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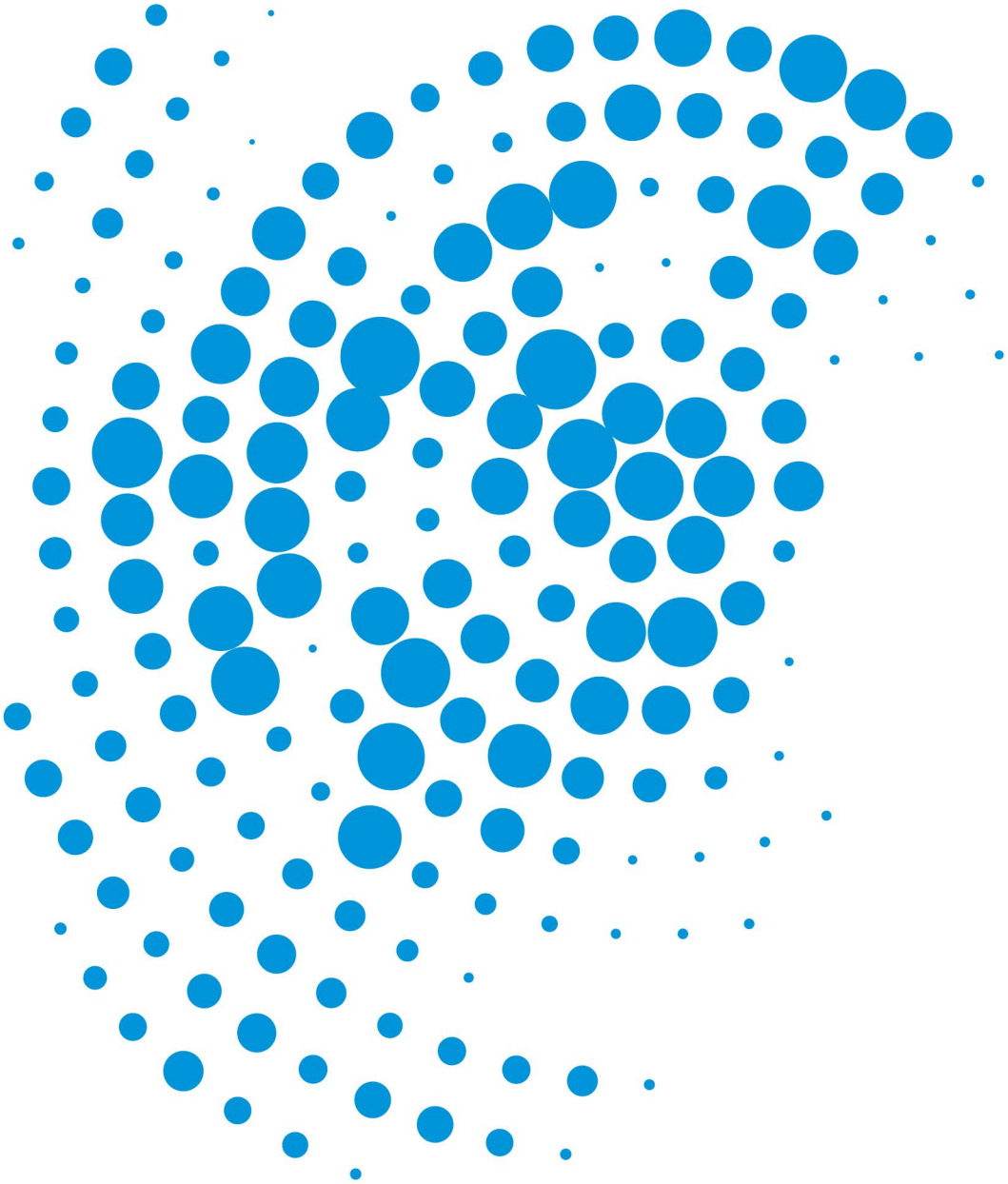
COOLING , HEATING , AIR CONDITIONING



