



# YBAH-G Series Ceiling Mounted Air Handling Units



The power behind **your mission**



# YORK® Excellent Air Treatment Expert



## Professional Air Solutions

With integrity, YORK® advances with time and forges the future by providing professional air treatment system solutions in various applications to meet the diverse needs of green, energy saving, environmental protection and intelligent buildings.

We listen carefully to understand our customer needs and are committed to technological development and innovation. We work with authoritative experts to create high-quality, high-performance equipment and a full range of service.



## Focus on Indoor Air Quality IAQ

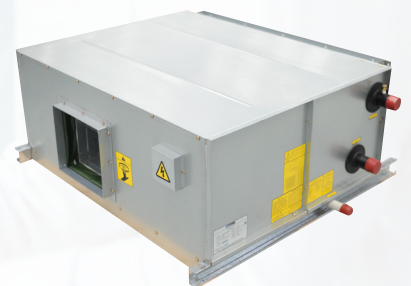
YORK® always adheres to the concept of sustainable development to create a healthy and clean environment. In an era when many countries pay more attention to environmental protection and the people emphasize the quality of life, the indoor air quality IAQ is being highly valued.

We provides a variety of solutions for particulate matter, microorganisms, TVOC and other pollutants to meet the needs of shopping malls, office buildings and other applications with high requirements for air quality, as well as clean environments such as hospital operating rooms, pharmaceuticals, and electronic factories.



## YBAH-G Series Ceiling Mounted Air Handling Units

YORK® YBAH-G series ceiling mounted air handling units are terminal points of central air-conditioning systems. They are designed for fresh air units or to cool, heat, de-humidify, filter and clean the air, etc. The conditioned air can be delivered to locations across various distances via specially designed ducts. The units are especially suitable for the air-conditioning of commercial buildings and industry applications.





# YBAH-G Series Ceiling Mounted Air Handling Units

YORK® YBAH-G series air handling units have 12 different models. The cooling capacity ranges from 8kW to 252kW, and air flow ranges from 1500m<sup>3</sup>/h to 15000m<sup>3</sup>/h. Rated external total pressure ranges from 120 to 315 Pa. More external total pressure can be provided for flexible application.

Each unit is made from galvanized steel with 15mm thick polyester fiber insulation. It contains a built-in cooling coil and fan, and externally mounted nylon air filters.

Cooling and heating coil use copper tubes with hydrophilic aluminum fins. The fan, motor and belt pulley are all high quality products producing stable and efficient performance. The fan is a forward curved centrifugal model that works on double air inlets. The motor features IP55 and a type F insulation with self-lubricating bearings. The externally mounted filter can be withdrawn from side or bottom.

## Features

- Easy installation.
- Lower unit height for low head floor ceiling application.
- Low noise.
- Filter can be withdrawn from side or bottom.

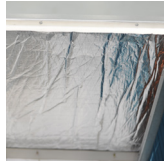


# Product Features



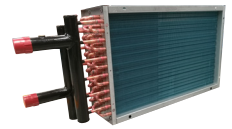
## Optimized Casing Structure

- Smooth surface, elegant profile
- Galvanized steel with 15mm thick polyester fiber insulation
- Inner surface with aluminum foil surface, quality upgrade
- Ceiling-mounted design with firm and stable frame.
- Steel bolts, nuts, screws with special treatment, enhanced corrosion resistance.



## High Efficiency Heat Exchanger

- High quality copper tube and aluminum fin.
- Better heat transfer efficiency.



## Quiet Operation

- High quality material: fan and motor.
- Double inlet, forward curved blade centrifugal fan.
- Less vibration.
- Low noise motor with belt driven.
- Each fan has been dynamically and statically balanced.



## High Efficiency Motor

- Well-known brand motors.
- IE2 motor efficiency and above.
- Low operating cost.
- VSD motor optional.



## High Performance Heat Insulation

- New polyester fiber insulation.
- Good thermal insulation performance.
- Good fire resistance, UL94 Class V0.



