WIZARD™ Series

Modular Air Handling Unit

WIZARD

MAC.W Series
2000-100,000m³/h

CLIMAVENETA

Modular Air Handling Unit

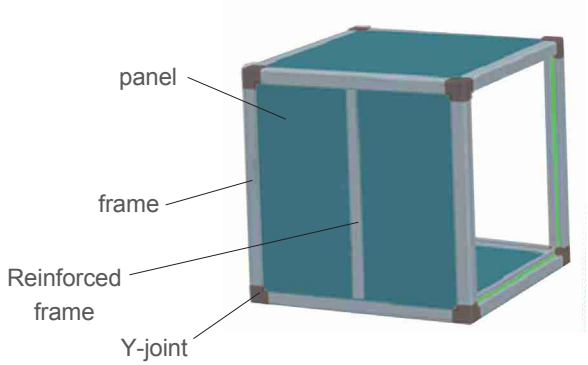
Sturdy casing

The unit casing adopts high strength aluminum alloy frame and compound structure. The Y-shape high quality nylon joint connects adjacent frame sturdily. The unit's surface is even and smooth.

The base of the unit is made of galvanized steel. The double-layer sandwich type casing in 25mm or 50mm thickness is the standard configuration for the Wizard™ series air handling unit. The internal and external panel material as well as its thickness (0.5mm as standard) can be selected based on customer request. High-grade plastic sprayed surface for the external panel can protect the unit from corrosion and scratch. The insulation between the panels is flame-resistance injected PU foam with a density of 48kg/m^3.

The panel and frame are connected by internal screws that has high strength and easy to maintain.

A hinged access door with a dedicated key in the access section to facilitate service.



High efficiency heat-exchange coil

The coil is made of seamless copper tubes and aluminum fins. All tubes are mechanically expanded to aluminum fins tightly to minimize thermal resistance.

Apart from copper-tube with aluminum-fin type heating coil, steam coil, and electric heater are optional.

Galvanized condensation drain pan with sprayed surface is installed under the cooling coil. The stainless steel is optional for the drain pan.

Fan and motor

The standard fan is the belt-driven type. Direct-driven fan is optional. The three-phase asynchronous motor with IP54 protection and class F insulation from well-known brand is adopted.

Extensive function

Filter: Available in pre-filter, bag filter, HEPA filter, chemical filter, PM2.5 filter, active carbon filter, high-voltage electrostatic dust remover, plasma sterilization filter and etc.

Cooling/heating: Copper tube aluminum fin type heating/cooling coil, steel tube steel fin type heating/cooling coil, and electric heater are optional.

Fan: Including belt-driven DIDW centrifugal fan, direct-driven centrifugal fan, plug-fan and so on.

Heat recovery kit: Heat wheel exchanger, plate-type heat exchanger, glycol heat exchanger, and heat tube heat exchanger are available.

Humidifier: Wet-film type, high-pressure micro mist type, spray type, dry steam type, electrode type, electric heater type humidifier can be selected.

Attenuator: Folding plate type, micro-perforated type, splitter type and dissipative muffler are selectable.

Nomenclature

MAC 5 W A 1013

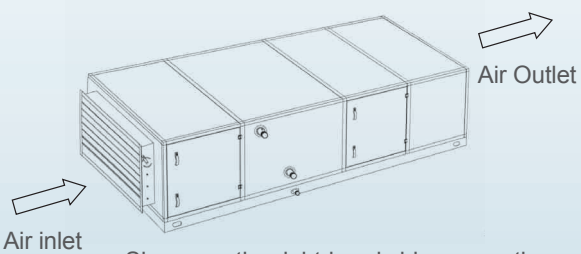
- 1013 — Unit modulus (height & width)
- A — Casing thickness: A 25mm, B 50mm
- W — WIZARD™ Series
- 5 — Nominal air flow (*1000 m^3/h)
- MAC — CLIMAVENETA Air Handling Unit

Connection type

The right-hand water connection is the cooling water coming from the right side while standing in front of the air-inlet side. The left-hand water connection is water from the left side while standing in front of the air-inlet side.

Note:

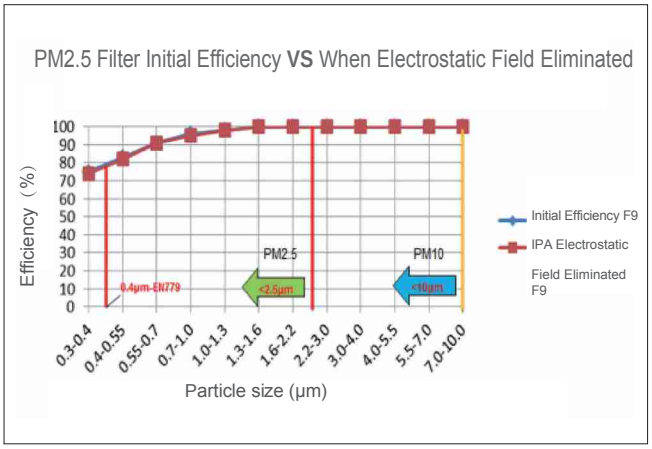
The access door and the water inlet/outlet pipe are located on the same side, if without any special specification.



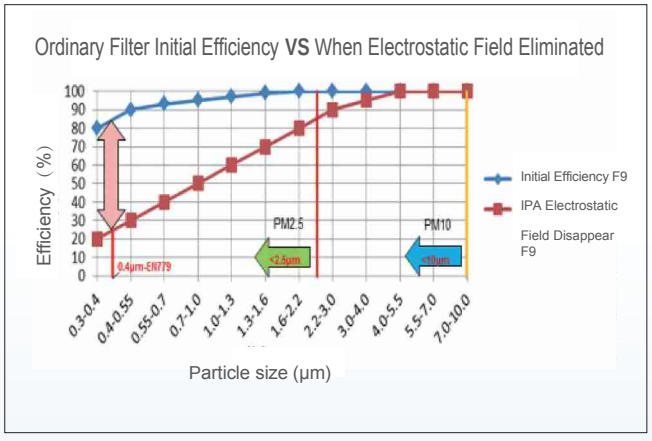
Shown as the right-hand side connection

Long-term stable protection on human health

The CLIMAVENETA PM2.5 filter uses specific material but special structure that PM2.5 removal efficiency is over 90% constantly. Its filtration performance does not depend on electrostatic field, but rely on ultrafine fibers and dense structure. Through mechanical interception, the micro-particles in the air will be captured effectively.



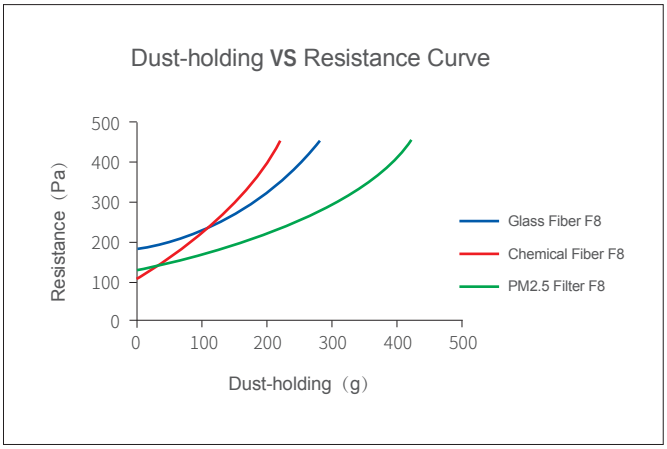
The efficiency of PM2.5 filter (F9) remains stable after electrostatic field is eliminated.



