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.

AHRI MEMBER · CRAA · c UL us LISTED · CE · TÜV SÜD · ISO

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

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Official WeChat Public Account

OBAIR

ZKW | Modular Air Handling Unit

OBAIR Central air conditioning

Version NO.: OB-202502A
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

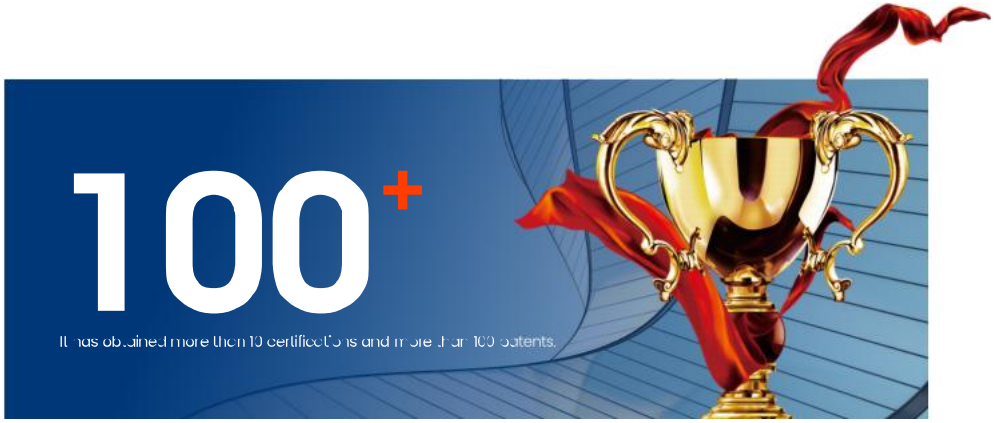
100,000 Pilot Project Air Conditioning Solutions

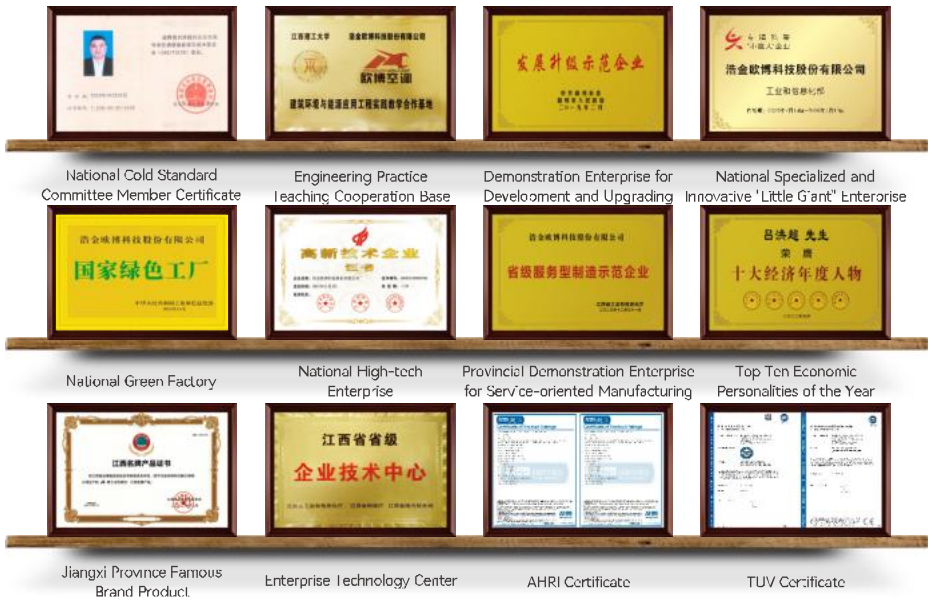
HONORARY QUALIFICATIONS

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.





ZKW | Modular Air Handling Unit

OBAIR
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Low Air Leakage Rate

The aluminum extrusion strip and the box panel use a face-to-face pressing sealing method, ensuring a neat appearance and a low air leakage rate for the entire machine.

Cold Bridge Break

At the junctions inside and outside the box, double - layered pressure - resistant, wear - resistant, and air - leakage - proof sealing strips are filled and combined with PVC thermal bridge - breaking strips, isolating heat - conducting parts and eliminating the thermal bridge effect.

Electrical Integrated Design

The wiring from the electrical cabinet to each component of the unit is completed by Aubo Company. All the user needs to do is connect the main power supply to the electrical cabinet.

High Mechanical Strength

The mechanical strength of the ZKW series air – handling unit by OBAIR meets the D1 level (the highest level) of EN 1886: 2007.

Convenient Disassembly and Assembly

The unit eliminates the need for bolts and nuts used in the point - to - surface sealing method, making disassembly and assembly easier.

AHRI CERTIFIED
www.ahridirectory.org
Central Station Air-Handling Unit Casings
AHRI Standard 1350

AHRI certification to combined Modular Air Handling Unit standards as the basis for certification, through the unit performance verification to confirm the difference between the selection software and the actual product performance, and timely correction of the selection software deviation, so as to ensure the consistency of the performance parameters of the product design. Certified units may be found in the AHRI Directory at www.ahridirectory.org

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Product Overview

OBAIR Air Conditioning's ZKW series modular air - conditioning units draw on advanced domestic and international AC technologies. They're designed and built per GB/T14294 - 2008 ("Modular Air - Conditioning Units"), offering comprehensive functions and superior performance.

As a new - generation product in modern air - conditioning, the ZKW series can be tailored to customer needs with various functional combinations and is suitable for many places like subways, exhibition centers, airports, office buildings, hotels, theaters, shopping malls, sports arenas, government offices, electronics and precision machinery plants, coating workshops, pharmaceutical factories, food and tobacco facilities.

Model Explanation

ZKW — 30 W T 2117

- 2117: Four - digit Number: Product Code
- T: T - Non - standard Unit, N – Standard Unit
- W: Unit type: D - Ceiling – mounted, V - Vertical, W - Horizontal
- 30: Nominal Air Volume: Number ×1000m³/h
- ZKW: Model Code: Modular Air - Conditioning Unit

Product Features

International Standard

The ZKW series units by OBAIR are designed to EN 1886:2007. They have a strong box with low air leakage, good insulation, a thermal bridge break, and high cleanliness.

The Mechanical Performance Indicators of the Unit Box	European Standard En1886
Unit Box Mechanical Strength	D1
Box Air Leakage Volume	L1
Box Heat Transfer Coefficient	T1
Thermal Bridge Factor	TB1
Filter Bypass Leakage Rate	F9

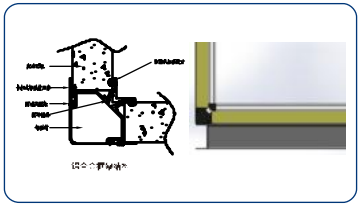
Excellent box structure

Low air leakage, no thermal bridge, good – looking and tidy

The air – handling unit uses an aluminum alloy frame and wedge plate gapless splicing technology. The airtight aluminum extrusion strip and box panel are joined via surface – to – surface sealing, resulting in a tidy appearance and low air leakage.

Doing away with bolts and nuts used in point – to - surface sealing makes disassembly and assembly easier.

Double – layered pressure - and wear – resistant sealing strips at box junctions, together with PVC thermal bridge – breaking strips, isolate heat - conducting parts and eliminate thermal bridges.



High Mechanical Strength

The mechanical strength of the ZKW series air - handling units by OBAIR conforms to the D1 level (the highest level) of EN 1886: 2007.

The unit's box structure, made of aluminum alloy framework, is designed with reinforced ribs to ensure mechanical strength.

Reinforced design on the back of the filter mounting frame.

The overall framework structure of the air - handling unit is made of aluminum alloy.

The air-handling unit has an internal reinforced rib design.

Product Features

Aircraft - technology Maintenance Door

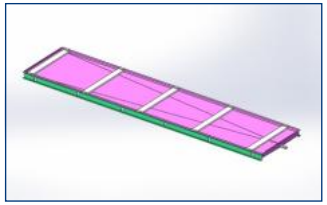
- Thermal - broken double - layer warehouse panel maintenance door ensures no thermal bridge during long - term operation.
- Integral liquid - foamed sealing strip and double - edged door frame ensure airtightness.
- Special handle - mounted pressure - relief device on the inside ensures safe operation.

Integral Welded Filter Frame

- The filter mounting frame is integrally welded for high mechanical strength.
- Its high - seal mounting ensures maximum purification efficiency of the filter section.
- The filter bypass leakage rate meets EN 1886 (F9) standards.

High - efficiency Drainage Double V - shaped Drip Pan

The Double V - shaped Drip Pan Boosts Drainage

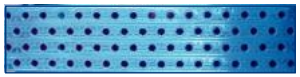


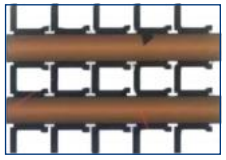
- The drip pan's support is on the left and right clamps, preventing deformation and water accumulation.
- Added ribs improve drainage and strengthen the drip pan.
- The drainpipe is lower, and the drip pan has a significant slope.
- The drainage capacity is strong, with a rate of 99.3% (gravimetric method).

Excellent Component Configuration

Efficient Heat - transfer Coil

- Double - flanged sinusoidal aluminum fins and bayonet - type copper tubes ensure uniform fin spacing, airflow velocity, and a ~ 5% heat - transfer efficiency boost.

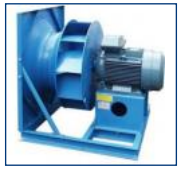




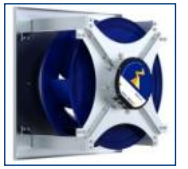
Various Types of Fans Consider Both Cost - effectiveness and Energy - saving

- All fans are certified by the American Ventilation and Air Conditioning Association (AMC).
- Fan bases come with spring or anti - shear dampers to reduce vibration and noise.

