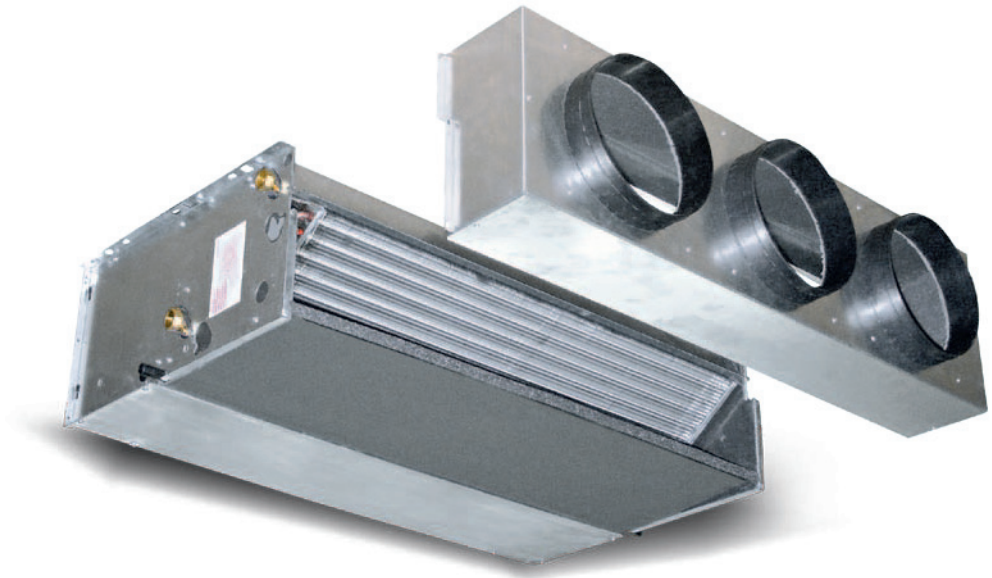




SABIANA
IL CLIMA AMICO

A leading brand of  AFG



Carisma CRSO

High Pressure Fan Coil Unit with Asynchronous Motor

Range includes **4 air flow rates** (from 375 to 2220 m³/h) each equipped with 3 or 4 row coil and with the possibility to add a 1 or 2 row coil for 4 pipe systems. It is the perfect range to meet all air-conditioning requirements of work environments like offices, shops, restaurants and hotel rooms featuring ducted installations with available pressure **up to 80 Pa.**

All range is compliant with the new **ERP 2013 Regulation (EU) No. 327/2011** which requires **very low electric consumption ratings** in relation to performances provided.

Technical characteristics of the main components:

Casing: made from galvanized steel insulated with polyolefin (PO) foam (class M1).

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.

Fan assembly: the fans have aluminium or plastic blades directly keyed on the motor with double aspiration and they are dynamically and statically balanced during manufacture in order to have an extremely quiet operation.