Fan Coil Unit

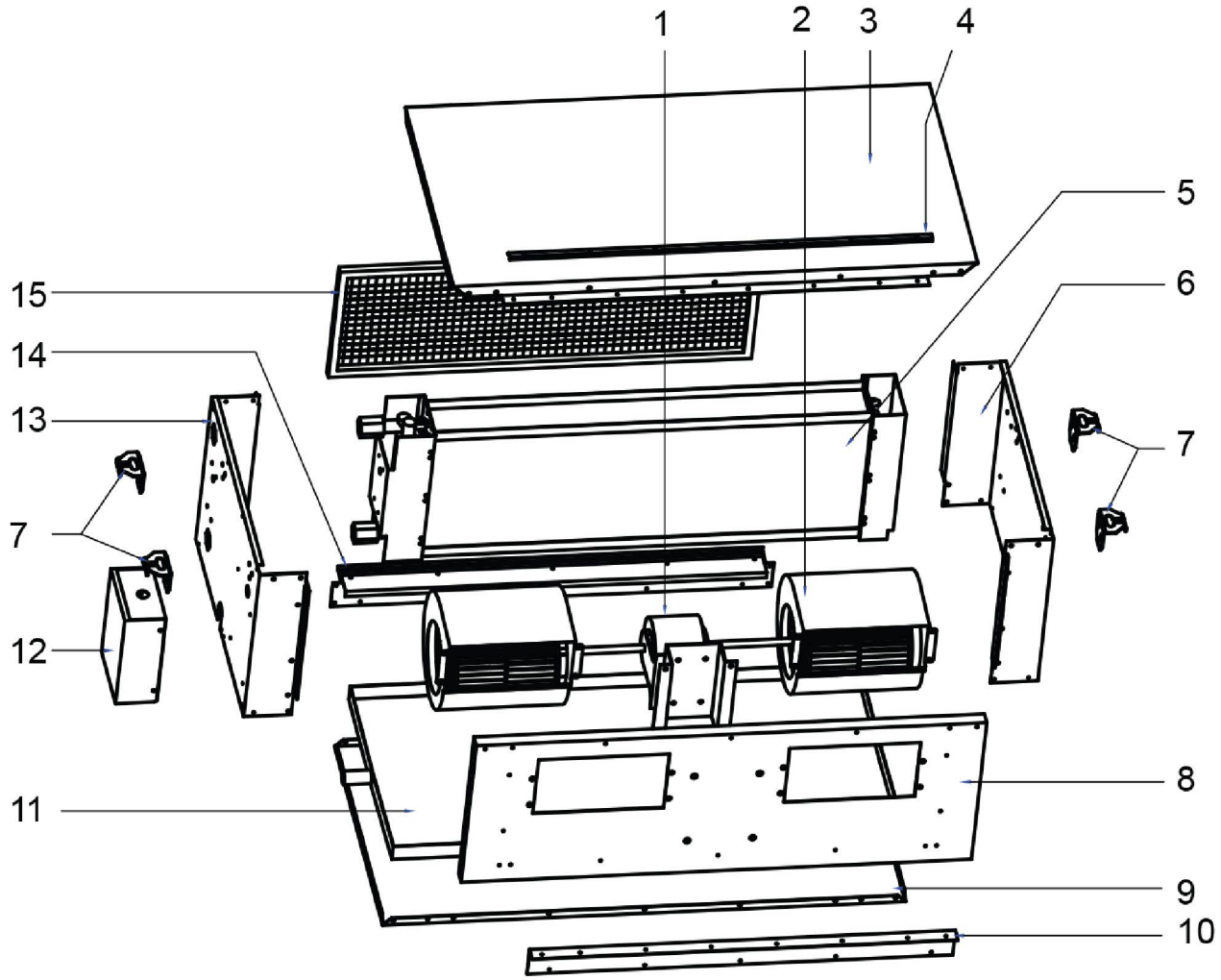
Installation and Operation Manual

High Static Pressure Fan Coil Unit

Please read the manual before using the fan coil.
The installation and service must be carried out by trained and qualifed technician only.

