



VENTILCONVETTORE PER INSTALLAZIONE CANALIZZATA, ORIZZONTALE E VERTICALE - Manuale installazione

FAN COIL FOR HORIZONTAL AND VERTICAL DUCTED INSTALLATION - Installation Manual

VENTILO-CONVECTEUR POUR INSTALLATION CANALISÉE, HORIZONTALE ET VERTICALE - Manuel d'installation

GEBLÄSEKONVEKTOR FÜR KANAL-, HORIZONTAL- UND VERTIKALEINBAU - Installationsanleitung

FAN COIL PARA INSTALACIÓN CANALIZADA, HORIZONTAL Y VERTICAL - Manual de instalación



Variable Multi Flow®

VMF

VES

VES030

VES130

VES230

VES330

VES040

VES140

VES240

VES340



pag.6



pag.16



pag.26



pag.36



pag.46



IVESOLJ 1605 - 5799560_00



Manufactured with superior quality materials, in strict compliance with safety standards, the VES is easy and durable in use.

The VES fan coil series is designed to be integrated into the VMF system.

VMF (Variable Multi Flow) is the system capable of controlling in an intelligent way a complete hydronic installation composed of a chiller/heat pump, a boiler, a network of fan coil units (multi-speed or continuous speed modulation) divided into zones (up to 64), the circulating pumps (up to 12) and the heat recovery units with air quality sensors (up to 3), optimising the performance in air-conditioning and heating, ensuring comfort and energy savings.

INDEX

Important information • Maintenance • Packaging • Use	17
Unit Description • Versions	18
System examples • Main components •	19
Component description	20
Operating limits	21
Installation information • Unit installation	22
Hydraulic connections • Condensate discharge connection	23
Electrical connections	24
Rotation of the coil	25
Dimensions	56
Wiring diagrams	57
PROBLEM SOLVING	66

IMPORTANT INFORMATION AND MAINTENANCE

WARNING: The fan coil unit is connected to the power supply network and the hydraulic circuit. Any intervention by personnel not technically qualified can result in injury to the operator and damage to the unit and the surrounding environment.

ONLY PROVIDE A POWER SUPPLY OF 230V ~ 50Hz TO THE FAN COIL UNIT

Using other power supply ratings can cause irreparable damage to the fan coil unit.

DO NOT USE THE FAN COIL UNIT IMPROPERLY

Do not use the fan coil unit in animal husbandry applications.

VENTILATING THE ROOM

Periodically air the room in which the fan coil unit has been installed; this is particularly important if the room is occupied by many people, or if gas appliances or sources of odours are present.

CORRECTLY CONTROLLING THE TEMPERATURE

The room temperature should be controlled in order to provide maximum comfort to the people in the room, especially if they are elderly, children or ill, avoiding sudden changes in temperature between the outside and inside above 7 °C in summer.

A too low temperature will lead to increased electrical consumption in the summer.

CORRECTLY ADJUSTING THE AIR JET

The air coming out of the fan coil unit must not strike people directly; in fact, even if at a temperature that is higher than the room temperature, it could cause a cold sensation and resulting discomfort.

ORDINARY MAINTENANCE

The ordinary maintenance can be carried out by the user and consists of a series of simple operations, which will ensure that the fan coil unit operates at full

efficiency.

Visual inspection of the state of the fan coil unit for every maintenance operation; any fault must be communicated to the After-Sales Service.

EXTERNAL CLEANING

- External weekly cleaning, to be done with a damp cloth (soaked in water no hotter than 40 °C) and a neutral detergent: avoid using any other type of detergent or solvent.

- 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 old and people with reduced physical, sensory or mental capabilities, or lack of experience or the necessary knowledge provided under supervision or after the same have been instructed relating to the safe use of the equipment and the understanding of the dangers inherent in it. The Children should not play with the appliance. The cleaning and maintenance 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

REMOVAL AND REFITTING OF THE AIR FILTER

To clean the air filter it must be removed from the fan coil unit.

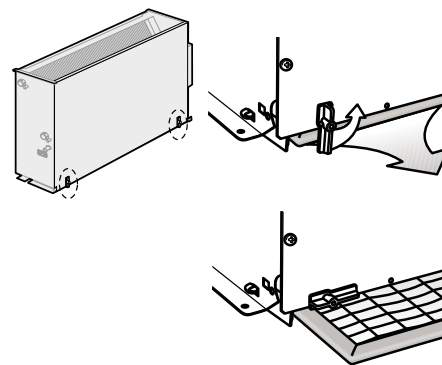
The cleaned or new (replaced) filter must be fitted and correctly locked into its fan coil unit mount.

To remove the air filter:

- rotate by 90° the two filter locks.
- withdraw the filter from its mount.

To refit the cleaned air filter:

- insert the air filter into its mount.
- rotate the two filter locks to secure the filter.
- ensure the filter is correctly secured in its mount.



PACKAGING

The fan coil units are shipped in standard packaging which consists of expanded polystyrene foam and cardboard.

USE

Refer to the control panel manual for operating use and installation.

UNIT DESCRIPTION

SCOPE OF THE VES FAN COIL UNITS

The fan VES, 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.

