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AOLAN

LDAC

Liquid Desiccant Air Conditioning

CONTENTS.

Section 1
About Aolan

Company Profile

Aolan (Fujian) Industry Co.,Ltd is a high-tech enterprise which collects the research & development , manufacture, marketing, as well as service on evaporative air coolers, high water chiller, indirect evaporative cooling system (dew point) and liquid desiccant air conditioning (LDAC). Since bringing in the energy-saving coolers in 1998, Aolan had filled the blank market of Evaporative Air Coolers in China. In 2012, Aolan newly developed liquid desiccant air conditioning with double countercurrent heat recovery technology,Significantly reduces energy consumption in the field of air dehumidification, With years' development, Aolan has grown into the leading enterprise in evaporative cooling and LDAC.

Moreover, in 2012, worked with domestic and overseas colleges, Aolan newly developed dew point indirect evaporative cooling system and liquid desiccant air conditioning, owning more than 40 patents for invention and utility models. With enforcement of ISO:9000, ISO:14000, OHSAS18000 and years'development, Aolan has grown into the leader enterprise in China evaporative air cooling and LDAC industry.

In the past years, Aolan has set up more than 40 branch offices, and Aolan products have been widely used in different fields, such as industry, trade, domestic & civil use, services, health care industry, and communication (data center, base station) etc.For international market, Aolan products have been approved by CE, SASO, BV, etc, and successfully exported to more than 60 countries and regions, including countries from Europe, America, Asia, Africa, Latin America, and Oceania, etc. Until now, Aolan becomes a company who occupies the wide international market share.

For years, rely on strong R&D ability, scientific management mode, Aolan has won many honors-High Tech Enterprise, Fujian Famous Brand, Fujian Science and Technology Progress Award, Fujian Brand Product, etc. Besides, Aolan drafted and made Evaporative Air Cooler, Installation and Operation Requirements for Evaporative Air Coolers. With accomplishment of the first National Lab for air cooler field, establishment the Evaporative Air Cooling Committee of China Refrigeration and Air-conditioning Industry Association, Aolan has become a very important leader in evaporative air cooling and liquid desiccant dehumidification industry.

At present, energy-saving and eco-friendly products have become the strategic rising industry for the world. And Aolan will speed up its construction to be standard, modernized, scale, and international with the goal to make contribution to the world' s energy saving, emission reduction .

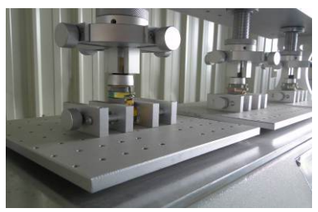
Lab Introduction

As the leader in China evaporative cooling and liquid desiccant dehumidification industry, Aolan always holds the opinion that technology places important role for enterprise development, thus, Aolan is devoted to improve its R&D ability.

In 2009, Aolan signed a cooperation agreement with China General Machinery Research Institute, and was appointed to design the first China National Lab for Evaporative Air Cooler based on national standards.

So far, there are more than 20 researchers in the lab, among them, 70% hold bachelor or higher degree, 2 are senior engineers and 10 intermediate engineers. As an important part of Aolan R&D system, the lab will take the great role in developing and testing Aolan' s products, as well as providing a high-level technology platform for developing and upgrading more advanced products.

What' s more, the lab will become the transfer base for evaporative cooling, liquid desiccant dehumidification technology. It will have great and profound impact on China competence in international market for sustainable innovation ability.



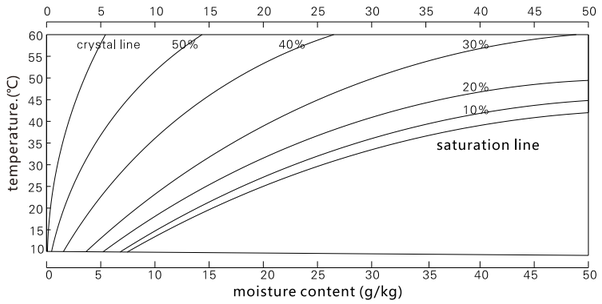
Section 2
LDAC Introduction

Liquid Desiccant Air Conditioning Introduction

Heat pump type liquid desiccant air conditioning is an air dehumidification equipment with solution (lithium bromide, lithium chloride, calcium chloride, etc.) as the working fluid, The unit is driven by a heat pump and adopts advanced solution dehumidification technology,through the solution to absorb or release moisture to the air, to achieve the adjustment the humidity of air.It is not an ordinary fresh air ventilator,it is a fresh air treatment equipment integrating cold and heat source, dehumidification and regeneration section, filter section, air supply and exhaust section.The product has the advantage of simple operation,energy-saving, Strong dehumidification ability , wide application range,Stable performance and Improve indoor air quality and is suitable for occasions where dehumidification and cooling are required in harsh environments such as air pollution, toxicity, and odor.

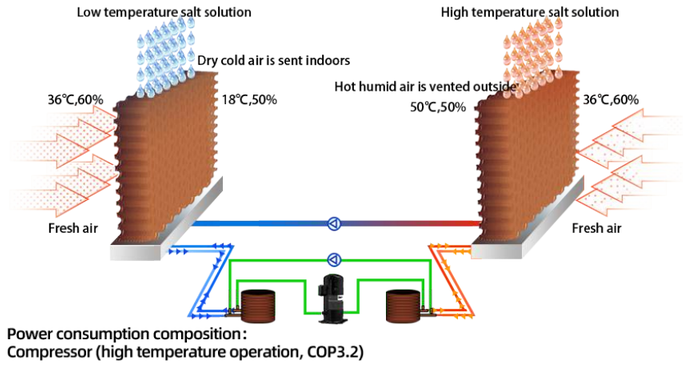
1.Hydrated Salt Liquid Characteristics

- Normally the hydrated salt (LiBr, LiCl, $CaCl_2$) which made as liquid desiccant can not be decomposed and volatilized. With lower vapour pressure on surface, greater hygroscopic capacity it will have.
- The hygroscopic capacity of hydrated salt will increase as its concentration increases, but decrease as the temp. rises. Greater hygroscopic capacity means greater moisture absorption and heat release.
- In certain temp.and concentration, hydrated salt will crystallize. When concentration is beyond a certain level, it will crystallize in normal temp.
- Hydrated salt will have some certain corrosivity on metal.



2.Hydrated Salt Liquid Dehumidifying And Regeneration Principle

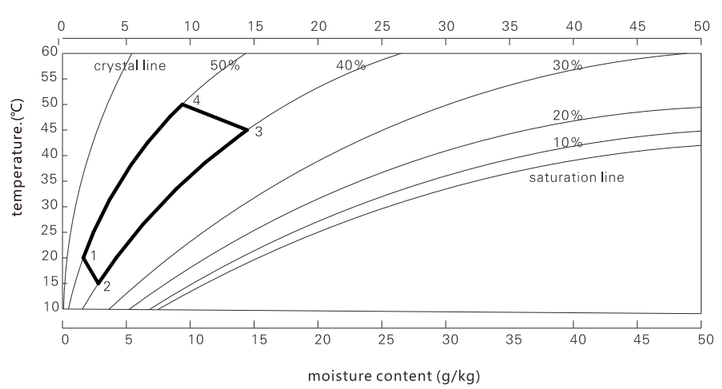
LDAC technology uses moisture absorption and releasability of hydrated salt (solution as working medium) to realize the air humidity's adjustment. The driving potential for water transfer comes from the differences between the hydrated salt's and the air's partial vapor pressure. When the solution surface vapor pressure is lower than the partial vapor pressure in air, it will absorb the vapor in air, that is, the air is dehumidified, on the contrary, when the moisture in the solution comes into air, the solution will be concentrated and regenerated. In the left picture (dehumidifying side), the treated partial vapor pressure is larger than the solution's partial vapor pressure, to make use of their differences, the water vapor will be transferred from air to the solution, thus, the solution becomes dilute. In the right picture (regeneration side), the process is on the contrary.



Power consumption composition:
Compressor (high temperature operation, COP3.2)

3.Hydrated Salt Liquid Dehumidifying And Regeneration Process

- 2-4 Regeneration Process: 2-3: heat recovery temp. rise process, 3-4:heat and regeneration process.
- 4-2 Dehumidifying Process: 4-1: heat recovery temp.drop process, 1-2:temp. drop dehumidifying process.



4.Technical Characteristics

- Strong (deep) dehumidifying ability.
- Temp. &humid. in state point can be precisely controlled and no need to re-heat.
- With filtering, bacteriostat, sterilization function, removal rate for dust, bacteria, virus can be 92% - 95% without any other cost.
- Low maintenance cost.

Aolan LDAC Introduction

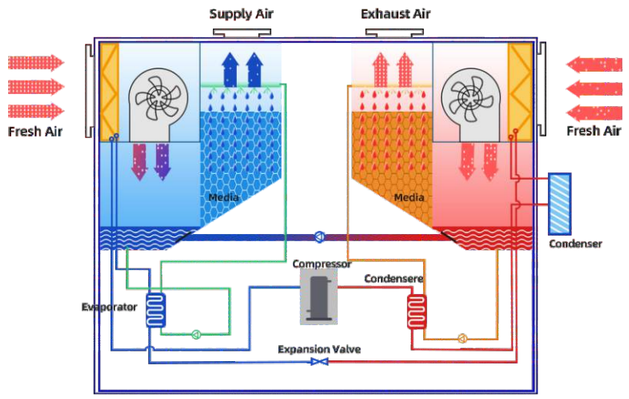
1.Working Principle

1)The unit consists of liquid desiccant dehumidifying section, liquid desiccant regeneration section, refrigerated system, etc.

2) Working Condition in Summertime.

◆Wet fresh air or return air enters into dehumidifying section to be cooled and dehumidified, when reaches to state point, it will be supplied to the room.
◆ Fresh air or return air enters into regeneration section to be heated and humidified, and then it becomes wet exhaust air with high temp.
◆The liquid concentration becomes dilute after absorbing water vapor in humidifying section, to re-gain moisture absorption ability, the dilute liquid will be concentrated in regeneration section.
◆The cycled cooling capacity of heat pump will be used to lower the liquid temp. and improve the liquid's dehumidifying ability. The exhaust heat of the condenser will be used to concentrate the regenerated liquid.

3) In wintertime, it only needs to switch the liquid desiccant's circulation direction by 4-way valve, and the air can be heated and humidified.



