



CARISMA WHISPER CFF-ECM / CFF-ECM-MV-R

- IT** ISTRUZIONI PER INSTALLAZIONE, USO E MANUTENZIONE
- EN** INSTRUCTIONS FOR INSTALLATION, USE AND MAINTENANCE
- FR** INSTRUCTIONS POUR L'INSTALLATION, L'UTILISATION ET LA MAINTENANCE
- DE** ANWEISUNGEN FÜR INSTALLATION, GEBRAUCH UND WARTUNG
- ES** INSTRUCCIONES DE INSTALACIÓN, USO Y MANTENIMIENTO
- NL** INSTRUCTIES VOOR INSTALLATIE, GEBRUIK EN ONDERHOUD



08/2022
COD. 4051326

- IT** *Gentile cliente,
la ringraziamo per la fiducia accordataci con l'acquisto di un nostro prodotto.
Se Lei avrà la costanza di seguire attentamente le indicazioni contenute nel presente manuale, siamo certi che potrà apprezzarne nel tempo e con soddisfazione la qualità.
Prima della messa in funzione, leggere attentamente il manuale di istruzioni.*
- EN** *Dear customer,
we thank you for your confidence in the purchase of this product.
By following carefully the instructions contained in this manual you will be sure to appreciate its quality.
Before installation and commissioning, read the following user information manual carefully.*
- FR** *Cher client,
nous vous remercions de la confiance que vous nous accordez en achetant un de nos produits.
Prière de lire attentivement les indications contenues dans le manuel, concernant l'utilisation correcte de notre produit, conformément aux prescriptions essentielles de sécurité.
Avant la mise en marche, lire attentivement le mode d'emploi.*
- DE** *Sehr geehrter Kunde,
wir danken Ihnen für das uns durch den Erwerb eines unserer Produkte entgegengebrachte Vertrauen.
Wenn Sie die Ausdauer haben, aufmerksam die im vorliegenden Handbuch enthaltenen Hinweise zu beachten, sind wir gewiß, daß Sie lange und mit Zufriedenheit die Qualität unserer Maschine schätzen werden können.
Lesen Sie vor der Inbetriebnahme aufmerksam die Bedienungsanleitung.*
- ES** *Apreciado cliente:
Le agradecemos que haya decidido confiar en nosotros al adquirir uno de nuestros productos.
Si es usted perseverante y sigue escrupulosamente las instrucciones contenidas en este manual, estamos seguros de que podrá apreciar la calidad de nuestra máquina con el paso del tiempo.
Antes de comenzar, lea atentamente el manual de instrucciones.*
- NL** *Geachte klant,
wij danken u voor het vertrouwen dat u in ons stelt door de aankoop van een van onze producten.
Als u de aanwijzingen in deze handleiding nauwgezet opvolgt, kunt u het beste halen uit dit product en de kwaliteit en duurzaamheid ervan ten volle waarderen.
Lees voor het installeren en in gebruik nemen van het toestel de gebruiksaanwijzing zorgvuldig door.*

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FR	à partir de la p. 51
DE	von S. 74
ES	de la p. 97
NL	van b. 120

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1 GENERAL INFORMATION

Simbology



Important and/or dangerous operations



Particularly important and/or dangerous operations



They indicate prohibited operations

Addressees

This instruction manual is intended for:

- **Owner:** person or organization owning the system where the unit is installed; the owner is responsible for checking compliance with all the safety regulations indicated in this manual and the regulations in force at national level.
- **Installer:** person or organization responsible for the electrical and hydraulic installation and connection, etc. in accordance with this manual and with the regulations in force at national level.
- **Maintenance technician:** person authorized to perform all control and maintenance operations provided for in this manual on the unit.
- **User:** person authorized to use and operate the unit.

Main warnings



For the fundamental safety rules, general installation warnings and maintenance plan, see the code 4051222 manual (that accompanies the unit).



Carefully read the following user information manual before installing and starting up the machine.



Before performing any installation or maintenance operations on the machine disconnect the machine from the supply line.



The unit may not be used:

- for outdoor installation
- for installation in moist rooms
- for installation in explosive atmospheres
- for installation in corrosive atmospheres



Make sure that the environment where the unit is installed does not contain substances that cause the corrosion of the aluminium fins.

The fan coils have been designed for room heating and/or air conditioning and must be used exclusively for that purpose.

We decline all responsibility for damage caused by their improper use.

If in doubt, use must be agreed with the manufacturer. Any other or further use is considered an improper use.

Proper use also includes compliance with the installation instructions described in this manual.

The installer/operator is held solely responsible for any damage caused.

The installation of this product requires expertise in the heating and air conditioning sector. This knowledge, which is usually taught in professional training in the occupational fields mentioned above, is not described separately. Malfunction or damage due to improper installation must be borne by the installer.

All repairs or maintenance must be performed by qualified specialists.

We decline all responsibility for damage caused by modifications or tampering with the unit.

The manufacturer will not be held liable in case of:

- improper or incorrect use of the unit;
- use that does not comply with the information expressly specified in this publication;
- serious shortcomings in the foreseen and recommended maintenance operations;
- changes made to the machine or any unauthorized operation;
- using non-genuine spare parts or parts not specific to the model;
- total or partial failure to comply with the instructions;
- exceptional events.

During storage and installation, the products must be protected against moisture.

In particularly cold climates, if the unit is not to be used for long periods, drain the hydraulic circuit.

Don't remove the safety labels.

Using and storing the manual

The instruction manual aims to describe how to use the machine the way the machine is designed to be used, the machine's technical features and to provide information on how to use the machine correctly, and how to clean, control and operate the machine; in addition, the manual provides important information about maintenance, any residual risks and however how to carry out operations to be performed with special care.

This manual is to be considered a part of the machine and must be **preserved for future reference** until the machine is finally dismantled.

The manual is divided into the following sections.

- **General information** where important information related to each phase of the life of the unit is described (section dedicated to all recipients)
- **Installation** where all the steps to be followed by the installer are described (installer section)
- **Commissioning** where all the phases for starting the machine are described (installer section)
- **Use** where the operations that the user of the unit can perform are described (user section)
- **Maintenance** where all the operations that must be carried out for correct maintenance are described (section dedicated to the maintenance technician)
- **Recycling and disposal** where all the operations to be carried out at the end of the unit life are described (section dedicated to the owner, installer and maintenance technician)

The instruction manual must always be stored in a protected and dry place.

The user can request a new manual from the manufacturer or from the local retailer if the manual is lost or damaged. The request must include details of the machine model and the serial number indicated on the identifying data plate.

This manual reflects the technical features at the date of preparation; the manufacturer reserves the right to upgrade the production and the subsequent manuals without being under an obligation to also update previous versions.

Safety requirements

In the design and construction phases of the machine have been adopted special measures to avoid

risks for the operators in the typical situations of use during the technical life of the appliance and especially in the following events:

- installation
- use
- maintenance of the unit.

Interventions on the unit


Before any intervention on the unit please take the following precautions:


- disconnect the electrical power supply.
- please use suitable protective clothing.
- don't approach the unit with cravats, scarves or fluttering clothes, which could get trapped in the fan section.
- assign the installation to qualified technical staff.
- please keep the working area clean.

Please make sure that the earthing has been correctly performed.

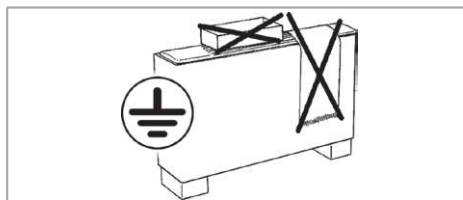
If the unit needs maintenance, please switch it off and wait some minutes. During maintenance please always wear protection gloves.


Fan blades may reach speeds of up to 1000 rpm; never introduce objects or the hand into the fans.

 **Do not remove the electrical board printed circuit guard from the control unit mounting.**

 **If the filter requires replacing or cleaning, always make sure it is repositioned correctly before starting the unit.**

 **Use:**



 **for CFF-ECM-MV-R : when the radiant panel operates, can reach very high temperatures :**

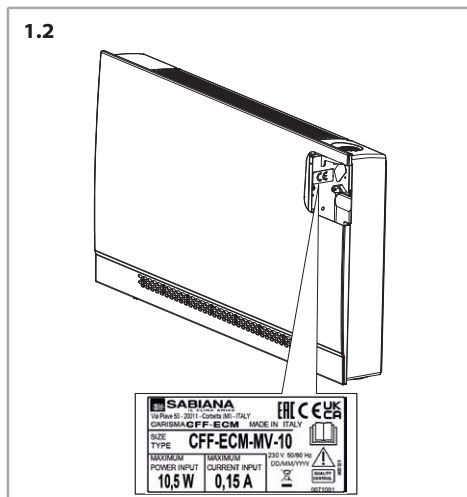
- **Do not place any objects on the frontal panel**
- **Do not place easily flammable materials nearby and anyway never at a distance less than 1 m**

- Avoid the direct contact with the panel, when it operates
- Prevent children from us it

Unit identification

Each unit is provided with an identification label, which informs you on the construction data and the model type.

The label is located inside the unit on the electric controls side.

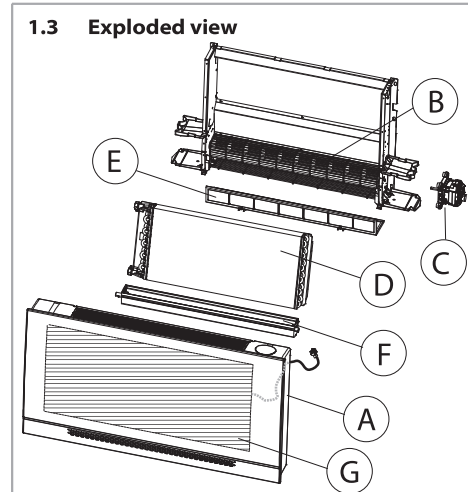


Product description

The fan coils are conceived, designed and produced to heat/cool all civil, industrial, commercial or sports premises.

The units are supplied with hot or cold water, depending on whether the environment is to be heated or cooled.

Description of main components



Outer casing (A)

Casing in hot galvanized sheet metal with plastic external coating.

It can be easily disassembled for complete accessibility of the unit.

The air discharge grid, which is part of the casing, is adjustable and positioned on top.

Fan assembly (B)

Consists of a particularly quiet tangential fan. The aluminium fan blades are statically and dynamically balanced and are fixed directly to the motor shaft.

Electronic motor (C)

The motor is installed on the right side of the unit, is a three phase permanent magnet DC brushless electronic motor, with low energy consumption, electronically driven and controlled with current reconstructed according to a BLAC sinusoidal wave.

The inverter board that controls the motor operation is powered by 230 Volt, single-phase and, with a switching system, it generates a three-phase frequency modulated, wave form power supply.

The electric power supply required for the machine is therefore single-phase with voltage of 230 V and frequency of 50-60 Hz.

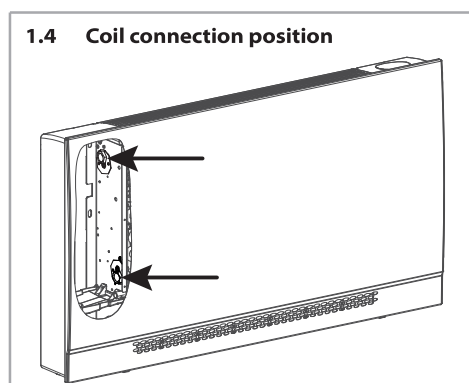
Coil (D)

It is manufactured from drawn copper tube and the aluminium fins are mechanically bonded onto the tube by an expansion process.

The coil is equipped with:

Description	Value
Number of connections	2
Size of connections	1/2"
Type of connections	Female

Coil connections are fitted with air vents and water drain outlets (1/8" dia. gas).

**Filter (E)**

Made of regenerable synthetic material removable from below.

Condensate collection tray (F)

Made of plastic, it has the function of collecting the condensate produced by the unit during the summer cooling phase and conveying it to the external auxiliary tray equipped with hose connection.

Radiant panel (G)

Panel with electric heater.

Technical specifications

A-weighted sound pressure level < 70 dB(A).

For dimensions, weights and water content, see p. 148

For performances see from p. 154

Other technical data

All other important technical data (dimensions, weights, connections, noise emissions, etc.) are given elsewhere in this User Information Manual, in the

separate technical documentation or in the technical proposal.

Operating limits**Fan coil unit**

The basic specification of the fan coil and heat exchanger is given below:

Description	UoM	Value	
Water flow	Highest working pressure	bars	16
		kPa	1600
	Lowest water inlet temperature	°C	+6
	Highest water inlet temperature	°C	+85
Power supply	Single-phase rated operating voltage	V/Hz	230/50-60

Electric energy consumption: see technical data label.

Valves

The technical specification of the valves with thermo-electric actuator is given below:

Description	UoM	Value
Water flow		
Highest working pressure	bars	10
	kPa	1000
Maximum glycol content in water	%	50
Highest water inlet temperature	°C	85
Power supply		
Single-phase rated operating voltage	V/Hz	230/50-60
VA rating	VA	2,5
IP protection	IP	44
Initial opening and closing time	Seconds	75

Water flow rate limits for 2 row coil

Model		CFF-ECM 10	CFF-ECM 20	CFF-ECM 30	CFF-ECM 40	CFF-ECM 50
Water flow rate Min.	l/h	40	80		120	
Water flow rate Max.	l/h	200	350	500	600	800

General notes on delivery

Notes for the installer.

The unit is supplied in cardboard packaging.

After removing the packaging, make sure the contents are as requested and not damaged, and that the machine components have not been damaged by impacts.

Control if the threading of the tubes, which are protruding from the unit, is all right.

