



INSTALL CONFIDENCE



# YSM Series Air Handling Units

# Pursuit of Excellence, Air Purification and Conditioning Expertise

Established in 1874 in York, Pennsylvania, YORK® has helped our customers meet their temperature control needs for over a century. Now a Johnson Controls brand, YORK® continues to benefit customers through research that has gone on to claim several significant firsts in design and innovation. YORK® by Johnson Controls is able to provide our customers with the best indoor air quality and temperature control solutions available around the world today.

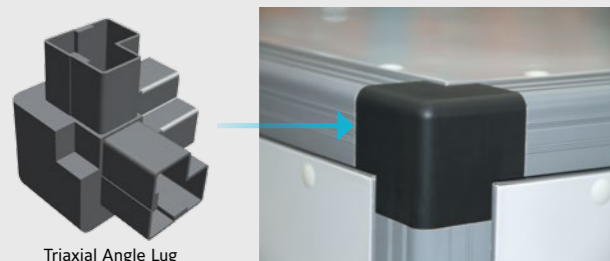
The YORK® by Johnson Controls upgraded YSM series air handling units offer a highly reliable, economical and energy-efficient product that is capable of addressing all of your needs.



## YSM Product Features

### New Patented Casing Design

Aluminium & PVC profile joined reinforced plastic triaxial angle lug, forming the structural frame to house all internal components and able to comply with EN1886 class D1 mechanical strength (under the design condition, the deflection is less than 4mm/m)



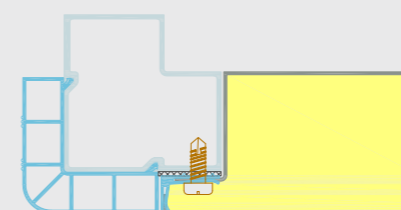
### Thermal Bridge Free Design

Patented structure (The patent application No:201620519850.1) of thermal bridge free design is applied in YSM series. New Aluminium & PVC profile, reinforced plastic triaxial angle lug and specially designed door make heat insulation more efficient and appearance more aesthetic, and thermal bridge factor can meet EN1886 class TB2.



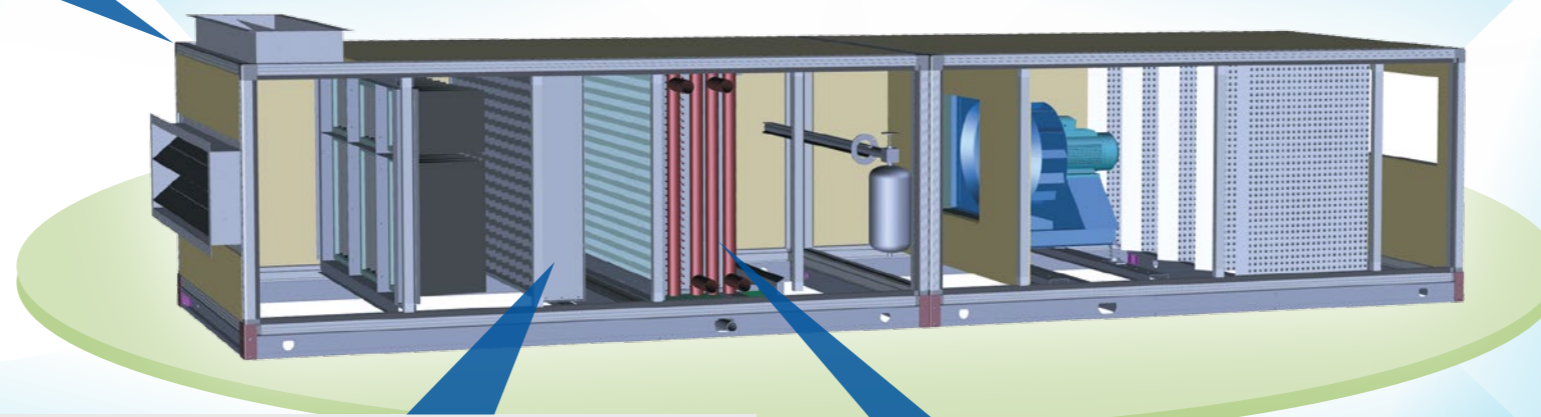
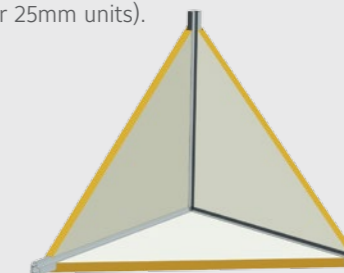
### Low Air Leakage

Provided with Aluminium & PVC profile and PVC seals, to ensure air leakage rate is less than 1%, and able to comply with EN1886 class L2 and to be equivalent to GB/T 14294 clean air conditioning requirement.



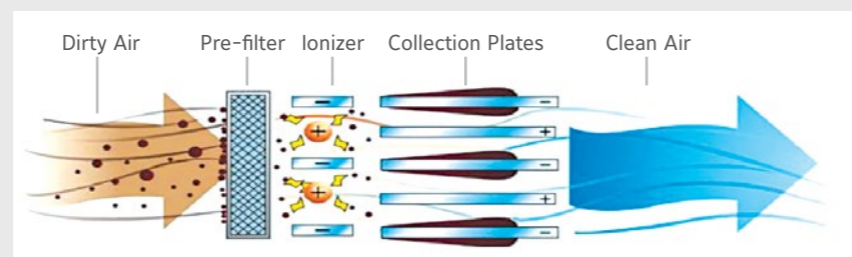
### Better Heat Insulation

Double skin construction is provided by "sandwich" type panels with high density strip. The foam panel and profile skins are injected with Zero ODP & Zero GWP PU foam of 40kg/m<sup>3</sup>, and the thermal transmittance factor meets EN1886 class T2 (for 50mm units) / Class T3 (for 25mm units).



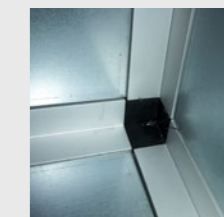
### IAQ Solutions

Johnson Controls electrostatic precipitator option: An electrostatic precipitation filter is used to remove fibers and large-particle dust and then the built-in high-pressure dust collector, through positive and negative corona, filters fine dust particles and kills bacteria and germs attached to the dust particles.

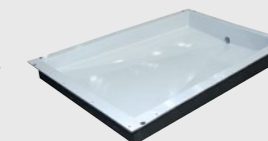


### Hygiene

The flush-joint from the panel to frame has a smooth surface and curves at corners to prevent dirt and water retention.