# Nomenclature

YBAH 04 B S N 0 0 0 0 0 0 0 L 1 G 0

YBAH: YORK® Ceiling Mounted Air Handling Unit

Nominal airflow:  
Model Code X 10³ m³/h  
(1F=1500m³/h, 2F=2500m³/h)

Fan Drive Type:  
B-Belt-Driven Fan

Casing Type:  
S-Single Skin 15mm Insulation

Cooling Coil:  
N-Standard Cooling Capacity;  
H-High Cooling Capacity

Heating coil:  
0-Without Heating Coil

Evaporative Humidifier:  
0-Without Humidifier

Filter:  
0-G1(Nylon)Filter;  
A-G1(Aluminum Mesh)Filter;  
B-G3 Plate Filter;  
C-G4 Plate Filter;  
D-F5 Plate Filter;  
E-Electrostatic Precipitator

Starter :  
0-Without Starter

Design Serial Number: G

External Total Pressure:  
1- Standard External Total Pressure;  
A-Y-Nominal Airflow with Special External Total Pressure;  
0- Special airflow

Pipe Connection:  
L-Left Handing;  
R-Right Handing

Air Condition:  
0-Return Air Condition;  
X-Fresh Air Condition

Power Supply:  
0-380V/3N~/50Hz  
C-380~415V/3N~/50Hz

TiO₂:  
0-Without TiO₂;  
T-With TiO₂

# Specifications

## Main Technical Data

Model	Airflow (m³/h)	Nominal External Total Pressure(Pa)		Max. External Total Pressure(Pa)		Nominal Cooling Capacity(kW)				Nominal Heating Capacity(kW)				Fan Type	Motor Type
		Standard Capacity Rows	High Capacity Rows	Standard Capacity Rows	High Capacity Rows	Return Air Condition		Fresh Air Condition		Return Air Condition		Fresh Air Condition			
						Standard Capacity Rows	High Capacity Rows	Standard Capacity Rows	High Capacity Rows	Standard Capacity Rows	High Capacity Rows	Standard Capacity Rows	High Capacity Rows		
YBAH1FB	1500	145	70	375	300	8.3	11.0	18.6	24.2	13.5	16.6	19.8	23.7	High Efficient, Double Air Inlets Forward Curved	3-Ø Asynchronous Motor, F Class Insulation, IP55
YBAH02B	2000	165	90	420	345	11.3	15.1	24.4	31.7	18.9	21.8	26.4	31.3		
YBAH2FB	2500	215	135	465	385	13.6	18.0	29.5	38.4	22.3	26.8	32.7	38.5		
YBAH03B	3000	205	130	470	395	16.8	22.0	36.2	47.6	28.3	33.3	41.0	46.8		
YBAH04B	4000	260	185	550	475	22.5	29.5	50.5	63.8	37.4	46.0	53.5	61.8		
YBAH05B	5000	235	160	525	450	28.3	37.0	63.1	80.1	47.1	56.6	65.7	77.4		
YBAH06B	6000	220	145	500	425	33.7	44.0	72.6	95.4	58.1	64.6	79.3	92.7		
YBAH07B	7000	220	140	515	435	38.4	50.4	80.7	104.7	64.8	77.3	89.9	108.0		
YBAH08B	8000	260	170	530	440	45.6	58.8	96.7	128.2	75.7	90.0	106.4	130.1		
YBAH10B	10000	300	215	635	550	61.8	78.2	133.8	170.0	103.6	118.7	149.0	168.6		
YBAH12B	12000	255	170	630	545	75.0	93.7	157.9	204.5	124.4	140.9	177.3	202.6		
YBAH15B	15000	315	230	580	495	93.4	117.1	197.1	252.9	154.9	176.8	221.5	251.1		