The efficiency of ordinary filter (F9) decrease greatly after electrostatic field is eliminated.

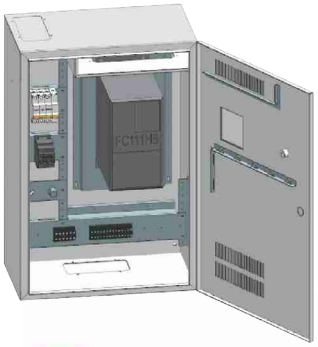
Environment friendly, energy-saving and long service life

PM2.5 filter (F7~F9) is a bag filter. The unique material of corrugated coarse fiber and nanofiber increased the filtration area multiply which extended its service life 2.5~3 times longer than the ordinary filter. And the energy consumption is 35% lower than the glass fiber bag filter at same filter degree. According to the Eurovent 4/11 standard, the energy efficiency of the filter material is class A.

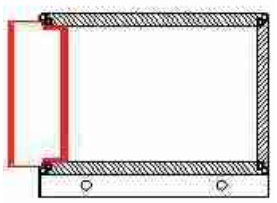


Control cabinet

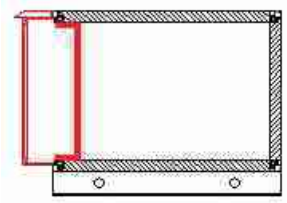
The control cabinet is customized with a variety of control schemes. The cabinet has an elegant appearance and reliable operation. the main electrical components are from international famous brands. Several cabinet installation modes are optional. In order to protect the safe and stable operation of the unit effectively, the control cabinet from CLIMAVENETA is one of your best choices.



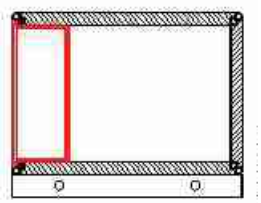
Installation of control cabinet



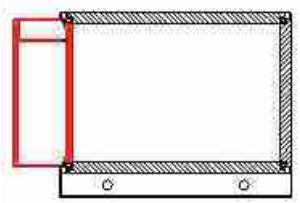
Semi-embedded Installation (Recommended)



Outdoor Semi-embedded Installation



Embedded Installation



External Installation

Integrated cabinet of power supply and control system (Semi-embedded type)

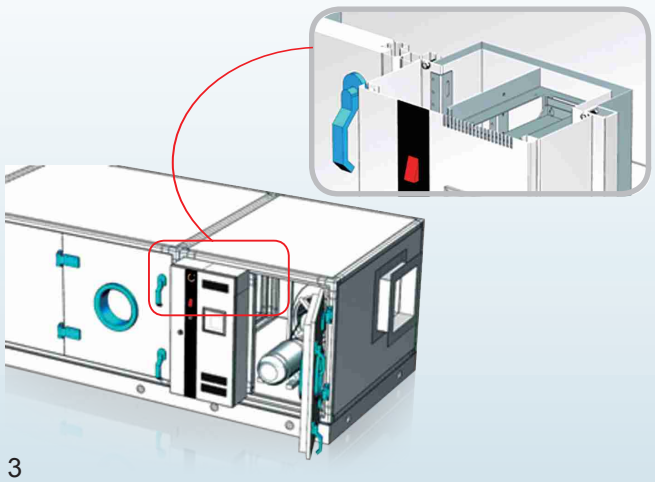
The CLIMAVENETA integrated cabinet of power supply amd control system (semi-embedded) uses an innovative integrated smart control system. The control system is integrated with the air handling unit together, it controls the unit by segment but not the unit as traditional, making the control more accurate. Standard configuration is available for different application requirements, the air handling unit can operate regularly only with an on-site power supply.

The integrated control cabinet (semi-embedded) is completed with all the functions of the traditional control system, and will bring additional benefits to customer:

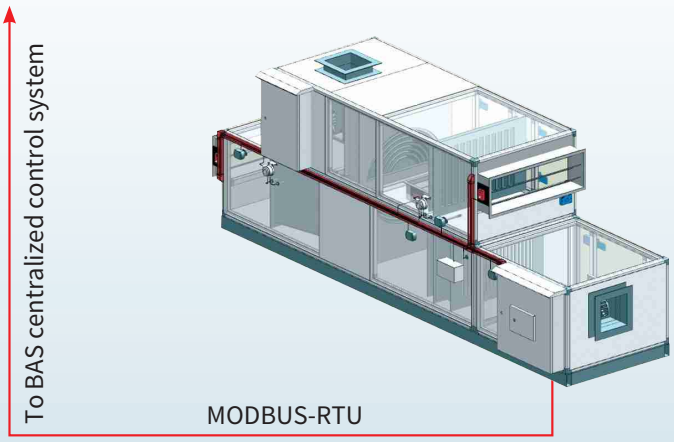
- Normally the contractor is under a heavy workload of massive sensors wiring connections at site. But for this integrated cabinet, all sensor wires are already pre-connected by the factory before delivery which saves certain time and labor work.
- Sensors are installed in factory to ensure the best installation position for the stable and effective control of AHU.
- Ensure the perfect coordination between the AHU and the control system, to fulfill the best efficiency of AHU.
- Even AHU is delivered by segments.No connections to the control system are needed.
- The installation time will be shortened obviously at site.
- Flexible input/output (I/O) configuration.
- Test and commission of the unit and control system will be done in the factory, no need for T&C on-site.

