

Medium Pressure Duct FCU DC

Installation manual and Information requirements

MUCM-W7



CONTENT

INSTALLATION MANUAL	3
INFORMATION REQUIREMENTS	18

IMPORTANT

Thank you for selecting super quality Air Conditiones. To ensure satisfactory operation for many ears to come, this manual should be read carefully before the installation and before using the air conditioner. After reading, store it a safe place. Please refer to the manual for questions on use or in the event that any irregularities occur. This Air Conditioner should be used for comercial or hosehold use.

WARNING

The power supply must be SINGLE-PHASE (one phase (L) and one neutral (N)) with his grounded power (GND)) or THREE-PHASE (three phase (L1, L2, L3) and one neutral (N) with his grounded power (GND)) and his manual switch. Any breach of these specifications involve a breach of the warranty conditions provided by the manufacturer.

NOTE

In line with the company's policy of continual product improvement, the aesthetic and dimensional characteristics, technical data and accessories of this appliance may be changed without notice.

ATTENTION

Read this manual carefully before installind or operating you new air conditioning unit. Make sure to save this manual for future reference.

INSTALLATION MANUAL

CONTENTS	PAGE
PRECAUTIONS.....	3
INSTALLATION INFORMATION.....	4
FUNCTIONS & FEATURES.....	4
ACCESORIES.....	4
OPERATION RANGE.....	4
PARTS NAMES.....	5
INSTALLATION.....	5
PIPE CONNECTION.....	8
INSTALLATION DRANAIGE PIPE.....	8
WIRING.....	9
FAULT AND PROTECTION.....	11
FAN PERFORMANCE CURVES.....	12
CONNECTION SIDE CHANGE GUIDE.....	17

1. PRECAUTIONS

- Be sure to be in conformity with the local, national and international laws and regulations.
- Read "PRECAUTIONS" carefully before installation.
- The following precautions include important safty items. Observe them and never forget.
- Keep this manual in a handy place for future reference.
- Before out from factory, FAN COIL UNIT (AIR UNITS) has passed Fan Coil Overpressure Resistant Test, Statically and Dynamically Balanced Adjustment, Noise Test, Air (cool) Volume Test, Electric Property Test, Outline Quality Detection.

The safety precautions listed here are divided into two categories. In either case, important safety information is listed which must be read carefully.



WARNING

Failure to observe a warning may result in death.



CAUTION

Failure to observe a caution may result in injury or damage to the equipment.

After completing the installation, make sure that the unit operates properly during the start-up operation. Please instruct the customer on how to operate the unit and keep it maintained.



WARNING

Be sure only trained and qualified service personnel to install, repair or service the equipment.
 Improper installation, repair, and maintenance may result in electric shocks, short-circuit, leaks, fire or other damage to the equipment.

Install according to this installation instructions strictly.
 If installation is defective, it will cause water leakage, electrical shock and fire.

When installing the unit in a small room, take measures against to keep refrigerant concentration from exceeding allowable safety limits in the event of refrigerant leakage.
 Contact the place of purchase for more information. Excessive refrigerant in a closed ambient can lead to oxygen deficiency.

Use the attached accessories parts and specified parts for installation.
 otherwise, it will cause the set to fall, water leakage, electrical shock and fire.

The appliance must be installed 2.3m above floor.

The appliance shall not be installed in the laundry.

Before obtaining access to terminals, all supply circuits must be disconnected.

The appliance must be positioned so that the plug is accessible.

The enclosure of the appliance shall be marked by word, or by symbols, with the direction of the fluid flow.

For electrical work, follow the local national wiring standard, regulation and this installation instructions. An independent circuit and single outlet must be used.
 If electrical circuit capacity is not enough or defect in electrical work, it will cause electrical shock fire.

Use the specified cable and connect tightly and clamp the cable so that no external force will be acted on the terminal.
 If connection or fixing is not perfect, it will cause heat-up or fire at the connection.

Wiring routing must be properly arranged so that control board cover is fixed properly.
 If control board cover is not fixed perfectly, it will cause heat-up at connection point of terminal, fire or electrical shock.

If the supply cord is damaged, it must be replaced by the manufacture or its service agent or a similarly qualified person in order to avoid a hazard.

An all-pole disconnection switch having a contact separation of at least 3mm in all poles should be connected in fixed wiring.

When carrying out piping connection, take care not to let air substances go into refrigeration cycle.
 Otherwise, it will cause lower capacity, abnormal high pressure in the refrigeration cycle.

Do not modify the length of the power supply cord or use of extension cord, and do not share the single outlet with other electrical appliances.
 Otherwise, it will cause fire or electrical shock.

If the water leaks during installation, ventilate the area immediately.

After completing the installation work, check that the water does not leak.

The cool water in the unit is not lower than 3°C, hot water is not higher than 80°C. Water in the unit must clean, air quality must meet to the standard of PH=6.5~7.5.



CAUTION

Ground the air conditioner.

Do not connect the ground wire to gas or water pipes, lightning rod or a telephone ground wire. Incomplete grounding may result in electric shocks.

Be sure to install an earth leakage breaker.

Failure to install an earth leakage breaker may result in electric shocks.

Connect the outdoor unit wires, then connect the indoor unit wires.

You are not allowed to connect the air conditioner with the power source until wiring and piping the air conditioner is done.

While following the instructions in this installation manual, install drain piping in order to ensure proper drainage and insulate piping in order to prevent condensation.

Improper drain piping may result in water leakage and property damage.

Install the indoor and outdoor units, power supply wiring and connecting wires at least 1 meter away from televisions or radios in order to prevent image interference or noise.

Depending on the radio waves, a distance of 1 meter may not be sufficient enough to eliminate the noise.

This appliance can be children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.



DISPOSAL: Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.

Contact your local government for information regarding the collection systems available.

If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.

Disconnect the power supply before cleaning and maintenance. Use dry cloth to clean the unit.

Don't install the air conditioner in the following locations:

- There is petrolatum existing.
- There is salty air surrounding (near the coast).
- There is caustic gas (the sulfide, for example) existing in the air (near a hot spring).
- The Volt vibrates violently (in the factories).
- In buses or cabinets.
- In kitchen where it is full of oil gas.
- There is strong electromagnetic wave existing.
- There are inflammable materials or gas.
- There is acid or alkaline liquid evaporating.
- Other special conditions.

2. INSTALLATION INFORMATION

- To install properly, please read this manual at first.
- The air conditioner must be installed by qualified persons.
- When installing the indoor unit or its tubing, please follow this manual as strictly as possible.
- If the air conditioner is installed on a metal part of the building, it must be electrically insulated according to the relevant standards to electrical appliances.
- When all the installation work is finished, please turn on the power only after a thorough check.
- Regret for no further announcement if there is any change of this manual caused by product improvement.

3. FUNCTIONS & FEATURES

- Nested in the ceiling, space-saving.
- High capacity of cooling / heating performance, high efficiency and energy-saving.
- Low noise design.

4. ACCESSORIES

Table 4-1

Accessory Name	Qty.	Sharp	Purpose
Installation manual	1	This manual	_____
Accessional plastic water tray	1		_____

5. OPERATION RANGE

Use the system in the following temperature for safe and effective operation.

Table 5-1

Temperature Mode	Outdoor temperature	Room temperature	Water inlet temperature
Cooling operation	0°C~43°C	17°C~32°C	3°C~20°C
Heating operating	-15°C~24°C	0°C~30°C	30°C~80°C

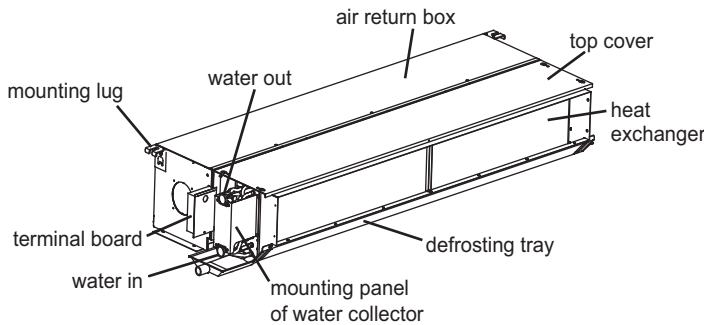


NOTE

- 1 If air conditioner is used outside the above conditions, it may cause the unit to function abnormally.
- 2 The phenomenon is normal that the surface of air conditioning may condense water when the relative larger humidity in room, please close the door and window.
- 3 Optimum performance will be achieved within these operating temperature range.
- 4 Water system operating pressuer: Max: 1.6MPa, Min: 0.15MPa.

