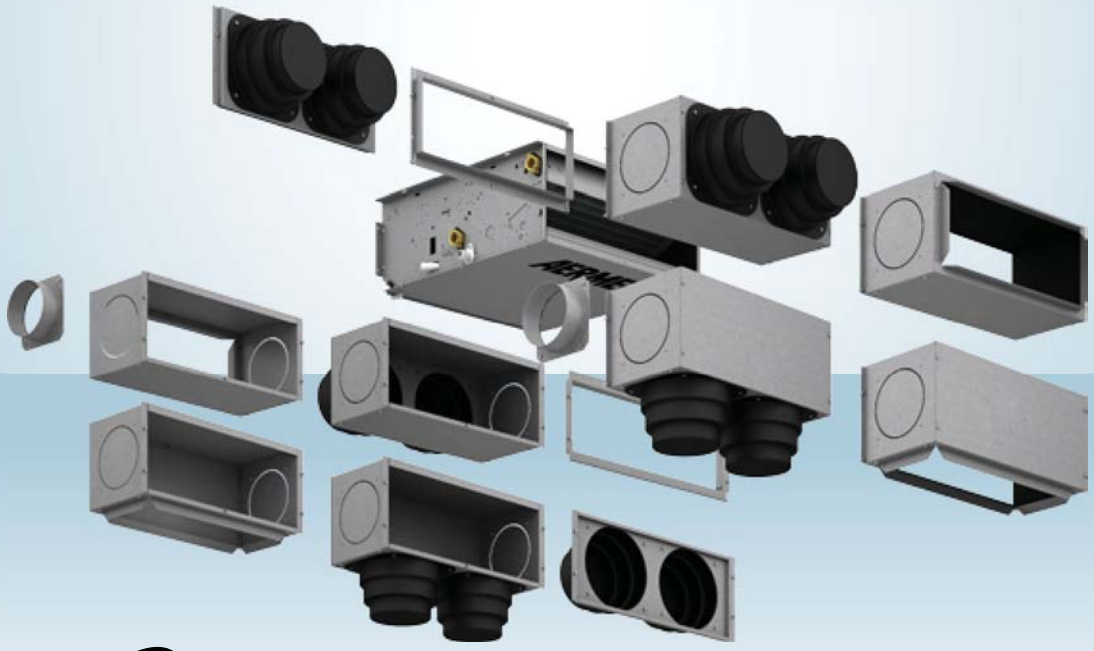
AERMEC

la prima per il clima



INVERTER TECHNOLOGY

Variable Multi Flow

VMF

MANUALE D'USO E INSTALLAZIONE
USER AND INSTALLATION MANUAL
MANUEL D'UTILISATION ET D'INSTALLATION
BEDIENUNGS- UND INSTALLATIONSANLEITUNG
MANUAL DE USO E INSTALACIÓN

VENTILCONVETTORE PER INSTALLAZIONE CANALIZZATA, ORIZZONTALE E VERTICALE
HORIZONTALLY AND VERTICALLY DUCTED INSTALLATION FAN COIL UNITS
VENTILO-CONVECTEUR POUR INSTALLATION HORIZONTALE ET VERTICALE AVEC CANAUX
GEBLÄSEKONVEKTOR FÜR DIE HORIZONTALE UND VERTIKALE INSTALLATION MIT KANÄLEN
VENTILOCONVECTOR PARA INSTALACIÓN HORIZONTAL Y VERTICAL CON CANALES

VES_I

VES 030 I	VES 130 I	VES 230 I	VES 330 I
VES 040 I	VES 140 I	VES 240 I	VES 340 I

AERMEC COMPANY QUALITY SYSTEM ICIM ISO 9001:2008 - Cert. n° 0128 CISQ IQNet AERMEC S.P.A.

CE

IT pag.5 GB pag.21

5799550_00

Cod. 5799550_00

OPERATING LIMITS of the unit:

Maximum entering water temperature:
80°C

Maximum operating pressure:
8bar

Space temperature limits (Ta):
0°C < Ta < 40°C

Space relative humidity limits (%RH):
%RH < 85%

Power supply:
230V (±10%) ~ 50Hz

Protective rating:
IP20

10. GENERAL WARNINGS

The AERMEC VES_I units are manufactured in accordance with recognised technical standards and safety regulations. They are designed for the renewal and treatment of ambient air, and they must be used for the purpose for which they are intended and their performance characteristics. All contractual and extra-contractual liabilities causing damage to persons, animals or objects or through errors of installation, control or maintenance or from improper use are excluded by the Company. Any uses not expressly indicated in this manual are not permitted.

10.1. CONSERVATION OF DOCUMENTATION

Consign the instructions with all the complementary documentation to the user of the accessory who will assume responsibility for the conservation of the instructions so that these are always available in case of need.

Carefully read this document. The execution of all the works must be carried out by qualified personnel, in accordance with the national regulations.

It must be installed in such a way to make maintenance and/or repair functions possible.

Do not modify or tamper with the accessory as this may cause danger for which the manufacturer will not accept any responsibility for damages caused. The warranty is voided if the above instructions are not followed.

10.2. SAFETY WARNINGS AND INSTALLATION STANDARDS

- The unit must be installed by a competent and qualified technician, and in accordance with the legislation applicable in the country of installation. Aermec assumes no responsibility for damage caused by failure to observe these instructions.
- Instructions essential for the proper installation of the equipment are shown here. The final details to all the operations are left to the experience of the installer in accordance with the specific needs.
- Before commencing any works it is necessary to CAREFULLY READ THE INSTRUCTIONS AND MINIMISE ANY RISKS BY TAKING APPROPRIATE SAFETY PRECAUTIONS.
- All relevant personnel must be made aware of the procedures and possible risks that may arise at the time of installation of the unit.
- The unit must be installed in such a way as to make easy ordinary maintenance (filter cleaning) and special maintenance as well as access to the heat exchanger.

