AirTrojan®

Air Handling Unit

[Your satisfaction is always our cherished desire!]

AirTrojan®

AirTrojan International Co., Ltd.

http://www.airtrojan.com

ATIC_1204AHU_JL

AirTrojan®

Cabinet Type Air Handling Unit

Ceiling Concealed AHU (CBL)

Super slim design for saving space; bottom rack for easy ceiling hanging istallation

Horizontal Type AHU (5WH)

Compact structure; smooth operation; low noise design; filter aspirating design; delicate appearance; simple maintenance

Ceiling Type AHU (5WC)

High density design; compact structure; elegant appearance; low noise design

Vertical Type AHU (5WV)

Compact structure; delicate appearance; low noise design; filter aspirating design; smooth operation; simple maintenance

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Features

Frame:
High strength aluminum alloy profile as frame with over 2mm thick closed cell structure to ensure the strength. Anti-corrosion and beautiful appearance. Over 3mm thick insulation inside frame to ensure moisture-free under high temperature high humidity environment.

Corner clamp:
Specially designed reinforced resin clamps to ensure strong construction and easy to assemble/disassemble.

Panel:
Double skin structure, outer panel is painted electrolytic sheet and inner layer is galvanized sheet. Between the layers is 25mm thick polyurethane foam to become a high strength, excellent heat and noise insulate panel.

Insulation material:
Imported environmental free polyurethane foam, density >= 40kg/m³

Face panel:
Single layer or double skin are available. Outer layer is painted electrolytic sheet with oxide treated to become dual protection with paint layer. For double skin panel, inner layer is galvanized steel sheet with 26mm, 30mm or 40mm thick, 40 kg/m³ polyurethane foam insulated to ensure its heat, noise resistance and excellent air-tightness.

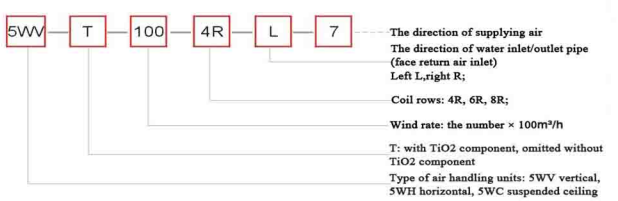
Coil:
AIRTROJAN AHU equipped with high quality aluminum foil fin which use high speed digital stamping machine to make the fin into wave form. Copper tubes are interlaced arranged to ensure the fin not easy to get dirt and easy to clean. Low air flow resistant and excellent corrosion resistant. We use imported hydraulic pipe expansion machine to ensure tight connection of copper tubes and fins for best heat transfer and longer lifespan. Inspected by 2.4MPa pressure after expansion and keep 0.35MPa Nitrogen inside the pipes to let the installers can tell whether there's any leakage or not at site easily. (Usually not applicable for thread connection.) Diameters for coil's copper tubes are 3/8"(9.52mm) or 1/2"(12.7mm).

Fan:
Equipped with imported double inlet centrifugal fan.

Vibration absorb:
Equipped with compound shock absorber. Vibration absorb efficiency over 95%.

Nylon filter:
Equipped with multi-layer nylon filter to protect the coil.

Model code indication



For example: 5WV-T-100-4R-L-7
Vertical air handling units--- with TiO2 component---10000m3/h wind rate---4-row coil---water inlet/outlet on the left----the seventh direction of supplying air

Return air technical parameter table

TPYE
5WV Vertical
5WH Horizontal
5WC Suspended ceiling

Air Linlet Temp		Water Temp	
Dry ball temperature (DB)	Wet ball temperature (WB)	Inlet water temperature (IN)	Outlet water temperature (OUT)
27℃	19.5℃	7℃	12℃

Model	Air Flow (m^3/h)	4Row				6Row				8Row			
		Capacity (Kw)	Chilled Water Flow (m^3/h)	Water Pressure Drop (mH_2O)	Pipe DN	Capacity (kw)	Chilled Water Flow (m^3/h)	Water Pressure Drop (mH_2O)	Pipe DN	Capacity (kw)	Chilled Water Flow (m^3/h)	Water Pressure Drop (mH_2O)	Pipe DN
20	2000	12.04	2.07	0.76	DN25	15.60	2.79	1.27	DN25	17.40	3.11	1.58	DN25
25	2500	15.05	2.69	1.19	DN25	19.50	3.49	1.99	DN25	21.75	3.89	2.48	DN32
30	3000	18.06	3.23	1.71	DN25	23.40	4.19	2.87	DN32	26.10	4.67	3.57	DN32
35	3500	21.07	3.77	1.61	DN32	27.30	4.88	2.71	DN32	30.45	5.45	3.37	DN40
40	4000	24.08	4.31	2.11	DN32	31.20	5.58	3.54	DN40	34.80	6.23	4.40	DN40
45	4500	27.09	4.85	1.96	DN40	35.10	6.28	3.29	DN40	39.15	7.00	4.09	DN40
50	5000	30.10	5.38	2.42	DN40	39.00	6.98	4.06	DN40	43.50	7.78	1.26	DN40
60	6000	36.12	6.46	3.48	DN40	46.80	8.37	1.46	DN40	52.20	9.34	1.82	DN50
70	7000	42.14	7.54	3.63	DN40	54.60	9.77	1.52	DN50	60.90	10.89	1.90	DN50
80	8000	48.16	8.61	1.19	DN40	62.40	11.16	1.99	DN50	69.60	12.45	2.48	DN50
90	9000	54.18	9.69	1.19	DN50	70.20	12.56	1.99	DN50	78.30	14.01	2.48	DN50
100	10000	60.20	10.77	1.19	DN50	78.00	13.95	1.99	DN50	87.00	15.56	2.48	DN65
120	12000	72.24	12.92	1.19	DN50	93.60	16.74	1.99	DN65	104.4	18.68	2.48	DN65
140	14000	84.28	15.08	1.61	DN65	109.2	19.53	2.71	DN65	121.8	21.79	3.37	DN65
160	16000	96.32	17.23	1.80	DN65	124.8	22.32	3.01	DN65	139.2	24.90	3.75	DN65
180	18000	108.4	19.38	1.71	DN65	140.4	25.12	2.87	DN65	156.6	28.01	3.57	DN65
200	20000	120.4	21.54	1.85	DN65	156.0	27.91	3.11	DN65	174.0	31.13	3.87	DN65
220	22000	132.4	23.69	2.55	DN65	171.6	30.70	4.28	DN65	191.4	34.24	1.33	DN80
250	25000	150.5	26.92	2.89	DN65	195.0	34.88	4.86	DN80	217.5	38.91	1.51	DN80
280	28000	168.6	30.15	2.87	DN65 2-DN50	218.4	39.07	4.82	DN80 2-DN65	243.6	43.58	1.50	DN80 2-DN65
300	30000	180.6	32.31	3.29	2-DN65	234.0	41.86	2.46	2-DN65	261.0	46.69	1.72	2-DN65
350	35000	210.7	37.69	3.63	2-DN65	273.0	48.83	2.71	2-DN65	304.5	54.47	1.90	2-DN65
400	40000	240.8	43.07	4.74	2-DN65	312.0	55.81	3.54	2-DN65	348.0	62.25	2.48	2-DN65
450	45000	270.9	48.46	4.96	2-DN65	351.0	62.79	3.70	2-DN65	391.5	70.03	2.59	2-DN80
500	50000	301.0	53.84	5.15	2-DN65	390.0	69.76	3.84	2-DN80	435.0	77.81	2.69	2-DN80
550	55000	331.1	59.23	5.30	2-DN80	429.0	76.74	3.96	2-DN80	478.5	85.60	2.77	2-DN80
600	60000	361.2	64.61	1.58	2-DN80	468.0	83.72	4.71	2-DN80	522.0	93.38	3.30	2-DN80
650	65000	391.3	70.00	1.85	2-DN80	507.0	90.69	5.53	2-DN80	565.5	101.2	3.87	2-DN100