6. PARTS NAMES

The below figures is an instance models, which would be different from the one that you purchase.



Note: This picture does not show the real unit.

Fig.6-1

7. INSTALLATION

7.1 Installing site

- Install the unit where enough space of installation and maintenance is available.
- Install the unit where the ceiling is horizontal and enough for bearing the weight of the indoor unit.
- Install the unit where the air inlet and outlet are not baffled and are the least affected by external air.
- Install the unit where the supply air flow can be sent to all parts in the room.
- Install the unit where it is easy to lead out the connective pipe and the drain pipe.
- Install the unit where connotative heat is emitted from a heat source directly.



CAUTION

- Installing the equipment in any of the following places may lead to faults of the equipment (if that is inevitable, consult the supplier):
 - The site contains mineral oils such as cutting lubricant.
 - Seaside where the air contains much salt.
 - Hot spring area where corrosive gases exist, e.g., sulfide gas.
 - Factories where the supply voltage fluctuates seriously.
 - Inside a car or cabin.
 - Place like kitchen where oil permeates.
 - Place where strong electromagnetic waves exist.
 - Place where flammable gases or materials exist.
 - Place where acid or alkali gases evaporate.
 - Other special environments.

■ Precautions before installation

- Decide the correct way of conveying the equipment.
- Try to transport this equipment with the original package.
- If the air conditioner needs to be installed on a metal part of the building, electric insulation must be performed, and the installation must meet the relevant technical standards of electric devices.

7.2 Installing the fan coil units

Confirm the dimensions of the indoor unit against the following figure.

Install $\Phi 10$ pendant bolts (4 bolts)

- The intervals of the pendant bolts are shown in the following figure.
- Use the $\Phi 10$ pendant bolts.
- The treatment of the ceiling varies between buildings. For detailed measures, negotiate with the construction and fit-out staff.
- After the main body is suspended, work on the pipes and wires in the ceiling. Decide the lead-out direction of the pipes after selecting the installation site. Especially, in a circumstance where a ceiling is available, extend the water pipe, drain pipe, connection wires, and wire controller lines to the connection position before suspending the unit.

7.2.1 Procedure of installing the pendant bolts.

- Base on the unit structure, please set the screw-pitch according to the size of the following figures:
 - Wooden structure
Put rectangular sticks across the beams, and set pendant bolts.

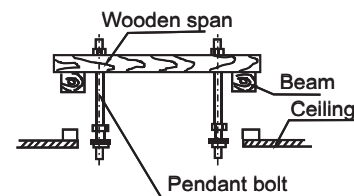


Fig.7-1

- Old concrete roughcast
Use embedded bolts and embedded pulling plugs.

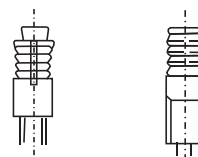


Fig.7-2

- Steel beam and girder structure
Set and use supportive angle steel.

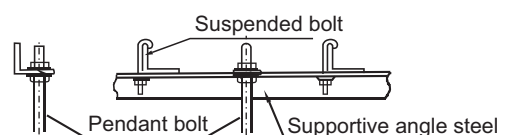


Fig.7-3

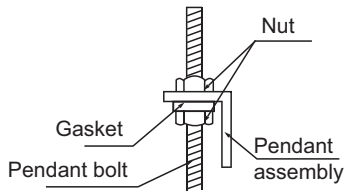


Fig.7-4

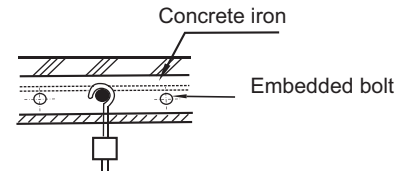


Fig.7-6

- New concrete roughcast
Set it with embedded bushes or embedded bolts.



Fig.7-5

- **Suspending the indoor unit**
 - Use tools such as pulleys to hoist the indoor unit to the pendant bolt.
 - Use tools such as gradienter to settle the indoor unit horizontally. Lack of horizontality may cause water leak.
- **Connect the duct**
The duct length is determined according to the external static pressure.
- **Install the wire control switch**
For installation of the wire control switch, see the installation manual of the wire controller.

7.2.2 Space requirement.

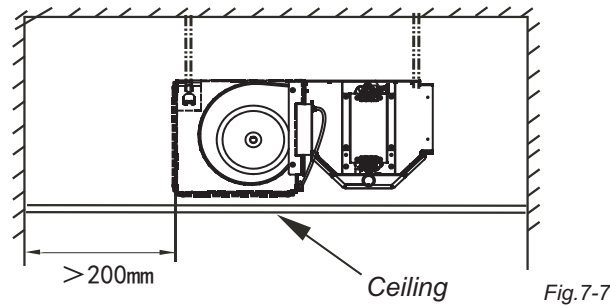


Fig.7-7

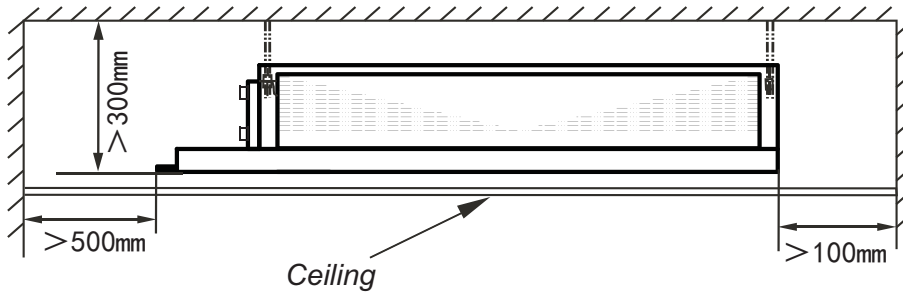


Fig.7-8

7.2.3 Dimensions

The quantities of the fans and motors are only for reference, please prevail in kind!

Unit: mm

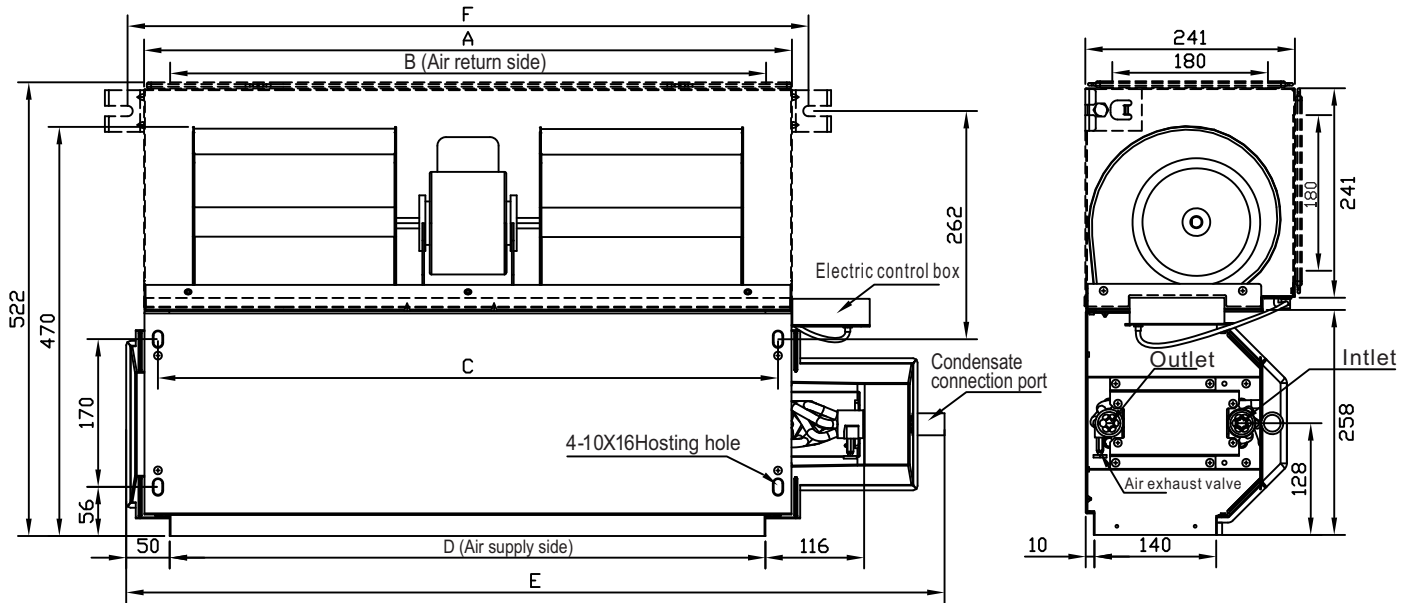


Fig.7-9

Note: To change the water connection side from left to right, please see page 17.