Contents

Main Parts of the Unit

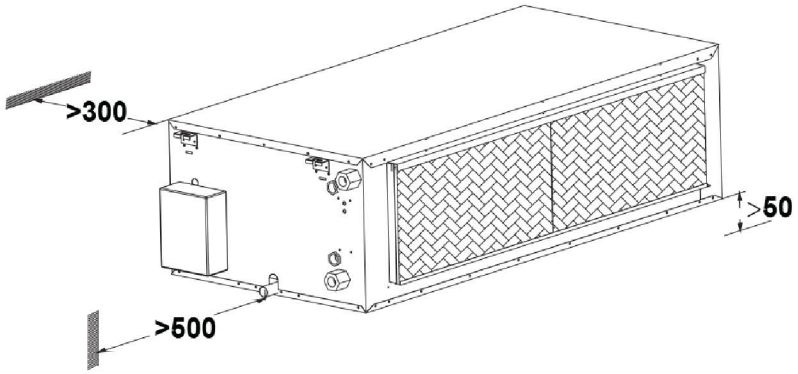


1. Motor
2. Fan
3. Top Panel
4. U Bar
5. Coil Assembly
6. Right Side Plate
7. Hanger
8. Fan Fixing Plate
9. Bottom Plate
10. Outlet Side Panel
11. Drain Pan
12. Terminal Box
13. Left Side Plate
14. Inlet Side Panel
15. Air Filter

Note: Above exploded view is used for illustrative of unit construction - only, it may be different from the unit you received. Please refer to the unit itself.

Operating Limits and fitting space

Depending on the model and installation, the pipes may be connected from left or right. The following fitting distances of main unit body should be observed for fan coil units.



Note: Make sure there are adequate spaces reserved for installation of pipes, valves, wiring connections etc.

Above indicated fitting space is for illustrative reference only and bigger fitting space should be reserved if not sure about the installation convenience or accessibility of the connections.

Heat Exchanging Coil and Appliance

- Minimum temperature of the cooling water (without glycol): 5oC
- Maximum temperature of the heating fluid: 85oC
- Maximum allowed operating pressure: 1600kPa(16Bar)
- Electric power supply: 220v 50Hz

IN CASE OF INSTALLATION WHERE THE TEMPERATURE CAN DROP BELOW 0℃, IT IS NECCESSARY TO ADD ETHYLENE GLYCOL TO THE WATER, ACCORDING TO THE FOLLOWING TABLE

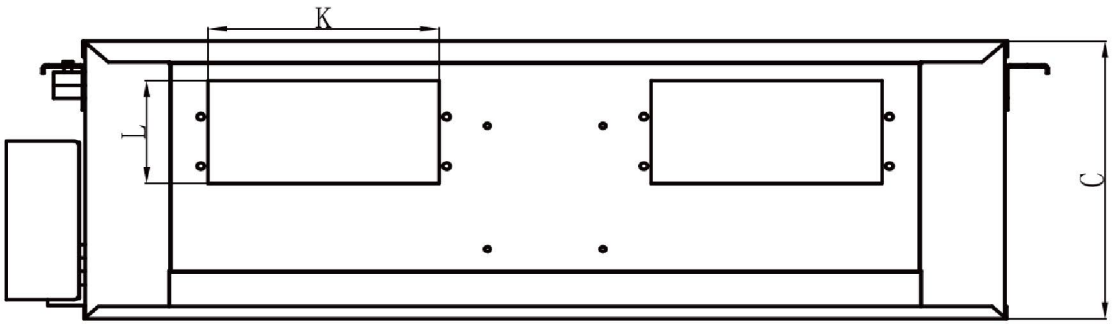
Ethylene glycol is used to protect the circuit from freezing, and to prevent the tubes to be broken. The following table gives the percentage of glycol to add in order to obtain a specific freezing temperature.