Semi-embedded Installation

Safe and reliable, save space, reduce cost



Connection to BMS/BAS



Quick Selection

Model	Air Flow (m^3/h)	Modulus	Dimension(without frame)		Air Flow(m^3/h)				
					Face Velocity(m/s)				
		H* W	Height H(mm)	Width W(mm)	2.00	2.25	2.50	2.75	3.00
MAC2	2000	0710	620	860	1509	1697	1886	2075	2263
MAC2.5	2500	0712	620	1020	1948	2191	2435	2678	2922
MAC3	3000	0812	700	1020	2272	2556	2840	3124	3408
MAC3.5	3500	0813	700	1100	2528	2844	3160	3476	3792
MAC4	4000	0913	780	1100	2890	3251	3612	3973	4334
MAC5	5000	1013	860	1100	3612	4063	4515	4966	5418
MAC6	6000	1015	860	1260	4343	4886	5429	5972	6515
MAC7	7000	1017	860	1420	4983	5606	6229	6852	7475
MAC8	8000	1217	1020	1420	5925	6666	7407	8147	8888
MAC10	10000	1417	1180	1420	7407	8332	9258	10184	11110
MAC12.5	12500	1420	1180	1660	9053	10184	11316	12447	13579
MAC15	15000	1622	1340	1820	11503	12941	14379	15817	17255
MAC18	18000	1822	1500	1820	13533	15225	16916	18608	20300
MAC20	20000	1824	1500	1980	14996	16871	18745	20620	22494
MAC23	23000	2024	1660	1980	16496	18558	20620	22682	24744
MAC25	25000	2026	1660	2140	18105	20368	22631	24895	27158
MAC28	28000	2226	1820	2140	20574	23146	25718	28289	30861
MAC30	30000	2228	1820	2300	22403	25203	28004	30804	33604
MAC33	33000	2230	1820	2460	24242	27273	30303	33333	36363
MAC35	35000	2430	1980	2460	26170	29441	32713	35984	39255
MAC38	38000	2432	1980	2620	28152	31671	35190	38709	42228
MAC41	41000	2632	2140	2620	30230	34009	37788	41566	45345
MAC45	45000	2634	2140	2780	32400	36450	40500	44550	48600
MAC48	48000	2636	2140	2940	34473	38782	43091	47400	51709
MAC52	52000	2836	2300	2940	38039	42794	47549	52304	57058
MAC55	55000	2838	2300	3100	40380	45427	50475	55522	60570
MAC59	59000	3038	2460	3100	42904	48267	53630	58993	64356
MAC62	62000	3040	2460	3260	45360	51030	56700	62370	68040
MAC66	66000	3338	2700	3100	47952	53946	59940	65934	71928
MAC70	70000	3340	2700	3260	50731	57072	63414	69755	76096
MAC74	74000	3342	2700	3420	53532	60224	66915	73607	80298
MAC77	77000	3640	2940	3260	56071	63080	70089	77098	84107
MAC81	81000	3642	2940	3420	59184	66582	73980	81378	88776
MAC85	85000	3644	2940	3580	61920	69660	77400	85140	92880
MAC90	90000	3649	2940	3980	66440	74745	83050	91355	99660
MAC95	95000	3849	3100	3980	69602	78303	87003	95703	104403
MAC100	100000	3852	3100	4220	74432	83736	93040	102344	111648

Remarks:

1. Maximum model of 25mm thickness panel is MAC48;
2. The height in this table does not include the height of the unit base. Base height 100mm for model below MAC90; Base height 150mm for model MAC90 (included) and above;

MAC.WA: Height H= height modulus * 80 + 30 mm + base height; Width W= width modulus * 80 + 30mm

MAC.WB: Height H= height modulus * 80 + 60 mm + base height; Width W= width modulus * 80 + 60mm

Performance Data (Cooling, Return Air)

Model	Modulus	Air Flow (m^3/h)	4-row		6 -row		8 -row	
			Total Cooling Capacity	Water Pressure Drop	Total Cooling Capacity	Water Pressure Drop	Total Cooling Capacity	Water Pressure Drop
			(kW)	(kPa)	(kW)	(kPa)	(kW)	(kPa)
MAC2	0710	2000	9.1	3.1	12.8	8.1	15.2	14.5
MAC2.5	0712	2500	12.5	6.4	16.9	16.0	19.8	27.7
MAC3	0812	3000	14.8	6.8	20.1	16.9	23.7	28.6
MAC3.5	0813	3500	17.4	9.8	23.6	24.1	27.7	40.8
MAC4	0913	4000	19.9	10.0	27.0	23.6	31.8	41.2
MAC5	1013	5000	24.9	10.5	33.8	24.1	39.7	41.9
MAC6	1015	6000	30.8	17.1	41.3	38.8	48.2	66.8
MAC7	1017	7000	37.1	24.0	49.2	58.0	53.1	14.0
MAC8	1217	8000	43.1	26.0	56.9	56.7	61.3	15.4
MAC10	1417	10000	54.9	22.1	71.9	40.9	77.8	13.4
MAC12.5	1420	12500	69.3	45.2	83.0	17.3	98.2	26.7
MAC15	1622	15000	86.4	59.7	103.3	23.2	121.1	35.6
MAC18	1822	18000	103.0	56.0	123.3	21.2	144.7	32.7
MAC20	1824	20000	115.9	74.9	139.1	25.9	162.5	43.4
MAC23	2024	23000	131.1	79.5	157.9	28.2	185.0	47.2
MAC25	2026	25000	129.8	15.5	174.5	36.0	203.4	59.9
MAC28	2226	28000	146.2	16.1	196.2	36.8	228.7	60.8
MAC30	2228	30000	160.3	20.0	213.6	45.5	247.5	74.7
MAC33	2230	33000	179.8	20.8	235.0	47.8	272.3	79.2
MAC35	2430	35000	189.7	21.3	251.4	49.9	290.5	83.3
MAC38	2432	38000	210.1	24.8	272.9	56.9	315.4	89.1
MAC41	2632	41000	226.7	28.1	294.5	64.4	336.9	17.2
MAC45	2634	45000	248.8	32.4	323.2	74.2	366.1	19.6
MAC48	2636	48000	265.4	36.2	344.8	83.1	386.6	21.8
MAC52	2836	52000	287.5	41.2	373.5	29.2	414.6	24.5
MAC55	2838	55000	308.9	46.1	383.1	36.1	435.2	27.0
MAC59	3038	59000	331.4	49.4	411.0	38.7	466.9	30.4
MAC62	3040	62000	348.2	51.9	431.9	40.7	490.6	33.6
MAC66	3338	66000	370.7	55.3	459.7	43.3	522.2	37.5
MAC70	3340	70000	394.6	57.6	487.6	46.0	553.9	41.8
MAC74	3342	74000	417.1	60.9	515.4	51.0	585.5	46.4
MAC77	3640	77000	434.1	63.4	536.3	55.7	609.3	50.7
MAC81	3642	81000	456.6	66.7	564.2	61.6	640.9	56.0
MAC85	3644	85000	479.2	69.9	592.1	67.8	672.6	61.7
MAC90	3649	90000	507.3	86.4	623.2	30.2	728.4	50.7
MAC95	3849	95000	535.5	89.5	657.8	33.2	768.9	56.1
MAC100	3852	100000	543.6	15.8	701.0	35.6	816.4	60.8

Remarks:
1. Return air condition: air inlet 27℃DB/19.5℃ WB, chilled water inlet/outlet temp.7℃/12℃;
2. Coil is copper tube aluminum fin type of 10FPI, 8~14FPI is optional;
3. Cooling and heating capacity is calculated based on air inlet and chilled water temp., please consult CLIMAVENETA office for more detail.