AVAILABLE SIZES

The available VES series of fan coil units:

VES 030	3 Row Coil	VES 130	3 Row Coil	VES 230	3 Row Coil	VES 330	3 Row Coil
VES 040	4 Row Coil	VES 140	4 Row Coil	VES 240	4 Row Coil	VES 340	4 Row Coil

* The VES units of sizes 0 - 1 - 2 - 3 can be used in 4 pipe installations if they are supplied with the heating coil accessory.

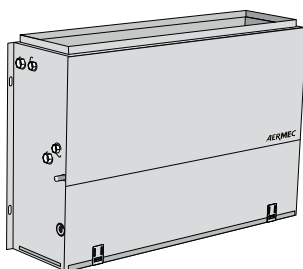
Configuration fields

By suitably combining the numerous options available it is possible to configure each model in such a way as to meet the most particular of system requirements.

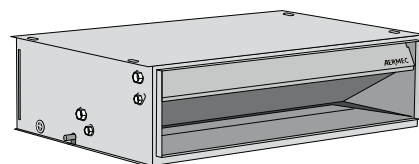
1 2 3	4	5
Code	Size	Main coil number of rows
VES	0	3
	1	4
	2	
	3	

VES fan coil unit main characteristics

- Fan coil unit for vertical wall mounted or horizontal ceiling mounted installation
- Versions with 3 row main coil
- Versions with 4 row main coil
- The versions with 3 rows can be combined with the heating coil accessory for use in 4 pipe systems
- Coils with low pressure drop
- Site reversible connections
- Wide range of accessories to connect the fan coil unit to any type of air ducting
- Discharge flange provided with the unit
- Wide range of controls and accessories
- Wide range of control panel accessories
- Prepared for installation into the VMF system
- Wide possibility of different available static pressures
- Versions with 6 speed fan-motor from which the preferred 3 are selected
- Versions with 7 speed fan-motor from which the preferred 3 are selected
- Centrifugal fan designed for low noise levels
- G3 class filter
- Air intake filter easily extracted for periodic cleaning
- 3 way 4 port valve accessory
- 2 way valve accessory for variable flow systems
- Class 1 internal insulation
- Full compliance with safety standards
- Easy of installation and maintenance



Vertical installation



Horizontal installation

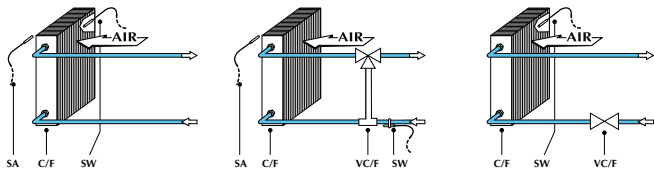
SYSTEM EXAMPLES

Legend:

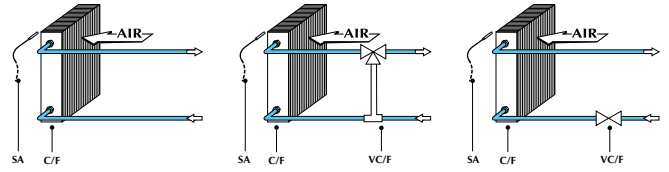
SW Water temperature sensor
VC/F Valve (Heat / Cool)
VC Valve (Heat)

SA Ambient temperature sensor
C/F Coil (Heat / Cool)
C Coil (Heat)

