

**HOLTOP**

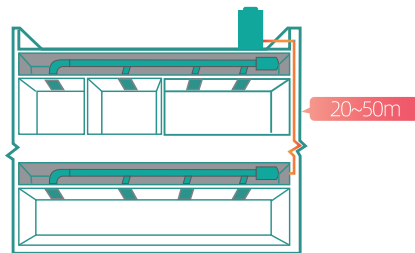
**2020**  
**NEW**  
**PRODUCT**

# Holtop Suspended DX Air Handling Units



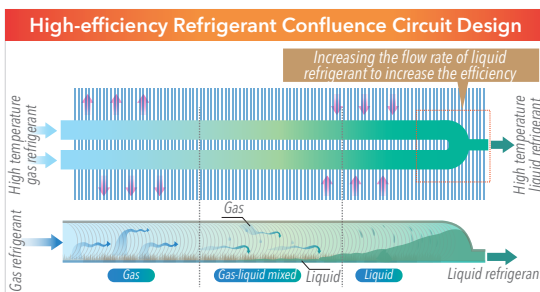
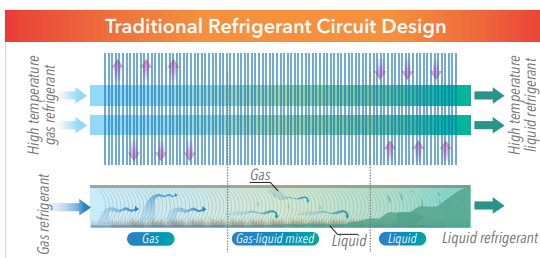
### Long Piping Design

The pipe connection length between indoor unit and outdoor unit can reach 50m, and the maximum drop can reach 25m. The indoor unit and outdoor unit can be installed on site more flexibly.



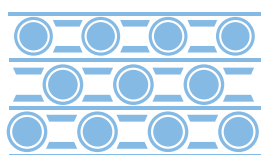
### High Efficiency Refrigerant Heat Exchange

High efficiency two in one refrigerant improves the liquid phase flow rate of the refrigerant, improves the overall heat transfer coefficient of the heat exchanger, and improves supercooling and strengthens the refrigerant transmission distance.



### High Efficiency Heat Exchanger Fins

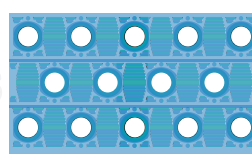
The innovative high-efficiency low-pressure loss window fins are made of hydrophilic membrane aluminum, which can improve the heat transfer wet film heat transfer coefficient and improve the overall heat exchange performance of the unit.



Normal window type fins

9.52 mm tube diameter aluminum fins have small window opening area and low heat exchange efficiency under the same heat exchange area.

VS



High-efficiency low-pressure loss window fins

Holtop hydrophilic membrane aluminum fins with a diameter of 7.94 mm. The heat exchange is more sufficient and the efficiency can be increased by 25%.

### Comfortable Control System

The wire remote controller is simple and convenient to use, it is widely used in small and medium size office and business center.



#### Functions

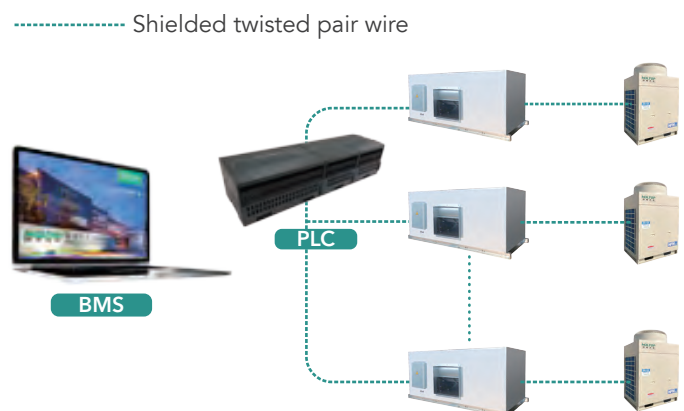
- Heat pump type: refrigeration/heating/ventilation
- Temperature setting range: 16~32°C
- Timer ON/OFF
- LCD display, can set temperature, working mode, system real-time clock (optional), day of the week (optional), ON/OFF status, fault display, etc.
- Power auto restart(optional)