Performance Data (Cooling, Fresh Air)

Model	Modulus	Air Flow (m^3/h)	4-row		6 -row		8 -row	
			Total Cooling Capacity	Water Pressure Drop	Total Cooling Capacity	Water Pressure Drop	Total Cooling Capacity	Water Pressure Drop
			(kW)	(kPa)	(kW)	(kPa)	(kW)	(kPa)
MAC2	0710	2000	23.0	17.0	29.9	38.8	34.0	63.3
MAC2.5	0712	2500	30.5	33.0	38.7	72.4	41.3	18.9
MAC3	0812	3000	36.2	34.8	46.1	76.7	49.3	18.3
MAC3.5	0813	3500	42.2	49.2	49.7	18.5	57.6	25.9
MAC4	0913	4000	48.2	50.5	56.9	16.5	65.9	26.7
MAC5	1013	5000	60.3	53.3	71.1	18.1	82.4	27.5
MAC6	1015	6000	65.2	13.0	87.0	28.6	100.1	40.1
MAC7	1017	7000	78.9	16.6	103.6	37.3	118.4	60.2
MAC8	1217	8000	91.5	17.5	119.7	40.2	136.1	58.9
MAC10	1417	10000	114.1	19.2	149.7	42.4	170.6	63.5
MAC12.5	1420	12500	147.2	42.1	190.1	62.0	202.2	19.6
MAC15	1622	15000	181.9	32.6	233.4	80.2	264.9	21.3
MAC18	1822	18000	218.8	41.2	266.7	34.9	297.5	31.1
MAC20	1824	20000	246.5	54.4	299.8	45.5	333.9	40.3
MAC23	2024	23000	278.9	59.8	340.6	51.7	380.5	47.0
MAC25	2026	25000	307.9	75.7	375.1	64.7	418.2	58.3
MAC28	2226	28000	346.8	79.2	421.7	72.4	468.4	65.8
MAC30	2228	30000	377.5	83.4	457.8	84.7	451.7	72.5
MAC33	2230	33000	415.3	87.2	503.5	88.5	496.8	75.8
MAC35	2430	35000	444.2	79.5	534.0	76.4	526.9	62.8
MAC38	2432	38000	482.3	86.3	579.8	82.9	572.1	68.2
MAC41	2632	41000	520.4	93.1	625.6	89.5	617.3	73.6
MAC45	2634	45000	528.1*	74.1	648.3*	57.0	739.7*	64.9
MAC48	2636	48000	563.3*	79.1	691.5*	60.8	789.1*	69.3
MAC52	2836	52000	610.2*	79.7	749.1*	61.3	854.7*	69.9
MAC55	2838	55000	645.5*	83.3	792.4*	64.1	904.1*	61.7
MAC59	3038	59000	692.4*	84.9	850.1*	66.0	969.8*	55.6
MAC62	3040	62000	727.6*	84.7	893.2*	66.6	1019.1*	57.2
MAC66	3338	66000	774.6*	85.7	950.8*	68.1	1084.9*	59.7
MAC70	3340	70000	806.8*	87.4	993.2*	71.6	1120.5*	61.3
MAC74	3342	74000	852.9*	89.6	1049.9*	73.4	1184.5*	62.8
MAC77	3640	77000	887.4*	90.4	1092.5*	74.0	1232.5*	63.4
MAC81	3642	81000	933.5*	92.3	1149.2*	75.6	1296.5*	64.7
MAC85	3644	85000	979.6*	93.9	1206.1*	77.0	1360.6*	65.8
MAC90	3649	90000	1114.6	63.6	1355.8	54.0	1510.0	48.4
MAC95	3849	95000	1176.5	67.1	1431.1	57.0	1593.9	51.1
MAC100	3852	100000	1238.4	77.0	1506.4	65.6	1677.8	58.9

Remarks:

1. Fresh air condition: air inlet 35℃ DB/28℃ WB, chilled water inlet/outlet temp.7℃/12℃;
2. Coil is copper tube aluminum fin type of 10FPI. 8~14FPI is optional;
3. *Water temperature difference will be higher than 5℃ in order to control water pressure drop;
4. Cooling and heating capacity is calculated based on air inlet and chilled water temp., please consult CLIMAVENETA office for more detail.

Performance Data (Heating)

Model	Modulus	Air Flow (m^3/h)	2 -row Return Air Condition		2 -row Fresh Air Condition		Maximum Electrical Heating Capacity (kW)		
			Total Cooling Capacity	Water Pressure Drop	Total Cooling Capacity	Water Pressure Drop			
			kW	kPa	kW	kPa	1-row	2-row	3-row
MAC2	0710	2000	12.2	0.8	15.4	1.2	4	8	11
MAC2.5	0712	2500	16.3	1.5	20.3	2.2	5	10	14
MAC3	0812	3000	19.3	1.6	24.1	2.4	6	12	17
MAC3.5	0813	3500	22.5	2.2	28.1	3.3	7	14	19
MAC4	0913	4000	25.7	2.3	32.1	3.5	8	16	22
MAC5	1013	5000	32.2	3.5	40.1	3.8	10	20	28
MAC6	1015	6000	39.2	3.9	48.7	5.9	12	24	34
MAC7	1017	7000	46.7	5.9	57.8	8.8	14	28	39
MAC8	1217	8000	54.1	6.0	67.0	8.9	16	32	45
MAC10	1417	10000	67.6	6.8	83.8	10.2	20	40	56
MAC12.5	1420	12500	85.6	11.6	105.8	17.2	25	50	70
MAC15	1622	15000	105.9	15.6	130.7	23.1	30	60	85
MAC18	1822	18000	126.2	18.1	155.7	26.8	36	72	100
MAC20	1824	20000	141.3	23.3	174.1	34.5	40	80	113
MAC23	2024	23000	160.0	26.7	197.1	39.6	45	90	130
MAC25	2026	25000	175.7	33.0	216.3	48.9	50	100	142
MAC28	2226	28000	197.8	36.5	243.5	54.2	56	112	159
MAC30	2228	30000	214.4	43.9	263.7	65.0	60	120	170
MAC33	2230	33000	231.1	48.3	284.3	71.5	65	130	180
MAC35	2430	35000	239.5	12.1	301.5	18.2	70	140	199
MAC38	2432	38000	260.0	13.7	327.3	20.7	75	150	210
MAC41	2632	41000	280.6	15.6	353.2	23.5	80	160	227
MAC45	2634	45000	307.9	17.9	387.6	27.1	85	170	240
MAC48	2636	48000	328.5	20.1	413.5	30.3	90	180	256
MAC52	2836	52000	355.8	22.8	447.9	34.5	100	200	280
MAC55	2838	55000	384.2	27.0	473.4	40.5	110	220	310
MAC59	3038	59000	412.1	29.0	507.8	43.4	120	240	340
MAC62	3040	62000	433.1	30.5	533.7	45.7	126	250	360
MAC66	3338	66000	461.0	32.4	568.1	48.6	132	260	380
MAC70	3340	70000	489.0	34.4	602.4	51.5	140	280	398
MAC74	3342	74000	506.6	36.4	624.1	54.5	150	300	420
MAC77	3640	77000	516.6	37.9	636.4	56.7	160	320	455
MAC81	3642	81000	532.6	39.8	656.1	59.6	166	330	470
MAC85	3644	85000	547.7	41.8	674.7	62.6	174	340	490
MAC90	3649	90000	608.0	28.7	748.7	42.7	180	360	510
MAC95	3849	95000	641.8	30.3	790.3	45.1	190	380	540
MAC100	3852	100000	706.00	33.5	869.2	49.5	200	400	565

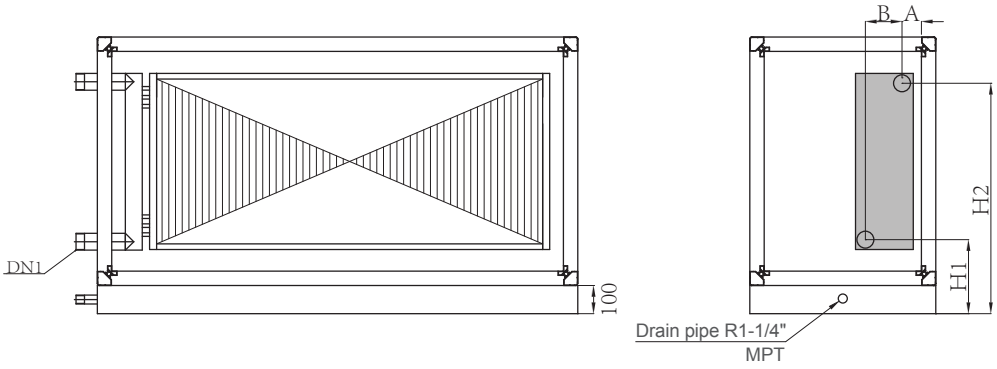
Remarks:
1. Heating: Return air condition: air inlet 15℃DB; Fresh air condition: air inlet 7℃DB; Water inlet/outlet temp.60℃/50℃;
2. Coil is copper tube aluminum fin type of 10FPI. 8~14FPI is optional;
3. Cooling and heating capacity is calculated based on air inlet and chilled water temp., please consult CLIMAVENETA office for more detail.

