THE WORLD'S OBAIR

In the vast global innovation landscape, "Obair" shines like a brilliant star, leading the wave of technological innovation.

We are not just a company, but also advocates and practitioners of the global upgrade in quality of life.

In the world of Obair, technological innovation is not only a driving force but also the soul.

We firmly believe that "Obair" will resonate in every corner of the world, representing excellence, quality, and dreams.

We cross mountains and seas, connecting the five continents, adding a bright color to the global stage of life, becoming a synonym for beauty in the hearts of people around the world, and together writing a glorious chapter in human civilization.

The related products of Oubo have obtained the above certification, and the specific product certification is detailed in the relevant product certification certificate

Haojin Oubo Technology Co.,Ltd

Address: Oubo Industrial Park, Oubo Road, Oubo Avenue, Ganzhou City, Jiangxi Province
Website: www.oubokt.com
National Free Service Hotline: 400-915-8448

Note: There may be discrepancies between all product descriptions, data, and actual products in this catalog. Please refer to the actual product. Changes will not be notified separately.

Official WeChat Public Account

OBAIR

FLM

Modular Air-Cooled Scroll Chiller (Heat Pump)

OBAIR Central air conditioning

Version NO.: OB-202506A
Haojin Oubo Technology CO., LTD

OBAIR
Haojin Oubo
Technology CO., LTD

COMPANY PROFILE

Haojin Oubo Technology Co., Ltd. is a large-scale purification central air conditioning national high-tech enterprise integrating research and development, production, sales, and service.

Obair has always adhered to technological innovation, participated in the formulation of national and industry standards as a member unit of China's "Cold Standard Committee", and has obtained multiple invention patents and utility model patents. It has established industry-university-research bases with Nanchang University and Jiangxi University of Science and Technology. It is a key demonstration enterprise for deep integration of informatization and industrialization in Jiangxi Province, a demonstration enterprise for service-oriented manufacturing in Jiangxi Province, and the company has successively won honors such as Jiangxi Province Technology Center, Ganzhou City Industrial Design Center, Jiangxi Famous Brand Product, national green factory, and national specialized and innovative "little giant" enterprise.

Obair currently has two phases in Ganzhou, Jiangxi, using digital park management, with over 120 digital production equipment, achieving an annual production capacity of 100,000 units.

Obair currently has more than 1000 models of high-quality air conditioning products independently developed, and the products have obtained energy-saving certification, CRAA, EU CE certification, American AHRI certification and other authoritative institutions' testing and certification, widely used in hospitals, dust-free workshops, pharmaceutical factories, electronics, tobacco, painting, photovoltaic, new energy, semiconductor, laboratory and other industries, and has the industry reputation of "King of Cleanliness" and "King of Constant Temperature and Humidity Non-standard".

Obair strictly implements the ISO9001/ISO14001/ISO45001 management system, always practices the purpose of "willing to explain the price for a while, but not to apologize for the quality for a lifetime", proposes the "6-hour" on-site service concept for all customers and for all customers, and provides the most professional and high-quality technical support and after-sales service.

From the mission, born for purification!

Obair, your regret-free choice!

170,000 square meters
of complete machine production base

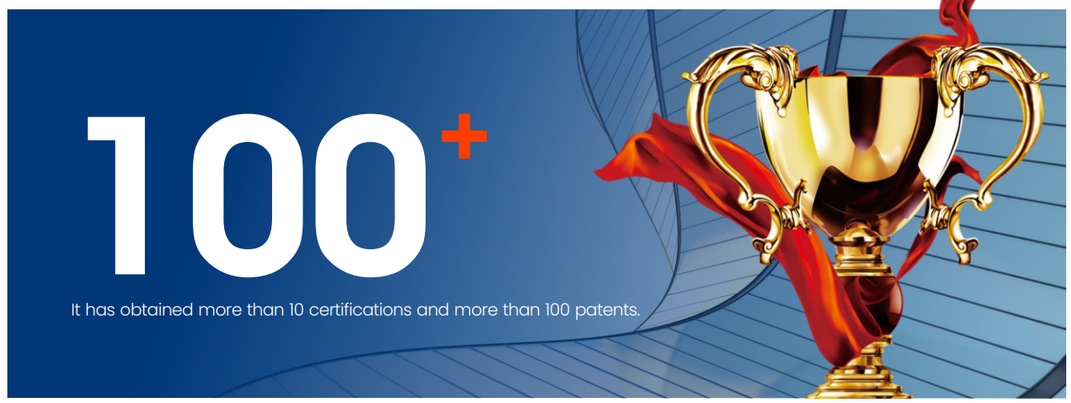
70+
National Service Contact Points

1000+
employees

100,000+
Pilot Project Air Conditioning Solutions

HONORARY QUALIFICATIONS

Advanced equipment, professional technology and strict management have created the high quality of "OBAIR" brand products.
It has successively won dozens of honors such as national high-tech enterprise, China's well-known brand, specialized and special new enterprise, cold standard committee enterprise, provincial service-oriented manufacturing demonstration enterprise, provincial enterprise technology center, Jiangxi famous brand product, etc.
"OBAIR" products are your reliable choice.



National Cold Standard Committee Member Certificate
Engineering Practice Teaching Cooperation Base
Demonstration Enterprise for Development and Upgrading
National Specialized and Innovative "Little Giant" Enterprise
National Green Factory
National High-tech Enterprise
Provincial Demonstration Enterprise for Service-oriented Manufacturing
Top Ten Economic Personalities of the Year
Jiangxi Province Famous Brand Product
Enterprise Technology Center
AHRI Certificate
TUV Certificate

FLM | Modular Air-Cooled Scroll Chiller (Heat Pump)

OBAIR
Haojin Oubo Technology CO., LTD

Dual Supply of Heating and Cooling

Combined cooling and heating supply mode: Depending on the different load requirements for cooling and heating, it can simultaneously meet the dual for needs both cooling and heating.

Hermetically Sealed High-efficiency Compressor

Adopting a hermetically sealed high-efficiency EVI (Enhanced Vapor Injection) flexible scroll compressor from an internationally renowned brand, it effectively reduces the refrigerant leakage and enhances the volumetric efficiency of the compressor.

Energy-efficient and High-performance

Adopting a dual-control technology for suction and discharge superheat, it effectively enhances the heat exchange efficiency of the heat exchanger, ensuring that the unit always operates safely and energy-efficiently.

Intelligent Control

An advanced air-conditioning dedicated controller, which realizes intelligent control of the unit and provides comprehensive protection. The operation is intuitive and easy to read.

CONTENTS

Product Overview 01
Model Description 01
Product Introduction 02
Product Features 03
Unit System Schematic 05
Technical Specifications 06
Table of Technical Parameter Correction Factors 11
Unit Dimensional Drawing 12
All-Weather Operation Instructions 17
Water System Piping Diagram 20
Water Quality Requirements 21
Unit Lifting and Transportation 22
Installation Requirements 22
Installation Foundation 23
Unit Installation 24
Electrical Installation 25
Unit Conversion Table 26
Cooling Load Estimation Index 27

Product Overview

The OBAIR Modular Air-Cooled Chiller (Heat Pump) Unit is a central air-conditioning unit that uses air as the source of heat and cooling and water as the heat transfer medium. It can provide chilled or hot water for air handling units, fan coil units, or other equipment that requires a source of cooling or heating, achieving summer cooling, winter heating, or process cooling. The Aobo basic air-cooled modular units include 66kW, 102kW, and 132kW capacities, with up to 16 modules that can be connected in parallel to achieve a cooling capacity combination of 2080kW.

Product Features:

1.Uses the new-generation R410A environmentally friendly refrigerant, which is green and environmentally friendly.

2.Employs hermetically sealed scroll compressor technology, with direct refrigerant cooling of the motor, eliminating the need for maintenance and servicing.

3.The heat exchanger features a patented refrigerant distribution system, effectively enhancing heat transfer efficiency and making the unit more energy-efficient.

4.Electronic expansion valves with pulse-precision control, suitable for a wide range of ambient temperatures.

5."Adaptive" intelligent defrosting technology accurately determines the state point for entering defrost mode, ensuring energy-efficient operation throughout the entire heating cycle.

6.Intelligent modular rotation and backup technology balances the operating time of each module, with modules serving as backups for each other, thereby increasing the service life and reliability of the unit.

Applications:

Widely used in high-star hotels, guesthouses, hospitals, office buildings, shopping malls, factories, schools, and other comfort and process-oriented settings.

Model Description

FLM-WX — 130 H — E — D

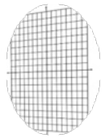
- D: Design Version Numbers: Version A-A, Version B-B, Version D-D
- E: Refrigerant Type: E-R410A, B-R22
- H: Function Codes:H: Heat Pump; C: Cooling Only; S: Cooling with Heat Recovery; R: Partial Heat Recovery; F: Standard Four-Pipe System; HV: DC Inverter Heat Pump; FV: DC Inverter Four-Pipe System; Y: Year-Round Cooling from -15°C to 45°C; W: Year-Round Cooling from -10°C (inclusive) to 45°C; T: Year-Round Heating
- 130: Nominal Cooling Capacity: Nominal cooling capacity in kW
- WX: Model Code: Modular Air-Cooled Chiller (Heat Pump) Unit

Product Introduction

1 Low-Noise Axial Fan

· Adopting low-noise, large-blade aluminum alloy fan blades

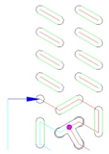
2 Effective Protection

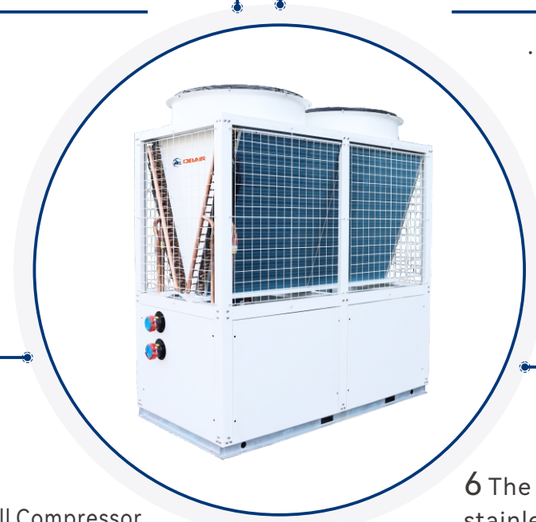


·The unit is equipped with standard panels and metal protective nets on all four sides.

3 Optimized Design of Finned Flow Channels

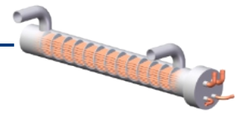
· The design is optimized based on the principle of "multiple inlets and fewer outlets for cooling, fewer inlets and more outlets for heating," resulting in higher heat transfer efficiency of the coil.





4 Single high-efficiency shell-and-tube heat exchanger

·The spacing between the heat exchange tubes is large, making them less prone to blockage and damage by impurities. The shell-and-tube liquid distribution and heat exchange process has been optimized, resulting in better heat exchange performance.



5 High-efficiency Scroll Compressor

·High-capacity scroll compressor, featuring high-efficiency operation, low noise, and minimal vibration.