## Electric Wiring Diagrams

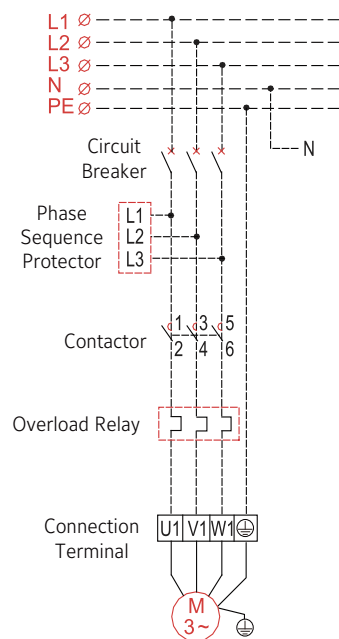


Fig.1

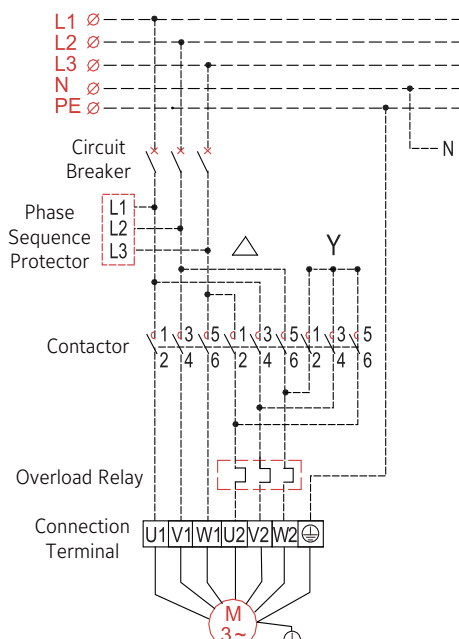


Fig.2

Electric Connection:

1. The direct start schematic diagram(Fig.1) is for motor up to 5.5kW. The Y-Δ start schematic(Fig.2) for motors more than 7.5kW.
2. The dashed lines is provided by customer and it should be connected according to Fig.1 & Fig.2. Please ensure that all connections are tightened.
3. All electric connections should comply with local electric installation codes.
4. The ground terminal of the unit must be connected to the ground terminal in the control panel.
5. Customer shall connect the power & control devices and supply short-circuit and overheat protection.

Notes:

1. The motor power is 380-415V/3N-/50Hz or 380-415V/3N-/50Hz, 4 wires.
2. The unit is equipped with plate type pre-filters at the return air intake.
3. When placing an order, the pipe direction(left connection or right) should be clearly defined(note: facing the return air intake, it is the right if the inlet/outlet water pipes are on the right side of unit and vice versa).
4. The airflow rate and total pressure should be defined as well when placing an order.

Motor Power (kW)	Motor Current(A)	Dimensions			Net Weight(kg)		Operating Weight (kg)	
		Depth (mm)	Width (mm)	Height (mm)	Standard Capacity Rows	High Capacity Rows	Standard Capacity Rows	High Capacity Rows
0.55	1.46	680	800	417	64	66	65	69
0.55	1.46	680	865	417	68	71	71	74
0.75	1.84	680	1005	417	77	80	80	84
0.75	1.84	825	1005	458	85	90	89	95
1.1	2.61	880	1190	485	107	112	112	119
1.5	3.47	880	1450	485	134	142	140	152
1.5	3.47	880	1680	485	147	156	154	167
1.5	3.47	800	1810	550	157	167	163	177
2.2	4.76	800	2050	550	173	187	180	198
3.0	6.34	940	1870	752	214	234	222	249
3.0	6.34	940	2170	752	274	300	284	317
4.0	8.37	940	2645	752	306	338	319	359

Notes:

1. The weight listed in the table is the weight of the units with a rated motor efficiency.
2. Standard return air cooling conditions: air inlet at 27°C DB/19.5°C WB; chilled water inlet/outlet at 7°C/12°C.
3. Standard return air heating conditions: air inlet at 21°C DB; hot water inlet/outlet at 60°C/50°C.
4. Cooling conditions of fresh air unit: air inlet at 35°C DB/28°C WB; chilled water inlet/outlet at 7°C/12°C.
5. Heating conditions of fresh air unit: air inlet at 7°C DB; hot water inlet/outlet at 60°C/50°C.
6. External total pressure: the sum of velocity pressure and static pressure at the air discharge outlet(exclude the pressure drop across the unit).