### Functional Control System

Holtop AHU is built in the Modbus protocol connectors which can be connected to the centralized building management system directly, there is no need to access to any conversion equipment so it is very convenient to be monitored centrally, and it is very suitable for the large scale air conditioning projects application.



### Control Network Topology Diagram



# Advanced Silencing Technology, More Quiet and Reliable Operation

**Nine Technologies**

- 1** Low-RPM high-efficiency two-speed motor
- 2** Hermetically sealed scroll compressor
- 3** Rubber cushion for compressor
- 4** New vortex streamlined fan blade
- 5** Large diameter discharge grille
- 6** Low-noise wind guide design
- 7** Airflow simulation
- 8** Optimized design of pipeline damping, fixed in place to avoid vibration noise
- 9** Reducing refrigerant flow noise

# High Efficient Heat Exchanger

## New U-shaped Heat Exchanger

As the core element of the refrigeration system, the heat exchanger directly determines whether the air conditioning system is reliable and energy-saving.

Holtop combined the market demand with his many years of the outdoor unit development experience and successfully developed the new generation of U-shape heat exchanger. Such advanced and high efficiency heat exchanger made Holtop HFM series DX AHU with high efficiency and energy saving advantages.

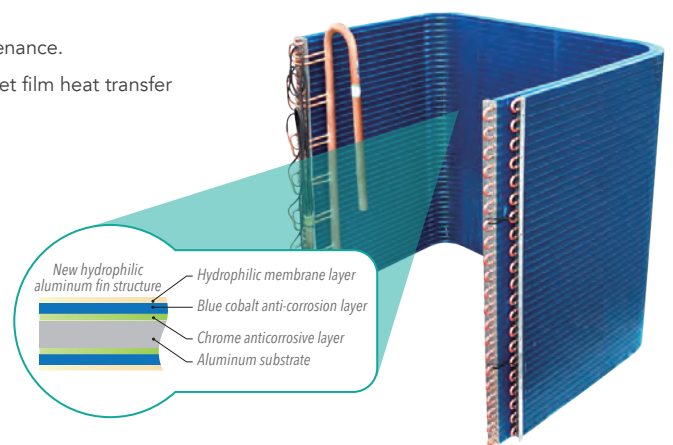
- The airflow of the fan is effectively used, and the heat exchange area is fully expanded without increasing the space of the unit, and the heat exchange efficiency is greatly improved.
- Compact structure, high strength, more convenient for installation and maintenance.
- The use of hydrophilic membrane aluminum fins improves the heat transfer wet film heat transfer coefficient and provides the overall heat transfer coefficient of the unit.

### U-shaped heat exchanger structure

The copper tube adopts  $\varnothing 7.94$  thread copper tube, the flow rate is moderate, and the comprehensive performance of heat exchange defrosting is optimal.

The distance between  $\varnothing 7$  copper tubes is too small, the frost has a great influence on the heat transfer, and the frost layer is thick, which affects the defrosting time.

The diameter of  $\varnothing 9.52$  is large, the disturbance to the heat transfer boundary layer is small, and the heat transfer efficiency is low.



# Technical Features

## Green Refrigerant

The Holtop HFM series suspended dx air handling unit uses R410A as refrigerant, with zero ODP, to avoid damage to the ozone layer and at the same time, greatly improve cooling capacity.

