



YBSE Series 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.

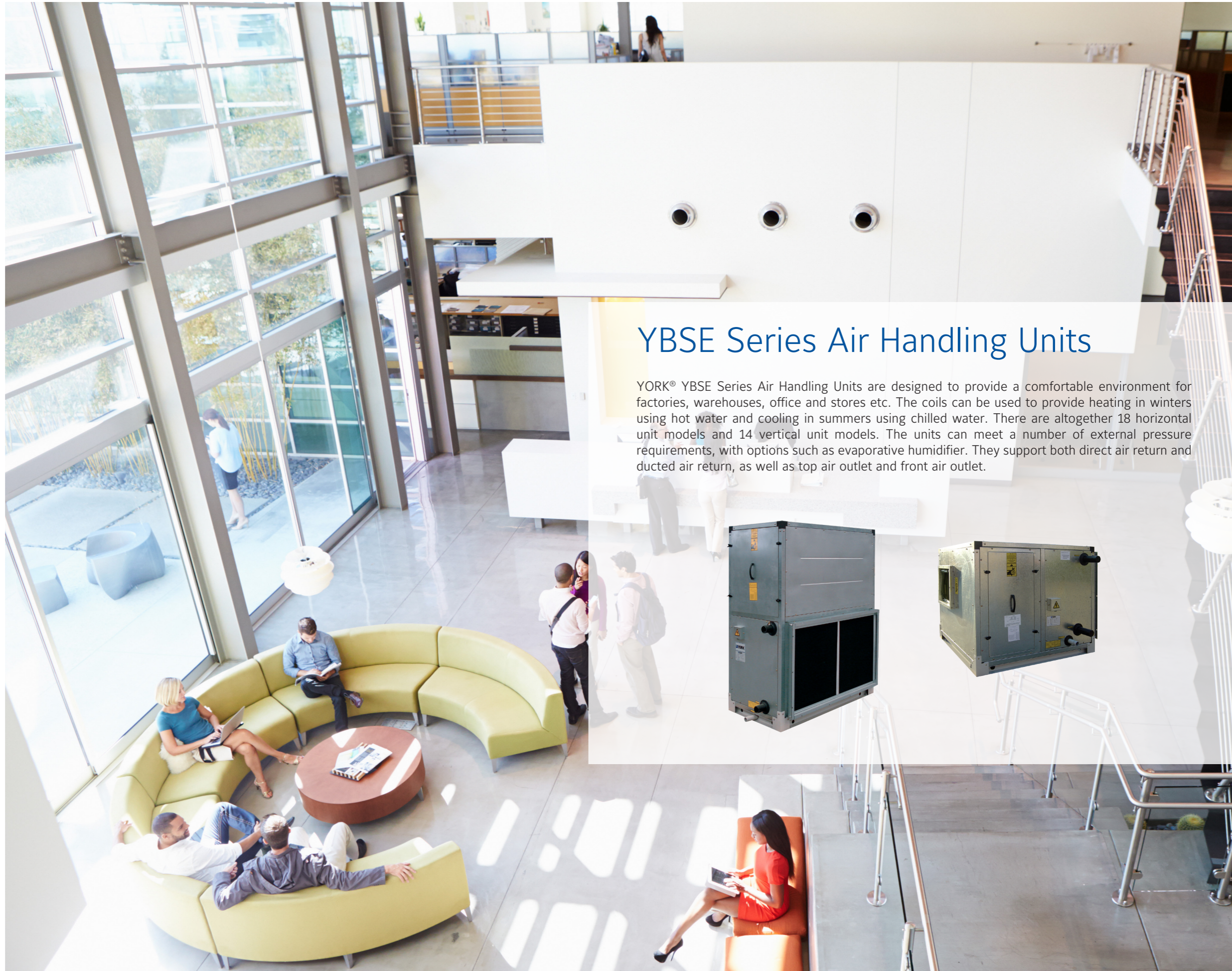
We listen carefully to understand our customer needs and are committed to technological development and innovation. We work with authoritative experts to create high-quality, high-performance equipment and a full range of service.



