Carisma

The Ultra Quiet Fan Coil

Air Conditioning

Carisma Fan Coil Units

ISO 9001 - Cert. n° 0545/4
Unit heaters
Radiant panels
Fan coils
Air handling units
Flues

SABIANA
ENVIRONMENTAL COMFORT

CONTENTS

THE ULTRA QUIET FAN COIL

In line with innovative trends and modern industrial design, the **Carisma** fan coil range meets today's demanding requirements of performance, size, acoustics, low energy, ease of installation and maintenance. The **Carisma** fan coil unit has been designed around a platform of models, versions and accessories, all of which have been independently tested and certified by Eurovent.

Designed around 5 different versions, the extensive range includes wall and ceiling mounted units, exposed or concealed with either tangential or centrifugal fan options, delivering one of the most versatile ranges of fan coils on the market today.

All ***CRC*** fan coils with centrifugal fans are equipped with electric motors which dramatically reduce electrical consumption of up to 40% comparative to previous models, with 6 speed motors as standard offering greater flexibility in the selection of products.

New market trends have also led to an extension of the four pipe model which now has a two row LTHW battery giving improved outputs at lower flow and return temperatures.

As a special option, the **Carisma** range can be fitted with the Crystall patented electro-static filter featuring a class D rating according to standard UNI 11254 which equals a traditional mechanical filter of up to F9 without dramatically affecting static pressures.

A full range of control options is available including the Free patented wireless control offering greater flexibility in the installation of units, with the highest precision in monitoring and maintaining the desired comfort conditions.

The **Carisma** model is complemented with a full range of options and accessories covering items such as electrical heating battery, air inlet/outlet diffusers and condensate pumps.

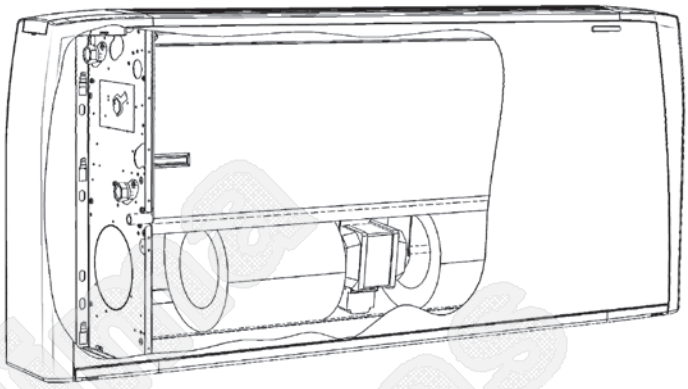
Sabiana take part to the Eurovent program of fan coil performance certification.
The official figures are published in the Eurovent web site (**www.eurovent-certification.com**).
The tested performances are:

- Cooling total emission at the following conditions:
  - Water temperature +7°C E.W.T. +12°C L.W.T.
  - Entering air temperature +27°C dry bulb +19°C wet bulb
- Heating emission (2 pipe units) at the following conditions:
  - Entering water temperature +50°C
  - Entering air temperature +20°C
  - *Water flow rate as for the cooling conditions*
- Cooling sensible emission at the following conditions:
  - Water temperature +7°C E.W.T. +12°C L.W.T.
  - Entering air temperature +27°C dry bulb +19°C b.u.
- Heating emission (4 pipe units) at the following conditions:
  - Water temperature +70°C E.W.T. +60°C L.W.T.
  - Entering air temperature +20°C

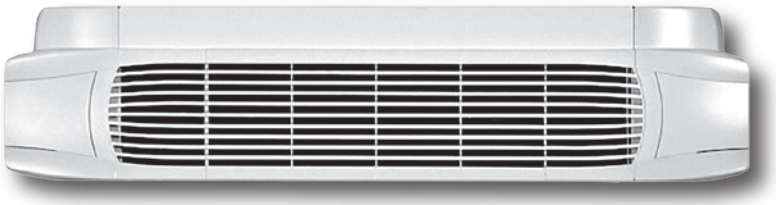
• Fan absorption • Water pressure drop • Sound power

CRC version with centrifugal fan

Range includes 9 flow rates (from 105 to 1500 m^3/h) and 5 models (wall- and ceiling-mounted, with cabinet 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, perfect to meet all air-conditioning requirements of work environments like offices, shops, restaurants and hotel rooms featuring ducted installations with available pressure up to 40 Pa.



Plastic outlet grid in one single piece: extraordinary design and strength



Construction

Outer casing

Made from strong synthetic lateral corners and from galvanized and pre-painted frontal steel sheet.
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)**
- Frontal sheet: **RAL 9003 (white)**
- Other colours on request, for fair amounts and for an extra charge.

Inner casing

Made from galvanized steel with closed cell insulation.

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 delivery 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

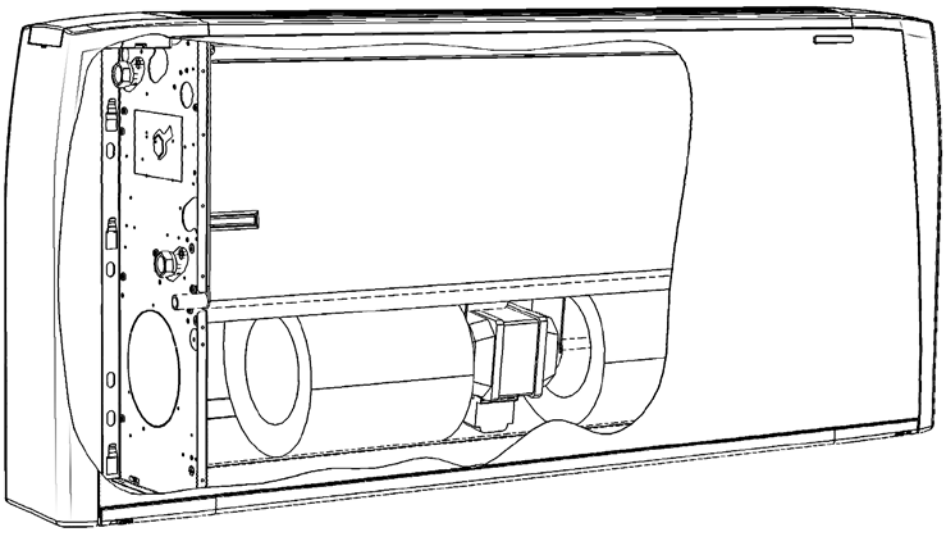
The motor is wired for single-phase and has six speeds, three of which are connected, with always-on capacitor.
The motor is fitted on sealed for life bearings and is secured on anti-vibration and self-lubricating mountings.
Internal thermal protection with automatic reset, protection IP 20, class B.
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 1/2inch 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”-shape fitted on the inner casing.
The outside diameter of the condensate discharge pipe is 15mm.



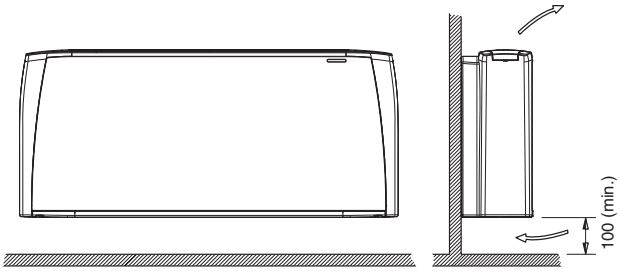
Controls and Accessories

See page 62.

Models

MV

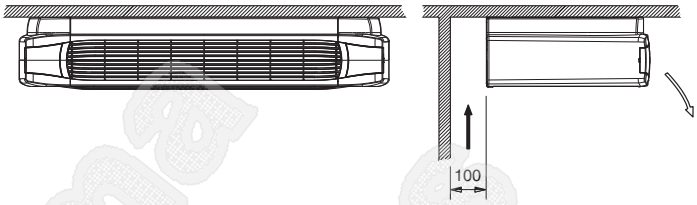
Vertical Casing – *Wall Installation*



MV

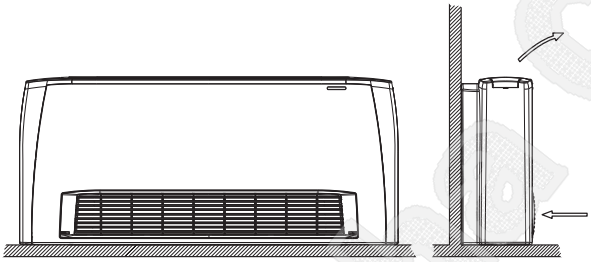
Vertical Casing – *Ceiling Installation*

NOTE: the **MV** model can also be installed horizontally leaving behind a 100 mm gap for air intake.



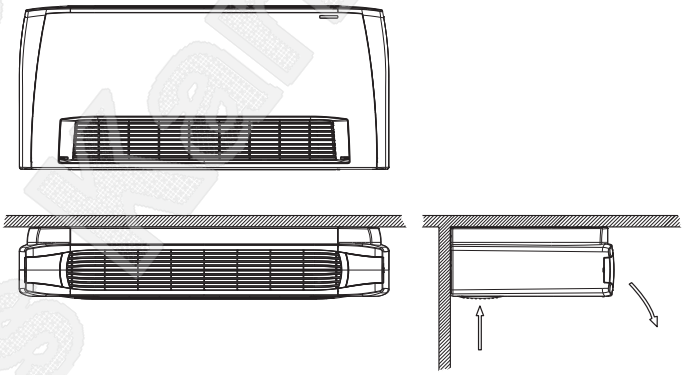
MO-MVB

Vertical Casing – *Floor Installation*



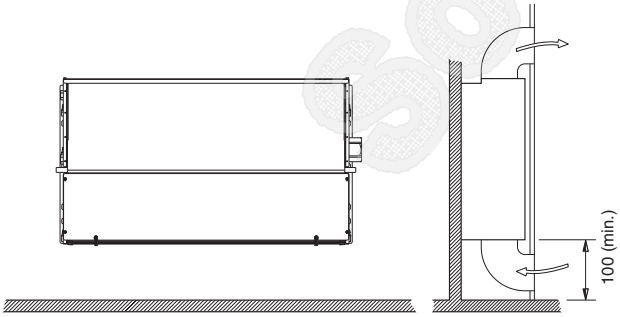
MO-MVB

Horizontal Casing



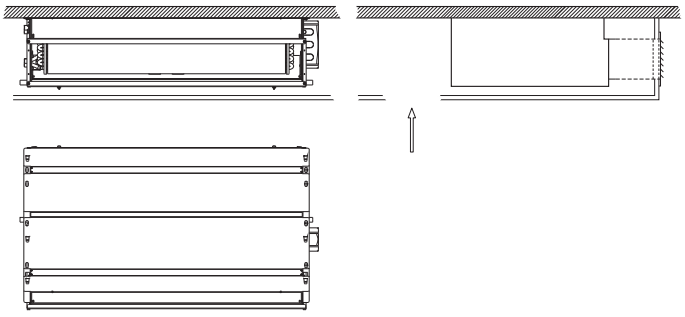
IV-IO

Vertical Concealed



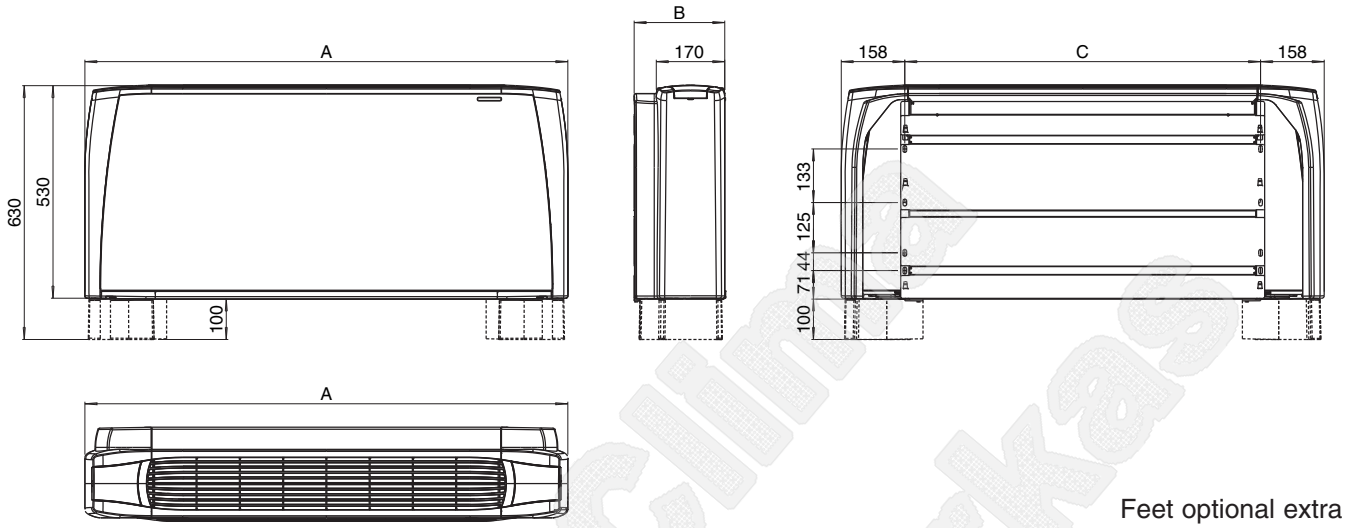
IV-IO

Horizontal Concealed



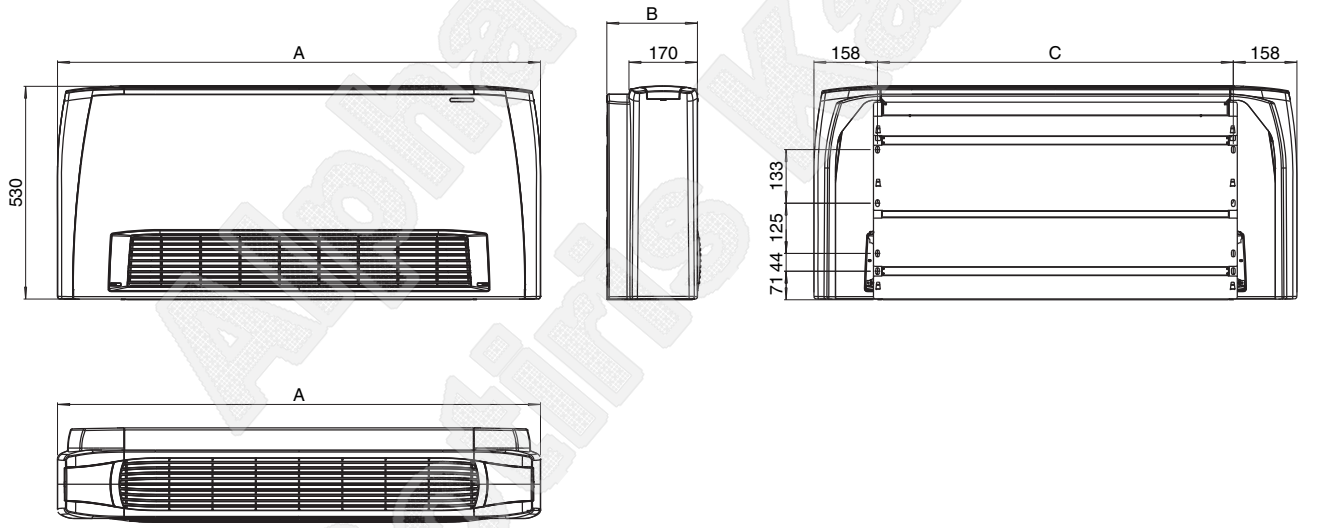
Dimensions, Weight, Water content

MV



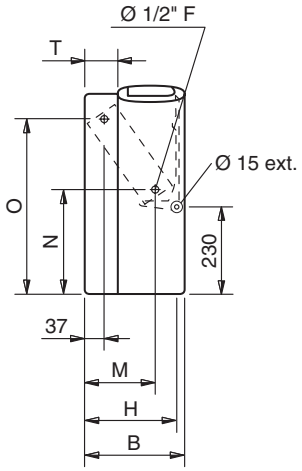
Feet optional extra

MO-MVB

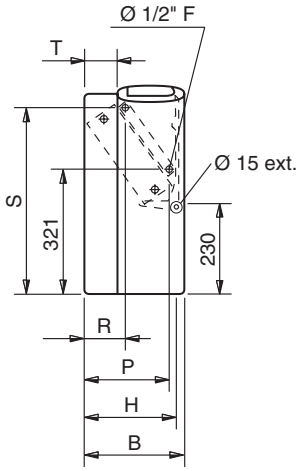


COIL CONNECTIONS

3 or 4 row coils

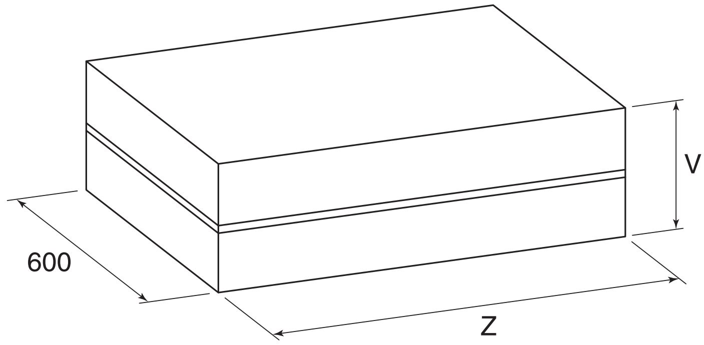


Heating additional coil (1 or 2 rows)