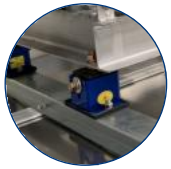
Belt Drive



Direct coupled Fan



FC Fan



Vibration Damper

Diverse Humidification Methods are Flexibly Selected

- Diverse humidifier types and brands are available for different applications.

Water Washing Spray

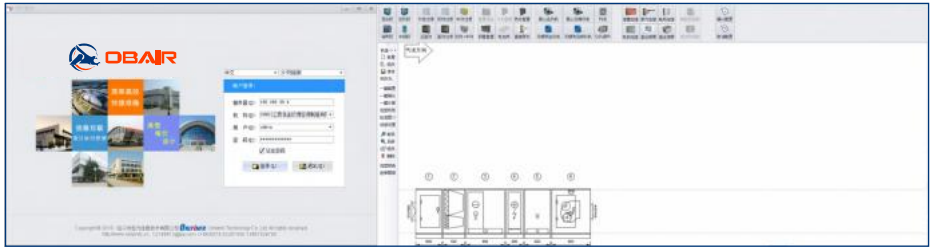
High - pressure Fine - mist Humidifier

Dry - steam Humidifier

Electrode Humidifier

Professional Modular Air - conditioning Unit Selection Software

- Embedded with high - precision selection data, repeatedly verified to ensure consistency between selection and actual production.
- Smart recommendation of optimal solutions for core components like heat exchangers, fans, and motors.



Airstream Meter

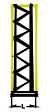
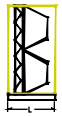
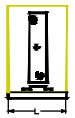
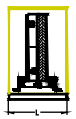
Model	Nominal Air Volume m^3/h	Air Velocity (m/s)						
		2.00	2.25	2.50	2.80	3.00	3.25	3.50
		Air Volume (m^3/h)						
ZKW-02WT	2000	1455	1636	1818	2036	2182	2364	2545
ZKW-03WT	3000	2182	2455	2727	3055	3273	3545	3818
ZKW-04WT	4000	2909	3273	3636	4073	4364	4727	5091
ZKW-05WT	5000	3636	4091	4545	5091	5455	5909	6364
ZKW-06WT	6000	4364	4909	5455	6109	6545	7091	7636
ZKW-07WT	7000	5091	5727	6364	7127	7636	8273	8909
ZKW-08WT	8000	5818	6545	7273	8145	8727	9455	10182
ZKW-09WT	9000	6545	7364	8182	9164	9818	10636	11455
ZKW-10WT	10000	7273	8182	9091	10182	10909	11818	12727
ZKW-12WT	12000	8727	9818	10909	12218	13091	14182	15273
ZKW-14WT	14000	10182	11455	12727	14255	15273	16545	17818
ZKW-16WT	16000	11636	13091	14545	16291	17455	18909	20364
ZKW-18WT	18000	13091	14727	16364	18327	19636	21273	22909
ZKW-20WT	20000	14545	16364	18182	20364	21818	23636	25455
ZKW-25WT	25000	18182	20455	22727	25455	27273	29545	31818
ZKW-30WT	30000	21818	24545	27273	30545	32727	35455	38182
ZKW-35WT	35000	25455	28636	31818	35636	38182	41364	44545
ZKW-40WT	40000	29091	32727	36364	40727	43636	47273	50909
ZKW-45WT	45000	32727	36818	40909	45818	49091	53182	57273
ZKW-50WT	50000	36364	40909	45455	50909	54545	59091	63636
ZKW-60WT	60000	43636	49091	54545	61091	65455	70909	76364
ZKW-70WT	70000	50909	57273	63636	71273	76364	82727	89091
ZKW-80WT	80000	58182	65455	72727	81455	87273	94545	101818
ZKW-90WT	90000	65455	73636	81818	91636	98182	106364	114545
ZKW-100WT	100000	72727	81818	90909	101818	109091	118182	127273
ZKW-120WT	120000	87273	98182	109091	122182	130909	141818	152727
ZKW-140WT	140000	101818	114545	127273	142545	152727	165455	178182
ZKW-160WT	160000	116364	130909	145455	162909	174545	189091	203636
ZKW-180WT	180000	130909	147273	163636	183273	196364	212727	229091
ZKW-200WT	200000	145455	163636	181818	203636	218182	236364	254545

Note:

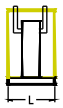
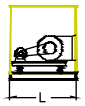
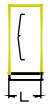
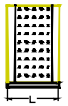
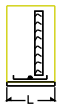
1.It is advised to select the model according to the face velocity of 2.5 m/s and determine the unit size based on the air volume.

2.When the face air velocity exceeds 2.5 m/s, it is recommended to add a water - deflector panel.

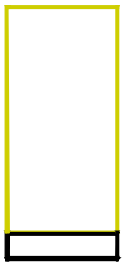
Function Section Description

Function	Schematic Diagram	Dimensions (mm) (For Reference Only)	
Mixing Section		Unit Specifications	L
		ZKW-05~10	600
		ZKW-15~30	600
		ZKW 35~60	800
		ZKW-70~100	1000
External Filter Section		It's mounted externally, not taking up any space inside.	
Panel Filter		L=100 Panel filters, available in primary and medium efficiency, can be placed in the mixing section or mounted externally without taking up separate space.	
Bag Filter		Bag Filter L=500	
Surface Cooling Section		Unit Specifications	L (1-6 Rows) / L (8-12 Rows)
		ZKW-05~30	500 / 700
		ZKW-35~60	700 / 800
		ZKW-70~100	900 / 1000
Heating Section		Unit Specifications	L (1-2 Rows)
		ZKW-05~60	300
		ZKW-70~100	600
		For models under 60, if the heating section is after a surface cooling section with ≤8 rows, and no maintenance between heating/cooling coils is needed, these coils can be placed in the same drip pan, taking up 900 - section length	
Electric Heating Section		T	L
		<10	300
		=10	500
		T=electric heat (W) / air volume (CMH)	
Steam Humidification Section		L=600 If placed after the fan section, it requires 900.	
Wet Film Humidification Section		It's mounted in the surface cooling section and doesn't occupy a separate section. If placed separately, it requires a 600 - section length.	

Function Section Description

Function	Schematic Diagram	Dimensions (mm) (For Reference Only)	
High - pressure Spray Humidification Section		L=900 Requires the addition of a water-deflector panel.	
Spray Section			L
		Single Row	2200
		Double Row / Three Rows	2200
Heat - recovery Section		L is selected according to the specific situation.	
Dehumidification Section		L is selected according to the specific situation.	
Fan Section		Unit Specifications	
		L=700 2800	
		See also the size tables for each function section	
Even Flow Section		L=600	
Sound - attenuation Section		L=600, 1200 Two options are available	
Intermediate Section		L=600 To facilitate maintenance and repair, it s necessary to add an intermediate section before the filter, surface cooling, heating, and sound attenuation sections.	
Discharge Section		Unit Specifications	L
		ZKW-05~10	500
		ZKW-15~30	700
		ZKW-35~60	800
		ZKW-70~100	1000
Water-deflector Section		It's installed in the surface cooling section and doesn't occupy a separate space.	

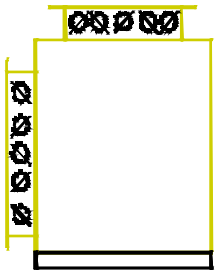
Function Section Description



▪Casing

The unit's casing is made of a clip - on panel anti - thermal - bridge aluminum alloy frame and color - steel - plate panels. The panels are linked via patented aluminum alloy sections and bolts, allowing on - site assembly and disassembly. It has a double - panel structure with flame - retardant polyurethane insulation in between, giving it good corrosion, high - temperature, and salt - water resistance. The base panel can bear people's weight. Each panel has an aluminum frame, and intersecting edges form two beams or columns, creating a double frame structure stronger than regular AC boxes and preventing deformation during transport and operation.

Note: The outer plate of the casing can be made of stainless steel according to the user's requirements.



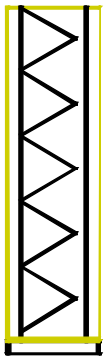
▪Mixing Section and Damper

Mixing section: It contains return and fresh air in ets for adjusting their ratio to meet air conditioning needs.

Exhaust section: It can adjust the proportion of return, fresh, and exhaust air to meet the needs of air conditioning. Bypass control: Add a bypass damper in the upper part or side of the box to control the air flow through the coil or other equipment.

Damper layout and structure: The dampers are double - leaf, with manual linkages. Electric drives are available if needed. The aluminum - alloy blades are gear driven for smooth operation, without lubrication.

Damper sizing rules: The damper is sized for 8 m/s velocity, keeping its noise below the unit's noise level. When mounted on top, the segment length determines the damper height (max height – segment length - 160 mm). Given the box width limit, make the damper as high as possible. For high return air volume, place the return air damper on the unit's end face to save costs.



板式过滤段

▪Filter Section

The filter's unit area mass, resistance, mechanical properties, anti - static property, hygroscopicity, flammability and filtration efficiency all meet GB/T 14295 - 2019. The filter section's air - intake cross - sectional air velocity uniformity is over 80%.

Filter Section Classification

·Nylon mesh filter: made of multi - layer nylon or metal mesh.

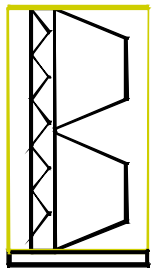
·Primary filter: pleated or bag type, made of polyester fiber or non - woven fabric.

·Medium - efficiency filter: pleated, bag, or compact pleated, made of polyester fiber or glass fiber.

·High - efficiency filter: bag or compact pleated, made of ultra - fine glass fiber.

·Activated carbon filter: made of carbonized and activated organic fibers, removes odors and pollutants. Conventional filters should be installed both before and after it.