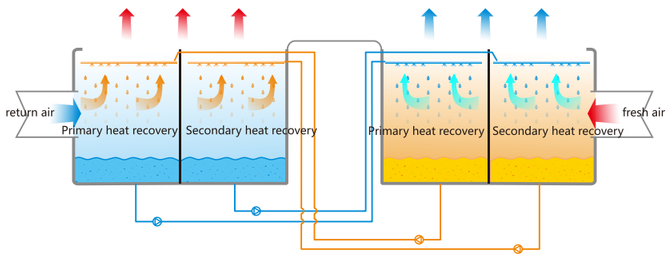
2.Technical Characteristics

1) Improve indoor hygienic condition.
◆The high concentration liquid can kill most of microorganism, bacteria, and filter most of inhalable particles to purify the air; in the air, most of bacteria are adhering to tiny dust, after spraying the liquid, more than 94% of microorganism and bacteria will be removed. And almost all microorganisms will stop growing in high concentration liquid.
◆In independent temp. & humid. control system, it can prevent to breed mycete and microorganism in air conditioner surface to improve the indoor air quality.
2) Energy-saving and eco-friendly.
◆No energy waste caused by re-heating, but cooling capacity is improved.
◆In independent temp. & humid. control system, high-temp.cooling source (around 18℃) can be used to remove indoor sensible heat load.
a.Groundwater
b.Direct or indirect evaporative cooling device
c.High efficiency refrigerating machine
◆The temp. drop, dehumidifying and liquid regeneration are all driven by inside heat pump circulation, thus lots of electricity is saved.
◆The use of return air heat recovery and psychrometic energy in air can not only reduce the cost but also improve efficiency.
3) Strong air processing ability, wide application.
◆With multiple functions to the air like dehumidifying, cooling, moistening, heating, etc, a whole year’ s fresh air demand can be met.
◆The technology allows deep dehumidifying to meet the special process requirements.
It can be applied in all kinds of industrial building, telecommunication exchange room, data server room, workshop, warehouse, etc, which require constant temp.&humid. or low humid. (moisture content≥2g/kg dry air, RH≥20%).

LDAC Heat Recovery Technology

1.Working Principle

◆In summertime, liquid pump will deliver the high temp. dilute liquid in fresh air section to indoor exhaust air section for heat recovery. And the exhaust air will be heated and humidified and then discharged, in this process, the liquid is cooled and concentrated; then the liquid after being cooled and concentrated is delivered back to fresh air section to be heated and diluted where fresh air will be cooled and dehumidified; after that, the heated and dilute liquid will be delivered back to fresh air section, thus a circulation is finished.
◆ In wintertime, the running will be contrary with summertime, exhaust air will be cooled and dehumidified, and fresh air will be heated and humidified.



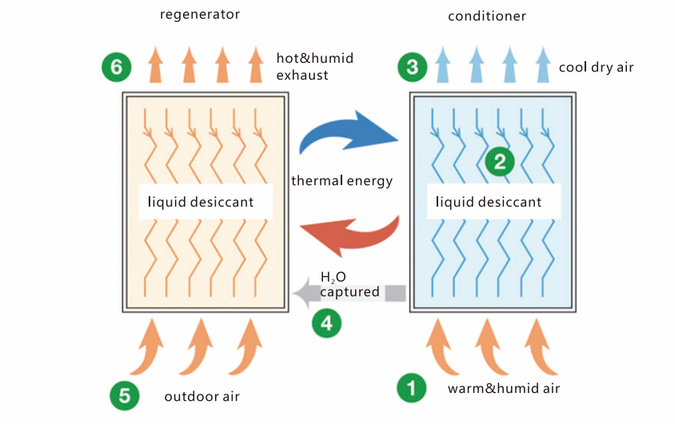
2.Technical Characteristics

◆High recovery efficiency; two-stage heat recovery efficiency reaches to 65%.
◆With filtering, bacteriostat, sterilization function.
◆The removal rate for dust, bacteria, virus can be 92% - 95% without any other cost.
◆ The fresh air section and exhaust air section can be separated, and remote heat recovery can be achieved.

Comparison

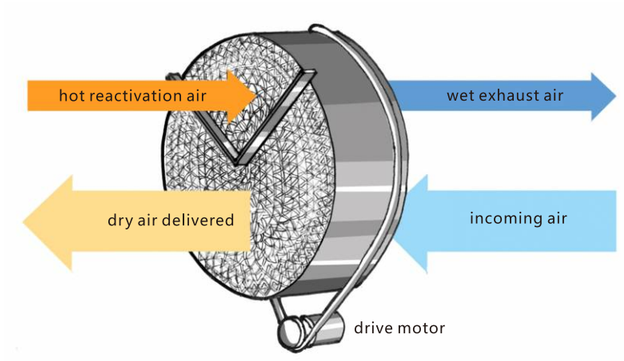
LDAC

- Taking hydrated salt as medium, LDAC uses liquid's moisture absorption and releasability to regulate air humidity.
- Deep dehumidifying (2g/kg, RH around 15%).
- Accurate control on supply air.
- Eco-friendly, energy saving and low carbon emission (highest 60% energy saved).
- Filter and kill 92%-95% bacteria.



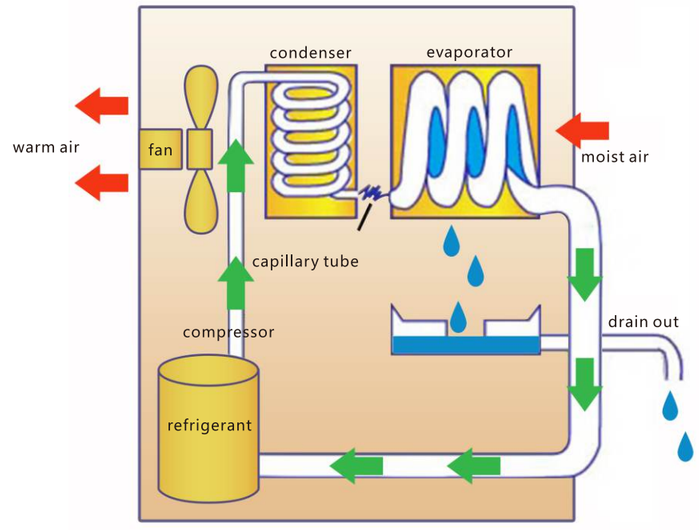
Desiccant Wheel

- High energy consumption.
- Big vol.,high transport cost, big installation space, heavy weight.
- Filter and impeller should be cleaned regularly .
- Dehumidifying effects limited directly by size, face velocity, by-pass airflow.



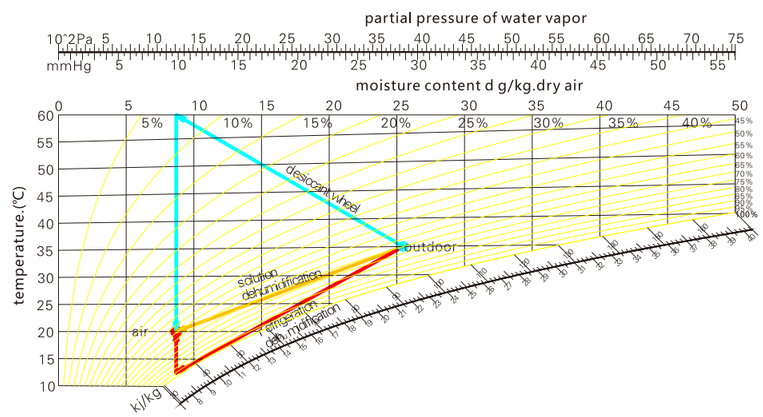
Refrigeration Dehumidifying

- Low dehumidifying ability, large noise.
- Easy to get frosting.
- High energy consumption.
- Use massive refrigerant, not eco-friendly.
- Dehumidifying effects limited by temp.of chilled water in coil and coil cooling effect limit.



Energy Consumption Comparison

- 20 - 40% lower than refrigeration dehumidifying.
- 50 - 80% lower than desiccant wheel.



Section 3 Low Humidity Air Desiccant Unit

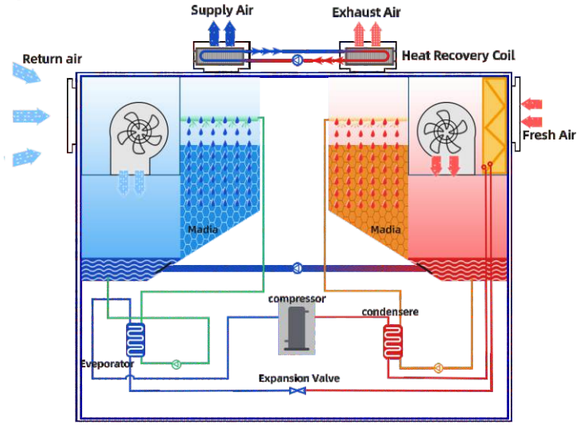
1、Introduction

The deep dehumidification unit is mainly used in industrial production workshops or warehouses with low humidity requirements, such as pharmaceuticals, electronics, biological agents, lithium batteries, food, military and other industries.

2、Applicable Condition

ambient temperature:-10℃-45℃.
Minimum air humidity:2g/kg.

3、Working Principle



4、Model Definition

A HLD - N □ □ □

- □ B-standard configuration,N-customized
- □ type of adjustment,A- by air,B-by water,C- by air and water
- □ HP of compressor
- N Counterflow
- HLD Heat pump LDAC dehumidifiying unit
- A Aolan

5、Advantages

1) Easy installation and convenient maintenance.
2) International quality, reliable operation.
◆ Refrigeration components, control components, pumps and fans and other operating components are all internationally renowned brands with reliable quality.
◆ Adopt intelligent control, man-machine interface and standard communication protocol, with stable control and high precision.
◆ Complete protection devices, stable and reliable operation.
3) Professional anti-corrosion and anti-rust design, long service life.
◆ The heat exchanger is made of titanium tube, which will never rust.
◆ The water tank is made of PP material for injection molding, and the pipeline is designed with soft connection to reduce pipeline nodes and prevent liquid leakage.
4) The solution balancer can be air-cooled and water-cooled, with stronger applicability.
5) City tap water only, without softening water.

