Carisma Fly and Fly-ECM

High Wall Fan Coil Unit
with WiFi Connectivity Kit and Bluetooth

TECHNICAL LEAFLET

Carisma Fly

High Wall Fan Coil Unit with WiFi Connectivity Kit and Bluetooth(*)

Carisma Fly is the high wall fan coil unit **designed and manufactured in Italy** by Sabiana, in 4 sizes and many different models.

Fly is easy to install like a standard fan coil: without decreasing the emission and without any extra frame, 2 way or 3 way valves and condensate pump can be mounted into the casing.

The **modern and appealing** design of the unit in RAL 9003 colour allows the use of Fly in any environment.

Standard AC version is available with wired wall control, infra-red remote control, MB electronic board for Modbus management and electric heating coil.

The **CVP-TA** and **CVP-MBA** units offer moreover the possibility of management via **"Sabiana Wi-Fi"** and **"Sabiana BLE"** APP. This makes this fan coil unit the ideal solution for the air-conditioning of every kind of ambients; the **CVP-MBA** version allows the connection to a ModBus network.

The electronic board is equipped with a microprocessor with BLE / WiFi feature, that allows to control at distance or remotely all the units installed.

With the BLE / WiFi technology it is possible to manage all the fan coil operation modes.

CVP-TS units equipped with remote control and without Wi-fi and Bluetooth connectivity are also available.

The units are for 2 pipe installations only.

All the Fly models perform very low electric consumption and extremely quite sound levels according to the request of today's new projects.

(*) CVP-TA and CVP-MBA versions

Versions: all versions are available without valves, with 2 way valve or with 3 way valve fitted in the unit.
There are four sizes available in the following versions:

Standard models	Models with electric heater
CVP without infra-red remote control and without valve	**CVP-E** without infra-red remote control and without valve
CVP-2V without infra-red remote control with fitted 2 way valve	**CVP-E-2V** without infra-red remote control with fitted 2 way valve
CVP-3V without infra-red remote control with fitted 3 way valve	**CVP-E-3V** without infra-red remote control with fitted 3 way valve
CVP-TA / CVP-TS with infra-red remote control and without valve	**CVP-TA-E** with infra-red remote control and without valve
CVP-TA-2V / CVP-TS-2V with infra-red remote control with fitted 2 way valve	**CVP-TA-E-2V** with infra-red remote control with fitted 2 way valve
CVP-TA-3V / CVP-TS-3V with infra-red remote control with fitted 3 way valve	**CVP-TA-E-3V** with infra-red remote control with fitted 3 way valve.
CVP-MBA with MB board and without valve	**CVP-MBA-E** with MB electronic board and without valve
CVP-MBA-2V with MB board with fitted 2 way valve	**CVP-MBA-E-2V** with MB electronic board with fitted 2 way valve
CVP-MBA-3V with MB board with fitted 3 way valve	**CVP-MBA-E-3V** with MB electronic board with fitted 3 way valve

Casing: made of auto-extinguishing ABS UL94 HB plastic RAL 9003 with high specifications and great resistance to aging. The diffusion flap is adjusted manually (not motorised flap) in CVP version, on the contrary it is adjusted by remote control in CVP-TA version or with T-MB2 wall control in CVP-MBA version (both with motorised flap).

Filter: washable-regenerable synthetic filter, readily accessible.

Fan assembly: made of plastic tangential fan.