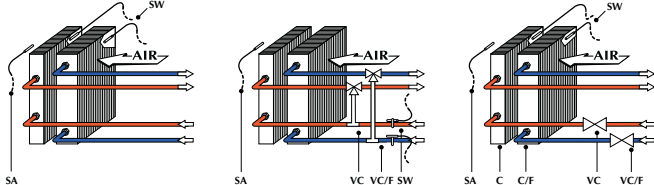
2 pipe system with water sensor



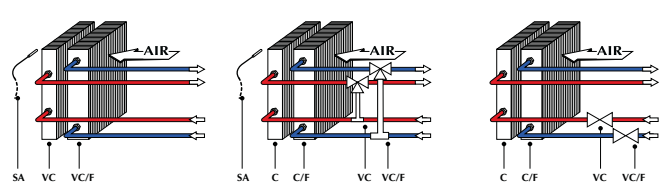
2 pipe system without water sensor



4 pipe system with water sensor



4 pipe system without water sensor

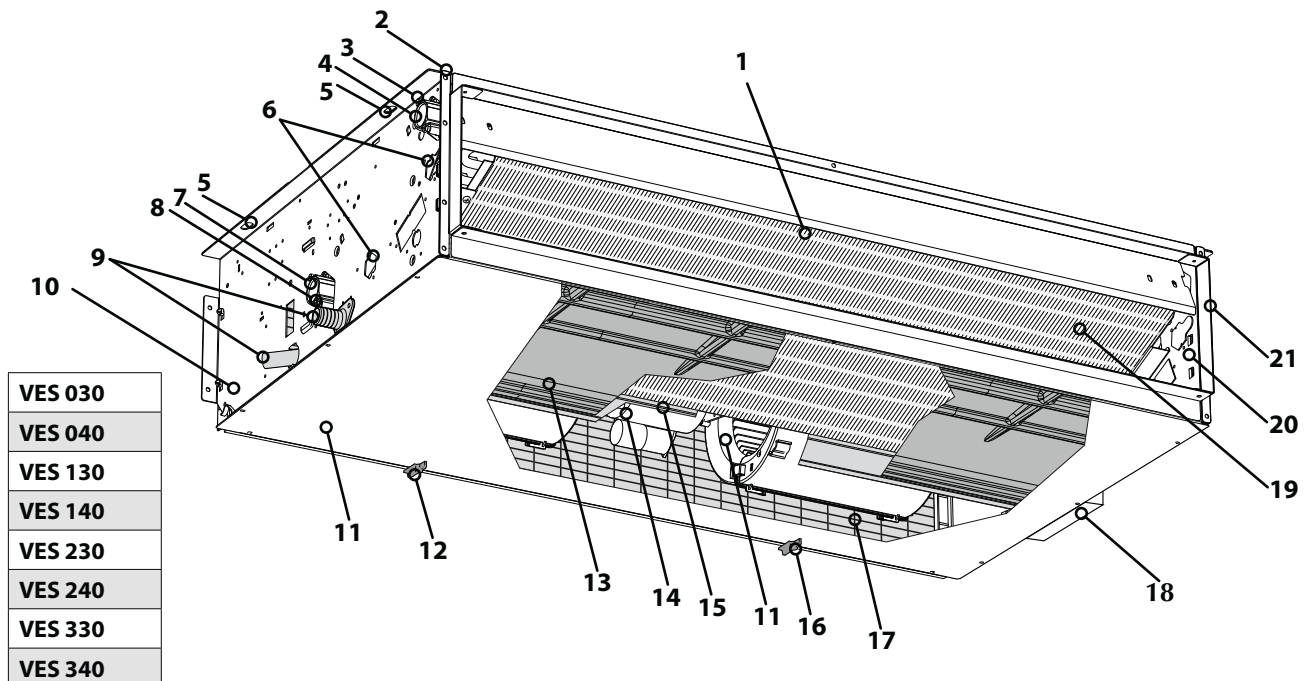


MAIN COMPONENTS

- 1 Discharge air
- 2 Frame
- 3 Vent / drain on coil
- 4 Hydraulic connections (water outlet)
- 5 Mounting slot
- 6 Holes for heat exchanger coil
- 7 Hydraulic connections (water inlet)

- 8 Water discharge of exchanger coil
- 9 Condensate discharge
- 10 Left side (load bearing)
- 11 Front panel enclosure (lower)
- 12 Filter lock
- 13 Condensate drain tray
- 14 Electric motor

- 15 Electrical box of electric motor
- 16 Centrifugal fan
- 17 Air filter (intake)
- 18 Electrical box
- 19 Exchanger coil
- 20 Right side (load bearing)
- 21 Discharge air flange



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

OPERATING ENVIRONMENT

The units are designed for installation in closed environments in conditions of 'urban', non-marine atmosphere with non-corrosive and non-dusty characteristics. Under no circumstances the following concentrations of pollutants in the air, in which the unit must operate, shall be exceeded:

SO ₂	<0,02 ppm
H ₂ S	<0,02 ppm
NO,NO ₂	<1 ppm
NH ₃	<6 ppm
N ₂ O	<0,25 ppm

The unit should not be installed in locations characterized by the presence of flammable gases or acidic or alkaline substances. Otherwise the coils and the internal components of the equipment could suffer serious and irreparable damage from corrosion.

WARNINGS FOR THE QUALITY OF THE WATER CIRCULATING IN THE COILS

It is recommended to perform an analysis of the water circulating in the coil focusing on the research of the possible presence of bacteria (detection of iron bacteria and micro-organisms that can produce H₂S or chemically reduce sulphates) and on the chemical composition of the water, to prevent corrosion and fouling inside the tubes. The water circuit must be supplied and replenished with treated water that does not exceed the threshold levels indicated below.

Total hardness in mmol/l	l < mmol/l < 1,5
Chlorides [CL ⁻]	< 10 mg/litre
Sulphates [SO ₄ ²⁻]	< 30 mg/litre
Nitrates [NO ₃ ⁻]	= 0 mg/litre
Dissolved iron	< 0,5 mg/litre
Dissolved oxygen	4 < [O ₂] < 9 mg/litre
Carbon dioxide [CO ₂]	< 30 mg/litre
Resistivity	20 Ohm·m < Resistivity < 50 Ohm·m
pH	6,9 < pH < 8

COMPONENT DESCRIPTION

System types

The fan coil units are designed for 2 and 4 pipe systems with constant or variable flow, with variants of:

- 2 pipe system with 3 and 4 row coils
- 4 pipe system with 3 row coil and 1 row heating only accessory coil.

Airflow

The airflow is controlled by a control panel (accessory).

The multi-speed fan-motor allows the control panel to connect to the 3 speeds that produce the ideal system available static pressure.

