



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

VENTILCONVETTORE PER INSTALLAZIONE A PARETE
WALL-MOUNTED FAN COIL UNIT
VENTILO-CONVECTEUR POUR INSTALLATION MURALE
GEBLÄSEKONVEKTOR FÜR WANDINSTALLATION
ENTILOCONVECTOR PARA INSTALACIÓN DE PARED

FCW

| | | |
|----------|-----------|-----------|
| FCW 222V | FCW 22VL | FCW 223VN |
| FCW 322V | FCW 32VL | FCW 323VN |
| FCW 422V | FCW 42VL | FCW 423VN |
| FCW 223V | FCW 222VN | FCW 22VLN |
| FCW 323V | FCW 322VN | FCW 32VLN |
| FCW 423V | FCW 422VN | FCW 42VLN |



DICHIARAZIONE DI CONFORMITÀ UE La presente dichiarazione di conformità è rilasciata sotto la responsabilità esclusiva del fabbricante.
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DÉCLARATION DE CONFORMITÉ UE La présente déclaration de conformité est établie sous la seule responsabilité du fabricant.
EU-KONFORMITÄTSERKLÄRUNG Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller.
DECLARACIÓN DE CONFORMIDAD UE La presente declaración de conformidad se expide bajo la exclusiva responsabilidad del fabricante:

Tipo / Type / Type / Typ / Tipo **VENTILCONVETTORE / FAN COIL / VENTIL-CONVECTEURS / GEBLÄSEKONVEKTOR / FAN COIL**

Modello / Model / Modèle / Model / Modelo

Sigla / Code / Sigle / Abkürzung / Sigla

Numero di Serie / Serial Number / Numéro de Série / Seriennummer / Número de Serie

Data / Date / Date / Datum / Fecha

L'oggetto della dichiarazione di cui sopra è conforme alla pertinente normativa di armonizzazione dell'Unione:
The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:
L'objet de la déclaration décrit ci-dessus est conforme à la législation d'harmonisation de l'Union applicable:
Der oben beschriebene Gegenstand der Erklärung erfüllt die einschlägigen Harmonisierungsrechtsvorschriften der Union:
El objeto de la declaración descrita anteriormente es conforme con la legislación de armonización pertinente de la Unión:

CEI EN 60335-2-40: 2005 + CEI EN 60335-2-40/A1: 2007

CEI EN 55014-1: 2008

CEI EN 55014-2: 1998

CEI EN 61000-6-1: 2007

CEI EN 61000-6-3: 2007

Soddisfacendo così i requisiti essenziali delle seguenti direttive:
Thus meeting the essential requisites of the following directives:
Satisfaisant ainsi aux conditions essentielles des directives suivantes:
Womit die grundlegenden Anforderungen folgender Richtlinien erfüllt werden:
Al que esta declaración se refiere, está en conformidad a las siguientes normas armonizadas:

LVD 2014/35/UE Direttiva Bassa Tensione / Low Voltage Directive / Directive Basse Tension / Niederspannungsrichtlinie / Directiva de Baja de Tensión

EMC 2014/30/UE Direttiva Compatibilità Elettromagnetica / Electromagnetic Compatibility Directive / Directive compatibilité électromagnétique / Richtlinie zur elektromagnetischen Verträglichkeit / Directiva Compatibilidad Electromagnético

MODELLO CON ACCESSORI : E' fatto divieto di mettere in servizio il prodotto dotato di accessori non di fornitura Aermec.

MODEL WITH ACCESSORIES : It is not allowed to use the unit equipped with accessories not supplied by Aermec.

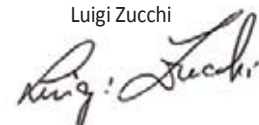
MODÈLE PLUS ACCESSOIRES : Il est interdit de faire fonctionner l'appareil avec des accessoires qui ne sont pas fournis de Aermec.

MODELL + ZUBEHÖR : Falls das Gerät mit Zubehöerteilen ausgerüstet wird, die nicht von Aermec geliefert werden, ist dessen Inbetriebnahme solange untersagt.

MODELO CON ACCESORIOS: Está prohibido poner en marcha el producto con accesorios no suministrados por Aermec.

Firmato a nome e per conto di: AERMEC S.p.A.
 Signed for and on behalf of:
 Signé par et au nom de:
 Unterzeichnet für und im Namen von: I-37040 Bevilacqua (VR) Italia - Via Roma, 996
 Firmado en nombre de:

Direttore Commerciale – Sales Director
 Luigi Zucchi



Dear customer,

Thank you for choosing an AERMEC product. It is the fruit of many years of experience and special design studies and has been made of the highest grade materials and with cutting edge technology.

The CE marking indicates that the products comply with the essential requirements of the applicable European Community directives. The quality level is being constantly monitored, so AERMEC products are synonymous with Safety, Quality and Reliability.

To find our nearest After Sales Service office, ask for information in the shop where you purchased the unit.

On our website www.aermec.com you can find the necessary technical documentation for all our products, along with the addresses of the sales and assistance networks.

The data may be modified as considered necessary in order to improve the product.

Thank you once again.

AERMEC S.p.A

TABLE OF CONTENTS

| | |
|--|-----|
| Observations • Safety warnings • On receipt of the unit • Packaging • Disposal | 30 |
| Maintenance • Troubleshooting | 31 |
| Description of the unit | 32 |
| Main components • Description of the components | 33 |
| General information | 34 |
| Important information • Operational limits | 35 |
| Direction of the air flow | 36 |
| Control keys and signals (FCW with microprocessor controller) | 37 |
| TLW2 - Infra-red remote control | 38 |
| PFW2 - Wired control panel | 40 |
| Automatic programme • Heating programme | 41 |
| Cooling programme • Fan programme | 42 |
| Dehumidification programme • Night comfort function | 43 |
| Turn on programmed by the timer • Turn off programmed by the timer | 44 |
| Dimensions • Installation | 45 |
| Wiring diagrams | 110 |

OBSERVATIONS

Keep the manuals in a dry place to prevent deterioration for any future reference needs and at least for 10 years.

Carefully and thoroughly read all the information referred to in this manual. Pay particular attention to the instructions for use accompanied by the words "DANGER" or "WARNING" and the "Safety Symbols": failure to comply with these could result in material damage to the machine/property and/or personal injury.

Appliance is not to be used by children or persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.

For any irregularities not foreseen by this manual, promptly contact your local After Sales Service.

The device must be installed in such a way that maintenance and/or repair operations are possible.

The warranty of the device does not in any case cover costs owing to ladder trucks, lifts or other lifting systems that may be required in order to carry out repairs under warranty.

AERMEC S.p.A. accepts no liability for any damage due to improper use of the unit, or the failure to read the information contained in this manual fully and carefully.

SAFETY WARNINGS

Particular attention must be paid to the following symbols:



WARNING! This symbol indicates operations which, if carried out incorrectly, can cause death or serious personal injury.

WARNING! This symbol indicates operations which, if carried out incorrectly, can cause serious personal injury or material damage.

DANGER!



DANGER! : Voltage



DANGER! : Moving parts

ON RECEIPT OF THE UNIT

On receipt of the unit, it is essential to check that:

- the packages match the details on the documentation accompanying the goods

- the boxes are intact and have not been damaged in transit.

If any anomalies are found:

- immediately notify the haulier of the damage
- immediately notify the vendor of the damage.

PACKAGING

The air conditioners are shipped in standard packaging which consists of expanded polystyrene foam shells and cardboard.

INFORMATION CONCERNING THE DISPOSAL OF ELECTRIC AND ELECTRONIC EQUIPMENT



Warning: this product contains electric and electronic equipment that cannot be scrapped via the normal waste collection channels.

There are specially identified collection points for these products.

The electric and electronic equipment must be handled separately, and in accordance with the legislation in force in that specific country.

Batteries or rechargeable batteries in the equipment must be recycled separately, in accordance with the regulations in that specific community.

MAINTENANCE

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.

Operations:

- External 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).

- Filter cleaning, every two weeks or weekly if installed in very dusty environments. Clean the filter with a vacuum cleaner and possibly with water and a neutral detergent; avoid using any other type of detergent or solvents.

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

SPECIAL MAINTENANCE

Special maintenance can only be performed by Aermec After-Sales Services or by people with the technical and professional expertise qualifying them to undertake installation, modification, expansion and maintenance of the systems and are able to check them in terms of safety and functionality. In particular with regard to electrical connections the following tests are required relative to:

- Measurement of the electrical system insulation resistance.

- Continuity test of the protective wiring.

The special maintenance consists of a series of complex operations that involve dismantling of the fan coil unit or its components to ensure the maximum fan coil unit efficiency is restored.

Operations:

- Internal cleaning, annually or after long periods of inactivity; in environments where a high degree of air cleaning is required, cleaning can be more frequent. This consists of: cleaning of the coil, fan blades, drain pan and all the parts in contact with the treated air.

- Repairs and setting up; when faults arise look at the "TROUBLESHOOTING" chapter in this manual before calling the After-Sales Service.

TROUBLESHOOTING

| PROBLEM | PROBABLE CAUSE | SOLUTION |
|---|--|--|
| Insufficient air flow at outlet | Incorrect speed setting on control panel | Select the correct speed on the control panel |
| | Blocked filter | Clean the filter |
| | Obstructed air flow (inlet and/or outlet) | Remove the obstacle |
| Unit does not heat | No hot water | Check the boiler Check the heat pump |
| | Incorrect control panel setting | Set the control panel correctly |
| | T water > 90°C | Reduce the water temperature, then remove and reapply electrical power |
| Unit does not cool | No cold water | Check the chiller |
| | Incorrect control panel setting | Set the control panel correctly |
| Fan not operating | No electrical power | Check that there is electrical power |
| | Water has not reached operating temperature. | Check the boiler or the chiller and/or check the set point |
| Condensation forming on the external case of the unit | Temperature and humidity limits specified by “MINIMUM AVERAGE WATER TEMPERATURE” have not been reached | Raise the water temperature to above the limits specified by “MINIMUM AVERAGE WATER TEMPERATURE” |

For any problems not listed, contact the After-Sales Service immediately.

FCW WALL-MOUNTED FAN COIL UNIT

The Aermec FCW fan coil unit is made with materials of superior quality in strict compliance with safety regulations. The "FCW" is easy to use and will have a long life.

The fan coil unit is a terminal unit for conditioning internal air both in winter and summer.

The **FCW** fan coil unit for wall mounted installation concentrates high technological and functional characteristics that make it the ideal climate control unit for all environments.