Note: The values listed in performance table are standard parameters' values during leaving the factory and not the maximum values. Under the same condition, for air handling units with the same specification, wind rate can be increased by 15%. The capacity under return air condition can be increased by 6~8%. The maximum excess pressure can reach 750Pa or more.

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Fresh air technical parameter table

TPYE
5WV Vertical
5WH Horizontal
5WC Suspended ceiling

Air Linlet Temp		Water Temp	
Dry ball temperature (DB)	Wet ball temperature (WB)	Inlet water temperature (IN)	Outlet water temperature (OUT)
33.5℃	28℃	7℃	12℃

Model	Air Flow (m^3/h)	4Row				6Row				8Row			
		Capacity (Kw)	Chilled Water Flow (m^3/h)	Water Pressure Drop (mH_2O)	Pipe DN	Capacity (Kw)	Chilled Water Flow (m^3/h)	Water Pressure Drop (mH_2O)	Pipe DN	Capacity (Kw)	Chilled Water Flow (m^3/h)	Water Pressure Drop (mH_2O)	Pipe DN
20	2000	25.60	4.58	3.43	DN32	31.80	5.69	1.32	DN40	36.00	6.44	1.70	DN40
25	2500	32.00	5.72	1.34	DN40	39.75	7.11	2.07	DN40	45.00	8.05	2.65	DN40
30	3000	38.40	6.87	1.93	DN40	47.70	8.53	2.98	DN40	54.00	9.66	3.82	DN50
35	3500	44.80	8.01	1.82	DN40	55.65	9.95	2.81	DN50	63.00	11.27	3.61	DN50
40	4000	51.20	9.16	2.38	DN50	63.60	11.38	3.68	DN50	72.00	12.88	4.71	DN50
45	4500	57.60	10.30	2.21	DN50	71.55	12.80	3.42	DN50	81.00	14.49	4.38	DN65
50	5000	64.00	11.45	2.73	DN50	79.50	14.22	4.22	DN50	90.00	16.10	5.41	DN65
60	6000	76.80	13.74	3.94	DN50	95.40	17.07	2.70	DN65	108.0	19.32	1.95	DN65
70	7000	89.60	16.03	4.10	DN65	111.3	19.91	2.81	DN65	126.0	22.54	2.03	DN65
80	8000	102.40	18.32	5.36	DN65	127.2	22.75	3.68	DN65	144.0	25.76	2.65	DN65
90	9000	115.20	20.61	5.36	DN65	143.1	25.60	3.68	DN65	162.0	28.98	2.65	DN65
100	10000	128.00	22.90	5.36	DN65	159.0	28.44	3.68	DN65	180.0	32.20	2.65	DN80
120	12000	153.60	27.48	5.36	DN65	190.8	34.13	3.68	DN80	216.0	38.64	2.65	DN80
140	14000	179.20	32.06	1.82	DN65	222.6	39.82	5.00	DN80	252.0	45.08	3.61	DN80
160	16000	204.80	36.64	2.03	DN80	254.4	45.51	5.57	DN80	288.0	51.52	4.01	DN100
180	18000	230.40	41.21	1.93	DN80	286.2	51.20	5.29	DN100	324.0	57.96	3.82	DN100
200	20000	256.00	45.79	2.09	DN80	318.0	56.88	5.74	DN100	360.0	64.40	4.14	DN100
220	22000	281.60	50.37	2.88	DN100	349.8	62.57	7.91	DN100	396.0	70.84	5.70	DN100
250	25000	320.00	57.24	3.27	DN100	397.5	71.11	2.24	DN100	450.0	80.50	6.47	DN100
280	28000	358.40	64.11	3.24	DN100 2-DN80	445.2	79.64	2.22	DN100 2-DN80	504.0	90.16	6.41	DN125 2-DN100
300	30000	384.00	68.69	3.72	2-DN80	477.0	85.33	2.55	2-DN80	540.0	96.60	7.36	2-DN100
350	35000	448.00	80.14	4.10	2-DN80	556.5	99.55	2.81	2-DN100	630.0	112.7	8.11	2-DN100
400	40000	512.00	91.59	5.36	2-DN80	636.0	113.8	3.68	2-DN100	720.0	128.8	2.65	2-DN100
450	45000	576.00	103.0	5.61	2-DN100	715.5	128.0	3.84	2-DN100	810.0	144.9	2.77	2-DN100
500	50000	640.00	114.5	5.82	2-DN100	795.0	142.2	3.99	2-DN100	900.0	161.0	2.88	2-DN100
550	55000	704.00	125.9	6.00	2-DN100	874.5	156.4	4.11	2-DN100	990.0	177.1	2.96	2-DN125
600	60000	768.00	137.4	7.14	2-DN100	954.0	170.7	4.89	2-DN125	1080	193.2	3.53	2-DN125
650	65000	832.00	148.8	8.37	2-DN100	1034	184.9	5.74	2-DN125	1170	209.3	4.14	2-DN125

Note: Under the same condition, for air handling units with the same specification, wind rate can be increased by 15%. The capacity under return air condition can be increased by 6~8%. The maximum excess pressure can reach 750Pa or more.