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.



YBSE Series Air Handling Units

YORK® YBSE Series Air Handling Units are designed to provide a comfortable environment for factories, warehouses, office and stores etc. The coils can be used to provide heating in winters using hot water and cooling in summers using chilled water. There are altogether 18 horizontal unit models and 14 vertical unit models. The units can meet a number of external pressure requirements, with options such as evaporative humidifier. They support both direct air return and ducted air return, as well as top air outlet and front air outlet.





Product Features



Elegant Design

All panels are made of high-quality galvanized steel to ensure a smooth surface and attractive profile.



Flexible & Low Cost Installation

The internal structure has been designed using computer-aided design software, giving the units a small installation footprint. This allows the unit to be installed within a limited space and ensures the installation cost is kept to a minimum. Each unit provides two installation options - duct type and non-duct type, together with two air outlet configurations - top outlet or front outlet for better space usage.



Stability

All internal components of the air handling units are firmly placed inside the high-strength frame.



High Heat Exchange Efficiency

The high-quality coil of the YBSE unit is made of expanded copper tubes and rippled aluminum fins, with high efficiency heat exchange. Equipped with a high air flow fan, the unit can reach maximum efficiency for heat transfer.



Easy Clean Filter

The filter in the duct type YBSE air handling units comprises nylon plate pre-filters which can be pulled out easily from the left or the right and is convenient to clean.



Quiet Operation

The unit uses a low noise belt driven motor for quiet operation. The fan, which is the latest low speed and high-volume model, emits very little noise.



Option

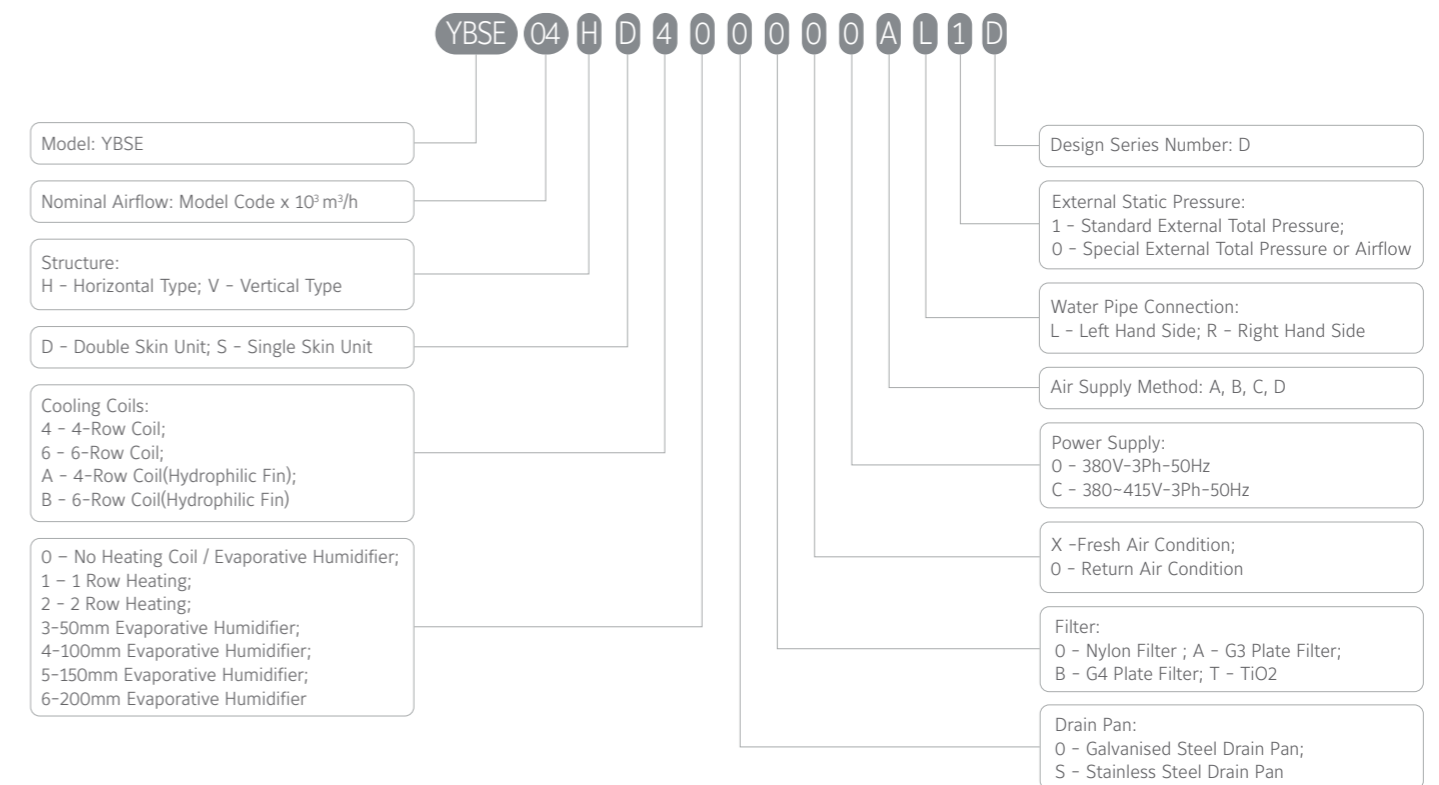
- 1- or 2-Row Heating Coil
- Evaporative Humidifier
- TiO2 Sterilizer



