



Carisma CRC and CRC-ECM

Fan Coil Unit with Centrifugal Fan

TECHNICAL LEAFLET

Carisma CRC

Fan Coil Unit with Centrifugal Fan with Asynchronous Motor



Range includes **9 air flow rates** (from 105 to 1500 m³/h) and **5 models** (for wall and ceiling installation, with casing and concealed), 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 most comprehensive range, perfectly suited to meet all of the climate control needs of work environments such as offices, shops, restaurants and hotel rooms featuring ducted installations with available pressure **up to 50 Pa**.



Outer casing: made with strong synthetic lateral corners and from galvanized and prepainted front steel panel. The plastic top grid 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 from 1 mm galvanized steel 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 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.

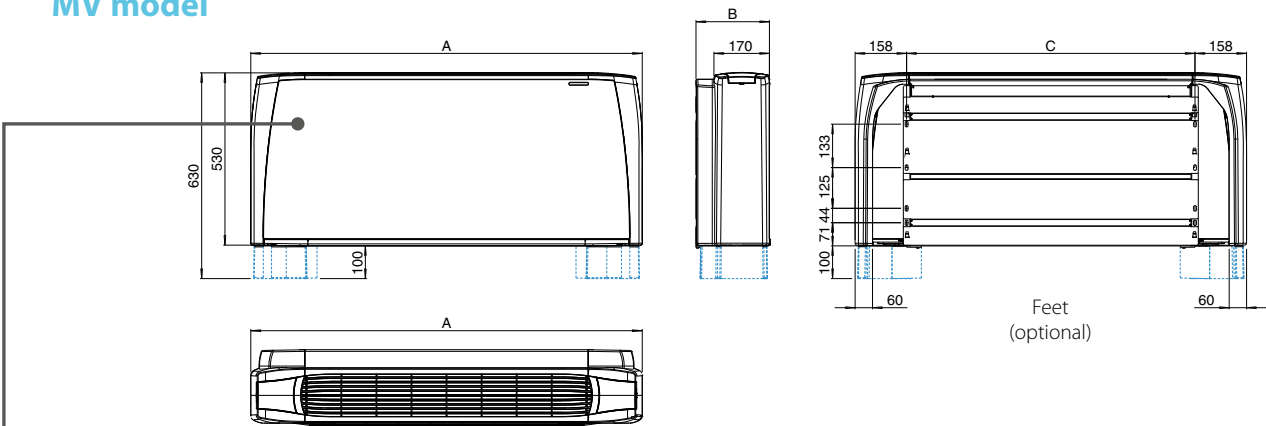
Electric motor: the motor is wired for single phase and has six speeds, three of which are connected, with capacitor. The motor is fitted on sealed for life bearings and is secured on anti-vibration and self-lubricating mountings. Internal thermal protection with automatic reset, protection IP 20, class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

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.

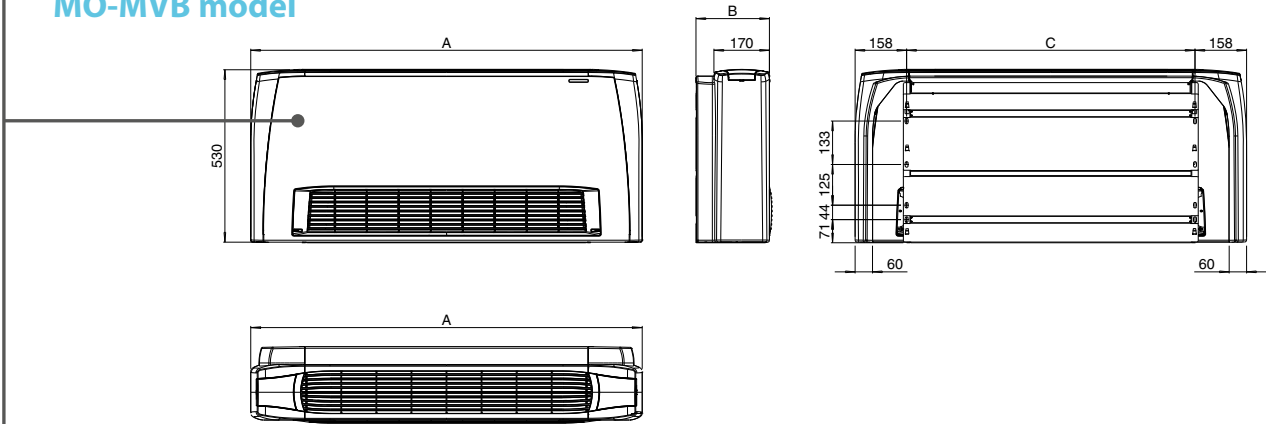
Flow and return pipe connections are situated at the same end on the left side looking at the unit. On request we can deliver the unit with the connections on the right end side. This operation can also be easily carried out on site during installation.

Condensate collection tray: made from plastic with an "L"-shaped plastic fitted on the inner casing; in the MO-MVB and IV-IO model the tray is insulated with 3 mm polyolefin (PO) foam (B-s2-d0 EN 13501-1). The outside diameter of the condensate discharge pipe is 15 mm.

