

*TFMC series*

# Modular Air Handling Unit

Fully Functional

Modular Design

Customized Service

High Efficiency

Quality Assurance

Intelligent Control



# Product Overview

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## Wide Range of Operation available

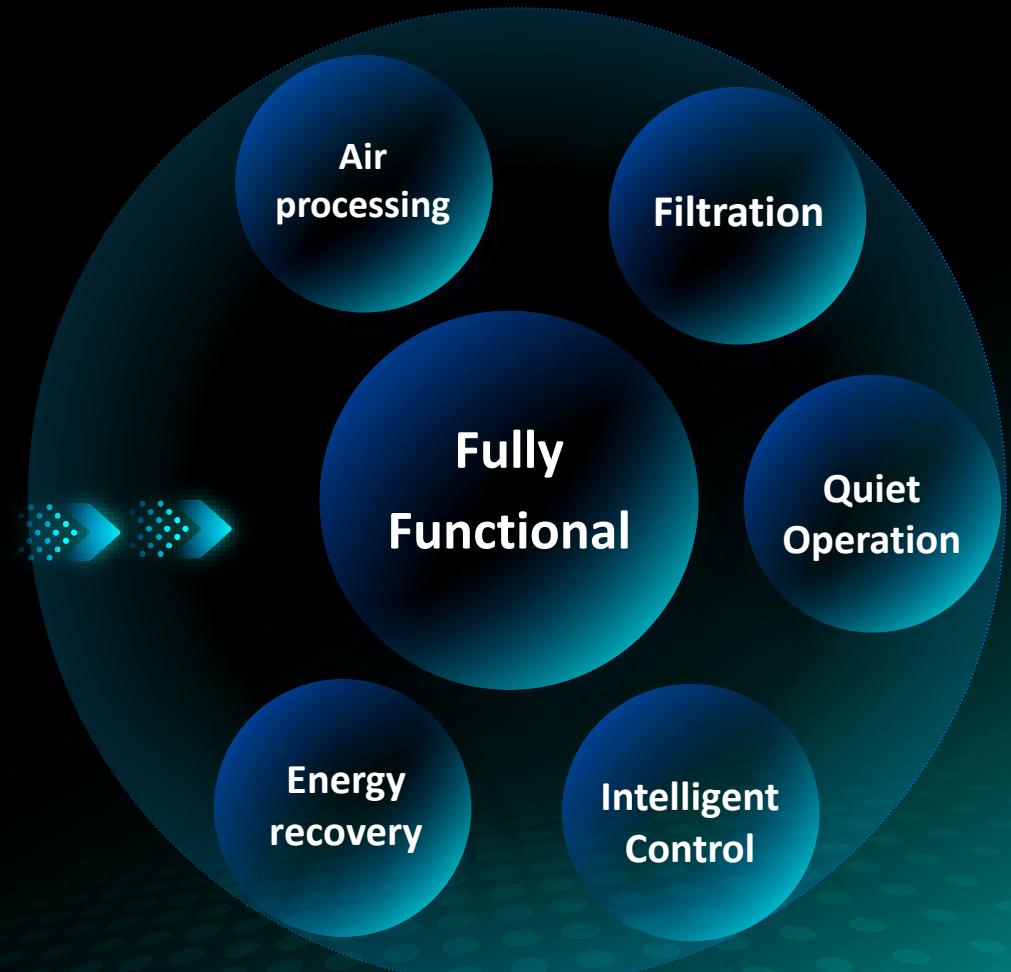
Airflow range

2,000m<sup>3</sup>/h~10,000m<sup>3</sup>/h

Capacity range

10kW~700kW

TFMC series modular air conditioning unit achieves high standards in quality, performance, flexibility, reliability, energy efficiency, and cleanliness. The unit can provide customize system application solutions according to the needs of user, meeting customers' personalized requirements. There are multiple functional sections to choose from to meet various air treatment requirements.



# Certification & Accreditation



In addition to meeting **GB/T 14294 standard**, also certified by **EN 1886** and **AHRI 1350**, TECH FREE also provides units certified to meet **VDI 6022.1 hygiene standards** and offers a comprehensive product range, including outdoor units.



# Demand-based solutions

## Perfect for your requirements

The TFMC series can be adapted to individual project requirements



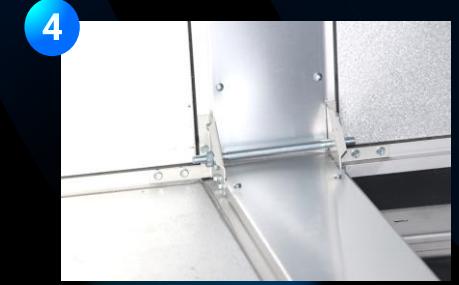
## Professional structural design

Modules offer versatile combinations. They can be customized as a complete structure based on your specifications or assembled in sections, disassembled, and shipped to accommodate on-site requirements

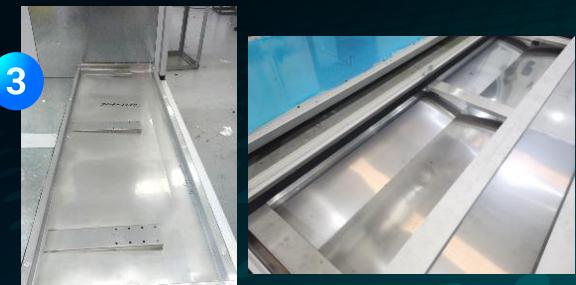
## Fully functional

For all types of air treatment: air filtration, heat recovery, heating/cooling, humidification/dehumidification, disinfection and sterilization, etc. Different combinations of functional sections can meet various air treatment requirements, providing flexible configuration.