Dry Pan

The dry pan allows quick and easy drainage of condensation.

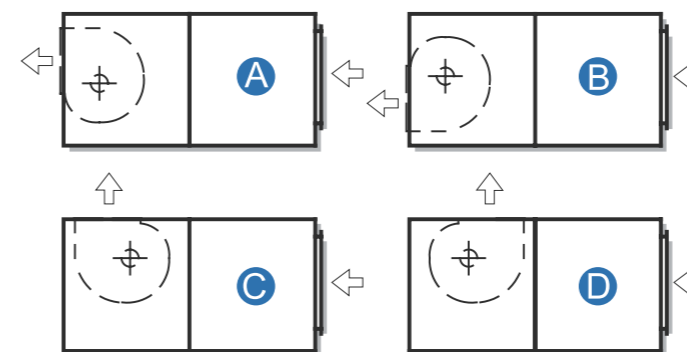
Nomenclature



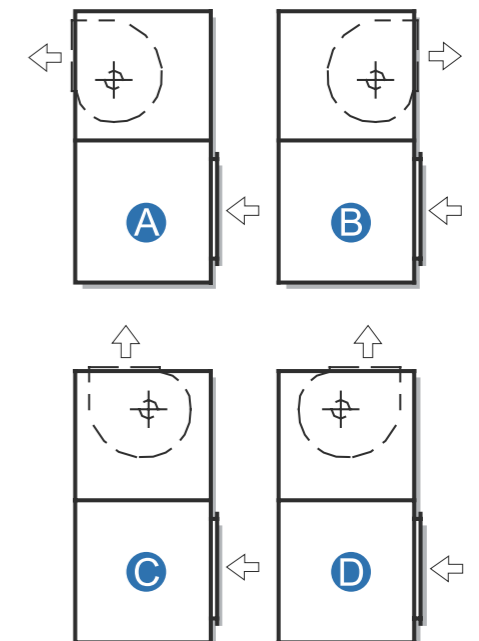
Note: Facing the return air intake, it is the right hand if water pipes are on the right side of unit; vice versa.

