Carisma CRR-ECM

Residential Fan Coil Unit
with Electronic Motor and Inverter Board

TECHNICAL LEAFLET

Carisma CRR-ECM

(*)

Residential Fan Coil Unit with Electronic Motor and Inverter Board

Range includes **4 air flow rates** (from 90 to 550 m^3/h) and **2 models** (wall and recessed) both bequipped with 3 row coil.

The **CRR-ECM range** was created to offer a **residential** fan coil with a sophisticated design and low depth **(183 mm)** and a specially silent tangential fan assembly.

(*) See availabilty function on controls.

Outer casing: made with strong synthetic (ABS) lateral corners and from galvanized and prepainted front steel panel. The plastic top air supply grid made of synthetic material, has fixed louvres and is reversible in order to distribute the air in two different directions.

Standard colours:
- Lateral corners and top grid: **Pantone Cool Grey 1C (light grey)**
- Front panel: **RAL 9003 (white)**
- Other colours on request.

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

Filter: polypropylene cellular fabric regenerating filter.
The filter frame of galvanized steel is inserted into special plastic sliding guides fastened to the internal structure for easy insertion and removal of the filter. Filter presence is highlighted by a plastic front cover featuring the same colour as the top grid.

Fan assembly: the tangential fan assembly is composed of two fan shrouds: an external one in PVC and an internal one of perforated, shaped steel. The fan has an external diameter of 120 mm and is the length of the coil.
The fins are concave and are positioned in a spiral shape along the whole length of the fan.

Electronic motor: three phase permanent magnet brushless electronic motor that is 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: 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 1/2 inch BSP internal connections and 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.

Flow and return pipe connections are situated at the same end on the left side looking at the unit.
On request we can deliver the unit with the connections on the right end side: this must be specified on the order as this operation can not be carried out on site during installation.

Condensate collection tray: made from plastic fitted on the inner casing.
The outside diameter of the condensate discharge pipe is 15 mm.

(*)

Sabiana WiFi

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.

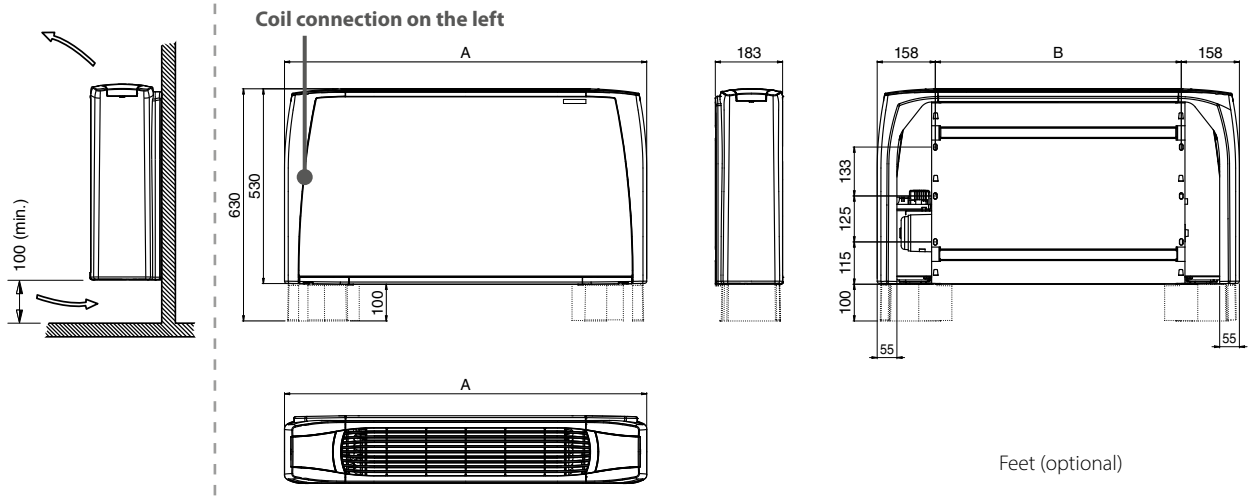
(*)

Sabiana BLE

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).