# Innovative components and systems

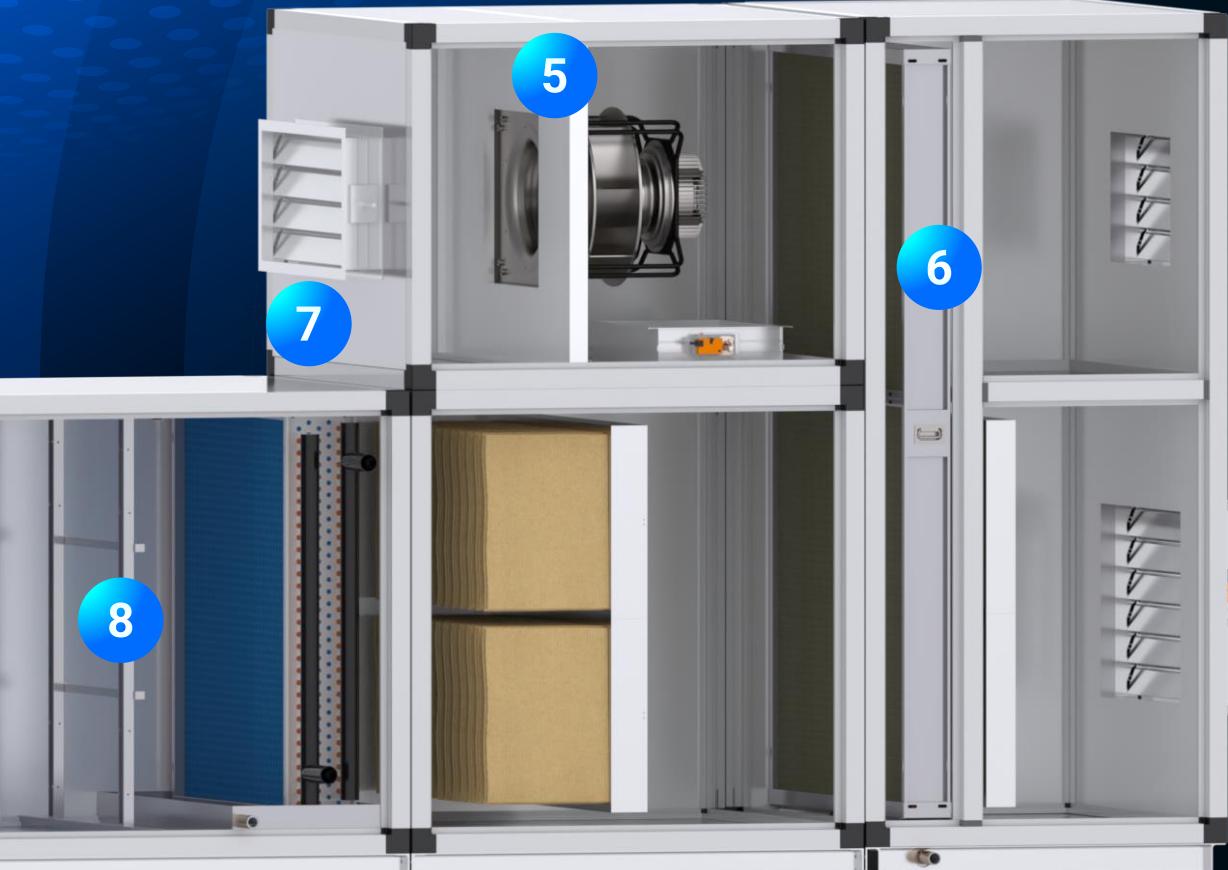


- By selecting panel, bag, HEPA, chemical, electronic purification, and other types of filters, the unit can meet the requirements of various filtration levels. It effectively filters, absorbs, and decomposes various harmful substances in the air, providing users with fresh air and a comfortable breathing environment.
- With a high-sealing filter frame, it significantly reduces air leakage. The filter bypass leakage rate can reach **EN 1886 F9** class.

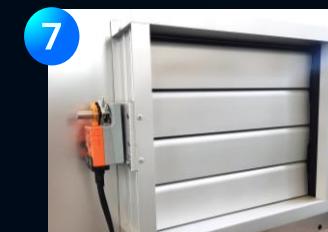


- The units utilize high efficiency heat exchangers certified by **AHRI 410**, with a long lifespan and high heat exchange efficiency.
- Optional: chilled water coils, hot water coils, evaporator coils, condenser coils, etc.
- Stainless steel finned electric heating elements can also be selected for auxiliary heating purposes.

The dry-type condensate drain pan has obtained a national patent certificate. The bottom of the drain pan is filled with flame-retardant insulation material to prevent condensation, and ensure smooth water drainage. The design fully meets the requirements of cleanliness and hygiene standards. Optional V type double-tilt design drain pan are available.



By utilizing ultraviolet (UV) light to disrupt the DNA and RNA of bacteria and viruses, effective sterilization and disinfection effects can be achieved.



Multi-leaf dampers are available, which can be equipped with manual control linkage or electric drives based on customer requirements.



- Energy-efficient fans systems, such as directly driven impellers with EC motor, ensure maximum efficiency even under partial loads, achieve the highest efficiency with the lowest sound power level.
- Optional fans: EC plug fan, Forward/Backward curved fan, and Direct drive fan.
- Optional motors: Energy-efficient fan equipped with EC motor, PM or IE3/IE4/IE5 motor.



- Heat pipe heat exchangers have the advantages of high heat transfer efficiency, compact structure, low fluid resistance, and are beneficial for controlling dew point corrosion.
- Optional: Traditional horizontal, new Vertical configuration and L shape heat recovery Type, U shape dehumidification type.

# Sophisticated details

Units are certified with  
EN1886 & AHRI 1350

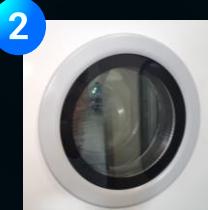
性能指标	AHRI 1350	EN1886
Performance Indicator	CD1	D1
Deformation	CL1	L1
Air leakage	CT1	T1
Thermal transmittance	CB1	TB1
Thermal bridging factor	/	F9



Design of the air outlet includes an insulated sealing structure, providing excellent performance in preventing air and cold leakage.



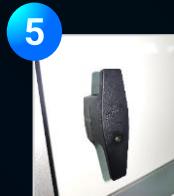
Positive pressure door developed by TECH FREE, significantly reduces air leakage rates.



The patented double-layer anti-fog vacuum glass minimizes fogging, thereby reducing cooling losses.



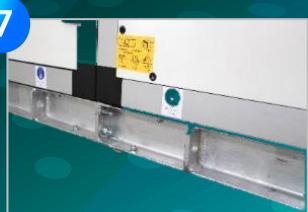
Panels are made of low thermal conductivity polyurethane foam and double-skin panels. Foam density is  $\geq 45\text{kg/m}^3$ , providing excellent insulation and sound reduction performance.



Independently developed aluminum alloy profiles form an interlocking sealing structure during installation, creating a sealed body with strong torsional resistance. The mechanical strength of the casing meets EN1886 D1 and AHRI 1350 CD1 class.



The base frame is made of hot-dip galvanized material, sturdy and durable, designed with lifting holes, facilitating hoisting and positioning on-site.



# Numerous equipment variants

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**The TFMC modules come in different variants and allow for almost unlimited combinations to meet nearly every application requirement.**

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## Various safety protection devices

Optional: Door limit switch, Maintenance door protective net, Fan protective net and cover, Intake hood are available. These devices serve to prevent debris from being drawn into the fan during operation and enhance safety protection for maintenance personnel.

## Various rainproof devices

To prevent corrosion from exposure to external environmental elements such as sun and rain, outdoor air conditioning units can typically be equipped with protection such as rainproof cover and rainproof bend.

## Various dampers

Optional: Air volume control damper and Non-return damper.  
Non-return dampers are typically operated automatically based on the air pressure within the duct to prevent air reverse flow after the fan stops running. Material options include galvanized sheet, aluminum alloy sheet, stainless steel sheet, etc.

## Various heat recovery systems

Optional: Rotary heat exchanger or Cross-flow plate heat exchanger.

## Various eliminators type

Commonly used aluminum alloy eliminator. Types options V-shape and W-shape.

## Intelligent control system

It provides feedback and control various target values such as temperature, humidity, air volume, CO<sub>2</sub> concentration, etc., to meet process or comfort requirements.

## Various humidification systems

Optional: Electrode humidifier, Electric heating humidifier, High-pressure spray humidifier, Wet film humidifier.

## Various dehumidification systems

Various dehumidification systems such as rotary dehumidifier

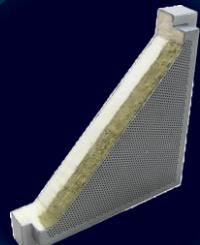
# Innovative structural design

## Double Skin Insulated Panel

The panel is made of high-pressure foamed polyurethane insulation material, it's fire resistance index meets national fire safety requirements, with a minimum density of 45kg/m<sup>3</sup>. It has excellent corrosion resistance, heat resistance, noise reduction and shock absorption properties.

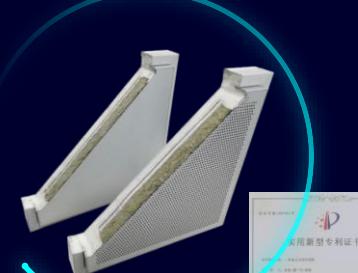
- Passed **BS476 part 6&part 7** fire resistance index.
- The insulation performance achieves **EN1886 T1** and **AHRI 1350 CT1**.
- The anti-cold bridge grade achieves **EN1886 TB1** and **AHRI 1350 CB1**.
- Panel thicknesses are available in various options such as 30mm, 50mm, 65mm, 80mm, etc.
- The material of the panels can be optional: Anodized aluminum sheet, Powder-coated electrolytic sheet, Aluminum zinc sheet, Stainless steel sheet, etc.

In order to meet the high acoustic requirements of certain environments, TECH FREE has developed sound-absorbing panels and high-performance composite soundproof panels.

