

HOLTOP

Digital Intelligent Fresh Air Ventilation System



Beijing Holtop Air Conditioning Co., Ltd.



COMPANY PROFILE

Holtop is the leading manufacturer in China specialized in the production of air to air heat recovery equipments. Founded in 2002, it has been dedicated to the research and technology development in the field of heat recovery ventilation and energy saving air handling equipments for more than 15 years.

Holtop headquarters is located in the foot of Beijing Baiwangshan Mountain, covering area of 30,000 square meters. The manufacturing base is in Beijing's Badaling Economic Development Zone, covering an area of 60 acres, with an annual production capacity of 200,000 units of air heat recovery equipments. Holtop builds a sound certificate system of ISO9001, ISO14001 and OHSAS18001 as well as product certification systems. Moreover, it has a laboratory certified by nation authority. As a well-known manufacturer in the field of heat recovery, Holtop has a strong R&D team and possesses dozens of national invention patents, and has participated in the compilation work of several national standards, and is also certified as Zhongguancun High-Tech Enterprise.

Holtop has mastered the core technology of heat recovery, independently developing products like plate and rotary heat exchangers, various heat & energy recovery systems and air handling units. Products have been exported to more than 41 countries and regions. Holtop continuously ranks the top in domestic market of heat and energy recovery ventilators.

Holtop will always be committed to the mission of delivering high-efficient and energy-saving products and solutions to improve indoor air quality, to ensure people's health and protect our earth.



CERTIFICATION

After years of dedication to the research and technology development in the filed of heat recovery and indoor air quality, Holtop has many achievements on the product innovation and quality management, which is certified by National and International authorities.



■ Product Patent Certificates



■ Test lab Verification Certificates



■ Energy Saving Product Certificates



■ ISO9001 / ISO14001 / OHSAS18001 Certificates



Requirement for Ventilation in Modern Architecture

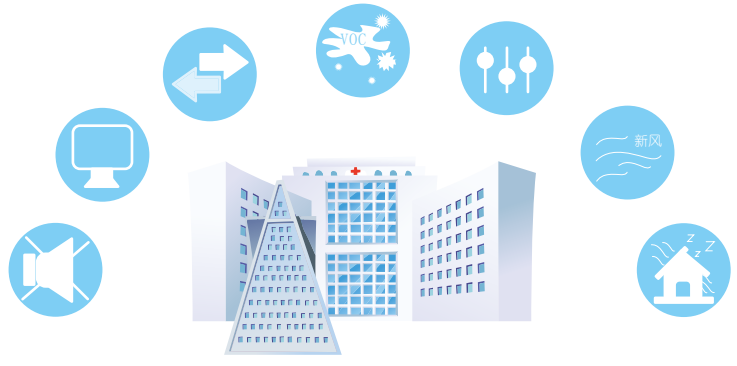
With the continuously development of ventilation technology, People is able to control the indoor environment in the building and creat a comfortable indoor climate. However, In the condition of worldwide scarcity of energy, increasing pressure of energy conservation and emission reduction, deterioration of AQI(air quality index) and SBS(Sick Building Syndrome), building air ventilation draws unprecedented attention.

Requirement of ventilation design

- On-demand of fresh airflow
- Balanced fresh and exhaust air system
- Low energy consumption, low noise and low operation cost.
- Reasonable control system and management

Requirement of Architectural effect

- Ensure the efficient exhaust of indoor foul and polluted air
- Meet the need on comfortableness of indoor people in all occasions
- Ensure the need of fresh air when the number of indoor staff changes



Currently Working Standard

Domestic Standard

- "Architectural Design of General Hospital Design Standard " (GB 51039-2014)
- "Green Hospital Architectural Evaluation Standard" (GB51153T-2015)
- "Infectious Disease Institute Architectural Design Specification" (GB50849-2014)
- "Technical Specifications for Construction of Hospital Clean Surgery Department" (GB50333-2013)
- "Indoor Air Quality Standard" (GB/T 18883-2002)
- "Heating Ventilation and Air Conditioning of Civil Buildings Design Standard" (GB 50736-2012)
- "Air Conditioning and Ventilation System Operation Management Specification" (GB 50365-2005)
- "Combined Air Conditioning Unit" (GB/T 14294-2008)

OverseaStandard

- "ANSI/ASHRAE Standard 62.1-2004"
- In ASHRAE 62, ventilation rate is the most commonly used standard to evaluate the ventilation quantity

Policy Guidance

- In 2011, the Ministry of Housing and Construction and the Ministry of Health jointly organized and compiled the "Technical Specification for Evaluation of Green Hospital Construction".
- In 2014, the government updated "Green Building Evaluation Standards"GB/T 50378-2014

Requirement for Ventilation of Hospital Building



Requirement of Air Safety

The hospital is the most densely public place for people who carrying bacteria and viruses, and is considered as the gathering center of pathogenic microorganisms. Not only the patients but also the hospital workers may also carry bacteria and viruses. So air in the hospital have to be kept highly purified to avoid the cross infection.



Requirement of Air Quality

Patients are the vulnerable groups, with poor ability of receptivity and adaptation. Indoor environment would discernibly impact on their recovery and even an important factor. Hospitals need good indoor air quality to improve the treatment environment for patients' quicker recovery.



Requirement of Energy Consumption

Hospitals are large consumers of energy. The energy consumption of air-conditioning systems takes more than 60% of the total energy consumption of buildings. A high-efficient and energy-saving air conditioning system solution could not only meet the requirement of ventilating but also reduce air conditioning energy consumption effectively.



Requirement of Intelligentization

Intelligentization is an inevitable trend in the development of hospital buildings. Such as equipment centralized control and management, real time monitoring of energy consumption, automated operation & on-demand of ventilation system. Intelligentization has become an important manifestation of the medical environment and the quality of hospitals. It is also an important part of green buildings.

The internal ventilation of hospital needs independent area control, different areas need different ventilation, and the airflow control is more complicated. In general, there are four principles:

Define Ventilation Route



Make sure the fresh air is led in from clean area, and driven to semi-contaminated area, and then the contaminated area by pressure differential, till it is exhausted to outdoor, so as to avoid the backflow.

Define Minimum OA



To meet the fresh airflow need of healthy person and patients. At the same time, take consideration of the air exchange rate for contaminated area, air pressure differential factors etc to select the minimum fresh airflow.

Define Ventilation Time



Keep the continuity of fresh air supply for 24 hours. More emphasis should be laid on the airflow organization in hospital. Keep the air quality at anytime.

Energy-saving Control & Management



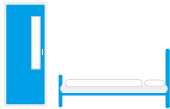
By monitoring the air quality and auto-regulating the fresh/exhaust airflow based on the air quality sensor, each room could be controlled separately or by upper control system, for a maximum energy saving.

► Ventilation Requirement in Different Areas of Hospital



In the office and duty room, fresh airflow could be calculated based on air circulation ratio of 4-5 times/hour, to determine the exhaust airflow and maintain indoor positive pressure.

In the meeting room, fresh airflow could be calculated based on density of 2.5m³/person or 40m³/hour*person, to determine the exhaust airflow and maintain indoor positive pressure.



Considered the need of attendants and patients, fresh airflow could be calculated by standards of 50-55m³/sickbed in public ward, 60m³/sickbed in children's ward, and 40m³/sickbed in infectious ward, to determine the exhaust airflow and maintain negative pressure.

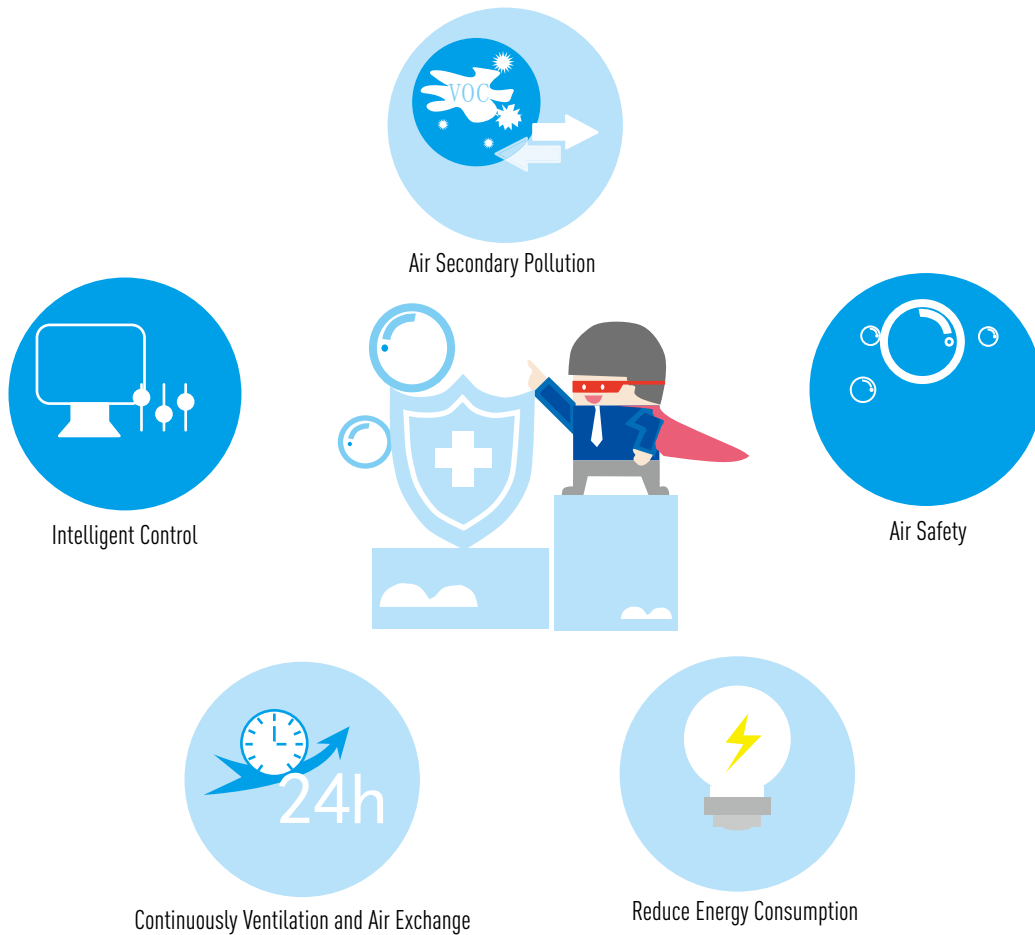


Fresh airflow in the corridor(where only supply air is needed) is based on ventilation rate of 2 times/hour to keep a slight negative pressure; and 10-15 times/hour in the toilet and dirt agency for a negative pressure.



► Holtop System Solution

How to satisfy the building ventilation demand such as Hospital?

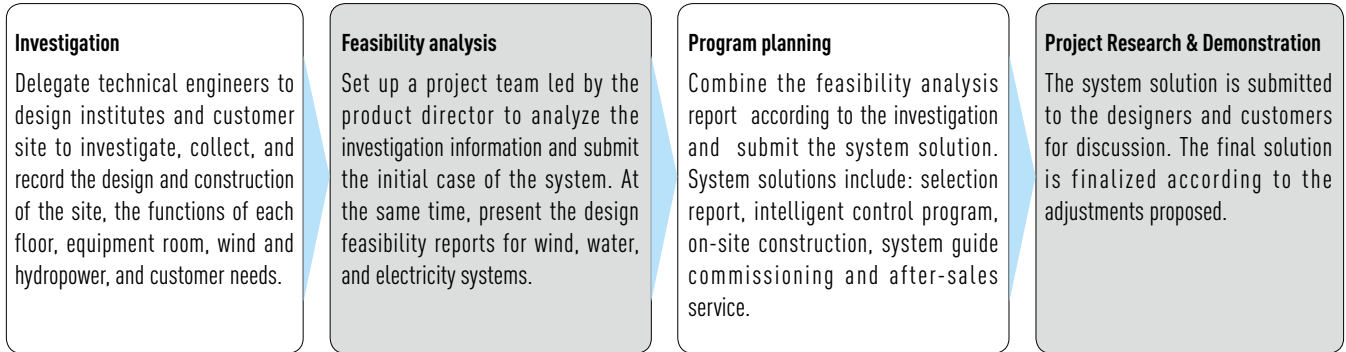


Holtop provides complete and scientific HVAC solution to hospital for customer's trouble shooting, separate solution for each hospital. Even with the same medical equipment, and the same design from design company, Holtop will always provide a customized and exclusive solution accordingly by considering the site condition, the equipment, running and further development.

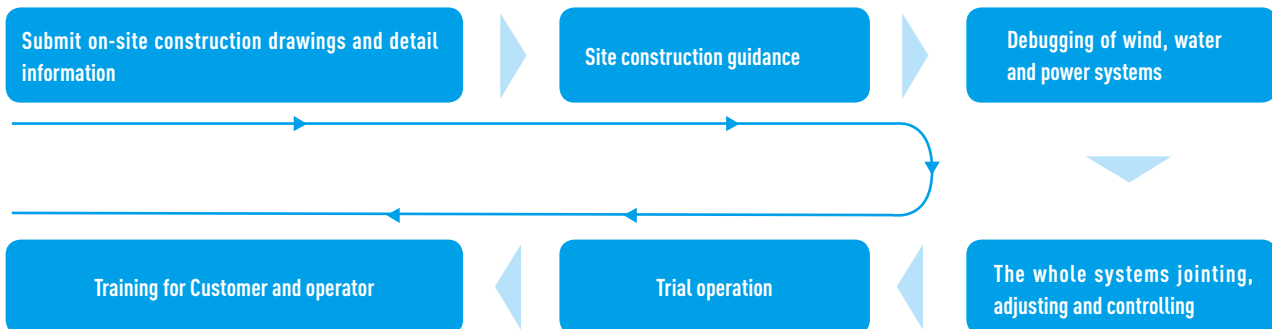
➤ **Summarize of Holtop System Solution**

Holtop, take advantage of editing national standard --“GB/T 21087 Air-Air Heat Recovery Equipment” and decade of experience in researching air-air heat exchanger, has independently developed a new generation of digital intelligentized fresh air ventilation system solution based on the characteristics of domestic construction and the current status of indoor air environment. The solution is designed with the highest technical standards at home and abroad, and is manufactured strictly in accordance with the three standards of “Quality, Environmental and Occupational Health & Safety”. It is widely used in the medical industry and various special construction.