The unit performance is based on 5m altitude, the variance of altitude will affect the unit performance.

#### Altitude Correction Factors

Altitude(m)	300	900	1200	1500	1800
Total heat	0.99	0.97	0.96	0.94	0.93
Sensible heat	0.96	0.90	0.96	0.83	0.80

## Variable-Frequency Motor Wiring Diagrams

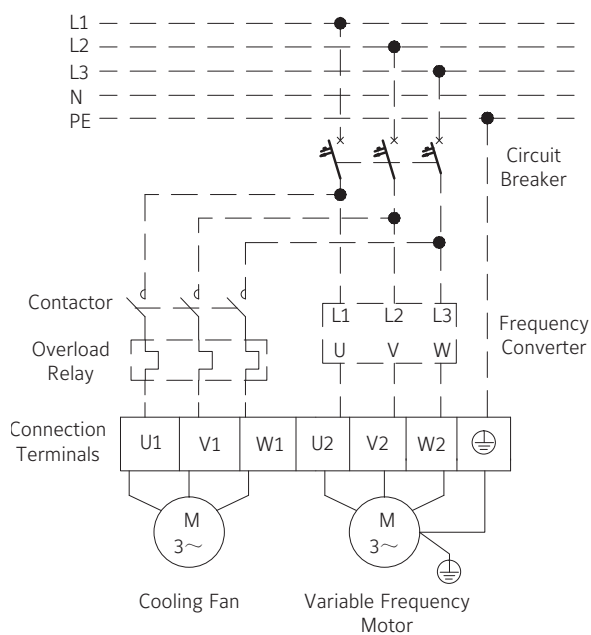


Fig.3

Notes:

1. The motor power is 380-415V/3N-/50Hz or 380-415V/3N-/50Hz, 4 wires.
2. All electric connections should comply with local electric installation codes.
3. The ground terminal of the unit must be connected to the ground terminal in the control panel.
4. Customer shall connect the power & control devices and supply short-circuit and overheat protection.
5. The dashed lines is provided by customer and it should be connected according to Fig.3. Please ensure that all connections are tightened.