Return air technical parameter table A

TPYE
5WV Vertical
5WH Horizontal
5WC Suspended ceiling

Dry ball temperature (DB)	Inlet water temperature (IN)
21℃	60℃
ω=1.0	

Model	Air Flow (m³/h)	2Row				4Row			
		Capcity (Kw)	Water Flow (m³/h)	Water Pressure Drop (mH₂O)	Pipe DN	Capcity (Kw)	Water Flow (m³/h)	Water Pressure Drop (mH₂O)	Pipe DN
20	2000	9.94	1.12	0.89	DN25	17.90	2.02	0.72	DN25
25	2500	12.43	1.40	1.39	DN25	22.38	2.52	1.12	DN25
30	3000	14.91	1.68	2.00	DN25	26.85	3.02	1.62	DN25
35	3500	17.40	1.96	1.89	DN25	31.33	3.53	1.53	DN25
40	4000	19.88	2.24	2.46	DN25	35.80	4.03	2.00	DN25
45	4500	22.37	2.52	2.29	DN25	40.28	4.54	1.86	DN32
50	5000	24.85	2.80	2.83	DN25	44.75	5.04	2.29	DN32
60	6000	29.82	3.36	4.07	DN25	53.70	6.05	3.30	DN32
70	7000	34.79	3.92	4.24	DN25	62.65	7.06	3.44	DN32
80	8000	39.76	4.48	1.39	DN25	71.60	8.07	4.50	DN40
90	9000	44.73	5.04	1.39	DN25	80.55	9.07	4.50	DN40
100	10000	49.70	5.60	1.39	DN25	89.50	10.08	4.50	DN40
120	12000	59.64	6.72	1.39	DN32	107.4	12.10	4.50	DN40
140	14000	69.58	7.84	1.89	DN32	125.3	14.11	1.53	DN50
160	16000	79.52	8.96	2.10	DN32	143.2	16.13	1.70	DN50
180	18000	89.46	10.08	2.00	DN32	161.1	18.15	1.62	DN50
200	20000	99.40	11.20	2.17	DN40	179.0	20.16	1.76	DN50
220	22000	109.3	12.32	2.98	DN40	196.9	22.18	2.42	DN65
250	25000	124.3	14.00	3.38	DN40	223.8	25.20	2.74	DN65
280	28000	139.2	15.68	3.35	DN40 2-DN32	250.6	28.23	2.72	DN65 2-DN50
300	30000	149.1	16.79	3.85	2-DN32	268.5	30.24	3.12	2-DN50
350	35000	174.0	19.59	4.24	2-DN32	313.3	35.28	3.44	2-DN50
400	40000	198.8	22.39	1.39	2-DN32	358.0	40.33	4.50	2-DN50
450	45000	223.7	25.19	1.45	2-DN40	402.8	45.37	4.70	2-DN65
500	50000	248.5	27.99	1.50	2-DN40	447.5	50.41	4.88	2-DN65
550	55000	273.4	30.79	1.55	2-DN40	492.3	55.45	5.03	2-DN65
600	60000	298.2	33.59	1.85	2-DN50	537.0	60.49	1.50	2-DN65
650	65000	323.1	36.39	2.17	2-DN50	581.8	65.53	1.76	2-DN65

Note: The values listed in performance table are standard parameters' values during leaving the factory and not the maximum values. Under the same condition, for air handling units with the same specification, wind rate can be increased by 15%. The maximum excess pressure can reach 750Pa or more.

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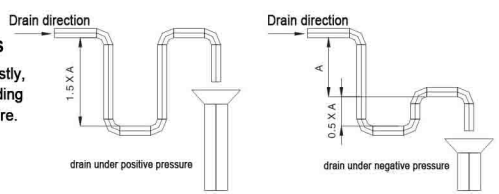
Motor power matching table

Model	Air Flow (m³/h)	Matching motor (Kw) Excess pressure (Pa)									
		100	150	200	250	300	350	400	450	500	550
20	2000	0.55	0.55	0.55	0.55	0.75					
25	2500	0.55	0.55	0.55	0.75	0.75	0.75				
30	3000	0.55	0.55	0.75	0.75	0.75	1.1				
35	3500	0.55	0.75	0.75	0.75	1.1	1.1				
40	4000	0.75	0.75	1.1	1.1	1.1	1.1				
45	4500	0.75	0.75	1.1	1.1	1.1	1.5				
50	5000	0.75	1.1	1.1	1.1	1.5	1.5				
60	6000	1.1	1.5	1.5	1.5	1.5	2.2				
70	7000	1.1	1.5	1.5	1.5	2.2	2.2	2.2			
80	8000	1.5	1.5	2.2	2.2	2.2	2.2	3.0			
90	9000	2.2	2.2	2.2	2.2	2.2	3.0	3.0			
100	10000	2.2	2.2	2.2	2.2	3.0	3.0	3.0			
120	12000	2.2	2.2	2.2	3.0	3.0	3.0	4.0			
140	14000	2.2	3.0	3.0	3.0	4.0	4.0	4.0	4.0		
160	16000	3.0	3.0	4.0	4.0	4.0	5.5	5.5	5.5		
180	18000	4.0	4.0	4.0	5.5	5.5	5.5	5.5	5.5	7.5	7.5
200	20000	4.0	5.5	5.5	5.5	5.5	7.5	7.5	7.5	7.5	7.5
220	22000		4.0	5.5	5.5	5.5	7.5	7.5	7.5	7.5	7.5
250	25000		2.2*2	2.2*2	3*2	3*2	3*2	4*2	4*2	4*2	5.5*2
280	28000		3*2	3*2	3*2	3*2	4*2	4*2	4*2	5.5*2	5.5*2
300	30000			4*2	4*2	4*2	4*2	5.5*2	5.5*2	5.5*2	5.5*2
350	35000			4*2	4*2	5.5*2	5.5*2	5.5*2	5.5*2	7.5*2	7.5*2
400	40000			5.5*2	5.5*2	5.5*2	7.5*2	7.5*2	7.5*2	7.5*2	7.5*2
450	45000			5.5*2	5.5*2	5.5*2	7.5*2	7.5*2	7.5*2	7.5*2	7.5*2
500	50000				7.5*2	7.5*2	7.5*2	7.5*2	11*2	11*2	11*2
550	55000				7.5*2	7.5*2	7.5*2	7.5*2	11*2	11*2	11*2
600	60000				7.5*2	7.5*2	11*2	11*2	11*2	11*2	11*2
650	65000				11*2	11*2	11*2	11*2	11*2	11*2	11*2

Note: Motor power is related to excess pressure outside the air handling units, the number of poles of motor, characteristic curve of fan and fan system etc. and can be obtained through complex calculation. The values in above table are calculated values based on 6-row coil for reference.

Schematic diagram of drain trap of units

During connecting external drain pipes of units, firstly, connect one "U" drain trap. Then connect it according to positive and negative pressure as following figure.