⚠ –WARNING! : It is absolutely forbidden the operate the unit without connecting to the ducting system.

⚠ – DANGER : The fan is located immediately beneath the nozzles. It is absolutely forbidden to insert hands or objects. Power the unit only after connecting to the ducting system.

11. PRODUCT IDENTIFICATION

The VES_I fan coil units are identified by:

- PACKING LABEL
  that records the product identification data.
- NAMEPLATE

⚠ ***WARNING: The tampering, removal or absence of the identification label renders difficult any operation of installation or maintenance.***

12. OPERATING RANGE

VES_I		*030I*	*040I*	*130I*	*140I*	*230I*	*240I*	*330I*	*340I*
Maximum recommended entering water temperature (main coil)	°C	65							
Minimum flow rate (main coil)	l/h	150	150	150	150	150	150	300	400
Maximum flow rate (main coil)	l/h	1500	1500	1500	1500	1500	1500	3000	4000
Minimum flow rate (heating only coil accessory)	l/h	50	-	50	-	50	-	100	-
Maximum flow rate (heating only coil accessory)	l/h	500	-	500	-	500	-	1000	-

The earth leakage of several units connected to one circuit breaker is added. It is recommended to check the rating of the circuit breaker and it may be necessary to split the installation into several circuits, each having its own circuit breaker.

Water temperature

In order to avoid air stratification and therefore achieve better mixing it is advised not supply the fan coil unit with water hotter than 65°C.

The use of very hot water could cause creaking due to the thermal expansion of the different components (plastics and metals). This does not cause damage to the unit if the maximum operating temperature is not exceeded.

Minimum average water temperature

If the fan coil unit operates continuously in cooling mode in a room with high relative humidity, condensate might form on the air discharge and unit casing. This condensate might be deposited on the floor and on any objects underneath. To prevent the formation of condensation on the exterior of the unit while the fan is operating, the average water temperature should not drop below the operating limits shown in the table below, determined by the room ambient conditions.

These limits refer to unit operation with fan at minimum speed.

In the case of prolonged periods with the fan switched off and cold water passing through the coil the formation of condensate on the unit casing is possible.

In this case the installation of the 3 way valve accessory is recommended.

MINIMUM AVERAGE WATER TEMPERATURE [°C]		*Ambient dry bulb temperature*					
		21	*23*	*25*	*27*	*29*	*31*
Ambient wet bulb temperature	*15*	3	3	3	3	3	3
	17	3	3	3	3	3	3
	19	3	3	3	3	3	3
	21	6	5	4	3	3	3
	23	-	8	7	6	5	5

13. INFORMATION

During the phases of installation, maintenance and cleaning provide suitable Personal Protective Equipment (PPE).
The unit must not be used as a store or for spare parts. Any use not detailed in this manual can cause danger and is forbidden. The unit must be installed by a qualified technician in accordance with the local legislation and standards and whilst respecting the minimum clearance dimensions for maintenance.
Before the installation ensure that the unit has not suffered any damage during transport:

- use of a damaged unit may be dangerous
- the support structure must be able of supporting the weight of the unit.

Note:
For any future reference or communication with AERMEC S.p.A. it is necessary to state the unit serieal number.

13.1. MOVEMENT

WARNING!
During the movement phase provide suitable Personal Protective Equipment (PPE).
Before installation and use it is recommended to completely remove the packaging of the unit and all the components supplied loose.

13.2. TRANSPORT

To safely transport the unit refer to the weight data shown on the nameplate.
In all events transport must be carried out with the following precautions:

- the unit and any accessories must not be subjected to any violent shocks to avoid compromising the integrity of the unit and its internal components.
- the unit and any accessories must be securely mounted on the method of transport using ropes or any other means that prevents movement.
- the unit and any accessories must be protected from shocks during transportation.
- the unit and any accessories must always be protected from the weather during transportation or storage.

13.3. CHECKS ON RECEPTION

On receipt of the unit carry out an initial visual check to ensure:

- the transportation documents correspond with the order documents.
- the integrity of the packaging
- that all components are present.

If any damage or missing components are found then this must be indicated on the transportation documents.

13.4. INSTALLATION

It is recommended to carefully follow the instructions provide in the following paragraphs for the installation. The paragraphs are arranged chronologically in order to facilitate each stage of installation. The unit is designed for installation internally and not externally.
Before carrying out the installation check the clearance spaces required:

- for the operator to complete the installation
- for the intake and discharge ducting
- to the condensate drainage
- to the cleaning of the filter
- to the cleaning of the coil.

To ceiling or wall mount the unit it is necessary to use the four mounting hoes provided in the unit frame.

13.5. CONTROL DEVICE

(not included)

Use a control device with thermostat and speed control of the fan with a 0-10V output and with characteristics compatible with the fan coil unit.
Aermec provides control panels that permit the control of a single unit or of a unit inserted into a system with multiple units. For the selection refer to the unit manuals and the control panel accessories and the VMF System.

14. UNIT DESCRIPTION

14.1. SCOPE OF THE VES FAN COIL UNITS WITH INVERTER MOTOR

– The fan coil is a terminal unit for the winter and summer conditioning of air in a space. The fan VES_I, designed to fit any type of plants channeled devices are not accessible to the public.
– The possibility of integration into the VMF system allows the control from each fan coil unit with accessories up to the management of the VES inserted into a network of fan coil units and their accessories.