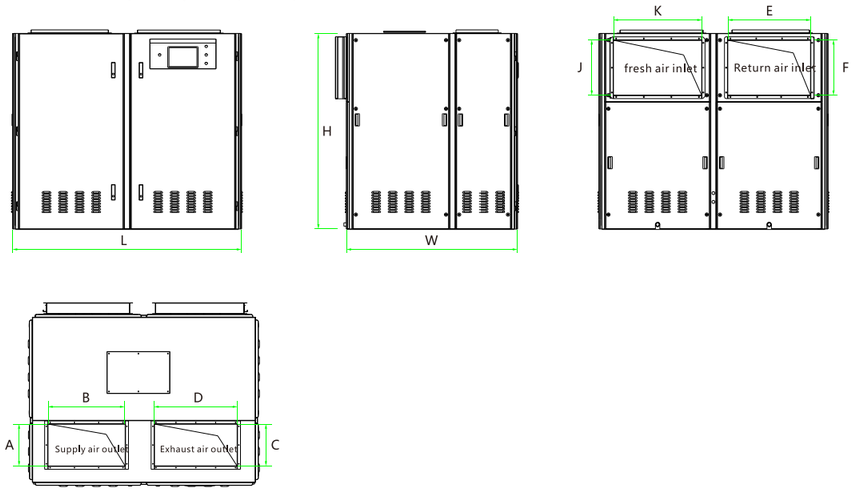
Specification

Model (N □□)	03B	06B	09B	12B	15B
Power supply	3PH–380V–50Hz				
Supply airflow m^3/h	1000	2000	3000	4000	5000
Exhaust air flow m^3/h	1200	2400	3600	4800	6000
Cooling capacity kW	7.2	14.4	21.6	28.8	36
Dehumidifying capacity kg/h	5.4	10.8	16.2	21.6	27
Rated power kW	3.1	5.8	9.2	12	15.5
Noise dB(A)	60	61	62	63	64
Compressor type	Fully closed scroll compressor				
Throttle	Thermal expansion valve				
Cryogen	R407C				
Fan type	Outer rotor centrifugal fan				
Pre–filter grade	Primary（G4）				
Supply air pressure Pa	130	280	300	330	350
Exhaustairpressure Pa	130	240	250	260	270
Weight kg	660	1050	1600	1850	2200

Note: ①Nominal working condition: fresh air dry bulb temperature 36°C,RH 65%,return air dry bulb temperature 26°C, RH40%;supply air dry bulb temperature 16°C RH 35%.
②Please contact our company for different working conditions.
③Tap water can be used as supply water,no softened water is needed.
④The fan can be customized or installed with a frequency converter according to the customer's residual pressure requirements.
⑤For non-standard units,please contact us.

Dimension

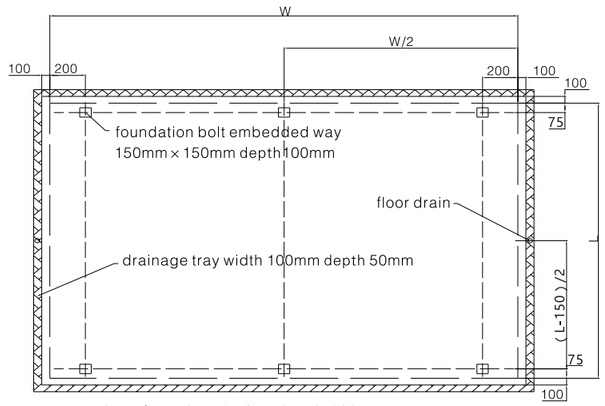
AHL-N 03B、06B、09B、12B、15B



Model (N□□)		03B	06B	09B	12B	15B
L	mm	1400	1700	2080	2300	2500
W	mm	1150	1300	1550	1700	1800
H	mm	1300	1450	1810	1900	2000
A	mm	285	400	450	500	600
B	mm	400	630	750	850	1000
C	mm	285	400	450	500	600
D	mm	500	730	850	950	1100
E	mm	400	630	750	850	900
F	mm	315	420	500	550	650
J	mm	315	420	500	550	650
K	mm	500	730	850	950	1060

Note: Date sheet will be changed without prior notice as product is always updating.

Installation Foundation Diagram



Note: L and W refer to the unit's length and width.

Model Selection Notes

- When place order, model, function, specification should be offered.
- Indicate the installation type and position (indoor or outdoor).
- For any special requirement or technical problem, please contact us.

Section 4 Liquid Desiccant Type Dryer

Heat Recovery Coil

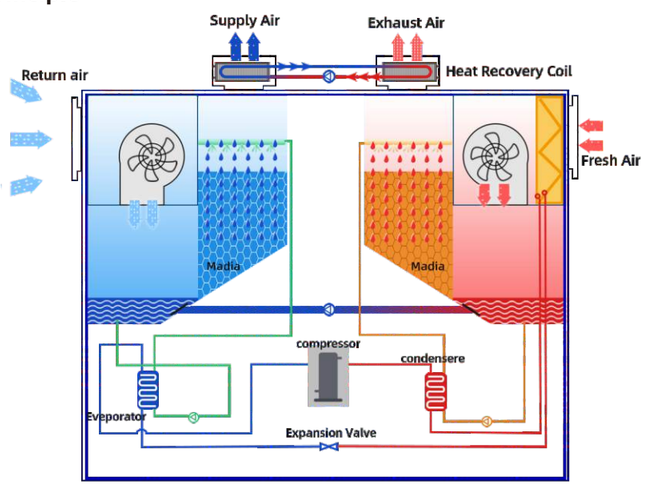
1、Introduction

The dehumidification dryer is based on the deep dehumidifier, and reheat the supply air by heat recovery from regeneration air,improve the moisture absorption capacity of the air.It is especially suitable for processing workshops or storage rooms that require high temperature and low humidity air to dry and dehumidify objects.Such as biological preparations, wood furniture, flue-cured tobacco, tea making, pharmaceuticals, food, agricultural product processing, seafood drying processing, car painting, new material processing and other places.

2、Applicable Condition

ambient temperature:-10℃-45℃.
Minimum air humidity:2g/kg.

3、Working Principle



4、Model Definition

A HLD - N DH □ □ □

- □ B-standard configuration,N-customized
- □ type of adjustment,A- by air,B-by water,C- by air and water
- □ HP of compressor
- DH deep dehumidifying dryer type
- N Counterflow
- HLD Heat pump LDAC dehumidifiying unit
- A Aolan

5、Advantages

1) Easy installation and convenient maintenance.
2) International quality, reliable operation.
◆ Refrigeration components, control components, pumps and fans and other operating components are all internationally renowned brands with reliable quality.
◆ Adopt intelligent control, man-machine interface and standard communication protocol, with stable control and high precision.
◆ Complete protection devices, stable and reliable operation.
3) Professional anti-corrosion and anti-rust design, long service life.
◆ The heat exchanger is made of titanium tube, which will never rust.
◆ The water tank is made of PP material for injection molding, and the pipeline is designed with soft connection to reduce pipeline nodes and prevent liquid leakage.
4) The solution balancer can be air-cooled and water-cooled, with stronger applicability.
5) City tap water only, without softening water.

Specification

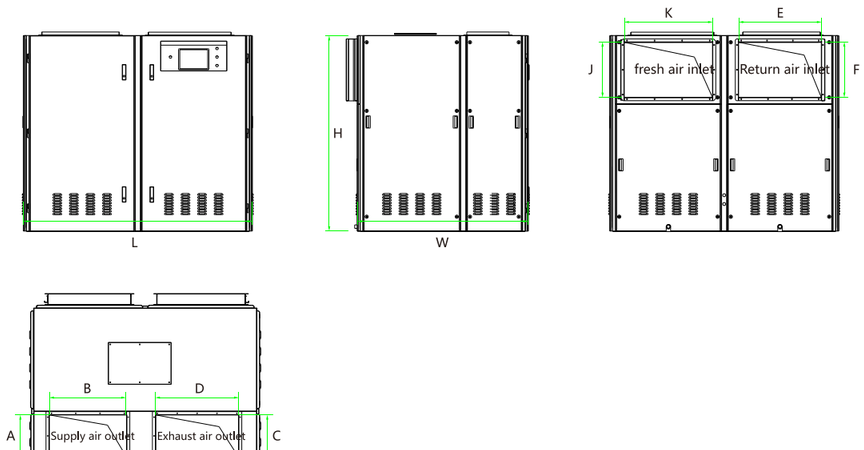
Model (NDH □□)		03B	06B	09B	12B	15B
Power supply		3PH–380V–50Hz				
Supply airflow	m^3/h	1000	2000	3000	4000	5000
Exhaust air flow	m^3/h	1200	2400	3600	4800	6000
Dehumidifying capacity	kg/h	5.4	10.8	16.2	21.6	27
Rated power	kW	3.1	5.9	9.3	12.3	15.6
Noise	dB(A)	60	61	62	63	64
Refrigeration system						
Compressor type		Fully closed scroll compressor				
Throttle		Thermal expansion valve				
Cryogen		R407C				
Fan system						
Fan type		Outer rotor centrifugal fan				
Pre–filter grade		Primary (G4)				
Supply air pressure	Pa	130	280	300	330	350
Exhaust air pressure	Pa	130	240	250	260	270
Weight	kg	760	1150	1750	2000	2400

Note:

①Nominal working condition: fresh air dry bulb temperature 36°C,RH 65%,return air dry bulb temperature 26°C, RH40%;supply air dry bulb temperature 30°C RH 15%.
②Please contact our company for different working conditions.
③Tap water can be used as supply water,no softened water is needed.
④The fan can be customized or installed with a frequency converter according to the customer's residual pressure requirements.
⑤For non-standard units,please contact us.

Dimension

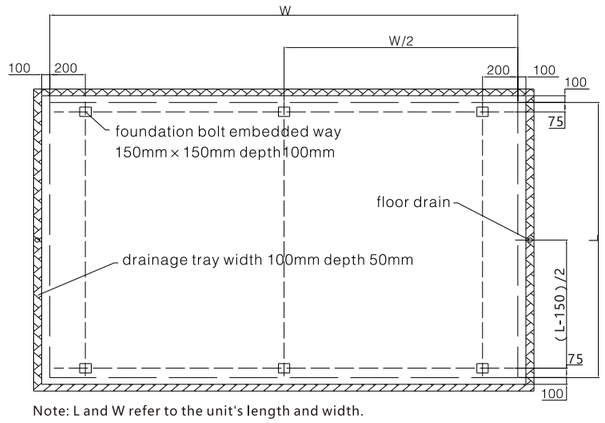
AHL-N 03B、06B、09B、12B、15B



Model (NDH□□)		03B	06B	09B	12B	15B
L	mm	1400	1700	2080	2300	2500
W	mm	1150	1300	1550	1700	1800
H	mm	1300	1450	1810	1900	2000
A	mm	285	400	450	500	600
B	mm	400	630	750	850	1000
C	mm	285	400	450	500	600
D	mm	500	730	850	950	1100
E	mm	400	630	750	850	900
F	mm	315	420	500	550	650
J	mm	315	420	500	550	650
K	mm	500	730	850	950	1060

Note: Date sheet will be changed without prior notice as product is always updating.

