73205	261.9	12.5	16.0	435.6	20.8	76.7
ZK2836	77838	280.8	13.4	19.2	445.1	22.3	28.0
ZK2838	82471	300.4	14.4	22.8	475.7	22.8	33.2
ZK3038	88815	332.9	15.9	23.9	523.4	25.0	34.5
ZK3040	93804	353.5	16.9	28.0	556.6	26.6	40.4
ZK3042	98794	375.2	18.0	32.6	590.2	28.2	47.0
ZK3546	126902	479.4	22.9	35.3	751.5	36.0	50.6
ZK3749	143938	529.0	25.4	46.7	837.2	40.0	95.0
ZK3755	155058	610.5	29.2	67.4	924.4	44.2	41.6
ZK4355	181895	717.9	34.4	67.7	1084.4	51.8	41.6
ZK4361	203635	811.4	38.8	93.1	1224.6	58.6	57.2

Note:
1. Standard return air cooling condition: inlet air temperature is 27°C DB / 19.5°CWB.
2. Chilled water inlet temperature is 7°C, temperature difference between inlet and outlet water is 5°C.
3. Different circuit layout and sheet spacing of coils will lead to different cooling capacity. The specific parameters shall be subject to the design drawing.
4. Due to the large number of models, the above table only lists the performance data of some commonly used models.

Return air cooling condition

Model	Rated air flow (m³/h)	6 rows coil			8 rows coil		
	2.5m/s	Cooling capacity (kW)	Water flow rate (L/s)	water resistance (kPa)	Cooling capacity (kW)	Water flow rate (L/s)	water resistance (kPa)
ZK0607	1863	13.6	0.6	20.2	15.6	0.7	32.8
ZK0608	2268	16.9	0.8	31.5	19.3	0.3	50.5
ZK0710	3762	28.3	1.4	39.0	32.1	1.5	62.2
ZK0712	4752	34.0	1.6	62.0	37.9	1.8	47.9
ZK0812	5616	42.1	2.0	32.4	48.3	2.3	80.0
ZK0813	6201	47.3	2.3	63.1	52.8	2.5	44.4
ZK1012	7344	55.0	2.6	32.9	63.0	3.0	73.0
ZK1013	8109	61.3	2.9	41.4	69.9	3.3	91.5
ZK1014	8874	67.3	3.2	50.8	75.3	3.6	39.3
ZK1016	10404	80.2	3.8	74.2	89.2	4.3	56.8
ZK1216	12852	99.0	4.7	74.9	110.2	5.3	56.8
ZK1218	14742	112.5	5.4	49.7	127.1	6.1	78.1
ZK1320	18216	140.3	6.7	66.3	156.0	7.5	48.9
ZK1416	15300	117.6	5.6	75.0	130.8	6.3	56.6
ZK1418	17550	133.9	6.4	49.7	151.3	7.2	78.1
ZK1420	19800	152.0	7.3	65.9	169.5	8.1	47.6
ZK1522	23814	184.1	8.8	85.4	205.2	9.8	62.4
ZK1618	20358	155.3	7.4	49.7	175.5	8.4	78.1
ZK1620	22968	176.3	8.4	65.9	196.7	9.4	48.8
ZK1622	25578	197.7	9.5	85.4	220.5	10.5	63.1
ZK1624	28227	213.5	10.2	62.6	242.1	11.6	46.6
ZK1626	30840	234.2	11.2	79.9	266.0	12.7	59.6
ZK1820	25344	194.6	9.3	65.9	217.1	10.4	48.8
ZK1822	28224	218.2	10.4	85.4	242.6	11.6	62.8
ZK1826	33644	252.6	12.1	78.3	284.4	13.6	42.4
ZK1828	36495	265.1	12.7	30.5	310.1	14.8	53.2
ZK2022	31434	235.6	11.3	47.5	273.9	13.1	82.1
ZK2024	34642	261.1	12.5	62.2	297.4	14.2	47.4
ZK2026	37850	283.0	13.5	77.8	323.9	15.5	59.7
ZK2224	38491	291.2	13.9	62.6	330.5	15.8	47.4
ZK2226	42055	319.4	15.3	79.9	363.1	17.4	60.6
ZK2426	46261	351.3	16.8	79.9	400.5	19.2	60.9
ZK2428	50181	370.7	17.7	31.4	436.4	20.9	76.4
ZK2628	54743	404.4	19.4	31.4	477.4	22.8	76.8
ZK2630	59020	439.5	21.0	39.0	516.6	24.7	94.5
ZK2830	63938	476.2	22.8	39.0	561.1	26.9	95.0
ZK2832	68571	514.4	24.6	47.6	582.9	27.9	36.0
ZK2834	73205	541.8	25.9	55.5	618.8	29.6	42.4
ZK2836	77838	579.4	27.7	66.1	662.3	31.7	50.6
ZK2838	82471	617.0	29.5	77.9	706.0	33.8	59.8
ZK3038	88815	674.9	32.3	80.0	769.6	36.8	61.1
ZK3040	93804	716.0	34.3	93.4	816.6	39.1	71.3
ZK3042	98794	742.8	32.3	88.8	866.2	41.2	82.2
ZK3546	126902	945.0	41.4	95.3	1099.2	52.6	88.7
ZK3749	143938	1036.4	49.6	67.3	1180.2	56.4	50.9
ZK3755	155058	1188.2	56.8	96.1	1355.8	64.8	72.9
ZK4355	181895	1393.8	66.6	96.1	1590.5	76.2	73.0
ZK4361	203635	1525.3	73.0	41.5	1791.2	85.8	99.8

Note:
1. Standard return air cooling condition: inlet air temperature is 27°C DB / 19.5°CWB.
2. Chilled water inlet temperature is 7°C, temperature difference between inlet and outlet water is 5°C.
3. Different circuit layout and sheet spacing of coils will lead to different cooling capacity. The specific parameters shall be subject to the design drawing.
4. Due to the large number of models, the above table only lists the performance data of some commonly used models.

Specification

Fresh air cooling condition

Model	Rated air flow (m³/h)	2 rows coil			4 rows coil		
	2.5m/s	Cooling capacity (kW)	Water flow rate (L/s)	water resistance (kPa)	Cooling capacity (kW)	Water flow rate (L/s)	water resistance (kPa)
ZK0607	1863	12.7	0.6	59.4	23.5	1.1	38.4
ZK0608	2268	15.1	0.7	30.5	29.2	1.4	58.8
ZK0710	3762	25.0	1.2	34.1	48.6	2.3	72.9
ZK0712	4752	30.6	1.5	54.9	57.6	2.8	56.8
ZK0812	5616	37.8	1.8	34.6	70.7	3.4	30.8
ZK0813	6201	40.6	1.9	21.2	79.7	3.8	53.1
ZK1012	7344	49.4	2.4	34.6	92.5	4.4	30.8
ZK1013	8109	55.0	2.6	43.2	103.3	4.9	38.7
ZK1014	8874	60.9	2.9	53.3	113.6	5.4	47.2
ZK1016	10404	73.2	3.5	78.5	135.2	6.5	68.2
ZK1216	12852	90.0	4.3	77.7	167.0	8.0	68.2
ZK1218	14742	95.7	4.6	17.2	193.6	9.3	93.8
ZK1320	18216	120.8	5.8	23.1	234.4	11.2	43.5
ZK1416	15300	107.1	5.1	77.7	199.6	9.5	68.7
ZK1418	17550	114.0	5.5	17.2	222.1	10.6	32.6
ZK1420	19800	131.3	6.3	23.1	253.8	12.1	43.2
ZK1522	23814	160.6	7.7	30.0	309.5	14.8	56.1
ZK1618	20358	132.2	6.3	17.2	257.6	12.3	32.6
ZK1620	22968	152.3	7.3	23.1	294.4	14.1	43.2
ZK1622	25578	167.3	7.3	24.0	326.2	14.2	45.9
ZK1624	28227	230.2	11.0	24.1	376.1	18.0	37.1
ZK1626	30840	253.4	12.1	31.0	413.7	19.8	47.5
ZK1820	25344	167.1	8.0	22.9	324.9	15.5	43.2
ZK1822	28224	189.2	9.1	29.7	365.4	17.5	55.7
ZK1826	33644	271.4	13.0	30.0	443.3	21.2	46.1
ZK1828	36495	296.0	14.2	37.6	504.8	24.2	50.8
ZK2022	31434	252.4	12.1	18.2	413.6	19.8	28.0
ZK2024	34642	280.7	13.4	23.9	459.7	22.0	36.9
ZK2026	37850	305.3	14.6	30.0	500.7	24.0	46.4
ZK2224	38491	313.9	15.0	24.1	512.8	24.5	37.1
ZK2226	42055	345.6	16.5	31.0	564.1	27.0	47.5
ZK2426	46261	382.2	18.3	31.3	622.9	29.8	47.9
ZK2428	50181	419.3	20.1	39.6	678.9	32.5	60.0
ZK2628	54743	457.4	21.9	39.6	740.6	35.4	60.0
ZK2630	59020	498.3	23.8	49.3	804.7	38.5	74.3
ZK2830	63938	539.8	25.8	49.3	871.8	41.7	74.3
ZK2832	68571	583.6	27.9	60.3	916.8	43.9	39.7
ZK2834	73205	613.5	29.4	69.9	968.8	46.4	46.5
ZK2836	77838	653.3	31.3	82.7	1037.6	49.6	55.5
ZK2838	82471	696.4	33.3	66.7	1101.9	52.7	65.1
ZK3038	88815	736.5	29.4	69.0	1211.4	58.0	67.4
ZK3040	93804	782.6	31.2	80.7	1286.3	61.5	78.8
ZK3042	98794	824.8	32.9	92.9	1356.3	64.9	90.8
ZK3546	126902	1007.5	34.4	83.2	1725.6	82.6	97.4
ZK3749	143938	1116.6	53.4	25.9	1826.4	87.4	39.9
ZK3755	155058	1291.0	61.8	37.5	2102.9	100.6	57.4
ZK4355	181895	1523.6	72.8	37.9	2466.8	118.0	57.4
ZK4361	203635	1729.2	82.8	52.4	2791.7	133.6	79.0

Note:
1. Standard fresh air cooling condition: inlet air temperature is 35°C DB / 28°CWB.
2. Chilled water inlet temperature is 7°C.
3. Different circuit layout and sheet spacing of coils will lead to different cooling capacity. The specific parameters shall be subject to the design drawing.
4. Due to the large number of models, the above table only lists the performance data of some commonly used models.