6 The machine body uses all stainless steel bolts.

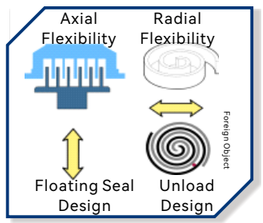
·The scroll unit is installed outdoors, and therefore, all the fastening components of its casing are made of stainless steel bolts, which offer better corrosion resistance.

www.oubokt.com | 400-915-8448

Product Features

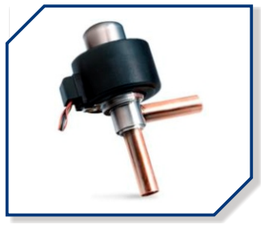
High-efficiency Flexible Scroll Compressor

The unit employs a hermetically sealed high-efficiency scroll compressor from an internationally renowned brand. The optimized design of the scroll discs and sealing rings provides dual flexibility in both axial and radial directions for refrigerant compression. This not only effectively reduces refrigerant leakage but also significantly enhances the volumetric efficiency of the compressor. Additionally, each compressor is equipped with a standard check valve on the discharge side, which prevents refrigerant backflow and ensures the safe and stable operation of the compressor under all working conditions.



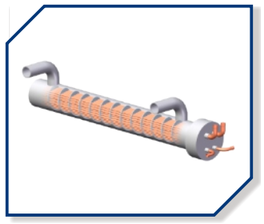
High-Precision Electronic Expansion Valve

The throttling device of the unit employs a high-quality electronic expansion valve from a reputable brand. It features high control precision and is suitable for a wide range of ambient temperatures. This not only enables heating at extremely low ambient temperatures in winter but also meets the refrigerant flow requirements for cooling at high ambient temperatures in summer. Additionally, the unit adopts a dual-control technology for suction and discharge superheat, which effectively enhances the heat exchange efficiency of the heat exchanger and ensures safe and energy-efficient operation of the unit at all times.



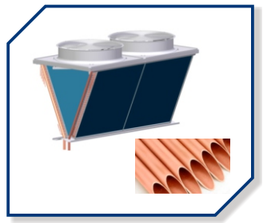
High-efficiency Water-side Heat Exchanger

The water-side heat exchanger of the unit employs a high-efficiency shell-and-tube heat exchanger. Its unique refrigerant distributor and optimized flow path design significantly enhance heat transfer efficiency, thereby improving the unit's cooling and heating performance. Compared to plate heat exchangers, the shell-and-tube design features a larger internal water flow cross-sectional area and lower water resistance. It is less prone to scaling or blockage by impurities, has lower water quality requirements, and offers stronger resistance to freezing, reducing the risk of freezing and cracking.



High-efficiency Air-side Heat Exchanger

The air-side heat exchanger of the unit adopts a unique "V" or double "V" configuration, which ensures uniform airflow distribution and high heat exchange efficiency. It also provides ample space for maintenance and inspection. The heat exchanger is composed of corrugated hydrophilic aluminum foil and high-efficiency internally grooved tubes, and is reinforced with a metal frame around the perimeter. This design not only ensures greater structural rigidity and stability but also features a large heat exchange area, strong corrosion resistance, and smooth drainage during the defrosting process.



High-performance Axial Fan

The air-side heat exchanger employs high-efficiency, low-noise, high-volume axial fans. With the implementation of staged airflow control technology, the fans can be controlled in stages, automatically adjusting the number of operating fans to match the load changes optimally. This prevents frequent start-stop cycles of the fans, thereby maintaining stable system pressure and minimizing water temperature fluctuations. As a result, the modular unit operates more reliably.

Intelligent Control System

An advanced air-conditioning dedicated controller, which realizes intelligent control of the unit and provides comprehensive protection. The operation is intuitive and easy to read. The leading intelligent control program ensures precise water temperature control under various working conditions. It can also automatically control the unit to operate safely and reliably in the most energy-efficient manner. Moreover, the advanced preemptive control function can take corresponding suppression measures in a timely manner before a fault occurs, avoiding frequent shutdowns of the unit.

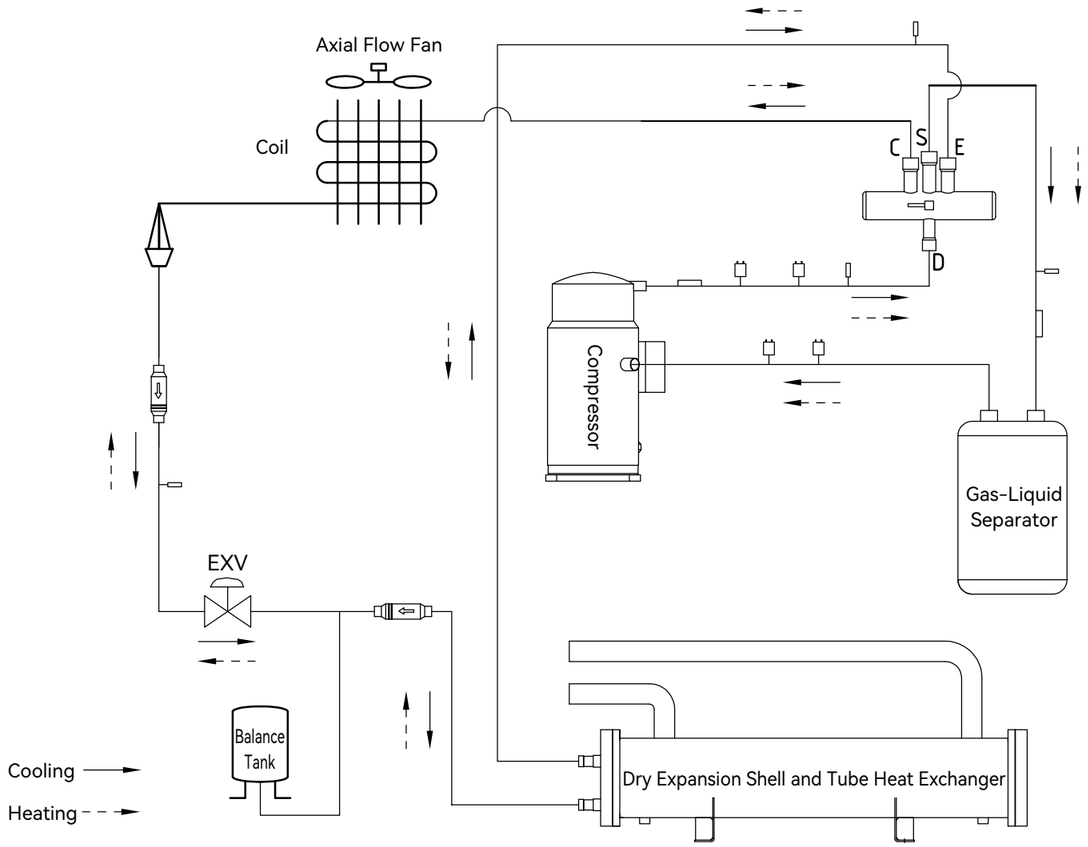
Display and Parameter Setting Functions
- ◆Full Chinese Character Display
- ◆Unit Operation Status and Parameter Inquiry
- ◆Corresponding Temperature Display
- ◆Cooling and Heating Operation Mode Settings
- ◆Cooling and Heating Inlet/Outlet Water Temperature Settings
- ◆Unit Timed On/Off Settings
- ◆Unit Automatic Restart on Power Resumption
- ◆Unit Fault Inquiry, etc.

Multiple Protection Features
- ◆Power supply phase sequence protection (reverse phase, phase loss, undervoltage, overvoltage)
- ◆Compressor high and low pressure protection
- ◆Compressor, axial fan overcurrent protection
- ◆Compressor Discharge Temperature Over and Under Protection
- ◆Winter Frost Protection for Units
- ◆Inlet and outlet water temperature too high, too low protection
- ◆Temperature sensor fault protection
- ◆Water flow switch protection, etc.

Unit System Schematic

Cooling Cycle Mode:
The compressor draws in low-pressure superheated refrigerant vapor from the evaporator (the air-conditioning side heat exchanger). After being compressed by the compressor, it becomes high-temperature, high-pressure superheated vapor. It then passes through the four-way valve and releases heat to the environment in the condenser (the finned heat exchanger), thereby condensing into subcooled liquid refrigerant. The refrigerant liquid flows through the expansion valve, where it undergoes throttling and pressure reduction before entering the evaporator (the air-conditioning side heat exchanger). Here, it absorbs heat from the chilled water and vaporizes. The vapor is then drawn back into the compressor to start a new cycle. In this way, the chilled water passing through the evaporator is cooled and subsequently delivered to the air-conditioned area.

Heating Cycle Mode:
The compressor draws in low-pressure superheated refrigerant vapor from the evaporator (the finned heat exchanger). After being compressed by the compressor, it becomes high-temperature, high-pressure superheated vapor. It then passes through the four-way valve and directly enters the condenser (the air-conditioning side heat exchanger), where it releases heat to the chilled water, thereby generating a heating effect. The condensed refrigerant liquid flows through the expansion valve, where it undergoes throttling and pressure reduction. It then enters the finned heat exchanger, where it absorbs heat from the environment and vaporizes. The vapor is drawn back into the compressor, completing the heat pump cycle.



Technical Specifications（R410A Heat Pump Type）

Model FLM-WX-***H-E-D			65	100	130	260	340	400	460	500	580	710
Nominal Cooling Capacity		kW	66	102	132	260	340	400	460	500	580	710
Nominal Heating Capacity		kW	72	110	144	280	346	429	481	534	590	718
Main Power Supply			380V/3N~/50Hz									
Cooling Input Power		kW	20	30.5	39.9	78.1	101.8	121.3	135.8	150.5	172.5	209.8
Heating Input Power		kW	20.5	31.4	41.2	81.2	98.4	124.5	137.9	152.9	181.6	215.5
Compressor	Type		Flexible Scroll Compressor									
	Quantity	Piece	2	3	2	4	4	6	6	6	8	8
Refrigerant Type			R410A									
Water-side Heat Exchanger	Type	/	Shell and Tube Heat Exchanger									
	Water Flow Rate	m^3/h	11.3	17.5	22.7	45	58	69	79	86	100	122
	Water Resistance	kPa	45	42	46	48	49	48	55	56	46	46
	Inlet and Outlet Water Pipe Connections	DN	50	65	65	100	100	125	125	125	125	125
Air-side Heat Exchanger			Copper tubes with internal threads strung on hydrophilic aluminum foil									
Fan	Type		Axial Flow Fan									
	Quantity	Unit	2	2	2	4	4	6	6	6	8	8
Dimensions	L	mm	2200	2200	2200	2200	2550	3300	3570	3792	4820	5064
	W	mm	900	1100	1100	2200	2200	2200	2350	2200	2350	2200
	H	mm	2020	2240	2440	2455	2740	2455	2600	2740	2600	2740
Unit Weight		kg	700	810	860	2050	2960	3350	3510	3900	4580	5810
Operating Weight		kg	770	890	950	2210	3130	3550	3680	4150	4790	5990

Note:
1. Rated cooling condition: ambient temperature 35℃, chilled water inlet and outlet temperature 12/7℃.
2. Rated heating condition: ambient dry / wet - bulb temperature 7/6℃, hot water outlet temperature 45℃.
3. Cooling ambient temperature operating range: 5 ~ 45℃, outlet water temperature range under rated water flow: 5 ~ 15℃.
4. Heating ambient temperature operating range: -15 ~ 25℃, outlet water temperature range under rated water flow: 35 ~ 50℃.
5. Various specifications can be combined arbitrarily, and up to 16 modules can be combined according to the maximum cooling capacity.
6. In actual use, the cooling and heating capacity should consider the system piping, pump, valve, fouling and other losses of about 5% after the unit is installed.
7. If there are any other special requirements, please specify before placing the order.
8. If the specifications and parameters are changed due to product improvement, we will not notify you separately.

