



INSTALL CONFIDENCE



YAH Series Air Handling Units

YAH Series Air Handling Units

Johnson Controls YORK® YAH ceiling mounted cabinet fan coil units are terminal points of central air-conditioning systems. They are designed for fresh air units or to cool, heat, humidify and 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.

YORK YAH series air handling units have 12 different models. The cooling capacity ranges from 8kW to 252kW, and air flow from 1500m³/h to 15000m³/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 aluminium 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 The externally mounted filter can be withdrawn from side or bottom.

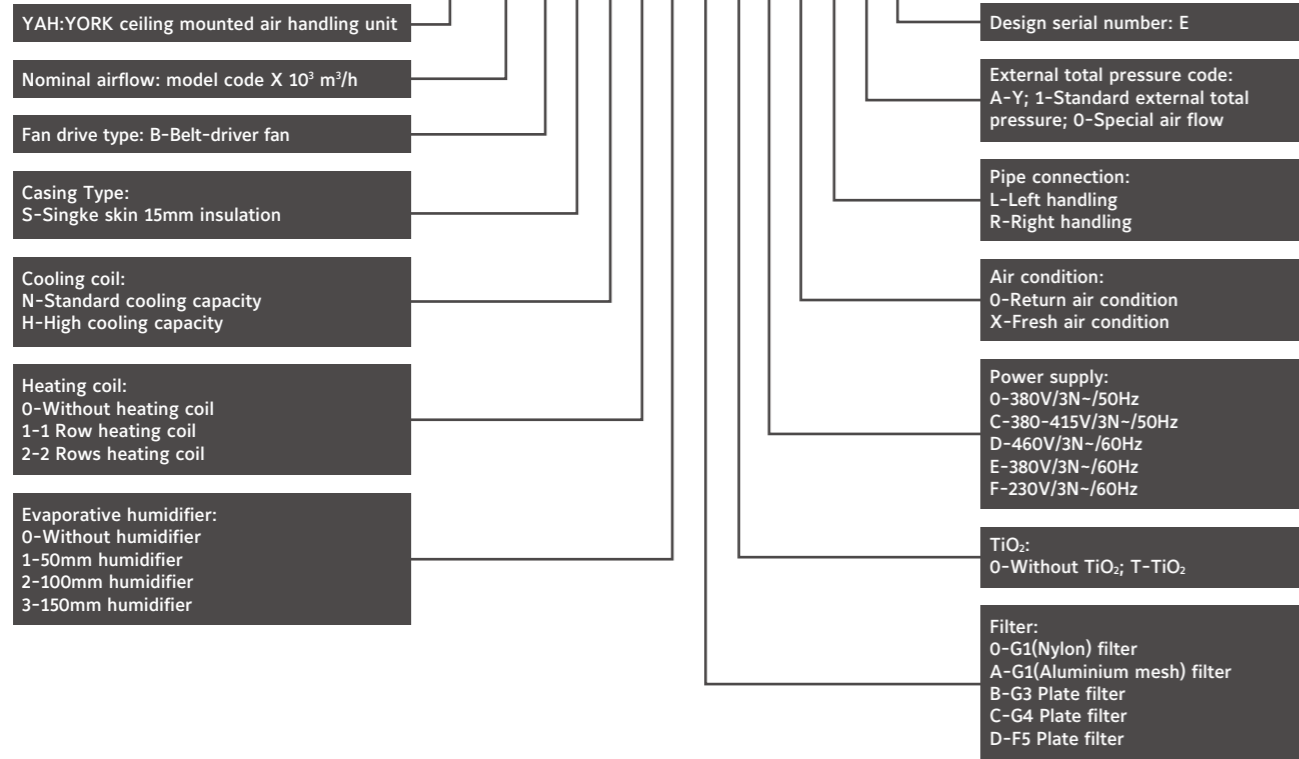
Features

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

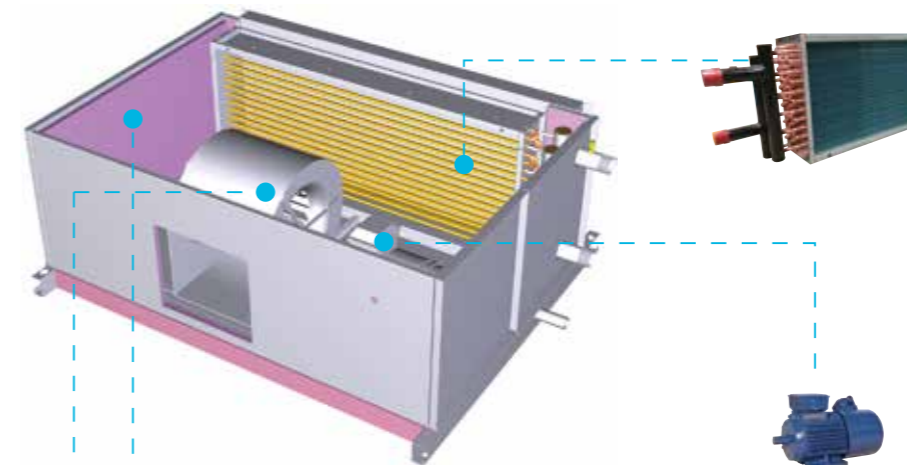


Nomenclature & Feature

YAH04BSN000000LAE



YAH Product Features



High Efficiency Heat Exchanger

- High quality copper tube and aluminium fin
- Better heat transfer efficiency

High Efficiency Motor

- Well-known brand motors
- IE3 motor efficiency
- Low operating cost
- VSD motor optional

Optimized Casing Structure

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

High Performance Heat Insulation

- New polyester fiber insulation
- Good thermal insulation performance
- Non-combustible type, good fire resistance

Quiet Operation

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

Specifications

Main Technical Data

Model	Airflow m ³ /h	Nominal external total pressure (Pa)		Max. external total pressure (Pa)		Nominal cooling capacity (kW)				Nominal heating capacity (kW)				Fan type	Motor type	Motor power (kW)	Dimensions (mm)			Weight (kg)		
		Standard capacity rows	High capacity rows	Standard capacity rows	High capacity rows	Return air condition		Fresh air condition		Return air condition		Fresh air condition					Depth	Width	Height	Standard capacity rows	High capacity rows	
						Standard capacity rows	High capacity rows	Standard capacity rows	High capacity rows	Standard capacity rows	High capacity rows	Standard capacity rows	High capacity rows									