The supply of climate controlled air is immediate and distributed throughout the room; **FCW** generates heat if included in a heating system with a boiler or heat pump but may also be used in the summer as an air conditioner if the system has a water chiller.

The fan coil unit is designed to ensure maximum compliance with safety regulations.

Several versions of FCW fan coil units are available in order to satisfy all types of installations:

- with internal 2-way-valve,
- with internal 3-way-valve
- without valve.

Each version is available:

- With microprocessor controller (requires the addition of the PFW2 wired control panel accessory or the TLW2 remote control accessory.)
- Without microprocessor controller

which then requires a cable connected accessory panel or connection to the accessories of the VFM system (the VMF-E0 and VMF-E1 thermostats cannot be installed internally to the fan coil unit).

In particular, the possibility to be integrated into the **VMF** system allows the control of a single fan coil unit with accessories, up to the control of the fan coil unit installed in a complex network.

Unit configuration

By choosing the appropriate options it is possible to select the model to suit the specific system requirements:

1 2 3
|
Code
FCW

4 5
|
Size
22
32
42

6 7
|
Valve
2V (2-way valve fitted inside)
3V (3-way valve fitted inside)
VL (without valve)

8
|
Microprocessor Controller
(Blank) with controller
N without controller

Versions

- **2V** version with 2-way valve fitted inside.

Microprocessor controller.

Wired control panel PFW2 or remote control TLW2.

- **2VN** version with 2-way valve fitted inside.

Standard control or VMF System.

- **3V** version with 3-way valve fitted inside.

Microprocessor controller.

Wired control panel PFW2 or remote control TLW2.

- **3VN** version with 3-way valve fitted inside.

Standard control or VMF System.

- **VL** without valve version.

Microprocessor controller.

Wired control panel PFW2 or remote control TLW2.

- **VLN** without valve version.

Standard control or VMF System.

MAIN CHARACTERISTICS:

• EUROVENT Certification

- The response to the commands is immediate if the room temperature and the temperature of the water in the system so allows
- Tangential three-speed fan assembly
- Very quiet operation
- Aesthetic design
- Colour:
Pantone Code: GRIS 1C
RAL Code: 9010
- Display on panel front

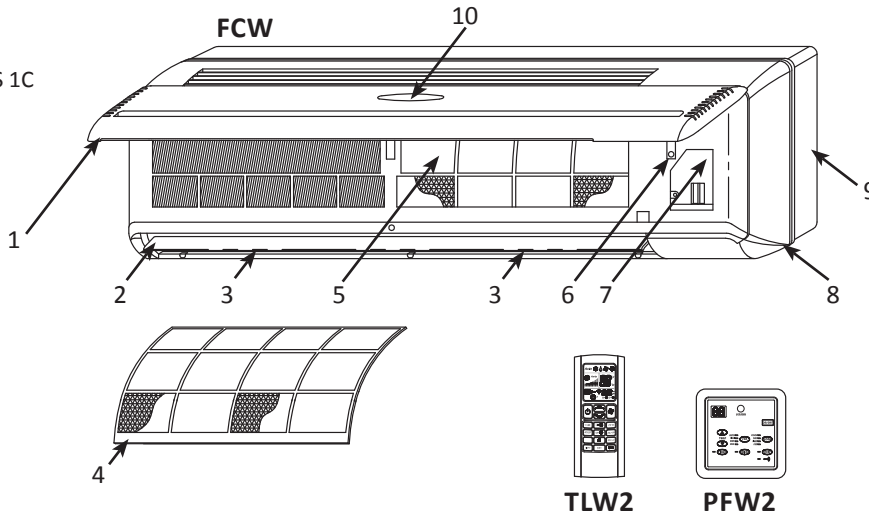
- Horizontally adjustable discharge air blades
- Horizontal deflector blades to vertically adjust discharge air. Manually adjustable only for units without microprocessor controller. For units with microprocessor controller adjustable only via PFW2 wired control panel or TLW2 remote control
- Ease of installation with hydraulic and condensate drain connections adjustable in several directions

- Routine maintenance is limited to periodic cleaning of the air filter
- Full compliance with safety regulations.

MAIN COMPONENTS

- | | |
|-----------------------------------|---------------------------------|
| 1 Front panel | 6 Auxiliary emergency switch |
| 2 Horizontal air discharge blades | 7 Electric terminal connections |
| 3 Vertical air discharge blades | 8 Front case |
| 4 Air filter | 9 Frame |
| 5 Heat exchanger coil | 10 Display |

Colour
Pantone Code: GRIS 1C
RAL Code: 9010



DESCRIPTION OF COMPONENTS

FRONT PANEL

The air intake is via the slots. Lifting the panel gives access to the air filter and the internal parts

RECEIVER

Infra red signal receiver for versions with microprocessor controller

DISPLAY

The display is mounted on the front panel, only for versions with microprocessor controller. It shows the fan speed, operating mode, temperature, error messages, and timer

AIR FILTER

Washable air filter that can easily be removed

HEAT EXCHANGER COIL

Made of copper tubes with turbo lanced aluminium fins

DISCHARGE AIR

The horizontal blades are:

- motorised for versions fitted with microprocessor controller.
- manual for versions not fitted with microprocessor controller

The vertical blades are manually adjustable to allow optimal air discharge

AUXILIARY EMERGENCY SWITCH

The auxiliary emergency switch, only for versions with microprocessor controller, allow the fan coil unit to be turned on or off if the wired control panel or remote control are not operating

FAN ASSEMBLY

The fan assembly consists of an extremely compact and quiet tangential type fan.

2-WAY WATER VALVE

The FCW_2V fan coil unit is supplied as standard with a 2-way on/off water valve and electro-thermal actuator controlled by the fan coil controller, based on the water temperature and the temperature of the room

3-WAY WATER VALVE

The FCW_3V fan coil unit is supplied as standard with a 2-way on/off water valve and electro-thermal actuator controlled by the fan coil controller, based on the water temperature and the temperature of the room

TLW2 REMOTE CONTROL (FCW accessory for versions with microprocessor controller)

behind the fan).

VMF (Variable Multi Flow System)

Management and control system of hydronic systems for the air-conditioning, heating and production of domestic hot water.

The VMF system allows complete control of every component of a hydronic system both locally and centrally and, communicating between the various components of the system, manages the performance without ever neglecting the end user's request of comfort, but reaching it as efficiently as possible with energy saving.

Accessory essential for the fan coil operation, as an alternative to the PFW2 wired control panel.

The TLW2 remote control is provided loose from the fan coil unit. One remote control can control several fan coil units.

The remote control makes it possible to set all the operating parameters of the unit. These parameters are shown on a liquid crystal display making programming operations easier. The remote control is supplied with a bracket allowing it to be hung on the wall.

PFW2 WIRED CONTROL PANEL (FCW accessory for versions with microprocessor controller)

Accessory essential for the fan coil operation, as alternative to the TLW2 remote control.

The wired control panel must be installed on the wall and connected to the fan coil unit with the cable provided loose.

The panel cable is 4 metres long.

The PFW2 makes it possible to set the main operating parameters of the unit. These parameters are shown on a liquid crystal display making programming operations easier.

A PFW2 wired control panel can control just one fan coil unit.

GENERAL INFORMATION

• Versions without microprocessor controller:

With or without water valve.

Versions without microprocessor controller need to be combined with a control panel (accessory) chosen from standard control panels (compatible with the configuration of the fan coil unit) or be combined with a thermostat from the VMF system.

Warning! The VMF (VMF-E0 / VMF-E1) thermostat can not be installed inside the fan coil unit but the installer must provide an adequate housing close to the fan coil unit (such as a recessed electrical box on the wall

If you add the advantages deriving from such an innovative control to the flexibility of a hydronic system, you get a more efficient and effective alternative to the variable refrigerant flow systems (VRF).

The VMF system is extremely flexible, enough to allow various steps of control and management, expandable at different moments:

- 1) Control of a single fan coil unit.
- 2) Control of a microzone (one MASTER fan coil unit and a maximum of 5 SLAVE fan coils units).
- 3) Control of multi independent zones system (one MASTER fan coil unit and a maximum of

- 5 SLAVE fan coil units for each zone).
- 4) Control of a fan coil unit system, plus management of the heat pump (if compatible with the VMF system).
 - 5) Control of a fan coil unit system, heat pump and management of the domestic hot water system (VMF-ACS).
 - 6) Control of a fan coil unit system, heat pump, domestic hot water production and additional circulators (up to a maximum of 12 using three additional VMF-CRP modules).
 - 7) Control of a fan coil unit system, heat pump, domestic hot water production, additional circulators and management of heat recovery units, maximum 3, (with the ability to handle up to 3 VMF-VOC sensors) or a boiler.
- The VMF system can operate and manage, through a VMF-E5N / VMF-E5B panel, a maximum of 64 zones consisting of a MASTER fan coil unit and a maximum of 5 SLAVE fan coil units connected to each MASTER, for a total of 384 fan coil units.
 - Besides the central control supplied by the VMF-E5N / VMF-E5B panel, the MASTER fan coil units must be provided with a local control interface; this interface can be mounted

on the fan coil unit (only for the models (where it is possible) or be mounted into a wall panel (VMF-E4 / VMF-E4D).

- Different functions can be controlled through the VMF-E5N / VMF-E5B panel, including:
 - Identify the different zones giving a name for each one.
 - Check and set the ON-OFF function and the set point temperature of each zone.
 - Set and manage the set point temperature of the heat pump.
 - Scheduling time clocks.
- Simple installation of the fan coil unit system through the SELF-MONITORING function of the MASTER fan coil units.

• Versions with microprocessor controller:

With or without water valve.

Versions with microprocessor controller have a display on the front panel showing the main functions of the unit.

The versions with microprocessor controller need to be combined with one of the two available control systems (accessories PFW2 or TLW2) provided as required as a necessary accessory for the unit operation allowing

turning on, turning off and all the fan coil unit control and programming operations.

The two control systems can be used at the same time on the same fan coil unit.

The control system checks all the functioning parameters and carries out all the operations necessary to enable the required room conditions to be maintained.

The control system also provides some automatic functions to increase comfort and make the most frequently repeated operations easier:

- Minimum temperature sensor; in order to avoid cold air blasts in the winter mode, allowing ventilation only if the water in the system is hot.
- Auto Restart mode, after a power outage the FCW unit starts again automatically with the same settings that it had at the time of stopping (with the exception of the Timer and Sleep settings).