Installation Foundation Diagram



Note: L and W refer to the unit's length and width.

Model Selection Notes

- When place order, model, function, specification should be offered.
- Indicate the installation type and position (indoor or outdoor).
- For any special requirement or technical problem, please contact us.

Section 5 Fresh Air Desiccant Unit

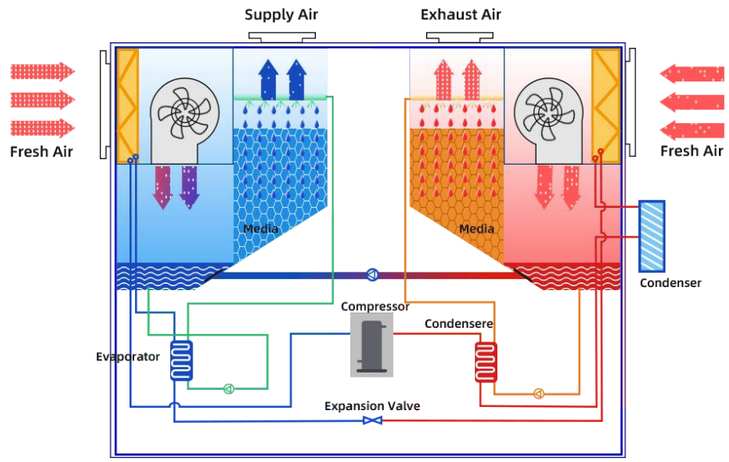
1、Introduction

The equipment can be used for fresh air treatment in scientific research office buildings, transportation hubs, museums, science and technology museums, hotels, apartments, hospitals and other places. It can also be used in pharmaceutical workshops, laboratories, warehouses, food processing and other places with low humidity requirements.

2、Applicable Condition

ambient temperature:-10℃-45℃.
Minimum air humidity:2g/kg.

3、Working Principle



4、Model Definition

A HLD - N □ □ □

- A — Aolan
- HLD — Heat pump LDAC dehumidifiying unit
- N — Counterflow
- □ — HP of compressor
- □ — type of adjustment,A- by air,B-by water,C- by air and water
- □ — B-standard configuration,N-customized

5、Advantages

1) Easy installation and convenient maintenance.
2) International quality, reliable operation.
◆ Refrigeration components, control components, pumps and fans and other operating components are all internationally renowned brands with reliable quality.
◆ Adopt intelligent control, man-machine interface and standard communication protocol, with stable control and high precision.
◆ Complete protection devices, stable and reliable operation.
3) Professional anti-corrosion and anti-rust design, long service life.
◆ The heat exchanger is made of titanium tube, which will never rust.
◆ The water tank is made of PP material for injection molding, and the pipeline is designed with soft connection to reduce pipeline nodes and prevent liquid leakage.
4) The solution balancer can be air-cooled and water-cooled, with stronger applicability.
5) City tap water only, without softening water.

Specification

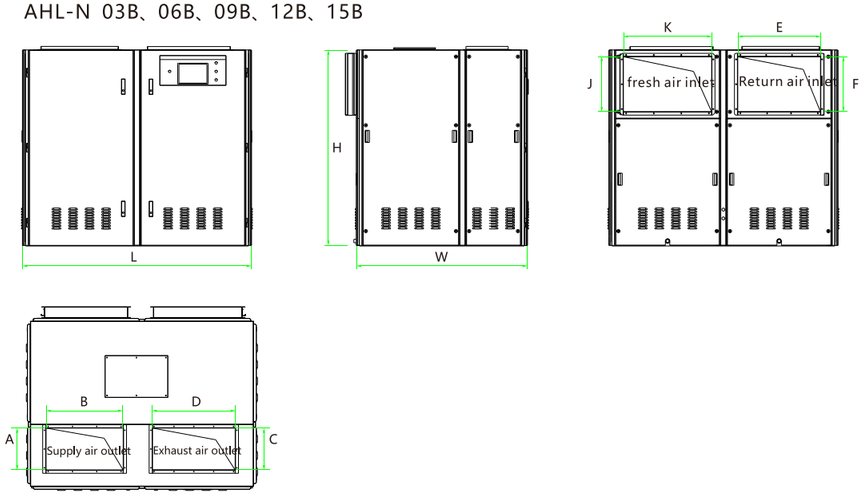
Model (N □□)	03B	06B	09B	12B	15B
Power supply	3PH–380V–50Hz				
Supply airflow m^3/h	1000	2000	3000	4000	5000
Exhaust air flow m^3/h	1200	2400	3600	4800	6000
Cooling capacity kW	9.3	18.7	28	37.3	46.7
Dehumidifying capacity kg/h	10.9	21.8	32.8	43.7	54.6
Rated power kW	3.1	5.8	9.2	12	15.5
Noise dB(A)	60	61	62	63	64
Refrigeration system					
Compressor type	Fully closed scroll compressor				
Throttle	Thermal expansion valve				
Cryogen	R407C				
Fan system					
Fan type	Outer rotor centrifugal fan				
Pre–filter grade	Primary (G4)				
Supply air pressure Pa	130	280	300	330	350
Exhaust air pressure Pa	130	240	250	260	270
Weight kg	660	1050	1600	1850	2200

Note:

①Nominal working condition: fresh air dry bulb temperature 30°C,RH 70%, supply air dry bulb temperature 25°C RH 50%.
②Please contact our company for different working conditions.
③Tap water can be used as supply water,no softened water is needed.
④The fan can be customized or installed with a frequency converter according to the customer's residual pressure requirements.
⑤For non-standard units,please contact us.

Dimension

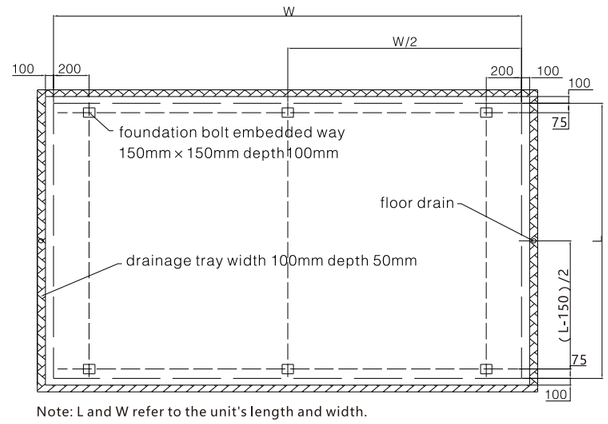
AHL-N 03B、06B、09B、12B、15B



Model (N□□)		03B	06B	09B	12B	15B
L	mm	1400	1700	2080	2300	2500
W	mm	1150	1300	1550	1700	1800
H	mm	1300	1450	1810	1900	2000
A	mm	285	400	450	500	600
B	mm	400	630	750	850	1000
C	mm	285	400	450	500	600
D	mm	500	730	850	950	1100
E	mm	400	630	750	850	900
F	mm	315	420	500	550	650
J	mm	315	420	500	550	650
K	mm	500	730	850	950	1060

Note: Date sheet will be changed without prior notice as product is always updating.

Installation Foundation Diagram



Note: L and W refer to the unit's length and width.

Model Selection Notes

- When place order, model, function, specification should be offered.
- Indicate the installation type and position (indoor or outdoor).
- For any special requirement or technical problem, please contact us.

Section 6 Fresh Air Desiccant Unit With Pre-Cooling

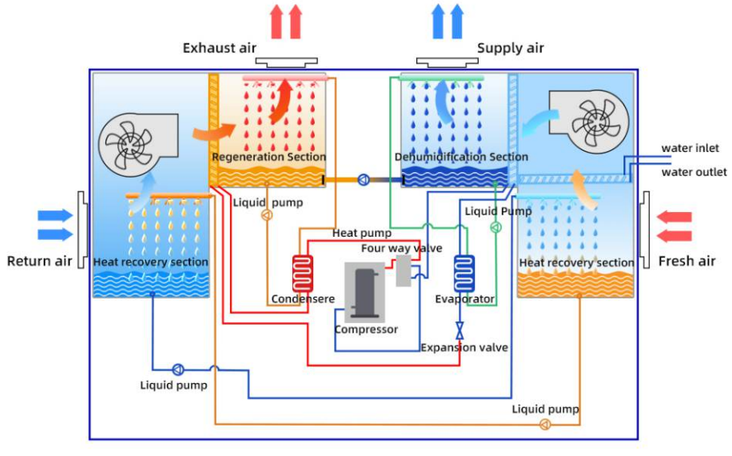
1、Introduction

The pre-cooling fresh air unit is mainly used in the places where there is no indoor exhaust air available, or the exhaust air is less than 70% of the air supply air.like office and scientific research buildings, transportation hubs, museums, science and technology museums, hotel apartments, hospitals and fresh air treatment of industrial plants,It is especially suitable for the fresh air treatment of the air conditioning system with independent temperature and humidity adjustment.

2、Applicable Condition

- There is no exhaust air available in the room, or the exhaust air volume is less than 70% of the supply air volume.
- Air-conditioned places can provide 14/19°C high temperature cold water and 50/45°C hot water.
- Application ambient temperature: - 5°C~40°C.

3、Working Principle



4、Model Definition

A HLD - N P D(V)F □□

- □□ — Nominal supply air vol.:*1000m3/h
- D(V)F — Equipment type: DF-cooling &dehumidifying type,VF-temperature and humidity control type with cooling and heating
- P — Coil pre-cooling type
- N — Counterflow
- HLD — Heat pump LDAC dehumidifiying unit
- A — Aolan

5、Advantages

1) Easy installation and convenient maintenance.
2) International quality, reliable operation.
- Refrigeration components, control components, pumps and fans and other operating components are all internationally renowned brands with reliable quality.
- Adopt intelligent control, man-machine interface and standard communication protocol, with stable control and high precision.
- Complete protection devices, stable and reliable operation.

3) Professional anti-corrosion and anti-rust design, long service life.
- The heat exchanger is made of titanium tube, which will never rust.
- The water tank is made of PP material for injection molding, and the pipeline is designed with soft connection to reduce pipeline nodes and prevent liquid leakage.

4) The solution balancer can be air-cooled and water-cooled, with stronger applicability.
5) City tap water only, without softening water.