YAH1FB	1500	200	120	375	295	8.2	11.5	18.5	24.2	13.5	16.6	19.3	23.7	High efficient, double air inlets forward curved	3-Ø asynchronous motor, F class insulation, IP55	0.55	860	850	417	81	84	
YAH02B	2000	200	120	450	370	11.3	15.1	24.4	31.7	18.9	21.8	25.9	31.3				860	935	417	86	92	
YAH2FB	2500	230	150	455	375	13.3	17.4	28.2	36.9	22.3	26.8	32.2	38.5				0.75	860	1090	417	99	105
YAH03B	3000	230	150	455	375	17.2	22.6	36.2	47.6	27.6	33.3	41.0	46.8				0.75	860	1120	468	105	112
YAH04B	4000	280	200	530	450	22.5	30.7	50.5	65.0	37.4	46.0	51.5	61.8				1.1	860	1260	508	125	135
YAH05B	5000	285	205	535	455	28.3	38.6	63.1	80.1	46.9	56.6	65.7	77.4				1.5	940	1400	557	151	162
YAH06B	6000	270	190	470	390	33.7	44.1	72.6	99.6	58.1	64.6	79.3	92.7				1.5	940	1600	557	175	189
YAH07B	7000	270	190	495	415	38.1	49.3	79.2	103.7	63.2	75.1	89.9	108.0				2.2	940	1840	557	192	208
YAH08B	8000	300	220	600	520	47.1	60.2	96.7	134.0	75.5	90.0	106.4	130.1				2.2	940	2050	557	206	223
YAH10B	10000	295	215	620	540	63.2	78.2	133.8	170.0	104.1	118.7	150.4	168.6				3.0	1100	1850	736	248	274
YAH12B	12000	275	195	625	545	75.2	95.0	157.9	204.5	125.1	140.9	179.1	202.6				3.0	1100	2150	736	317	348
YAH15B	15000	315	235	615	535	94.8	118.5	197.1	252.9	157.8	177.2	223.4	251.1				4.0	1100	2625	736	358	396

- Notes:
- The weight listed in the table is the shipping weight. The operation weight of unit is about 20% more than the shipping weight.
 - Standard return air cooling conditions: air inlet at 27°C DB/19.5WB; 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.
 - External total pressure: the sum of velocity pressure and static pressure at the air discharge outlet (exclude the pressure drop across the unit)
 - For four-piped unit, heating coil is in the front of the cooling coil in the direction of air flow.
 - If the unit has TiO₂, evaporative humidifier or split coil (cooling+heating) option, the external total pressure should be deducted by the responding air drop pressure

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

Note: The above is only for reference. Please contact our local office for detailed data.