Drain pan is dual V-shaped structure with longitudinal slope, which allows quick and easy drainage of condensate water.



The high quality direct-driven fan (plug fan) is optional, avoids pollution caused by wear of the drive belt.



### High Efficiency Heat Exchanger

Cooling and heating coil are made of mechanically expanded copper tubes with aluminium fins, providing reliable performance certified by AHRI 410.

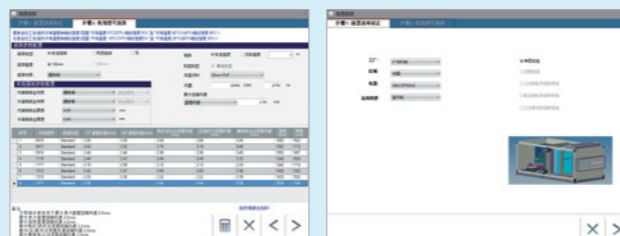


## Selection Software Overview

### AECworks YSM Selection Software Features

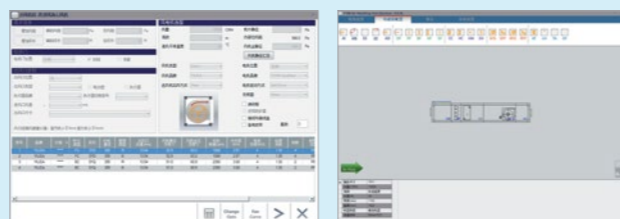
#### Custom Made

- The user-friendly selection software UI makes for easy selection.
- The organized project management system quickly responds to customer's increasing design requirements.
- The flexible parametric design improves the design efficiency and effectively shortens design time.



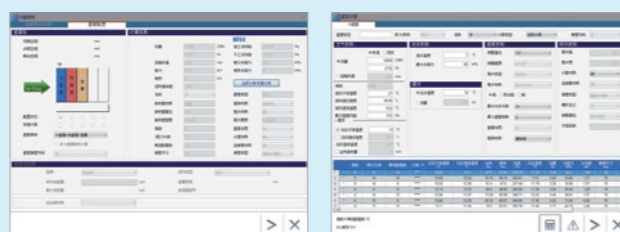
#### Powerful Function

- Diverse configurations include simple and practical single-tier unit, slim unit and double-tier unit with smaller footprint area to meet various customer requirements.
- 81 preferred standard models are available to satisfy both conventional application and special applications with high requirement for dimension flexibility.
- Providing 22 segments available as an option.



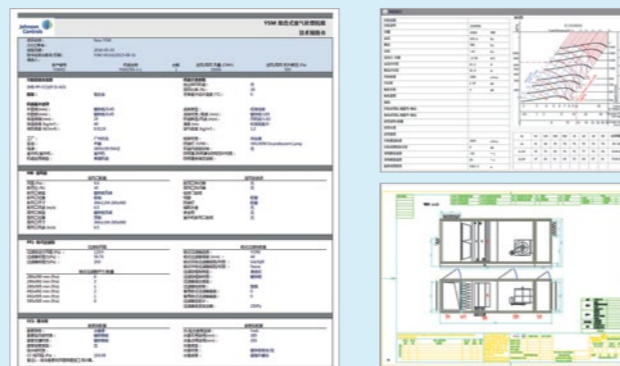
#### Professional Software for Coil Selection

- Providing diverse rows of coils, circuit designs and fin options, the software is available to calculate coil performance for different operating conditions and environments, and can optimize core components configuration and improve efficiency of heat exchange.



#### Comprehensive Output Reports

- Comprehensive performance report is provided.
- Scaled assembly drawing with automatic output is provided for professional's direct use
- Psychrometric I-D chart is provided to help to determine air state parameters in each functional segment and visually reflect the changes of air parameters.



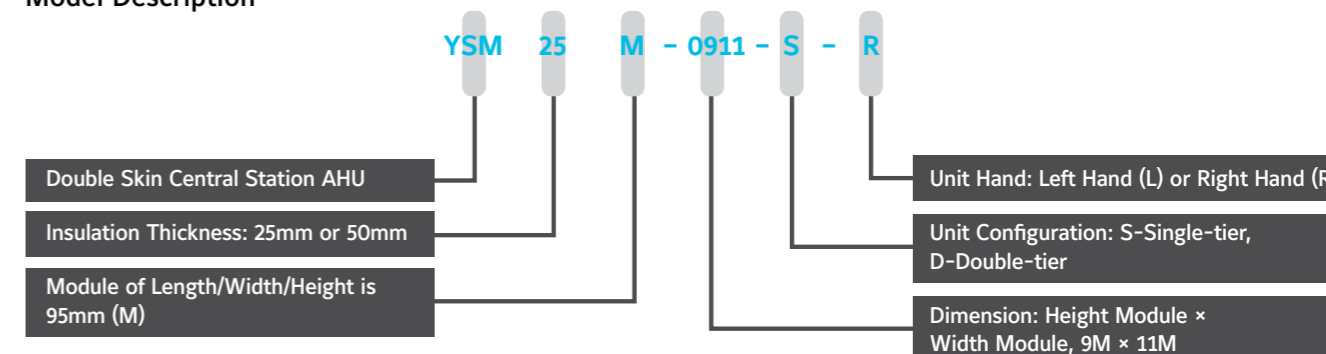
## YSM Air Handling Units

The YSM series double skin air handling unit (AHU) consists of 81 models having air volumes ranging from 1,200 ~ 99,180m<sup>3</sup>/h and internal static pressures as high as ±1500(for 50mm thickness panel ) / ±1000 (for 25mm thickness panel), to ensure maximum flexibility and the best solution for your application.

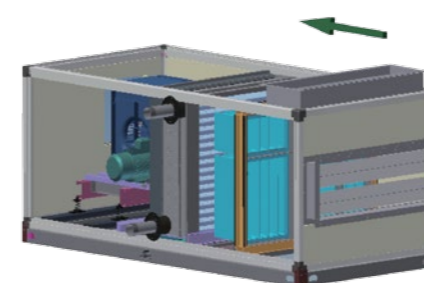
YSM air handling units are modular in design and can be manufactured in varied configurations, with a wide selection of components, to meet customer requirements. Units are suitable for shopping malls, hotels, office buildings etc. which in today's world demand improved indoor air quality requirements, and can also adapted to the hygiene and performance requirements of sectors and industries that depend on ultra-cleanliness, such as hospitals, pharmaceuticals, electronic factory etc.