Technical Specifications（R410A Year-Round Cooling Type）

Model FLM-WX-***W/Y-E-D			65	100	130	260	340	400	460	500	580	710
Nominal Cooling Capacity		kW	66	102	132	260	340	400	460	500	580	710
Main Power Supply			380V/3N~/50Hz									
Cooling Input Power		kW	20	30.5	39.9	78.1	101.8	121.3	135.8	150.5	172.5	209.8
Compressor	Type		Flexible Scroll Compressor									
	Quantity	Piece	2	3	2	4	4	6	6	6	8	8
Refrigerant Type			R410A									
Water-side Heat Exchanger	Type	/	Shell and Tube Heat Exchanger									
	Water Flow Rate	m^3/h	11.3	17.5	22.7	45	58	69	79	86	100	122
	Water Resistance	kPa	45	42	46	48	49	48	55	56	46	46
	Inlet and Outlet Water Pipe Connections	DN	50	65	65	100	100	125	125	125	125	125
Air-side Heat Exchanger			Copper tubes with internal threads strung on hydrophilic aluminum foil									
Fan	Type		Axial Flow Fan									
	Quantity	Unit	2	2	2	4	4	6	6	6	8	8
Dimensions	L	mm	2200	2200	2200	2200	2550	3300	3570	3792	4820	5064
	W	mm	900	1100	1100	2200	2200	2200	2350	2200	2350	2200
	H	mm	2020	2240	2440	2455	2740	2455	2600	2740	2600	2740
Unit Weight		kg	680	800	850	2010	2840	3240	3420	3800	4480	5770
Operating Weight		kg	750	880	945	2110	3030	3510	3610	4050	4690	5880

Note:

1.In the nominal cooling condition, the ambient temperature is 35℃, and the inlet and outlet temperatures of the chilled water are 12/7℃.

2.The cooling ambient temperature ranges from 5 to 45℃, and under the rated water flow, the outlet water temperature ranges from 5 to 15℃.

3.Varieties of specifications can be arbitrarily combined, and up to 16 modules can be combined according to the maximum cooling capacity.

4.In actual use, the cooling and heating capacity should take into account the system piping, pump, valve, fouling and other losses of about 5% after the unit is installed.

5.If there are any other special requirements, please specify before placing the order.

6.If the specifications and parameters are changed due to product improvement, we apologize that we will not notify you separately.

Technical Specifications（R410A Year-Round Heating Type）

Model FLM-WX-***T-E-D			65	100	130	260	340	400	460	500	580	710
Nominal Cooling Capacity		kW	72	110	144	280	346	429	481	534	590	718
Main Power Supply			380V/3N~/50Hz									
Cooling Input Power		kW	20.5	31.4	41.2	81.2	98.4	124.5	137.9	152.9	181.6	215.5
Compressor	Type		Flexible Scroll Compressor									
	Quantity	Piece	2	3	2	4	4	6	6	6	8	8
Refrigerant Type			R410A									
Water-side Heat Exchanger	Type	/	Shell and Tube Heat Exchanger									
	Water Flow Rate	m^3/h	12.4	18.9	24.8	48	60	74	83	92	101	123
	Water Resistance	kPa	45	42	46	48	49	48	55	56	46	46
	Inlet and Outlet Water Pipe Connections	DN	50	65	65	100	100	125	125	125	125	125
Air-side Heat Exchanger			Copper tubes with internal threads strung on hydrophilic aluminum foil									
Fan	Type		Axial Flow Fan									
	Quantity	Unit	2	2	2	4	4	6	6	6	8	8
Dimensions	L	mm	2200	2200	2200	2200	2550	3300	3570	3790	4820	5064
	W	mm	900	1100	1100	2200	2200	2200	2350	2200	2350	2200
	H	mm	2010	2200	2415	2455	2740	2455	2600	2740	2600	2740
Unit Weight		kg	680	800	850	2010	2840	3240	3420	3800	4480	5770
Operating Weight		kg	750	880	945	2110	3030	3510	3610	4050	4690	5880

Note:

1. Rated heating condition: ambient dry-bulb / wet-bulb temperature 7/6℃, hot water outlet temperature 45℃.

2. Heating ambient temperature operating range: -15 ~ 25℃, and under the rated water flow, the outlet water temperature ranges from 35 ~ 50℃.

3. Various specifications can be arbitrarily combined, and up to 16 modules can be combined according to the maximum cooling capacity.

4. In actual use, the cooling and heating capacity should take into account the system piping, pump, valve, fouling and other losses of about 5% after the unit is installed.

5. If there are any other special requirements, please specify before placing the order.

6. If the specifications and parameters are changed due to product improvement, we apologize that we will not notify you separately.

Technical Specifications（R410A Partial Heat Recovery Type）

Model FLM-WX-***R-E-D			65	130
Configuration			65	130
Nominal Heating Capacity		kW	66	132
Nominal Heating Capacity		kW	72	144
Partial Heat Recovery Capacity		kW	16.2	32
Main Power Supply			380V/3N~/50Hz	
Cooling Input Power		kW	20	39.9
Heating Input Power		kW	20.5	41.2
Compressor	Type	/	Flexible Scroll Compressor	
	Quantity	Piece	2	2
Refrigerant Type			R410A	
Water-side Heat Exchanger	Type	/	Shell and Tube Heat Exchanger	
	Water Flow Rate	m^3/h	11.2	22.7
	Water Resistance	kPa	≤50	
	Pipe Connection Diameter	DN	65	80
Partial Heat Recovery Unit	Type	/	High-Efficiency Tank	
	Water Flow Rate	m^3/h	2.8	5.5
	Water Resistance	kPa	≤50	
	Pipe Connection Diameter	Internal Thread	Rc1-1/4"	Rc1-1/2"
Air-side Heat Exchanger			Copper tubes with internal threads strung on hydrophilic aluminum foil	
Fan	Type	/	Axial Flow Fan	
	Quantity	Piece	2	2
Dimensions	L	mm	2200	2200
	W	mm	900	1300
	H	mm	1995	2330
Unit Weight		kg	590	960
Operating Weight		kg	640	1010

Note:

1.Nominal Cooling Conditions: Chilled water outlet temperature: 7°C； Water flow rate: 0.172 $m^3/(h \cdot kW)$; Ambient air temperature: 35°C DB (dry bulb); Nominal Heating Conditions: Hot water outlet temperature: 45°C； Ambient air temperature: 7°C DB/6°C WB (dry bulb/wet bulb).

2.Heat Recovery Conditions: Chilled water outlet temperature: 7°C； Hot water outlet temperature: 45°C.

3.Operating Ambient Temperature Range for Partial Heat Recovery Units： Cooling + Heat Recovery: 5°C to 45°C； Heating: -15°C to 25°C.

4.For any other special requirements, please specify before placing the order.

5.Specifications and parameters may be changed without notice due to product improvement.

Technical Specifications（R410A Single-Cooling with Heat Recovery Type）

Model FLM-WX-***S-E-D			65	130
Single-Cooling and Heating	Nominal Cooling Capacity	kW	66	132
	Nominal Cooling Input Power	kW	20	39.9
	Nominal Heating Capacity	kW	72	144
	Nominal Heating Input Power	kW	20.5	41.2
Refrigeration Heat Recovery	Cooling Capacity	kW	66	132
	Heat Recovery Capacity	kW	72	144
	Cooling Heat Recovery Input Power	kW	18.9	37.8
Power Supply			380V/3N~/50Hz	
Number of Compressors			2	2
Refrigerant			R410A	
Air-side Heat Exchanger			Copper Tube and Aluminum Fin	
Axial Flow Fan	Type	/	Waterproof, Weather-resistant, Low-noise, High-efficiency Axial Flow Fan	
	Quantity	Piece	2	2
Water-side Heat Exchanger	Type	/	Plate Heat Exchanger	
	Water Flow Rate	m^3/h	11.2	22.7
	Water Resistance	kPa	50	
	Pipe Connection Diameter	Internal Thread	G 2"	G 2-1/2"
	Water-side Pressure Rating	MPa	1.0	
Heat Recovery Heat Exchanger	Type	/	High-Efficiency Tank-Type Heat Exchanger	
	Water Flow Rate	m^3/h	12.4	24.8
	Water Pressure Drop	kPa	50	
	Pipe Connection Diameter	Internal Thread	G 2"	G 2-1/2"
	Water-side Pressure Rating	MPa	1.0	
Dimensions	L	mm	2200	2200
	W	mm	900	1100
	H	mm	1995	2330
Unit Weight		kg	860	1010
Operating Weight		kg	980	1150

Note:

1.Nominal Cooling Conditions: Air-conditioning water outlet temperature: 7°C; Ambient air temperature: 35°C; Cooling Operating Range: Ambient air temperature: 5°C to 45°C; Air-conditioning water outlet temperature: 5°C to 15°C.

2.Nominal Heating Conditions: Air-conditioning water outlet temperature: 45°C; Ambient air dry/wet bulb temperature: 7°C/6°C.

3.Cooling Heat Recovery Conditions: Chilled water outlet temperature: 7°C; Hot water outlet temperature: 45°C.

4.The above parameters are for a single module unit, with a maximum of 16 modules that can be controlled in combination.

5.The units in this series can be customized to meet specific customer requirements.

6.Specifications and parameters may be changed without notice due to product improvement.