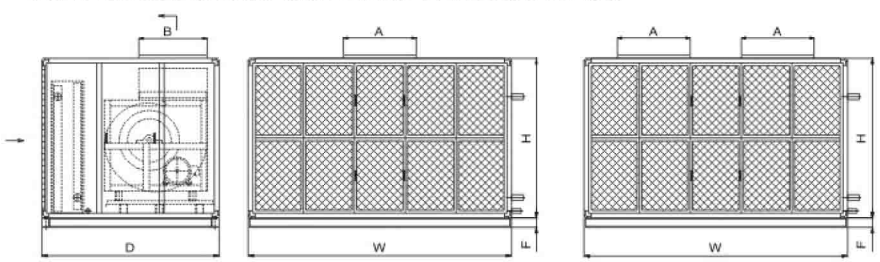


Note: A= static pressure at drain (Pa) ×0.1021 unit: mm

Horizontal Cabinet Units Dimension

Model	Overall dimension			Air outlet size		Condensate water pipe	Under frame height	Net weight of units
	Width(mm)	Depth(mm)	Height(mm)	A(mm)	B(mm)	DN	F(mm)	Kg
5WH-80	1690	1200	800	470	405	DN40	60	330
5WH-90	1690	1200	870	470	405	DN40	60	380
5WH-100	1690	1300	1030	560	480	DN40	60	420
5WH-120	1690	1300	1080	560	480	DN40	60	446
5WH-140	1930	1300	1080	560	480	DN40	80	538
5WH-160	2050	1470	1160	638	638	DN40	80	640
5WH-180	2000	1470	1300	638	638	DN40	80	668
5WH-200	2050	1470	1380	638	638	DN40	80	698
5WH-220	2370	1600	1380	715	715	DN40	80	780
5WH-250	2500	1420	1500	560*480*2		DN40	80	849
5WH-280	2500	1420	1600	560*480*2		DN40	80	950
5WH-300	2650	1500	1600	568*568*2		DN40	80	1010
5WH-350	2750	1600	1800	638*638*2		DN40	80	1060
5WH-400	3100	1600	1800	638*638*2		DN40	80	1230
5WH-450	3250	1700	1900	715*715*2		DN40	80	1480
5WH-500	3250	1700	2100	715*715*2		DN50	80	1558
5WH-550	3250	1800	2250	800*800*2		DN50	100	1705
5WH-600	3550	1800	2250	800*800*2		DN50	100	1860
5WH-650	3800	1800	2250	800*800*2		DN50	100	2020

Note: 5WH~250~650 is dual fan. Non-standard product of single fan can also be produced.



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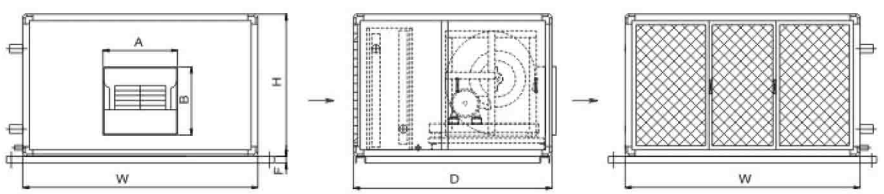
Ceiling cabinet type overall dimensions

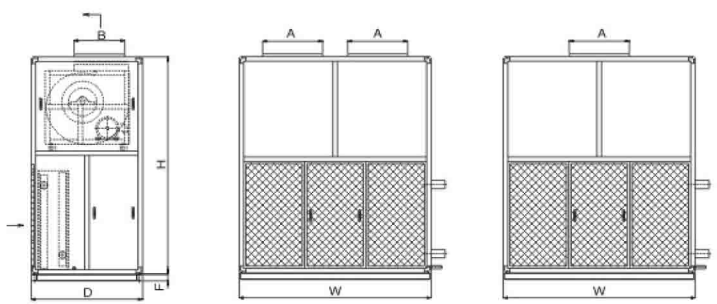
Model	Overall dimension			Air outlet size		Condensate water pipe	Under frame height	Net weight of units
	Width(mm)	Depth(mm)	Height(mm)	A(mm)	B(mm)	DN	F(mm)	Kg
5WC-20	830	1200	560	300	260	DN25	40	160
5WC-25	970	1200	560	300	260	DN25	40	170
5WC-30	1120	1200	560	300	260	DN25	40	180
5WC-35	1100	1300	620	330	290	DN25	40	195
5WC-40	1200	1300	620	330	290	DN25	40	210
5WC-45	1200	1400	710	395	340	DN25	40	230
5WC-50	1300	1400	710	395	340	DN25	40	245
5WC-60	1500	1400	710	395	340	DN25	40	260
5WC-70	1500	1200	800	470	405	DN25	40	278
5WC-80	1690	1200	800	470	405	DN40	60	320
5WC-90	1690	1200	870	470	405	DN40	60	342
5WC-100	1690	1300	1030	560	480	DN40	60	375
5WC-120	1690	1300	1080	560	480	DN40	60	412



Vertical cabinet Overall dimensions

Model	Overall dimension			Air outlet size		Condensate water pipe	Under frame height	Net weight of units
	Width(mm)	Depth(mm)	Height(mm)	A(mm)	B(mm)	DN	F(mm)	Kg
5WH-80	1690	1200	800	470	405	DN40	60	330
5WH-90	1690	1200	870	470	405	DN40	60	380
5WH-100	1690	1300	1030	560	480	DN40	60	420
5WH-120	1690	1300	1080	560	480	DN40	60	446
5WH-140	1930	1300	1080	560	480	DN40	80	538
5WH-160	2050	1470	1160	638	638	DN40	80	640
5WH-180	2000	1470	1300	638	638	DN40	80	668
5WH-200	2050	1470	1380	638	638	DN40	80	698
5WH-220	2370	1600	1380	715	715	DN40	80	780
5WH-250	2500	1420	1500	560*480*2		DN40	80	849
5WH-280	2500	1420	1600	560*480*2		DN40	80	950
5WH-300	2650	1500	1600	568*568*2		DN40	80	1010
5WH-350	2750	1600	1800	638*638*2		DN40	80	1060
5WH-400	3100	1600	1800	638*638*2		DN40	80	1230
5WH-450	3250	1700	1900	715*715*2		DN40	80	1480
5WH-500	3250	1700	2100	715*715*2		DN50	80	1558
5WH-550	3250	1800	2250	800*800*2		DN50	100	1705
5WH-600	3550	1800	2250	800*800*2		DN50	100	1860
5WH-650	3800	1800	2250	800*800*2		DN50	100	2020

Note: 5WH~250~650 is dual fan. Non-standard product of single fan can also be produced.