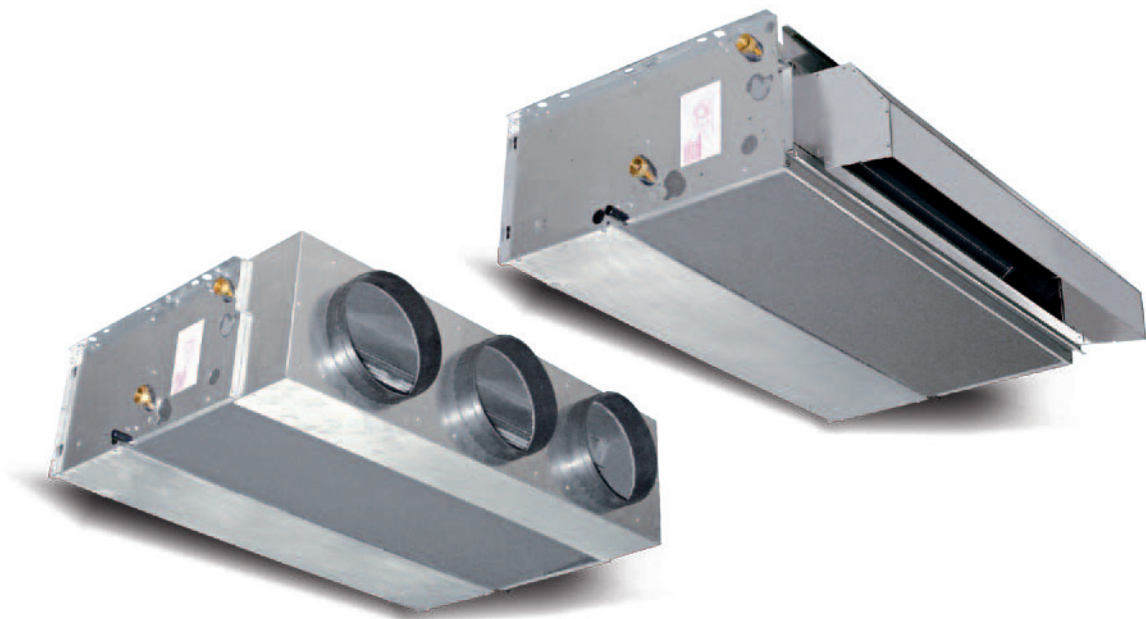
Electric motor: the motor is wired for single phase and has five speeds, with capacitor. The motor is fitted on sealed for life bearings and is secured on anti-vibration and self-lubricating mountings. Internal thermal protection with automatic reset, protection IP 20, class B.

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 1/2inch 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.

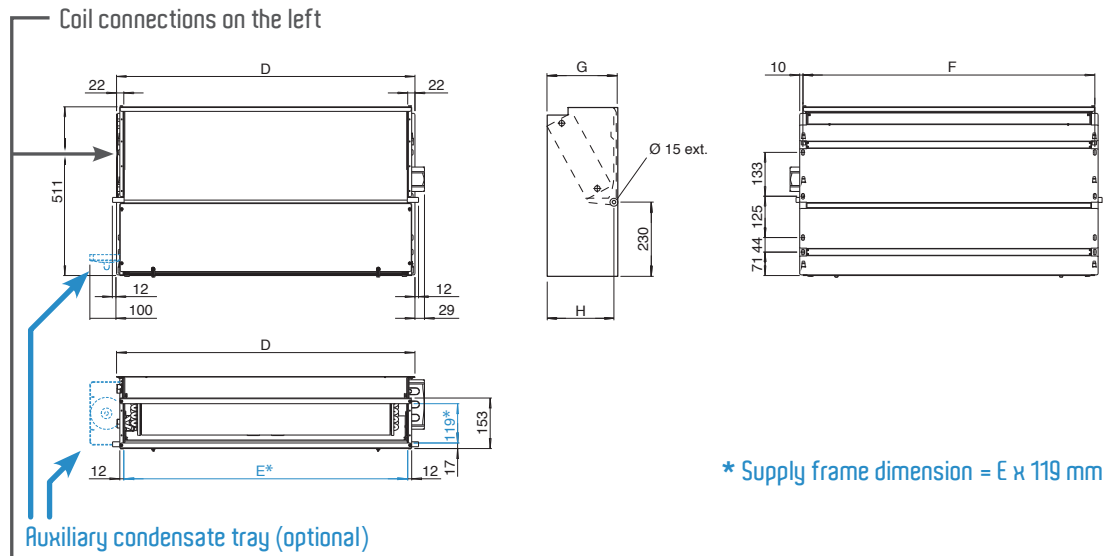
Flow and return pipe connections are situated at the same end on the left side looking at the unit. On request we can deliver the unit with the connections on the right end side. This operation can also be easily carried out on site during installation.

Condensate collection tray: made from plastic with an “L”-shaped plastic fitted on the inner casing; the tray is insulated with polyolefin (PO) foam (class M1). The outside diameter of the condensate discharge pipe is 15 mm.