**R410a Odp=0, With 141% Higher Capacity Than R22**

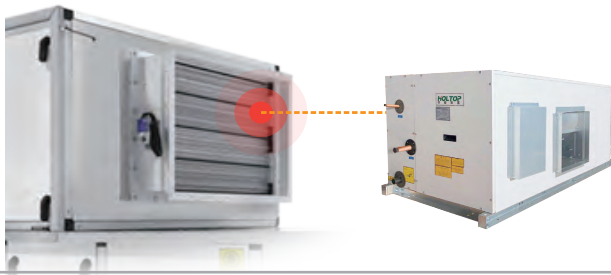


## Dual Temperature Monitor – Say No To Cold Air In Winter

The unit equips with two temperature sensors, one at the return air side of the indoor unit and the other at the thermostat, monitoring the temperature all the time to ensure warm air to cover the whole area.

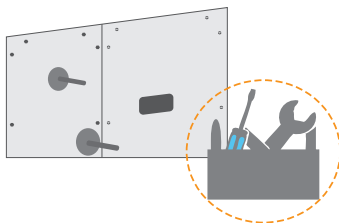
**Such Design Ensures The Heating Comfortableness Of The Unit.**

In heating mode, the system will preheat the heat exchanger fins of the indoor unit, and then supply warm air to the room, under defrosting mode, the supply air fan will temporarily stop until defrosting finishes, after the heat exchanger fins are preheated again, supply fan revert to supply warm air to the room.



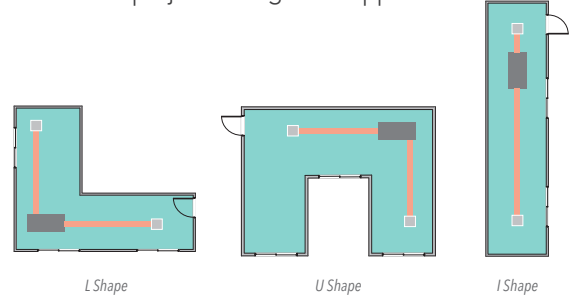
## Easy Maintenance

The whole unit uses frameless foaming boards to construct, and self-tapping screws to connect these boards, making it very easy to be disassembled for maintenance.



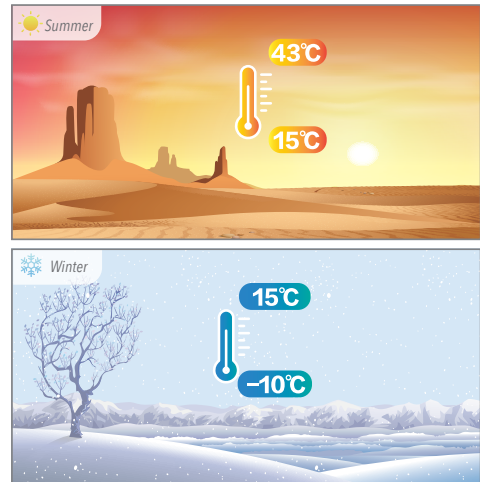
## High ESP Design – Easy Selection

The indoor unit generates a high ESP, making it possible to cover the whole area to avoid uneven distribution of temperature. Such feature makes Holtop DX AHU suitable for most of the projects design and application.



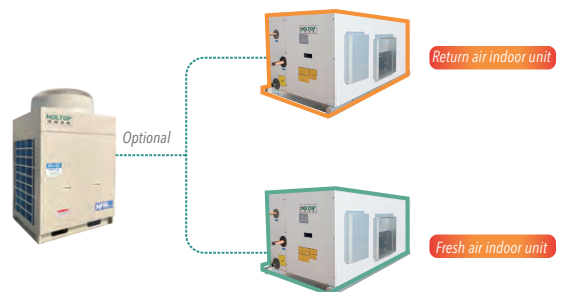
## Wide Operation Temperature Range

Even at 15°C, the cooling function can be activated normally; Heating function can be activated at -10°C in winter.



## Two Options Available For Different Needs

The HFM outdoor unit can work with either return air indoor unit or fresh air indoor unit, to meet different customers' needs.