Table 7-1

Model	MUCM-15-W7	MUCM-19-W7	MUCM-27-W7	MUCM-30-W7	MUCM-36-W7
A	745	965	1265	1370	1660
B	685	905	1205	1310	1600
C	713	933	1233	1338	1628
D	685	905	1205	1310	1600
E	941	1161	1461	1566	1856
F	783	1003	1303	1408	1698



NOTE

- The above figures is an instance models, which would be different from the one that you purchase.
- The broken lines in above figures for illustrate the dimension of air return box. (Lower side air return box and rear air return box)

7.3 Connect the accessional plastic water tray (for the valves)

- The grooves of the accessional plastic water tray can be locked at the brim of the main water tray.

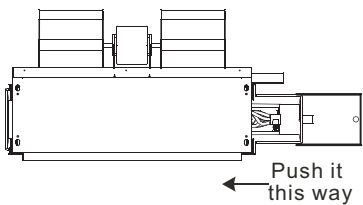


Fig.7-10

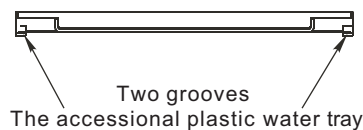


Fig.7-11

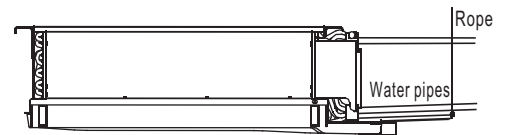


Fig.7-12

- Please hang up the accessional plastic water tray to the pipes or ceiling by a rope.

8. PIPES CONNECTION

- With air release valve, the other side is water inlet pipe.
- When connect water collector, set the tightening torque to 6180~7540N.cm(630~770kgf.cm), and use a spanner to tighten it as shown in Figure.
- The diameter of connective junction in water inlet pipe and water outlet pipe is RC3/4 taper pipe thread inside.
- The diameter of condensate pipe is ZG3/4 taper pipe thread outside.

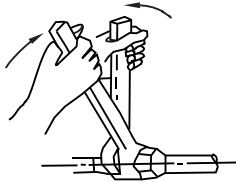


Fig.8-1

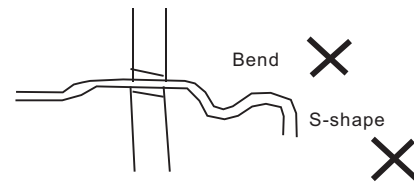


Fig.9-2

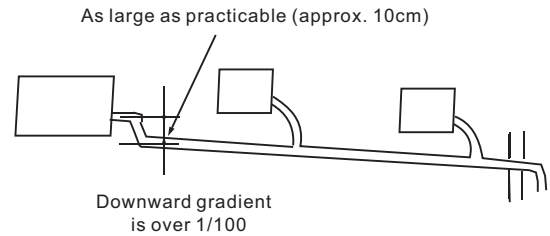


Fig.9-3

9. INSTALLATION DRAINAGE PIPE

- Install the drain pipe of the fan coil unit



NOTE

- Be sure to perform heat insulation for the drain pipe of the indoor unit. Otherwise, condensate will occur. The joint of the indoor unit should also undergo heat insulation treatment.
- When performing the pipes connection, use the rigid PVC binder, and make sure that no leak exists.
- Same as the joint of the indoor unit. Be careful not to apply force at the pipe side of the indoor unit.
- The downward gradient of the drain pipe should be higher than (1/100), without bend in the middle.
- The total length of the drain pipe when pulled out transversely shall not exceed 20m, when the pipe is over long, a prop stand must be installed prevent winging.
- The centralized pipes should be distributed against the figure shown on the right side.

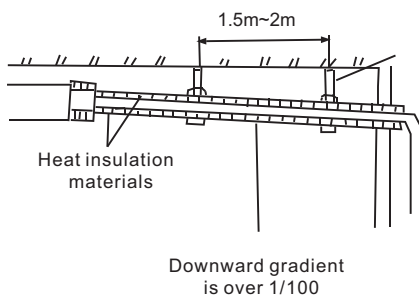


Fig.9-1

- **Drain test**

- Before the test, ensure that the drain pipes are smooth and the adapters are sealed.
- Newly built rooms should undergo the drain test before the ceiling is laid.

10. WIRING



CAUTION

The air conditioner should use separate power supply with rated voltage.

The external power supply to the air conditioner should have ground wiring, which is linked to the ground wiring of the unit.

The wiring work should be done by qualified persons according to circuit drawing.

An all-pole disconnection switch having a contact separation of at least 3mm in all poles should be connected in fixed wiring.

The appliance shall be installed in accordance with national wiring regulations.

Be sure to locate the power wiring and the signal wiring well to avoid cross-disturbance.

Do not turn on the power until you have checked carefully after wiring.

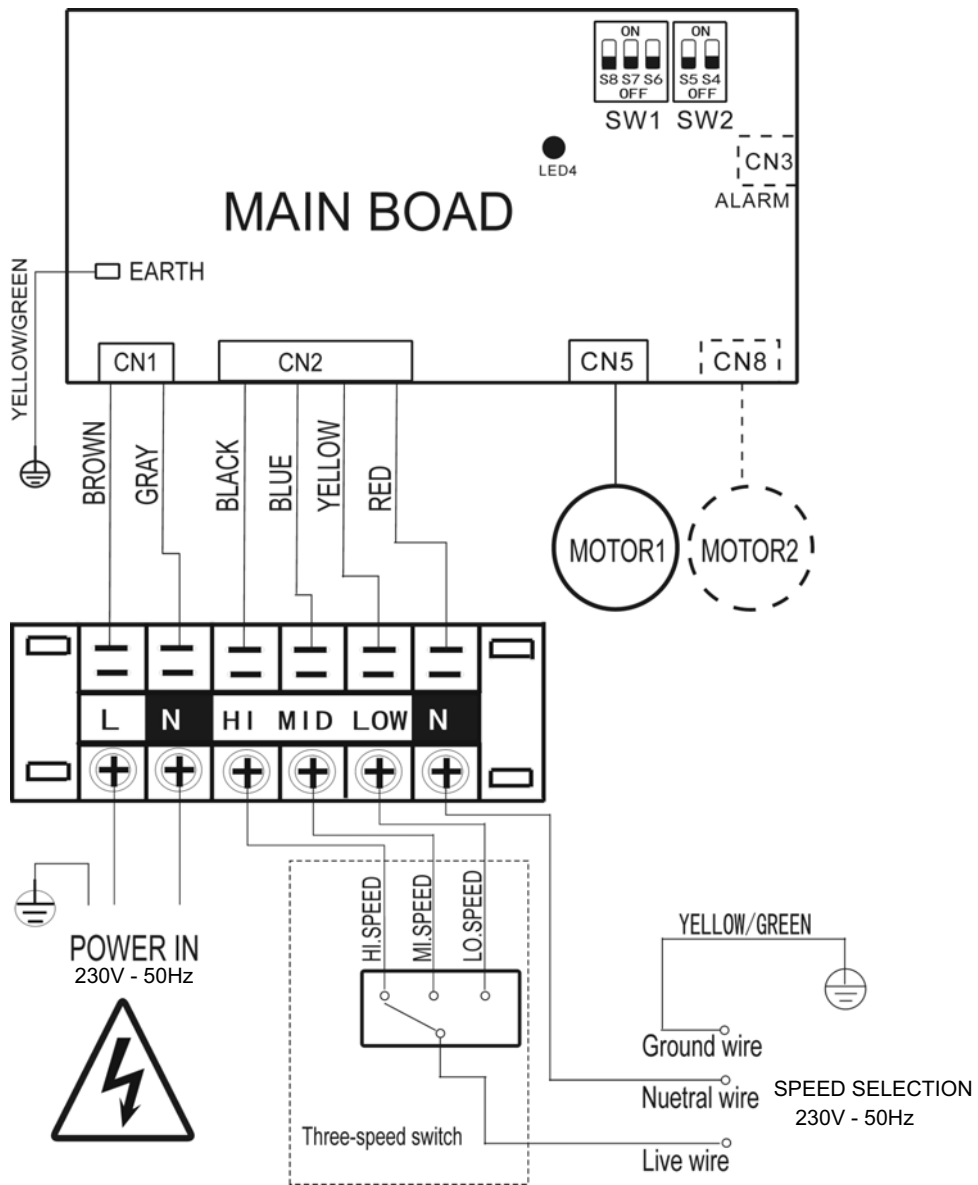
The temperature of circuit will be high, please keep the wires away from the pipes.

