

Unit configuration



Compressor

The famous brand scroll compressor is adopted, with low noise, low vibration, built-in motor protection and higher reliability. Each compressor is equipped with matching oil heating belt.



Air side heat exchanger

1. The V-shaped heat exchanger structure design is adopted, and the large inclination design is adopted to match the fan position, conform to the air flow characteristics, and the ventilation is uniform. It is equipped with high-efficiency internal thread copper tube, which has the characteristics of high heat exchange efficiency;
2. The blue hydrophilic anti-corrosion aluminum foil is used to adapt to various occasions, and the drainage is smoother during heating and defrosting, so as to strengthen the heating performance of the unit at low temperature;
3. The unique fan blade structure and matched energy-saving fan motor and the special structure design. Through strict test and inspection, the advantages of high efficiency, energy saving and noise reduction are obvious.



Throttling component

World famous brand electronic expansion valve, stable flow regulation, two-way flow, fast response, automatic regulation of flow and superheat, less restricted factors, low failure rate, accurate unit control and high operation reliability.



Water side heat exchanger

The self-designed shell and tube evaporator adopts high-efficiency internal thread heat exchange tubes, multi process design, optimized baffle arrangement, and the design of tube box and refrigerant inlet and outlet takes into account the distribution of cooling and heating refrigerant, with good heat exchange effect and high efficiency and energy saving.



Electrical components

The electrical components are from Schneider, OMRON and other internationally famous brands with excellent quality.



System matching

All components of the unit are equipped with famous and excellent refrigeration accessories. The system is optimized and designed. The pipes and accessories are highly matched to ensure the excellent performance of the unit. The volume of small refrigeration containers such as gas-liquid separators is accurately calculated to match the system requirements and ensure that the unit can still operate normally and stably under extreme conditions.

Operating range

Working condition	Cooling	Heating
Ambient temperature	5~45°C	-15~25°C
Outlet water temperature	5~15°C	30~50°C

Unit control

The unit mainly has the following display functions:

- Working status display
- Setting parameter display
- Monitoring temperature display
- Failure display
- Time display



The unit mainly has the following operation control functions:

- Switching between cooling and heating modes
- Timing on/off switch function
- Control the start and stop function of water pump
- Energy regulation control, compressor rotation function
- Power down memory function
- Intelligent defrost (automatic / manual) control function
- Fault self-diagnosis function
- Automatic antifreeze function
- Remote switch on / off function
- Flexible combination of group control functions

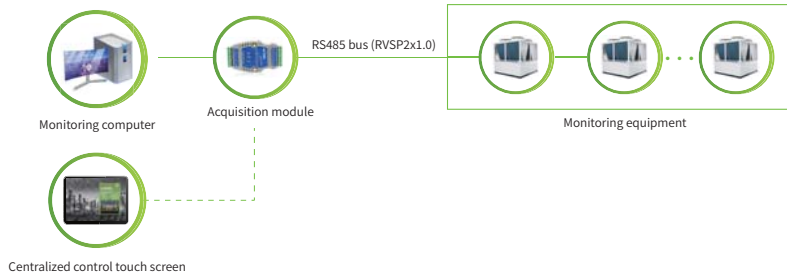
The unit mainly has the following operation protection functions:

- High and low voltage protection
- Overload protection of compressor and fan
- Under reverse phase protection of power supply
- Anti-freezing protection
- High exhaust air temperature protection
- Compressor overheating protection
- Water cut-off protection
- Inlet and outlet water temperature difference protection
- Sensor fault protection

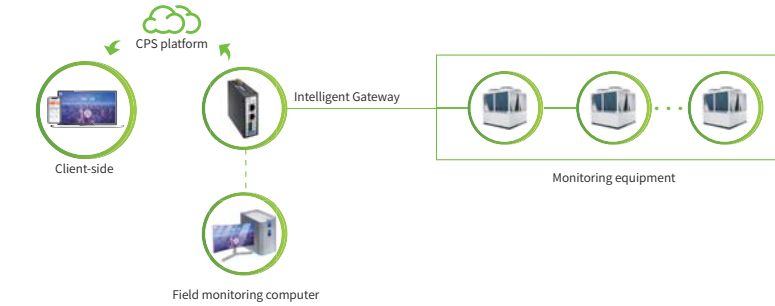
Unit control characteristics:

- The unit adopts liquid crystal display microcomputer controller, which is intuitive and convenient to use. It is equipped with RS485 standard communication interface and built-in Modbus communication protocol to realize communication with the central control system of the building and remote monitoring system;
- The unit can be set to switch on and off at fixed time, and the operation time of the unit can be conditionally limited in the set interval to help customers effectively manage and use the unit;
- The unit controller is placed in the remote room and is equipped with 30m connecting cable as standard. Users can lengthen it, and the maximum communication distance is 500m;
- According to customer requirements, the water temperature control mode can be selected to control the inlet or outlet temperature of the unit;
- The unit can control the cold water pump and automatically control the start and stop of the water pump. The unit controls the compressor and the water pump to realize the antifreeze function in cooling mode and winter;
- The water pump is started preferentially and the compressor is started in stages to reduce the impact on the power grid;
- The unit can adjust the number of modules and compressors at any time according to the load situation of the user, so as to achieve the best matching between the unit and the required load and save the operating cost to the maximum extent;
- The unit automatically balances the operation time of each module and each compressor to improve the overall service life of the system;
- The heat pump unit is equipped with auxiliary electric heating control interface, which can realize temperature rise compensation of water temperature;
- When the unit operates under the heat pump condition, it automatically judges the frosting state of the unit, adaptively adjusts in foggy and dry days, and each module automatically enters and ends the defrosting process, greatly reducing the influence of defrosting on the hot water temperature and improving the thermal energy efficiency of the mechanism;
- When the modules are combined, the failure of any one of the auxiliary modules will not affect the normal use of the other modules; when the main module in the module fails, any auxiliary module in the module can be changed into the main module to control the other auxiliary modules.

Wired acquisition platform structure



Cloud platform structure



Three core management functions

Easy to get into the cloud platform	Mass data management	Real-time early alarm
<ul style="list-style-type: none"> Software on cloud No machine room required Web browsing Safe and convenient Account login Real-time data 	<ul style="list-style-type: none"> Massive data On demand storage Historical data Easy download Data analysis Early warning 	<ul style="list-style-type: none"> Equipment alarm Real-time monitoring Multi terminal notify Fault warning Handling suggestions Remove the hidden danger

