



Modular Air handling units

TFMC SERIES



Air Flow: 2,100 to 70,360 m³/h

**YOUR SPECIAL CLIMATE
OUR CLIMATE SPECIALISTS**

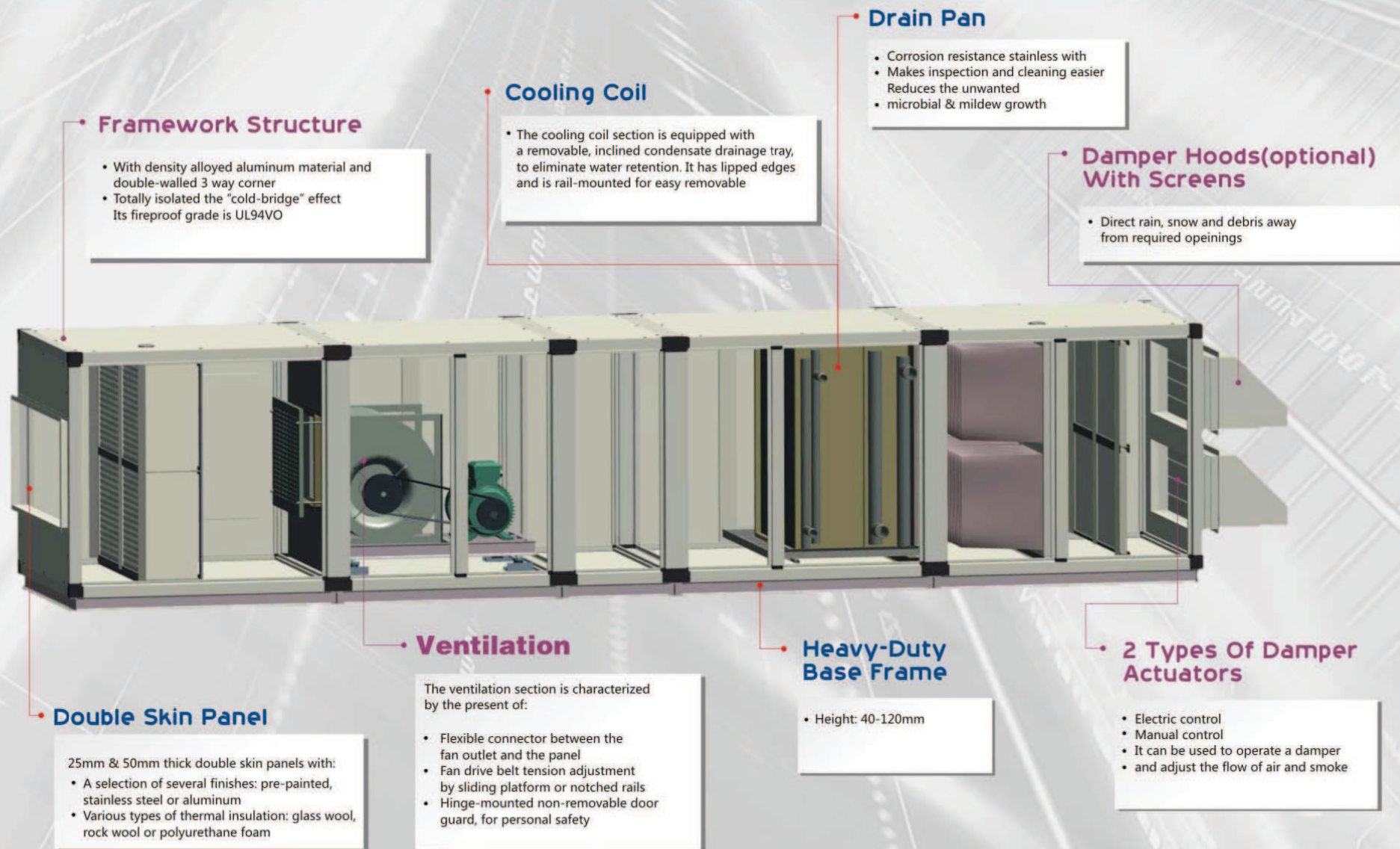
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WOLF INTERNATIONAL



Basic Features

1	High strength and tightness
2	Environmentally-friendly, waste-less and low energy consumption production
3	Simple Installation
4	Very good thermal insulation
5	Excellent casing attenuation
6	Easy access to internal assemblies
7	Easy-to-remove panels and service wall doors
8	Possibility to deliver disassembled units
9	Suitable for hygienic applications

Nomenclature

Model No.