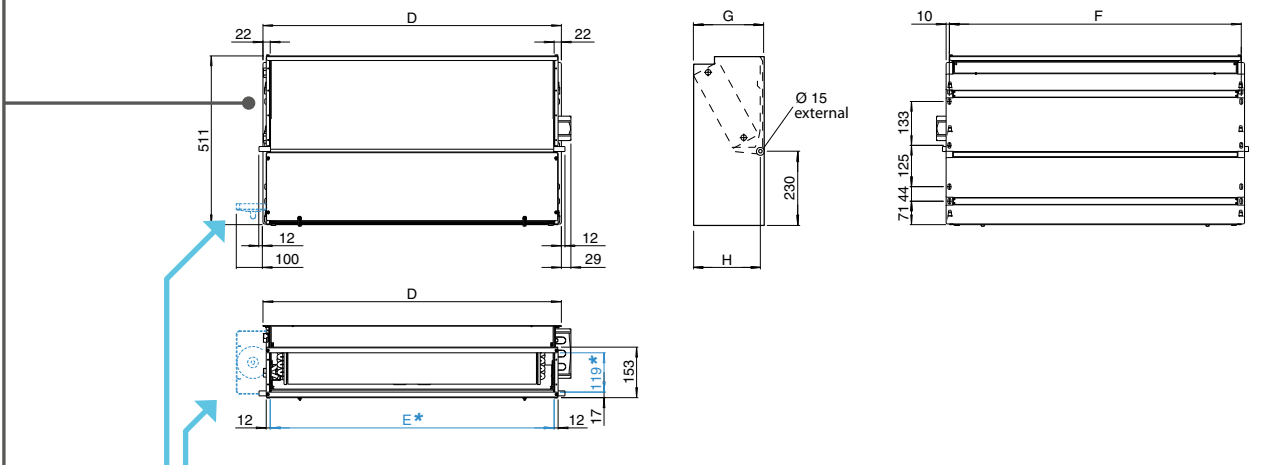
MV model



MO-MVB model



IV-IO model

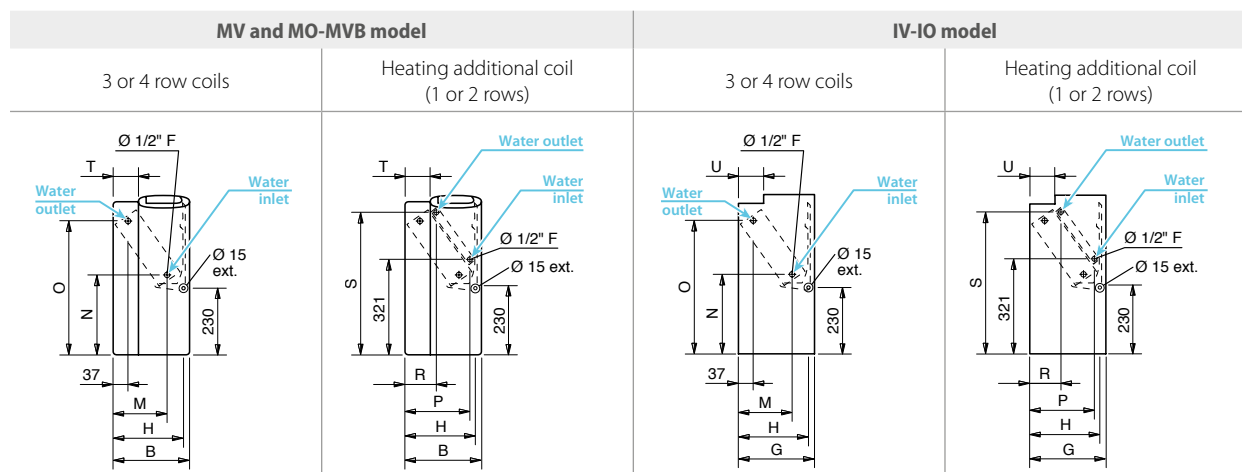


Auxiliary condensate tray (optional)

Coil connections on the left

* Supply frame dimension = E x 119 mm

Coil connections



Dimension (mm)

Model	1	2	3	4	5	6	7	8	9
A	670	770	985	985	1200	1200	1415	1415	1415
B	225	225	225	225	225	225	225	255	255
C	354	454	669	669	884	884	1099	1099	1099
D	374	474	689	689	904	904	1119	1119	1119
E	330	430	645	645	860	860	1075	1075	1075
F	354	454	669	669	884	884	1099	1099	1099
G	218	218	218	218	218	218	218	248	248
H	205	205	205	205	205	205	205	235	235
M	145	145	145	145	145	145	145	170	170
N	260	260	260	260	260	260	260	270	270
O	460	460	460	460	460	460	460	450	450
P	185	185	185	185	185	185	185	210	210
R	105	105	105	105	105	105	105	110	110
S	475	475	475	475	475	475	475	465	465
T	55	55	55	55	55	55	55	85	85
U	65	65	65	65	65	65	65	95	95

Weight (kg)

	Model	Weight with packaging									Weight without packaging								
		1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
MV MO-MVB	ROWS	3	15,5	17,2	21,4	22,5	26,9	27,7	32,1	35,9	13,9	15,4	19,1	20,2	24,1	24,9	28,8	32,0	32,2
		3+1	16,2	18,0	22,6	23,7	28,4	29,2	33,9	37,5	14,6	16,2	20,3	21,4	25,6	26,4	30,6	33,8	34,0
		3+2	16,7	18,6	23,3	24,4	29,3	30,1	35,0	38,6	15,1	16,8	21,0	22,1	26,5	27,3	31,7	34,9	35,1
		4	16,0	18,0	22,4	23,5	28,1	29,0	33,6	37,2	14,4	16,2	20,1	21,2	25,3	26,2	30,3	33,5	33,7
		4+1	16,7	18,8	23,6	24,7	29,6	30,5	35,4	39,0	15,1	17,0	21,3	22,4	26,8	27,7	32,1	35,3	35,5
IV-IO	ROWS	3	12,2	13,6	17,1	18,1	21,9	22,8	27,0	30,4	10,6	11,8	15,3	16,3	19,6	20,5	24,2	27,1	27,3
		3+1	12,9	14,4	18,3	19,3	23,4	24,3	28,8	32,0	11,3	12,6	16,5	17,5	21,1	22,0	26,0	28,9	29,1
		3+2	13,4	15,0	19,0	20,0	24,3	25,2	29,9	33,1	11,8	13,2	17,2	18,2	22,0	22,9	27,1	30,0	30,2
		4	12,7	14,4	18,1	19,1	23,1	24,1	28,5	31,7	11,1	12,6	16,3	17,3	20,8	21,8	25,7	28,6	28,8
		4+1	13,4	15,2	19,3	20,3	24,6	25,6	30,3	33,5	11,8	13,4	17,5	18,5	22,3	23,3	27,5	30,4	30,6

Water content (litres)

Model		1	2	3	4	5	6	7	8	9
ROWS	3	0,5	0,6	0,9	0,9	1,3	1,6	1,7	1,9	1,9
	4	0,7	0,8	1,3	1,3	1,7	2,2	2,4	2,8	2,8
	+1	0,2	0,2	0,3	0,3	0,4	0,5	0,5	0,6	0,6
	+2	0,4	0,4	0,6	0,6	0,8	1,0	1,0	1,2	1,2

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

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

Model		CRC 13						CRC 23						CRC 33					
		1 (E)	2	3	4 (E)	5	6 (E)	1 (E)	2	3 (E)	4	5 (E)	6	1	2 (E)	3 (E)	4	5 (E)	6
Speed		MIN			MED		MAX	MIN		MED		MAX		MIN	MED		MAX		
Air flow	m ³ /h	105	125	150	175	195	220	145	170	220	250	295	340	185	235	270	325	385	440
Cooling total emission (E)	kW	0,57	0,66	0,75	0,84	0,91	1,00	0,90	0,99	1,23	1,35	1,53	1,70	1,27	1,55	1,76	2,04	2,35	2,61
Cooling sensible emission (E)	kW	0,45	0,53	0,60	0,69	0,75	0,83	0,68	0,76	0,95	1,06	1,21	1,36	0,92	1,13	1,30	1,51	1,76	1,97
Heating (E)	kW	0,64	0,76	0,86	0,98	1,07	1,19	0,94	1,06	1,34	1,49	1,70	1,92	1,26	1,56	1,79	2,10	2,44	2,74
Heating - Water 70-60 °C	kW	1,31	1,53	1,75	1,99	2,18	2,42	1,90	2,14	2,70	3,00	3,44	3,89	2,54	3,14	3,61	4,24	4,92	5,52
Dp Cooling (E)	kPa	2,5	3,0	3,8	4,7	5,4	6,3	2,5	3,0	4,4	5,3	6,5	7,9	6,6	9,4	11,8	15,3	19,7	23,8
Dp Heating (E)	kPa	0,9	1,1	1,4	1,8	2,1	2,5	2,2	2,8	4,2	5,0	6,4	7,9	5,4	7,8	10,0	13,2	17,1	21,0
Fan (E)	W	16	19	21	25	29	33	14	16	22	26	32	40	15	20	25	32	41	49
Sound power (E)	dB(A)	32	34	36	39	42	45	30	33	40	43	47	51	31	36	40	45	49	52
Sound pressure (*)	dB(A)	23	25	27	30	33	36	21	24	31	34	38	42	22	27	31	36	40	43
1 row heating additional coil (Water 70/60 °C)	Heating (E) kW	0,63	0,71	0,79	0,89	0,96	1,04	0,94	1,04	1,25	1,36	1,52	1,68	1,35	1,59	1,77	2	2,26	2,48
	Dp Heat. (E) kPa	0,7	0,9	1,0	1,3	1,5	1,7	1,7	2,0	2,8	3,3	4,0	4,8	3,9	5,2	6,3	7,8	9,7	11,4