14.2. SIZES AVAILABLE

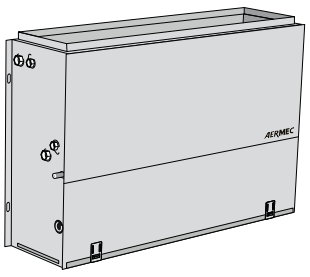
The fan coil units from the VES series are available for:

2 pipe systems	
VES 030 I	*Standard coil*
VES 040 I	*Oversized coil*
VES 130 I	*Standard coil*
VES 140 I	*Oversized coil*
VES 230 I	*Standard coil*
VES 240 I	*Oversized coil*
VES 330 I	*Standard coil*
VES 340 I	*Oversized coil*

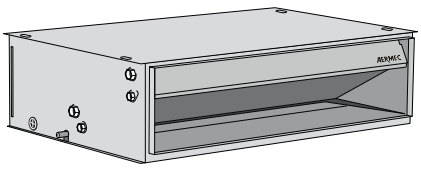
4 pipe systems	
VES 030 I	*With VCF heating coil available as an accessory*
VES 130 I	*With VCF heating coil available as an accessory*
VES 230 I	*With VCF heating coil available as an accessory*
VES 330 I	*With VCF heating coil available as an accessory*

14.3. MAIN CHARACTERISTICS OF THE VES_I FAN COIL UNIT

• Fan coil unit for vertical wall mounted or horizontal ceiling mounted installation.
• Versions for 2 pipe system with standard or oversized main coil.
• Versions for 4 pipe systems also with standard or oversized heating only coils.
• Low pressure drop coils.
• Field reversible connections.
• Wide range of accessories to connect the fan coil unit to any type of air ducting.
• Requires an external control device (accessory).
• Prepared for installation into the VMF system.
• Wide range of controls and accessories.
• Wide possibility of different available static pressures.
• Fan with brushless motor with dedicated inverter.
• Centrifugal fan designed for low noise levels.
• G3 class filter.
• Air intake filter easily extracted for periodic cleaning.
• 3 way 4 port connection accessory valve.
• 2 way valve accessory for variable flow system.
• Class 1 internal insulation.
• Full compliance with safety standards.
• Ease of installation and maintenance.
• Discharge flange unit mounted.



Vertical installation



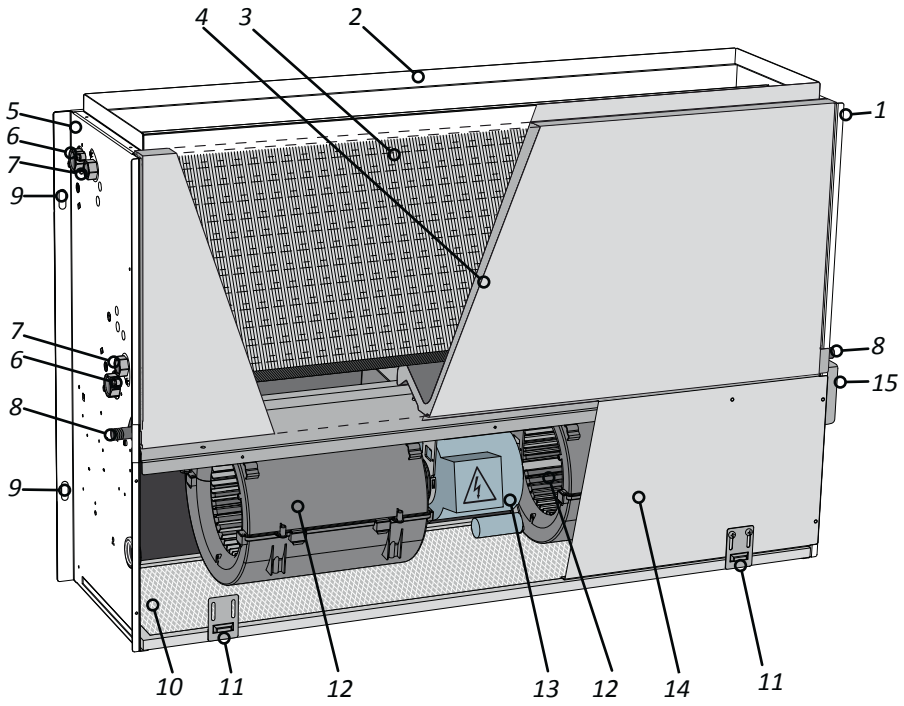
Horizontal installation

15. MAIN COMPONENTS

1 Right side (load bearing)
2 Discharge air flange
3 Heat exchanger coil
4 Condensate drain tray / Front panel enclosure (upper)
5 Left side (load bearing)
6 Coil vent/drain
7 Hydraulic connections
8 Condensate discharge
9 Mounting slot
10 Air filter (intake)
11 Filter lock
12 Centrifugal fan
13 Brushless inverter motor
14 Front panel enclosure (lower)
15 Electrical connections

Example:

VES_I



15.1. COMPONENT DESCRIPTION

SYSTEM TYPES
The fan coil units are designed for 2 and 4 pipe systems with constant or variable flow
For 2 pipe systems versions are available with:
- standard main coil
- oversized main coil.
For 4 pipe systems versions are available with:
- standard and oversized main coil for hot water heating only
- standard and oversized main coil for cooling only
- hot water heating only coil supplied as an accessory for the sizes VES030I, VES130I, VES230I and VES330I.

AIRFLOW
The variable airflow must be controlled from a device with a 0-10V output compatible with the unit (not included). Aermec provides the control devices as an accessory.