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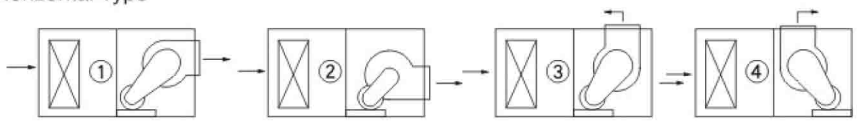
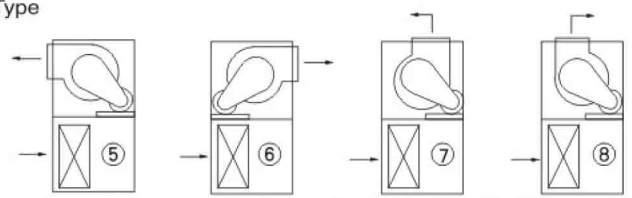
Air direction

Horizontal Type



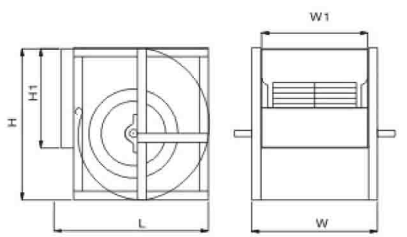
Vertical Type



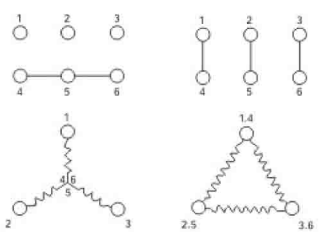
Note: Motor and pulley are at the same side of water pipes. The definition of "right" or "left" side is determined by face the return air direction. Please confirm before order if needs different configuration.

Fan dimension table

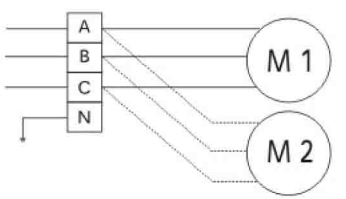
Fan	H	H1	L	W	W1
7"	330	226	312	268	228
9"	399	362	385	358	298
10"	455	289	431	391	331
12"	533	341	797	455	395
15"	621	404	575	531	471
18"	751	478	690	637	557
18T"	827	562	726	644	564
20"	918	632	800	715	635
22"	1030	712	892	815	715
25"	1157	800	1012	905	805
28"	1302	900	1134	1005	905
32"	1468	1000	1272	1107	1007



Electric wiring diagram



Motor connection (for 380V)



Parallel connection for dual fans

Horizontal Ceiling Type

Super thin horizontal ceiling type technical performance table

Performance \ Model			CBL-20	CBL-30	CBL-40	CBL-50	CBL-60	CBL-70	CBL-80	CBL-100	CBL-120
Air Flow (m³/h)			2000	3000	4000	5000	6000	7000	8000	10000	12000
Total pressure (Pa)			350	300	420	300	300	400	480	380	400
Return air condition	4Rows	Cooling Capacity(Kw)	12.88	18.88	25.80	32.10	38.38	44.69	50.98	63.49	76.19
		Cold Water Flow Rate (m³/h)	2.22	3.3	4.54	5.52	6.66	7.74	8.82	10.78	13.14
		Water Pressure Drop (mH2O)	0.87	0.92	1.2	1.35	1.53	1.62	1.78	1.8	1.97
		Pipe	DN25	DN25	DN32	DN40	DN40	DN40	DN50	DN50	DN50
	6Rows	Cooling Capacity(Kw)	15.90	23.85	32.59	40.55	48.49	56.49	64.38	80.28	96.28
		Cold Water Flow Rate (m³/h)	2.76	4.14	5.64	7.02	8.34	9.72	11.16	13.86	16.65
		Water Pressure Drop (mH2O)	1.29	1.32	1.61	2.03	2.05	2.06	2.29	3.6	3.89
		Pipe	DN25	DN32	DN32	DN40	DN40	DN50	DN50	DN50	DN65
	8Rows	Cooling Capacity(Kw)	18.08	27.13	37.07	46.12	55.15	64.16	73.23	91.31	100.4
		Cold Water Flow Rate (m³/h)	3.12	4.68	6.42	7.98	9.54	11.04	12.60	15.72	18.84
		Water Pressure Drop (mH2O)	1.65	1.95	2.27	2.37	2.44	2.51	2.82	3.0	3.70
		Pipe	DN25	DN32	DN40	DN40	DN50	DN50	DN50	DN65	DN65
Fresh air condition	4Rows	Cooling Capacity(Kw)	24.42	36.74	49.53	61.98	73.84	85.47	97.44	128.7	154.7
		Cold Water Flow Rate (m³/h)	4.2	6.36	8.52	10.68	12.72	14.7	16.8	22.14	26.64
		Water Pressure Drop (mH2O)	1.2	1.8	1.86	1.9	1.75	2.0	2.23	2.38	2.55
		Pipe	DN32	DN40	DN40	DN50	DN50	DN65	DN65	DN65	DN65
	6Rows	Cooling Capacity(Kw)	30.70	45.70	61.98	66.05	92.56	109.9	129.2	152.4	182.8
		Cold Water Flow Rate (m³/h)	5.28	7.86	10.68	11.4	15.96	18.9	22.26	26.22	31.44
		Water Pressure Drop (mH2O)	1.73	2.03	2.25	2.48	3.3	3.7	3.94	4	4.45
		Pipe	DN40	DN40	DN50	DN50	DN65	DN65	DN65	DN65	DN80
	8Rows	Cooling Capacity(Kw)	35.19	52.79	71.74	88.26	105.9	123.6	141.4	174.3	208.8
		Cold Water Flow Rate (m³/h)	6.06	9.12	12.06	15.18	18.24	21.3	24.36	30	35.94
		Water Pressure Drop (mH2O)	2.2	2.19	2.17	4	4.2	4.25	5.14	6.16	6.2
		Pipe	DN40	DN50	DN50	DN65	DN65	DN65	DN65	DN65	DN80
Heating parameter	4Rows	Heating Capacity(Kw)	16.20	24.32	33.26	41.40	49.42	57.44	65.70	81.86	98.37
		Hot Water Flow Rate (m³/h)	1.44	2.10	2.88	3.60	4.26	4.98	6.60	7.08	8.46
		Water Pressure Drop (mH2O)	0.87	0.92	1.18	1.35	1.4	1.61	1.76	1.8	1.86
		Pipe	DN25	DN25	DN25	DN25	DN25	DN25	DN32	DN40	DN40
	6Rows	Heating Capacity(Kw)	20.70	31.16	42.56	52.91	69.42	77.33	83.95	105.0	125.8
		Hot Water Flow Rate (m³/h)	1.8	2.7	4.86	4.68	6.00	6.66	7.26	9.06	10.86
		Water Pressure Drop (mH2O)	1.3	1.38	1.77	2	2.1	2.4	2.64	2.7	2.79
		Pipe	DN25	DN25	DN25	DN25	DN32	DN32	DN40	DN40	DN50
Power supply			380V								
Motor power (Kw)			0.55	0.75	0.75	1.5	1.5	2.2	3.0	3.0	4.0
Noise dB(A)			60	60	60	62	62	64	64	66	68

Note: Cooling condition: inlet water temperature 7°C; outlet water temperature 12°C; return air condition: DB27°C, WB 19.5°C; fresh air condition: DB33.5°C, WB28°C;
heating condition: inlet water temperature 60°C; outlet water temperature 50°C; inlet air wet ball temperature 18°C
Above noise value is that when excess pressure is 107Pa.