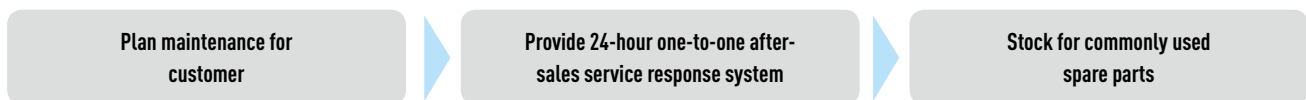
Pre-sales Stage



On Sale Stage



After-sale Stage



Digital Intelligent Fresh Air Ventilation System

Whether the system design is perfect or not, whether the function configuration is reasonable or not, will directly affect the efficiency of the whole system. At the same time, it will also have great influence on the front-end investment and the running costs. So Holtop will select item according to high standard, high performance, high configuration and low cost.

Digital Energy Recovery System



Digital Energy Recovery Fresh Air Handling Unit



Digital Energy Recovery Exhaust Air Handling Unit

Intelligent Control System



HGICS Central Control Host



Floor Controller



Digital Liquid Crystal Control Panel



Air Quality Sensors

Air Terminal System



Digital variable air volume module



Fixed airflow adjustment module



Indoor air supply outlet



Indoor air exhaust outlet

Pipe Network System



Fresh/exhaust duct

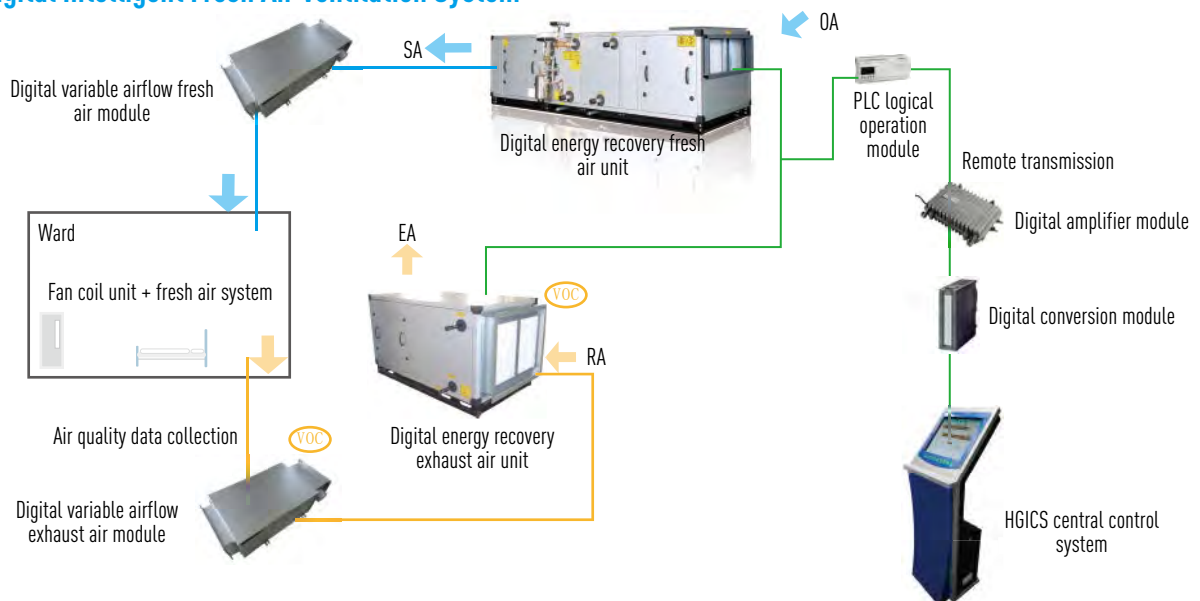


Energy recovery Pipeline



Control circuit

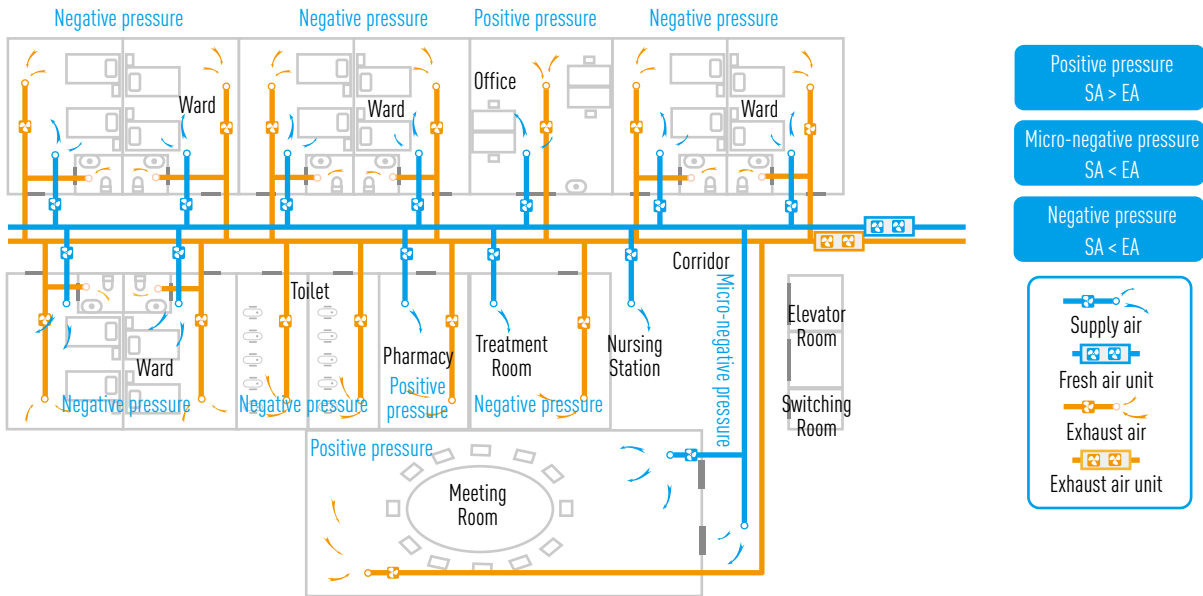
Digital Intelligent Fresh Air Ventilation System



System Structure

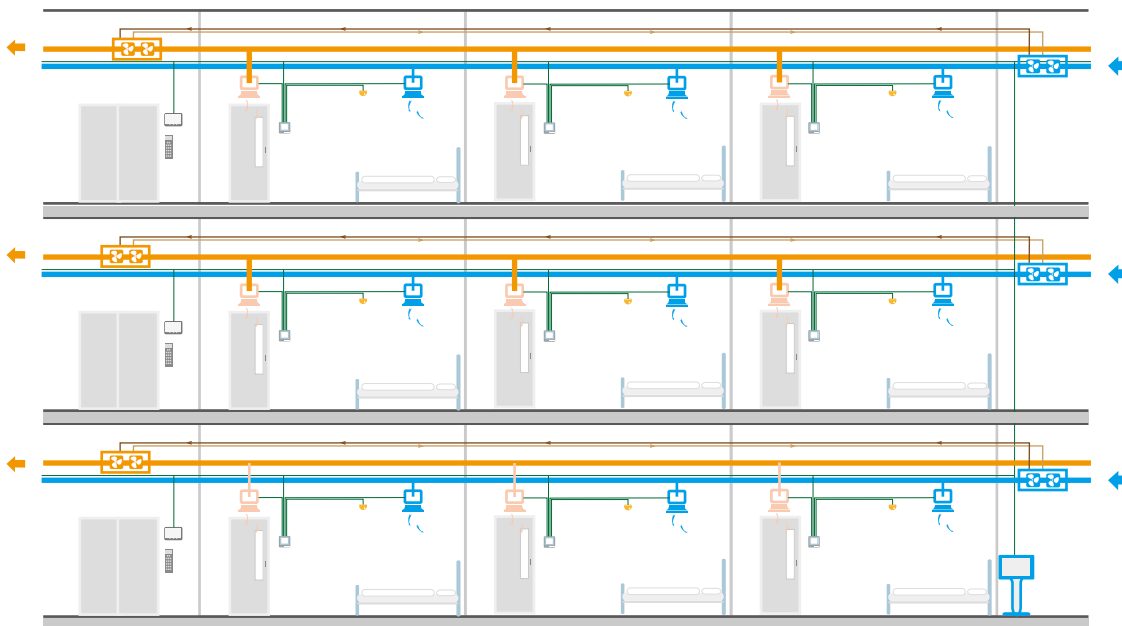
Overview

According to the characteristics of different types of buildings and the needs of users, system of different forms and different economical standards can be customized. For example, in a hospital ventilation system, which is usually divided into clean, semi-polluted and contaminated areas, step-by-step air pressure differentials should be established in each area to control the flow of air from the clean area to the contaminated area and prevent the high-risk air from spreading freely.



Horizontal supply and horizontal exhaust system

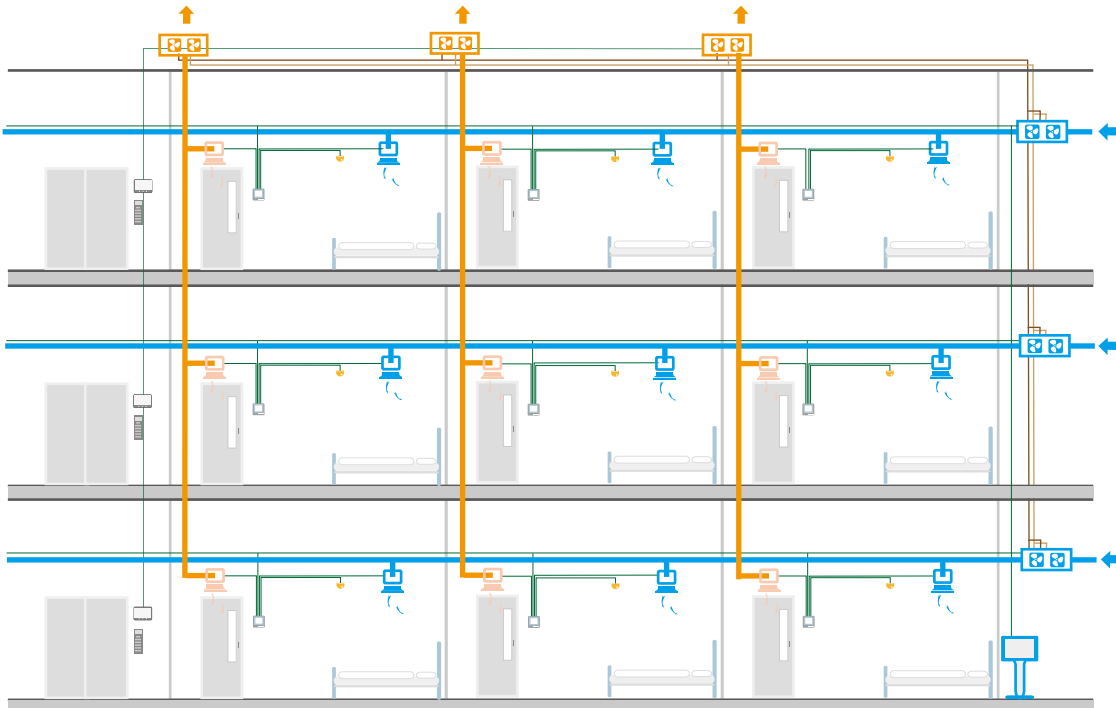
An independent supply and exhaust system for each floor. Suitable for flat floor organic rooms or places with enough floor space. A floor can be composed of multiple systems. And also suitable for general wards and consulting rooms.



System Structure

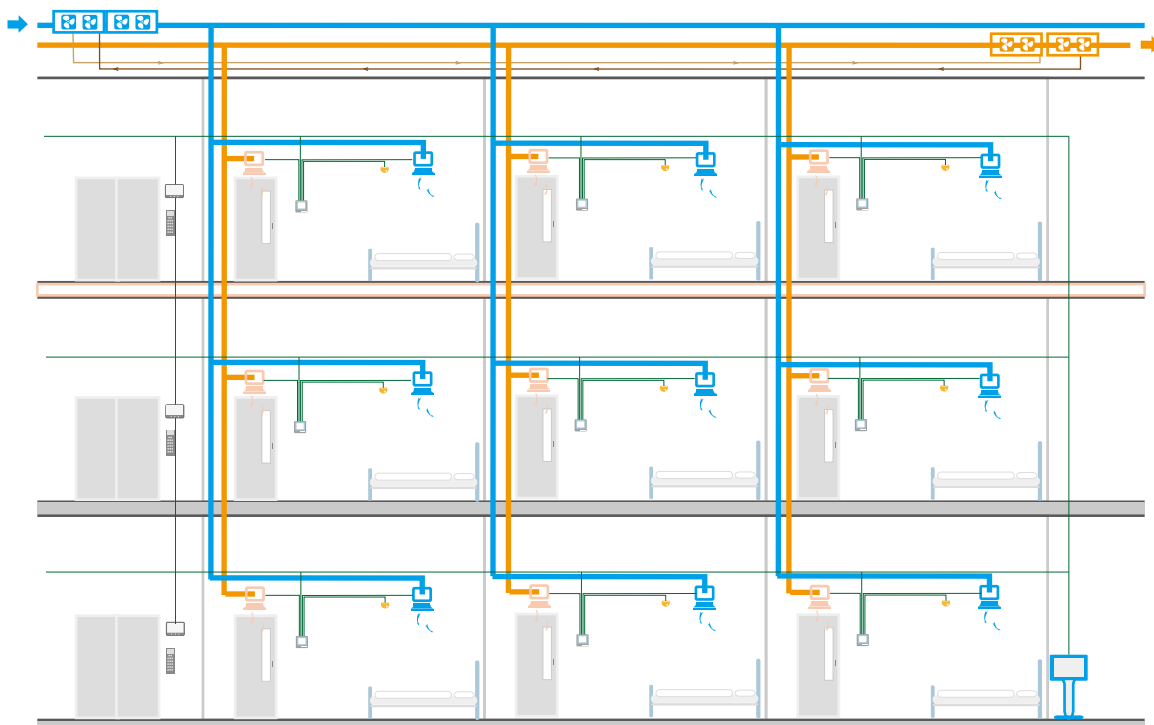
Horizontal supply and vertical exhaust system

Each floor has an independent fresh air ventilation system, and the exhaust air from each room is vertically discharged to the roof. Applicable to infectious wards, high-air discharge after high-risk air sterilization.