HEAT EXCHANGER COIL
Low pressure drop coils with copper tubes mechanically expanded into wavy aluminium fins. The headers are fitted with female connections and air vents at high points.

FILTER SECTION
Air intake filter, easily extracted for periodic cleaning. Manufactured from cleanable materials and can be vacuum cleaned. Filtration class G3. Flame retardant to M1 NF F 16-101.

BRUSHLESS ELECTRIC MOTOR WITH INVERTER CONTROL
The electric motor “brushless with Hall effect sensors” and the control system used by the AERMEC VES fan coil units provide the most sophisticated mechanical and electronic technology developed internally within the company. This is a permanent magnet motor with low starting current and easy speed control. It does not create electromagnetic disturbances. By not having brushes there is less friction and wear.
Through the dedicated inverter device it is possible to continuously control the speed and torque on the rotor by simply acting on the current of the stator.
The motor is isolated with elastic supports and the steel shaft is mounted on bushings, salt spray test is in accordance with ASTM B117/64.
The electric motor “brushless with Hall effect sensors” from AERMEC offer many advantages over traditional alternating current motors and hybrid motors with inverter (without Hall effect sensors) normally used on other variable flow fan coil units:
- Reduced wear
- Possibility to control rotational speed precisely (0-100%)
- Higher energy efficiency
- Higher reliability and lifetime
- Low magnetic noise
- Continuous position control of the rotor meaning higher efficiency and guaranteed and controlled starting
- Guaranteed minimum speed of 90 rpm (for thermodynamic reasons with limit is raised to 200 rpm).

The electric motor is isolated with elastic supports.

STRUCTURE

Manufactured in galvanised sheet steel of adequate thickness. Class 1 internal insulation.

Posterior part has fixing holes for installation.

Intake and discharge openings are designed to connect the fan coil unit to any type of air ducting.

The fan coil assembly is enclosed by a metal panel at the front.

The discharge opening includes a connection flange.

CONDENSATE DRAIN

Each unit is supplied with a condensate drain pan for either vertical or horizontal installation. The fan coil drain pan has condensate discharges on both left and right sides. It is recommended to use the condensate discharge connection on the side of the hydraulic connections.

HYDRAULIC CONNECTIONS

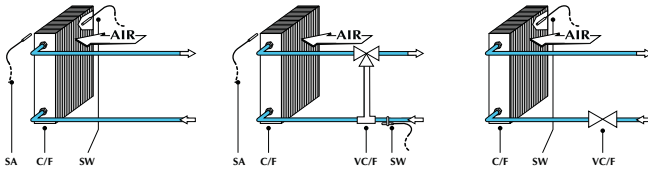
The female hydraulic connections are located on the left side. The coil can be rotated on site to move the connections to the right side.

16. SYSTEM EXAMPLES

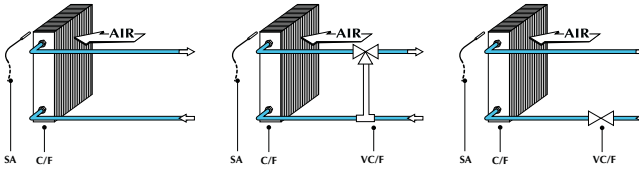
Legend:

SW	Water temperature sensor	*SA*	Ambient temperature sensor
VC/F	Valve (Heating/Cooling)	*C/F*	Coil (Heating/Cooling)
VC	Valve (Heating)	*C*	Coil (Heating)

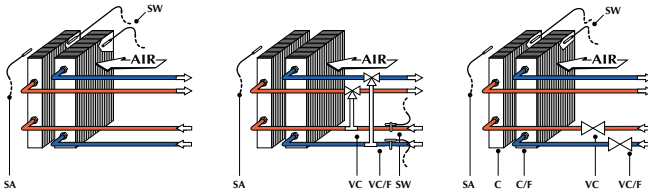
2 pipe system with water sensor



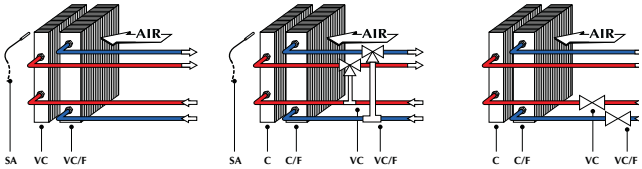
2 pipe system without water sensor



4 pipe system with water sensor



4 pipe system without water sensor



17. INSTALLATION

17.1. PRELIMINARY FUNCTIONS

Prepare the installation for an electrical power supply and connection for the wired control panel.
Prepare a suitable condensate drain system.

17.2. UNIT INSTALLATION

INSTALLATION OF THE AIR OUTLET FLANGE

When using the flange, supplied with the machine, do the following:

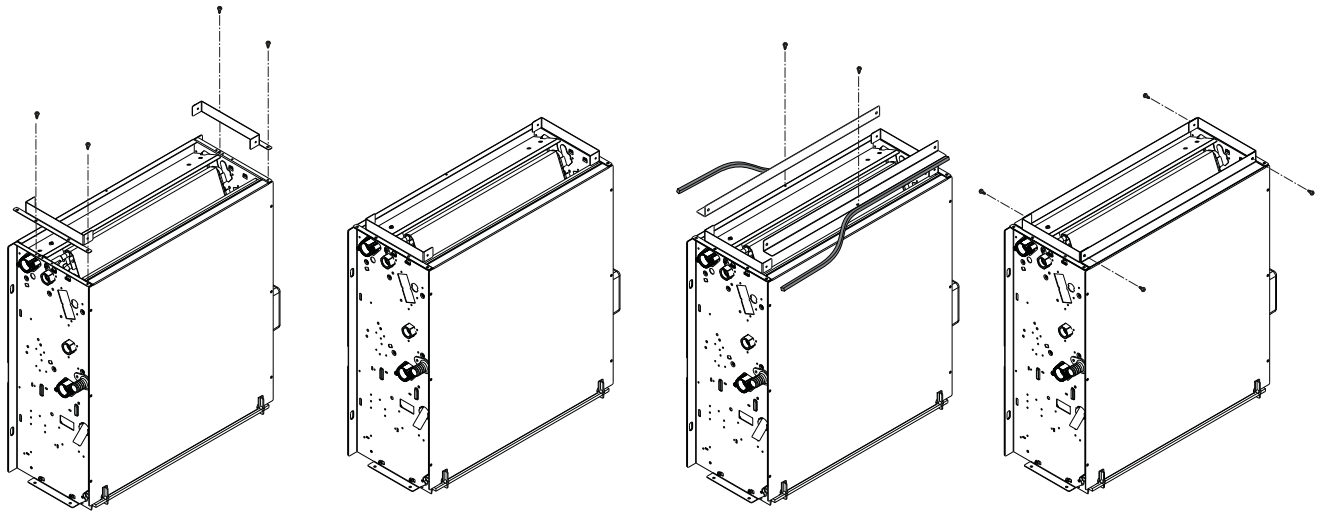
Take out the bag containing the components supplied with the fan compartment by removing the air filter in advance, as indicated in the instructions

Fit first the two side bars using four screws in the bag supplied screwing them into the 4 holes in the sides of the unit

Paste the / The adhesive strips in the lower part of front and rear cross-members,

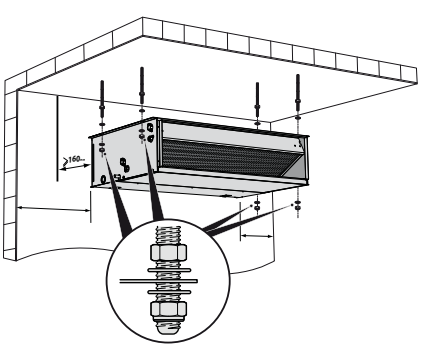
Lay the two crosspieces to the car and through the remaining 4 screws to fix the cross to those previously placed

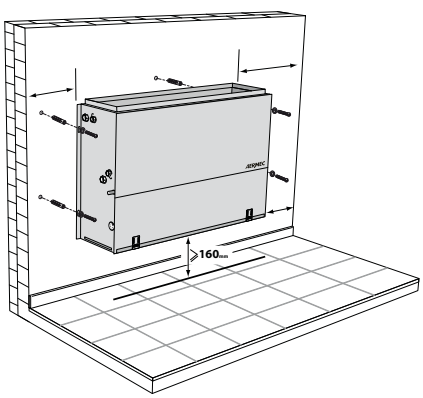
Note in the event of non-use of the flange, however, extract the bag of accessories out of the car.

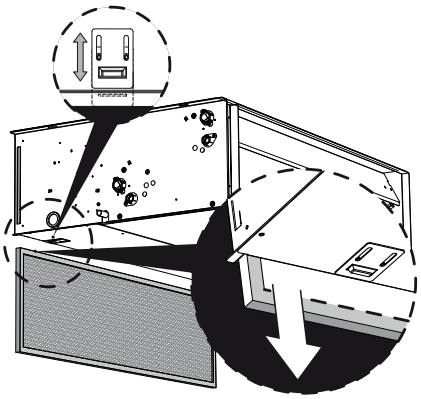


To install the unit proceed as follows.

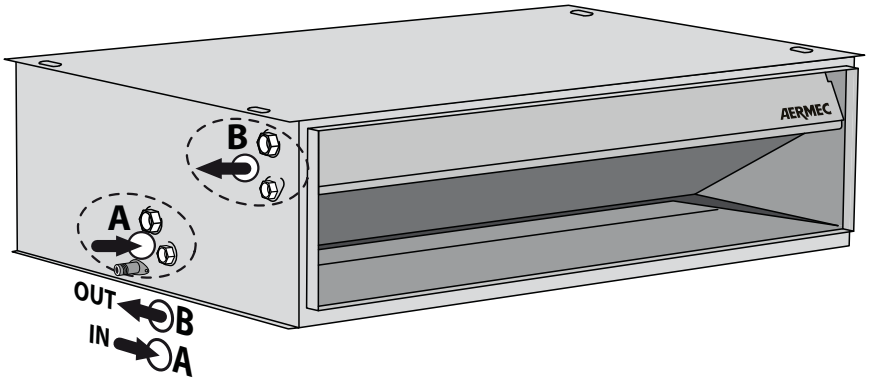
- For wall mounted installations maintain a minimum distance of 160 mm from the floor.
- For ducted installations provide the duct connections to the unit and refer to the drawing for dimensional data. The discharge is provided with a connection flange.
- For wall or ceiling installations use expansion plugs (not provided) and ensure the unit is installed level.
- For ceiling hung installations use four M8 threaded rods to support the frame. Fix the unit to the threaded rods using eight nuts of which four are self locking nuts. Adjust the nuts to ensure that the unit is installed level.
- WARNING: The fan coil unit must be installed perfectly level otherwise the condensate may not discharge correctly.
- Carry out the hydraulic connections as detailed in the relevant chapter. It is recommended that the water piping is properly insulated.
- Carry out the condensate discharge connection as detailed in the relevant chapter. Fan coil units operating as heating only do not require a condensate discharge.
- Carry out the electrical connections as detailed in the relevant chapter and as shown on the electrical wiring diagrams.
- Carry out the installation and connection of any accessories.
- Start the fan coil unit and check the operation of the components and all the functions.