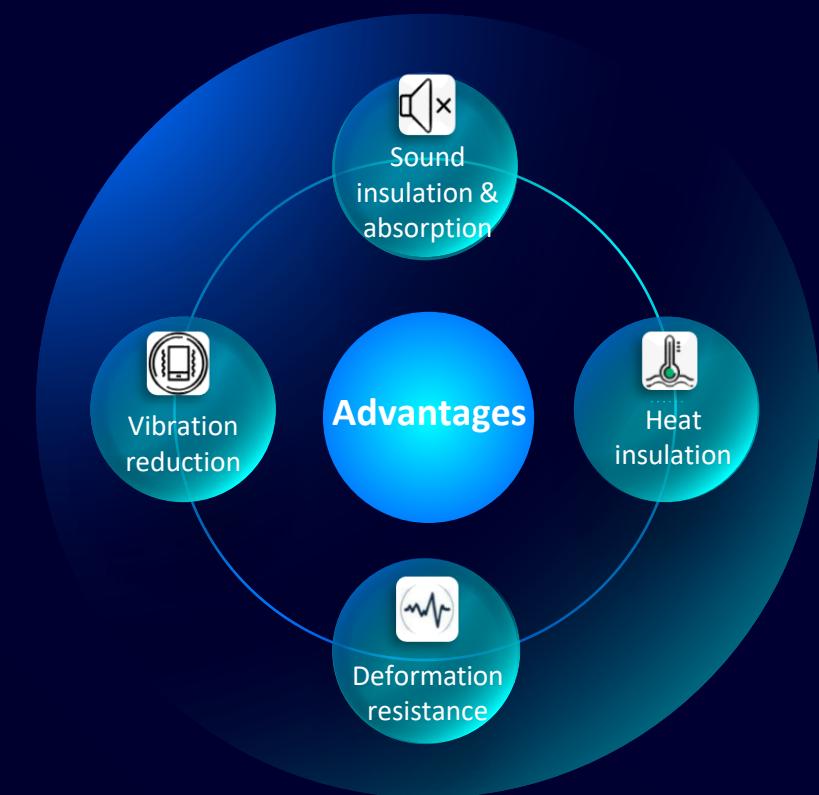


TECH FREE sound-absorbing panels have excellent heat insulation and deformation resistance, as well as sound absorption and isolation effects, with low thermal conductivity and flame resistance.

Through sound insulation testing, it has been verified that these panels are particularly effective in **absorbing and blocking mid to high-frequency sounds**.



The high-performance composite soundproof panel features a unique design with internal composite materials including glass magnesium soundproof board, damping materials, and rock wool materials, effectively **isolating mid-high-frequency and sub-low-frequency transmission**. It achieves exceptionally high sound absorption and soundproofing effects, significantly enhancing the comfort in environments with very high noise.

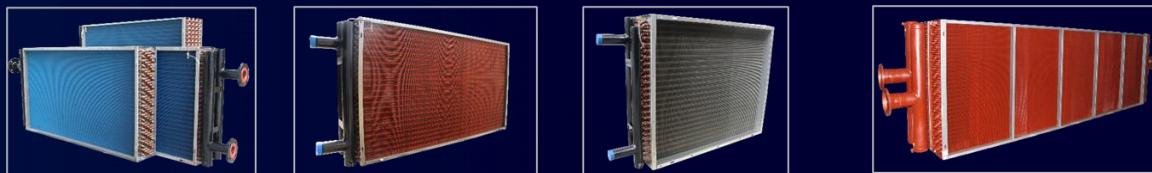


# Coils are certified with AHRI 410



Coils are certified by **AHRI410**, with option to choose from various types of fins, such as hydrophilic aluminum fins, copper fins, tinned copper fins, high corrosion resistance aluminum fins, and high corrosion resistance aluminum fins with hydrophilic coating. These fins offer both durability and excellent heat transfer efficiency, ensuring a long lifespan for the equipment.

Optional coil types: water coils, hot water coils, evaporator coils, and condenser coils, etc. In highly corrosive environments, the coils can also be treated with special corrosion-resistant coating for protection.



Fin Material	Hydrophilic Aluminum Fin	Copper Fin	Tinned Copper Fin	High Corrosion Resistance Aluminum Fin	High Corrosion Resistance Aluminum Fin with Hydrophilic coating	VR-514 High Corrosion Resistance Coating
Specification	0.12mm, 0.13mm, 0.145mm, 0.17mm	0.12mm	0.12mm, 0.24mm	0.12mm, 0.13mm, 0.145mm	0.12mm, 0.13mm, 0.145mm	Suitable for various fin sizes and materials
Coating	Hydrophilic coating Thickness: 2.5~3μm (Salt spray test: 500H)	/	Tinned coating 1.5~2μm Tinning	Epoxy resin coating Thickness: 6~8μm Salt spray test: 1500H	Epoxy resin + hydrophilic coating Thickness: 8μm Salt spray test: 1500H	VR514 or other
Application	Apply to cooling and heating for general civil, commercial, industrial, medical and pharmaceutical application.	Places with high requirements for corrosion resistance and durability	Places with high requirements for corrosion resistance and durability	Outdoor environment	Suitable In coastal areas, places where salt, humidity, corrosion, acidity, and alkalinity are high	Suitable for places with high levels of salt, humidity, corrosion, acidity, and alkalinity such as chemical plants and wastewater treatment areas

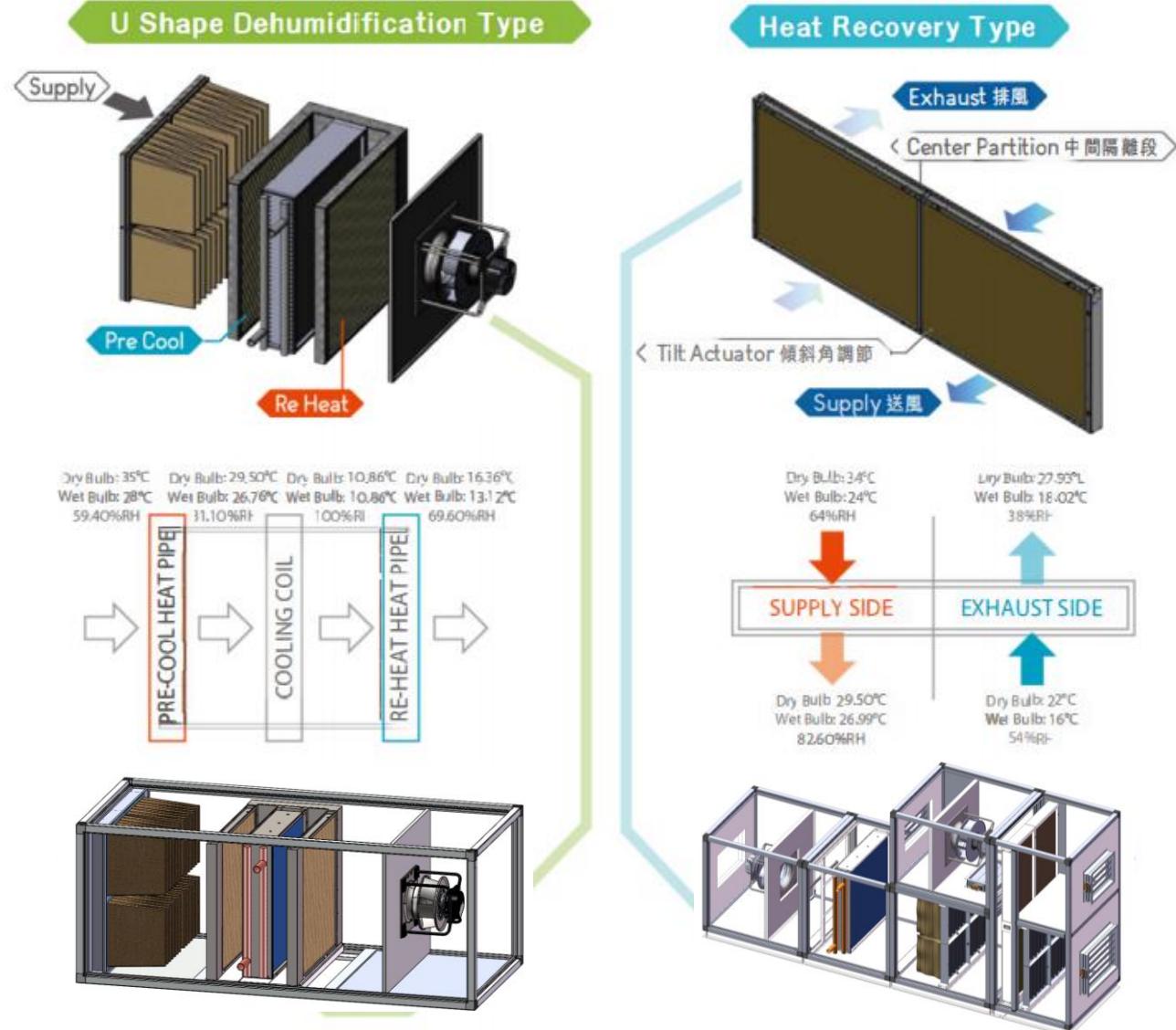
# Energy Saving Heat Pipe

## Heat Pipe Features & Benefits

The application of Heat Pipe in Air handling unit is a good choice for fresh air handling. TECH FREE Heat Pipe uses temperature difference of the environment and unique tube circuit design to obtain energy for the removal of moisture, pre-cool and re-heat of air

Heat Recovery type and Dehumidification type are both ideal for air treatment, especially fresh air without the use of any electrical energy. Traditional horizontal or New vertical configuration s available for Heat Recovery Type.

