

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 Obair products have passed the following certification and the specific product certification is detailed in the relevant product certification certificate.

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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

FL |

Air-cooled Direct Expansion Air Handling Unit



OBAIR
Control air conditions

Version NO.: OB-202502A
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 space

70+
National Service Contact Points

1000+
employees

100,000
Pilot Project Air Conditioning Solutions



HONORARY QUALIFICATIONS



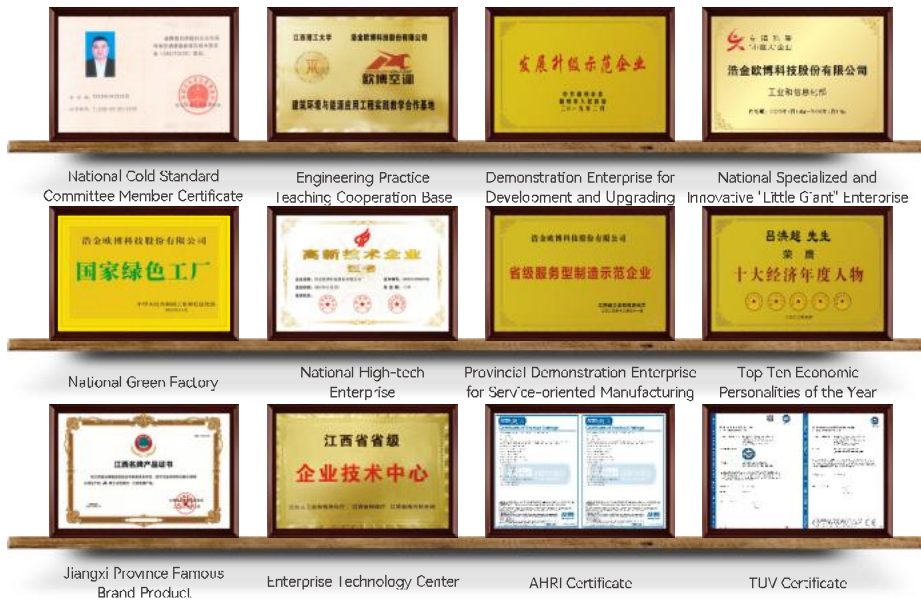
Advanced equipment, professional technology and strict management have created the high quality of "OBAIR" brand products.

It has successively won dozens of honors such as national high-tech enterprise, China's well-known brand, specialized and specialized 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.



It has obtained more than 10 certifications and more than 100 patents.



**Low Air Leakage Rate**

The aluminum profile press strip and the box panel are sealed with a face-to-face pressure method, resulting in an aesthetically pleasing and neat overall machine with a low air leakage rate.

**Thermal Break Structure**

The inside and outside joints of the box are filled with double-layer pressure-resistant, wear-resistant, and leak-proof weatherstrips, combined with PVC cold bridge strips, to completely isolate the heat conduction components and eliminate the cold bridge phenomenon.

**Integrated Electrical Design**

The wiring from the electrical box to various components of the unit is all completed by Oubo Company; users only need to provide the main power supply to the electrical box.

**High Mechanical Strength**

Adopting an aluminum alloy frame structure, reinforcement design in the box interior, filter installation frame, and other areas ensures the mechanical strength of the air conditioning box.

**Easy to Assemble and Disassemble**

The unit eliminates the need for bolts and nuts used in point-to-face sealing methods, making assembly and disassembly more convenient.

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Product Overview

The OBAIR air - cooled direct - expansion air - handling unit draws on global design innovations. It's an upgraded version with diverse models. Key features include maturity, compactness, easy installation, and reliability. Applications span electronics factories, hospitals, pharmaceutical plants, printing shops, telecom stations, etc. The direct - expansion type serves general AC needs, while the constant - temperature - and - humidity type suits precision - oriented places like labs and workshops.

All compressors are high - performance rotary ones. Supply fans are low - noise centrifugal ones, and expansion valves are from international top brands. Control is via high - precision integrated instruments. The casing uses anti - thermal - bridge aluminum frames with double - sided color - coated steel panels, ensuring aesthetics and functionality. The unit can integrate cooling, drying, heating, humidifying, mixing, filtering, spraying, silencing, and conveying sections, offering flexible combinations to meet varied air - quality needs.



Model Description

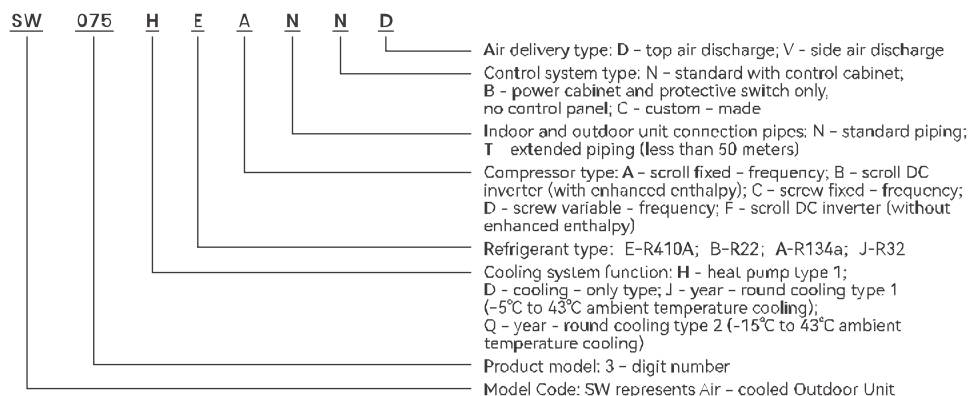
Air - cooled Direct - expansion Air - handling Unit

FLG	70	W	140	A	020	H
FLG	70	W	140	A	020	H
						Indoor - side evaporator cooling air - intake rated conditions: X - 100% outdoor air (35°C/28°C); H - standard intake condition 1 (27°C/19°C); P - standard intake condition 2 (24°C/17°C); T - other conditions
						Unit external static pressure: 3 - digit number, digits × 10Pa; 000 - direct - blowing type; 999 - long - range jet type
						Control system type: A - standard; B - constant - temperature
						Nominal air volume: 3 - digit number, digits × 100m³/h
						Air - handling installation type: V - vertical; W - horizontal; D - ceiling - mounted
						Nominal cooling capacity: in kW
						Model Code: FLG represents Air-Cooled Unitary Air Conditioner

Air - cooled Direct - expansion Constant - temperature - and - humidity Air - handling Unit

FLHS	70	W	140	C	020	H
FLHS	70	W	140	C	020	H
						Indoor - side evaporator cooling air - intake rated conditions: X - 100% outdoor air (35°C/28°C); H - standard intake condition 1 (27°C/19°C); P - standard intake condition 2 (24°C/17°C); T - other conditions
						Unit external static pressure: 3 - digit number, digits × 10Pa; 000 - direct - blowing type; 999 - long - range jet type
						Control system type: C - constant temperature and humidity type
						Nominal air volume: 3 - digit number, digits × 100m³/h
						Air - handling installation type: V - vertical; W - horizontal; D - ceiling - mounted
						Nominal cooling capacity: in kW
						Model Code: FLHS represents Air-Cooled Unitary Air Conditioner with Constant Temperature and Humidity

Air-cooled Outdoor Unit



Product Features

International Standard

OBAIR duct air supply air conditioning (heat pump) units are designed according to the EN1886 - 2007 standard, featuring superior mechanical performance of the cabinet, with characteristics such as high strength, low air leakage, high insulation, cold bridge break, and high cleanliness level.

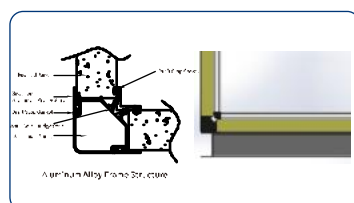
Mechanical Performance Indicators of the Cabinet	EN1886
Cabinet Mechanical Strength	D1
Cabinet Air Leakage	L1
Cabinet Heat Transfer Coefficient	T1
Thermal Bridging Factor	TB1
Bypass Leakage Rate of the Filter	F9



Outstanding Cabinet Structure

Low air leakage, no cold bridges, and aesthetically neat and tidy

The air conditioning box features an aluminum alloy frame structure, with a wedge board-style seamless docking technique. The aluminum profile press strip and the box panel are sealed with a face-to-face pressure method, resulting in an aesthetically pleasing and neat overall machine with a low air leakage rate. The use of bolts and nuts for point-to-face sealing is eliminated, making assembly and disassembly more convenient. The inside and outside joints of the box are filled with double layer pressure resistant, wear resistant, and leak-proof weatherstripping, combined with PVC cold bridge strips, to completely isolate the heat conduction components and eliminate the cold bridge phenomenon.

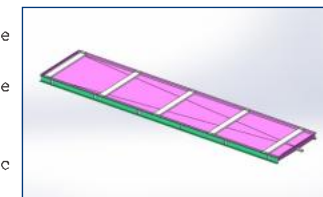


Product Features

High-Efficiency Dual V-Shaped Drain Pan

Dual V-Shaped Water Pan, Higher Drainage Rate

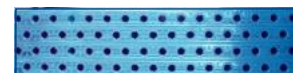
- The support force of the water pan is on the left and right flanges of the pan, which will not cause deformation or sagging and water accumulation;
- Added corrugations facilitate drainage and enhance the strength of the water pan, making it less likely to deform;
- Reduced height of the drainage pipe and a steeper slope of the water pan;
- Strong drainage capability, with a drainage rate of 99.3% (measured by the weight method of drainage quality).



Outstanding Component Configuration

High-Efficiency Heat Exchange Coil

- The evaporator uses high-purity internal-threaded copper tubes with hydrophilic aluminum foil fins, ensuring uniform fin spacing, uniform airflow velocity, and a larger contact area between the refrigerant and the copper tubes, which guarantees the evaporator's higher heat transfer performance.



Dual Rotary Compressor

Highly reliable

- Eccentric technology and high strength material spiral discs enhance impact resistance.
- Close and firm fit of internal supports prevents shifting faults.
- IP54 water-proof rating with water-proof joints for safe use.
- Integrated legs ensure high stability.
- External protective devices offer overload, phase loss, reverse, blockage protection and fault diagnosis.

High-efficiency

- Efficient spiral design with a high-efficiency motor boosts compressor performance.

Low-noise

- Optimized exhaust structure effectively reduces compressor exhaust noise.

High-efficiency

Excellent gas-replenishment effect

- An unobstructed gas replenishment channel ensures remarkable results at a low gas-replenishment pressure.