Fresh air cooling condition

Model	Rated air flow (m³/h)	6 rows coil			8 rows coil		
	2.5m/s	Cooling capacity (kW)	Water flow rate (L/s)	water resistance (kPa)	Cooling capacity (kW)	Water flow rate (L/s)	water resistance (kPa)
ZK0607	1863	29.5	1.4	78.9	32.7	1.6	57.1
ZK0608	2268	35.3	1.7	36.9	40.2	1.9	86.6
ZK0710	3762	59.0	2.8	47.2	65.4	3.1	36.5
ZK0712	4752	71.0	3.4	74.4	78.6	3.8	57.2
ZK0812	5616	88.7	4.2	61.5	98.4	4.7	43.5
ZK0813	6201	97.0	4.6	38.2	109.5	5.2	58.7
ZK1012	7344	116.0	5.6	61.5	128.8	6.2	45.5
ZK1013	8109	129.0	6.2	77.0	143.1	6.8	56.8
ZK1014	8874	138.2	6.6	32.7	157.1	7.5	69.4
ZK1016	10404	163.7	7.8	46.9	181.7	8.7	34.0
ZK1216	12852	202.2	9.7	46.9	224.4	10.7	34.0
ZK1218	14742	235.0	11.2	64.7	259.8	12.4	46.7
ZK1320	18216	291.8	14.0	85.3	323.3	15.5	61.7
ZK1416	15300	241.4	11.6	47.1	267.2	12.8	34.0
ZK1418	17550	278.9	13.3	64.4	309.3	14.8	46.7
ZK1420	19800	317.1	15.2	85.3	351.4	16.8	61.7
ZK1522	23814	379.9	16.5	91.3	425.1	20.3	79.4
ZK1618	20358	324.5	15.5	64.7	358.8	17.2	46.7
ZK1620	22968	367.9	17.6	85.3	407.6	19.5	61.7
ZK1622	25578	408.1	17.8	91.3	456.6	21.8	79.4
ZK1624	28227	468.0	22.4	80.8	526.8	25.2	60.3
ZK1626	30840	508.7	22.1	86.0	578.0	27.7	76.9
ZK1820	25344	405.9	19.4	85.3	449.8	21.5	61.7
ZK1822	28224	450.3	19.6	91.3	502.4	24.0	79.0
ZK1826	33644	543.4	26.0	44.8	625.0	29.9	75.7
ZK1828	36495	611.3	29.2	48.3	694.3	33.2	80.0
ZK2022	31434	517.4	24.8	61.5	581.8	27.8	45.8
ZK2024	34642	574.4	27.5	80.8	646.5	30.9	60.3
ZK2026	37850	611.0	29.2	44.8	703.1	33.6	75.7
ZK2224	38491	638.2	30.5	80.8	718.3	34.4	60.3
ZK2226	42055	683.6	27.3	72.2	790.2	37.8	77.3
ZK2426	46261	752.0	30.0	72.2	869.2	41.6	77.3
ZK2428	50181	818.6	32.6	90.3	924.6	36.9	67.7
ZK2628	54743	895.6	35.7	90.7	1008.7	40.2	67.7
ZK2630	59020	944.2	32.3	81.8	1091.3	43.5	83.4
ZK2830	63938	1022.9	35.0	81.8	1182.3	47.1	83.4
ZK2832	68571	1071.6	32.0	75.2	1246.6	42.6	74.8
ZK2834	73205	1134.7	33.9	88.4	1325.3	45.3	88.6
ZK2836	77838	1177.0	31.2	81.5	1380.3	41.3	80.0
ZK2838	82471	1249.9	33.2	95.6	1470.6	44.0	94.4
ZK3038	88815	1370.6	36.4	98.6	1595.5	47.7	95.6
ZK3040	93804	1411.9	33.8	91.2	1655.6	44.0	87.6
ZK3042	98794	1466.3	33.4	94.0	1729.5	43.6	90.5
ZK3546	126902	1843.0	40.1	91.2	2194.3	55.3	96.7
ZK3749	143938	2278.4	109.0	87.2	2564.6	122.8	65.4
ZK3755	155058	2543.9	101.4	86.8	2938.3	140.6	92.8
ZK4355	181895	2984.2	119.0	86.8	3439.1	164.6	92.4
ZK4361	203635	3275.3	112.0	86.9	3794.5	151.2	89.0

Note:
1. Standard fresh air cooling condition: inlet air temperature is 35°C DB / 28°CWB.
2. Chilled water inlet temperature is 7°C.
3. Different circuit layout and sheet spacing of coils will lead to different cooling capacity. The specific parameters shall be subject to the design drawing.
4. Due to the large number of models, the above table only lists the performance data of some commonly used models.

Specification

Return air heating condition

Model	Rated air flow (m³/h)	2 rows coil			4 rows coil		
	2.5m/s	Heating capacity(kW)	Water flow rate (L/s)	water resistance (kPa)	Heating capacity(kW)	Water flow rate (L/s)	water resistance (kPa)
ZK0607	1863	10	0.3	2.5	16	0.4	2.4
ZK0608	2268	13	0.3	4.4	20	0.5	4.2
ZK0710	3762	22	0.5	11.3	35	0.8	9.7
ZK0712	4752	29	0.7	22	45	1.1	18.7
ZK0812	5616	34	0.8	23.1	53	1.3	18.7
ZK0813	6201	38	0.9	30.5	59	1.4	24.6
ZK1012	7344	45	1.1	25.3	69	1.7	18.7
ZK1013	8109	51	1.2	33.5	77	1.9	24.7
ZK1014	8874	53	1.3	6.9	84	2	31.7
ZK1016	10404	64	1.5	11	100	2.4	49.4
ZK1216	12852	78	1.9	11	120	2.9	15.4
ZK1218	14742	94	2.3	17.1	138	3.4	22.8
ZK1320	18216	117	2.8	24.2	172	4.1	31.5
ZK1416	15300	97	2.4	71	142	3.83	15.2
ZK1418	17550	113	2.8	17	164	4	22.3
ZK1420	19800	127	3.1	24.2	186	4.5	31.4
ZK1522	23814	153	3.7	32.9	222	5.4	41.4
ZK1618	20358	130	3.1	17.1	190	4.5	21.7
ZK1620	22968	148	3.6	24.2	213	5.2	30.5
ZK1622	25578	166	4	32.9	239	5.8	41.3
ZK1624	28227	170	4.5	18	268	6.5	12.7
ZK1626	30840	186	4.8	23	291	7	16.3
ZK1820	25344	158	4.4	31	239	5.8	30.4
ZK1822	28224	178	4	23	268	6.5	41.2
ZK1826	33644	204	5	24.2	301	7.3	30.3
ZK1828	36495	224	5.4	30.5	328	8	38.2
ZK2022	31434	190	4.6	14.2	278	6.7	19
ZK2024	34642	209	5	18.8	309	7.6	25.5
ZK2026	37850	230	5.6	24.2	338	8.3	33
ZK2224	38491	232	5.6	18.8	343	8.3	25.2
ZK2226	42055	256	6.2	24.2	377	9.1	32.5
ZK2426	46261	281	6.8	24.2	414	10.1	32.5
ZK2428	50181	307	7.4	30.5	451	10.6	40.5
ZK2628	54743	334	8.2	30.5	492	12	38.2
ZK2630	59020	362	8.8	37.9	532	12.8	47.3
ZK2830	63938	393	9.5	37.9	574	13	23
ZK2832	68571	405	9.8	6.2	618	13.9	28
ZK2834	73205	435	10.6	7.5	663	15	34
ZK2836	77838	456	11.3	9	706	16	40
ZK2838	82471	496	12.1	10.6	710	17.1	11
ZK3038	88815	534	13	10.6	746	18	11.4
ZK3040	93804	568	13.8	12	790	19.2	13.4
ZK3042	98794	600	14.6	14.5	836	20.1	15.5
ZK3546	126902	778	18.7	19.1	1081	26.3	20.5
ZK3749	143938	887	21.4	23.1	1230	30	24.8
ZK3755	155058	960	23.2	28.7	1331	32.4	30.7
ZK4355	181895	1127	18.3	28.7	1561	37.8	30.7
ZK4361	203635	1269	30.8	39.7	1759	38.7	42.3

Note:
1. Standard return air heating condition: inlet air temperature is 20℃.
2. Hot water inlet temperature is 60℃, temperature difference between inlet and outlet water is 10℃.
3. Different circuit layout and sheet spacing of coils will lead to different cooling capacity. The specific parameters shall be subject to the design drawing.
4. Due to the large number of models, the above table only lists the performance data of some commonly used models.