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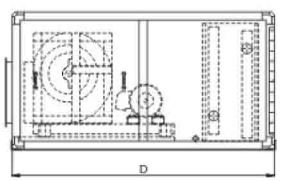
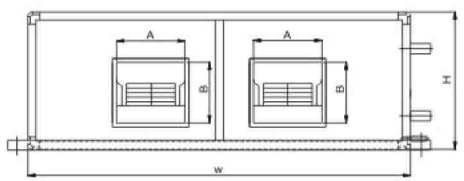
Overall dimensions of super thin horizontal ceiling type

Model	Overall dimension			Air outlet size	Condensate water pipe	Net weight of units
	Height(mm)	Depth(mm)	Width(mm)	A (mm) X B (mm)	Drain Pipe (DN)	Weight (Kg)
CBL-20	480	1200	1000	230X210	DN25	149
CBL-30	540	1250	1220	300X260	DN25	175
CBL-40	600	1300	1220	330X290	DN25	200
CBL-50	600	1300	1420	330X290	DN25	240
CBL-60	680	1400	1500	395X340	DN25	260
CBL-70	680	1400	1730	395X340	DN25	290
CBL-80	780	1200	1730	470X400	DN25	320
CBL-80 I	680	1300	1900	330X290X2	DN25	347
CBL-100	910	1300	1900	560X480	DN40	381
CBL-100 I	730	1300	2100	330X290X2	DN40	398
CBL-220	910	1300	2000	560X480	DN40	426
CBL-120 I	760	1400	2300	395X340X2	DN40	441





PRODUCT ORDER NOMINATION

CB — L — 80 — I — 4R — L

- L: The direction of water inlet/outlet pipe (face return air inlet) left L; right R
- 4R: Coil rows: 4R, 6R, 8R
- I: Model
- 80: Standard air volume: the number×100m3/h
- L: Constant air volume type
- CB: Slim type air handling units

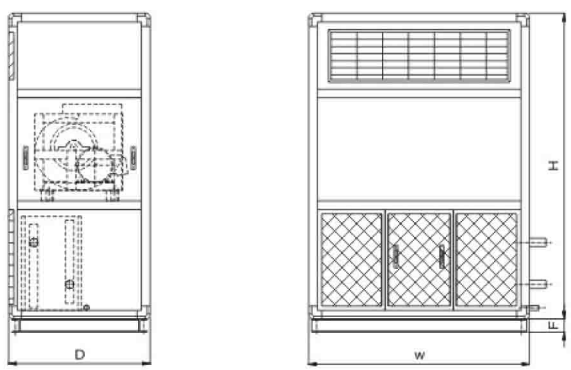
Exposed installation vertical type cabinet

Overall dimensions of exposed installation vertical type cabinet

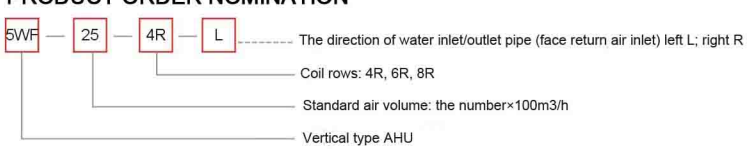
Model	Overall dimension			motor power	Condensate water pipe	Under frame height	Net weight of units	Noise
	Width(mm)	Depth(mm)	Height(mm)	KW	DN	F(mm)	kg	dB(A)
5WF-20	800	600	1750	0.55	DN25	60	190	58
5WF-25	800	600	1750	0.55	DN25	60	198	60
5WF-30	900	600	1750	0.55	DN25	60	205	60
5WF-35	1000	650	1750	0.55	DN25	60	212	60
5WF-40	1000	650	1850	0.75	DN25	60	230	60
5WF-45	1100	700	1850	0.75	DN25	60	255	61
5WF-50	1200	700	1850	0.75	DN25	60	278	61
5WF-60	1330	700	1850	1.1	DN25	60	298	62
5WF-70	1400	700	1950	1.1	DN25	60	310	64
5WF-80	1480	800	2000	1.5	DN40	60	336	64
5WF-90	1600	800	2000	1.5	DN40	60	375	66
5WF-100	1800	800	2000	2.2	DN40	60	410	66
5WF-120	2050	800	2000	2.2	DN40	60	460	67
5WF-140	2350	900	2100	2.2	DN40	60	505	68

Note: Other performance parameters please see page 3~5.

Appearance of exposed installed vertical cabinet



PRODUCT ORDER NOMINATION



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Installation /operation and maintenance of the units

Installation

1.Floor standing cabinet: The base should be 100~200mm higher than the floor. A trap is required for external drain pipe. Minimum water seal height is 60mm. Minimum installation gradient for the drain pipe is 1%.

2.Water inlet is at the lower part of the heat exchanger, and the outlet is at upper part. Steam inlet is at the upper part of the steam heat exchanger, and the steam outlet is at the lower part.

3.A vent valve is equipped on the upper part of fan cabinet coil liquid collecting tube. After water filled in, the air in the coil should be discharged. Close the valve after air had been discharged.

4.While connecting an external pipe, it is prohibited to pull it with strong force to avoid damage against the coil. Keep secure insulation after pressure-testing. An air damper is required for air supply duct of the refrigerating cooling/heating machine.

5.Before operation, shock absorber lock-up device should be removed for keep shock absorber effective.

6.After complete installation, make sure that the fan is in good condition. Rotate the fan blade with hand to see if it is in smooth operation. Confirm the voltage, correct rotation direction, then it can be started.

7.Sufficient operation room is required for machine piping, and access door side of fan and motor.

Operation

1.An expert is required for the management, operation and regular maintenance of the unit.

2.Use clean softened water as refrigerating cooling (heating) medium. Generally working pressure of the heat exchanger is <1.6 MPa.

3.In cold region, if a short stop is required for the fan cabinet during operation, hot water supplied should be kept and fresh air valve should be closed to avoid frost crack caused on the coil. In case of long term idle, water in the coil should be discharged out thoroughly. At the lower part of coil liquid collecting pipe, a drain valve is equipped.

Maintenance

Regular maintenance including checking on belt tension and loosening of screw for the machine unit is required. Regular strainer and heat exchanger cleaning is also required. It is required to regularly lubricate bearing.

Notice for order

1.Please mark clearly product model, specification and operating condition when order.

2.State clearly the inlet and outlet direction of the water pipe on fan cabinet; determine the direction by facing return air. If water pipe is at left side, it is the left type (L); otherwise, it is the right type (R).

3.State clearly the residual pressure on air outlet for selecting matching motor. State clearly pulling out direction of the filter.