--- Customer Supplied

— Factory Installed

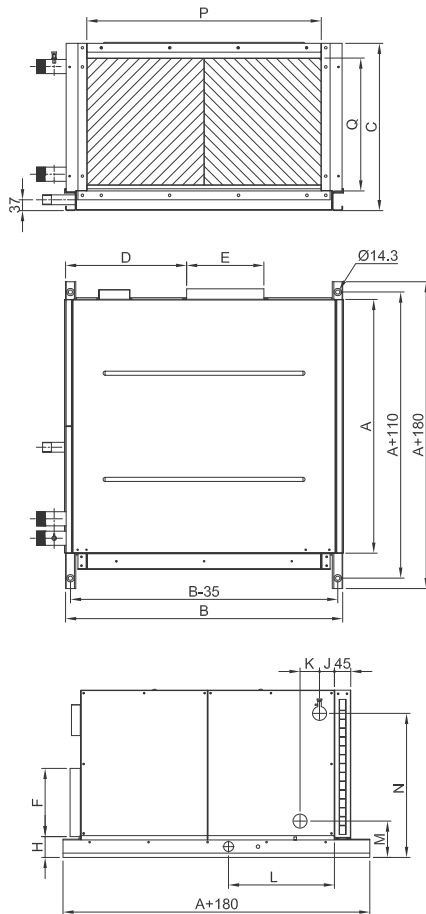
# Specifications

## Unit Dimensions

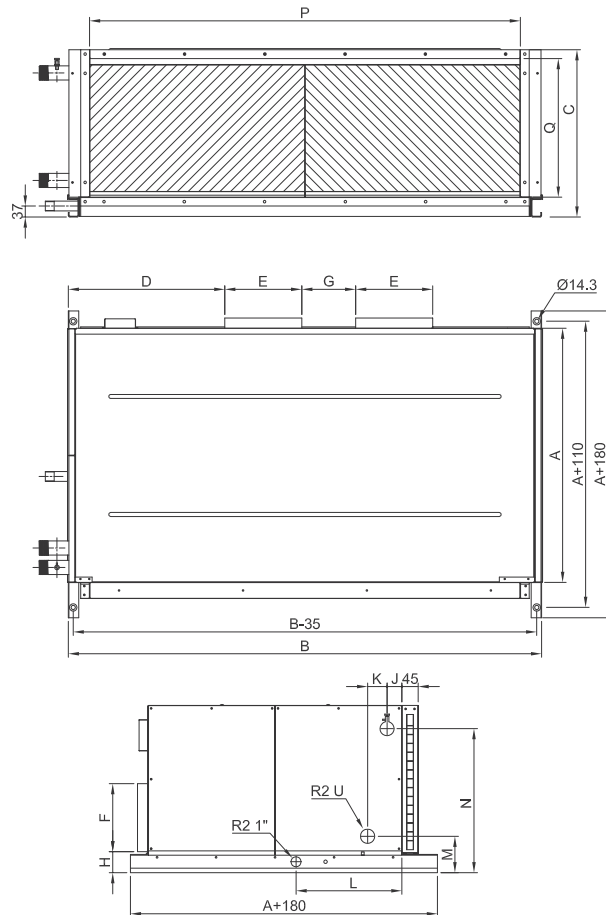
Model	Airflow	Depth (mm)	Width (mm)	Height (mm)	Supply Air Flange Size (mm)					Piping Connection Size (mm)				L
		(m <sup>3</sup> /h)	A	B	C	D	E	F	G	J		K		
			Standard Capacity Rows (Return/Fresh Air Condition)	High Capacity Rows (Return/Fresh Air Condition)	Standard Capacity Rows (Return/Fresh Air Condition)	High Capacity Rows (Return/Fresh Air Condition)								
YBAH1FB	1500	680	800	417	402.5	259	228	-	75	55	52	66	72.7	370
YBAH02B	2000	680	865	417	417.5	259	228	-	75	55	52	66	72.7	370
YBAH2FB	2500	680	1005	417	495.5	259	228	-	75	55	52	66	72.7	370
YBAH03B	3000	825	1005	458	511.5	287	256	-	87	96/85.5	99	200/210	205.5/216	580
YBAH04B	4000	880	1190	485	539.5	298	262	-	98	86	99	230	237	540
YBAH05B	5000	880	1450	485	611	232	262	184	80.5	86	99	230	237	540
YBAH06B	6000	880	1680	485	612	298	262	244	80.5	86	99	230	237	540
YBAH07B	7000	800	1810	550	609.5	331	289	264	90.5	60.5	64	66	88	418
YBAH08B	8000	800	2050	550	619.5	331	289	264	90.5	60.5	64	66	88	418
YBAH10B	10000	940	1870	752	704.5	471	404	-	113.5	63.5	81.5	82.5	88	523
YBAH12B	12000	940	2170	752	690	395	341	324	113.5	63.5	81.5	82.5	88	523
YBAH15B	15000	940	2645	752	807.5	373	404	294	113.5	63.5	81.5	82.5	88	523