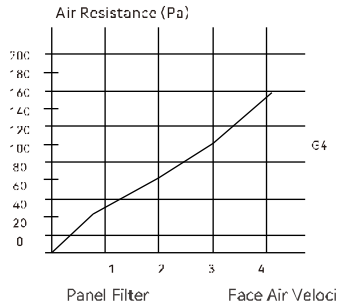
Function Section Description

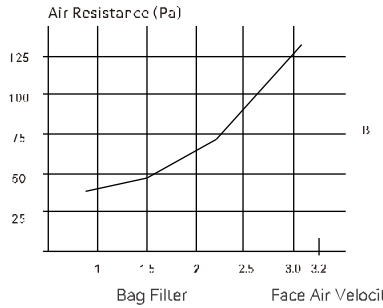


▪Bag Filter Section

Notes:
1. Optional: nylon filter mesh or multi layer metal filter mesh.
2. Same filtration area for panel and bag filters, but different thickness: 46 mm for panel, 381 mm for bag.
3. External filters are side - accessible; internal ones are front - accessible.
4. Two installation forms for internal filters: slide - rail (for comfort) and frame (for purification).

Air Resistance Diagram



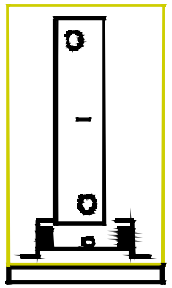


China, US, Europe Efficiency Specifications Comparison Table

China GB/T14295		Initial efficiency ≥5μM 80%>Efficiency≥15%					Medium Efficiency≥1μM 70%>Efficiency≥20%				High - medium Efficiency ≥1μM 95%>Efficiency≥70%			Sub - high Efficiency≥0.5μM 99.9%>Efficiency≥95%				High - efficiency≥0.5μM Efficiency≥99.9%			
US ASHRAE		C	C2~C4	L5	L6	L7	L8	M9	M10	M11	M12	M13	M14	H12~H 6				VH17	VH18	VH 9	VH20
Old Standard		G1	G2	G3		G4		5		6	7		8	9	H10	H11	H12	H13		H14	H15H17
Efficiency		65%	80%	80~90%		>90%		40%		60%	80%		90%	85%	95%	99%	99.9%	99.95%		99.995%	99.9995%
Old Specification		Ru1	Ru2	Ru3		Ru4		Ru5		Ru6	Ru7		Ru8	Ru9	Ru10	RU11		RU12	RU13	RU14	

Function Section Description

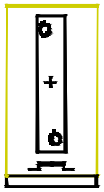
Surface Cooling and Heating Sections



Surface Cooling Section

▪Surface Cooling and Heating Sections

The surface cooling and heating coils are made of copper tubes, with aluminum fins fixed on phosphor bronze tubes via mechanical expansion. Fins: 10 12 per inch. The coil end plates are made of galvanized steel. The coil can be easily pulled out for maintenance. The water collection pipe is made of steel, with a vent on top and a drain at the bottom. The water supply, return, vent and drain pipes are standard steel pipes. The air velocity uniformity at the coil's air - intake cross - section is over 80%. The coil is pressure - tested at 2.5 MPa in the factory and can work at 1.6 MPa. The water, return water and condensate inlets are on the same side of the unit's casing. A water deflector plate can be installed after the coil as needed. Even at high air velocity, no water droplets will be blown out. The water carryover is less than 0.4 g/kg dry air. The drip pan is made of stainless steel. Its outer surface is covered with fire - resistant insulation to prevent condensation. A stainless steel drain pipe, sized for smooth condensate drainage, is at the pan's lowest point.



▪Steam - heating Section

Warning: The steam valve of the steam coil must be shut off before the fan stops.

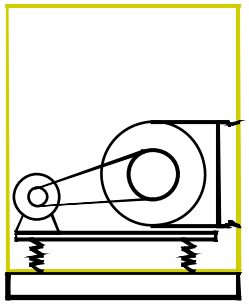
Notes:

1.The fin material of the coil can be copper or hydrophilic aluminum foil.

2.The end plate and drip pan of the coil are made of stainless steel.

3.The coil can be made of stainless steel or galvanized steel pipe.

4.The coil can be made of steel pipe and steel sheet, stainless steel pipe and stainless steel sheet, stainless steel pipe and aluminum sheet, or steel pipe and aluminum sheet.



▪Fan Section

According to the air volume and static pressure requirements, the fan section software can select one or more centrifugal fans. The fan is a forward - curved, backward curved, or aerofoil type centrifugal fan. The casing and all reinforcements are made of galvanized steel. The wheel has been tested for dynamic and static balance. The fan is driven by multiple anti - static belts. The bearings of small fans are sealed and require no oiling. The fan drive uses a V - belt.

The motor is fully enclosed, with a power supply of 380 V/50 Hz. It is installed on a sliding rail connected to a rigid structure. The motor base is adjustable. The fan and motor are positioned on a common base and fitted with vibration - damper brackets. The spring - damper assembly has a noise - reduction pad and leveling bolts.

The outlet is connected to the casing with a flexible coupling. The fan section has a maintenance door and removable inspection panels.

Notes:

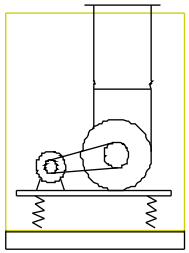
1.The fan can be selected as follows: without casing, aerofoil, direct - coupled, single - inlet.

2.Available motors: single - speed (2/4/6/8 - pole), dual - speed, triple - speed, variable - frequency.

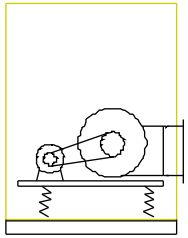
Function Section Description

The discharge direction of the fan

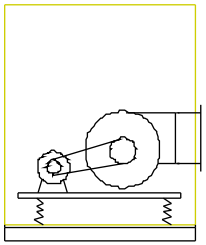
Air intake



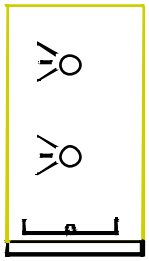
Top Air Discharge UF(90°)



Horizontal Downward Air Discharge FB(0°)



Horizontal Upper Air Discharge FT(180°)



■Humidification Section

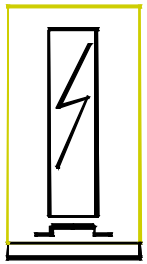
The following humidifiers are available for selection:

a. Dry steam humidifier: Isothermal humidification, made of stainless steel, corrosion-resistant, compact, easy to install, clean humidification, high efficiency. Available in electric and manual versions. Suitable for humidification with a steam source.

b. Electrode humidifier: Uses AC to treat tap water, generating clean steam. Features microcomputer control and proportional regulation. Ideal for process humidification without a steam source.

c. Vaporizing (wet film) humidifier: Uses wet film material to absorb water, which evaporates as air passes through, also washing and filtering the air. Can be used as a water deflector. Water supply can be direct or recirculated.

d. High - pressure spray humidifier: Atomizes pressurized tap water through nozzles, with droplets evaporating to humidify. Efficiency is typically 40 - 50%.



▪Electric Heating Section

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

Electric heating elements are fixed on the frame.

Power can be connected to 220V or 380V (please specify when ordering).

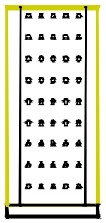
The control cabinet is to be installed by the user.

Wiring can be divided into 1 to multiple stages to meet different heating power control requirements.

Warning:

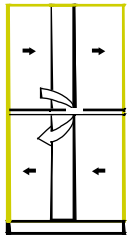
1. The electric heater must be turned on after the fan is started.
2. The electric heater must be turned off 5 minutes before the fan stops.
3. The over - temperature protection switch of the electric heater must be connected to the control circuit of the electric heater.

Function Section Description



▪Sound - attenuation Section

According to the requirements and the characteristics of the fan noise, the sound - absorbing silencer of impedance or resistance type can be installed in this section. The impedance type, made of perforated plates with sound - absorbing cotton inside, is placed in the box. When the air flows through, it has a good sound - attenuation effect on medium and high - frequency noise. The resistance - type silencer, made of micro - perforated plates, is designed and manufactured using the resonance sound - absorption principle in physics. It has the advantages of no pollution and no moisture, and it can effectively attenuate low - frequency and some medium - frequency noise. The sound - attenuation section is divided into return air sound - attenuation and supply air sound - attenuation.



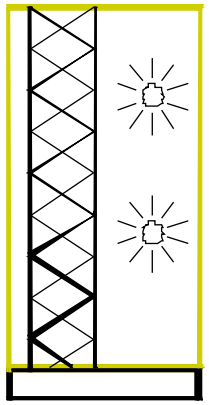
▪Heat - recovery Section

Rotating Wheel Heat Recovery: It can recover both sensible and latent heat, with an efficiency of 70-90%. The exhaust and fresh air flow through the wheel in opposite directions, and the wheel has a self-cleaning function.

In a media - based heat exchanger: the intermediate medium (usually water or ethylene glycol) circulates in heat exchangers of the fresh - air and exhaust - air systems, transferring the exhaust air's coldness (or heat) to the fresh air. It's used in air - conditioning systems with small temperature differences, recovers only sensible heat, and has an efficiency of a least 60%.

Cross - flow heat recovery: In the plate - fin heat exchanger, fresh and exhaust air streams exchange heat. Depending on the material, the heat exchanger can be sensible - heat or total - heat, with an efficiency of 70% or more. There's no cross - contamination between fresh and exhaust air, making it suitable for various applications.

Heat - pipe heat recovery: The heat - pipe heat exchanger is a compact, high - efficiency heat - transfer device with a large heat - transfer area. Each pipe is independent and easy to replace. It uses a working fluid (like ammonia or Freon) to transfer heat through phase changes.