Dimensions, Weight, Water content

PACKAGING



Dimensions (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
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
V	260	260	260	260	260	260	260	290	290
Z	720	820	1035	1035	1250	1250	1465	1465	1465

Weight (kg)

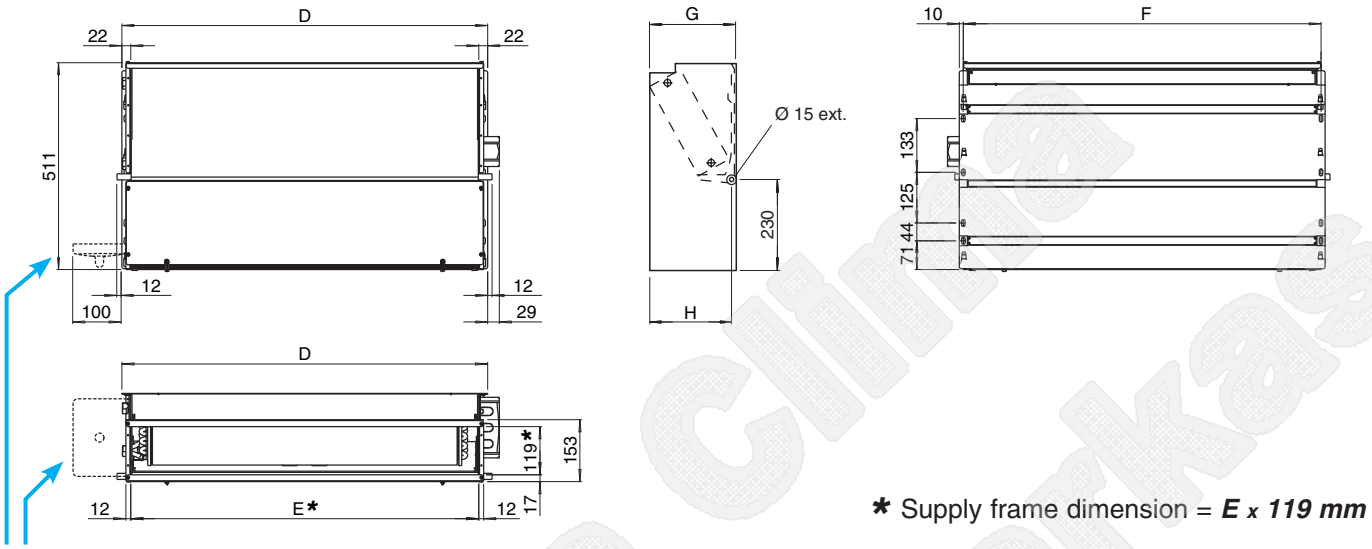
		Weight with packaging									Weight without packaging								
MODEL		1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Rows	3	14	16	21	22	24	25	30	39	40	13	14	18	19	21	22	26	35	36
	3+1	15	19	27	28	30	31	37	47	48	14	17	24	25	27	28	33	43	44
	3+2	15	22	33	34	36	37	44	55	56	14	20	30	31	33	34	40	51	52
	4	14	18	24	25	27	28	34	45	46	13	16	21	22	24	25	30	41	42
	4+1	15	21	29	30	32	33	40	52	54	14	19	26	27	29	30	36	48	50

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

Dimensions, Weight, Water content

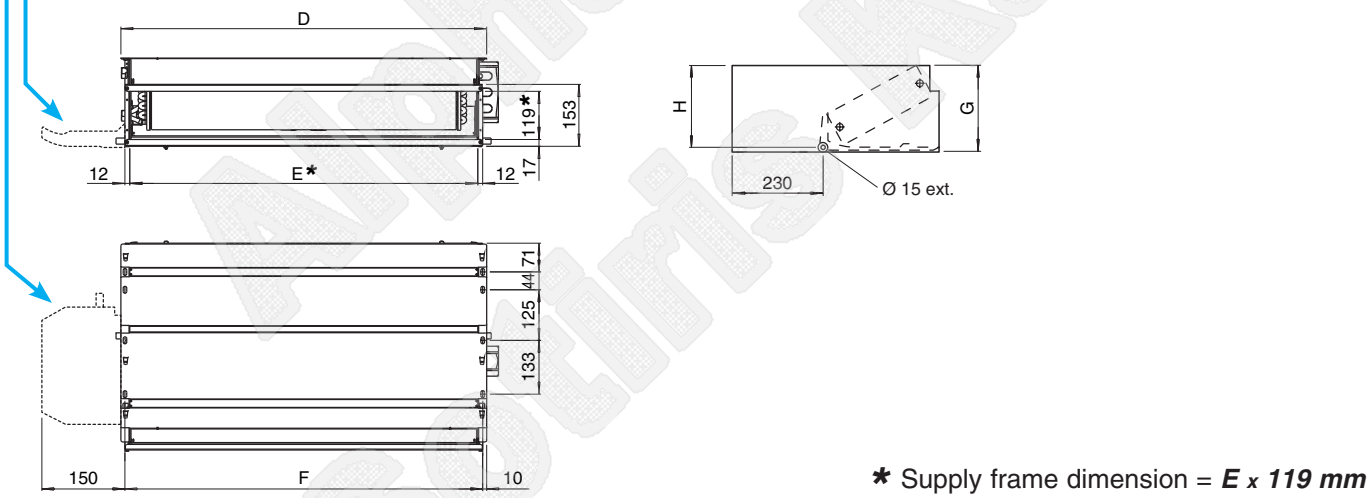
IV-IO *Vertical Installation*



* Supply frame dimension = ***E x 119 mm***

Condensate tray (optional)

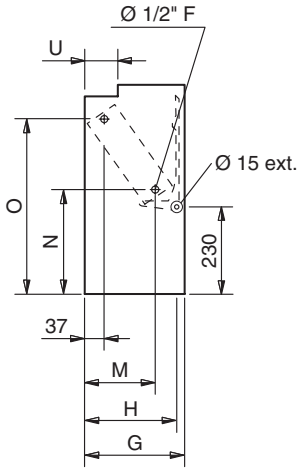
IV-IO *Horizontal Installation*



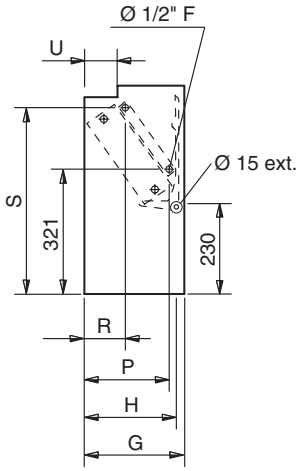
* Supply frame dimension = ***E x 119 mm***

COIL CONNECTIONS

3 or 4 row coils

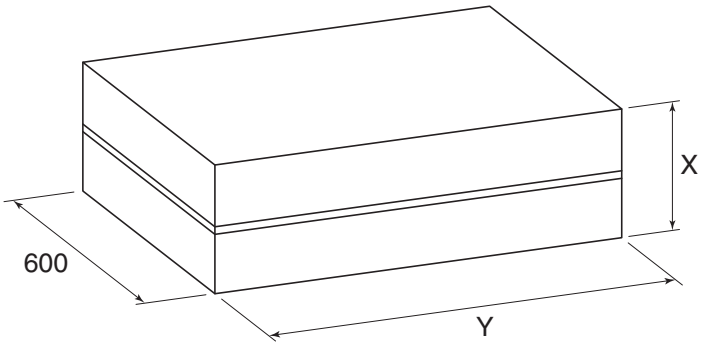


Heating additional coil (1 or 2 rows)



Dimensions, Weight, Water content

PACKAGING



Dimensions (mm)

Model	1	2	3	4	5	6	7	8	9
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
U	65	65	65	65	65	65	65	95	95
X	260	260	260	260	260	260	260	290	290
Y	720	820	820	820	1035	1035	1250	1250	1250

Weight (kg)

		Weight with packaging									Weight without packaging								
Model		1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Rows	3	10	15	19	20	22	23	27	35	36	9	13	18	19	21	22	25	33	33
	3+1	11	17	25	26	28	29	34	43	44	10	16	23	24	26	27	31	40	41
	3+2	12	20	31	32	34	35	41	51	52	11	19	28	29	31	32	37	47	49
	4	11	17	22	23	25	26	31	41	42	10	15	20	21	23	24	28	38	39
	4+1	12	20	27	28	30	31	37	48	50	11	18	25	26	28	29	34	45	47

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

EUROVENT Certification

CRC UNITS WITH 3 ROW COIL

2 pipe units.

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
Entering water temperature +50°C
Water flow rate as for the cooling conditions

MODEL			CRC 13						CRC 23						CRC 33					
Speed			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
			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	**0,59**	0,68	0,77	**0,86**	0,94	**1,03**	**0,91**	1,01	**1,25**	1,38	**1,56**	1,74	1,28	**1,57**	**1,78**	2,07	**2,39**	2,66
Cooling sensible emission (E)		kW	**0,47**	0,54	0,62	**0,71**	0,78	**0,86**	**0,69**	0,77	**0,97**	1,08	**1,24**	1,40	0,94	**1,15**	**1,32**	1,55	**1,80**	2,02
Heating (E)		kW	**0,76**	0,90	1,02	**1,15**	1,26	**1,39**	**1,12**	1,27	**1,59**	1,77	**2,02**	2,28	1,52	**1,87**	**2,15**	2,52	**2,92**	3,27
Dp Cooling (E)		kPa	**0,9**	1,1	1,4	**1,7**	2,0	**2,3**	**2,5**	3,0	**4,4**	5,3	**6,5**	7,9	6,6	**9,4**	**11,8**	15,4	**19,7**	23,8
Dp Heating (E)		kPa	**0,8**	0,9	1,2	**1,4**	1,7	**2,0**	**2,1**	2,6	**3,7**	4,5	**5,5**	6,7	5,6	**8,0**	**10,0**	13,1	**16,7**	20,2
Fan (E)		W	**16**	19	21	**25**	29	**33**	**14**	16	**22**	26	**32**	40	15	**20**	**25**	32	**41**	49
Sound power (E)	Lw	dB(A)	**32**	34	36	**39**	42	**45**	**30**	33	**40**	43	**47**	51	31	**36**	**40**	45	**49**	52
Sound pressure (*)	Lp	dB(A)	**23**	25	27	**30**	33	**36**	**21**	24	**31**	34	**38**	42	22	**27**	**31**	36	**40**	43

MODEL			CRC 43						CRC 53						CRC 63					
Speed			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
				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	1,27	**1,73**	**2,14**	2,46	**2,87**	3,24	1,68	**2,03**	2,58	**2,94**	3,18	**3,64**	**2,54**	2,99	**3,37**	3,77	**4,09**	4,35
Cooling sensible emission (E)		kW	0,93	**1,28**	**1,60**	1,86	**2,19**	2,51	1,24	**1,51**	1,94	**2,23**	2,43	**2,82**	**1,91**	2,27	**2,59**	2,93	**3,20**	3,44
Heating (E)		kW	1,50	**2,09**	**2,61**	3,02	**3,56**	4,06	1,98	**2,42**	3,13	**3,59**	3,89	**4,50**	**3,07**	3,66	**4,13**	4,68	**5,09**	5,45
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	5,5	**9,5**	**13,8**	17,7	**23,1**	28,7	3,5	**4,9**	7,5	**9,4**	10,8	**13,8**	**7,3**	9,7	**12,0**	14,6	**16,8**	18,8
Fan (E)		W	14	**21**	**28**	34	**44**	57	18	**22**	32	**39**	46	**61**	**37**	46	**55**	67	**78**	88
Sound power (E)	Lw	dB(A)	27	**33**	**39**	43	**47**	52	26	**31**	37	**41**	43	**48**	**37**	42	**46**	49	**52**	54
Sound pressure (*)	Lp	dB(A)	18	**24**	**30**	34	**38**	43	17	**22**	28	**32**	34	**39**	**28**	33	**37**	40	**43**	45

MODEL			CRC 73						CRC 83						CRC 93					
Speed			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)
				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	2,87	**3,34**	3,80	**4,29**	4,76	**5,11**	3,06	**3,74**	4,41	**5,19**	5,47	**5,82**	4,08	**4,47**	5,06	**5,87**	6,36	**6,74**
Cooling sensible emission (E)		kW	2,13	**2,50**	2,87	**3,27**	3,66	**3,95**	2,32	**2,88**	3,44	**4,12**	4,37	**4,68**	3,16	**3,49**	4,00	**4,73**	5,19	**5,55**
Heating (E)		kW	3,41	**4,01**	4,60	**5,19**	5,80	**6,27**	3,84	**4,80**	5,61	**6,74**	7,15	**7,66**	5,21	**5,71**	6,54	**7,72**	8,47	**9,06**
Dp Cooling (E)		kPa	12,3	**16,2**	20,3	**25,1**	30,1	**34,2**	6,1	**8,7**	11,6	**15,5**	17,1	**19,0**	10,2	**11,9**	14,8	**19,3**	22,2	**24,6**
Dp Heating (E)		kPa	10,5	**13,8**	17,3	**21,3**	25,6	**29,1**	5,2	**7,4**	9,9	**13,2**	14,5	**16,2**	8,7	**10,1**	12,6	**16,4**	18,9	**20,9**
Fan (E)		W	44	**54**	66	**79**	92	**103**	47	**62**	81	**105**	116	**130**	78	**92**	108	**134**	152	**176**
Sound power (E)	Lw	dB(A)	38	**42**	47	**51**	54	**56**	39	**45**	50	**56**	58	**60**	47	**50**	54	**58**	62	**64**
Sound pressure (*)	Lp	dB(A)	29	**33**	38	**42**	45	**47**	30	**36**	41	**47**	49	**51**	38	**41**	45	**49**	53	**55**

(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.

EUROVENT Certification

CRC UNITS WITH 4 ROW COIL

2 pipe units.