Model		CRC 43						CRC 53						CRC63					
		1	2 (E)	3 (E)	4	5 (E)	6	1	2 (E)	3	4 (E)	5 (E)	6	1 (E)	2	3 (E)	4	5 (E)	6
Speed			MIN	MED		MAX			MIN		MED		MAX	MIN		MED		MAX	
Air flow	m ³ /h	185	265	335	400	485	570	250	315	420	495	545	650	415	505	590	680	760	830
Cooling total emission (E)	kW	1,25	1,71	2,11	2,43	2,83	3,19	1,66	2,01	2,55	2,90	3,13	3,58	2,50	2,94	3,32	3,70	4,01	4,26
Cooling sensible emission (E)	kW	0,91	1,26	1,57	1,82	2,15	2,45	1,22	1,49	1,91	2,19	2,38	2,76	1,87	2,23	2,54	2,86	3,12	3,35
Heating (E)	kW	1,25	1,74	2,18	2,52	2,97	3,41	1,65	2,02	2,61	3,00	3,24	3,75	2,56	3,05	3,45	3,90	4,26	4,56
Heating - Water 70-60 °C	kW	2,51	3,51	4,36	5,08	6,00	6,87	3,32	4,07	5,26	6,04	6,54	7,57	5,17	6,15	6,96	7,87	8,61	9,22
Dp Cooling (E)	kPa	6,5	11,2	16,2	20,8	27,2	33,8	4,1	5,8	8,8	11,1	12,7	16,2	8,6	11,4	14,1	17,2	19,8	22,1
Dp Heating (E)	kPa	5,3	9,5	14,0	18,2	24,3	30,8	3,4	4,8	7,5	9,6	11,0	14,2	7,3	9,9	12,3	15,2	17,8	20,1
Fan (E)	W	14	21	28	34	44	57	18	22	32	39	46	61	37	46	55	67	78	88
Sound power (E)	dB(A)	27	33	39	43	47	52	26	31	37	41	43	48	37	42	46	49	52	54
Sound pressure (*)	dB(A)	18	24	30	34	38	43	17	22	28	32	34	39	28	33	37	40	43	45
1 row heating additional coil (Water 70/60 °C)	Heating (E) kW	1,34	1,73	2,06	2,32	2,65	2,88	1,77	2,07	2,53	2,83	3,03	3,42	2,50	2,87	3,19	3,54	3,81	4,04
	Dp Heat. (E) kPa	3,9	6,0	8,2	10,1	12,8	14,8	1,2	1,6	2,3	2,8	3,2	3,9	3,2	4,1	4,9	5,8	6,7	7,4

Model		CRC 73						CRC 83						CRC 93					
		1	2 (E)	3	4 (E)	5	6 (E)	1	2 (E)	3	4 (E)	5	6 (E)	1	2 (E)	3	4 (E)	5	6 (E)
Speed			MIN		MED		MAX		MIN		MED		MAX		MIN		MED		MAX
Air flow	m ³ /h	445	535	630	735	840	925	510	655	815	1020	1100	1200	735	830	980	1210	1365	1500
Cooling total emission (E)	kW	2,82	3,29	3,74	4,21	4,66	5,01	3,01	3,68	4,32	5,09	5,36	5,69	4,00	4,38	4,95	5,74	6,21	6,56
Cooling sensible emission (E)	kW	2,08	2,45	2,80	3,19	3,56	3,85	2,27	2,82	3,35	4,02	4,26	4,55	3,08	3,40	3,89	4,60	5,03	5,37
Heating (E)	kW	2,83	3,34	3,83	4,33	4,83	5,23	3,22	4,02	4,78	5,75	6,11	6,55	4,42	4,86	5,58	6,62	7,26	7,78
Heating - Water 70-60 °C	kW	5,71	6,72	7,67	8,73	9,76	10,55	6,49	8,11	9,67	11,63	12,36	13,25	8,87	9,82	11,29	13,39	14,70	15,74
Dp Cooling (E)	kPa	12,3	16,2	20,3	25,1	30,1	34,2	7,2	10,3	13,8	18,4	20,2	22,5	11,8	13,8	17,3	22,4	25,9	28,6
Dp Heating (E)	kPa	10,1	13,5	17,2	21,3	25,9	29,7	5,6	8,3	11,3	15,6	17,3	19,6	12,9	16,2	21,1	27,8	33,0	37,0
Fan (E)	W	44	54	66	79	92	103	47	62	81	105	116	130	78	92	108	134	152	176
Sound power (E)	dB(A)	38	42	47	51	54	56	39	45	50	56	58	60	47	50	54	58	62	64
Sound pressure (*)	dB(A)	29	33	38	42	45	47	30	36	41	47	49	51	38	41	45	49	53	55
1 row heating additional coil (Water 70/60 °C)	Heating (E) kW	2,89	3,29	3,68	4,09	4,49	4,79	3,03	3,60	4,17	4,86	5,11	5,41	3,89	4,22	4,74	5,46	5,90	6,23
	Dp Heat. (E) kPa	3,4	4,3	5,2	6,3	7,4	8,3	3,7	5,0	6,5	8,5	9,3	10,3	5,8	6,7	8,2	10,5	12,0	13,2

(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 m³ room and a reverberation time of 0.5 sec.