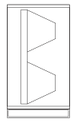
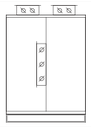
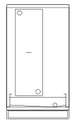
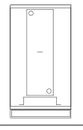
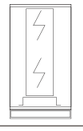
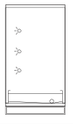
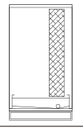
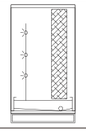
Return air heating condition

Model	Rated air flow (m³/h)	2 rows coil			4 rows coil		
	2.5m/s	Heating capacity(kW)	Water flow rate (L/s)	water resistance (kPa)	Heating capacity(kW)	Water flow rate (L/s)	water resistance (kPa)
ZK0607	1863	16	0.4	5.3	25	0.6	4.8
ZK0608	2268	20	0.5	9.2	30	0.7	8.3
ZK0710	3762	34	0.8	23.2	51	1.2	19.3
ZK0712	4752	43	1	44.6	66	1.6	36.8
ZK0812	5616	51	1.2	46.7	78	1.9	36.8
ZK0813	6201	57	1.4	61.7	86	2.1	48.4
ZK1012	7344	67	1.6	49.7	101	2.5	36.8
ZK1013	8109	74	1.8	65.6	112	2.7	48.5
ZK1014	8874	80	1.9	14.1	124	3	62.2
ZK1016	10404	94	2.3	22.2	146	3.5	96.6
ZK1216	12852	117	2.8	22.2	176	4.3	30.6
ZK1218	14742	135	3.3	32.8	203	4.9	45
ZK1320	18216	168	4.1	46.2	248	6	60.7
ZK1416	15300	139	3.4	22.2	208	5	30
ZK1418	17550	161	3.9	32.8	240	5.8	44.1
ZK1420	19800	183	4.4	46.2	273	6.6	61.8
ZK1522	23814	221	5.4	62.7	325	7.9	81.5
ZK1618	20358	187	4.5	32.8	276	6.7	42.9
ZK1620	22968	212	5.1	46.2	313	7.6	60.2
ZK1622	25578	238	5.8	62.7	349	8.5	81.3
ZK1624	28227	245	6	36	390	9.4	25
ZK1626	30840	270	6.5	46	426	10.3	32.1
ZK1820	25344	232	5.6	46	350	8.6	60
ZK1822	28224	262	6.4	62.7	392	9.5	81
ZK1826	33644	302	7.4	48.3	440	10.8	60
ZK1828	36495	328	8	60.8	480	11.6	75.2
ZK2022	31434	279	6.8	28.5	409	10	38.5
ZK2024	34642	309	7.5	37.6	452	11	50.5
ZK2026	37850	339	8.3	48.3	496	12.1	65
ZK2224	38491	344	8.4	37.6	504	12.2	50
ZK2226	42055	376	9.2	48.3	552	13.4	64
ZK2426	46261	414	10.1	48.3	607	14.7	63.5
ZK2428	50181	452	10.8	60.8	660	16	80
ZK2628	54743	492	12	60.8	720	17.4	75.2
ZK2630	59020	534	13	75.2	778	18.8	91
ZK2830	63938	577	14	75.2	840	20.4	45
ZK2832	68571	600	14.6	12.4	904	21.9	55
ZK2834	73205	643	15.6	15	967	23.4	66
ZK2836	77838	689	16.7	18	1031	25	79
ZK2838	82471	733	17.8	21.2	1034	25.2	23.2
ZK3038	88815	790	19.2	21.2	1112	27	23.2
ZK3040	93804	836	20.1	24.7	1180	28.6	27.2
ZK3042	98794	884	21.4	28.7	1244	30	31.6
ZK3546	126902	1142	27.6	38	1608	38.9	41.5
ZK3749	143938	1300	31.5	45.8	1829	44.4	50.1
ZK3755	155058	1407	34	56.7	1976	48	62
ZK4355	181895	1650	40	56.7	2318	56.2	62
ZK4361	203635	1858	45.1	78.3	2608	63.4	85

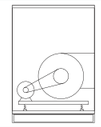
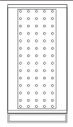
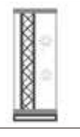
Note:
1. Standard fresh air heating condition: inlet air temperature is 5℃.
2. Hot water inlet temperature is 60℃, temperature difference between inlet and outlet water is 10℃.
3. Different circuit layout and sheet spacing of coils will lead to different cooling capacity. The specific parameters shall be subject to the design drawing.
4. Due to the large number of models, the above table only lists the performance data of some commonly used models.

Functional sections

Functional sections description

Functional sections		Sketch	Section length (mm)	Description	Options/accessories	Note
Mixing box section			600~1400	Providing chamber for mixing the outside fresh air with recirculated return air.	Air flange connection; Manual air valve; Electric air valve without actuator; Electric air valve without actuator with switch actuators; Access panel;	
Filter section	Plate filter		100	Generally set after the mixing box section for preliminary filtration of mixed air.	EN Class: G2/G3/G4/M5 available on request; Differential manometer; Differential pressure switch;	Primary and secondary plate filters can be selected and placed in the mixing box section or outside of the unit to save space.
	Bag filter Pleated filter		500	The bag filter is normally used for the pretreatment before the HEPA. The pleated filter is normally used in scenarios with high purification level requirements.	Differential manometer; Differential pressure switch;	
Fresh air and exhaust air section			1200~2800	Be able to modulate the exhaust air volume, fresh air and return air ratio.	Air flange connection; Manual air valve; Electric air valve without actuator; Electric air valve without actuator with switch actuators; Access panel;	
Chilled water coil section			600~1200	The cooling heat exchanger can provide 4 rows, 6 rows or 8 rows of coils according to the different cooling capacity. The aluminum fin adopts hydrophilic material, and the baffle plate can be set to prevent the water droplets blown off the coil.	Copper and steel tube; Pipe connection direction; Water baffle plate;	
Heating coil section			300/600	Provide 2 rows and 4 rows of coils according to the different heating capacity.	Copper and steel tube; Pipe connection direction;	
Electric heater section			300	Realize booster electric heater function.	Power input of heating	
Humidifier section	Steam humidifier		600	Provide 1 row and 2 rows of coils according to the different heating capacity.		If installed behind fan section, L=900
	Wet film humidifier		600	Using wet film to absorb water and vaporize the water by air stream flowing through it. It has the effect of washing the air and can be used for droplets eliminator at the same time.	Humidifying capacity; Domestic tap water/ recirculation water	When using domestic tap water, the section is installed behind the cooling coil section and takes up no space. When using recirculation water, the section is installed individually and the installation space depends on the actual using.
	High-pressure spray humidifier		900	High humidification capacity and efficiency, with automatic control interface, no water protection function.		A baffle is needed

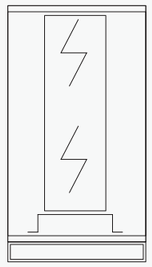
Functional sections description

Functional sections		Sketch	Section length (mm)	Description	Options/accessories	Note
Fan section			700~3500	High efficiency centrifugal fan is adopted, and different air supply modes can be adopted according to requirements.	Air flange connection; Manual air valve; Electric air valve without actuator; Electric air valve without actuator with switch actuators; Access panel;	Variable-frequency drive; Start cabinet; Window;
Diffuser section			600	Generally installed behind the fan section	EN Class: G2/G3/G4/M5 available on request; Differential manometer; Differential pressure switch;	Access panel;
Sound attenuator section			600/900/1200	Different type of sound attenuator can be selected to meet different requirements.	Differential manometer; Differential pressure switch;	
Middle section			600	Repair or maintain functional components.	Air flange connection; Manual air valve; Electric air valve without actuator; Electric air valve without actuator with switch actuators; Access panel;	Access panel; Manual air valve;
Air outlet section			600~1400	Both side air outlet and up air outlet are available on request.	Copper and steel tube; Pipe connection direction; Water baffle plate;	Air flange connection; Manual air valve; Electric air valve without actuator; Electric air valve without actuator with switch actuators; Access panel;
Air purification section	Electronic air cleaner		300	According to the principle of positive and negative phase absorption, the particulate matter will be killed and adsorbed on the integrated plate by the energy released instantaneously by the high-pressure electric charge, so as to achieve the purpose of dust removal and sterilization.	Copper and steel tube; Pipe connection direction;	
	Active carbon		Plate type: 100, box type: 400	Adsorb formaldehyde, benzene, TVOC.	Power input of heating	
	UV-C sterilization		Placed in the air outlet section	Photonic energy can destroy the molecular structure of microbe DNA and RNA, making them subjected breakage or photochemical reaction to lose the ability to reproduce.		
	Ozone sterilization		Placed in the air outlet section	Ozone can be easily decomposed into oxygen and oxygen atoms at room temperature. They can oxidize and decompose the necessary enzymes of bacteria or react directly with bacteria and viruses to destroy their cells and decompose the DNA of cells, resulting in the lytic extinction of parasitic bacteria and virus particles.	Humidifying capacity; Domestic tap water/ recirculation water	
	Photocatalyst air purifier		300	Decompose the molecular structure of harmful substances in the air, inhibit the growth of bacteria and the activity of viruses, so as to achieve the purpose of sterilization, air purification, deodorization, antivirus.		

Functional sections

Electric heater section

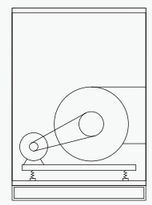
The electric heater adopts PTC heating elements, which are fitted on a frame. it is suitable for the situation without steam, but it consumes a lot of power, so it should be selected carefully.



Precautions for use and maintenance:

1. The electric heater must be used in a ventilated environment. there shall be an interlocking device between the electric heater and the ventilation fan to ensure that the heater must be powered on after the fan is started and disconnected before the fan is turned off.
2. The electric heater housing must be grounded during installation.
3. The insulation resistance must be checked when using the heater for the first time. only when the insulation resistance is greater than 1MQ can the heater be used normally.
damp and poor insulation caused by long term disuse or improper storage can be recovered by heat drying or electrified self-drying.
4. Thermal insulation measures shall be taken for the heater and its connected pipes. while, in use, the fouling on the heater and outside pipes should be removed frequently, but no sharp metal can be used to avoid scratching.
5. The power must be cut off before maintenance.
the heat recovery is available in wheel type and plate type.

Fan section



The fan section adopts centrifugal fan with forward inclined-airfoil blades, backward inclined-curved blades or backward inclined-airfoil blades. the fan, motor and base are integrated combined, and the base is equipped with damper. flexible connection at air outlet minimizes vibration transmission between fan and unit. static and dynamic balance testing is carried out for optimal fan selection to ensure the fan operates efficiently with low noise.

The driving mode is belt drive.

Note: Single-speed motors (2-pole, 4-pole, 6-pole, and 8-pole), double-speed motors, three-speed motors and inverter motors are optional according to the customer demands.

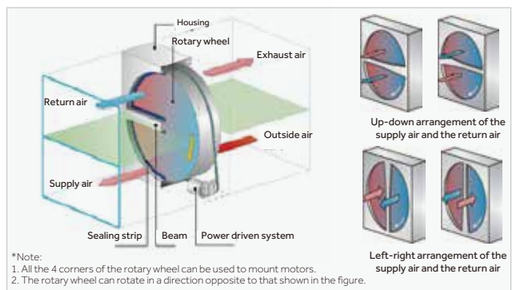
Heat recovery section

The heat exchanger of the heat recovery section is available in rotary type and plate type. up-down arrangement or left-right arrangement of the supply air and return air is available on request.