High-efficiency

Flexible scroll design

- Available eccentric mechanism
- Floating tooth loss scaling

High-reliability

High-reliability structural design

- More stable internal structure
- More wear-resistant bearing system design
- Higher tolerance for liquid return
- High-precision flexible assembly technology

High-reliability

Lower noise

- Gas floating type exhaust valve

High-reliability

Intelligent Electronic Protection Module

- More comprehensive electrical protection functions
- More sensitive fault information capture

High-reliability

Low oil-discharge rate

- More efficient oil circulation design

High-Precision Electronic Expansion Valve

The unit uses an electronic expansion valve as the throttling device, which offers higher control precision, ensuring the unit operates more stably, reliably, and efficiently under various conditions.



Evaporator Cross-Flow Tube Arrangement Design

The indoor unit's fin-type evaporator features a cross-flow full-pipe layout design, which results in lower system pressure drop, more uniform airflow, higher evaporation efficiency, and more stable operation.



Fans in Various Forms Balance Cost-Effectiveness and Energy Efficiency

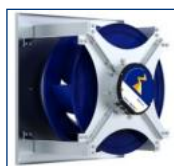
All fans are certified by the Air Movement and Control Association (AMCA). Fan bases are equipped with spring shock absorbers or shear prevention shock absorbers, effectively reducing vibration and noise.



Belt Drive



Direct-Drive Fan



EC Fan



Vibration Damper

Flexible Selection of Diverse Humidification Methods

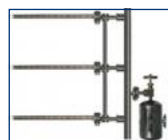
A variety of humidifier forms and brands are available for selection based on different usage scenarios.



Water Spray Rinse



High-Pressure Micro-Fog Humidifier



Dry Steam Humidifier



Electrode Humidifier

Reliable and Stable

A well-equipped enthalpy difference testing center ensures the unit's reliability, safety, and stability. Each unit is strictly tested per national standards by a full-performance enthalpy difference testing center, which is state-designed, -manufactured, and -accepted. This guarantees that units meet or exceed national standards for efficient, stable operation.

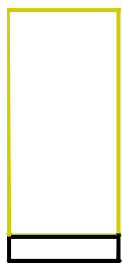


Control System

This control system is a new-type one for high-precision control. It is an all-in-one system with a touch-screen and PLC module. The simple touch operation and intuitive interface enable easy interaction with the PLC. A built-in RS485 interface allows communication with higher-level computers. Heating and humidity control use proportional control for high precision. It has a complete fault detection system for real-time equipment monitoring. When a fault occurs, the system automatically handles it, showing the cause and solution.



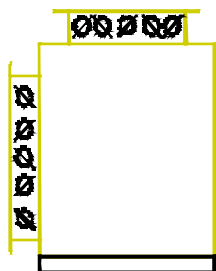
» Functional Section Description



■ Cabinet

The cabinet is assembled directly from a clip on anti cold bridge aluminum alloy frame and color steel plate panels. The panels are connected with patented aluminum alloy profiles and bolts, and each panel can be assembled and disassembled on site. The standard cabinet has a double panel structure with a white color steel plate on both the inside and outside, and flame-retardant polyurethane insulation material in the middle, which has good corrosion resistance, high-temperature resistance, and saltwater resistance. The bottom panel of the cabinet can bear the weight of personnel, and each panel is surrounded by an aluminum alloy frame. Where two panels intersect, there are two beams or columns, meaning the cabinet has a double-frame structure, which is stronger than ordinary air conditioning cabinets and completely avoids deformation of the unit during transportation and operation.

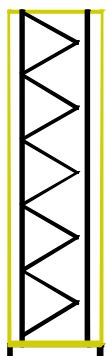
Note: Depending on customer requirements, the outer panel of the cabinet can be made of stainless steel.



■ Mixing Section and Air Damper

Mixing Section: Contains return air and fresh air inlets, used to adjust the ratio of fresh to return air to meet the needs of air conditioning. Exhaust Section: Adjustable for the proportion of return air, fresh air, and exhaust air to meet the needs of air conditioning. Bypass Control: An additional bypass air damper is installed in the upper or side part of the cabinet to control the airflow through the coil or other equipment.

Air Damper Arrangement and Structure: The air dampers are all opposed blade types, equipped with manual control rods. If required by the customer, they can be equipped with electric drives. The blades made of aluminum profiles are smoothly opened and closed by gears without the need for lubrication. Rules for Air Damper Size Selection: The size of the air dampers is designed based on a wind speed of 8 m/s, ensuring that the noise generated by the dampers does not exceed the noise level of the unit. When the air dampers are installed on the top of the unit, the length of the cabinet section determines the height of the air dampers. The maximum height of the air dampers - section length = 160mm. Under the limitation of the cabinet width, the height of the air dampers should be maximized as much as possible. In the case of a large return air volume, the return air dampers can be arranged on the end surface of the unit, which can reduce costs.



板式过滤器

■ Filter Section

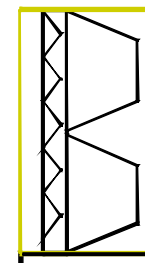
The mass per unit area, resistance, mechanical properties, and static characteristics, hygroscopicity, flammability, and filtration efficiency of the filters all comply with GB/T 14295-2019; the uniformity of the air velocity at the inlet cross section of the filter section is greater than 80%.

Classification:

- Pre-filter, divided into panel and bag types, filters are made of chemical fibers and non-woven fabric.
- Medium-efficiency filter, divided into panel, bag, and pleated types, filters are made of chemical fibers or glass fibers.
- Sub High efficiency filter, divided into bag and pleated types, filters are made of ultra fine glass fibers.
- High-efficiency filter, divided into pleated and high-air-volume box types, filters are made of paper fibers.

Activated carbon filters are made from a variety of organic chemical fibers that have been carbonized and activated, mainly to remove odors, peculiar smells, and low-density gaseous pollutants from the air environment. Conventional filters should be equipped before and after the activated carbon filters; the one in front serves as protection to prevent dust from clogging the activated carbon material, and the one behind acts as a safeguard to prevent potential contamination of the ventilation system by activated carbon powder.

» Functional Section Description

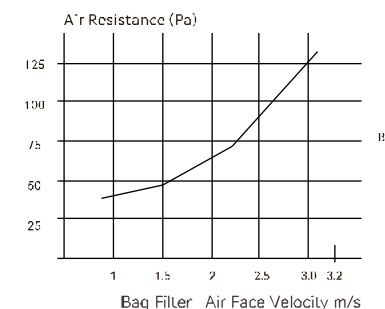
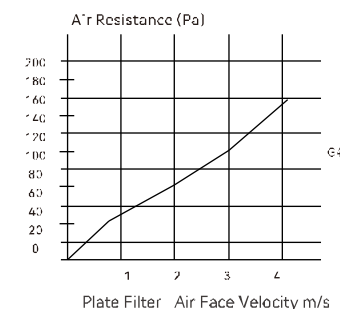


■ Bag Filter Section

Note: Based on customer requirements:

- Optional - Nylon filter mesh, multi-layer metal filter mesh.
- The filtering area of panel filters and bag filters is the same, but their thicknesses are different; the panel filter is 46mm thick, and the bag filter is 381mm thick.
- External filters can be drawn out from the side, while internal filters can be removed from the front.
- The installation forms of internal filters are divided into slide tracks and frames; generally, slide tracks are used in comfort settings, and frames are used in purification settings.

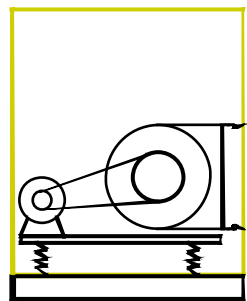
Air Resistance Diagram



China, United States, Europe Efficiency Specification Comparison Table

China GB/T 14295		Primary Filter>5μm 80%-Efficiency>15%					Medium Filter>1μm 70%-Efficiency>20%					Medium and High Filter>1μm 99%-Efficiency>70%					Sub-HEPA>0.5μm 99.9%-Efficiency>5%					High Efficiency>0.5μm Efficiency>99.9%				
USA ASHRAE		G1	G2-G4	L5	L6	L7	L8	M9	M10	M11	M12	M13	M14	H12-H16				V11	V18	V19	V120					
Filtration Efficiency	Media Standards	G1	G2	G3	G4			5		16		1	18	9	110	111	112	113	114	115	116	117	118	119	120	
	Efficiency	55%	80%	80-90%	>90%			40%		60%		80%	90%	85%	95%	99%	99.9%	99.95%	99.995%	99.999%	99.9995%	99.9999%	99.99995%	99.99999%	99.999995%	
EU EN 1822-1		E1	E2	E3	E4			E5		E6		E7	E8	E9	E10	E11	E12	E13	E14	E15	E16	E17	E18	E19	E20	

» Functional Section Description



■ Fan Section

Based on the requirements of a flow and static pressure, the fan section software selection can be equipped with one or multiple centrifugal fans. The fans can be of the forward-curved, backward curved, or airfoil type. All casings and reinforcements are made of galvanized steel, and the impellers have undergone dynamic and static balance tests. The fans are driven by multiple and static belts. Small fans have sealed bearings that require no lubrication, and the fan transmission uses V-belts.

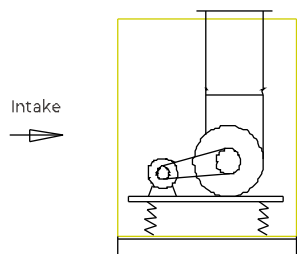
The motor is of a fully enclosed structure, with a power supply of 380V/50Hz, mounted on a sliding track connected to a rigid structure. The motor base is adjustable, and the fan and motor are positioned on a common base equipped with a vibration isolator frame. The spring vibration isolators are fitted with soundproof pads and leveling bolts.

The outlet is connected to the casing with flexible soft joints, and the fan section is equipped with a maintenance door and removable maintenance panels for easy access.

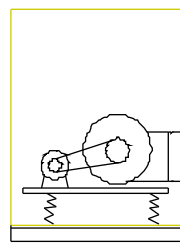
Note: According to customer requirements:

1. The fan can be equipped with options such as without a casing, airfoil, direct drive, and single inlet.
2. The motor can be equipped with options such as single-speed 2-pole, 4-pole, 6-pole, 8-pole, dual-speed, triple-speed, and variable frequency motors.