In the event of damage or if the identification code does not correspond to that ordered, contact your dealer immediately, quoting the series and model.

Handling and storage

Notes for the installer.

The units must be handled by at least two persons.

The vehicle unloading operations are the responsibility of the recipient.

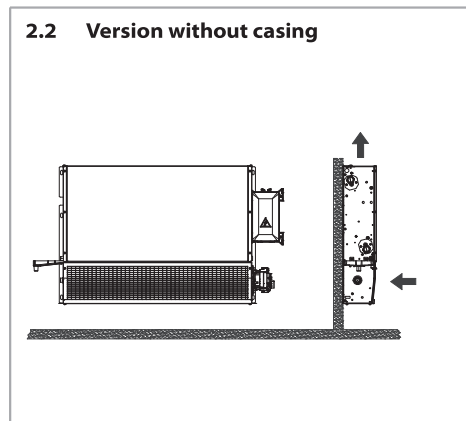
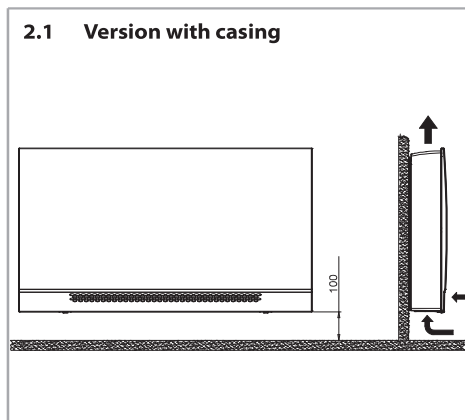
The CFF-ECM units must be stored in a dry place protected from the weather.

2 INSTALLATION

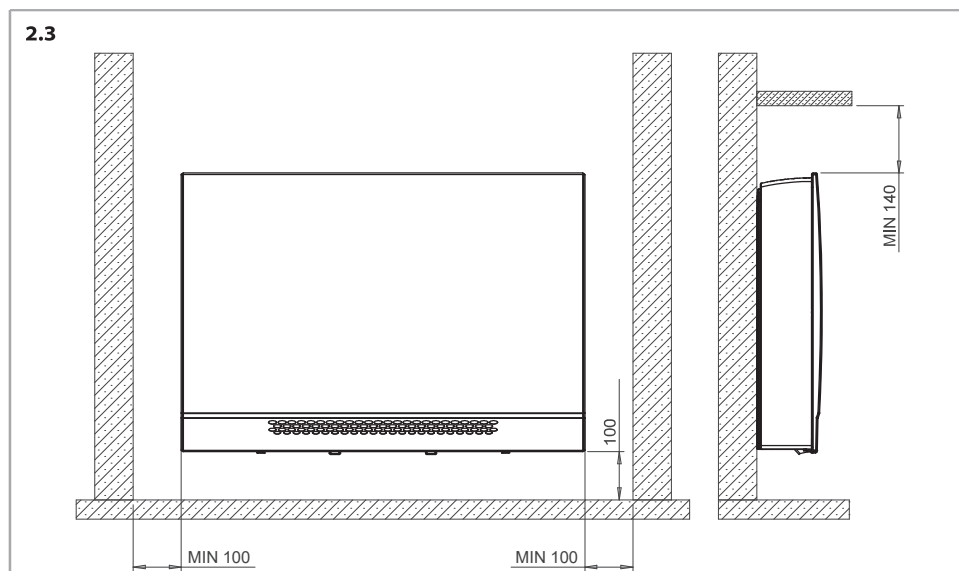
Mechanical installation

Install the unit in a position that does not compromise the air intake (see p. 32).

Air flow



Clearances



Wall drilling position

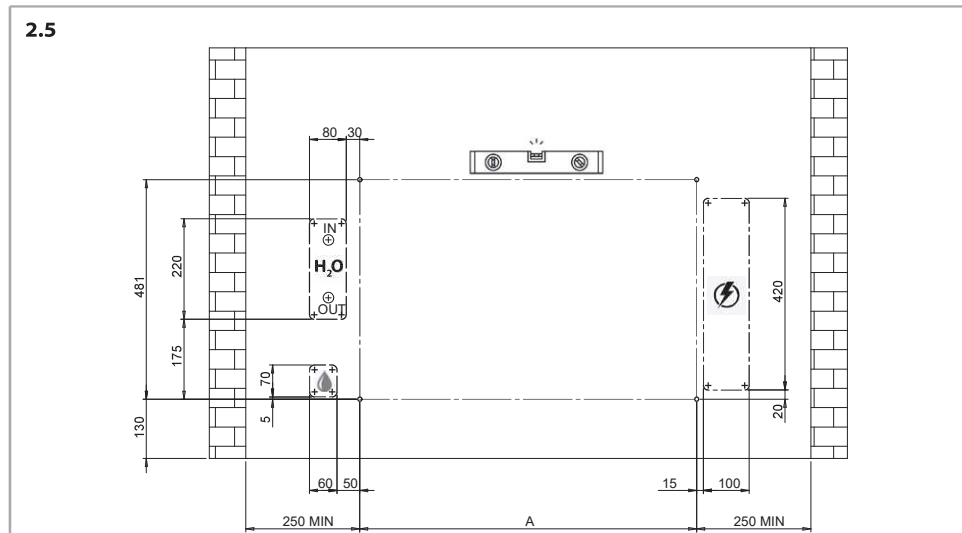
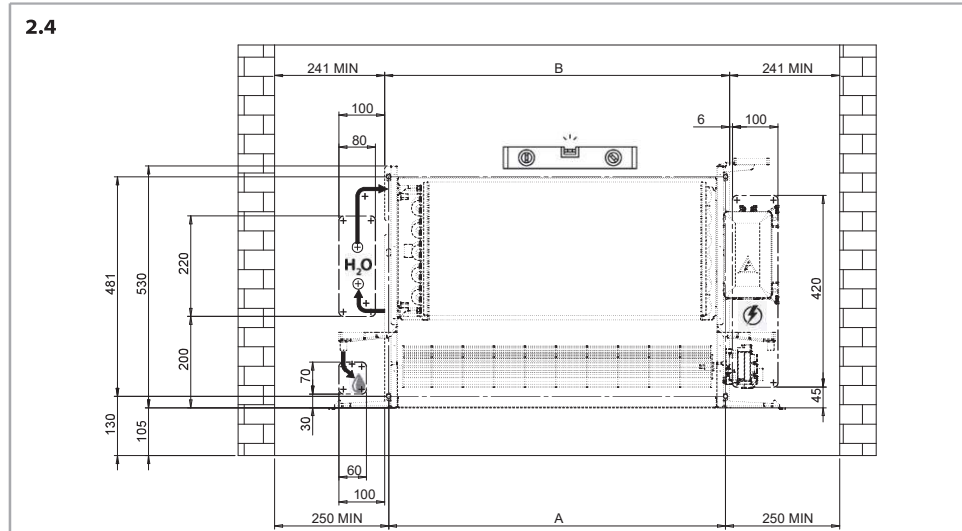
Drill the holes required for installation according to the dimensions in the drawing.

For the fan coil fixing, place 4 dowels suitable for the unit weight (positions and dimensions of the fixing holes on p. 35).

Fix the fan coil unit as shown at p. 35.

The unit can be installed using any other method considered appropriate by the installer, providing it is in accordance with current legislation.

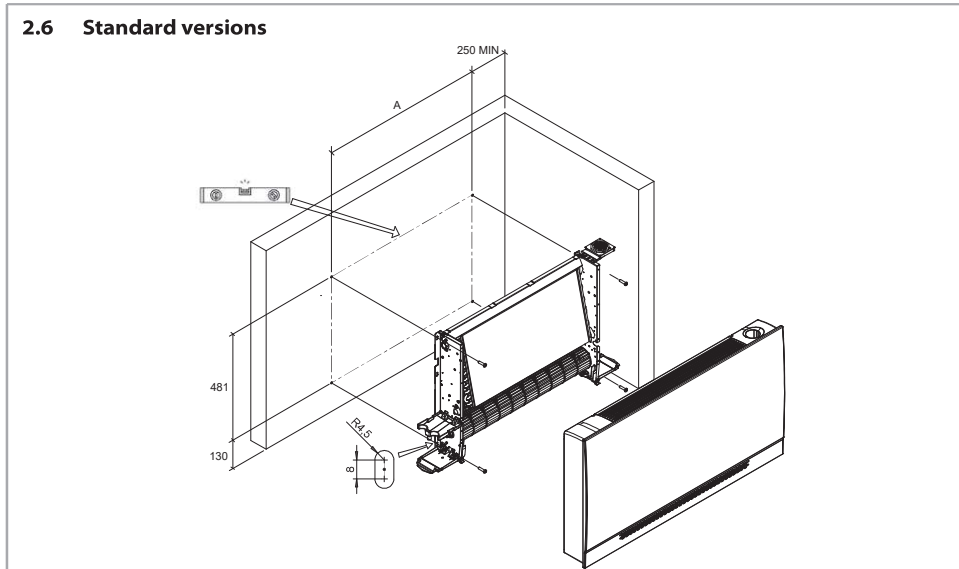
Left version drawings; for the right versions the drawings have to be considered as mirrored.



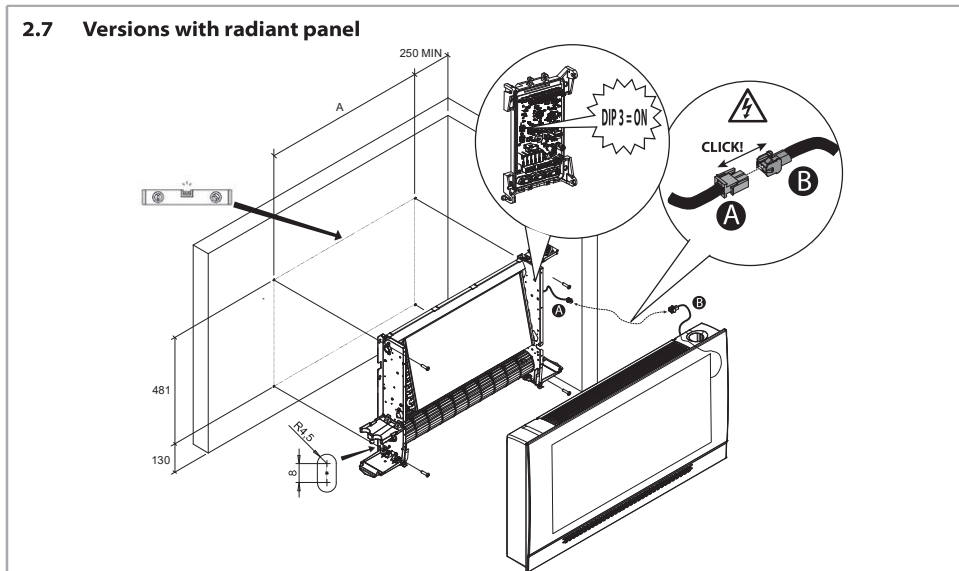
Model	CFF-ECM 10	CFF-ECM 20	CFF-ECM 30	CFF-ECM 40	CFF-ECM 50
A	338	538	738	938	1138
B	356	556	756	956	1156

Wall mounting

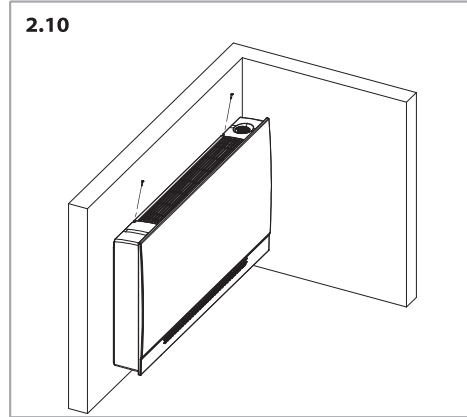
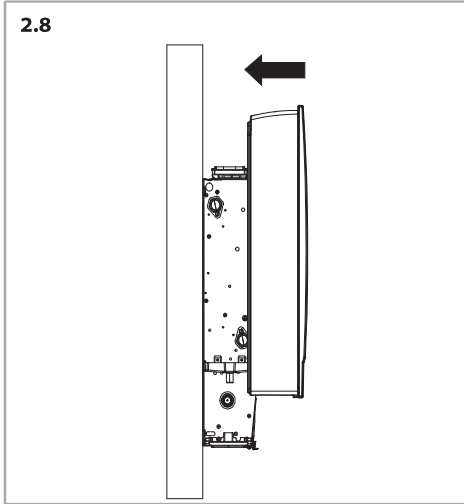
2.6 Standard versions



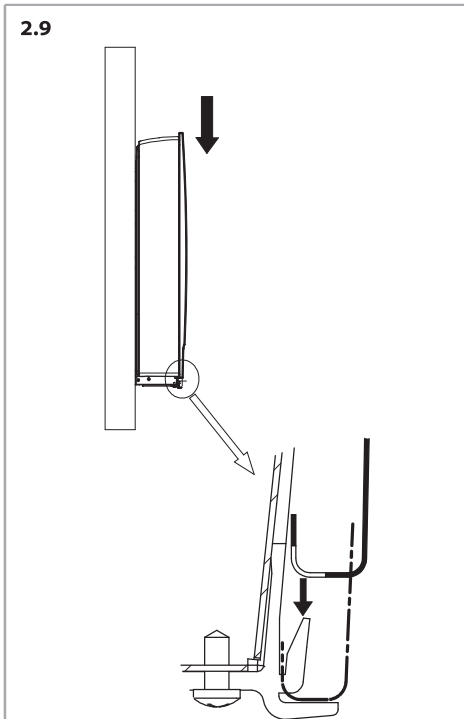
2.7 Versions with radiant panel



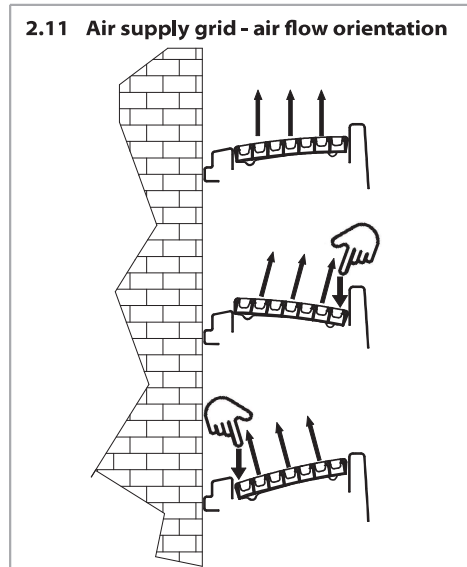
Model	CFF-ECM 10	CFF-ECM 20	CFF-ECM 30	CFF-ECM 40	CFF-ECM 50
A	338	538	738	938	1138



For a correct operation of the unit CFF-ECM don't connect any duct on the return side and respect the minimum suggested dimension of the air intake grid.