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

Model		CRC 14						CRC 24						CRC 34					
		1 (E)	2	3	4 (E)	5	6 (E)	1 (E)	2	3 (E)	4	5 (E)	6	1	2 (E)	3 (E)	4	5 (E)	6
Speed		MIN			MED		MAX	MIN		MED		MAX		MIN	MED		MAX		
Air flow	m³/h	105	125	150	175	195	220	145	170	220	250	295	340	185	235	270	325	385	440
Cooling total emission (E)	kW	0,65	0,77	0,87	1,00	1,08	1,20	1,00	1,11	1,41	1,56	1,78	2,00	1,32	1,63	1,87	2,17	2,53	2,83
Cooling sensible emission (E)	kW	0,49	0,58	0,66	0,77	0,84	0,94	0,73	0,82	1,05	1,17	1,35	1,53	0,95	1,18	1,36	1,59	1,86	2,09
Heating (E)	kW	0,69	0,80	0,92	1,07	1,17	1,31	0,99	1,11	1,43	1,60	1,83	2,08	1,30	1,62	1,87	2,19	2,59	2,88
Heating - Water 70-60 °C	kW	1,38	1,62	1,86	2,15	2,36	2,63	1,98	2,24	2,88	3,22	3,69	4,19	2,60	3,23	3,73	4,40	5,14	5,80
Dp Cooling (E)	kPa	1,9	2,5	3,2	4,0	4,7	5,6	4,9	6,1	9,1	11,0	13,9	17,2	3,7	5,3	6,7	8,8	11,5	14,1
Dp Heating (E)	kPa	1,7	2,2	2,8	3,7	4,3	5,3	4,0	4,9	7,6	9,3	11,8	14,8	2,8	4,2	5,4	7,1	9,8	11,5
Fan (E)	W	16	19	21	25	29	33	14	16	22	26	32	40	15	20	25	32	41	49
Sound power (E)	dB(A)	32	34	36	39	42	45	30	33	40	43	47	51	31	36	40	45	49	52
Sound pressure (*)	dB(A)	23	25	27	30	33	36	21	24	31	34	38	42	22	27	31	36	40	43
1 row heating additional coil (Water 70/60 °C)	Heating (E) kW	0,63	0,71	0,79	0,89	0,96	1,04	0,94	1,04	1,25	1,36	1,52	1,68	1,35	1,59	1,77	2,00	2,26	2,48
	Dp Heat. (E) kPa	0,7	0,9	1,0	1,3	1,5	1,7	1,7	2,0	2,8	3,3	4,0	4,8	3,9	5,2	6,3	7,8	9,7	11,4

Model		CRC 44						CRC 54						CRC 64					
		1	2 (E)	3 (E)	4	5 (E)	6	1	2 (E)	3	4 (E)	5 (E)	6	1 (E)	2	3 (E)	4	5 (E)	6
Speed			MIN	MED		MAX			MIN		MED		MAX	MIN		MED		MAX	
Air flow	m³/h	185	265	335	400	485	570	250	315	420	495	545	650	415	505	590	680	760	830
Cooling total emission (E)	kW	1,31	1,81	2,25	2,62	3,08	3,50	1,77	2,17	2,79	3,21	3,49	4,03	2,79	3,34	3,81	4,31	4,71	5,04
Cooling sensible emission (E)	kW	0,86	1,21	1,51	1,78	2,10	2,39	1,28	1,58	2,04	2,36	2,58	3,01	2,03	2,45	2,81	3,20	3,52	3,79
Heating (E)	kW	1,28	1,80	2,27	2,64	3,14	3,62	1,71	2,10	2,74	3,16	3,46	4,01	2,82	3,39	3,90	4,46	4,92	5,31
Heating - Water 70-60 °C	kW	2,57	3,62	4,56	5,32	6,33	7,30	3,44	4,23	5,51	6,37	6,97	8,07	5,66	6,81	7,85	8,98	9,90	10,68
Dp Cooling (E)	kPa	3,4	6,1	9,0	11,7	15,5	19,6	7,3	10,4	16,3	20,8	24,2	31,3	14,4	19,7	24,8	30,9	36,2	40,9
Dp Heating (E)	kPa	2,6	5,0	7,2	9,4	12,8	16,4	5,6	8,1	12,9	16,6	19,5	25,2	11,9	16,5	21,1	26,8	31,8	36,3
Fan (E)	W	14	21	28	34	44	57	18	22	32	39	46	61	37	46	55	67	78	88
Sound power (E)	dB(A)	27	33	39	43	47	52	26	31	37	41	43	48	37	42	46	49	52	54
Sound pressure (*)	dB(A)	18	24	30	34	38	43	17	22	28	32	34	39	28	33	37	40	43	45
1 row heating additional coil (Water 70/60 °C)	Heating (E) kW	1,34	1,73	2,06	2,32	2,65	2,88	1,77	2,07	2,53	2,83	3,03	3,42	2,50	2,87	3,19	3,54	3,81	4,04
	Dp Heat. (E) kPa	3,9	6,0	8,2	10,1	12,8	14,8	1,2	1,6	2,3	2,8	3,2	3,9	3,2	4,1	4,9	5,8	6,7	7,4

Model		CRC 74						CRC 84						CRC 94					
		1	2 (E)	3	4 (E)	5	6 (E)	1	2 (E)	3	4 (E)	5	6 (E)	1	2 (E)	3	4 (E)	5	6 (E)
Speed			MIN		MED		MAX		MIN		MED		MAX		MIN		MED		MAX
Air flow	m³/h	445	535	630	735	840	925	510	655	815	1020	1100	1200	735	830	980	1210	1365	1500
Cooling total emission (E)	kW	2,99	3,51	4,01	4,56	5,08	5,48	3,22	3,97	4,72	5,63	5,94	6,34	4,34	4,79	5,45	6,41	6,98	7,42
Cooling sensible emission (E)	kW	2,18	2,57	2,96	3,39	3,80	4,13	2,38	2,98	3,58	4,33	4,59	4,93	3,28	3,63	4,18	4,98	5,48	5,87
Heating (E)	kW	2,95	3,49	4,03	4,62	5,15	5,59	3,37	4,26	5,14	6,27	6,60	7,20	4,70	5,23	6,01	7,18	7,93	8,52
Heating - Water 70-60 °C	kW	5,93	7,02	8,12	9,30	10,38	11,26	6,78	8,55	10,37	12,52	13,34	14,36	9,47	10,55	12,13	14,52	16,02	17,23
Dp Cooling (E)	kPa	9,5	12,5	15,9	20,0	24,2	27,7	9,6	14,0	19,0	26,0	28,6	32,2	8,9	10,6	13,4	17,8	20,7	23,2
Dp Heating (E)	kPa	7,5	10,1	13,1	16,6	20,1	23,2	8,5	12,8	17,9	24,9	27,8	31,7	8,3	10,0	12,8	17,6	20,9	23,7
Fan (E)	W	44	54	66	79	92	103	47	62	81	105	116	130	78	92	108	134	152	176
Sound power (E)	dB(A)	38	42	47	51	54	56	39	45	50	56	58	60	47	50	54	58	62	64
Sound pressure (*)	dB(A)	29	33	38	42	45	47	30	36	41	47	49	51	38	41	45	49	53	55
1 row heating additional coil (Water 70/60 °C)	Heating (E) kW	2,89	3,29	3,68	4,09	4,49	4,79	3,03	3,60	4,17	4,86	5,11	5,41	3,89	4,22	4,74	5,46	5,90	6,23
	Dp Heat. (E) kPa	3,4	4,3	5,2	6,3	7,4	8,3	3,7	5,0	6,5	8,5	9,3	10,3	5,8	6,7	8,2	10,5	12,0	13,2

(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 m³ room and a reverberation time of 0.5 sec.

Breeze Frame Kit | FOR CARISMA CRC WALL CONCEALED INSTALLATION



The Carisma Breeze frame kit is available in **3 sizes** and allows the installation of **recessed** Carisma 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 louver;
- front panel;
- air intake grid.