Vertical supply and vertical exhaust system

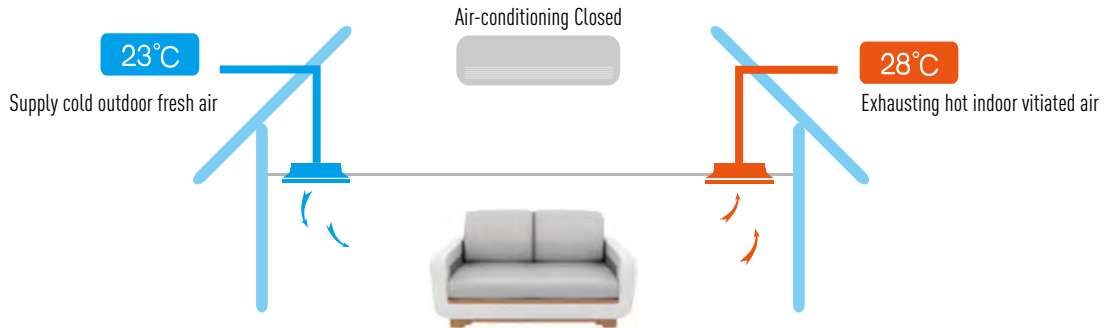
The machine room is installed on the roof of the building and the digital energy recovery fresh air unit sends fresh air into the room. The exhaust air from each room is vertically discharged to the roof. Suitable for places with high requirements for the appearance of the building.



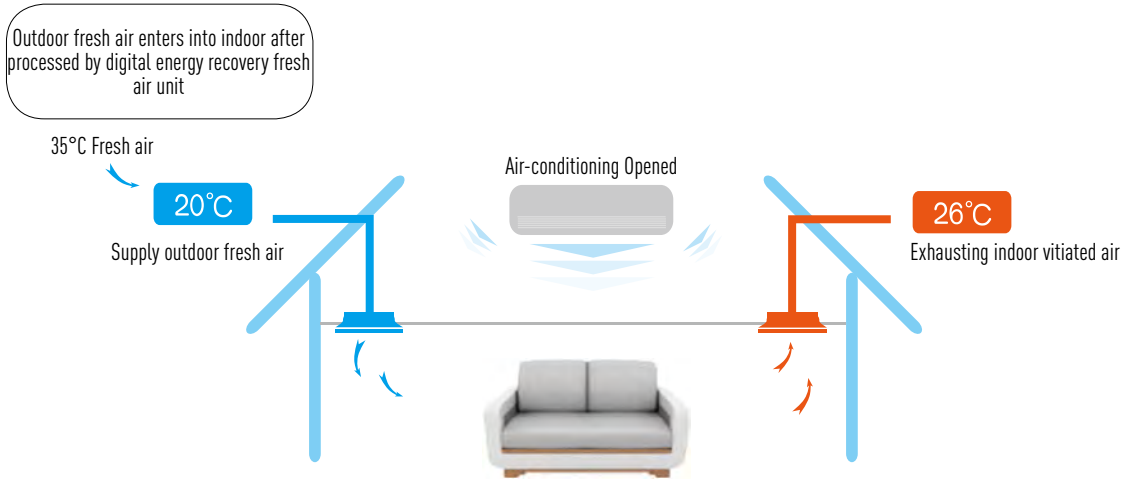
System Characteristic

Energy-efficient

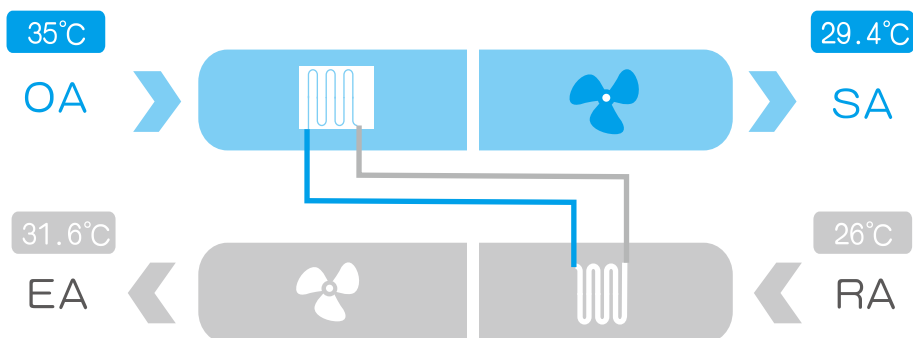
- 40%-75% Energy saving compared with traditional air-conditioning fresh air ventilation system.
- Air-conditioning running time is reduced by 15% compared with the building without Holtop's digital intelligent air system.
- In the transitional season, the outdoor fresh air resources are fully utilized, no air conditioning is required, only enhanced ventilation is needed to get a comfortable environment, so as to reduce the use of the air conditioning system.



- To overcome the big difference on indoor air quality caused by large flow of people that changing from time to time in special occasion like hospital, Holtop's digital intelligent fresh air ventilation system automatically adjusts the amount of fresh air in each area and eliminates dirty air, based on the air quality data collected at each monitoring point. No need to open windows for ventilation, reduce unnecessary air conditioning energy consumption



- Non-cross-contamination energy recovery system, energy recovery efficiency is up to 62%



System Characteristic

EC Fan

The motor is DC brushless maintenance-free with built-in intelligent control module. It comes with RS485, 0~10V, 4~20mA, fault alarm output interface and 0~100% stepless automatic speed regulation. Holtop digital energy recovery air conditioning units (fresh/exhaust air) and digital variable air volume modules all use EC fans, and their energy consumption is more than 40% lower than that of ordinary AC fans.

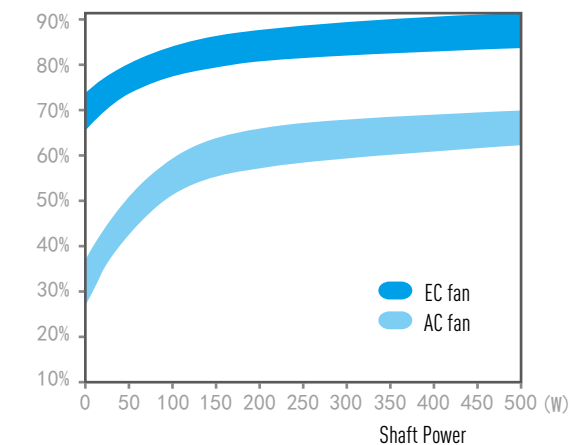


High Performance • Long Life • Maintenance-free

1. High intelligence, high energy efficiency, high efficiency, long life, low vibration, low noise, and continuous uninterrupted operation;
2. Built-in circuit can achieve nonpolarized speed control. With wide speed range and strong anti-overload capability;
3. Excellent torque characteristics, good torque performance at medium and low speeds, heavy starting torque, small starting current, no impact on the power grid;
4. Using DC brushless technology, no maintenance, normal working life of more than 80,000 hours

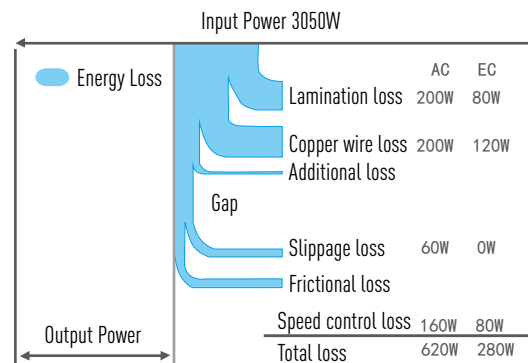
High Efficiency

Motor Efficiency



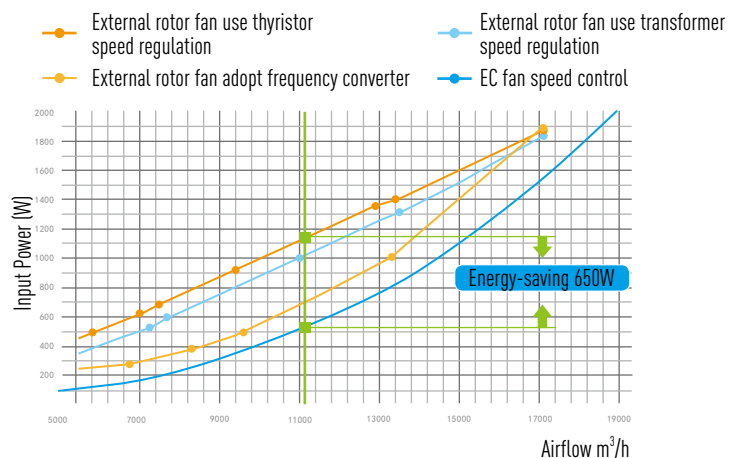
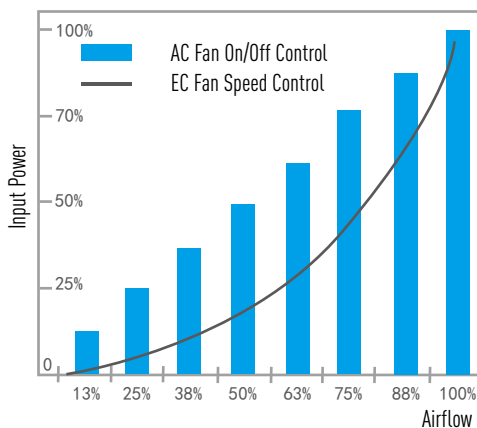
1. EC fan can still maintain a high efficiency of over 85% at low speed.
2. About 20%~30% more efficient than traditional AC fan.

Low Energy Consumption



1. EC Fan saves 52% of the operating cost compared to AC fan
2. Energy conversion rate is higher during the operation of the EC fan. That means EC fan has a smaller energy loss.

High Energy Saving



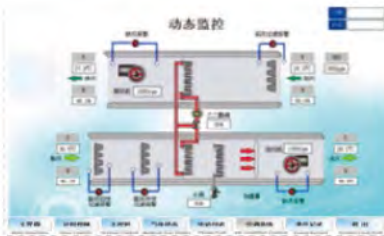
Compared with the traditional AC fan, speed regulation of EC fan is 75% less energy consumption than that. 6% less than frequency control AC fan. And the maximum energy saving rate is 118% compared with other AC fan.

▶ **System Characteristic**



HGICS Central Control System

Through the monitoring of the digital energy recovery air conditioning unit and the various end systems, the system automatically submits information such as operation trend reports, energy consumption reports, maintenance reports, and fault point alarms, and the operating status of the entire system, power consumption of each device, parts replacement, etc. All data will be known very well.



HGICS System Management Software

HGICS hospital intelligentized management software is a simplified, high-efficient, practical system. Real-time running status of the whole system and each subsystem could be displayed and parameter could be settled/adjusted according to customer's need. Software upgrade is also available.



Programmable Logic Controller

The HGICS hospital-specific intelligent fresh air ventilation system management software developed by Holtop is used to implement visual management of human-machine interaction through a digital LCD control panel and a central intelligent management platform. Allowing complex system settling, monitoring, and management to be simplified.

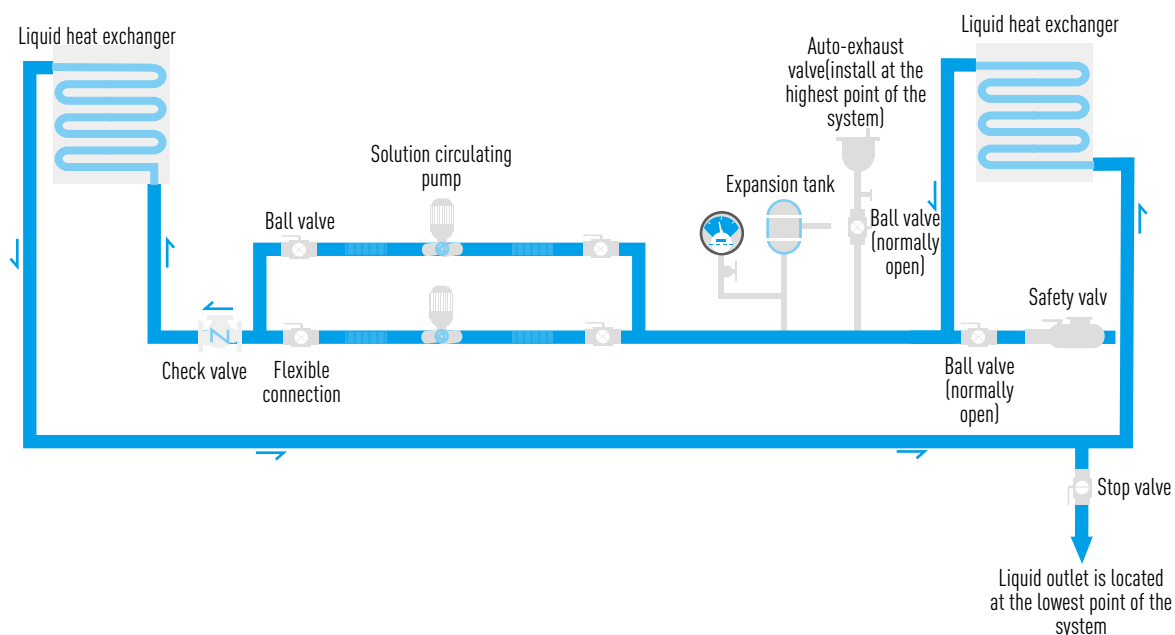


Digital Energy Recovery System

In order to avoid cross-contamination in the hospital, Holtop air-conditioning energy recovery system uses a separate liquid circulation heat exchanger technology. And comes with its own RS485, 0 ~ 10V, 4~20mA, fault alarm interface and 0~100% stepless automatic speed-regulating digital high-efficiency EC fan. This is combined into the Holtop digital energy recovery system, which is divided into two groups--fresh air fan and exhaust air fan.