Rich system functions



Air-source scroll water chiller (heat pump) units

R410A

型号	Model	单冷型 热泵型	AMC-220D3D	AMC-330D3D	AMC-440D3D	
			AMH-220D3D	AMH-330D3D	AMH-440D3D	
电源	Power supply		380V/3N~/50Hz			
制冷量	Cooling capacity	kW	220	330	440	
制冷输入功率	Power consumption	kW	67.5	101.5	135.5	
制热量	Heating capacity	kW	238	357	475	
制热输入功率	Power consumption	kW	69.4	104.2	138.9	
运转电流	Operating current	A	122	182	243	
最大运转电流	Max operating current	A	185	275	370	
启动电流	Starting current	A	450	550	640	
容量控制	Capacity control	%	2 级容量控制 2-Step capacity control (100,50)	3 级容量控制 (100,66,33)	4 级容量控制 4-Step capacity control (100,75,50,25)	
		台数	2	3	4	
压缩机 Compressor	型式	Type	全封闭涡旋式压缩机 Hermetic scroll compressor			
	启动方式	Starting method	直接启动 Direct on line start(DOL)			
	控制方式	Control method	电子式膨胀阀 Electrically operated expansion valves			
制冷剂 Refrigerant	种类	Type	R410A			
	型式	Type	管壳式换热器 Tube-and-shell heat exchanger			
蒸发器 Chiller	接管型式	Pipe-joint mode	法兰 Flange			
	接头尺寸	Joint size	DN80	DN100	DN125	
	水量	Water flow rate	m ³ /h	38.0	56.8	75.8
	水压损失	Psure drop	kPa	40.0	40.0	40.0
风扇 Fan	出风方向	Blow Direction	上吹型 Blowing upwards			
	绝缘等级	Insulation class	Class F			
内置水力模块 (可选)	Water system module (Optional)	台数	4	6	8	
		水泵类型	Type	单级管道循环泵 Single-stage piping circular pump		
低扬程 Low lift	水泵输入功率	Power consumption	kW	4.0	5.5	7.5
	机外扬程 (名义流量下)	Head of delivery (Under nominal flow)	m	17	16	17
	水泵输入功率	Power consumption	kW	5.5	11.0	15.0
标准扬程 Standard lift	机外扬程 (名义流量下)	Head of delivery (Under nominal flow)	m	20	22	24
	水泵输入功率	Power consumption	kW	5.5	11.0	15.0
高扬程 High lift	机外扬程 (名义流量下)	Head of delivery (Under nominal flow)	m	25	29	30
	膨胀罐容量	Expansion tank volume	L	50	50	80
进出水管接头尺寸 (带水力模块)	接头尺寸	Joint size	DN80	DN100	DN125	
	长度	Length	mm	2200	3300	4400
	宽度	Width	mm	2250	2250	2250
外型尺寸 Dimensions	高度	Height	mm	2450	2450	2450
	机组重量	Net weight	kg	1900	2900	3900
运转重量 *	Net weight *	kg	2000	3000	4000	
机组重量 *	Operating weight	kg	2400	3400	4400	
运转重量 *	Operating weight *	kg	2600	3600	4650	

Notes:

- Cooling nominal working condition: cold water outlet temperature 7 ° C, water flow 0.172m³/h kW, ambient temperature 35 ° CDB;
- Heating nominal working condition: hot water outlet temperature 45 ° C, water flow 0.172m³ / (h.kw), ambient temperature 7 ° CDB, 6 ° CWB;
- The fouling coefficient at the water side of the evaporator is 0.018 m² · ° C / kW;
- Single cooling unit, without heating capacity and heating input power parameters;
- Each specification can be used as a basic module for modular combination. A module can contain up to 48 compressors; for units with built-in hydraulic modules, it is only recommended to carry out modules of the same specification, and the number of units shall not exceed 3;
- The control accessories package needs to be ordered separately, including one wire controller, 30m communication wire of the wire controller, one instruction manual of the wire controller and two temperature sensors; When purchasing, the packing list shall prevail; A module needs a set of control accessories package, of course, you can also buy more; When only one module is purchased, one set of control accessories package must also be ordered;
- Operating ambient temperature range of the above units: cooling 5 ° C ~ 45 ° C, heating - 15 ° C ~ 25 ° C (heat pump unit);
- Mark * indicates the weight of the unit after adding the built-in hydraulic module, which is based on the standard pump head data;
- The cooling / heating input power in the above table does not include the water pump power, and the operating / maximum operating / starting current does not include the water pump current;
- If there are special requirements, please put forward the requirements and specifications before ordering;
- The above specifications are subject to change without notice.

Air-source scroll water chiller (heat pump) units

R410A

型号	Model		简称代码				
			150	180	210	240	
			单冷型 AMC-550D3D	AMC-660D3D	AMC-770D3D	AMC-880D3D	
			热泵型 AMH-550D3D	AMH-660D3D	AMH-770D3D	AMH-880D3D	
电源	Power supply		380V/3N~/50Hz				
制冷量	Cooling capacity	kW	550	660	770	880	
制冷输入功率	Power consumption	kW	169.2	203.0	236.8	270.7	
制热量	Heating capacity	kW	594	713	832	951	
制热输入功率	Power consumption	kW	173.6	208.3	243.0	277.8	
运转电流	Operating current	A	302	363	423	467	
最大运转电流	Max operating current	A	460	555	645	740	
启动电流	Starting current	A	734	827	919	1012	
容量控制	Capacity control	%	5级容量控制 5-Step capacity control (100-20)	6级容量控制 6-Step capacity control (100-17)	7级容量控制 7-Step capacity control (100-14)	8级容量控制 8-Step capacity control (100-12.5)	
压缩机 Compressor	台数	Quantity	台	5	6	7	
	型式	Type	全封闭涡旋式压缩机 Hermetic scroll compressor				
	启动方式	Starting method	直接启动 Direct on line start(DOL)				
冷媒 Refrigerant	控制方式	Control method	电子式膨胀阀 Electrically operated expansion valves				
	种类	Type	R410A				
蒸发器 Chiller	型式	Type	管壳式换热器 Tube-and-shell heat exchanger				
	接管型式	Pipe-joint mode	法兰 Flange				
	接头尺寸	Joint size	DN80+DN100	DN100x2组	DN100+DN125	DN125x2组	
	水量	Water flow rate	m ³ /h	94.7	113.6	132.6	151.5
	水压损失	Psure drop	kPa	40.0	40.0	40.0	40.0
风扇 Fan	出风方向	Blow Direction	上吹型 Blowing upwards				
	绝缘等级	Insulation class	Class F				
外型尺寸 Dimensions	台数	Quantity	台	10	12	14	16
	长度	Length	mm	5500(2200+3300)	6600(3300x2)	7700(3300+4400)	8800(4400x2)
	宽度	Width	mm	2250	2250	2250	2250
	高度	Height	mm	2450	2450	2450	2450
机组重量	Net weight	kg	4800(1900+2900)	5800(2900x2)	6800(2900+3900)	7800(3900x2)	
运转重量	Operating weight	kg	5000	6000	7000	8000	

Notes:

- Cooling nominal working condition: cold water outlet temperature 7 °C, water flow 0.172m³/h kW, ambient temperature 35 °C DB;
- Heating nominal working condition: hot water outlet temperature 45 °C, water flow 0.172m³ / (h.kw), ambient temperature 7 °C DB, 6 °C WB;
- The fouling coefficient at the water side of the evaporator is 0.018 m² · °C / kW;
- Single cooling unit, without heating capacity and heating input power parameters;
- The control accessories package needs to be ordered separately, including one wire controller, 30m communication wire of the wire controller, one instruction manual of the wire controller and two temperature sensors; When purchasing, the packing list shall prevail; A module needs a set of control accessories package, of course; you can also buy more;
- Operating ambient temperature range of the above units: cooling 5 °C ~ 45 °C, heating - 15 °C - 25 °C (heat pump unit);
- If there are special requirements, please put forward the requirements and specifications before ordering;
- Except VAXH (W) 060 / 090 / 120, other unit models are assembled on the basis of 060 / 090 / 120. When shipping, 060 / 090 / 120 is used as the basic unit module for segmented shipment;
- The above specifications are subject to change without notice.