▪Photocatalytic Purification and Sterilization Section

Sterilization, deodorization, formaldehyde removal

A photocatalyst is a semiconductor material with photocatalytic properties, represented by nanoscale titanium dioxide (TiO_2). Under ultraviolet light of a certain wavelength, it generates highly oxidative hydroxyl radicals and active oxygen. These can damage bacterial cell membranes, viral proteins, and decompose organic pollutants like formaldehyde and benzene.

Photocatalytic Sterilization Rate

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

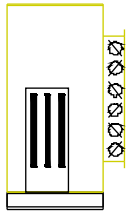
Photocatalytic Formaldehyde Removal

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

Photocatalytic Ammonia Removal

Time	Efficiency
30 minutes	62.70%
60 minutes	77.10%
90 minutes	80.70%

Function Section Description



■Ozone Generator

Ozone Sterilization and Disinfection

Ozone, with the molecular formula O_3, easily decomposes at room temperature into oxygen and individual oxygen atoms. These atoms have strong oxidizing properties. They can oxidize and break down enzymes essential to bacteria, or directly interact with bacteria and viruses, damaging their cells, breaking down their DNA, and causing them to dissolve.

Ozone generators produce ozone through gas corona discharge. They regularly sterilize and disinfect controlled spaces via circulating air. Compared to chemical disinfectants, this method purifies without leaving harmful resicues.

各种净化杀菌技术比较

Sterilization Method	Dust Removal Capability	Bactericidal and Virucidal Capacity	The capability to remove formaldehyde, benzene, and TVOC
Electronic Purification	★	★	
Activated Carbon			★
Ultraviolet Germicidal Lamp		★	
Photocatalyst		★	★
Ozone Generator		★	
Tracitional Plate and Bag Filter	★		

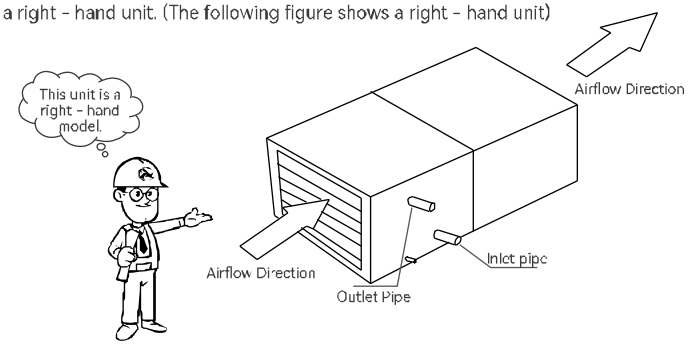
★——Strong functionality，Space——No function

Comparison of installation and maintenance for various purification and sterilization methods

Sterilization Method	Function Section Length	Power Supply	Replace and clean
Electronic Purification	3m	220V/50Hz	It should be cleaned about once a year
Activated Carbon	Plate type 1 meter, carbon box type 4 meters		The plate type can't be cleaned, but the carbon box type can be refilled with carbon
Ultraviolet Germicidal Lamp	0 m, no section length occupied	220V/50Hz	No cleaning required, can be used continuously
Photocatalyst	3m	220V/50Hz	No cleaning required, can be used continuously
Ozone Generator	0 m located at the air outlet section	220V/50Hz	Clean every six months
Tracitional Plate and Bag Filter	1m，5m		Consumables

Left - right configuration determination of the unit

Stand facing the air inlet: if the inlet and outlet water pipes are on the left, it is a left - hand unit; otherwise, it is a right - hand unit. (The following figure shows a right - hand unit)



Modular dimensions of each functional section of the unit

Model	Nominal Air Volume m³/h	Modular lengths of each functional section of the unit															
		Mixing	Plate-type Primary Filter	Bag - type Primary Filter	Bag - type Secondary Filter	Cooling Coil Section		Heating	Humidification		Upper Blowing	Flat Blowing	Even Flow	Sound Insulation	Middle	High efficiency	Outlet Air Flow
						6R	12R		Spray Humidification	Ultrasonic							
ZKW-02WT	2000	600	100	500	500	500	700	300	600	900	900	900	600	600	500	500	500
ZKW-03WT	3000	600	100	500	500	500	700	300	600	900	900	900	600	600	500	500	500
ZKW-04WT	4000	600	100	500	500	500	700	300	600	900	1000	900	600	600	500	500	500
ZKW-05WT	5000	600	100	500	500	500	700	300	600	900	1000	1000	600	600	500	500	500
ZKW-06WT	6000	600	100	500	500	500	700	300	600	900	1100	1000	600	600	500	500	500
ZKW-07WT	7000	600	100	500	500	500	700	300	600	900	1100	1000	600	600	500	500	500
ZKW-08WT	8000	600	100	500	500	500	700	300	600	900	1100	1000	600	600	500	500	500
ZKW-09WT	9000	600	100	500	500	500	700	300	600	900	1100	1100	600	600	500	500	500
ZKW-10WT	10000	600	100	500	500	500	700	300	600	900	1200	1100	600	600	500	500	500
ZKW-12WT	12000	600	100	500	500	500	700	300	600	900	1200	1100	600	600	500	500	700
ZKW-14WT	14000	600	100	500	500	500	700	300	600	900	1300	1200	600	600	500	500	700
ZKW-16WT	16000	600	100	500	500	500	700	300	600	900	1300	1300	600	600	500	500	700
ZKW-18WT	18000	600	100	500	500	500	700	300	600	900	1400	1300	600	600	500	500	700
ZKW-20WT	20000	600	100	500	500	500	700	300	600	900	1400	1300	600	600	500	500	700
ZKW-25WT	25000	600	100	500	500	500	700	300	600	900	1400	1400	600	600	500	500	700
ZKW-30WT	30000	600	100	500	500	500	700	300	600	900	1500	1400	600	600	500	500	700
ZKW-35WT	35000	800	100	500	500	700	800	300	600	900	1500	1400	600	600	500	500	800
ZKW-40WT	40000	800	100	500	500	700	800	300	600	900	1600	1500	600	600	500	500	800
ZKW-45WT	45000	800	100	500	500	700	800	300	600	900	1700	1600	600	600	500	500	800
ZKW-50WT	50000	800	100	500	500	700	800	300	600	900	1700	1700	600	600	500	500	800
ZKW-60WT	60000	800	100	500	500	700	800	300	600	900	1900	1700	600	600	500	500	800
ZKW-70WT	70000	800	100	500	500	900	1000	600	600	900	2000	1800	600	600	500	500	1000
ZKW-80WT	80000	800	100	500	500	900	1000	600	600	900	2100	1900	600	600	500	500	1000
ZKW-90WT	90000	1000	100	500	500	900	1000	600	600	900	2100	2100	600	600	500	500	1000
ZKW-100WT	100000	1000	100	500	500	900	1000	600	600	900	2200	2100	600	600	500	500	1000
ZKW-120WT	120000	1000	100	500	500	900	1000	600	600	900	2200	2200	600	600	500	500	1000
ZKW-140WT	140000	1000	100	500	500	900	1000	600	600	900	2400	2300	600	600	500	500	1000
ZKW-160WT	160000	1000	100	500	500	900	1000	600	600	900	2500	2500	600	600	500	500	1000
ZKW-180WT	180000	1000	100	500	500	900	1000	600	600	900	2700	2500	600	600	500	500	1000
ZKW-200WT	200000	1000	100	500	500	900	1000	600	600	900	2800	2800	600	600	500	500	1000

Note:

1. Functional section lengths may be adjusted per the design. The above data is for reference.
2. Adjust the humidification section as per specific requirements and methods. Install wet - film humidification after the cooling coil without occupying extra space.
3. Add intermediate sections before filtering, cooling, heating, and sound - attenuation sections for easier maintenance.
4. Determine the length of the heat recovery and dehumidification sections based on actual conditions.
5. Contact Oubo for any special requirements for functional sections.