YAH-D Evaporative Humidifier Performance

Model	Airflow m ³ /h	Air pressure drop (Pa)			Fresh air humidification (kg/h)			Mixed air humidification (kg/h)			Weight (kg)		
		Depth 50mm	Depth 100mm	Depth 150 mm	Depth 50mm	Depth 100mm	Depth 150mm	Depth 50mm	Depth 100mm	Depth 150mm	Depth 50mm	Depth 100mm	Depth 150mm
YAH1FB	1500	24	42	60	3	6	8	3	5	6	2	4	5
YAH02B	2000	23	40	57	4	8	10	4	7	8	3	5	7
YAH2FB	2500	24	42	60	5	10	13	5	9	10	4	7	10
YAH03B	3000	24	42	60	6	12	15	5	10	12	4	7	10
YAH04B	4000	24	41	59	8	16	20	7	13	16	5	9	14
YAH05B	5000	24	42	60	10	19	24	8	16	20	6	12	17
YAH06B	6000	24	42	60	12	23	29	10	19	24	7	14	20
YAH07B	7000	24	42	60	14	27	34	12	22	28	9	18	27
YAH08B	8000	24	42	60	16	30	38	13	25	31	9	18	27
YAH10B	10000	25	44	62	20	37	47	16	30	39	11	22	33
YAH12B	12000	26	44	63	23	44	56	19	36	46	13	26	39
YAH15B	15000	25	44	63	29	55	70	24	45	57	17	33	49

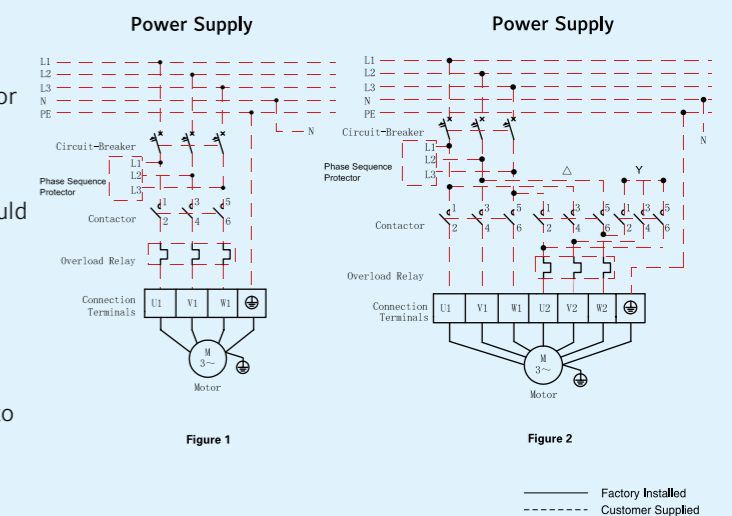
Notes:

- 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 a evaporative humidifier. The external static pressure of unit should be deducted by air pressure drop across the humidifier.
- Fresh air humidification conditions: 28°C DB; 10% RH. Face velocity less than 3.0m/s.
- Mixed air (fresh air ratio at 20-30%) humidification condition: 28°C DB; 25% RH. Face velocity less than 3.0m/s.
- The above net weight includes the weight of evaporative humidifier, stainless steel frame and water distribution box; the operation weight of the evaporative humidifier is about 150% more than the unit.
- The face velocity of direct feeding evaporative humidifier is the same as those of coils.

Electric Wiring Diagrams

Electric Connection:

- The direct start schematic diagram (Fig.1) is for motor up to 5.5kW. The Y-Δstart 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 or 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 should connect the power and control devices and supply short-circuit and over heat protection.