4.Mark clearly the air direction (totally 8 types), motor, pulley and water pipe are at the same side. It is also to determine left and right side direction by facing air outlet. If motor, pulley and water pipe are required to be at different sides, please make a clear note for it.

Note: Please provide the exact ESP according to the real condition while set the order.

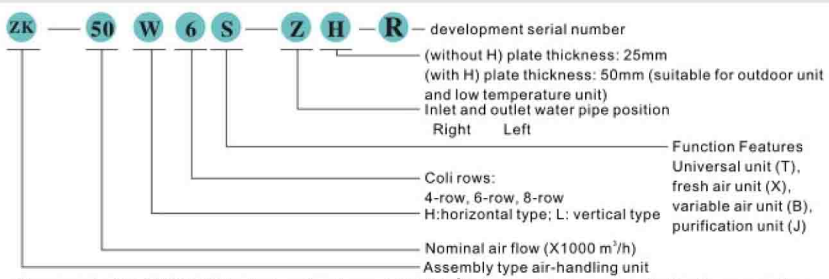
Modular Type AHU

Zk series air handling unit is one of our serial products. There are four types including clean room type, commercial type, low temperature type, and outdoor type to meet different requirements for different places covering micro electronics, bio-pharmacies, textile chemical, tobacco industry, food industry, clean room, precision instrument, scientific research, marketplace, club, exhibition hall, air port, office, factory and mines. Zk series adopts frame structure, combined frame and special design profile. Positive pressure section door panel is fixed from inner side to outer side. During operation, the inner positive pressure contributes to a better sealing performance to the unit. Negative pressure is on the contrary. The door panel is fixed from outer to inner side. During operation, the negative pressure contributes to a better sealing performance to the unit. The unit has an easy disassembly structure. Within very short period, it can be disassembled and installed in a small machine room in the transportation corridor, and the machine quality will not be affected. Interlaced structure design is available for option to units with maximum 30,000 m^3/h air flow. The structure can save machine room area and save investment.

Various functional sections can be flexibly combined to meet different requirements for different industries. For example, air handling unit with heat recovery section for total air system used in animal and biology lab can save energy consumption; for flue dust filtering used in tobacco industry, the treatments with high efficient filter cartridge filtering section, multi-layer combination filtering section and spray cleaning filtering section are suitable; textile industry can adopt cold water spray filter section for filtering and high temperature/ humidity treatment; small scale purification system can adopt direct evaporation type constant temperature and humidity purification unit. Professional and customized services for the above function sections are available. There is no detailed information in this manual. Please contact us directly.

Frequency conversion control device or VS electromagnetic adjustable speed asynchronous motor are available for option; whole set of automatic system with reserved DDC communication interface is also available for option. It can also be equipped with LONWORK interface for connecting with building auto-control bus or industrial control bus to form a central control system.

Model code indication



For example: ZK-50W 6S-ZH indicates air volume of 50,000m^3/h, horizontal structure, left side pipe connection, 6-row heat exchanger, wall plate thickness of 50mm, commercial combined air handling unit.

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Instructions for function sections

High efficient self-clean filtering section

This section equips with self-cleaning cartridge filter, which is currently widely used in special industries like tobacco industry and equips with impulse back blowing function. The filter adopts rigid filter cartridge as component contributing to a long lifespan and remarkable filtering effect. It equips with pressure differential alarm switch for reminding to make timely dust removal or automatic dust removal.

Mix section

It equips with fresh air and return air adjusting valve. Users can adjust the proportion of fresh air and return air according to their own need. Electric actuator is for option.

Air discharge, return air and fresh air regulation section

It is suitable for dual fan unit. The air discharge valve and fresh air valve are mounted on the top. Inside it, a return air motorize valve is equipped for adjusting the proportion of discharging, return and fresh air. Electric actuator is for option.

Plate filtering section

The plate filter under international standard, and made with non-woven fabric is equipped in the section. Disposal paper plate filter and aluminum alloy plate filter are for option (Filter material can be replaced)

Heat recovery section

Rotating-wheel exchanger (with or without humidity absorption layer are optional) is equipped in the section. Discharging air and fresh air move against rotating wheel by turns. It has high heat recovery efficiency, and can be used in high temperature exhaust system; plate and fin heat exchanger is free of drive system, low power consumption, no heat medium and heat loss; heat medium exchanger contributes to no cross pollution between fresh air and discharging air. Water pump and coil can be adopted the normal type; heat pipe heat exchanger need no rotating parts, no extra energy consumption. Its heat conducting process can be reversed. Cold and hot liquid can be exchanged; it is with high heat exchange efficiency. Certain heat recovery can also be achieved even in small temperature difference condition.

Primary ,median filter section

Non-woven multi-fold bag type filter at international standard is equipped in the section. The filter has a large dust containing capacity, and smooth resistance change. Users can select the filter according to their need. Pressure difference indicator can be selected for the filter section. Users can clean or replace filter timely according to the resistance readings.

Middle section

For incorporated use with other sections, it contributes to an easy maintenance and connection.

Heating section/coil section

Copper tube and aluminum fin type high efficiency heat exchanger. Inlet, outlet water pipes and collecting pipe are galvanized. Brass tube is optional. Stainless steel drain plate for coil section.

Spray section

They are classified into single-row and double-row spray. Inner parts of the box are all stainless steel structure. The front and back water eliminators are made with aluminum alloy or glass fiber-reinforced plastic. Nozzle adopts the FL type nylon nozzle with excellent performance. Stainless steel tube for spray tube is optional.

Humidifying section

Dry steam humidifier, electrode humidifier, high pressure spray humidifier, wet film humidifier, electric heating humidifier and other kinds of humidifiers are optional in this section. In additions, corresponding actuator can be used for convenience of automatic control on humidification level.

Muffling section

This section can be used as return air and supply air muffling. It adopts the plate muffler composed of centrifugal glass wool and perforation plate with glass-fiber fabric adhered to the inner side. It features good sound attenuation effect, high temperature resistance, damp proof, free of dust. It is also with the effect to laminar flow.

Fan section

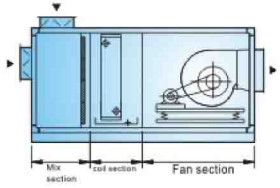
This section can be used as return air fan and supply air fan section. Fan adopts high efficient energy saving double inlets centrifugal fan. Fan blades are classified into two series: forward bending and backward bending. They are tested with strict dynamic and static balance test to ensure a low noise operation of the machine unit. Fan and motor are installed on a specially designed base with a rubber shearing shock absorber on the lower part. It has a good shock absorbing effect. Air outlet uses a soft connector to connect with the body. Variable frequency control device or VS electromagnetic adjustable speed asynchronous motor are optional for motor.