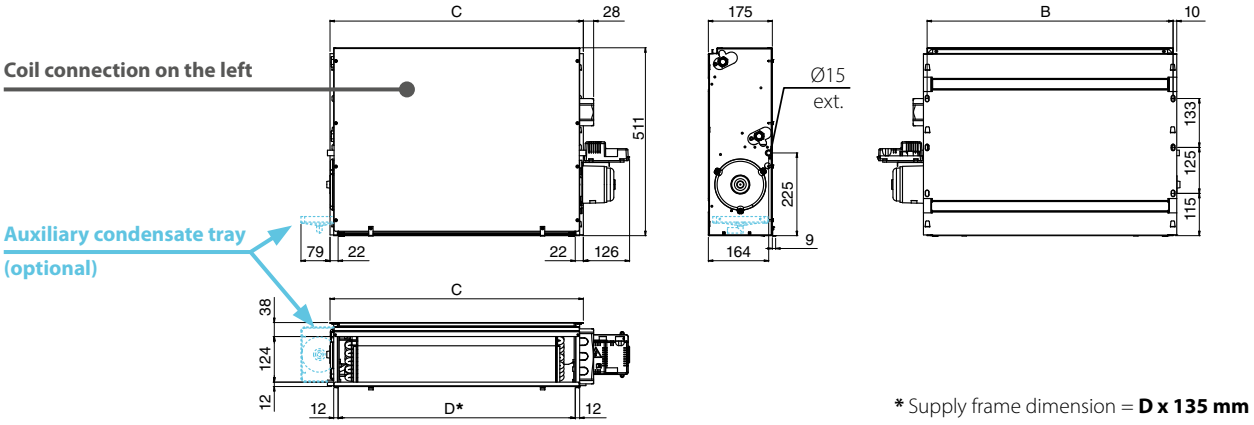
(*) See availabilty function on controls.

MV model



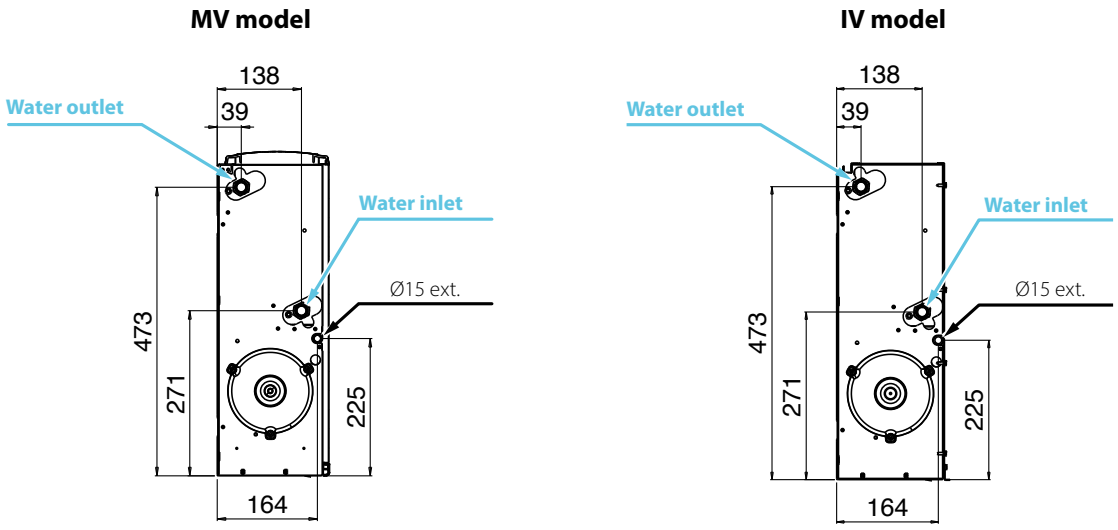
Feet (optional)

IV model



* Supply frame dimension = **D x 135 mm**

Coil connections



Dimension (mm)

Model	1	2	3	4
A	670	770	985	1200
B	354	454	669	884
C	374	474	689	904
D	330	430	645	860

Weight (kg)

	Weight with packaging				Weight without packaging			
Model	1	2	3	4	1	2	3	4
MV model	13,4	15,1	18,9	22,7	11,6	13,1	16,6	20,1
IV model	11,3	13,0	16,8	20,6	9,7	11,2	14,6	18,2

Water content (litres)

Model	1	2	3	4
	0,5	0,6	0,9	1,3

www.eurovent-certification.com

Units with 3 row coil

2 pipe units. The following standard rating conditions are used:

COOLING (summer mode)
Entering air temperature: +27 °C d.b. +19 °C w.b.
Water temperature: +7 °C E.W.T. +12 °C L.W.T.