The **air supply louver** 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.

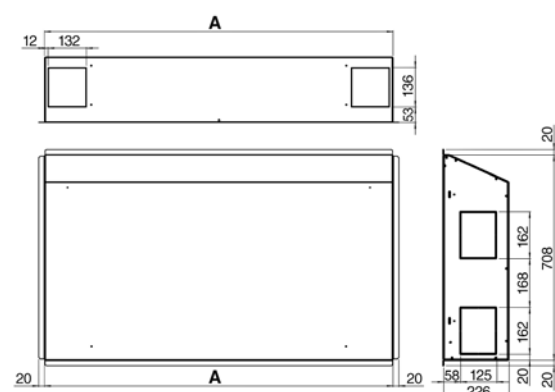
The **recessed box** is made of galvanized steel with opening for the electrical and hydraulic connections.

Aesthetic frame dimensions



Size	Measurement A
2	837
3/4	1052
5/6	1267

Recessed box dimensions



Size	Measurement A
2	771
3/4	986
5/6	1201

Indoor Air Quality



The **CRC and CRC-ECM 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 appliance.

Thanks to this new patented filter (efficiency compliant with EN 16890), air pollutants such as cigarette smoke, dust (PM₁₀, 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.

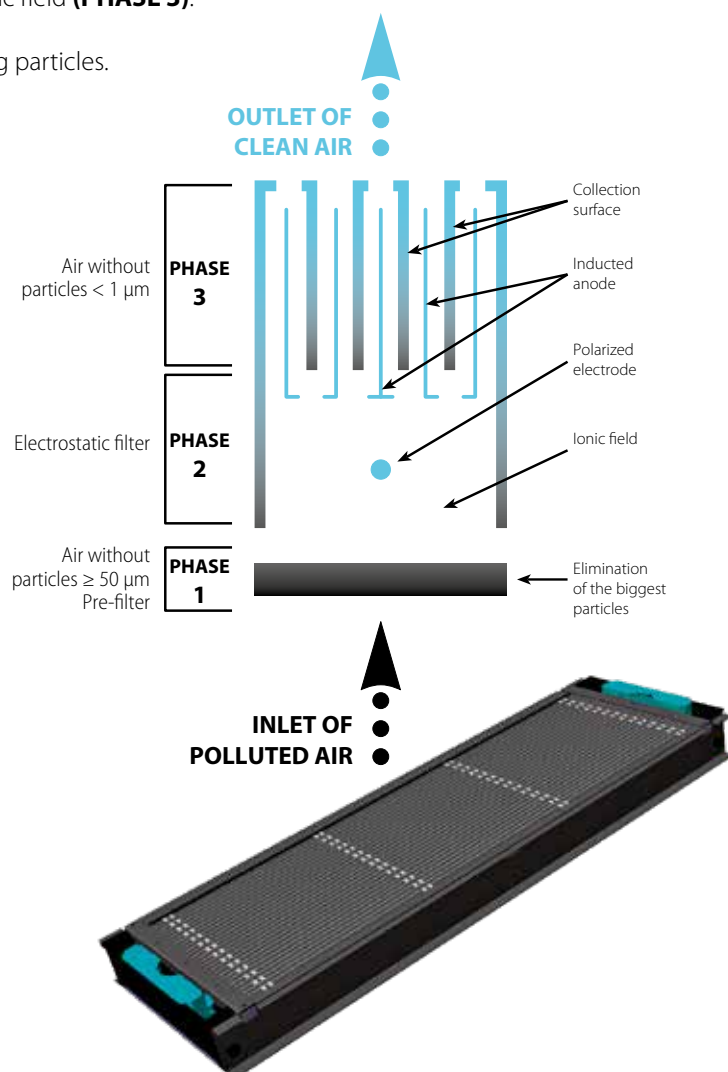
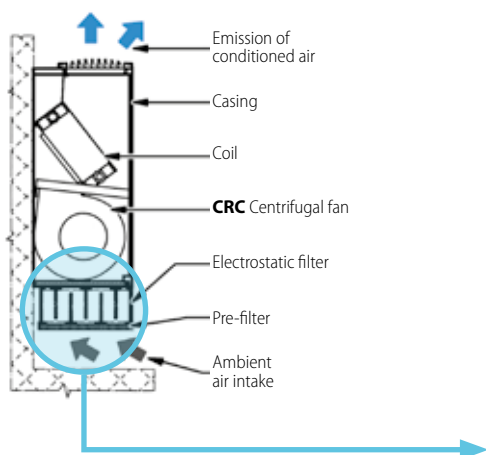
Operating principle of the Crystall electrostatic filter

The air is sucked in and first passes a mechanical prefilter, which stops away particles of more than 50 µm (dust, insects, etc.). Then the smallest particles (50÷0.01 µm) are exposed to an intensive ionic field and are polarized (**PHASE 1**).

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

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



Electronic controls included

MV-MVB models	
CB	3 speed control
CB-T	3 speed control with electronic thermostat and manual summer/winter switch
CB-C	3 speed control with electronic thermostat and centralized summer/winter switch
CB-AUT	Automatic 3 speed control with electronic thermostat and centralized/manual summer/winter switch

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

Electronic wall controls

MV, MO-MVB and IV-IO models	
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
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)
T2T	Electromechanical thermostat with summer/winter switch (only for 2 pipe units)
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 boards

MB-M	MB electronic board fitted on the unit
MB-S	MB electronic board supplied with separate packaging
T-MB2	Wall control with LCD color display and WiFi (to be used with MB board only)
T-MB2-M	T-MB2 control fitted on the unit, for MV/MVB models (to be used with MB board only)
T-MB2-S	T-MB2 control supplied with separate packaging, for MV/MVB models (to be used with MB board only)
RS-RT03	RT03 / RR03 infra-red remote control with receiver supplied with separate packaging (to be used with MB board only)
RT03 / RR03	RT03 / RR03 infra-red remote control supplied with separate packaging (to be used with MB board only)
RS	Receiver for RT03 / RR03 infra-red remote control supplied with separate packaging (to be used with MB board only)
PSM-DI	PSM-DI multifunction control panel (to be used with MB board only)
T-DI	T-DI touch screen multifunction control panel (to be used with MB board only)
SabWeb	Web gateway for Sabiana Cloud (to be used with MB board only)

Sabianet management system for a network of fan coils

Sabianet	Hardware/software supervisory system (to be used with MB 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

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

Built-in electronic control



T-MB2
Wall control with LCD color display and WiFi



WM-TQR
Wall electronic control



Carisma CRC-ECM



(*)

Fan Coil Unit with Centrifugal Fan with EC Brushless Electronic Motor and Inverter Board