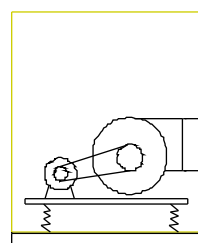
Fan Air Discharge Direction



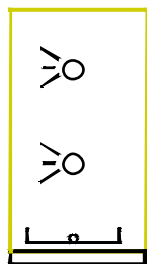
Top Outlet UF(90°)



Horizontal Bottom Discharge
FB(0°)



Horizontal Top Discharge
FT(180°)

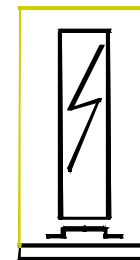


■ Humidification Section

There are several types of humidifiers available for selection:

- a. Dry steam humidifiers. Isothermal humidification, made entirely of stainless steel, corrosion-resistant, compact, easy to install, clean humidification, high humidification efficiency, available in both electric and manual options. Suitable for humidification applications with a steam source.
- b. Electrode humidifiers. Utilize alternating current to directly treat tap water to produce clean steam, microcomputer controlled, with proportional control methods. Suitable for process humidification applications without a steam source.
- c. Evaporative (wet film) humidifiers, which use wet film materials to absorb water, and as air flows through the wet film, water evaporates and vaporizes, also having a washing and filtering effect on the air, can be used as a baffle plate, and can use direct water supply or recirculating water.
- d. High pressure spray humidifiers, which pressurize tap water and then atomize it through a nozzle into fine mist, producing small droplets that evaporate in the air to humidify. When selecting high-pressure spray humidifiers, consider the humidification efficiency, which is generally 40-50%.

» Functional Section Description



■ Electric Heating Section

The electric heating device uses stainless steel spiral finned tubes or PTC heating elements.

The electric heating elements are mounted on a frame.

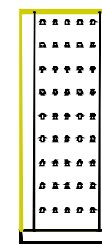
The power supply can be connected to 220V or 380V (to be specified at the time of order).

The control cabinet is to be installed by the user.

It can be wired in 1 to multiple stages to meet different heating power control requirements.

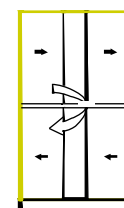


- Warning: 1. It is imperative to ensure that the electric heating is turned on only after the fan has been started.
2. The electric heating must be turned off 5 minutes before the fan stops.
3. The overheating protection switch for the electric heater must be incorporated into the electric heating control circuit.



■ Silencing Section

According to different usage requirements and the characteristics of fan noise, impedance mufflers or anti-resonance mufflers can be installed in this section. The impedance muffler is composed of perforated plates with sound-absorbing cotton inside and is installed in the box. When the air flow passes through this section, it has a good noise reduction effect on medium and high-frequency noise. The anti-resonance muffler is a cavity composed of micro-perforated plates. It is designed and manufactured by using the resonance sound absorption principle in physics. It has the advantages of no pollution and no dampness. It effectively reduces low-frequency and some medium-frequency noise. The noise reduction section is divided into return air noise reduction and supply air noise reduction.



■ Heat Recovery Section

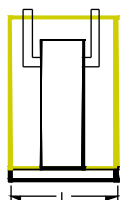
Rotary heat recovery: It can recover both sensible heat and latent heat, with a heat recovery efficiency that can reach 70-90%. Exhaust air and fresh air flow alternately and countercurrently through the wheel, which has a self-cleaning effect.

Intermediate media heat exchanger: The intermediate medium (usually water or a glycol solution) circulates within heat exchangers located in the fresh air and exhaust air systems, transferring the cold (or heat) from the exhaust air back to the fresh air. It is used in air conditioning systems with not too large temperature differences, recovering only sensible heat, with an efficiency of ≥60%.

Cross-flow heat recovery: Fresh air and exhaust air undergo heat exchange within a plate fin heat exchanger. Depending on the material of the heat exchanger, it can be divided into sensible heat exchangers and total heat exchangers, with a heat recovery efficiency of ≥70%. There is no cross-contamination between fresh air and exhaust air, making it suitable for various applications.

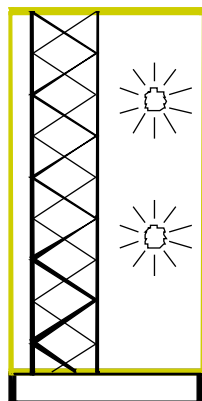
Thermosiphon heat recovery: Thermosiphon heat exchangers are heat transfer elements that rely on the phase change of a working fluid (such as ammonia, Freon, etc.) to transfer heat. Thermosiphon heat exchangers have a compact structure, large heat transfer area, and high heat transfer efficiency. Each tube forms an independent system, which facilitates replacement.

» Functional Section Description



■ Desiccant Wheel Dehumidification Section

The desiccant wheel dehumidification section consists of a dehumidification wheel, regeneration heater, air filter, regeneration duct, and sealing system. It has a wide range of models and can handle air volumes from 1000 to 50000 CMH. When paired with the Oubo combined air-handling unit or the air-cooled direct-expansion air-handling unit, it can reduce the relative humidity of the air to below 30% RH, while ensuring indoor cleanliness, temperature and humidity, and air speed control requirements.



■ Photocatalytic Purification and Sterilization Section

Sterilization, Deodorization, and Formaldehyde Removal
Photocatalytic refers to a class of semiconductor materials with photocatalytic functions, represented by nanoscale TiO_2 . Under irradiation of specific wavelengths of ultraviolet light, photocatalysts generate highly oxidative free hydroxyl radicals and reactive oxygen species, which can destroy bacterial cell membranes and viral proteins, and decompose organic pollutants (such as formaldehyde, benzene, etc.).

Photocatalytic Sterilization Rate

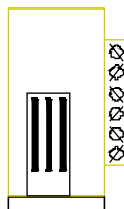
E. coli	99.98%
S. aureus	99.97%
Klebsiella pneumoniae	99.97%
Bacillus subtilis	99.95%

Photocatalytic Removal of Formaldehyde

Time	Efficiency
30 minutes	72.50%
60 minutes	92.40%
90 minutes	97.90%

Photocatalytic Removal of Ammonia

Time	Efficiency
30 minutes	62.70%
60 minutes	77.10%
90 minutes	80.10%



■ Ozone Generator

Ozone Sterilization and Disinfection

Ozone, with the chemical formula O_3 , readily decomposes into oxygen and individual oxygen atoms at room temperature. The latter of which has a very strong oxidizing effect. It can oxidize and break down enzymes necessary for bacterial metabolism, and can also directly interact with bacteria and viruses, destroying their cells and decomposing cellular DNA, leading to the dissolution and death of cells, parasitic species, and viral particles. Ozone generators use the principle of gas corona discharge to produce ozone. By circulating air, they regularly sterilize and disinfect the space controlled by the entire system. Compared to disinfection methods using chemical disinfectants, this method achieves purification without leaving any harmful residues to the human body.

» Functional Section Description

Comparison of Various Air Purification and Sterilization Technologies

Sterilization Methods	Dust Removal Capacity	Bactericidal and Virucidal Capability	Ability to Remove Formaldehyde, Benzene, and VOCs
Electronic Purification	★	★	
Activated Carbon			★
UV Germicidal Lamp		★	
Photocatalyst		★	★
Ozone Generator		★	
Traditional Plate and Bag Filter	★		

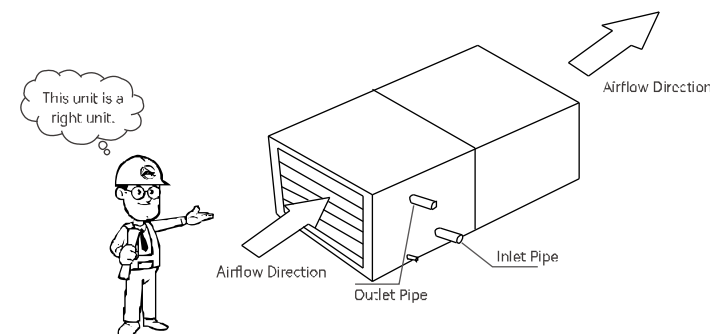
★——Strong, Space——This function is not available

Comparison of Installation and Maintenance of Various Air Purification and Sterilization Methods

Sterilization Methods	Functional section length	Power supply	Replacement and cleaning
Electronic Purification	3 m	220V/50Hz	Clean once every year
Activated Carbon	Plate type 1 m, carbon box type 4 m		Plate type cannot be cleaned, carbon box type can be refilled with activated carbon material
UV germicidal lamp	6 m, Non-occupying section length	220V/50Hz	No need to clean, can be used continuously
Photocatalyst	3 m	220V/50Hz	No need to clean, can be used continuously
Ozone Generator	0 m, placed in the exhaust section	220V/50Hz	Cleaned semi-annually
Traditional Plate and Bag Filter	1 m, 5 m		Consumables

Judgment of Left-right Type of Air Handling Unit

Facing the air intake, if the water pipes are on the left side, it is a left unit; otherwise, it is a right unit. (The following figure is a right unit.)



Technical Data Sheet (Recirculated Air Conditions)

Model	Indoor Unit		FLG-9	FLG-15	FLG-24	FLG-30	FLG-35	FLG-45
	Outdoor Unit		SW030	SW050	SW075	SW100	SW125	SW150
Rated Cooling Capacity		kW	8.4	14.2	22.4	28.4	33.6	42.8
Heat Pump Heating Capacity		kW	9.1	15.3	24.2	30.7	36.3	46.2
Indoor Unit Parameters	Power Supply		380V/3N~/50Hz					
	Air Volume	m³/h	1800	3000	4500	5500	6500	8500
	Air Volume Range	m³/h	Standard Air Volume ±10%					
	Dimensions	L mm	Determined Based on the Modulus of Specific Functional Sections					
		W mm	750	850	1050	1250	1250	1350
		H mm	730	830	930	930	1030	1230
	Drainage Pipe	DN	32	32	32	32	32	32
External Static Pressure	Pa	Determined According to the On-site Piping Layout						
Outdoor Unit Parameters	Compressor type		Rotary type		Hermetic Scroll			
	Operating Ambient Temperature Range		Cooling 8~43℃, Heating 7~25℃		Cooling 5~45℃, Heating 10~25℃			
	Refrigerant		R410a					
	Number of Compressors		1	1	2	2	2	2
	Cooling Input Power	kW	2.4	4.2	7.8	9.1	11.9	13.7
	Heating Input Power	kW	2.3	4.48	7	8.2	10.5	12.1
	Weight	kg	53	80	240	278	358	374
	Power Supply		220V/50 Hz		380V/3N~/50 Hz			
	Number of Outdoor Units		1	1	1	1	1	1
	Single Outdoor Unit Dimensions	L mm	883	940	1250	1250	1870	1870
W mm		375	340	900	900	900	900	
H mm		699	1240	1720	1720	1720	1720	
Connection Pipe for Indoor and Outdoor Units	Connection Method		T race					
	Air Pipe Size	mm	φ15.88*1	φ19.05*1	φ19.05*2	φ19.05*2	φ19.05*2	φ19.05*2
	Liquid Pipe Size	mm	φ9.52*1	φ12.7*1	φ12.7*2	φ12.7*2	φ12.7*2	φ12.7*2

Note:

- The rated cooling capacity is measured under the conditions of nominal air volume, with the indoor inlet air dry-bulb and wet-bulb temperatures at 24/17°C, and the ambient dry-bulb and wet-bulb temperatures at 35/24°C.
- The rated heating capacity is measured under the conditions of nominal air volume, with the indoor inlet air dry-bulb and wet-bulb temperatures at 20/15°C, and the ambient dry-bulb and wet-bulb temperatures at 7/6°C.
- The rated cooling capacity does not account for heat generation losses from other components, and the external static pressure can be determined according to customer requirements.
- The above indoor unit models are configured for single outdoor units, but multiple outdoor unit combinations are available. For other specifications, please consult OBAIR for specific parameters.
- The performance test piping conditions for the unit: equivalent refrigerant pipe length 7.5m (horizontal).
- The outdoor unit is pre-charged with refrigerant as shown in the parameter table. Refer to the unit nameplate for the charge quantity.
- Technical parameters are subject to change due to product improvements without notice. Please refer to the unit nameplate.