Table 10-1

MODEL		ALL
POWER	PHASE	1-phase
	FREQUENCY AND VOLT	220-240V~ 50Hz
CIRCUIT BREAKER/FUSE(A)		10/10
INDOOR UNIT POWER WIRING(mm ²)	BELOW 20M	3x1mm
	BELOW 50M	3x2,5mm

The power cord type designation is H05RN-R or above/H07RN-F.

10.1 Wiring Diagram



NOTE:

The unit must be powered by L - N with 230V - 50Hz (POWER IN).

On the other hand, for the unit to start with one of the 3 speeds, the desired speed must be selected by a 230V - 50Hz signal (SPEED SELECTION).

10.2 The default model of DC fan coil is set as 50Pa when leaving the factory.

Clients can dial to the responding position to choose the model and static pressure according to the nameplate and actual static pressure requirements of the models and static dial code table .

Models and static dial code table:

Static pressure MODE	12Pa	30Pa	50Pa (by default)
MUCM-15-W7			
MUCM-19-W7			
MUCM-27-W7			
MUCM-30-W7			
MUCM-36-W7			
NOT SET MODELS			

Note: You can see the fan performance curves on page 12.

11. FAULT AND PROTECTION

When the unit is subject to failure, main board corresponding LED will flash.
Fault code table and Protection:

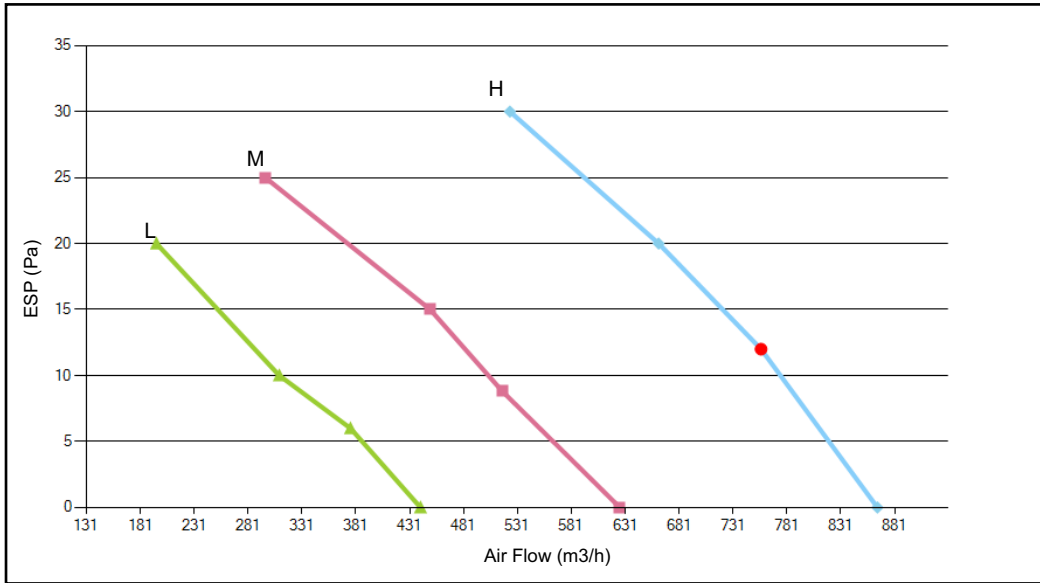
Nº	FAULT NAME	DESCRIPTION
1	LED light flash 4 (flashing frequency 0,5s and stop 2s)	Fan motor failure
2	LED light continue to flashing (flashing frequency 0,5s)	No set model

The A-weighted sound pressure level is below 70dB.

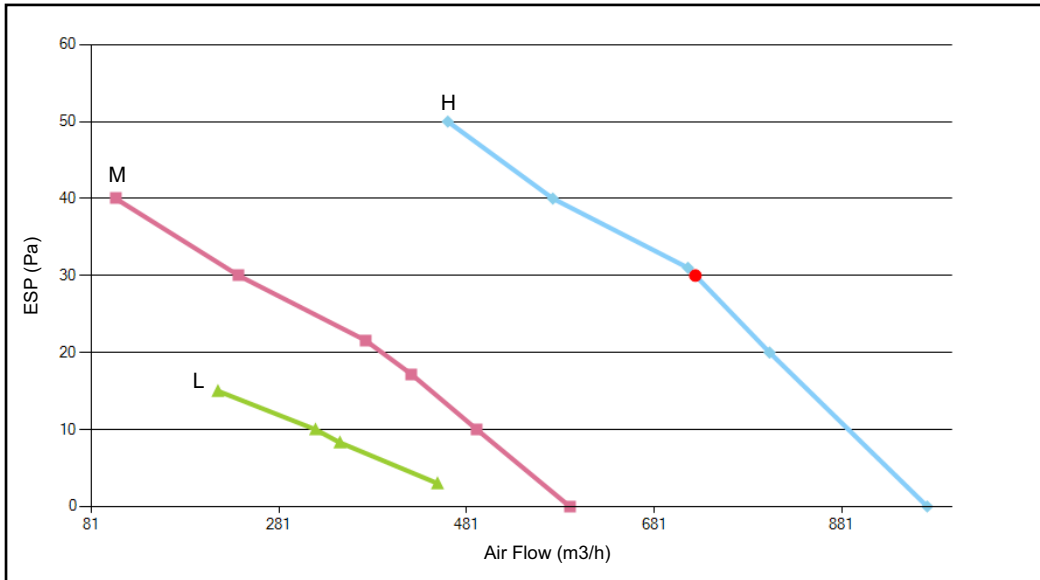
12. FAN PERFORMANCES CURVES

MUCM-15-W7

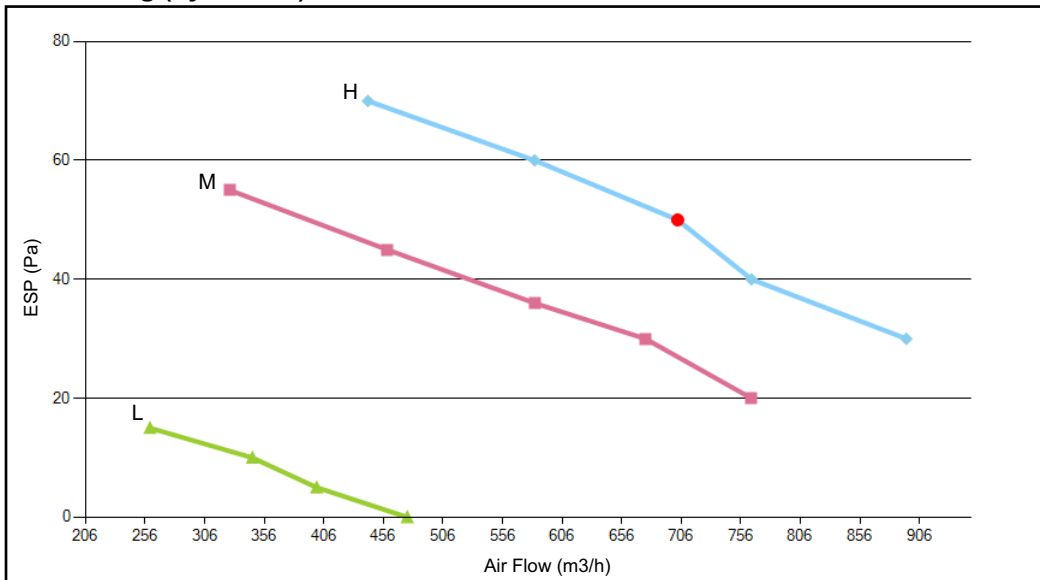
12Pa setting:



30Pa setting:

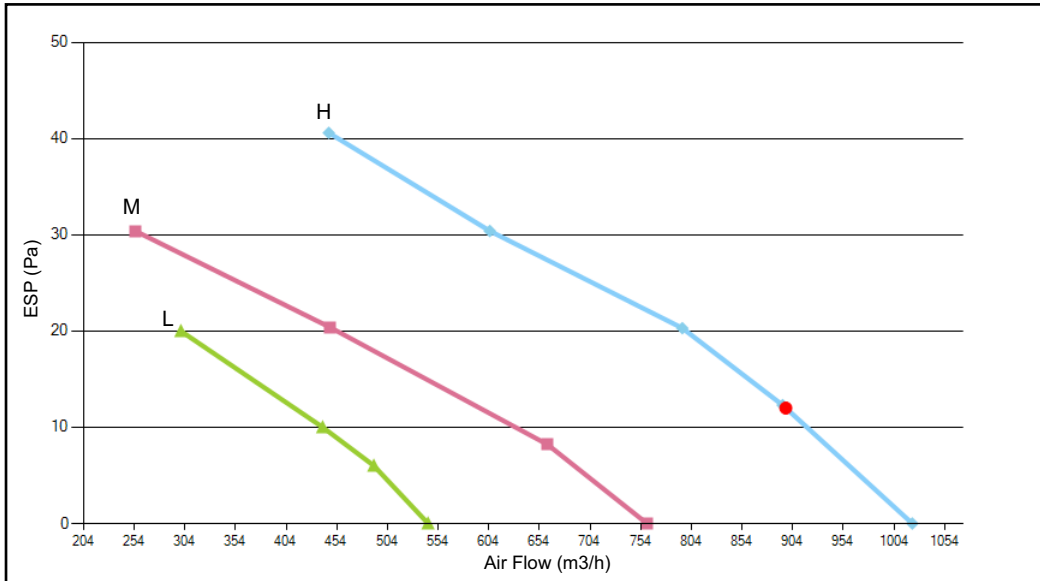


50Pa setting (by default):

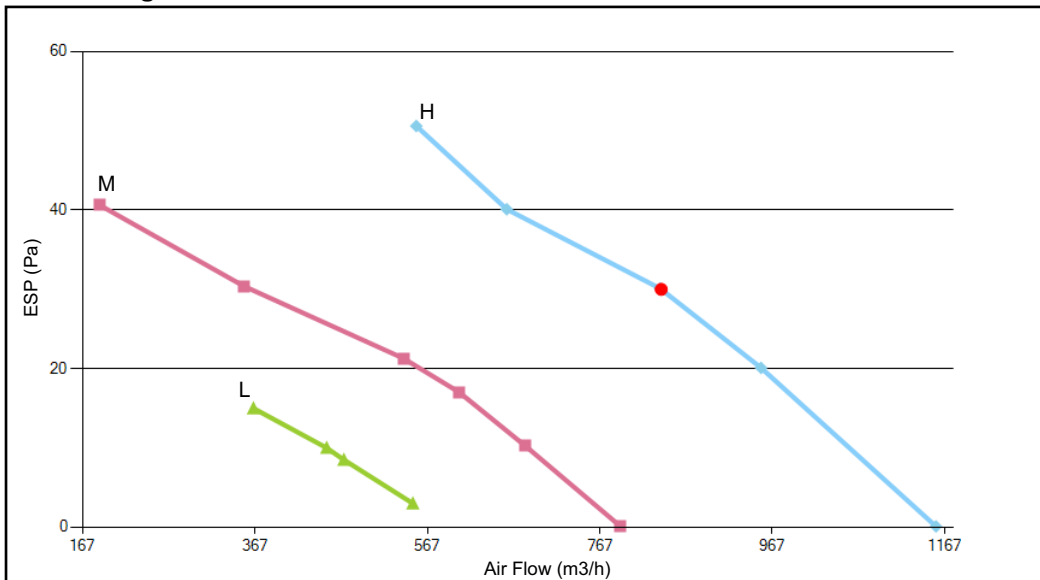


MUCM-19-W7

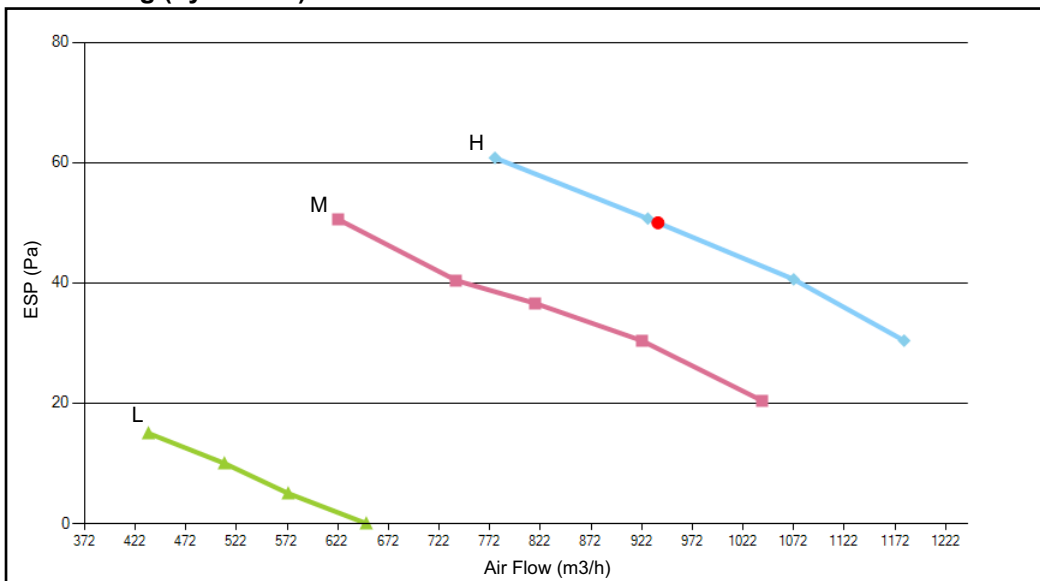
12Pa setting:



30Pa setting:

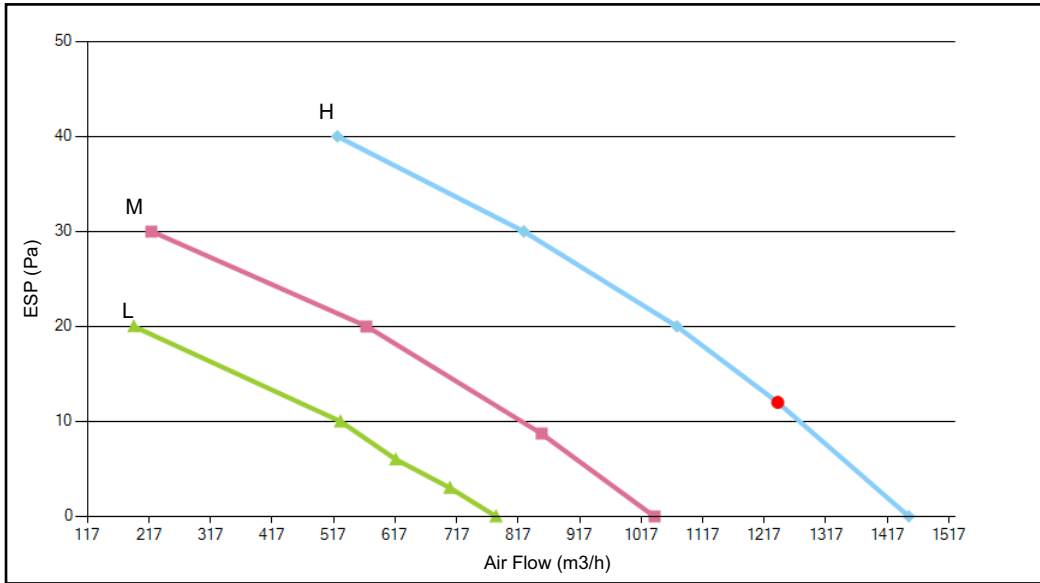


50Pa setting (by default):