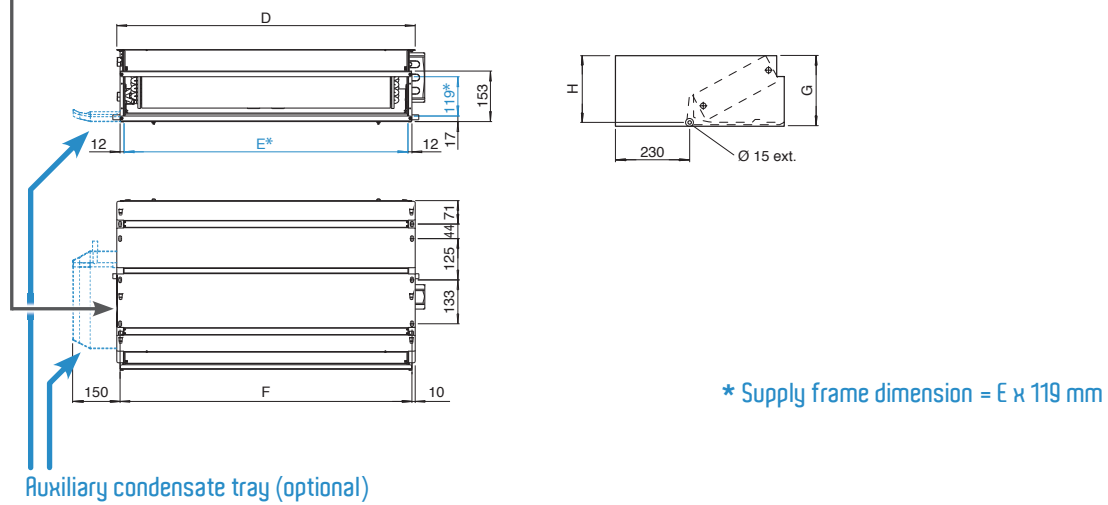


Dimensions, Weight, Water content

Vertical Installation

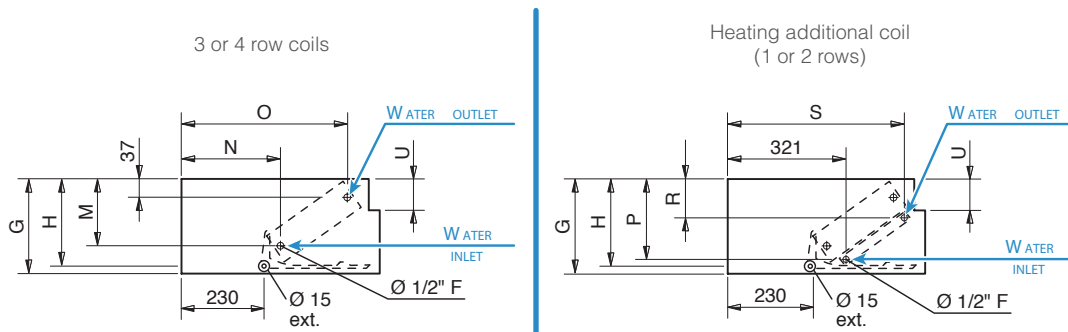


Horizontal Installation



Dimensions, Weight, Water content

Coil connections



Dimension (mm)

MODEL	1	2	3	4
D	689	904	1119	1570
E	645	860	1075	1526
F	669	884	1099	1550
G	218	248	248	248
H	205	235	235	235
M	145	170	170	170
N	260	270	270	270
O	460	450	450	450
P	185	210	210	210
R	105	110	110	110
S	475	465	465	465
U	65	95	95	95

Weight (kg)

		WEIGHT WITH PACKAGING				WEIGHT WITHOUT PACKAGING			
MODEL		1	2	3	4	1	2	3	4
ROWS	3	19,1	26,1	30,4	47,7	17,3	23,5	27,3	43,3
	3+1	20,3	27,6	32,2	50,0	18,5	25,0	29,1	45,6
	3+2	21,0	28,5	33,3	-	19,2	25,9	30,2	-
	4	20,1	27,4	31,9	49,5	18,3	24,8	28,8	45,1
	4+1	21,3	28,9	33,7	51,8	19,5	26,3	30,6	47,4

Water content (litres)