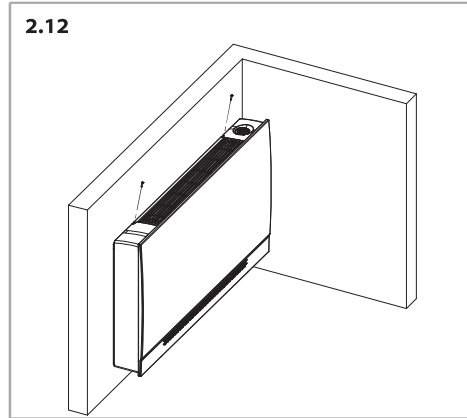


In the MV versions it is possible to direct the air flow by changing the inclination of the grid, as shown in the illustration.

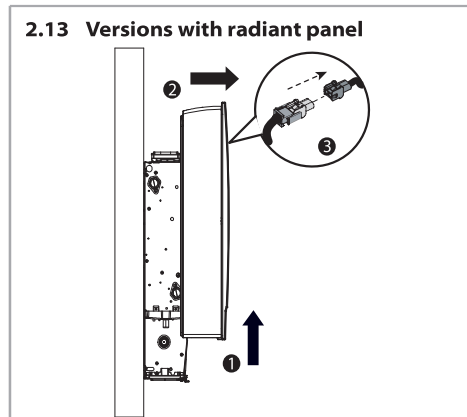


Casing removal

Remove the screws that keep the casing fastened.



Remove the casing from the structure.



Hydraulic connections

On open system (e.g. when using well water), the water used should be cleaned from suspended matter by means of a filter which should be located in the inlet. Otherwise there is a risk of erosion due to suspended matter.

You must also ensure that the unit is protected from dust and other substances that cause an acid or alkali reaction when combined with water (aluminum corrosion).

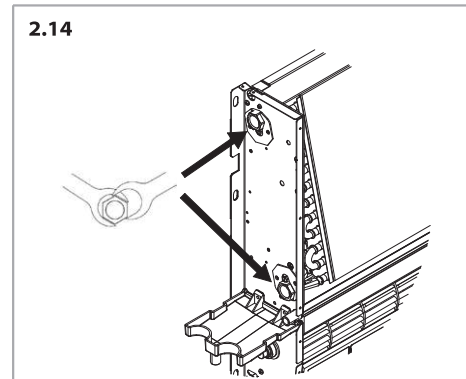
If the unit is equipped with a valve, connect the connection pipes to the valve.

The installer must always test the tightness of the valve kit connections, also when it is provided fitted on the unit.

In case of coil water leakage during the pressurization of the installation, it is mandatory to isolate hydraulically the unit and contact the Sabiana Assistance Service.

⚠️ Coil maximum working pressure: 16 bars.

⚠️ Always use two spanners to connect the coil to the pipes.



⚠️ Always fit a lockshield valve in the water circuit.

Please make sure that no leakage occurred. To avoid leakage please insulate the threaded ends of the tubes with hamp and tighten them with care.

If the unit is used for cooling, insulate the pipes and valve to avoid drops of condensate forming.

During the summer and when the fan is inactive for long periods, you are recommended to shut off the water supply to the coil to avoid condensation forming on the outside of the unit.

Connect the siphon to the drain according to the figure.

2.15



! Install a condensate drain pipe with a slope of at least 3 cm/metre. Pour a few litres of water into the condensate collection tray to make sure it is properly evacuated. In case of problems, check the sizing of the siphon, slopes or possible obstructions.

Valves

Technical data for valves with thermoelectric actuator can be found at p. 31.

For the ON-OFF 230 V three-way water valve and mounting kit with regulating check valve see p. 152.

For the ON-OFF 230 V 2-way valve see p. 151.

Electrical connections

For wiring diagrams see p. 142.

General warnings

Perform electrical connections in accordance with laws and regulations in force in the country concerned.

The wiring diagrams do not address protective grounding or other electrical protection which will be required under local rules, regulations, codes and standards or by the local electricity supplier.

Before installing the fan coil, make sure the rated voltage of the power supply is 230 V / 50-60 Hz.

The power supply is always connected to terminals L, N and PE on the board.

Maximum power consumption for 230 VAC mains power operation is as follows:

Motor absorption

Model		CFF-ECM-10	CFF-ECM-20	CFF-ECM-30	CFF-ECM-40	CFF-ECM-50
Motor absorption	W	10,5	14,0	21,5	25,5	30,0
Current absorbed	A	0,15	0,18	0,25	0,28	0,30

Motor absorption + radiant panel

Model		CFF-ECM-MV-R 10	CFF-ECM-MV-R 20	CFF-ECM-MV-R 30	CFF-ECM-MV-R 40	CFF-ECM-MV-R 50
Rating	W	70,5	104,0	141,5	175,5	210,0
Current absorbed	A	0,45	0,58	0,85	0,98	1,10

Make sure that, in addition to supplying the working current required by the fan coil, the mains electrical supply is also able to supply the current necessary to operate other household appliances and units.

! In case of combination of the fan coil with electronic controllers it must be absolutely considered that the 0-10 V DC signal will always and only come from the controller itself and that it must be applied on the structure of the fan coil.

Provide, for the product protection, a RESIDUAL CURRENT DEVICE (RCD) with a nominal residual operating current rating (I_{dn}) not exceeding 30 mA.

Upstream of the unit, a disconnection switch must be provided and shall have a contact separation in all poles, providing full disconnection under overvoltage category III condition.

The unit must always be earthed.

Always disconnect the electrical power supply before opening the unit.

The minimum cross section of the electric wires is 0.75 mm².

We recommend the use of a 3G0.75 cable of the harmonized type <HAR> whose replacement, in case of damage, must be carried out by qualified personnel.

Connection instructions

The unit is fitted with a connection terminal board on the internal side panel on the opposite side to the hydraulic couplings.

To connect, respect the wiring diagrams in this booklet.

The installer must bring the connecting wires into the unit through the access points provided:


- wall-mounted, using the rear access point corresponding to the side panel.
- floor-standing, using the recess inside the foot (MV units with feet only).
- from near the unit in the case of built-in installations.

All controls for installation on the unit are provided with a connection cable to the power unit board.

Electrical controls and wiring diagrams

The motor is protected by a thermal contact integrated in the winding. It stops the motor if overheating occurs and starts the motor again automatically after it has cooled down.

The fan coil is provided with a terminal board for the connection of the electrical feeding, for the fan speed control, for the valve's control and for the connection with the safety device.

 When designing and dimensioning the power line and protection devices for electronic appliances with interference suppression filters, the leakage current must be taken into consideration.

Our **ECM** appliances comply with **CEI-EN 60335** as they have a leakage current of 0.8 mA, below the 3.5 mA permitted limit specified in the standard.

The total leakage current considered must take account of the number of appliances installed and the characteristics of any other electrical appliances connected on the same power line.

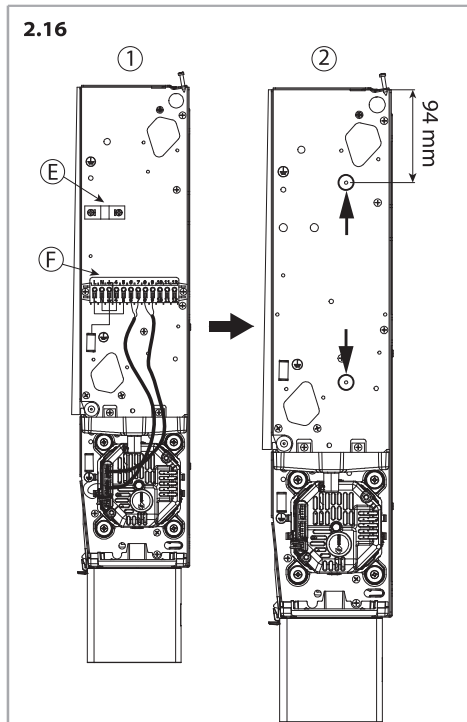
UP-ECO power unit installation for CB-E control

Instructions for installing the power unit when not factory installed.

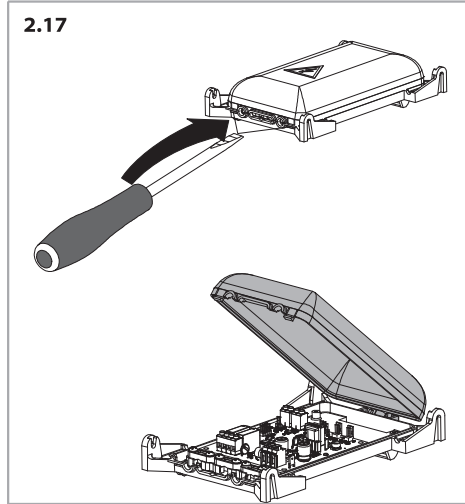
The basic units, supplied without controls, are equipped with an electrical terminal board prepared for connection to external controllers.

To install the power unit proceed as follows:

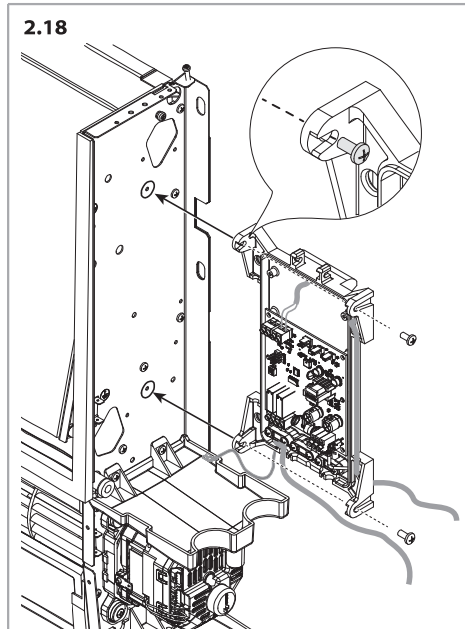
1. It is necessary to remove the cable fastener (E) and the terminal board group with the related motor cables (F) from the right side of the fan coil unit.
2. Remove the terminal board applied on the shoulder by unscrewing the two self-tapping screws. The two holes shown in the figure are those that will then be used to fix the power board.



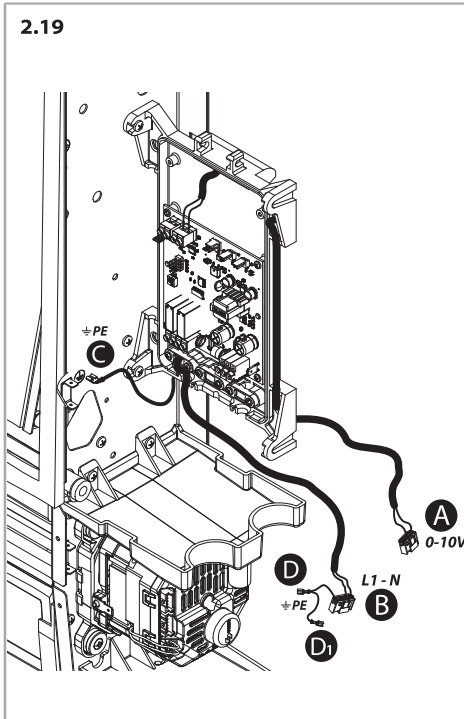
3. Remove the power board cover. The electronic board is supplied with the cables connected. (Pic. 2.17)



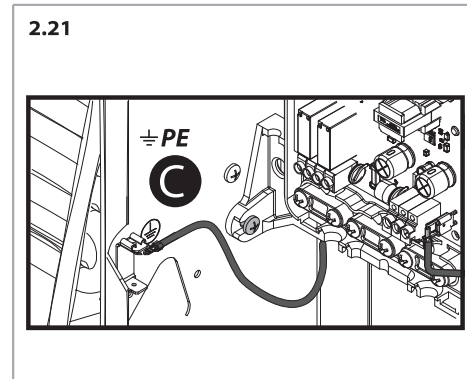
4. Fix the power board using the 2 self-tapping screws supplied. (Pic. 2.18)



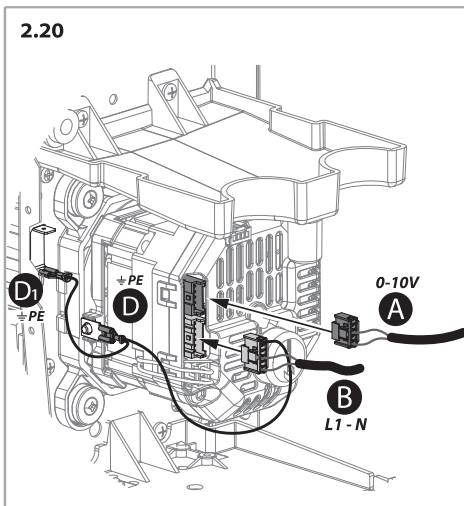
5. Do the electrical motor connections. (Pic. 2.19 and 2.20)