Optional Heat Pipe types: Traditional horizontal, new Vertical configuration and L shape heat recovery Type, U shape dehumidification type.



# Nomenclature & Quick Selection Table

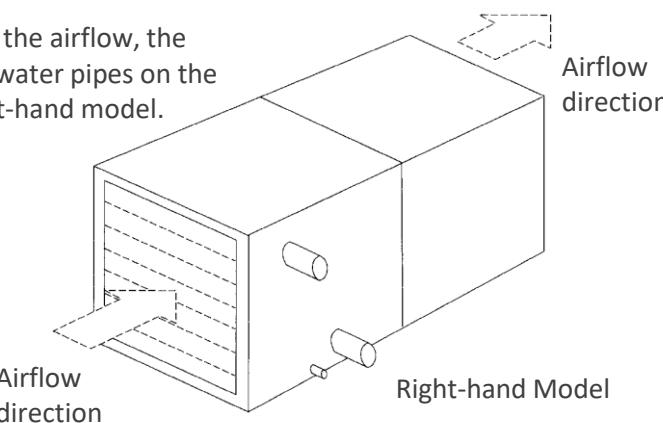
## Nomenclature

TF M C - 10 10 F-6-VF-L

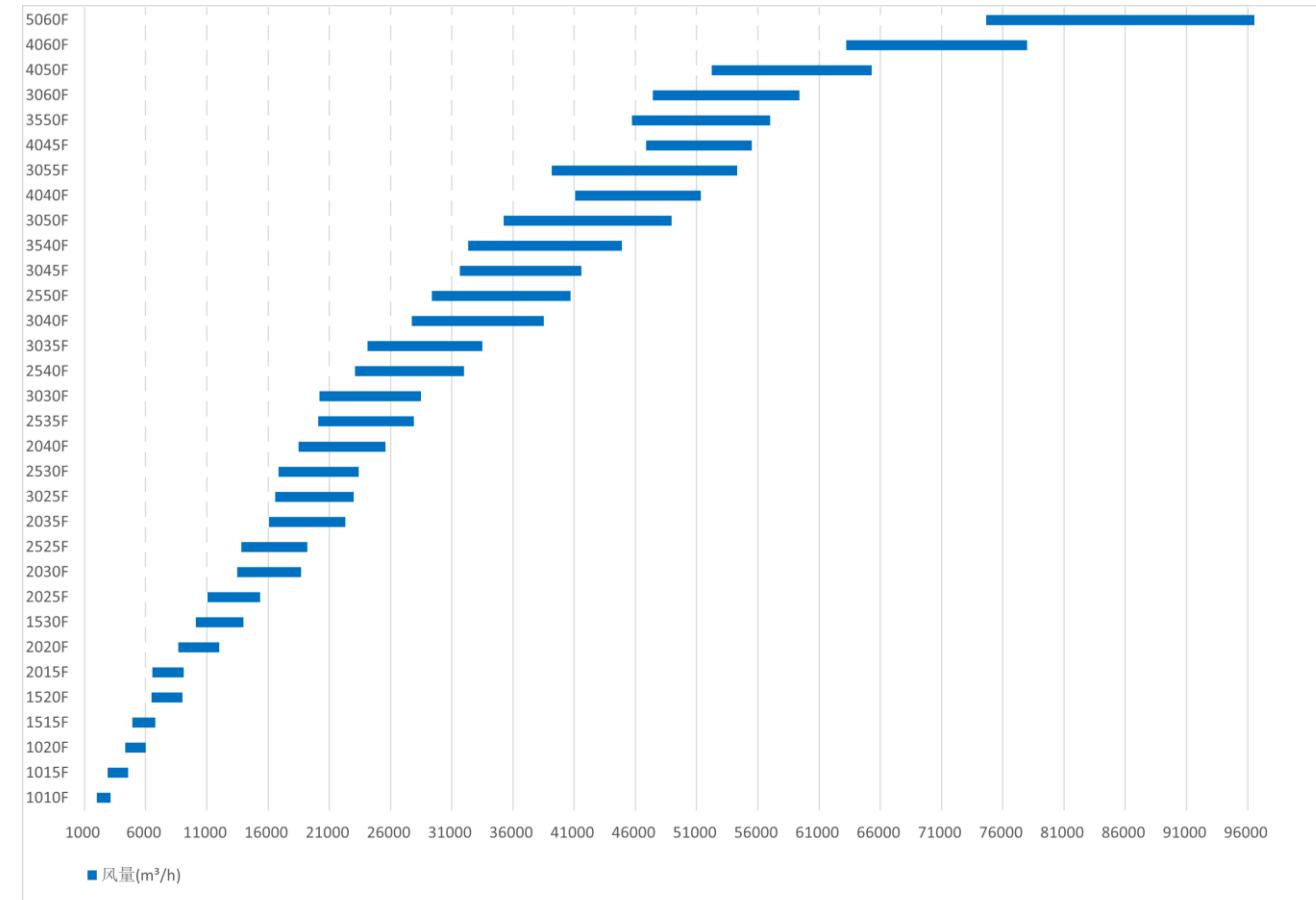
- Direction of water Inlet/outlet  
L-left R-right
- Discharge Orientation
- Row of chilled water coil, 1,2,3,4,6,8,10,12, etc.
- Panel thickness: T=30mm, F=50mm, S=65mm, E=80mm
- No. of Module (Width)
- No. of Module (Height)
- C= Chilled water coil, R=Refrigerant
- Modular, CI=Integrated
- "TECHFREE"

## Unit model classification criteria:

Following the direction of the airflow, the unit with the inlet/outlet water pipes on the left side is classified as left-hand model.



TFMC Quick Selection Table (Face velocity<2.5m/s)



# Air Flow Rate Table

Model	Face Velocity of Coil (m/s)						
	2	2.25	2.5	2.75	3	3.15	3.5
TFMC-1010F	2502	2814	3127	3440	3752	3940	4378
TFMC-1015F	3642	4098	4553	5008	5464	5737	6374
TFMC-1020F	4800	5400	6000	6600	7200	7560	8400
TFMC-1520F	7209	8110	9011	9912	10813	11354	12615
TFMC-2020F	9612	10814	12015	13217	14418	15139	16821
TFMC-2025F	12289	13825	15361	16897	18433	19355	21505
TFMC-2030F	14966	16837	18708	20579	22450	23572	26191
TFMC-2530F	18708	21047	23385	25724	28062	29465	32739
TFMC-3030F	22779	25627	28474	31321	34169	35877	39864
TFMC-3035F	26795	30145	33494	36843	40193	42202	46892
TFMC-3040F	30811	34663	38514	42365	46217	48528	53920
TFMC-3050F	39173	44069	48966	53863	58759	61697	68552
TFMC-3540F	35942	40434	44927	49420	53912	56608	62898
TFMC-4040F	41082	46217	51352	56487	61622	64704	71893
TFMC-4050F	48000	54000	64260	66000	72000	75600	84000
TFMC-4060F	62326	70116	77907	85698	93488	98163	109070
TFMC-5050F	63677	71636	79596	87556	95515	100291	111434
TFMC-5060F	77242	86897	96552	106207	115862	121656	135173

1. Customers can choose the appropriate air velocity and air volume based on the table above, and preliminarily confirm the unit model.
2. TECH FREE can design and supply the customized products according to the requirements of the clients. For the details of the parameters including the model and specification, please contact with TECH FREE for confirmation.