Chilled water coil performance data sheet

Model ZKW-	Rated Air Flow m^3/h	Fresh Air Operation Condition						Recirculated Air Condition					
		4R		6R		8R		4R		6R		8R	
		Sensible Cooling Capacity	Total Cooling Capacity	Sensible Cooling Capacity	Total Cooling Capacity	Sensible Cooling Capacity	Total Cooling Capacity	Sensible Cooling Capacity	Total Cooling Capacity	Sensible Cooling Capacity	Total Cooling Capacity	Sensible Cooling Capacity	Total Cooling Capacity
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
02	2000	9.8	22.1	11.6	28.7	12.8	32	8.4	12.6	10.4	16.1	11.2	17.6
03	3000	16.1	33.2	20.9	48.4	22.7	52.8	13.2	16.4	16.3	22.2	18.6	25.4
04	4000	25.3	56.1	31.6	72.2	32.4	77.4	19.6	27.4	25.4	33.8	28.4	37.4
05	5000	27.6	58.2	34.1	81.1	38.7	90	22.4	28.5	28.6	38.1	33.3	43.7
06	6000	32.8	69.3	40.6	96.5	46.1	107.1	26.7	33.9	34	45.3	39.5	52
07	7000	41.1	91.2	50.8	120	52	126	37.4	39.9	40	53.3	46.5	61.2
08	8000	44.2	93.1	54.6	129.8	61.9	144	35.8	45.6	45.8	61	53.1	69.9
09	9000	49.7	104.8	61.4	146	69.7	162	40.3	51.3	51.5	68.6	59.8	78.7
10	10000	61	132.7	77.8	179	84.6	196.4	45.7	61.4	53.2	74.6	61	82.2
12	12000	76.3	165.9	97.3	223.8	105.8	245.5	57.1	76.8	66.5	93.3	76.3	102.8
14	14000	91.5	199.1	116.7	268.5	126.9	294.6	68.6	92.1	79.8	111.9	91.5	123.3
16	16000	100.7	219	128.4	295.4	139.6	324.1	75.4	101.3	87.8	123.1	100.7	135.6
18	18000	115.9	259	147.8	327	160.7	356	86.8	121	109	152	121	164
20	20000	127.5	284.9	162.6	359.7	176.8	391.6	95.5	133.1	119.9	167.2	133.1	180.4
25	25000	146	339	174.2	389.3	186	442	114.2	160	136.2	195.2	152.2	212.8
30	30000	176.2	407	200	487.2	226.2	524.4	126.2	185	156.6	231.2	172.4	243.6
35	35000	206	492	251.2	582.4	266	622.7	158	223	190	273.2	192.4	297.8
40	40000	227.1	526.3	271.1	634.7	294.6	687.6	168.6	244.2	205.2	306.2	218.4	344.6
45	45000	254.2	586	297.4	692.4	324	746.6	184.6	276.2	222.1	357	244.8	384
50	50000	290	676.2	342.2	807.2	376.4	881.4	206.4	307	254.6	396.2	274.6	428.6
60	55000	301	687.6	365.8	892.4	392	967.2	244.4	369.7	306.2	472.5	327	514
70	70000	336.2	774.4	396	989.8	433	1092	287.2	431.2	356.2	552	382.2	598.6
80	80000	384.7	878.2	454.2	1136	497	1247	331	489.8	407	628.6	438.5	687
90	90000	432	986	512.2	1282.2	556	1388	371.2	556.4	464	712	496.6	772.4
100	100000	475.7	1102	566.2	1421.1	617.4	1562	409.2	616.5	516.6	786.8	547.6	862.4
120	120000	576.2	1316	679.2	1697.2	743.2	1858	492	736.2	613.5	943.3	635	1028
140	140000	672	1532.4	79808	1984	873	2196	574.6	858.6	805	1104	771.2	1199
160	160000	769.4	1754.4	912	2273.4	987.6	2487	657.4	984	814.3	1256.5	872	1374
180	180000	862	1968	1021	2552	1116	2821	743.8	1108	913.6	1416	984	1542
200	200000	958.2	2188	1134	2832	1239	3114	822.4	1227.6	1016	1574	1097	1716

Note:

1. Unit rated conditions: For cooling, the recirculated air has a dry - bulb temperature of 27°C, a wet - bulb temperature of 19.5°C, and chilled water temperatures of 7/12°C inlet/outlet. Fresh air has a dry - bulb temperature of 35°C, a wet - bulb temperature of 28°C, chilled water temperatures of 7/12°C inlet/outlet, and a face velocity of 2.5m/s.
2. The above figures are for reference only. They may change with conditions or differences in coil circuitry, so contact the company for specific data.

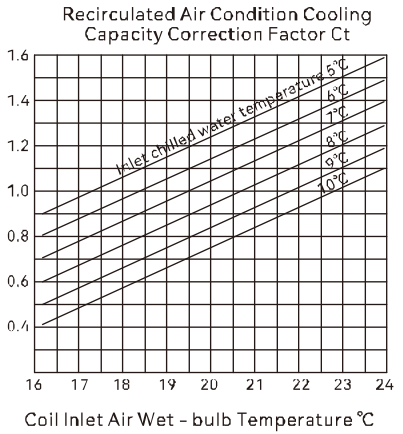
Heating coil performance data sheet

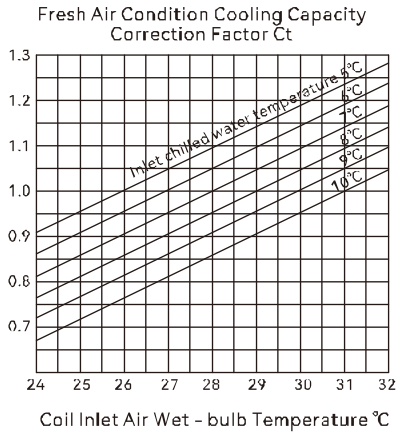
The tabulated data shows the maximum heat output (kW) per 1000m^3/h of air flow through the coil.

Coil Type	Coil Row Number	Heating Medium Parameter	Coil inlet air temperature (°C)											
			-15	-10	-5	0	5	7	10	15	17	19	21	23
Hot Water Coil	2R	42°C	6.95	6.32	5.79	5.27	4.62	4.16	4.01	3.52	3.18	2.99	2.84	2.6
		50°C	9.14	8.31	7.62	6.93	6.08	5.48	5.28	4.63	4.19	3.93	3.74	3.42
		60°C	10.63	9.82	9.01	8.27	7.64	6.75	6.83	6.12	5.83	5.49	5.16	4.87
		70°C	12.24	11.43	10.6	9.76	9.18	8.12	8.32	7.68	7.37	6.98	6.82	6.38
		90°C	13.46	12.87	12.31	11.63	11	10.83	10.28	9.66	9.43	9.18	8.87	8.66
	4R	42°C	10.72	9.4	8.94	8.09	7.17	6.78	6.21	5.43	5.11	4.76	4.42	4016
		50°C	14.1	12.31	11.76	10.64	9.43	8.92	8.17	7.14	6.73	6.26	5.82	5.47
		60°C	16.52	15.38	14.16	12.89	11.76	11	10.46	9.82	9.37	8.86	8.42	7.86
		70°C	18.76	17.43	16.52	15.41	14.16	13.14	12.87	12.17	11.86	10.64	10.18	9.74
		90°C	21.92	20.86	19.92	18.83	17.76	17.28	16.68	15.63	15.16	14.85	14.38	13.96
	6R	42°C	14.72	11.4	10.5	9.3	8.38	8.09	7.12	6.2	5.87	5.44	5.12	4.68
		50°C	19.37	15	13.81	12.24	11.02	10.65	9.37	8.16	7.73	7.16	6.74	6.16
		60°C	20.55	17.76	16.42	15.05	13.86	13.17	12.23	11.16	10.73	10.24	9.55	8.97
		70°C	21.76	20.54	19.13	17.76	16.54	15.87	15.12	14.07	13.55	13	12.42	11.77
		90°C	26.31	25.14	23.76	22.64	21.34	20.85	19.98	18.76	18.33	17.84	17.42	16.75
Steam Coil	1R	0.2MPa	6.2	6.0	5.8	5.6	5.2	5.1	5.0	4.8	4.7	4.6	4.5	4.2
		0.3MPa	6.8	6.5	6.3	6.1	5.7	5.6	5.5	5.2	5.1	5.0	4.9	4.6
	2R	0.2MPa	11.2	10.8	10.4	10.0	9.3	9.2	9.0	8.8	8.7	8.5	8.2	8.0
		0.3MPa	12.2	11.8	11.3	10.9	10.1	10.0	9.8	9.6	9.5	9.3	8.9	8.7

Coil face air velocity: 2.5m/s, Hot water inlet - outlet temperature difference: 5°C

Cooling Capacity Correction Factor for Coil



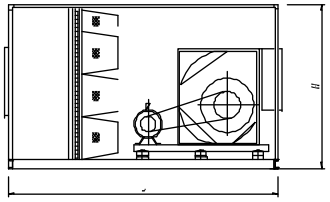


The Main Components Weight List —— Fan, Motor and Transmission Parts

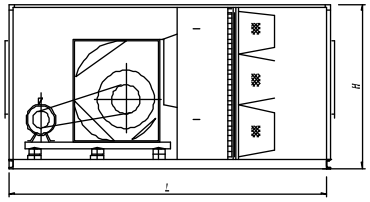
Fan	Forward - curved Fan Weight	Backward-curved Fan Weight	Weight of the Fan Motor Mounting Base
	kg	kg	kg
180	/	/	/
200	11	12	17.6
225	13	14	18.4
250	22	23	19.2
280	25	26	19.8
315	31	32	21.6
355	41	44	22.8
400	53	59	25
450	67	74	28
500	77	84	38
560	126	138	90
630	176	177	105
710	220	253	115
800	289	326	132
900	384	427	189
1000	450	518	211

Motor Power	Motor Weight	Weight of the Transmission Parts
kW	kg	kg
0.55	20	3
0.75	25	3
1.1	30	4
1.5	35	5
2.2	38	7
3	41	8
4	53	14
5.5	69	20
7.5	90	23
11	135	35
15	158	42
18.5	223	56
22	243	63
30	330	84
37	375	107
45	391	124
55	523	135
75	786	163

Standard Assembly



(JF Type)



(JZ Type)

Standard - type Assembly (JF - type)

Functional sections: mixing section, initial and medium - efficiency filtration sections, fan section

Model	Rated Air Flow	Air Flow Range	Unit Length	Unit Width	Unit Height	Mode	Rated Air Flow	Air Flow Range	Unit Length	Unit Width	Unit Height
	m^3/h	m^3/h	L mm	W mm	H mm		m^3/h	m^3/h	L mm	W mm	H mm
ZKW-02	2000	2000~2400	2300	850	830	ZKW-30	30000	27500~32000	3400	2250	2030
ZKW-03	3000	2500~3400	2300	1050	930	ZKW-35	35000	32500~37000	3600	2250	2030
ZKW-05	5000	4500~5400	2300	1050	930	ZKW-40	40000	37500~42000	3600	2700	2200
ZKW-06	6000	5500~6400	2300	1050	930	ZKW-45	45000	42500~47000	3800	2700	2200
ZKW-08	8000	7500~8400	2800	1250	1130	ZKW-50	50000	47500~52000	3800	2700	2600
ZKW-10	10000	9500~11000	3000	1550	1130	ZKW-60	60000	52500~63000	4200	3400	2600
ZKW-12	12000	11500~13000	3000	1550	1230	ZKW-70	70000	64000~73000	4200	3400	2600
ZKW-15	15000	13500~16000	3000	1750	1330	ZKW-80	80000	74000~83000	4200	4000	2800
ZKW-20	20000	16500~22000	3000	2050	1530	ZKW-100	100000	94000~105000	4600	4000	3500
ZKW-25	25000	22500~27000	3200	2050	1730	ZKW-120	120000	1000~125000	4600	4600	3500