THERMAL HEAT EXCHANGER COIL

Main coil 3 and 4 rows.

Heating only coil of 1 row, only with versions with 3 row coil (accessory).

The main coil, reversible during installation, is designed to ensure an high heat transfer, ideal for applications in sensible environment.

FILTER SECTION

Air intake filter, easily extracted for periodic cleaning. Manufactured from renewable materials and can be vacuum cleaned.

Filtration class G3. Flame retardant to M1 NF F 16-101.

FAN ASSEMBLY

Double inlet centrifugal fans designed for

low noise levels.

The fans are directly linked to the electric motor shaft.

The electric motor is isolated by elastic supports.

The VES fan coil units are provided with multi-speed motors. The 3 operating speeds can be selected by modifying the connections in the motor electric box. The fan coil units are supplied with the connections to the standard velocities. Refer to the wiring diagram before modifying the motor connections.

VES0_ - VES1_ - VES2:

6 speed fan-motor.

VES3:

7 speed fan-motor.

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 discharge opening includes a connection flange.

CONDENSATE DISCHARGE

Each unit is supplied with a condensate drain pan for either vertical or horizontal installation. The fan coil drain pan has

two condensate discharges (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.

CONTROL PANEL

Various control panels are available to suit the installation.

Combining the control panels, the thermostats and the other VMF system accessories, fully exploits the potential of the VES units.

The VMF system thermostats allow:

- Control of a single unit and the accessories.
- Control of a network of 6 units, of 1 master with thermostat and control panel plus 5 slave units equipped with thermostats, operating independently as a function of ambient conditions.
- Control of the VES unit in a complex network of up to 64 zones with 6 fan coil units (up to 384 fan coil units with a single VMF-E5 control board).

OPERATING LIMITS

VES		030	040	130	140	230	240	330	340
Maximum water inlet temperature	°C	80							
Maximum recommended water inlet temperature	°C	65							
Maximum operating pressure	bar	(800 kPa)							
Minimum water flow rate (Main coil)	l/h	150	150	150	150	150	150	300	400
Maximum water flow rate (Main coil)	l/h	1500	1500	1500	1500	1500	1500	3000	4000
Minimum water flow rate (Heating only coil)	l/h	50	-	50	-	50	-	100	-
Maximum water flow rate (Heating only coil)	l/h	500	-	500	-	500	-	1000	-
Ambient temperature limits (Ta)	°C	0° < Ta < 40°							
Ambient relative humidity limits (RH)		U.R. < 85%							
Power supply		230V (±10%) ~ 50Hz							
Protective rating	IP	20							



Earth leakage current from several units supplied from the same residual current device are cumulative and consideration should be given to the rating of this

residual current device. It may be necessary to separate the installation into several circuits with their own residual current device.

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

INSTALLATION INFORMATION

WARNING: Disconnect the power supply before carrying out any intervention.

WARNING: Provide appropriate personal protective equipment before carrying out any intervention.

WARNING: The unit must be installed in accordance with the applicable national regulations.

WARNING: wiring connections, installation of the fan coil units and relevant accessories must be performed by a technician who has the necessary technical and professional expertise to install, modify, extend and maintain systems and who is able to check the system for the purposes of safety and correct operation.

WARNING: Install an electrical isolator or plug that allows the electrical power to be completely isolated from the unit.

WARNING: Consult all the documentation before starting the installation.

Instructions essential for the proper installation of the equipment are shown here.

The final touches to all the operations are however left to the experience of the installation engineer in accordance with the specific needs.

INSTALLATION OF THE UNIT

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.

The outlet flange with connection to ducting is supplied with the unit.

The elements of the discharge flange must be assembled prior to being mounted on the unit.

Some installations do not require the outlet flange.

The water piping, condensate discharge and electrical wiring must be installed beforehand.

The fan coil unit must be installed in such a position that the air can be distributed throughout the room and that there are no obstacles (curtains or objects) to the passage of the air from the intake and discharge.

The fan coil unit must be arranged in such a way as to make easy ordinary maintenance (filter cleaning) and special maintenance, as well as the access to the air vent valve on the side of the frame (connections side).

Do not install the unit in locations containing flammable gas and acid or alkaline substances that can permanently damage the copper-aluminium heat exchanger or the internal plastic components.

Do not install the unit in workshops or kitchens where oil vapour mixed in the air can be deposited on the coil, causing performance reduction, or deposited on internal parts causing damage to the plastic components.

The VES unit is designed for ducted air connections.

The VES fan coil units are provided with multi-speed motors. The 3 operating speeds can be selected by modifying the connections in the motor electric box. The fan coil units are supplied with the connections to the standard velocities.

Refer to the wiring diagram before modifying the motor connections.

If the valve is installed the minimum temperature water sensor can be installed in two positions:

- in its mount in the coil
- to the flow tube upstream of the valve.

Refer to the thermostat manual before selecting the position of the minimum temperature water sensor, as a function of the preferred control logic. The thermostat may require changes to the dip-switch internal settings.

WARNING: After completing the installation check the operation of the condensate discharge system, the tightness of hydraulic connections, and the insulation of the ducting and piping. Then carry out a functional test.