ZK cabinet air-conditioning unit

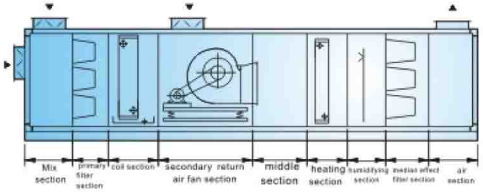
Model	ZK-02	ZK-04	ZK-05	ZK-06	ZK-08	ZK-10	ZK-15	ZK-20	ZK-25	ZK-30	ZK-40	ZK-50	ZK-60	ZK-80	ZK-100	ZK-120	ZK-140	ZK-160

Note: Customized service (including function section contents, size, weight and performance parameter) are available.

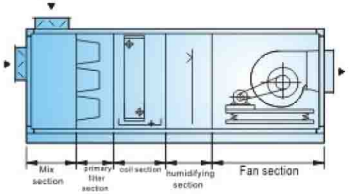
Combination method referential illustration



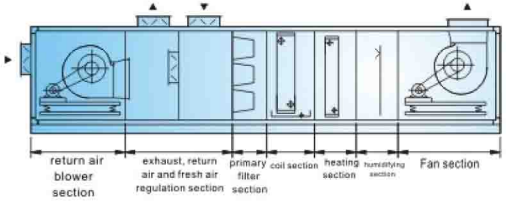
Combination method W1



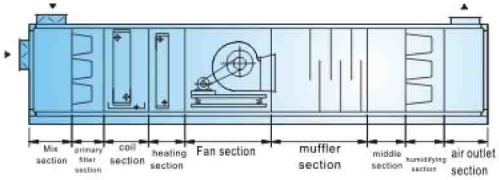
Combination method W2



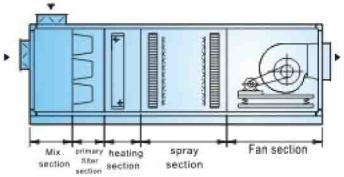
Combination method W3



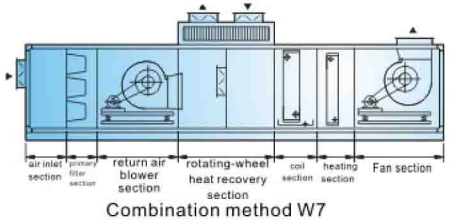
Combination method W4



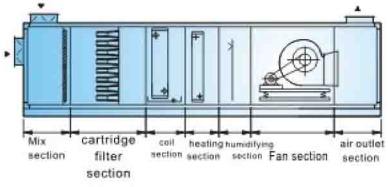
Combination method W5



Combination method W6

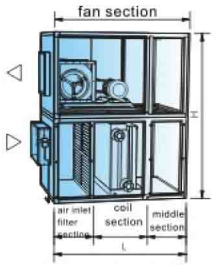


Combination method W7

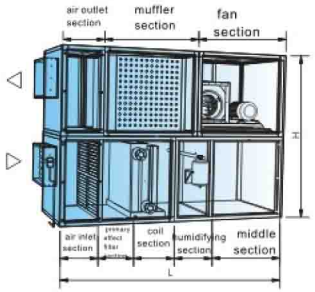


Combination method W8

AirTrojan
Http://www.airtrojan.com



Combination 01



Combination method 02

Installation

1.Around the AHU, especially at the side of access door and water pipe, certain space should be kept for maintenance according to the size of the machine unit.
2.The AHU should be placed on to a flat concrete stand or a terrazzo slab. The slab should has a minimum height of 120mm, and it is required to install a U-shape trap on to it. Length and width of the slab must be at least 100mm larger than the length and width of the AHU. Around the stand, drainage is required for draining waste water during cleaning.
3.During installation, sealing strip is required for sections connection. They are required to be at correct position, securely fastened to avoid air leakage. Use glue if necessary.
4.During installation, make sure the left and right direction of the AHU and install it according the requirements.
5.After installation, any waste inside the AHU should be removed. Check the lubrication of the rotating parts, function of adjust valves, and check if pipes and nozzles are jammed or not.
6.For easy operation, drain valve or vent valve is required for inlet and outlet water pipe outside the AHU. When water supplied, open the vent valve for air exhaust. After air is exhausted, turn off the valve. Drain out the accumulated water in the heat exchanger through drain valve during cleaning and maintenance.
7.When pipe connecting, clean the water pipe to avoid heat exchanger jammed and avoid damaging the heat exchanger.
8.Valve and filtering device are required for pipes which connected with inlet and outlet water pipe on external part of the AHU to avoid being jammed. Do not put the weight of external pipes and valves on to AHU itself.
9.Water trap should be reasonably mounted on to the condensate water pipe to keep a smooth drainage of condensate water.
10.If the medium of heat exchange is water, lower part is for inlet and upper part is for outlet. For steam,lower part is for outlet and upper part is for inlet.
11.Power supplies: 380V, 50Hz. MUST confirm the power before connect the motor. After connection, firstly start up the motor to check if the fan rotating direction is correct. If correct then connect securely. The motor has to be connected with power supply with protective device. Motor shell should be well earthed. In case of motor power >=15kW, it is required to adopt voltage step-down start-up.

Operation and maintenance

1.Special personnel are required for operation and management. During operation, regularly check the operation situation. In case of abnormalities and failure, solve the problems then start up again.
2.Turn on water and power and check all the function sections before start up. Turn on fan, then the heat exchanger, electric heater, and humidifier, etc; when powering it off, turn off electric heater and humidifier firstly, and then the fan.
3.Cooling and heating medium in the heat exchanger must be softened water to avoid heat exchange effect reduction by scale. After using for 2-3 years, the inner wall of the heat exchanger should be cleaned with chemical cleanser; regularly clean the heat exchanger fin with compressed air or water.
4.It is strictly prohibited to start up the fan when supply air and return air valve are closed. It is also prohibited to close the supply air and return air valve when fan is on to avoid burn up the motor and structure damage caused by over voltage.
5.During operation in winter, if a stop for machine unit is required for maintenance, hot water constant flowing should be kept, and close the fresh air valve to avoid frost crack on the heat exchanger piping. Necessary anti-freeze measures are required.
6.Air filter should be cleaned and replaced regularly according to the environment situation.
7.Regularly replace the circulating water in spray section. Regularly check the float valve to see if it is in good condition; Regularly check water filtering mesh and nozzle to avoid being jammed and damage . Replace them if necessary.
8.Clean the muffler perforation plate regularly with compressed air to remove the dust on surface of the perforation plate and keep a good effect of the sound attenuation.
9.Regularly check if hose connector is damaged.
10. Regularly check and adjust tension of the belt to keep sufficient air supplied.
11.Add lubricate oil to the lubricating parts regularly.
12.Regularly check the electric components, keep a secure grounding to avoid current leakage and eliminate unsafe factors.