1	2	3	4	5	6	7
TFMC	25	30	F	6	HH	L

Series Names

M - Modular C - Chilled Water

No. of Module (Height)

2.5 - 2.5 module

No. of Module (Width)

3 - 3 module

Double Skin Structure

F50mm T25mm

Row of Chilled Water Coil

4 rows 6 rows

Discharge Orientation

HH-Horizontal&High

VF-Vertical&Far

VN-Vertical&Near

HL-Horizontal&Low

Position of water Inlet/outlet

L-left R-right

Basic Properties

Techfree TFMC series air handling unit allows maximum flexibility by mix & match optional functional components to configure the most suitable air handling system for your specific application. TFMC series enable you to implement specific applications complying with the strictest demands for environmental cleanliness with air flow of up to 70360m³/h. The air handling units are designed for installation on floors or substructures, and are delivered with a rigid base frame mounted in the factory.

Tailored made modular structure & functional sections brings you:

- 1) Spacious flexibility
- 2) Cost effective and energy saving
- 3) Easy control, simple installation and fast servicing
- 4) Cost effective and energy saving

Basic Design

• Insulation

The insulation comprises of Poly Urethane Foam(PUF) of 40kg/m³ density, the panels are also assembly with imported self-drilling and self-tapping screws which are fixed to the frame and easily removable.

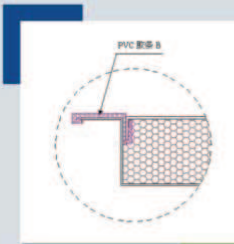


• Casing And Construction

The construction of air handling units are of pentapost design and have strong three way angle joints of reinforced nylon corners to form a rigid frame structure. Nylon corners ensure the thermal break effect on the corners of the structure. Rigid framework comprises an assembly of externally chamfered extruded aluminum profiles & nylon corner joints.

• Inner and Outer Skin

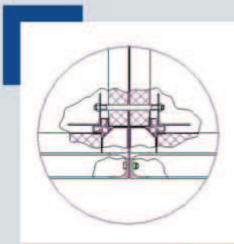
The outer skin is a standard powder-coated GI sheet & inner skin is a GI sheet or S.S sheet. The double skin is to retain the insulation, keep the internal surface clean and to have a smooth surface. This eliminates the chance of dirt and bacteria accumulation. Thus it's suitable for hygienic application such as pharmaceutical industries, hospitals, operation theatres, surgery rooms, and electronic processing industries etc.



• Selection of AHU

On the basis of Panel Thickness

- (A) Double Skin 25mm
(B) Double Skin 50mm



Basic Design



• Motor & Drives

Fan motors are foot mounted 4 pole, IP55 protected, such fan motors are suitable for 415 \pm 10% volts, 50/60Hz, 3 phase power supply and 230 volts, 50/60Hz, 3 phase power supply.

• Isolator

A rigidly mounted machine transmits its internal vibratory forces directly to the supporting structure. However, by inserting resilient mountings, called vibration isolators, between the machine & supporting structure, the magnitude of transmitted vibration can be reduced to only a fraction of the original.

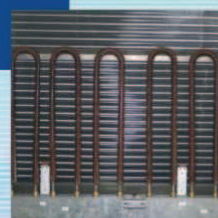
• DDC control

TFMC series products can be equipped with air condition controlling system such as multi-functional DDC cabinet, electric water valve, air damper, humidifier, temperature and humidity sensor, controlling and supervisory software, etc.