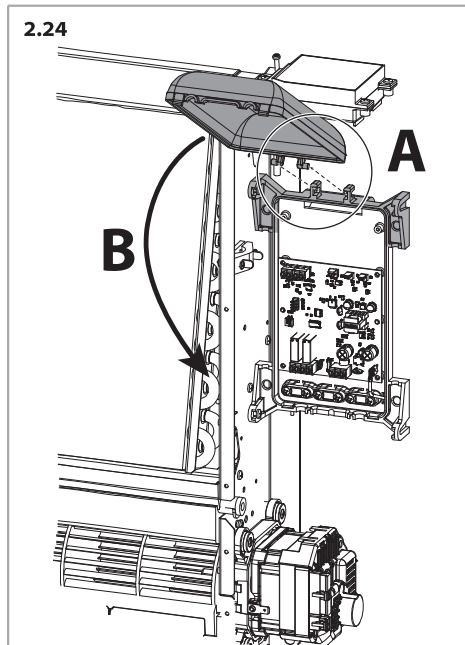
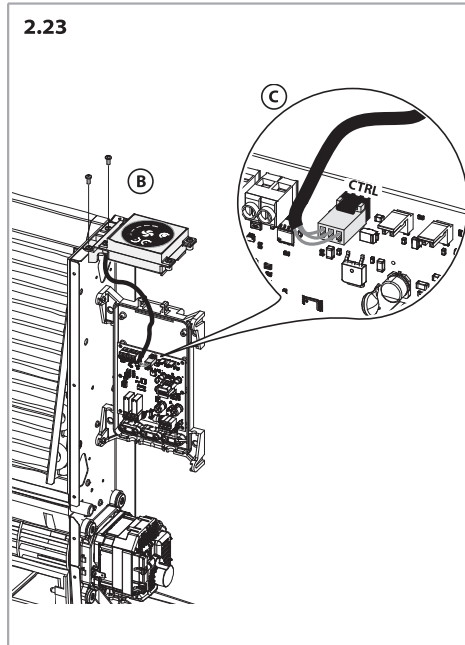
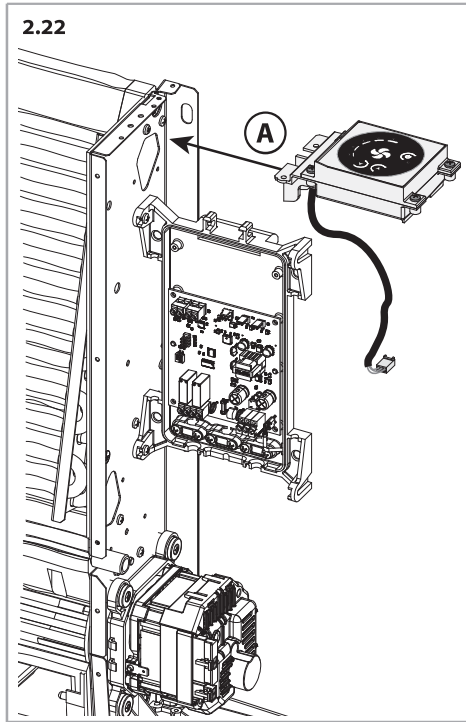
! Connect the grounding cable "C" to the ground rivet on the shoulder of the machine.



6. As regards the connection diagram, refer to the corresponding section in this manual.



Installation of the CB-E control



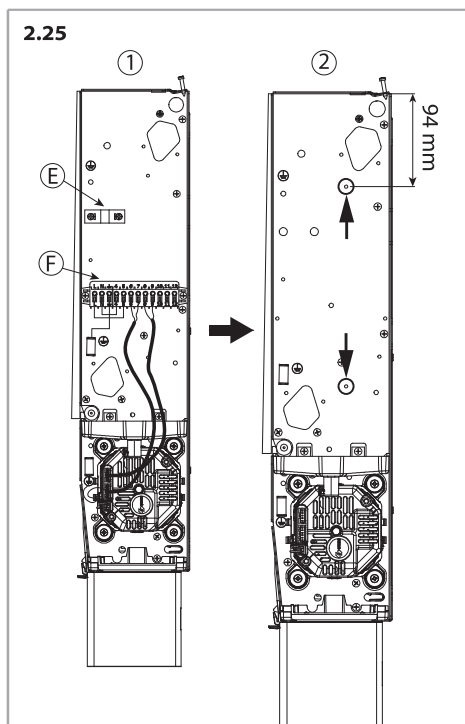
UP-Touch power unit installation for CB-Touch control

Instructions for installing the power unit when not factory installed.

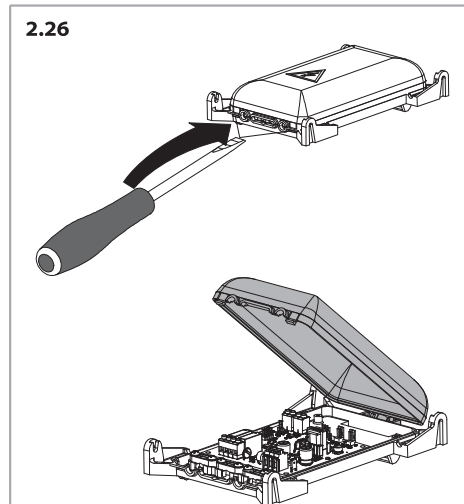
The basic units, supplied without controls, are equipped with an electrical terminal board prepared for connection to external controllers.

To install the power unit proceed as follows:

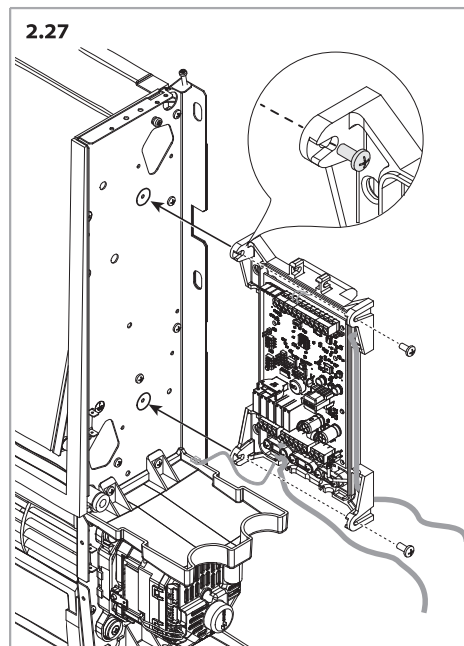
1. It is necessary to remove the cable fastener (E) and the terminal board group with the related motor cables (F) from the right side of the fan coil unit.
2. Remove the terminal board applied on the shoulder by unscrewing the two self-tapping screws. The two holes shown in the figure are those that will then be used to fix the power board.



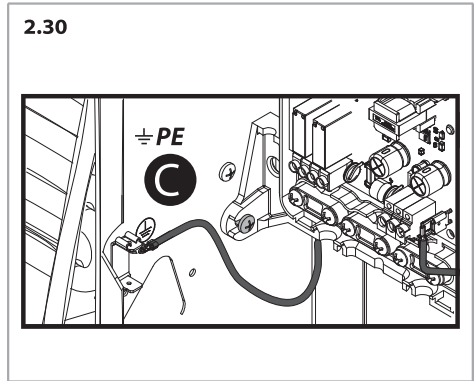
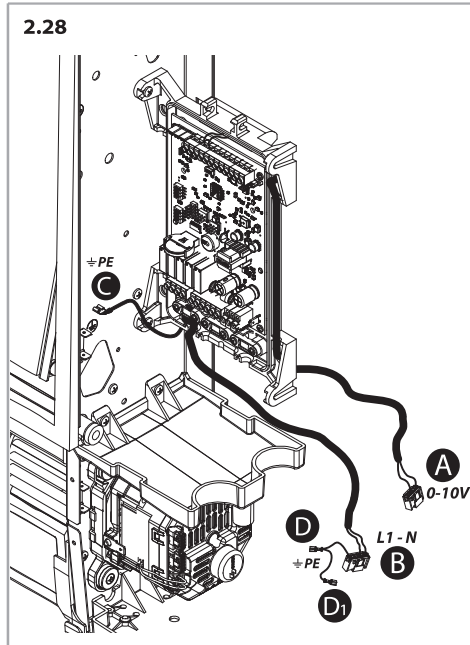
3. Remove the power board cover. The electronic board is supplied with the cables connected. (Pic. 2.26)



4. Fix the power board using the 2 self-tapping screws supplied. (Pic. 2.27)

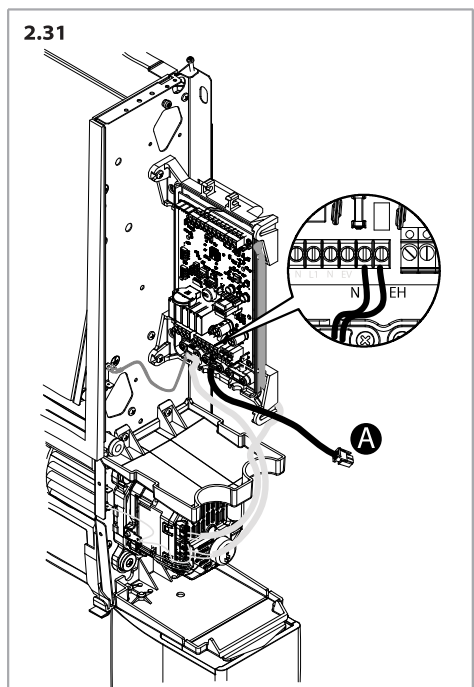
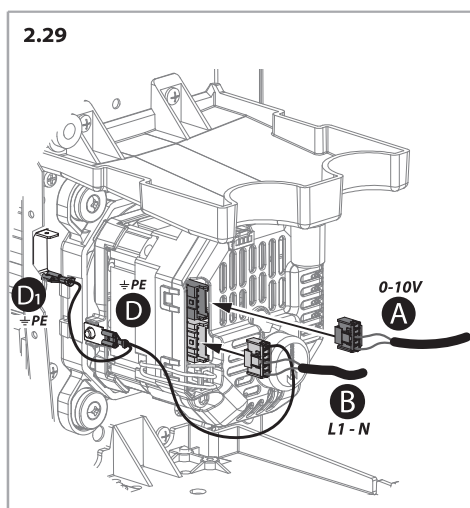


5. Do the electrical motor connections. (Pic. 2.28 and 2.29)

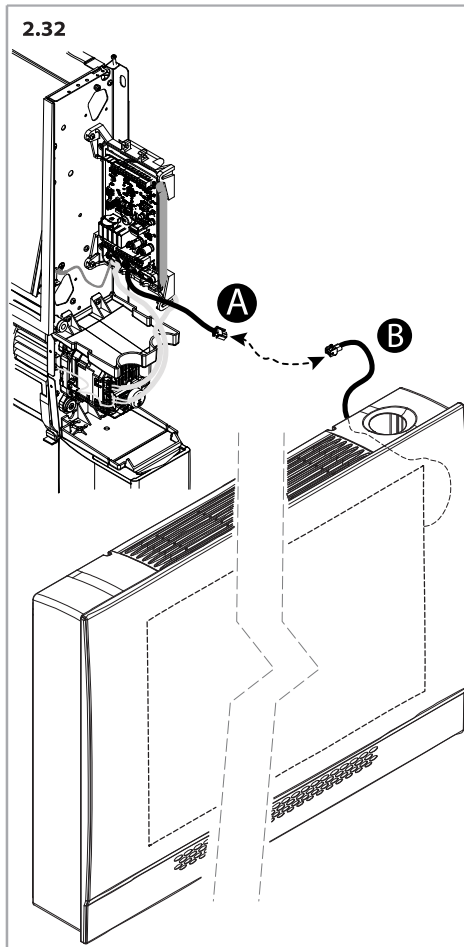


- 6. Radiant panel connections
- 7. As regards the connection diagram, refer to the corresponding section in this manual.

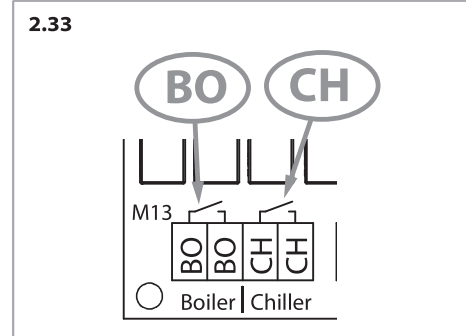
Radiant panel connection to UP-Touch power unit



⚠ Connect the grounding cable "C" to the ground rivet on the shoulder of the machine.



Function of auxiliary contacts



The electronic board has 2 SPST relays with NO (Normally Open) type contact dedicated to external enabling (free voltage DO - Digital Output) for:

- **BO contact [Boiler]:**
External enabling for Boiler operation.
- **CH contact [Chiller]:**
External enabling for Chiller operation.