Length for Each Section

Model	Modulus	Mixing Box	Plate Filter	Bag (Plate+Bag) Filter	Cooling coil	Heating Coil	Steam Coil	Electric Heater	Air Outlet	Combined Mixing Box	Diffuser	Access	Dry Steam Humidifier	High pressure Humidifier	Attenuater
MAC2	0710	6M	0M	4M/7M	6M/7M/8M	4M	4M	4M	6M	12M	7M	6M/8M	8M	8M	8M/12M/16M
MAC2.5	0712	6M	0M	4M/7M	6M/7M/8M	4M	4M	4M	6M	12M	7M	6M/8M	8M	8M	8M/12M/16M
MAC3	0812	6M	0M	4M/7M	6M/7M/8M	4M	4M	4M	6M	12M	7M	6M/8M	8M	8M	8M/12M/16M
MAC3.5	0813	6M	0M	4M/7M	6M/7M/8M	4M	4M	4M	6M	12M	7M	6M/8M	8M	8M	8M/12M/16M
MAC4	0913	6M	0M	4M/7M	6M/7M/8M	4M	4M	4M	6M	12M	7M	6M/8M	8M	8M	8M/12M/16M
MAC5	1013	6M	0M	4M/7M	6M/7M/8M	4M	4M	4M	6M	12M	7M	6M/8M	8M	8M	8M/12M/16M
MAC6	1015	6M	0M	4M/7M	6M/7M/8M	4M	4M	4M	6M	12M	7M	6M/8M	8M	8M	8M/12M/16M
MAC7	1017	6M	0M	4M/7M	6M/7M/8M	4M	4M	4M	6M	12M	7M	6M/8M	8M	8M	8M/12M/16M
MAC8	1217	6M	0M	4M/7M	6M/7M/8M	4M	4M	4M	6M	12M	7M	6M/8M	8M	8M	8M/12M/16M
MAC10	1417	7M	0M	4M/7M	6M/7M/8M	4M	4M	4M	7M	12M	8M	6M/8M	8M	8M	8M/12M/16M
MAC12.5	1420	7M	0M	4M/7M	6M/7M/8M	4M	4M	4M	7M	12M	8M	6M/8M	8M	8M	8M/12M/16M
MAC15	1622	8M	0M	4M/7M	6M/7M/8M	4M	4M	4M	8M	16M	8M	6M/8M	8M	8M	8M/12M/16M
MAC18	1822	8M	0M	4M/7M	6M/7M/8M	4M	4M	4M	8M	16M	8M	6M/8M	8M	8M	8M/12M/16M
MAC20	1824	8M	0M	4M/7M	6M/7M/8M	4M	4M	4M	8M	16M	8M	6M/8M	8M	8M	8M/12M/16M
MAC23	2024	8M	0M	4M/7M	6M/7M/8M	4M	4M	4M	8M	16M	8M	6M/8M	8M	8M	8M/12M/16M
MAC25	2026	8M	0M	4M/7M	6M/7M/8M	4M	4M	4M	8M	16M	8M	6M/8M	8M	8M	8M/12M/16M
MAC28	2226	10M	0M	4M/7M	6M/7M/8M	4M	4M	4M	10M	16M	10M	6M/8M	8M	8M	8M/12M/16M
MAC30	2228	10M	0M	4M/7M	6M/7M/8M	4M	4M	4M	10M	16M	10M	6M/8M	8M	8M	8M/12M/16M
MAC33	2230	10M	0M	4M/7M	6M/7M/8M	4M	4M	4M	10M	16M	10M	6M/8M	8M	8M	8M/12M/16M
MAC35	2430	10M	0M	4M/7M	7M/8M/9M	4M	4M	4M	10M	16M	10M	6M/8M	8M	8M	8M/12M/16M
MAC38	2432	10M	0M	4M/7M	7M/8M/9M	4M	4M	4M	10M	16M	10M	6M/8M	8M	8M	8M/12M/16M
MAC41	2632	10M	0M	4M/7M	7M/8M/9M	4M	4M	4M	10M	16M	10M	6M/8M	8M	8M	8M/12M/16M
MAC45	2634	10M	0M	4M/7M	7M/8M/9M	4M	4M	4M	10M	16M	10M	6M/8M	8M	8M	8M/12M/16M
MAC48	2636	10M	0M	4M/7M	7M/8M/9M	4M	4M	4M	10M	16M	10M	6M/8M	8M	8M	8M/12M/16M
MAC52	2836	11M	0M	4M/7M	7M/8M/9M	4M	4M	4M	11M	18M	11M	6M/8M	8M	8M	8M/12M/16M
MAC55	2838	12M	0M	4M/7M	7M/8M/9M	4M	4M	4M	12M	20M	12M	6M/8M	8M	8M	8M/12M/16M
MAC59	3038	12M	0M	4M/7M	7M/8M/9M	4M	4M	4M	12M	20M	12M	6M/8M	8M	8M	8M/12M/16M
MAC62	3040	12M	0M	4M/7M	7M/8M/9M	4M	4M	4M	12M	20M	12M	6M/8M	8M	8M	8M/12M/16M
MAC66	3338	13M	0M	4M/7M	7M/8M/9M	4M	4M	4M	13M	20M	13M	6M/8M	8M	8M	8M/12M/16M
MAC70	3340	13M	0M	4M/7M	7M/8M/9M	4M	4M	4M	13M	20M	13M	6M/8M	8M	8M	8M/12M/16M
MAC74	3342	13M	0M	4M/7M	7M/8M/9M	4M	4M	4M	13M	20M	13M	6M/8M	8M	8M	8M/12M/16M
MAC77	3640	14M	0M	4M/7M	7M/8M/9M	4M	4M	4M	14M	24M	14M	6M/8M	8M	8M	8M/12M/16M
MAC81	3642	14M	0M	4M/7M	7M/8M/9M	4M	4M	4M	14M	24M	14M	6M/8M	8M	8M	8M/12M/16M
MAC85	3644	14M	0M	4M/7M	7M/8M/9M	4M	4M	4M	14M	24M	14M	6M/8M	8M	8M	8M/12M/16M
MAC90	3649	14M	0M	4M/7M	7M/8M/9M	4M	4M	4M	14M	24M	14M	6M/8M	8M	8M	8M/12M/16M
MAC95	3849	14M	0M	4M/7M	7M/8M/9M	4M	4M	4M	14M	24M	14M	6M/8M	8M	8M	8M/12M/16M
MAC100	3852	14M	0M	4M/7M	7M/8M/9M	4M	4M	4M	14M	24M	14M	6M/8M	8M	8M	8M/12M/16M

Remark: M means modulus, 80mm per modulus.