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
Entering water temperature +50°C
Water flow rate as for the cooling conditions

MODEL			CRC 14						CRC 24						CRC 34					
Speed			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
			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	**0,67**	0,78	0,89	**1,02**	1,11	**1,23**	**1,01**	1,13	**1,43**	1,59	**1,81**	2,04	1,34	**1,65**	**1,89**	2,21	**2,57**	2,88
Cooling sensible emission (E)		kW	**0,51**	0,60	0,68	**0,79**	0,87	**0,97**	**0,74**	0,83	**1,07**	1,19	**1,38**	1,57	0,96	**1,20**	**1,38**	1,62	**1,90**	2,14
Heating (E)		kW	**0,82**	0,96	1,10	**1,27**	1,39	**1,55**	**1,18**	1,34	**1,72**	1,92	**2,20**	2,50	1,56	**1,94**	**2,23**	2,63	**3,07**	3,46
Dp Cooling (E)		kPa	**1,9**	2,5	3,2	**4,0**	4,7	**5,6**	**4,9**	6,1	**9,2**	11,0	**13,9**	17,2	3,7	**5,3**	**6,7**	8,9	**11,5**	14,1
Dp Heating (E)		kPa	**1,5**	2,0	2,6	**3,3**	3,9	**4,7**	**3,9**	4,9	**7,5**	9,2	**11,6**	14,6	2,9	**4,2**	**5,4**	7,0	**9,2**	11,3
Fan (E)		W	**16**	19	21	**25**	29	**33**	**14**	16	**22**	26	**32**	40	15	**20**	**25**	32	**41**	49
Sound power (E)	Lw	dB(A)	**32**	34	36	**39**	42	**45**	**30**	33	**40**	43	**47**	51	31	**36**	**40**	45	**49**	52
Sound pressure (*)	Lp	dB(A)	**23**	25	27	**30**	33	**36**	**21**	24	**31**	34	**38**	42	22	**27**	**31**	36	**40**	43

MODEL			CRC 44						CRC 54						CRC 64					
Speed			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
				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	1,32	**1,83**	**2,28**	2,65	**3,12**	3,56	1,79	**2,19**	2,83	**3,25**	3,54	**4,09**	**2,83**	3,38	**3,86**	4,38	**4,79**	5,13
Cooling sensible emission (E)		kW	0,95	**1,34**	**1,68**	1,97	**2,34**	2,69	1,30	**1,60**	2,08	**2,40**	2,63	**3,07**	**2,07**	2,49	**2,86**	3,27	**3,60**	3,87
Heating (E)		kW	1,54	**2,16**	**2,72**	3,17	**3,76**	4,34	2,06	**2,53**	3,30	**3,81**	4,17	**4,83**	**3,39**	4,07	**4,69**	5,35	**5,88**	6,35
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	2,5	**4,6**	**6,9**	9,0	**12,2**	15,6	5,7	**8,3**	13,1	**17,0**	19,9	**25,7**	**11,0**	15,2	**19,5**	24,7	**29,3**	33,5
Fan (E)		W	14	**21**	**28**	34	**44**	57	18	**22**	32	**39**	46	**61**	**37**	46	**55**	67	**78**	88
Sound power (E)	Lw	dB(A)	27	**33**	**39**	43	**47**	52	26	**31**	37	**41**	43	**48**	**37**	42	**46**	49	**52**	54
Sound pressure (*)	Lp	dB(A)	18	**24**	**30**	34	**38**	43	17	**22**	28	**32**	34	**39**	**28**	33	**37**	40	**43**	45

MODEL			CRC 74						CRC 84						CRC 94					
Speed			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)
				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	3,03	**3,56**	4,08	**4,64**	5,17	**5,58**	3,27	**4,03**	4,80	**5,73**	6,06	**6,47**	4,42	**4,88**	5,57	**6,54**	7,13	**7,60**
Cooling sensible emission (E)		kW	2,22	**2,62**	3,03	**3,47**	3,89	**4,23**	2,43	**3,04**	3,66	**4,43**	4,71	**5,06**	3,36	**3,72**	4,29	**5,11**	5,63	**6,05**
Heating (E)		kW	3,55	**4,20**	4,86	**5,55**	6,19	**6,71**	4,03	**5,06**	6,11	**7,36**	7,84	**8,43**	5,59	**6,22**	7,14	**8,53**	9,38	**10,08**
Dp Cooling (E)		kPa	9,5	**12,5**	15,9	**20,0**	24,2	**27,7**	5,2	**7,6**	10,3	**14,1**	15,6	**17,5**	9,0	**10,6**	13,4	**17,8**	20,7	**23,2**
Dp Heating (E)		kPa	7,7	**10,3**	13,3	**16,9**	20,5	**23,7**	4,1	**6,2**	8,4	**11,4**	12,7	**14,5**	7,2	**8,7**	11,1	**14,8**	17,0	**19,3**
Fan (E)		W	44	**54**	66	**79**	92	**103**	47	**62**	81	**105**	116	**130**	78	**92**	108	**134**	152	**176**
Sound power (E)	Lw	dB(A)	38	**42**	47	**51**	54	**56**	39	**45**	50	**56**	58	**60**	47	**50**	54	**58**	62	**64**
Sound pressure (*)	Lp	dB(A)	29	**33**	38	**42**	45	**47**	30	**36**	41	**47**	49	**51**	38	**41**	45	**49**	53	**55**

(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.

EUROVENT Certification

CRC UNITS WITH 1 ROW ADDITIONAL COIL

4 pipe units.

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 +70°C E.W.T. +60°C L.W.T.

MODEL			CRC 13+1						CRC 23+1						CRC 33+1					
Speed			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
			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	**0,59**	0,68	0,77	**0,86**	0,94	**1,03**	**0,91**	1,01	**1,25**	1,38	**1,56**	1,74	1,28	**1,57**	**1,78**	2,07	**2,39**	2,66
Cooling sensible emission (E)		kW	**0,47**	0,54	0,62	**0,71**	0,78	**0,86**	**0,69**	0,77	**0,97**	1,08	**1,24**	1,40	0,94	**1,15**	**1,32**	1,55	**1,80**	2,02
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 Cooling (E)		kPa	**0,9**	1,1	1,4	**1,7**	2,0	**2,3**	**2,5**	3,0	**4,4**	5,3	**6,5**	7,9	6,6	**9,4**	**11,8**	15,4	**19,7**	23,8
Dp Heating (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
Fan (E)		W	**16**	19	21	**25**	29	**33**	**14**	16	**22**	26	**32**	40	15	**20**	**25**	32	**41**	49
Sound power (E)	Lw	dB(A)	**32**	34	36	**39**	42	**45**	**30**	33	**40**	43	**47**	51	31	**36**	**40**	45	**49**	52
Sound pressure (*)	Lp	dB(A)	**23**	25	27	**30**	33	**36**	**21**	24	**31**	34	**38**	42	22	**27**	**31**	36	**40**	43

MODEL			CRC 43+1						CRC 53+1						CRC 63+1					
Speed			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
				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	1,27	**1,73**	**2,14**	2,46	**2,87**	3,24	1,68	**2,03**	2,58	**2,94**	3,18	**3,64**	**2,54**	2,99	**3,37**	3,77	**4,09**	4,35
Cooling sensible emission (E)		kW	0,93	**1,28**	**1,60**	1,86	**2,19**	2,51	1,24	**1,51**	1,94	**2,23**	2,43	**2,82**	**1,91**	2,27	**2,59**	2,93	**3,20**	3,44
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 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	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
Fan (E)		W	14	**21**	**28**	34	**44**	57	18	**22**	32	**39**	46	**61**	**37**	46	**55**	67	**78**	88
Sound power (E)	Lw	dB(A)	27	**33**	**39**	43	**47**	52	26	**31**	37	**41**	43	**48**	**37**	42	**46**	49	**52**	54
Sound pressure (*)	Lp	dB(A)	18	**24**	**30**	34	**38**	43	17	**22**	28	**32**	34	**39**	**28**	33	**37**	40	**43**	45

MODEL			CRC 73+1						CRC 83+1						CRC 93+1					
Speed			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)
				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	2,87	**3,34**	3,80	**4,29**	4,76	**5,11**	3,06	**3,74**	4,41	**5,19**	5,47	**5,82**	4,08	**4,47**	5,06	**5,87**	6,36	**6,74**
Cooling sensible emission (E)		kW	2,13	**2,50**	2,87	**3,27**	3,66	**3,95**	2,32	**2,88**	3,44	**4,12**	4,37	**4,68**	3,16	**3,49**	4,00	**4,73**	5,19	**5,55**
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 Cooling (E)		kPa	12,3	**16,2**	20,3	**25,1**	30,1	**34,2**	6,1	**8,7**	11,6	**15,5**	17,1	**19,0**	10,2	**11,9**	14,8	**19,3**	22,2	**24,6**
Dp Heating (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**
Fan (E)		W	44	**54**	66	**79**	92	**103**	47	**62**	81	**105**	116	**130**	78	**92**	108	**134**	152	**176**
Sound power (E)	Lw	dB(A)	38	**42**	47	**51**	54	**56**	39	**45**	50	**56**	58	**60**	47	**50**	54	**58**	62	**64**
Sound pressure (*)	Lp	dB(A)	29	**33**	38	**42**	45	**47**	30	**36**	41	**47**	49	**51**	38	**41**	45	**49**	53	**55**

(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.

Operation limits

Highest water inlet temperature.....+ 85 °C
Lowest water inlet temperature.....+ 5 °C
for entering water temperatures below + 5°C, contact "SABIANA" technical department
Highest working pressure..... 1000 kPa (10 bars)

Note: For MO model the maximum installation height is 2,8 m.
On heating it must be payed attention to rooms where the floor temperature is particularly low (for example less than 5°C).
In this situation the floor can cool the lower layer of air to a level that can stop the uniform diffusion of the hot air coming from the unit.

Water flow limits for 3 row coil (l/h)

MODEL	CRC 13	CRC 23	CRC 33	CRC 43	CRC 53	CRC 63	CRC 73	CRC 83	CRC 93
Lowest	100	100	100	100	150	150	150	200	200
Highest	400	500	750	750	1000	1000	1500	2000	2000

Water flow limits for 4 row coil (l/h)

MODEL	CRC 14	CRC 24	CRC 34	CRC 44	CRC 54	CRC 64	CRC 74	CRC 84	CRC 94
Lowest	100	100	150	150	150	150	200	300	300
Highest	650	750	1000	1000	1000	1500	2000	2000	2250

Water flow limits for 1 row additional coil (l/h)

MODEL	CRC 1	CRC 2	CRC 3	CRC 4	CRC 5	CRC 6	CRC 7	CRC 8	CRC 9
Lowest	50	50	50	50	100	100	100	100	100
Highest	200	250	350	350	450	500	650	700	750

Water flow limits for 2 row additional coil (l/h)

MODEL	CRC 1	CRC 2	CRC 3	CRC 4	CRC 5	CRC 6	CRC 7	CRC 8	CRC 9
Lowest	50	50	100	100	100	100	100	100	100
Highest	200	250	350	350	450	500	650	700	750

Motor electrical data (max. absorption)

MODEL		CRC 1	CRC 2	CRC 3	CRC 4	CRC 5	CRC 6	CRC 7	CRC 8	CRC 9
230/1	W	33	40	49	57	61	88	103	130	176
50Hz	A	0,16	0,18	0,23	0,26	0,27	0,39	0,47	0,58	0,78