IMPORTANT INFORMATION

WARNING: The fan coil unit is connected to the power supply and a water circuit. Operations performed by persons without the required technical skills can lead to personal injury to the operator or damage to the unit and surrounding objects. The unit shall be installed in accordance with National Wiring Regulations."

MALFUNCTION

In the case of a malfunction remove power to the unit then reapply it and start the unit again. If the problem occurs again, call your area After-Sales service department promptly.

POWER THE FAN COIL UNIT ONLY WITH 230 VOLT, SINGLE PHASE, 50 Hz

Use of other power supplies could cause permanent damage to the fan coil unit.

USE THE (TLW2) REMOTE CONTROL OR THE WIRED CONTROL PANEL (PFW2) TO TURN THE FAN COIL UNIT ON AND OFF

Do not turn the fan coil unit on or off using the auxiliary switch except in an emergency.

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 OUTLETS

Do not put anything at all in the air outlet slots. This could cause injury to people and damage to the fan.

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.

Careful choice of the room temperature will lead to energy savings.

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.

Only adjust the vertical blades by hand.

In the versions with microprocessor controller adjust the horizontal blade with the LOUVRE or SWING key of the remote control or the wired control panel.

In the versions without microprocessor controller adjust the horizontal blades by hand.

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 device, 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.

OPERATIONAL LIMITS

Maximum inlet water temperature 70 °C
Maximum operating pressure 13 bar (1.3 MPa)

The installation site must be chosen in such a way that the maximum and minimum room temperature limits, T_a , are respected: $0^\circ\text{C} < T_a < 40^\circ\text{C}$; R.H. < 85%.

Connect to a 230 V ~ 50 Hz power supply and earth connection, and ensure it remains within the limit of $\pm 10\%$ with respect to the nominal value.

Flow rate limits:

| MODEL | FCW | 22 | 32 | 42 |
|-------------------|-------|-----|-----|------|
| Minimum flow rate | [l/h] | 100 | 100 | 150 |
| Maximum flow rate | [l/h] | 750 | 750 | 1100 |

Minimum average water temperature

To prevent the formation of condensation on the exterior of the unit while the fan coil unit is operating, the average water temperature should not drop beneath the limits shown in the table

below, determined by the ambient conditions. These limits refer to unit operation with fan at minimum speed.

MINIMUM AVERAGE WATER TEMPERATURE

Dry bulb temperature of the air in the room °C

| | 21 | 23 | 25 | 27 | 29 | 31 |
|---|----|----|----|----|----|----|
| Wet bulb temperature of the air in the room °C | 15 | 3 | 3 | 3 | 3 | 3 |
| | 17 | 3 | 3 | 3 | 3 | 3 |
| | 19 | 3 | 3 | 3 | 3 | 3 |
| | 21 | 6 | 5 | 4 | 3 | 3 |
| | 23 | - | 8 | 7 | 6 | 5 |

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 |

IMPORTANT

Note for FCW series with microprocessor controller:

- The two control types, wired control panel (PFW2) and remote control (TLW2), can be used at the same time on the same fan coil unit.
- If the fan coil is off, all the previous settings made are kept in the memory except for the TIMER setting and SLEEP mode.
- If the fan coil is turned on using the (ON/OFF) key, the TIMER setting and SLEEP mode are cancelled.

DIRECTION OF THE AIR FLOW

The blades on the air discharge are arranged to direct the air in two directions:

- vertical blades, to be adjusted manually
- motorised horizontal blades for versions with microprocessor controller, to be adjusted only by means of the TLW2 remote control or the PFW2 wired control panel
- horizontal blades for versions without microprocessor controller to be adjusted manually.

ADJUSTING THE VERTICAL BLADES

- turn the vertical blades as indicated in the diagram
- both in heating or cooling mode it is advisable for the air flow not to hit people directly.

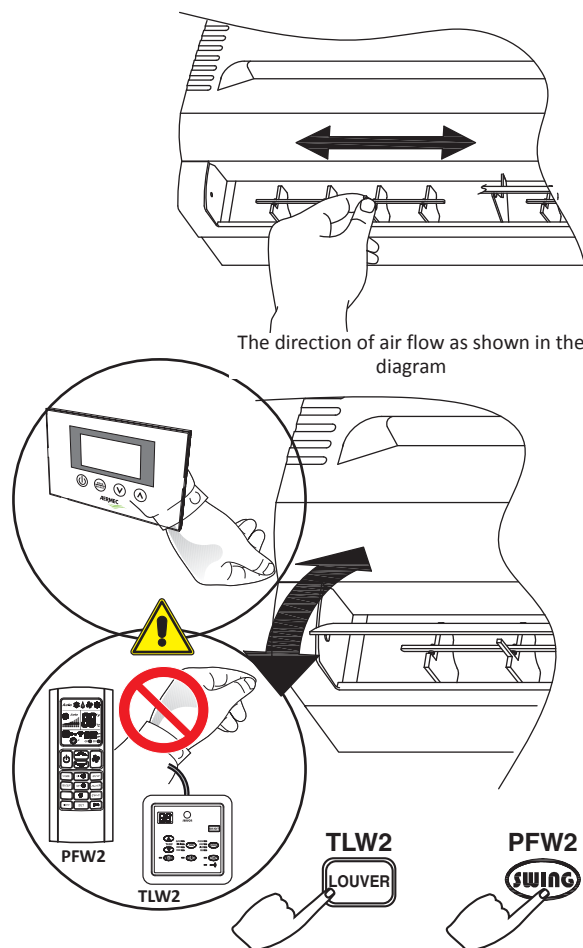
MOTORISED HORIZONTAL BLADES

Never adjust the motorised horizontal blades manually. Any manual operation on the blades may damage the system and cause a malfunction.

When the unit is off the blades close and cover the air flow outlet.

IMPORTANT

Under particular external conditions condensate might occur on the surface of the blades (during cooling and dehumidification) and drip onto the surfaces below.



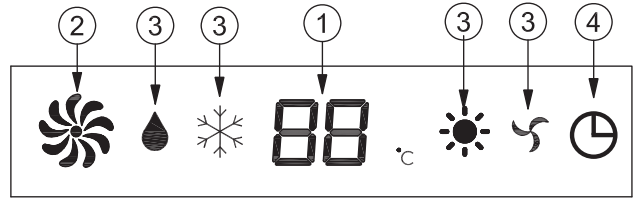
FCW WITH MICROPROCESSOR CONTROLLER - FRONT PANEL DISPLAY

When the fan coil unit is powered up it emits a beep.

When the fan coil unit is powered but not on, all the LEDs are off.

1 - TEMPERATURE DISPLAY / ERROR CODES

| Display | |
|--|--|
| Temperature | Description |
| °C | Set temperature (normal operation) - Set temperature (flashing) (during setting) - Water temperature in battery (see functions to activate the AUX button) - Water inlet temperature (see functions to activate the AUX button) |
| Error code flashing alternately with the ambient temperature | Error description |
| E1 | (RM) Ambient air temperature sensor fault |
| E2 | (ID) Water temperature in the coil sensor fault |
| E3 | (OD) Water inlet temperature sensor fault |
| E4 | (OD) Water inlet temperature is not suitable mode of operation |
| E6 | Error communicating with the wired panel |



2 - FAN SPEED

3 - OPERATING MODE

- 💧 Dehumidification
- * Cooling
- ☀ Heating
- 🌀 Fan only

4 - TIMER

- 🕒 The icon shows the timer is active

FCW WITH MICROPROCESSOR CONTROLLER - AUXILIARY EMERGENCY SWITCH "AUX"

AUXILIARY EMERGENCY SWITCH (AUX)

When the remote control is not available (not functioning or with flat batteries) or the wired control panel is not functioning, the auxiliary emergency switch can be used to activate the fan coil unit.

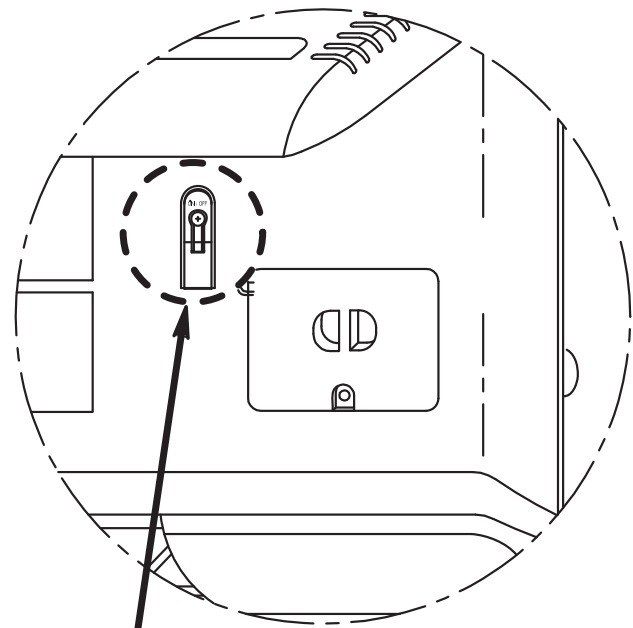
The switch is not sized for continuous use. Repair the remote control or the wired control panel as soon as possible.

Starting and operating with the auxiliary emergency switch (AUX):

- First press: Cooling with set point 25°C, automatic ventilation, swinging blades
- Second press: Heating with set point 22°C, automatic ventilation, swinging blades
- Third press: Fan coil unit turned off

Water temperature display (on the front panel display) with the emergency auxiliary switch (AUX):

- Set the operation mode Cooling
- First press for 5 seconds: the display shows the temperature of the water in the coil
- Second press for 5 seconds: the display shows the temperature of the water inlet
- Third press: Fan coil unit turned off



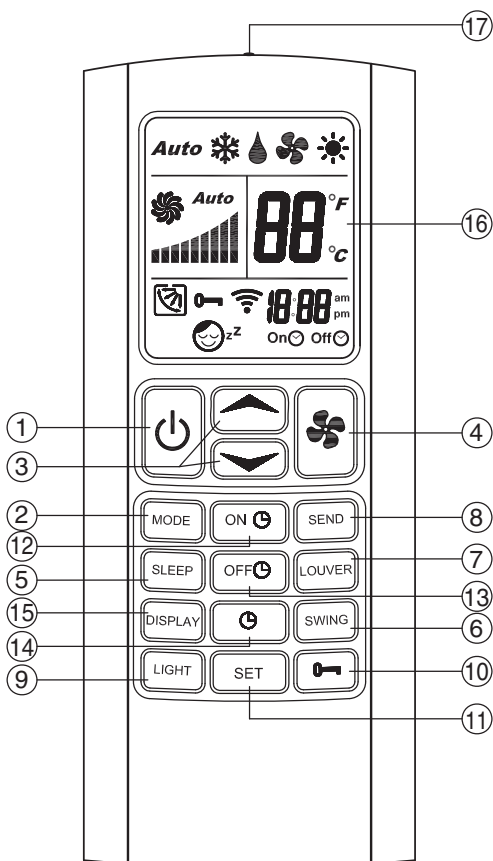
AUX
(On / Off)

TLW2 - INFRA-RED REMOTE CONTROL

IMPORTANT

Note for FCW series with microprocessor controller:

- The two control types, wired control panel (PFW2) and remote control (TLW2), can be used at the same time on the same fan coil unit.
- If the fan coil is off, all the previous settings made are kept in the memory except for the TIMER setting and SLEEP mode.
- If the fan coil is turned on using the (ON/OFF) key, the TIMER setting and SLEEP mode are cancelled.