HEATING (winter mode)
Entering air temperature: +20 °C
Entering water temperature: +45/40 °C

Model			CRR-ECM 1					CRR-ECM 2				
Inverter Power **(V)**			1 **(E)**	3	5 **(E)**	7,5	10 **(E)**	1 **(E)**	3	5 **(E)**	7,5	10 **(E)**
Speed			**MIN**		**MED**		**MAX**	**MIN**		**MED**		**MAX**
Air flow		m^3/h	90	120	145	180	210	100	135	170	210	245
Cooling total emission **(E)**		kW	0,51	0,62	0,71	0,81	0,89	0,65	0,81	0,95	1,10	1,21
Cooling sensible emission **(E)**		kW	0,39	0,50	0,58	0,68	0,76	0,47	0,60	0,72	0,85	0,95
Heating **(E)**		kW	0,56	0,67	0,75	0,89	1,00	0,78	0,93	1,09	1,30	1,46
Dp Cooling **(E)**		kPa	0,90	1,30	1,60	2,10	2,40	1,60	2,40	3,20	4,20	5,00
Dp Heating **(E)**		kPa	1,10	1,50	1,90	2,50	3,10	1,80	2,50	3,30	4,50	5,60
Fan **(E)**		W	5	5	6	8	10	5	6	6	8	10
Sound power **(E)**	Lw	dB(A)	32	36	40	44	48	32	36	39	43	47
Sound pressure **(*)**	Lp	dB(A)	23	27	31	35	39	23	27	30	34	38

Model			CRR-ECM 3					CRR-ECM 4				
Inverter Power **(V)**			1 **(E)**	3	5 **(E)**	7,5	10 **(E)**	1 **(E)**	3	5 **(E)**	7,5	10 **(E)**
Speed			**MIN**		**MED**		**MAX**	**MIN**		**MED**		**MAX**
Air flow		m^3/h	170	225	280	350	410	240	320	390	470	550
Cooling total emission **(E)**		kW	1,17	1,45	1,70	1,99	2,20	1,61	2,00	2,30	2,62	2,90
Cooling sensible emission **(E)**		kW	0,83	1,04	1,24	1,47	1,64	1,15	1,45	1,69	1,94	2,17
Heating **(E)**		kW	1,33	1,56	1,82	2,18	2,47	1,85	2,18	2,50	2,90	3,28
Dp Cooling **(E)**		kPa	6,20	9,10	12,20	16,20	19,40	4,40	6,50	8,50	10,70	12,80
Dp Heating **(E)**		kPa	6,30	8,40	11,20	15,50	19,40	4,60	6,20	7,90	10,30	12,90
Fan **(E)**		W	5	7	8	11	15	6	7	10	14	22
Sound power **(E)**	Lw	dB(A)	34	38	42	46	50	34	38	43	48	51
Sound pressure **(*)**	Lp	dB(A)	25	29	33	37	41	25	29	34	39	42

(E) = EUROVENT certified performance. **MIN-MED-MAX** = Standard connected speeds.
(*) = The sound pressure levels are 9 dB(A) lower than the sound power levels and apply to the reverberant field of a 100 m^3 room and a reverberation time of 0.5 sec.

Breeze Frame Kit | FOR CARISMA CRR-ECM WALL CONCEALED INSTALLATION

The Carisma Breeze frame kit is available in **3 sizes** and allows the installation of **wall** recessed Carisma CRR-ECM IV model fan coils.
The kit includes a top closing panel that prevents the access to technical spaces and coil ensuring **the safety of the end user**.