# Performance Table of the Chilled Water Coil

Model	Air flow rate (m <sup>3</sup> /h)	Performance Table of the Chilled Water Coil (Return air condition)								
		4 Rows			6 Rows			8 Rows		
		Cooling Capacity(kW)	Water flow(l/s)	Water pressure drop(kPa)	Cooling Capacity(kW)	Water flow(l/s)	Water pressure drop(kPa)	Cooling Capacity(kW)	Water flow(l/s)	Water pressure drop(kPa)
TFMC-1010F	3127	17.96	0.86	28.99	22.15	1.06	22.52	24.92	1.19	16.1
TFMC-1015F	4553	23.78	1.14	10.79	32.75	1.57	24.47	38.45	1.84	38.12
TFMC-1020F	6000	34.13	1.64	22.57	45.57	2.19	46.74	47.46	2.28	14.26
TFMC-1520F	9011	51.14	2.45	25.16	68.27	3.27	47.21	76.13	3.65	36.7
TFMC-2020F	12015	68.27	3.27	24.27	91.15	4.37	47.66	101.89	4.89	38.63
TFMC-2025F	15361	92.52	4.44	40.88	113.37	5.44	31.70	126.89	6.09	26.75
TFMC-2030F	18708	110.83	5.32	33.87	135.68	6.51	27.33	159.1	7.63	37.82
TFMC-2530F	23385	138.84	6.66	39.44	169.6	8.13	27.50	198.87	9.54	42.65
TFMC-3030F	28474	165.62	7.94	28.40	214.13	10.28	47.01	238.65	11.44	36.71
TFMC-3035F	33494	186.83	7.46	31.52	244.5	9.78	48.35	282.88	12.34	46.5
TFMC-3040F	38514	222.49	10.66	23.80	284.63	12.42	40.78	328.67	15.76	37.05
TFMC-3050F	48966	298.52	14.32	45.09	365.14	17.52	32.02	408.11	19.58	26.88
TFMC-3540F	44927	259.53	12.44	26.25	344.2	16.50	49.78	383.82	18.4	40.45
TFMC-4040F	51352	296.57	14.22	29.13	379.39	16.54	41.94	425.99	18.58	35.88
TFMC-4050F	64260	391.80	18.78	41.93	480.58	23.04	31.34	535.64	25.68	24.63
TFMC-4060F	77907	451.32	18.03	45.53	559.5	22.38	33.91	667.78	32.01	35.18
TFMC-5050F	79596	485.22	23.28	41.79	593.53	28.47	33.47	663.4	31.8	22.97
TFMC-5060F	96552	558.80	22.32	44.48	742.78	35.64	48.34	826.85	39.66	37.68

Remark:

1. Working condition of the return air: the dry bulb temperature of inlet air is 27°C, the wet temperature is 19.5 °C;
2. The temperature of inlet/outlet chilled water is 7 °C/12 °C, face velocity of coil: 2.5m/s;
3. The parameters stated above are only for reference. The changes of the working conditions or different coil loop arrangement will result in the different cooling capacity. For specific data, please contact with TECH FREE.

# Performance Table of the Chilled Water Coil

Model	Air flow rate (m <sup>3</sup> /h)	Performance Table of the Chilled Water Coil (Fresh air condition)								
		4 Rows			6 Rows			8 Rows		
		Cooling Capacity(kW)	Water flow(l/s)	Water pressure drop(kPa)	Cooling Capacity(kW)	Water flow(l/s)	Water pressure drop(kPa)	Cooling Capacity(kW)	Water flow(l/s)	Water pressure drop(kPa)
TFMC-1010F	3127	36.52	1.77	19.78	48.66	2.35	39.38	55.42	2.67	43.63
TFMC-1015F	4553	57.67	2.80	41.34	70.25	3.40	30.31	78.25	3.78	23.81
TFMC-1020F	6000	69.37	3.37	13.67	92.81	4.49	26.43	107.36	5.18	43.46
TFMC-1520F	9011	114.07	5.53	39.80	139.03	6.72	31.37	160.79	7.76	45.4
TFMC-2020F	12015	152.72	7.40	42.62	185.62	8.98	32.70	214.71	10.36	44.87
TFMC-2025F	15361	188.47	9.14	28.90	240.75	10.58	42.03	273.69	13.2	41.43
TFMC-2030F	18708	238.73	11.57	39.59	290.78	14.06	31.24	323.83	15.63	26.38
TFMC-2530F	23385	298.41	14.47	43.57	363.48	17.58	36.42	404.79	19.54	25.64
TFMC-3030F	28474	358.1	17.36	40.43	436.17	21.10	27.29	485.74	23.44	21.8
TFMC-3035F	33494	417.14	16.86	42.63	534.09	25.82	43.01	592.95	28.62	33.6
TFMC-3040F	38514	452.57	21.96	14.60	612.59	26.92	50.60	680.67	29.86	39.27
TFMC-3050F	48966	608.28	29.50	26.75	725.77	21.96	41.79	814.52	24.6	32.87
TFMC-3540F	44927	527.92	25.60	16.54	699.43	28.18	44.10	779.41	31.36	35.35
TFMC-4040F	51352	603.27	29.26	18.81	799.24	32.22	46.61	890.62	35.82	38.26
TFMC-4050F	64260	798.36	38.70	24.93	955.04	28.89	46.58	1069.06	32.28	31.43
TFMC-4060F	77907	1004.77	48.69	41.57	1222.42	59.10	28.92	1331.37	40.2	52.65
TFMC-5050F	79596	988.71	47.94	28.12	1204.97	38.88	49.52	1373.00	47.37	44.38
TFMC-5060F	96552	1244.08	60.30	40.66	1354.75	32.82	42.32	1620.45	46.05	48.07

Remark:

- Working condition of the fresh air: the dry bulb temperature of inlet air is 35°C, the wet temperature is 28 °C;
- The temperature of inlet/outlet chilled water is 7 °C/12 °C, face velocity of coil: 2.5m/s;
- The parameters stated above are only for reference. The changes of the working conditions or different coil loop arrangement will result in the different cooling capacity. For specific data, please contact with TECH FREE.

# Performance Table of the Hot Water Coil

Model	Air flow rate (m <sup>3</sup> /h)	2 Rows of Coils					
		Inlet temperature: 7°C			Inlet temperature: 15°C		
		Heating Capacity(kW)	Water flow(l/s)	Water pressure drop(kPa)	Heating Capacity(kW)	Water flow(l/s)	Water pressure drop(kPa)
TFMC-1010F	3127	22.73	0.55	7.20	18.45	0.45	5.06
TFMC-1015F	4553	34.19	0.83	16.65	27.94	0.68	11.69
TFMC-1020F	6000	46.14	1.12	28.24	37.84	0.92	22.38
TFMC-1520F	9011	65.11	1.58	12.05	52.79	1.28	8.67
TFMC-2020F	12015	86.91	2.11	13.20	70.47	1.71	14.59
TFMC-2025F	15361	113.97	2.76	12.76	92.87	2.25	15.22
TFMC-2030F	18708	141.16	3.42	19.16	115.38	2.80	13.89
TFMC-2530F	23385	176.44	4.28	18.23	144.23	3.50	18.12
TFMC-3030F	28474	211.73	5.14	15.01	173.07	4.20	15.09
TFMC-3035F	33494	255.83	6.20	22.52	209.61	5.08	16.10
TFMC-3040F	38514	296.89	7.20	31.32	243.66	5.90	22.35
TFMC-3050F	48966	365.12	8.86	11.86	314.54	7.62	39.83
TFMC-3540F	44927	346.32	8.40	29.41	284.23	6.90	24.66
TFMC-4040F	51352	395.75	9.60	31.34	324.79	7.88	27.42
TFMC-4050F	64260	479.22	11.61	14.19	413.97	10.05	42.42
TFMC-4060F	77907	590.71	14.31	16.11	483.24	11.73	15.41
TFMC-5050F	79596	593.48	14.40	12.94	484.08	11.73	13.80
TFMC-5060F	96552	731.4	17.73	19.50	598.34	14.52	14.13

Remark:

- The temperature of the inlet/outlet water of the hot water coil is 60°C/50 °C , face velocity of coil: 2.5m/s;
- If the air flow rate or the fin number in each inch increases, the heat transferring capacity will be larger;
- The parameters stated above are only for reference. The changes of the working conditions or different coil loop arrangement will result in the different cooling capacity. For specific data, please contact with TECH FREE.