Air-source scroll water chiller (heat pump) units

R410A

型号	Model		简称代码				
			270	300	330	360	
			单冷型 AMC-990D3D	AMC-1100D3D	AMC-1210D3D	AMC-1320D3D	
			热泵型 AMH-990D3D	AMH-1100D3D	AMH-1210D3D	AMH-1320D3D	
电源	Power supply	kW	380V/3N~/50Hz				
制冷量	Cooling capacity	kW	990	1,100	1,210	1,320	
制冷输入功率	Power consumption	kW	304.5	338.4	372.2	406.0	
制热量	Heating capacity	kW	1070	1189	1307	1426	
制热输入功率	Power consumption	kW	312.5	347.2	381.9	416.6	
运转电流	Operating current	A	544	605	665	701	
最大运转电流	Max operating current	A	830	925	1015	1110	
启动电流	Starting current	A	1104	1197	1289	1382	
容量控制	Capacity control	%	9级容量控制 9-Step capacity control (100-11)	10级容量控制 10-Step capacity control (100-10)	11级容量控制 11-Step capacity control (100-9)	12级容量控制 12-Step capacity control (100-8)	
压缩机 Compressor	台数	Quantity	台	9	10	11	
	型式	Type	全封闭涡旋式压缩机				
	启动方式	Starting method	直接启动				
冷媒 Refrigerant	控制方式	Control method	电子式膨胀阀 Electrically operated expansion valves				
	种类	Type	R410A				
蒸发器 Chiller	型式	Type	管壳式换热器 Tube-and-shell heat exchanger				
	接管型式	Pipe-joint mode	法兰 Flange				
	接头尺寸	Joint size	DN100x3组	DN125x2组+DN80	DN125x2组+DN100	DN125x3组	
	水量	Water flow rate	m ³ /h	170.3	189.2	208.1	227.0
	水压损失	Psure drop	kPa	40.0	40.0	40.0	40.0
风扇 Fan	出风方向	Blow Direction	上吹型 Blowing upwards				
	绝缘等级	Insulation class	Class F				
外型尺寸 Dimensions	台数	Quantity	台	18	20	22	24
	长度	Length	mm	9900(3x3300)	11000(2200+4400x2)	12100(3300+4400x2)	13200(4400x3)
	宽度	Width	mm	2250	2250	2250	2250
	高度	Height	mm	2450	2450	2450	2450
机组重量	Net weight	kg	8700(3x3900)	9700(1900+3900x2)	10700(2900+3900x2)	11700(3900x3)	
运转重量	Operating weight	kg	9000	10000	11000	12000	

Notes:

- Cooling nominal working condition: cold water outlet temperature 7 °C, water flow 0.172m³/h kW, ambient temperature 35 °C DB;
- Heating nominal working condition: hot water outlet temperature 45 °C, water flow 0.172m³ / (h.kw), ambient temperature 7 °C DB, 6 °C WB;
- The fouling coefficient at the water side of the evaporator is 0.018 m² · °C / kW;
- Single cooling unit, without heating capacity and heating input power parameters;
- The control accessories package needs to be ordered separately, including one wire controller, 30m communication wire of the wire controller, one instruction manual of the wire controller and two temperature sensors; When purchasing, the packing list shall prevail; A module needs a set of control accessories package, of course; you can also buy more;
- Operating ambient temperature range of the above units: cooling 5 °C ~ 45 °C, heating - 15 °C - 25 °C (heat pump unit);
- If there are special requirements, please put forward the requirements and specifications before ordering;
- Except VAXH (W) 060 / 090 / 120, other unit models are assembled on the basis of 060 / 090 / 120. When shipping, 060 / 090 / 120 is used as the basic unit module for segmented shipment;
- The above specifications are subject to change without notice.

Modified coefficient

Modified coefficient of cooling capacity

Ambient temperature (°C)	5		7		9		12		15	
	Cooling capacity	Power	Cooling capacity	Power	Cooling capacity	Power	Cooling capacity	Power	Cooling capacity	Power
45	0.82	1.13	0.87	1.15	0.94	1.17	1.02	1.20	1.10	1.23
40	0.88	1.04	0.94	1.06	1.01	1.08	1.08	1.11	1.15	1.15
35	0.94	0.98	1.00	1.00	1.07	1.04	1.14	1.06	1.21	1.08
30	1.00	0.92	1.07	0.94	1.13	0.96	1.20	0.99	1.27	1.02
25	1.05	0.86	1.11	0.88	1.18	0.90	1.25	0.93	1.32	0.96
20	1.10	0.80	1.16	0.82	1.23	0.84	1.30	0.87	1.38	0.90
15	1.10	0.74	1.17	0.76	1.24	0.78	1.31	0.80	1.39	0.83

Correction coefficient of heating capacity

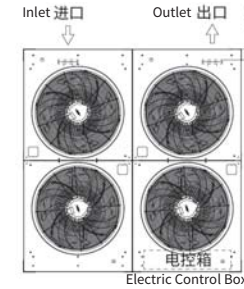
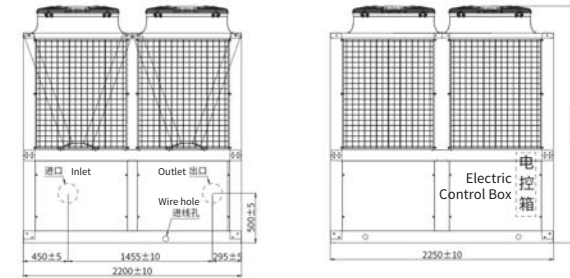
Ambient temperature(°C)	30		35		40		45		50	
	Heating capacity	Power	Heating capacity	Power	Heating capacity	Power	Heating capacity	Power	Heating capacity	Power
25	1.38	0.91	1.35	0.97	1.31	1.03	1.28	1.09	1.25	1.15
20	1.30	0.89	1.28	0.95	1.24	1.01	1.21	1.07	1.18	1.13
15	1.21	0.87	1.18	0.93	1.14	0.99	1.11	1.05	1.08	1.11
10	1.13	0.85	1.10	0.91	1.07	0.97	1.04	1.03	1.00	1.09
7	1.07	0.83	1.05	0.89	1.02	0.95	1.00	1.00	0.98	1.06
0	0.89	0.79	0.87	0.85	0.85	0.91	0.84	0.96	0.82	1.02
-5	0.76	0.73	0.74	0.79	0.72	0.85	0.70	0.90	0.68	0.96
-10	0.65	0.72	0.63	0.78	0.61	0.84	0.60	0.89	---	---
-15	0.53	0.70	0.50	0.75	0.48	0.78	---	---	---	---

Notes:

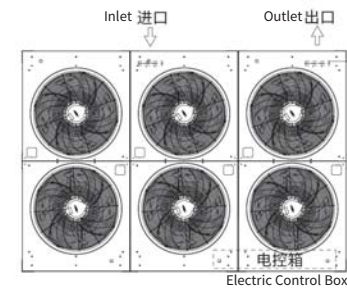
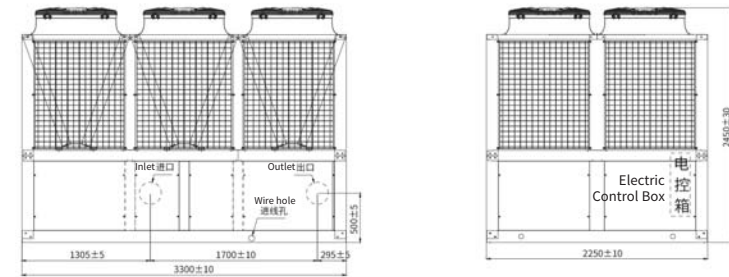
1. "-" in the table means out of operation range;
2. For the unit with built-in hydraulic module, the power in the table does not include the pump power.