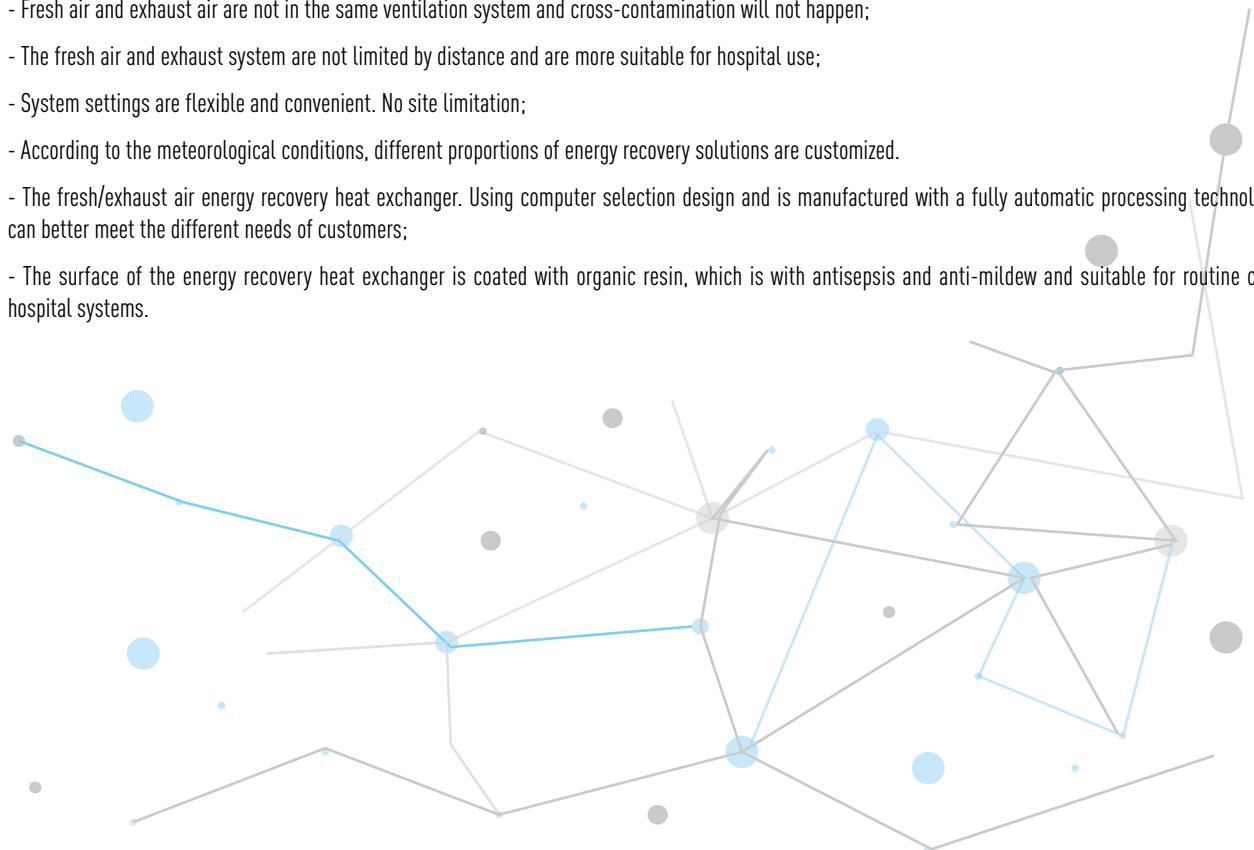
Energy Recovery System

The heat exchanger and the circulating liquid are used as the heat exchange medium, and the cool/heat energy in the exhaust air is transferred to the circulating solution through the heat exchanger on the exhaust side to reduce (or increase) the temperature of the circulating solution. The cooled/heated circulating solution is sent to the heat exchanger on the fresh air side through the circulation pump, and the fresh air temperature is reduced (or increased), reducing the system load and the operating cost of the entire air conditioning system.



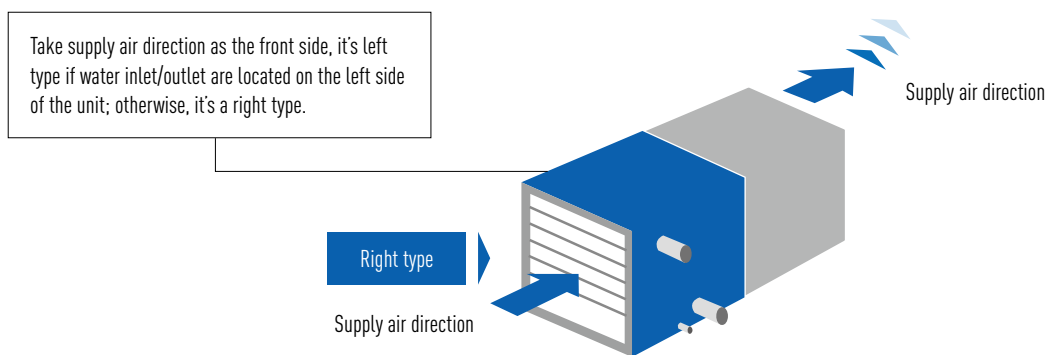
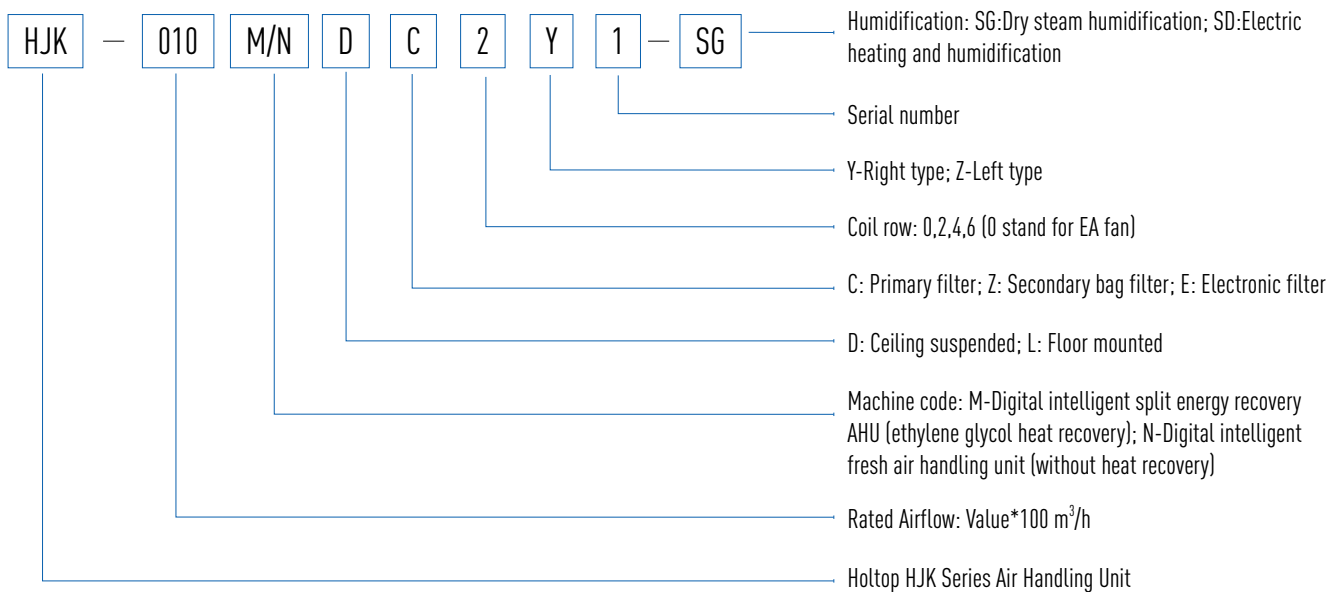
Energy Recovery System Feature

- Fresh air and exhaust air are not in the same ventilation system and cross-contamination will not happen;
- The fresh air and exhaust system are not limited by distance and are more suitable for hospital use;
- System settings are flexible and convenient. No site limitation;
- According to the meteorological conditions, different proportions of energy recovery solutions are customized.
- The fresh/exhaust air energy recovery heat exchanger. Using computer selection design and is manufactured with a fully automatic processing technology, which can better meet the different needs of customers;
- The surface of the energy recovery heat exchanger is coated with organic resin, which is with antiseptic and anti-mildew and suitable for routine cleaning of hospital systems.



▶ Digital Intelligent Split Type Energy Recovery Air Handling Unit

Product Model Labeling Method



Feature

- High safety: Using the structure of purification design, and the air leakage rate of the whole machine is <1%. Ensure the separate liquid circulation heat exchanger completely separated from fresh/exhaust air. Completely avoid the occurrence of cross-contamination;
- High intelligence: Built-in logic circuit and execution software, 0~10V, 4~20mA, RS485 and other interfaces, the unit can be not only controlled independently and centralizedly, but also monitored online; At the same time, the air quality sensors set in each area will be monitored in real time, so as for a real-time adjustment of fresh airflow to improve indoor environment;
- High energy-saving: By using not only the Holtop core technology for the liquid-cycle heat exchanger, but also a high thermal insulation structure, the cold bridge factor of the whole machine can reach the EU TB2 standard;
- Easy to start: small starting current, no impact current, reducing distribution costs, reducing the need for grid transformer capacity;
- Easy to use: Manual/Auto. intelligent control and management, centralized remote control, communication, real-time monitoring and control of all hosts in the system;
- Easy to maintain: In order to adapt to the use of hospital premises, except for a few parts in the unit those need maintenance and replacement, most of them are maintenance-free parts, which reduces daily operating costs;
- High returns: Due to the significant energy savings of the system, the return on investment is shortened.

Fresh Air Inlet Section of Digital Intelligent Split Type Energy Recovery Unit (Ceiling Suspended)

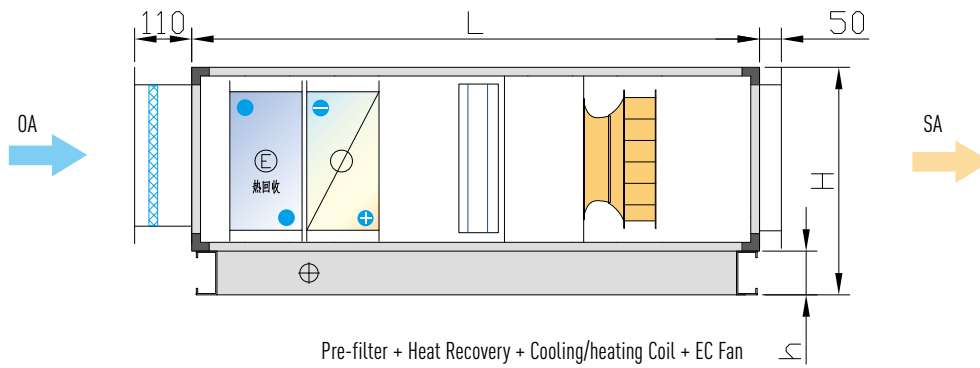
Fresh Air Inlet Section of Digital Intelligent Split Type Energy Recovery Unit (Ceiling Suspended) Specification								
Model	Airflow (m ³ /h)	Heat Recovery Efficiency(%)	E.S.P (Pa)	Fan Power (W)	Cooling Cap.(kW)	Heating Cap.(kW)	Weight (kg)	Electricity
HJK-010MDC2Y1	1000	65	903	820	6.3	7.4	63	380V/50Hz
HJK-010MDC4Y1		65	866		11.2	12.3	67	
HJK-010MDC6Y1		65	842		13.3	13.2	71	
HJK-015MDC2Y1	1500	65	886	820	10	11.5	74	
HJK-015MDC4Y1		65	849		16.4	18.1	79	
HJK-015MDC6Y1		65	825		20.3	19.9	83	
HJK-020MDC2Y1	2000	65	751	1000	12.9	15.1	95	
HJK-020MDC4Y1		65	714		21.6	23.7	100	
HJK-020MDC6Y1		65	689		27.1	26.6	106	
HJK-025MDC2Y1	2500	65	636	1000	17.3	19.7	114	
HJK-025MDC4Y1		65	599		28.5	31.2	121	
HJK-025MDC6Y1		65	575		35.1	34	127	
HJK-030MDC2Y1	3000	65	1003	1650	20.5	23.5	138	
HJK-030MDC4Y1		65	965		34.3	37.6	146	
HJK-030MDC6Y1		65	941		39.9	39.4	153	
HJK-040MDC2Y1	4000	65	673	1700	21	26.2	202	
HJK-040MDC4Y1		65	627		43.6	48.3	228	
HJK-040MDC6Y1		65	595		50.9	51.3	255	
HJK-050MDC2Y1	5000	65	673	2250	28.6	34.4	232	
HJK-050MDC4Y1		65	626		56.1	62.2	263	
HJK-050MDC6Y1		65	594		65.7	65.5	295	
HJK-060MDC2Y1	6000	65	784	3470	33.3	40.6	264	
HJK-060MDC4Y1		65	721		65.7	67.8	296	
HJK-060MDC6Y1		65	680		83.8	82.8	328	
HJK-080MDC2Y1	8000	65	430	3470	48.9	56.7	331	
HJK-080MDC4Y1		65	367		82.1	85.1	379	
HJK-080MDC6Y1		65	324		115.2	113	428	
HJK-100MDC2Y1	10000	65	592	5370	62	71.9	402	
HJK-100MDC4Y1		65	531		103.8	107.4	460	
HJK-100MDC6Y1		65	491		139.5	142	519	

Remark:

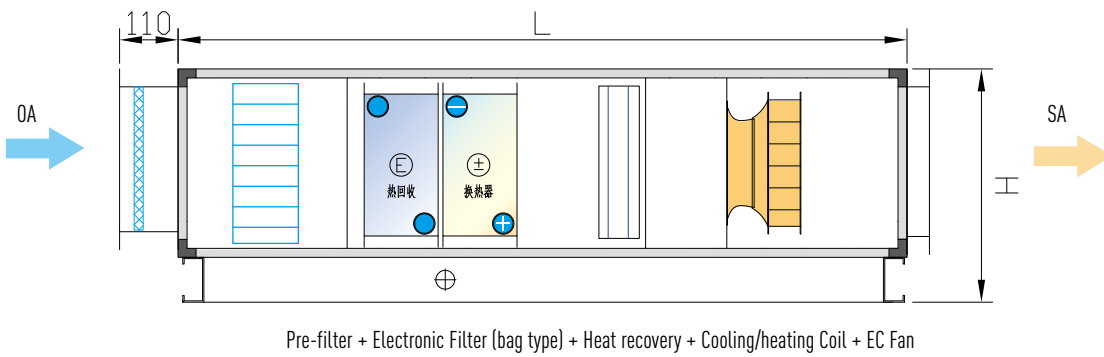
1. Operation condition of cooling cap. : 35°C dry ball temp., 28°C wet ball temp.; Inlet/outlet chilled water temp. is 7°C / 12°C.
2. Operation condition of heating cap.: 0°C dry ball temp.; Inlet/outlet hot water temp. is 60°C / 50°C.
3. The external static pressure should be subtracted for 50-100 Pa when selecting bag type filter.