DANGER! Only maintenance qualified personnel may access it.

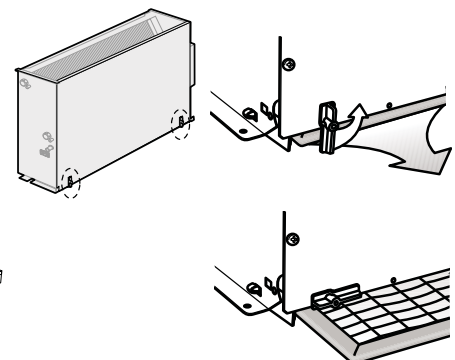
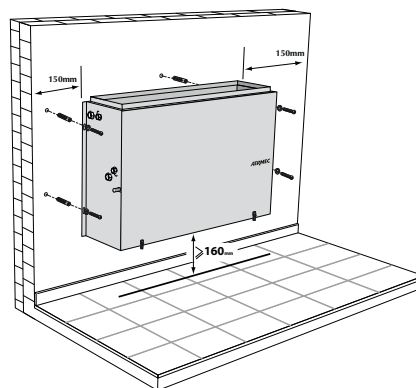
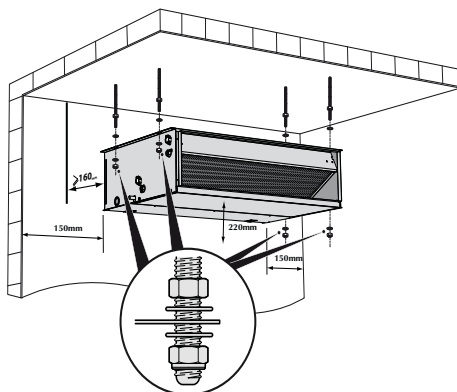
WARNING: Keep the electrical connections separated from the hydraulic connections. The hydraulic connections and condensate discharge must be on the opposite side to the electrical connections.

WARNING: If the power cord is damaged it must be replaced by the manufacturer or its service agent or a similarly qualified person in to prevent any risk.

- Carry out the installation and connection of any accessories.
- 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 8 nuts of which 4 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.
- Start the fan coil unit and check the operation of the components and all the functions.



HYDRAULIC CONNECTIONS

- Carry out the hydraulic connections.

WARNING: Always use a spanner with counter-spanner to connect the piping.

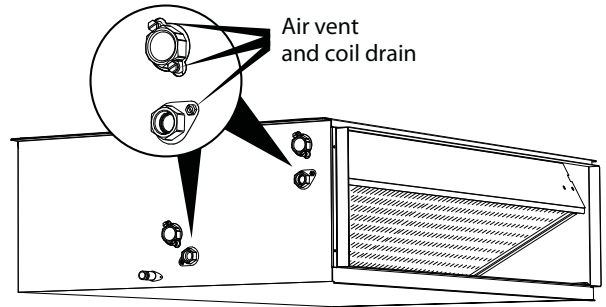
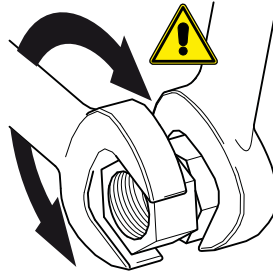
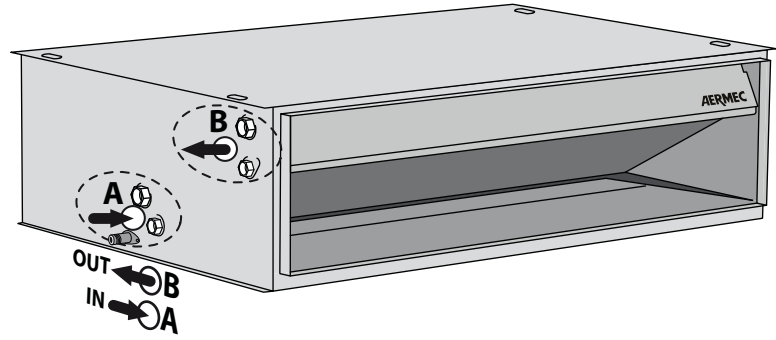
The positions, type and diameters of the hydraulic connections are shown in the dimensional data.

It is recommended to properly insulate the water piping to avoid condensate drips during cooling operation.

After the installation verify the tightness of the connections.

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.



CONDENSATE DISCHARGE CONNECTION

The fan coil unit drain pan has 2 outlets on each side; one for vertical and one for horizontal installation.

It is recommended to use the condensate drain connection on the side of the hydraulic connections.

For horizontal installations 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

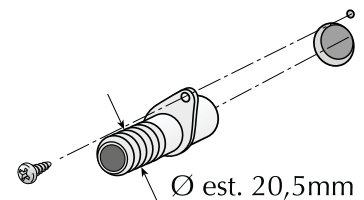
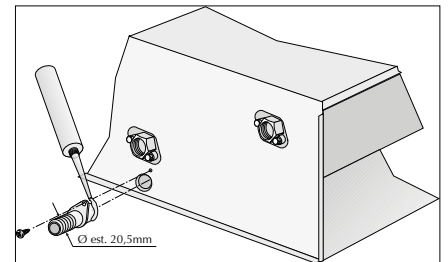
imposing additional load and do not use them for any other purposes.