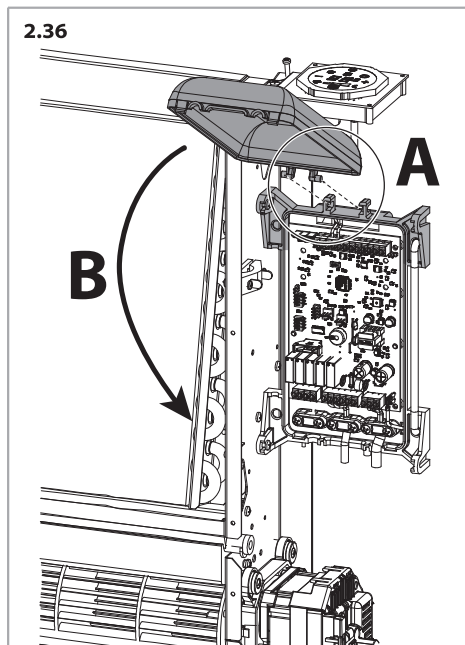
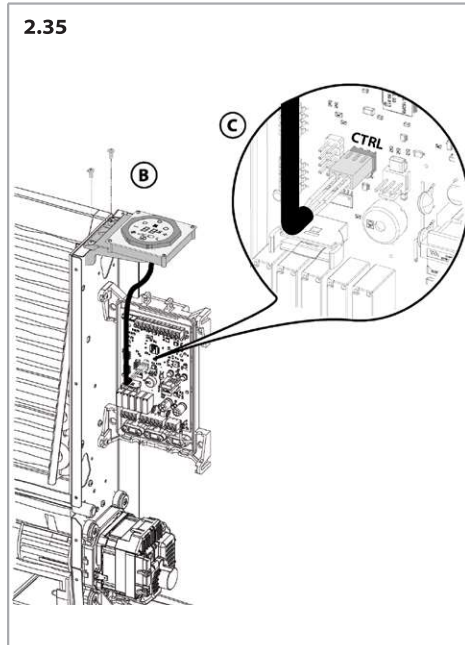
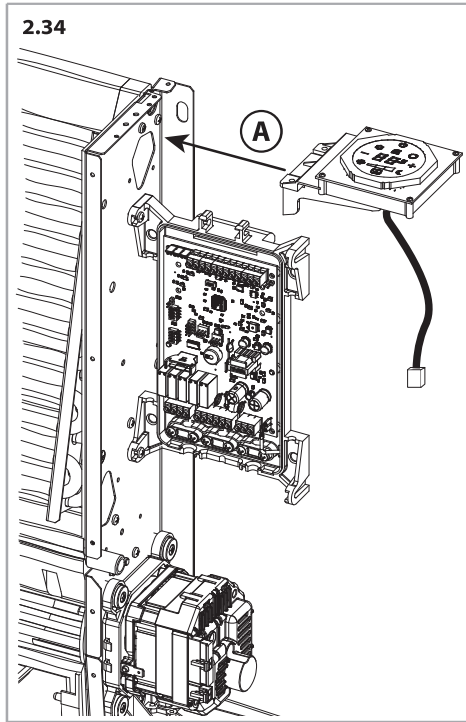
Below is the status diagram of the contacts in correlation with the operation mode of the unit:

Mode	Boiler	Chiller
Heating T1 < Tset		
Cooling T1 > Tset		
Fan only		
Antifreeze T1 < 5°C		

Configuration Dip switch settings

DIP NO.	DEFAULT	ON	OFF
1	OFF	Simultaneous ventilation with the valve without post-ventilation	Continuous ventilation and on/off on the valves
2	OFF	Slave	Master
3	OFF	Radiant version	Non-radiant version
4	OFF	-	-

Installation of the CB-Touch control



3 COMMISSIONING

Once the mechanical installation, hydraulic connection, electrical connection and all masonry works have been completed, the protective film on the fan coil must be removed.

4 USE


This manual contains information for the installation, use and maintenance of fan coils CFF-ECM.

For the use of the controls, refer to the dedicated manuals:

- CB-E manual for the use of the versions with CB-E control
- CB-Touch manual for the use of the versions with CB-Touch control
- APP manual downloadable directly from the website "www.sabiana.it"
- Manual for WM-AU control and T-MB control


5 MAINTENANCE

Routine maintenance

 Before carrying out any maintenance work, disconnect the electrical and hydraulic power supply.

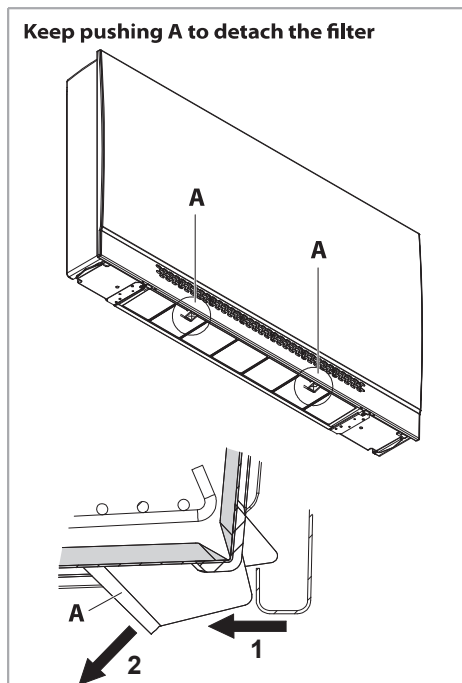
Air filter

The air filter must be cleaned periodically using a vacuum cleaner or by lightly tapping it. When it can no longer be cleaned, replace.

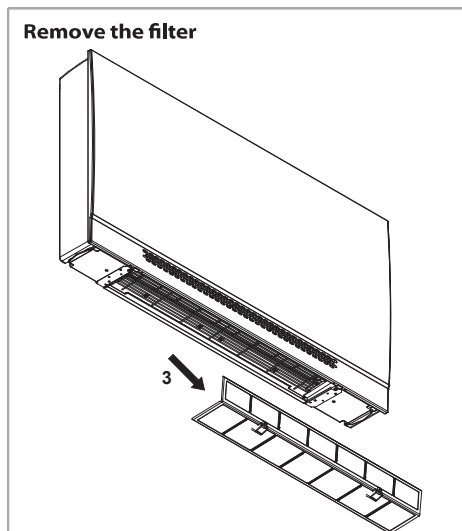
 Always replace the filter after cleaning.

Filter removal

Keep pushing A to detach the filter

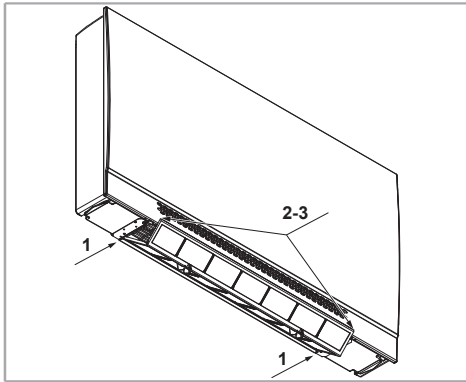


Remove the filter

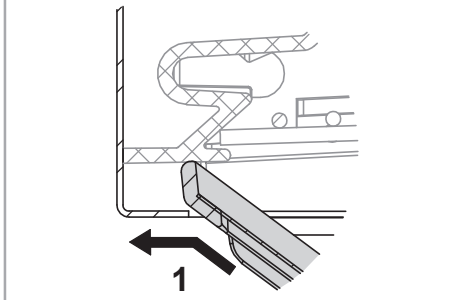


Filter repositioning

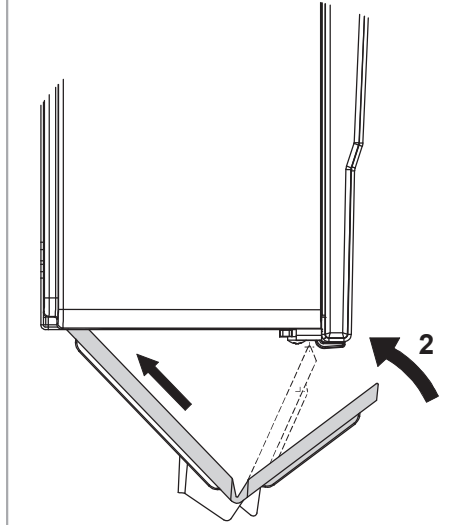
Reposition the filter by following the three steps below



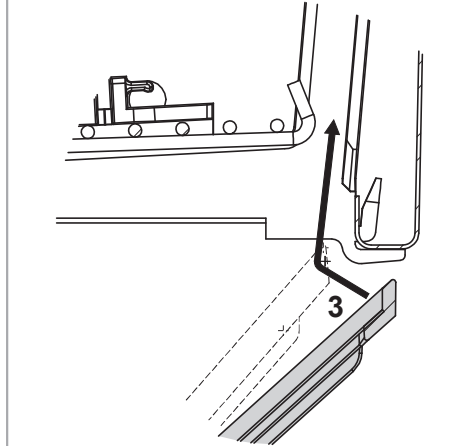
Place the back of the filter in the unit housing



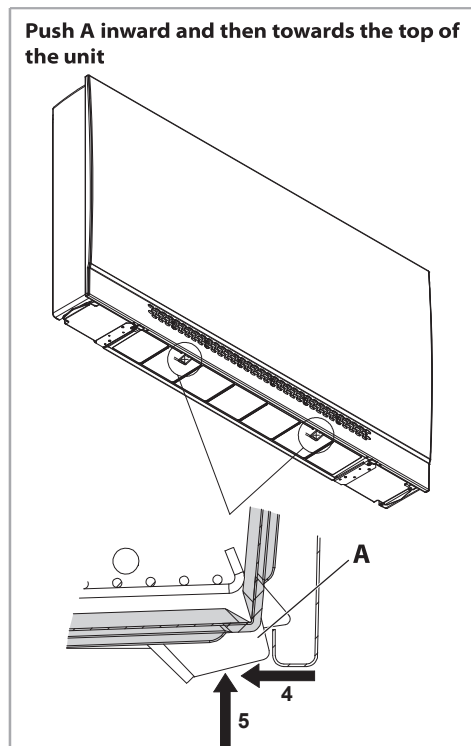
Fold the filter so that it is positioned as shown



Insert the filter into the appropriate housing on the front of the unit



Filter locking



- examination of the state of the hydraulic connections

6 RECYCLING AND DISPOSAL

Product waste disposal: it has to be in conformity with the current environmental protection legislation.

Waste disposal of electric and electrical devices (RAEE), in accordance with the European Directive 2012/19/UE (WEEE).

(Referred to Lands that follow recycling systems)

According to the icon put on the product or in the documentation, the products at the end of their useful lifecycle must not be wasted in the way normal solid urban waste does.

The bin icon with the strikethrough is put on all the products to remind that the waste sorting is compulsory.



Coils

After a few days from the first start-up, check the state of cleanliness of the heat exchangers: the presence of rubble, glass wool and dust can impair the proper functioning.

- Blow with compressed air on the finned surface
- periodically discharge the air in the pipes by means of the system air discharge device
- in winter, drain water from the heat exchangers, if not used
- check that the siphon of the condensate drip tray is always efficient

Regular maintenance

Perform the following operations every year:

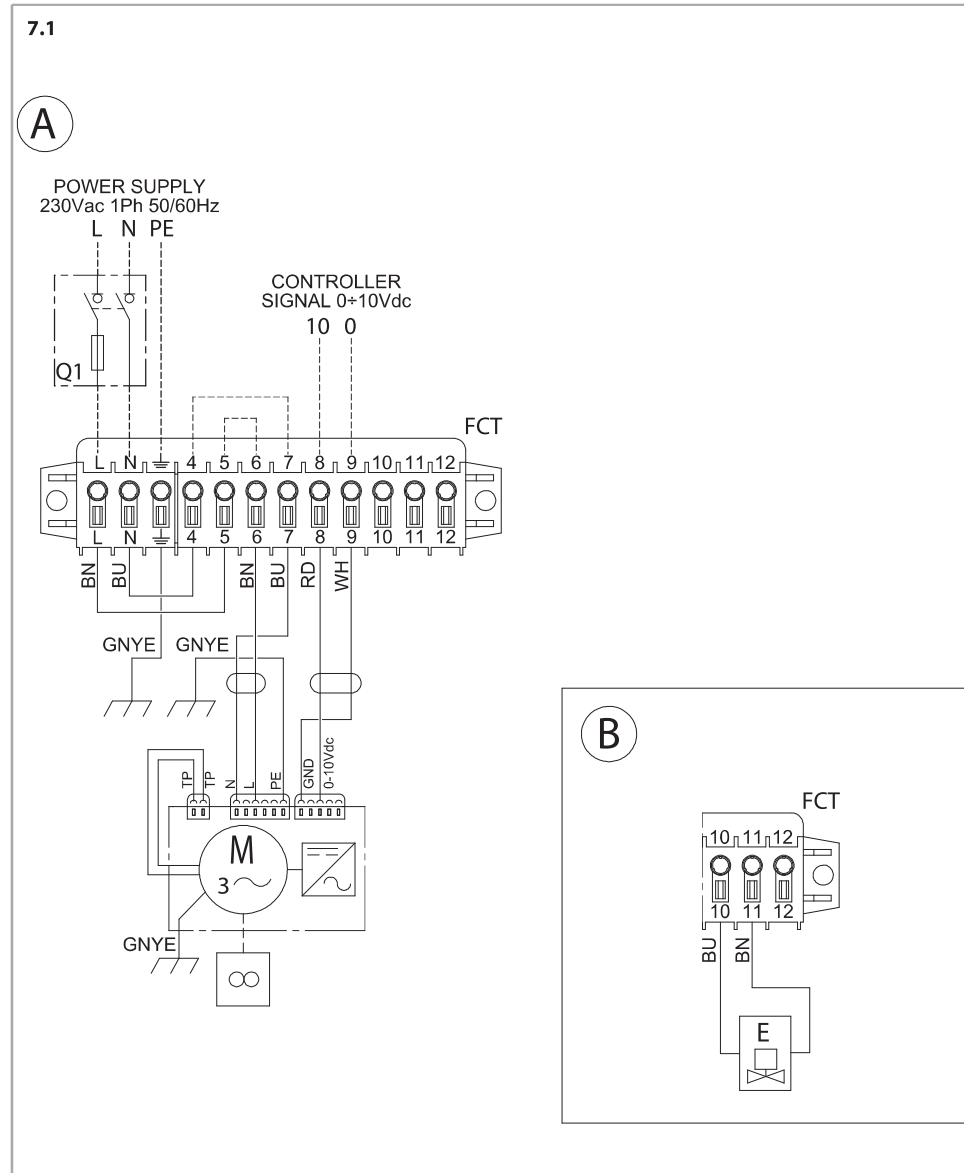
- general cleaning of all the parts of the unit and especially of the condensate collection tray
- examination of the power input of the motor and the condition of the connections