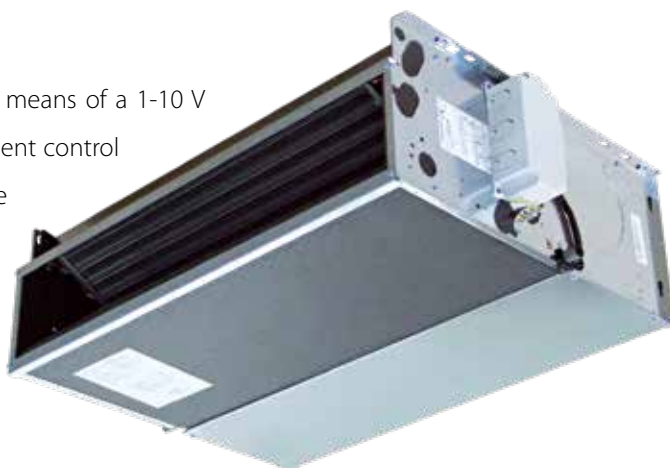


Range includes **5 air flow rates** (from 115 to 1395 m³/h) and **5 models** (for wall and ceiling installation, with casing and concealed), each equipped with 3 or 4 row coil and with the possibility to add a 1 or 2 row coil for 4 pipe systems. This is the series with the **lowest electrical consumption** in relation to both heat performance as well as working static performance and is particularly suited to satisfying the strictest energy consumption needs **of class A** buildings, and to ensuring excellent acoustic comfort.

The ECM range makes use of the excellent experience gained with the SkyStar Cassette fan coils with inverter board, first in the world in production since 2009, and which have had great success on all markets.

The innovative **brushless** and **sensorless** type synchronous electronic motor with permanent magnets, is controlled by an inverter board designed and developed in Italy. The board is mounted on the unit, closed to the motor, without the need to be cooled down by the air flow.

The air flow rate can be varied **in continuously** by means of a 1-10 V signal generated by Sabiana controls or by independent control systems. The continuous air flow control improves the acoustic comfort and allows a more punctual reply to the variation of the thermal loads and a greater stability of the requested ambient temperature.



(*) See availability function on controls.

The extreme efficiency, also at low speed, makes possible a great reduction in electric consumption (50% less in comparison to CRC AC motor) with absorption values under normal operating conditions that **do not exceed 16 Watt**.

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

The full compliance with the Electromagnetic Compatibility Directive and with the other severe Standards in force is certified by an independent institute.

For the technical characteristics of the various components refer to Carisma CRC Fan Coil Unit, except for 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**.



(*)

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.



(*)

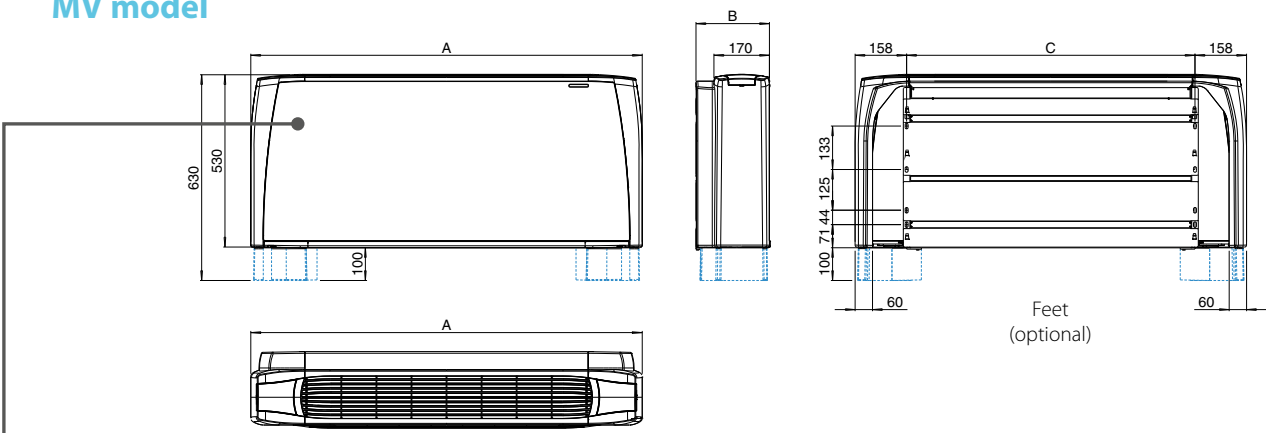
Sabiana BLE

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.

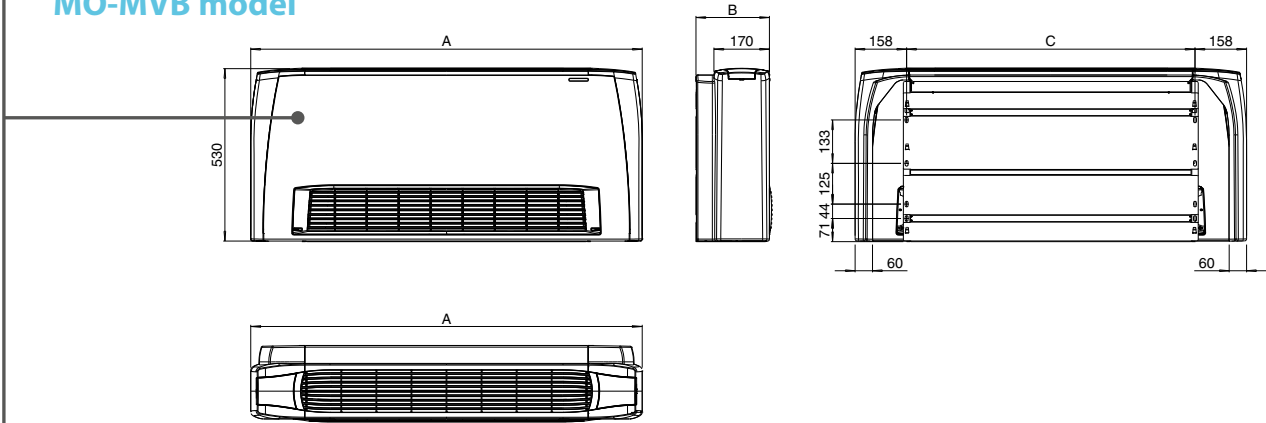
Free and easy to configure and use, it needs only a smartphone with a Bluetooth connection (version 4.0 or later versions).

(*) See availability function on controls.