### Model Description



### Unit Orientation

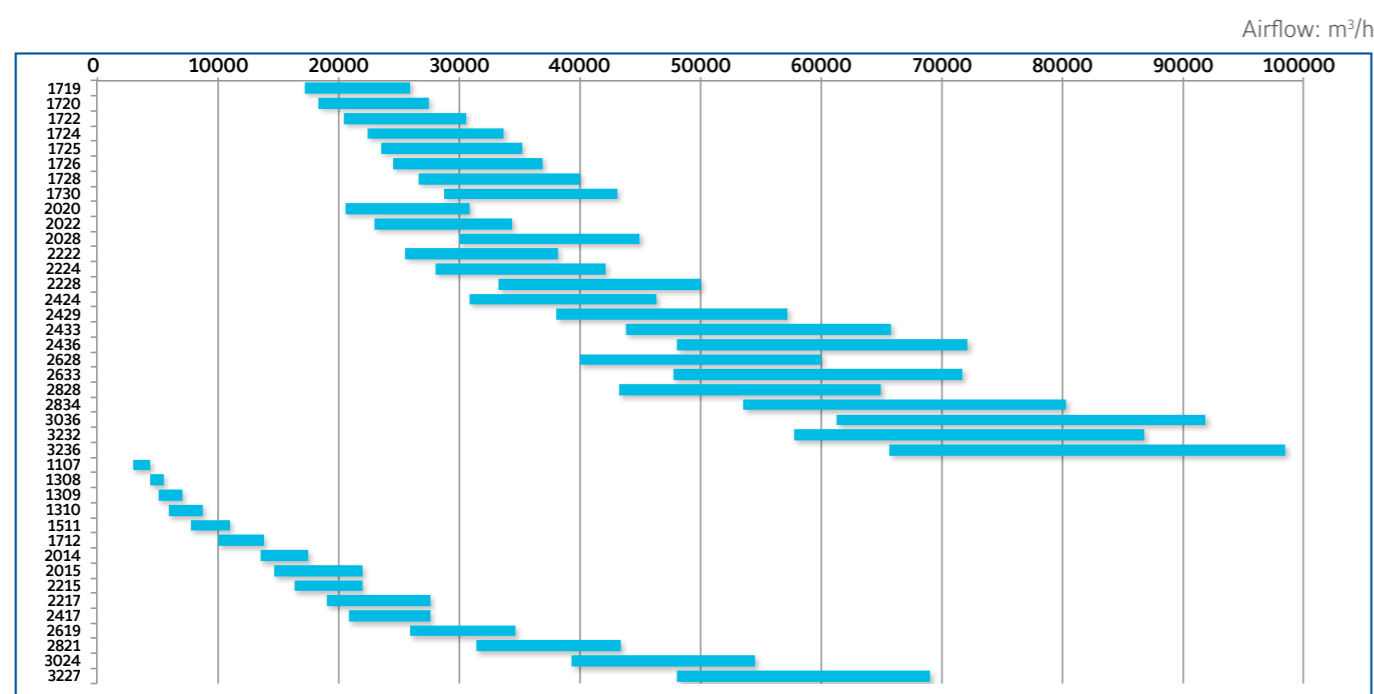
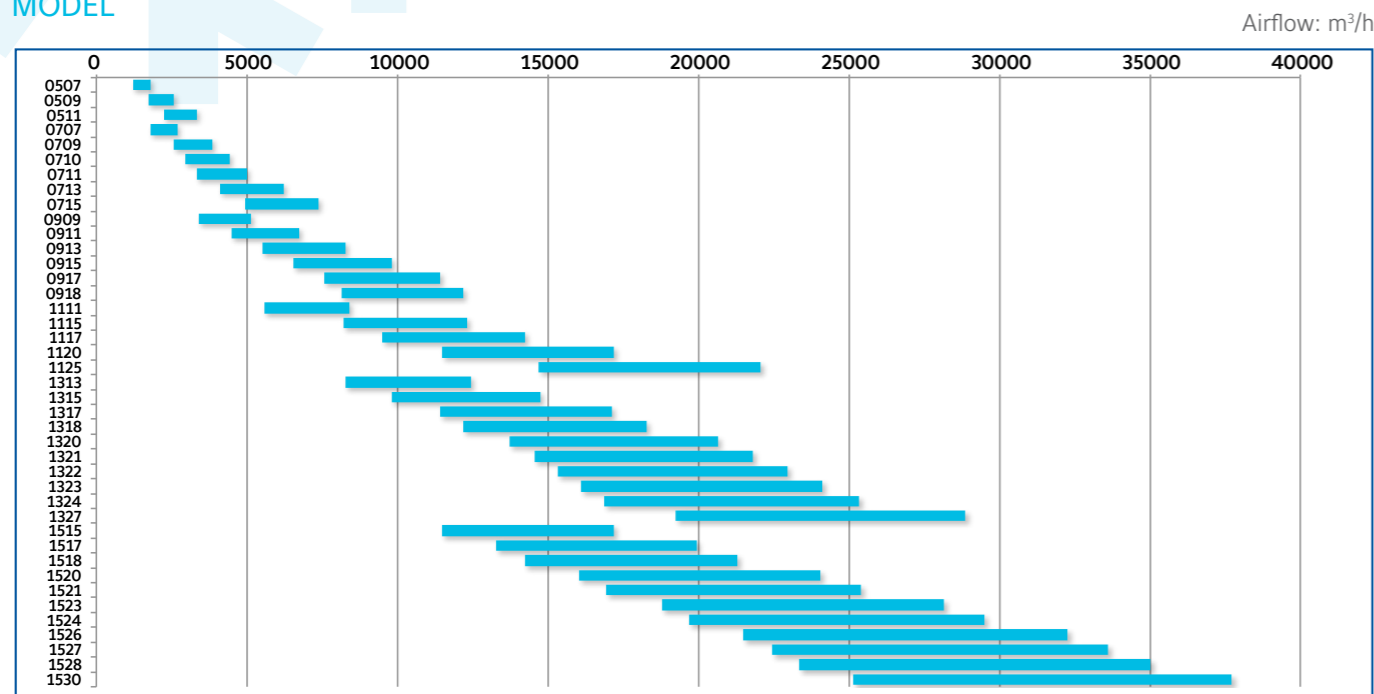


Unit orientation is determined by the location of the inlet and outlet pipes of the coil while facing unit in the direction of air flow.

