



# Carisma Whisper CFF-ECM-OW

One-way Cassette Fan coil unit

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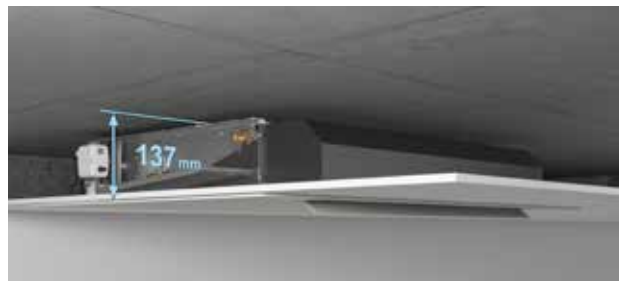
This range includes 4 sizes (from 75 to 575 m<sup>3</sup>/h) with a 2 row coil.

The Carisma Whisper CFF-ECM-OW fan coil unit combines a reduced dimension with a modern aesthetic, while maintaining great performances in terms of sound and consumption.

Its overall reduced height and the limited weight allow an easy installation into the false ceilings with limited height, allowing:

- lower installation costs
- rooms with greater living height
- buildings with several floors at the same living height

Its wide motorized flap allows a wide air distribution inside the room.



The Carisma CFF-ECM-OW range is equipped with synchronous inverter driven BLAC brushless and sensorless electronic motor with permanent magnets is controlled by an Inverter board designed and developed in Italy.

The air flow can be varied continuously with a 1-10 V signal.

The extreme efficiency, also at a low speed, makes possible a great reduction in electric consumption with absorption values, under normal operating conditions, that are no greater than 5 Watt.

The excellent values in terms of sound levels have been maintained in all working conditions, without any resonance phenomenon at any frequency.

The **CFF-ECM-OW** version includes the infra-red remote control, that allows the management of one single unit. All the CFF-ECM-OW units offer moreover the possibility of management via **"Sabiana WiFi"** and **"Sabiana BLE"** APP.

This makes this fan coil unit the ideal solution for the air-conditioning of all residential ambients.



**Diffuser:** it is made of galvanised steel and painted in colour RAL 9003 (white); it is supplied with separated code.

**Air supply louver:** the air supply louver, of adjustable and motorized type, is of metal painted in colour RAL 9003 (white).

**Inner casing:** made of 1 mm galvanized steel, a rear panel and two lateral sides insulated with 3 mm polyolefin (PO) foam (B-s2-d0 EN 13501-1).

**Filter:** polypropylene cellular fabric regenerating filter.

**Fan assembly:** made of plastic tangential fan with anti-vibration fins. The fan hub, dynamically and statically balanced, is directly secured onto the motor shaft.

**Electronic board and remote control:** the unit is equipped with electronic control board and with infra-red remote control. The electronic board fitted on the unit is equipped with a microprocessor with BLE / WiFi feature, that allows to control at distance or remotely all the units installed.

An accessory kit for the communication via ModBus protocol is available.

**Electronic motor** with three phase permanent magnet brushless electronic motor that is controlled with reconstructed current 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:** It is manufactured from drawn copper tube and the aluminium fins are mechanically bonded onto the tube by an expansion process. The coil has two O 1/2 inch BSP internal connections. The coil has O 1/8" inch BSP air vent and drain. The coil is not suitable for use in corrosive atmosphere or in environments where aluminium may be subject to corrosion.

**The position of the hydraulic connections is always on the left side (see the following technical drawings).**

**Condensate collection tray:** made of AISI 304 steel and fixed to the internal structure.

**Condensate drain pump:** condensate drain pump directly managed from the electronic board that is combined with a floating system for the condensate level control and alarm. The pump is included.

**Valves (accessory)** the following valve kits are available for all sizes:

- 2 way
- 3 way

The valves can be ordered separately and easily installed on the basic units without valves or they can be directly fitted in the factory.



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### Sabiana WiFi, il clima amico sempre con te

Sabiana WiFi is the App for the control at a distance of your Sabiana system of climatisation. Free and easy to use, it needs only a wireless network and a smartphone with internet connection.

Using the "Cloud" it allows to manage, program and supervise the status of Your air conditioners wherever You are.