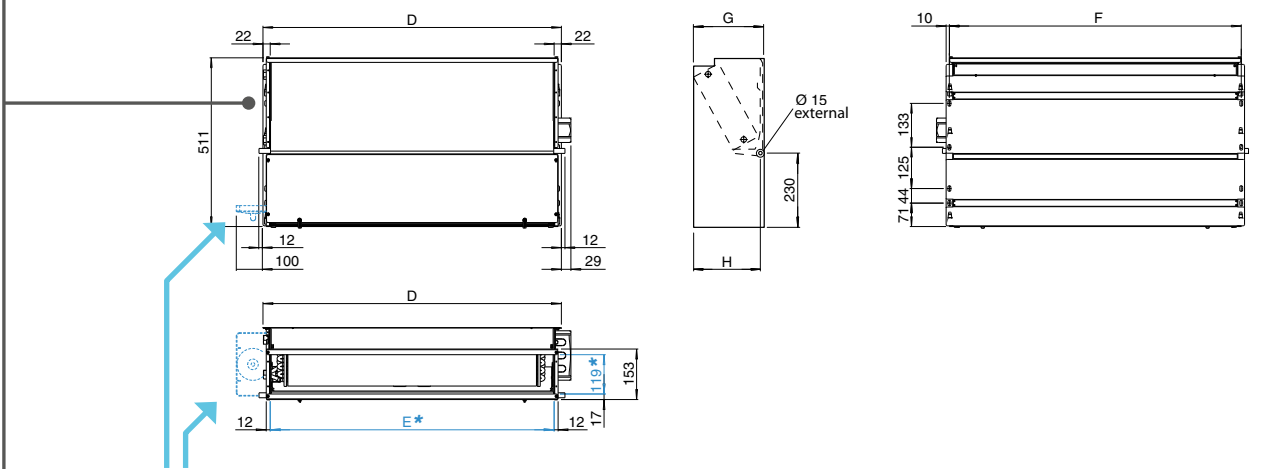
MV model



MO-MVB model



IV-IO model



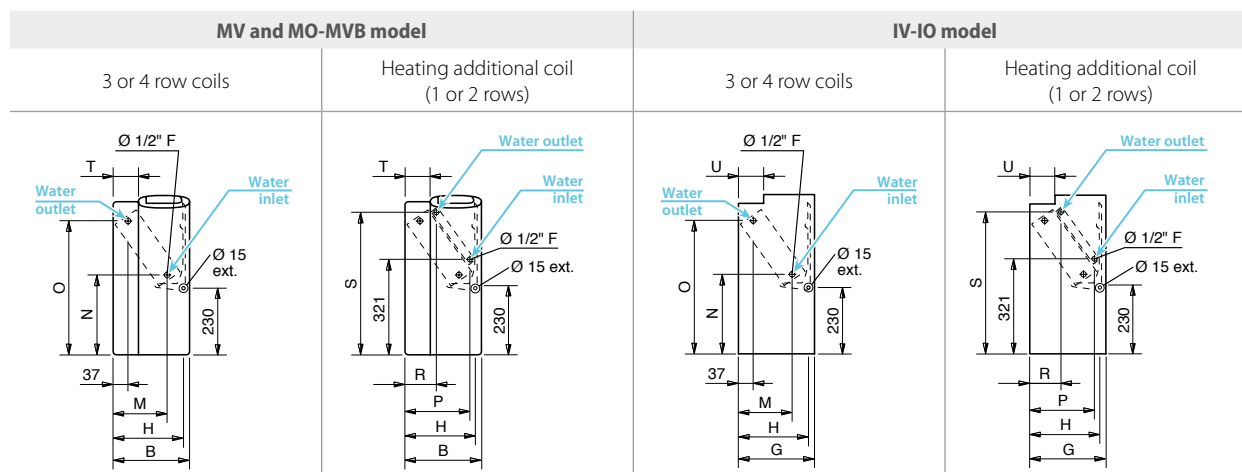
Auxiliary condensate tray (optional)

Coil connections on the left

* Supply frame dimension = E x 119 mm

DIMENSIONS, WEIGHT, WATER CONTENT

Coil connections



Dimension (mm)

Model	2	4	6	7	9
A	770	985	1200	1415	1415
B	225	225	225	225	255
C	454	669	884	1099	1099
D	474	689	904	1119	1119
E	430	645	860	1075	1075
F	454	669	884	1099	1099
G	218	218	218	218	248
H	205	205	205	205	235
M	145	145	145	145	170
N	260	260	260	260	270
O	460	460	460	460	450
P	185	185	185	185	210
R	105	105	105	105	110
S	475	475	475	475	465
T	55	55	55	55	85
U	65	65	65	65	95

Weight (kg)

			Weight with packaging					Weight without packaging				
	Model	2	4	6	7	9	2	4	6	7	9	
MV MO-MVB	ROWS	3	17,2	22,5	27,7	32,1	35,9	15,4	20,2	24,9	28,8	32,2
		3+1	18,0	23,7	29,2	33,9	37,7	16,2	21,4	26,4	30,6	34,0
		3+2	18,6	24,4	30,1	35,0	38,8	16,8	22,1	27,3	31,7	35,1
		4	18,0	23,5	29,0	33,6	37,4	16,2	21,2	26,2	30,3	33,7
		4+1	18,8	24,7	30,5	35,4	39,2	17,0	22,4	27,7	32,1	35,5
IV-IO	ROWS	3	13,6	18,1	22,8	27,0	30,4	11,8	16,3	20,5	24,2	27,3
		3+1	14,4	19,3	24,3	28,8	32,2	12,6	17,5	22,0	26,0	29,1
		3+2	15,0	20,0	25,2	29,9	33,3	13,2	18,2	22,9	27,1	30,2
		4	14,4	19,1	24,1	28,5	31,9	12,6	17,3	21,8	25,7	28,8
		4+1	15,2	20,3	25,6	30,3	33,7	13,4	18,5	23,3	27,5	30,6

Water content (litres)

Model		2	4	6	7	9
ROWS	3	0,6	0,9	1,6	1,7	1,9
	4	0,8	1,3	2,2	2,4	2,8
	+1	0,2	0,3	0,5	0,5	0,6
	+2	0,4	0,6	1,0	1,0	1,2

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

Model		CRC-ECM 23					CRC-ECM 43					CRC-ECM 63				
Inverter Power (V)		1 (E)	3	5 (E)	7,5	10 (E)	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	MIN		MED		MAX
Air flow	m³/h	120	170	220	270	330	210	280	350	430	515	305	395	495	610	735
Cooling total emission (E)	kW	0,73	0,97	1,18	1,37	1,59	1,41	1,80	2,18	2,57	2,95	1,96	2,44	2,93	3,44	3,96
Cooling sensible emission (E)	kW	0,55	0,74	0,92	1,09	1,28	1,03	1,33	1,64	1,95	2,26	1,46	1,83	2,22	2,64	3,08
Heating (E)	kW	0,77	1,04	1,29	1,52	1,80	1,42	1,84	2,26	2,69	3,14	1,96	2,46	3,00	3,55	4,14
Heating - Water 70-60 °C	kW	1,55	2,10	2,61	3,09	3,64	2,85	3,70	4,55	5,43	6,33	3,95	4,97	6,04	7,17	8,37
Dp Cooling (E)	kPa	2,2	3,6	5,1	6,7	8,6	7,9	12,0	17,0	22,6	28,9	5,5	8,0	11,1	14,8	19,0
Dp Heating (E)	kPa	1,6	2,7	3,9	5,2	7,0	6,6	10,4	14,9	20,4	26,7	4,5	6,8	9,6	12,9	17,0
Fan (E)	W	7	9	11	15	21	6	9	12	17	25	7	10	15	22	32
Sound power (E)	dB(A)	30	36	41	47	51	30	36	42	47	51	33	38	44	49	54
Sound pressure (*)	dB(A)	21	27	32	38	42	21	27	33	38	42	24	29	35	40	45
1 row heating additional coil (Water 70/60 °C)	Heating (E) kW	0,81	1,04	1,23	1,42	1,63	1,47	1,79	2,11	2,42	2,74	2,00	2,40	2,80	3,24	3,68
	Dp Heat. (E) kPa	1,3	1,9	2,6	3,4	4,3	4,5	6,4	8,5	10,9	13,6	1,5	2,1	2,8	3,6	4,5