Outline dimension (unit without built-in hydraulic module)

220 kW

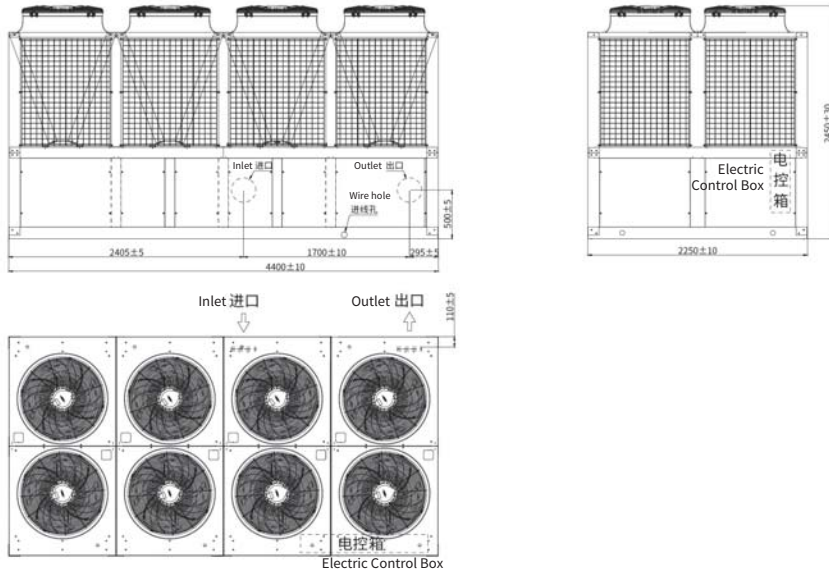


330 kW



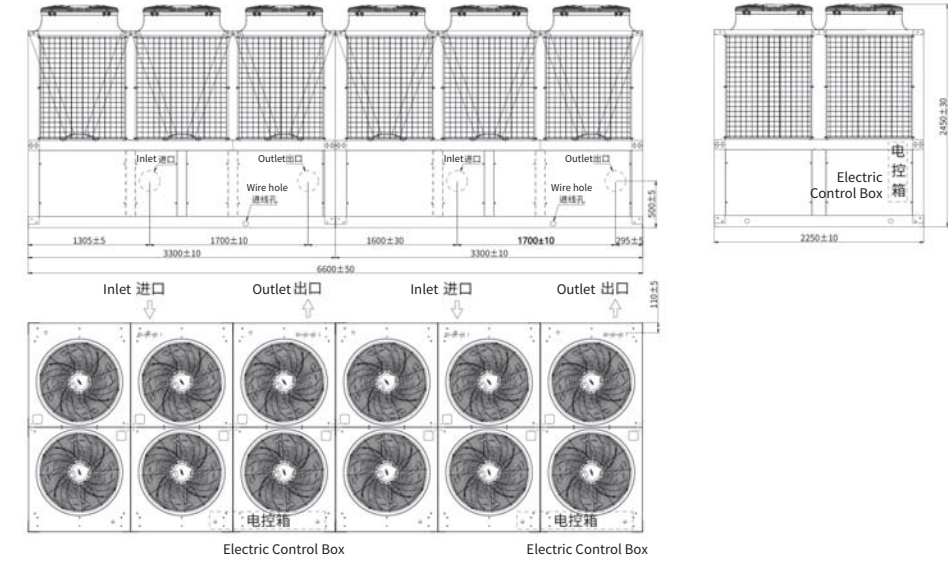
■ Outline dimension (unit without built-in hydraulic module)

440 kW

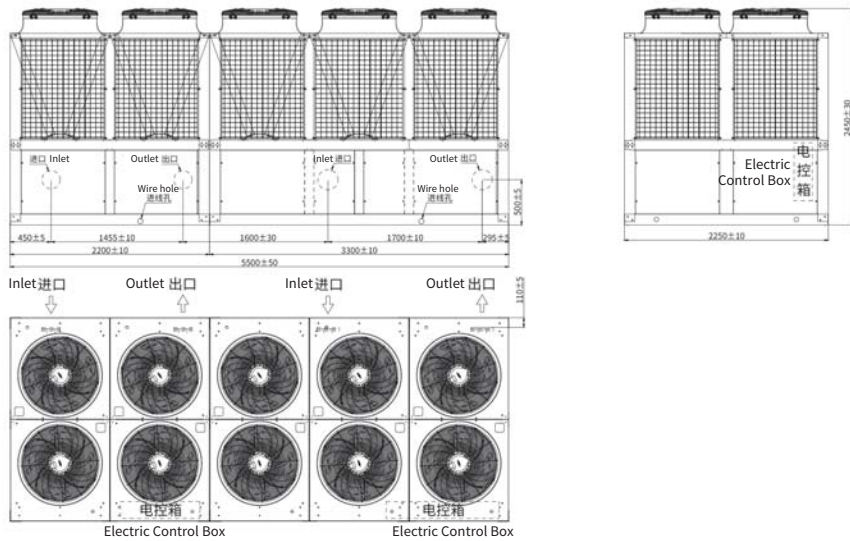


■ Outline dimension (unit without built-in hydraulic module)