Notes: for placing an order:

- The motor power is 380V/3N-50Hz, 380-415V/3N-/50Hz, 460V/3N-/60Hz, 380V/3N-/60Hz or 230V/3N-/60Hz, 4 wires.
- The unit is equipped with plate type pre-filters at the return air intake.
- When placing an order, the pipe direction (left connection or right) should be noticed (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).
- The airflow rate and total pressure should be noticed when placing an order.
- If starter is required, it should be noticed when placing an order (an option).

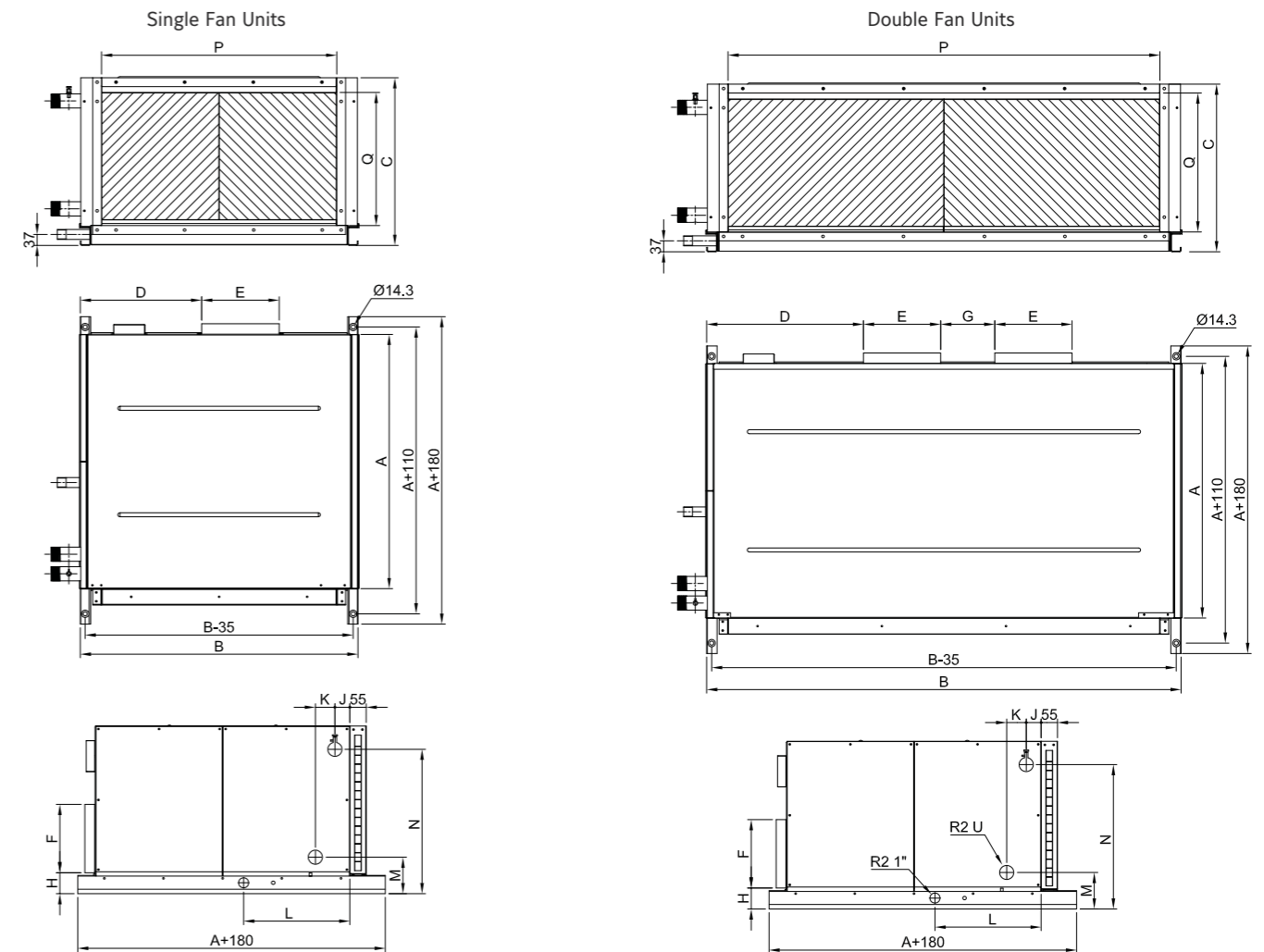
Specifications

Main Technical Data

Model	Airflow m ³ /h	Depth			Supply air flange size					Piping position						Return air flange size		Coil piping (Connection diameter)		
		A	B	C	D	E	F	G	H	J		K		L	M	N	P	Q	R	
											Standard capacity rows	High capacity rows	Standard capacity rows	High capacity rows						Standard capacity rows
YAH1FB	1500	860	850	417	429	259	228	-	76	55.5	60.5	66	88	400	156.5	318.5	710	320	Ø34	Ø34
YAH02B	2000	860	935	417	429	259	228	-	76	55.5	60.5	66	88	400	156.5	318.5	795	320	Ø34	Ø34
YAH2FB	2500	860	1090	417	489	259	228	-	76	55.5	60.5	66	88	400	156.5	318.5	950	320	Ø34	Ø34
YAH03B	3000	860	1120	468	500	287	256	-	88	55.5	60.5	66	88	400	156.5	369.5	980	371	Ø34	Ø48
YAH04B	4000	860	1260	508	405	554	262	-	97	60.5	60.5	66	88	400	145.5	409.5	1120	411	Ø48	Ø48
YAH05B	5000	940	1400	557	418	620	289	-	99	60	60.5	67	88	400	156.5	471	1260	460	Ø48	Ø60
YAH06B	6000	940	1600	557	573.5	298	262	244	107	60	60.5	67	88	400	156.5	471	1460	460	Ø48	Ø60
YAH07B	7000	940	1840	557	573.5	298	262	244	107	60	60.5	67	88	400	156.5	471	1700	460	Ø48	Ø60
YAH08B	8000	940	2050	557	582.5	298	262	244	107	60	60.5	67	88	400	156.5	471	1910	460	Ø48	Ø60
YAH10B	10000	1100	1850	736	594.5	471	404	-	112	63.3	81.5	82.5	110	441	147	627	1710	639	Ø60	Ø76
YAH12B	12000	1100	2150	736	648.5	395	341	324	112	63.3	81.5	82.5	110	441	147	627	2010	639	Ø60	Ø76