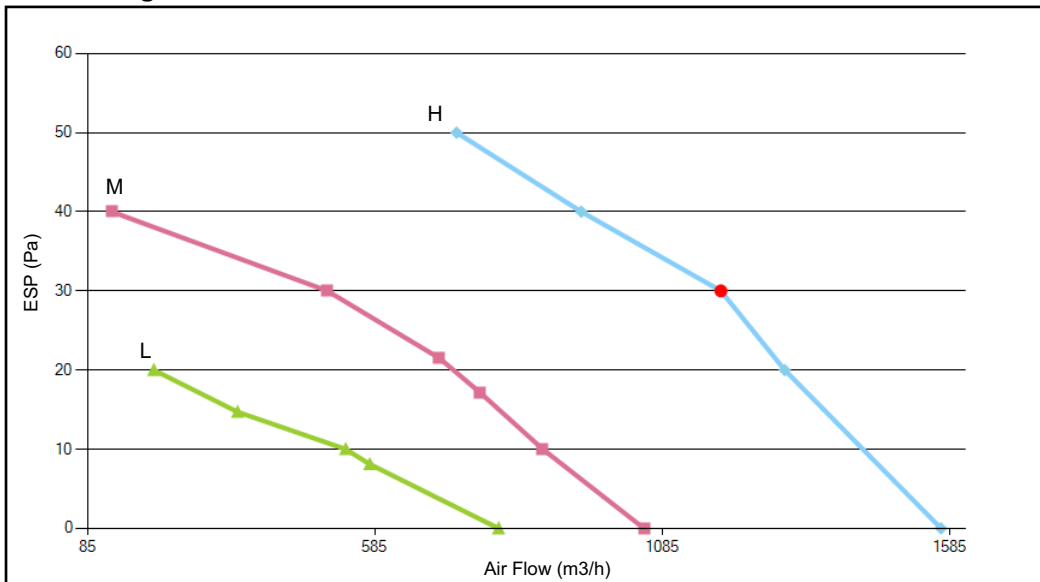


MUCM-27-W7

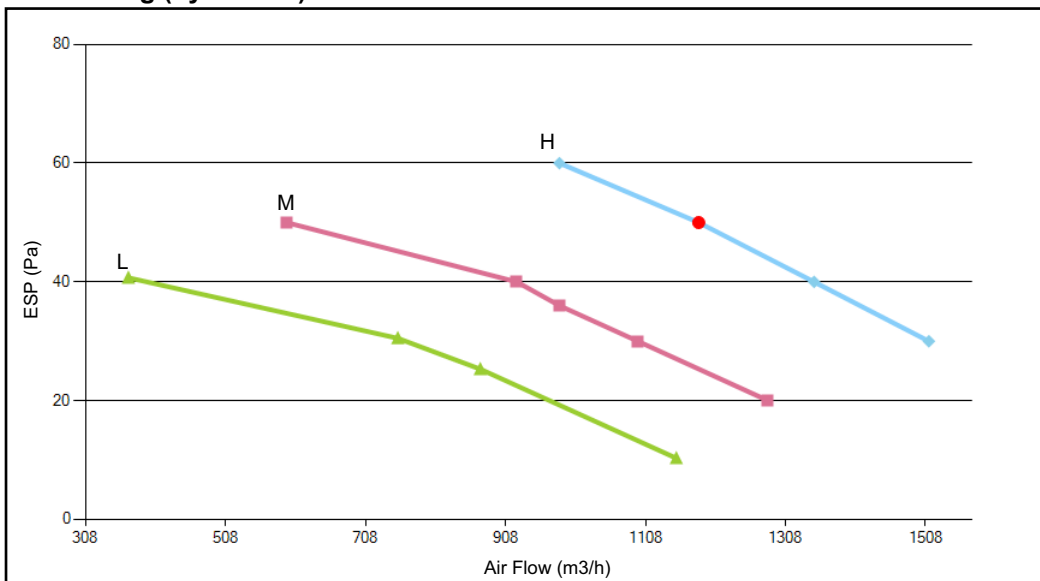
12Pa setting:



30Pa setting:

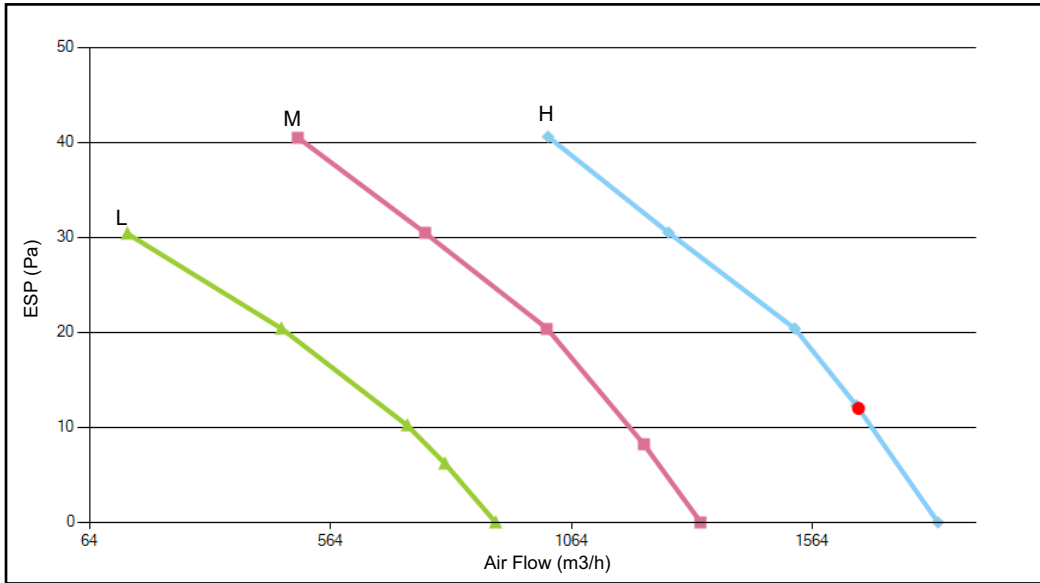


50Pa setting (by default):