The left hand is shown in the figure.

# Quick Selection

## MODEL



Note: Preferred standard models are listed.

# Segment Specifications

## SEGMENT SPECIFICATIONS

Segment Name	Notation	Sketch (← Airflow direction)	Length (Module) (for reference only)	Optional
Air Inlet Segment	AI		Damper located at front: L=5M Damper located at top or side: L=Dmp_L=5M-32M (Dmp_L is length module following air flow direction at side or top damper, determined by model and damper air flow rate)	Damper arrangement, Flange, Manual damper, Motorized damper without actuator, Motorized damper with On-Off or analog signal actuator, Access door, Marine light
Mixing Box Segment	MB		L=Dmp_L=5M-32M (Dmp_L is max length module following air flow direction at side or top damper, will be determined by model and damper air flow rate)	Damper arrangement, Fresh air ratio, Flange, Manual damper, Motorized damper without actuator, Motorized damper with On-Off or analog signal actuator, Access door, Marine light
Economizer Segment	EE		L=EA_Dmp_L + OA_Dmp_L=10M-36M (EA_Dmp_L is length module of exhaust air damper following air flow direction, OA_Dmp_L is length module of outdoor air damper following air flow direction, and it is determined by model and damper air flow rate)	Damper arrangement, Exhaust air ratio, Flange, Manual damper, Motorized damper without actuator, Motorized damper with On-Off or analog signal actuator, Access door, Marine light
Open Filter Segment	OF		No occupy a separate segment	G1/G3/G4/F5 Plate filter, TiO <sub>2</sub> Sterilizer, Without filter media (only offer plate filter frame), Spare filter
Plate Filter Segment	PF		L=2M	G1/G3/G4/F5 Plate filter, Dual plate combination filter, Without filter (only offer plate filter frame), Spare filter, Pressure difference gauge
Bag Filter Segment	BF		L=4M 300mm Bag filter L=5M Plate filter+300mm Bag filter L=6M 500mm Bag filter L=7M Plate filter+500mm Bag filter	G3/G4 Plate filter; G3/G4/F5/F6/F7/F8 Bag filter, Bag filter length 300/500mm, Single bag filter, Plate and bag combination filter, Without filter (only offer bag filter frame), Spare filter, Pressure difference gauge
HEAP Filter Segment	HF		L=4M	F9/H11/H13 High-efficiency filter, Without filter media (Filter frame only), Spare filter, Pressure difference gauge
Heating Coil Segment	HC		L=3M 1R, 2R L=4M 3R, 4R Note: L is 4M when TPC is 2 at 2R heating coil	1-4R Heating coil, Steel/copper header, Piping direction, 1-2R copper tube with aluminium fin, 1-2R steel tube with aluminium fin
Cooling Coil Segment	CC		L=5M-11M 1. It is determined by coil row and combination mode 2. Evaporative humidifier, droplet eliminator installed in coil segment, and does not occupy a separate segment	1-12R Cooling coil+1-4R Heating coil, 1-12R Cooling coil+1-2R Steam coil, Dual cooling coil, Steel/copper header, Piping direction, Droplet eliminator, 50/100/150/200mm Evaporative humidifier (EV), Humidifier brand
Electric Heater Segment	EH		L=3M	Heater Power
Humidifier Segment	HM		L=6M Electrode humidifier (EL) L=6M Dry steam humidifier (SH) L=6M Electric heat humidifier L=7M High pressure spray humidifier (SP)	Manual/electric switch for dry steam humidify, Humidifier Brand

# Segment Specifications

## SEGMENT SPECIFICATIONS

Segment Name	Notation	Sketch (← Airflow direction)	Length (Module) (for reference only)	Optional
Supply Fan – DIDW Fan Segment	SF_D		L=7M-34M Determined by model, fan and motor specification	Fan brand, Motor Band, Motor location, Fan discharge Access door, Marine light, View port
Return Fan – DIDW Fan Segment	RF_D		L=7M-34M Determined by model, fan and motor specification	Fan brand, Motor Band, Motor location, Fan discharge, Access door, Marine light, View port
Supply Fan – Plug Fan Segment	SF_P		L=9M-29M	Fan brand, Motor brand, Fan discharge, Access door, Marine light, Viewport
Return Fan – Plug Fan Segment	RF_P		L=9M-29M	Fan brand, Motor brand, Fan discharge, Access door, Marine light, Viewport
Empty Segment	ES		L=2M-12M Select it according to the requirement	Access door, Marine light, Flange, Damper, Viewport, Auxiliary Drain pan
Sound Attenuator Segment	AT		L=5M, 7M, 9M, 11M, 13M, 15M Select it according to sound attenuator requirement.	
Diffuser Segment	DF		L=5M-7M Determined by model.	Access door, Marine light, Viewport
Air Outlet Segment	AO		Damper located at front: L=5M Damper located on top or side: L=Dmp_L=5M-32M (Dmp_L is length module following air flow direction, will be determined by model and damper air flow rate)	Damper arrangement, Flange, Manual damper, Motorized damper without actuator, Motorized damper with On-Off or analog signal actuator, Access door, Marine light, Viewport
TiO <sub>2</sub> Sterilizer Segment	TA		L=3M	
UV Segment	UV		L=2M	
Electrostatic Precipitation Segment	EP		L=3M	AL mesh filter, G4 filter

# Segment Specifications

## UNIT LENGTH CALCULATION

**Overall length**

**For 25mm unit:**

$$\text{Overall length} = \text{Unit overall length module L No.} \times 95\text{mm} + \text{split shipped No.} \times 46\text{mm}$$

**For 50mm unit:**

$$\text{Overall length} = \text{Unit overall length module L No.} \times 95\text{mm} + \text{split shipped No.} \times 96\text{mm}$$

**Delivery section length**

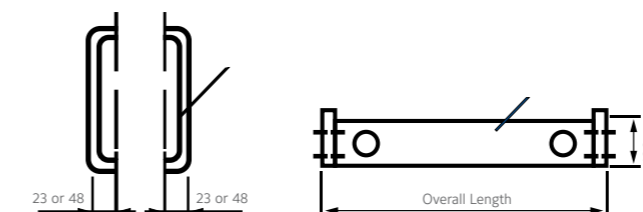
**For 25mm unit:**

$$\text{The delivery length of each split} = \text{L No. in each split} \times 95\text{mm} + 46\text{mm}$$

**For 50mm unit:**

$$\text{The delivery length of each split} = \text{L No. in each split} \times 95\text{mm} + 96\text{mm}$$

Notes:  
 Width module W not larger than 20M, maximum split length module L is 36M  
 Width module W not less than 20M, maximum split length module L is 21M  
 Height module H not less than 22M, unit is shipped by completely knock-down  
 The length is only for your reference. Please contact Johnson Controls' local office for detailed dimension.