Air Supply Method

Horizontal Unit



Vertical Unit



Technical Data

Vertical Unit

Model	Airflow (m³/h)	Rows	Return Air Condition						Fresh Air Condition						External Total Pressure (Pa)	Motor Power(kW)	Dimension			Weight(kg)		Coil Piping(Connection Diameter)		Drainage Pipe
			Cooling Capacity(kW)	Water Flow Rate(L/s)	Water Pressure Drop (kPa)	Heating Capacity(kW)	Water Flow Rate(L/s)	Water Pressure Drop (kPa)	Cooling Capacity(kW)	Water Flow Rate(L/s)	Water Pressure Drop (kPa)	Heating Capacity(kW)	Water Flow Rate(L/s)	Water Pressure Drop (kPa)			Length (mm)	Width (mm)	Height (mm)	Single Skin	Double Skin	Return Air Condition	Fresh Air Condition	
YBSE02VS/VD	2000	4	11.2	0.53	22.0	18.3	0.44	11.1	24.1	1.15	40.0	24.7	0.60	10.1	160	0.55	620	800	1120	135	145	Ø48(1-1/2")	Ø48(1-1/2")	Ø42 (1-1/4")
		6	13.2	0.63	47.2	21.9	0.53	22.8	29.3	1.40	62.1	31.4	0.76	14.9	120	0.55	620	800	1120	145	155	Ø48(1-1/2")	Ø48(1-1/2")	
YBSE03VS/VD	3000	4	16.8	0.80	37.8	26.8	0.65	20.9	37.9	1.81	76.4	38.6	0.94	19.4	160	0.75	620	960	1180	148	160	Ø48(1-1/2")	Ø48(1-1/2")	
		6	19.8	0.95	30.1	31.4	0.76	14.8	47.4	2.25	49.4	45.7	1.12	12.3	120	0.75	620	960	1180	158	170	Ø48(1-1/2")	Ø60(2")	
YBSE04VS/VD	4000	4	22.4	1.07	37.0	35.6	0.87	20.5	50.7	2.41	56.4	50.9	1.23	14.6	160	1.1	620	1220	1320	185	200	Ø48(1-1/2")	Ø48(1-1/2")	
		6	27.7	1.33	64.6	42.2	1.02	31.6	62.0	2.96	36.0	60.4	1.46	9.0	120	1.1	620	1220	1320	195	210	Ø48(1-1/2")	Ø60(2")	
YBSE05VS/VD	5000	4	28.1	1.34	51.1	43.8	1.07	28.2	62.9	2.97	77.0	63.5	1.55	20.6	160	1.5	620	1310	1380	203	220	Ø48(1-1/2")	Ø48(1-1/2")	
		6	36.0	1.71	79.8	53.4	1.30	39.3	77.7	3.68	49.0	75.5	1.84	12.5	120	1.5	620	1310	1380	218	235	Ø60(2")	Ø60(2")	
YBSE06VS/VD	6000	4	33.5	1.59	49.0	54.1	1.32	26.8	78.4	3.75	65.1	78.1	1.90	16.6	160	1.5	620	1310	1510	212	230	Ø48(1-1/2")	Ø60(2")	
		6	42.0	1.99	74.7	64.6	1.57	36.7	94.7	4.54	43.0	92.2	2.24	10.5	120	1.5	620	1310	1510	227	245	Ø60(2")	Ø76(2-1/2")	
YBSE07VS/VD	7000	4	39.7	1.89	50.2	60.1	1.46	27.3	89.6	4.27	73.8	89.2	2.17	19.1	240	2.2	700	1320	1660	239	260	Ø60(2")	Ø60(2")	