► Fresh Air Inlet Section Schematic Diagram of Digital Intelligent Split Type Energy Recovery Unit (Ceiling Suspended)

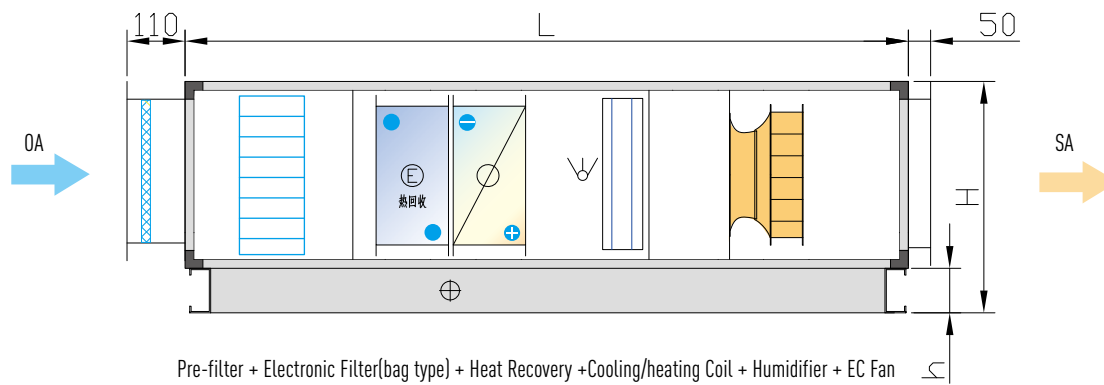
Type 1



Type 2



Type 3



Note: Dry steam humidification is suitable where there is an available external steam source

➤ Fresh Air Inlet Section of Digital Intelligent Split Type Energy Recovery Unit (Ceiling Suspended)

Fresh Air Inlet Section of Digital Intelligent Split Type Energy Recovery Unit (Ceiling Suspended) Specification						
Model	Airflow (m³/h)	L (mm)	W (mm)	H (mm)	a*b (mm)	c*d (mm)
HJK-010MDC2Y1	1000	1899	575	515	413*353	413*353
HJK-010MDC4Y1		1899	575	515	413*353	413*353
HJK-010MDC6Y1		1899	575	515	413*353	413*353
HJK-015MDC2Y1	1500	1899	685	515	523*353	523*353
HJK-015MDC4Y1		1899	685	515	523*353	523*353
HJK-015MDC6Y1		1899	685	515	523*353	523*353
HJK-020MDC2Y1	2000	1964	840	515	678*353	678*353
HJK-020MDC4Y1		1964	840	515	678*353	678*353
HJK-020MDC6Y1		1964	840	515	678*353	678*353
HJK-025MDC2Y1	2500	1964	1010	515	848*353	848*353
HJK-025MDC4Y1		1964	1010	515	848*353	848*353
HJK-025MDC6Y1		1964	1010	515	848*353	848*353
HJK-030MDC2Y1	3000	2022	975	615	813*453	813*453
HJK-030MDC4Y1		2022	975	615	813*453	813*453
HJK-030MDC6Y1		2022	975	615	813*453	813*453
HJK-040MDC2Y1	4000	2094	1090	615	928*453	928*453
HJK-040MDC4Y1		2094	1090	615	928*453	928*453
HJK-040MDC6Y1		2094	1090	615	928*453	928*453
HJK-050MDC2Y1	5000	2094	1300	615	1138*453	1138*453
HJK-050MDC4Y1		2094	1300	615	1138*453	1138*453
HJK-050MDC6Y1		2094	1300	615	1138*453	1138*453
HJK-060MDC2Y1	6000	2325	1510	615	1348*453	1348*453
HJK-060MDC4Y1		2325	1510	615	1348*453	1348*453
HJK-060MDC6Y1		2325	1510	615	1348*453	1348*453
HJK-080MDC2Y1	8000	2325	1910	615	1748*453	1748*453
HJK-080MDC4Y1		2325	1910	615	1748*453	1748*453
HJK-080MDC6Y1		2325	1910	615	1748*453	1748*453
HJK-100MDC2Y1	10000	2377	1910	745	1748*583	1748*583
HJK-100MDC4Y1		2377	1910	745	1748*583	1748*583
HJK-100MDC6Y1		2377	1910	745	1748*583	1748*583

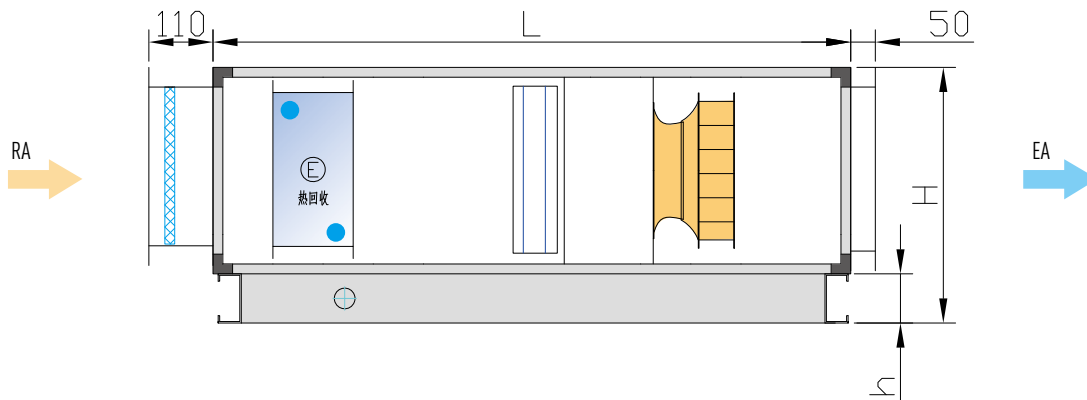
Remark:

1. The above dimensions are for the unit when the pre-filter is configured, and "W" stands for the unit width.
2. L+400mm when selecting bag type electronic filter, L+500mm when dry steam or electric humidifier is selected.
3. h=65mm

Exhaust Air Section of Digital Intelligent Split Type Energy Recovery Unit (Ceiling Suspended)

Exhaust Air Section of Digital Intelligent Split Type Energy Recovery Unit (Ceiling Suspended) Specification						
Model	Airflow (m³/h)	Heat Recovery Efficiency(%)	E.S.P (Pa)	Fan Power (W)	Weight (kg)	Electricity
HJK-010MDC0Y1	1000	65	910	820	61	380V/50Hz
HJK-015MDC0Y1	1500	65	892	820	71	
HJK-020MDC0Y1	2000	65	759	1000	91	
HJK-025MDC0Y1	2500	65	642	1000	109	
HJK-030MDC0Y1	3000	65	1010	1650	132	
HJK-040MDC0Y1	4000	65	735	1700	195	
HJK-050MDC0Y1	5000	65	735	2250	224	
HJK-060MDC0Y1	6000	65	862	3470	255	
HJK-080MDC0Y1	8000	65	510	3470	321	
HJK-100MDC0Y1	10000	65	768	5370	391	

Exhaust Air Section Schematic diagram of Digital Intelligent Split Type Energy Recovery Unit (Ceiling Suspended)



Exhaust Air Section of Digital Intelligent Split Type Energy Recovery Unit (Ceiling Suspended) Dimension						
Model	Airflow (m³/h)	L (mm)	W (mm)	H (mm)	a*b (mm)	c*d (mm)
HJK-010MDC0Y1	1000	1679	575	515	413*353	413*353
HJK-015MDC0Y1	1500	1679	685	515	523*353	523*353
HJK-020MDC0Y1	2000	1744	840	515	678*353	678*353
HJK-025MDC0Y1	2500	1744	1010	515	848*353	848*353
HJK-030MDC0Y1	3000	1802	975	615	813*453	813*453
HJK-040MDC0Y1	4000	1874	1090	615	928*453	928*453
HJK-050MDC0Y1	5000	1874	1300	615	1138*453	1138*453
HJK-060MDC0Y1	6000	2125	1510	615	1348*453	1348*453
HJK-080MDC0Y1	8000	2125	1910	615	1748*453	1748*453
HJK-100MDC0Y1	10000	2177	1910	745	1748*583	1748*583

Remark: h=65mm; "W" stands for the unit width.

➤ Fresh Air Inlet Section of Digital Intelligent Split Type Energy Recovery Unit (Floor Mounted)

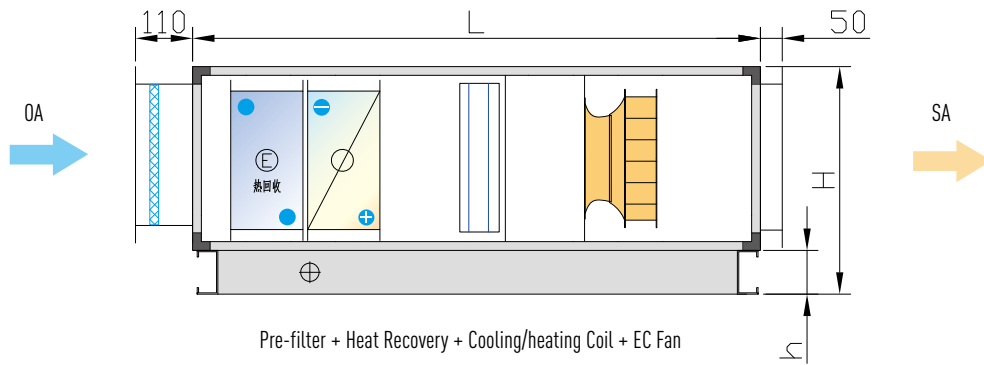
Fresh Air Inlet Section of Digital Intelligent Split Type Energy Recovery Unit (Floor Mount) Specification								
Model	Airflow (m³/h)	Heat Recovery Efficiency(%)	E.S.P (Pa)	Fan Power (W)	Cooling Cap.(kW)	Heating Cap.(kW)	Weight (kg)	Electricity
HJK-020MLC2Y1	2000	65	697	820	11.9	14.2	93	380V/50Hz
HJK-020MLC4Y1		65	656		21.9	24.2	98	
HJK-020MLC6Y1		65	629		26.9	26.6	104	
HJK-025MLC2Y1	2500	65	672	1000	15.2	18	111	
HJK-025MLC4Y1		65	628		25.8	28.7	117	
HJK-025MLC6Y1		65	598		32.6	32.5	125	
HJK-035MLC2Y1	3500	65	846	1650	22.7	26.3	156	
HJK-035MLC4Y1		65	804		37.8	41.9	165	
HJK-035MLC6Y1		65	776		47.3	46.6	175	
HJK-040MLC2Y1	4000	65	796	1700	26.6	30.5	219	
HJK-040MLC4Y1		65	754		44.3	48.9	244	
HJK-040MLC6Y1		65	726		51.7	51.7	270	
HJK-050MLC2Y1	5000	65	791	2250	32.6	37.5	255	
HJK-050MLC4Y1		65	747		54.6	60.4	285	
HJK-050MLC6Y1		65	716		63.8	64.2	315	
HJK-055MLC2Y1	5500	65	584	1850	36.6	41.9	300	
HJK-055MLC4Y1		65	532		60.6	61.6	333	
HJK-055MLC6Y1		65	496		80	78.2	367	
HJK-060MLC2Y1	6000	65	936	3470	41.3	46.9	327	
HJK-060MLC4Y1		65	886		68.1	68.6	363	
HJK-060MLC6Y1		65	850		88.9	86.4	399	
HJK-075MLC2Y1	7500	65	732	3470	50.5	57.4	364	
HJK-075MLC4Y1		65	678		83.6	84.6	410	
HJK-075MLC6Y1		65	641		102.4	103.2	457	
HJK-080MLC2Y1	8000	65	585	3470	55.9	63	393	
HJK-080MLC4Y1		65	534		91.6	92.2	442	
HJK-080MLC6Y1		65	498		112.6	111.9	493	
HJK-090MLC2Y1	9000	65	1130	5370	61	69	447	
HJK-090MLC4Y1		65	1153		100.5	101.9	502	
HJK-090MLC6Y1		65	1115		124.6	124.3	559	
HJK-100MLC2Y1	10000	65	828	5370	68.2	76.5	480	
HJK-100MLC4Y1		65	852		111.8	113.9	539	
HJK-100MLC6Y1		65	812		140.3	138.8	601	

Remark:

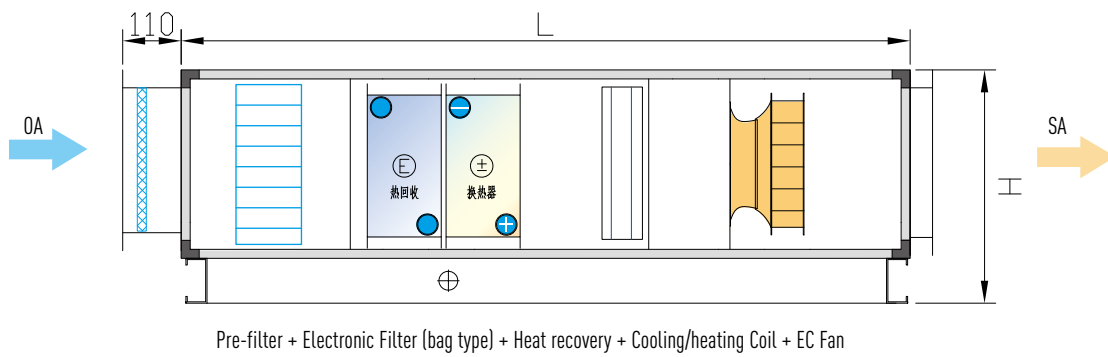
1. Operation condition of cooling cap. : 35°C dry ball temp., 28°C wet ball temp.; Inlet/outlet chilled water temp. is 7°C / 12°C.
2. Operation condition of heating cap.: 0°C dry ball temp.; Inlet/outlet hot water temp. is 60°C / 50°C.
3. The external static pressure should be subtracted for 50-100 Pa when selecting bag type filter.
4. h=100mm

Fresh Air Inlet Section Schematic Diagram of Digital Intelligent Split Type Energy Recovery Unit (Floor Mount)

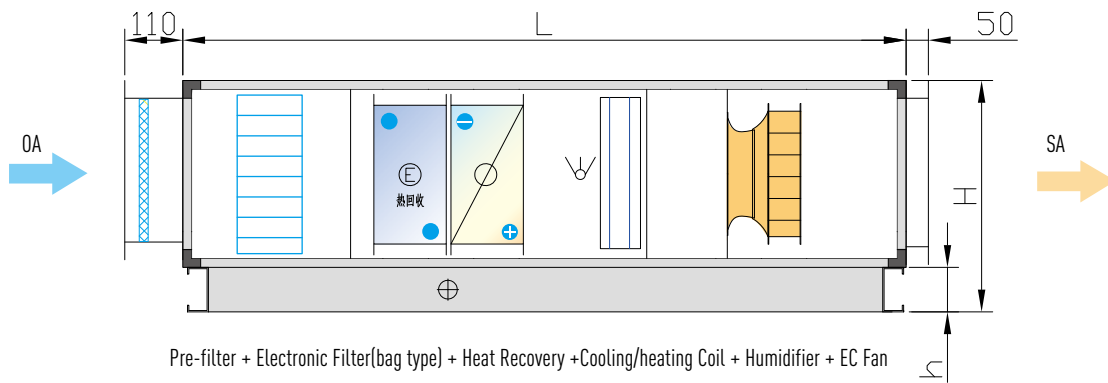
Type 1



Type 2



Type 3



Note: Dry steam humidification is suitable where there is an available external steam source

➤ Fresh Air Inlet Section of Digital Intelligent Split Type Energy Recovery Unit (Floor Mount)

Fresh Air Inlet Section of Digital Intelligent Split Type Energy Recovery Unit (Floor Mount) Dimension						
Model	Airflow (m ³ /h)	L (mm)	W (mm)	H (mm)	a*b (mm)	c*d (mm)
HJK-020MLC2Y1	2500	2140	740	540	578*378	578*378
HJK-020MLC4Y1		2140	740	540	578*378	578*378
HJK-020MLC6Y1		2140	740	540	578*378	578*378
HJK-025MLC2Y1	2500	2240	840	540	678*378	678*378
HJK-025MLC4Y1		2240	840	540	678*378	678*378
HJK-025MLC6Y1		2240	840	540	678*378	678*378
HJK-035MLC2Y1	3500	2240	940	640	778*478	778*478
HJK-035MLC4Y1		2240	940	640	778*478	778*478
HJK-035MLC6Y1		2240	940	640	778*478	778*478
HJK-040MLC2Y1	4000	2340	1040	640	878*478	878*478
HJK-040MLC4Y1		2340	1040	640	878*478	878*478
HJK-040MLC6Y1		2340	1040	640	878*478	878*478
HJK-050MLC2Y1	5000	2340	1040	740	878*578	878*578
HJK-050MLC4Y1		2340	1040	740	878*578	878*578
HJK-050MLC6Y1		2340	1040	740	878*578	878*578
HJK-055MLC2Y1	5500	2440	1140	840	978*678	978*678
HJK-055MLC4Y1		2440	1140	840	978*678	978*678
HJK-055MLC6Y1		2440	1140	840	978*678	978*678
HJK-060MLC2Y1	6000	2440	1240	840	1078*678	1078*678
HJK-060MLC4Y1		2440	1240	840	1078*678	1078*678
HJK-060MLC6Y1		2440	1240	840	1078*678	1078*678
HJK-075MLC2Y1	7500	2440	1240	940	1078*778	1078*778
HJK-075MLC4Y1		2440	1240	940	1078*778	1078*778
HJK-075MLC6Y1		2440	1240	940	1078*778	1078*778
HJK-080MLC2Y1	8000	2440	1340	940	1178*778	1178*778
HJK-080MLC4Y1		2440	1340	940	1178*778	1178*778
HJK-080MLC6Y1		2440	1340	940	1178*778	1178*778
HJK-090MLC2Y1	9000	2540	1340	1040	1178*878	1178*878
HJK-090MLC4Y1		2540	1340	1040	1178*878	1178*878
HJK-090MLC6Y1		2540	1340	1040	1178*878	1178*878
HJK-100MLC2Y1	10000	2540	1440	1040	1278*878	1278*878
HJK-100MLC4Y1		2540	1440	1040	1278*878	1278*878
HJK-100MLC6Y1		2540	1440	1040	1278*878	1278*878

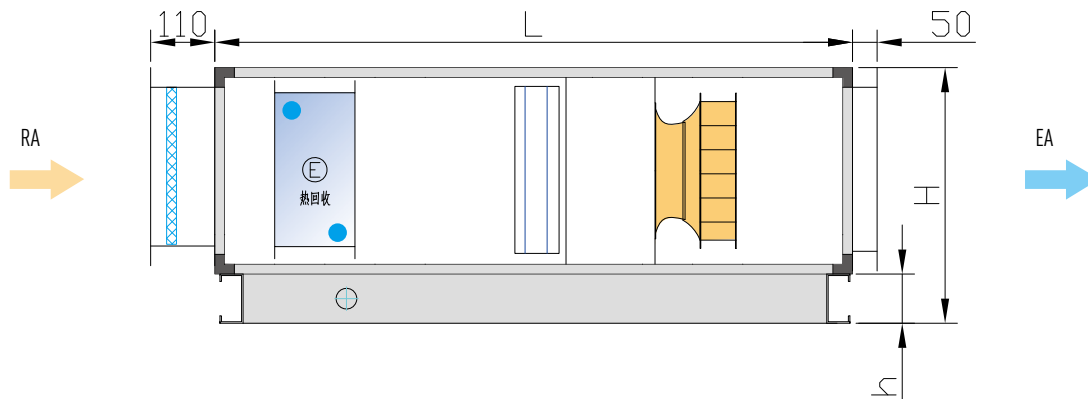
Remark:

1. The above dimensions are for the unit when the pre-filter is configured, and "W" stands for the unit width.
2. L+400mm when selecting bag type electronic filter, L+500mm when dry steam or electric humidifier is selected.
3. h=100mm

Exhaust Air Section of Digital Intelligent Split Type Energy Recovery Unit (Floor Mount)

Exhaust Air Section of Digital Intelligent Split Type Energy Recovery Unit (Floor Mount) Specification						
Model	Airflow (m ³ /h)	Heat Recovery Efficiency (%)	E.S.P (Pa)	Fan Power (W)	Weight (kg)	Electricity
HJK-020MLCOY1	2000	65	652	790	90	380V/50Hz
HJK-025MLCOY1	2500	65	623	1000	108	
HJK-035MLCOY1	3500	65	799	1650	152	
HJK-040MLCOY1	4000	65	749	1700	213	
HJK-050MLCOY1	5000	65	742	2250	249	
HJK-055MLCOY1	5500	65	536	1850	292	
HJK-060MLCOY1	6000	65	890	3470	318	
HJK-075MLCOY1	7500	65	682	3470	354	
HJK-080MLCOY1	8000	65	538	3470	383	
HJK-090MLCOY1	9000	65	1077	5370	435	
HJK-100MLCOY1	10000	65	774	5370	467	

Schematic Diagram of Exhaust Air Section of Digital Intelligent Split Type Energy Recovery Unit (Floor Mount)



Exhaust Air Section of Digital Intelligent Split Type Energy Recovery Unit (Floor Mount) Dimension						
Model	Airflow (m ³ /h)	L (mm)	W (mm)	H (mm)	a*b (mm)	c*d (mm)
HJK-020MLCOY1	2000	1840	740	540	578*378	578*378
HJK-025MLCOY1	2500	1940	840	540	678*378	678*378
HJK-035MLCOY1	3500	1940	940	640	778*478	778*478
HJK-040MLCOY1	4000	2040	1040	640	878*478	878*478
HJK-050MLCOY1	5000	2040	1040	740	878*578	878*578
HJK-055MLCOY1	5500	2140	1140	840	978*678	978*678
HJK-060MLCOY1	6000	2140	1240	840	1078*678	1078*678
HJK-075MLCOY1	7500	2140	1240	940	1078*778	1078*778
HJK-080MLCOY1	8000	2140	1340	940	1178*778	1178*778
HJK-090MLCOY1	9000	2240	1340	1040	1178*878	1178*878
HJK-100MLCOY1	10000	2240	1440	1040	1278*878	1278*878

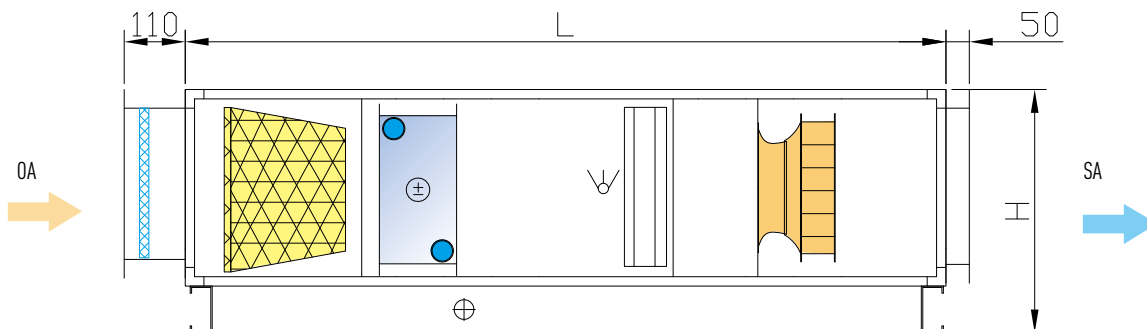
Remark: h=100mm, and "W" stands for the unit width.

► Digital Intelligent Fresh Air Handling Unit (Ceiling Suspended)

Digital Intelligent Fresh Air Handling Unit (Ceiling Suspended) Specification & Dimension											
Model	Airflow (m³/h)	E.S.P (Pa)	Fan Power (W)	Cooling Cap. (kW)	Heating Cap. (kW)	Weight (kg)	L (mm)	W (mm)	H (mm)	a*b (mm)	c*d (mm)
HJK-010NDC2Y1	1000	993	820	6.3	7.4	59	1679	575	515	413*353	413*353
HJK-010NDC4Y1		956		11.2	12.3	63					
HJK-010NDC6Y1		932		13.3	13.2	67					
HJK-015NDC2Y1	1500	974	820	10	11.5	67	1679	685	515	523*353	523*353
HJK-015NDC4Y1		937		16.4	18.1	72					
HJK-015NDC6Y1		913		20.3	19.9	76					
HJK-020NDC2Y1	2000	842	1000	12.9	15.1	87	1744	840	515	678*353	678*353
HJK-020NDC4Y1		805		21.6	23.7	92					
HJK-020NDC6Y1		780		27.1	26.6	98					
HJK-025NDC2Y1	2500	724	1000	17.3	19.7	104	1744	1010	515	848*353	848*353
HJK-025NDC4Y1		687		28.5	31.2	111					
HJK-025NDC6Y1		663		35.1	34	117					
HJK-030NDC2Y1	3000	1093	1650	20.5	23.5	126	1802	975	615	813*453	813*453
HJK-030NDC4Y1		1055		34.3	37.6	134					
HJK-030NDC6Y1		1031		39.9	39.4	141					
HJK-040NDC2Y1	4000	788	1700	21	26.2	185	1874	1090	615	928*453	928*453
HJK-040NDC4Y1		742		43.6	48.3	211					
HJK-040NDC6Y1		710		50.9	51.3	238					
HJK-050NDC2Y1	5000	788	2250	28.6	34.4	212	1874	1300	615	1138*453	1138*453
HJK-050NDC4Y1		741		56.1	62.2	243					
HJK-050NDC6Y1		709		65.7	65.5	275					
HJK-060NDC2Y1	6000	922	3470	33.3	40.6	241	2125	1510	615	1348*453	1348*453
HJK-060NDC4Y1		859		65.7	67.8	273					
HJK-060NDC6Y1		818		83.8	82.8	305					
HJK-080NDC2Y1	8000	570	3470	48.9	56.7	302	2125	1910	615	1748*453	1748*453
HJK-080NDC4Y1		507		82.1	85.1	350					
HJK-080NDC6Y1		464		115.2	113	399					
HJK-100NDC2Y1	10000	724	5370	62	71.9	367	2177	1910	745	1748*583	1748*583
HJK-100NDC4Y1		663		103.8	107.4	425					
HJK-100NDC6Y1		623		139.5	142	484					

Remark:

1. Operation condition of cooling cap. : 35°C dry ball temp., 28°C wet ball temp.; Inlet/outlet chilled water temp. is 7°C / 12°C.
2. Operation condition of heating cap.: 0°C dry ball temp.; Inlet/outlet hot water temp. is 60°C / 50°C.
3. The external static pressure should be subtracted for 50-100 Pa when selecting bag type filter.
4. Power supply: 380V 50Hz
5. The above dimensions are only the unit size when the preliminary filter is configured, and "W" stands for the unit width.
6. L+400mm when selecting bag type electronic filter, L+500mm when dry steam or electric humidifier is selected.