Table of Technical Parameter Correction Factors

Cooling Technical Parameter Correction Factor Table (R410A Heat Pump Type)

Water Outlet Temp. ℃	Ambient Temperature																	
	5℃		10℃		15℃		20℃		25℃		30℃		35℃		40℃		45℃	
	Cooling Capacity	Power	Cooling Capacity	Power	Cooling Capacity	Power	Cooling Capacity	Power	Cooling Capacity	Power	Cooling Capacity	Power	Cooling Capacity	Power	Cooling Capacity	Power	Cooling Capacity	Power
5	1.06	0.72	1.08	0.73	1.09	0.71	1.09	0.78	1.04	0.84	0.99	0.90	0.93	0.97	0.87	1.01	0.80	1.08
7	1.14	0.75	1.16	0.76	1.17	0.74	1.16	0.81	1.11	0.87	1.06	0.93	1.00	1.00	0.94	1.04	0.87	1.11
9	1.21	0.78	1.23	0.79	1.24	0.77	1.23	0.84	1.18	0.90	1.13	0.96	1.07	1.03	1.01	1.07	0.94	1.14
11	1.28	0.81	1.30	0.82	1.31	0.80	1.30	0.87	1.25	0.93	1.20	0.99	1.14	1.06	1.08	1.10	1.01	1.17
13	1.35	0.84	1.37	0.85	1.38	0.83	1.37	0.90	1.32	0.96	1.27	1.02	1.21	1.09	1.15	1.13	1.08	1.20
15	1.40	0.88	1.43	0.89	1.44	0.87	1.42	0.94	1.38	1.00	1.32	1.06	1.26	1.13	1.20	1.17	1.13	1.24

Heating Technical Parameter Correction Factor Table (R410A Heat Pump Type)

Water Outlet Temp. ℃	Ambient Temperature															
	-15℃		-10℃		-5℃		0℃		7℃		15℃		20℃		25℃	
	Heating Capacity	Power	Heating Capacity	Power	Heating Capacity	Power	Heating Capacity	Power	Heating Capacity	Power	Heating Capacity	Power	Heating Capacity	Power	Heating Capacity	Power
35	0.48	0.77	0.63	0.78	0.74	0.79	0.87	0.85	1.03	0.89	1.18	0.93	1.28	0.95	1.35	0.97
40	0.46	0.83	0.61	0.84	0.72	0.85	0.85	0.91	1.01	0.95	1.14	0.99	1.24	1.01	1.31	1.03
45	-	-	0.60	0.89	0.71	0.90	0.84	0.96	1.00	1.00	1.11	1.05	1.21	1.07	1.28	1.09
50	-	-	-	-	0.68	0.96	0.81	1.02	0.97	1.06	1.08	1.11	1.18	1.13	1.25	1.15

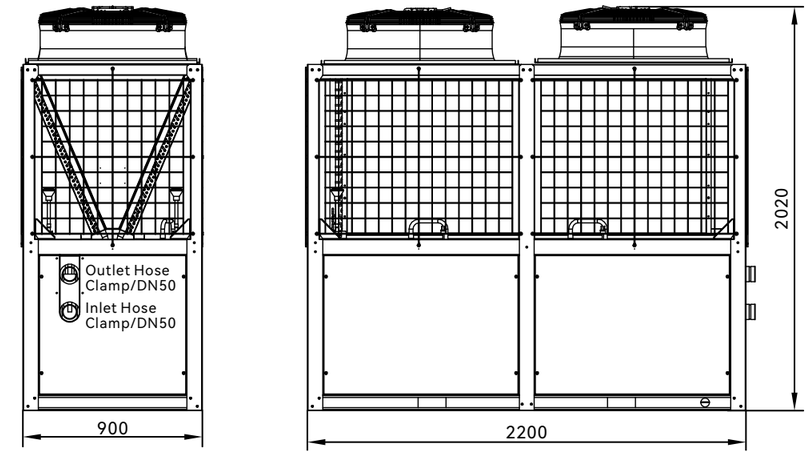
Cooling Technical Parameter Correction Factor Table (R410A Year-Round Cooling Type)

Water Outlet Temp. ℃	Ambient Temperature																							
	-15℃		-10℃		-5℃		0℃		5℃		10℃		15℃		20℃		25℃		30℃		35℃		40℃		45℃	
	Cooling Capacity	Power	Cooling Capacity	Power	Cooling Capacity	Power	Cooling Capacity	Power	Cooling Capacity	Power	Cooling Capacity	Power	Cooling Capacity	Power	Cooling Capacity	Power	Cooling Capacity	Power	Cooling Capacity	Power	Cooling Capacity	Power	Cooling Capacity	Power	Cooling Capacity	Power
5	1.12	0.49	1.09	0.57	1.06	0.63	1.09	0.66	1.06	0.72	1.08	0.73	1.09	0.71	1.09	0.78	1.04	0.84	0.99	0.90	0.93	0.97	0.87	1.01	0.80	1.08
7	1.18	0.50	1.16	0.58	1.14	0.66	1.17	0.69	1.14	0.75	1.16	0.76	1.17	0.74	1.16	0.81	1.11	0.87	1.06	0.93	1.00	1.00	0.94	1.04	0.87	1.11
9	1.23	0.51	1.22	0.59	1.21	0.69	1.24	0.72	1.21	0.78	1.23	0.79	1.24	0.77	1.23	0.84	1.18	0.90	1.13	0.96	1.07	1.03	1.01	1.07	0.94	1.14
11	1.27	0.52	1.27	0.60	1.28	0.72	1.31	0.75	1.28	0.81	1.30	0.82	1.31	0.80	1.30	0.87	1.25	0.93	1.20	0.99	1.14	1.06	1.08	1.10	1.01	1.17
13	1.33	0.53	1.33	0.60	1.35	0.75	1.38	0.78	1.35	0.84	1.37	0.85	1.38	0.83	1.37	0.90	1.32	0.96	1.27	1.02	1.21	1.09	1.15	1.13	1.08	1.20
15	1.35	0.55	1.35	0.62	1.39	0.78	1.43	0.81	1.40	0.88	1.43	0.89	1.44	0.87	1.42	0.94	1.38	1.00	1.32	1.06	1.26	1.13	1.20	1.17	1.13	1.24

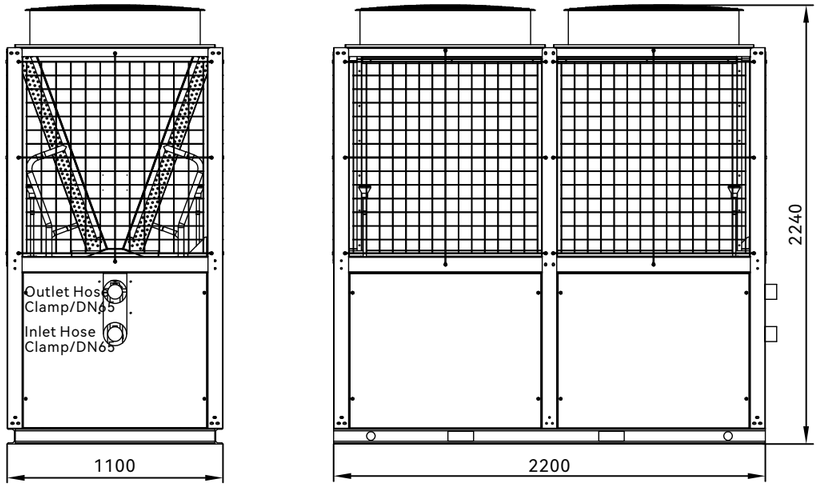
Heating Technical Parameter Correction Factor Table (R410A Year-Round Heating Type)

Water Outlet Temp. ℃	Ambient Temperature																							
	-15℃		-10℃		-5℃		0℃		7℃		15℃		20℃		25℃		30℃		35℃		40℃		45℃	
	Heating Capacity	Power	Heating Capacity	Power	Heating Capacity	Power	Heating Capacity	Power	Heating Capacity	Power	Heating Capacity	Power	Heating Capacity	Power	Heating Capacity	Power	Heating Capacity	Power	Heating Capacity	Power	Heating Capacity	Power	Heating Capacity	Power
35	0.48	0.77	0.63	0.78	0.74	0.79	0.87	0.85	1.03	0.89	1.18	0.93	1.28	0.95	1.37	0.97	1.41	0.99	1.46	1.01	1.50	1.03	1.55	1.05
40	0.46	0.83	0.61	0.84	0.72	0.85	0.85	0.91	1.01	0.95	1.14	0.99	1.24	1.01	1.32	1.03	1.36	1.05	1.40	1.07	1.45	1.09	1.49	1.11
45	-	-	0.60	0.89	0.71	0.90	0.84	0.96	1.00	1.00	1.11	1.05	1.21	1.07	1.28	1.09	1.32	1.11	1.36	1.13	1.40	1.15	1.44	1.17
50	-	-	-	-	0.68	0.96	0.81	1.02	0.97	1.06	1.08	1.11	1.18	1.13	1.25	1.15	1.28	1.17	1.32	1.19	1.35	1.21	1.39	1.23