Rotary heat recovery system

The rotary heat recovery section consists of housing, honeycomb rotary regenerative wheel, power driven system and sealing elements. the hot exhaust air and cold fresh air pass through the rotary wheel in a cross-flow. the wheel rotates continuously to transfer the heat and moisture from the exhaust air to the fresh air.

The rotary wheel can be divided into sensible heat type and total heat type with a recovery efficiency of 70%- 80%, resulting in significant energy savings. this type of section is small and short and can be cleaned by water or air. air bypass is installed for capacity regulation and anti-freeze protection.



*Note:
1. All the 4 corners of the rotary wheel can be used to mount motors.
2. The rotary wheel can rotate in a direction opposite to that shown in the figure.

Plate heat recovery system

The plate heat recovery section is composed of diagonal plate heat exchanger, housing, and sealing elements, etc. the hot exhaust air and cold fresh air pass through the heat exchanger in a cross-flow and transfer the heat and moisture with each other.

It can be divided into sensible heat type and total heat type, with a recovery efficiency of 45%- 75%. it has high operational safety as it can completely separate the airflow. with no moving parts, it needs less maintenance. air bypass is installed for capacity regulation and anti-freeze protection.

Filter section

The unit can be configured with primary efficiency, medium efficiency, sub-high efficiency, and high efficiency filters. by default, the unit is configured with two types of filters, primary efficiency plate filter (Grade G3) and medium efficiency bag filter (Grade F5).

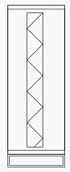
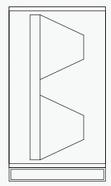


Plate filter



Bag filter

Filter type

Primary efficiency filter: Plate type and bag type, with non-woven fabrics as filter materials and filtration efficiency of G3 (80%- 90%; gravimetric method)

Medium efficiency filter: Bag type, with non-woven fabrics as filter materials and filtration efficiency of F5 (40%- 60%; colorimetric method)

Medium-high efficiency/sub-high efficiency filter: With ultra-fine fiber glass as filter materials and filtration efficiency of F7- F9 (80%- 95%; colorimetric method)

High-efficiency filter: If sub-high efficiency and high efficiency filters are needed to be installed in modular air handling unit, please contact Haier local agencies.

Activated carbon filter: made from a variety of organic chemical fibers upon carbonization and activation and mainly used to remove the odors and low-density gas pollution sources in the air environment.

The resistance of a filter falls between the initial resistance and the final resistance. the initial resistance refers to the resistance of a filter without dust, while the final resistance refers to the air resistance when the filter has been stained with dust after a period of use and needs to be cleaned or scrapped. the final resistance of the filter is not a fixed value because it depends on the cleanliness requirement of the using environment and the degree of outdoor air pollution.
Haier provides optional differential manometer and differential pressure switch, which can be used to control the differential pressure alarm.

Note: Following options are available depending on the customer demands:
1. A nylon filter screen is optional (placed outside the unit).
2. The plate filter and the bag filter are of the same section size, but different thickness of 46mm and 381mm respectively.
3. The external filter can be pushed out from the side, while the built-in filter needs to be taken out from the front.

Efficiency specification reference table:

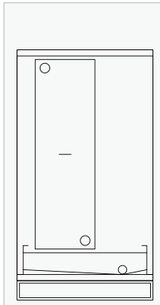
China		Primary efficiency ≥5μm				Medium efficiency≥1μm				Medium-high efficiency≥1μm			Sub-high efficiency≥0.5μm				High efficiency≥0.5μm			
GB/T 14295		80%> Efficiency ≥20%				70%> Efficiency ≥20%				99%> Efficiency ≥70%			99.9%> Efficiency ≥95%				Efficiency >99.99%			
US ASHRAE		C1	C2~C4	L5	L6	L7	L8	M9	M10	M11	M12	M13	M14	H12-H16				VH17	VH18	VH19	VH20
Europe	New standards	G1	G2	G3		G4	F5		F6		F7	F8	F9	H10	H11	H12	H13		H14	V15 ,V17	
	Efficiency	65%	80%	80-90%		>90%	40%		60%		80%	90%	86%	95%	99%	99.9%	99.995%		99.995%	99.9995%	
	Old standards	EU1	EU2	EU3		EU4	EU5		EU6		EU7	EU8	EU9	EU10	EU11		EU12	EU13	EU14		

Filter resistance:

Filter model	Filter grade	Filter efficiency	Filter length	Recommended final resistance (Pa)				
		(%)	(mm)	2m/s	2.25m/s	2.5m/s	2.75m/s	3.0m/s
Bag filter	G3	80-90	500	50	60	70	90	110
	G4	>90	500	70	80	90	127.5	165
	F5	40-60	500	80	90	100	137.5	175
	F6	60-80	500	100	110	130	155	180
	F7	80-90	500	160	190	220	252.5	285
	F8	90-95	500	210	230	250	305	360
Medium-high efficiency and sub-high efficiency filters (Pleated type)	F7	80-90	292	90	110	130	162.5	195
	F8	90-95	292	120	145	170	200	230
	F9	>95	292	160	185	210	250	290
	H10	>85	292	190	220	250	290	330
Plate filter	G3	80-90	46	60	85	110	122.5	135
	G4	>90	46	90	120	150	167.5	185
	F5	40-60	46	140	170	200	220	240

Functional sections

Chilled water coil section



Coil type

Coils are constructed from copper tubes and mechanically expanded into continuous corrugated aluminum fins. the fins are double V type, and the copper coils are available in diameter of Ø9.52and Ø12.7. the surface of the coils does not gather dust and is easy to clean, which can effectively prevent the breeding of bacteria. each coil is carefully cleaned to ensure the surface cleanliness of the heat exchanger, thus guaranteeing the heat transfer effects.

Water baffle plate

A water baffle plate (a grid water baffle plate is recommended) must be provided when the face velocity is too high. the water baffle plate adopts corrugated multi-folded profiles, which can prevent most of the water droplets in the airflow and enable them to flow into the water pan. this measure is especially important for regions with high temperature, high humidity, and application scenarios with large fresh air volume.

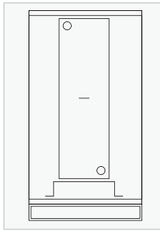
Mounting types and tests

The condensate drain pan is made of high-quality plastic-coated cold-rolled materials. it has a large drainage slope to facilitate the full drainage of condensate and avoid ponding. the coils are installed in the fixed chute for easy maintenance. all coils should pass pressure-tight and leakage tests.

Notes:

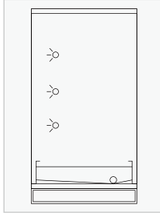
1. The heater with hot water temperature above 85°C shall be kept away from the fan section or located in the positive pressure zone to prevent the damage caused by liquefaction of the grease in the fan and the motor bearings.
2. When the modular air handling unit is used in the cold regions, a pre-heater shall be provided, or the heater section shall be placed in front of the chilled water coil section, and the water in the chilled water coil shall be drained off during winter.

Steam heating section



Considering the high temperature, high pressure and big temperature variations of the steam and other factors, a steam heater with a construction different from that of the hot water heater should be selected. generally, the heater is made up of steel tubes encircled by steel sheet, which has high heat transfer efficiency, shall be used. It can be selected separately according to the actual heating demands.

Humidifier section



The optional humidifier forms include dry steam humidifier, high-pressure spray humidifier, wet film humidifier, and electrode humidifier, etc.

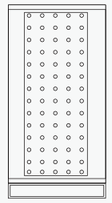
Humidification mode:

* High-pressure spray humidification- It uses stainless steel water distribution pipes and nozzles for pressurized spraying, which is efficient, energy-saving, and reliable.
* Wet film humidification-It is can reduce the total length of the unit, and is safe and reliable without water treatment.
* Dry steam humidification-Made of stainless steel materials, it has a nice look and corrosion resistance.
* Electrode humidification--It has a high humidification efficiency and multiple optional control modes.

Comparison of humidification modes:

Humidifier description	Operating conditions of humidifier					
	Ambient temperature	Humidity	Critical velocity m/s	Water feed media	Feedwater/steam temperature °C	Feedwater/steam pressure MPa
High pressure spray humidifier	1-40	85%	0.5-3.5	Tap water or purified water or similar water	4-55	0.1-0.5
Dry steam humidifier	/	/	/	Steam	0-100	0.02-0.4
Wet film humidifier	5-100	<90%	≤2.8	Tap water or similar water	5-40	0.15-0.75
Electrode humidifier	0-40	<80%	/	Clean tap water or softened water	/	0.1-1.0

Sound attenuator section



Sound attenuator can be provided in both supply and return air side. the sound attenuator section is made up of resistive silencer, with galvanized sheet as the frame and ultrafine glass fiber wool as the liner. it has good sound attenuation performance in a wide frequency range.

Sound attenuation capacity of sound attenuator dB(A):

Sound attenuator length	Section length (mm)	600/6M	900/9M	1200/12M	1500/15M	1800/18M	2100/27M
Sound attenuation capacity	dB(A)	17	20	23	25.5	27.5	29

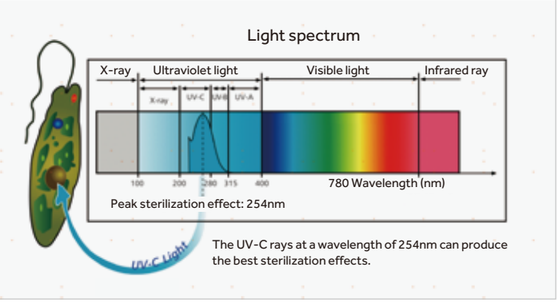
Dynamic insertion loss of sound attenuator dB(A):

Octave / Sound attenuator length	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
600mm	6	9	12	22	30	29	21	12
900mm	7	12	16	28	35	35	28	17
1200mm	7	15	20	34	40	40	34	21

Diffuser section and middle section

Haier modular air handling unit also provides the diffuser section that is used for flow equalization of the fan outlet and the middle section that is used for tmaintenance or transition of functional sections.