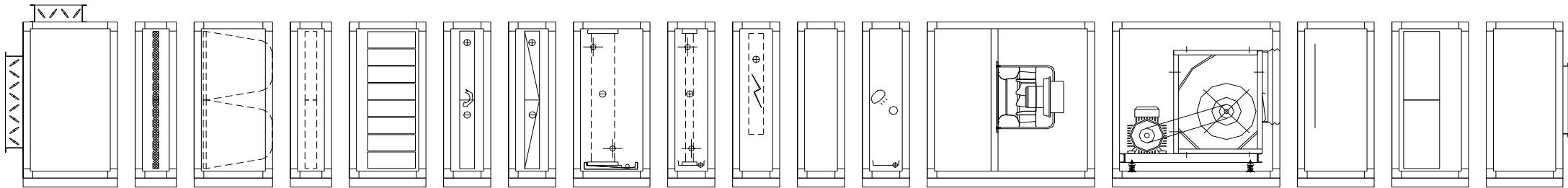
# Performance Table of the Hot Water Coil

Model	Air flow rate (m <sup>3</sup> /h)	4 Rows of Coils					
		Inlet temperature: 7°C			Inlet temperature: 15°C		
		Heating Capacity(kW)	Water flow(l/s)	Water pressure drop(kPa)	Heating Capacity(kW)	Water flow(l/s)	Water pressure drop(kPa)
TFMC-1010F	3127	33.95	0.82	24.33	28.02	0.68	17.24
TFMC-1015F	4553	48.31	1.17	10.7	39.73	0.96	10.5
TFMC-1020F	6000	65.04	1.58	19.86	53.66	1.3	14.23
TFMC-1520F	9011	97.42	2.36	22.69	80.38	1.95	16.43
TFMC-2020F	12015	130.07	3.15	21.16	107.33	2.6	15.44
TFMC-2025F	15361	168.33	4.08	30.88	139.2	3.38	26.2
TFMC-2030F	18708	204.29	4.95	26.96	168.84	4.09	19.64
TFMC-2530F	23385	255.48	6.2	32.58	211.16	5.12	23.93
TFMC-3030F	28474	306.21	7.42	26.1	253.03	6.14	18.91
TFMC-3035F	33494	360.81	8.74	14.55	297.48	7.22	14.28
TFMC-3040F	38514	418.25	10.14	19.81	345.34	8.38	14.45
TFMC-3050F	48966	537.68	13.04	32.27	444.86	10.78	24.88
TFMC-3540F	44927	487.87	11.84	22.55	402.82	9.76	16.53
TFMC-4040F	51352	557.49	13.52	25.8	460.3	11.16	19
TFMC-4050F	64260	705.71	17.1	31.76	583.88	14.16	22.98
TFMC-4060F	77907	834.09	20.22	15.58	686.75	16.65	11.45
TFMC-5050F	79596	839.78	20.37	14.94	689.67	16.71	11.1
TFMC-5060F	96552	1032.75	25.05	14.95	850.32	20.61	15.81

Remark:

- The temperature of the inlet/outlet water of the hot water coil is 60°C/50 °C , face velocity of coil: 2.5m/s;
- If the air flow rate or the fin number in each inch increases, the heat transferring capacity will be larger;
- The parameters stated above are only for reference. The changes of the working conditions or different coil loop arrangement will result in the different cooling capacity. For specific data, please contact with TECH FREE.

# Functional Sections Length



Model	Air flow rate (m³/h)	Height (mm)	Width (mm)	Functional Sections Length(mm)															
				Mixing Section	Pre-filter section in plate type	Bag type mid-filter section	Plate type mid-filter section	Cooling coil section	Heating coil section	Electric heating section	Activated carbon filter section	Heat recovery section	Heat pipe section	Humidifier section	Fan section	Diffusing section	Empty section	HEPA section	Supply air section
TFMC-1010F	3127	880	880	600	300	660	300	660	420	300	600	660	660	360	/	600	600	480	600
TFMC-1015F	4553	880	1155	600	300	660	300	660	420	300	600	660	660	360	/	600	600	480	600
TFMC-1020F	6000	880	1460	600	300	660	300	660	420	300	600	660	660	360	/	600	600	480	600
TFMC-1520F	9011	1155	1460	600	300	660	300	660	420	300	600	660	660	360	/	600	600	480	600
TFMC-2020F	12015	1460	1460	720	300	660	300	660	420	300	600	660	660	360	/	720	600	480	720
TFMC-2025F	15361	1460	1790	720	300	660	300	660	420	300	600	660	660	360	/	720	600	480	720
TFMC-2030F	18708	1460	2095	720	300	660	300	660	420	300	600	660	660	360	/	720	600	480	720
TFMC-2530F	23385	1790	2095	720	300	660	300	660	420	300	600	660	660	360	/	720	600	480	720
TFMC-3030F	28474	2095	2095	900	300	660	300	780	420	300	600	660	660	360	/	900	600	480	900
TFMC-3035F	33494	2095	2425	900	300	660	300	780	420	300	600	660	660	360	/	900	600	480	900
TFMC-3040F	38514	2095	2730	900	300	660	300	780	420	300	600	660	660	360	/	900	600	480	900
TFMC-3050F	48966	2095	3365	900	300	660	300	780	420	300	600	660	660	360	/	900	600	480	900
TFMC-3540F	44927	2425	2730	1020	300	660	300	780	420	300	600	660	660	360	/	1020	600	480	1020
TFMC-4040F	51352	2730	2730	1200	300	660	300	780	420	300	600	660	660	360	/	1200	600	480	1200
TFMC-4050F	64260	2730	3365	1200	300	660	300	780	420	300	600	660	660	360	/	1200	600	480	1200
TFMC-4060F	77907	2730	4000	1200	300	660	300	780	420	300	600	660	660	360	/	1200	600	480	1200
TFMC-5050F	79596	3365	3365	1200	300	660	300	780	420	300	600	660	660	360	/	1200	600	480	1200
TFMC-5060F	96552	3365	4000	1200	300	660	300	780	420	300	600	660	660	360	/	1200	600	480	1200

Remark: 1. The total length of the unit is the total length of all functional sections;

2. The length of the functional sections will increase or decrease due to the specific design. Hence, the parameters stated above are only for reference.

3. For any special requirements for the functional sections, please contact with TECH FREE.

4. Regarding to the length of fan sections, for specific details, please see the table on the next page.

# Functional Sections Length

The length of Belt drive fan section				
Fan Diameter (mm)	Motor Power (kw)	Motor rear fan Forward (mm)	Motor Rear Fan Overhead (mm)	Motor mounted side fan front/top supply (mm)
200	2.2	960	960	840
225	3	960	960	840
250	4	960	1080	840
280	5.5	1080	1260	960
315	5.5	1260	1260	960
355	7.5	1260	1440	960
400	7.5	1260	1440	960
450	11	1440	1680	1080
500	11	1440	1680	1260
560	15	1500	1680	1440
630	15	1680	2040	1440
710	18.5	1860	2040	1680
800	22	1860	2220	1860
900	30	2220	2700	1860
1000	37	2220	2940	2220

Optional: Belt drive fan, EC fan, Direct driven fan based on customer's requirements.