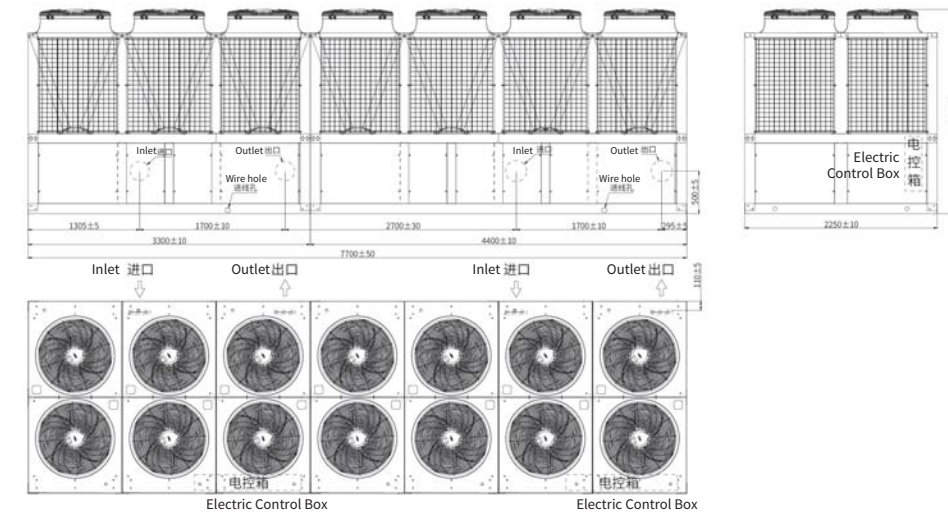
660 kW



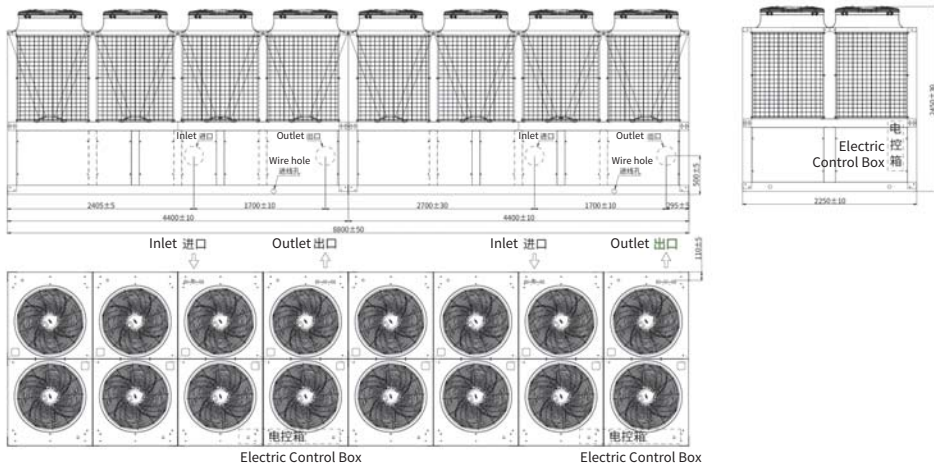
550 kW



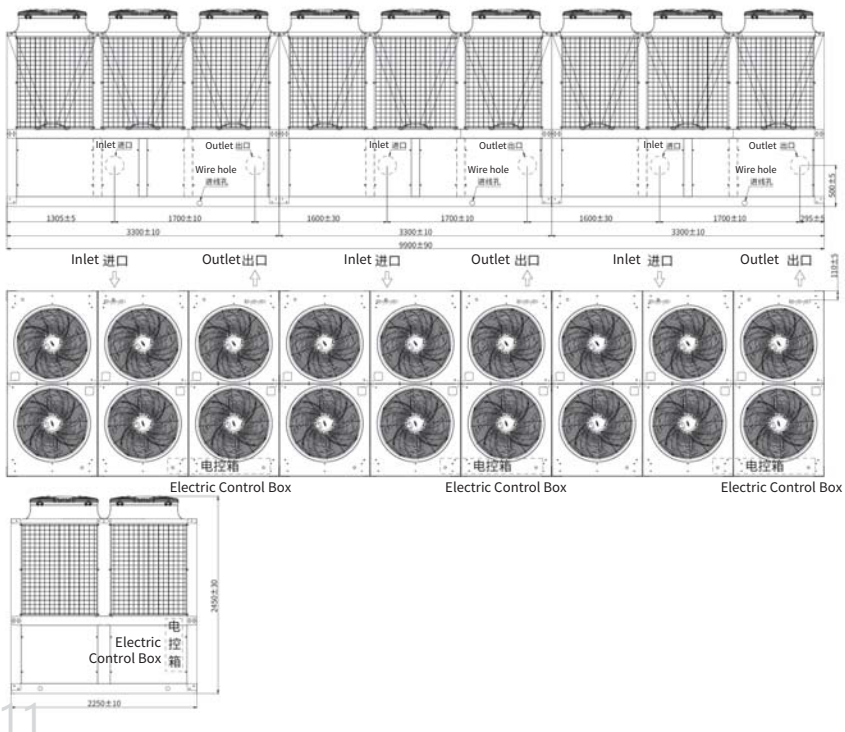
770 kW



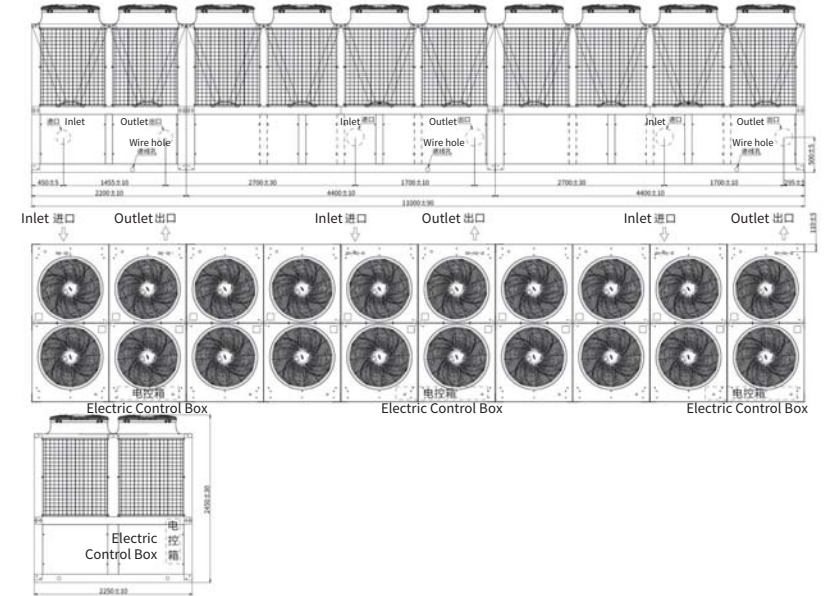
■ Outline dimension (unit without built-in hydraulic module)
880 kW