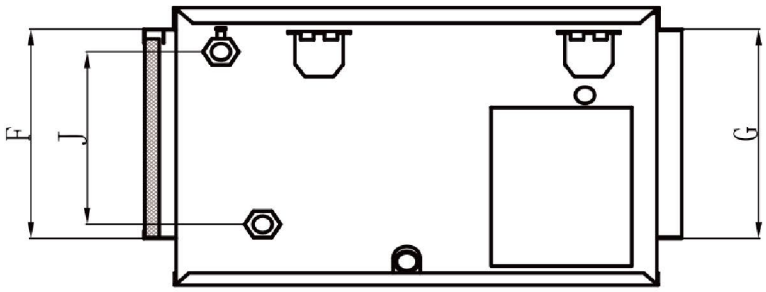
The mix of water and glycol has a specific mass and viscosity which varies depending on the temperature and concentration; consequently this affects the capacity of the fan coil.

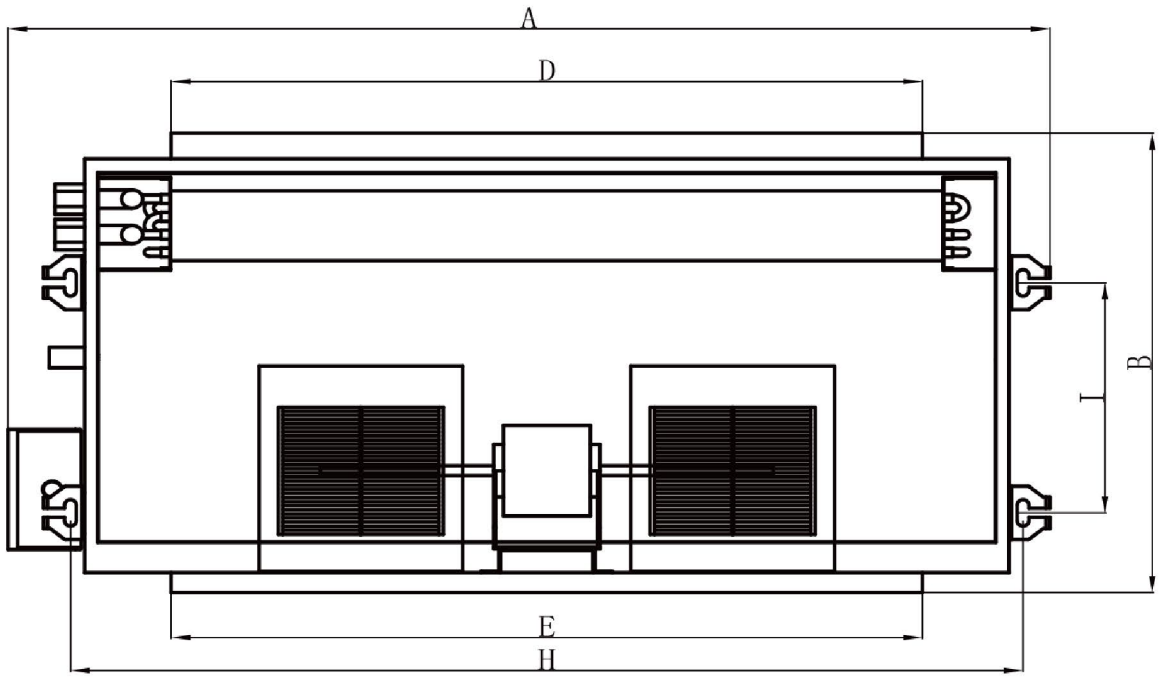
Glycol is generally used as an inhibitor of corrosion, so it is necessary to measure its concentration at least once a year.