Technical Data Sheet (Recirculated Air Conditions)

Model	Indoor Unit		FLG-55	FLG-70	FLG-85	FLG-120	FLG-155
	Outdoor Unit		SW200	SW250	SW300	SW400	SW500
Rated Cooling Capacity		kW	56	67.2	84	112	142
Heat Pump Heating Capacity		kW	60.5	72.6	90.8	121	153.4
Indoor Unit Parameters	Power Supply		380V/3N~/50Hz				
	Air Volume	m³/h	11000	13000	16000	22500	29000
	Air Volume Range	m³/h	Standard Air Volume =10%				
	Dimensions	L mm	Determined Based on the Modulus of Specific Functional Sections				
		W mm	1550	1550	1750	2050	2450
		H mm	1330	1530	1530	1630	1730
	Drainage Pipe	DN	32	32	32	32	32
Outdoor Unit Parameters	External Static Pressure	Pa	Determined According to the On-site Piping Layout				
	Compressor type		Hermetic Scroll				
	Operating Ambient Temperature Range		Cooling 5~45°C, Heating 10~25°C				
	Refrigerant		R410a				
	Number of Compressors		2	2	2	2	2
	Cooling Input Power	kW	17.1	21.2	28.48	37.44	44.4
	Heating Input Power	kW	15.6	19.4	25.8	33.6	39.18
	Weight	kg	514	534	680	750	778
	Power Supply		380V/3N~/50Hz				
	Number of Outdoor Units		1	1	1	1	1
	Single Outdoor Unit Dimensions	L mm	1870	1870	2200	2200	2200
		W mm	1100	1100	1100	1100	1100
		H mm	2030	2030	2330	2330	2330
Connection Pipe for Indoor and Outdoor Units	Connection Method		Welding				
	Air Pipe Size	mm	φ28.6*2	φ28.6*2	φ28.6*2	φ35*2	φ35*2
	Liquid Pipe Size	mm	φ15.88*2	φ15.88*2	φ15.88*2	φ22.2*2	φ22.2*2

Note:

- The rated cooling capacity is measured under the conditions of nominal air volume, with the indoor inlet air dry-bulb and wet-bulb temperatures at 24/17°C, and the ambient dry-bulb and wet-bulb temperatures at 35/24°C.
- The rated heating capacity is measured under the conditions of nominal air volume, with the indoor inlet air dry-bulb and wet-bulb temperatures at 20/15°C, and the ambient dry-bulb and wet-bulb temperatures at 7/6°C.
- The rated cooling capacity does not account for heat generation losses from other components, and the external static pressure can be determined according to customer requirements.
- The above indoor unit models are configured for single outdoor units, but multiple outdoor unit combinations are available. For other specifications, please consult OBAIR for specific parameters.
- The performance test piping conditions for the unit: equivalent refrigerant pipe length 7.5m (horizontal).
- The outdoor unit is pre-charged with refrigerant as shown in the parameter table. Refer to the unit nameplate for the charge quantity.
- Technical parameters are subject to change due to product improvements without notice. Please refer to the unit nameplate.

» Technical Data Sheet (Fresh Air Conditions)

Model	Indoor Unit		FLG-9	FLG-15	FLG-24	FLG-30	FLG-35	FLG-45
	Outdoor Unit		SW030	SW050	SW075	SW100	SW125	SW150
Rated Cooling Capacity		kW	8.4	14.2	22.4	28.4	33.6	42.8
Heat Pump Heating Capacity		kW	9.1	15.3	24.2	30.7	36.3	46.2
Indoor Unit Parameters	Power Supply		380V/3N~/50Hz					
	Air Volume	m³/h	700	1200	1800	2300	2800	3500
	Air Volume Range	m³/h	Standard Air Volume ±10%					
	Dimensions	L mm	Determined Based on the Modulus of Specific Functional Sections					
		W mm	650	750	850	850	950	1050
		H mm	630	630	730	830	930	930
	Drainage Pipe	DN	32	32	32	32	32	32
	External Static Pressure	Pa	Determined According to the On-site Piping Layout					
Outdoor Unit Parameters	Compressor Type		Rotary type		Hermetic Scroll			
	Operating Ambient Temperature Range		Cooling18~43℃, Heating-7~25℃		Cooling5~45℃, Heating-10~25℃			
	Refrigerant		R410a					
	Number of Compressors		1	1	2	2	2	2
	Cooling Input Power	kW	2.4	4.2	7.8	9.1	11.9	13.7
	Heating Input Power	kW	2.3	4.48	7	8.2	10.5	12.1
	Weight	kg	53	80	240	278	358	374
	Power Supply		220V/50Hz/		380V/3N~/50Hz/			
	Number of Outdoor Units		1	1	1	1	1	1
	Single Outdoor Unit Dimensions	L mm	883	940	1250	1250	1870	1870
		W mm	375	340	900	900	900	900
H mm		699	1240	1720	1720	1720	1720	
Connection Pipe for Indoor and Outdoor Units	Connection Method		Tigarc					
	Air Pipe Size	mm	φ15.88*1	φ19.05*1	φ19.05*2	φ19.05*2	φ19.05*2	φ19.05*2
	Liquid Pipe Size	mm	φ9.52*1	φ12.7*1	φ12.7*2	φ12.7*2	φ12.7*2	φ12.7*2

Note:

1. The rated cooling capacity is measured under the conditions of nominal air volume, with the ambient dry-bulb and wet-bulb temperatures at 35/28°C.
2. The rated heating capacity is measured under the conditions of nominal air volume, with the ambient dry-bulb and wet-bulb temperatures at 7/6°C.
3. The rated cooling capacity does not account for heat generation losses from other components, and the external static pressure can be determined according to customer requirements.
4. The above indoor unit models are configured for single outdoor units, but multiple outdoor unit combinations are available. For other specifications, please consult OBAIR for specific parameters.
5. Unit performance test piping conditions: equivalent refrigerant pipe length 7.5m (horizontal).
6. Fresh air units are only for fresh air pre-treatment. Consider adding fresh air preheating based on the local minimum temperature.
7. The outdoor unit is pre-charged with refrigerant as shown in the parameter table. Refer to the unit nameplate for the charge quantity.
8. Technical parameters are subject to change due to product improvements without notice. Please refer to the unit nameplate.

» Technical Data Sheet (Fresh Air Conditions)

Model	Indoor Unit		FLG-55	FLG-70	FLG-85	FLG-120	FLG-155
	Outdoor Unit		SW200	SW250	SW300	SW400	SW500
Rated Cooling Capacity		kW	56	67.2	84	112	142
Heat Pump Heating Capacity		kW	60.5	72.6	90.8	121	153.4
Indoor Unit Parameters	Power Supply		380V/3N~/50Hz				
	Air Volume	m³/h	4500	5500	6700	9000	12000
	Air Volume Range	m³/h	Standard Air Volume ±10%				
	Dimensions	L mm	Determined Based on the Modulus of Specific Functional Sections				
		W mm	1150	1250	1350	1450	1550
		H mm	1030	1030	1130	1330	1530
	Drainage Pipe	DN	32	32	32	32	32
External Static Pressure	Pa	Determined According to the On-site Piping Layout					
Outdoor Unit Parameters	Compressor type		Hermetic Scroll				
	Operating Ambient Temperature Range		Cooling 5~45℃, Heating -10~25℃				
	Refrigerant		R410a				
	Number of Compressors		2	2	2	2	2
	Cooling Input Power	kW	17.1	21.2	28.48	37.44	44.4
	Heating Input Power	kW	15.6	19.4	25.8	33.6	39.18
	Weight	kg	514	534	680	750	778
	Power Supply		380V/3N~/50Hz				
	Number of Outdoor Units		1	1	1	1	1
	Single Outdoor Unit Dimensions	L mm	1870	1870	2200	2200	2200
W mm		1100	1100	1100	1100	1100	
H mm		2030	2030	2330	2330	2330	
Connection Pipe for Indoor and Outdoor Units	Connection Method		Welding				
	Air Pipe Size	mm	φ28.6*2	φ28.6*2	φ28.6*2	φ35*2	φ35*2
	Liquid Pipe Size	mm	φ15.88*2	φ15.88*2	φ15.88*2	φ22.2*2	φ22.2*2

Note:

1. The rated cooling capacity is measured under the conditions of nominal air volume, with the ambient dry-bulb and wet-bulb temperatures at 35/28°C.
2. The rated heating capacity is measured under the conditions of nominal air volume, with the ambient dry-bulb and wet-bulb temperatures at 7/6°C.
3. The rated cooling capacity does not account for heat generation losses from other components, and the external static pressure can be determined according to customer requirements.
4. The above indoor unit models are configured for single outdoor units, but multiple outdoor unit combinations are available. For other specifications, please consult OBAIR for specific parameters.
5. Unit performance test piping conditions: equivalent refrigerant pipe length 7.5m (horizontal).
6. Fresh air units are only for fresh air pre-treatment. Consider adding fresh air preheating based on the local minimum temperature.
7. The outdoor unit is pre-charged with refrigerant as shown in the parameter table. Refer to the unit nameplate for the charge quantity.
8. Technical parameters are subject to change due to product improvements without notice. Please refer to the unit nameplate.