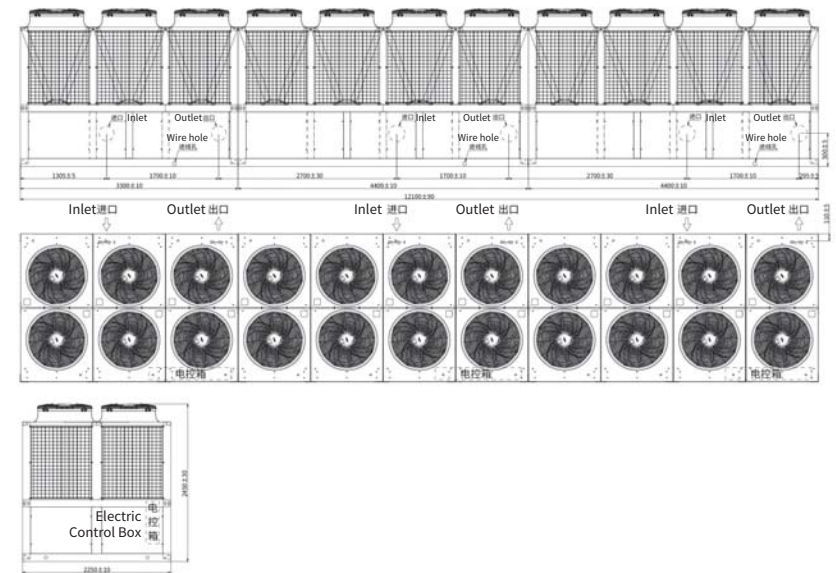
990 kW



■ Outline dimension (unit without built-in hydraulic module)
1100 kW

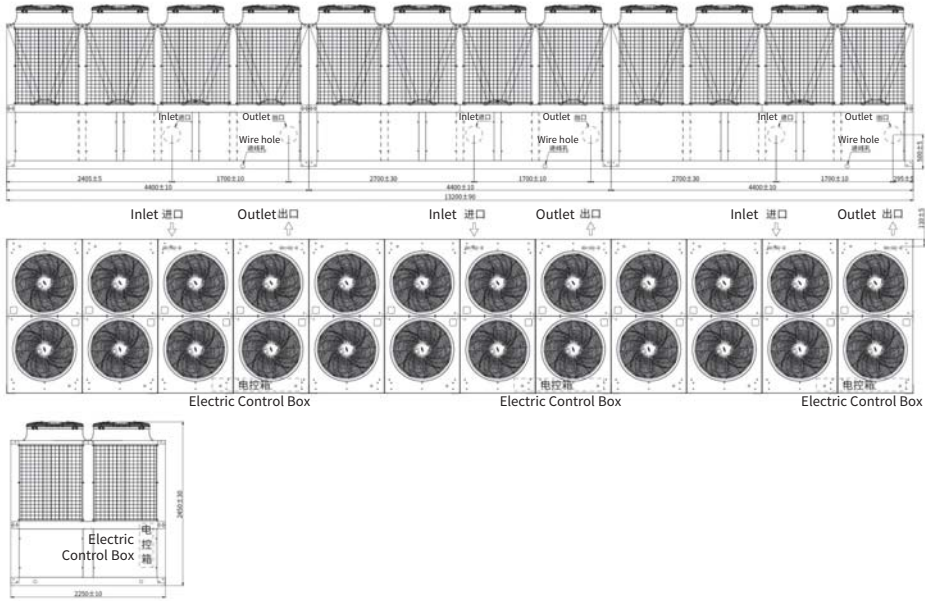


1210 kW



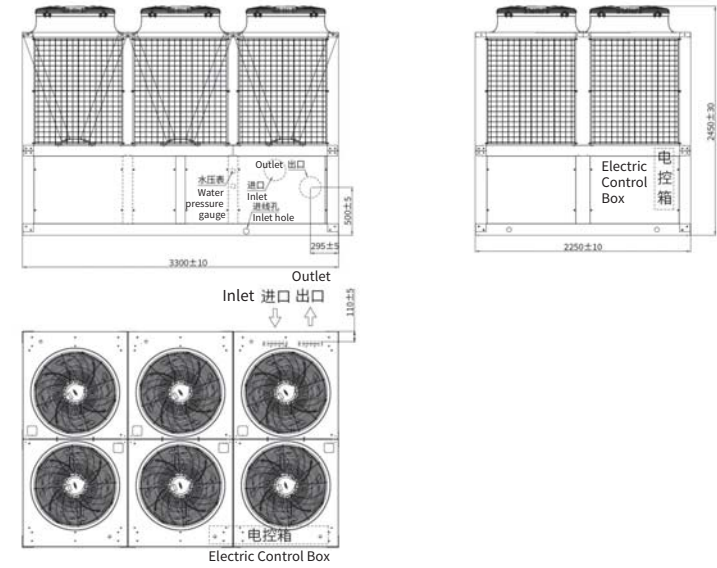
■ Outline dimension (unit without built-in hydraulic module)

1320 kW



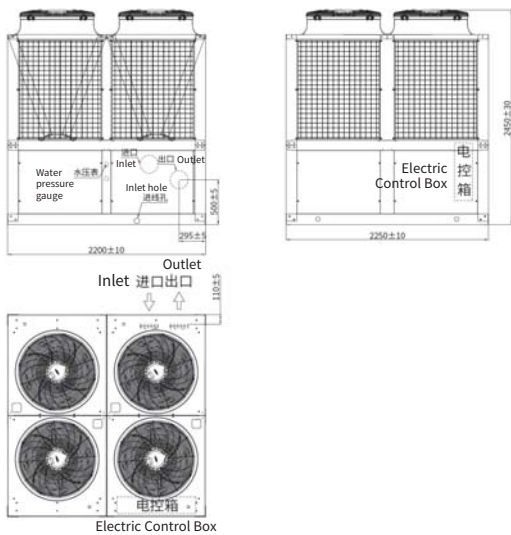
■ Outline dimension (unit with built-in hydraulic module)

330 kW

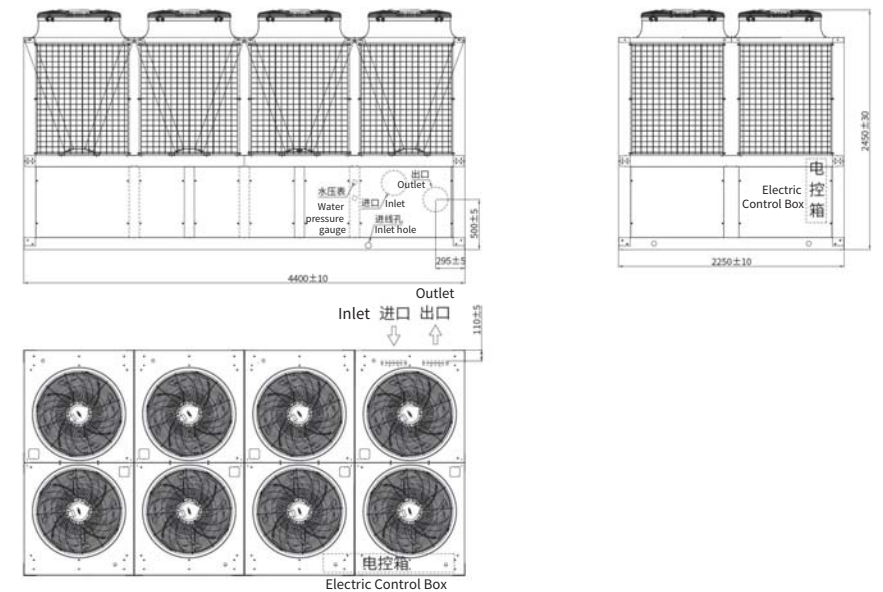


■ Outline dimension (unit with built-in hydraulic module)

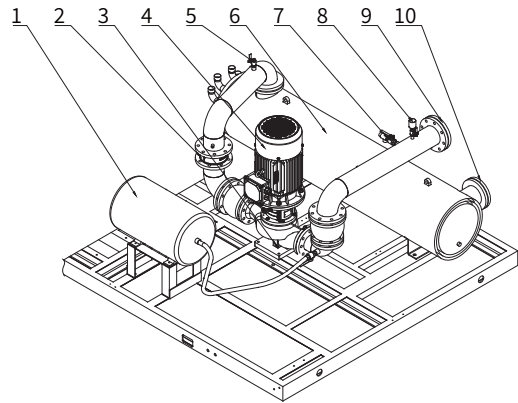
220 kW



440 kW



With built-in hydraulic module



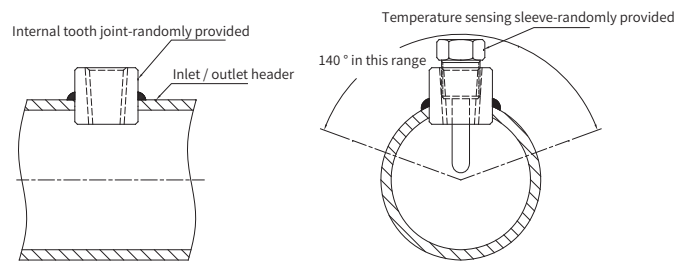
With built-in hydraulic module assembly

- | | |
|--------------------|----------------------------------|
| 1. Expansion tank | 5. Manual air exhaust valve |
| 2. Check valve | 6. Shell and tube heat exchanger |
| 3. Pump head drain | 7. Safety valve |
| 4. Water pump | 8. Automatic air exhaust valve |

Water flow direction

- | |
|-----------------------|
| 9. Unit water inlet |
| 10. Unit water outlet |

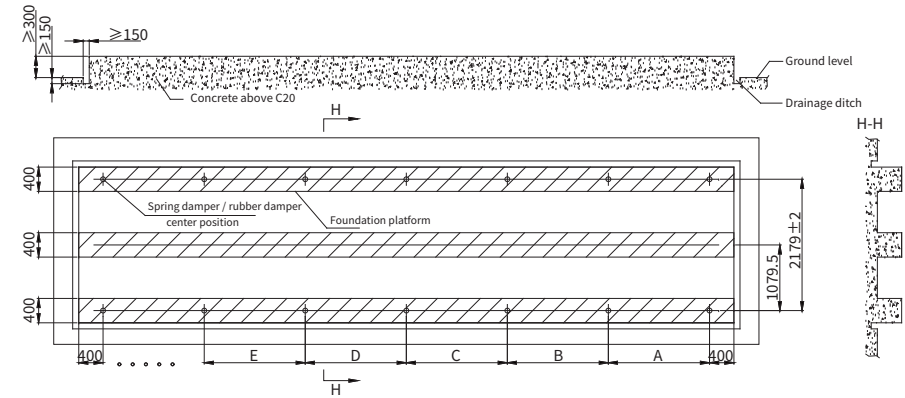
Installation of accessories - installation drawing of temperature sensing sleeve



Notes:

1. The internal tooth joint and temperature sensing sleeve are placed in the controller accessories package;
2. The internal tooth joint is welded on the inlet / outlet main pipe of the water system;
3. Screw the temperature sensing sleeve into the internal thread joint;
4. The total water inlet temperature sensor and the total water outlet temperature sensor of the system are put into the temperature sensing sleeve and filled with thermal conductive silicone grease.