Glycol in Weight	Glycol in Volume	Freezing Temperature	Volume Mass	Volume Mass	Specific Heat	Specific Heat	Volume Increase
%	%	℃	at 50℃, kg/dm³	at 100℃, kg/dm³	kj/kg °K	kj/kg °K	0➡100℃， %
5	4.8	0	0.989	0.958	4.18	4.20	4.33
10	9.6	-4	1.000	0.970	4.10	4.12	5.00
20	19.4	-10	1.012	0.980	3.95	4.05	5.40
30	27.4	-17	1.025	0.991	3.81	3.92	5.60
34	33.4	-21	1.030	0.994	3.73	3.86	5.85
40	39.6	-25	1.037	1.000	3.60	3.78	6.20
44	43.7	-30	1.041	1.004	3.50	3.73	6.32
50	49.5	-37	1.047	1.010	3.45	3.65	6.50
52 max	51.6	-40	1.050	1.012	3.42	3.62	6.51

Dimensions

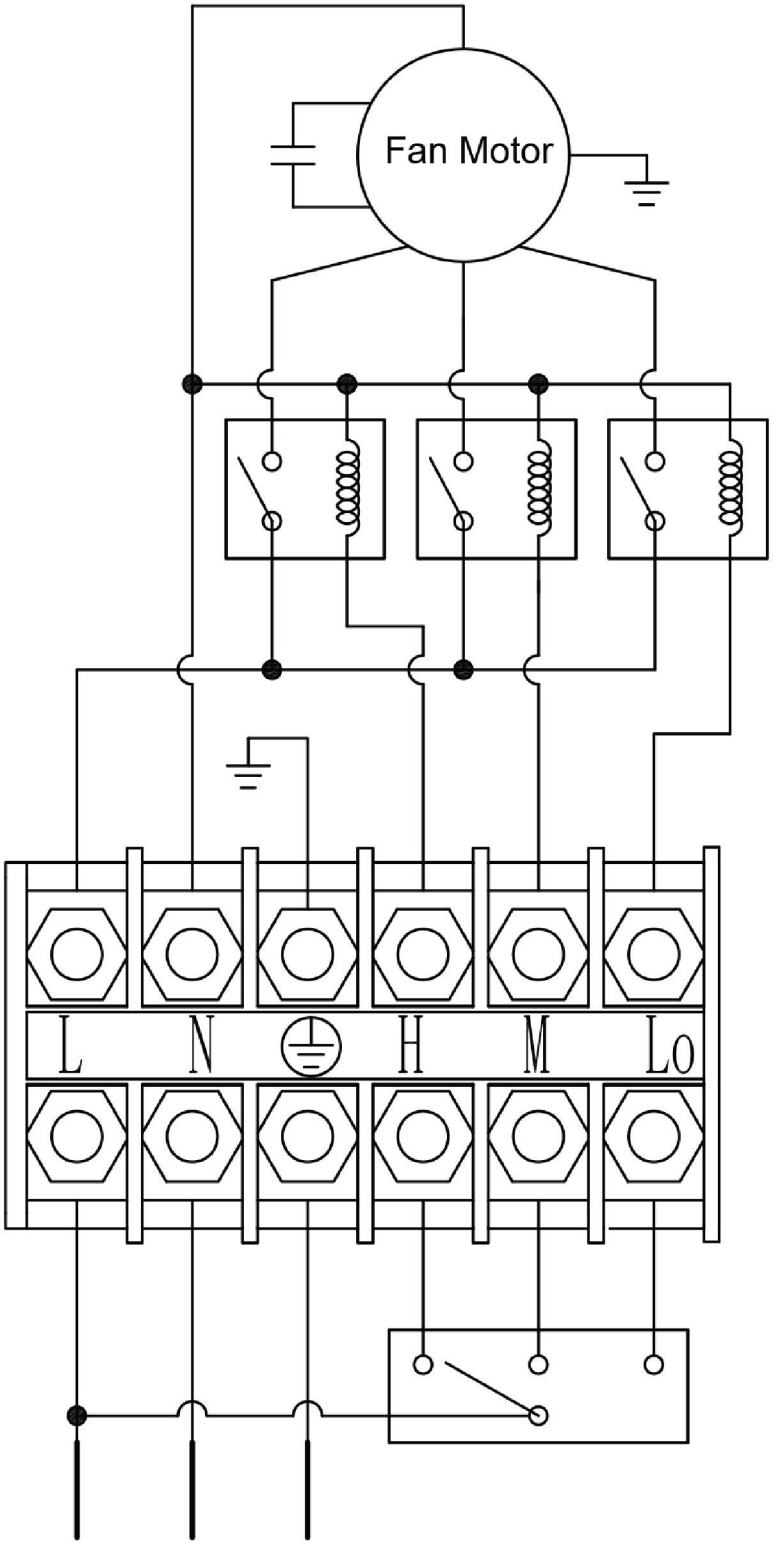






Unit: mm

Model	A	B	C	D	E	F	G	H	I	J	K	L
MLDT-6	1090	568	340	780	780	255	255	1000	280	213	240	117
MLDT-9	1190	568	340	880	880	255	255	1100	280	213	240	117
MLDT-12	1290	568	390	980	980	305	305	1200	280	260	250	151
MLDT-14	1450	688	390	1140	1000	305	305	1360	425	260	250	151
MLDT-19	1490	688	450	1180	1100	365	305	1400	425	310	300	150
MLDT-21	1620	863	450	1310	1200	365	305	1530	425	310	300	150
MLDT-24	1640	863	500	1330	1200	355	355	1550	575	360	300	150



220V 50Hz

Troubleshooting

Deviations from normal operation states of the fan coil units are evidence of malfunctions that must be investigated by maintenance personnel.
The following table should serve as a starting point for maintence personnel regarding possible cause of trouble and their correction.

Fault	Possible Cause	Remedy	M
Fan does not work	Unit not switched on	Switch on unit	
	No electrical voltage	Check fuse/power supply	*
	Electrical cables not connected	Connect electrical cables	*
	Unit fuses defective	Replace fuses	*
Unit too noisy	Too high RPM level switched on	Set a lower RPM level	
	Air intake or discharge areas blocked	Clear discharge/air intake of obstructions or kinks	
	Noisy fan bearings	Replace the faulty fan	*
	Filter is dirty	Clean/replace the filter	
Unit does not cool(heat) or cool(heat) insufficiently	Fan not switched on	Switch on fan	