Unit Dimensional Drawing

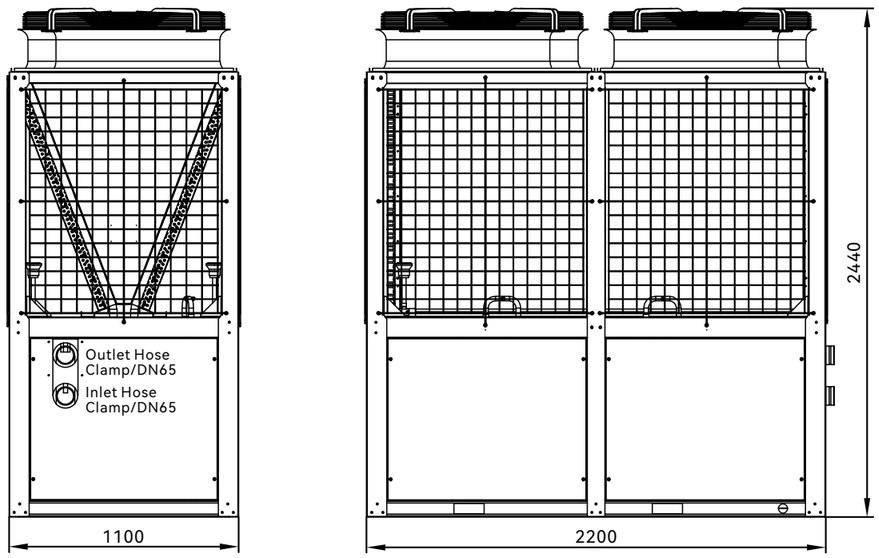


FLM-WX-65（Heat Pump/Single Cooling/Single Heating/Heat Recovery）

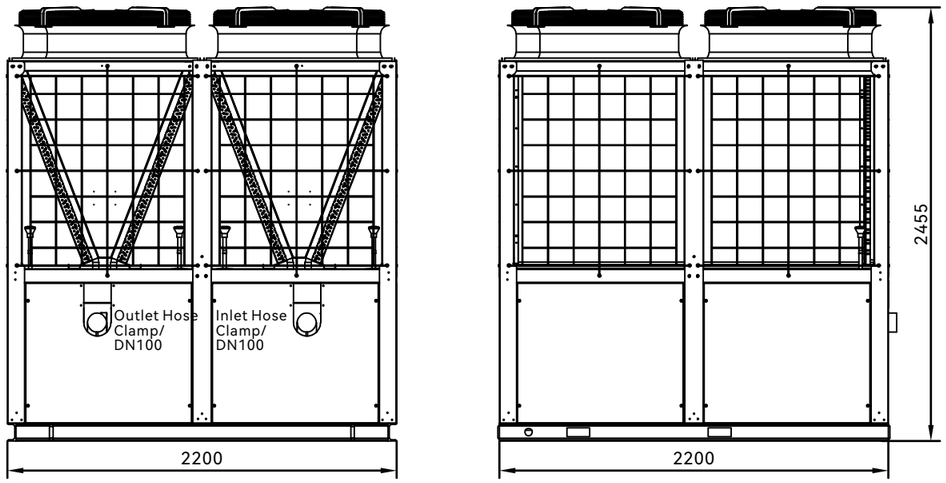


FLM-WX-100（Heat Pump/Single Cooling/Single Heating）

Unit Dimensional Drawing

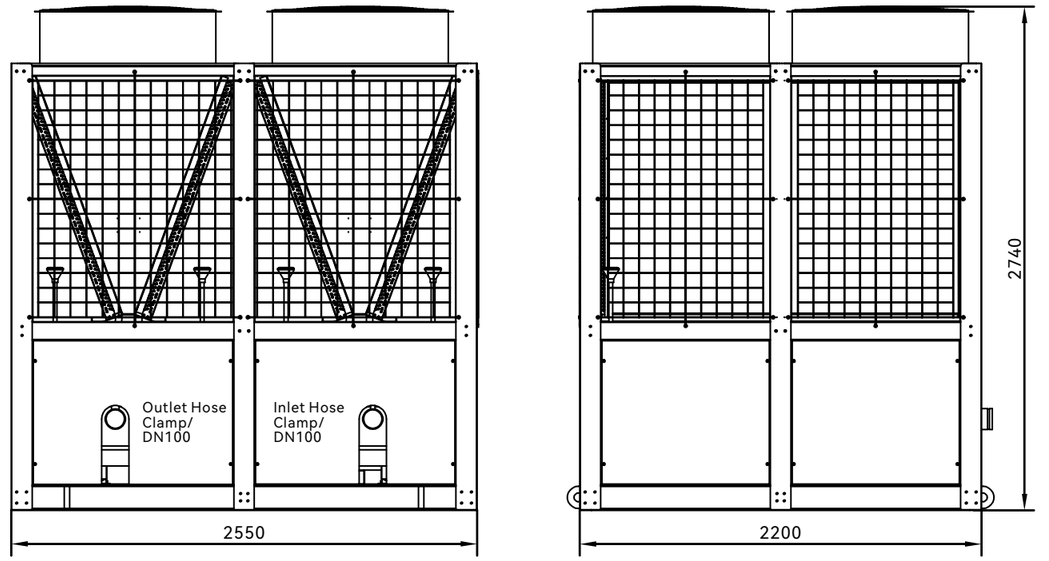


FLM-WX-130（Heat Pump/Single Cooling/Single Heating/Heat Recovery）

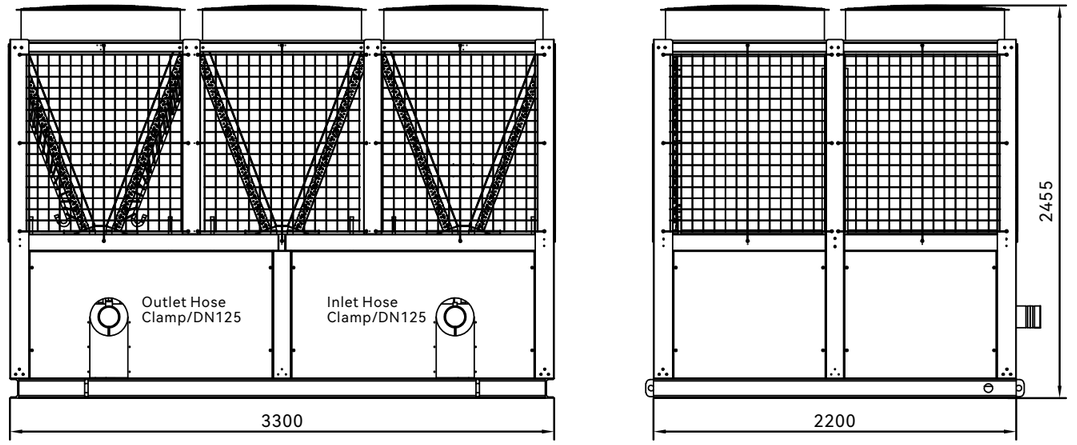


FLM-WX-260（Heat Pump/Single Cooling/Single Heating）

Unit Dimensional Drawing

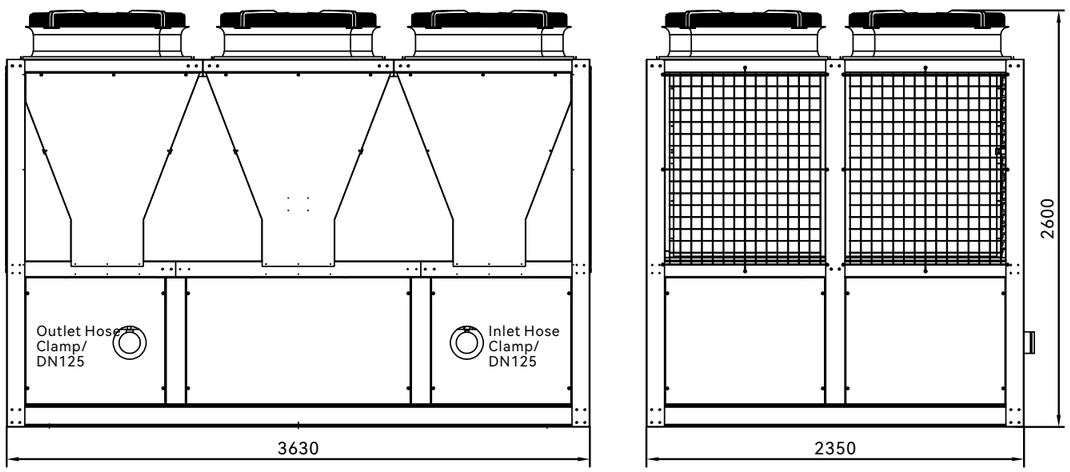


FLM-WX-340（Heat Pump/Single Cooling/Single Heating）

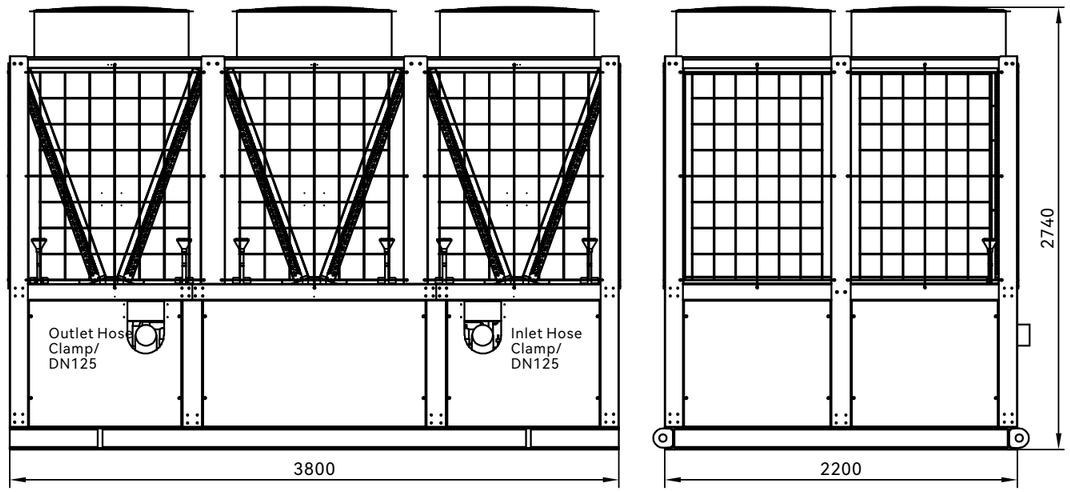


FLM-WX-400（Heat Pump/Single Cooling/Single Heating）

Unit Dimensional Drawing

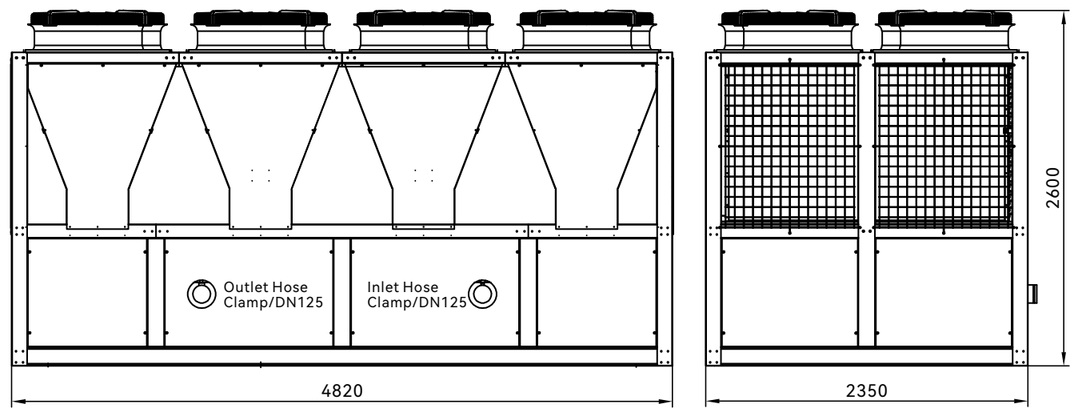


FLM-WX-460（Heat Pump/Single Cooling/Single Heating）

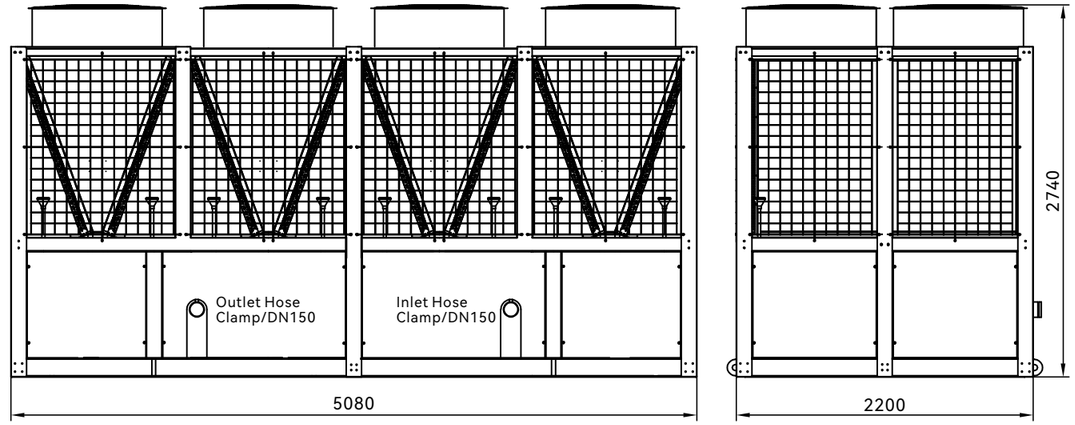


FLM-WX-500（Heat Pump/Single Cooling/Single Heating）

Unit Dimensional Drawing



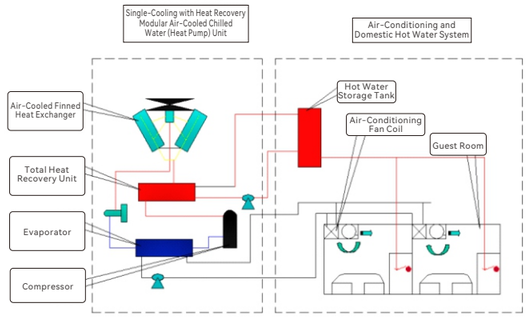
FLM-WX-580（Heat Pump/Single Cooling/Single Heating）



FLM-WX-710（Heat Pump/Single Cooling/Single Heating）

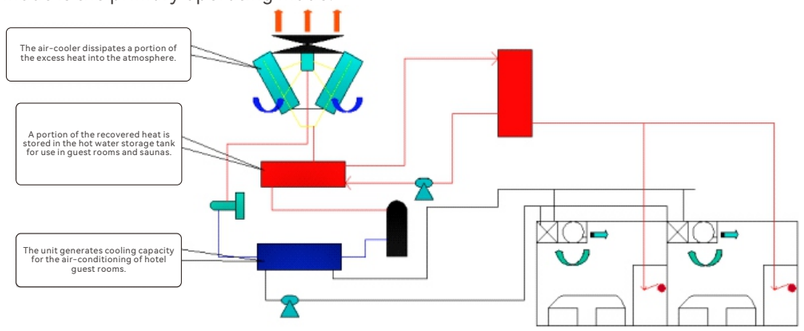
Instructions for Year-Round Operation of Cooling, Heating, and Domestic Hot Water

The core technology of the OBAIR Single-Cooling with Heat Recovery Modular Air-Cooled Chilled Water (Heat Pump) Unit is reflected in its ability to meet the synchronous or asynchronous demands for cooling, heating, and hot water in hotels, as well as the varying demands of different seasons, through a special refrigeration and heat recovery cycle system. It dynamically switches and adjusts according to the hotel's cooling and heating demands, minimizing energy consumption. The system, which integrates with the hotel's air conditioning and hot water supply, is shown in the figure.