Foundation drawing



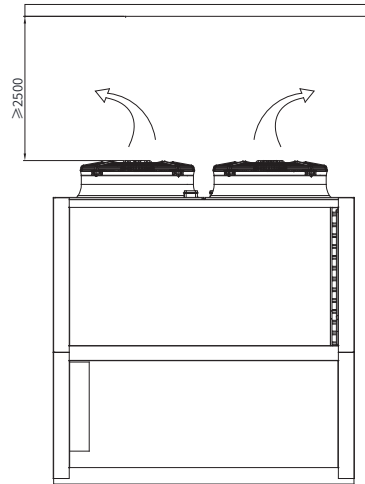
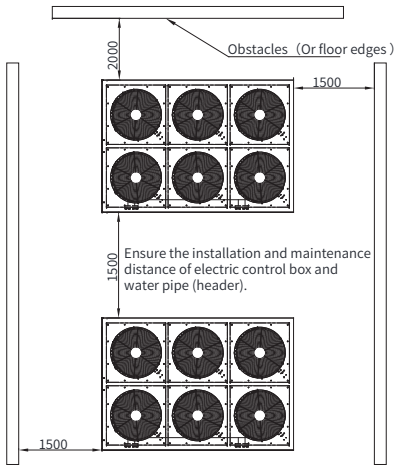
Unit length	Code											Quantity of spring damper / rubber shock pad	
	A	B	C	D	E	F	G	H	I	J	K		
2200	880	880	—	—	—	—	—	—	—	—	—	—	6
3300	1430	1430	—	—	—	—	—	—	—	—	—	—	6
4400	1320	1320	1320	—	—	—	—	—	—	—	—	—	8
5500	1430	1430	470	880	880	—	—	—	—	—	—	—	12
6600	1430	1430	470	1430	1430	—	—	—	—	—	—	—	12
7700	1320	1320	1320	470	1430	1430	—	—	—	—	—	—	14
8800	1320	1320	1320	470	1320	1320	1320	—	—	—	—	—	16
9900	1430	1430	470	1430	1430	470	1430	1430	—	—	—	—	18
11000	1320	1320	1320	470	1320	1320	1320	470	880	880	—	—	22
12100	1320	1320	1320	470	1320	1320	1320	470	1430	1430	—	—	22
13200	1320	1320	1320	470	1320	1320	1320	470	1320	1320	1320	—	24

Notes:

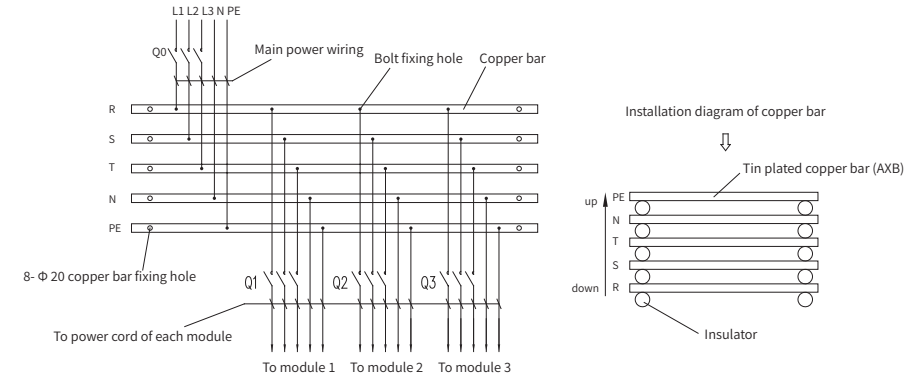
1. For units with the same length, the installation hole size is the same; The installation hole distance shown in the figure is consistent with the placement position in the outline drawing of the unit;
2. Spring damper or rubber shock pad must be added between the unit chassis and the foundation;
3. When the unit uses rubber damping pad, M16 * 100 foundation bolts must be pre-embedded in the foundation or do the secondary grouting (pre-embedded according to the size shown in the figure above);
4. The levelness of foundation surface shall be $\leq 0.1\%$, and drainage ditches shall be reserved around the foundation.

Unit layout

- The unit shall be installed in a place with good ventilation, less sediment, and air blowing or suction is unobstructed. Strong monsoon shall not affect the fan blowing;
- The installation site of the unit shall not be the place where there are acidic gas and inflammable and explosive substances. It shall be installed in a place that is not affected by high temperature, steam and oil pollution. There shall be no other heat sources nearby to avoid absorption
In, affecting efficiency;
- When a cooling tower is installed near the unit installation site, water vapor shall be prevented from penetrating the unit to avoid short circuit or electric leakage during power distribution and unit commissioning;
- Proper service space can be reserved at the installation site of the unit, and the minimum space reserved is recommended as shown in the following figure;
- For the characteristics of heavy snow in winter, it is necessary to install a snow proof board at the top of the unit to prevent the unit from working abnormally or even crushing the unit.



Electrical wiring diagram



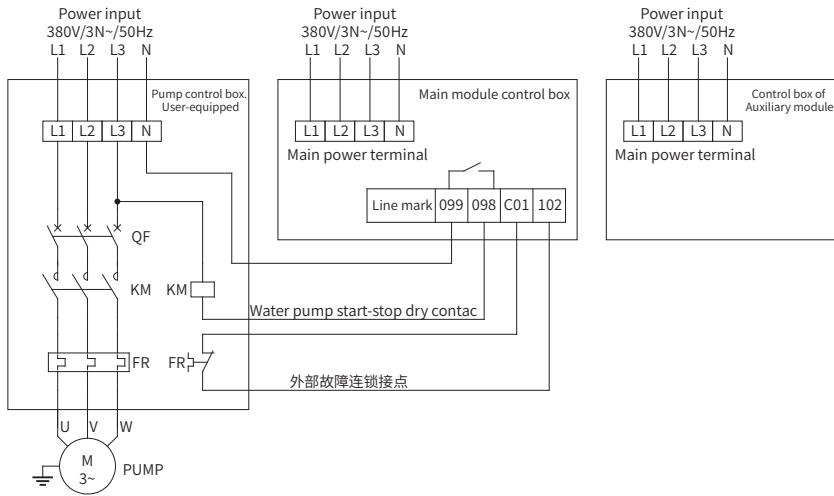
Only three 060 modules are taken as an example for illustration

Unit model	Inlet wire diameter / mm 2 (3 × Phase line + 1 × Ground wire + 1 × Zero line)	Communication connection line (RVVP)	Copper bar specification (AXB)
VAXH(W)060	1Group (3×95+1×50+1×16)	The connecting line between the host and the manual operator is 30m as standard in the factory. Rvvp3×0.5mm ² shielded wire is used as connecting line between units, factory standard is 5m.	Sectional area of copper bar (AXB) shall not be less than the square of the main power wiring.
VAXH(W)090	1Group (3×185+1×95+1×16)		
VAXH(W)120	1Group (3×240+1×120+1×16)		
VAXH(W)150	1Group (3×95+1×50+1×16) +1Group (3×185+1×95+1×16)		
VAXH(W)180	2Group (3×185+1×95+1×16)		
VAXH(W)210	1Group (3×185+1×95+1×16) +1Group (3×240+1×120+1×16)		
VAXH(W)240	2Group (3×240+1×120+1×16)		
VAXH(W)270	3Group (3×185+1×95+1×16)		
VAXH(W)300	1Group (3×95+1×50+1×16) +2Group (3×240+1×120+1×16)		
VAXH(W)330	1Group (3×185+1×95+1×16) +2Group (3×240+1×120+1×16)		
VAXH(W)360	3Group (3×240+1×120+1×16)		