Single Coil Dimension

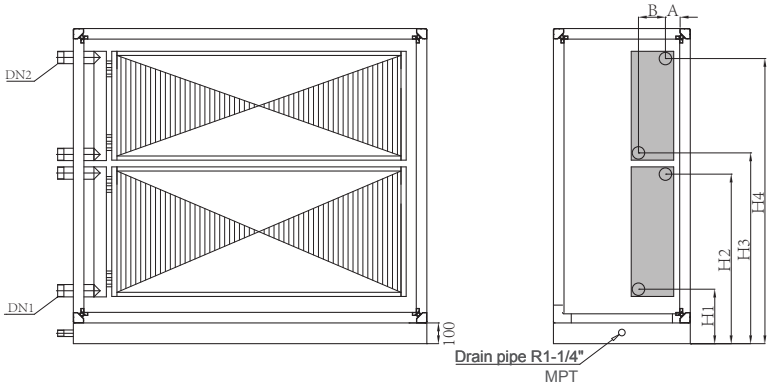


Data of MAC.WA type AHU. For MAC.WB type, the value of H shall plus 15mm.

Unit: mm

Model	Row	A	B	DN1	H1	H2	Model	Row	A	B	DN1	H1	H2
MAC2 MAC2.5	01	95	65	ϕ48	255	619.5	MAC3 MAC3.5	01	95	65	ϕ48	255	620
	02	95	65					02	95	65			
	04	112	82.5					04	112	82.5			
	06	97	137.5					06	97	137.5			
	08	97	192.5					08	97	192.5			
MAC4	01	95	65	ϕ48	255	683	MAC5 MAC6 MAC7	01	95	65	ϕ48	255	810
	02	95	65					02	95	65			
	04	112	82.5	ϕ60	261	677		04	112	82.5	ϕ60	261	804
	06	97	137.5					06	97	137.5			
	08	97	192.5					08	97	192.5			
MAC8	01	95	65	ϕ48	255	937	MAC10 MAC12.5	01	95	65	ϕ48	255	1128
	02	95	65					02	95	65			
	04	112	82.5	ϕ76	269	923		04	112	82.5	ϕ76	269	1114
	06	97	137.5					06	97	137.5			
	08	97	192.5					08	97	192.5			
MAC15	01	95	65	ϕ48	255	1255	MAC18 MAC20	01	95	65	ϕ48	255	1445
	02	95	65					02	95	65			
	04	112	82.5	ϕ89	275.5	1234		04	112	82.5	ϕ89	275.5	1425
	06	97	137.5					06	97	137.5			
	08	97	192.5					08	97	192.5			
MAC23 MAC25	01	95	65	ϕ48	255	1572	MAC28 MAC30 MAC33	01	95	65	ϕ48	255	1763
	02	95	65					02	95	65			
	04	112	82.5	ϕ89	275.5	1552		04	112	82.5	ϕ89	275.5	1742
	06	97	137.5					06	97	137.5			
	08	97	192.5					08	97	192.5			

Double Coil Dimension

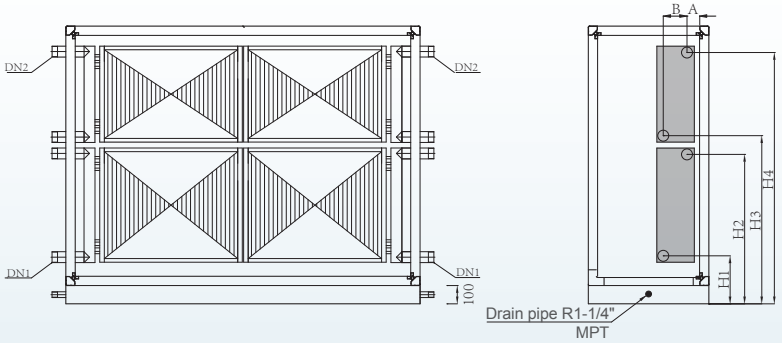


Data of MAC.WA type AHU. For MAC.WB type, the value of H shall plus 15mm.

Unit: mm

Model	Row	A	B	DN1	DN2	H1	H2	H3	H4	Model	Row	A	B	DN1	DN2	H1	H2	H3	H4
MAC35 MAC38	01	95	65	ϕ48	ϕ48	255	1128	1248	1930	MAC41 MAC45 MAC48	01	95	65	ϕ48	ϕ48	255	175	295	215
	02	95	65								02	95	65						
	04	112	82.5	ϕ89	ϕ89	276	1107	1268	1909		04	112	82.5	ϕ89	ϕ89	276	1107	1268	2036
	06	97	137.5								06	97	137.5						
	08	97	192.5								08	97	192.5						
MAC50 MAC55	01	95	65	ϕ48	ϕ48	255	1255	1375	2247	MAC60 MAC63	01	95	65	ϕ48	ϕ48	255	1255	1375	2374
	02	95	65								02	95	65						
	04	112	82.5	ϕ89	ϕ89	276	1234	1395	2227		04	112	82.5	ϕ89	ϕ89	276	1234	1395	2354
	06	97	137.5								06	97	137.5						
	08	97	192.5								08	97	192.5						
MAC66 MAC70 MAC74	01	95	65	ϕ60	ϕ60	261	1376	1508	2622	MAC77 MAC81 MAC85	01	95	65	ϕ60	ϕ60	261	1503	1635	2876
	02	95	65								02	95	65						
	04	112	82.5	ϕ89	ϕ89	276	1361	1522	2608		04	112	82.5	ϕ89	ϕ89	276	1488	1649	2862
	06	97	137.5								06	97	137.5						
	08	97	192.5								08	97	192.5						