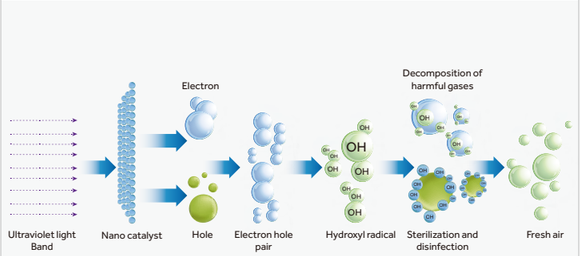
Healthy and sterilization section



UV sterilizer sectio

Ultraviolet sterilization: the ultraviolet rays can be divided into four bands by wavelength according to the different biological effects. UV-C, the C band of UV rays, is from 275- 200nm.

The UV rays at a wavelength of about 254nm have the strongest bactericidal ability. photonic energy can destroy the molecular structure of microbe DNA and RNA, making them subjected breakage or photochemical reaction to lose the ability to reproduce.

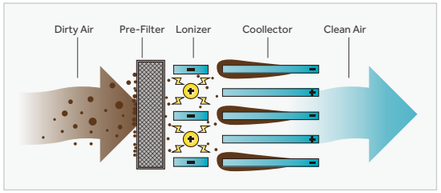


Photocatalyst purification and sterilization section

Under the radiation of certain light at a specific wavelength, the nanometer photocatalyst can be activated to produce electron hole pairs which can have the photocatalyst interact with surrounding H_2O molecules and O_2 molecules to form hydroxyl radicals (OH). the hydroxyl radicals can lock up all harmful components in the air layer by layer and break down their molecular structures to inhibit the growth of the bacteria and the virus activity, thus achieving the purposes of sterilization, air purification, deodorization, anti-poison, and air pollution abatement, etc.

Functional sections

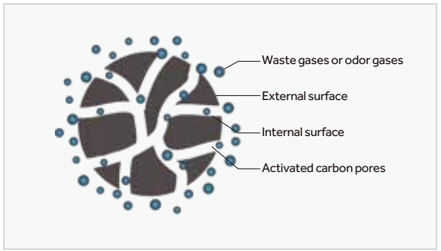
Electronic air cleaner section



Floating dust and pollutants in the air are ionized and change the direction of movement as they pass through a high-voltage electric field, and then are captured. then, the positively charged ions move towards the cathode plate (negative plate) under the action of the electric field force. Based on the principle of positive and negative attraction, the particles will be captured and adsorbed on the integrated plate by the energies released by the high-voltage charges instantly, thus achieving the purposes of dust removal and sterilization.

PM2.5 one-pass purification efficiency: >90% at 2.5m/s air speed (in coordination with primary efficiency filter)
Microorganism one-pass purification efficiency: >90%

Activated carbon absorber section



The function section is fitted with an activated carbon filter that consists of tiny carbon grain with large surface area and even smaller pores called capillaries. such capillaries have very strong adsorption capacity and relying on the large surface area of the carbon particles, they can come into full contact with impurities in the gases. the impurities in the gases will be absorbed after meeting with the capillaries, so air purification can be achieved.

Activated carbon	N4G1	N4S1	N4A1	N4F1	N4M1
Usage	General gases	Odors	Acid gases	Formaldehyde	Mercury vapor

Ozone sterilization

Ozone is easily decomposable at ambient temperature, breaking down into O_2 and oxygen atoms. the oxygen atoms are extremely oxidizing. they can oxidize and decompose the necessary enzymes of bacteria or react directly with bacteria and viruses to destroy their cells and decompose the DNA of cells, resulting in the lytic extinction of parasitic bacteria and virus particles.

The unit is equipped with an ozone generator which utilizes the gas corona discharge to produce ozone and carries out regular sterilization and disinfection for the space through the air supply system, without producing any residual substances harmful to people.

Comparison of various purification and sterilization technologies:

Sterilization method	Dust removal ability	Ability to kill bacteria and viruses	Ability to remove formaldehyde, benzene, and TVOC
Electronic purification	★	★	
Activated carbon adsorptiont			★
Ultraviolet sterilization		★	
Photocatalyst purification and sterilization		★	★
Ozone sterilization		★	
Traditional plate and bag filter spurification	★		

Installation and maintenance of various purification and sterilization technologies:

Sterilization method	Section length	Power supply	Cleanning method
Electronic purification	3M	220V/50Hz	Needing to be cleaned once a year or so
Activated carbon adsorptiont	Plate type: 1M; Carbon cartridge type: 4M		The plate type cannot be cleaned, while the carbon cartridge type can be refilled with carbon materials
Ultraviolet sterilization	0M; not occupying the length of the section	220V/50Hz	Not needing to be cleaned and can be used continuously
Photocatalyst purification and sterilization	3M	220V/50Hz	Not needing to be cleaned and can be used continuously
Ozone sterilization	OM; placed at the outlet air section	220V/50Hz	Needing to be cleaned once half a year
Traditional plate and bag filter spurification	1M; 4M		Consumables

Length of functional sections (modules)

Functional sections	Mixing box section	Fresh air and exhaust air section	Secondary return air section	Preliminary filter section	Secondary filter section	Chilled water coil section	Electric heater section	Hot water heating coil section	Humidifier section	Fan section	Diffuser section	Sound attenuator section	Middle section	Air outlet section
Model														
ZK0607	6M	12M	6M	1M	5M	6M~9M	3M	5M	6M~9M	8M	6M	6M~12M	6M	6M
ZK0608	6M	12M	6M	1M	5M	6M~9M	3M	5M	6M~9M	9M	6M	6M~12M	6M	6M
ZK0710	6M	12M	6M	1M	5M	6M~9M	3M	5M	6M~9M	7M	6M	6M~12M	6M	6M
ZK0712	6M	12M	6M	1M	5M	6M~9M	3M	5M	6M~9M	8M	6M	6M~12M	6M	6M
ZK0812	6M	12M	6M	1M	5M	6M~9M	3M	5M	6M~9M	8M	6M	6M~12M	6M	6M
ZK0813	6M	12M	6M	1M	5M	6M~9M	3M	5M	6M~9M	8M	6M	6M~12M	6M	6M
ZK1012	6M	12M	6M	1M	5M	6M~9M	3M	5M	6M~9M	8M	6M	6M~12M	6M	6M
ZK1013	6M	12M	6M	1M	5M	6M~9M	3M	5M	6M~9M	8M	6M	6M~12M	6M	6M
ZK1014	6M	12M	6M	1M	5M	6M~9M	3M	5M	6M~9M	9M	6M	6M~12M	6M	6M
ZK1016	6M	12M	6M	1M	5M	6M~9M	3M	5M	6M~9M	10M	6M	6M~12M	6M	6M
ZK1216	6M	12M	6M	1M	5M	6M~9M	3M	5M	6M~9M	10M	6M	6M~12M	6M	6M
ZK1218	6M	12M	6M	1M	5M	6M~9M	3M	5M	6M~9M	11M	6M	6M~12M	6M	6M
ZK1320	6M	12M	6M	1M	5M	6M~9M	3M	5M	6M~9M	12M	6M	6M~12M	6M	6M
ZK1416	6M	12M	6M	1M	5M	6M~9M	3M	5M	6M~9M	11M	6M	6M~12M	6M	6M
ZK1418	6M	12M	6M	1M	5M	6M~9M	3M	5M	6M~9M	12M	6M	6M~12M	6M	6M
ZK1420	8M	16M	8M	1M	5M	6M~9M	3M	5M	6M~9M	12M	6M	6M~12M	6M	8M
ZK1522	8M	16M	8M	1M	5M	6M~9M	3M	5M	6M~9M	13M	6M	6M~12M	6M	8M
ZK1618	8M	16M	8M	1M	5M	6M~9M	3M	5M	6M~9M	12M	6M	6M~12M	6M	8M
ZK1620	8M	16M	8M	1M	5M	6M~9M	3M	5M	6M~9M	13M	6M	6M~12M	6M	8M
ZK1622	8M	16M	8M	1M	5M	6M~9M	3M	5M	6M~9M	13M	6M	6M~12M	6M	8M
ZK1624	8M	16M	8M	1M	5M	6M~9M	3M	5M	6M~9M	15M	6M	6M~12M	6M	8M
ZK1626	8M	16M	8M	1M	5M	6M~9M	3M	5M	6M~9M	15M	6M	6M~12M	6M	8M
ZK1820	8M	16M	8M	1M	5M	6M~9M	3M	5M	6M~9M	13M	6M	6M~12M	6M	8M
ZK1822	8M	16M	8M	1M	5M	6M~9M	3M	5M	6M~9M	15M	6M	6M~12M	6M	8M
ZK1826	8M	16M	8M	1M	5M	6M~9M	3M	5M	6M~9M	16M	6M	6M~12M	6M	8M
ZK1828	8M	16M	8M	1M	5M	6M~9M	3M	5M	6M~9M	16M	6M	6M~12M	6M	8M
ZK2022	8M	16M	8M	1M	5M	6M~9M	3M	5M	6M~9M	15M	6M	6M~12M	6M	8M
ZK2024	8M	16M	8M	1M	5M	6M~9M	3M	5M	6M~9M	16M	6M	6M~12M	6M	8M
ZK2026	8M	16M	8M	1M	5M	6M~9M	3M	5M	6M~9M	16M	6M	6M~12M	6M	8M
ZK2224	8M	16M	8M	1M	5M	6M~9M	3M	5M	6M~9M	16M	6M	6M~12M	6M	8M
ZK2226	10M	20M	10M	1M	5M	6M~9M	3M	5M	6M~9M	18M	6M	6M~12M	6M	10M
ZK2426	10M	20M	10M	1M	5M	6M~9M	3M	5M	6M~9M	18M	6M	6M~12M	6M	10M
ZK2428	10M	20M	10M	1M	5M	6M~9M	3M	5M	6M~9M	18M	6M	6M~12M	6M	10M
ZK2628	10M	20M	10M	1M	5M	6M~9M	3M	5M	6M~9M	20M	6M	6M~12M	6M	10M
ZK2630	10M	20M	10M	1M	5M	6M~9M	3M	5M	6M~9M	20M	6M	6M~12M	6M	10M
ZK2830	10M	20M	10M	1M	5M	6M~9M	3M	5M	6M~9M	20M	6M	6M~12M	6M	10M
ZK2832	12M	24M	12M	1M	5M	6M~9M	3M	5M	6M~9M	22M	6M	6M~12M	6M	12M
ZK2834	12M	24M	12M	1M	5M	6M~9M	3M	5M	6M~9M	22M	6M	6M~12M	6M	12M
ZK2836	12M	24M	12M	1M	5M	6M~9M	3M	5M	6M~9M	22M	6M	6M~12M	6M	12M
ZK2838	12M	24M	12M	1M	5M	6M~9M	3M	5M	6M~9M	25M	6M	6M~12M	6M	12M
ZK3038	12M	24M	12M	1M	5M	6M~9M	3M	5M	6M~9M	25M	6M	6M~12M	6M	12M
ZK3040	12M	24M	12M	1M	5M	6M~9M	3M	5M	6M~9M	25M	6M	6M~12M	6M	12M
ZK3042	12M	24M	12M	1M	5M	6M~9M	3M	5M	6M~9M	25M	6M	6M~12M	6M	12M
ZK3546	14M	28M	14M	1M	5M	10M~12M	3M	5M	6M~9M	25M	6M	6M~12M	6M	14M
ZK3749	14M	28M	14M	1M	5M	10M~12M	3M	5M	6M~9M	27M	6M	6M~12M	6M	14M
ZK3755	14M	28M	14M	1M	5M	10M~12M	3M	5M	6M~9M	27M	6M	6M~12M	6M	14M
ZK4355	14M	28M	14M	1M	5M	10M~12M	3M	5M	6M~9M	30M	6M	6M~12M	6M	14M
ZK4361	14M	28M	14M	1M	5M	10M~12M	3M	5M	6M~9M	30M	6M	6M~12M	6M	14M