Technical Data Sheet (Constant Temperature and Humidity Recirculating Air Condition)

Model	Indoor Unit		FLHS-24	FLHS-30	FLHS-35	FLHS-45
	Outdoor Unit		SW075	SW100	SW125	SW150
Rated Cooling Capacity		kW	22.4	28.4	33.6	42.8
Heat Pump Heating Capacity		kW	24.2	30.7	36.3	46.2
Indoor Unit Parameters	Power Supply		380V/3N~/50Hz			
	Airflow	m³/h	4500	5500	6500	8500
	Airflow Range	m³/h	Standard Air Volume ±10%			
	Additional Heating Capacity	kW	10	15	15	20
	Humidification Capacity	kg/h	6	8	12	15
	Dimensions	L mm	Determined Based on the Modulus of Specific Functional Sections			
		W mm	1050	1250	1250	1350
		H mm	930	930	1030	1230
	Drain Pipe	DN	32	32	32	32
	External Static Pressure	Pa	Determined According to the On-site Piping Layout			
Outdoor Unit Parameters	Compressor Type		Hermetic Scroll			
	Operating Ambient Temperature Range		Cooling 5~45°C, Heating -10~25°C			
	Refrigerant		R410a			
	Number of Compressors		2	2	2	2
	Cooling Input Power	kW	7.8	9.1	11.9	13.7
	Heating Input Power	kW	7	8.2	10.5	12.1
	Weight	kg	240	278	358	374
	Power Supply		380V/3N~/50Hz			
	Number of Outdoor Units		1	1	1	1
	Single Outdoor Unit Dimensions	L mm	1250	1250	1870	1870
		W mm	900	900	900	900
		H mm	1720	1720	1720	1720
Connection Pipe for Indoor and Outdoor Units	Connection Method		Thread			
	Air Pipe Size	mm	φ19.05*2	φ19.05*2	φ19.05*2	φ19.05*2
	Liquid Pipe Size	mm	φ12.7*2	φ12.7*2	φ12.7*2	φ12.7*2

Note:

- The rated cooling capacity is measured under the conditions of nominal air volume, with the indoor inlet air dry-bulb and wet-bulb temperatures at 24/17°C, and the ambient dry-bulb and wet-bulb temperatures at 35/24°C.
- The rated heating capacity is measured under the conditions of nominal air volume, with the indoor inlet air dry-bulb and wet-bulb temperatures at 20/15°C, and the ambient dry-bulb and wet-bulb temperatures at -7/6°C.
- The rated cooling capacity does not account for heat generation losses from other components, and the external static pressure can be determined according to customer requirements.
- The above indoor unit models are configured for single outdoor units, but multiple outdoor unit combinations are available. For other specifications, please consult OBAIR for specific parameters.
- The above heating is PTC electric heating, and other heat source forms such as hot water coil and steam coil can be optionally equipped. Please consult OBAIR for details.
- The above humidification is electrode humidifier, and other humidification forms such as electric heat, spray, high pressure micro fog and fogging can be optionally equipped. Please consult OBAIR for details.
- Unit performance test piping conditions: equivalent refrigerant pipe length 7.5m (horizontal).
- The outdoor unit is pre-charged with refrigerant as shown in the parameter table. Refer to the unit nameplate for the charge quantity.
- Technical parameters are subject to change due to product improvements without notice. Please refer to the unit nameplate.

Technical Data Sheet (Constant Temperature and Humidity Recirculating Air Condition)

Model	Indoor Unit		FLHS-55	FLHS-70	FLHS-85	FLHS-120	FLHS-155
	Outdoor Unit		SW200	SW250	SW300	SW400	SW500
Rated Cooling Capacity		kW	56	67.2	84	112	142
Heat Pump Heating Capacity		kW	60.5	72.6	90.8	121	153.4
Indoor Unit Parameters	Power Supply		380V/3N~/50Hz				
	Airflow	m³/h	11000	13000	16000	22500	29000
	Airflow Range	m³/h	Standard Air Volume ±10%				
	Additional Heating Capacity	kW	25	30	40	60	70
	Humidification Capacity	kg/h	15	20	25	35	45
	Dimensions	L mm	Determined Based on the Modulus of Specific Functional Sections				
		W mm	1550	1550	1750	2050	2450
		H mm	1330	1530	1530	1630	1730
	Drain Pipe	DN	32	32	32	32	32
	External Static Pressure	Pa	Determined According to the On-site Piping Layout				
Outdoor Unit Parameters	Compressor Type		Hermetic Scroll				
	Operating Ambient Temperature Range		Cooling 5~45°C, Heating -10~25°C				
	Refrigerant		R410a				
	Number of Compressors		2	2	2	2	2
	Cooling Input Power	kW	17.1	21.2	28.48	37.44	44.4
	Heating Input Power	kW	15.6	19.4	25.8	33.6	39.18
	Weight	kg	514	534	680	750	778
	Power Supply		380V/3N~/50Hz				
	Number of Outdoor Units		1	1	1	1	1
	Single Outdoor Unit Dimensions	L mm	1870	1870	2200	2200	2200
		W mm	1100	1100	1100	1100	1100
		H mm	2030	2030	2330	2330	2330
Connection Pipe for Indoor and Outdoor Units	Connection Method		Welding				
	Air Pipe Size	mm	φ28.6*2	φ28.6*2	φ28.6*2	φ35*2	φ35*2
	Liquid Pipe Size	mm	φ15.88*2	φ15.88*2	φ15.88*2	φ22.2*2	φ22.2*2

Note:

- The rated cooling capacity is measured under the conditions of nominal air volume, with the indoor inlet air dry-bulb and wet-bulb temperatures at 24/17°C, and the ambient dry-bulb and wet-bulb temperatures at 35/24°C.
- The rated heating capacity is measured under the conditions of nominal air volume, with the indoor inlet air dry-bulb and wet-bulb temperatures at 20/15°C, and the ambient dry-bulb and wet-bulb temperatures at -7/6°C.
- The rated cooling capacity does not account for heat generation losses from other components, and the external static pressure can be determined according to customer requirements.
- The above indoor unit models are configured for single outdoor units, but multiple outdoor unit combinations are available. For other specifications, please consult OBAIR for specific parameters.
- The above heating is PTC electric heating, and other heat source forms such as hot water coil and steam coil can be optionally equipped. Please consult OBAIR for details.
- The above humidification is electrode humidifier, and other humidification forms such as electric heat, spray, high pressure micro fog and fogging can be optionally equipped. Please consult OBAIR for details.
- Unit performance test piping conditions: equivalent refrigerant pipe length 7.5m (horizontal).
- The outdoor unit is pre-charged with refrigerant as shown in the parameter table. Refer to the unit nameplate for the charge quantity.
- Technical parameters are subject to change due to product improvements without notice. Please refer to the unit nameplate.

» Technical Data Sheet (Constant Temperature and Humidity Fresh Air Condition)

Model	Indoor Unit		FLHS-24	FLHS-30	FLHS-35	FLHS-45
	Outdoor Unit		SW075	SW100	SW125	SW150
Rated Cooling Capacity		kW	22.4	28.4	33.6	42.8
Heat Pump Heating Capacity		kW	24.2	30.1	36.3	46.2
Indoor Unit Parameters	Power Supply		380V/3N~/50Hz			
	Airflow	m³/h	1800	2300	2800	3500
	Airflow Range	m³/h	Standard Air Volume ±10%			
	Additional Heating Capacity	kW	10	15	15	20
	Humidification Capacity	kg/h	6	8	12	15
	Dimensions	L mm	Determined Based on the Modulus of Specific Functional Sections			
		W mm	850	850	950	1050
		H mm	730	830	930	930
	Drain Pipe	DN	32	32	32	32
	External Static Pressure	Pa	Determined According to the On-site Piping Layout			
Outdoor Unit Parameters	Compressor Type		Hermetic Scroll			
	Operating Ambient Temperature Range		Cooling 5~45°C, Heating -10~25°C			
	Refrigerant		R410a			
	Number of Compressors		2	2	2	2
	Cooling Input Power	kW	7.8	9.1	11.9	13.7
	Heating Input Power	kW	7	8.2	10.5	12.1
	Weight	kg	240	278	358	374
	Power Supply		380V/3N~/50Hz			
	Number of Outdoor Units		1	1	1	1
	Single Outdoor Unit Dimensions	L mm	1250	1250	1870	1870
		W mm	900	900	900	900
		H mm	1720	1720	1720	1720
Connection Pipe for Indoor and Outdoor Units	Connection Method		Thread			
	Air Pipe Size	mm	φ19.05*2	φ19.05*2	φ19.05*2	φ19.05*2
	Liquid Pipe Size	mm	φ12.1*2	φ12.1*2	φ12.1*2	φ12.1*2

Note:

- The rated cooling capacity is measured under the conditions of nominal air volume, with the ambient dry-bulb and wet-bulb temperatures at 35/28°C.
- The rated heating capacity is measured under the conditions of nominal air volume, with the ambient dry-bulb and wet-bulb temperatures at 11/6°C.
- The rated cooling capacity does not account for heat generation losses from other components, and the external static pressure can be determined according to customer requirements.
- The above indoor unit models are configured for single outdoor units, but multiple outdoor unit combinations are available. For other specifications, please consult OBAIR for specific parameters.
- Unit performance test piping conditions: equivalent refrigerant pipe length 7.5m (horizontal).
- Fresh air units are only for fresh air pre-treatment. Consider adding fresh air preheating based on the local minimum temperature.
- The outdoor unit is pre-charged with refrigerant as shown in the parameter table. Refer to the unit nameplate for the charge quantity.
- Technical parameters are subject to change due to product improvements without notice. Please refer to the unit nameplate.

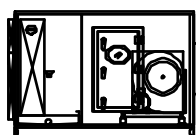
» Technical Data Sheet (Constant Temperature and Humidity Fresh Air Condition)

Model	Indoor Unit		FLHS-55	FLHS-70	FLHS-85	FLHS-120	FLHS-155
	Outdoor Unit		SW200	SW250	SW300	SW400	SW500
Rated Cooling Capacity		kW	56	67.2	84	112	142
Heat Pump Heating Capacity		kW	60.5	72.6	90.8	121	153.4
Indoor Unit Parameters	Power Supply		380V/3N~/50Hz				
	Airflow	m³/h	4500	5500	6700	9000	12000
	Airflow Range	m³/h	Standard Air Volume ±10%				
	Additional Heating Capacity	kW	25	30	40	60	70
	Humidification Capacity	kg/h	15	20	25	35	45
	Dimensions	L mm	Determined Based on the Modulus of Specific Functional Sections				
		W mm	1150	1250	1350	1450	1550
		H mm	1030	1030	1130	1330	1530
	Drain Pipe	DN	32	32	32	32	32
	External Static Pressure	Pa	Determined According to the On-site Piping Layout				
Outdoor Unit Parameters	Compressor Type		Hermetic Scroll				
	Operating Ambient Temperature Range		Cooling 5~45°C, Heating -10~25°C				
	Refrigerant		R410a				
	Number of Compressors		2	2	2	2	2
	Cooling Input Power	kW	17.1	21.2	28.48	37.44	44.4
	Heating Input Power	kW	15.6	19.4	25.8	33.6	39.18
	Weight	kg	514	534	680	750	778
	Power Supply		380V/3N~/50Hz				
	Number of Outdoor Units		1	1	1	1	1
	Single Outdoor Unit Dimensions	L mm	1870	1870	2200	2200	2200
		W mm	1100	1100	1100	1100	1100
		H mm	2030	2030	2330	2330	2330
Connection Pipe for Indoor and Outdoor Units	Connection Method		Welding				
	Air Pipe Size	mm	φ28.6*2	φ28.6*2	φ28.6*2	φ35*2	φ35*2
	Liquid Pipe Size	mm	φ15.88*2	φ15.88*2	φ15.88*2	φ22.2*2	φ22.2*2