Suspended DX Air Handling Unit (Return Air Type)

Model		Indoor Unit	HZN-05KA1	HZN-06KA1	HZN-08KA1	HZN-10KA1
		Outdoor Unit	HFM-05HA1	HFM-06HA1	HFM-08HA1	HFM-10HA1
Nominal Cooling Capacity		kW	11.8	13.9	18.5	25.5
Nominal Heating Capacity		kW	14.9	16.8	21.5	30.7
Indoor Unit	Airflow	m <sup>3</sup> /h	2400/2000/1600	2600/2100/1800	3800/3100/2650	5500
	ESP	Pa	100	100	100.00	150 (100/200/250/300)
	Fan Type	/	Direct Driven	Direct Driven	Direct Driven	Belt Driven
	Dimensions	mm	825*1230*415	825*1430*415	825*1731*500	838*1770*698
	Weight	kg	65	75	90	146
	Noise	dB(A)	48/46/44	51/48/46	52/50/48	59
Outdoor Unit	Dimensions	mm	903*393*1225	903*393*1225	903*393*1357	990*850*1545
	Weight	kg	110	110	125	190
	Noise	dB(A)	61	61	63	64
Power Supply	Indoor Unit	/	220V~ /50Hz	220V~ /50Hz	380V/3N~50Hz	380V/3N~50Hz
	Outdoor Unit	/	380V/3N~50Hz			
Input Power	Cooling	kW	4.8	5.3	6.9	8.9
	Heating	kW	4.7	5.2	7.2	9.2
Max Current		A	16.1	18.1	23.5	26.5
Refrigerant	Type	/	R410A			
Piping Diameter	Connecting type	/	Weld			
	Liquid Pipe	mm	ø9.52	ø9.52	ø9.52	ø15.88
	Gaseous Pipe	mm	ø15.88	ø15.88	ø19.05	ø28.58
Condensation Tray Outlet		/	DN25			

Model		Indoor Unit	HZN-12KA1	HZN-15KA1	HZN-18KA1	
		Outdoor Unit	HFM-12HA1	HFM-15HA1	HFM-18HA1	
Nominal Cooling Capacity		kW	30.0	35.4	42.0	
Nominal Heating Capacity		kW	33.6	38.3	48.2	
Indoor Unit	Airflow	m <sup>3</sup> /h	6500	8000	8500	
	ESP	Pa	150 (100/200/250/300)	150 (100/200/250/300)	150 (100/200/250/300)	
	Fan Type	/	Belt Driven			
	Dimensions	mm	838*1770*698	954*1870*815	954*1870*815	
	Weight	kg	150	163	170	
	Noise	dB(A)	61	61	62	
Outdoor Unit	Dimensions	mm	990*850*1545	990*850*1810	1345*850*1810	
	Weight	kg	200	225	260	
	Noise	dB(A)	66	66	67	
Power Supply	Indoor Unit	/	380V/3N~50Hz			
	Outdoor Unit	/	380V/3N~50Hz			
Input Power	Cooling	kW	10.4	12.2	14.6	
	Heating	kW	10.3	11.9	13.6	
Max Current		A	28.5	31.5	40.5	
Refrigerant	Type	/	R410A			
Piping Diameter	Connecting type	/	Weld			
	Liquid Pipe	mm	ø15.88			
	Gaseous Pipe	mm	ø28.58			
Condensation Tray Outlet		/	DN25			

Remarks:

- Cooling capacity testing conditions: Indoor (DB 27°C, WB 19°C), Outdoor (DB 35°C).
- Heating capacity testing conditions: Indoor (DB 20°C, WB 15°C), Outdoor (DB 7°C, WB 15°C).
- Values for the ESP in the bracket are optional, the input power and current and others will be different under different ESP.
- All airflow and noise are measured under standard ESP.
- The indoor unit noise were tested according to the national standards in the semi-silencing room with background noise of 11.5dB(A).
- All units are without refrigerant when ex-factory.