**Overall unit height (without VC) =**

$$\text{Unit height module H No.} \times 95\text{mm} + 46\text{mm (or 96mm)} + 100\text{mm}$$

**Overall unit height (with VC) =**

$$\text{Unit height module H No.} \times 2 \times 95\text{mm} + 46\text{mm} \times 2 \text{ (or } 96\text{mm} \times 2) + 100\text{mm}$$

For example:  
 One YSM50 unit with length module 28M, is divided into 2 segments, one is 12M, another is 16M  
 Then overall length is  $28 \times 95 + 2 \times 96 = 2852\text{mm}$   
 Delivery length of each segment is  $12 \times 95 + 96 = 1236\text{mm}$ ,  $16 \times 95 + 96 = 1616\text{mm}$

## SPLIT PRINCIPLE

- Split at upstream of EE/RF\_D/SF\_D/ES/DF/AO, split at downstream of AI/MB/EE/BF/ES/DF/RF\_P/SF\_P.
- EE can be divided at upstream or downstream, and even can be divided in the middle.
- Any segment together with OF can't be divided.

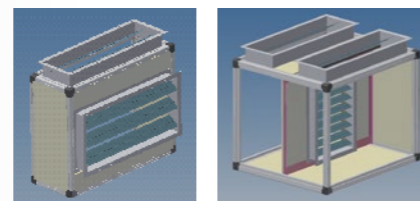
## SEGMENT ARRANGEMENT PRINCIPLE

- AI/MB/OF should be located in most upstream only.
- AO should be located in most downstream only.
- Diffuser segment can be only located next to downstream of RF\_D or SF\_D.
- SP of HM can't be chosen if HM is not next to downstream of CC.
- RF\_D is necessary if EE is chosen. Besides, EE must be at downward air flow side of RF\_D. SF must be chosen if RF is chosen, and SF must be at downstream of RF.
- In order to facilitate maintenance, at least 5M maintenance space is needed next to upstream or downstream of PF/BF/HF/TA/EP.
- There are spare upstream maintenance space in AI/MB/DF/EE/ES/RF\_P/SF\_P; And spare downstream maintenance space in EE/RF\_D/SF\_D/ES/AO.
- The length of ES with access door can't be less than 5M.
- At least G3 or above filter segment is needed before TiO<sub>2</sub> sterilizer segment.

## Segments Specifications & Illustration

### AIR INLET / MIXING BOX / AIR OUTLET / ECONOMIZER SEGMENT

- Air inlet segment - it is linked with return air duct or fresh air duct, and supply return air into air handling unit.
- Mixing box - it can adjust the proportion of return air and outdoor air to satisfy the need of air conditioning environment.
- Air outlet segment - it is linked with supply air duct, and supply air to air conditioning systems.
- Economizer segment - it can adjust the proportion of outside air to take advantage of free cooling at low temperatures.



### DAMPER

- Damper material options: Galvanized steel, aluminium alloy and stainless steel.
- Providing flange, manual damper, motorized damper without actuator or with actuator
- Damper Location
  - Air inlet, Air outlet, Mixing box segment: Front/Top/Side
  - Economizer/Empty segment: Top/Side



### FILTER SEGMENT

- Plate filter: Uses polyester synthetic fiber filter media, filtration efficiency is G3/G4/F5. G1 filter uses Al mesh
- Bag filter: Polyester synthetic fiber, bag length of 300mm or 500mm, filtering efficiency: G3/G4/F5-F8
- HEPA filter: The V-shape pleated filter and box filter are available, using ultra fine glass fiber filter paper. Filter efficiency of V-shape pleated filter is F9-H13



- Service Instructions
  - Remove the open return filter from side.
  - Replace the plate and bag filters from the dirty side (upstream side) and clean side (downstream side).
  - Replace the high-efficiency filter from the dirty side (upstream side).

- Options
  - Pressure difference gauge: Provides the visual reading of differential pressure through the filter, avoiding the filter efficiency reduction due to dust over-accumulation
  - Pressure difference transmitter: Translates the differential pressure through the filter into signals to the control system to monitor pressure variation.



- Electrostatic Precipitator
 

Johnson Controls electrostatic precipitation filter is used to remove fibers and large-particle dust and then the built-in high-pressure dust collector, through positive and negative corona, to filter fine dust particles and kill bacteria and germs attached to the dust particles.



- TiO<sub>2</sub> Sterilizer
 

The nano-level air sterilization and cleaning technology decomposes bacteria and virus to CO<sub>2</sub> and water, eliminates odor, hazardous microorganism and other hazardous substances.



## Segments Specifications & Illustration

### Filter Quantity

Model	12"x12" (290x290)	12"x20" (290x493)	12"x24" (290x595)	20"x12" (493x290)	20"x20" (493x493)	20"x24" (493x595)	24"x12" (595x290)	24"x20" (595x493)	24"x24" (595x595)
0507	0	0	1	0	0	0	0	0	0
0509	1	1	0	0	0	0	0	0	0
0511	1	0	1	0	0	0	0	0	0
0707	0	0	0	0	0	1	0	0	0
0709	0	0	0	1	1	0	0	0	0
0710	0	0	0	1	1	0	0	0	0
0711	0	0	0	1	0	1	0	0	0
0713	0	0	0	0	1	1	0	0	0
0715	0	0	0	1	2	0	0	0	0
0909	0	0	0	0	0	0	1	1	0
0911	0	0	0	0	0	0	1	0	1
0913	0	0	0	0	0	0	0	1	1
0915	0	0	0	0	0	0	1	2	0
0917	0	0	0	0	0	0	1	0	2
0918	0	0	0	0	0	0	0	2	1
1107	0	0	1	0	0	0	0	0	1
1111	1	0	1	0	0	0	1	0	1
1115	1	2	0	0	0	0	1	2	0
1117	1	0	2	0	0	0	1	0	2
1120	0	1	2	0	0	0	0	1	2
1125	0	2	2	0	0	0	0	2	2
1308	0	0	0	0	0	2	0	0	0
1309	0	0	0	2	2	0	0	0	0
1310	0	0	0	2	2	0	0	0	0
1313	0	0	0	0	2	2	0	0	0
1315	0	0	0	2	4	0	0	0	0
1317	0	0	0	2	0	4	0	0	0
1318	0	0	0	0	4	2	0	0	0
1320	0	0	0	0	2	4	0	0	0
1321	0	0	0	0	0	6	0	0	0
1322	0	0	0	2	4	2	0	0	0
1323	0	0	0	2	2	4	0	0	0
1324	0	0	0	2	0	6	0	0	0
1327	0	0	0	0	0	8	0	0	0
1511	0	0	0	0	0	0	2	0	2
1515	0	0	0	0	0	0	2	4	0
1517	0	0	0	0	0	0	2	0	4
1518	0	0	0	0	0	0	0	4	2
1520	0	0	0	0	0	0	0	2	4
1521	0	0	0	0	0	0	0	0	6
1523	0	0	0	0	0	0	2	2	4