1 - ON/OFF

Turning on and off.

2 - MODE

Press this button to set the various operating modes: automatic (AUTO), cooling (COOL), dehumidification (DRY), heating (HEAT) and ventilation (FAN).

3 - TEMP ▲ and ▼ TEMP - TEMPERATURE (°C)

Temperature control buttons (16 to 30 °C).

Use these buttons to set the temperature you wish to have in the room, **TEMP ▲** to increase the temperature and **TEMP ▼** to decrease it. When the two **TEMP ▼** and **TEMP ▲** buttons are pressed at the same time the unit of temperature measurement changes between °C and °F.

4 - FAN

Press this button to select the fan speed: automatic (AUTO), low (LOW), medium (MED) and high (HIGH).

5 - SLEEP

Button to enable the night comfort function (SLEEP).

6 - SWING

Press this button to enable to swinging of the horizontal blades.

7 - LOUVER

Press this button to regulate the vertical air flow, with 4 fixed positions plus swinging blades.

8 - SEND -

Press this button to transmit the parameters shown on the display to the unit.

9 - LIGHT

Hold the LIGHT button for 3 sec switches the display light on or off.

10 - LOCK

Hold the LOCK button for 3 sec to lock or unlock all the other buttons.

11 - SET

Press this button to save the clock or the timer on/off settings.

12 - TIMER ON

Press this button to set the timer on function.

13 - TIMER OFF

Press this button to set the timer off function.

14 - CLOCK

Press this button to set the clock function.

15 - DISPLAY

Press this button to turn the remote control display on or off.

16 - LCD DISPLAY

Shows the settings of the fan coil unit.

17 - TRANSMITTER

Sends the signals to the fan coil unit receiver. It must be pointed at the receiver.

LIQUID CRYSTAL DISPLAY

With the remote control on (ON), the display shows the settings of the unit, with the remote control off (OFF) the display is off and only displays the timer for the programmed activation (if active).

1 - OPERATING MODE

Shows the operating mode:

| | |
|------|------------------|
| AUTO | automatic |
| FAN | ventilation |
| COOL | cooling |
| DRY | dehumidification |
| HEAT | heating |

2 - FAN SPEED

Display of the three fan speeds and the automatic speed control:

| | |
|------|-------------------------|
| AUTO | automatic speed control |
| HIGH | high speed |
| MED | medium speed |
| LOW | low speed |

3 - HORIZONTAL BLADE POSITION

Displays the four fixed positions of the horizontal blades and operation with the blades moving.

4 - KEY LOCK

Shows the key lock function is activate.

5 - SLEEP PROGRAMME

Shows the night comfort function SLEEP is active.

6 - TEMPERATURE (°C) OR (°F)

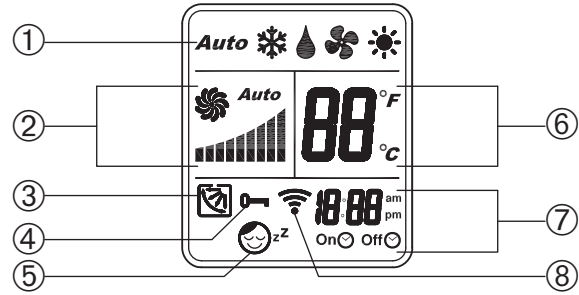
Displays the set point temperature value in °C or °F.

7 - TIMER

Indicates that the timer programmed on or off function has been activated.

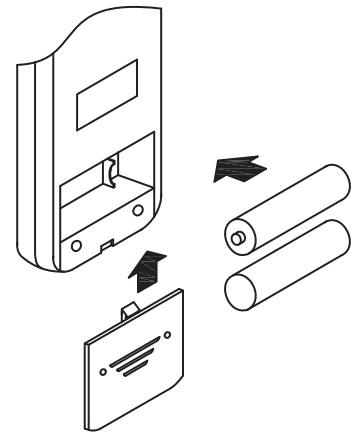
8 - TRANSMISSION INDICATOR

Appears every time a button is pushed and it indicates the transmission of the signal.



USE OF THE REMOTE CONTROL

- Point the remote control transmitter towards the fan coil receiver while the settings are being programmed.
- To be able to carry out any operation or change of the settings from the remote control, the unit must be powered.
- When a signal is received correctly by the FCW it will emit a beep. If you do not hear the sound, press the remote control button again.
- Obstacles must not be placed between the transmitter and the receiver (e.g. furniture or curtains) to ensure proper operation.
- The remote control is able to transmit effectively up to 7 metres from the fan coil unit receiver.



PREPARATION OF THE REMOTE CONTROL

- Open the battery cover by pressing slightly in the direction of the arrow.
- Insert two 1.5 Volt high-performance alkaline batteries LR 03 (AAA), being careful not invert the polarity.
- Close the battery cover.

IMPORTANT

- The two control types, wired control panel and remote control, can be used at the same time on the same fan coil unit.
- The batteries have an average life of 10 months when used normally.
- The two batteries must be identical and must be changed at the same time.
- Remove the batteries from the remote control unit if you envisage the units not being used for long periods.
- When the remote control only works near the fan coil unit, it is time to replace the batteries.
- Do not fix the remote control bracket near a source of heat or in direct sunlight. Avoid exposing the remote control to excessive humidity or knocks (it might break, become deformed, or lose its colour).
- Do not place the remote control near electronic equipment because it could interfere with the unit's proper operation.

PFW2 - WIRED CONTROL PANEL

IMPORTANT

Note for FCW series with microprocessor controller:

- The two control types, wired control panel (PFW2) and remote control (TLW2), can be used at the same time on the same fan coil unit.
- If the fan coil is off, all the previous settings made are kept in the memory except for the TIMER setting and SLEEP mode.
- If the fan coil is turned on using the (ON/OFF) key, the TIMER setting and SLEEP mode are cancelled.

1 - ON/OFF

Turning the unit on and off.

2 - MODE


Press this button to set the various operating modes: automatic (AUTO), cooling (COOL), heating (HEAT) and ventilation (FAN).

3 - SLEEP

Press this button to enable the night comfort function (SLEEP).

4 - KEY LOCK

Press the ▲ and MODE buttons for 3 seconds to activate or deactivate the key lock function.

The  LED will light up to show the key lock is activated.

5 - LCD DISPLAY

6 - FAN

Press this button to select the fan speed: automatic (AUTO), low (LOW), medium (MED) and high (HIGH).

7 - TEMPERATURE (°C)

Temperature control (16 to 30 °C).

Use these buttons to set the temperature you wish to have in the room, ▲ to increase the temperature and ▼ to decrease it.

8 - TIMER

Timer control buttons (1 to 24 hours).

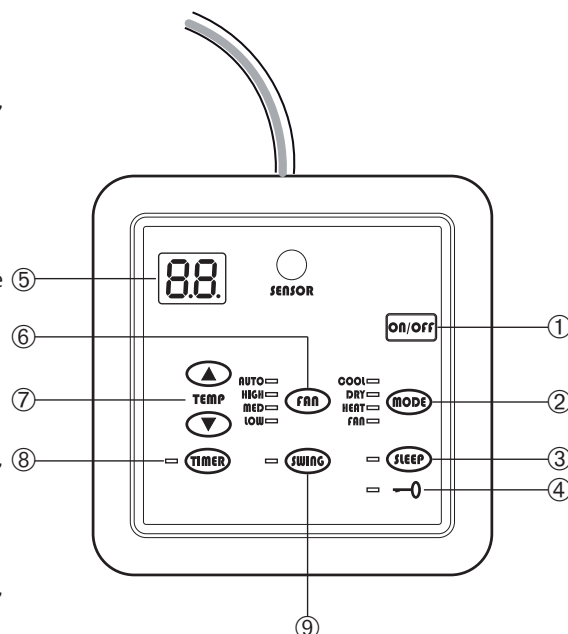
Use these buttons to set the time in hours, ▲ to increase the time and ▼ to decrease it.

Programmed turning off: with the fan coil unit on it sets and displays the operation time before the programmed turn off.

Programmed turning on: with the fan coil unit off (but powered) it sets and displays the hours off before the programmed turn on.

9 - SWING - HORIZONTAL BLADES

Press this button to control the vertical air flow. The first press starts the blades swinging. The second press stops the blades in the current position. To re-start the blades swinging press the SWING button again.



DISPLAY ON THE WIRED CONTROL PANEL

LED Indications

Operating mode:

| | |
|------|------------------|
| COOL | Cooling |
| DRY | Dehumidification |
| HEAT | Heating |
| FAN | Ventilation |

Fan speed:

Display of the three fan speeds and the automatic control of the speed:

| | |
|------|-------------------------|
| AUTO | Automatic speed control |
| HIGH | High speed |
| MED | Medium speed |
| LOW | Low speed |

Functions:

| | |
|-------|----------------------------------|
| TIMER | Timer function is activated |
| SWING | Horizontal blades swinging |
| SLEEP | Night comfort function activated |
| LOCK | Keys are locked |

LCD DISPLAY

Temperature (°C)

Displays the value of the temperature set point in °C (from 16°C to 30°C)

Timer (hour)

Displays the value of hours (Hr) of the timer, when it is active.

With the fan coil unit on it displays the operation time before the programmed turn off.

With the fan coil unit off (but powered) it displays the hours off before the programmed turn on

AUTOMATIC PROGRAMME (AUTO)

The programme requires the system to circulate chilled or hot water.

1) PRESS THE ON/OFF OR ON/OFF KEYS

The fan coil unit comes on. The fan coil unit will automatically switch on in Cool mode, Heat mode or in the dead band (waiting) depending on the water temperature.