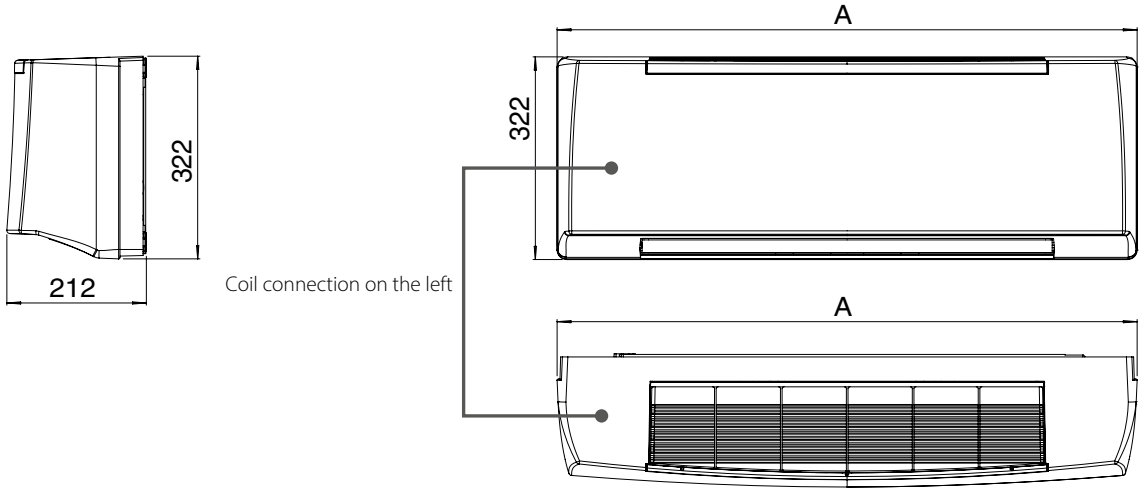
Electric motor: the motor is for single phase supply and has six speeds, three of which are connected, with capacitor.
The motor is fitted on sealed for life bearings and is secured on anti-vibration and self-lubricating mountings.
Internal thermal protection with automatic reset, protection IP 20, class B.
The speeds connected in the factory are indicated by "MIN, MED and MAX" in the following tables.

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 heat exchanger is not suitable for use in corrosive atmosphere or in environments where aluminium may be subject to corrosion.
The connections are on the left side facing the unit only.

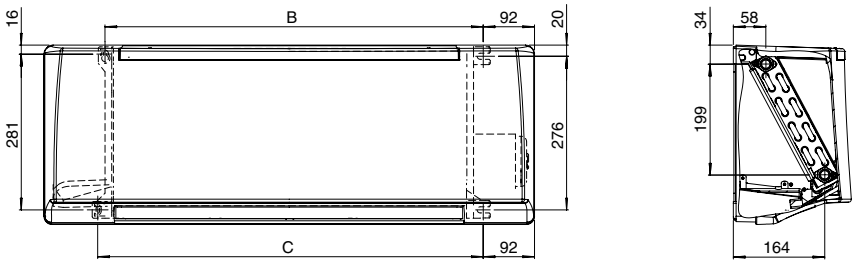
Electric heater (models with electric heater only):
According to the control provided, the electrical heater can be used as an alternative or as a supplement to the hot water.
The heater is hermetically sealed and supplied inside the battery pipes and therefore can be only factory mounted.
The electric heaters of the **Fly** units are single phase 230V supply.

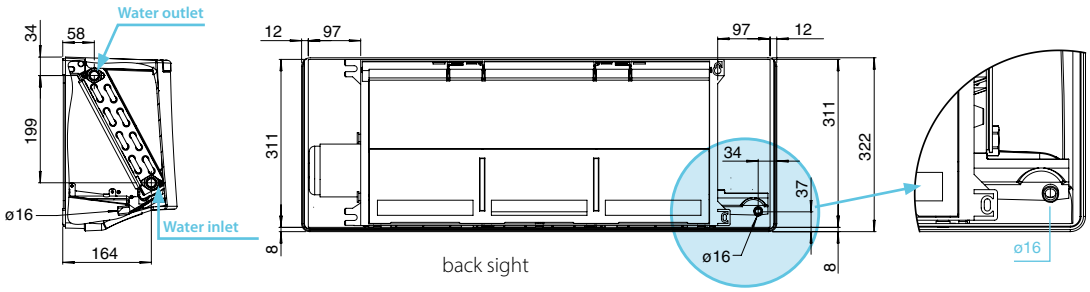
Condensate collection tray: made from polypropylene; the outside diameter of the condensate discharge pipe is 16 mm.

Installation template: a cardboard installation template is supplied with every unit to help the mounting on the wall.



Mounting dimensions





Model	Weight without valves kg	Weight with valves kg	Water content litres	A mm	B mm	C mm
1	10	11	0,85	880	678	691
2	10	11	0,85	880	678	691
3	13	14	1,28	1185	983	996
4	13	14	1,28	1185	983	996

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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
Water temperature: +45°C E.W.T. +40°C L.W.T.