The length of EC fan section						
Fan Diameter (mm)	Usage quantity(pcs)	Length (mm)	Usage quantity(pcs)	Length (mm)	Usage quantity(pcs)	Length (mm)
250	1	1200	2	1320	≥3	1440
280	1	1200	2	1320		1440
310	1	1200	2	1320		1440
355	1	1200	2	1320		1440
400	1	1320	2	1440		1500
450	1	1500	2	1620		1740
500	1	1500	2	1620		1740
560	1	1500	2	1620		1740

The length of Direct driven fan section		
Fan Diameter (mm)	Motor Power (kw)	Length (mm)
280	3	1320
310	3	1320
355	4	1320
400	5.5	1440
450	7.5	1500
500	7.5	1500
560	11	1620
630	15	1740
710	15	1860
800	18.5	1980
900	22	2160

# Weight Table of Functional Sections

50mm (PU) panel unit weight

Unit: (kg)

Model	Mixing Section	Pre-filter section in plate type	Bag type mid-filter section	Plate type mid-filter section	Cooling coil section			Heating section		Activated carbon filter section	Heat recovery section	Heat pipe section	Humidifier section	Fan section	Diffusing section	Empty section	HEPA section	Supply air section
					4rows	6rows	8rows	2rows	4rows									
TFMC-1010F	87	66	95	66	91	91	99	71	71	87	91	91	71	/	87	87	87	87
TFMC-1015F	101	78	110	78	108	108	118	85	85	101	105	105	82	/	101	101	101	101
TFMC-1020F	122	97	133	97	127	127	138	102	102	122	127	127	102	/	122	122	122	122
TFMC-1520F	141	113	152	113	146	146	157	118	118	141	146	146	118	/	141	141	141	141
TFMC-2020F	173	130	173	130	167	167	179	136	136	161	167	167	136	/	173	161	161	173
TFMC-2025F	199	153	199	153	193	193	206	160	160	186	193	193	160	/	199	186	186	199
TFMC-2030F	224	174	224	174	217	217	231	181	181	210	217	217	181	/	224	210	210	224
TFMC-2530F	255	200	255	200	254	254	270	215	215	239	247	247	208	/	255	239	239	255
TFMC-3030F	314	230	289	230	313	313	330	254	254	272	281	281	238	/	314	272	272	314
TFMC-3035F	350	260	323	260	349	349	367	286	286	305	314	314	269	/	350	305	305	350
TFMC-3040F	382	287	354	287	383	383	402	316	316	335	344	344	297	/	382	335	335	382
TFMC-3050F	450	344	418	344	453	453	475	379	379	397	408	408	355	/	450	397	397	450
TFMC-3540F	439	318	388	318	418	418	438	348	348	368	379	379	328	/	439	368	368	439
TFMC-4040F	505	346	421	344	451	451	472	377	377	399	410	410	357	/	505	399	399	505
TFMC-4050F	590	415	497	415	533	533	556	451	451	473	485	485	427	/	590	473	473	590
TFMC-4060F	675	484	573	484	614	614	640	525	525	547	560	560	496	/	675	547	547	675
TFMC-5050F	718	519	617	588	664	664	691	571	571	585	598	598	532	/	718	585	585	718
TFMC-5060F	819	604	705	604	766	766	795	665	665	676	690	690	618	/	819	676	676	819

# Weight Table of Functional Sections

65mm (PU) panel unit weight

Unit: (kg)

Model	Mixing Section	Pre-filter section in plate type	Bag type mid-filter section	Plate type mid- filter section	Cooling coil section			Heating section		Activated carbon filter section	Heat recovery section	Heat pipe section	Humidifier section	Fan section	Diffusing section	Empty section	HEPA section	Supply air section
					4rows	6rows	8rows	2rows	4rows									
TFMC-1010F	97	73	106	73	101	101	111	78	78	97	101	101	78	/	97	97	97	97
TFMC-1015F	112	86	123	86	121	121	131	95	95	112	118	118	91	/	112	112	112	112
TFMC-1020F	136	107	148	107	142	142	154	113	113	136	142	142	113	/	136	136	136	136
TFMC-1520F	157	126	170	126	164	164	177	132	132	157	164	164	132	/	157	157	157	157
TFMC-2020F	195	146	195	146	188	188	202	153	153	181	188	188	153	/	195	181	181	195
TFMC-2025F	225	172	225	172	218	218	233	179	179	210	218	218	179	/	225	210	210	225
TFMC-2030F	253	195	253	195	245	245	262	204	204	237	245	245	204	/	253	237	237	253
TFMC-2530F	289	226	289	226	287	287	306	242	242	271	280	280	235	/	289	271	271	289
TFMC-3030F	357	259	328	259	352	352	372	284	284	308	318	318	269	/	357	308	308	357
TFMC-3035F	397	293	366	293	394	394	415	321	321	345	356	356	304	/	397	345	345	397
TFMC-3040F	435	324	402	324	432	432	454	355	355	379	391	391	335	/	435	379	379	435
TFMC-3050F	512	390	476	390	512	512	537	426	426	451	463	463	402	/	512	451	451	512
TFMC-3540F	501	360	442	360	474	474	497	392	392	419	431	431	372	/	501	419	419	501
TFMC-4040F	578	394	480	394	512	512	536	426	426	455	467	467	406	/	578	455	455	578
TFMC-4050F	676	472	567	472	605	605	632	510	510	540	554	554	486	/	676	540	540	676
TFMC-4060F	773	551	655	551	699	699	728	595	595	625	640	640	566	/	773	625	625	773
TFMC-5050F	818	588	695	588	750	750	781	643	643	665	680	680	603	/	818	665	665	818
TFMC-5060F	735	686	802	686	866	866	899	749	749	769	785	785	702	/	735	769	769	735

# Weight Table of Functional Sections

Main components weight table – Fan / Motor

Unit: (kg)

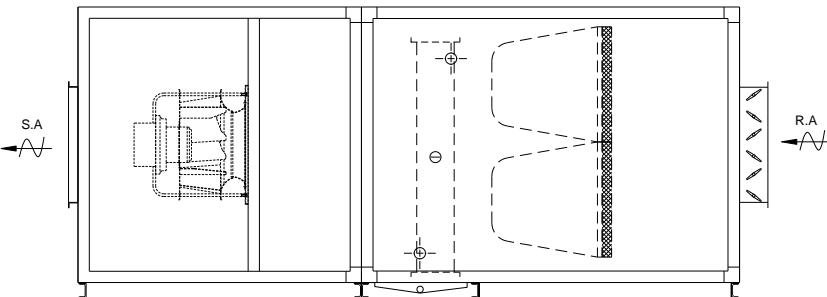
Forward curved fan series		160	180	200	225	250	280	315	355	400	450	500	560	630	710	800	900	1000
Fan weight (kg)	R	6.6	7.8	9.1	10.7	13	18	22	29	38	50	65	86	106	135	-	-	-
	K	-	-	12.6	14.5	18	24	29	41	52	66	85	134	170	201	249	306	333
	K1	-	-	-	-	-	-	30	42	53	67	86	142	175	208	261	316	-
	K2	-	-	-	-	-	-	-	-	-	-	105	150	180	225	278	320	360

Backward curved fan series		160	180	200	225	250	280	315	355	400	450	500	560	630	710	800	900	1000
Fan weight (kg)	R	-	7.1	8.5	9.9	15.7	21	25	34	42	57	70	92	119	165	-	-	-
	K	-	-	11.8	13.6	21	28	32	46	57	73	90	141	173	220	270	343	415
	K1	-	-	-	-	-	-	34	47	58	75	92	148	180	240	297	355	-
	K2	-	-	-	-	-	-	-	-	-	-	110	153	185	250	305	375	450