YAH15B	15000	1100	2625	736	668.5	373	404	294	112	63.3	81.5	82.5	110	441	147	627	2485	639	Ø60	Ø76

- Notes:
- When G is "-", the unit has only one air supply duct connection.
 - 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"
 - The condensate pipe connections use 34mm O.D. male threads (thread code R2).
 - All dimensions are SI unit (mm).

Unit Drawings



Notes: The above applies to left hand unit.

Options

Industry Leading Technology - Nano-TiO₂ Healthy Air Sterilizer (Optional)

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 supply.

By oxidising and decomposing the harmful substances in the air, YORK Nano-TiO₂ healthy sterilization technology kills airborne germs, eliminates odors, and removes microbes 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_x, SO_x
- Smoke and offensive odours

Nano-TiO₂ healthy air sterilization technology contains the following features:

- YORK is the first brand in the industry to apply Nano-grade TiO₂ technology to fan coils, residential and commercial central air conditioners, and residential split units.

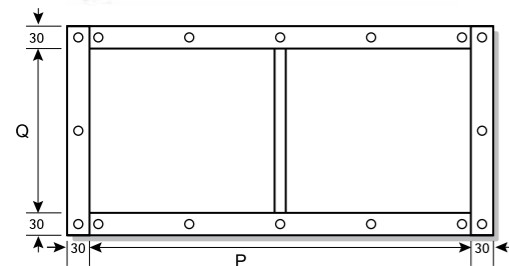
- Nano-grade TiO₂ has been recognised in 125 countries and is patent-pending
- TiO₂ photo-catalysis not only filters bacteria but also kills them
- The ultraviolet light (UVA) in Nano-TiO₂ Healthy Air Sterilizer is designed to be durable, lasting up to 10,000 hours
- The technology has been tested by the following institutes and organisations:

•The Hong Kong Polytechnic University, Report No. P04-0521
•The Productivity Council of Hong Kong, Report No. 4101-40014285
•The Detection Centre of Microbiology, Guangzhou, PRC, Report No. 4101-40014286



If the Nano-grade TiO₂ steriliser is ordered by customers, it will be installed on the YAH unit by the manufacturer prior to shipping.