Model		1						2					
Speed		1 **(E)**	2 **(E)**	3	4 **(E)**	5	6	1 **(E)**	2	3 **(E)**	4	5 **(E)**	6
		MIN	**MED**		**MAX**			**MIN**		**MED**		**MAX**	
Air flow	m^3/h	**205**	**270**	340	**375**	470	500	**250**	305	**365**	400	**480**	545
Cooling total emission **(E)**	kW	**1,23**	**1,49**	1,74	**1,85**	2,13	2,20	**1,42**	1,62	**1,82**	1,93	**2,16**	2,32
Cooling sensible emission **(E)**	kW	**0,91**	**1,13**	1,34	**1,44**	1,70	1,77	**1,06**	1,23	**1,41**	1,51	**1,73**	1,89
Heating **(E)**	kW	**1,34**	**1,68**	2,02	**2,18**	2,58	2,71	**1,58**	1,85	**2,13**	2,29	**2,62**	2,88
Dp Cooling **(E)**	kPa	**4,8**	**6,8**	9,0	**10,1**	12,9	13,8	**6,2**	7,9	**9,8**	10,8	**13,2**	15,1
Dp Heating **(E)**	kPa	**4,5**	**6,8**	9,4	**10,8**	14,7	15,9	**6,1**	8,1	**10,4**	11,8	**15,1**	17,8
Fan **(E)**	W	**12**	**14**	17	**18**	24	30	**12**	14	**18**	20	**24**	32
Sound power Lw **(E)**	dB(A)	**35**	**41**	46	**48**	52	53	**39**	43	**47**	49	**53**	55
Sound pressure Lp **(*)**	dB(A)	**26**	**32**	37	**39**	43	44	**30**	34	**38**	40	**44**	46

Model		3						4					
Speed		1 **(E)**	2 **(E)**	3	4 **(E)**	5	6	1	2 **(E)**	3	4 **(E)**	5	6 **(E)**
		MIN	**MED**		**MAX**				**MIN**		**MED**		**MAX**
Air flow	m^3/h	**280**	**375**	480	**545**	730	780	300	**440**	500	**610**	675	**790**
Cooling total emission **(E)**	kW	**1,87**	**2,30**	2,75	**3,00**	3,59	3,73	1,97	**2,60**	2,83	**3,23**	3,43	**3,76**
Cooling sensible emission **(E)**	kW	**1,33**	**1,67**	2,03	**2,24**	2,77	2,90	1,41	**1,91**	2,10	**2,44**	2,62	**2,93**
Heating **(E)**	kW	**1,89**	**2,37**	2,93	**3,23**	4,04	4,24	2,00	**2,73**	3,02	**3,53**	3,80	**4,28**
Dp Cooling **(E)**	kPa	**11,2**	**16,2**	22,5	**26,3**	36,4	39,1	14,1	**23,0**	27,2	**34,0**	38,5	**45,1**
Dp Heating **(E)**	kPa	**9,1**	**13,8**	20,1	**24,1**	35,9	39,2	12,7	**22,2**	26,7	**35,2**	40,4	**49,8**
Fan **(E)**	W	**16**	**21**	26	**29**	38	46	17	**23**	27	**32**	35	**48**
Sound power Lw **(E)**	dB(A)	**35**	**40**	45	**51**	55	57	36	**43**	46	**51**	54	**57**
Sound pressure Lp **(*)**	dB(A)	**26**	**31**	36	**42**	46	48	27	**34**	37	**42**	45	**48**

(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.

Controls for CVP versions

CVP version	
WM-3V	3 speed control
WM-T	3 speed control with electronic thermostat and manual summer/winter switch
WM-TQR	3 speed control with electronic thermostat and centralized/manual summer/winter switch
T2T	Electromechanical thermostat with summer/winter switch (only for 2 pipe units)

Controls for CVP-TA versions

CVP-TA version	
KC-F	Connectivity kit "High Wall Connectivity Kit" (auxiliary board for Modbus connection + auxiliary board for T-MB2 connection)
PSM-DI	PSM-DI multifunction control panel (to be used with connectivity kit only)
T-DI	T-DI touch screen multifunction control panel (to be used with connectivity kit only)
SabWeb	Web gateway for Sabiana Cloud (to be used with connectivity kit only)