- Modular design maximum flexibility
- Filtration combination (with flat, cartridge, box and compact type)
- Active Carbon Filters & Tio2 filters
- Ultraviolet lights
- Patented inner & outer skin gasket cold bridge condensation
- Patented positive pressure door minimizes air-leak at position pressure section
- Various coil material: Chilled water or direct expansion (DX) coils
- Various frame structure: G.I. sheet and S.S sheet
- Stainless steel sloping Drain Pan
- Viewing window & Marine light
- Intake hood & Rain Proof for outdoor installation
- Different types of blowers for various application, centrifugal, plenum or EC plug fan available
- Rotor wheel dehumidifier
- Heat recovery wheel: With plate heat exchanger and rotary regenerative heat exchanger
- Humidifier: With wet deck, spray and steam type humidifiers
- DDC control panel

• "W" shaped electric heater



• "U" shaped electric heater



Customized Options



• Fan Section

• Drain Pan



• Coil section



• Coil section



Customized Options



• Air Damper



• Viewing window



• Door Panel



• Active carbon filters



• Electric switch



• Moisture-proof lamps



• Ultraviolet lamps

Customized Options

Heat Recovery

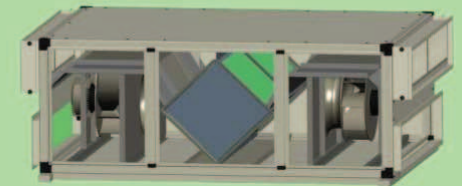
Plate recuperators: made of aluminum and adapted for a different pressure of 10000pa. The leakage rate between the two air streams is less than 1%.

A condensate tray with a threaded condensate drainage pipe is mounted on the extracted air side (optional on fresh air side).

A by-pass is available as an option for free cooling, for reducing or eliminating the antifreeze coil upstream of the recuperator or for preventing plate clogging during periods when heat recovery is not required.

Coils (3/8" and 5/8"): The coils consists of finned coils placed in the supply and exhaust air units. The supply coil complies with the specification for hot water heating coils and the exhaust coil complies with the specification for chilled water cooling coils.

Thermal wheels: They comprise an aluminum hygroscopic constant speed wheel driven by a heavy-duty belt.



The assembly is installed in a rail-mounted galvanized steel frame inside the unit.

A high performance seal provides tightness around the wheel surround and between the air inlet and the air outlet.

The thermal wheel is equipped with a purge section to enable continuous wheel cleaning.

Technical Datas

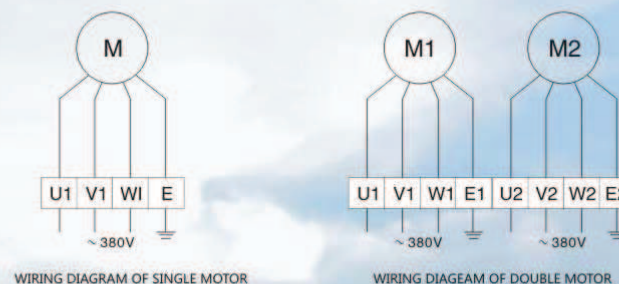
MODEL	NORMINAL AIR VOLUME (m ³ /h)	COOLING CAPACITY					
		4 ROWS		6 ROWS		8 ROWS	
		F.A	R.A	F.A	R.A	R.A	F.A
TFMC-1010	2110	10.4	27.8	13.6	33.7	16.4	37.8
TFMC-1015	3550	20.8	49.8	25.7	57.9	29.2	64.2
TFMC-1020	4990	31.8	68.3	36.1	81.5	40.4	91.1
TFMC-1520	7690	49	104.6	55.6	125.5	62.3	139
TFMC-2020	10490	66.9	142.7	75.9	171.2	84.9	189.7
TFMC-2025	13470	84.7	193.9	99.8	215.2	112.6	250.6
TFMC-2030	16660	100.5	248.6	122.7	273.4	143.5	304.1
TFMC-2530	20710	124.9	309	149.9	339.9	178.4	378.1
TFMC-3030	23980	144.6	357.8	173.5	393.5	206.5	437.7
TFMC-3035	28660	179	382.3	217.2	477.9	241.9	533.2
TFMC-3040	33190	211.5	460.2	240.1	565.1	285.9	623.3
TFMC-3050	42390	244.6	617.3	317.7	736.3	357.8	811
TFMC-4040	45260	285.5	627.6	327.5	770.6	389.8	850
TFMC-4050	57810	333.6	842.2	433.2	1004.6	488	1106
TFMC-4060	70360	430.3	1049.7	542.4	1247.3	606	1358.5