TiO₂ Healthy Air Sterilizer 1



Model	TiO ₂ Model	Connection frame No.	Connection flange dimension		Lamp input power (W)
			P	Q	
YAH1F	TiO ₂ : YAH1F	1	710	320	3 x 18
YAH02	TiO ₂ : YAH02	1	795	320	3 x 18
YAH2F	TiO ₂ : YAH2F	1	950	320	3 x 18
YAH03	TiO ₂ : YAH03	1	980	371	4 x 18
YAH04	TiO ₂ : YAH04	1	1120	411	4 x 18
YAH05	TiO ₂ : YAH05	1	1260	460	4 x 18
YAH06	TiO ₂ : YAH06	1	1460	460	6 x 18
YAH07	TiO ₂ : YAH07	1	1700	460	6 x 18
YAH08	TiO ₂ : YAH08	1	1910	460	9 x 18
YAH10	TiO ₂ : YAH10	1	1710	639	12 x 18
YAH12	TiO ₂ : YAH12	1	2010	639	12 x 18
YAH15	TiO ₂ : YAH15	1	2485	639	18 x 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 YAH 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.

Cooling/Heating Capacity Table

Model	Airflow m ³ /h	Rows	Cooling Capacity								Heating Capacity					
			Return air condition				Fresh air condition				Return air condition			Fresh air condition		
			Total cooling capacity (kW)	Sensible cooling capacity (kW)	Water Flow Rate (L/s)	Water Pressure Drop (kPa)	Total cooling capacity (kW)	Sensible cooling capacity (kW)	Water Flow Rate (L/s)	Water Pressure Drop (kPa)	Total heating capacity (kW)	Water Flow Rate (L/s)	Water Pressure Drop (kPa)	Total heating capacity (kW)	Water Flow Rate (L/s)	Water Pressure Drop (kPa)
YAH1F	1500	Standard capacity	8.2	5.9	0.388	58.2	18.5	8.0	0.872	102.6	13.5	0.329	35.4	19.3	0.466	30.1
		High capacity	11.5	7.9	0.548	70.9	24.2	10.5	1.159	89.7	16.6	0.407	36.9	23.7	0.582	22.6
YAH02	2000	Standard capacity	11.3	8.1	0.539	59.8	24.4	10.6	1.169	72.2	18.9	0.458	34.7	25.9	0.630	21.2
		High capacity	15.1	10.4	0.721	79.9	31.7	13.8	1.504	88.2	21.8	0.533	25.9	31.3	0.759	22.1
YAH2F	2500	Standard capacity	13.3	9.6	0.630	54.6	28.2	12.3	1.349	82.4	22.3	0.537	32.5	32.2	0.783	24.2
		High capacity	17.4	12.0	0.829	57.9	36.9	16.1	1.763	82.7	26.8	0.657	29.5	38.5	0.935	20.8
YAH03	3000	Standard capacity	17.2	12.4	0.814	80.0	36.2	15.8	1.729	96.8	27.6	0.673	32.7	41.0	1.000	28.1
		High capacity	22.6	15.5	1.069	66.8	47.6	20.7	2.281	82.8	33.3	0.810	34.1	46.8	1.143	20.9
YAH04	4000	Standard capacity	22.5	16.3	1.066	81.0	50.5	21.9	2.383	102.2	37.4	0.913	46.6	51.5	1.250	24.9
		High capacity	30.7	21.0	1.462	81.5	65.0	28.4	3.111	97.4	46.0	1.116	39.8	61.8	1.506	24.3
YAH05	5000	Standard capacity	28.3	20.3	1.344	77.8	63.1	27.3	3.019	83.0	46.9	1.135	44.4	65.7	1.601	24.3
		High capacity	38.6	26.5	1.847	72.7	80.1	34.9	3.831	96.3	56.6	1.374	36.2	77.4	1.883	23.9
YAH06	6000	Standard capacity	33.7	24.7	1.617	79.9	72.6	31.3	3.453	90.5	58.1	1.405	39.5	79.3	1.935	26.3
		High capacity	44.1	30.1	2.097	78.4	99.6	43.4	4.706	100.1	64.6	1.562	38.8	92.7	2.262	25.2
YAH07	7000	Standard capacity	38.1	27.6	1.813	83.5	79.2	34.7	3.802	85.2	63.2	1.530	47.9	89.9	2.183	24.8
		High capacity	49.3	34.1	2.362	71.8	103.7	45.1	4.915	96.4	75.1	1.833	35.4	108.0	2.628	24.1
YAH08	8000	Standard capacity	47.1	34.0	2.235	77.8	96.7	42.2	4.620	91.3	75.5	1.843	44.1	106.4	2.583	26.6
		High capacity	60.2	41.4	2.862	76.6	134.0	58.7	6.399	99.7	90.0	2.188	37.5	130.1	3.155	55.6
YAH10	10000	Standard capacity	63.2	45.4	3.021	67.8	133.8	57.5	6.335	98.3	104.1	2.523	39.2	150.4	3.654	31.6
		High capacity	78.2	54.2	3.729	59.6	170.0	73.9	8.091	98.8	118.7	2.887	28.7	168.6	4.102	25.4
YAH12	12000	Standard capacity	75.2	53.5	3.588	67.5	157.9	67.6	7.542	92.6	125.1	3.037	39.5	179.1	4.369	30.1
		High capacity	95.0	65.4	4.544	69.5	204.5	88.6	9.797	98.5	140.9	3.441	33.4	202.6	4.957	25.3
YAH15	15000	Standard capacity	94.8	68.2	4.558	69.9	197.1	85.6	9.362	96.2	157.8	3.840	40.5	223.4	5.434	31.5
		High capacity	118.5	81.9	5.653	63.6	252.9	110.5	12.130	88.7	177.2	4.325	30.7	251.1	6.130	22.9