Controls for CVP-MBA versions

CVP-MBA version	
T-MB2	Wall control with LCD color display and WiFi
RS-RT03-F	Infra-red remote control with receiver supplied with separate packaging
RT03 / RR03	Infra-red remote control supplied with separate packaging
RT04	Infra-red remote control supplied with separate packaging (to be used with MB board only) - **Available from April 2025**
RS-F	Receiver for infra-red remote control supplied with separate packaging
PSM-DI	PSM-DI multifunction control panel
T-DI	T-DI touch screen multifunction control panel
SabWeb	Web gateway for Sabiana Cloud

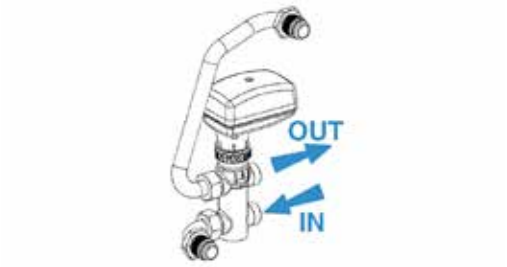
Sabianet management system for a network of fan coils	
Sabianet	Hardware/software supervisory system (to be used with CVP-MBA board only)
Router-S	Router for Sabianet (default) or for BMS systems not provided by Sabiana
SIOS	Relay output board for Sabianet

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 rectangular box

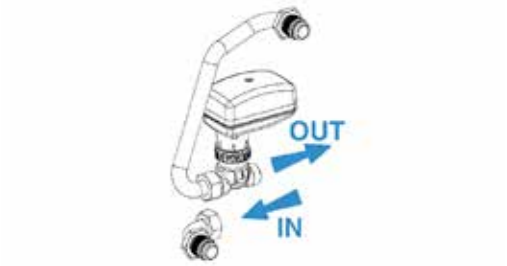
3 way valve

Control valve kit:
3 way valve, 230V ON-OFF,
with electric motor and mounting kit
with micrometric lockshield valve.



2 way valve

Control valve kit:
2 way valve, ON-OFF,
with electric motor and mounting kit.



Condensate drain pump

Wall or concealed installation kit

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

Carisma Fly-ECM

High Wall Fan Coil Unit with WiFi Connectivity Kit and Bluetooth(*) (EC Brushless Electronic Motor and Inverter Board)

Carisma Fly is the high wall fan coil unit **designed and manufactured in Italy** by Sabiana, in 5 sizes and many different models.

Fly is easy to install like a standard fan coil: without decreasing the emission and without any extra frame, 2 way or 3 way valves and condensate pump can be mounted into the casing.

The **modern and appealing** design of the unit in RAL 9003 colour allows the use of Fly in any environment.

Fly is **available with low energy EC motors** and in the following versions:

with infra-red remote control, MB electronic board for Modbus management and electric heating coil.

The **CVP-ECM-TA** and **CVP-ECM-MBA** units offer moreover the possibility of management via **"Sabiana Wi-Fi"** and **"Sabiana BLE"** APP. This makes this fan coil unit the ideal solution for the air-conditioning of every kind of ambients; the **CVP-ECM-MBA** version allows the connection to a ModBus network.

The electronic board is equipped with a microprocessor with BLE / WiFi feature, that allows to control at distance or remotely all the units installed.

With the BLE / WiFi technology it is possible to manage all the fan coil operation modes.

CVP-ECM-TS units equipped with remote control and without Wi-fi and Bluetooth connectivity are also available.

The units are for 2 pipe installations only.

All the Fly models perform very low electric consumption and extremely quite sound levels according to the request of today's new projects.

(*) CVP-ECM-TA and CVP-ECM-MBA versions.

Versions: all versions are available without valves, with 2 way valve or with 3 way valve fitted in the unit.
There are five sizes available in the following versions:

Standard versions	Versions with electronic heater
CVP-ECM-A without infra-red remote control and without valve	**CVP-ECM-E** without infra-red remote control and without valve
CVP-ECM-A-2V without infra-red remote control with fitted 2 way valve;	**CVP-ECM-E-2V** without infra-red remote control with fitted 2 way valve
CVP-ECM-A-3V without infra-red remote control with fitted 3 way valve	**CVP-ECM-E-3V** without infra-red remote control with fitted 3 way valve
CVP-ECM-TA / CVP-ECM-TS with infra-red remote control and without valve	**CVP-ECM-T-E** with infra-red remote control and without valve
CVP-ECM-TA-2V / CVP-ECM-TS-2V with MB board with fitted 2 way valve	**CVP-ECM-T-E-2V** with infra-red remote control with fitted 2 way valve
CVP-ECM-TA-3V / CVP-ECM-TS-3V with infra-red remote control with fitted 3 way valve	**CVP-ECM-T-E-3V** with infra-red remote control with fitted 3 way valve
CVP-ECM-MBA with MB board and without valve	**CVP-ECM-MB-E** with MB electronic board and without valve
CVP-ECM-MBA-2V with MB board with fitted 2 way valve	**CVP-ECM-MB-E-2V** with MB electronic board with fitted 2 way valve
CVP-ECM-MBA-3V with MB board with fitted 3 way valve	**CVP-ECM-MB-E-3V** with MB electronic board with fitted 3 way valve

Casing: made of auto-extinguishing ABS UL94 HB plastic RAL 9003 with high specifications and great resistance to aging. The diffusion flap is adjusted manually (not motorised flap) in CVP-ECM-A version, on the contrary it is adjusted by remote control in CVP-ECM-TA version or with T-MB2 wall control in CVP-ECM-MBA version (both with motorised flap).

Filter: washable-regenerable synthetic filter, readily accessible.

Fan assembly: made of plastic tangential fan.

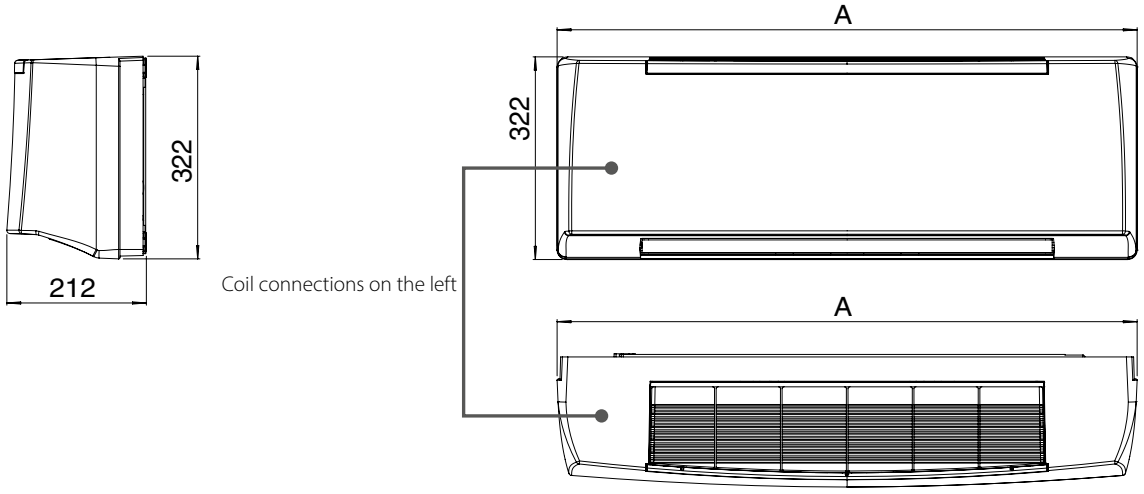
Electronic motor: three phase permanent magnet brushless electronic motor that is controlled with current reconstructed according to a **BLAC** sinusoidal wave.
The inverter board that controls the motor operation is powered by 230 Volt, single-phase and, with a **switching system**, it generates a three-phase frequency modulated, wave form power supply.
The electric power supply required for the machine is therefore single-phase with voltage of **230 - 240 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 heat exchanger is not suitable for use in corrosive atmosphere or in environments where aluminium may be subject to corrosion.
The connections are on the left side facing the unit only.

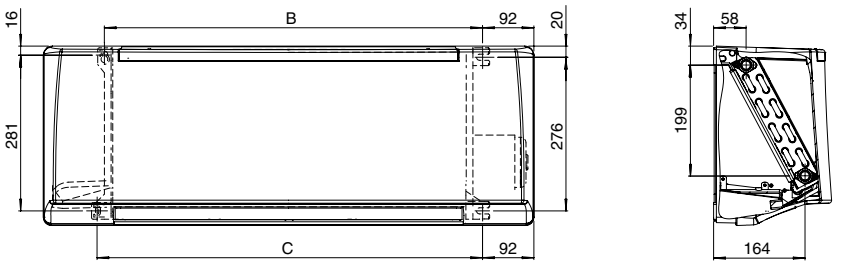
Electric heater (models with electric heater only):
The heater is hermetically sealed and supplied inside the battery pipes and therefore can be only factory mounted.
The electric heaters of the **Fly-ECM** units are single phase 230V supply.