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### Sabiana BLE, il clima a portata di mano

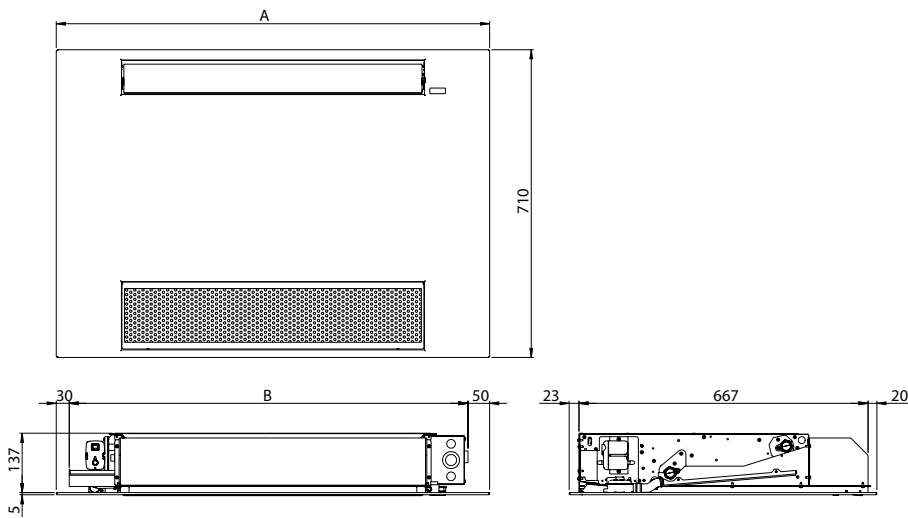
Sabiana BLE is the new App for Android™ and iOS systems to set, manage and control Your climatisation system via Bluetooth Low Energy (BLE) transmission.

Free and easy to configure and use, it needs only a smartphone with a Bluetooth connection (version 4.0 or later versions).

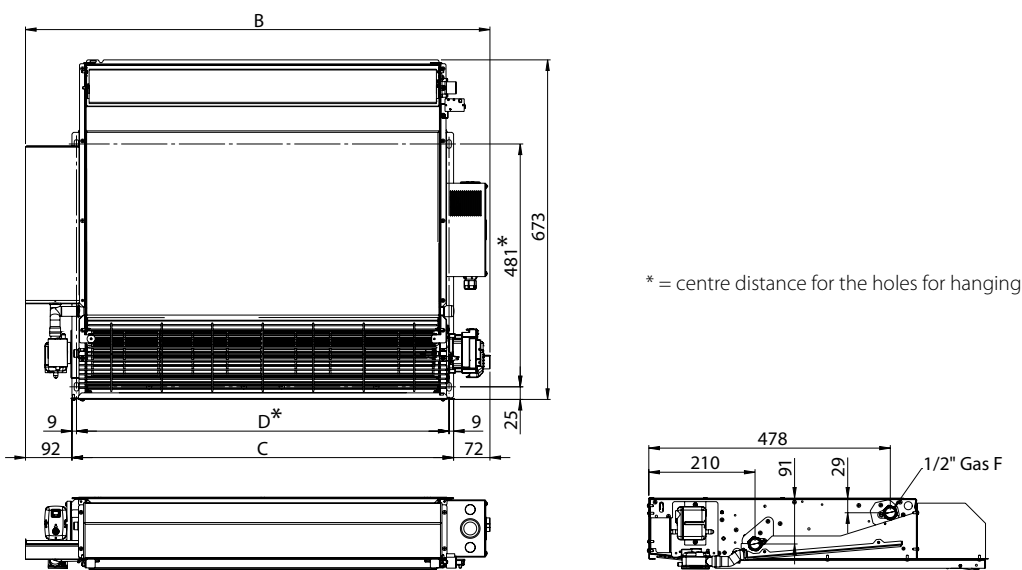
(\*) See availability function on controls.

DIMENSIONS

CFF-ECM-OW (internal unit + diffuser)

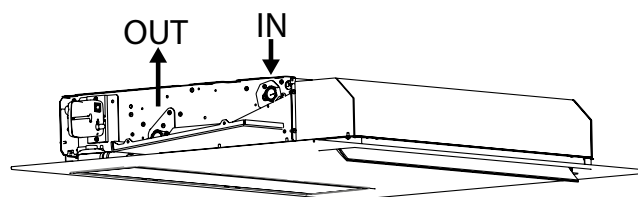
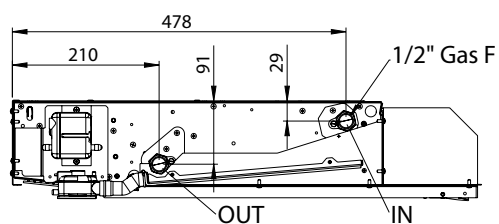