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.



ELECTRICAL CONNECTIONS

The unit must be connected directly to an electrical outlet or an independent circuit.

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.

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.

CONNECTION CABLE CHARACTERISTICS

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 control panel cannot be mounted on a metallic wall unless this is permanently earthed.

Carefully read the instructions before installing the control panel and if necessary proceed with the configuration of the panel. Some controls panels require connection to other components supplied as accessories; ensure these are available.

WARNING: Check that the control panel can support the motor electrical load,

otherwise add the interface accessory SIT3 between the fan coil unit and the panel.

WARNING: Units equipped with thermostats of the VMF series must be combined with an interface accessory VMF-SIT.

Comply with the electrical wiring diagrams when connecting the control panels.

If provided, connect the valve and the sensor to the terminal block positions shown in the wiring diagram. In installations with the 3 way valve the minimum temperature water sensor must be moved from its coil mount to the flow tube upstream of the valve.

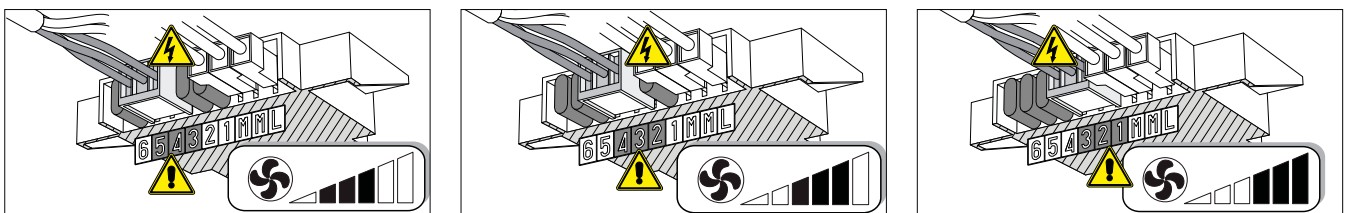
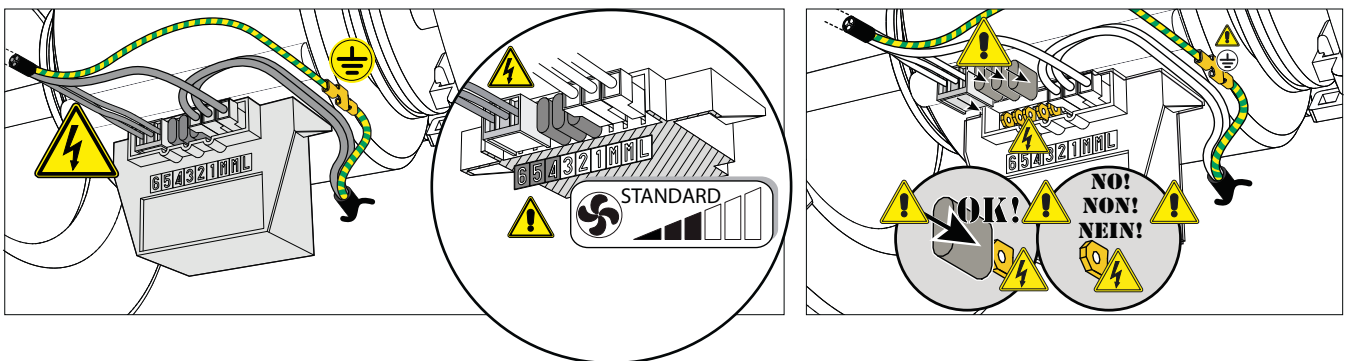
If the highest motor speeds have to be used modify the terminal connections of the electric motor. Refer to the wiring diagram.