Notes:
1. 'M' is stand for modules, 1M=100mm
2. Data in the table is standard functional sections length.
3. If any specific requirement of functional sections size, please contact Haier local agencies.

Functional sections

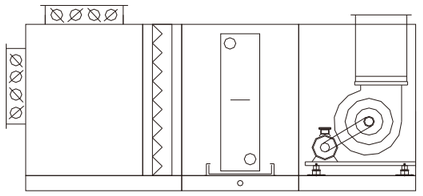
Weight of functional sections(kg)

Functional sections \ Model		0607	0608	0710	0712	0812	0813	1012	1013	1014	1016	1216	1218	1320	1416	1418	1420	1522	1618	1620	1622	1624	1626	1820	1822
Mixing box section		60	65	106	110	120	132	143	145	151	162	164	216	223	220	220	236	296	237	288	300	320	336	300	320
Fresh air and exhaust air section		110	125	197	200	218	237	262	267	270	288	326	381	387	387	384	408	490	409	485	495	540	554	495	540
Secondary return air section		50	60	91	96	102	105	114	117	120	127	141	165	164	168	160	172	193	173	188	198	203	216	198	203
Primary filter		48	50	83	84	94	102	113	115	120	128	141	162	166	165	162	182	214	183	210	220	242	251	220	244
Secondary filter		48	50	83	84	94	102	113	115	120	128	141	162	188	165	180	182	214	183	210	220	242	251	220	244
Sub-HEPA, HEPA filter		48	50	75	76	86	92	103	105	109	116	128	147	150	151	145	186	194	188	190	198	220	228	198	220
Chilled water coil section	2 rows of coils	56	60	118	123	130	147	159	172	184	192	203	230	272	242	266	275	300	290	295	282	365	380	282	365
	4 rows of coils	73	78	131	134	150	165	179	186	199	207	234	288	297	290	290	337	385	350	375	382	439	476	382	439
	6 rows of coils	78	85	144	150	169	186	198	212	223	235	268	331	347	340	338	397	457	420	445	422	410	533	422	410
	8 rows of coils	85	98	157	164	184	208	216	237	247	264	301	373	397	379	386	456	529	480	512	475	586	619	475	586
Hot water heating coil section	2 rows of coils	53	57	95	96	108	118	130	132	138	147	184	195	201	205	108	220	264	240	258	275	289	309	275	289
	4 rows of coils	55	65	105	108	126	136	145	154	165	171	195	234	247	245	240	266	323	285	310	342	360	388	342	360
Electric heater section		63	65	109	112	120	126	150	142	149	158	173	206	203	207	106	213	263	218	251	280	295	301	280	295
Fan section		95	100	160	173	195	209	220	238	251	278	306	307	452	323	430	490	599	495	572	612	643	660	612	643
Humidifier section		53	56	91	95	102	104	123	115	119	127	141	171	180	175	178	171	185	175	183	193	204	213	193	204
Diffuser section		56	57	94	93	106	116	129	131	137	145	183	193	199	195	196	210	210	211	210	212	212	214	211	214
Sound attenuator section	6M	70	78	125	128	143	157	169	175	179	194	217	258	270	260	265	285	288	286	287	292	295	297	292	295
	9M	87	95	156	159	179	197	210	219	225	244	272	302	341	310	330	360	379	365	376	395	398	401	395	398
	12M	125	135	171	184	200	211	222	231	217	269	298	331	369	342	355	401	439	420	435	450	488	505	450	488
Middle section		48	49	80	86	92	93	106	101	105	112	124	143	148	145	147	146	150	148	150	155	173	177	155	173
Air outlet section		48	49	81	89	101	111	117	121	127	134	146	156	172	159	165	175	201	179	195	203	225	229	203	225

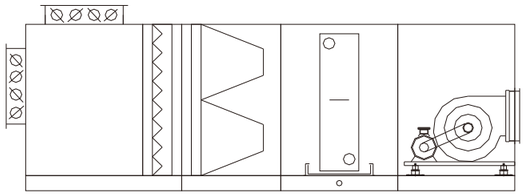
Functional sections \ Model		1826	1828	2022	2024	2026	2224	2226	2426	2428	2628	2630	2830	2832	2834	2836	2838	3038	3040	3042	3546	3749	3755	4355	4361
Mixing box section		358	385	336	360	394	402	413	438	469	495	572	595	630	645	670	689	795	810	850	850	940	1024	1081	1164
Fresh air and exhaust air section		490	624	554	493	635	642	654	654	767	832	905	932	979	1001	1040	1066	1210	1240	1300	1300	1425	1549	1628	1750
Secondary return air section		225	252	216	230	263	270	274	278	298	319	333	339	349	350	352	377	419	438	450	450	485	525	547	586
Primary filter		263	290	251	268	298	308	326	355	376	402	416	451	489	492	501	529	601	613	634	634	687	744	777	833
Secondary filter		263	290	251	268	298	308	326	355	376	402	416	451	489	492	501	529	601	613	634	634	687	744	777	833
Sub-HEPA, HEPA filter		240	269	228	243	274	279	302	329	342	361	378	401	445	450	468	481	539	558	577	577	625	677	707	758
Chilled water coil section	2 rows of coils	427	480	380	430	490	499	536	567	590	660	702	730	800	830	867	892	950	980	1036	1036	1169	1230	1301	1430
	4 rows of coils	432	592	476	436	599	605	668	712	765	812	878	898	981	998	1038	1076	1202	1269	1338	1338	1488	1623	1717	1852
	6 rows of coils	611	680	533	615	695	711	780	838	915	983	1055	1100	1185	1201	1258	1304	1489	1533	1632	1632	1823	1992	2112	2279
	8 rows of coils	722	792	619	726	801	830	889	1021	1066	1150	1232	1282	1389	1409	1502	1532	1763	1806	1926	1926	2158	2360	2506	2706
Hot water heating coil section	2 rows of coils	337	368	309	342	385	412	428	446	470	497	526	549	581	598	621	632	708	729	770	770	844	917	963	1035
	4 rows of coils	428	462	388	433	482	501	531	570	601	648	694	735	782	793	849	861	968	1014	1080	1080	1208	1321	1401	1513
Electric heater section		312	377	301	318	380	382	388	391	393	412	528	538	559	569	583	592	635	650	672	672	696	745	761	907
Fan section		875	1015	660	882	1022	1052	1159	1237	1367	1502	1673	1732	1875	1913	2023	2056	2395	2409	2553	2553	2836	3091	3271	3526
Humidifier section		220	241	213	231	252	264	279	285	292	303	318	323	339	343	355	359	387	400	406	406	420	449	458	485
Diffuser section		214	215	210	214	216	218	223	235	269	279	298	315	347	350	362	373	432	450	443	443	475	513	533	571
Sound attenuator section	6M	305	347	297	312	353	362	381	400	419	435	473	498	531	539	571	579	668	690	710	710	782	851	896	964
	9M	421	467	401	430	476	485	511	540	569	592	618	687	758	768	808	827	942	975	1015	1015	1117	1216	1281	1378
	12M	525	593	505	532	602	612	645	682	719	771	824	863	935	949	1006	1030	1213	1250	1293	1293	1447	1582	1679	1812
Middle section		176	205	177	184	212	216	220	228	236	247	257	273	307	311	321	329	368	380	389	389	417	450	467	500
Air outlet section		242	262	229	249	270	300	330	352	368	401	431	462	528	536	565	580	673	690	724	724	806	881	933	1006

Notes: Data in the table is the weight of functional sections in standard length.