2) PRESS THE MODE KEY

Press the MODE key repeatedly until the word AUTO appears on the display (TLW2) or the LEDs on wired control panel (PFW2) turns on HEAT and COOL.

3) PRESS THE FAN OR FAN KEYS

When the FAN key is pressed repeatedly, the system can move to the minimum speed (LOW), medium speed (MED) and high speed (HIGH) or to the (AUTO) speed controlled by the microprocessor.

4) PRESS THE OR KEYS TO SET THE TEMPERATURE

- The key with the symbol  allows increases of 1°C
 - The key with the symbol  allows decreases of 1°C
- The display shows the set point value between 16 and 30 °C.

5) TO DIRECT THE AIR FLOW

To ensure optimum air distribution, adjust the horizontal blades and the vertical blades in such a way that the air flow does not hit people directly. The vertical air flow blades must be set manually before starting up the motorised blades.

Never adjust the motorised horizontal blades manually.

When the LOUVER key is pressed repeatedly, the horizontal blade is adjusted to 4 fixed blade positions, then a swinging blade movement will begin. If you wish to stop the blade in a particular position, press the LOUVER key.

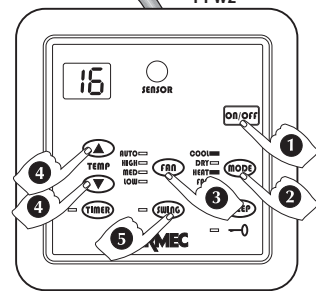
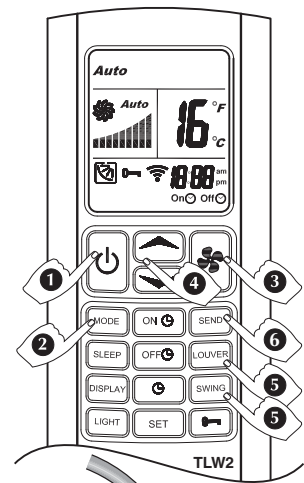
When the SWING key is pressed a swinging blade movement will begin. If you wish to stop the blade in a particular position, press the SWING key again.

6) PRESS THE SEND KEY (TLW2)

To transmit the new parameters shown on the LCD to the main control unit.

WHAT HAPPENS WHEN THE AUTOMATIC PROGRAMME IS SET

With AUTO programme, the control system decides the type of operation (COOL or HEAT) on the basis of the water and room temperature and set point.



HEATING PROGRAMME (HEAT)

The programme requires the system to circulate hot water.



1) PRESS THE ON/OFF OR ON/OFF KEYS

The fan coil unit comes on and the display on the unit switches on.

2) PRESS THE MODE KEY

Press the MODE key repeatedly until the word HEAT appears on the display (TLW2) or the LEDs on wired control panel (PFW2) turns on HEAT.

3) PRESS THE OR KEYS TO CONTROL THE TEMPERATURE

- The key with the symbol  allows increases of 1°C
 - The key with the symbol  allows decreases of 1°C
- The display shows the set point value between 16 and 30 °C.

4) PRESS THE FAN OR FAN KEYS

When the FAN key is pressed repeatedly, the system can move to the minimum speed (LOW), medium speed (MED) and high speed (HIGH) or to the (AUTO) speed controlled by the microprocessor.

5) TO DIRECT THE AIR FLOW

To ensure optimum air distribution, adjust the horizontal blades and the vertical blades in such a way that the air flow does not hit people directly. The vertical air flow blades must be set manually before starting up the motorised blades.

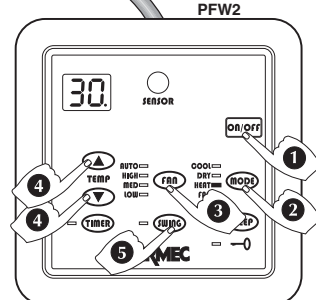
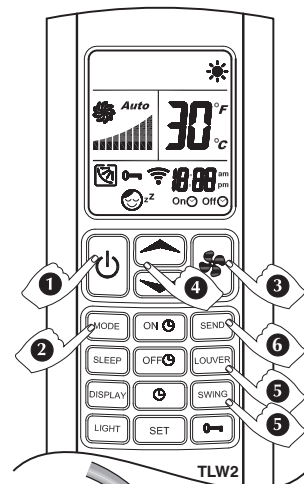
Never adjust the motorised horizontal blades manually.

When the LOUVER key is pressed repeatedly, the horizontal blade is adjusted to 4 fixed blade positions, then a swinging blade movement will begin. If you wish to stop the blade in a particular position, press the LOUVER key.

When the SWING key is pressed a swinging blade movement will begin. If you wish to stop the blade in a particular position, press the SWING key again.

6) PRESS THE SEND KEY (TLW2)

To transmit the new parameters shown on the LCD to the main control unit.



COOLING PROGRAMME (COOL)

The programme requires the system to circulate chilled water.

1) PRESS THE ON/OFF OR ON/OFF KEYS

The fan coil unit comes on. The fan coil unit automatically starts in cooling mode.

2) PRESS THE MODE KEY

Press the MODE key repeatedly until the word COOL appears on the display (TLW2) or the LEDs on wired control panel (PFW2) turns on COOL.

3) PRESS THE KEYS OR TO CONTROL THE TEMPERATURE

–The key with the symbol  allows increases of 1°C

–The key with the symbol  allows decreases of 1°C

The display shows the set point value between 16 and 30 °C.

4) PRESS THE FAN KEY OR FAN

When the FAN key is pressed repeatedly, the system can move to the minimum speed (LOW), medium speed (MED) and high speed (HIGH) or to the (AUTO) speed controlled by the microprocessor.

5) TO DIRECT THE AIR FLOW

To ensure optimum air distribution, adjust the horizontal blades and the vertical blades in such a way that the air flow does not hit people directly. The vertical air flow blades must be set manually before starting up the motorised blades.

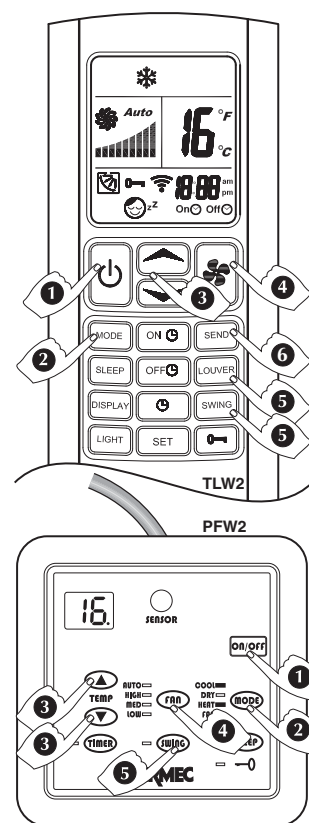
Never adjust the motorised horizontal blades manually.

When the LOUVER key is pressed repeatedly, the horizontal blade is adjusted to 4 fixed blade positions, then a swinging blade movement will begin. If you wish to stop the blade in a particular position, press the LOUVER key.

When the SWING key is pressed a swinging blade movement will begin. If you wish to stop the blade in a particular position, press the SWING key again.

6) PRESS THE SEND KEY (TLW2)

To transmit the new parameters shown on the LCD to the main control unit.



FAN PROGRAMME (FAN)

1) PRESS THE ON/OFF OR ON/OFF KEYS

The fan coil comes on and the display is switched on.

2) PRESS THE MODE KEY

Press the MODE key repeatedly until the word FUN appears on the display (TLW2) or the LEDs on wired control panel (PFW2) turns on FUN.

3) PRESS THE FAN OR FAN KEYS

When the FAN key is pressed repeatedly, the system can move to the minimum speed (LOW), medium speed (MED) and high speed (HIGH) or to the (AUTO) speed controlled by the microprocessor.

4) TO DIRECT THE AIR FLOW

To ensure optimum air distribution, adjust the horizontal blades and the vertical blades in such a way that the air flow does not hit people directly. The vertical air flow blades must be set manually before starting up the motorised blades.

Never adjust the motorised horizontal blades manually.

When the LOUVER key is pressed repeatedly, the horizontal blade is adjusted to 4 fixed blade positions, then a swinging blade movement will begin. If you wish to stop the blade in a particular position, press the LOUVER key.

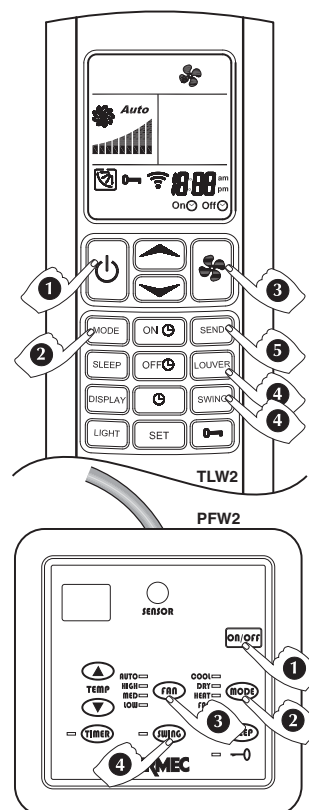
When the SWING key is pressed a swinging blade movement will begin. If you wish to stop the blade in a particular position, press the SWING key again.

5) PRESS THE SEND KEY (TLW2)

To transmit the new parameters shown on the LCD to the main control unit.

OPERATING IN JUST VENTILATION MODE

This programme is used to move the room air and avoid stagnation. The ventilation programme is particularly indicated as a support to heating systems without fans, as when a stove is used to heat the room. All the hot air gathers by the ceiling. When the unit is set in ventilation mode, the hot air is distributed uniformly throughout the room.



DEHUMIDIFICATION PROGRAMME (DRY)

The programme requires the system to circulate chilled water.



1) PRESS THE ON/OFF  OR ON/OFF TURN ON WITH  OR ON/OFF KEYS

The fan coil comes on and the display is switched on.

2) PRESS THE KEY MODE  OR MODE

Press the MODE key repeatedly until the word DRY appears on the display (TLW2) or the LEDs on wired control panel (PFW2) turns on DRY.

3) PRESS THE KEYS   OR   TO CONTROL THE TEMPERATURE

- The key with the symbol  allows increases of 1°C
 - The key with the symbol  allows decreases of 1°C
- The display shows the set point value between 16 and 30 °C.

4) TO DIRECT THE AIR FLOW

To ensure optimum air distribution, adjust the horizontal blades and the vertical blades in such a way that the air flow does not hit people directly. The vertical air flow blades must be set manually before starting up the motorised blades. Never adjust the motorised horizontal blades manually.