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

SPEED SELECTION: VES 030 - 040 - 130 - 140 - 230 - 330

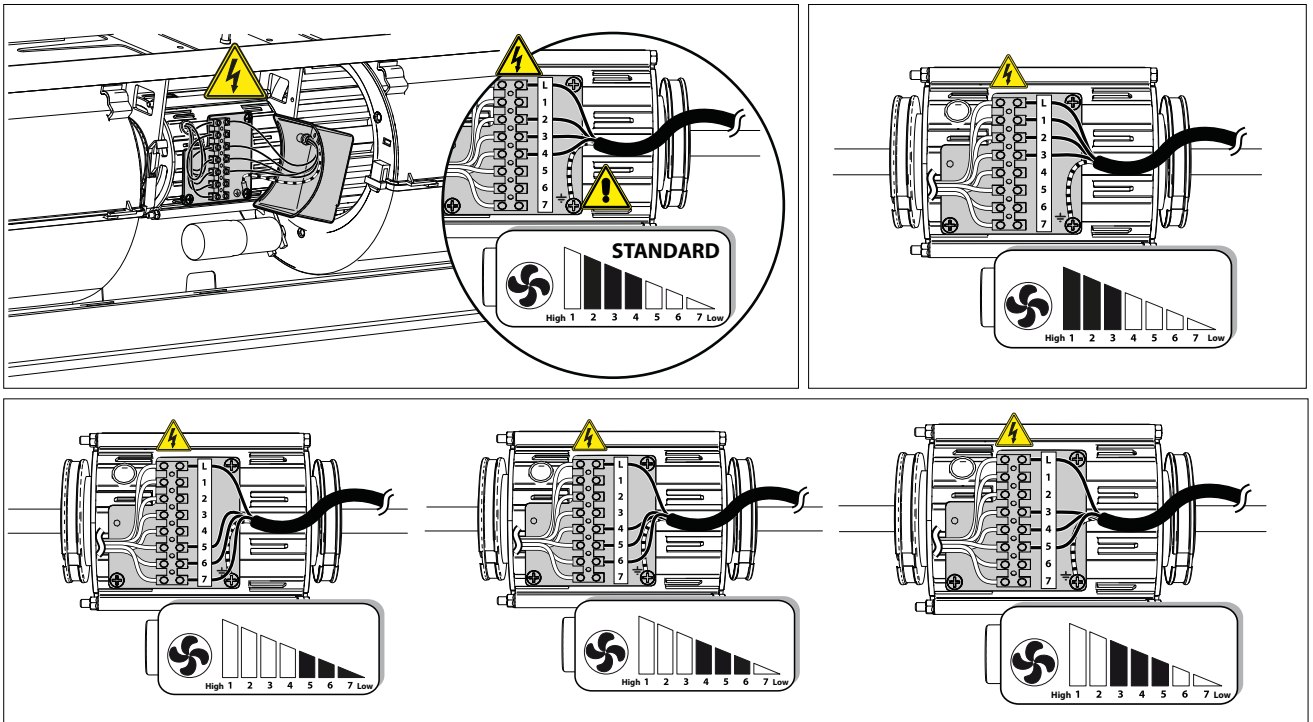
VES 0 - 1 - 2

Velocità - Speed - Vitesse - Geschwindigkeit - Velocidad					
V1	V2	V3	V4	V5	V6
Collegamento Motore - Connection to Motor - Connexion à moteur - Verbindung zum Motor - Conexión a Motor					
L6	L5	L4	L3	L2	L1



VES 3

Velocità - Speed - Vitesse- Geschwindigkeit-Velocidad						
V1	V2	V3	V4	V5	V6	V7
Collegamento Motore - Connection to Motor - Connexion à moteur- Verbindung zum Motor - Conexión a Motor						
L7	L6	L5	L4	L3	L2	L1



ROTATING 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 (3)
- remove the coil sealing cover (4) undoing the screws
- remove the screws that fix the coil (5) and extract the coil
- remove the knock-outs (6) of the right side
- rotate the coil and fix with the screws previously removed
- **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 (5) and fix with the screws previously removed. The spaces between drain pan and the hole on the side must be completely filled and closed with insulating material.

- refit the cover (4) and fix with the screws
- mount the plastic caps (7) supplied loose into the holes left empty by the hydraulic connections; all the drain pans are provided with condensate discharges on both sides.
- remove the electrical connections from the right side, remove the knock-out and move the grommet (9) from right to left
- move the electrical connections to the left side passing through the grommet (9)
- move the terminal block (10) and the earth connection (11) to the left side.

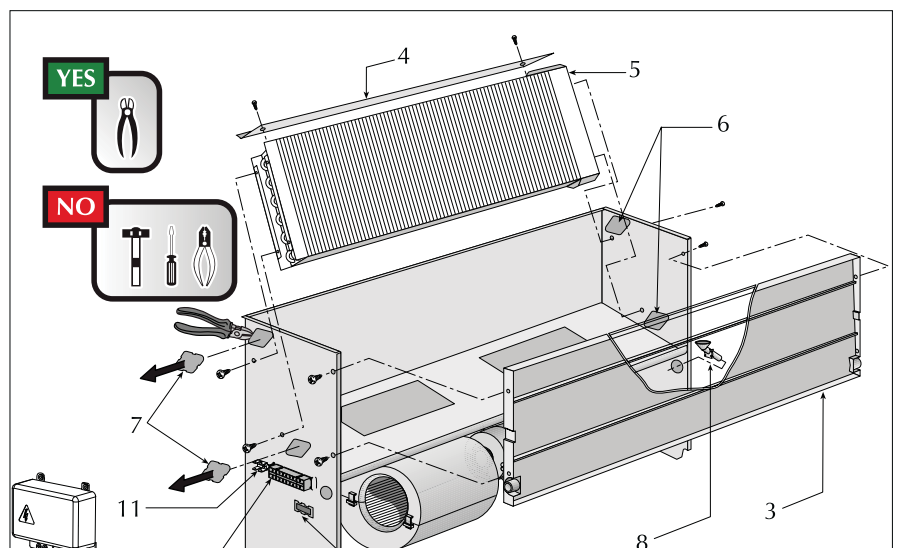
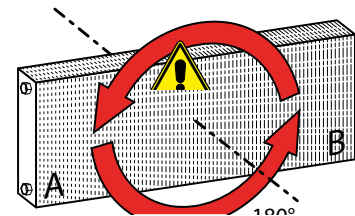
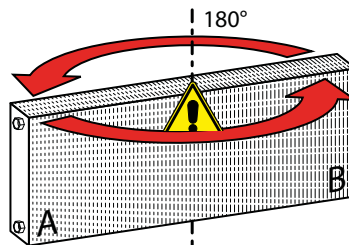
COIL ROTATION DRAWING