SCHEMI ELETTRICI / WIRING DIAGRAMS / SCHÉMAS ÉLECTRIQUES / SCHALTPLÄNE / ESQUEMAS ELÉCTRICOS / ELEKTRISCHE SCHEMA'S

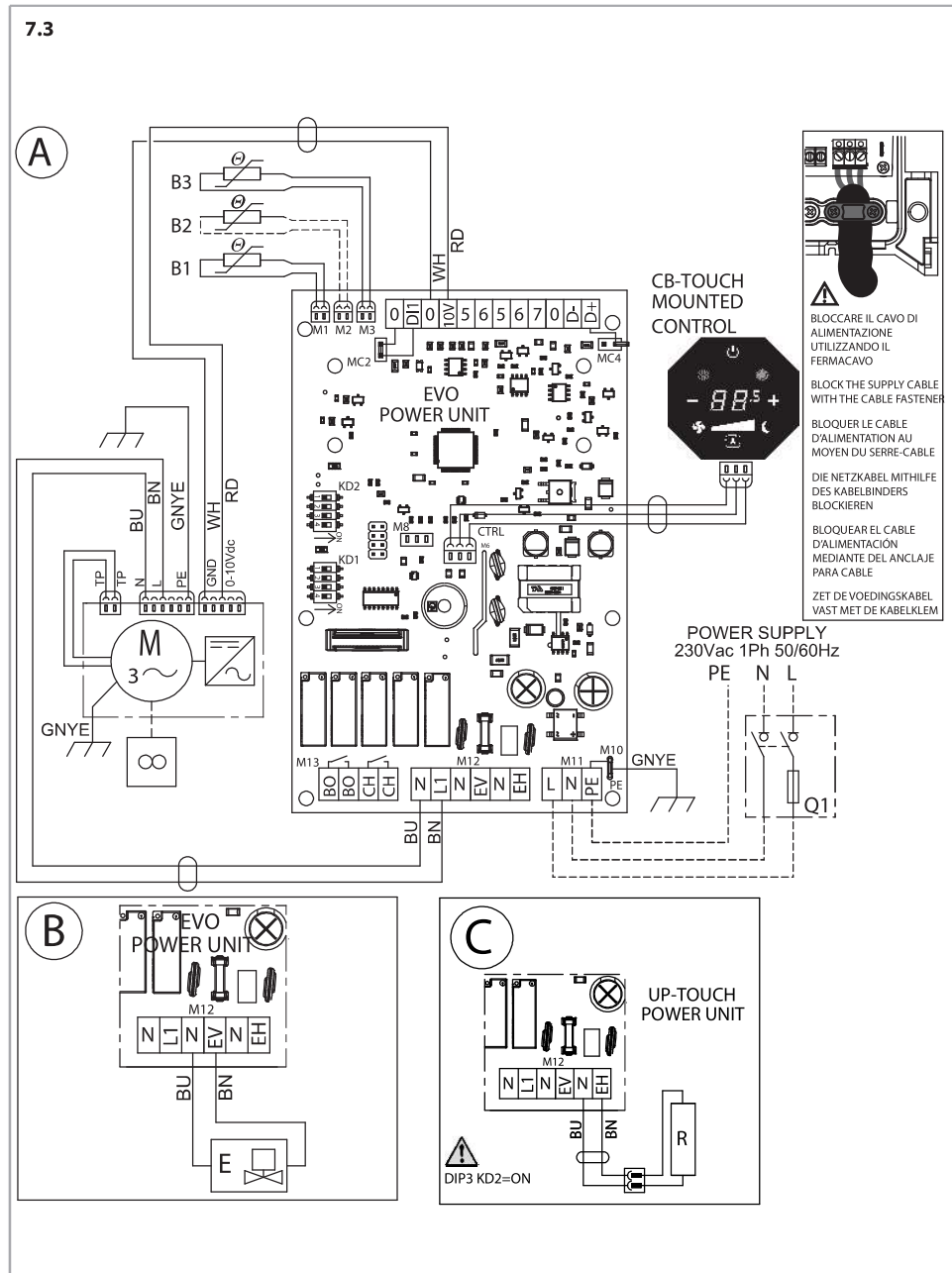
Legenda / Legend / Légende / Legende / Leyenda / Legende

A	Impianto senza valvole / System without valves / Installation sans vanne / Installation ohne Ventile / Instalación sin válvula / Toestel zonder kleppen
B	Collegamento attuatore valvola acqua / Water valve actuator connection / Raccordement actionneur vanne eau / Anschluss Stellmotor Wasserventil / Conexión actuador válvula agua / Aansluiting actuator waterklep
C	Collegamento pannello radiante / Radiant panel connection / Connexion panneau rayonnant / Anschluss Strahlplatte / Conexión panel radiante / Aansluiting verwarmingsplaat
FCT	Morsetiera del fan coil / Fan coil terminal board / Bornier du ventilo-convecteur / Anschluss Stellmotor Wasserventil / Conexión actuador válvula agua / Klemmenbord ventilatorconvector
M	Motoventilatore / Fan / Motoventilateur / Motorventilator / Motoventilador / Motorventilator
Q1	Interruttore di manovra sezionatore / Two poles switch disconnecter / Interrupteur de manœuvre sectionneur / Trennschalter / Interruptor-seccionador / Scheidingschakelaar
E	Attuatore ON-OFF valvola acqua / Water valve ON-OFF actuator / Actionneur On/Off vanne à eau / Stellglied On/Off Wasserventil / Actuador de encendido/apagado de válvula de agua / Actuator ON-OFF waterklep
B1	Sonda aria in ingresso / Inlet air probe / Sonde air / Luftsonde / Sensor de aire / Sonde inlaatlucht
B3	Sonda di minima / Low temperature cut-out thermostat / Thermostat limite basse / Mindesttemperaturfühler / Sensor de mínimo / Minimumsonde
0-D11	Contatto pulito ON-OFF esterno cronotermostato (MC2 aperto) / External ON-OFF clean contact chronothermostat (MC2 open) / Contact sec On/Off externe chronothermostat (Mc2 ouvert) / Sauberer Kontakt On/Off Außen Thermostat-Zeitschaltuhr (Mc2 offen) / Contacto externo de encendido/apagado cronotermostato (Mc2 abierto) / Extern droog contact ON-OFF klokthermostaat (MC2 open)
B2	Sonda change-over / Change-over probe / Sonde change-over / Change-over-Sonde / Sensor de intercambio / Change-over sonde
BO	Uscita consenso caldaia (contatto pulito max 1A) / Boiler consent output (1A max clean contact) / Contact sec (Max 1A) sortie consentement chaudière / Sauberer Kontakt (Max 1A) Ausgang Kesselfreigabe / Contacto limpio (1A máx.) Salida de consentimiento de caldera / Uitgang toestemming ketel (schoon contact max 1A)
CH	Uscita consenso refrigeratore (contatto pulito max 1A) / Chiller consent output (1A max clean contact) / Contact sec (Max 1A) sortie consentement refroidisseur / Sauberer Kontakt (Max 1A) Ausgang Kühlerfreigabe / Contacto limpio (1A máx.) Salida de consentimiento de enfriador / Uitgang toestemming chiller (schoon contact max 1A)
R	Pannello radiante / Radiant panel / Panneau rayonnant / Strahlplatte / Panel radiante / Verwarmingsplaat
BN	Marrone / Brown / Brun / Braun / Marrón / Bruin
RD	Rosso / Red / Rouge / Rot / Rojo / Rood
BU	Blu / Blue / Bleu / Blau / Azul / Blauw
WH	Bianco / White / Blanc / Weiß / Blanco / Wit
GNYE	Verde-Giallo / Green-Yellow / Vert-Jaune / Grün-Gelb / Verde-Amarillo / Groen-Geel
—	Cablaggio di produzione / Production wiring / Sortie consentement refroidisseur / Verkabelung im Werk / Conexiones en la fábrica / Meegeleverde kabels
---	Connessione a cura dell'installatore / Connection responsibility of the installer / Connexion effectuée par l'installateur / Von dem Installateur ausgefüllt / Conexión a cargo del instalador / Aansluiting door de installateur

Standard / Standard / Standard / Standard / Estándar / Standaard



CB-Touch

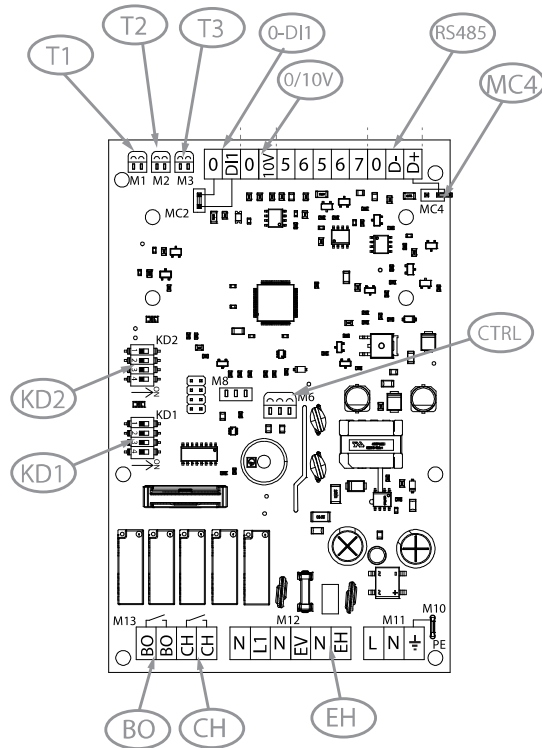


UP-TOUCH: SCHEDA ELETTRONICA / UP-TOUCH: ELECTRONIC BOARD / UP-TOUCH : CARTE ÉLECTRONIQUE / UP-TOUCH: ELEKTRONIKKARTE / UP-TOUCH: TARJETA ELECTRÓNICA / UP-TOUCH: PRINTPLAAT

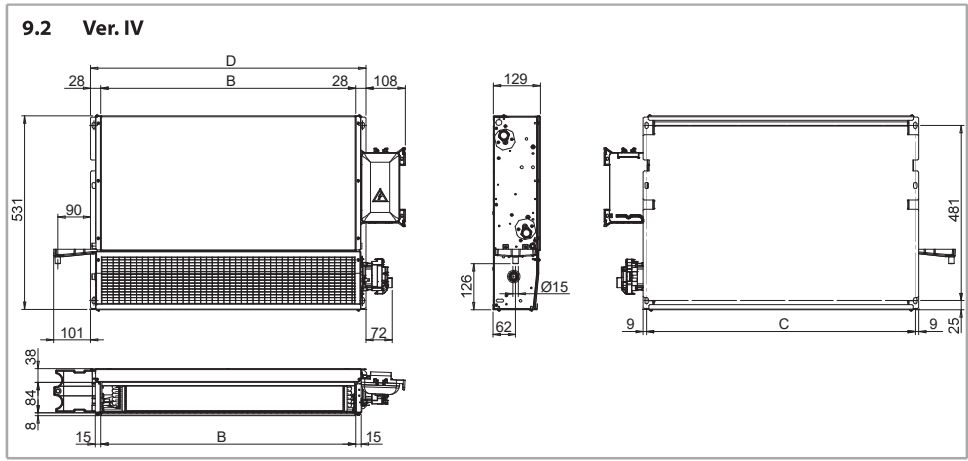
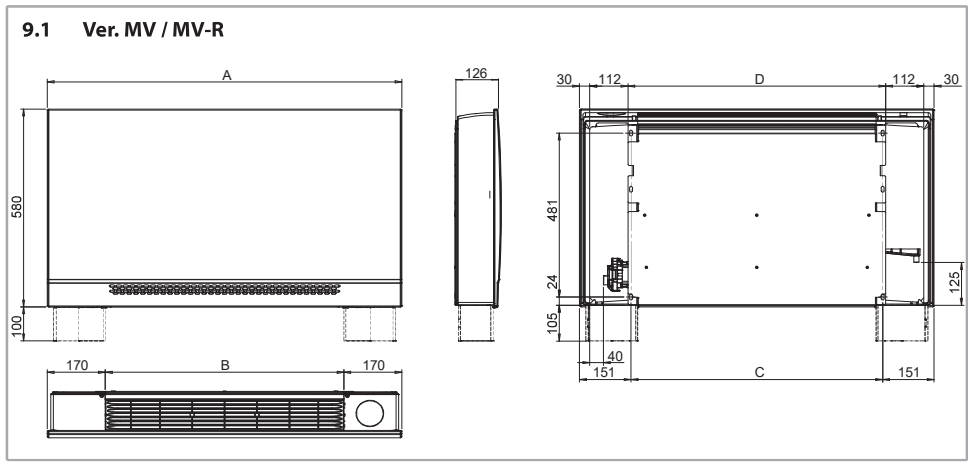
Legenda / Legend / Légende / Legende / Leyenda / Legende