Cooling emission of *3 row coil*

Entering air temperature: 27°C – R.H.: 50%

MODEL	Speed		Qv	WT: 7/12 °C				WT: 8/13 °C				WT: 10/15 °C				WT: 12/17 °C			
				Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)
			m³/h	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa
CRC 13	VI	MAX	220	1,11	0,86	191	2,7	0,98	0,81	169	2,1	0,72	0,72	124	1,2	0,61	0,61	105	0,9
	V		195	1,02	0,78	175	2,3	0,90	0,73	155	1,8	0,64	0,63	110	1,0	0,55	0,55	95	0,8
	IV	MED	175	0,94	0,71	162	2,0	0,83	0,66	143	1,6	0,60	0,58	103	0,9	0,50	0,50	86	0,6
	III		150	0,83	0,62	143	1,6	0,74	0,58	127	1,3	0,53	0,50	91	0,7	0,44	0,44	76	0,5
	II		125	0,74	0,54	127	1,3	0,66	0,51	114	1,1	0,48	0,44	83	0,6	0,39	0,39	67	0,4
	I	MIN	105	0,64	0,47	110	1,0	0,57	0,44	98	0,8	0,42	0,38	72	0,5	0,33	0,33	57	0,3
CRC 23	VI		340	1,88	1,39	323	9,0	1,67	1,31	287	7,3	1,23	1,14	212	4,2	1,00	1,00	172	2,9
	V	MAX	295	1,69	1,23	291	7,5	1,50	1,16	258	6,1	1,11	1,01	191	3,5	0,89	0,89	153	2,3
	IV		250	1,49	1,08	256	6,0	1,33	1,01	229	4,9	0,99	0,88	170	2,9	0,78	0,78	134	1,8
	III	MED	220	1,35	0,97	232	5,1	1,21	0,91	208	4,1	0,90	0,79	155	2,4	0,70	0,70	120	1,5
	II		170	1,09	0,77	187	3,5	0,98	0,72	169	2,8	0,73	0,63	126	1,7	0,56	0,56	96	1,0
	I	MIN	145	0,98	0,69	169	2,9	0,87	0,64	150	2,3	0,66	0,56	114	1,4	0,50	0,50	86	0,8
CRC 33	VI		440	2,86	2,01	492	27,1	2,57	1,89	442	22,3	1,95	1,65	335	13,5	1,46	1,46	251	8,0
	V	MAX	385	2,57	1,79	442	22,4	2,31	1,69	397	18,4	1,76	1,47	303	11,2	1,30	1,30	224	6,5
	IV		325	2,23	1,54	384	17,4	2,00	1,45	344	14,4	1,53	1,26	263	8,8	1,11	1,11	191	5,0
	III	MED	270	1,92	1,32	330	13,4	1,72	1,24	296	11,1	1,32	1,08	227	6,8	0,96	0,96	165	3,8
	II	MIN	235	1,68	1,15	289	10,6	1,52	1,08	261	8,8	1,16	0,94	200	5,4	0,83	0,83	143	3,0
	I		185	1,38	0,94	237	7,5	1,24	0,88	213	6,2	0,96	0,76	165	3,9	0,67	0,67	115	2,1
CRC 43	VI		570	3,49	2,50	600	38,5	3,13	2,35	538	31,5	2,36	2,05	406	19,0	1,81	1,81	311	11,7
	V	MAX	485	3,08	2,18	530	31,0	2,77	2,05	476	25,4	2,10	1,79	361	15,4	1,58	1,58	272	9,2
	IV		400	2,65	1,85	456	23,7	2,38	1,74	409	19,5	1,81	1,52	311	11,8	1,34	1,34	230	6,9
	III	MED	335	2,30	1,60	396	18,5	2,07	1,50	356	15,2	1,58	1,31	272	9,3	1,15	1,15	198	5,3
	II	MIN	265	1,86	1,28	320	12,8	1,68	1,20	289	10,5	1,29	1,05	222	6,5	0,93	0,93	160	3,6
	I		185	1,36	0,93	234	7,3	1,23	0,87	212	6,1	0,95	0,76	163	3,8	0,67	0,67	115	2,0
CRC 53	VI	MAX	650	3,92	2,81	674	18,4	3,51	2,64	604	15,1	2,65	2,31	456	9,1	2,03	2,03	349	5,6
	V		545	3,42	2,42	588	14,5	3,07	2,28	528	11,9	2,32	1,99	399	7,2	1,75	1,75	301	4,3
	IV	MED	495	3,16	2,23	544	12,6	2,84	2,09	488	10,3	2,15	1,82	370	6,3	1,61	1,61	277	3,7
	III		420	2,78	1,94	478	10,0	2,49	1,82	428	8,2	1,90	1,59	327	5,0	1,40	1,40	241	2,9
	II	MIN	315	2,18	1,51	375	6,6	1,97	1,42	339	5,4	1,50	1,23	258	3,3	1,09	1,09	187	1,9
	I		250	1,80	1,24	310	4,7	1,62	1,16	279	3,9	1,24	1,01	213	2,4	0,89	0,89	153	1,3
CRC 63	VI		830	4,69	3,42	807	25,2	4,19	3,22	721	20,6	3,15	2,81	542	12,3	2,48	2,48	427	7,9
	V	MAX	760	4,40	3,19	757	22,6	3,94	3,00	678	18,5	2,97	2,63	511	11,0	2,31	2,31	397	7,0
	IV		680	4,06	2,92	698	19,6	3,64	2,75	626	16,0	2,74	2,40	471	9,6	2,11	2,11	363	6,0
	III	MED	590	3,63	2,58	624	16,0	3,25	2,43	559	13,1	2,46	2,12	423	7,9	1,87	1,87	322	4,8
	II		505	3,21	2,27	552	13,0	2,88	2,13	495	10,6	2,19	1,86	377	6,4	1,64	1,64	282	3,8
	I	MIN	415	2,73	1,91	470	9,7	2,45	1,79	421	8,0	1,86	1,56	320	4,9	1,38	1,38	237	2,8
CRC 73	VI	MAX	925	5,50	3,94	946	38,8	4,93	31,90	848	31,9	3,74	3,24	643	19,3	2,86	2,86	492	11,9
	V		840	5,12	3,64	881	34,2	4,59	28,10	789	28,1	3,49	3,00	600	17,1	2,64	2,64	454	10,3
	IV	MED	735	4,62	3,26	795	28,6	4,15	23,50	714	23,5	3,16	2,68	544	14,3	2,36	2,36	406	8,5
	III		630	4,09	2,86	703	23,1	3,68	19,00	633	19,0	2,80	2,35	482	11,6	2,07	2,07	356	6,7
	II	MIN	535	3,59	2,50	617	18,3	3,23	15,10	556	15,1	2,47	2,04	425	9,3	1,80	1,80	310	5,3
	I		445	3,08	2,12	530	14,0	2,77	11,60	476	11,6	2,13	1,74	366	7,2	1,54	1,54	265	4,0
CRC 83	VI	MAX	1200	6,27	4,65	1078	21,7	5,59	4,38	961	17,6	4,16	3,84	716	10,3	3,36	3,36	578	7,0
	V		1100	5,90	4,35	1015	19,5	5,27	4,09	906	15,8	3,93	3,58	676	9,3	3,14	3,14	540	6,2
	IV	MED	1020	5,60	4,10	963	17,7	5,00	3,86	860	14,4	3,73	3,37	642	8,5	2,96	2,96	509	5,6
	III		815	4,75	3,42	817	13,3	4,25	3,22	731	10,8	3,19	2,81	549	6,5	2,47	2,47	425	4,1
	II	MIN	655	4,03	2,87	693	9,9	3,61	2,69	621	8,1	2,72	2,35	468	4,9	2,08	2,08	358	3,0
	I		510	3,29	2,31	566	7,0	2,96	2,17	509	5,7	2,24	1,89	385	3,5	1,67	1,67	287	2,0
CRC 93	VI	MAX	1500	7,27	5,50	1250	28,1	6,48	5,19	1115	22,8	4,80	4,56	826	13,2	3,98	3,98	685	9,4
	V		1365	6,86	5,15	1180	25,4	6,11	4,85	1051	20,6	4,54	4,25	781	12,0	3,72	3,72	640	8,4
	IV	MED	1210	6,33	4,70	1089	22,0	5,64	4,42	970	17,9	4,20	3,88	722	10,5	3,40	3,40	585	7,1
	III		980	5,45	3,98	937	16,9	4,87	3,75	838	13,8	3,64	3,27	626	8,2	2,88	2,88	495	5,3
	II	MIN	830	4,82	3,48	829	13,6	4,31	3,27	741	11,1	3,23	2,85	556	6,6	2,51	2,51	432	4,2
	I		735	4,40	3,15	757	11,6	3,93	2,96	676	9,5	2,96	2,58	509	5,7	2,27	2,27	390	3,5

Correction factors for different R.H.

R.H.	WT:	7/12°C	8/13°C	10/15°C	12/17°C
48%	Pc	0,95	0,94	1,00	1,00
	Ps	1,00	1,00	1,00	1,00
46%	Pc	0,90	0,88	1,00	1,00
	Ps	1,00	1,00	1,00	1,00

LEGEND

- **WT** = Water temperature
- **Pc** = Cooling total emission
- **Ps** = Cooling sensible emission
- **Qw** = Water flow
- **Dp(c)** = Water pressure drop
- **Speed** = Fan speed
- **MAX** = High speed
- **MED** = Medium speed
- **MIN** = Low speed
- **Qv** = Air flow

Cooling emission of *3 row coil*

Entering air temperature: 26°C – R.H.: 50%

Model	Speed		Qv	WT: 7/12 °C				WT: 8/13 °C				WT: 10/15 °C				WT: 12/17 °C			
				Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)
			m³/h	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa
CRC 13	VI	MAX	220	0,98	0,81	169	2,2	0,85	0,76	146	1,7	0,67	0,67	115	1,1	0,55	0,55	95	0,8
	V		195	0,90	0,73	155	1,8	0,78	0,68	134	1,4	0,60	0,60	103	0,9	0,50	0,50	86	0,6
	IV	MED	175	0,83	0,66	143	1,6	0,72	0,62	124	1,2	0,55	0,55	95	0,8	0,46	0,46	79	0,5
	III		150	0,73	0,58	126	1,3	0,64	0,54	110	1,0	0,48	0,48	83	0,6	0,40	0,40	69	0,4
	II		125	0,65	0,51	112	1,1	0,57	0,48	98	0,8	0,42	0,42	72	0,5	0,35	0,35	60	0,3
	I	MIN	105	0,57	0,44	98	0,8	0,49	0,41	84	0,6	0,37	0,37	64	0,4	0,30	0,30	52	0,3
CRC 23	VI		340	1,66	1,31	286	7,3	1,46	1,23	251	5,7	1,09	1,09	187	3,4	0,91	0,91	157	2,5
	V	MAX	295	1,49	1,16	256	6,0	1,31	1,09	225	4,8	0,97	0,97	167	2,8	0,81	0,81	139	2,0
	IV		250	1,32	1,01	227	4,9	1,16	0,95	200	3,9	0,85	0,85	146	2,2	0,71	0,71	122	1,6
	III	MED	220	1,20	0,91	206	4,1	1,06	0,85	182	3,3	0,74	0,73	127	1,7	0,64	0,64	110	1,3
	II		170	0,97	0,72	167	2,8	0,85	0,68	146	2,2	0,61	0,58	105	1,2	0,51	0,51	88	0,9
	I	MIN	145	0,87	0,64	150	2,3	0,77	0,60	132	1,9	0,55	0,52	95	1,0	0,45	0,45	77	0,7
CRC 33	VI		440	2,55	1,90	439	22,2	2,26	1,77	389	17,8	1,63	1,53	280	9,9	1,33	1,33	229	6,8
	V	MAX	385	2,29	1,69	394	18,4	2,03	1,58	349	14,7	1,47	1,36	253	8,3	1,19	1,19	205	5,6
	IV		325	1,99	1,45	342	14,3	1,76	1,36	303	11,5	1,28	1,17	220	6,5	1,02	1,02	175	4,3
	III	MED	270	1,71	1,24	294	11,0	1,52	1,16	261	8,9	1,11	1,00	191	5,0	0,88	0,88	151	3,3
	II	MIN	235	1,50	1,08	258	8,8	1,34	1,01	230	7,1	0,98	0,87	169	4,0	0,76	0,76	131	2,6
	I		185	1,23	0,88	212	6,2	1,10	0,82	189	5,0	0,81	0,71	139	2,9	0,62	0,62	107	1,8
CRC 43	VI		570	3,11	2,35	535	31,5	2,75	2,20	473	25,1	1,97	1,90	339	13,8	1,66	1,66	286	10,0
	V	MAX	485	2,75	2,06	473	25,3	2,43	1,93	418	20,3	1,75	1,66	301	11,2	1,45	1,45	249	7,9
	IV		400	2,36	1,75	406	19,4	2,09	1,63	359	15,5	1,52	1,41	261	8,7	1,23	1,23	212	5,9
	III	MED	335	2,05	1,50	353	15,1	1,82	1,41	313	12,2	1,32	1,21	227	6,9	1,06	1,06	182	4,5
	II	MIN	265	1,67	1,21	287	10,5	1,48	1,13	255	8,5	1,08	0,97	186	4,8	0,85	0,85	146	3,1
	I		185	1,22	0,87	210	6,1	1,09	0,82	187	4,9	0,80	0,70	138	2,8	0,61	0,61	105	1,7
CRC 53	VI	MAX	650	3,49	2,65	600	15,0	3,08	2,48	530	12,0	2,20	2,14	378	6,5	1,86	1,86	320	4,8
	V		545	3,05	2,28	525	11,9	2,70	2,14	464	9,5	1,94	1,84	334	5,2	1,60	1,60	275	3,7
	IV	MED	495	2,82	2,10	485	10,3	2,49	1,96	428	8,2	1,80	1,69	310	4,6	1,47	1,47	253	3,2
	III		420	2,48	1,83	427	8,2	2,19	1,71	377	6,6	1,59	1,47	273	3,7	1,28	1,28	220	2,5
	II	MIN	315	1,95	1,42	335	5,4	1,73	1,33	298	4,3	1,26	1,14	217	2,5	1,00	1,00	172	1,6
	I		250	1,61	1,16	277	3,9	1,43	1,09	246	3,1	1,05	0,93	181	1,8	0,82	0,82	141	1,1
CRC 63	VI		830	4,18	3,22	719	20,6	3,68	3,02	633	16,3	2,69	2,69	463	9,3	2,26	2,26	389	6,8
	V	MAX	760	3,92	3,01	674	18,4	3,46	2,82	595	14,7	2,46	2,43	423	7,9	2,11	2,10	363	6,0
	IV		680	3,62	2,75	623	16,0	3,19	2,58	549	12,7	2,28	2,22	392	6,9	1,93	1,93	332	5,1
	III	MED	590	3,23	2,43	556	13,1	2,86	2,28	492	10,5	2,05	1,96	353	5,7	1,71	1,71	294	4,1
	II		505	2,87	2,14	494	10,6	2,54	2,00	437	8,5	1,82	1,72	313	4,7	1,50	1,50	258	3,3
	I	MIN	415	2,44	1,80	420	8,0	2,16	1,68	372	6,4	1,56	1,45	268	3,6	1,26	1,26	217	2,4
CRC 73	VI	MAX	925	4,91	3,71	845	31,8	4,34	3,48	746	25,4	3,12	3,01	537	14,0	2,26	2,26	389	6,8
	V		840	4,57	3,43	786	28,0	4,04	3,22	695	22,5	2,91	2,78	501	12,5	2,11	2,11	363	6,0
	IV	MED	735	4,12	3,07	709	23,4	3,65	2,88	628	18,8	2,64	2,48	454	10,5	1,93	1,93	332	5,1
	III		630	3,65	2,70	628	18,9	3,24	2,53	557	15,2	2,35	2,18	404	8,6	1,71	1,71	294	4,1
	II	MIN	535	3,21	2,35	552	15,1	2,85	2,20	490	12,1	2,08	1,90	358	6,9	1,50	1,50	258	3,3
	I		445	2,76	2,00	475	11,5	2,45	1,87	421	9,3	1,79	1,61	308	5,3	1,26	1,26	217	2,4
CRC 83	VI	MAX	1200	5,57	4,39	958	17,6	4,90	4,12	843	13,9	3,66	3,66	630	8,2	3,07	3,07	528	6,0
	V		1100	5,25	4,10	903	15,8	4,61	3,84	793	12,5	3,42	3,42	588	7,3	2,87	2,87	494	5,3
	IV	MED	1020	4,98	3,86	857	14,4	4,38	3,62	753	11,4	3,22	3,22	554	6,6	2,70	2,70	464	4,8
	III		815	4,22	3,23	726	10,8	3,72	3,02	640	8,6	2,64	2,60	454	4,6	2,26	2,26	389	3,5
	II	MIN	655	3,59	2,70	617	8,1	3,17	2,53	545	6,5	2,26	2,17	389	3,5	1,90	1,90	327	2,6
	I		510	2,94	2,18	506	5,7	2,60	2,04	447	4,6	1,87	1,75	322	2,5	1,53	1,53	263	1,7
CRC 93	VI	MAX	1500	6,46	5,20	1111	22,8	5,66	4,88	974	18,0	4,34	4,34	746	11,1	3,63	3,63	624	8,0
	V		1365	6,09	4,86	1047	20,6	5,35	4,56	920	16,3	4,06	4,06	698	9,9	3,40	3,40	585	7,1
	IV	MED	1210	5,62	4,43	967	17,9	4,94	4,16	850	14,1	3,70	3,70	636	8,4	3,10	3,10	533	6,1
	III		980	4,85	3,75	834	13,8	4,26	3,52	733	10,9	3,13	3,13	538	6,2	2,62	2,62	451	4,5
	II	MIN	830	4,29	3,27	738	11,1	3,78	3,07	650	8,8	2,68	2,64	461	4,7	2,29	2,29	394	3,6
	I		735	3,91	2,97	673	9,4	3,45	2,78	593	7,5	2,45	2,39	421	4,1	2,07	2,07	356	3,0

Correction factors for different R.H.