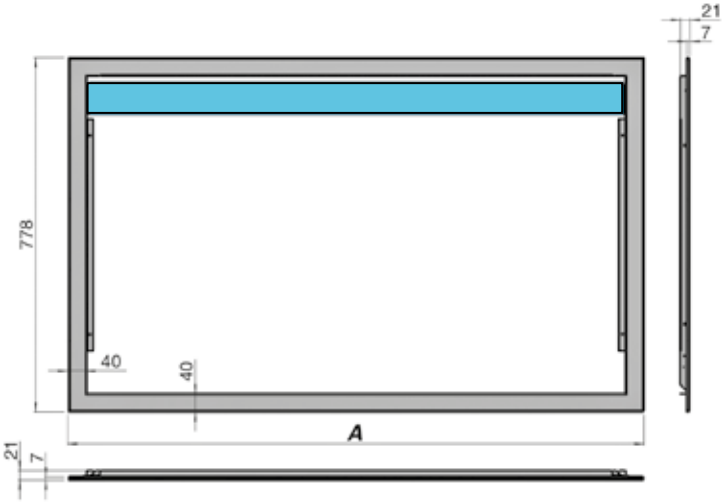
The aesthetic frame includes:
- the closing frame;
- air supply louvre;
- front panel;
- air intake grid.

The air supply louvre is made of extruded aluminum with satin finish.

Perimeter frame, front panel and **intake grid** are made of steel painted with epoxy polyester coat, dried in a furnace at 180 °C, colour RAL 9003. It is possible to repaint the entire frame of the same color as the wall.

The recessed box is made of galvanized steel with openings for the electrical and hydraulic connections.

Aesthetic frame dimensions



Size	Dimension A
2	837
3	1052
4	1267

Breeze Frame Kit | CRYSTALL

The **Crystall** Sabiana electrostatic filter matches the need for better air conditioning with the concepts of space and design. With this filter the various stages of air treatment are combined in one unit. Thanks to this new patented filter (efficiency compliant with EN 16890), air pollutants such as cigarette smoke, dust (PM_{10}, $PM_{2.5}$), pollen and most biological organisms are eliminated.

In addition, as fresh air is not being introduced to obtain the best climatic conditions, there are consequential energy savings.

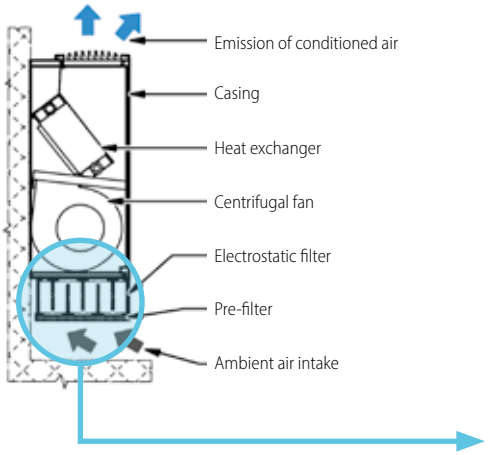
Operating principle of the Crystall Sabiana electrostatic filter

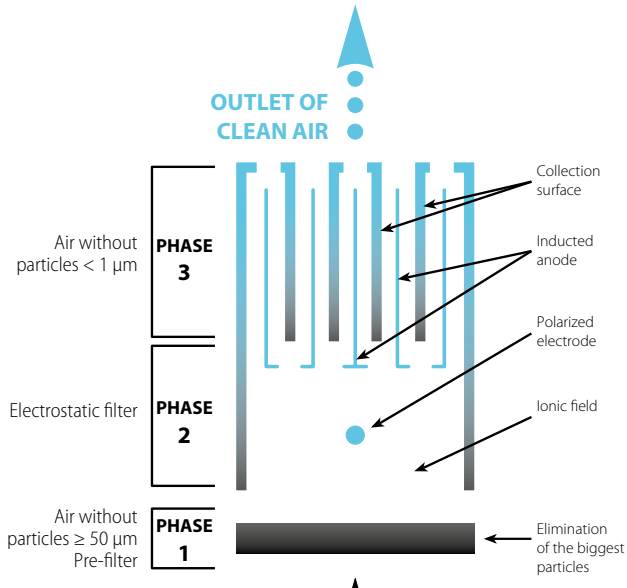
The air is aspirated in and first passes a mechanical prefilter, which stops away particles of more than 50 µm (dust, insects, etc.) **(Phase 1)**.