Quadra Coil Dimension

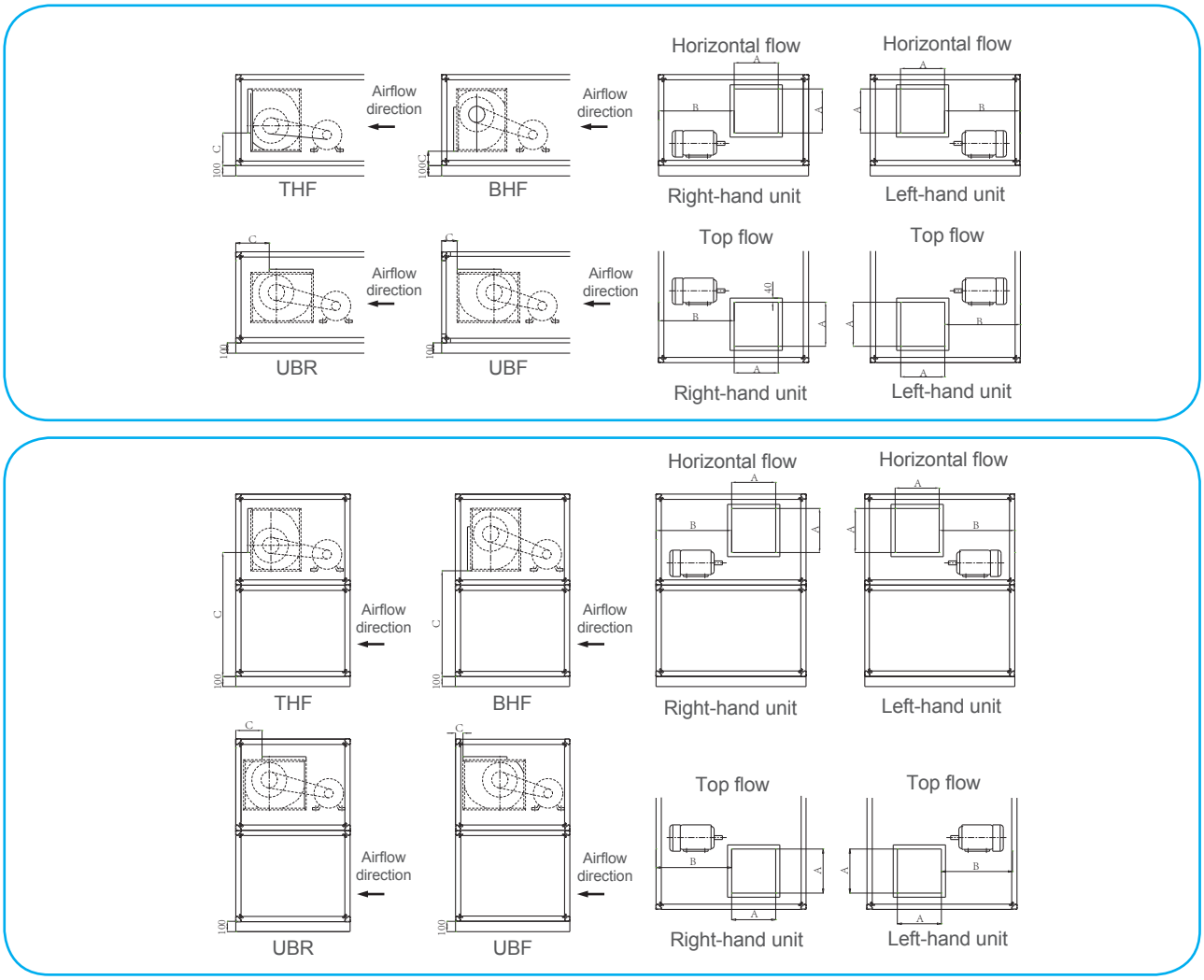


Unit: mm

Model	Row	A	B	DN1	DN2	H1	H2	H3	H4	Model	Row	A	B	DN1	DN2	H1	H2	H3	H4
MAC90	01	95	65	ϕ48	ϕ48	305	1559	1679	2932	MAC95 MAC100	01	95	65	ϕ48	ϕ48	305	1622	1742	3059
	02	95	65								02	95	65						
	04	112	82.5	ϕ89	ϕ89	326	1539	1700	2912		04	112	82.5	ϕ89	ϕ89	326	1602	1763	3039
	06	97	137.5								06	97	137.5						
	08	97	192.5								08	97	192.5						

Modular Air Handling Unit

Air Outlet Dimension

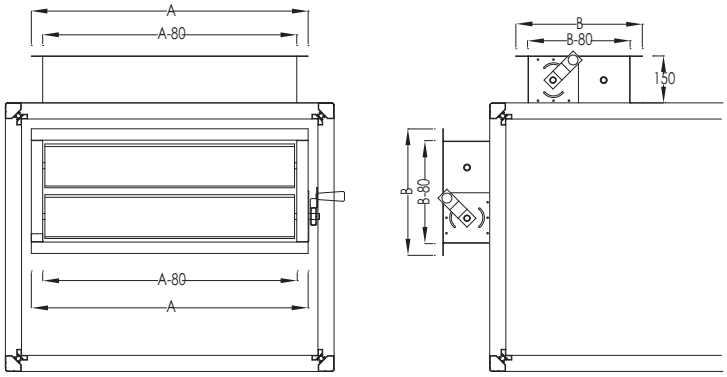


Model	Modulus	Fan Model	A	B	C				Motor Power(kW)
					THF	BHF	UBF	UBR	
MAC2 WA/WB	0710	160	206	483	272/892	185/805	141/141	259/259	1.5
		180	230	459	266/886	166/786	141/141	226/226	
MAC2.5 WA/WB	0712	180	230	529	266/886	166/786	141/141	226/226	1.5
		200	257	502	273/893	166/786	141/141	261/261	
MAC3 WA/WB	0812	180	230	449	266/966	166/866	141/141	226/226	1.5
		200	257	502	273/973	166/866	141/141	261/261	
MAC3.5 WA/WB	0813	200	257	602	283/983	176/876	141/141	261/261	3
		225	289	582	295/995	176/876	141/141	236/236	
MAC4 WA/WB	0913	225	289	582	295/1075	176/956	141/141	236/236	4
		250	323	548	308/1088	176/956	111/111	253/253	
MAC5 WA/WB	1013	250	323	548	308/1168	176/1036	111/111	253/253	4
		280	362	509	323/1183	177/1037	111/111	242/242	
MAC6 WA/WB	1015	280	362	669	308/1183	176/1037	111/111	253/242	5.5
		315	405	626	323/1205	177/1037	111/111	242/247	
MAC7 WA/WB	1017	280	362	789	323/1205	177/1037	111/111	242/247	5.5
		315	405	746	345/1235	177/1049	111/111	247/300	