## Unit Drawings

Single Fan Units



Double Fan Units



Piping Connection Size (mm)				Return Air Flange Size (mm)		Coil Piping (Connection Diameter)	
M		N		P	Q	R	
Standard Capacity Rows (Return/Fresh Air Condition)	High Capacity Rows (Return/Fresh Air Condition)	Standard Capacity Rows (Return/Fresh Air Condition)	High Capacity Rows (Return/Fresh Air Condition)			Standard Capacity Rows	High Capacity Rows
128.5	128.5	343.5	343.5	660	320	Ø34	Ø34
128.5	128.5	343.5	343.5	725	320	Ø34	Ø34
128.5	128.5	343.5	343.5	865	320	Ø34	Ø34
137.5	148.5/130.5	351.5/370	359	865	361	Ø34	Ø48
137.5	130.5	407	395.5	1050	388	Ø48	Ø48
137.5	130.5	407	395.5	1310	388	Ø48	Ø60
137.5	130	407	395.5	1540	388	Ø48	Ø60
130	130	462	462/474.5	1670	453	Ø48	Ø60
130	130	462/474.5	462/474.5	1910	453	Ø48	Ø60
130	130	665/677.5	677.5	1730	655	Ø60	Ø76
130	130	665/677.5	665/677.5	2030	655	Ø60	Ø76
130	130	665/677.5	677.5	2505	655	Ø60	Ø76

Notes:

1. When G is "-", the unit has only one air supply duct connection.
2. The coil pipe connections use male threads(thread code R2), the corresponding imperial diameters are:  
34mm---1" 42mm---1-1/4" 48mm---1-1/2"  
60mm---2" 76mm---2-1/2" 89mm---3"
3. The condensate pipe connections use 34mm O.D. male threads(thread code R2).
4. All dimensions are SI unit(mm).

## Cooling/Heating Capacity

Model	Airflow (m³/h)	Rows	Cooling Capacity				Heating Capacity			
			Return Air Condition		Fresh Air Condition		Return Air Condition		Fresh Air Condition	
			Total Cooling Capacity (kW)	Water Pressure Drop (kPa)	Total Cooling Capacity (kW)	Water Pressure Drop (kPa)	Total Heating Capacity (kW)	Water Pressure Drop (kPa)	Total Heating Capacity (kW)	Water Pressure Drop (kPa)
YBAH1F	1500	Standard Capacity	8.3	52.6	18.6	85.7	13.5	33.6	19.8	30.2
		High Capacity	11.0	61.8	24.2	91.9	16.6	34.2	23.7	28.8
YBAH02	2000	Standard Capacity	11.3	68.5	24.4	94.5	18.9	42.8	26.4	32.7
		High Capacity	15.1	68.5	31.7	97.0	21.8	37.5	31.3	30.3
YBAH2F	2500	Standard Capacity	13.6	60.2	29.5	79.6	22.3	37.9	32.7	28.7
		High Capacity	18.0	71.4	38.4	84.7	26.8	38.9	38.5	12.2
YBAH03	3000	Standard Capacity	16.8	76.1	36.2	92.5	28.3	46.6	41.0	32.1
		High Capacity	22.0	79.0	47.6	106.5	33.3	42.4	46.8	32.6
YBAH04	4000	Standard Capacity	22.5	81.8	50.5	106.7	37.4	49.6	53.5	35.7
		High Capacity	29.5	76.7	63.8	104.5	46.0	41.0	61.8	56.5
YBAH05	5000	Standard Capacity	28.3	73.5	63.1	129.8	47.1	44.6	65.7	42.2
		High Capacity	37.0	92.4	80.1	118.4	56.6	48.3	77.4	35.3
YBAH06	6000	Standard Capacity	33.7	84.5	72.6	108.0	58.1	51.0	79.3	36.1
		High Capacity	44.0	85.1	95.4	126.6	64.6	44.9	92.7	37.5
YBAH07	7000	Standard Capacity	38.4	78.5	80.7	91.5	64.8	48.4	89.9	33.0
		High Capacity	50.4	80.5	104.7	89.5	77.3	43.5	108.0	28.9
YBAH08	8000	Standard Capacity	45.6	76.8	96.7	101.0	75.7	47.6	106.4	36.0
		High Capacity	58.8	87.4	128.2	106.1	90.0	46.4	130.1	33.1
YBAH10	10000	Standard Capacity	61.8	78.5	133.8	98.0	103.6	49.3	149.0	36.6
		High Capacity	78.2	85.1	170.0	101.6	118.7	47.6	168.6	35.1
YBAH12	12000	Standard Capacity	75.0	78.7	157.9	95.6	124.4	49.2	177.3	36.0
		High Capacity	93.7	78.2	204.5	98.1	140.9	47.6	202.6	34.4
YBAH15	15000	Standard Capacity	93.4	85.1	197.1	101.0	154.9	52.7	221.5	37.3
		High Capacity	117.1	83.2	252.9	147.3	176.8	46.9	251.1	45.9