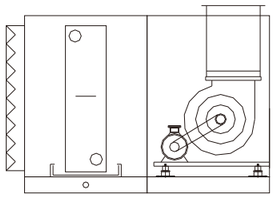
Common configurations



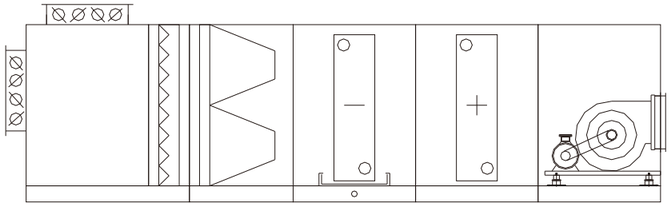
Horizontal Combination 1:
Mixing box + plate filter + chilled water coil + fan



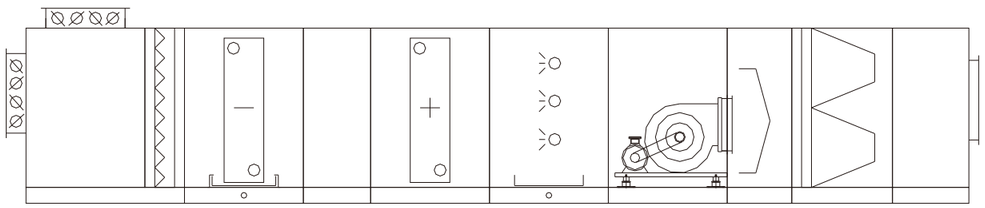
Horizontal Combination 2:
Mixing box + bag filter + chilled water coil + fan



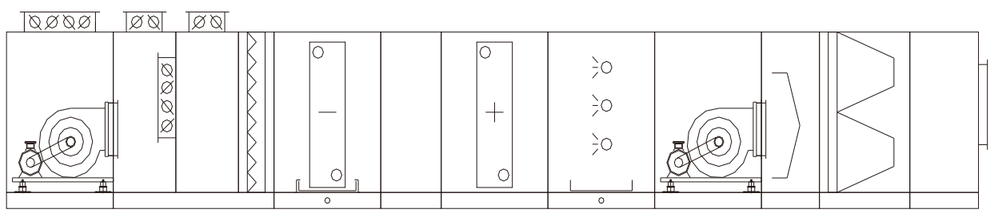
Horizontal Combination 3:
Exposed Filter + chilled water Coil + Fan



Horizontal Combination 4:
Mixing box + bag filter + chilled water coil + heating coil + fan



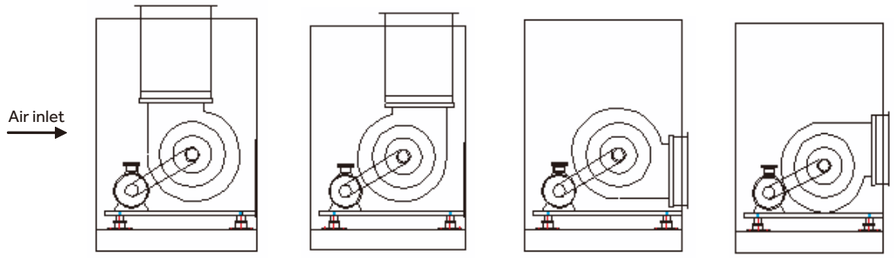
Horizontal Combination 5:
Mixing box + plate filter+ chilled water coil + middle section + heating coil + humidifier + fan + diffuser + bag filter + air supply



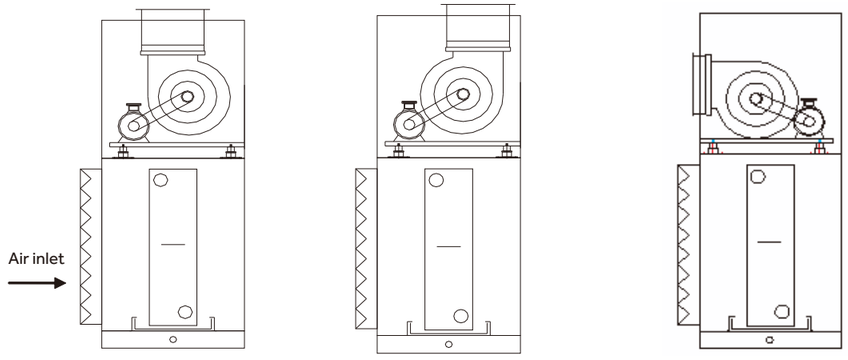
Horizontal Combination 6:
Return air fan + fresh air and exhaust air + plate filter+ chilled water coil + middle section + heating coil + humidifier + fan + diffuser + bag filter + air supply

Functional sections

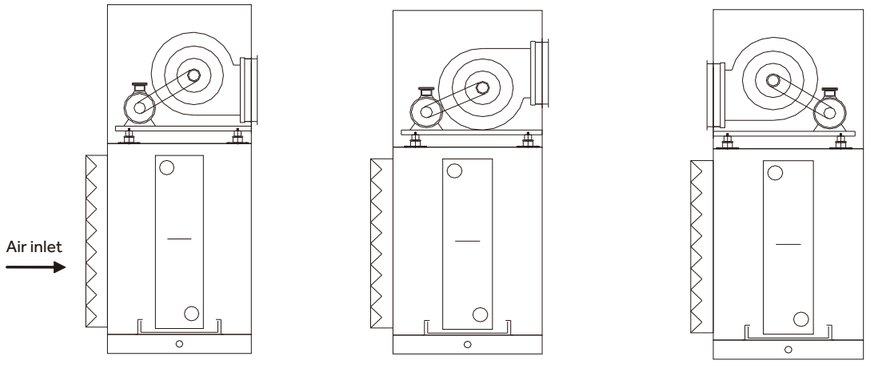
Fan outlet direction



Fan outlet direction: Upper rear (UR) Upper front (UF) Front bottom (FB) Front top (FT)



Fan outlet direction: Upper rear (UR) Upper front (UF) Rear top (RT)



Fan outlet direction: Front bottom (FB) Front top (FT) Rear bottom (RB)

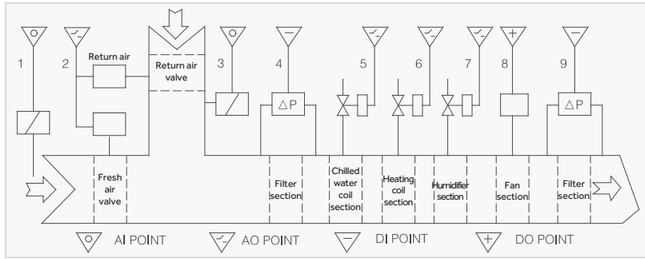
Control system

Direct digital control system

The direct digital control (DDC) is a microprocessor-based control mode which inputs the sensor or transmitter signals directly into the microcomputer without any instrument and drives the actuators directly after calculation and processing according to the pre-programmed programs.

The CPU of the DDC runs very fast and is generally configured with a lot of input/output (I/O) ports. Therefore, it can control multiple circuits simultaneously, equivalent to multiple analog controllers. The DDC controller features small volume, fewer connections, complete functions, high reliability, etc.

Taking the constant temperature and humidity control system as an example, the system flow chart is as follows:



System working principle:

The system adopts an direct digital controller as core of control system and regulates the opening speed of the cold water valve, hot water (steam) valve, and humidifying valve continuously with the proportional integral (PI) control algorithm by collecting the temperature and humidity data of the return air and fresh air and comparing them with the settings. So that the temperature and humidity keep approaching the setting value indefinitely.

System features:

※ LCD display of the unit operation data, such as the fresh air and the return air temperature and humidity, etc.
※ Alarm and interlocking of filter section blockage, fan motor stalling, and key failures (such as fires).
※Constant temperature and humidity PI control.
※Control the start and stop of the unit remotely from inside the room.
※Start-up and shutdown sequence and interlocking (preventing steam valve action during the shutdown from causing the valve body burst).
※ Allows advanced users to program on site.
※ With a communication module, it can be networked to form a distributed control system without any need of replacing the DDC.
※The system is modularized and can be adjusted according to the user requirements.

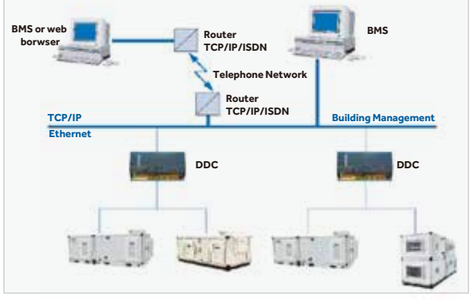
Total distributed system

Compared to the conventional computer control methods, the total distributed system (TDS) aims to decentralize its control functions and centralize its management functions as far as possible. It consists of three basic levels, including central station, sub-stations, and on-site sensors and actuators. The central station and the sub-stations are connected by data communication channels between each other.

The sub-stations are just the microprocessor-based DDC controllers as described above. They are distributed to the sites of each controlled device of the whole system and are directly connected to the on-site sensors and actuators to realize the detection and control of field devices. The central station conducts centralized monitoring and management functions, such as centralized monitoring, centralized start-stop control, centralized parameter modification, alarm, and record, etc. The centralized management functions of the total distributed system are completed by the central station, while the control and regulation functions are realized by the sub-stations, DDC controllers.

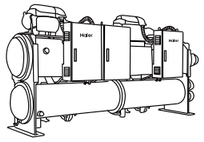
The composition of the total distributed system is as shown in the figure: (attached figure)

The total distributed system is developed based on DDC controllers. Compared with the DDC control system, its features mainly manifest in the central station functions and the network functions. It realizes centralized monitoring and management via the central station and the bus network. It can be seen that the total distributed system will be the future development direction, especially in the air conditioning control of the large and medium-sized clean rooms.



Note: The automatic control device of the unit is optional. If you need it, please contact Haier local agencies.