Internal CFF-ECM-OW unit



| Model |    | 10  | 20  | 30   | 40   |
|-------|----|-----|-----|------|------|
| A     | mm | 600 | 800 | 1000 | 1200 |
| B     | mm | 520 | 720 | 920  | 1120 |
| C     | mm | 356 | 556 | 756  | 956  |
| D     | mm | 338 | 538 | 738  | 938  |
| E     | mm | 570 | 770 | 970  | 1170 |

## Coil connections



**⚠ The connections are always on the left (as shown in the picture)**

## Weight (kg)

The table of the weight is related to the standard versions with casing in the basic configuration without control and without valves; the weight can change for those units completed with control and/or valve.

### CFF-ECM-OW unit

| Model | Weight with packaging |      |      |      | Weight without packaging |      |      |      |
|-------|-----------------------|------|------|------|--------------------------|------|------|------|
|       | 10                    | 20   | 30   | 40   | 10                       | 20   | 30   | 40   |
|       | 12,9                  | 17,2 | 21,2 | 25,6 | 11,3                     | 15,2 | 18,9 | 23,1 |

### Diffuser

| Model | Weight with packaging |     |     |     | Weight without packaging |     |     |     |
|-------|-----------------------|-----|-----|-----|--------------------------|-----|-----|-----|
|       | 10                    | 20  | 30  | 40  | 10                       | 20  | 30  | 40  |
|       | 4,6                   | 6,1 | 7,5 | 8,8 | 3,5                      | 4,7 | 5,9 | 7,1 |

## Water content (litres)

| Model         | 10  | 20  | 30  | 40  |
|---------------|-----|-----|-----|-----|
| Water content | 0,4 | 0,7 | 1,1 | 1,4 |

The following standard rating conditions are used:

### COOLING

**Entering air temperature:** +27 °C d.b. +19 °C w.b.  
**Water temperature:** +7 °C E.W.T. +12 °C L.W.T.

### HEATING

**Entering air temperature:** +20 °C  
**Water temperature:** +45 °C E.W.T. +40 °C L.W.T.

| Model                            | CFF-ECM-OW 10 |      |      |      |      |      | CFF-ECM-OW 20 |      |      |      |      |      | CFF-ECM-OW 30 |      |      |      |      |      |
|----------------------------------|---------------|------|------|------|------|------|---------------|------|------|------|------|------|---------------|------|------|------|------|------|
|                                  | 1             | 2    | 3,5  | 5    | 7,5  | 10   | 1             | 2    | 3,5  | 5    | 7,5  | 10   | 1             | 2    | 3,5  | 5    | 7,5  | 10   |
| Inverter power                   |               | MIN  |      | MED  |      | MAX  |               | MIN  |      | MED  |      | MAX  |               | MIN  |      | MED  |      | MAX  |
| Eurovent certified performances  | -             | (E)  | -    | (E)  | -    | (E)  | -             | (E)  | -    | (E)  | -    | (E)  | -             | (E)  | -    | (E)  | -    | (E)  |
| Air flow m <sup>3</sup> /h       | 75            | 90   | 110  | 130  | 170  | 205  | 125           | 145  | 175  | 205  | 255  | 305  | 190           | 225  | 270  | 315  | 395  | 470  |
| Cooling total emission (E) 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 |
| Cooling sensible emission (E) 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 |
| Heating emission (E) 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 |
| Dp Cooling (E) kPa               | 4,9           | 6,0  | 7,5  | 9,1  | 12,0 | 14,7 | 3,1           | 3,6  | 4,3  | 4,9  | 6,1  | 7,4  | 4,5           | 5,4  | 8,6  | 11,5 | 15,2 | 18,6 |
| Dp Heating (E) kPa               | 6,1           | 6,7  | 8,0  | 9,6  | 13,0 | 16,2 | 3,7           | 3,9  | 4,4  | 5,0  | 6,1  | 7,3  | 7,1           | 7,7  | 9,2  | 11,0 | 14,6 | 18,2 |
| Fan (E) 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 |
| Sound power (Lw) (E) dB(A)       | 31            | 33   | 36   | 40   | 45   | 50   | 30            | 33   | 38   | 42   | 47   | 52   | 32            | 34   | 39   | 43   | 47   | 53   |
| Sound pressure (Lp) (1) dB(A)    | 22            | 24   | 27   | 31   | 36   | 41   | 21            | 24   | 29   | 33   | 38   | 43   | 23            | 25   | 30   | 34   | 38   | 44   |