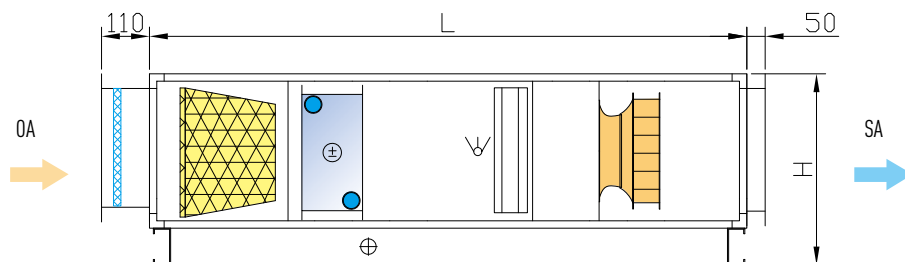


Digital Intelligent Fresh Air Handling Unit (Floor Mount)

Digital Intelligent Fresh Air Handling Unit (Floor Mount) Specification & Dimension											
Model	Airflow (m³/h)	E.S.P (Pa)	Fan Power (W)	Cooling Cap. (kW)	Heating Cap. (kW)	Weight (kg)	L (mm)	W (mm)	H (mm)	a*b (mm)	c*d (mm)
HJK-020MLC2Y1	2000	697	820	11.9	14.2	85	1840	740	540	578*378	578*378
HJK-020MLC4Y1		656		21.9	24.2	90	1840	740	540	578*378	578*378
HJK-020MLC6Y1		629		26.9	26.6	96	1840	740	540	578*378	578*378
HJK-025MLC2Y1	2500	672	1000	15.2	18	101	1940	840	540	678*378	678*378
HJK-025MLC4Y1		628		25.8	28.7	107	1940	840	540	678*378	678*378
HJK-025MLC6Y1		598		32.6	32.5	115	1940	840	540	678*378	678*378
HJK-035MLC2Y1	3500	846	1650	22.7	26.3	143	1940	940	640	778*478	778*478
HJK-035MLC4Y1		804		37.8	41.9	152	1940	940	640	778*478	778*478
HJK-035MLC6Y1		776		47.3	46.6	162	1940	940	640	778*478	778*478
HJK-040MLC2Y1	4000	796	1700	26.6	30.5	200	2040	1040	640	878*478	878*478
HJK-040MLC4Y1		754		44.3	48.9	225	2040	1040	640	878*478	878*478
HJK-040MLC6Y1		726		51.7	51.7	251	2040	1040	640	878*478	878*478
HJK-050MLC2Y1	5000	791	2250	32.6	37.5	233	2040	1040	740	878*578	878*578
HJK-050MLC4Y1		747		54.6	60.4	263	2040	1040	740	878*578	878*578
HJK-050MLC6Y1		716		63.8	64.2	293	2040	1040	740	878*578	878*578
HJK-055MLC2Y1	5500	584	1850	36.6	41.9	274	2140	1140	840	978*678	978*678
HJK-055MLC4Y1		532		60.6	61.6	307	2140	1140	840	978*678	978*678
HJK-055MLC6Y1		496		80	78.2	341	2140	1140	840	978*678	978*678
HJK-060MLC2Y1	6000	936	3470	41.3	46.9	298	2140	1240	840	1078*678	1078*678
HJK-060MLC4Y1		886		68.1	68.6	334	2140	1240	840	1078*678	1078*678
HJK-060MLC6Y1		850		88.9	86.4	370	2140	1240	840	1078*678	1078*678
HJK-075MLC2Y1	7500	732	3470	50.5	57.4	332	2140	1240	940	1078*778	1078*778
HJK-075MLC4Y1		678		83.6	84.6	378	2140	1240	940	1078*778	1078*778
HJK-075MLC6Y1		641		102.4	103.2	425	2140	1240	940	1078*778	1078*778
HJK-080MLC2Y1	8000	585	3470	55.9	63	359	2140	1340	940	1178*778	1178*778
HJK-080MLC4Y1		534		91.6	92.2	408	2140	1340	940	1178*778	1178*778
HJK-080MLC6Y1		498		112.6	111.9	459	2140	1340	940	1178*778	1178*778
HJK-090MLC2Y1	9000	1130	5370	61	69	408	2240	1340	1040	1178*878	1178*878
HJK-090MLC4Y1		1153		100.5	101.9	463	2240	1340	1040	1178*878	1178*878
HJK-090MLC6Y1		1115		124.6	124.3	520	2240	1340	1040	1178*878	1178*878
HJK-100MLC2Y1	10000	828	5370	68.2	76.5	438	2240	1440	1040	1278*878	1278*878
HJK-100MLC4Y1		852		111.8	113.9	497	2240	1440	1040	1278*878	1278*878
HJK-100MLC6Y1		812		140.3	138.8	559	2240	1440	1040	1278*878	1278*878

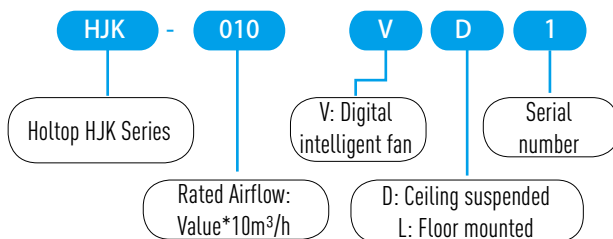
Remark:

1. Operation condition of cooling cap.: 35°C dry ball temp., 28°C wet ball temp.; Inlet/outlet chilled water temp. is 7°C / 12°C.
2. Operation condition of heating cap.: 0°C dry ball temp.; Inlet/outlet hot water temp. is 60°C / 50°C.
3. The external static pressure should be subtracted for 50-100 Pa when selecting bag type filter.
4. Power supply: 380V 50Hz
5. The above dimensions are only the unit size when the preliminary filter is configured, and "W" stands for the unit width.
6. L+400mm when selecting bag type electronic filter, L+500mm when dry steam or electric humidifier is selected.



Digital Pressurization Terminal

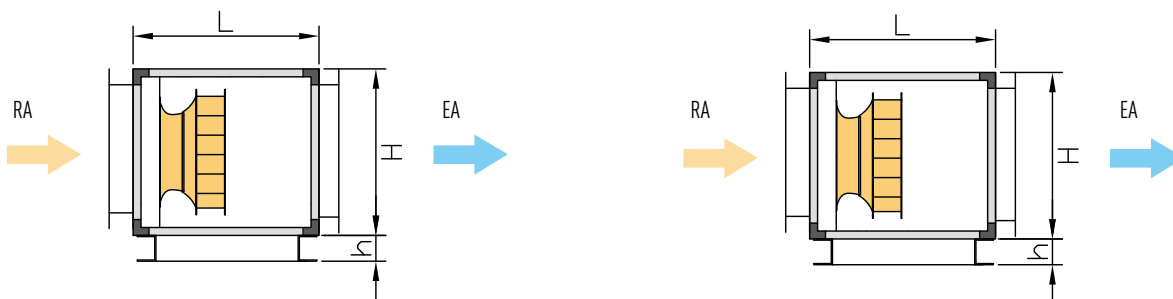
Digital Pressurization Model Labeling Method



Ceiling Suspended Digital Intelligent Module						
Model	Airflow (m ³ /h)	E.S.P (Pa)	Fan Power (W)	L*W*H (mm)	Inlet/outlet Size (mm)	Weight (kg)
HJK-010VD1	1000	1080	820	1139*575*515	413*353	53
HJK-015VD1	1500	1060	820	1139*685*515	523*353	63
HJK-020VD1	2000	930	1000	1204*840*515	678*353	81
HJK-025VD1	2500	810	1000	1204*1010*515	848*353	97
HJK-030VD1	3000	1180	1650	1262*975*615	813*453	117
HJK-040VD1	4000	930	1700	1334*1090*615	928*453	184
HJK-050VD1	5000	930	2250	1334*1300*615	113*453	212
HJK-060VD1	6000	1080	3470	1405*1510*615	134*453	237
HJK-080VD1	8000	730	3470	1405*1910*615	174*453	306
HJK-100VD1	10000	980	5370	1457*1910*745	174*583	371

Remark: h=65mm; "W" stands for the unit width.

Schematic Diagram of Ceiling Digital

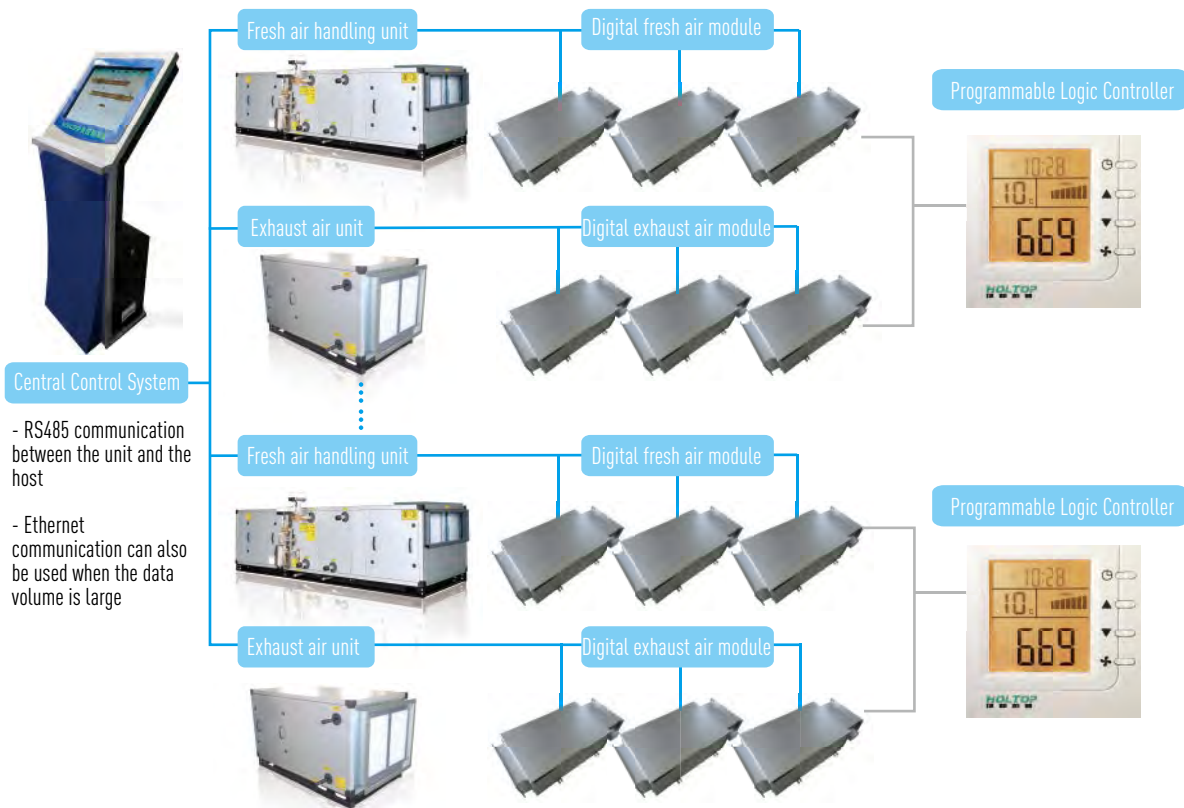


Floor Mount Digital Intelligent Module						
Model	Airflow (m ³ /h)	E.S.P (Pa)	Fan Power (W)	L*W*H (mm)	Air Inlet/outlet Size (mm)	Weight (kg)
HJK-020VL1	2000	830	790	1240*740*540	578*378	62
HJK-025VL1	2500	810	1000	1340*840*540	678*378	74
HJK-035VL1	3500	980	1650	1340*940*640	778*478	104
HJK-040VL1	4000	930	1700	1440*1040*640	878*478	160
HJK-050VL1	5000	930	2250	1440*1040*740	878*578	186
HJK-055VL1	5500	730	1850	1440*1140*840	978*678	217
HJK-060VL1	6000	1080	3470	1440*1240*840	1078*678	236
HJK-075VL1	7500	880	3470	1440*1240*940	1078*778	270
HJK-080VL1	8000	730	3470	1440*1340*940	1178*778	291
HJK-090VL1	9000	1280	5370	1540*1340*1040	1178*878	330
HJK-100VL1	10000	980	5370	1540*1440*1040	1278*878	355

Remark: h=100mm; "W" stands for the unit width.

HGICS Intelligent Control System

Through over 10 years of accumulation in the energy recovery technology of building air-conditioning systems, holtop has developed HGICS intelligent control systems. Through visualized human-computer interaction systems, the whole fresh air ventilation system can be set, modified and controlled simply and conveniently.



Central Control System

- RS485 communication between the unit and the host
- Ethernet communication can also be used when the data volume is large

Features

Intelligent control

Through the management software, you can view the running status of all devices and remotely control the device.

System Early Warning

The management software will automatically prompt the components that need to be maintained and replaced based on the running time and status of each device to avoid system downtime due to equipment failure.

System alarm

The management software monitors the device in real time and displays system fault points.

Management budget

You can customize the switch rules and set the switch time according to the actual situation.

Balanced operation control

Ensures balanced operation of multiple units and improves equipment service life.

Dynamic control

According to the change of the heat load and air quality in the room, both fresh airflow and exhaust airflow are dynamically controlled.