REMARKS

- The standard performance of refrigeration: entering air DB/WB:27°C/19.5°C
- The standard performance of refrigeration in fresh air-condition: Entering air DB/WB:34°C/28°C
- Entering /leaving water temperature:7°C/12°C
- The Listed cooling capacity is corresponding to the rated air volume
- The face air velocity is based on 2.5m/s
- The coil is made of 5/8 inch cooper pipe, fixed with aluminum fin.

INSTALLATION & MAINTENANCE GUIDE

- The water pipe and fan motor are in the same side with the access door, there are enough space for daily maintenance and examination.
- In connecting the water pipe with the external pipes, for fear mangle the coil, you should pay attention not to overexert.
- In connecting the condensation pipe with external pipes, an "U" trap shall be fixed up between them.
- The AHU room should have floor drain so that the condensation water or the dirty water when cleaning the machine can be let off.
- The machine set and exterior ductwork are jointed up by movable connection joint so that to avoid the vibration. 6.Before using the machine sets, you should back out the lockset of the vibration control system, so that the function can be resume. 7.In winter when the machine is running, if you want to stop it, you should let the coil water supplying continue and shut off the fresh air damper to avoid freeze the coils. If you decide to stop the machine in winter, you should empty the coils.
- Idling operation before the air duct is fixed with the machine set is strictly prohibited.
- Check the moving parts connection between the fan and motor regularly.
- The filter shall be replaced or cleaned with pure water or detergent and the cleaning frequency depends on the environment it is used.
- When the machine set is in heating mode, the fan shall be start up before starting the water valve and heating system, and the discharge air temperature shall be no higher than 40°C; the fan can only be returned off 5 minutes after the closedown of the water valve and heating system.
- Any other matters concerned, please see the product installation specification.



Air Volume Datas

Dimensions

MODEL	NOTES					FACE VELOCITY		PIPE DIAMETER		OVERALL DIMENSION (mm)			
	1.75m/s	2.0m/s	2.25m/s	2.5m/s	2.75m/s	3.0m/s	3.25m/s			25mm panel		50mm panel	
										H	W	H	W
TFMC-1010	1470	1680	1900	2110	2320	2530	2740	42	φ 1-1/4"	730	730	780	780
TFMC-1015	2480	2840	3190	3550	3900	4260	4610	48	φ 1-1/2"	730	1035	780	1085
TFMC-1020	3490	3990	4490	4990	5499	5990	6490	60	φ 2"	730	1340	780	1390
TFMC-1520	5380	6150	6920	7690	8460	9230	10000	76	φ 2-1/2"	1035	1340	1085	1390
TFMC-2020	7340	8390	9440	10490	11540	12590	13640	76	φ 2-1/2"	1035	1950	1085	2000
TFMC-2025	9430	10780	12120	13470	14820	16170	17510	89	φ 3"	1340	1645	1390	1695
TFMC-2030	11660	13330	14990	16660	18330	19990	21660	89	φ 3"	1340	1950	1390	2000
TFMC-2530	14500	16570	18640	20710	22780	24860	26930	114	φ 4"	1645	1950	1695	2000
TFMC-3030	16790	19190	21590	23980	26380	28780	31180	114	φ 4"	1950	1950	2000	2000
TFMC-3035	20060	22530	25790	28660	31530	34390	37260	114	φ 4"	1950	2255	2000	2305
TFMC-3040	23230	26550	29870	33190	36510	39830	43150	114	φ 4"	1950	2560	2000	2610
TFMC-3050	29670	33610	38150	42390	46630	50870	55110	114	φ 4"	1950	3170	2000	3220
TFMC-4040	31680	36210	40730	45260	49780	54310	58840	114	φ 4"	2560	2560	2610	2610
TFMC-4050	40460	46250	52030	57810	63590	69370	75150	114	φ 4"	2560	3170	2610	3220
TFMC-4060	49250	56290	63320	70360	77390	84430	91470	114	φ 4"	2560	3780	2610	3830

NOTE

- The length of AHU depends on the different function segment combination.
- The height of AHU does not include bottom rack.