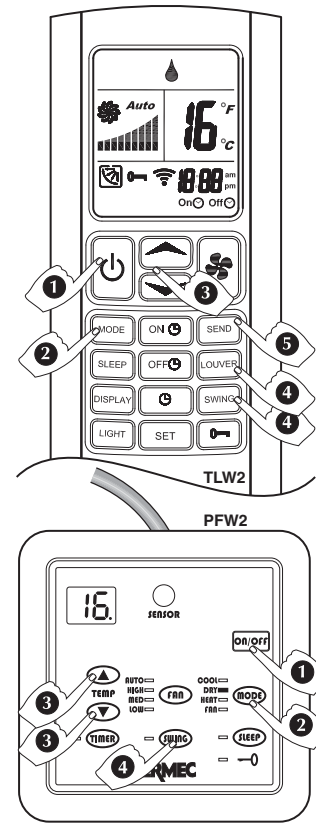
When the LOUVER key is pressed repeatedly, the horizontal blade is adjusted to 4 fixed blade positions, then a swinging blade movement will begin. If you wish to stop the blade in a particular position, press the LOUVER key.

When the SWING key is pressed a swinging blade movement will begin. If you wish to stop the blade in a particular position, press the SWING key again.

5) PRESS THE SEND KEY (TLW2)

To transmit the new parameters shown on the LCD to the main control unit.

The fan coil unit will always operate at minimum speed.



NIGHT COMFORT FUNCTION (SLEEP)

The SLEEP programme operates regardless of the time of day. Normally it is used during the night time hours.



1) PRESS THE ON/OFF  OR ON/OFF TURN ON WITH  OR ON/OFF KEYS

The fan coil unit comes on and display is switched on.

2) PRESS THE MODE KEY 

This can only be activated with AUTO, HEAT and COOL programmed.

3) PRESS THE KEYS   OR   TO CONTROL THE TEMPERATURE

- The key with the symbol  allows increases of 1°C
 - The key with the symbol  allows decreases of 1°C
- The display shows the set point value between 16 and 30 °C.

4) PRESS THE FAN KEY  OR FAN

When the FAN key is pressed repeatedly, the system can move to the minimum speed (LOW), medium speed (MED) and high speed (HIGH) or to the (AUTO) speed controlled by the microprocessor.

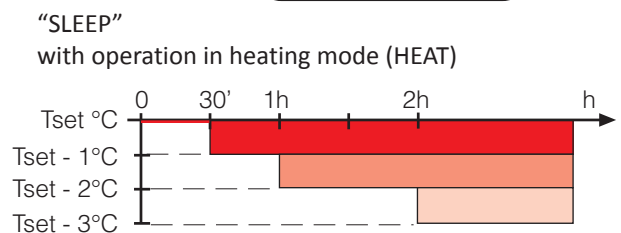
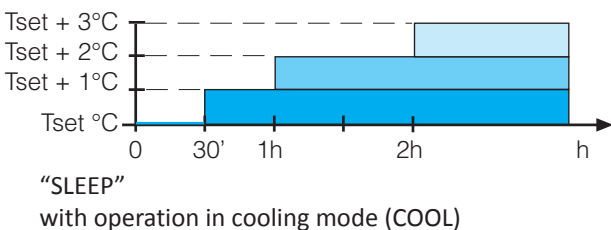
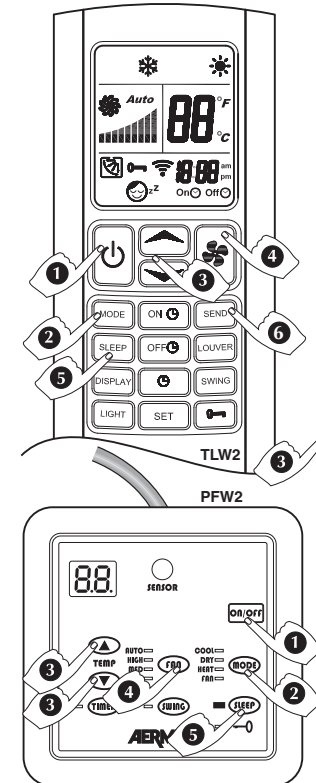
5) PRESS THE SLEEP KEY 

6) PRESS THE SEND KEY (TLW2)

To transmit the new parameters shown on the LCD to the main control unit.


WHAT HAPPENS WHEN THE NIGHT COMFORT FUNCTION "SLEEP" PROGRAMME IS SET

The temperature set point is automatically adjusted to ensure comfortable conditions whilst saving energy.





TURN ON PROGRAMMED BY THE TIMER

1) TURN ON WITH OR **on/off** KEYS

- Set the required conditions (MODE, FAN, TEMP) on the remote control that you want active when starting the unit.
- Turn off with keys  or **on/off**

2) ACTIVATE THE TIMER ON WITH **ON** OR **TIMER** KEYS

3) SET THE TIMER ON WITH OR KEYS



- The key with the symbol  allows increases of 1 hour
- The key with the symbol  allows decreases of 1 hour
- The display only shows the hours the unit remains off before the unit is turned on, TLW2 from 1 to 18 hours, PLW2 from 1 to 24 hours, The number is updated every hour until the unit turns on.
- At the time of switching on the unit:
 - a beep indicates that the unit has started
 - the display will show the conditions previously chosen in point 1)
- At the time the unit is programmed to come on, the fan may not come on:
 - because the space temperature is already within the programmed parameters
 - because the temperature of the water is not appropriate for the operation mode required
 - because during the programmed standby hours the unit's power went down.

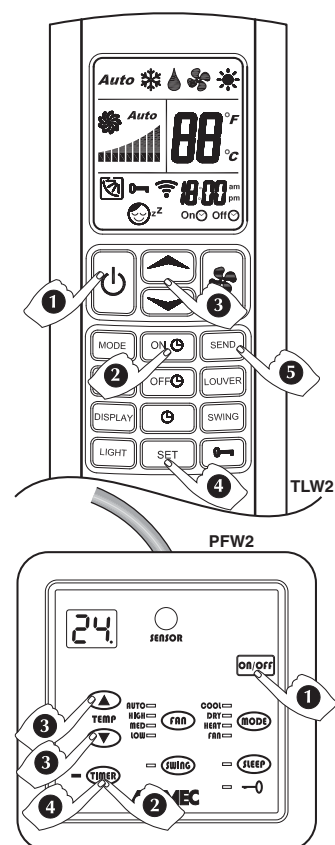
4) PRESS THE SET OR TIMER KEYS TO CONFIRM THE TIMER

5) PRESS THE SEND KEY (TLW2)

To transmit the new parameters shown on the LCD to the remote control.

TO CANCEL THE TIMER SETTING

- TLW2: Press the **OFF**  key to cancel the timer setting
- PFW2: Press the **TIMER** key for 3 seconds to cancel the timer setting.
- Press the  or **on/off** key to manually turn ON the unit while the timer is programmed.





TURN OFF PROGRAMMED BY THE TIMER

1) TURN ON WITH OR **on/off** KEYS

- Set the conditions (MODE, FAN, TEMP) on the remote control

2) TO ACTIVATE THE TIMER OFF WITH **ON** OR **TIMER** KEYS

3) SET THE TIMER OFF WITH OR KEYS



- The key with the symbol  allows increases of 1 hour
- The key with the symbol  allows decreases of 1 hour
- The display shows the operating mode and the programmed running hours before the unit is turned off, TLW2 from 1 to 18 hours, PLW2 from 1 to 24 hours, The number is updated every hour until the unit turns off. Before the programmed turn off a beep will be emitted from the unit.
- At the time the unit is programmed to turn off the unit may not switch off if the power has been interrupted during the programmed running time.

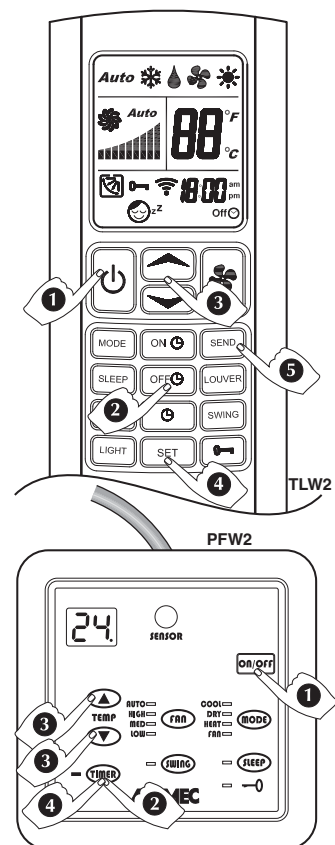
4) PRESS THE SET OR TIMER KEYS TO CONFIRM THE TIMER

5) PRESS THE SEND KEY (TLW2)

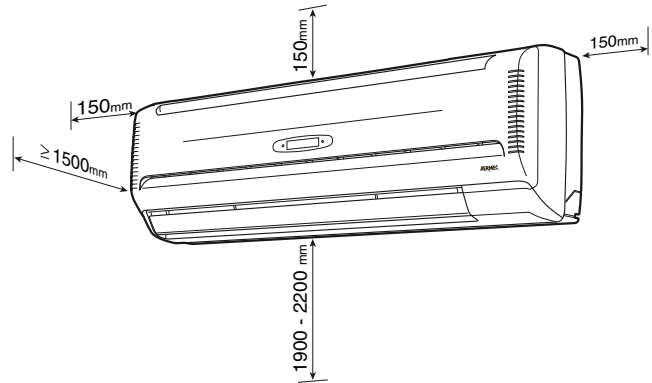
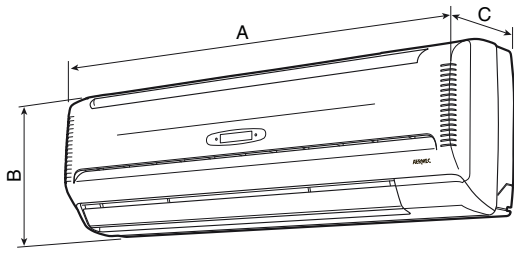
To transmit the new parameters shown on the LCD to the remote control.