Model			CRC-ECM 73					CRC-ECM 93				
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	m³/h		400	500	610	755	890	605	785	945	1175	1395
Cooling total emission (E)	kW		2,60	3,13	3,68	4,36	4,94	3,45	4,22	4,82	5,60	6,26
Cooling sensible emission (E)	kW		1,92	2,33	2,77	3,32	3,80	2,63	3,28	3,79	4,49	5,10
Heating (E)	kW		2,56	3,13	3,72	4,43	5,08	3,74	4,65	5,41	6,46	7,38
Heating - Water 70-60 °C	kW		5,16	6,30	7,50	8,94	10,25	7,55	9,40	10,94	13,06	14,95
Dp Cooling (E)	kPa		10,5	14,5	19,4	26,1	32,6	8,9	12,7	16,1	21,1	25,9
Dp Heating (E)	kPa		8,5	12,1	16,4	22,2	28,3	7,3	10,7	14,0	19,1	24,2
Fan (E)	W		9,0	13,0	18,5	28,5	41,0	16,0	25,0	41,0	65,0	99,0
Sound power (E)	dB(A)		37	43	48	53	57	44	50	55	60	64
Sound pressure (*)	dB(A)		28	34	39	44	48	35	41	46	51	55
1 row heating additional coil (Water 70/60 °C)	Heating (E)	kW	2,65	3,10	3,56	4,13	4,63	3,40	4,08	4,62	5,35	5,98
	Dp Heat. (E)	kPa	2,9	3,9	4,9	6,4	7,8	4,6	6,3	7,8	10,1	12,3

(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.

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

Model		CRC-ECM 24					CRC-ECM 44					CRC-ECM 64				
Inverter Power (V)		1 (E)	3	5 (E)	7,5	10 (E)	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	MIN		MED		MAX
Air flow	m³/h	115	160	210	260	325	200	265	340	415	505	290	375	475	590	720
Cooling total emission (E)	kW	0,77	1,06	1,32	1,57	1,86	1,43	1,83	2,27	2,71	3,17	2,05	2,59	3,19	3,84	4,51
Cooling sensible emission (E)	kW	0,56	0,78	0,98	1,19	1,42	1,03	1,34	1,67	2,02	2,39	1,48	1,89	2,34	2,84	3,38
Heating (E)	kW	0,78	1,08	1,37	1,65	1,98	1,42	1,83	2,30	2,77	3,32	2,02	2,59	3,23	3,93	4,68
Heating - Water 70-60 °C	kW	1,57	2,18	2,75	3,33	4,01	2,83	3,67	4,59	5,57	6,60	4,05	5,21	6,48	7,90	9,43
Dp Cooling (E)	kPa	3,2	5,5	8,0	11,0	14,8	4,0	6,1	8,9	12,3	16,1	8,2	12,4	17,8	24,8	33,0
Dp Heating (E)	kPa	2,6	4,7	7,1	9,9	13,6	3,1	4,9	7,3	10,2	13,7	6,6	10,3	15,1	21,4	29,1
Fan (E)	W	7,0	8,8	11,0	14,6	21,0	6,0	9,0	12,0	17,0	25,0	7,0	10,0	15,0	22,0	32,0
Sound power (E)	dB(A)	30	36	41	47	51	30	36	42	47	51	33	38	44	49	54
Sound pressure (*)	dB(A)	21	27	32	38	42	21	27	33	38	42	24	29	35	40	45
1 row heating additional coil (Water 70/60 °C)	Heating (E) kW	0,81	1,04	1,23	1,42	1,63	1,47	1,79	2,11	2,42	2,74	2,00	2,40	2,80	3,24	3,68
	Dp Heat. (E) kPa	1,3	1,9	2,6	3,4	4,3	4,5	6,4	8,5	10,9	13,6	1,5	2,1	2,8	3,6	4,5

Model		CRC-ECM 74					CRC-ECM 94				
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	m³/h	380	475	585	735	875	575	755	910	1145	1365
Cooling total emission (E)	kW	2,61	3,20	3,82	4,61	5,30	3,59	4,49	5,21	6,18	7,04
Cooling sensible emission (E)	kW	1,90	2,34	2,82	3,44	3,99	2,69	3,40	3,99	4,81	5,53
Heating (E)	kW	2,57	3,17	3,84	4,66	5,43	3,76	4,81	5,63	6,84	7,93
Heating - Water 70-60 °C	kW	5,16	6,38	7,73	9,39	10,93	7,58	9,69	11,37	13,82	16,03
Dp Cooling (E)	kPa	7,3	10,5	14,3	20,0	25,6	6,3	9,3	12,1	16,4	20,8
Dp Heating (E)	kPa	5,9	8,6	12,0	16,9	22,0	5,6	8,7	11,4	16,1	20,9
Fan (E)	W	9,0	13,0	18,5	28,5	41,0	16,0	25,0	41,0	65,0	99,0
Sound power (E)	dB(A)	37	43	48	53	57	44	50	55	60	64
Sound pressure (*)	dB(A)	28	34	39	44	48	35	41	46	51	55
1 row heating additional coil (Water 70/60 °C)	Heating (E) kW	2,65	3,10	3,56	4,13	4,63	3,40	4,08	4,62	5,35	5,98
	Dp Heat. (E) kPa	2,9	3,9	4,9	6,4	7,8	4,6	6,3	7,8	10,1	12,3

(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.

Electronic controls included

MV-MVB 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, MO-MVB and IV-IO 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 boards

MV, MO-MVB and IV-IO models	
MB-ECM-M	MB electronic board fitted on the unit
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 only)
T-MB2-M	T-MB2 control fitted on the unit, for MV/MVB models (to be used with MB board only)
T-MB2-S	T-MB2 control supplied with separate packaging, for MV/MVB models (to be used with MB board only)
RS-RT03	RT03 / RR03 infra-red remote control with receiver supplied with separate packaging (to be used with MB board only)
RT03 / RR03	RT03 / RR03 infra-red remote control supplied with separate packaging (to be used with MB board only)
RS	Receiver for RT03 / RR03 infra-red remote control supplied with separate packaging (to be used with MB board only)
PSM-DI	PSM-DI multifunction control panel (to be used with MB board only)
T-DI	T-DI touch screen multifunction control panel (to be used with MB board only)
SabWeb	Web gateway for Sabiana Cloud (to be used with MB board only)

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

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

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

CB-T-ECM control



T-MB2 wall control with LCD color display and WiFi



Digital Touch control



Digital touch control manageable via Wi-Fi and Bluetooth® with the APP available into the Android™ and IOS® version Interfaced with Modbus e KNX home automation systems



Accessories



Kit Breeze accessory

accessory available also for CRC-ECM (see CRC dedicated page)



IAQ accessory

Crystall accessory available also for CRC-ECM (see CRC dedicated page)



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