Specification

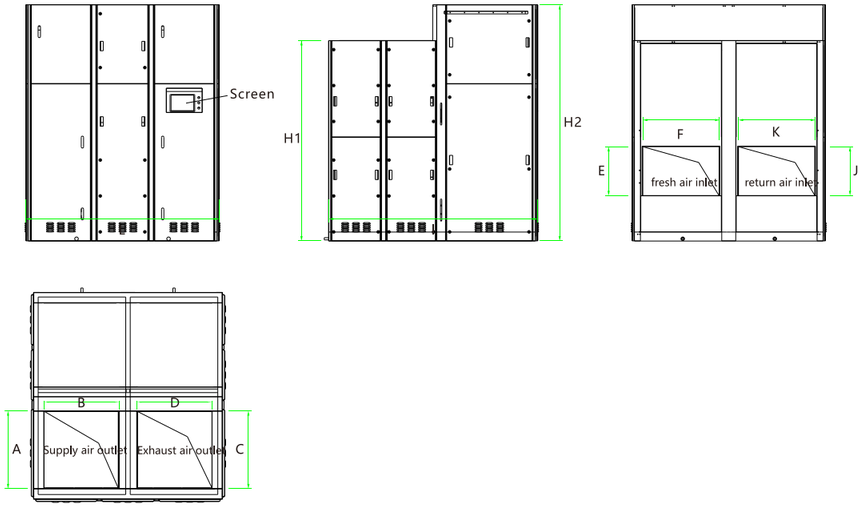
Model (NPD(V)F □□)	02	03	04	05	06	08	10	12
Power supply	3PH–380V–50Hz							
Supply airflow m^3/h	2000	3000	4000	5000	6000	8000	10000	12000
Exhuast airflow m^3/h	1300	2000	2600	3300	3900	5200	6500	7800
Cooling capacity kW	42	63	84	106	126	168	209	253
Dehumidifying capacity kg/h	41	62	83	103	124	165	206	248
Heating capacity kW	27	41	54	68	81	108	135	162
Humidifying capacity kg/h	16	24	33	41	49	65	82	98
Rated power kW	3.5	6.2	8.4	10.5	12	14.8	18.4	23.8
Noise dB(A)	60	61	63	65	65	67	69	70
Refrigeration system								
Compressor type	Fully closed scroll compressor							
Throttle	Thermal expansion valve							
Cryogen	R407C							
Cooling and heating coil								
Type	Plate–fin heat exchanger							

Model (NPD(V)F □□)		02	03	04	05	06	08	10	12
Type		Plate-fin heat exchanger							
Cooling pacacity supplied	kW	33	49	63	79	96	130	163	193
Heating capacity supplied	kW	27	41	54	68	81	108	135	162
Cold water flow	m^3/h	5.7	8.4	10.8	13.5	16.5	22.3	28.0	33.1
Hot water flow	m^3/h	4.6	6.9	9.3	11.6	13.9	18.5	23.1	27.8
Water resistance	kPa	50	50	50	50	50	60	60	60
Water outlet		DN32	DN40	DN40	DN50	DN50	DN65	DN65	DN80
Fan system									
Fan type		Outer rotor centrifugal fan							
Pre-filter grade		Primary (G4)							
Supply air pressure	Pa	200	300	330	520	510	330	450	470
Exhaust air pressure	Pa	200	180	200	280	270	300	270	270
Weight	kg	1550	1950	2100	2500	2900	3380	4150	5000

Note: ① Nominal cooling condition: fresh air dry bulb temperature 36°C,RH 65%, supply air dry bulb temperature 18°C RH 59%; cold water supply and return temp.14/19℃.
② Nominal heating and humidifying conditions: fresh air dry bulb temperature -5°C, RH 50%; supply air dry Bulb temperature 18°C, Rh62%; hot water supply and return temp.50/45℃.
③ City tap water only, without softening water.
④ The fan can be customized or installed with a frequency converter according to the customer's residual pressure requirements.
⑤ For non-standard units,please contact us.

Dimension

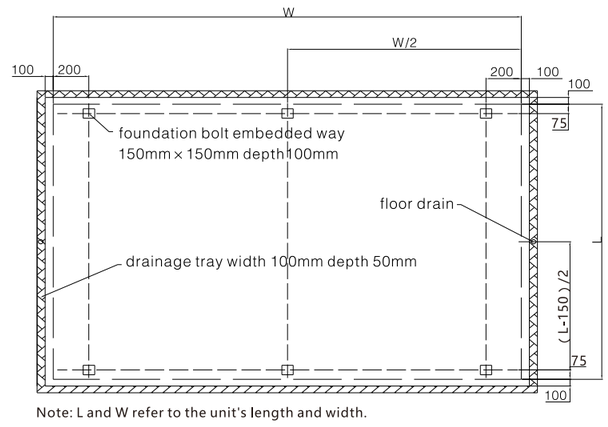
AHLD-NPD(V)F 02、03、04、05、06、08、10、12



Model (AHLD-NPD(V)F)		02	03	04	05	06	08	10	12
L	mm	2150	2150	2150	2550	2550	4650	4650	4650
W	mm	2350	2350	2350	2750	2750	2750	2750	2750
H1	mm	2250	2250	2250	2450	2450	2450	2450	2450
H2	mm	2650	2650	2650	2900	2900	2900	2900	2900
A	mm	850	850	850	1000	1000	2000	2000	2000
B	mm	830	830	830	950	950	950	950	950
C	mm	850	850	850	1000	1000	1000	1000	1000
D	mm	830	830	830	950	950	1900	1900	1900
E	mm	455	455	455	750	750	750	750	750
F	mm	850	850	850	1000	1000	2000	2000	2000
J	mm	455	455	455	750	750	750	750	750
K	mm	850	850	850	1000	1000	2000	2000	2000

Note: Date sheet will be changed without prior notice as product is always updating.

Installation Foundation Diagram



Note: L and W refer to the unit's length and width.

Model Selection Notes

- when place order,model.function ,specification should be offered.
- Indicate the installation type and position(indoor or outdoor.
- For any special requirement or technical problem,please contact us.

Section 7 Fresh Air Desiccant Unit With Heat Recovery

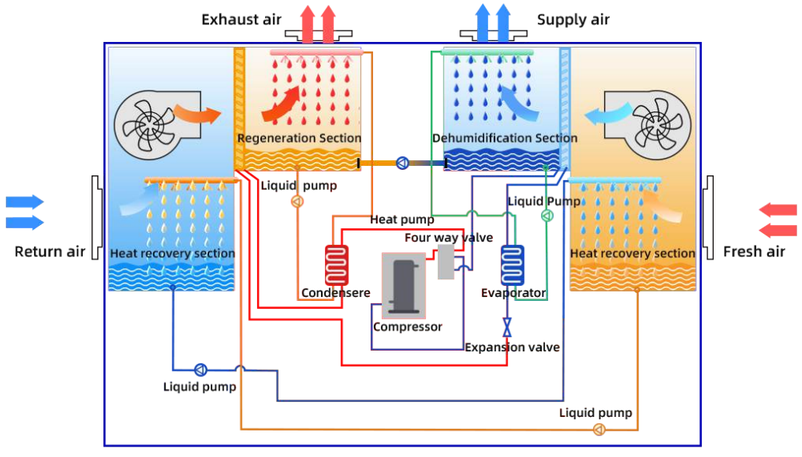
1、Introduction

◆ The total heat recovery type fresh air unit is mainly used for the fresh air treatment of office scientific research buildings, transportation hubs, museums, science and technology museums, hotels, apartments, hospitals, and industrial plants, especially for the fresh air treatment of air conditioning systems with independent temperature and humidity adjustment.

2、Applicable Condition

◆ There is no exhaust air available in the room, or the exhaust air volume more than 80%.
◆ Application ambient temperature: - 5°C~40°C.

3、Working Principle



4、Model Definition

A HLD - N T D(V)F □□

- □□ — nominal supply air vol.:*1000m³/h
- D(V)F — Equipment type: DF-cooling &dehumidifying type,VF-temperature and humidity control type with cooling and heating
- T — coil pre-cooling type
- N — Counterflow
- HLD — Heat pump LDAC dehumidifiying unit
- A — Aolan

5、Advantages

1) Easy installation and convenient maintenance.
2) International quality, reliable operation.
◆ Refrigeration components, control components, pumps and fans and other operating components are all internationally renowned brands with reliable quality.
◆ Adopt intelligent control, man-machine interface and standard communication protocol, with stable control and high precision.
◆ Complete protection devices, stable and reliable operation.
3) Professional anti-corrosion and anti-rust design, long service life.
◆ The heat exchanger is made of titanium tube, which will never rust.
◆ The water tank is made of PP material for injection molding, and the pipeline is designed with soft connection to reduce pipeline nodes and prevent liquid leakage.
4) The solution balancer can be air-cooled and water-cooled, with stronger applicability.
5) City tap water only, without softening water.

Specification

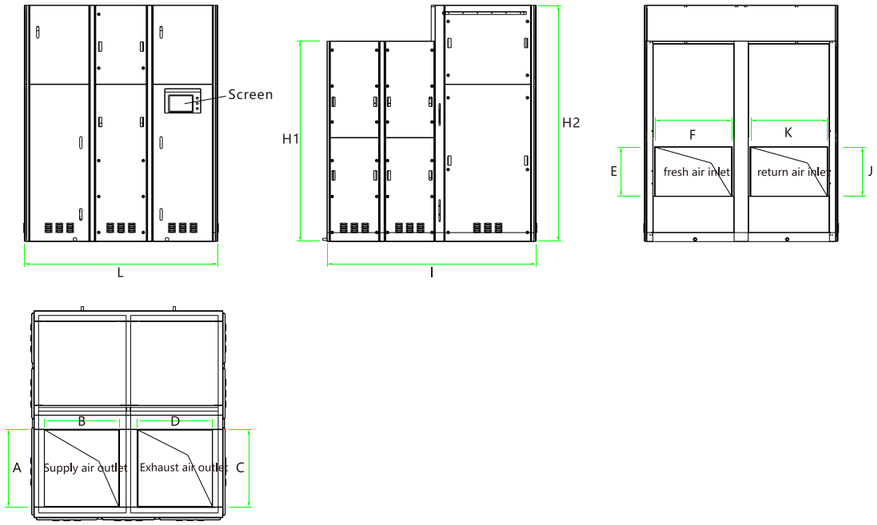
Model (NTD(V)F □□)	02	03	04	05	06	08	10	12
Power supply	3PH–380V–50Hz							
Supply airflow m³/h	2000	3000	4000	5000	6000	8000	10000	12000
Exhaust airflow m³/h	2000	3000	4000	5000	6000	8000	10000	12000
Cooling capacity kW	42	63	81	106	125	166	205	249
Dehumidifying capacity kg/h	41	62	83	103	124	165	206	248
Heating capacity kW	27	41	54	68	81	108	135	162
Humidifying capacity kg/h	16	24	33	41	49	65	82	98
Rated power kW	9.1	13.3	16.2	23.9	27.3	32.2	42.5	49.1
Noise dB(A)	62	63	64	65	66	67	67	68
Refrigeration system								
Compressor type	Fully closed scroll compressor							
Throttle	Thermal expansion valve							
Cryogen	R407C							