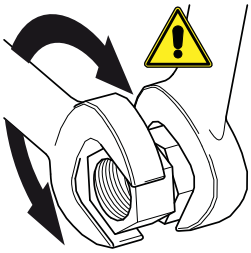


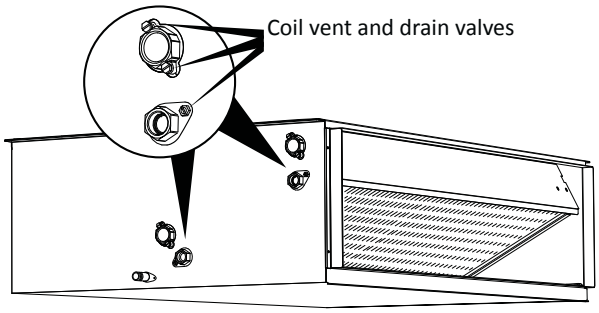




17.3. HYDRAULIC CONNECTIONS







- Carry out the hydraulic connections.
WARNING: Always use a spanner with counter-spanner to connect the piping.
The positions, type and diameters of the hydraulic connections are shown in the dimensional data.
It is recommended to properly insulate the water piping and to install the auxiliary drain pan available as an accessory to avoid condensate drips during cooling operation.
After the installation check the connections for leaks.
Warning: Vent the hydraulic system. The air vents are located on the upper part of the coil close to the hydraulic connections.
Warning: To drain the unit use the drain valves located on the lower part of the coil close to the hydraulic connections.

The unit must be connected directly to an electrical outlet or an independent circuit. Any operations carried out by personnel without the appropriate qualifications my result in injury to the operator, or damage to the unit or the environment.
Only supply power to the fan coil units at 230V ~ 50Hz. Use of different power supplies will damage the fan coil unit.

WARNING: The power cables must be connected to Phase (L) and Neutral (N); do not reverse the wiring and follow the wiring diagram.
Install an electrical isolator or plug that allows the electrical power to be completely isolated from the unit.
To protect the unit against short circuits, fit a circuit breaker of max. 2A 250V (IG) to the power line with a minimum contact opening distance of 3 mm.
We recommend using differential devices suitable for intervening for currents of different type:

sinusoidal AC and pulsating DC currents suddenly applied or slowly rising.

sinusoidal AC with frequency up to 1000 hz

For installation with three phase power consideration must be given to the following precautions:
1. With 3P + N isolators or circuit breakers the interrupt capacity must be at least 170% of the total absorbed load of the fan coil units for each phase.
2. The cross section of the neutral cable must be at least 170% of the total absorbed load of the fan coil units for each phase.

CHARACTERISTICS OF THE CONNECTING CABLES
The electrical power cable must be of the H05V-K or N07 V-K type with 300/500V insulation rating enclosed inside a tube or conduit.
Use a cable cross section of 1mm2 minimum.
All the cables must be enclosed inside a tube or conduit until they are within the fan coil unit.
The cables at the outlet of the tube or conduit must not be subjected to stress or twisting and must be protected from external forces.
Stranded cables can only be used with cable lugs. Ensure the strands are correctly inserted.
Electrical wiring diagrams are subject to constant updates. Always refer to the wiring diagrams inside the unit.
The unit must be connected to a control device which must be purchased separately.
Carefully read the instructions before making the connections.
The control panel cannot be mounted on a metallic wall unless this is permanently earthed.
Before installing the control device carefully read the instructions, and if necessary proceed with the configurations as detailed in the instructions.
Some controls panels require connection to other components supplied as accessories; ensure these are available.

WARNING: Ensure that the control device is compatible with the electrical characteristics of the fan coil unit.
When adding the control devices respect the relevant wiring diagrams and the instructions of this manual.
If present, connect the valve and the sensor to the terminal block as shown in the wiring diagram. With 3 way valve installations the minimum water temperature sensor must be moVES from its mount on the coil to the supply tube upstream of the valve.
Respect the wiring diagrams.

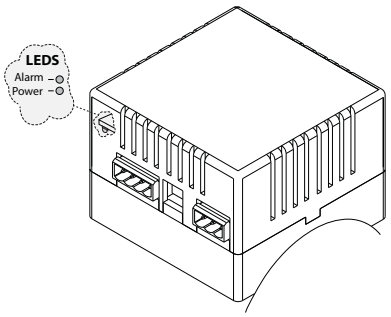
WARNING: Ensure that the installation has been carried out correctly. Follow the check procedures shown in the control device manual.

WARNING: Carry out a functional test.

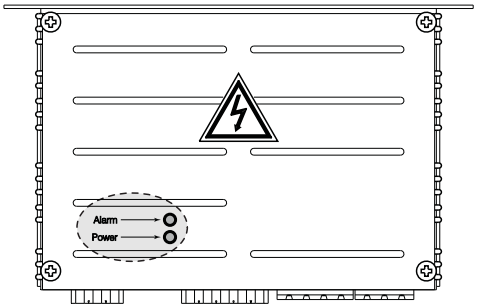
WARNING: In the event of a malfunction refer to the Table of Alarm Codes to interpret the signals from the two LEDs (Alarm / Power) which indicate the operating status of the unit. The inverter wiring diagram is located within the unit.
DANGER! Only maintenance qualified personnel my access the unit.
WARNING: If the power cord is damaged it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid a hazard.

This section is reserVES exclusively to the Technical Assistance Centres.
The board is located internally to the unit and requires its disassembly.