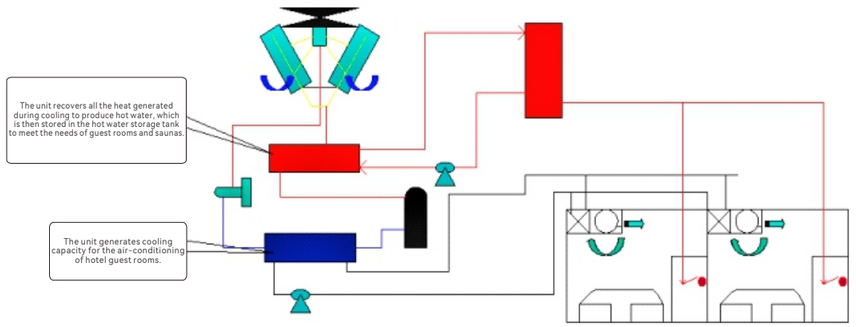
1、Summer Cooling with Waste Heat Recovery Mode

In situations where the air-conditioning operation time is long but the monthly demand for hot water is relatively small, the recovered heat is sufficient to meet the hotel's hot water needs. In summer, the cooling with waste heat recovery mode is the primary operating mode.



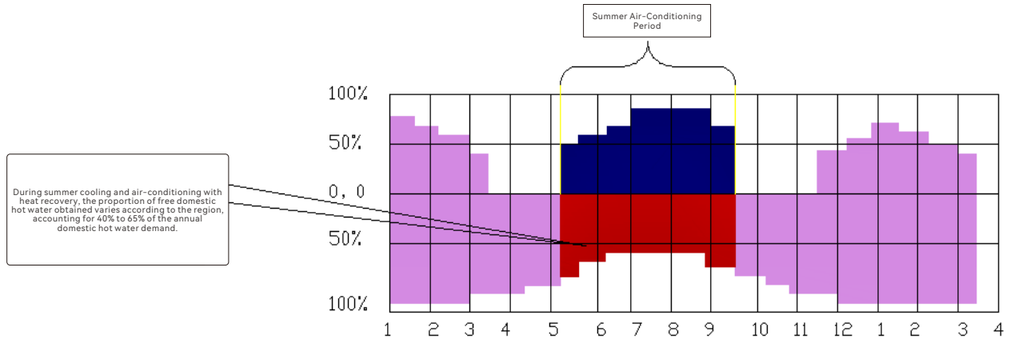
2、Summer Cooling with Full Heat Recovery Mode

In hotels, there are times when guests have concentrated demands for hot water. In such cases, the heat recovered from cooling may not be sufficient to meet the hot water demand within a short period. The full heat recovery air-cooled mode of the chilled (hot) water unit is an outstanding feature. When there is an abnormal demand for hot water, the unit can recover all the heat generated during cooling and use it for domestic hot water. This operating mode provides hot water quickly and in large quantities, serving as an important safeguard for hotels when there is a sudden increase in the demand for domestic hot water.



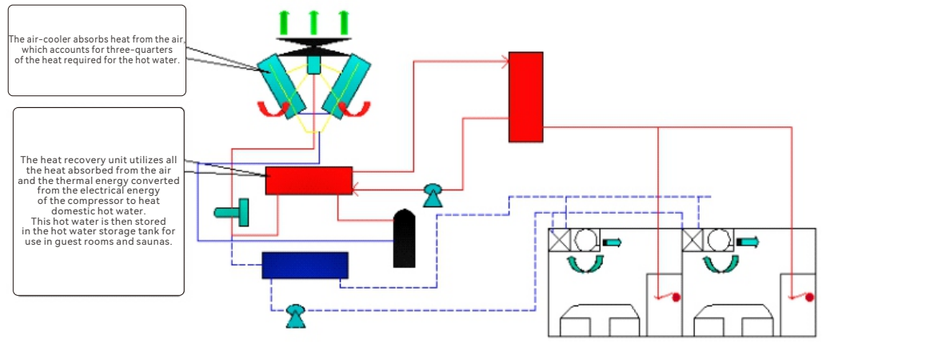
Instructions for Year-Round Operation of Cooling, Heating, and Domestic Hot Water

Summer Operating Mode: Free Domestic Hot Water Load Variation Chart

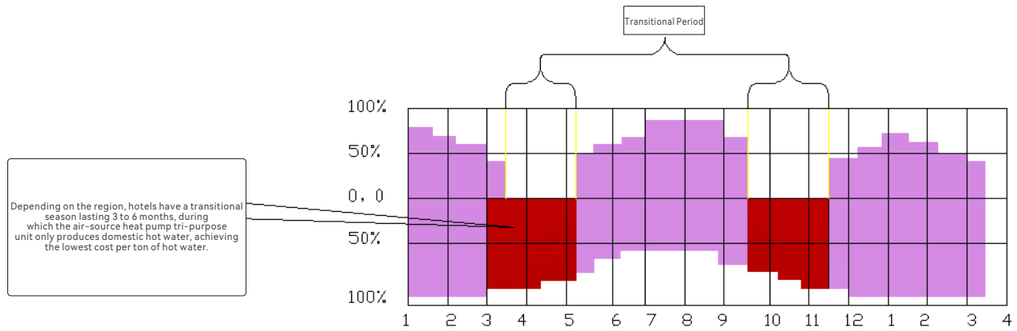


3、Domestic Hot Water Production Mode in Transitional Seasons

For several months of the year, hotels do not require cooling or heating; this period is referred to as the transitional season. During the transitional season, hotels only need domestic hot water. The full heat recovery air-cooled modular chilled (hot) water unit from Eurobo Air Conditioning has the capability to produce domestic hot water independently. It utilizes air energy to generate domestic hot water, with costs amounting to only one-third of those associated with fuel-fired boilers.



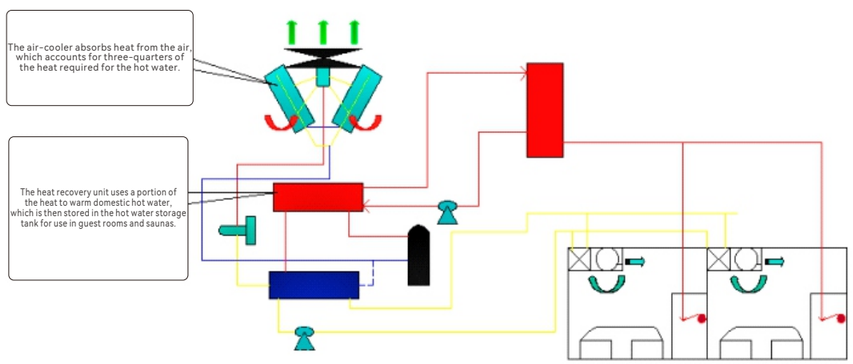
Domestic Hot Water Load Variation Chart in Transitional Seasons



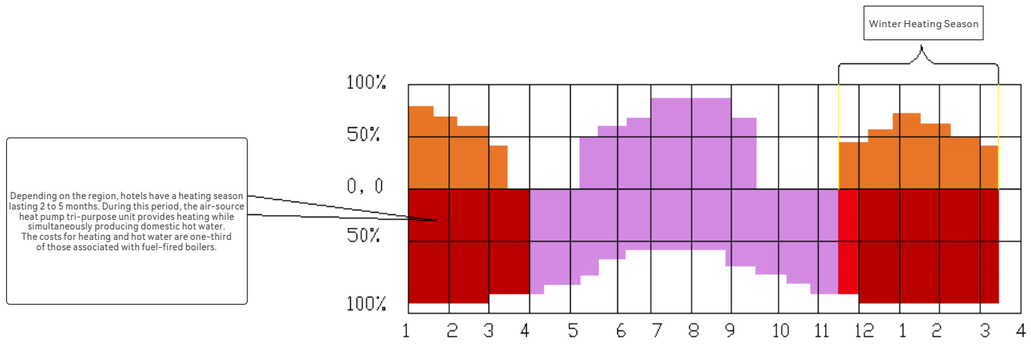
Instructions for Year-Round Operation of Cooling, Heating, and Domestic Hot Water

4、Winter Heating and Domestic Hot Water Production Mode

In winter, the Single-Cooling with Heat Recovery Modular Air-Cooled Chilled Water (Heat Pump) Unit provides heating for space conditioning while simultaneously producing domestic hot water based on the hotel's hot water usage. In addition to this, the unit can also operate in a mode where heating and hot water production are alternated. For example, heating demand is usually lower during the day and higher at night, with the unit primarily operating in heating mode. The outstanding performance of the Eurobo Air Conditioning Single-Cooling with Heat Recovery Modular Air-Cooled Chilled Water (Heat Pump) Unit not only maximizes the efficiency of the equipment but also reduces initial investment costs, saves on installation space, and cuts down on engineering expenses.