Model (NTD(V)F □□)		02	03	04	05	06	08	10	12
Throttle		Thermal expansion valve							
Cryogen		R407C							
Fan system									
Fan type		Outer rotor centrifugal fan							
Pre-filter grade		Primary (G4)							
Supply air pressure	Pa	200	250	280	470	450	280	400	420
Exhaust air pressure	Pa	180	170	160	300	250	190	300	280
Weight	kg	1700	2050	2200	2650	3080	3580	4150	4850

Note: ①Nominal cooling condition: fresh air dry bulb temperature 36°C,RH 65%,return air dry bulb temperature 26°C,RH 60%supply air dry bulb temperature 18°C RH 59%.
②Nominal heating and humidifying conditions: fresh air dry bulb temperature -5°C, RH 50%. return air dry bulb temperature 20%C,RH 50%; supply air dry Bulb temperature 18°C, RH62%.
③Under the nominal working condition, the return air volume is equal to the fresh airvolume, andthe return air volume in actual operation should not be less than 80% of the fresh air volume.
④Tap water can be used as supply water,no softened water is needed.
⑤The fan can be customized or installed with a frequency converter according to the customer's residual pressure requirements.
⑥For non-standard units,please contact us.

Dimension

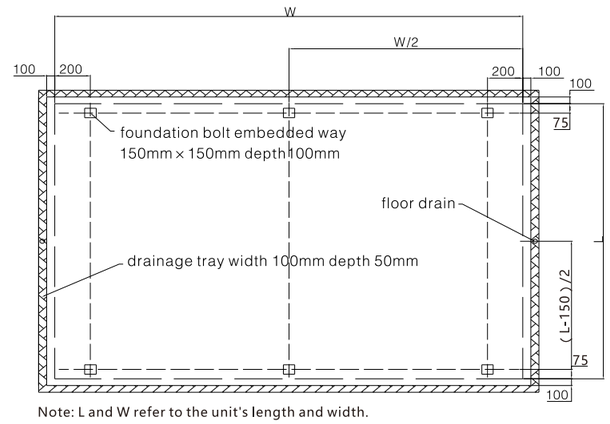
AHLD-NTD(V)F 02、03、04、05、06、08、10、12



Model (AHLD-NTD(V)F)		02	03	04	05	06	08	10	12
L	mm	2150	2150	2150	2550	2550	4650	4650	4650
W	mm	2350	2350	2350	2750	2750	2750	2750	2750
H1	mm	2250	2250	2250	2450	2450	2450	2450	2450
H2	mm	2650	2650	2650	2900	2900	2900	2900	2900
A	mm	850	850	850	1000	1000	2000	2000	2000
B	mm	830	830	830	950	950	950	950	950
C	mm	850	850	850	1000	1000	1000	1000	1000
D	mm	830	830	830	950	950	1900	1900	1900
E	mm	455	455	455	750	750	750	750	750
F	mm	850	850	850	1000	1000	2000	2000	2000
J	mm	455	455	455	750	750	750	750	750
K	mm	850	850	850	1000	1000	2000	2000	2000

Note: Date sheet will be changed without prior notice as product is always updating.

Installation Foundation Diagram



Note: L and W refer to the unit's length and width.

Model Selection Notes

- when place order,model.function ,specification should be offered.
- Indicate the installation type and position(indoor or outdoor.
- For any special requirement or technical problem,please contact us.

Section 8 Liquid Type Central Air Conditioner With Pre-cooling

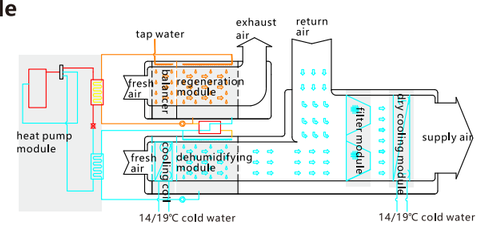
1.Introduction

Pre-cooling type air handling unit is combined air treatment unit. It can be specially made by client's requirements. And it can be widely applied in public buildings (indoor exhaust air not available or exhaust air vol. < 70% of supply air vol.), such as office, R&D building, transport hub, museum, hotel apartment, hospital, etc.

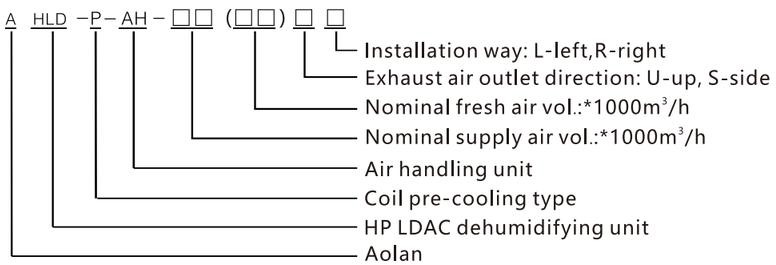
2.Applicable Condition

- Indoor exhaust air not available, or exhaust air vol. < 70% of supply air vol.
- High temp.cold water (14/19℃) and hot water (50/45℃) can be supplied in places using air conditioning.
- Applicable ambient temp.: -5℃~40℃.

3.Working Principle



4.Model Definition



Note: left type: face to the unit operative surface, supply air outlet is on left.
right type: face to the unit operative surface, supply air outlet is on right.

Specification

Model (PAH □□)		15(03)	20(04)	25(05)	30(06)	40(08)	50(10)	60(12)
Completed nnit								
Power supply		3PH−380V−50Hz						
Supply air vol.	m^3/h	15000	20000	25000	30000	40000	50000	60000
Return air vol.	m^3/h	12000	16000	20000	24000	32000	40000	48000
Fresh air vol.	m^3/h	3000	4000	5000	6000	8000	10000	12000
Cooling apacity	kW	109	147	184	220	293	365	441
Dehumidification capacity	kg/h	74	99	124	148	198	247	297
Heating capacity	kW	118	158	197	236	315	394	473
Humidification capacity	kg/h	24	33	41	49	65	82	98
Rated power (power1+power2)	kW	11.2	15.5	19.1	22.3	29.0	35.7	44.6
Supply air pressure	Pa	350	350	350	350	350	350	350
Noise	dB(A)	75	75	80	80	82	83	85
Weight	kg	3193	3621	4273	4933	5755	6956	8273
Fresh air section								
Fresh air vol.	m^3/h	3000	4000	5000	6000	8000	10000	12000
Exhaust air vol.	m^3/h	2000	2600	3300	3900	5200	6500	7800
Cooling capacity	kW	63	84	106	126	166	209	250
Dehumidifying capacity	kg/h	62	83	103	124	165	206	248
Heating capacity	kW	41	54	68	81	108	135	162
Humidifying capacity	kg/h	24	33	41	49	65	82	98
Power 1	kW	4.9	7.2	8.8	9.9	12.5	15.2	19.9
Refrigerated system								
Compressor type		Fully closed scroll compressor						
Throttle		Thermal expansion valve						
Cryogen		R407C						
Pre−cooling and pre−heating coil								
Type		Plate−fin heat exchanger						
Cooling capacity supplied	kW	49	63	79	96	130	163	193
Heating capacity supplied	kW	41	54	68	81	108	135	162
Cold water vol.	m^3/h	8.4	10.8	13.5	16.5	22.3	28.0	33.1
Hot water vol.	m^3/h	6.9	9.3	11.6	13.9	18.5	23.1	27.8
Water resistance	kPa	50	50	50	50	60	60	60
Water outlet		DN40	DN40	DN50	DN50	DN65	DN65	DN80
Exhaust fan section								
Exhaust fan type		Outer rotor centrifugal fan						
Pre−filter grade		Primary (G4)						
Exhaust air pressure	Pa	180	200	280	270	300	270	290
Weight	kg	1950	2100	2500	2900	3380	4150	5000
Mixed air section								
Pre−filter grade		Primary (G4)						
Weight	kg	175	195	210	265	370	425	530
Cooling and heating coil section (unit)								
Cooling capacity supplied	kW	47	63	78	94	125	156	188
Heating capacity supplied	kW	78	104	130	155	207	259	311
Water inlet and outlet temp	℃	Cold water 14/19; hot water 50/45						

Model (PAH □□)		15(03)	20(04)	25(05)	30(06)	40(08)	50(10)	60(12)
Water inlet and outlet temp	℃	Cold water 14/19; hot water 50/45						
Cold water vol.	m^3/h	8.0	10.7	13.4	16.1	21.4	26.8	32.2
Hot water vol.	m^3/h	13.3	17.8	22.2	26.6	35.5	44.4	53.3
Water outlet		DN50	DN50	DN65	DN65	DN80	DN80	DN100
Water flow resistance	kPa	<60						
Weight	kg	390	480	600	710	850	960	1100
Supply air fan section								
Fan type		Belt driven centrifugal fan with double air inlet						
Power 2	kW	6.3	8.3	10.3	12.4	16.5	20.5	24.7
Weight	kg	678	846	963	1058	1155	1421	1643

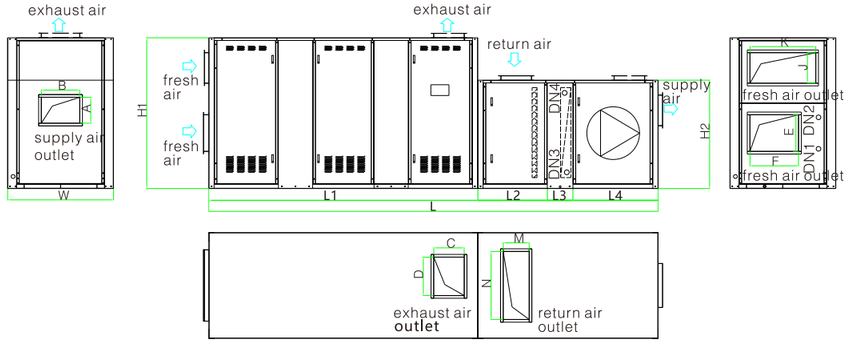
Note:

①Nominal cooling and dehumidifying working condition: fresh air dry bulb temp. 36℃,RH 65%. return air dry bulb temp.26℃, RH 60%; supply air dry bulb temp. 17℃, wet bulb temp. 16℃ (RH 90%, moisture content 11g/kg); cold water supply and return temp.14/19℃.