REFERENCE PROJECTS



Reference Projects

Location: **China**
Project Name: **Beijing World Trade Building**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

Location: **China**
Project Name: **Henan Nanyang Longxin National Hotel**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

Location: **China**
Project Name: **Chongqing Honeywell Car Factory**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

Location: **China**
Project Name: **Beijing Metro Fangshan Line**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

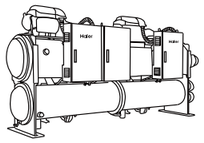
Reference Projects

Location: **China**
Project Name: **Shenzhen Real Estate Investment Office Building**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

Location: **China**
Project Name: **Zhengzhou Civil Aviation Airport Jianguo Hotel**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

Location: **Indonesia**
Project Name: **PT. Amerta Indah Otsuka**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

Location: **Guinea**
Project Name: **The Karum Hotel**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**



Reference Projects

Location: **China**
Project Name: **Jiaodong Airport**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

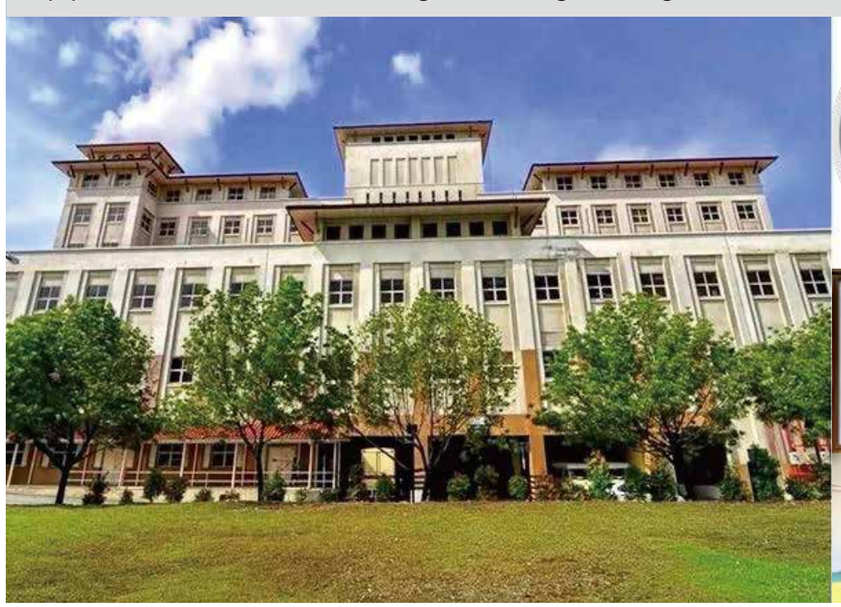


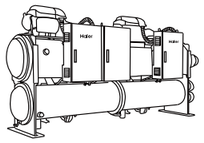

Location: **China(Qingdao)**
Project Name: **Haitian Center Haitian Hotel**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

Location: **China**
Project Name: **Shenzhen Metro Line 14**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**



Location: **Malaysia**
Project Name: **Putrajaya Hospital**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**



Reference Projects

Location: **Malaysia**
Project Name: **KPJ Specialist Hospital Miri, Sarawak**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

Location: **Malaysia**
Project Name: **Puchong Financial Corporate Center(PFCC)**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

Location: **Malaysia**
Project Name: **Hospital Kuala Pilah, Johor.**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

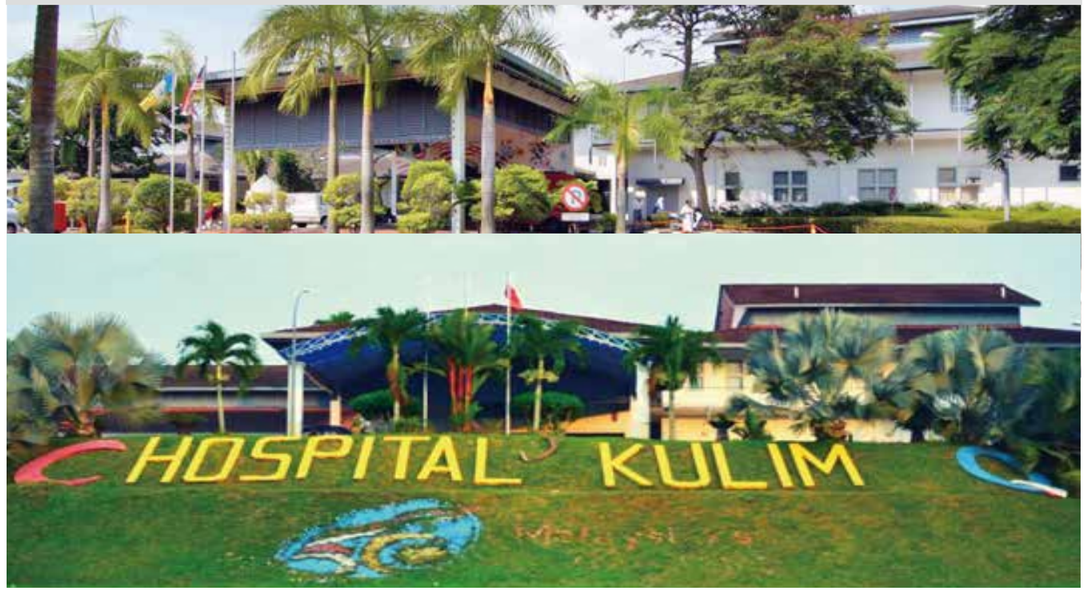
Location: **Malaysia**
Project Name: **Putrajaya Hospital, Kuala Lumpur.**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

Reference Projects

Location: **Malaysia**
Project Name: **Putrajaya Hospital Tawau, Sabah**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

Location: **Malaysia**
Project Name: **Sunway Velocity 3C2**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

Location: **Malaysia**
Project Name: **Hospital Seberang Jaya & Hospital Kulim**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**



Location: **Malaysia**
Project Name: **Hospital Raja Permaisuri Bainun, Ipoh, Perak.**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

Reference Projects

Location: **Malaysia**
Project Name: **Ipoh Hospital**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

Location: **Russia**
Project Name: **Azimut Hotel**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

Location: **Pakistan**
Project Name: **Park Lane Tower**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

Location: **Thailand**
Project Name: **Preserved Food Specialty Co.,Ltd.**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

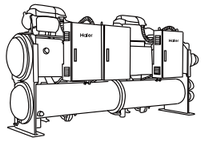
Reference Projects

Location: **Thailand**
Project Name: **Siam Rubber Factory**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

Location: **Thailand**
Project Name: **Khonkaen University Hospital**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

Location: **Thailand**
Project Name: **Vejthani Hospital**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

Location: **Thailand**
Project Name: **Khonkaen University (Faculty of dentistry)**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**



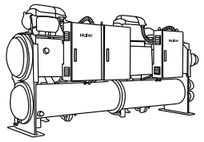
Reference Projects

Location: **Thailand**
Project Name: **Banyan tree Bangkok**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

Location: **Thailand**
Project Name: **Suvarnabhumi International Airport**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

Location: **Taiwan**
Project Name: **Taiwan Far Eastern Group**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

Location: **Taiwan**
Project Name: **CTCI Building**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**



Reference Projects

Location: **Taiwan**
Project Name: **Dongke Building**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

Location: **Taiwan**
Project Name: **The Grand Hotel**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

Location: **Taiwan**
Project Name: **Chang Chun Group**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

Location: **Taiwan**
Project Name: **Far Eastern Group**
Equipment Installed: **Water-cooled Magnetic Bearing Centrifugal Chiller**

Reference Projects

Location: **Australia**
Project Name: **Marland Mushroom Farm**
Equipment Installed: **Air-cooled Magnetic Bearing Centrifugal Chiller**

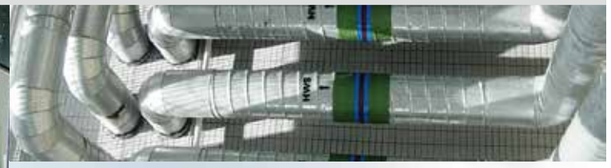
Location: **Czech**
Project Name: **Svoboda Press S.R.O.**
Equipment Installed: **Air-cooled Magnetic Bearing Centrifugal Chiller**

Location: **Dubai**
Project Name: **China Pavilion at the Expo Duba**
Equipment Installed: **Air-cooled Magnetic Bearing Centrifugal Chiller**

Location: **Hongkong**
Project Name: **Kimberley Hotel**
Equipment Installed: **Air-cooled Magnetic Bearing Centrifugal Chiller**

Reference Projects

Location: **Hongkong**
Project Name: **Hong Kong North Lantau Hospital**
Equipment Installed: **Air-cooled Magnetic Bearing Centrifugal Chiller**


Location: **Hongkong**
Project Name: **Tai Po Hospital**
Equipment Installed: **Air-cooled Magnetic Bearing Centrifugal Chiller**



Location: **Hongkong**
Project Name: **Queen Mary Hospital**
Equipment Installed: **Air-cooled Magnetic Bearing Centrifugal Chiller**



Location: **Hongkong**
Project Name: **Hong Kong Eye Hospital**
Equipment Installed: **Air-cooled Magnetic Bearing Centrifugal Chiller**



Reference Projects

Location: **Algeria**
Project Name: **El Manara Center, blida, algeria**
Equipment Installed: **Air-cooled Modular Chiller**

Location: **Bulgaria**
Project Name: **Building 6, Business Park Sofia**
Equipment Installed: **Air-cooled Modular Chiller**

Location: **Czech Republic**
Project Name: **Leroy Somer**
Equipment Installed: **Air-cooled Modular Chiller**

Location: **Hungary**
Project Name: **Hungaroring F1 Budapest**
Equipment Installed: **Air-cooled Modular Chiller**

Reference Projects

Location: **Albania**
Project Name: **Justice Ministry,Tirana**
Equipment Installed: **Air cooled Modular Chiller 65kw*8sets**

Location: **Spain**
Project Name: **Madrid Hospital La Paz**
Equipment Installed: **Air-cooled Modular Chiller**

Location: **Poland**
Project Name: **PCBC(Polskie Centrum Badan I Certyficacji), Warsaw**
Equipment Installed: **Air-cooled Modular Chiller 130kW+Fan Coil(Duct type 105 sets)**

Location: **Spain**
Project Name: **Holiday Inn Las Tablas**
Equipment Installed: **Air-cooled Modular Chiller**

Reference Projects

Location: **Hongkong**
Project Name: **Bonham Strand Projects, Hongkong**
Equipment Installed: **Air-cooled Modular Chiller**

Location: **New Zealand**
Project Name: **Distinction Hotel**
Equipment Installed: **Air-cooled Modular Chiller**

Location: **Spain**
Project Name: **Granada Hotel**
Equipment Installed: **Air-cooled Modular Chiller**

Location: **Spain**
Project Name: **Chinese Consulate General In Barcelona**
Equipment Installed: **Air-cooled Modular Chiller**

Reference Projects

Location: **Spain**
Project Name: **Hotel Albolote**
Equipment Installed: **Air-cooled Modular Chiller**

Location: **Pakistan**
Project Name: **Zong Cmpak Headquarters**
Equipment Installed: **Water-cooled Screw Chiller**

Reference Projects

Location: **Hongkong**
Project Name: **Fung Kai Innovative School**
Equipment Installed: **Air-cooled Screw Chiller**

Location: **Thailand**
Project Name: **Paholpolpayuhasena Hospital**
Equipment Installed: **Air-cooled Screw Chiller**

Date / /