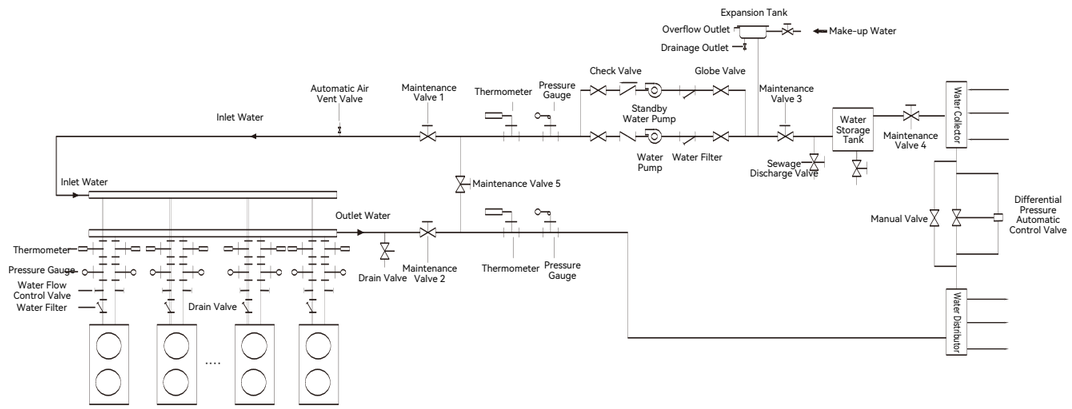


Winter Heating and Domestic Hot Water Load Variation Chart



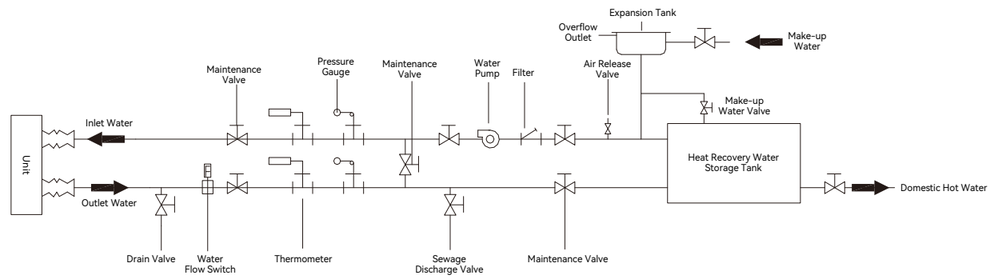
Water System Piping Diagram

Water Pipe Layout Diagram



Modular air-cooled chilled water (heat pump) water unit on the system water pipe configuration diagram

Schematic diagram of heat recovery hot water piping



The heat-recovered domestic hot water is heated in a recirculating manner and is only produced when the air-conditioning unit is in operation. Therefore, it is recommended to add a hot water storage tank to accumulate the heat-recovered energy during air-conditioning operation. The stored hot water can then be drawn from the tank for use when needed.

Note: The recovered hot water is generated for free during the cooling operation of the unit, so the amount of hot water is limited. This must be taken into account during the design phase.

Water Quality Requirements

Due to the varying water quality in different usage regions, the water quality should be inspected before it enters the unit's heat exchanger. If the water quality does not meet the requirements for air-conditioning use, water treatment is necessary. The water quality should comply with the requirements listed in the table below and should be subject to regular sampling inspections.

Our company does not guarantee the use of improperly treated or untreated water that does not meet the standards, nor do we guarantee that the units in this series can use brackish water.

Project Name	Unit	Supplemental Water	Chilled Water
PH Value（25℃）	-	6.5~8.0	6.5~8.0
Conductivity（25℃）	uS/cm	<200	<800
Chloride Ions	mgCl^-/L	<50	<200
Sulfate Ions	mgSO_4^{2-}/L	<50	<200
Acid Consumption（PH4.8）	mg$CaCO_3$/L	<50	<100
Total Hardness	mg$CaCO_3$/L	<70	<200
Iron	mgFe/L	<0.3	<1.0
Sulfide Ions	mgSO_4^{2-}/L	Not Detectable	Not Detectable
Ammonium Ions	mgNH_4^+/L	<1.0	<1.0
Silica (SiO_2)	mgSiO_2/L	<30	<50

Unit Lifting and Transportation

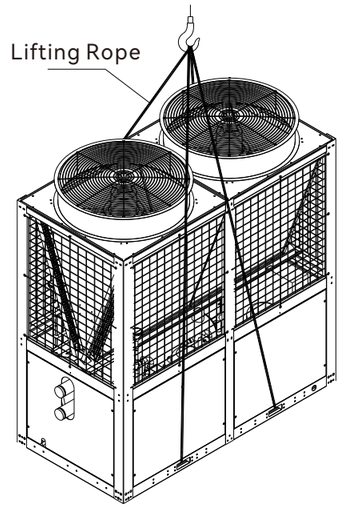
Precautions for Unit Lifting

The unit is transported from the factory to the construction site. Before lifting, it should be kept in good packaging. The following issues must be noted during the lifting process:

A: Handle with care during transportation and ensure that the unit remains vertical.

B: When lifting the unit, avoid collisions with other objects that may cause it to slide. Additionally, personnel should avoid standing directly below or near the unit for safety reasons. The selection of round steel bars, lifting slings, and cranes should be based on the unit's weight specifications.

C: To prevent surface scratches or deformation, protective padding must be placed where the steel cables contact the unit. Additionally, supports should be added between the ropes to prevent them from damaging the machine.



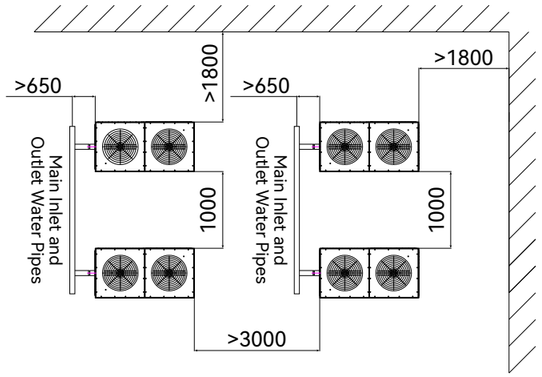
Installation Requirements

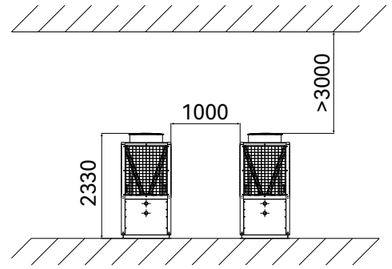
The unit must be installed in a location with good ventilation and heat dissipation. To prevent air recirculation at the air-side heat exchanger, the recommended spacing between units is shown in the figure below. There should be no obstructions beneath the units within the specified spacing.

If there are any building overhangs above the unit, a minimum clearance height of at least 3 meters should be maintained to ensure unobstructed airflow.

Air recirculation of hot air can severely affect the unit's performance, potentially leading to excessive condensing pressure or fan motor failure. It is essential to ensure the installation space requirements mentioned above.

The unit base should be isolated from the foundation using vibration pads or isolators, and the unit must be installed level. To prevent twisting and potential breakage of the piping due to earthquakes, typhoons, or long-term equipment operation, the unit should be securely connected to the foundation.



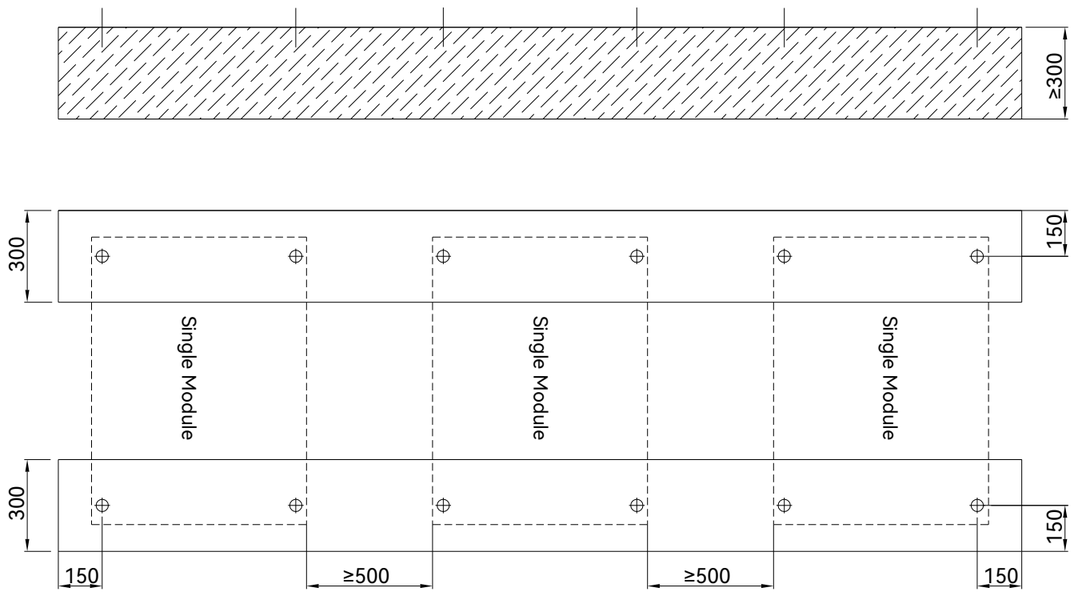


Installation Foundation

The unit should be installed on a solid, stable, and flat concrete foundation or metal steel frame. The installation platform must be strong enough to support the weight of the unit. Insufficient strength can easily lead to vibration and noise.

To ensure quiet operation and prevent the transmission of vibration and noise to the floors below where the unit is located, the unit base should be isolated from the foundation using vibration isolators. The unit should be installed level, and if necessary, an anti-vibration base may be considered.

To avoid twisting and potential breakage of the piping due to possible displacement caused by earthquakes, typhoons, or long-term operation of the equipment, appropriate fixing measures should be considered for the unit.



Unit Installation

Selection of Installation Location

The unit can be installed on a pre-made foundation on the ground, balcony, roof, dedicated platform, or any other location that is convenient for installation and capable of supporting the unit's operating weight. However, the following requirements must be noted:

A: The unit should be kept at a distance of more than 1.8 meters from surrounding objects to ensure good ventilation and facilitate installation and maintenance.

B: The distance between the main supply and return water pipes and the unit should be more than 1 meter to allow for routine maintenance.

C: When multiple units are placed side by side, a distance of more than 3.0 meters should be maintained to ensure good heat exchange performance.

D: Choose a location close to the main power supply to avoid excessive voltage drop, which may affect the normal startup of the unit.

E: The installed unit should be level. Drainage ditches should be pre-installed around the unit, and consideration should be given to the unit's drainage issues during winter.

F: Although the noise level of the air-conditioning unit during operation is already very low, some sound may still be generated due to installation factors. To avoid noise interference with users and neighbors during unit operation, installation within 10 meters of residential areas should be avoided if possible.

Instructions

1.For units with a cooling capacity of less than 80 tons, it is recommended to use DN100 pipes for inlet and outlet water, with a balanced (same-length) piping layout.

2.For units with a cooling capacity between 80 and 160 tons, it is recommended to use DN125 pipes for inlet and outlet water, with a balanced (same-length) piping layout.

3.For units with a cooling capacity between 160 and 240 tons, it is recommended to use DN150 pipes for inlet and outlet water, with a balanced (same-length) piping layout.

4.For units with a cooling capacity between 240 and 320 tons, it is recommended to use DN200 pipes for inlet and outlet water, with a balanced (same-length) piping layout.

Installation of the Unit

◆ Circulating Water Should Use Softened Water

◆ Safety Valve and Automatic Water Makeup: The water system must be equipped with a safety valve and an automatic water makeup device.

◆ Water Flow Rate: The water flow rate must not be lower than the rated value specified on the unit's nameplate.

◆ Automatic Air Vent Valve: The automatic air vent valve must be installed at the highest point of the water system.

◆ Drain Valve: Appropriate drain valves should be installed at the lowest point of the water system.

◆ Expansion Tank: The water system piping must include an expansion tank to accommodate changes in water volume due to temperature variations.

◆ Bypass Configuration: The water system piping must be configured with a bypass. Only after confirming that the water system is clean should it be connected to the main unit's water circuit.