②Nominal heating and humidifying working condition: fresh air dry bulb temp. -5℃, RH 50%. return air dry bulb temp.20℃, RH 50%; supply air dry bulb temp.35℃, wet bulb temp.19.1℃ (RH 21%, moisture content 7.4g/kg); hot water supply and return temp.50/45℃.

③The above sections specification is only for reference, they should be adjusted in application or chosen by client.

Dimension

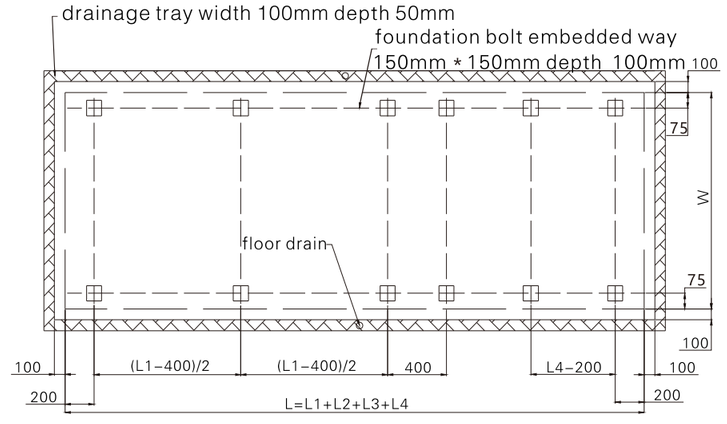


Model (PAH □□)		15(03)	20(04)	25(05)	30(06)	40(08)	50(10)	60(12)
Completed unit								
Profile dimension W*H(mm)								
W	mm	1300	1300	1600	1600	2000	2000	2000
H1	mm	2200	2200	2300	2300	2500	2700	2900
H2	mm	2200	2200	2300	2300	2500	2700	2900
L=L1+L2+L3+L4	mm	4770	4770	5350	5350	5950	6280	6680
Fresh air dehumidifying section(unit)								
L1	mm	2300	2300	2500	2500	2800	2800	3200
E	mm	600	600	750	750	700	850	1100
F	mm	600	600	730	730	1200	1200	1100

Model (PAH □□)		15(03)	20(04)	25(05)	30(06)	40(08)	50(10)	60(12)
J	mm	290	290	300	300	490	490	450
K	mm	900	900	1100	1100	1500	1500	1600
C	mm	150	150	200	200	300	300	300
D	mm	290	340	310	350	390	390	450
DN1	mm	DN40	DN40	DN50	DN50	DN65	DN65	DN80
DN2	mm	DN40	DN40	DN50	DN50	DN65	DN65	DN80
Air mixed section(unit)								
L2	mm	420	420	500	600	600	730	730
M	mm	320	320	400	500	500	630	630
N	mm	1000	1250	1250	1600	1600	2000	2000
Cooling coil section(unit)								
Water outlet L3	mm				750			
Water outlet DN3	mm	DN50	DN50	DN65	DN65	DN80	DN80	DN100
Water outlet DN4	mm	DN50	DN50	DN65	DN65	DN80	DN80	DN100
Supply air section(unit)								
L4	mm	1300	1300	1600	1600	1800	2000	2000
A	mm	605	675	740	785	950	1080	1225
B	mm	532	580	650	700	780	860	940

Note: data sheet will be changed without prior notice as product is always updating.

Installation Foundation Diagram



Note: L, W, L1, L2, L3, L4 refer to the unit's length, width and section's length.

Model Selection Notes

- When place order, functional sections and their combined diagram, model, functions, specification, water inlet and outlet directions and maintenance gate direction should be offered to us.
- Indicate to use manual or auto fan, fan position, and air outlet direction.
- Indicate the quantity of cooling coil or heater.
- Indicate the limitation for the fan's full pressure and noise so that fan can be selected accordingly.
- For any special requirement or technical problem, please contact us.

Section 9 Liquid Type Central Air Conditioner With Heat Recovery

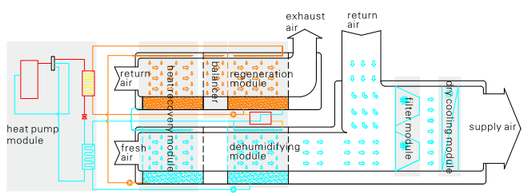
1.Introduction

Heat recovery type air handling unit is combined air treatment unit. It can be specially made by client's requirements. And it can be widely applied in public buildings (indoor exhaust air available and exhaust air vol.＞80% of supply air vol.), such as office, R&D building, transport hub, museum, hotel apartment, hospital, etc.

2.Applicable Condition

- Indoor exhaust air available, and exhaust air vol.≥80%.
- Applicable ambient temp.:-5℃~40℃.

3.Working Principle



4.Model Definition

A HLD –T– AH – □□ (□□) □ □

- Installation way: L-left,R-right
- Exhaust air outlet direction: U-up, S-side
- Nominal fresh air vol:*1000m³/h
- Nominal supply air vol:*1000m³/h
- Air handling unit
- Heat recovery type
- HP LDAC dehumidifying unit
- Aolan

Note: left type: face to the unit operative surface, supply air outlet is on left.
right type: face to the unit operative surface, supply air outlet is on right.

Specification

Model (TAH □□)		10(03)	12(036)	15(045)	20(06)	25(075)	30(09)	40(12)
Completed nit								
Power supply		3PH–380V–50Hz						
Supply air vol.	m³/h	10000	12000	15000	20000	25000	30000	40000
Return air vol.	m³/h	7000	8400	10500	14000	17500	21000	28000
Fresh air vol.	m³/h	3000	3600	4500	6000	7500	9000	12000
Cooling capacity	kW	87	104	132	174	216	266	347
Dehumidifying capacity	kg/h	64	77	96	128	160	192	256
Heating capacity	kW	92	111	139	185	231	277	370
Humidifying capacity	kg/h	24	29	37	49	61	73	98
Rated power (power1+power2)	kW	17.3	20.2	26.7	33.4	40.1	51.4	61.6
Supply air pressure	Pa	350	370	350	350	350	350	350
Noise	dB(A)	67	68	69	71	72	73	75
Weight	kg	2660	2956	3823	4521	5263	6283	7355
Fresh air section(unit)								
Fresh air vol.	m³/h	3000	3600	4500	6000	7500	9000	12000
Exhaust air vol.	m³/h	3000	3600	4500	6000	7500	9000	12000
Cooling capacity	kW	63	75	96	125	156	193	250
Dehumidifying capacity	kg/h	62	74	93	124	155	186	248
Heating capacity	kW	41	49	61	81	101	122	162
Humidifying capacity	kg/h	24	29	37	49	61	73	98
Power 1	kW	12.4	14.8	20.4	25.2	29.8	39.0	45.1
Compressor type		Fully Closed Scroll Compressor						
Throttle		Thermal Expansion Valve						
Cryogen		R407C						
Exhaust fan type		Outer Rotor Centrifugal Fan						
Pre–filter grade		Primary (G4)						
Exhaust air pressure	Pa	170	280	320	250	190	300	280
Weight	kg	2050	2200	2650	3080	3580	4350	5140
Mixed air section(unit)								
Pre–filter grade		Primary (G4)						
Weight	kg	100	140	175	195	210	265	320
Cooling and heating coil section(unit)								
Cooling capacity supplied	kW	24.2	29.1	36.4	48.5	60.6	72.7	96.9
Heating capacity supplied	kW	51.9	62.2	77.8	103.7	129.7	155.6	207.5
Water inlet and outlet temp	℃	Cold water 14/19; hot water 50/45						
Cold water vol.	m³/h	4.2	5.0	6.2	8.3	10.4	12.5	16.6
Hot water vol.	m³/h	8.9	10.7	13.3	17.8	22.2	26.7	35.6
Water outlet		DN40	DN40	DN50	DN50	DN65	DN65	DN80
Water resistance	kPa	＜60						
Weight	kg	170	230	320	400	510	610	740
Supply air section (unit)								
Fan type		Belt driven centrifugal fan with double air inlet						
Power 2	kW	4.9	5.4	6.3	8.2	10.3	12.4	16.5
Weight	kg	340	386	678	846	963	1058	1155

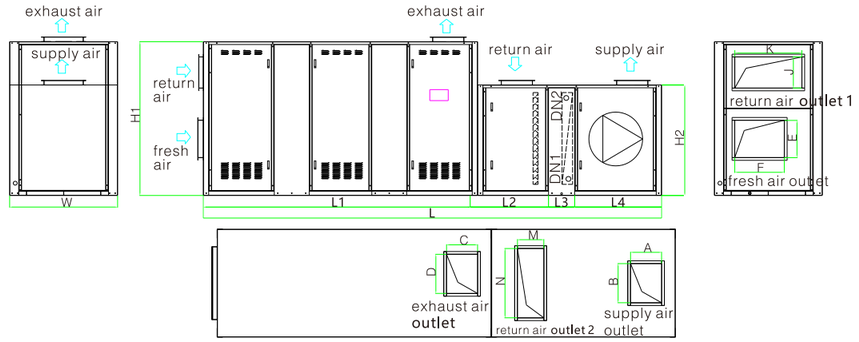
Note:

①Nominal cooling and dehumidifying working condition: fresh air dry bulb temp. 36℃,RH 65%; return air dry bulb temp.26℃, RH 60%; supply air dry bulb temp. 17℃, wet bulb temp. 16℃ (RH 90%, moisture content 11g/kg); cold water supply and return temp.14/19℃.

②Nominal heating and humidifying working condition: fresh air dry bulb temp. -5℃, RH 50%; return air dry bulb temp.20℃, RH 50%; supply air dry bulb temp.35℃, wet bulb temp.19.1℃(RH 21%, moisture content 7.4g/kg); hot water supply and return temp.50/45℃.

③The above sections specification is only for reference, they should be adjusted in application or chosen by client.