R.H.	WT:	7/12°C	8/13°C	10/15°C	12/17°C
48%	Pc	0,95	0,94	1,00	1,00
	Ps	1,00	1,00	1,00	1,00
46%	Pc	0,90	0,88	1,00	1,00
	Ps	1,00	1,00	1,00	1,00

LEGEND

- **WT** = Water temperature
- **Pc** = Cooling total emission
- **Ps** = Cooling sensible emission
- **Qw** = Water flow
- **Dp(c)** = Water pressure drop
- **Speed** = Fan speed
- **MAX** = High speed
- **MED** = Medium speed
- **MIN** = Low speed
- **Qv** = Air flow

Cooling emission of *3 row coil*

Entering air temperature: 25°C – R.H.: 50%

MODEL	Speed		Qv	WT: 7/12 °C				WT: 8/13 °C				WT: 10/15 °C				WT: 12/17 °C			
				Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)
			m³/h	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa
CRC 13	VI	MAX	220	0,85	0,76	146	1,7	0,71	0,70	122	1,2	0,61	0,61	105	0,9	0,50	0,50	86	0,6
	V		195	0,78	0,68	134	1,4	0,65	0,63	112	1,1	0,55	0,55	95	0,8	0,45	0,45	77	0,5
	IV	MED	175	0,72	0,62	124	1,2	0,61	0,58	105	0,9	0,50	0,50	86	0,7	0,41	0,41	71	0,5
	III		150	0,64	0,54	110	1,0	0,54	0,50	93	0,7	0,44	0,44	76	0,5	0,36	0,36	62	0,4
	II		125	0,57	0,48	98	0,8	0,48	0,44	83	0,6	0,39	0,39	67	0,4	0,32	0,32	55	0,3
	I	MIN	105	0,49	0,41	84	0,6	0,42	0,38	72	0,5	0,33	0,33	57	0,3	0,27	0,27	46	0,2
CRC 23	VI		340	1,46	1,23	251	5,8	1,25	1,15	215	4,4	1,00	1,00	172	2,9	0,82	0,82	141	2,0
	V	MAX	295	1,31	1,09	225	4,8	1,12	1,01	193	3,6	0,89	0,89	153	2,4	0,73	0,73	126	1,7
	IV		250	1,16	0,95	200	3,9	1,00	0,89	172	2,9	0,78	0,78	134	1,9	0,64	0,64	110	1,3
	III	MED	220	1,05	0,86	181	3,3	0,91	0,80	157	2,5	0,70	0,70	120	1,6	0,58	0,58	100	1,1
	II		170	0,85	0,68	146	2,2	0,74	0,63	127	1,7	0,56	0,56	96	1,0	0,46	0,46	79	0,7
	I	MIN	145	0,76	0,60	131	1,9	0,66	0,56	114	1,4	0,50	0,50	86	0,9	0,41	0,41	71	0,6
CRC 33	VI		440	2,25	1,78	387	17,8	1,96	1,66	337	13,8	1,46	1,46	251	8,1	1,21	1,21	208	5,8
	V	MAX	385	2,02	1,59	347	14,8	1,76	1,48	303	11,5	1,30	1,30	224	6,6	1,08	1,08	186	4,7
	IV		325	1,76	1,36	303	11,5	1,53	1,27	263	9,0	1,12	1,12	193	5,1	0,93	0,93	160	3,6
	III	MED	270	1,51	1,16	260	8,9	1,32	1,08	227	6,9	0,96	0,96	165	3,9	0,80	0,80	138	2,8
	II	MIN	235	1,33	1,02	229	7,1	1,16	0,95	200	5,5	0,84	0,84	144	3,1	0,69	0,69	119	2,2
	I		185	1,09	0,83	187	5,0	0,96	0,77	165	3,9	0,65	0,65	112	2,0	0,56	0,56	96	1,5
CRC 43	VI		570	2,74	2,21	471	25,2	2,38	2,06	409	19,5	1,82	1,82	313	11,9	1,50	1,50	258	8,4
	V	MAX	485	2,43	1,93	418	20,3	2,11	1,80	363	15,7	1,59	1,59	273	9,4	1,31	1,31	225	6,6
	IV		400	2,09	1,64	359	15,6	1,81	1,53	311	12,1	1,35	1,35	232	7,0	1,11	1,11	191	5,0
	III	MED	335	1,81	1,41	311	12,2	1,58	1,31	272	9,5	1,16	1,16	200	5,4	0,96	0,96	165	3,8
	II	MIN	265	1,47	1,13	253	8,5	1,29	1,05	222	6,6	0,93	0,93	160	3,7	0,77	0,77	132	2,6
	I		185	1,08	0,82	186	4,9	0,95	0,76	163	3,8	0,65	0,64	112	1,9	0,56	0,56	96	1,5
CRC 53	VI	MAX	650	3,08	2,48	530	12,0	2,67	2,32	459	9,3	2,04	2,04	351	5,7	1,68	1,68	289	4,0
	V		545	2,69	2,14	463	9,5	2,33	2,00	401	7,3	1,76	1,76	303	4,4	1,45	1,45	249	3,1
	IV	MED	495	2,49	1,97	428	8,3	2,16	1,83	372	6,4	1,61	1,61	277	3,8	1,33	1,33	229	2,7
	III		420	2,19	1,71	377	6,6	1,90	1,60	327	5,1	1,40	1,40	241	3,0	1,16	1,16	200	2,1
	II	MIN	315	1,73	1,33	298	4,3	1,50	1,24	258	3,4	1,10	1,10	189	1,9	0,91	0,91	157	1,4
	I		250	1,43	1,09	246	3,1	1,25	1,01	215	2,4	0,89	0,89	153	1,3	0,74	0,74	127	0,9
CRC 63	VI		830	3,67	3,03	631	16,4	3,18	2,82	547	12,6	2,48	2,48	427	8,1	2,05	2,05	353	5,7
	V	MAX	760	3,45	2,82	593	14,7	2,99	2,64	514	11,3	2,31	2,31	397	7,1	1,91	1,91	329	5,0
	IV		680	3,19	2,58	549	12,8	2,76	2,41	475	9,9	2,12	2,12	365	6,1	1,75	1,75	301	4,3
	III	MED	590	2,85	2,28	490	10,5	2,47	2,13	425	8,1	1,87	1,87	322	4,9	1,55	1,55	267	3,5
	II		505	2,53	2,00	435	8,5	2,19	1,87	377	6,6	1,64	1,64	282	3,9	1,36	1,36	234	2,8
	I	MIN	415	2,15	1,68	370	6,4	1,87	1,57	322	5,0	1,38	1,38	237	2,9	1,14	1,14	196	2,0
CRC 73	VI	MAX	925	4,33	3,49	745	25,5	3,76	3,26	647	19,8	2,86	2,86	492	12,1	2,37	2,37	408	8,5
	V		840	4,03	3,23	693	22,5	3,50	3,01	602	17,5	2,65	2,65	456	10,5	2,19	2,19	377	7,4
	IV	MED	735	3,64	2,89	626	18,8	3,17	2,69	545	14,6	2,37	2,37	408	8,6	1,96	1,96	337	6,1
	III		630	3,23	2,53	556	15,2	2,81	2,36	483	11,9	2,08	2,08	358	6,9	1,72	1,72	296	4,9
	II	MIN	535	2,84	2,21	488	12,1	2,47	2,05	425	9,5	1,81	1,81	311	5,4	1,50	1,50	258	3,8
	I		445	2,44	1,88	420	9,3	2,13	1,75	366	7,3	1,55	1,55	267	4,1	1,28	1,28	220	2,9
CRC 83	VI	MAX	1200	4,89	4,12	841	14,0	4,21	3,85	724	10,7	3,37	3,37	580	7,1	2,77	2,77	476	5,0
	V		1100	4,61	3,85	793	12,6	3,97	3,59	683	9,6	3,15	3,15	542	6,3	2,59	2,59	445	4,4
	IV	MED	1020	4,37	3,63	752	11,5	3,77	3,38	648	8,8	2,97	2,97	511	5,7	2,44	2,44	420	4,0
	III		815	3,71	3,03	638	8,6	3,21	2,82	552	6,6	2,47	2,47	425	4,1	2,04	2,04	351	2,9
	II	MIN	655	3,16	2,53	544	6,5	2,73	2,36	470	5,0	2,09	2,09	359	3,1	1,72	1,72	296	2,2
	I		510	2,59	2,04	445	4,6	2,25	1,90	387	3,5	1,68	1,68	289	2,1	1,39	1,39	239	1,5
CRC 93	VI	MAX	1500	5,67	4,89	975	18,1	4,86	4,57	836	13,7	3,99	3,99	686	9,6	3,28	3,28	564	6,7
	V		1365	5,35	4,57	920	16,4	4,59	4,26	789	12,4	3,73	3,73	642	8,5	3,07	3,07	528	5,9
	IV	MED	1210	4,94	4,17	850	14,2	4,25	3,89	731	10,8	3,40	3,40	585	7,2	2,80	2,80	482	5,1
	III		980	4,26	3,52	733	11,0	3,67	3,28	631	8,4	2,88	2,88	495	5,4	2,37	2,37	408	3,8
	II	MIN	830	3,77	3,07	648	8,8	3,26	2,87	561	6,8	2,51	2,51	432	4,2	2,07	2,07	356	3,0
	I		735	3,44	2,78	592	7,5	2,98	2,59	513	5,8	2,28	2,28	392	3,6	1,88	1,88	323	2,5

Correction factors for different R.H.

R.H.	WT:	7/12°C	8/13°C	10/15°C	12/17°C
48%	Pc	0,95	0,94	1,00	1,00
	Ps	1,00	1,00	1,00	1,00
46%	Pc	0,90	0,88	1,00	1,00
	Ps	1,00	1,00	1,00	1,00

LEGEND

- **WT** = Water temperature
- **Pc** = Cooling total emission
- **Ps** = Cooling sensible emission
- **Qw** = Water flow
- **Dp(c)** = Water pressure drop
- **Speed** = Fan speed
- **MAX** = High speed
- **MED** = Medium speed
- **MIN** = Low speed
- **Qv** = Air flow

Cooling emission of *4 row coil*

Entering air temperature: 27°C – R.H.: 50%

Model	Speed		Qv	WT: 7/12 °C				WT: 8/13 °C				WT: 10/15 °C				WT: 12/17 °C			
				Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)
			m³/h	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa
CRC 14	VI	MAX	220	1,33	0,96	229	6,4	1,18	0,91	203	5,2	0,87	0,79	150	3,0	0,70	0,70	120	2,0
	V		195	1,20	0,87	206	5,4	1,07	0,81	184	4,3	0,79	0,71	136	2,5	0,62	0,62	107	1,6
	IV	MED	175	1,10	0,79	189	4,6	0,98	0,74	169	3,7	0,73	0,64	126	2,2	0,57	0,57	98	1,4
	III		150	0,96	0,68	165	3,6	0,86	0,64	148	2,9	0,64	0,55	110	1,7	0,49	0,49	84	1,1
	II		125	0,85	0,60	146	2,9	0,76	0,56	131	2,4	0,57	0,48	98	1,4	0,43	0,43	74	0,9
	I	MIN	105	0,73	0,51	126	2,2	0,65	0,47	112	1,8	0,49	0,41	84	1,1	0,37	0,37	64	0,6
CRC 24	VI		340	2,20	1,56	378	19,6	1,97	1,47	339	16,0	1,49	1,28	256	9,6	1,13	1,13	194	5,9
	V	MAX	295	1,95	1,37	335	15,9	1,75	1,29	301	13,0	1,33	1,12	229	7,8	0,99	0,99	170	4,7
	IV		250	1,71	1,19	294	12,5	1,53	1,12	263	10,3	1,16	0,97	200	6,2	0,86	0,86	148	3,6
	III	MED	220	1,54	1,07	265	10,4	1,38	1,00	237	8,6	1,05	0,87	181	5,2	0,77	0,77	132	3,0
	II		170	1,22	0,83	210	6,9	1,09	0,78	187	5,7	0,84	0,68	144	3,5	0,60	0,60	103	1,9
	I	MIN	145	1,08	0,74	186	5,6	0,97	0,69	167	4,6	0,75	0,60	129	2,9	0,53	0,53	91	1,6
CRC 34	VI		440	3,09	2,14	531	16,0	2,78	2,01	478	13,2	2,12	1,75	365	8,1	1,55	1,55	267	4,6
	V	MAX	385	2,76	1,90	475	13,1	2,48	1,78	427	10,8	1,89	1,55	325	6,6	1,37	1,37	236	3,7
	IV		325	2,37	1,62	408	10,1	2,14	1,52	368	8,3	1,64	1,32	282	5,1	1,17	1,17	201	2,8
	III	MED	270	2,03	1,38	349	7,6	1,83	1,29	315	6,3	1,40	1,12	241	3,9	1,00	1,00	172	2,1
	II	MIN	235	1,77	1,20	304	6,0	1,59	1,12	273	5,0	1,23	0,97	212	3,1	0,86	0,86	148	1,6
	I		185	1,43	0,97	246	4,1	1,30	0,91	224	3,4	1,00	0,79	172	2,2	0,70	0,70	120	1,1
CRC 44	VI		570	3,71	2,60	638	21,2	3,33	2,44	573	17,4	2,53	2,12	435	10,5	1,88	1,88	323	6,2
	V	MAX	485	3,35	2,33	576	17,7	3,01	2,19	518	14,5	2,29	1,90	394	8,8	1,69	1,69	291	5,1
	IV		400	2,85	1,96	490	13,3	2,56	1,84	440	10,9	1,96	1,60	337	6,7	1,42	1,42	244	3,8
	III	MED	335	2,45	1,68	421	10,2	2,21	1,58	380	8,4	1,69	1,37	291	5,2	1,21	1,21	208	2,9
	II	MIN	265	1,97	1,34	339	6,9	1,78	1,26	306	5,7	1,36	1,09	234	3,6	0,97	0,97	167	1,9
	I		185	1,42	0,96	244	3,9	1,28	0,90	220	3,2	0,99	0,78	170	2,0	0,69	0,69	119	1,1
CRC 54	VI	MAX	650	4,40	3,06	757	35,5	3,96	2,88	681	29,3	3,02	2,51	519	18,0	2,22	2,22	382	10,3
	V		545	3,80	2,62	654	27,4	3,42	2,46	588	22,7	2,62	2,15	451	14,0	1,90	1,90	327	7,8
	IV	MED	495	3,49	2,40	600	23,6	3,14	2,25	540	19,5	2,41	1,96	415	12,1	1,73	1,73	298	6,7
	III		420	3,03	2,07	521	18,5	2,74	1,95	471	15,3	2,11	1,70	363	9,5	1,50	1,50	258	5,2
	II	MIN	315	2,35	1,59	404	11,8	2,12	1,50	365	9,8	1,64	1,30	282	6,1	1,15	1,15	198	3,2
	I		250	1,92	1,30	330	8,3	1,74	1,22	299	6,9	1,35	1,06	232	4,3	0,89	0,89	153	2,1
CRC 64	VI		830	5,52	3,86	949	46,5	4,96	3,63	853	38,3	3,78	3,17	650	23,4	2,80	2,80	482	13,6
	V	MAX	760	5,14	3,59	884	41,1	4,63	3,37	796	33,9	3,53	2,94	607	20,8	2,60	2,60	447	12,0
	IV		680	4,70	3,26	808	35,1	4,23	3,06	728	28,9	3,24	2,67	557	17,8	2,36	2,36	406	10,1
	III	MED	590	4,15	2,86	714	28,1	3,74	2,69	643	23,3	2,86	2,34	492	14,4	2,07	2,07	356	8,0
	II		505	3,63	2,49	624	22,3	3,28	2,34	564	18,4	2,52	2,03	433	11,4	1,80	1,80	310	6,2
	I	MIN	415	3,04	2,07	523	16,3	2,74	1,94	471	13,5	2,12	1,69	365	8,4	1,50	1,50	258	4,5
CRC 74	VI	MAX	925	6,00	4,21	1032	31,4	5,39	3,96	927	25,9	4,11	3,46	707	15,8	3,05	3,05	525	9,3
	V		840	5,56	3,88	956	27,5	5,00	3,65	860	22,6	3,81	3,19	655	13,9	2,81	2,81	483	8,0
	IV	MED	735	4,98	3,46	857	22,7	4,48	3,25	771	18,7	3,43	2,84	590	11,5	2,50	2,50	430	6,5
	III		630	4,38	3,02	753	18,1	3,95	2,84	679	14,9	3,02	2,47	519	9,2	2,18	2,18	375	5,1
	II	MIN	535	3,82	2,62	657	14,2	3,44	2,46	592	11,8	2,65	2,14	456	7,3	1,90	1,90	327	4,0
	I		445	3,25	2,22	559	10,7	2,94	2,08	506	8,9	2,26	1,81	389	5,5	1,60	1,60	275	3,0
CRC 84	VI	MAX	1200	6,98	5,04	1201	20,0	6,24	4,73	1073	16,3	4,68	4,13	805	9,7	3,63	3,63	624	6,1
	V		1100	6,53	4,69	1123	17,8	5,84	4,41	1004	14,5	4,39	3,84	755	8,6	3,38	3,38	581	5,4
	IV	MED	1020	6,17	4,41	1061	16,1	5,52	4,14	949	13,1	4,15	3,61	714	7,8	3,18	3,18	547	4,8
	III		815	5,17	3,65	889	11,8	4,64	3,43	798	9,6	3,50	2,99	602	5,8	2,65	2,65	456	3,5
	II	MIN	655	4,34	3,04	746	8,7	3,90	2,85	671	7,1	2,95	2,48	507	4,3	2,19	2,19	377	2,5
	I		510	3,51	2,43	604	6,0	3,16	2,28	544	4,9	2,40	1,98	413	3,0	1,75	1,75	301	1,7
CRC 94	VI	MAX	1500	8,20	6,01	1410	26,5	7,32	5,65	1259	21,6	5,46	4,94	939	12,7	4,34	4,34	746	8,4
	V		1365	7,69	5,60	1323	23,7	6,87	5,27	1182	19,3	5,13	4,61	882	11,4	4,04	4,04	695	7,4
	IV	MED	1210	7,05	5,09	1213	20,3	6,30	4,79	1084	16,5	4,72	4,18	812	9,8	3,67	3,67	631	6,2
	III		980	6,00	4,28	1032	15,3	5,37	4,02	924	12,5	4,04	3,50	695	7,5	3,08	3,08	530	4,6
	II	MIN	830	5,25	3,71	903	12,1	4,71	3,49	810	9,9	3,55	3,03	611	6,0	2,69	2,69	463	3,6
	I		735	4,77	3,35	820	10,2	4,27	3,14	734	8,4	3,23	2,74	556	5,0	2,42	2,42	416	3,0

Correction factors for different R.H.