◆ Regular Cleaning of the Water System: The water system should be cleaned regularly to prevent impurities from entering the evaporator, which could cause damage to the unit.

◆ Total Water System Capacity: The total capacity of the water system should meet the design requirement of 10L/kW. If the capacity is insufficient, an appropriately sized buffer tank must be installed to prevent water temperature fluctuations and frequent start-stop cycles of the unit.

Maintenance and Service

The unit should be equipped with a dedicated power supply. The voltage fluctuation range should be within ±10%. An automatic air switch should be used, with the setting current being 1.5 times the unit's operating current. A phase-loss protector must be installed, and it is strictly prohibited to use a knife switch for the unit.

When using the unit for the first time each season, it must be powered on and preheated for 12 hours before startup. For single-cooling units that are not used for an extended period, it is essential to drain all water from the unit and piping. For heat pump units that stop heating in winter, the main controller and unit must maintain communication, and power should never be cut off to prevent freezing of pipes or the unit.

The main unit switch should not be operated frequently, with no more than four operations per hour. The electrical control box should be protected from moisture.

Always ensure that the unit has a good heat exchange environment around it, and the air-side heat exchanger should be cleaned and dusted regularly.

The water system should be equipped with an expansion tank. The circulating water should be kept clean, and sufficient water flow should be maintained during operation; otherwise, the water-side heat exchanger may freeze and crack. The water filter should also be cleaned regularly.

A dedicated person should be assigned for maintenance and service, and records should be kept.

Except for year-round cooling units, standard units should not operate in cooling mode when the ambient temperature is below 16°C. Special requirements should be noted on the purchase order.

Electrical Installation

When the unit is in operation, the power supply voltage must be stable. Considering all voltage drop factors, the unit's operating voltage should be maintained within ±10% of the rated value.

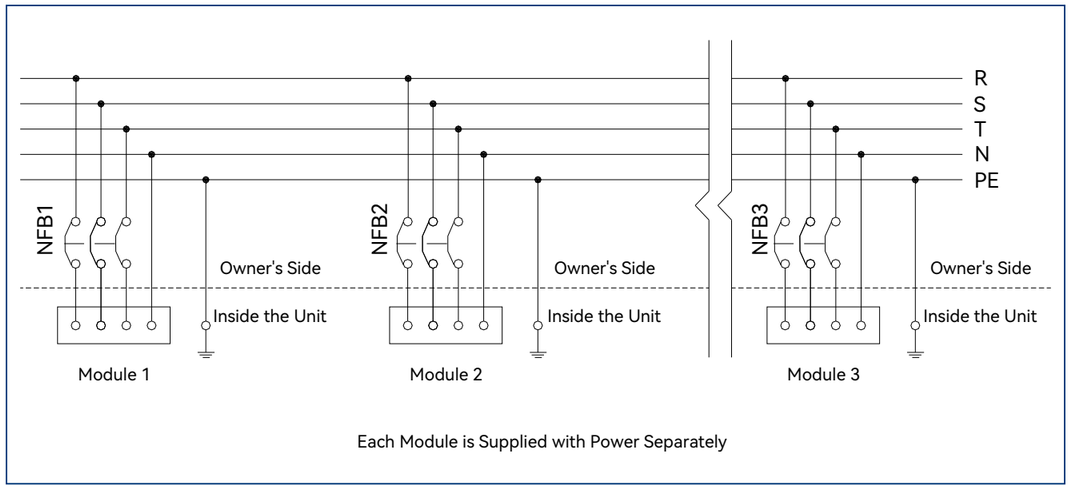
The voltage difference between phases should not exceed ±2% of the rated value, and the difference between the highest and lowest phase currents should be less than 3% of the rated value to prevent compressor overheating. The power supply frequency should be kept within ±2% of the rated value.

The minimum starting voltage of the unit should be maintained above 85% of the rated value.

If the power supply cable is too long, it may prevent the compressor from starting. The length should ensure that the voltage difference between the end and the tail of the cable during operation is less than 2% of the rated value.

If the length cannot be shortened, the power supply cable should be thicker. The wiring from the power supply to the unit must be strictly constructed according to electrical regulations and standards, with good insulation. After the unit is wired, the insulation resistance between the electrical component terminals and the unit should be measured with a 500V high-resistance meter, and the insulation resistance should be at least 3MΩ or higher.

To reduce the damage to transformers, wiring, and other electrical equipment in the event of a short circuit and to facilitate independent control of the start and stop of compressors in each unit module, each power supply inlet of the unit must be equipped with a low-voltage circuit breaker (QF) of appropriate capacity. Each module unit requires an independent power supply inlet, as shown in the wiring diagram below:



Each Module is Supplied with Power Separately

The input power and other parameters listed in the performance specification table are measured under standard conditions. In actual operation, these values may vary significantly depending on the actual load of the air-conditioning system and the ambient air temperature. If the ambient temperature is high and the air-conditioning load is excessive, both the operating current and input power of the unit will increase. Therefore, the power supply, transformer, low-voltage circuit breaker, and wiring capacity should be selected based on the worst-case operating conditions. Each unit module requires separate power supply.

To ensure personal safety and prevent electric shock due to unit leakage current, the unit's enclosure must have a reliable grounding protection device. Construction must strictly follow electrical regulations.

Unit Conversion Table

Length	m	mm	in	ft	mile
	1	1×10^{3}	39.37	3.281	6.214×10^{-4}
	0.3084	304.8	12	1	1.578×10^{-5}
	1×10^{-3}	1	39.337×10^{-3}	3.281×10^{-3}	6.214×10^{-7}
	25.4×10^{-3}	25.4	1	0.8333×10^{-3}	0.1578×10^{-3}
	1.609×10^{3}	1.609×10^{6}	63.36	5280	1
Area	m^2	hm^2	in^2	ft^2	$mile^2$
	1	1×10^{-4}	1.55×10^{3}	10.76	3.861×10^{-7}
	92.9×10^{-3}	9.29×10^{-6}	144	1	3.587×10^{-3}
	2.59×10^{6}	258.9	4.0145×10^{9}	2.7878×10^{7}	1
Volume	m^3	L	US gal	UK gal	ft^3
	1	1000	264.17	219.98	35.315
	1×10^{-3}	1	2.64×10^{-1}	2.20×10^{-1}	3.532×10^{-2}
	3.785×10^{-3}	3.7853	1	8.327×10^{-1}	1.337×10^{-1}
	4.546×1^{-3}	4.546	1.20095	1	1.605×10^{-1}
	2.832×10^{-2}	28.316	7.481	6.229	1
Mass	g	kg	t	lb	slug
	1	1×10^{-3}	1×10^{-6}	2.205×10^{-3}	6.85×10^{-5}
	1×10^{3}	1	1×10^{-3}	2.205	6.85×10^{-2}
	1×10^{6}	1×10^{3}	1	2204.6	68.5
	453.59	4.5359×10^{-1}	4.536×10^{-4}	1	3.11×10^{-2}
	14.594×10^{3}	14.5939	1.46×10^{-2}	32.174	1
Pressure	Pa	mmH_2O	atm	lb/in^2	in.Hg
	1	1.0197×10^{-1}	9.8692×10^{-6}	1.4504×10^{-4}	2.953×10^{-4}
	9.806	1	9.678×10^{-5}	1.422×10^{-3}	2.89×10^{-3}
	101325	10332	1	14.696	29.921
	6894.8	703.06	6.805×10^{-2}	1	2.036
	3386.5	345.32	3.34×10^{-2}	4.912×10^{-1}	1
Energy	J	KJ	kW·h	kcal	Btu
	1	1×10^{-3}	2.778×10^{-7}	2.388×10^{-4}	9.478×10^{-4}
	1×10^{3}	1	2.778×10^{-4}	2.388×10^{-1}	9.478×10^{-1}
	3.6×10^{6}	3600	1	860.1	3413
	4186.8	4.1868	1.163×10^{-3}	1	3.968
	1055.1	1.0551	2.93×10^{-4}	2.519×10^{-1}	1
Power	W	kW	kcal/h	Btu/h	RT
	1	1×10^{-3}	8.60×10^{-1}	3.413	2.844×10^{-4}
	1×10^{3}	1	860.1	3413	2.844×10^{-1}
	1.1622	1.1622×10^{-4}	1	3.968	3.30×10^{-4}
	2.93×10^{-1}	2.93×10^{-4}	2.52×10^{-1}	1	8.33×10^{-5}
	3516	3.516	3024	12000	1
Flow Rate	L/S	m^3/s	m^3/h	ft^3/s	UK gal/s
	1	1×10^{-3}	3.6	3.53×10^{-2}	2.199×10^{-1}
	1×10^{3}	1	3600	35.3147	2.1997×10^{2}
	2.778×10^{-1}	2.778×10^{-4}	1	9.81×10^{-3}	6.11×10^{-2}
	4.719×10^{-1}	4.719×10^{-4}	1.6989	1	6.2288
	6.309×10^{-2}	6.309×10^{-5}	2.271×10^{-1}	1.605×10^{-1}	1

Cooling Load Estimation Index

Building		Cooling Load W/m²		Occupants m²/person	Lighting W/m²	Air Supply Volume L/(s.m²)
		Sensible Cooling Load	Total Cooling Load			
Office	Central Section	65	95	10	60	5
	Periphery	110	160	10	60	6
	Private Office	160	240	15	60	8
	Meeting Room	185	270	3	60	9
School	Classroom	130	190	2.5	40	9
	Library	130	190	6	30	9
	Cafeteria	150	260	1.5	30	10
Apartment	High-rise, facing south	110	160	10	20	10
	High-rise, facing north	80	130	10	20	9
Theater, Auditorium		110	260	1	20	12
Laboratory		150	230	10	50	10
Library, Museum		95	150	10	40	8
Hospital	Operating Room	110	380	6	20	8
	Public Place	50	150	10	30	8
Clinic, Health Center		130	200	10	40	10
Barber Shop, Beauty Salon		110	200	4	50	10
Department Store	Underground	150	250	1.5	40	12
	Intermediate Floor	130	225	2	60	10
	Upper Floor	110	200	3	40	8
Pharmacy		110	210	3	30	10
Retail Store		110	160	2.5	40	10
Boutique		110	160	5	30	10
Computer Room		100	200	8	40	5.5
Gymnasium		180	320	1	30	6
Theatre		130	220	1	20	7
Single Room		90	120	10	60	15
Double Room		100	150	10	60	15
Disco		280	400	1	100	8
Bar		130	260	2	15	10
Chinese Restaurant		220	400	2	60	10
Western Restaurant, Café		160	320	2	60	10
Hotel	Room	80	130	10	15	7
	Public Place	110	160	10	15	8
Factory	Assembly Room	150	260	3.5	45	9
	Light Industry	160	260	15	30	10
Playing Field	Lounge	160	240	6	20	8
	General Competition	110	220	5	40	12
	Public Competition	110	240	3	80	12

For specific operations regarding the installation, use, and maintenance of the unit, please refer to the **Installation and Operation Manual** and **Electrical Operation Instructions** provided with the unit.

Note: Since OBAIR products are subject to continuous improvement and innovation, any changes to the product models, specifications, and parameters shown in this material will not be notified separately.
Your understanding is appreciated.