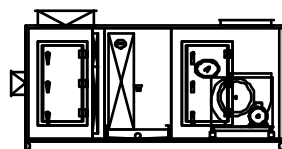
Note:

- The rated cooling capacity is measured under the conditions of nominal air volume, with the ambient dry-bulb and wet-bulb temperatures at 35/28°C.
- The rated heating capacity is measured under the conditions of nominal air volume, with the ambient dry-bulb and wet-bulb temperatures at 11/6°C.
- The rated cooling capacity does not account for heat generation losses from other components, and the external static pressure can be determined according to customer requirements.
- The above indoor unit models are configured for single outdoor units, but multiple outdoor unit combinations are available. For other specifications, please consult OBAIR for specific parameters.
- Unit performance test piping conditions: equivalent refrigerant pipe length 7.5m (horizontal).
- Fresh air units are only for fresh air pre-treatment. Consider adding fresh air preheating based on the local minimum temperature.
- The outdoor unit is pre-charged with refrigerant as shown in the parameter table. Refer to the unit nameplate for the charge quantity.
- Technical parameters are subject to change due to product improvements without notice. Please refer to the unit nameplate.

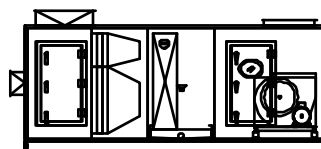
Common Combination Methods of Functional Sections



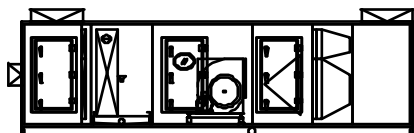
External filtration section +
evaporation section + fan section



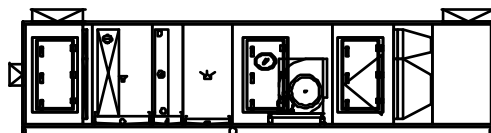
Mixing section + plate filtration section +
evaporation section + fan section



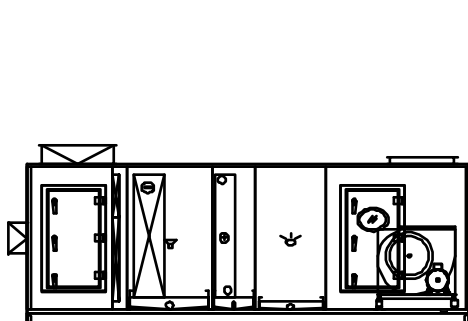
Mixing section + bag filtration section +
evaporation section + fan section



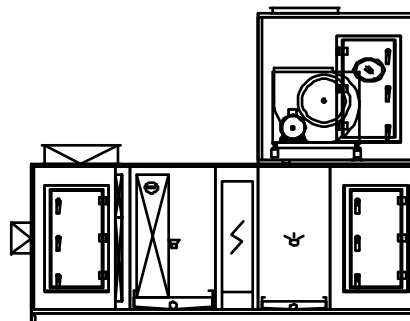
Mixing section + plate filtration section +
evaporation section + fan section + air flow equalization
section + bag filtration section + air supply section



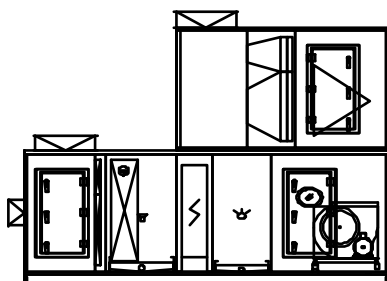
Mixing section + plate-type filtration section + evaporating
section + steam heating section + humidifying section
+ fan section + uniform flow section +
bag-type filtration section + air supply section



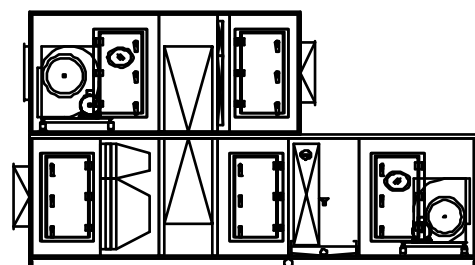
Mixing section + plate-type filtration section + evaporating section
+ steam heating section + humidifying section + fan section



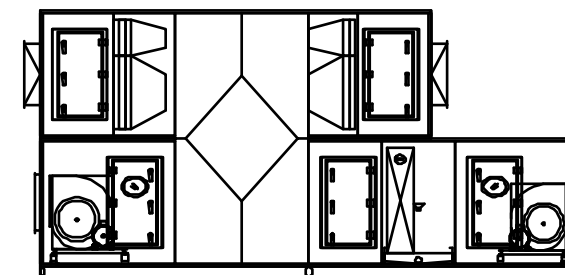
Mixing section + plate-type filtration section +
evaporating section + electric heating section
+ humidifying section + fan section



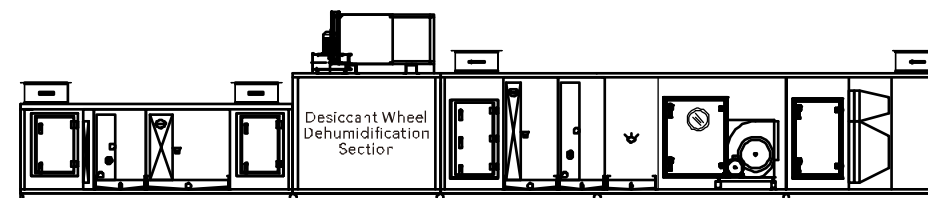
Mixing section + plate-type filtration section +
evaporating section + electric heating section
+ humidifying section + fan section +
air flow equalization section
+ bag-type filtration section + air supply section



Upper section: return air section + plate-type filtration section
+ rotary heat-recovery section + fan section
Lower section: fresh air section + bag-type filtration section
+ rotary heat-recovery section + intermediate
section + evaporative section + fan section

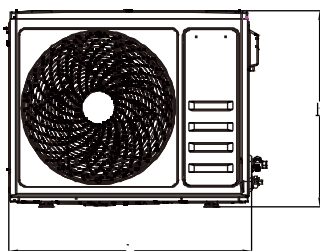


Upper section: fresh air section + bag-type filtration section + plate heat-recovery section +
bag-type filtration section + return air section
Lower section: fan section + plate heat-recovery section + intermediate section
+ evaporative section + fan section

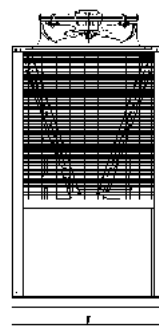
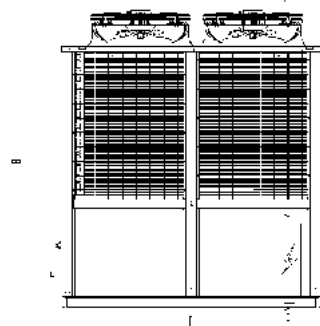


Fresh air section + plate filtration section + steam heating section + evaporation section + primary return air section
+ desiccant wheel dehumidification section + secondary return air section + evaporation section + steam heating section
+ humidification section + fan section + uniform flow section + bag filtration section + air supply section

» Outdoor Unit Technical Parameters (R410A)



Model	L (mm)	W (mm)	H (mm)	Liquid Line Quantity	Suction Gas Line Quantity	Weight (kg)
SW030HFA-NV	583	375	699	φ9.52"	φ15.88"	55
SW050HFA-NV	940	340	1240	φ12.7"	φ19.05"	80



Note:

The maximum length of the outdoor unit connection pipe is 30 meters, the maximum height difference is 15 meters, and the maximum number of elbows is 10.

Model	L (mm)	W (mm)	H (mm)	Liquid Line Quantity	Suction Gas Line Quantity	Weight (kg)
SW075ILA-VND	1250	900	1720	φ12.7"	φ19.05"	240
SW100HFA-VND	1250	900	1720	φ12.7"	φ19.05"	278
SW125HFA-VND	1870	900	1760	φ12.7"	φ19.05"	358
SW150HFA-VND	1870	900	1760	φ12.7"	φ19.05"	374
SW200HFA-VND	1870	1100	2030	φ15.88"	φ28.6"	514
SW250HFA-VND	1870	1100	2030	φ15.88"	φ28.6"	553
SW300HEA-VND	2200	1100	2330	φ15.88"	φ28.6"	680
SW400HEA-VND	2200	1100	2330	φ22.2"	φ35"	750
SW500ILA-VND	2200	1100	2330	φ22.2"	φ35"	118

Note:

1. The installation location of the outdoor unit should be away from flammable, explosive, dusty, low-lying, and high-temperature areas; please ensure there is enough space around the unit to facilitate air intake, exhaust, and maintenance; any obstacles can affect the unit's cooling/heating capacity and will cause inconvenience for future maintenance and servicing of the unit.

2. The outdoor unit should have sufficient space for heat dissipation, and the placement of the outdoor unit should avoid short-circuiting of the exhaust air.

» Table of Various Correction Coefficients

Air-cooled air conditioning unit indoor and outdoor conditions, impact on cooling operation

Correction Factor Outdoor Dry Bulb Temperature °C Indoor Wet Bulb Temperature °C	15	16	17	18	19	20	21	22
25	1.041	1.095	1.121	1.137	1.153	1.165	1.179	1.181
30	1.000	1.039	1.071	1.095	1.119	1.131	1.143	1.171
35	0.925	0.961	1.000	1.039	1.076	1.086	1.092	1.102
40	0.831	0.875	0.911	0.954	1.000	1.056	1.076	1.095
45	0.782	0.823	0.887	0.916	0.971	0.998	1.028	1.034

The impact of indoor and outdoor conditions on the heating operation of air-cooled air conditioning units

Correction Factor Outdoor Dry Bulb Temperature °C Indoor Wet Bulb Temperature °C	14	12	10	8	6	4	2	0	-2	-4	-6	-8
10	1.241	1.192	1.157	1.119	1.081	1.038	0.991	0.943	0.892	0.837	0.780	0.710
15	1.196	1.159	1.131	1.085	1.043	0.999	0.952	0.892	0.845	0.785	0.724	0.661
20	1.172	1.136	1.095	1.053	1.000	0.956	0.912	0.857	0.794	0.735	0.674	0.602
25	1.139	1.099	1.052	1.016	0.958	0.909	0.874	0.803	0.746	0.669	0.611	0.538

Note:

1. The table above reflects the general trend of changes in air conditioning units with variations in indoor and outdoor conditions, and is provided for reference when users select models;

2. If the cooling (heating) capacity under standard conditions is Q_1 , and the correction factor for a certain condition is k , then the actual cooling (heating) capacity Q for the corresponding condition is $Q = Q_1 \times k$.