VES030
VES130

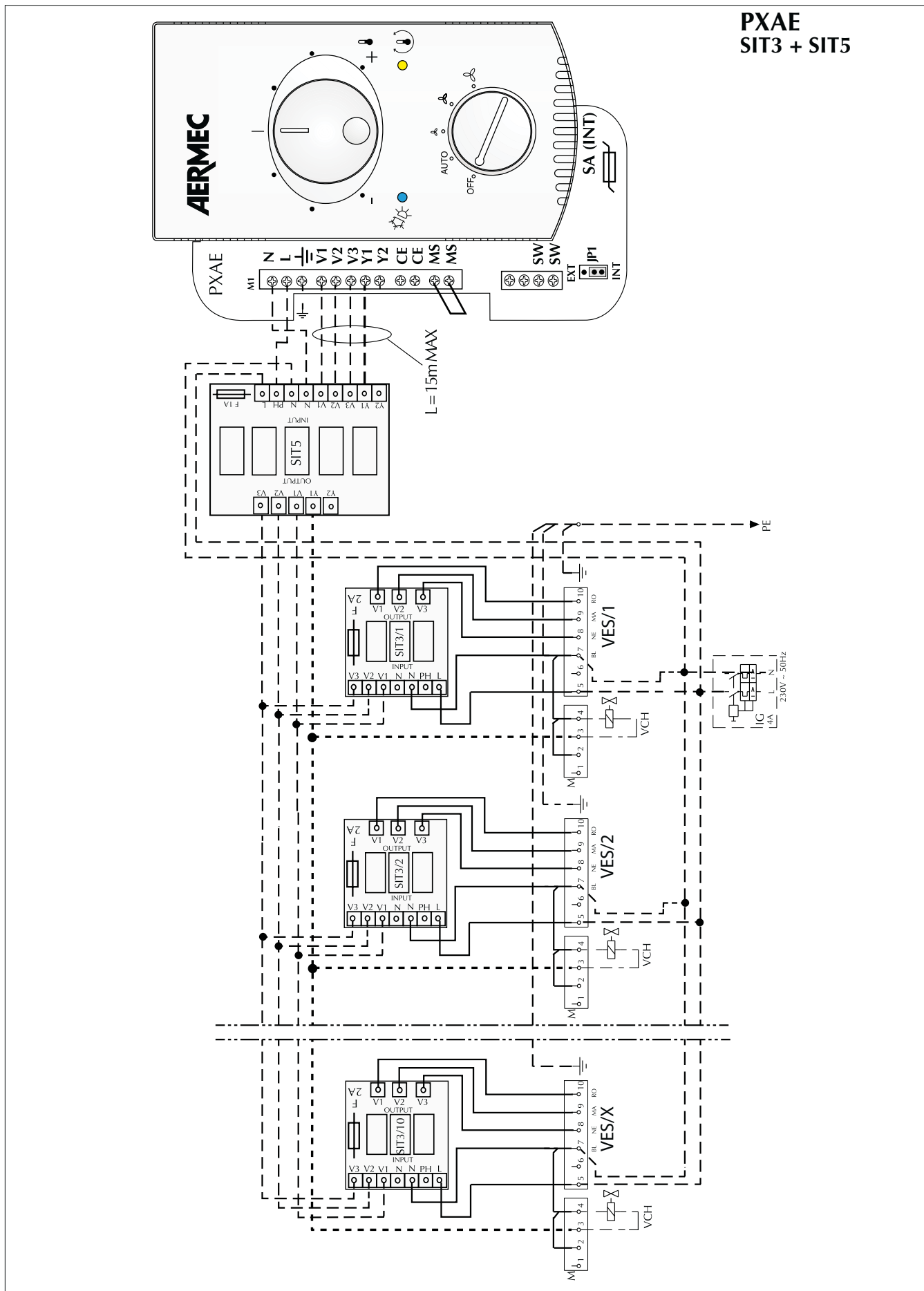
VES230
VES330

VES040
VES140

VES240
VES340



PXAE
SIT3 + SIT5



Gli schemi elettrici sono soggetti ad un continuo aggiornamento, è obbligatorio quindi fare riferimento a quelli a bordo macchina.
 All wiring diagrams are constantly updated. Please refer to the ones supplied with the unit.
 Nos schémas électriques étant constamment mis à jour, il faut absolument se référer à ceux fournis à bord de nos appareils.
 Die Schaltpläne werden ständig aktualisiert, deswegen muss man sich stets auf das mit dem Gerät gelieferte Schaltschema beziehen.
 El cableado de las máquinas es sometido a actualizaciones constantes. Por favor, para cada unidad hagan referencia a los esquemas suministrados con la misma.