Model	12"x12" (290x290)	12"x20" (290x493)	12"x24" (290x595)	20"x12" (493x290)	20"x20" (493x493)	20"x24" (493x595)	24"x12" (595x290)	24"x20" (595x493)	24"x24" (595x595)
1524	0	0	0	0	0	0	2	0	6
1526	0	0	0	0	0	0	0	0	2
1527	0	0	0	0	0	0	0	0	8
1528	0	0	0	0	0	0	0	0	8
1530	0	0	0	0	0	0	2	0	8
1712	0	2	0	0	2	0	0	2	0
1719	1	0	2	1	0	2	1	0	2
1720	0	1	2	0	1	2	0	1	2
1722	1	2	1	1	2	1	1	2	1
1724	1	0	3	1	0	3	1	0	3
1725	0	2	2	0	2	2	0	2	2
1726	0	1	3	0	1	3	0	1	3
1728	0	0	4	0	0	4	0	0	4
1730	1	0	4	1	0	4	1	0	4
2014	0	0	0	0	0	2	0	0	4
2015	0	0	0	1	2	0	2	4	0
2020	0	0	0	0	1	2	0	2	4
2022	0	0	0	1	2	1	2	4	2
2028	0	0	0	0	0	4	0	0	8
2215	0	0	0	0	0	0	3	6	0
2217	0	0	0	0	0	0	3	0	6
2222	0	0	0	0	0	0	3	6	3
2224	0	0	0	0	0	0	3	0	9
2228	0	0	0	0	0	0	0	0	12
2417	1	0	2	0	0	0	3	0	6
2424	1	0	3	0	0	0	3	0	9
2429	0	0	4	0	0	0	0	0	12
2433	0	1	4	0	0	0	0	3	12
2436	1	1	4	0	0	0	3	3	12
2619	0	0	0	1	0	2	3	0	6
2628	0	0	0	0	0	4	0	0	12
2633	0	0	0	0	1	4	0	3	12
2821	0	0	0	0	0	0	0	0	12
2828	0	0	0	0	0	0	0	0	16
2834	0	0	0	0	0	0	0	0	20
3024	0	0	0	0	0	0	4	0	12
3036	0	0	0	0	0	0	4	4	16
3227	0	0	4	0	0	0	0	0	16
3232	1	0	4	0	0	0	4	0	16
3236	1	1	4	0	0	0	4	4	16

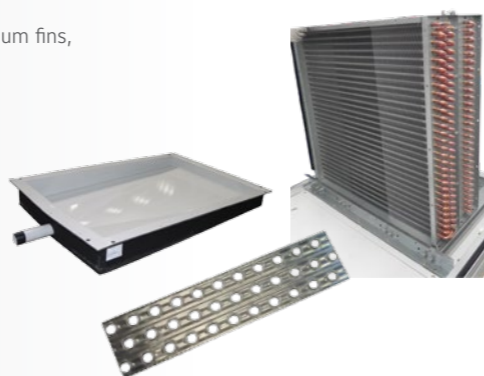
### COMPARISON OF EFFICIENCY AND SPECIFICATIONS IN CHINA, USA AND EU

China GB/T14295	Premium efficiency ≥ 5µm 80% > Efficiency ≥ 20%			Medium efficiency ≥ 1µm 70% > Efficiency ≥ 20%			High-medium efficiency ≥ 1µm 99% > Efficiency ≥ 70%		Sub-HEPA efficiency ≥ 0.5µm 99.9% > Efficiency ≥ 95%				HEPA efficiency ≥ 0.5µm Efficiency ≥ 99.9%								
U.S. ASHRAE	C1	C2-C4	L5	L6	L7	L8	M9	M10	M11	M12	M13	M14	H12-H16				VH17	VH18	VH19	VH20	
Europe New specification	G1 65%	G2 80%	G3 80%-90%		G4 >90%		F5 40%		F6 60%		F7 90%	F8 90%	F9 85%	H10 95%	H11 99%	H12 99.90%		H13 99.95%		H14 99.995%	V15V17 99.9995%
Europe Old specification	EU1	EU2	EU3		EU4		EU5		EU6		EU7	EU8	EU9	EU10	EU11	EU12	EU13	EU14			

## Segments Specifications & Illustration

### COOLING AND HEATING COIL

- Cooling and heating coil are made of mechanically expanded copper tubes with aluminium fins, providing reliable performance, certified by AHRI 410.
- All coils are pre-tested for leakage according to the GB standard before delivery.
- The coil has a framework made of galvanized steel(stainless steel is optional).
- The drain pan is made of powder coated galvanized steel or optional stainless steel.
- Drain pan is dual V-shaped structure with longitudinal slope, and allows quick and easy drainage of condensed water.
- An eliminator can be installed if required by customer to prevent condensed water from being blown out of coil. (As specified by the manufacturer, eliminator can be installed for coil face velocity in the range 2.5~3m/s).
- Hydrophilic aluminium fin is optional.
- Water inlet/outlet flange connection is optional.