- Notes:
1. Standard return air cooling conditions: air inlet at 27°C DB/19.5WB; chilled water inlet/outlet at 7°C/12°C.
 2. Standard return air heating conditions: air inlet at 21°CDB; 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.

Standard 1 Row, 2 Rows Coil Heating Capacity Table

Model	Airflow m ³ /h	Rows	Return air condition			Fresh air condition		
			Total heating capacity (kW)	Water Flow Rate (L/s)	Water Pressure Drop (kPa)	Total heating capacity (kW)	Water Flow Rate (L/s)	Water Pressure Drop (kPa)
YAH1F	1500	1	4.3	0.11	3.0	6.5	0.15	6.0
		2	8.3	0.20	14.0	12.1	0.30	28.0
YAH02	2000	1	6	0.14	5.0	8.9	0.22	11.2
		2	11.3	0.28	28.0	16.4	0.40	54.0
YAH2F	2500	1	7.9	0.19	20.9	11.6	0.28	40.8
		2	13.8	0.33	16.3	20.2	0.49	32.0
YAH03	3000	1	9.5	0.23	10.8	13.9	0.33	21.6
		2	17.3	0.42	14.5	24.3	0.59	28.6
YAH04	4000	1	13.0	0.32	10.6	17.8	0.43	21.1
		2	22.8	0.56	19.1	32.9	0.80	37.6
YAH05	5000	1	16.2	0.40	10.8	23.6	0.57	21.7
		2	28.5	0.69	16.3	41.1	1.00	32.1
YAH06	6000	1	19.8	0.48	17.5	27.1	0.66	34.5
		2	34.6	0.84	18.8	47.5	1.16	36.6
YAH07	7000	1	21.8	0.53	15.8	32.3	0.79	31.6
		2	38.9	0.95	21.5	57.2	1.39	41.9
YAH08	8000	1	25.2	0.61	22.8	36.8	0.89	45.1
		2	44.4	1.08	23.2	64.4	1.57	45.5
YAH10	10000	1	28.7	0.70	13.0	40.9	1.00	26.0
		2	52.4	1.28	13.0	75.7	1.85	27.0
YAH12	12000	1	34.8	0.85	22.0	49.5	1.21	43.0
		2	63.6	1.55	22.0	91.5	2.23	44.0
YAH15	15000	1	44	1.07	40.0	60	1.46	14.0
		2	80.4	1.96	40.0	112.5	2.74	11.0

Notes:

1. Standard return air heating conditions: air inlet at 21°CDB; hot water inlet/outlet at 60°C/50°C.
2. Heating conditions of fresh air unit: air inlet at 7°C DB; hot water inlet/outlet at 60°C/50°C.
3. For four-piped unit, heating coil is in the front of the cooling coil in the direction of air flow.

Office Locations

Australia (Sydney)

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