Notes:

1. Standard return air cooling conditions: air inlet at 27°C DB/19.5°C WB; chilled water inlet/outlet at 7°C/12°C.
2. Standard return air heating conditions: air inlet at 21°C DB; hot water inlet/outlet at 60°C/50°C.
3. Cooling conditions of fresh air unit: air inlet at 35°C DB/28°C WB; chilled water inlet/outlet at 7°C/12°C.
4. Heating conditions of fresh air unit: air inlet at 7°C DB; hot water inlet/outlet at 60°C/50°C.

# Options – Electrostatic Precipitator

## High Efficiency

- PM2.5 remove efficiency up to 95%
- Capture up to 95% of airborne pollutants to create clean air

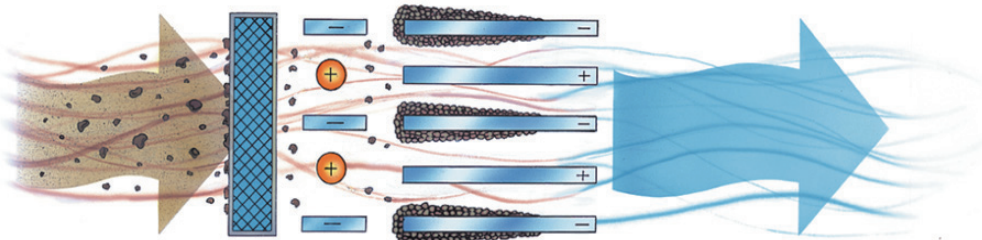
## Low Operating and Maintenance Cost

- Electrostatic precipitator attracts and captures charged dust and dirt particles on aluminum plates that are simply lifted out and rinsed off in the sink. Not only is this responsible to the environment but there are no expensive filters to replace.

## Energy Efficient

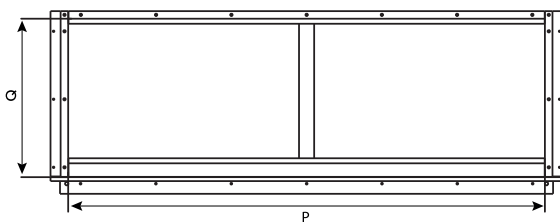
- Low resistance to airflow compare to mechanical media filter, reduce the energy consumption of air terminal fan section

## Electrostatic Precipitator Operating Process



A high-voltage ionizer within the air cleaner electrically charges airborne pollutants and particles. Electronic air cleaners feature electrostatic precipitators – a series of metal collection plates that are oppositely charged to the ionized particles. The negative filter plate then attracts and captures these microscopic particles, preventing them from being recirculated into the room.

## Electrostatic Precipitator



Model	Electrostatic Precipitator Size DxWxH(mm)	Filter Quantity	Connection Flange Size	
			P	Q
YBAH1F	182X609X301	1	710	308
YBAH02	182x609x301	1	795	308
YBAH2F	182x915x301	1	950	308
YBAH03	182x915x348	1	980	359
YBAH04	182x915x348	1	1120	399
YBAH05	182x609x348	2	1260	448
YBAH06	182X509X348	1	1460	448
	182x915x348	1		
YBAH07	182x1114x348	1	1700	448
	182x509x348	1		
YBAH08	182x915x348	2	1910	448
YBAH10	182x915x565	1	1710	628
	182x609x565	1		
YBAH12	182x915x565	2	2010	628
YBAH15	182x1114x565	2	2485	628

# Options – Nano-TiO<sub>2</sub> Healthy Air Sterilizer

Johnson Controls is committed to providing comfortable and healthy living and working environment for all our customers. Whilst caring and safeguarding the natural environment outside. With indoor air quality becoming a crucial global health concern, our unique nano-TiO<sub>2</sub> healthy air sterilization technology, can help remove almost all airborne germs and pathogens, ensuring healthy and fresh indoor air supplies.