MODEL	AIR FLOW (2.5m/s)	WIDTH (mm)	HEIGHT (mm)	LENGTH(mm)									
				Mixing section	Pre-filter section	Pre-bag filter section	Droplet eliminator section	Heating section	Humidifier section	Blower & Motor section	Diffuser section	Empty section	Air outlet section
TFMC-1010	2110	780	780	550	250	650	650	350	650	850	550	550	900
TFMC-1015	3550	1085	780	550	250	650	650	350	650	960	550	550	900
TFMC-1020	4990	1390	780	550	250	650	650	350	650	1090	550	550	900
TFMC-1520	7690	1390	1085	550	250	650	650	350	650	1230	550	550	900
TFMC-2020	10490	1390	1390	550	250	650	650	350	650	1310	550	550	900
TFMC-2025	13470	1695	1390	650	250	650	650	350	650	1440	550	550	1000
TFMC-2030	16660	2000	1390	650	250	650	650	350	650	1530	550	550	1000
TFMC-2530	20710	2000	1695	800	250	650	650	350	650	1690	550	550	1150
TFMC-3030	23980	2000	2000	800	250	650	650	350	650	1820	550	550	1150
TFMC-3035	28660	2305	2000	800	250	650	650	350	650	1820	550	550	1150
TFMC-3040	33190	2610	2000	1000	250	650	650	350	650	1990	550	550	1350
TFMC-3050	42390	3220	2000	1200	250	650	650	350	650	2150	550	550	1550
TFMC-3550	50100	3220	2305	1400	250	650	800	350	800	2370	800	550	1750
TFMC-4040	50100	3220	2305	1400	250	650	800	350	800	2370	800	550	1750
TFMC-4050	57810	3220	2610	1400	250	650	800	350	800	1820	800	550	1750
TFMC-4060	70360	3830	2610	1600	250	650	800	350	800	1990	800	550	1950



Job Reference

Product Series

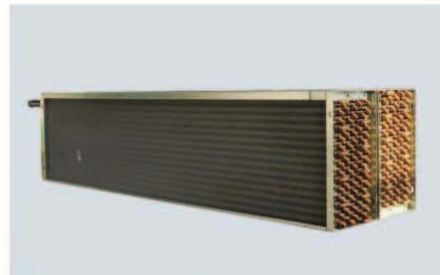
Hospital & Pharmacy Industry



Advanced Technology (Electronic/semi-conductor, CD, DVD, battery)

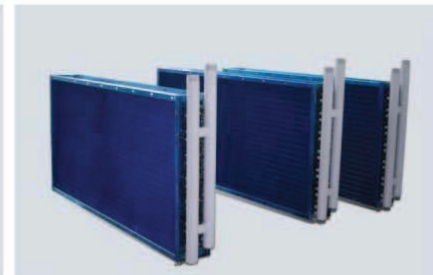


Gymnasium, Hotel, University & City Hall



Coils(3/8" and 5/8")

Water and evaporator cooling coils,
Water heating coils, steam coils,
Booster coils



Coils(hydrocoat finishing)



Precision A/C Unit (HA Series)
(Air flow: 1,500 to 5,000 m³/h,
capacity range: 15kw to 35kw)



Dry Cooler
(Air flow: 12,800 to 361,000 m³/h,
capacity range: 27kw to 780kw)
Cooling Medium: water + ethylene glycol,
In/outlet fluid temp.: 44/39°C



Constant temperature &
humidity air conditioner unit



Air Handling Unit (TFCW Series)