Standard - type assembly (JZ - type)

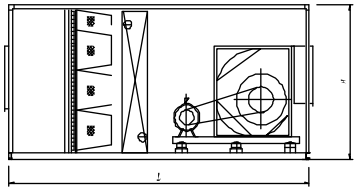
Functional sections: fan section, even - flow section, initial and medium - efficiency filtration sections, outlet section

Model	Rated Air Flow	Air Flow Range	Unit Length	Unit Width	Unit Height	Model	Rated Air Flow	Air Flow Range	Unit Length	Unit Width	Unit Height
	m^3/h	m^3/h	L mm	W mm	H mm		m^3/h	m^3/h	L mm	W mm	H mm
ZKW-02	2000	2000~2400	2600	850	830	ZKW-30	30000	27500~32000	3400	2250	2030
ZKW-03	3000	2500~3400	2600	1050	930	ZKW-35	35000	32500~37000	3600	2250	2030
ZKW-05	5000	4500~5400	2600	1050	930	ZKW-40	40000	37500~42000	3600	2700	2200
ZKW-06	6000	5500~6400	2600	1050	930	ZKW-45	45000	42500~47000	3800	2700	2200
ZKW-08	8000	7500~8400	2800	1250	1130	ZKW-50	50000	47500~52000	3800	2700	2600
ZKW-10	10000	9500~11000	3000	1550	1130	ZKW-60	60000	52500~63000	4200	3400	2600
ZKW-12	12000	11500~13000	3000	1550	1230	ZKW-70	70000	64000~73000	4200	3400	2600
ZKW-15	15000	13500~16000	3000	1750	1330	ZKW-80	80000	74000~83000	4200	4000	2800
ZKW-20	20000	16500~22000	3000	2050	1530	ZKW-100	100000	94000~105000	4600	4000	3500
ZKW-25	25000	22500~27000	3200	2050	1730	ZKW-120	120000	1000~125000	4600	4600	3500

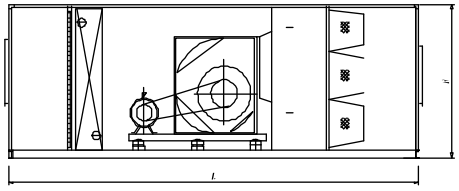
Note:

1. External dimensions of units in this table are for designers' reference,not for ordering or acceptance.
2. Customers can add functional sections as needed; contact our tech department for size changes.
3. Air intake size and location can be customized.
4. Specs may change due to product improvements; actual order data prevails.

Standard Assembly



(LJF Type)



(LJZ Type)

Standard - type Assembly (LJF - type)

Functional sections: mixing section, primary and medium - efficiency filtration sections, cooling coil section, fan section

Mode	Rated Air Flow	Air Flow Range	Unit Length	Unit Width	Unit Height	Model	Rated Air Flow	Air Flow Range	Unit Length	Unit Width	Unit Height
	m³/h	m³/h	L mm	W mm	H mm		m³/h	m³/h	L mm	W mm	H mm
ZKW-02	2000	2000~2400	2850	850	830	ZKW-30	30000	27500~32000	4000	2250	2030
ZKW-03	3000	2500~3400	2850	1050	930	ZKW-35	35000	32500~37000	4200	2250	2030
ZKW-05	5000	4500~5400	2850	1050	930	ZKW-40	40000	37500~42000	4200	2700	2200
ZKW-06	6000	5500~6400	2850	1050	930	ZKW-45	45000	42500~47000	4400	2700	2200
ZKW-08	8000	7500~8400	2850	1250	1130	ZKW-50	50000	47500~52000	4400	2700	2600
ZKW-10	10000	9500~11000	3600	1550	1130	ZKW-60	60000	52500~63000	4600	3400	2600
ZKW-12	12000	11500~13000	3600	1550	1230	ZKW-70	70000	64000~73000	4800	3400	2600
ZKW-15	15000	13500~16000	3600	1750	1330	ZKW-80	80000	74000~83000	5000	4000	2800
ZKW-20	20000	16500~22000	3600	2050	1530	ZKW-100	100000	94000~105000	5400	4000	3500
ZKW-25	25000	22500~27000	3800	2050	1730	ZKW-120	120000	11000~125000	5400	4600	3500

Standard - type Assembly (LJZ - type)

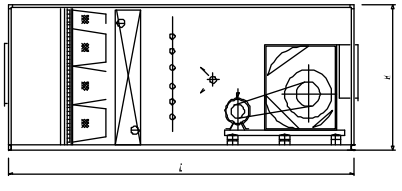
Functional sections: mixing section, primary filtration section, cooling coil section, fan section, even flow section, medium efficiency filtration section, outlet section

Mode	Rated Air Flow	Air Flow Range	Unit Length	Unit Width	Unit Height	Model	Rated Air Flow	Air Flow Range	Unit Length	Unit Width	Unit Height
	m³/h	m³/h	L mm	W mm	H mm		m³/h	m³/h	L mm	W mm	H mm
ZKW-02	2000	2000~2400	4000	850	830	ZKW-30	30000	27500~32000	5200	2250	2030
ZKW-03	3000	2500~3400	4000	1050	930	ZKW-35	35000	32500~37000	5400	2250	2030
ZKW-05	5000	4500~5400	4000	1050	930	ZKW-40	40000	37500~42000	5400	2700	2200
ZKW-06	6000	5500~6400	4000	1050	930	ZKW-45	45000	42500~47000	6000	2700	2200
ZKW-08	8000	7500~8400	4000	1250	1130	ZKW-50	50000	47500~52000	6000	2700	2600
ZKW-10	10000	9500~11000	4600	1550	1130	ZKW-60	60000	52500~63000	6200	3400	2600
ZKW-12	12000	11500~13000	4600	1550	1230	ZKW-70	70000	64000~73000	6400	3400	2600
ZKW-15	15000	13500~16000	4600	1750	1330	ZKW-80	80000	74000~83000	6600	4000	2800
ZKW-20	20000	16500~22000	4600	2050	1530	ZKW-100	100000	94000~105000	7000	4000	3500
ZKW-25	25000	22500~27000	4800	2050	1730	ZKW-120	120000	11000~125000	7000	4600	3500

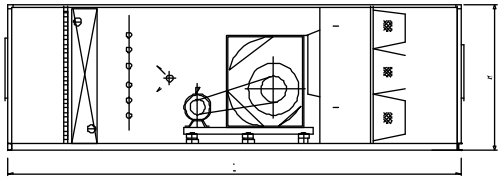
Note:

1. Refer to the table for unit external dimensions; not for ordering/acceptance.
2. Add functional sections as needed; contact our tech dept for size changes.
3. Customize air - intake size and location.
4. Specs may change due to product improvements; actual order data prevails.

Standard Assembly



(HJF Type)



(HJZ Type)

Standard - type Assembly (HJF - type)

Functional sections: mixing section, primary and medium efficiency filtration sections, cooling coil section, heating section, humidification section, fan section

Model	Rated Air Flow	Air Flow Range	Unit Length	Unit Width	Unit Height	Model	Rated Air Flow	Air Flow Range	Unit Length	Unit Width	Unit Height
	m³/h	m³/h	L mm	W mm	H mm		m³/h	m³/h	L mm	W mm	H mm
ZKW-02	2000	2000~2400	4000	850	830	ZKW-30	30000	27500~32000	4800	2250	2030
ZKW-03	3000	2500~3400	4000	1050	930	ZKW-35	35000	32500~37000	5000	2250	2030
ZKW-05	5000	4500~5400	4000	1050	930	ZKW-40	40000	37500~42000	5000	2700	2200
ZKW-06	6000	5500~6400	4000	1050	930	ZKW-45	45000	42500~47000	5200	2700	2200
ZKW-08	8000	7500~8400	4200	1250	1130	ZKW-50	50000	47500~52000	5200	2700	2600
ZKW-10	10000	9500~11000	4400	1550	1130	ZKW-60	60000	52500~63000	5600	3400	2600
ZKW-12	12000	11500~13000	4400	1550	1230	ZKW-70	70000	64000~73000	5800	3400	2600
ZKW-15	15000	13500~16000	4400	1750	1330	ZKW-80	80000	74000~83000	6000	4000	2800
ZKW-20	20000	16500~22000	4400	2050	1530	ZKW-100	100000	94000~105000	6400	4000	3500
ZKW-25	25000	22500~27000	4600	2050	1730	ZKW-120	120000	11000~125000	6400	4600	3500

Standard - type Assembly (HJZ - type)

functional sections: mixing section, pre filter section, cooling coil section, heating section, humidifying section, fan section, airflow equalizing section, medium - efficiency filter section, and discharge section.