Model	Modulus	Fan Model	A	B	C				Motor Power (kW)
					THF	BHF	UBF	UBR	
MAC8WA/WB	1217	315	405	696	345/1365	177/1197	111/111	247/247	5.5
		355	454	647	375/1395	189/1209	111/111	300/300	
MAC10 WA/WB	1417	355	454	647	375/1555	189/1369	111/111	300/300	7.5
		400	508	633	400/1580	189/1369	111/111	265/265	
MAC12.5 WA/WB	1420	400	508	813	400/1580	189/1369	111/111	265/265	11
		450	570	751	437/1617	189/1369	111/111	344/344	
MAC15 WA/WB	1622	450	570	866	437/1777	189/1529	111/111	344/344	15
		500	639	831	456/1796	189/1529	121/121	312/312	
MAC18 WA/WB	1822	450	570	866	437/1937	189/1689	111/111	344/344	15
		500	639	831	456/1956	189/1689	121/121	312/312	
MAC20 WA/WB	1824	500	639	991	456/1956	189/1689	121/121	312/312	18.5
		560	716	873	546/2046	249/1749	121/121	465/465	
MAC23 WA/WB	2024	500	639	991	456/2116	189/1849	121/121	312/312	18.5
		560	716	873	546/2206	249/1909	121/121	465/465	
MAC25 WA/WB	2026	560	716	1033	546/2206	249/1909	121/121	465/465	18.5
		630	802	910	591/2251	252/1912	121/121	465/465	
MAC28 WA/WB	2226	560	716	1033	546	249	121	465	22
		630	802	910	591	252	121	465	
MAC30 WA/WB	2228	630	802	1070	591	252	121	465	22
		710	899	941	638	251	121	509	
MAC33 WA/WB	2230	630	802	1069	591	252	121	465	22
		710	899	1021	638	251	121	509	
MAC35 WA/WB	2430	630	802	1069	591	252	121	465	30
		710	899	1021	638	251	121	509	
MAC38 WA/WB	2432	630	802	1198	638	251	121	509	30
		710	899	941	638	251	121	599	
MAC41 WA/WB	2632	710	899	1101	638	251	121	509	30
		800	1008	1047	710	264	121	599	
MAC45 WA/WB	2634	710	899	1341	638	251	121	509	37
		800	1008	1152	638	251	121	599	
MAC48 WA/WB	2636	710	899	1261	638	251	121	509	37
		800	1008	1286	710	264	121	599	
MAC52WB	2836	800	1008	1286	710	264	121	599	37
		900	1131	1145	762	264	121	650	
MAC55WB	2838	800	1008	1446	710	264	121	599	37
		900	1131	1305	762	264	121	650	
MAC59WB	3038	900	1131	1305	762	264	121	650	45
		1000	1268	1156	780	265	121	651	
MAC62WB	3040	900	1131	1465	762	264	121	650	45
		1000	1268	1316	780	265	121	651	
MAC66WB	3338	900	1131	1293	780	265	121	651	45
		1000	1268	1234	931	338	121	763	
MAC70WB	3340	900	1131	1465	762	264	121	650	55
		1000	1268	1316	780	265	121	651	
MAC74WB	3342	900	1131	1613	780	265	121	651	55
		1000	1268	1554	931	338	121	763	
MAC77WB	3640	1000	1268	1316	780	265	121	651	55
		1120	1423	1239	931	338	121	763	
MAC81WB	3642	1000	1268	1316	780	265	121	651	55
		1120	1423	1079	931	338	121	763	
MAC85WB	3644	1000	1268	1234	931	338	121	763	75
		1120	1423	1050	1119	376	121	896	
MAC90WB	3649	1000	1268	1876	780	265	121	651	75
		1120	1423	1639	931	338	121	763	
MAC95WB	3849	1000	1268	1794	931	338	121	763	90
		1120	1423	1610	1119	376	121	896	
MAC100WB	3852	1120	1423	1879	931	338	121	763	90
		1250	1525	1748	1119	376	121	896	

Remark: The data in the right side of "/" is vertical type unit; For MAC.WB type, the value of B and C shall plus 15mm.

Air Damper Dimension



Model	Modulus	Air Damper				
		Damper Length(A)	Mix Section Length(M)	Mix Damper Width(B)	Combined Mix Section Length(M)	Combined Mix damper width(B)
MAC2	0710	768	6	448	12	358
MAC2.5	0712	928	6	448	12	358
MAC3	0812	928	6	448	12	358
MAC3.5	0813	1008	6	448	12	358
MAC4	0913	1008	6	448	12	358
MAC5	1013	1008	6	448	12	358
MAC6	1015	1168	6	448	12	358
MAC7	1017	1328	6	448	12	358
MAC8	1217	1328	6	448	12	358
MAC10	1417	1328	7	528	12	358
MAC12.5	1420	1568	7	528	12	358
MAC15	1622	1728	8	608	16	518
MAC18	1822	1728	8	608	16	518
MAC20	1824	1888	8	608	16	518
MAC23	2024	1888	8	608	16	518
MAC25	2026	2048	8	608	16	518
MAC28	2226	2048	10	768	16	518
MAC30	2228	2208	10	768	16	518
MAC33	2230	2368	10	768	16	518
MAC35	2430	2368	10	768	16	518
MAC38	2432	2528	10	768	16	518
MAC41	2632	2528	10	768	16	518
MAC45	2634	2688	10	768	16	518
MAC48	2636	2848	10	768	16	518
MAC52	2836	2848	11	848	18	598
MAC55	2838	3008	12	928	20	678
MAC59	3038	3008	12	928	20	678
MAC62	3040	3168	12	928	20	678
MAC66	3338	3008	13	1008	20	678
MAC70	3340	3168	13	1008	20	678
MAC74	3342	3328	13	1008	20	678
MAC77	3640	3168	14	1088	24	838
MAC81	3642	3328	14	1088	24	838
MAC85	3644	3488	14	1088	24	838
MAC90	3649	3888	14	1088	24	838
MAC95	3849	3888	14	1088	24	838
MAC100	3852	4128	14	1088	24	838

Remark: Galvanized steel damper is 180mm thickness, aluminium alloy damper is 125mm thickness.

Installation, Operation and Maintenance

Lifting and handling

■ The unit shall be supplied with lifting lugs or fittings for forking and lifting. And protection pad should be set up between the unit and the strap preventing damage during the lifting. All straps shall keep away from all the water and air duct connectors.

■ Do not use the cudgel or other identical tools to rig the unit to avoid unit deformation.

Installation and pipe work

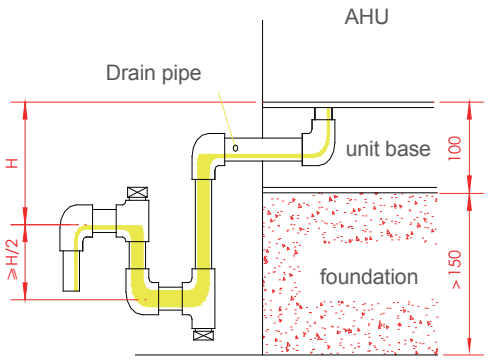
■ The units shall be installed on the horizontal ground or mounting foundation.

■ To facilitate the unit installation, operation, usual inspection, and servicing. Adequate space should be left around the unit, especially for the piping and wiring, connection as well as service door (no less than 1 meter).

■ Ducts shall be connected by following the direction which pasted on the unit's cover and shall be installed with balance strength preventing damage of copper tubes or drain pipes.

■ The unit can't afford the weight of air ducts or water pipes. And flexible connectors shall be fixed between air ducts and water pipes to isolate the vibration.

■ The U-type pipe shall be equipped at the section of the drain pipe outlet for the removal of condensate (shown in the following picture).



Remark: H=max negative pressure(mm)+50mm

Wiring and start-up procedure

■ The electrical installation shall comply with the national code and standard, and follow the attached unit technical manual.

■ Units should be grounding treated. And motors shall be connected to the power supply with overload protection.

■ It is recommended to clean all varies inside the fan casing, and inspect the following items before the set-up procedure. All valves shall be checked and guaranteed in the normal condition. Fan wheels shall be inspected without abnormal noise by manually rotating the fan. And all connection sections shall be examined ensuring without shedding off .

■ It's recommended to check the electric wiring connection and fan rotating direction before the set-up procedure.

Operation and maintenance

■ Before the operation of units, an inspection process is required, such as valve conditions and so on.

■ Filters shall be cleaned or replaced according to the clogged condition as well as the air pressures difference.

■ The water inside coils shall be discharged during the winter and the period units stop working. In winter, coils should be protected from the damage of freeze also.

■ Unit coils shall be chemically cleaned every 1-2 years to eliminate rust inside copper tubes. And the aluminum fin shall be cleaned with compressed air or water too.

■ The bear lubrication and belt tension condition of unit fans shall be inspected regularly.

For more details about units' installation, operation and maintenance, please refer to the unit attached "Product Manual".

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