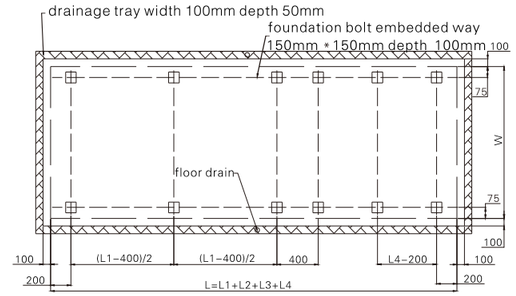
Dimension



Model (TAH □□)		10(03)	12(036)	15(045)	20(06)	25(075)	30(09)	40(12)
Completed unit Profile Dimension W*H(mm)								
W	mm	1500	1500	1850	1850	2300	2300	2300
H1	mm	2300	2300	2400	2400	2700	2700	3000
H2	mm	1300	1500	1500	1800	1800	2050	2500
L=L1+L2+L3+L4	mm	5770	5770	6550	6550	6850	7180	7280
Fresh Air Dehumidifying Section(unit)								
L1	mm	3300	3300	3700	3700	3700	3700	4100
J	mm	400	400	400	400	500	500	650
K	mm	1100	1100	1500	1500	1800	1800	1800
E	mm	600	600	680	680	750	750	950
F	mm	700	700	900	900	1200	1200	1300
C	mm	200	200	200	200	300	350	350
D	mm	310	350	380	380	450	515	515
Air Mixed Section(unit)								
L2	mm	420	420	500	600	600	730	730
M	mm	320	320	400	500	500	630	630
N	mm	1000	1250	1250	1600	1600	2000	2000
Cooling Coil Section(unit)								
Water outlet	L3 mm				750			
	DN1 mm	DN40	DN40	DN50	Dn40	Dn40	Dn65	Dn80
	Dn2 mm	DN40	DN40	DN50	Dn40	Dn40	Dn65	Dn80
Supply Air Section(unit)								
L4	mm	1300	1300	1600	1600	1800	2000	2000
A	mm	485	550	605	675	740	785	950
B	mm	412	466	532	580	650	700	780

Note: data sheet will be changed without prior notice as product is always updating.

Installation Foundation Diagram



Note: L, W, L1, L2, L3, L4 refer to the unit's length, width and section's length.

Model Selection Notes

- When place order, functional sections and their combined diagram, model, functions, specification, water inlet and outlet directions and maintenance gate direction should be offered to us.
- Indicate to use manual or auto fan, fan position, and air outlet direction.
- Indicate the quantity of cooling coil or heater.
- Indicate the limitation for the fan's full pressure and noise so that fan can be selected accordingly.
- For any special requirement or technical problem, please contact us.

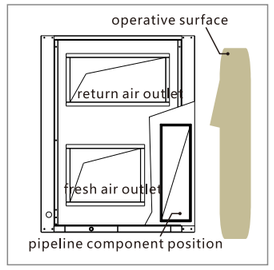
Section 10
Aolan LDAC Advantages

Case Structure

- The unit panel and other main structural parts are made of superior galvanized steel sheet (thickness 0.8mm), and the panel material is fireproofing.
- Internal and external casing structure, no cold bridge, which reduce heat loss when unit running; for casing requiring heat preservation, rubber and plastic thermal insulation material (δ≥ 20mm) will be sticked.
- The unit is equipped with access door in necessary position for future maintenance, and the access door should be strict and flexible with good start and locking function.
- The cabinet and frame is made of metal sheet reinforced structure. Adopt access door with hinge, door frame is sealed to avoid air leakage.
- Heat ex-changer is made of pure titanium pipe, never rust.

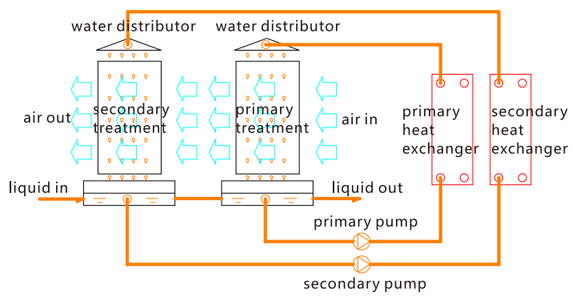
Component Side Structure

- Cooling pipeline, liquid pipeline and component are configurated on the side of unit.
- Casing sinks, unit height is lowered; and it will solve the height limit problem indoor.
- upply and exhaust air outlet are at the top of machine,save installation space and suitable for installation in the projects.



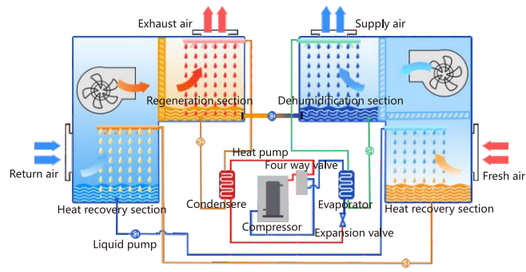
Two-stage Dehumidifying And Regeneration

The heat transfer temp.difference and mass transfer concentration difference will be lowered highly by two-stage dehumidifying and regeneration, and irreversible loss is lowered in dehumidifying process. Make full use of the liquid's hygroscopic ability, that is, same cooling load is absorbed, two-stage method will make the liquid's concentration difference reach 10%.



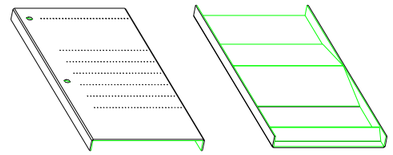
Double Counterflow Structure

- Total heat recovery module adopts a counter-flow structure, the heat recovery effect can reach more than 60%.
- The dehumidification and regeneration module adopts a counter-flow structure, compared with the cross-flow structure,the cooling performance and dehumidification performance are improved by 20% .
- Integrated solution tank to prevent solution leakage .



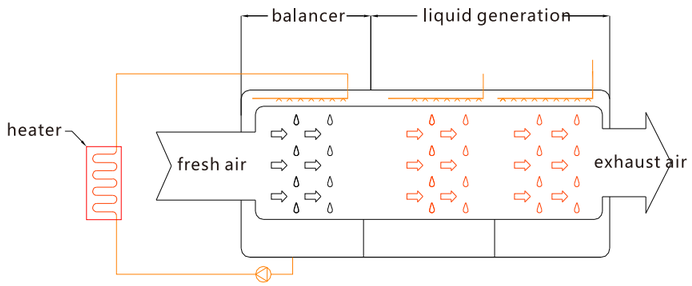
Patented Water Distributor

- The water distributor's hole diameter and quantity have been verified on testbed many times and it is processed molding by precision machine.
- The deflector is triangular structure; narrow gradually along water flow direction; even water flow, and tolerable height difference (levelness) 20mm~30mm.



Built-in Patented Balancer

- Solve the water flow unbalance problem during dehumidifying and regeneration process.
- Can be applied in high temp.condition: when ambient temp.beyond limit, the unit will auto start balancer to assist heat dissipation.
- Supplied with clean tap water, avoid water softened trouble.



Section 11 Applications

R&D Office Building

A financial plaza with independent temp.&humid.control air conditioning system: HP LDAC fresh air unit undertakes fresh air load, indoor latent heat load and some sensible heat load; cold source is offered by 2 units LiBr absorption liquid chillers which supply 14/19℃ high temp.cold water to indoor terminal device (dry fan coil unit) to undertake the rest sensible heat load. The air conditioning consists of the following parts:

- Tower: HP LDAC + dry fan coil.
- Podiums room: HP LDAC+dry fan coil.
- Podiums large space part: HP liquid all-air unit to form. one time return air all-air system type.

Fitness Center

Fitness center mainly contains multi-function hall, badminton hall, gymnasium, tennis court, table tennis hall, swimming pool, etc. Equip with 2units high temp.water chillers (each chiller 675kw), and use fire pool and thermal (cold) storage pool for thermal (cold) storage.

The large space room such as restaurant, multi-functionhall, etc. adopt HP LDAC all-air unit to supply air; the small space room such as amusement bar, changing room, etc.adopt HP LDAC fresh air unit+dry coil system.

Transport Hub

For air port terminal, some area is using independent temp.&humid.control air conditioning system. The high and large area of the building adopts: displacement down discharge supply air+floor cold heat radiation+dry floor coil. That is, indoor temp.is controlled and adjusted by dry fan coil and floor cold heat radiation system, humid.is adjusted and controlled by supply air from displacement down discharge system (HP LDAC fresh air unit).

Museum

The museum adopts 8units HP LDAC all-air system with heat recovery to supply fresh air and realize daily temp.&humid.control for the visitors; also equip 2units high temp.water chillers(each chiller 510KW) to handle the sensible heat load.

High-end Hotel

The hotel adopts GSHP (ground source heat pump) to offer heat and cooling, for guest room adopts: LDAC fresh air unit+ radiant heating and cooling system; podium building adopts heat recovery LDAC all-air unit, and some rooms adopts: LDAC fresh air unit+dry coil heating and cooling system.
In summer, the chilled water's temp. by GSHP (ground source heat pump) after passing plate-in is increased to 16℃ and then it is supplied for the radiant cooling and dry coil all-air unit. Fresh air and humid.is supplied and controlled by LDAC unit.
In winter heating working condition, the GSHP (ground source heat pump) offers air conditioning hot water (45℃/40℃), one pipeline for dry coil and all-air unit, the secondary water 32℃/29℃passing plate-in in another pipeline is used for radiant heating. Fresh air and humid.is supplied and controlled by LDAC unit.

Medical-sanitary Institution

There contains function rooms including office, ward, consulting room, etc in a hospital complex building hospital complex building: contains function rooms including office, ward, consulting room, etc, air condition type: LDAC fresh air unit + dry fan coil, and the high temp.cold water is supplied by water cooled screw chiller in ground floor and air cooled heat pump unit in roof. Indoor air conditioning detailed distribution as below.

- Injected area: adopt direct current system, separate setting on LDAC fresh air unit and exhaust air unit.
- Outpatient office: dry fan coil + LDAC fresh air unit.
- Ward: dry fan coil + LDAC fresh air unit.

Biological Pharmacy

Pharmaceutical factory: 1500m2 for air conditioning area, using 5units LDAC all-air unit, total supply air 45000m3/h; 1 unit 150kw high temp.water cooled screw chiller, and using waste heat for winter heating.
In summer, fresh air load and indoor humidity load are undertaken by HP LDAC fresh air section, and indoor excess heat by the unit's dry coil.
In winter, fresh air is heated and humidified by HP LDAC fresh air section, and waste &excess heat is cooled by plate-in heat ex-changer and then to be supplied for indoor heating through the unit's dry coil.

Dehumidifying And Drying

For the baking room for mushroom manufacturing workshop, it adopts one 1000m3/h dehumidifying dryer to dehumidify and dry the mushroom in 4 stages: 4hours primary dehumidifying, 5hours constant speed drying, 8hours continuous drying, and 1hour complete drying.