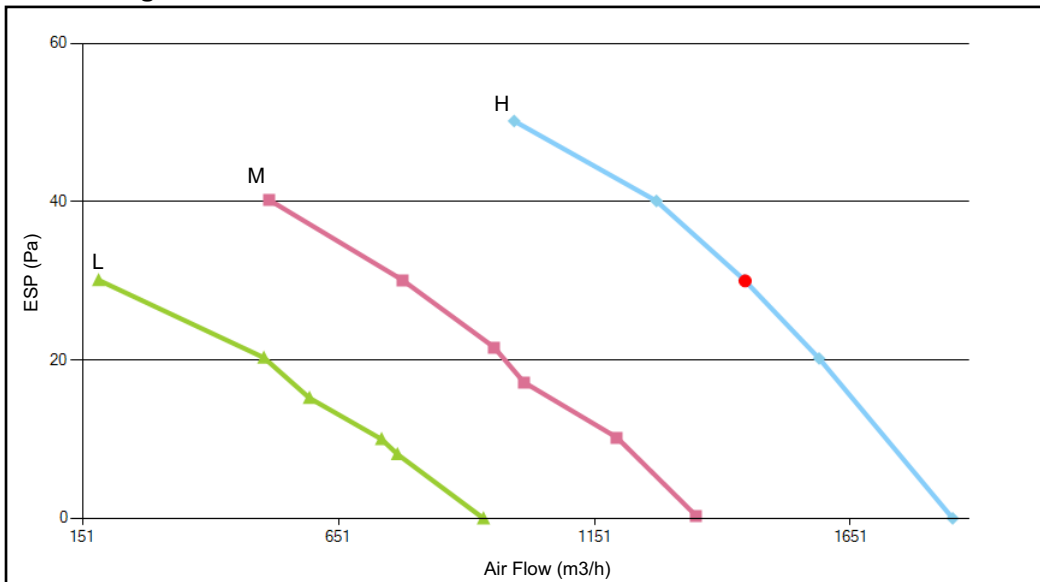


MUCM-30-W7

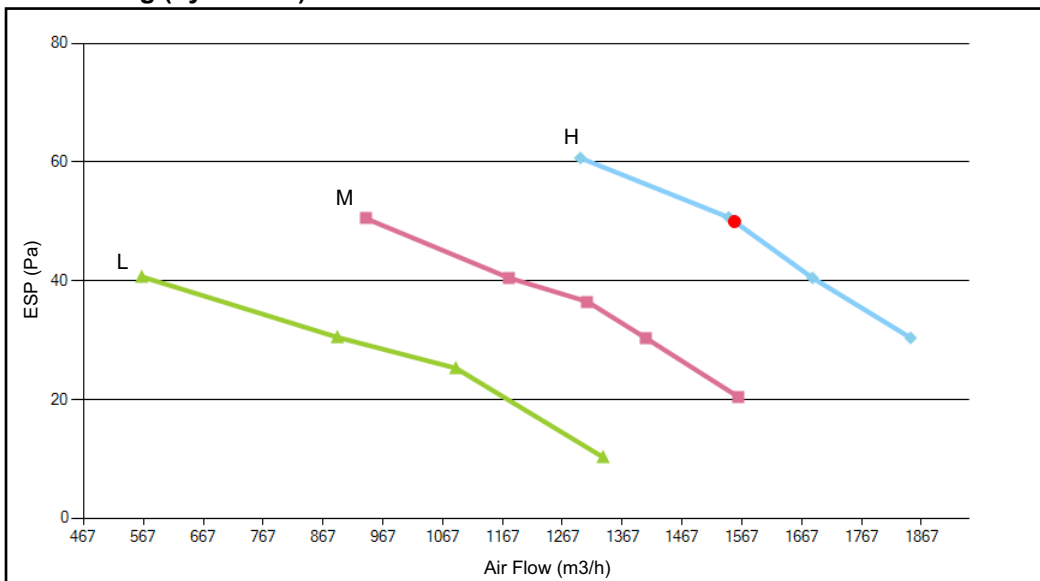
12Pa setting:



30Pa setting:

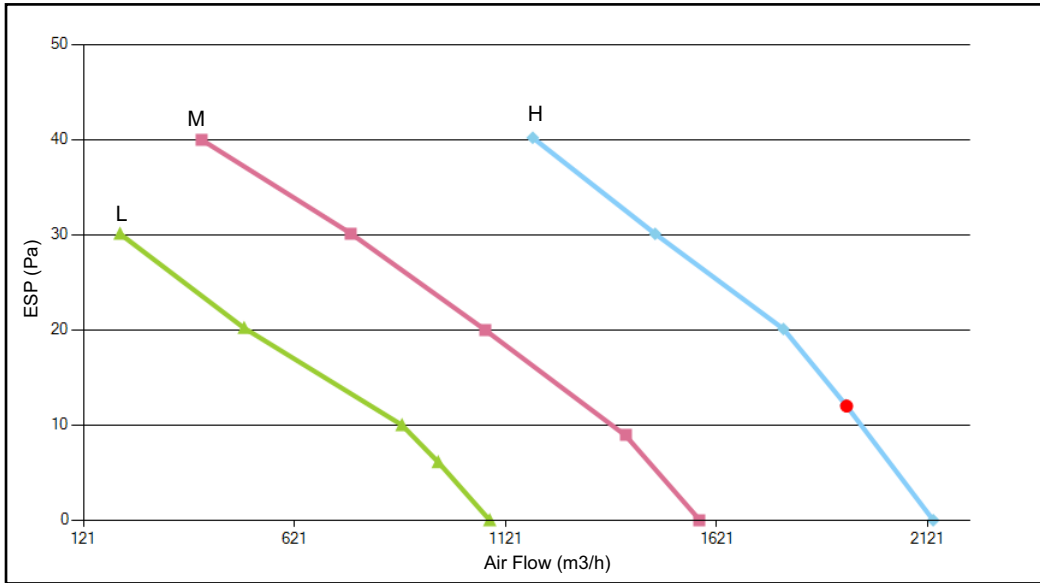


50Pa setting (by default):

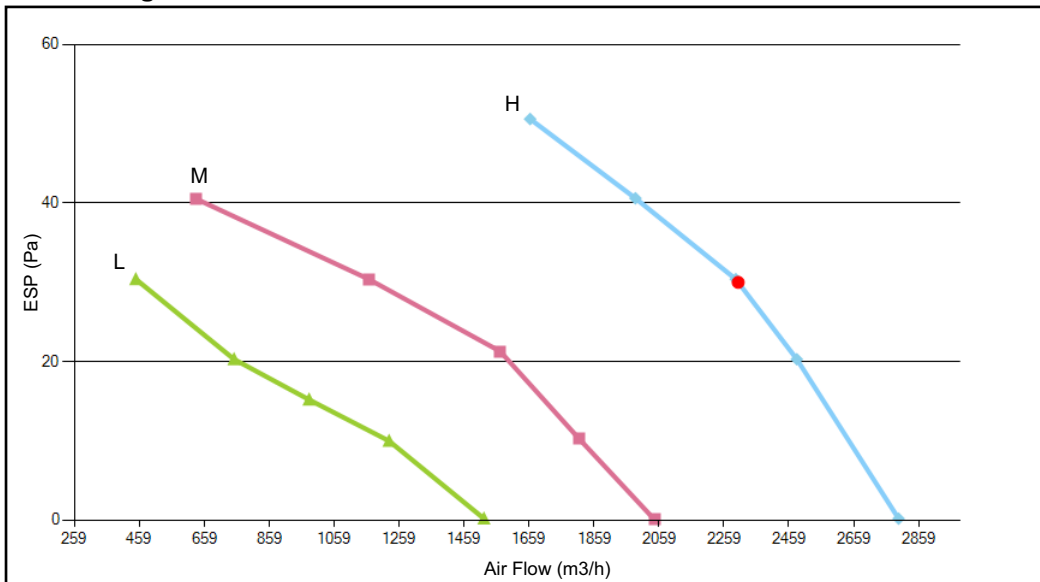


MUCM-36-W7

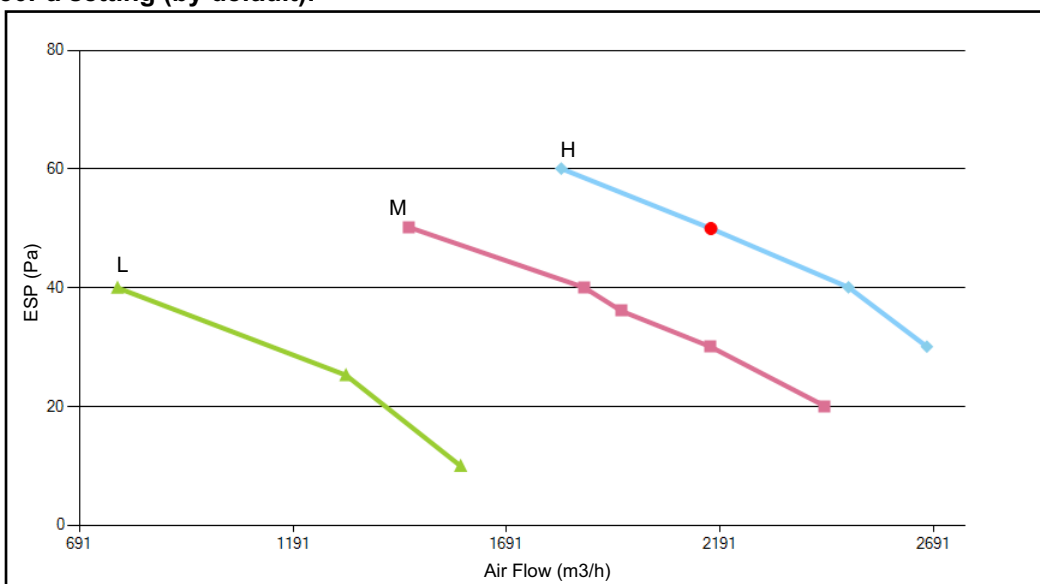
12Pa setting:



30Pa setting:



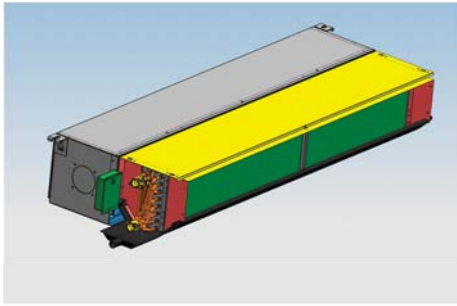
50Pa setting (by default):



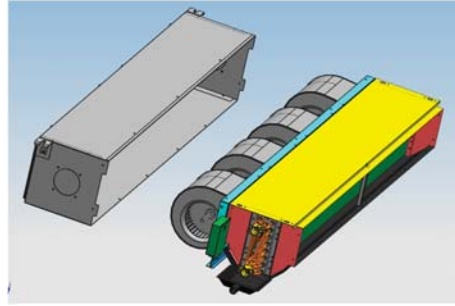
13. CONNECTION SIDE CHANGE GUIDE

To change the connection side from left to right or reverse, please, follow next steps:

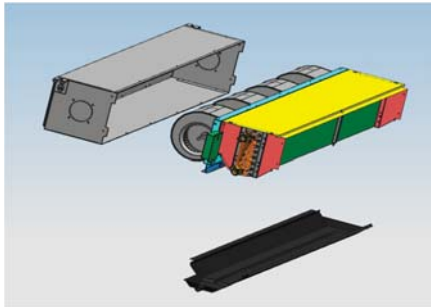
1) Unit by default:



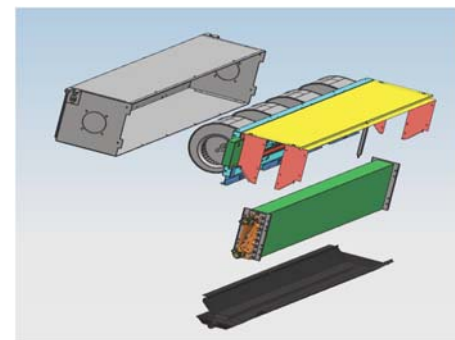
2) Uninstall the return air box:



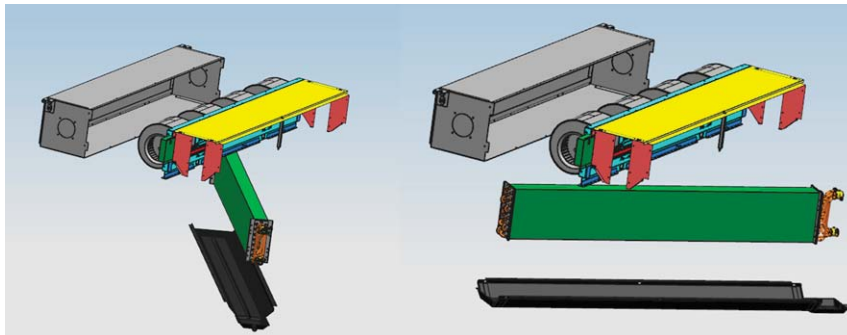
3) Uninstall the drain water pan:



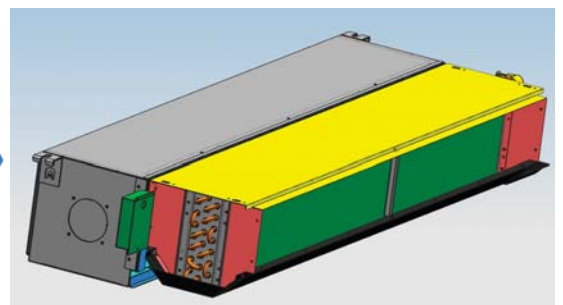
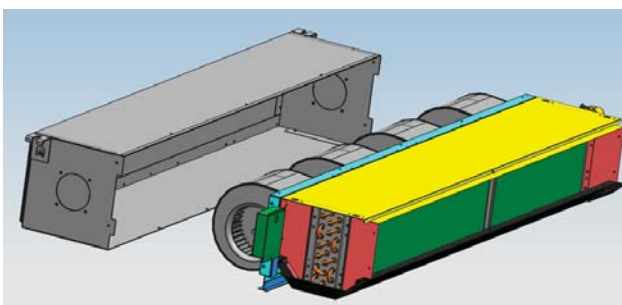
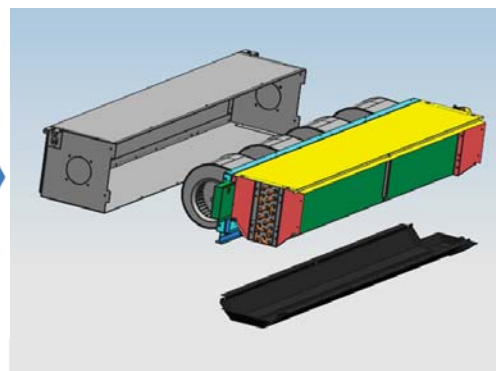
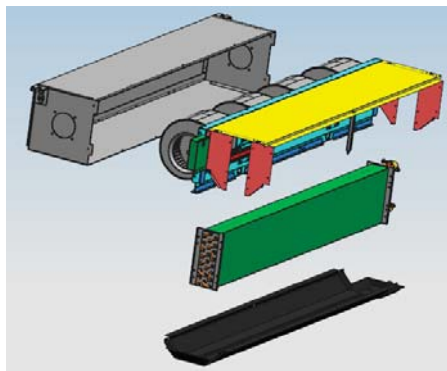
4) Uninstall the heat exchanger:



5) Change the direction of the heat exchanger:



6) Install each part of the unit just like before:



INFORMATION REQUIREMENTS

COMMISSION REGULATION (EU) 2016/2281

Contact details: SALVADOR ESCODA SA, PROVENZA 392 P2, 08025 BARCELONA (SPAIN), +34 93 446 27 80

Information requirements for fan coils units:

Model	MUCM-15-W7		
Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	3,5*	kW
Cooling capacity (latent)	$P_{rated,c}$	0,96*	kW
Heating capacity	$P_{rated,h}$	5,27**	kW
Total electric power input	P_{elec}	0,039	kW
Sound power level (per speed setting, if applicable)	L_{WA}	56/48/41	dB

Model	MUCM-19-W7		
Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	4,49*	kW
Cooling capacity (latent)	$P_{rated,c}$	1,36*	kW
Heating capacity	$P_{rated,h}$	6,62**	kW
Total electric power input	P_{elec}	0,049	kW
Sound power level (per speed setting, if applicable)	L_{WA}	57/49/42	dB

Model	MUCM-27-W7		
Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	6,19*	kW
Cooling capacity (latent)	$P_{rated,c}$	1,83*	kW
Heating capacity	$P_{rated,h}$	9,15**	kW
Total electric power input	P_{elec}	0,06	kW
Sound power level (per speed setting, if applicable)	L_{WA}	58/49/42	dB

Model	MUCM-30-W7		
Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	7,33*	kW
Cooling capacity (latent)	$P_{rated,c}$	1,63*	kW
Heating capacity	$P_{rated,h}$	10,74**	kW
Total electric power input	P_{elec}	0,096	kW
Sound power level (per speed setting, if applicable)	L_{WA}	62/54/45	dB

Model	MUCM-36-W7		
Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	8,84*	kW
Cooling capacity (latent)	$P_{rated,c}$	1,95*	kW
Heating capacity	$P_{rated,h}$	12,62**	kW
Total electric power input	P_{elec}	0,106	kW
Sound power level (per speed setting, if applicable)	L_{WA}	62/54/45	dB

* cooling capacity for parameters: entering air temperature 27°C DB / 19°C WB, entering/leaving water temperature 7/12°C, high fan speed.

** heating capacity for parameters: entering air temperature 20°C DB, entering/leaving water temperature 45/40°C, high fan speed.

MD14IU-003CW

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ASK FOR MORE INFORMATION

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