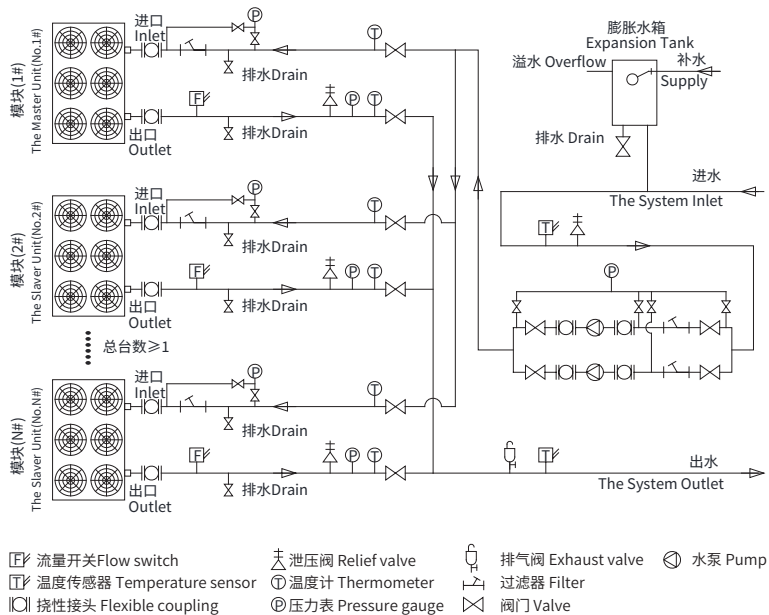
Notes:

- The working power supply of the unit is 380V 3N ~ 50Hz;
- Q0 and Q1 / Q2 / Q3 are air switches, and the air switch is type D;
- Q0 and (Q1 / Q2 / Q3), you can use any one of them. Selecting Q1 / Q2 / Q3 can facilitate the maintenance of a single machine;
- During field installation, air switch / wire / copper bar, etc. shall be selected according to actual conditions due to consideration of other loads such as water pump;
- The copper bar is installed up and down, see the electrical wiring diagram;
- Copper bar is not required for two modules or less;
- Only power connection terminals are reserved for the ex-factory unit, and all electrical parts in the above figure are self-configured by the customer;
- The power wiring of the unit shall be provided by the user on site, and the main power wiring must meet the national standards for electrical construction;
- The power line specifications in the above table are selected based on the extreme working conditions of the unit, and are based on the copper core cable specifications selected when the PVC insulated cables and wires are laid in the air and the ambient temperature is 40 ° C. If the service conditions are different, please calculate and adjust according to the cable specifications and national standards;
- The type selection of power wire is closely related to climate, soil characteristics, cable laying length and mode, etc. such unit engineering projects are usually designed by the Design Institute, and the finally it will subject to the Design Institute design;
- The communication line must use shielded twisted pair, and it is prohibited to mix with strong current;
- The zero line provides power for single-phase electrical equipment such as control circuit and oil heater. The wire diameter of the zero line can be configured as 16mm², and the maximum wire diameter is 1 / 2 of the wire diameter of the phase line;
- Unit electric shock protection category: class I; Users must be equipped with qualified grounding wires and reliably grounded;
- For the unit with built-in water pump, the user's incoming wire diameter is also in accordance with the above table.

Wiring diagram of water pump (take the unit without built-in hydraulic module as an example)



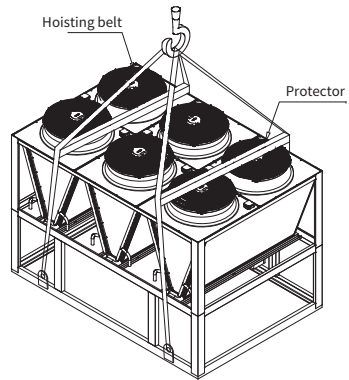
Water system configuration



Installation precautions

- When the unit is connected with the external water pipe system, the actual project needs to be installed by professionals according to the construction specifications, standards and design requirements. The schematic diagram of water piping in the drawing is only for reference;
- For the chilled circulating water system, in order to buffer the expansion or contraction of water volume caused by the change of water temperature and isolate the impact of the pressure of make-up water on the water system, water expansion equipment must be installed and selected according to relevant national standards and specifications;
- Softened water shall be used as circulating water for air conditioning of the unit. Groundwater, hard water or other sewage shall not be used. The PH value of circulating water shall be within 6.8-8, and the total hardness shall not exceed 70. The water quality shall be regularly monitored. If the water quality is poor, please install a water treatment system by yourself;
- The water pump inlet must be equipped with a filter (more than 60 mesh) to prevent foreign matters from entering the water side heat exchanger; the unit with built-in hydraulic module shall be installed at the water inlet of each unit;
- The inlet and outlet water pipes of the unit shall be fully insulated from heat, in order to keep cold, heat and moisture proof;
- The inlet and outlet pipes of the unit shall be equipped with shock absorbing soft hoses to reduce the vibration of the unit body transmitted to each room through the water pipes;
- A water pipeline shut-off valve shall be installed near the inlet and outlet pipes of the unit to facilitate the separation of the unit body and the water piping during future maintenance;
- During the installation of pipeline valves, the space for valve movement, adjustment and replacement shall be considered to facilitate the operation of the system;
- In order to prevent air from being trapped in the pipe, automatic exhaust valves shall be installed at the highest part of the water circulation pipeline and at the gas gathering place of the pipe to improve the operation efficiency of the unit. When the expansion water tank or exhaust valve is installed, the horizontal water pipe of the water piping system shall be constructed with a slope of 1 / 250 upward;
- The unit is installed at low air temperature below 0 °C. Pipeline will be frozen during long-time shutdown, the water pipeline shall be designed and constructed with anti-freezing function and drainage function to avoid the water in the pipeline from freezing and damaging the unit. To realize the automatic anti freezing function of the unit in winter, it is necessary to ensure that the power supply of the unit and the water pump is not cut off. The start and stop control of the water pump is connected to the electric control box of the unit (see the electrical wiring diagram);
- When the unit modules are assembled, they must be piped according to the same procedure, and the temperature sensing rod base must be installed on the main inlet and outlet water pipes;
- The shaft seal of the water pump with the built-in hydraulic module unit is a lossy part. After the service cycle reaches, water seepage and leakage may occur. If there is a new one, it should be replaced in time; The design life of the shaft seal of the water pump of this series is ≥ 8000 hours;
- The unit with built-in hydraulic module requires the user to configure the make-up valve (automatic and manual);
- For long-term shutdown, for the winter drainage, the water in the pipeline and the pump head must be drained, and the pump head must not be forgotten to drain, otherwise it will freeze and crack.

■ Unit hoisting



Notes:

1. When lifting the unit, please operate according to the schematic diagram, and the lifting position must be lifted according to the identification of the unit lifting point;
2. When lifting the unit, a special person shall be assigned to command, and warning measures shall be taken to ensure the safety of personnel and products;
3. During the lifting of the unit, the unit body shall be kept horizontal as far as possible, and shall be lifted or moved steadily and slowly. It is strictly prohibited to tilt the unit more than 10 degrees, and the swing shall be controlled.