Effect of Indoor Unit Airflow Change on Cooling Capacity

Indoor Unit Rated Airflow %	80	90	100	110	120
Cooling Capacity Correction Factor	0.91	0.96	1	1.06	1.11

Impact of Indoor Unit Extended Connection Pipe on Cooling Capacity (Recommended Maximum Pipe Length 35 Meters)

Influencing Factors		Cooling Capacity Correction Factor					
Equivalent total length of connection pipes		5m	10m	15m	25m	30m	35m
Outdoor unit is higher than the indoor unit	0m	1	0.99	0.97	0.93	0.91	0.89
	5m	1	0.98	0.96	0.92	0.90	0.88
	10m	--	0.97	0.95	0.91	0.89	0.87
	15m	--	--	0.94	0.90	0.88	0.86
	20m	--	--	--	0.89	0.87	0.85
Indoor unit is higher than the outdoor unit	0m	1	0.99	0.97	0.93	0.91	0.89
	5m	1	0.99	0.97	0.93	0.91	0.89
	10m	--	0.99	0.97	0.93	0.91	0.89
	15m	--	--	0.97	0.93	0.91	0.89
	20m	--	--	--	0.93	0.91	0.89

Constant - temperature Unit Control Schematic Diagram

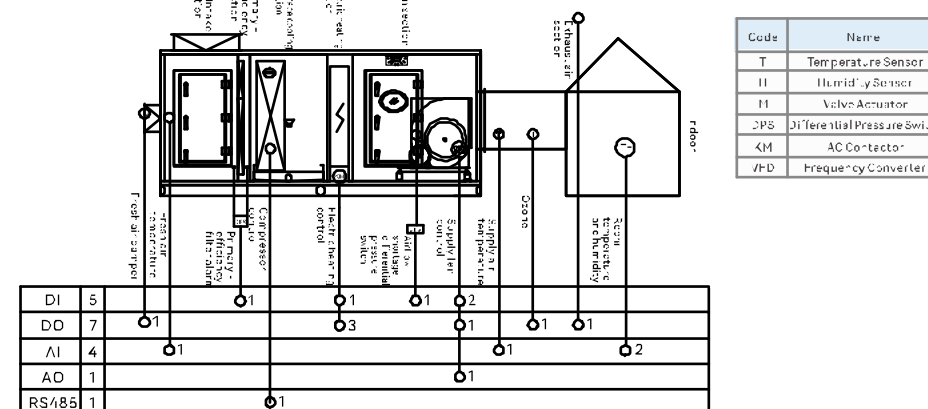
Liquid – piping Diameter (mm)	6.35	9.52	12.7	15.88	19.05	22.2	28.6	35
Theoretical Additional Refrigerant Per Meter of Pipe (kg)	0.020	0.046	0.089	0.147	0.207	0.291	0.504	0.724

Unit Operating Condition Temperature Range

Return Air Condition Unit					
Model	Function	Outdoor Dry bulb Temperature Range (°C)		Indoor Air Intake Dry bulb Temperature Range (°C)	
		Cooling	Heating	Cooling	Heating
Cooling only type (Cooling Capacity≥22 t / kW)	Cooling	5~45	-10~25	15~35	/
Heat Pump type (Cooling Capacity≥22.4kW)	Cooling/Heating	5~45	-10~25	15~35	15~28
A1 - year-round Cooling only type (Cooling Capacity≥22.4kW)	Cooling	5~45	/	15~35	/
A1 - year-round Cooling & Heating type (Cooling Capacity≥22.4kW)	Cooling	-15~45	/	15~35	/

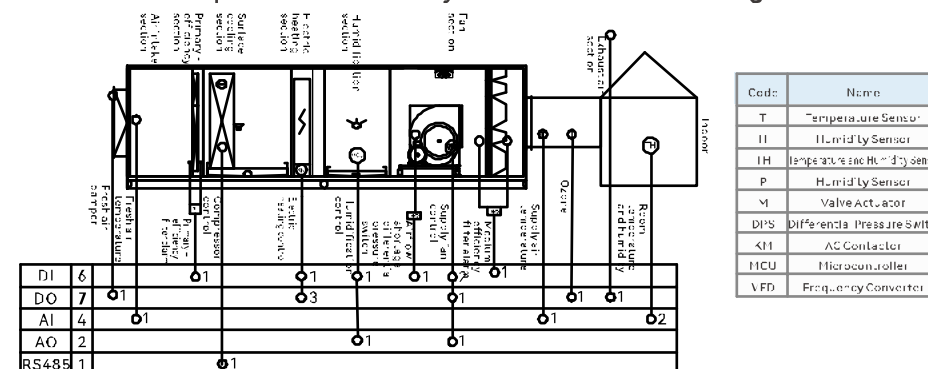
Fresh - air - only Condition Unit					
Model	Function	Outdoor Dry - bulb temperature Range (°C)		Indoor Air Intake Dry - bulb temperature Range (°C)	
		Cooling	Heating	Cooling	Heating
Cooling - only Type (Cooling Capacity22.4kW)	Cooling	5~45	/	15~45	/
Heat - Pump Type (Cooling Capacity22.4kW)	Cooling/Heating	5~45	-10~25	15~45	15~28

Fresh - air - only units must boost fresh air preheating per local minimum ambient temperature in heating mode to ensure normal operation



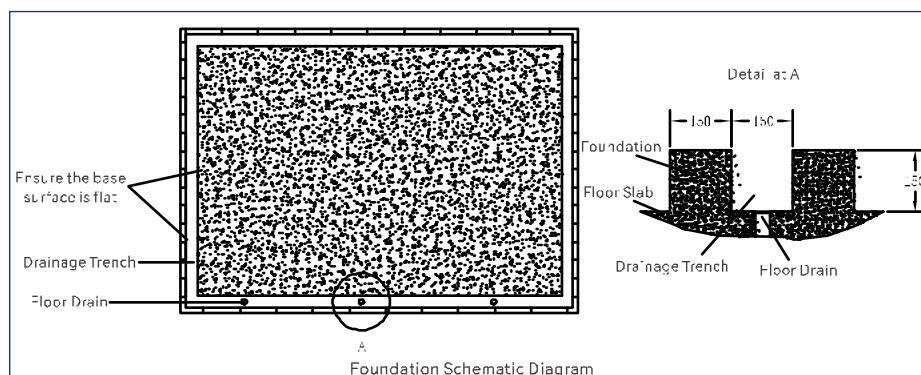
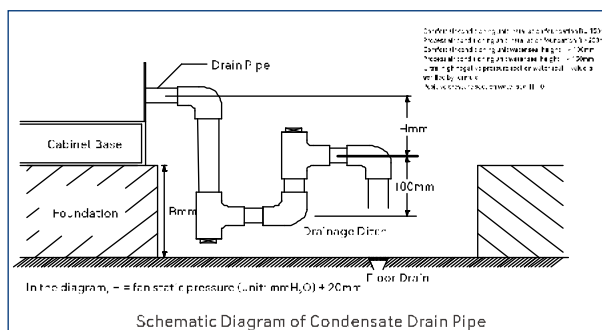
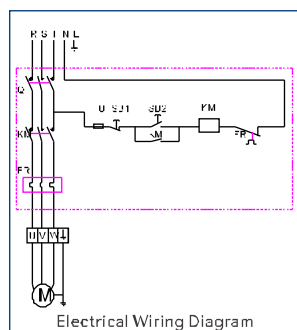
1. The system monitors return – air temperature, uses a P/D control algorithm with fuzzy logic to smartly calculate and –attach cooling/heating needs in real – time, and controls the number of compressors started for efficient and precise temperature control.
2. In heating mode, it detects return – air temperature, employs a PID control algorithm with fuzzy logic to calculate heating demand, and regulates electric heater group output for rapid heating.
3. In summer, constant temperature is achieved via evaporator cooling. It controls compressor on/off and electric heater input ratio based on target and real – time temperatures. In winter, it uses compressor heat – pump mode and heater input ratio for constant temperature.
4. The control system offers protection functions like external interlock shut down, clogged filter alarm, electric heater over – temperature alarm, airflow shortage alarm, and supply fan overload protection. These ensure safe and stable equipment operation through dual electrical and software protection.

» Constant Temperature and Humidity Unit Control Schematic Diagram



1. The system monitors return air temperature and humidity, uses a PID control algorithm with fuzzy logic to calculate and manage cooling and dehumidification needs in real time, and controls the number of compressors started for efficient and precise temperature and humidity control.
2. In heating mode, it detects return air temperature, employs a PID control algorithm with fuzzy logic to calculate heating demand, and regulates electric heater group output for space heating.
3. In humidification mode, it monitors return air humidity, uses a PID control algorithm with fuzzy logic to calculate humidification demand, and adjusts the humidifier output for efficient humidification.
4. In summer, constant temperature and humidity are achieved via evaporator cooling. It adjusts the supply air temperature with a boost heater to ensure constant temperature and humidity. In winter, heaters and humidifiers are adjusted as needed to meet constant temperature and humidity requirements.
5. The control system offers protection functions like external interlock shutdown, dogleg filter alarm, electric heater over-temperature alarm, airflow shortage alarm, and a high fan overload protection. These ensure safe and stable equipment operation, protect ducts and coils, and software protection.

Installation and Maintenance Precautions



Outdoor Unit Installation

The outdoor unit should be installed in the safest and most accessible place for maintenance. The surroundings should be open, clean, and well-ventilated. Avoid public pathways, waterlogged or snowy areas, and places near kitchen exhausts that might clog the condenser fins.

Don't install it directly on the ground. If ground installation is necessary, take dust-proof measures. For roof installations, waterproof the roof surface.