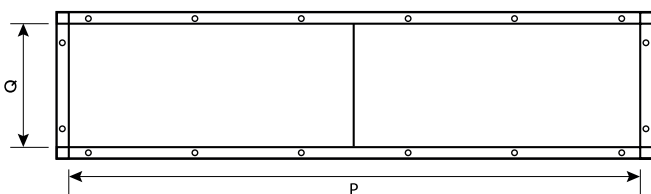
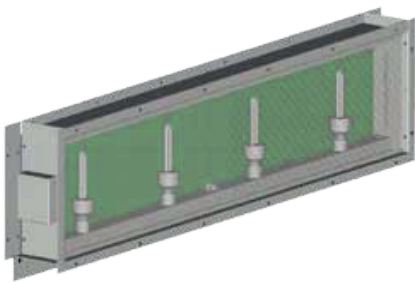
By oxidizing and decomposing the harmful substances in the air, YORK® Nano-TiO<sub>2</sub> healthy sterilization technology kills airborne germs, eliminates bad odors, and other harmful particles safely and efficiently.

- Biological pollutant – e.g. bacteria and germs...
- Organic pollutant – volatile organic compounds(VOCs) e.g. formaldehyde, benzene...
- Molds, fungi...
- Inorganic gaseous pollutant – e.g. NO<sub>x</sub>, SO<sub>x</sub>...
- Smoke and offensive odours.

## Nano-TiO<sub>2</sub> Healthy Air Sterilization Technology Features

- YORK is the first brand in the industry to apply Nano-grade TiO<sub>2</sub> technology to fan coils, residential and commercial central air conditioners, and residential split units.
- TiO<sub>2</sub> photo-catalysis not only filters bacteria but also kills them
- The ultraviolet light (UVA) in Nano-TiO<sub>2</sub> Healthy Air Sterilizer is designed to be durable.

## TiO<sub>2</sub> Healthy Air Sterilizer



Model	TiO <sub>2</sub> Model	Quantity	Connection Flange Size		Lamp Input Power (W)
			P	Q	
YBAH1F	TiO <sub>2</sub> YBAH1F	1	710	320	3×18
YBAH02	TiO <sub>2</sub> YBAH02	1	795	320	3×18
YBAH2F	TiO <sub>2</sub> YBAH2F	1	950	320	3×18
YBAH03	TiO <sub>2</sub> YBAH03	1	980	371	4×18
YBAH04	TiO <sub>2</sub> YBAH04	1	1120	411	4×18
YBAH05	TiO <sub>2</sub> YBAH05	1	1260	460	4×18
YBAH06	TiO <sub>2</sub> YBAH06	1	1460	460	6×18
YBAH07	TiO <sub>2</sub> YBAH07	1	1700	460	6×18
YBAH08	TiO <sub>2</sub> YBAH08	1	1910	460	9×18
YBAH10	TiO <sub>2</sub> YBAH10	1	1710	639	12×18
YBAH12	TiO <sub>2</sub> YBAH12	1	2010	639	12×18
YBAH15	TiO <sub>2</sub> YBAH15	1	2485	639	18×18

- Notes:
1. Power of ultraviolet lamp is 220V ~/50Hz or 220V ~/60Hz. Do not stare at the ultraviolet lamp for long time to prevent eye injury.
  2. The relevant wiring of interlock control between sterilizer and YBAH unit should be supplied by customer, i.e. the sterilizer starts when the indoor fan is turned on; and the sterilizer stops when the indoor fan is turned off.



## Johnson Controls:

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