		6	50.1	2.37	82.4	74.9	1.82	40.7	109.5	5.26	49.8	106.0	2.57	12.2	200	2.2	700	1320	1660	254	275	Ø60(2")	Ø76(2-1/2")	
YBSE08VS/VD	8000	4	45.9	2.20	60.1	71.1	1.73	32.2	103.5	4.93	88.4	101.8	2.48	22.8	240	2.2	700	1370	1720	258	280	Ø60(2")	Ø60(2")	
		6	56.4	2.70	41.5	84.6	2.05	20.7	125.2	5.98	58.9	121.0	2.93	14.5	200	2.2	700	1370	1720	278	300	Ø76(2-1/2")	Ø76(2-1/2")	
YBSE10VS/VD	10000	4	57.8	2.75	35.3	88.0	2.13	20.0	132.1	6.28	61	139.2	3.38	13.9	280	3	830	1640	1850	326	355	Ø60(2")	Ø76(2-1/2")	
		6	72.6	3.46	78.5	106.7	2.59	38.8	166.1	7.95	128.5	166.7	4.05	27	240	3	830	1640	1850	346	375	Ø76(2-1/2")	Ø76(2-1/2")	
YBSE12VS/VD	12000	4	68.9	3.31	61.8	106.7	2.59	33.4	162.8	7.76	102.4	169.1	4.13	21.2	320	4	830	1900	1850	358	390	Ø60(2")	Ø76(2-1/2")	
		6	84.4	4.06	42.5	126.8	3.08	21.3	194.8	9.29	68.2	198.6	4.81	14.7	280	4	830	1900	1850	383	415	Ø76(2-1/2")	Ø89(3")	
YBSE15VS/VD	15000	4	85.2	4.06	72.6	132.3	3.21	39.1	204.3	9.8	114.7	211.6	5.14	25.6	320	5.5	830	2010	1850	407	440	Ø76(2-1/2")	Ø89(3")	
		6	105.2	4.98	49.9	157.8	3.82	25.5	244.5	11.61	87.3	248.5	6.05	19.3	280	5.5	830	2010	1850	437	470	Ø89(3")	Ø89(3")	
YBSE18VS/VD	18000	4	106.5	5.06	39.6	171.1	4.16	15.3	247.9	11.9	160.2	254.9	6.21	35.4	360	7.5	830	2210	1915	513	550	Ø89(3")	Ø89(3")	
		6	137.7	6.57	90.6	198.1	4.84	29.4	296.1	14.1	122.4	299	7.28	26	320	7.5	830	2210	1915	548	585	Ø89(3")	Ø89(3")	
YBSE20VS/VD	20000	4	119.1	5.67	45.4	196.3	4.75	17.4	276.3	13.24	182.7	283.6	6.91	40.3	400	7.5	830	2300	2110	539	580	Ø89(3")	Ø89(3")	
		6	153	7.26	101.8	220.3	5.37	33.3	329.9	15.85	141.1	332.6	8.09	30	360	7.5	830	2300	2110	579	620	Ø89(3")	Ø89(3")	
YBSE22VS/VD	22000	4	131.3	6.19	44.8	210.1	5.11	17.3	304.9	14.51	181.6	312.8	7.57	40	440	11	830	2300	2240	557	600	Ø89(3")	Ø89(3")	
		6	168.6	8.1	99.7	242.8	5.9	32.6	363.6	17.3	144.9	366.4	8.94	30.6	400	11	830	2300	2240	602	645	Ø89(3")	Ø89(3")	
YBSE25VS/VD	25000	4	149.1	7.05	44.2	238.2	5.76	17	345.5	16.56	177	354.6	8.63	39	400	11	830	2300	2365	614	660	Ø76(2-1/2")	Ø76(2-1/2")	
		6	191.4	9.03	100	275.4	6.71	32.6	412.4	19.65	116.4	415.7	10.11	24.8	360	11	830	2300	2365	664	700	Ø76(2-1/2")	Ø89(3")	