R.H.	WT:	7/12°C	8/13°C	10/15°C	12/17°C
48%	Pc	0,95	0,94	1,00	1,00
	Ps	1,00	1,00	1,00	1,00
46%	Pc	0,90	0,88	1,00	1,00
	Ps	1,00	1,00	1,00	1,00

LEGEND

- **WT** = Water temperature
- **Pc** = Cooling total emission
- **Ps** = Cooling sensible emission
- **Qw** = Water flow
- **Dp(c)** = Water pressure drop
- **Speed** = Fan speed
- **MAX** = High speed
- **MED** = Medium speed
- **MIN** = Low speed
- **Qv** = Air flow

Cooling emission of *4 row coil*

Entering air temperature: 26°C – R.H.: 50%

MODEL	Speed		Qv	WT: 7/12 °C				WT: 8/13 °C				WT: 10/15 °C				WT: 12/17 °C			
				Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)
			m³/h	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa
CRC 14	VI	MAX	220	1,17	0,91	201	5,1	1,03	0,85	177	4,0	0,76	0,76	131	2,3	0,63	0,63	108	1,7
	V		195	1,06	0,81	182	4,3	0,93	0,76	160	3,4	0,68	0,68	117	1,9	0,57	0,57	98	1,4
	IV	MED	175	0,97	0,74	167	3,7	0,85	0,69	146	2,9	0,60	0,59	103	1,5	0,52	0,52	89	1,2
	III		150	0,85	0,64	146	2,9	0,75	0,60	129	2,3	0,53	0,51	91	1,2	0,45	0,45	77	0,9
	II		125	0,75	0,56	129	2,4	0,66	0,52	114	1,9	0,47	0,45	81	1,0	0,39	0,39	67	0,7
	I	MIN	105	0,65	0,48	112	1,8	0,57	0,44	98	1,4	0,41	0,38	71	0,8	0,33	0,33	57	0,5
CRC 24	VI		340	1,96	1,47	337	16,0	1,73	1,38	298	12,7	1,24	1,18	213	7,0	1,03	1,03	177	5,0
	V	MAX	295	1,74	1,29	299	13,0	1,54	1,21	265	10,3	1,11	1,04	191	5,7	0,91	0,91	157	4,0
	IV		250	1,52	1,12	261	10,3	1,35	1,05	232	8,2	0,98	0,90	169	4,6	0,79	0,79	136	3,1
	III	MED	220	1,37	1,00	236	8,5	1,22	0,94	210	6,8	0,88	0,81	151	3,8	0,71	0,71	122	2,5
	II		170	1,09	0,79	187	5,7	0,97	0,73	167	4,6	0,70	0,63	120	2,6	0,55	0,55	95	1,7
	I	MIN	145	0,97	0,69	167	4,6	0,86	0,65	148	3,7	0,63	0,56	108	2,1	0,49	0,49	84	1,3
CRC 34	VI		440	2,76	2,02	475	13,1	2,45	1,88	421	10,6	1,78	1,62	306	5,9	1,42	1,42	244	3,9
	V	MAX	385	2,47	1,79	425	10,8	2,19	1,67	377	8,7	1,59	1,43	273	4,9	1,26	1,26	217	3,2
	IV		325	2,12	1,53	365	8,3	1,89	1,43	325	6,7	1,38	1,22	237	3,8	1,07	1,07	184	2,4
	III	MED	270	1,81	1,30	311	6,3	1,61	1,21	277	5,1	1,18	1,04	203	2,9	0,91	0,91	157	1,8
	II	MIN	235	1,58	1,13	272	4,9	1,41	1,05	243	4,0	1,04	0,90	179	2,3	0,79	0,79	136	1,4
	I		185	1,29	0,91	222	3,4	1,15	0,85	198	2,8	0,85	0,73	146	1,6	0,64	0,64	110	1,0
CRC 44	VI		570	3,31	2,45	569	17,3	2,93	2,29	504	13,8	2,12	1,97	365	7,7	1,72	1,72	296	5,3
	V	MAX	485	3,00	2,20	516	14,5	2,65	2,05	456	11,6	1,92	1,76	330	6,5	1,55	1,55	267	4,4
	IV		400	2,55	1,85	439	10,9	2,26	1,73	389	8,8	1,64	1,48	282	4,9	1,30	1,30	224	3,2
	III	MED	335	2,19	1,58	377	8,4	1,95	1,48	335	6,7	1,42	1,27	244	3,8	1,11	1,11	191	2,4
	II	MIN	265	1,76	1,26	303	5,7	1,57	1,18	270	4,6	1,15	1,01	198	2,6	0,89	0,89	153	1,6
	I		185	1,27	0,90	218	3,2	1,13	0,84	194	2,6	0,84	0,72	144	1,5	0,63	0,63	108	0,9
CRC 54	VI	MAX	650	3,93	2,89	676	29,1	3,49	2,70	600	23,5	2,55	2,33	439	13,3	2,03	2,03	349	8,8
	V		545	3,40	2,47	585	22,6	3,02	2,31	519	18,2	2,21	1,99	380	10,4	1,74	1,74	299	6,7
	IV	MED	495	3,12	2,26	537	19,4	2,78	2,11	478	15,7	2,04	1,82	351	9,0	1,59	1,59	273	5,7
	III		420	2,72	1,96	468	15,2	2,42	1,83	416	12,3	1,78	1,57	306	7,1	1,38	1,38	237	4,5
	II	MIN	315	2,11	1,50	363	9,7	1,88	1,40	323	7,9	1,39	1,21	239	4,6	1,06	1,06	182	2,8
	I		250	1,72	1,22	296	6,8	1,54	1,14	265	5,6	1,14	0,98	196	3,2	0,86	0,86	148	1,9
CRC 64	VI		830	4,93	3,64	848	38,1	4,37	3,41	752	30,6	3,18	2,94	547	17,2	2,57	2,57	442	11,7
	V	MAX	760	4,60	3,38	791	33,8	4,08	3,17	702	27,1	2,97	2,73	511	15,4	2,38	2,38	409	10,2
	IV		680	4,21	3,07	724	28,8	3,73	2,88	642	23,2	2,73	2,48	470	13,2	2,16	2,16	372	8,7
	III	MED	590	3,71	2,69	638	23,1	3,30	2,52	568	18,7	2,42	2,17	416	10,7	1,89	1,89	325	6,8
	II		505	3,25	2,34	559	18,3	2,89	2,19	497	14,8	2,13	1,89	366	8,5	1,65	1,65	284	5,4
	I	MIN	415	2,72	1,95	468	13,4	2,43	1,82	418	10,9	1,79	1,57	308	6,3	1,37	1,37	236	3,9
CRC 74	VI	MAX	925	5,36	3,97	922	25,8	4,75	3,72	817	20,7	3,45	3,21	593	11,6	2,80	2,80	482	7,9
	V		840	4,97	3,66	855	22,6	4,41	3,43	759	18,1	3,21	2,95	552	10,2	2,58	2,58	444	6,9
	IV	MED	735	4,46	3,26	767	18,6	3,96	3,05	681	15,0	2,89	2,63	497	8,5	2,29	2,29	394	5,6
	III		630	3,92	2,85	674	14,9	3,48	2,66	599	12,0	2,55	2,29	439	6,8	2,00	2,00	344	4,4
	II	MIN	535	3,42	2,47	588	11,7	3,04	2,31	523	9,4	2,23	1,99	384	5,4	1,74	1,74	299	3,4
	I		445	2,91	2,09	501	8,8	2,60	1,95	447	7,1	1,91	1,68	329	4,1	1,47	1,47	253	2,6
CRC 84	VI	MAX	1200	6,21	4,74	1068	16,2	5,46	4,44	939	12,9	3,86	3,83	664	6,9	3,32	3,32	571	5,2
	V		1100	5,81	4,42	999	14,5	5,12	4,13	881	11,5	3,63	3,56	624	6,2	3,09	3,09	531	4,6
	IV	MED	1020	5,49	4,15	944	13,1	4,84	3,89	832	10,4	3,44	3,34	592	5,6	2,90	2,90	499	4,1
	III		815	4,61	3,44	793	9,6	4,07	3,22	700	7,7	2,91	2,76	501	4,2	2,42	2,42	416	3,0
	II	MIN	655	3,87	2,86	666	7,1	3,42	2,67	588	5,7	2,46	2,29	423	3,1	2,01	2,01	346	2,1
	I		510	3,14	2,29	540	4,9	2,78	2,14	478	3,9	2,01	1,83	346	2,2	1,60	1,60	275	1,4
CRC 94	VI	MAX	1500	7,29	5,66	1254	21,5	6,40	5,31	1101	17,0	4,72	4,72	812	9,8	3,96	3,96	681	7,1
	V		1365	6,84	5,28	1176	19,3	6,01	4,95	1034	15,2	4,40	4,40	757	8,7	3,69	3,69	635	6,3
	IV	MED	1210	6,27	4,80	1078	16,5	5,52	4,49	949	13,1	3,90	3,87	671	7,0	3,35	3,35	576	5,3
	III		980	5,34	4,03	918	12,5	4,71	3,77	810	9,9	3,35	3,24	576	5,4	2,81	2,81	483	3,9
	II	MIN	830	4,68	3,50	805	9,9	4,13	3,27	710	7,9	2,95	2,81	507	4,3	2,46	2,46	423	3,1
	I		735	4,25	3,15	731	8,3	3,75	2,95	645	6,6	2,69	2,53	463	3,7	2,22	2,22	382	2,6

Correction factors for different R.H.

R.H.	WT:	7/12°C	8/13°C	10/15°C	12/17°C
48%	Pc	0,95	0,94	1,00	1,00
	Ps	1,00	1,00	1,00	1,00
46%	Pc	0,90	0,88	1,00	1,00
	Ps	1,00	1,00	1,00	1,00

LEGEND

- **WT** = Water temperature
- **Pc** = Cooling total emission
- **Ps** = Cooling sensible emission
- **Qw** = Water flow
- **Dp(c)** = Water pressure drop
- **Speed** = Fan speed
- **MAX** = High speed
- **MED** = Medium speed
- **MIN** = Low speed
- **Qv** = Air flow