TO CANCEL THE TIMER SETTING

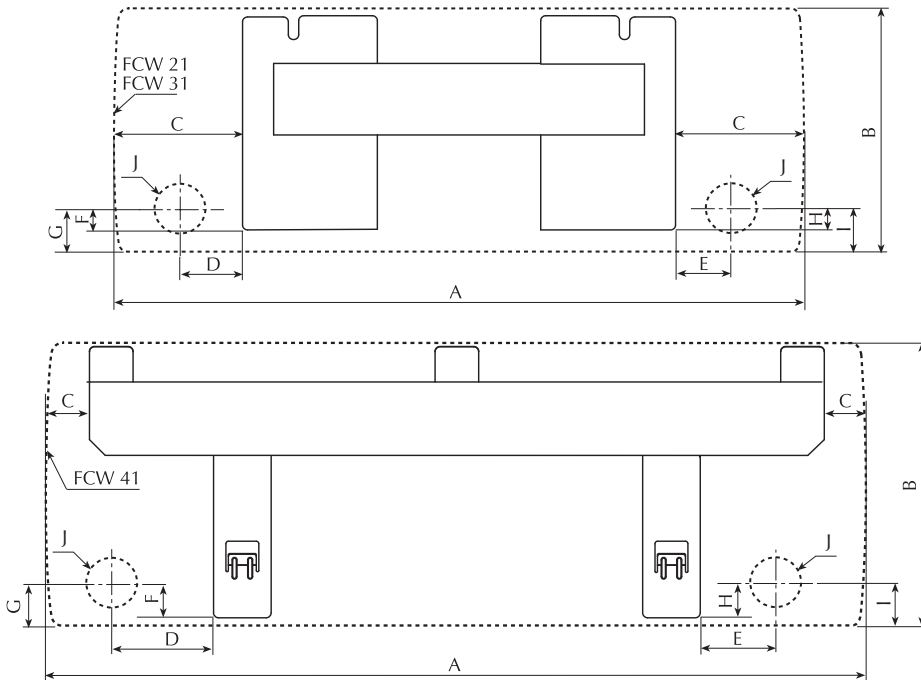
- TLW2: Press the **OFF**  key to cancel the timer setting
- PFW2: Press the **TIMER** key for 3 seconds to cancel the timer setting.
- Press the  or **on/off** key to manually turn OFF the unit and the timer programme is cancelled.



DIMENSIONS [mm]



| | A | B | C |
|--|------|-----|-----|
| FCW222V - FCW222VN FCW223V - FCW223VN FCW22VL - FCW22VLN | 880 | 298 | 205 |
| FCW322V - FCW322VN FCW323V - FCW323VN FCW32VL - FCW32VLN | 990 | 305 | 210 |
| FCW422V - FCW422VN FCW423V - FCW423VN FCW42VL - FCW42VLN | 1170 | 360 | 220 |



| FCW | A | B | C | D | E | F | G | H | I | J |
|--|------|-----|-----|-----|-----|----|----|----|----|-----|
| 222V - 223V - 22VL - 222VN - 223VN - 22VLN | 880 | 298 | 190 | 90 | 68 | 21 | 36 | 25 | 40 | Ø70 |
| 322V - 323V - 32VL - 322VN - 323VN - 32VLN | 990 | 305 | 191 | 91 | 69 | 24 | 46 | 28 | 50 | Ø70 |
| 422V - 423V - 42VL - 422VN - 423VN - 42VLN | 1170 | 360 | 139 | 210 | 115 | 21 | 42 | 25 | 46 | Ø70 |

INSTALLATION OF THE UNIT

WARNING: before carrying out any work ensure the individual has the appropriate personal protection.

WARNING: check that the power supply is disconnected before performing operations on the unit.

WARNING: wiring connections, installation of the fan coil unit and relevant accessories should 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.

In the specific case of electrical connections, the following must be checked:

- Measurement of the electrical system insulation resistance.

- Continuity test of the protective wiring.

If the fan coil unit operates continuously in cooling mode in a room with high relative humidity, condensate might form on the air discharge. 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 manual determined by the room temperature and humidity conditions. These limits refer to unit operation with fan at minimum speed.

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.

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.

The FCW 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. The unit must be arranged in such a way as to make ordinary maintenance easy (filter cleaning) and special maintenance, as well as the access to the air vent valve on the heat exchanger coil at a height of 190 to 220 cm.

Hydraulic connections:

Female diam. 1/2" G with flat faced flare connections. The direction of the water flow is indicated on the pipes of the unit.

Condensate drain connections:
FCW 22 - 32 and 42: Female with internal diameter of Øi 16 mm.

The supply and return pipes must be equally sized, made of copper with a minimum diameter of 1/2", suitably insulated to avoid heat dispersion and dripping during cooling operation.

The water and condensate drainage pipes and the electrical circuit wiring on the wall must be installed beforehand. The diameter of the hole for the connections must be at least 70 mm and the piping positioned in such a way as to maintain an adequate inclination along the entire route (min.1%), to ensure evacuation of the condensate produced in the cooling operation of the fan coil unit.

The condensate drainage system must be correctly sized. To avoid unpleasant smells a trap is recommended if the condensate is connected to the sewage system.

The service hole for the piping can be located on the right or left of the unit.

The support wall must be sturdy and not subject to vibrations.

Do not install the unit near sources of heat, vapour or flammable gas.

Do not install in a position exposed to direct sunlight.

Installation

To install the unit, proceed as follows:

- Put the template on the wall, fixing it solidly with at least six or more screws or expansion blocks of a type that is adequate for the thickness of the fixing wall, through holes near the edge of the template.

The template must be fixed flush to the wall, perpendicular to the floor and perfectly level. Failure to respect these conditions will cause water to drip out of the drain tray.

- Remove the cabinet.
- The FCW unit permits 4 connection possibilities.

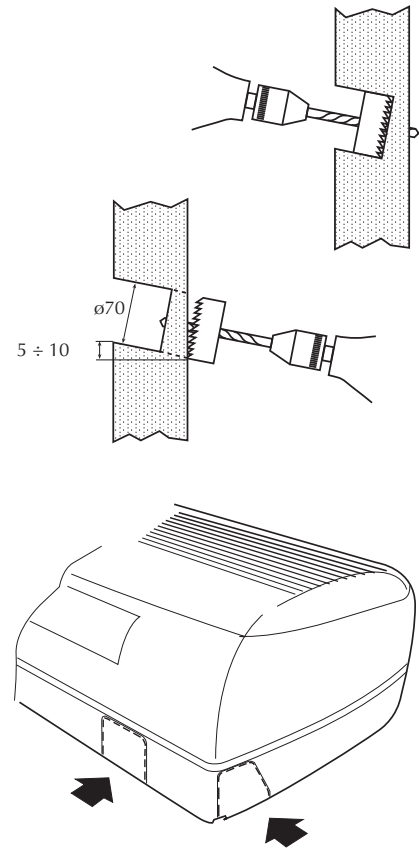
For connections through the wall make a hole with a diameter of 70 mm, inclined downwards by 5-10 mm.

For connections sideways and downwards, remove the knock-outs of the cabinet in the direction of the pipes.

- Carry out the electrical connections as shown on the wiring diagram.
- If you intend to control the fan coil unit with the PFW2 wired control panel make the connection with the unit as indicated in the wiring diagram: remove the connector of the Infra Red receiver from the circuit board of the unit and connect the wired control panel to it. The cable is 4 metres long.
- Make the water connections. If the pipe is repeatedly bent it may break.

The unit's pipes indicate the direction of the water flow

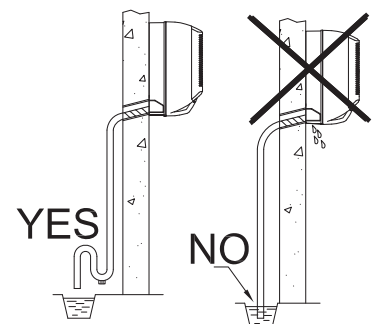
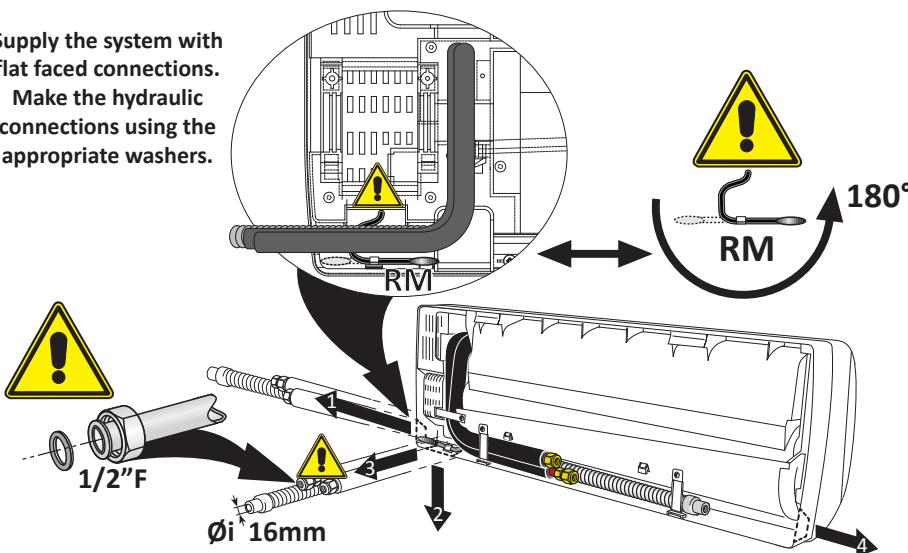
- Connect the condensate drain outlet to the drainage line and make sure it works properly.
- Insulate the pipes properly.