MODEL		1	2	3	4
ROWS	3	0,9	1,6	1,9	3,2
	4	1,3	2,2	2,8	4,2
	+1	0,3	0,5	0,6	0,9
	+2	0,6	1,0	1,2	-



Certification

Units with 3 and 4 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: +50°C

Water flow rate as for the cooling conditions

MODEL	CRSO 13			CRSO 23			CRSO 33			CRSO 43			
	2	3	4	2	3	4	2	3	4	1	2	3	
Speed (E)													
Air flow (E)	m³/h	240	285	310	470	525	580	760	885	960	945	1155	1285
Available pressure (E)	Pa	40	50	60	40	50	60	40	50	60	35	50	60
Cooling total emission (E)	kW	1,58	1,81	1,93	2,94	3,19	3,42	4,44	4,92	5,20	5,95	6,87	7,40
Cooling sensible emission (E)	kW	1,14	1,31	1,41	2,17	2,37	2,57	3,36	3,80	4,05	4,39	5,16	5,62
Heating (E)	kW	1,91	2,22	2,39	3,57	3,92	4,25	5,63	6,36	6,79	7,29	8,62	9,41
Dp Cooling (E)	kPa	9,0	11,5	12,9	10,6	12,3	13,9	11,4	13,7	15,1	8,9	11,5	13,1
Dp Heating (E)	kPa	6,9	9,0	10,3	8,3	9,8	11,4	9,0	11,0	11,9	6,8	9,2	10,8
Fan (E)	W	40	46	55	82	90	97	107	121	134	140	148	158
Sound power outlet (E)	dB(A)	44	47	50	46	49	51	51	54	57	52	56	58
Sound power inlet + radiated (E)	dB(A)	52	54	57	52	54	57	57	60	63	59	62	64
Sound pressure outlet (★)	dB(A)	35	38	41	37	40	42	42	45	48	43	47	49
Sound pressure inlet + radiated (★)	dB(A)	43	45	48	43	45	48	48	51	54	50	53	55
Plenum code (E)		9066363			9069222			9066368			9069224		

MODEL	CRSO 14			CRSO 24			CRSO 34			CRSO 44			
	2	3	4	2	3	4	2	3	4	1	2	3	
Speed (E)													
Air flow (E)	m³/h	240	285	310	470	525	580	760	885	960	945	1155	1285
Available pressure (E)	Pa	40	50	60	40	50	60	40	50	60	35	50	60
Cooling total emission (E)	kW	1,74	2,01	2,15	3,27	3,57	3,85	4,80	5,36	5,68	6,51	7,59	8,22
Cooling sensible emission (E)	kW	1,23	1,43	1,54	2,32	2,55	2,77	3,52	3,99	4,25	4,68	5,54	6,05
Heating (E)	kW	2,06	2,41	2,60	3,90	4,30	4,69	6,00	6,83	7,31	7,85	9,39	10,30
Dp Cooling (E)	kPa	5,4	7,0	7,9	18,1	21,2	24,3	9,7	11,9	13,2	11,8	15,6	18,0
Dp Heating (E)	kPa	4,2	5,6	6,4	14,3	17,1	20,1	8,0	9,3	10,5	11,0	13,8	17,0
Fan (E)	W	40	46	55	82	90	97	107	121	134	140	148	158
Sound power outlet (E)	dB(A)	44	47	50	46	49	51	51	54	57	52	56	58
Sound power inlet + radiated (E)	dB(A)	52	54	57	52	54	57	57	60	63	59	62	64
Sound pressure outlet (★)	dB(A)	35	38	41	37	40	42	42	45	48	43	47	49
Sound pressure inlet + radiated (★)	dB(A)	43	45	48	43	45	48	48	51	54	50	53	55
Plenum code (E)		9066363			9069222			9066368			9069224		

(E) = Eurovent certified performance.

(★) = The sound pressure levels are 9 dB(A) lower than the sound power levels and apply to the reverberant field of a 100 m³ room and a reverberation time of 0.5 sec.



Certification

Units with 1 row additional coil

4 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: +70°C E.W.T. +60°C L.W.T.