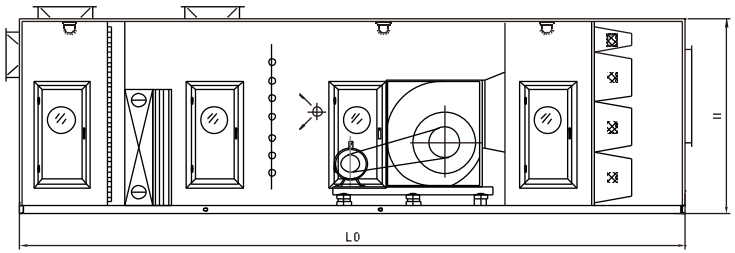
Model	Rated Air Flow	Air Flow Range	Unit Length	Unit Width	Unit Height	Model	Rated Air Flow	Air Flow Range	Unit Length	Unit Width	Unit Height
	m³/h	m³/h	L mm	W mm	H mm		m³/h	m³/h	L mm	W mm	H mm
ZKW-02	2000	2000~2400	5000	850	830	ZKW-30	30000	27500~32000	6000	2250	2030
ZKW-03	3000	2500~3400	5000	1050	930	ZKW-35	35000	32500~37000	6200	2250	2030
ZKW-05	5000	4500~5400	5000	1050	930	ZKW-40	40000	37500~42000	6200	2700	2200
ZKW-06	6000	5500~6400	5000	1050	930	ZKW-45	45000	42500~47000	6800	2700	2200
ZKW-08	8000	7500~8400	5200	1250	1130	ZKW-50	50000	47500~52000	6800	2700	2600
ZKW-10	10000	9500~11000	5400	1550	1130	ZKW-60	60000	52500~63000	7200	3400	2600
ZKW-12	12000	11500~13000	5400	1550	1230	ZKW-70	70000	64000~73000	7400	3400	2600
ZKW-15	15000	13500~16000	5400	1750	1330	ZKW-80	80000	74000~83000	7600	4000	2800
ZKW-20	20000	16500~22000	5400	2050	1530	ZKW-100	100000	94000~105000	8000	4000	3500
ZKW-25	25000	22500~27000	5600	2050	1730	ZKW-120	120000	11000~125000	8000	4600	3500

Note.

1. The external dimensions of the unit in the table are for design reference only and not for ordering or acceptance.
2. Users can add functional sections as required, and specific changed dimensions can be obtained by contacting our technical department.
3. The size and location of the air intake can be made according to user requirements.
4. The length dimension of the high - pressure fog and micro - fog humidifier section is increased by 600mm.
5. In case of specification changes due to product improvements, no separate notice will be given, and the specific order shall prevail.

Typical application scheme of special purification unit air conditioning unit in pharmaceutical factory

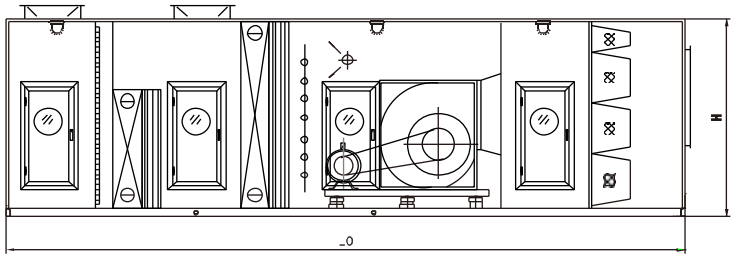
Type A scheme



Functional sections composition: fresh and return air mixing section + primary efficiency filtration section + cooling coil and waterdeflecting section + secondary return air section + heating section + humidifying section + fan section + airflow equalizing section + medium efficiency discharge section.

Proposal characteristics: adoption of secondary return air can effectively save re - heating.

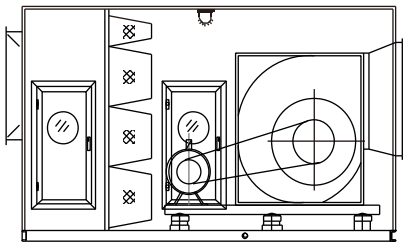
Type B scheme



Functional sections composition: fresh air section + primary efficiency filtration section – cooling coil and waterdeflecting section + return air section + secondary cooling coil and waterdeflecting section + heating section + humidifying section + fan section + airflow equalizing section + medium efficiency air - supply section.

Proposal characteristics: adoption of fresh air pre - filtration can effectively extend the life of the primary filter.

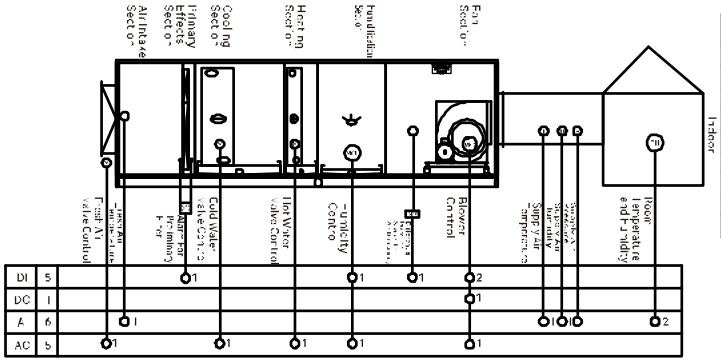
Type C scheme



Functional sections composition: middle section – medium efficiency filtration section – fan section.

Proposal characteristics: used for medium - efficiency exhaust air.

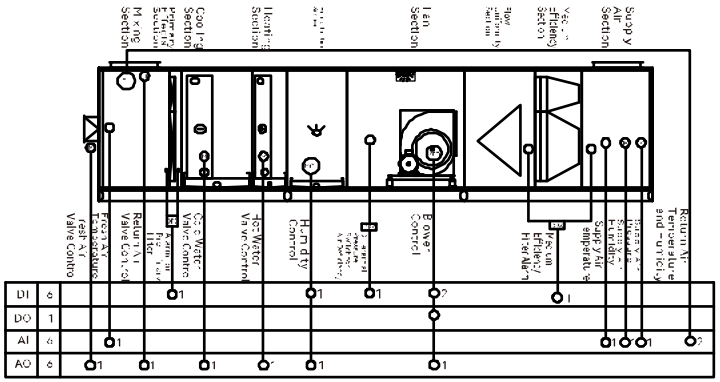
Common functional sections combination control schematic diagram



Code	Name
T	Temperature Sensor
H	Humidity Sensor
TH	Thermohygrometer
P	Humidity Sensor
M	Valve Actuator
DPS	Differential Pressure Switch
KM	AC Contactor
MCU	Microcontroller
VFD	Frequency Converter

Instructions:

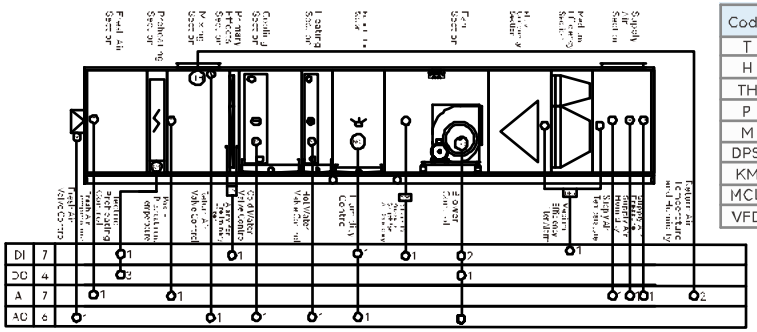
1. The fresh air valve opening is intelligently adjusted based on the set opening of supply air frequency combined with the supply air pressure.
2. The cooling and dehumidification requirements are intelligently calculated using a PID control algorithm combined with a fuzzy algorithm according to the target temperature and humidity, and the chilled water valve opening is controlled to achieve efficient and precise temperature and dehumidification control.
3. The heating demand is intelligently calculated using a PID control algorithm combined with a fuzzy algorithm based on the target temperature, and the hot water valve opening is controlled to achieve rapid heating.
4. The humidification demand is intelligently calculated using a PID control algorithm combined with a fuzzy algorithm according to the target humidity, and the humidifier output is adjusted to achieve efficient humidification.
5. The supply fan frequency is intelligently adjusted using an iterative approximation algorithm based on the target air pressure to maintain stable and smooth air pressure control.
6. The control system provides protective functions such as external interlock shutdown, blockage of primary and medium efficiency filters, humidifier alarm, air shortage alarm, and supply fan overload. Dual protection through electrical equipment and programming ensures the safe and stable operation of the equipment.



Code	Name
T	Temperature Sensor
H	Humidity Sensor
TH	Thermohygrometer
P	Humidity Sensor
M	Valve Actuator
DPS	Differential Pressure Switch
KM	AC Contactor
MCU	Microcontroller
VFD	Frequency Converter

Instructions:

1. The fresh air valve opening is intelligently adjusted based on the set opening of supply air frequency combined with the supply air pressure.
2. The cooling and dehumidification requirements are intelligently calculated using a PID control algorithm combined with a fuzzy algorithm according to the target temperature and humidity, and the chilled water valve opening is controlled to achieve efficient and precise temperature and dehumidification control.
3. The heating demand is intelligently calculated using a PID control algorithm combined with a fuzzy algorithm based on the target temperature, and the hot water valve opening is controlled to achieve rapid heating.
4. The humidification demand is intelligently calculated using a PID control algorithm combined with a fuzzy algorithm according to the target humidity, and the humidifier output is adjusted to achieve efficient humidification.
5. The supply fan frequency is intelligently adjusted using an iterative approximation algorithm based on the target air pressure to maintain stable and smooth air pressure control.
6. The control system provides protective functions such as external interlock shutdown, blockage of primary and medium efficiency filters, humidifier alarm, air shortage alarm, and supply fan overload. Dual protection through electrical equipment and programming ensures the safe and stable operation of the equipment.