- Position the FCW unit on the template after passing the pipe through the hole or in the channelling in the wall. Check that the fan coil is level horizontally and vertically.
- When all the installations have been completed (electrical and hydraulic connections, fan coil unit fixing and condensate drain connection) close the hole in the wall with a suitable filler.
- Vent the coil using the air valve provided.
- Complete the refitting of the compo-

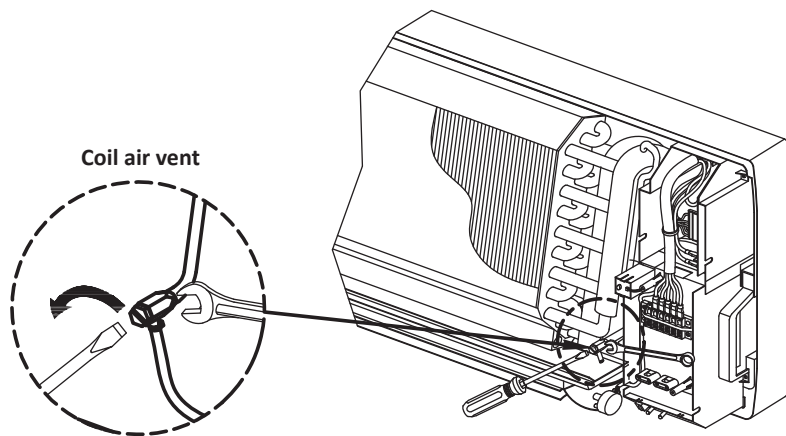
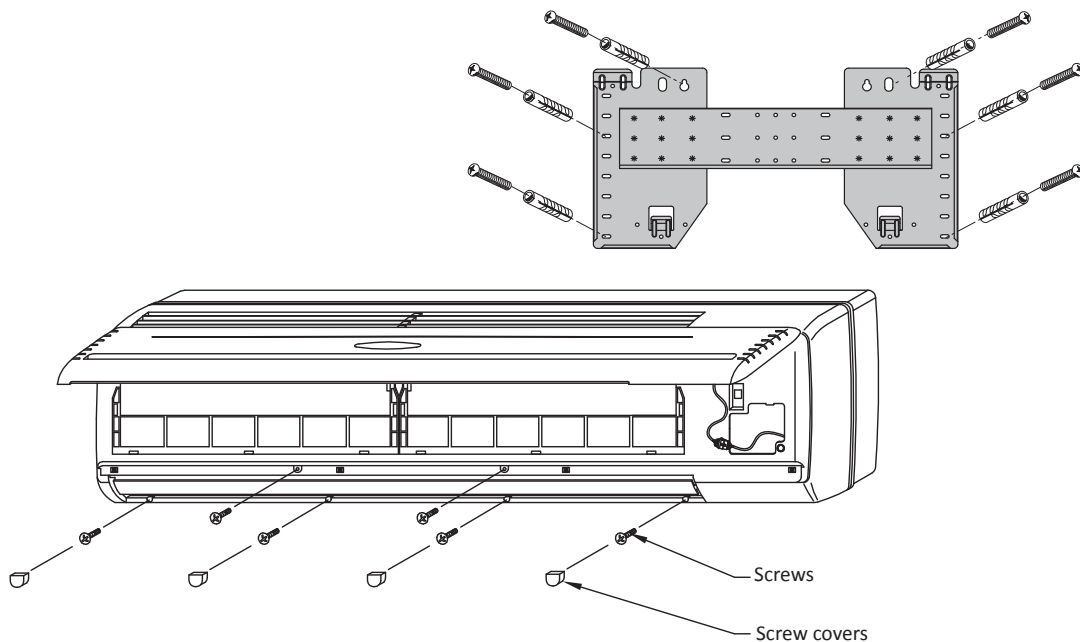
Supply the system with flat faced connections.

Make the hydraulic connections using the appropriate washers.

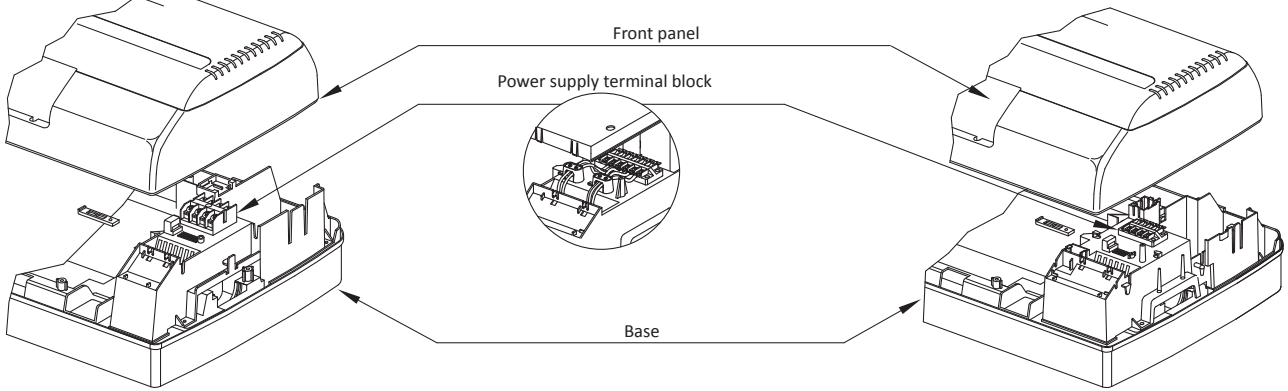


nents of the unit paying attention that the debris from the materials used for the installation do not block the fan or obstruct the filters or the grilles.

- After installation perform a functional test of the fan coil unit.



ELECTRICAL WIRING

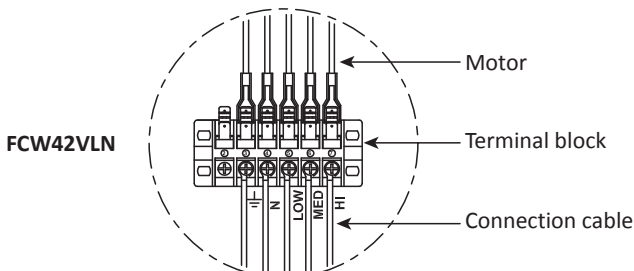
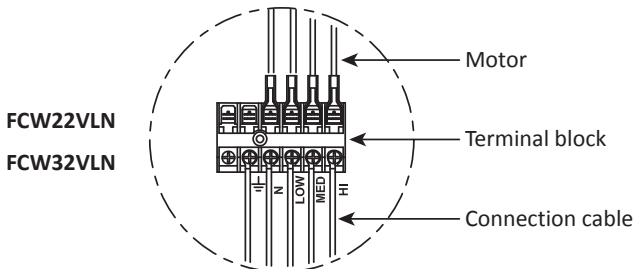
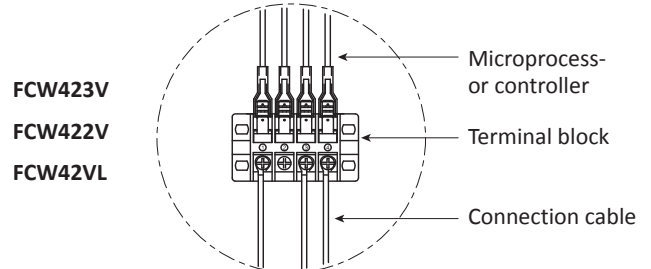
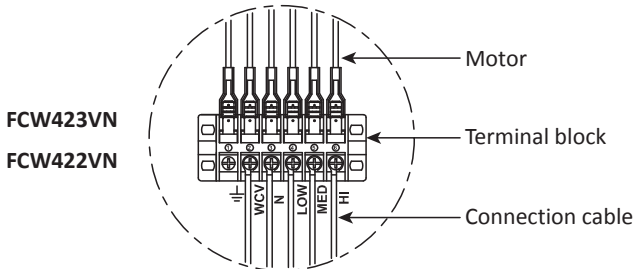
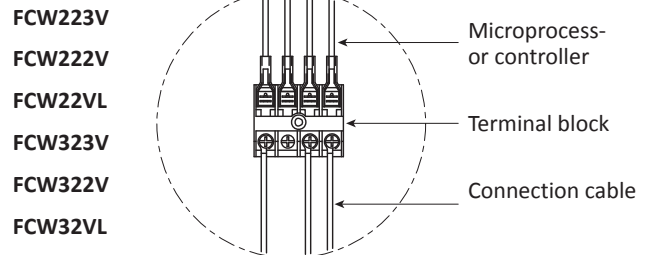
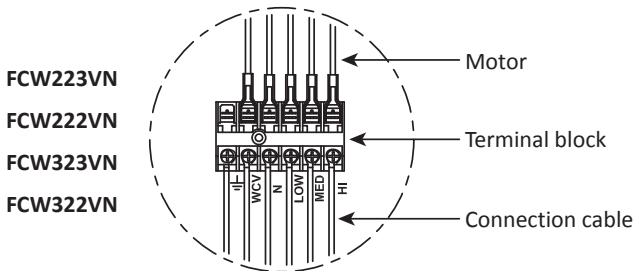


WARNING: check that the power supply is disconnected before performing operations on the unit.
 The unit must be connected directly to an electrical outlet or to an independent circuit.
 Provide a 230V (±10%) power supply.
 To protect the unit against short circuits, fit a circuit breaker of max. 2A 250V to the power line with a minimum con-

tact opening distance of 3 mm.
 The electrical power cable must be of the H07 V-K or N07 V-K type with 450/750V insulation rating if inside a tube or conduit. Use cables with double H5vv-F type insulation for exposed cable installation.
 Follow the wiring diagram supplied with the equipment and shown in this document when making the connections.

Ensure that the installation is wired in compliance with the laws and standards in force, and with the instructions in this manual.
 All the parts and materials supplied on site must comply with the local laws and regulations.

Electrical wiring



| | | |
|---------------------|----------------------------|-------------------------------|
| | FCW_2V FCW_3V FCW_VL | FCW_2VN FCW_3VN FCW_VLN |
| IG | 2A | |
| Cable cross section | 1.5mm ² | |

WARNING
 The unit must be correctly earthed; incorrect connection could result in electric shocks or fires.

INSTALLATION OF PFW2 WIRED CONTROL PANEL (ACCESSORY)

Accessory indispensable for the functioning of the fan coil unit. Alternative to the remote control TLW2. The two control systems can be used together.

A PFW2 wired control panel can only control one fan coil unit.

The panel can be fixed directly to the wall with two screws or a rectangular electrical box. The panel cable is 4 metres long and is fitted with connector (B) for connection to the fan coil circuit board as shown in the wiring diagrams.

To install the wired control panel it is necessary:

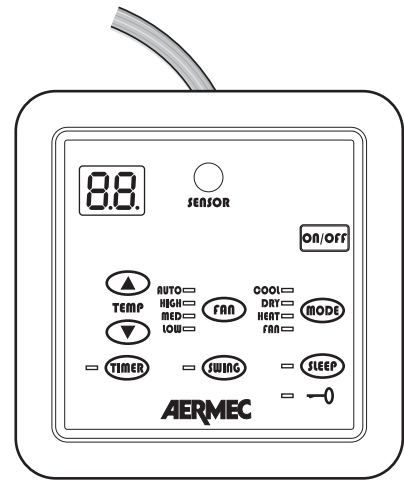
- to disconnect the connector (A) of the infrared receiver from the circuit board

inside the fan coil unit.

- connect connector (B) of the wired control panel to the circuit board connector now vacant.

The PFW2 makes it possible to set the operating parameters of the unit and these parameters are shown on a liquid crystal display, making programming operations easier.

Avoid installing the panel in positions where it is directly exposed to the sun light.



PFW2