Energy consumption report

The electricity consumption of the equipment is counted through the management software. The equipment operation record report and energy consumption analysis report are automatically generated.

Trend report

Counting equipment operation data, alarm records, control operation records and system fault records. Displayed in the form of curves and reports.

Intelligent Parts Management

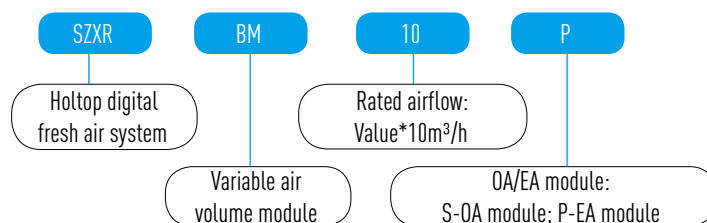
The management system has self-diagnosis functions for faults. If any part of the system is abnormal, fault conditions and locations will be displayed and maintenance methods will be given. For parts that exceed the maintenance time, the system automatically reminds the user for maintenance. For parts that exceed the operating life, the system will remind the user to replace.

Air Terminal System

Digital Variable Air Volume Module

- The digital variable air volume module is mainly divided into a digital variable air volume fresh air module and a digital variable air volume exhaust air module. The fresh air module is mainly composed of an efficient EC fan and a digital LCD control panel. The exhaust air module consists of a high-efficient EC fan, a digital liquid crystal control panel and an air quality sensor.
- The digital variable air volume module is controlled by the liquid crystal control panel and can realize the free switching among the automatic mode, the manual mode and the timing mode.
- In the automatic mode, the fresh and exhaust air volume is adjusted according to the indoor air quality detected by the air quality sensor. Each digital VAV module has a 7-speed adjustable and can be operated through a digital LCD control panel.
- In the manual mode, the air volume of the VAV module is manually controlled through the digital LCD control panel, which is not controlled by the air quality sensor at this time.
- In timing mode, the digital variable air volume module operates according to the set time period and gear, and can be set from Monday to Sunday, 4 times a day, Total 28 times.
- In the fresh air module, SA fan airflow can be adjusted according to the ratio of exhaust air volume. If negative pressure needs to be maintained in the ward area. The amount of exhaust air will automatically increase when the air quality sensor detects the deterioration of the air quality in the ward. At the same time, the signal is fed back to the fresh air module, and the fresh air volume is increased proportionally to keep the negative pressure in the ward. Similarly, in areas such as doctor duty rooms that need to maintain positive pressure, the fresh and exhaust air volume always increases or decreases in proportion, and the indoor positive pressure is maintained at all times.

Item No.



Features

- High energy saving

It saves 40% ~ 65% of energy compared with ordinary AC fans, and the motor efficiency is up to 90%.

- High intelligence

Built-in logic circuitry and executive software allows automatic adjustment of the fresh/exhaust airflow based on indoor air quality, and always maintains the room in the desired pressure state.

- Real-time display

The digital LCD control panel displays the indoor temperature and air quality in real time. The current system operating mode, fan operating gear, local time, and timing time.

- Maintenance-free

With EC fan, low noise, stable operation, no need lubricant, and 80,000 hours of continuously operation.

- Easy to operate

The digital LCD control panel can be switched circularly among manual, automatic, timer, and off states. Just touch the button to set the required operation mode Type and operating status.

- High durability

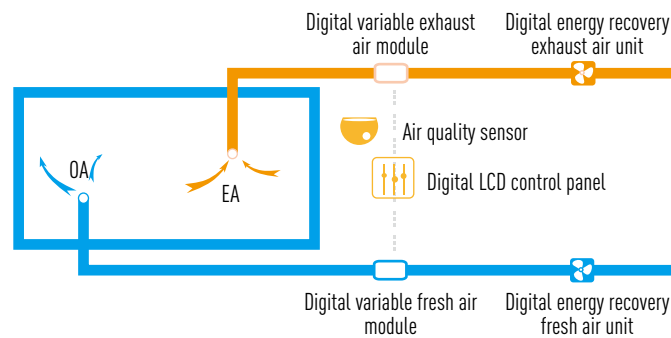
The module box body is made of high corrosion-resistant zinc-free galvanized steel sheet. The flange of the inlet and outlet is processed by punching riveting technology to ensure that the metal surface coating is not damaged. With simple and generous appearance and anti-corrosion.

▶ Air Terminal System

Digital Variable Air Volume Module Specification					
Model	Airflow (m ³ /h)	Input Power (w)	Current (A)	Electricity	Adjustable Range
SZXR-BM-10S/P	100	7.5	0.11	220V/50Hz	0 ~ 100%
SZXR-BM-15S/P	150	8.2	0.12		
SZXR-BM-20S/P	200	10.6	0.14		
SZXR-BM-25S/P	250	12.8	0.15		
SZXR-BM-30S/P	300	17.1	0.18		
SZXR-BM-35S/P	350	20.6	0.22		
SZXR-BM-40S/P	400	29.7	0.26		
SZXR-BM-45S/P	450	37.7	0.33		
SZXR-BM-50S/P	500	50.8	0.41		
SZXR-BM-55S/P	550	65.2	0.53		
SZXR-BM-60S/P	600	87.1	0.62		

Digital Variable Air Volume Module Dimension				
Model	Airflow (m ³ /h)	L*W*H (mm)	Air Inlet Size(mm)	Air Outlet Size(mm)
SZXR-BM-10S/P	100	600*240*160	160*100	160*100
SZXR-BM-15S/P	150	600*240*160	160*100	160*100
SZXR-BM-20S/P	200	600*240*160	160*100	160*100
SZXR-BM-25S/P	250	600*240*160	160*100	160*100
SZXR-BM-30S/P	300	700*304*190	225*130	225*130
SZXR-BM-35S/P	350	700*304*190	225*130	225*130
SZXR-BM-40S/P	400	700*304*190	225*130	225*130
SZXR-BM-45S/P	450	700*304*190	225*130	225*130
SZXR-BM-50S/P	500	700*304*190	225*130	225*130
SZXR-BM-55S/P	550	700*304*190	225*130	225*130
SZXR-BM-60S/P	600	700*304*190	225*130	225*130

Schematic diagram of indoor control



Pipe Network System

Energy recovery cycle solution

Collect the system working condition data in winter. Confirm the parameters by lowering the temperature by 4°C to 6°C, and select the percentage that the temperature is higher than the freezing point of the circulating solution in the following table. For the local winter conditions, please refer to the data in "External Air Calculation Parameters in Appendix A" of "GB 50736-2012 Civil Building Heating Ventilation and Air Conditioning Design Code".

Cycle Solution Matching Selection								
Freezing Point (°C)	-1.4	-3.2	-5.4	-7.8	-10.7	-14.1	-17.9	-22.3
Cycle Solution Ratio	5%	10%	15%	20%	25%	30%	35%	40%
Percent of Volume	4.4%	8.90%	13.60%	18.10%	22.90%	27.70%	32.60%	37.50%

Energy recovery pipeline

Solution circuit pump: Considering the placement of fresh and exhaust fan units, calculate system flow and resistance to confirm the circulation pump head. In order to ensure the stable operation of the system, it is recommended to use stainless steel pump.

Pipeline connection: Since the circulating solution is easy to react with zinc Please use non-zinc material pipeline and please stick insulation material.



Solution circuit pump



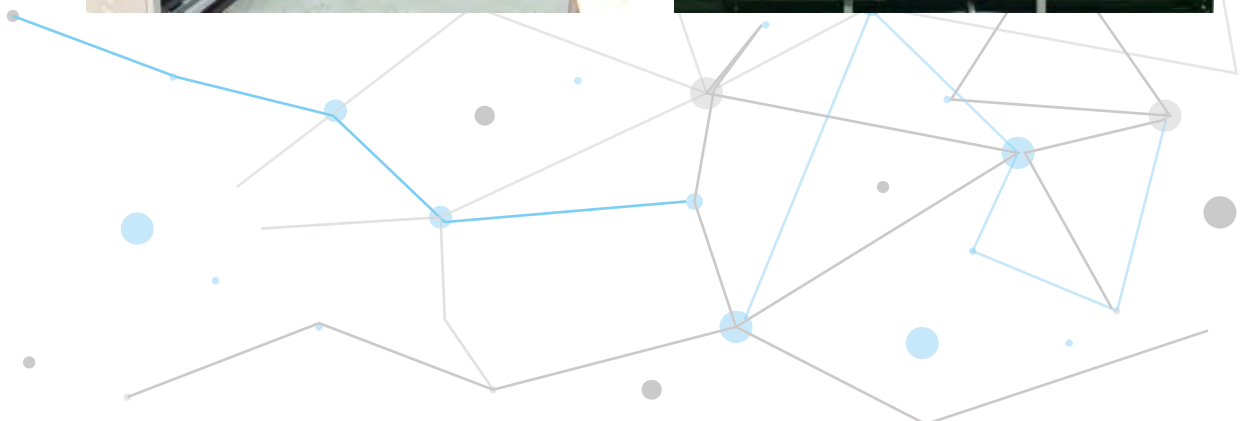
Expansion tank



Motorized valve



Pipeline



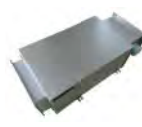
Fittings Selection

Ventilation Terminal



Fixed Air Volume Adjustment Module

- To adjust the air volume automatically through the contraction and expansion of airbag and internal sensor.
- When the static pressure is within 50-150Pa. The constant air volume runs; the operating environment temperature is -10°C ~ 60°C
- High pressure adjustment range:150 ~ 600Pa



Digital Variable Air Volume Module

- The variable volume adjustment module is equipped with an air quality sensor. The air quality sensor monitors the indoor air quality to adjust the air volume. It can also adjust the air volume according to the settled curve of air volume and running time.



Indoor Air Outlet

- Using ABS engineering plastics
- With good design and easy to install.



Indoor Air Inlet

- Using ABS engineering plastics.
- Equipped with mounting clip. Inside removable. Air volume can be adjusted.

Control System



Air Quality Sensor

- Carbon dioxide, carbon monoxide, alcohol, aldehydes, organic amines, aromatic hydrocarbons, ketones, organic acids and other harmful gases concentration are detectable.



Digital LCD Control Panel

- The LCD control panel can display real-time indoor temperature, VOC concentration, current system operation mode (manual mode, automatic model and timing mode), fan operation gear, local time and timing time.



HGICS Central Control Host

- Display the running status of all devices and remotely control the device through the management software. Inform the device in advance of possible problem, pre-alarm and eliminate the possibility of downtime. The management software calculates the power consumption of the equipment operation record report and the energy consumption analysis report.

Others Parts



Plate/Bag Type Initial Filter

- Type: Plate and bag type
- Filter Class: G2, G3 and G4, (particles counter method) efficiency 20% ~ 80%
- Pre-filter is divided into washable plate, bag and paper frame pleated plate disposable filter



UV-C Sterilizer

- Ultraviolet rays have different effect on the killing of microorganism in different media. And have a better killing effect on microorganism in the air. The sterilizing time of common bacteria viruses is generally within 1 second.



Mid-effect fiber

- Plate and bag type filters are available
- Filter efficiency: F5, F6, F7, F8 and F9, (colorimetric method) efficiency 40% ~ 95%
- Materials: Fiberglass and chemical fiber



Electrostatic Precipitation Filter

- Electrostatic precipitator is based on the principle of electrostatic charge absorption and same-sex repulsion. It uses electrostatic force to adsorb and settle charged dust in air to achieve the purpose of dust removal.



High Efficiency Filter

- Type: dense pleat type and cassette type
- Filter efficiency: H12 ~ H14, 99.5% ~ 99.995% efficiency for the most easily penetrated MPPS
- Meeting the operating room filter level requirement, removal 99.99% of PM2.5



Humidifier

- Isenthalpic humidifying: Spray humidification, wet film humidification, ultrasonic humidification, etc.;
- Isothermal humidification: Dry steam humidification, electrode humidification, electrothermal humidification;
- Could be customized

Projects

Holtop products are widely used in hospitals and medical facilities at home and abroad to provide services for the rehabilitation of patients and the health of medical staff.



China-Japan Friendship Hospital



Beijing Jishuitan Hospital



Beijing University First Affiliated Hospital



Beijing Aerospace Hospital



China Orthopedic Hospital



West China Hospital of Sichuan University



Shanghai Longhua Hospital



Tangshan Maternal & Child Health Care Hospital



Jinmei Group General Hospital



Hebi First People's Hospital



Nantong First People's Hospital



Beijing Tiantan Hospital



Qingdao Central Hospital



Jinan Military General Hospital



Linyi Tumour Hospital

More Application Areas

General Application Area

- Civil residence
- Business and service industry
- Hotel
- Museum, theatre, cinema library and convention centre

Special Application Area

- Pharmaceutical factory
- Clean room
- Food Processing
- Electronic factory

Electronic factory

In order to ensure electronic factories' air cleanliness and human health, a complete energy-saving and ventilation system is required.



Restaurant

In addition to offering good dining to customers, the restaurant needs to create a good indoor air environment so that customers can enjoy food in a fresh and healthy air environment. Therefore, a professional ventilation system is needed to create a good environment for the restaurant, reducing the energy consumption of air-conditioning systems.



Bus station

Density of people flow in bus station is high and changeable. Ventilation equipment have large loads. Generally, there are no windows in the office area and with bad Indoor air quality. Therefore, a professional ventilation system is required to reduce the energy consumption while ensuring indoor air quality.



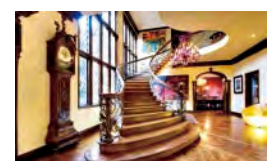
Office building

Office building is an office place for elites. Indoor air quality directly affects the work efficiency, emotions, and physical and mental health of staff. Therefore, a professional ventilation system is required to create good indoor air quality, to improve work efficiency, and ensure work quality.



Villa

The use of a professional ventilation system in the villa can ensure the health and comfort of people in their living environment. Reduce energy loss caused by window opening, reduce noise and dust.



HOLTOP

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