### Water coil tube height list

Modular Height(M)	1/2"Coil		3/8"Coil
	Coil Height	Combination	
5	12	12	16
7	18	18	22
9	24	24	30
11	30	30	38
13	36	36	44
15	42	42	-
17	48	48	-
20	54	24+30	-
22	60	30+30	-
24	66	30+36	-
26	72	36+36	-
28	78	36+42	-
30	84	42+42	-
32	90	42+48	-

### Water coil connection pipe sizes (mm)

Rows	TPC	Tube High							
		12	18	24	30	36	42	48	
1 Row	2	48	48	60	60	60	60	60	
	4	34	48	48	48	60	60	60	
2 Rows	2	60	60	76	76	89	89	89	
	4	48	48	60	60	60	60	60	
	6	48	48	48	48	60	60	60	
3 Rows	2	60	76	89	89	89	89	89	
	4	48	60	76	76	76	76	76	
	6	48	48	60	60	76	76	76	
4 Rows	2	76	76	89	89	89	89	89	
	4	60	60	76	76	89	89	89	
	6	48	60	60	60	76	76	76	
5 Rows	4	60	76	76	76	89	89	89	
	6	48	60	76	76	76	76	76	
	8	48	60	60	60	76	76	76	
6 Rows	10	48	48	60	60	76	76	76	
	4	60	76	89	89	89	89	89	
	6	60	60	76	76	89	89	89	
8 Rows	8	48	60	76	76	76	76	76	
	12	48	48	60	60	76	76	76	
	16	48	48	60	60	76	76	-	
10 Rows	6	-	76	89	89	89	89	89	
	8	-	76	76	76	89	89	89	
	10	-	60	76	76	89	89	89	
	12	-	60	76	76	76	76	76	
12 Rows	16	-	60	60	60	76	76	-	
	6	-	76	89	89	89	89	89	
	8	-	76	89	89	89	89	89	
	12	-	60	76	76	89	89	89	
	16	-	60	76	76	76	76	-	

Notes:

1. Coil header connector is male thread. Below is corresponding metric and imperial unit diameter (The imperial diameter is nominal dimension).

Metric/mm	34mm	48mm	60mm	76mm	89mm
Imperial/inch	1"	1-1/2"	2"	2-1/2"	3"

2. Condensate connector is 48mm OD male thread pipe connector.

3. For model size of 2020 (including 2020) or above, the coils have two water-in and two water-out connection.

4. TPC: Tube quantity of each circuit, the formula as follows:  $TPC = \frac{\text{Tube High} \times \text{Rows}}{\text{Circuits}}$

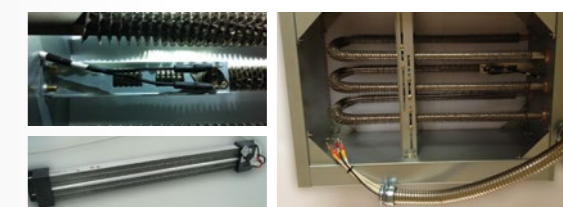
### STEAM COIL SEGMENT

- Steel tube & aluminium fins coil.
- Max design working pressure of steam coil: 0.4MPa.



### ELECTRIC HEATER SEGMENT

- The electric heater employs stainless steel tube with helical fins and temperature protection switch, etc.
- The electric heater element is fixed on the frame. Electric control box is supplied and installed by the user. And its control must be interlocked with the fan.
- Features
  - 1-4 steps control, to satisfy various needs of heating power;
  - Overheating protection: Built-in temperature protection switch shall automatically shut off when the temperature is too high.



### SOUND ATTENUATOR SEGMENT

- Sound attenuator uses galvanized steel as frame, non-hygroscopic and anticorrosive superfine fiber glass as inner lining acoustic absorbent, with perforated plate as protective cover of lining material. The allowable velocity is 20m/s. The sound attenuator unit is installed on a guide rail in the box.
- The standard sound attenuator segment is supplied in length of 5M/7M/9M/11M/13M/15M.



### UV LAMP SEGMENT

- It uses high-grade and durable UV lamp to kill bacteria and germs retained by or attached on specific functional segments e.g. filter segment and cooling coil segment. The interlocked travel limit switch of access door is used to disable the lamp to avoid injury when entering the section for service.





# Segments Specifications & Illustration

## HUMIDIFIER SEGMENT

### Evaporative Humidifier

- The humidifier humidifies air through natural water evaporation.
- The evaporative humidifier eliminates "white powder" during humidifying.
- Humidification efficiency: Up to 80%
- Safe, Reliable and Durable
- Direct evaporative cooling with smaller size and lower temperature.



### Steam Humidifier

- The humidifier separates any water from the steam, and then injects the steam through orifice with metal muffling & filtering net.
- It uses the unique heat-insulating sleeve to supply the steam, making the system free from the heat interference by out-of-service nozzle jet.
- The single-outlet, dual-outlet or tri-outlet dry steam humidifier can be selected according to the steam quantity and height module for clean isenthalpic humidification.
- Regulating Signal: ON-OFF、0-10V/4-20mA
- Regulation Mode: Switch type, proportion type.
- Diverse regulating valves: Manual valve, solenoid valve, motorized valve.



### Electrode Humidifier

- Main of the humidifier converts electric energy to heat with electrode and heats water to steam, which is delivered to AHU through pipe.
- Key component of the humidifier is integrated to electric control box and controlled by microcomputer, easy for installation and use.
- Stainless steel or aluminium alloy steam distribution pipe
- Regulating Signal: ON-OFF、0-10V/4-20mA
- Regulation Mode: Switch type, proportion type



### Electric Heat Humidifier

- Humidifier converts electric energy to heat with electric heating tube and heats water to steam, which is delivered to AHU through pipe.
- Humidifier is integrated to electric control box and controlled by microcomputer, easy for installation and use.
- Stainless steel or aluminium alloy steam distribution pipe
- Regulating Signal: ON-OFF、0-10V/4-20mA
- Regulation Mode: Switch type, proportion type



### High-pressure Atomizing Humidifier

- After pressurized with high-pressure pump, spray water is delivered to AHU and injected through nozzle therein.
- The humidifier consists of nozzle, internal pipeline, circulating water pump and control box, with circuits for alarm and protection built in.



## FAN SEGMENT

- Double-inlet forward-curve/backward-curve centrifugal fan or plug fan from well known brand is adopted, safer and more reliable.
- Both impeller and frame are made of high-strength alloy steel plate with robust design. Impeller has been statically and dynamically balanced.
- The optional VSD converter can regulate the running speed of fan, reducing energy consumption of system.
- High-quality damper spring is used for damping, which effectively lowers vibration and noise produced by fan.
- Base of motor is equipped with sliding rail adjustment device to facilitate adjustment of motor and belt by user.
- On outlet of fan there's flexible connection of canvas, which prevents transfer of vibration and compliance to BS476.



- Belt is product from well known brand, with high driving power and good wear resistance.
- European-style taper sleeve belt pulley which is reliable and easy to disassemble is used. Impeller has been statically and dynamically balanced.
- Each bearing is product from known brand, with high assembly accuracy.