- Notes:
- Standard return air cooling conditions: air inlet at 27°C DB/19.5°C WB; chilled water inlet/outlet at 7°C/12°C.
 - Standard return air heating conditions: air inlet at 21°C DB; hot water inlet/outlet at 60° C/50° C.
 - Cooling conditions of fresh air unit: air inlet at 35°C DB/28° C WB; chilled water inlet/outlet at 7°C/12°C.
 - Heating conditions of fresh air unit: air inlet at 7°C DB; hot water inlet/outlet at 60°C/50°C.
 - High efficiency, double air inlets forward curved fans are applied.
 - 3-phase asynchronous motors with F class IP54 insulation are applied. Power Supply: 380V-3Ph-50Hz or 380-415V-3Ph-50Hz.
 - If the unit has TiO₂, evaporative humidifier or split coil (cooling+heating) option, the external total pressure will be reduced by the corresponding component's pressure drop.

Options - Nano-TiO₂ Healthy Air Sterilizer

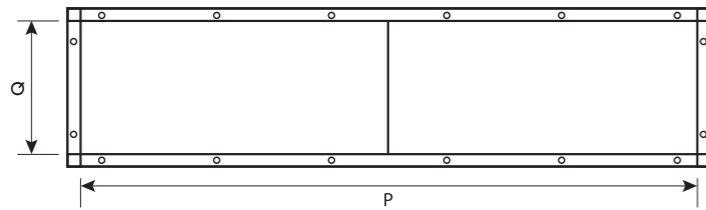
Nano-TiO₂ Disinfection Technology

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-TiO₂ 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-TiO₂ 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. NOx, SOx...
- Smoke and offensive odours.

TiO₂ Component Dimensions



Model	Flange Connection Dimension	
	Q	P
YBSE02HS/HD	476	706
YBSE03HS/HD	556	806
YBSE04HS/HD	665.5	906
YBSE05HS/HD	686	956
YBSE06HS/HD	806	956
YBSE07HS/HD	806	1096
YBSE08HS/HD	936	1096
YBSE10HS/HD	1066	1206
YBSE12HS/HD	1066	1376
YBSE15HS/HD	1186	1516
YBSE18HS/HD	1316	1626
YBSE20HS/HD	1316	1796
YBSE22HS/HD	1446	1796
YBSE25HS/HD	1446	2026
YBSE28HS/HD	1576	2076
YBSE30HS/HD	1576	2216
YBSE33HS/HD	1576	2426
YBSE36HS/HD	1576	2636

Model	Flange Connection Dimension	
	Q	P
YBSE02VS/VD	390	648
YBSE03VS/VD	454	811
YBSE04VS/VD	454	1071
YBSE05VS/VD	515	1164
YBSE06VS/VD	645	1164
YBSE07VS/VD	708	1171
YBSE08VS/VD	771	1221
YBSE10VS/VD	780	1491
YBSE12VS/VD	780	1751
YBSE15VS/VD	898	1861
YBSE18VS/VD	962	2061
YBSE20VS/VD	1025	2151
YBSE22VS/VD	1152	2151
YBSE25VS/VD	1279	2151

Options - Evaporative Humidifier

Horizontal Unit Specifications

Model	Airflow (m ³ /h)	Cooling Coil Rows	Humidification(kg/h)							
			Fresh Air Condition				Mixed Air Condition			
			50mm	100mm	150mm	200mm	50mm	100mm	150mm	200mm
YBSE02HS/HD	2000	4	5	9	12	-	4	8	10	-
YBSE03HS/HD	3000	4	8	14	18	-	6	12	15	-
YBSE04HS/HD	4000	4	10	19	24	-	9	17	21	-
YBSE05HS/HD	5000	4	12	23	30	-	11	21	26	-
YBSE06HS/HD	6000	4	15	28	36	-	13	25	32	-
YBSE07HS/HD	7000	4	17	33	41	47	15	29	37	42
YBSE08HS/HD	8000	4	19	37	47	54	17	33	42	48
YBSE10HS/HD	10000	4	24	47	59	68	22	41	53	60
YBSE12HS/HD	12000	4	29	56	71	81	26	50	63	72
YBSE15HS/HD	15000	4	36	70	89	102	32	62	79	90
YBSE18HS/HD	18000	4	44	84	107	122	39	74	95	108
YBSE20HS/HD	20000	4	49	93	118	135	43	83	105	120
YBSE22HS/HD	22000	4	54	102	130	149	48	91	116	132
YBSE25HS/HD	25000	4	61	116	148	169	54	103	132	150
YBSE28HS/HD	28000	4	68	130	166	190	61	116	147	168
YBSE30HS/HD	30000	4	73	140	178	203	65	124	158	181
YBSE33HS/HD	33000	4	80	154	196	223	72	136	174	199
YBSE36HS/HD	36000	4	88	168	214	244	78	148	190	216

Notes:

- The evaporative humidification is an isenthalpic process, which is only suitable for comfort air-conditioning, and not suitable for the applications where high precision of humidity control is required.
- When the unit is equipped with an evaporative humidifier, the external total pressure of unit should be deducted by air pressure drop across the humidifier:
50mm--24Pa, 100mm--42Pa, 150mm--60Pa, 200mm--90Pa.
- Fresh air humidification conditions: 28°C, 10%RH. Face velocity less than 3.0m/s.
- Mixed air (fresh air ratio at 20-30%) humidification condition: 28°C, 25% RH. Face velocity less than 3.0m/s.
- These are standard specifications. Please contact our local Johnson Controls offices for your specific requirements.