D1	Dip Switch di indirizzo / Dip Switch address / Dip Switch d'adressage / Adressen-Dip Switch / Interruptor DIP de dirección / DIP-switch voor adres
D2	Dip Switch di configurazione / Dip Switch configuration / Dip Switch de configuration / Konfigurations Dip Switch / Interruptor DIP de configuración / DIP-switch voor configuratie
EH	Connessione Pannello Radiante / Radiant panel connection / Connexion panneau rayonnant / Anschluss Strahlplatte / Conexión Panel Radiante / Connectie verwarmingsplaat
J1	Jumper MC4 / Jumper MC4 / Cavalier MC4 / Jumper MC4 / Conmutador de derivación MC4 / Jumper MC4
T1	Sonda aria (posta in ripresa dell'apparecchio) / Air probe (fitted on the air inlet section) / Sonde à air (placée en reprise de l'appareil) / Luftsonde (Lufteinlass des Geräts) / Sensor de aire (toma de la unidad) / Luchtsonde (in de inlaat van het toestel)
T2	Sonda Change-Over (optional) / Change-Over probe (optional) / Sonde change-over (en option) / Change-over-Sonde (Optional) / Sensor de intercambio (opcional) / Change-over sonde (optie)
T3	Sonda di minima / Low temperature cut-out thermostat / Thermostat limite basse / Mindesttemperaturfühler / Sensor de mínimo / Minimumsonde
0-D11	Contatto pulito ON-OFF esterno cronotermostato (MC2 aperto) / External ON-OFF clean contact chronothermostat (MC2 open) / Contact sec On/Off externe chronothermostat (Mc2 ouvert) / Sauberer Kontakt On/Off Außen Thermostat-Zeitschaltuhr (Mc2 offen) / Contacto externo de encendido/apagado cronotermostato (Mc2 abierto) / Extern droog contact ON-OFF klokthermostaat (MC2 open)
RS485	Morsetti 0/D-/D+ per il collegamento seriale RS485 / Clamps 0/D-/D+ for the RS485 serial connection / Bornes 0/D-/D+ pour le branchement série RS485 / Klemmen 0/D-/D+ für den seriellen Anschluss RS485 / Bornes 0/D-/D+ para la conexión serie RS485 / Klemmen 0/D-/D+ voor seriële verbinding RS485
0/10V	Uscita segnale 0-10V per controllo inverter / 0-10V signal output for inverter control / Sortie signal 0-10V pour contrôle onduleur / V= 0-10 V Signalausgang für Umrichtersteuerung / Salida de señal de 0-10 V para el control del inversor / Uitgang signaal 0-10V voor besturing van de omvormer
BO	Consenso funzionamento Caldaia / Boiler operation enabling / Consentement fonctionnement chaudière / Freigabe zum Betrieb des Kessels / Consentimiento de funcionamiento de la caldera / Toestemming werking ketel
CH	Consenso funzionamento Chiller / Chiller operation enabling / Consentement fonctionnement chiller / Freigabe zum Betrieb des Kühlers / Consentimiento de funcionamiento del enfriador / Toestemming werking chiller
CTRL	Connessione comando CB-Touch / CB-Touch control connection / Connexion commande CB-Touch / Steuerungsanschluss CB-Touch / Conexión de mando CB-Touch / Aansluiting CB-Touch bedieningsorgaan

8.1



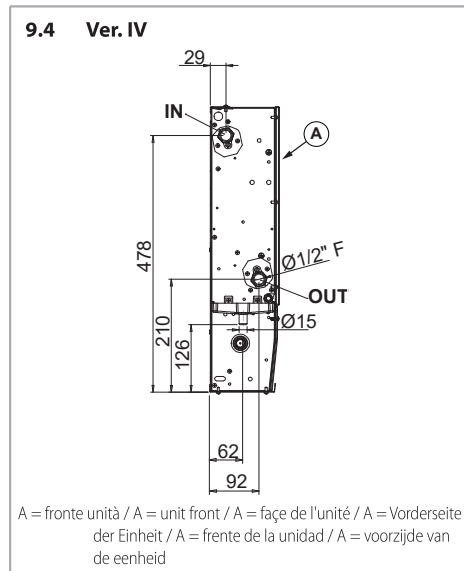
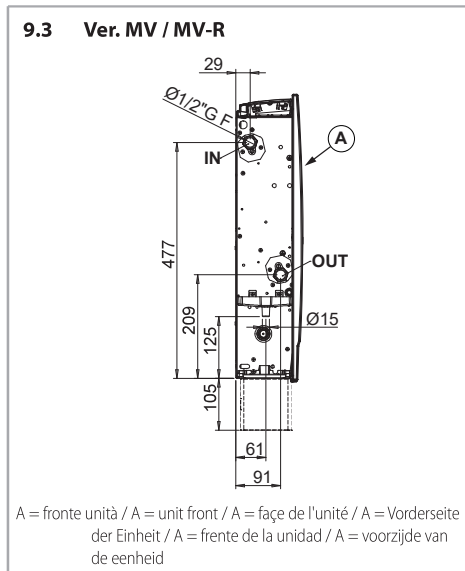
DIMENSIONI / DIMENSIONS / DIMENSIONS / DIMENSIONEN / DIMENSIONES / AFMETINGEN



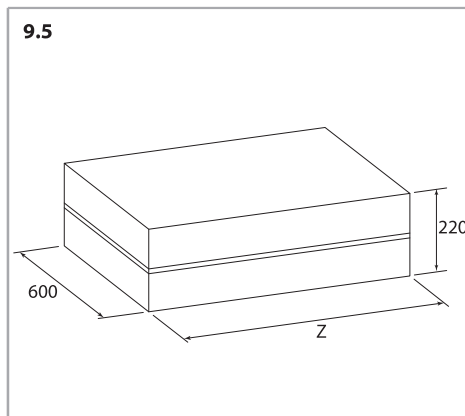
Mod.	CFF-ECM 10	CFF-ECM 20	CFF-ECM 30	CFF-ECM 40	CFF-ECM 50
A	640	840	1040	1240	1440
B	300	500	700	900	1100
C	338	538	738	938	1138
D	356	556	756	956	1156

Attacchi idraulici / Hydraulic connections / Raccords hydrauliques / Wasseranschlüsse / Conexiones hidráulicas / Hydraulische aansluitingen

Lato attacchi / Connection side / Côté raccords / Seite Anschlüsse / Lado conexiones / Kant aanslagen



Unità imballata / Packed unit / Unité emballée / Gewicht mit Verpackung / Unidad embalada / Verpakte eenheid



Mod.	CFE-ECM 10	CFE-ECM 20	CFE-ECM 30	CFE-ECM 40	CFE-ECM 50	
Z	mm	720	920	1120	1320	1520

Pesi / Weight / Poids / Gewichte / Pesos / Gewichten

Ver. MV

Mod.		CFF-ECM	CFF-ECM	CFF-ECM	CFF-ECM	CFF-ECM
		10	20	30	40	50
Peso con imballo / Weight with packaging / Poids avec emballage / Gewicht mit Verpackung / Peso unidad embalada / Gewicht met verpakking	kg	11,6	14,9	18,5	21,9	25,7
Peso senza imballo / Weight without packaging / Poids sans emballage / Gewicht ohne Verpackung / Peso unidad no embalada / Gewicht zonder verpakking	kg	10,1	13,2	16,4	19,6	23,0

Ver. MV-R

Mod.		CFF-ECM/R	CFF-ECM/R	CFF-ECM/R	CFF-ECM/R	CFF-ECM/R
		10	20	30	40	50
Peso con imballo / Weight with packaging / Poids avec emballage / Gewicht mit Verpackung / Peso unidad embalada / Gewicht met verpakking	kg	12,1	16,1	20,3	24,9	29,4
Peso senza imballo / Weight without packaging / Poids sans emballage / Gewicht ohne Verpackung / Peso unidad no embalada / Gewicht zonder verpakking	kg	10,5	14,2	18,1	22,5	26,6

Ver. IV

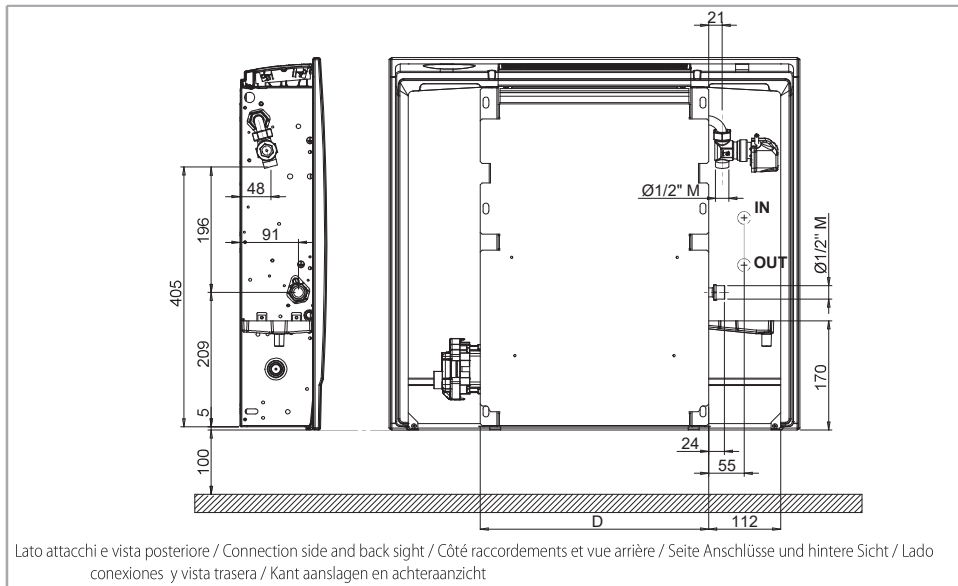
Mod.		CFF-ECM	CFF-ECM	CFF-ECM	CFF-ECM	CFF-ECM
		10	20	30	40	50
Peso con imballo / Weight with packaging / Poids avec emballage / Gewicht mit Verpackung / Peso unidad embalada / Gewicht met verpakking	kg	10,1	13,6	17,3	20,9	24,9
Peso senza imballo / Weight without packaging / Poids sans emballage / Gewicht ohne Verpackung / Peso unidad no embalada / Gewicht zonder verpakking	kg	8,5	11,7	15,1	18,5	22,1

Contenuti acqua / Water content / Contenance en eau / Wasserinhalte / Contenido agua / Watergehalte

Mod.		CFF-ECM	CFF-ECM	CFF-ECM	CFF-ECM	CFF-ECM
		10	20	30	40	50
Contenuto acqua batteria / Water content / Contenance eau batterie / Wasserinhalt im Wärmetauscherregister / Cont. agua batería / Hoeveelheid water in warmtewisselaar	l	0,4	0,7	1,1	1,4	1,7

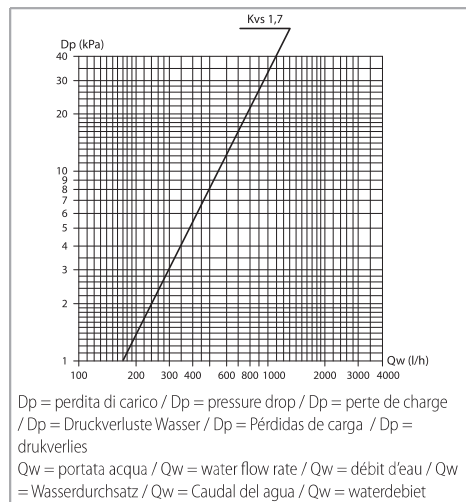
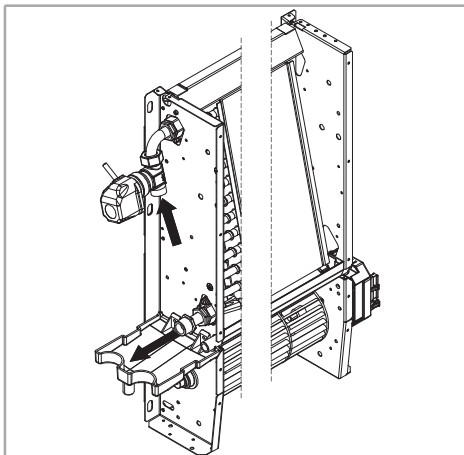
ACCESSORI / ACCESSORIES / ACCESSOIRES / ZUBEHÖRE / ACCESORIOS / ACCESSOIRES

Valvole a 2 vie / 2 way valves / Vanne à 2 voies / 2-Wege-Ventile / Válvulas de 2 vías / 2-weg kleppen

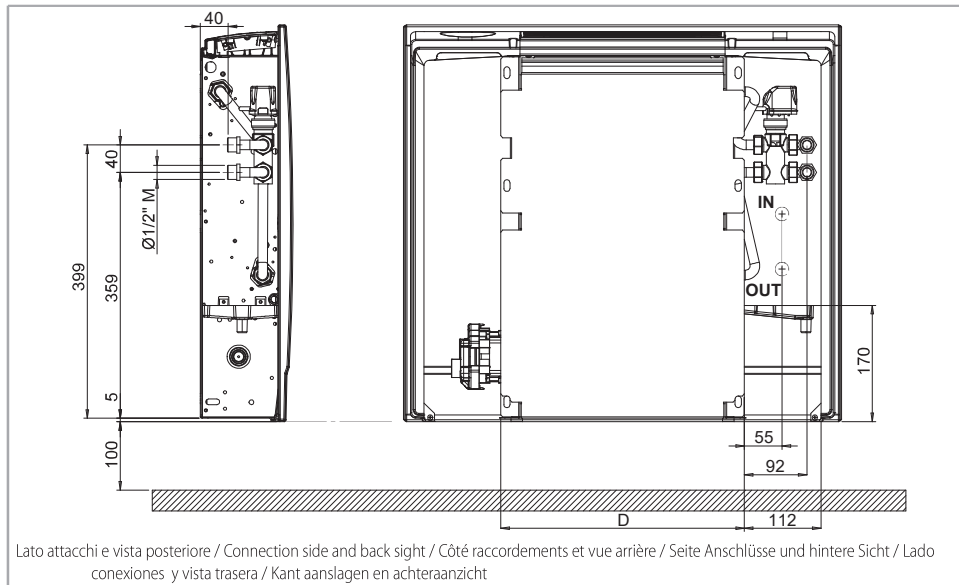


Lato attacchi e vista posteriore / Connection side and back sight / Côté raccordements et vue arrière / Seite Anschlüsse und hintere Sicht / Lado conexiones y vista trasera / Kant aanslagen en achteraanzicht