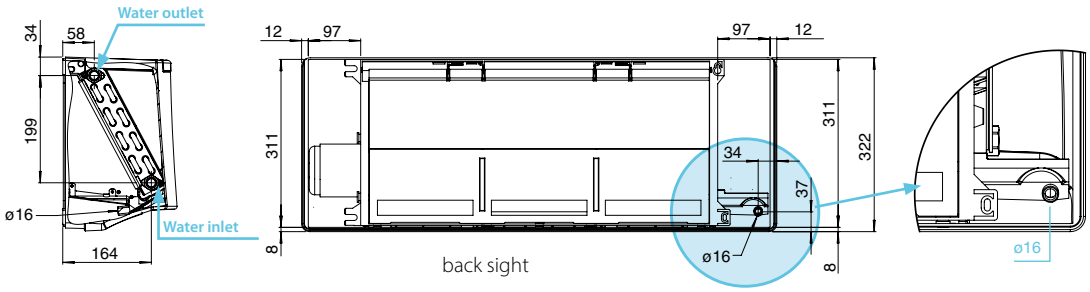
Condensate collection tray: made from polypropylene; the outside diameter of the condensate discharge pipe is 16 mm.

Installation template: a cardboard installation template is supplied with every unit to help the mounting on the wall.



Mounting dimensions





Model	Weight without valves kg	Weight with valves kg	Water content litres	A mm	B mm	C mm
0	10	11	0,9	880	678	691
1	10	11	0,9	880	678	691
2	10	11	0,9	880	678	691
3	13	14	1,3	1185	983	996
4	13	14	1,3	1185	983	996

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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
Water temperature: +45°C E.W.T. +40°C L.W.T.

Model		0						1				
Inverter Power **(V)**		1 **(E)**	2	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	**130**	148	230	**290**	340	**415**	**190**	240	**290**	355	**415**
Cooling total emission **(E)**	kW	**0,61**	0,86	1,28	**1,57**	1,78	**1,98**	**1,16**	1,38	**1,57**	1,80	**1,98**
Cooling sensible emission **(E)**	kW	**0,47**	0,66	0,90	**1,19**	1,38	**1,56**	**0,85**	1,03	**1,19**	1,39	**1,56**
Heating **(E)**	kW	**0,72**	1,05	1,48	**1,78**	2,15	**2,35**	**1,26**	1,53	**1,78**	2,09	**2,35**
Dp Cooling **(E)**	kPa	**1,4**	2,6	5,2	**7,7**	9,4	**11,2**	**5,0**	5,9	**7,7**	9,4	**11,2**
Dp Heating **(E)**	kPa	**1,6**	3,0	5,6	**7,5**	12,0	**12,4**	**4,0**	5,7	**7,5**	10,0	**12,4**
Fan **(E)**	W	**3**	4	7	**9**	10	**15**	**6**	7	**9**	11	**15**
Sound power Lw **(E)**	dB(A)	**26**	30	38	**46**	49	**52**	**35**	39	**46**	48	**52**
Sound pressure Lp **(*)**	dB(A)	**17**	21	29	**37**	40	**43**	**26**	30	**37**	39	**43**

Model		2					3				
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	**260**	315	**375**	440	**510**	**270**	345	**420**	520	**620**
Cooling total emission **(E)**	kW	**1,46**	1,66	**1,86**	2,05	**2,24**	**1,82**	2,19	**2,52**	2,92	**3,27**
Cooling sensible emission **(E)**	kW	**1,09**	1,27	**1,45**	1,63	**1,81**	**1,30**	1,59	**1,85**	2,17	**2,48**
Heating **(E)**	kW	**1,63**	1,90	**2,18**	2,46	**2,74**	**1,83**	2,24	**2,63**	3,11	**3,57**
Dp Cooling **(E)**	kPa	**6,9**	8,2	**10,1**	12,0	**14,1**	**10,7**	14,8	**19,0**	24,8	**30,4**
Dp Heating **(E)**	kPa	**6,4**	8,4	**10,8**	13,4	**16,3**	**8,7**	12,5	**16,6**	22,5	**28,8**
Fan **(E)**	W	**7**	9	**12**	16	**22**	**6**	8	**11**	15	**20**
Sound power Lw **(E)**	dB(A)	**40**	44	**47**	51	**55**	**37**	42	**45**	49	**53**
Sound pressure Lp **(*)**	dB(A)	**31**	35	**38**	42	**46**	**28**	33	**36**	40	**44**