Cooling emission of *4 row coil*

Entering air temperature: 25°C – R.H.: 50%

Model	Speed		Qv	WT: 7/12 °C				WT: 8/13 °C				WT: 10/15 °C				WT: 12/17 °C			
				Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)
			m³/h	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa
CRC 14	VI	MAX	220	1,03	0,85	177	4,1	0,88	0,79	151	3,1	0,70	0,70	120	2,0	0,57	0,57	98	1,4
	V		195	0,93	0,76	160	3,4	0,80	0,71	138	2,6	0,63	0,63	108	1,7	0,51	0,51	88	1,2
	IV	MED	175	0,85	0,69	146	2,9	0,73	0,64	126	2,2	0,57	0,57	98	1,4	0,47	0,47	81	1,0
	III		150	0,75	0,60	129	2,3	0,64	0,56	110	1,8	0,49	0,49	84	1,1	0,40	0,40	69	0,8
	II		125	0,66	0,52	114	1,9	0,57	0,49	98	1,4	0,43	0,43	74	0,9	0,36	0,36	62	0,6
	I	MIN	105	0,57	0,44	98	1,4	0,49	0,41	84	1,1	0,37	0,37	64	0,7	0,30	0,30	52	0,5
CRC 24	VI		340	1,73	1,38	298	12,8	1,50	1,28	258	9,8	1,13	1,13	194	6,0	0,94	0,94	162	4,2
	V	MAX	295	1,54	1,21	265	10,4	1,33	1,13	229	8,0	1,00	1,00	172	4,7	0,82	0,82	141	3,4
	IV		250	1,35	1,05	232	8,2	1,17	0,98	201	6,4	0,86	0,86	148	3,7	0,71	0,71	122	2,6
	III	MED	220	1,21	0,94	208	6,8	1,05	0,87	181	5,3	0,77	0,77	132	3,0	0,64	0,64	110	2,1
	II		170	0,96	0,74	165	4,6	0,84	0,68	144	3,5	0,61	0,61	105	2,0	0,50	0,50	86	1,4
	I	MIN	145	0,86	0,65	148	3,7	0,75	0,60	129	2,9	0,54	0,54	93	1,6	0,44	0,44	76	1,1
CRC 34	VI		440	2,44	1,89	420	10,6	2,12	1,76	365	8,2	1,55	1,55	267	4,7	1,29	1,29	222	3,3
	V	MAX	385	2,18	1,68	375	8,7	1,90	1,56	327	6,7	1,38	1,38	237	3,8	1,14	1,14	196	2,7
	IV		325	1,88	1,43	323	6,7	1,64	1,33	282	5,2	1,18	1,18	203	2,9	0,98	0,98	169	2,0
	III	MED	270	1,61	1,22	277	5,1	1,40	1,13	241	4,0	0,95	0,95	163	2,0	0,83	0,83	143	1,5
	II	MIN	235	1,40	1,06	241	4,0	1,23	0,98	212	3,1	0,84	0,82	144	1,6	0,72	0,72	124	1,2
	I		185	1,14	0,85	196	2,8	1,00	0,79	172	2,2	0,69	0,67	119	1,1	0,58	0,58	100	0,8
CRC 44	VI		570	3,01	2,37	518	14,6	2,62	2,21	451	11,3	1,95	1,95	335	6,7	1,56	1,56	268	4,5
	V	MAX	485	2,64	2,06	454	11,6	2,30	1,91	396	9,0	1,69	1,69	291	5,2	1,40	1,40	241	3,7
	IV		400	2,25	1,73	387	8,8	1,96	1,61	337	6,8	1,43	1,43	246	3,8	1,18	1,18	203	2,7
	III	MED	335	1,94	1,48	334	6,7	1,69	1,38	291	5,3	1,22	1,22	210	2,9	1,01	1,01	174	2,1
	II	MIN	265	1,56	1,18	268	4,6	1,36	1,10	234	3,6	0,93	0,92	160	1,8	0,81	0,81	139	1,4
	I		185	1,13	0,84	194	2,6	0,99	0,78	170	2,0	0,68	0,66	117	1,0	0,57	0,57	98	0,8
CRC 54	VI	MAX	650	3,48	2,71	599	23,5	3,03	2,52	521	18,3	2,22	2,22	382	10,5	1,84	1,84	316	7,4
	V		545	3,01	2,32	518	18,2	2,63	2,16	452	14,2	1,90	1,90	327	8,0	1,58	1,58	272	5,7
	IV	MED	495	2,76	2,12	475	15,7	2,42	1,97	416	12,3	1,74	1,74	299	6,8	1,44	1,44	248	4,8
	III		420	2,41	1,83	415	12,3	2,11	1,71	363	9,7	1,51	1,51	260	5,3	1,25	1,25	215	3,8
	II	MIN	315	1,87	1,41	322	7,9	1,64	1,31	282	6,2	1,13	1,11	194	3,2	0,96	0,96	165	2,4
	I		250	1,53	1,15	263	5,5	1,34	1,07	230	4,4	0,93	0,90	160	2,3	0,78	0,78	134	1,6
CRC 64	VI		830	4,36	3,42	750	30,7	3,79	3,18	652	23,9	2,81	2,81	483	13,9	2,33	2,33	401	9,9
	V	MAX	760	4,07	3,17	700	27,2	3,54	2,95	609	21,2	2,61	2,61	449	12,2	2,16	2,16	372	8,6
	IV		680	3,72	2,88	640	23,2	3,24	2,69	557	18,1	2,37	2,37	408	10,3	1,96	1,96	337	7,3
	III	MED	590	3,29	2,53	566	18,7	2,87	2,35	494	14,6	2,07	2,07	356	8,1	1,72	1,72	296	5,8
	II		505	2,88	2,20	495	14,8	2,52	2,05	433	11,6	1,80	1,80	310	6,4	1,50	1,50	258	4,5
	I	MIN	415	2,42	1,83	416	10,9	2,12	1,70	365	8,5	1,45	1,43	249	4,3	1,25	1,25	215	3,3
CRC 74	VI	MAX	925	4,74	3,73	815	20,7	4,12	3,47	709	16,1	3,06	3,06	526	9,4	2,54	2,54	437	6,7
	V		840	4,39	3,44	755	18,2	3,83	3,20	659	14,1	2,82	2,82	485	8,2	2,34	2,34	402	5,8
	IV	MED	735	3,94	3,06	678	15,0	3,44	2,85	592	11,7	2,51	2,51	432	6,7	2,08	2,08	358	4,7
	III		630	3,47	2,67	597	12,0	3,03	2,49	521	9,4	2,19	2,19	377	5,2	1,82	1,82	313	3,7
	II	MIN	535	3,03	2,32	521	9,4	2,65	2,16	456	7,4	1,91	1,91	329	4,1	1,58	1,58	272	2,9
	I		445	2,58	1,96	444	7,1	2,26	1,82	389	5,6	1,55	1,54	267	2,8	1,34	1,34	230	2,2
CRC 84	VI	MAX	1200	5,45	4,45	937	12,9	4,71	4,15	810	9,9	3,64	3,64	626	6,2	3,00	3,00	516	4,4
	V		1100	5,11	4,14	879	11,5	4,41	3,86	759	8,8	3,39	3,39	583	5,5	2,79	2,79	480	3,8
	IV	MED	1020	4,83	3,89	831	10,4	4,17	3,63	717	8,0	3,18	3,18	547	4,9	2,63	2,63	452	3,5
	III		815	4,06	3,22	698	7,7	3,51	3,00	604	5,9	2,65	2,65	456	3,6	2,19	2,19	377	2,5
	II	MIN	655	3,41	2,68	587	5,7	2,96	2,49	509	4,4	2,20	2,20	378	2,6	1,82	1,82	313	1,8
	I		510	2,77	2,14	476	3,9	2,41	1,99	415	3,0	1,75	1,75	301	1,7	1,45	1,45	249	1,2
CRC 94	VI	MAX	1500	6,40	5,32	1101	17,1	5,51	4,96	948	13,1	4,34	4,34	746	8,5	3,57	3,57	614	5,9
	V		1365	6,00	4,95	1032	15,3	5,17	4,62	889	11,7	4,05	4,05	697	7,5	3,33	3,33	573	5,3
	IV	MED	1210	5,51	4,50	948	13,1	4,75	4,19	817	10,1	3,68	3,68	633	6,3	3,03	3,03	521	4,4
	III		980	4,69	3,78	807	9,9	4,06	3,52	698	7,6	3,09	3,09	531	4,7	2,55	2,55	439	3,3
	II	MIN	830	4,12	3,27	709	7,9	3,57	3,05	614	6,1	2,70	2,70	464	3,7	2,23	2,23	384	2,6
	I		735	3,74	2,95	643	6,7	3,24	2,75	557	5,1	2,43	2,43	418	3,1	2,01	2,01	346	2,2

Correction factors for different R.H.

R.H.	WT:	7/12°C	8/13°C	10/15°C	12/17°C
48%	Pc	0,95	0,94	1,00	1,00
	Ps	1,00	1,00	1,00	1,00
46%	Pc	0,90	0,88	1,00	1,00
	Ps	1,00	1,00	1,00	1,00

LEGEND

- **WT** = Water temperature
- **Pc** = Cooling total emission
- **Ps** = Cooling sensible emission
- **Qw** = Water flow
- **Dp(c)** = Water pressure drop
- **Speed** = Fan speed
- **MAX** = High speed
- **MED** = Medium speed
- **MIN** = Low speed
- **Qv** = Air flow

Heating emission of *3 row coil*

Entering air temperature: 20°C

Model	Speed		Qv	WT: 70/60 °C			WT: 60/50 °C			WT: 50/40 °C			WT: 50/45 °C			WT: 45/40 °C		
				Ph	Qw	Dp(c)	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)
			m³/h	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa
CRC 13	VI	MAX	220	2,42	208	2,4	1,83	157	1,5	1,25	108	0,8	1,48	255	3,7	1,19	205	2,5
	V		195	2,18	187	2,0	1,66	143	1,3	1,13	97	0,7	1,33	229	3,1	1,07	184	2,1
	IV	MED	175	1,99	171	1,7	1,51	130	1,1	1,03	89	0,6	1,21	208	2,6	0,98	169	1,8
	III		150	1,75	151	1,4	1,33	114	0,9	0,91	78	0,5	1,07	184	2,1	0,86	148	1,4
	II		125	1,53	132	1,1	1,17	101	0,7	0,80	69	0,4	0,94	162	1,6	0,76	131	1,1
	I	MIN	105	1,31	113	0,8	1,00	86	0,5	0,68	58	0,3	0,80	138	1,2	0,64	110	0,9
CRC 23	VI		340	3,89	335	7,5	2,97	255	4,8	2,05	176	2,6	2,38	409	11,2	1,92	330	7,9
	V	MAX	295	3,44	296	6,0	2,63	226	3,9	1,82	157	2,1	2,10	361	9,1	1,70	292	6,4
	IV		250	3,00	258	4,7	2,30	198	3,0	1,59	137	1,6	1,84	316	7,1	1,49	256	5,0
	III	MED	220	2,70	232	3,9	2,07	178	2,5	1,43	123	1,4	1,65	284	5,9	1,34	230	4,2
	II		170	2,14	184	2,6	1,64	141	1,7	1,14	98	0,9	1,31	225	3,9	1,06	182	2,8
	I	MIN	145	1,90	163	2,1	1,46	126	1,4	1,01	87	0,7	1,16	200	3,2	0,94	162	2,2
CRC 33	VI		440	5,52	475	19,8	4,24	365	12,8	2,96	255	7,0	3,37	580	29,8	2,74	471	21,0
	V	MAX	385	4,92	423	16,1	3,78	325	10,5	2,64	227	5,8	3,00	516	24,3	2,44	420	17,1
	IV		325	4,24	365	12,4	3,26	280	8,1	2,28	196	4,5	2,59	445	18,7	2,10	361	13,2
	III	MED	270	3,61	310	9,4	2,78	239	6,1	1,95	168	3,4	2,21	380	14,1	1,79	308	10,0
	II	MIN	235	3,14	270	7,3	2,42	208	4,8	1,70	146	2,6	1,92	330	11,0	1,56	268	7,8
	I		185	2,54	218	5,1	1,96	169	3,3	1,38	119	1,8	1,55	267	7,6	1,26	217	5,4
CRC 43	VI		570	6,87	591	29,1	5,27	453	18,8	3,67	316	10,3	4,20	722	43,8	3,41	587	30,8
	V	MAX	485	6,00	516	22,9	4,60	396	14,8	3,21	276	8,1	3,66	630	34,4	2,97	511	24,3
	IV		400	5,08	437	17,1	3,90	335	11,1	2,73	235	6,1	3,10	533	25,7	2,52	433	18,2
	III	MED	335	4,36	375	13,1	3,36	289	8,5	2,36	203	4,7	2,68	461	19,9	2,18	375	14,0
	II	MIN	265	3,51	302	8,9	2,70	232	5,8	1,89	163	3,2	2,14	368	13,4	1,74	299	9,5
	I		185	2,51	216	5,0	1,94	167	3,2	1,36	117	1,8	1,54	265	7,5	1,25	215	5,3
CRC 53	VI	MAX	650	7,57	651	13,5	5,81	500	8,7	4,04	347	4,7	4,62	795	20,2	3,75	645	14,2
	V		545	6,54	562	10,4	5,02	432	6,7	3,49	300	3,7	3,99	686	15,6	3,24	557	11,0
	IV	MED	495	6,04	519	9,0	4,64	399	5,9	3,23	278	3,2	3,69	635	13,6	3,00	516	9,6
	III		420	5,26	452	7,1	4,04	347	4,6	2,82	243	2,5	3,21	552	10,6	2,61	449	7,5
	II	MIN	315	4,07	350	4,5	3,13	269	2,9	2,19	188	1,6	2,49	428	6,8	2,02	347	4,8
	I		250	3,32	286	3,2	2,56	220	2,1	1,79	154	1,1	2,03	349	4,8	1,65	284	3,4
CRC 63	VI		830	9,22	793	19,0	7,06	607	12,3	4,91	422	6,7	5,63	968	28,6	4,56	784	20,1
	V	MAX	760	8,61	740	16,9	6,59	567	10,9	4,58	394	5,9	5,26	905	25,3	4,26	733	17,8
	IV		680	7,87	677	14,4	6,03	519	9,3	4,20	361	5,1	4,81	827	21,7	3,90	671	15,2
	III	MED	590	6,96	599	11,6	5,34	459	7,5	3,71	319	4,1	4,25	731	17,4	3,45	593	12,3
	II		505	6,15	529	9,3	4,72	406	6,0	3,29	283	3,3	3,76	647	14,0	3,05	525	9,9
	I	MIN	415	5,17	445	6,9	3,97	341	4,4	2,77	238	2,4	3,15	542	10,3	2,56	440	7,3
CRC 73	VI	MAX	925	10,55	907	28,1	8,10	697	18,2	5,64	485	10,0	6,44	1108	42,2	5,23	900	29,7
	V		840	9,76	839	24,5	7,49	644	15,8	5,22	449	8,7	5,96	1025	36,8	4,83	831	25,9
	IV	MED	735	8,73	751	20,1	6,71	577	13,0	4,68	402	7,2	5,33	917	30,3	4,33	745	21,3
	III		630	7,67	660	16,0	5,93	510	10,5	4,15	357	5,8	4,71	810	24,4	3,83	659	17,2
	II	MIN	535	6,72	578	12,7	5,17	445	8,3	3,62	311	4,5	4,11	707	19,1	3,34	574	13,5
	I		445	5,71	491	9,5	4,39	378	6,2	3,08	265	3,4	3,49	600	14,3	2,83	487	10,1
CRC 83	VI	MAX	1200	13,25	1140	18,5	10,13	871	11,9	7,01	603	6,5	8,09	1391	27,9	6,55	1127	19,6
	V		1100	12,36	1063	16,4	9,45	813	10,6	6,55	563	5,7	7,55	1299	24,7	6,11	1051	17,3
	IV	MED	1020	11,63	1000	14,7	8,90	765	9,5	6,17	531	5,2	7,10	1221	22,2	5,75	989	15,6
	III		815	9,67	832	10,6	7,40	636	6,9	5,14	442	3,7	5,90	1015	16,0	4,78	822	11,3
	II	MIN	655	8,11	697	7,8	6,22	535	5,1	4,33	372	2,8	4,96	853	11,8	4,02	691	8,3
	I		510	6,49	558	5,3	4,98	428	3,4	3,47	298	1,9	3,97	683	7,9	3,22	554	5,6
CRC 93	VI	MAX	1500	15,74	1354	25,1	12,03	1035	16,1	8,31	715	8,7	9,61	1653	37,8	7,78	1338	26,5
	V		1365	14,70	1264	22,3	11,23	966	14,3	7,77	668	7,7	8,98	1545	33,5	7,26	1249	23,5
	IV	MED	1210	13,39	1152	18,9	10,24	881	12,1	7,09	610	6,6	8,18	1407	28,4	6,62	1139	19,9
	III		980	11,29	971	14,0	8,64	743	9,0	5,99	515	4,9	6,89	1185	21,0	5,58	960	14,8
	II	MIN	830	9,82	845	11,0	7,52	647	7,1	5,22	449	3,8	6,00	1032	16,5	4,86	836	11,6
	I		735	8,87	763	9,2	6,85	589	6,0	4,76	409	3,3	5,46	939	13,9	4,42	760	9,8

LEGEND

WT = *Water temperature*
Ph = *Emission*
Qw = *Water flow*
Dp(c) = *Water pressure drop*

Speed = *Fan speed*
MAX = *High speed*
MED = *Medium speed*
MIN = *Low speed*
Qv = *Air flow*