Suspended DX Air Handling Unit (Fresh Air Type)

Model		Indoor Unit	HZN-05FA1	HZN-06FA1	HZN-08FA1	HZN-10FA1
		Outdoor Unit	HFM-05HA1	HFM-06HA1	HFM-08HA1	HFM-10HA1
Nominal Cooling Capacity		kW	12.1	14.3	19.0	26.0
Nominal Heating Capacity		kW	15.3	17.3	22.1	28.0
Indoor Unit	Airflow	m³/h	1500/1200/950	1600/1300/1100	2300/1900/1600	3000
	ESP	Pa	100	100	100	150 (100/200/250/300)
	Fan Type	/	Direct Driven			
	Dimensions	mm	825*860*415	825*1000*415	825*1200*500	1110*838*615
	Weight	kg	65	75	90	120
	Noise	dB(A)	48/46/44	51/48/46	52/50/48	58
Outdoor Unit	Dimensions	mm	903*393*1225	903*393*1225	903*393*1357	990*850*1545
	Weight	kg	110	110	125	190
	Noise	dB(A)	61	61	63	64
Power Supply	Indoor Unit	/	220V~ /50Hz			
	Outdoor Unit	/	380V/3N~50Hz			
Input Power	Cooling	kW	4.8	5.6	7.1	9.1
	Heating	kW	5.4	6.1	7.4	8.4
Max Current		A	15.5	17.5	24.1	26.0
Refrigerant	Type	/	R410A			
Piping Diameter	Connecting type	/	Weld			
	Liquid Pipe	mm	ø9.52	ø9.52	ø9.52	ø15.88
	Gaseous Pipe	mm	ø15.88	ø15.88	ø19.05	ø28.58
Condensation Tray Outlet		/	DN25			

Model		Indoor Unit	HZN-12FA1	HZN-15FA1	HZN-18FA1
		Outdoor Unit	HFM-12HA1	HFM-15HA1	HFM-18HA1
Nominal Cooling Capacity		kW	29.6	34.8	43.2
Nominal Heating Capacity		kW	32.6	38.8	44.0
Indoor Unit	Airflow	m³/h	4000	5000	6000
	ESP	Pa	150 (100/200/250/300)	150 (100/200/250/300)	150 (100/200/250/300)
	Fan Type	/	Direct Driven	Belt Driven	Belt Driven
	Dimensions	mm	1110*838*737	1270*838*775	1410*838*775
	Weight	kg	130	140	150
	Noise	dB(A)	58	59	61
Outdoor Unit	Dimensions	mm	990*850*1545	990*850*1810	1345*850*1810
	Weight	kg	200	225	260
	Noise	dB(A)	66	66	67
Power Supply	Indoor Unit	/	380V/3N~50Hz		
	Outdoor Unit	/	380V/3N~50Hz		
Input Power	Cooling	kW	10.3	12.0	15.0
	Heating	kW	10.0	12.1	12.4
Max Current		A	27.5	31.0	40.5
Refrigerant	Type	/	R410A		
Piping Diameter	Connecting type	/	Weld		
	Liquid Pipe	mm	ø15.88		
	Gaseous Pipe	mm	ø28.58		
Condensation Tray Outlet		/	DN25		

Remarks:

- Cooling capacity testing conditions: Indoor (DB 27°C, WB 19°C), Outdoor (DB 35°C).
- Heating capacity testing conditions: Indoor (DB 20°C, WB 15°C), Outdoor (DB 7°C, WB 15°C).
- Values for the ESP in the bracket are optional, the input power and current and others will be different under different ESP.
- All airflow and noise are measured under standard ESP.
- The indoor unit noise were tested according to the national standards in the semi-silencing room with background noise of 11.5dB(A).
- All units are without refrigerant when ex-factory.