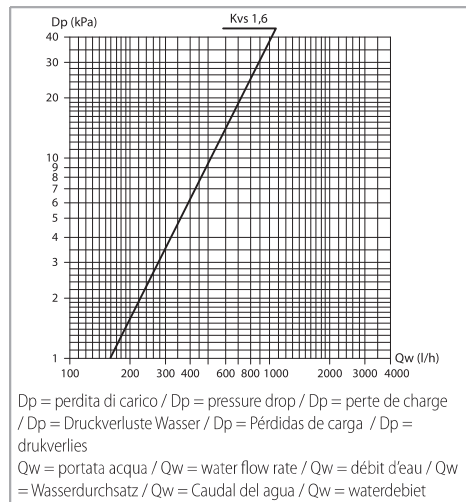
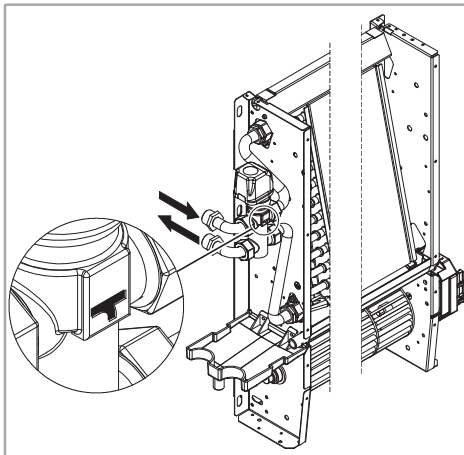
Mod.	CFF-ECM 10	CFF-ECM 20	CFF-ECM 30	CFF-ECM 40	CFF-ECM 50
D	356	556	756	956	1156



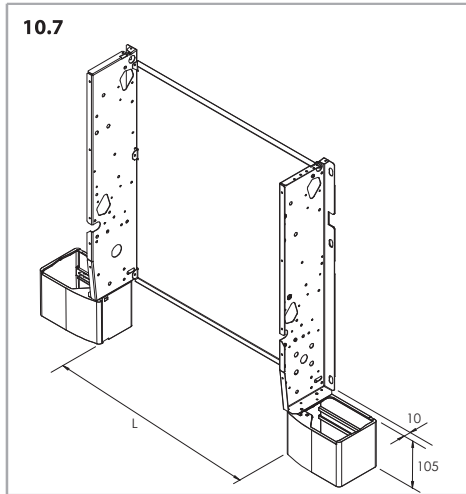
Valvole a 3 vie / 3 way valves / Vanne à 3 voies / 3-Wege-Ventile / Válvulas de 3 vías / 3-weg kleppen



Mod.	CFF-ECM 10	CFF-ECM 20	CFF-ECM 30	CFF-ECM 40	CFF-ECM 50
D	356	556	756	956	1156



**Piedini di appoggio a pavimento / Feet / Pieds de support / FüÙe zum Aufstellen
auf dem Fußboden / Pies de apoyo / Steunpoten**



Mod.	CFF-ECM 10	CFF-ECM 20	CFF-ECM 30	CFF-ECM 40	CFF-ECM 50
D	300	500	700	900	1100

**PRESTAZIONI / PERFORMANCES / PERFORMANCES / LEISTUNGSANGABEN /
PRESTACIONES / PRESTATIES**

MOD.		CFF-ECM 10						CFF-ECM 20						CFF-ECM 30					
Vdc		1	2	3,5	5	7,5	10	1	2	3,5	5	7,5	10	1	2	3,5	5	7,5	10
			MIN		MED		MAX		MIN		MED		MAX		MIN		MED		MAX
Qv	m ³ /h	75	90	110	130	170	205	125	145	175	205	255	305	190	225	270	315	395	470
Pc	kW	0,40	0,48	0,58	0,66	0,80	0,92	0,67	0,83	1,01	1,15	1,39	1,62	0,92	1,08	1,56	1,91	2,30	2,61
Ps	kW	0,30	0,36	0,44	0,52	0,64	0,75	0,50	0,62	0,76	0,88	1,08	1,28	0,67	0,79	1,15	1,41	1,72	1,99
Pl	kW	0,10	0,11	0,13	0,14	0,15	0,16	0,16	0,20	0,24	0,26	0,29	0,32	0,23	0,27	0,39	0,48	0,55	0,59
Ph	kW	0,55	0,60	0,68	0,78	0,96	1,10	0,97	1,01	1,16	1,32	1,57	1,81	1,52	1,62	1,85	2,10	2,53	2,90
Lw	dB(A)	31	33	36	40	45	50	30	33	38	42	47	52	32	34	39	43	47	53
Pta	W	3,2	3,5	4,2	5,2	7,4	10,3	3,7	4,0	4,9	6,3	9,5	14,0	4,1	4,8	6,3	8,6	14,1	21,6

MOD.		CFF-ECM 40						CFF-ECM 50					
Vdc		1	2	3,5	5	7,5	10	1	2	3,5	5	7,5	10
			MIN		MED		MAX		MIN		MED		MAX
Qv	m ³ /h	220	260	320	380	480	575	255	300	365	430	535	645
Pc	kW	1,14	1,45	2,06	2,50	2,97	3,36	1,44	1,95	2,55	2,92	3,37	3,81
Ps	kW	0,82	1,05	1,48	1,80	2,17	2,49	1,04	1,40	1,82	2,10	2,47	2,83
Pl	kW	0,30	0,38	0,55	0,67	0,77	0,84	0,38	0,53	0,70	0,79	0,87	0,95
Ph	kW	1,79	1,91	2,23	2,58	3,13	3,62	2,19	2,25	2,61	3,00	3,60	4,20
Lw	dB(A)	33	37	41	45	51	55	34	38	42	46	51	55
Pta	W	4,7	5,4	7,2	9,9	16,4	25,4	5,3	6,1	8,2	11,4	19,0	29,5

Vdc: Tensione pilotaggio inverter/Inverter power/Tension commande inverter/Inverter Steuerspannung/Tensión de Inverter/Voedingsspanning omvormer
Qv: Portata aria/Air flow/Débit d'air/Luftmenge/Caudal de aire/Luchtdebiet
Pc: Raffreddamento resa totale/Cooling total emission/Emission frigorifique totale/Gesamtkühlleistung /Emission frigorifica total/Totale koelcapaciteit
Ps: Raffreddamento resa sensibile/Cooling sensible emission/Emission frigorifique sensible/Sensible Kühlleistung /Emission frigorifica sensible/Voelbare koelcapaciteit
Pl: Raffreddamento resa latente/Latent cooling emission/Emission frigorifique latent/Abkühlen gemacht latent/Enfriamiento hecho latente/Koelvermogen latent
Ph: Riscaldamento resa/Heating emission/Emission chauffage/Heizbetrieb/Op Calefacción/Verwarmingscapaciteit
Lw: Potenza sonora (Lw)/Sound power (Lw)/Puissance sonore (Lw)/Schalleistung (Lw)/Potencia sonora Lw /Geluidsvermogen (Lw)
Pta: Potenza assorbita motore/Motor power input/Moteur abs./Motorleistung/Potencia absorbida motor/Opgenomen vermogen motor

**PRESTAZIONI CON PANNELLO RADIANTE / PERFORMANCES WITH RADIANT
PANEL / PERFORMANCES AVEC PANNEAU RAYONNANT / LEISTUNGEN
MIT STRAHLPLATTE / EMISIONES CON PANEL RADIANTE / EMISSIES MET
VERWARMINGSPLAAT**

MOD.	CFF-ECM-MV-R 10						CFF-ECM-MV-R 20						CFF-ECM-MV-R 30						
Vdc	1	2	3,5	5	7,5	10	1	2	3,5	5	7,5	10	1	2	3,5	5	7,5	10	
		MIN		MED		MAX		MIN		MED		MAX		MIN		MED		MAX	
Ph	kW	0,61	0,66	0,74	0,84	1,02	1,16	1,06	1,10	1,25	1,41	1,66	1,90	1,64	1,74	1,97	2,22	2,65	3,02
Pta+R	W	63,2	63,5	64,2	65,2	67,4	70,3	93,7	94,0	94,9	96,3	99,5	104,0	124,1	124,8	126,3	128,6	134,1	141,6

MOD.	CFF-ECM-MV-R 40						CFF-ECM-MV-R 50						
Vdc	1	2	3,5	5	7,5	10	1	2	3,5	5	7,5	10	
		MIN		MED		MAX		MIN		MED		MAX	
Ph	kW	1,94	2,06	2,38	2,73	3,28	3,77	2,37	2,43	2,79	3,18	3,78	4,38
Pta+R	W	154,7	155,4	157,2	159,9	166,4	175,4	185,3	186,1	188,2	191,4	199,0	209,5

Vdc: Tensione pilotaggio inverter/Inverter power/Tension commande inverter/Inverter Steuerspannung/Tensión de Inverter/Voedingsspanning omvormer

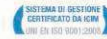
Ph: Riscaldamento resa_/Dp Heating_/Dp Chauffage_/Dp Heizbetrieb_/Dp Calefacción_/Dp Verwarmingscapaciteit_

Pta+R: Potenza assorbita motore + pannello radiante/Motor power input + radiant panel/Moteur abs. + panneau rayonnant/Motorleistung + Strahlplatte/Potencia absorbida motor + panel radiante/Opgenomen vermogen motor + verwarmingsplaat

DICHIARAZIONE DI CONFORMITÀ / DECLARATION OF CONFORMITY / DÉCLARATION DE CONFORMITÉ / KONFORMITÄTSEKTLÄRUNG / DECLARACIÓN DE CONFORMIDAD / CONFORMITEITSVERKLARING



Costruzione e vendita di apparecchi per riscaldamento e condizionamento industriale e civile



Oggetto: Dichiarazione di conformità UE
Object: EU Declaration of conformity

La presente dichiarazione di conformità è rilasciata sotto la responsabilità esclusiva del fabbricante.
This declaration of conformity is issued under the exclusive responsibility of the manufacturer.

Prodotto: Carisma CFF-ECM - Ventilconvettore
Product: Carisma CFF-ECM - Fan Coil

Modello / Pattern: CFF-ECM 10, CFF-ECM 20, CFF-ECM 30, CFF-ECM 40, CFF-ECM 50
CFF-ECM 10 D, CFF-ECM 20 D, CFF-ECM 30 D, CFF-ECM 40 D, CFF-ECM 50 D

al quale questa dichiarazione si riferisce, è conforme alle seguenti norme:
to which this declaration relates is in conformity with the following standards or other normative document(s):

EN 60335-1 (2012) + A11 (2014) + A13 (2017) + A1 (2019) + A14 (2019) + A2 (2019)
EN 60335-2-40 (2003) + A11 (2004) + A12 (2005) + A1 (2006) + A2 (2009) + A13 (2012)
EN 62233 (2008)
EN 55014-1 (2017) + A11 (2020)
EN 55014-2 (2015)
EN 61000-3-2 (2019)
EN 61000-3-3 (2013) + A1 (2019)
EN IEC 63000 (2018)
Regulation (EU) 2016/2281
EN 300 328 V2.2.2 (2019)
EN 301 489-17 V3.2.4 (2020)
EN IEC 62311 (2020)

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 harmonization legislation.
2014/35/UE 2014/30/UE 2006/42/EC 2011/65/UE 2014/53/UE 2009/125/EC

Il fascicolo tecnico è costituito presso: Sabiana S.p.A. Via Piave 53, 20011 Corbetta (MILANO-ITALY)
The technical file is made at: Sabiana S.p.A. Via Piave 53, 20011 Corbetta (MILANO-ITALY)

Corbetta, 18/07/2022

Nicola Binaghi
Presidente

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Cap. Sociale € 4.000.000 int. vers.
C.F.F.IVA IT 09076750158
Reg. Imprese MI 09076750158
C.C.I.A.A. n. R.E.A. 1267681 Milano

A company of Arbonia Group
ARBONIA

UK DECLARATION of CONFORMITY

SABIANA S.p.A. declare under our sole responsibility that the following product:

Product: Carisma CFF-ECM - Fan Coil

Pattern: CFF-ECM 10, CFF-ECM 20, CFF-ECM 30, CFF-ECM 40, CFF-ECM 50
CFF-ECM 10 D, CFF-ECM 20 D, CFF-ECM 30 D, CFF-ECM 40 D, CFF-ECM 50 D

Is in conformity with the essential requirements and other relevant requirements of:

- The Electrical Equipment Safety Regulations 2016 (S.I. 2016/1101)
- The Electromagnetic Compatibility Regulations 2016 (S.I. 2016/1091)
- The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (S.I. 2012/3032)
- The Supply of Machinery (Safety) Regulation 2008 (S.I. 2008/1597)
- The Radio Equipment Regulations 2017 (S.I. 2017/1206)

The following Designated standards are applied:

BS EN 60335-1 (2012) + A11 (2014) + A13 (2017)
BS EN 60335-2-40 (2003) + A11 (2004) + A12 (2005) + A1 (2006) + A2 (2009) + A13 (2012)
BS EN 62233 (2008)
BS EN 55014-1 (2017)
BS EN 55014-2 (1997) + A2 (2008)
BS EN 61000-3-2 (2014)
BS EN 61000-3-3 (2013)
BS EN IEC 63000 (2018)
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Corbetta, 18/07/2022


Nicola Binaghi
Presidente

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