| Model                            | CFF-ECM-OW 40 |      |      |      |      |      |
|----------------------------------|---------------|------|------|------|------|------|
|                                  | 1             | 2    | 3,5  | 5    | 7,5  | 10   |
| Inverter power                   |               | MIN  |      | MED  |      | MAX  |
| Eurovent certified performances  | -             | (E)  | -    | (E)  | -    | (E)  |
| Air flow m <sup>3</sup> /h       | 220           | 260  | 320  | 380  | 480  | 575  |
| Cooling total emission (E) kW    | 1,14          | 1,45 | 2,06 | 2,50 | 2,97 | 3,36 |
| Cooling sensible emission (E) kW | 0,82          | 1,05 | 1,48 | 1,80 | 2,17 | 2,49 |
| Heating emission (E) kW          | 1,79          | 1,91 | 2,23 | 2,58 | 3,13 | 3,62 |
| Dp Cooling (E) kPa               | 7,3           | 10,2 | 17,3 | 23,7 | 31,7 | 39,1 |
| Dp Heating (E) kPa               | 11,7          | 12,9 | 16,3 | 20,6 | 28,3 | 36,2 |
| Fan (E) W                        | 4,7           | 5,4  | 7,2  | 9,9  | 16,4 | 25,4 |
| Sound power (Lw) (E) dB(A)       | 33            | 37   | 41   | 45   | 51   | 55   |
| Sound pressure (Lp) (1) dB(A)    | 24            | 28   | 32   | 36   | 42   | 46   |

(E) Eurovent certified performance

(1) The sound pressure levels are 9 dB (A) lower than the sound power levels, apply to the reverberant field of a 100 m<sup>3</sup> room and a reverberation time of 0.5 sec.

## Controls

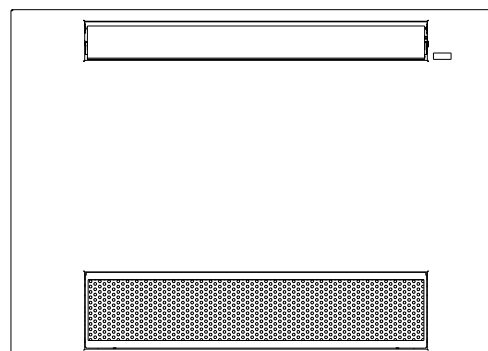
|               |                                                                                                                              |
|---------------|------------------------------------------------------------------------------------------------------------------------------|
| <b>KC-F</b>   | Connectivity kit "High Wall Connectivity Kit" (auxiliary board for Modbus connection + auxiliary board for T-MB2 connection) |
| <b>T-MB2</b>  | Wall control with LCD color display and WiFi                                                                                 |
| <b>PSM-DI</b> | PSM-DI multifunction control panel (to be used with connectivity kit only)                                                   |
| <b>T-DI</b>   | T-DI touch screen multifunction control panel (to be used with connectivity kit only)                                        |
| <b>SabWeb</b> | Web gateway for Sabiana Cloud (to be used with connectivity kit only)                                                        |

### Management system for a network of fan coils with MB electronic board

|                 |                                                                          |
|-----------------|--------------------------------------------------------------------------|
| <b>Sabianet</b> | Hardware/software supervisory system                                     |
| <b>Router-S</b> | Router for Sabianet (default) or for BMS systems not provided by Sabiana |
| <b>SIOS</b>     | Relay output board                                                       |

## Air intake and distribution diffuser (mandatory)

Colour RAL 9003



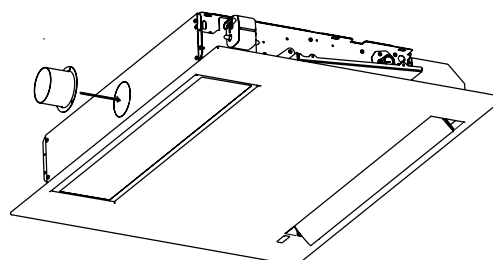
## ACCESSORIES

**2 way valve**

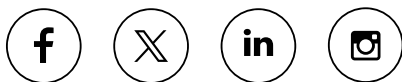
**3 way valve**

**FRC fresh air connection**

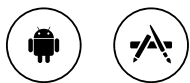
Not fitted.



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01/2025



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Management and Direction ARBONIA AG



Sabiana 2 and Sabiana 3 - Operative unit "via Virgilio 2 - Magenta (MI)"  
Sabiana 4 - Operative unit "via Zanella 27 - Corbetta (MI)"