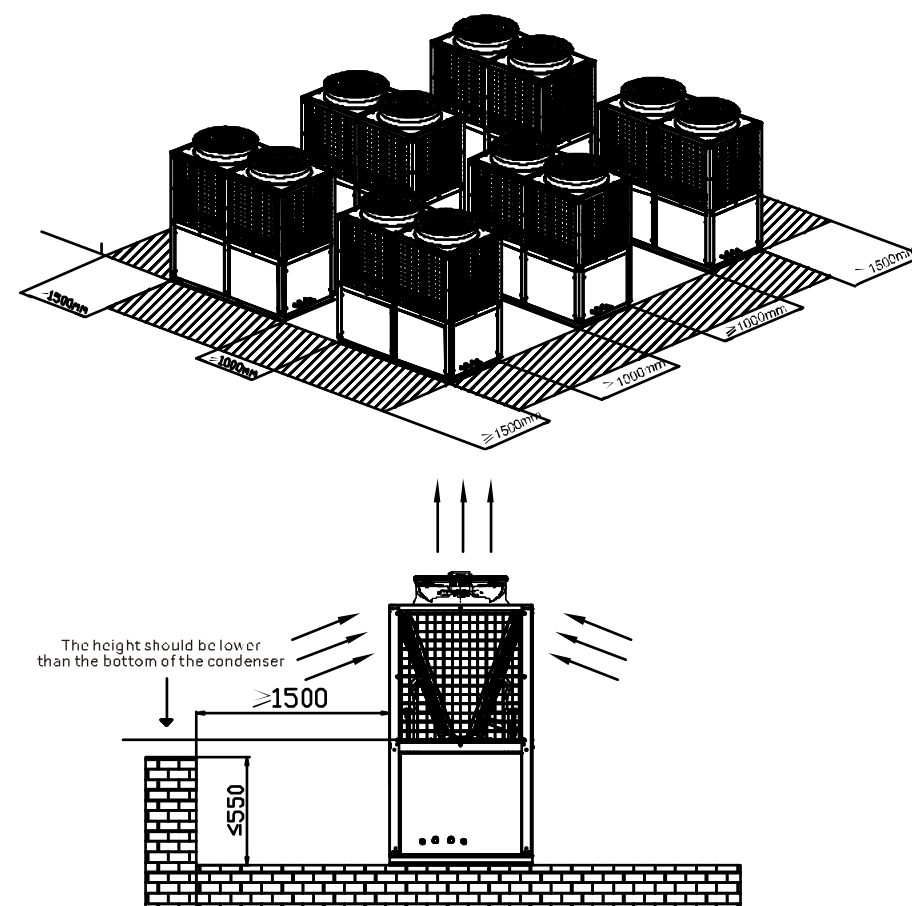
Secure the condenser according to its actual dimensions, based on vertical or horizontal air discharge requirements. Use angle steel or channel steel for the bracket, welded and rust-proofed. Fix the bracket firmly to the ground with expansion bolts. Place a 10mm-thick anti-vibration rubber pad between the condenser and the bracket, keeping the condenser level. Ensure 4000mm of unobstructed clearance in front of or on top of the outdoor unit for vertical or horizontal air discharge.

Top-discharge outdoor unit installation

The outdoor unit can only be installed with vertical upward or 90-degree air discharge. The bottom of the condenser should have at least 500mm of clearance from the ground. Compact outdoor units can be installed independently, back-to-back, or side-by-side. When installing side-by-side, avoid pairing units of different heights to prevent airflow short-circuiting. For both dispersed and side-by-side installations, follow the spacing requirements in Figure 3-1.

Outdoor unit installation requirements:

1. Keep at least 5m away from flammable/explosive materials, high-temperature heat sources.
2. Don't install in areas with strong corrosive gases (e.g., chemical or electroplating workshops).
3. Avoid installing in enclosed, semi-enclosed spaces, or areas with much dust or heavy grease fumes.
4. The base platform should be over 15cm above ground (steer clear of waterlogged depressions).
5. No obstructions within 3m of the air outlet. Prohibit 'airflow short-circuit' installation (air discharged shouldn't blow directly into nearby equipment's air inlet).
6. For installation and minimum maintenance space requirements, see the figure below.



Side-discharge Outdoor Unit Installation

Providing a solid and correct foundation has the following functions:

- (1) Prevents the outdoor unit from sinking.
- (2) Stops the outdoor unit from making abnormal noises caused by the foundation.

Types of foundations

- (1) Steel structure foundation.

Concrete foundation (common practice as shown in Figures 3-2, 3-3, 3-4, and 3-5).

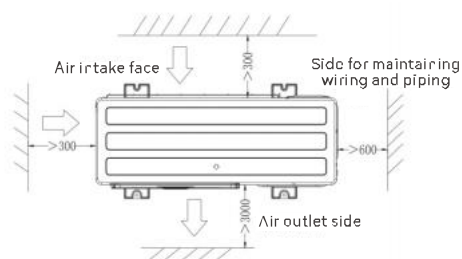


Figure 3-2

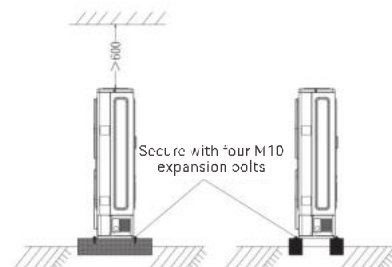


Figure 3-3

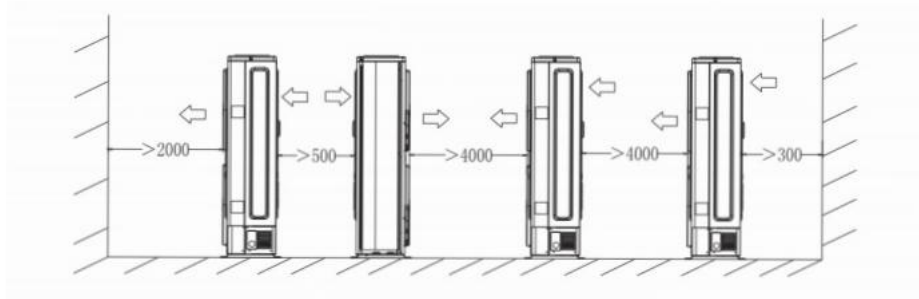


Figure 3-4

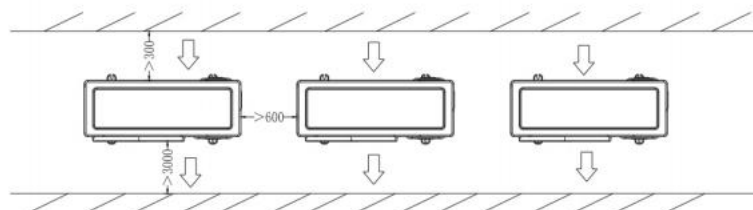


Figure 3-5

To prevent poor oil return from damaging the compressor when the outdoor unit is installed higher than the indoor unit, install an oil trap every 5 ~ 6m on the return gas pipe. Refer to Figures 3-6 and 3-7 for the installation diagram.

When the outdoor unit is positioned low

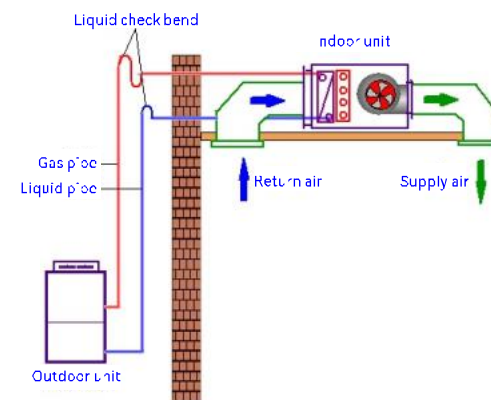


Figure 3-6

When the outdoor unit is in a high position

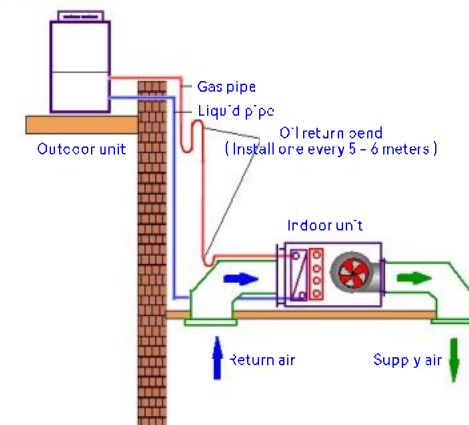


Figure 3-7

Unit Installation

1. Before installation, inspect the unit for damage. If issues like dents, deformation, scratches on panels, or loose fan/motor are found, contact the seller for repair or replacement.
2. Before wiring, check that the power supply's voltage, frequency, and phase match the unit's requirements, with voltage deviation not exceeding $\pm 10\%$ of the rated voltage. Before starting the fan, manually rotate the fan wheel inside the fan box to check for metal friction sounds. If abnormalities occur, correct them. After powering on, check the fan wheel's rotation direction. If incorrect, adjust the power supply phase sequence.
3. It is recommended to install a static pressure box at the unit's air outlet, a volume control valve on the duct, and a fire damper as per fire safety requirements. When using an electric volume control valve, the damper actuator should start before and shut down after the fan.
4. When welding pipes, protect the cabinet to prevent damage.
5. When connecting the condensate drain pipe, secure it with a pipe wrench to avoid torsion. Use thread seal tape for leak prevention. Ensure condensate has a proper water seal and is drained to a sewer (refer to the attached drawing).
6. The weight of connected ducts and pipes should not be borne by the unit.
7. Ensure the unit is properly grounded and electrical wiring meets safety standards.
8. Installation should be done by professionals familiar with the product and local regulations. Avoid collisions, pressure, or scratches during installation.

Maintenance

1. Inspect plate-type primary filters every half month. Clean with compressed air or water (2-3 washes max, without damaging the fabric). Typically replace every six months.
2. Check bag-type secondary filters every two months. Clean glass fiber filters with compressed air only (replace yearly); clean chemical fiber filters with air or water (1-2 washes max, without fabric damage or fiber loss). Typically replace every two years.
3. Check electric heaters monthly for damage or burnt wires. Replace wires if needed.
4. After one month of operation, shut down to check and adjust belt tension, lubricate bearings with oil, and tighten any loose bolts.
5. For fans running year-round, add grease to seat-type bearings per the table. Even for seasonal use, ensure annual grease addition.

Operating conditions	Lubricating grease addition cycle
general	3~6 Months
adverse (dusty)	1 Week ~ 1 Month

Note: During fan operation, bearings heat up and generate centrifugal force, increasing internal pressure and causing some grease to leak. This is normal.

6. After two years of operation, clean the heat exchanger tubes chemically and rinse the fins with compressed air or water.
7. Clean motor wheel bearings annually, replacing them if necessary.
8. If the air conditioner malfunctions, contact your dealer or agent immediately. Do not DIY repairs to avoid worsening the issue.

Unit Control

According to different customer requirements, OBAIR can offer diverse control panels. When the power grid requirement is not high, direct-starting or star-delta starting is feasible. It is recommended to use star-delta starting for motors with a power rating $\geq 15\text{kW}$. For places with strict power grid requirements, variable-frequency starting or soft starting is a better choice.



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.