DANGER! Only maintenance qualified personnel my access the unit.
On the inverter board there are two LEDs (Alarm / Power) which indicate the operating status of the unit.
The following table describes how to interpret the messages.



VES 030 I
VES 040 I
VES 130 I
VES 140 I
VES 230 I
VES 240 I



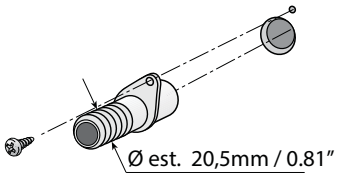
VES 330 I
VES 340 I

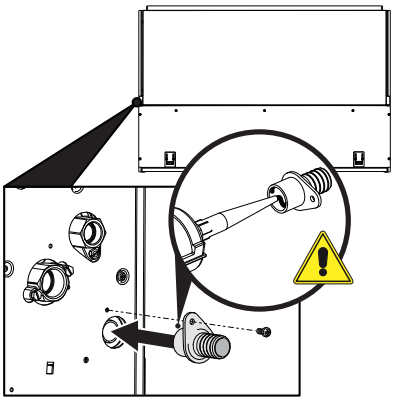
ALARM TYPE	*INDICATION*	*FAULT*	*NOTE*
High temperature	LED ALARM flashes 3sec ON / 0.5sec OFF After 1.5min the LED ALARM permanently lit	Motor off	Auto-Restart Alarm. After 1.5min if conditions persist the alarm becomes permanent: - LED Alarm on - LED ON on - the system switches off.
Over voltage			
Under voltage			
Over current			
Overload	LED ALARM flashes 0.5sec ON / 0.5sec OFF	Reduced speed	Capacity limitation
Safety control			Temperature limitation
STOP	LED Alarm permanently on	Motor off	To reset alarms: Set 0V ON INPUT (remove and re-apply power)

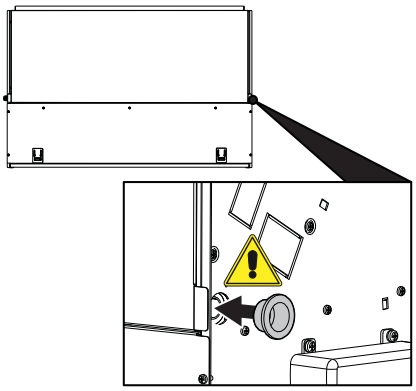
CONTROL DEVICE 0V - 10V

Use a control device with thermostat and speed control of the fan with a 0-10V output and with characteristics compatible with the fan coil unit.
For the installation consult the unit manual and the accessory manual.

17.7. CONDENSATE DISCHARGE CONNECTION







The fan coil unit drain pan has two condensate discharge outlet (left and right side).
It is recommended to use the condensate drain connection on the side of the hydraulic connections.
Mount the condensate discharge drain connection provided loose. Care should be taken to seal the fitting between the drain pan and the drain connection with silicone sealant.
Seal the drain not used.
Connect the drain pan fitting to the condensate drain system. Use a drain tube that must be connected to the condensate discharge fitting. The condensate drains are designed to be connected only by flexible tubes of adequate internal diameter, avoid imposing additional load and do not use them for any other purposes.
Ensure that the drain not used is sealed and has no leaks.
The condensate drain system must be appropriately sized and the piping positioned in such a way to maintain a slope (min. 1%).
To avoid unpleasant smells a trap is recommended if the condensate is connected to the sewage system.
Carry out a functional and leak test of the installation by pouring water into the drain pan.

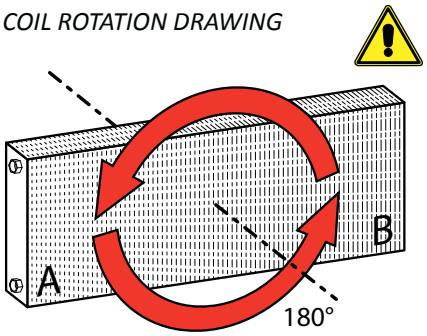
17.8. DUCT CONNECTIONS TO THE UNIT

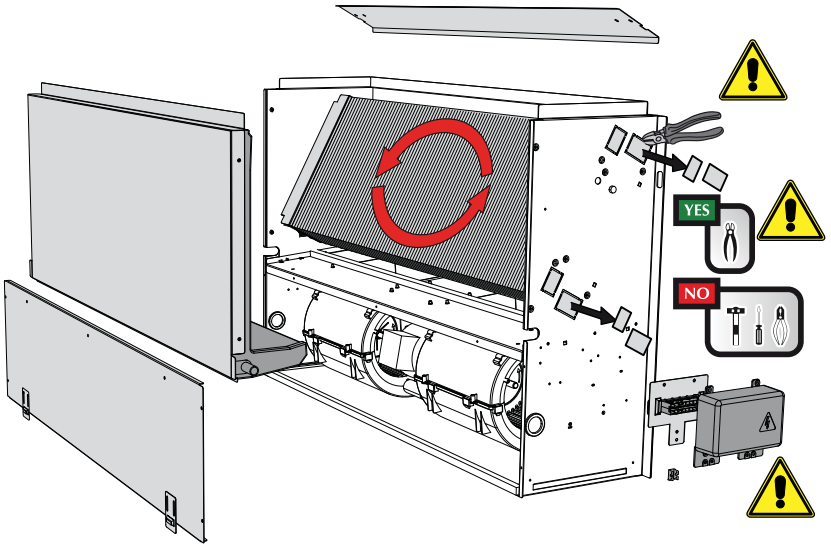
The VES unit is designed for ducted connections.
To identify the duct connections refer to the drawings.
Connect the ducting to the connections using straps.
Ensure that the filter is always mounted on the unit during operation, otherwise the dust in the air will dirty the coil.