	Air volume flow of the unit too low	Set a high RPM level	
	Air intake or discharge areas blocked	Unobstructed or clean airways	
	Fan blocked/faulty	Check fan, replace if necessary	*
	Filter is dirty	Clean/replace the filter	
	Water flow rate too low	Check pump performance, Check pipe run balance and adjust using calculated pressure loss	*
	Cooling medium is not cold	Switch on the chilled water set, Switch on the circulating pump, Bleed the system	
	Heating medium is not hot	Switch on the heating system boiler, Switch on the circulating pump, Bleed the system	
Water Leakage in unit area	Main condensate tray drain blocked	Clean the main condensate tray and the condensate drain	
	Side wl-mounted/ceiling-mounted condensate tray drain blocked	Clean condensate drain and check fro sufficient gradient, then clean and fill the siphon if necessary	*
	Chilled water pipes not correctly insulated	Insulate the chilled water pipes	*
	Unit not positioned horizontally	Align the unit and position it horizontally	*
	Heat exchanger or hydraulic connections leaking	Check the heat exchanger, bleeding and valve connections for leaks	
		If necessary, retighten connections, clean screw insert or reseal the connections	
		On valves, check the screw connections for ease of movement, clean sealing surfaces and replace seal if necessary	*
		Check the soldered joints between the collector and heat exchanger tubes and on the heat exchanger deflection bends for leaks; if leaking, replace the heat exchanger	*

Note: Items marked with* can be only be performed by technical person only.

Packaging, consumable, replaced parts must be disposed according to the local safety laws and envioronmental protection laws.

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Chiller - Fancoil - Air Handling Unit

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