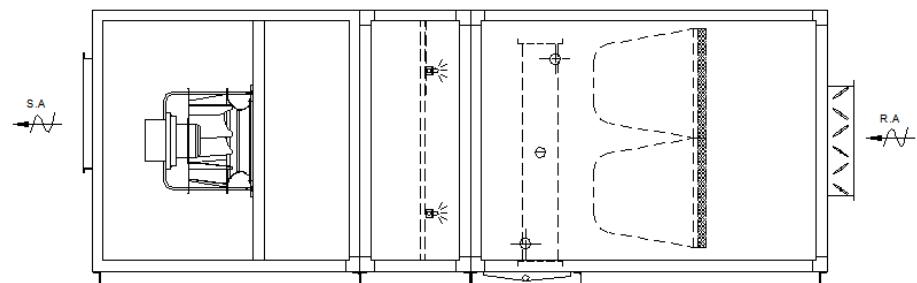
Motor power (kw) IE3/380V/50Hz		0.75	1.1	1.5	2.2	3	4	5.5	7.5	11	15	18.5	22	30	37	47
Common motor① weight(kg)	2P	15	16	22	25	33	40	59	62	107	117	134	169	230	239	297
	4P	16	22	27	34	35	44	61	73	113	133	167	181	232	287	322
	6P	24	27	36	43	56	71	75	108	131	171	216	225	286	380	465
Common motor② weight(kg)	2P	11.4	14	21.5	25.5	30	41	68	73	110	115	136	180	245	260	400
	4P	16.2	22	23	36	45	50	69	78	120	130	175	225	280	380	400
	6P	22	30	32	45	72	74	86	106	136	193	219	228	366	450	610

Remarks: The weight of the fan shown on the above table is the weight of the belt-driven fan commonly used by TECH FREE.  
If need the specific data of EC fan, Direct driven fan, please contact TECH FREE.

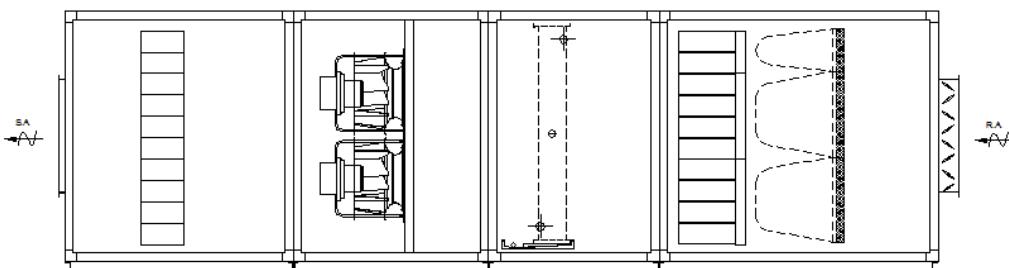
# Common Combination of function sections



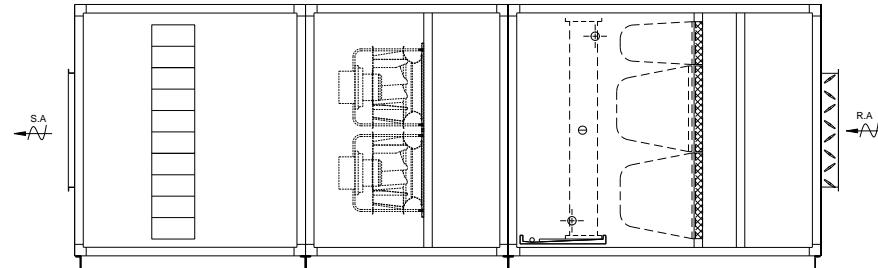
Mixing section + Pre & Mid-filter section + Coil section + Supply air fan section



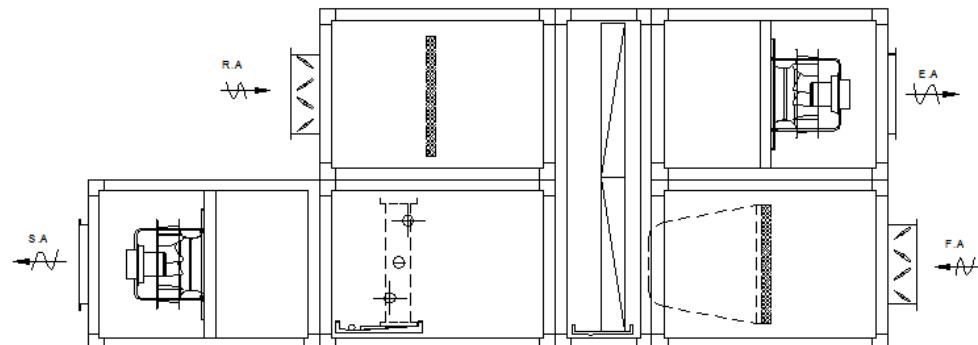
Mixing section + Pre & Mid-filter section + Coil section + UV section + Supply air fan section



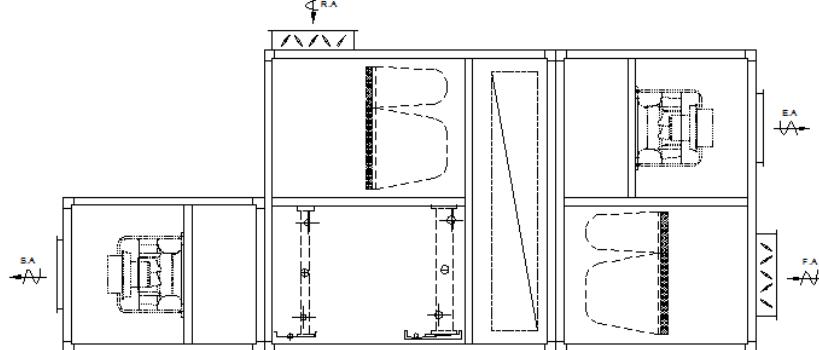
Mixing section + Pre & Mid-filter section + Activated carbon filter section+ Coil section + Fan section + Uniform flow section + HEPA section + Supply air section



Mixing section + Pre & Mid-filter section + Coil section + Fan section + Uniform flow section + HEPA section + Supply air section



Mixing section + Pre & Mid-filter section + Heat pipe section + Coil section + Supply air fan section+ Mixing section+ Pre-filter Section + Return air fan section



Mixing section + Pre & Mid-filter section +Heat recovery section+ Cooling Coil section + Heating coil section + Supply air fan section+ Mixing section+ Pre & Mid-filter +Return air fan section

# Job Reference

Kowloon KIL11262 XRL Topside Development Project

- Supplied over 100 sets of AHUs.



Grade A office tower development in Kai Tak

- Supplied over 100 sets of AHUs.



Complexo de Cuidados de Saúde das Ilhas

- Over 300 sets of AHUs with energy-saving Heat pipe installed in various locations.



# Job Reference

## GRAND LISBOA PALACE

- Over 300 sets of AHUs with energy-saving Heat pipe installed in various locations.



## The Venetian Macau

- Supplied over 100 sets of AHUs.



## Hong Kong International Airport

- Over 400 sets of AHUs & function sections
- Supply the related products for retrofitting project



# Job Reference



Maryknoll Secondary School



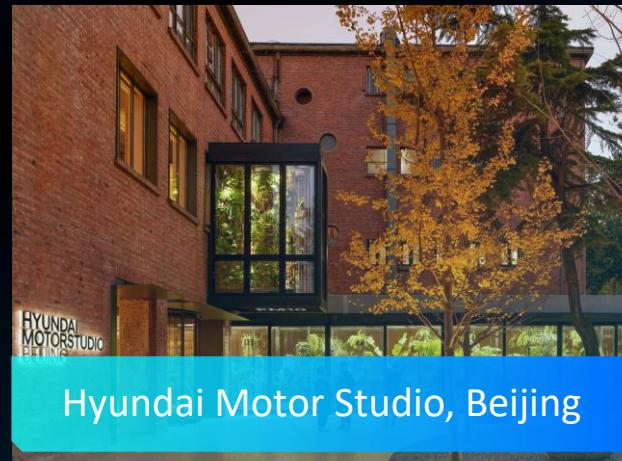
THE FIFTH AFFILIATED HOSPITAL  
SUM YAT-SEN UNIVERSITY



Kennedy Town Swimming Pool  
Complex



Singapore Changi Airport



Hyundai Motor Studio, Beijing



The Fullerton Hotel Singapore

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