17.9. ROTATION OF THE COIL

If the hydraulic connections require the rotation of the coil, then after removal of the frontal enclosure panel proceed as follows:
– Remove the condensate drain pan.
– Remove the coil sealing cover undoing the screws.
– Remove the screws that fix the coil and extract the coil.
– Remove the knock-outs on the right side.
– WARNING! Before rotating the coil refer to the coil rotation drawing.
It is important that the coil is correctly rotated and installed.
Correctly rotate the coil and fix with the screws previously remoVES. The spaces between drain pan and the hole on the side must be completely filled and closed with insulating material.
– Refit the coil sealing cover and fix with the screws.
– Close with insulating material the holes left empty from the hydraulic connections on the left side.
– Refit the condensate drain pan. The condensate drain pan is designed to drain the condensate on both sides. It is recommended to use the drain connection on the side of the hydraulic connections. Ensure the condensate drain not used is closed and has no leaks.
– Remove the electrical connections from the right side.
– Move the electrical connections to the left side passing through the grommet.
– Move the support plate, terminal block, the earthing connection and any electrical devices from the left to the right side.
- Refit the frontal enclosure panel.

COIL ROTATION DRAWING





18. MAINTENANCE AND PRECAUTIONS FOR USE

DO NOT USE TOO HOT WATER

Use a soft cloth or sponge with water at a maximum of 40 °C to clean the fan coil unit. Do not use chemical products or solvents on any parts of the fan coil unit. Do not splash water on interior or exterior surfaces of the fan coil unit (it could cause short circuits).

PERIODIC FILTER CLEANING

Frequent filter cleaning ensures a better operating efficiency.

Check if the filter is very dirty: in this case increase the cleaning frequency.

Clean frequently by removing the accumulated dust with a vacuum cleaner.

When the filter is clean refit it to the fan coil unit reversing the removal procedure.

SPECIAL CLEANING

The possibility of removing the fan coil unit inspection panels (carried out only by personnel suitably qualified) allows detailed cleaning of the internal parts, particularly for installations with high occupancy or requiring elevated hygiene standards.

DURING OPERATION

Always leave the filter in the fan coil unit during operation otherwise dust in the air will dirty the surfaces of the coil.

WHAT IS NORMAL

During cooling, water vapour may be present in the air discharge.

During heating it might be possible to hear a slight hiss around the fan coil unit. Sometimes the fan coil unit might give off unpleasant smells due to the accumulation of substances from the air of the room (especially if the room is not ventilated regularly. Clean the filter more often).

During operation, there could be noises and creaks inside the unit, due to the thermal expansion of the various components (plastic and metallic), but this does not indicate a malfunction and does not cause damage to the unit unless the maximum input water temperature is exceeded.

OPERATING FAULTS

In the event of an operating fault disconnect and reconnect power to the unit and proceed with restarting the device.

WARNING! Do not attempt to repair the unit as this is very dangerous!

If the problems persists immediately call the local After-Sales Service.

DO NOT PULL THE ELECTRICAL CABLE

It is very dangerous to pull, tread on or crush the electrical power cable or fix it with nails or drawing pins.

A damaged power cable can cause short circuits and personal injury.

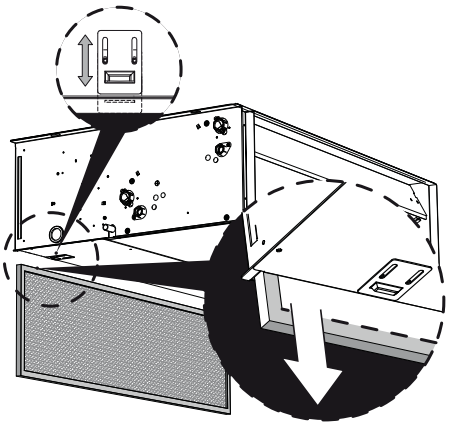
DO NOT PUT ANYTHING IN THE AIR OUTLET

Do not put anything at all in the air outlet slots.

This could cause injury to people and damage to the fan.

WARNING

The device can be used by children aged under 8 years, and persons with reduced physical, sensory or mental capabilities, or lack of experience or knowledge required, provided under supervision or after the same has receiVES instructions relating to ‘to ensure safe operation and understanding of the dangers inherent in it. Children should not play with the appliance. Cleaning and maintenance is intended to be performed by the user should not be performed by children without supervision. please note that the boiler should not be used by children as a play



18.1. PROBLEMS AND SOLUTIONS

PROBLEM	*PROBABLE CAUSE*	*REMEDY*
Feeble air discharge.	Wrong speed setting on the control panel.	Select the speed on the control panel.
	Blocked filter.	Clean the filter.
It does not heat.	Obstruction of the air flow (inlet and/or outlet).	Remove the obstruction.
	Poor hot water supply.	Control the boiler.
It does not cool.	Wrong setting on control panel.	See control panel settings.
	Poor chilled water supply.	Control the chiller.
The fan does not turn.	Wrong setting on control panel.	See control panel settings.
	No current.	Control the power supply.
	The water has not reached operating temperature.	Please check up the boiler or the chiller. Check up the thermostat settings.
Condensation on the unit cabinet.	The limit conditions of temperature and humidity indicated in “MINIMUM AVERAGE WATER TEMPERATURE” have been reached.	Increase the water temperature beyond the minimum limits indicated in “MINIMUM AVERAGE WATER TEMPERATURE”.

For anomalies don’t hesitate, contact the aftersales service immediately.