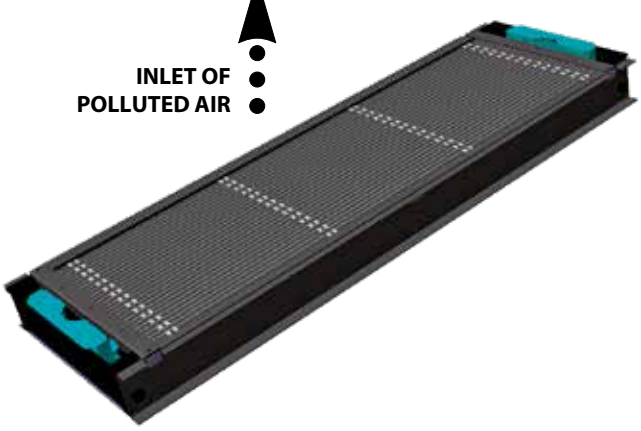
Then the smallest particles (50÷0.01 µm) are exposed to an intensive ionic field and are polarized **(Phase 2)**.

The charged particles passing through the second filter section, are pushed back by the anode and attracted by the collection surfaces by a strong, inducted magnetic field **(Phase 3)**.

The air which leaves the unit is free from polluting particles.







On board controls

MV model	
CB-T-ECM	Continuous fan speed control with electronic thermostat and summer/winter switch
CB-T-ECM-IAQ	Continuous fan speed control with electronic thermostat and summer/winter switch (version with electrostatic filter)
CB-Touch-M	Automatic speed touch control, fitted on the unit, with electronic thermostat and seasonal/ventilation mode selection (to be used with UP-Touch-M only)
CB-Touch-S	Automatic speed touch control, not fitted on the unit, with electronic thermostat and seasonal/ventilation mode selection (to be used with UP-Touch-S only)
UP-Touch-M	Power unit for CB-Touch-M control, fitted on the unit
UP-Touch-S	Power unit for CB-Touch-S control, not fitted on the unit

Electronic wall controls

MV and IV models	
WM-AU	Automatic speed control with electronic thermostat and summer/winter switch (to be used with UPM-AU or UP-AU only)
T-MB2	Wall control with LCD color display and WiFi (to be used with UPM-AU or UP-AU only)
WM-503-AC-EC	Automatic speed control with electronic thermostat to be mounted in the 503 box (to be used with UP-503-AC-EC only)
WM-S-ECM	Continuous fan speed control with electronic thermostat, summer/winter switch and LCD display
UPM-AU	UP-AU power unit for WM-AU and T-MB2 remote controls, fitted on the unit
UP-AU	UP-AU power unit for WM-AU and T-MB2 remote controls, not fitted on the unit
UP-503-AC-EC	UP-503-AC-EC power unit for WM-503-AC-EC remote control, not fitted on the unit

Electronic controls for MB board

MB-ECM-S	MB electronic board supplied with separate packaging
T-MB2	Wall control with LCD color display and WiFi (to be used with MB board)

Controls for KNX systems

KNX systems	
WM-KNX	Wall control with electronic thermostat and summer/winter switch (to be used with UP-KNX and PL mounting plate only)
UP-KNX	UP-KNX power unit supplied with separate packaging
PL-503-B	Mounting plate for rectangular box
PL-QUA-B	Mounting plate for round or square box

NOTE: for more information about Controls and for full list of main Accessories, please see the dedicated pages.

Follow us on

Sabiana app

01/2025

SABIANA SpA
Società a socio unico
Via Piave 53 - 20011 Corbetta (MI) Italia
T. +39 02 97203 1 r.a. - F. +39 02 9777282
info@sabiana.it
www.sabiana.it

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)”