Model		4				
Inverter Power **(V)**		1 **(E)**	3	5 **(E)**	7,5	10 **(E)**
Speed		**MIN**		**MED**		**MAX**
Air flow	m^3/h	**375**	465	**550**	665	**770**
Cooling total emission **(E)**	kW	**2,33**	2,71	**3,03**	3,41	**3,72**
Cooling sensible emission **(E)**	kW	**1,69**	2,00	**2,27**	2,61	**2,89**
Heating **(E)**	kW	**2,40**	2,85	**3,26**	3,76	**4,20**
Dp Cooling **(E)**	kPa	**16,5**	21,6	**26,6**	32,9	**38,7**
Dp Heating **(E)**	kPa	**14,1**	19,3	**24,4**	31,7	**38,6**
Fan **(E)**	W	**9**	12	**16**	22	**30**
Sound power Lw **(E)**	dB(A)	**43**	46	**49**	53	**57**
Sound pressure Lp **(*)**	dB(A)	**34**	37	**40**	44	**48**

(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.

Controls for CVP-ECM-A versions

CVP-ECM-A version	
WM-S-ECM	Continuous fan speed control with electronic thermostat, summer/winter switch and liquid crystal display

Controls for CVP-ECM-TA versions

CVP-ECM-TA Version	
KC-F	Connectivity kit "High Wall Connectivity Kit" (auxiliary board for Modbus connection + auxiliary board for T-MB2 connection)
PSM-DI	PSM-DI multifunction control panel (to be used with connectivity kit only)
T-DI	T-DI touch screen multifunction control panel (to be used with connectivity kit only)
SabWeb	Web gateway for Sabiana Cloud (to be used with connectivity kit only)

Electronic controls for MB boards

CVP-ECM-MBA version	
T-MB2	Wall control with LCD color display and WiFi
RS-RT03-F	Infra-red remote control with receiver supplied with separate packaging
RT03 / RR03	Infra-red remote control supplied with separate packaging
RT04	Infra-red remote control supplied with separate packaging (to be used with MB board only) - **Available from April 2025**
RS-F	Receiver for infra-red remote control supplied with separate packaging
PSM-DI	PSM-DI multifunction control panel
T-DI	T-DI touch screen multifunction control panel
SabWeb	Web gateway for Sabiana Cloud)

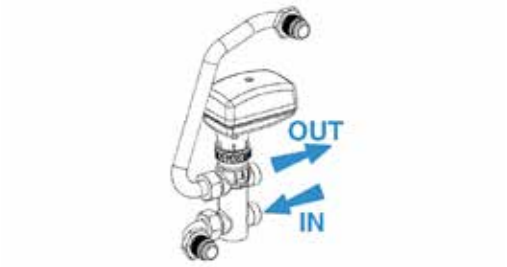
Sabianet management system for a network of fan coils	
Sabianet	Hardware/software supervisory system (to be used with CVP-ECM-MBA board only)
Router-S	Router for Sabianet (default) or for BMS systems not provided by Sabiana
SIOS	Relay output board for Sabianet

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 rectangular box

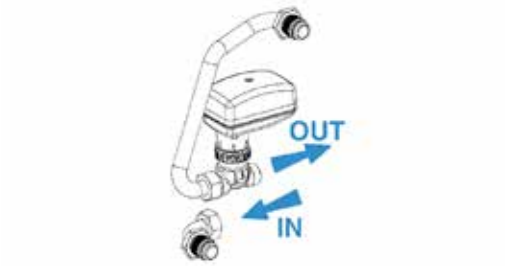
3 way valve

Control valve kit:
3 way valve, 230V ON-OFF,
with electric motor and mounting kit
with micrometric lockshield valve.



2 way valve

Control valve kit:
2 way valve, ON-OFF,
with electric motor and mounting kit.



Condensate drain pump

Wall or concealed installation kit

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

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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)”