MODEL	CRSO 13+1			CRSO 23+1			CRSO 33+1			CRSO 43+1			
	2	3	4	2	3	4	2	3	4	1	2	3	
Speed (E)													
Air flow (E)	m ³ /h	240	285	310	470	525	580	760	885	960	945	1155	1285
Available pressure (E)	Pa	40	50	60	40	50	60	40	50	60	35	50	60
Cooling total emission (E)	kW	1,58	1,81	1,93	2,94	3,19	3,42	4,44	4,92	5,20	5,95	6,87	7,40
Cooling sensible emission (E)	kW	1,14	1,31	1,41	2,17	2,37	2,57	3,36	3,80	4,05	4,39	5,16	5,62
Heating (E)	kW	1,66	1,87	1,98	2,85	3,08	3,28	4,14	4,57	4,82	5,55	6,33	6,79
Dp Cooling (E)	kPa	9,0	11,5	12,9	11,2	13,0	14,7	11,4	13,7	15,1	8,9	11,5	13,1
Dp Heating (E)	kPa	5,3	6,6	7,3	3,8	4,3	4,8	6,2	7,4	8,1	13,5	17,2	19,5
Fan (E)	W	40	46	55	82	90	97	107	121	134	140	148	158
Sound power outlet (E)	dB(A)	44	47	50	46	49	51	51	54	57	52	56	58
Sound power inlet + radiated (E)	dB(A)	52	54	57	52	54	57	57	60	63	59	62	64
Sound pressure outlet (★)	dB(A)	35	38	41	37	40	42	42	45	48	43	47	49
Sound pressure inlet + radiated (★)	dB(A)	43	45	48	43	45	48	48	51	54	50	53	55
Plenum code (E)		9066363			9069222			9066368			9069224		

(E) = Eurovent certified performance.

(★) = The sound pressure levels are 9 dB(A) lower than the sound power levels and apply to the reverberant field of a 100 m³ room and a reverberation time of 0.5 sec.

Wall electronic controls

Standard models

MO-3V	3 speed control
CR-T	3 speed control with electronic thermostat and manual summer/winter switch
TMO-T	3 speed control with electronic thermostat and summer/winter switch
TMO-T-AU	Automatic speed control with electronic thermostat and summer/winter switch
TMO-DI	Automatic speed control with electronic thermostat, summer/winter switch and liquid crystal display
TMO-503-SV2	Automatic speed control with electronic thermostat to be mounted in the DIN 503 box (for units with valves)
T2T	Electromechanical thermostat with summer/winter switch (only for 2 pipe units)

N.B.: if the electric heater is mounted, use the **"IAQ"** controls.

FreeSabiana wireless control system

Free-Com	Remote control to be used with electronic boards described at Page 229
-----------------	--

Electronic controls for MB boards

MB-M	MB electronic board fitted on the unit
MB-S	MB electronic board supplied with separate packaging
T-MB	Wall control (to be used with MB board only)
RS-RT03	RT03 infra-red remote control with receiver supplied with separate packaging (to be used with MB board only)
RT03	RT03 infra-red remote control supplied with separate packaging (to be used with MB board only)
RS	Receiver for RT03 infra-red remote control supplied with separate packaging (to be used with MB board only)
PSM-DI	Multifunction control (to be used with MB board only)

Sabianet management system for a network of fan coils

Sabianet	Sabianet (to be used with MB board only)
ROUTER-S	Router for Sabianet
SIOS	Relay output board for Sabianet



Wall Electronic controls



RT03 infra-red remote control



The descriptions and illustrations provided in this publication are not binding: Sabiana reserves the right, whilst maintaining the essential characteristics of the types described and illustrated, to make, at any time, without the requirement to promptly update this piece of literature, any changes that it considers useful for the purpose of improvement or for any other manufacturing or commercial requirements.



SABIANA
IL CLIMA AMICO

A leading brand of  **AFG**

Sabiana s.p.a. • via Piaue, 53 • 20011 Corbetta • Milano • Italy

phone +39.02.97203.1 r.a. / +39.02.97270429 / +39.02.97270576

fax +39.02.9777282 / +39.02.9772820

www.sabiana.it • info@sabiana.it