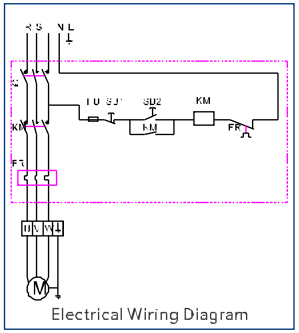


Code	Name
T	Temperature Sensor
H	Humidity Sensor
TH	Thermohygrometer
P	Humidity Sensor
M	Valve Actuator
DPS	Differential Pressure Switch
KM	AC Contactor
MCU	Microcontroller
VFD	Frequency Converter

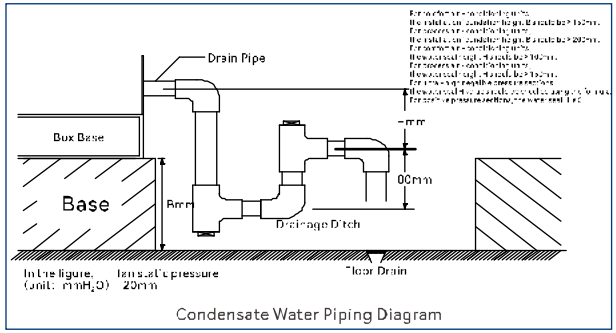
Instructions:

1. The fresh air valve opening is intelligently adjusted based on the set opening or supply air frequency combined with the supply air pressure.
2. The electric preheating level is intelligently adjusted using a PID control algorithm combined with a fuzzy algorithm according to the target pretreatment temperature, to meet the preheating demand in a short time.
3. The cooling and dehumidification requirements are intelligently calculated using a PID control algorithm combined with a fuzzy algorithm according to the target temperature and humidity, and the chilled water valve opening is controlled for efficient and precise temperature and dehumidification.
4. The heating demand is intelligently calculated using a PID control algorithm combined with a fuzzy algorithm based on the target temperature, and the hot water valve opening is controlled for rapid heating.
5. The humidification demand is intelligently calculated using a PID control algorithm combined with a fuzzy algorithm according to the target humidity, and the humidifier output is adjusted for efficient humidification.
6. The supply fan frequency is intelligently adjusted using an iterative approximation algorithm based on the target air pressure to maintain stable and smooth air pressure control.
7. The control system provides protective functions such as external interlock shutdown, electric preheating overheating, blockage of primary and medium efficiency filters, humidifier alarm, air shortage alarm, and supply fan overload. Dual protection through electrical equipment and programming ensures the safe and stable operation of the equipment.

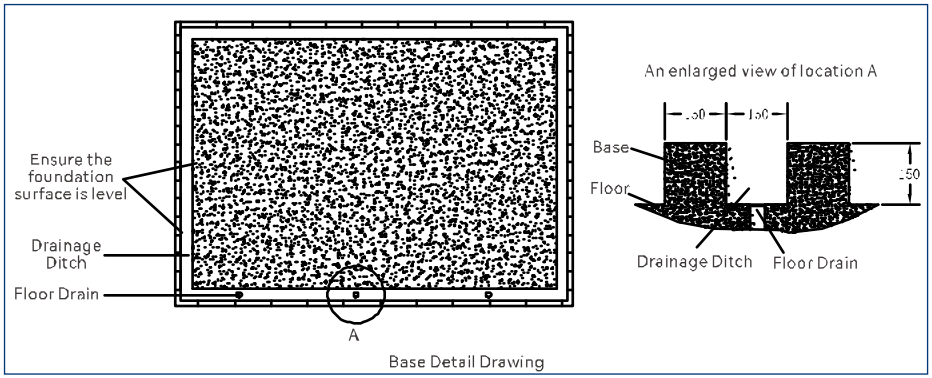
Installation and Maintenance Precautions



Electrical Wiring Diagram



Condensate Water Piping Diagram



Base Detail Drawing

Direct start schematic diagram of combined air - conditioning unit.

Note: The standard model does not include the part in the dashed line box in the figure. If AC contactor is required, please specify when placing the order.

Unit Installation

1.Before installing the unit, inspect it thoroughly for any damage. If you find any of the following issues—dents, severe deformation, visible scratches on the panel or casing, or loose fans/motors—contact the seller for repair or replacement.

2.Before wiring, ensure the power supply's voltage, frequency, and phase match the unit's requirements. The voltage should not deviate by more than 10% from the rated voltage. Before starting the fan, manually rotate the fan wheel inside the fan box to check for any metal friction sounds. If any abnormalities are detected, resolve them before proceeding. After connecting the power, start the fan and check the rotation direction of the wheel. If incorrect, adjust the phase sequence of the power supply.

3.It is recommended to install a static pressure box at the unit's outlet, a flow调节valve on the duct, and a fire damper as per fire safety requirements. If using an electric flow control valve, the damper actuator should start before and shut down after the fan.

4.Before connecting water pipes, clean them thoroughly. Connect the cold/hot water pipes according to the unit's markings. Install valves and filters on the inlet pipe for flow regulation. During maintenance, cut off the cold/hot water supply and insulate the pipes to prevent blockages in the heat exchanger. Use insulation pipes for inlet and outlet pipes. Use pipe wrenches to secure pipes during connection, avoiding torsion. Use thread seal tape for sealing. Connect the condensate drain pipe to a sewer with a proper water seal height.

5.When connecting inlet and outlet water pipes, use a pipe wrench to secure the pipes and avoid torsion. It is recommended to use thread seal tape for a tight seal and prevent leaks. The condensate generated by the unit should be drained to the sewer through a drain pipe with an appropriate water seal height.

6.The ducts and pipes connected to the unit should not exert weight on it.

7.The unit must be properly grounded. Check electrical wiring for safety and compliance with local regulations.

8.Installation should be carried out by professionals familiar with the product and local regulations. Avoid collisions, pressure, or scratches during installation.

Installation and Maintenance Precautions

Maintenance and Upkeep

1.Inspect water and air ducts for normal operation, ensuring valves are in correct positions. Check motor coil grounding resistance (>1.0MΩ). During power-on testing, check fan operation and noise. Always disconnect power during installation and maintenance.
2.Clean the air filter monthly. Clean the heat exchanger's aluminum fins and copper tubes annually. Clean the drain pan and water seal bend once a year.

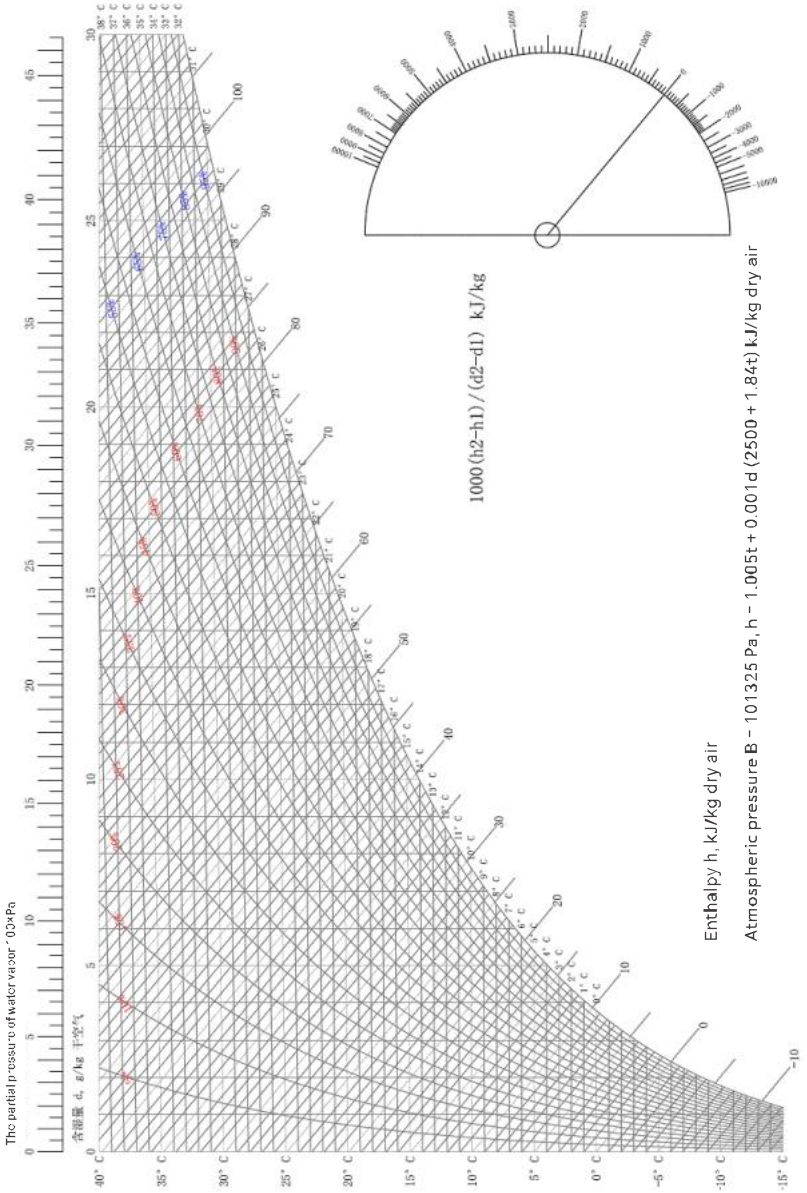
Unit Operation

1 Before each operation, check and ensure all valves in the water system and air ducts are in normal positions.
2.Regularly inspect and adjust the connections, operation, and transmission of moving parts like fans and motors.
3.Clean the primary filter with water or detergent according to the degree of dirt, with frequency depending on the usage environment.
4.Clean or replace the secondary filter when its resistance reaches twice the initial value.
5.In winter, if the unit is not in use, drain the water from the coil. For short-term shutdowns during continued operation, keep the water in the coil moving and close the fresh air valve to prevent freezing. For long-term shutdowns, drain the water from the coil.
6.Use clean softened water for both chilled and hot water. Every two years, chemically clean the water scale in the coil and clean the fin surface dirt with compressed air or water.
7.Ensure the steam valve for the steam coil is closed before the fan stops.
8.Ensure the steam valve for the steam humidifier is closed before the fan stops.
9.Only turn on the electric heater after the fan starts. Turn it off 5 minutes before the fan stops, and connect the overheat protection switch of the electric heater to the electric heater control circuit.

Unit Control

OBAIR Air Conditioning offers diverse control cabinets tailored to different customer needs. For occasions with less stringent power grid requirements, direct or star-delta starting is selectable. It is advised to use star-delta starting when the motor power is >15kW. For scenarios with very high power grid requirements, variable frequency or soft starting is available.

Enthalpy-Humidity Chart



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.