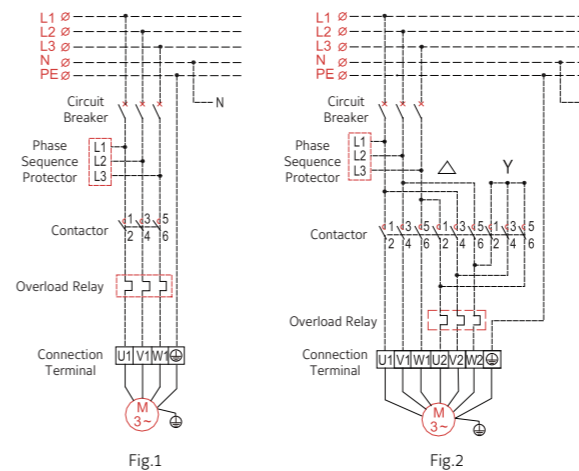
Vertical Unit Specifications

Model	Airflow (m ³ /h)	Cooling Coil Rows	Humidification(kg/h)					
			Fresh Air Condition			Mixed Air Condition		
			50mm	100mm	150mm	50mm	100mm	150mm
YBSE02VS/VD	2000	4	4	8	-	4	7	-
YBSE03VS/VD	3000	4	6	12	-	5	10	-
YBSE04VS/VD	4000	4	9	16	-	7	13	-
YBSE05VS/VD	5000	4	11	20	-	9	17	-
YBSE06VS/VD	6000	4	13	24	-	10	20	-
YBSE07VS/VD	7000	4	15	28	-	12	23	-
YBSE08VS/VD	8000	4	17	33	-	14	27	-
YBSE10VS/VD	10000	4	21	41	52	17	33	42
YBSE12VS/VD	12000	4	26	49	62	21	40	51
YBSE15VS/VD	15000	4	32	61	78	26	50	64
YBSE18VS/VD	18000	4	38	73	93	31	60	76
YBSE20VS/VD	20000	4	42	81	103	35	67	85
YBSE22VS/VD	22000	4	47	89	114	38	73	93
YBSE25VS/VD	25000	4	53	101	129	43	83	106

The condition for evaporative humidifier:

- Environmental temperature: 5-100°C for humidification material, and 5-50°C for control panel.
- Humidity: not more than 90% RH.
- Critical face velocity: less than 4.0m/s.
- Supply water: city water, purified water or similar water.
- The temperature of supply water: 5-40°C.
- The pressure of supply water: 0.15-0.75Mpa.

Wiring Diagram



Electrical Connection:

- 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.
- 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.
- All electric connections should comply with local electric installation codes.
- The ground terminal of the unit must be connected to the ground terminal in the control panel.
- Customer shall connect the power & control devices and supply short-circuit and overheat protection.
- Factory can offer supply power at 380V/3N-50Hz or 380-415V-3Ph-50Hz.

----- Installed by Factory
----- Wired by Customer



Johnson Controls:

At Johnson Controls, we transform the environments where people live, work, learn and play. From optimizing building performance to improving safety and enhancing comfort, we drive the outcomes that matter most. We deliver our promise in industries such as healthcare, education, data centers and manufacturing. With a global team of 105,000 experts in more than 150 countries and over 130 years of innovation, we are the power behind our customers' mission. Our leading portfolio of building technology and solutions includes some of the most trusted names in the industry, such as Tyco®, York®, Metasys®, Ruskin®, Titus®, Frick®, Penn®, Sabroe®, Simplex®, Ansul® and Grinnell®.

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The power behind **your mission**