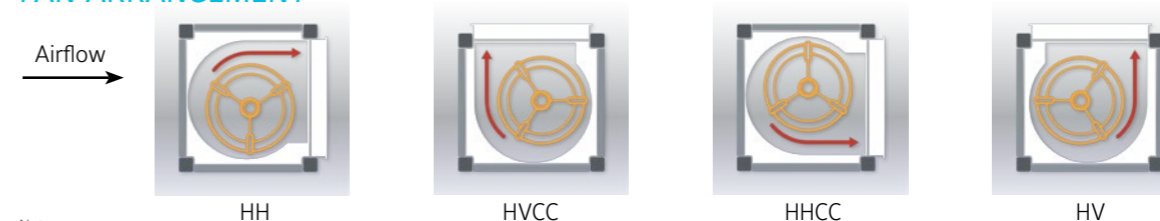
- For plug fan application, it provides flexibility of supply discharge duct arrangement. This makes installation easier.
- Plug fan with open structure, easier for cleaning and maintenance.
- High efficiency, low noise.
- Direct-driven plug fan is directly driven with motor. This avoids secondary pollution from debris of belt produced during belt driving. Such fan is widely used in clean-room industries. e.g. electronics, pharmacy etc.



- High-quality motor with high energy efficiency from famous brand is used. Motor is IP55 protection class and Class F insulation. It can run reliably and efficiently.
- Constant-speed motors and VSD motors are available.
- Power supply: 380V/3P/50Hz, 380-415V/3/50Hz, 460V/3P/60Hz, 380V/3P/60Hz, /230V/3P/60Hz.



## FAN ARRANGEMENT



Note:  
For DIDW fan, the air inlet and outlet direction are shown as above with blue and red arrow.  
For plug fan, air inlet is axial direction, and air outlet is radial direction, which allows fan outlet with Top, Bottom, Side and Back position.

# Segments Specifications & Illustration

## FAN WEIGHT LIST

### DIDW Fan

Fan Model	Fan with forward curved		Fan with backward curved	
	Weight (kg)	Frame Type	Weight (kg)	Frame Type
160	5.7	L	-	-
180	6.5	L	6	L
200	7.4	L	8	L
225	9.2	L	10	L
250	11	L	16	L
280	29	K	32	K
315	35	K	42.6	K
355	42	K	54.7	K
400	57	K	63.6	K
450	72	K	82.5	K
500	92	K	104.5	K
560	160	K	171	K
630	185	K	197	K
710	240	K	271	K
800	290	K	300	K
900	365	K	481.5	K
1000	480	K	530	K
1120	-	-	687	-

### Plug Fan

Fan Models	Weight (Only fan wheel)
250	10
280	10
315	10
355	13
400	13
450	21
500	35
560	50
630	58
710	80
800	91
900	117
1000	150
1120	201
1250	258

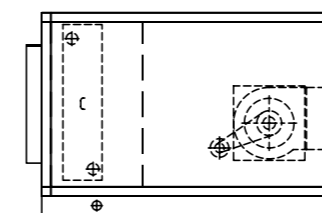
## MOTOR WEIGHT LIST

Motor Power (kW)	50HZ 380V 4P Motor Weight (kg)
0.55	15
0.75	18.5
1.1	23
1.5	27
2.2	26
3	40
4	50
5.5	76
7.5	81
11	130

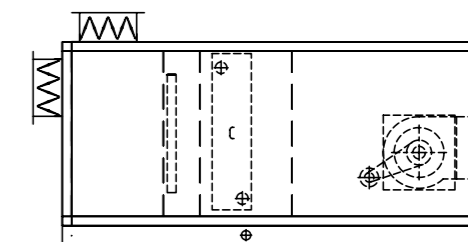
Motor Power (kW)	50HZ 380V 4P Motor Weight (kg)
15	146
18.5	180
22	200
30	275
37	300
45	320
55	410
75	600
90	640

Note:  
Take the weight of YORK (Qualified) motor as a reference, and take the fan weight of Yilida fan for reference

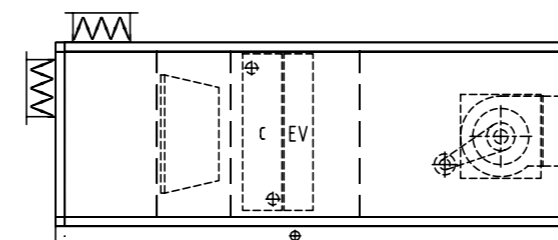
## YSM GENERAL SEGMENT ARRANGEMENT



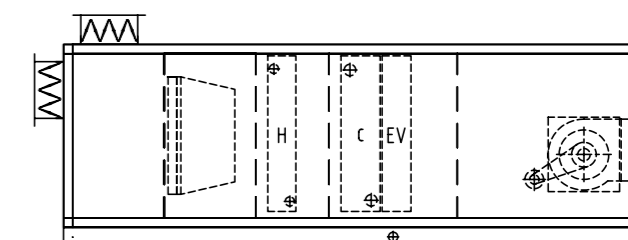
Model I: OF+CC+SF



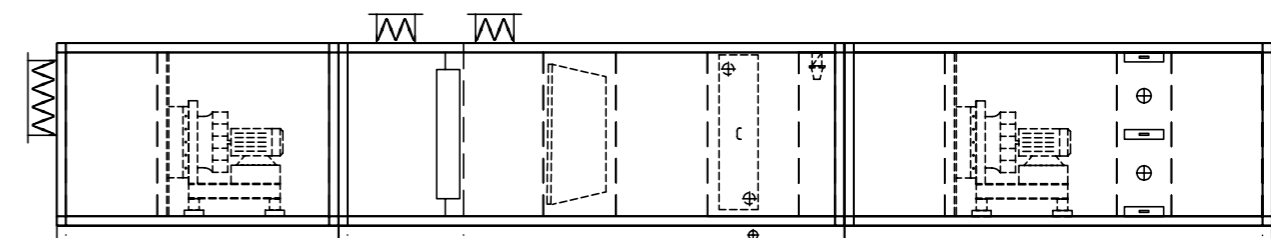
Model II: MB+PF+CC+SF



Model III: MB+PF+BF+CC(+EV)+SF



Model IV: MB+PF+BF+CC(+EV)+HC+SF



Model V: AI+RF(Plug fan)+EE+BF+ES+CC+UV+ES+SF(Plug fan)+EP+AO



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INSTALL CONFIDENCE

PUBL-8210 (1116)