Heating emission of *4 row coil*

Entering air temperature: 20°C

Model	Speed		Qv	WT: 70/60 °C			WT: 60/50 °C			WT: 50/40 °C			WT: 50/45 °C			WT: 45/40 °C		
				Ph	Qw	Dp(c)	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)
			m³/h	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa
CRC 14	VI	MAX	220	2,63	226	4,9	2,00	172	3,1	1,38	119	1,7	1,60	275	7,3	1,30	224	5,1
	V		195	2,36	203	4,0	1,80	155	2,6	1,24	107	1,4	1,44	248	6,1	1,17	201	4,3
	IV	MED	175	2,15	185	3,4	1,64	141	2,2	1,14	98	1,2	1,32	227	5,2	1,06	182	3,6
	III		150	1,86	160	2,7	1,43	123	1,7	0,99	85	0,9	1,14	196	4,0	0,92	158	2,8
	II		125	1,62	139	2,1	1,24	107	1,3	0,86	74	0,7	0,99	170	3,1	0,80	138	2,2
	I	MIN	105	1,38	119	1,6	1,06	91	1,0	0,73	63	0,5	0,84	144	2,4	0,68	117	1,7
CRC 24	VI		340	4,19	360	14,0	3,22	277	9,0	2,24	193	4,9	2,56	440	21,0	2,08	358	14,8
	V	MAX	295	3,69	317	11,1	2,83	243	7,2	1,97	169	3,9	2,25	387	16,7	1,83	315	11,8
	IV		250	3,22	277	8,7	2,47	212	5,7	1,72	148	3,1	1,97	339	13,2	1,60	275	9,3
	III	MED	220	2,88	248	7,2	2,21	190	4,7	1,54	132	2,6	1,76	303	10,8	1,43	246	7,6
	II		170	2,24	193	4,6	1,73	149	3,0	1,21	104	1,7	1,37	236	7,0	1,11	191	4,9
	I	MIN	145	1,98	170	3,7	1,53	132	2,4	1,07	92	1,3	1,21	208	5,6	0,99	170	4,0
CRC 34	VI		440	5,80	499	10,8	4,46	384	7,0	3,12	268	3,9	3,55	611	16,3	2,88	495	11,5
	V	MAX	385	5,14	442	8,7	3,96	341	5,7	2,77	238	3,1	3,14	540	13,2	2,56	440	9,3
	IV		325	4,40	378	6,6	3,39	292	4,3	2,38	205	2,4	2,69	463	10,0	2,19	377	7,1
	III	MED	270	3,73	321	5,0	2,87	247	3,2	2,02	174	1,8	2,28	392	7,5	1,85	318	5,3
	II	MIN	235	3,23	278	3,9	2,49	214	2,5	1,75	151	1,4	1,98	341	5,8	1,61	277	4,1
	I		185	2,60	224	2,6	2,01	173	1,7	1,41	121	1,0	1,59	273	4,0	1,30	224	2,8
CRC 44	VI		570	7,30	628	15,4	5,60	482	10,0	3,90	335	5,5	4,46	767	23,2	3,62	623	16,4
	V	MAX	485	6,33	544	12,0	4,86	418	7,8	3,39	292	4,3	3,87	666	18,1	3,14	540	12,8
	IV		400	5,32	458	8,9	4,09	352	5,8	2,86	246	3,2	3,25	559	13,3	2,64	454	9,4
	III	MED	335	4,56	392	6,8	3,51	302	4,4	2,46	212	2,4	2,79	480	10,2	2,27	390	7,2
	II	MIN	265	3,62	311	4,5	2,79	240	2,9	1,96	169	1,6	2,21	380	6,8	1,80	310	4,8
	I		185	2,57	221	2,5	1,99	171	1,6	1,40	120	0,9	1,57	270	3,7	1,28	220	2,6
CRC 54	VI	MAX	650	8,07	694	23,7	6,21	534	15,4	4,34	373	8,5	4,93	848	35,7	4,01	690	25,2
	V		545	6,97	599	18,3	5,36	461	11,9	3,76	323	6,6	4,26	733	27,6	3,46	595	19,5
	IV	MED	495	6,37	548	15,6	4,90	421	10,2	3,44	296	5,6	3,89	669	23,5	3,16	544	16,6
	III		420	5,51	474	12,1	4,24	365	7,9	2,97	255	4,4	3,36	578	18,2	2,74	471	12,9
	II	MIN	315	4,23	364	7,6	3,26	280	5,0	2,29	197	2,8	2,58	444	11,4	2,10	361	8,1
	I		250	3,44	296	5,3	2,65	228	3,4	1,87	161	1,9	2,10	361	7,9	1,71	294	5,6
CRC 64	VI		830	10,68	918	34,1	8,22	707	22,2	5,75	495	12,2	6,53	1123	51,4	5,31	913	36,3
	V	MAX	760	9,90	851	29,9	7,62	655	19,4	5,34	459	10,7	6,05	1041	44,9	4,92	846	31,8
	IV		680	8,98	772	25,2	6,92	595	16,4	4,85	417	9,1	5,49	944	37,9	4,46	767	26,8
	III	MED	590	7,85	675	19,8	6,05	520	12,9	4,24	365	7,2	4,80	826	29,9	3,90	671	21,1
	II		505	6,81	586	15,5	5,25	452	10,1	3,69	317	5,6	4,17	717	23,3	3,39	583	16,5
	I	MIN	415	5,66	487	11,2	4,37	376	7,3	3,07	264	4,1	3,46	595	16,8	2,82	485	11,9
CRC 74	VI	MAX	925	11,26	968	21,9	8,65	744	14,2	6,05	520	7,8	6,88	1183	32,8	5,59	961	23,2
	V		840	10,38	893	18,9	7,98	686	12,3	5,58	480	6,8	6,34	1090	28,5	5,15	886	20,1
	IV	MED	735	9,30	800	15,6	7,16	616	10,2	5,01	431	5,6	5,68	977	23,5	4,62	795	16,6
	III		630	8,12	698	12,3	6,25	538	8,0	4,38	377	4,4	4,96	853	18,5	4,03	693	13,1
	II	MIN	535	7,02	604	9,5	5,41	465	6,2	3,79	326	3,4	4,29	738	14,3	3,49	600	10,1
	I		445	5,93	510	7,1	4,57	393	4,6	3,21	276	2,6	3,63	624	10,6	2,95	507	7,5
CRC 84	VI	MAX	1200	14,36	1235	16,3	11,00	946	10,5	7,63	656	5,7	8,77	1508	24,5	7,11	1223	17,2
	V		1100	13,34	1147	14,3	10,22	879	9,2	7,10	611	5,0	8,15	1402	21,6	6,60	1135	15,2
	IV	MED	1020	12,52	1077	12,8	9,60	826	8,3	6,67	574	4,5	7,65	1316	19,3	6,20	1066	13,6
	III		815	10,37	892	9,2	7,96	685	6,0	5,54	476	3,3	6,34	1090	13,8	5,14	884	9,8
	II	MIN	655	8,55	735	6,6	6,57	565	4,2	4,58	394	2,3	5,23	900	9,9	4,24	729	7,0
	I		510	6,78	583	4,4	5,22	449	2,8	3,65	314	1,6	4,15	714	6,6	3,37	580	4,6
CRC 94	VI	MAX	1500	17,23	1482	22,5	13,18	1133	14,5	9,13	785	7,8	10,53	1811	33,8	8,52	1465	23,7
	V		1365	16,02	1378	19,8	12,26	1054	12,7	8,50	731	6,9	9,79	1684	29,7	7,93	1364	20,9
	IV	MED	1210	14,52	1249	16,6	11,12	956	10,7	7,71	663	5,8	8,87	1526	25,0	7,18	1235	17,6
	III		980	12,13	1043	12,1	9,30	800	7,8	6,46	556	4,3	7,41	1275	18,2	6,01	1034	12,8
	II	MIN	830	10,55	907	9,5	8,09	696	6,1	5,63	484	3,4	6,44	1108	14,3	5,23	900	10,0
	I		735	9,47	814	7,8	7,27	625	5,1	5,07	436	2,8	5,79	996	11,8	4,70	808	8,3

LEGEND

WT = *Water temperature*
Ph = *Emission*
Qw = *Water flow*
Dp(c) = *Water pressure drop*

Speed = *Fan speed*
MAX = *High speed*
MED = *Medium speed*
MIN = *Low speed*
Qv = *Air flow*

Heating emission of *1 row additional coil*

Entering air temperature: 20°C

Model	Speed		Qv	WT: 80/70 °C			WT: 75/65 °C			WT: 70/60 °C			WT: 65/55 °C			WT: 60/50 °C			WT: 55/45 °C		
			m³/h	Ph kW	Qw l/h	Dp(c) kPa	Ph kW	Qw l/h	Dp(c) kPa	Ph kW	Qw l/h	Dp(c) kPa	Ph kW	Qw l/h	Dp(c) kPa	Ph kW	Qw l/h	Dp(c) kPa	Ph kW	Qw l/h	Dp(c) kPa
CRC 1	VI	MAX	220	1,32	114	2,4	1,18	101	2,0	1,04	89	1,6	0,91	78	1,3	0,77	66	1,0	0,63	54	0,7
	V		195	1,21	104	2,1	1,08	93	1,7	0,96	83	1,4	0,83	71	1,1	0,71	61	0,9	0,58	50	0,6
	IV	MED	175	1,12	96	1,8	1,00	86	1,5	0,89	77	1,2	0,77	66	1,0	0,65	56	0,7	0,54	46	0,5
	III		150	1,00	86	1,5	0,90	77	1,2	0,79	68	1,0	0,69	59	0,8	0,59	51	0,6	0,48	41	0,4
	II		125	0,90	77	1,2	0,81	70	1,0	0,71	61	0,8	0,62	53	0,7	0,53	46	0,5	0,44	38	0,4
	I	MIN	105	0,79	68	1,0	0,71	61	0,8	0,63	54	0,7	0,55	47	0,5	0,47	40	0,4	0,39	34	0,3
CRC 2	VI		340	2,11	181	6,6	1,90	163	5,6	1,68	144	4,6	1,47	126	3,7	1,26	108	2,8	1,05	90	2,1
	V	MAX	295	1,90	163	5,5	1,71	147	4,7	1,52	131	3,8	1,33	114	3,1	1,14	98	2,4	0,95	82	1,8
	IV		250	1,70	146	4,5	1,53	132	3,8	1,36	117	3,2	1,19	102	2,5	1,02	88	2,0	0,85	73	1,4
	III	MED	220	1,56	134	3,9	1,41	121	3,3	1,25	108	2,7	1,09	94	2,2	0,94	81	1,7	0,78	67	1,2
	II		170	1,30	112	2,8	1,17	101	2,4	1,04	89	2,0	0,91	78	1,6	0,78	67	1,2	0,65	56	0,9
	I	MIN	145	1,18	101	2,4	1,06	91	2,0	0,94	81	1,7	0,83	71	1,3	0,71	61	1,0	0,59	51	0,8
CRC 3	VI		440	3,08	265	16,2	2,78	239	13,7	2,48	213	11,4	2,18	187	9,2	1,88	162	7,2	1,57	135	5,4
	V	MAX	385	2,81	242	13,8	2,54	218	11,7	2,26	194	9,7	1,99	171	7,8	1,71	147	6,1	1,44	124	4,6
	IV		325	2,49	214	11,1	2,25	194	9,4	2,00	172	7,8	1,76	151	6,3	1,52	131	4,9	1,28	110	3,7
	III	MED	270	2,20	189	9,0	1,98	170	7,6	1,77	152	6,3	1,56	134	5,1	1,34	115	4,0	1,13	97	3,0
	II	MIN	235	1,98	170	7,4	1,78	153	6,3	1,59	137	5,2	1,40	120	4,2	1,21	104	3,3	1,02	88	2,5
	I		185	1,68	144	5,6	1,52	131	4,7	1,35	116	3,9	1,19	102	3,2	1,03	89	2,5	0,86	74	1,9
CRC 4	VI		570	3,68	316	22,1	3,32	286	18,7	2,96	255	15,5	2,60	224	12,5	2,24	193	9,8	1,88	162	7,3
	V	MAX	485	3,30	284	18,2	2,97	255	15,4	2,65	228	12,8	2,33	200	10,3	2,00	172	8,1	1,68	144	6,0
	IV		400	2,89	249	14,4	2,60	224	12,2	2,32	200	10,1	2,04	175	8,2	1,76	151	6,4	1,47	126	4,8
	III	MED	335	2,56	220	11,7	2,31	199	9,9	2,06	177	8,2	1,81	156	6,6	1,56	134	5,2	1,31	113	3,9
	II	MIN	265	2,15	185	8,6	1,94	167	7,3	1,73	149	6,0	1,52	131	4,9	1,31	113	3,8	1,10	95	2,9
	I		185	1,67	144	5,5	1,50	129	4,7	1,34	115	3,9	1,18	101	3,1	1,02	88	2,5	0,86	74	1,8
CRC 5	VI	MAX	650	4,28	368	5,6	3,85	331	4,8	3,42	294	3,9	3,00	258	3,2	2,57	221	2,4	2,14	184	1,8
	V		545	3,79	326	4,6	3,41	293	3,8	3,03	261	3,2	2,66	229	2,6	2,28	196	2,0	1,90	163	1,5
	IV	MED	495	3,54	304	4,0	3,18	273	3,4	2,83	243	2,8	2,48	213	2,3	2,13	183	1,8	1,78	153	1,3
	III		420	3,16	272	3,3	2,85	245	2,8	2,53	218	2,3	2,22	191	1,9	1,90	163	1,4	1,59	137	1,1
	II	MIN	315	2,59	223	2,3	2,33	200	2,0	2,07	178	1,6	1,82	157	1,3	1,56	134	1,0	1,30	112	0,8
	I		250	2,20	189	1,8	1,99	171	1,5	1,77	152	1,2	1,55	133	1,0	1,33	114	0,8	1,12	96	0,6
CRC 6	VI		830	5,05	434	7,5	4,54	390	6,4	4,04	347	5,3	3,53	304	4,2	3,03	261	3,3	2,53	218	2,4
	V	MAX	760	4,77	410	6,8	4,29	369	5,8	3,81	328	4,8	3,33	286	3,8	2,86	246	2,9	2,38	205	2,2
	IV		680	4,42	380	6,0	3,98	342	5,0	3,54	304	4,1	3,09	266	3,3	2,65	228	2,6	2,21	190	1,9
	III	MED	590	3,99	343	5,0	3,59	309	4,2	3,19	274	3,5	2,79	240	2,8	2,40	206	2,1	2,00	172	1,6
	II		505	3,59	309	4,1	3,23	278	3,5	2,87	247	2,9	2,51	216	2,3	2,16	186	1,8	1,80	155	1,3
	I	MIN	415	3,12	268	3,2	2,81	242	2,7	2,50	215	2,3	2,19	188	1,8	1,88	162	1,4	1,57	135	1,1
CRC 7	VI	MAX	925	5,97	513	11,9	5,38	463	10,1	4,79	412	8,3	3,53	304	5,9	3,61	310	5,2	3,03	261	3,9
	V		840	5,59	481	10,6	5,04	433	9,0	4,49	386	7,4	3,33	286	5,3	3,39	292	4,7	2,84	244	3,5
	IV	MED	735	5,10	439	9,0	4,59	395	7,6	4,09	352	6,3	3,09	266	4,7	3,09	266	4,0	2,59	223	3,0
	III		630	4,58	394	7,5	4,13	355	6,3	3,68	316	5,2	2,79	240	3,9	2,78	239	3,3	2,33	200	2,5
	II	MIN	535	4,10	353	6,1	3,69	317	5,2	3,29	283	4,3	2,51	216	3,3	2,49	214	2,7	2,09	180	2,0
	I		445	3,60	310	4,9	3,25	280	4,1	2,89	249	3,4	2,19	188	2,5	2,19	188	2,2	1,84	158	1,6
CRC 8	VI	MAX	1200	6,75	581	14,8	6,08	523	12,5	5,41	465	10,3	4,75	409	8,3	4,08	351	6,5	3,42	294	4,8
	V		1100	6,37	548	13,3	5,74	494	11,3	5,11	439	9,3	4,48	385	7,5	3,85	331	5,9	3,23	278	4,4
	IV	MED	1020	6,05	520	12,2	5,45	469	10,3	4,86	418	8,5	4,26	366	6,9	3,66	315	5,4	3,07	264	4,0
	III		815	5,19	446	9,3	4,68	402	7,9	4,17	359	6,5	3,66	315	5,3	3,15	271	4,1	2,64	227	3,1
	II	MIN	655	4,48	385	7,2	4,04	347	6,1	3,60	310	5,0	3,16	272	4,1	2,72	234	3,2	2,28	196	2,4
	I		510	3,76	323	5,3	3,39	292	4,5	3,03	261	3,7	2,66	229	3,0	2,29	197	2,3	1,92	165	1,7
CRC 9	VI	MAX	1500	7,77	668	18,9	7,00	602	16,0	6,23	536	13,2	5,46	470	10,7	4,69	403	8,3	3,93	338	6,2
	V		1365	7,36	633	17,2	6,63	570	14,5	5,90	507	12,0	5,17	445	9,7	4,45	383	7,5	3,72	320	5,6
	IV	MED	1210	6,81	586	15,0	6,13	527	12,7	5,46	470	10,5	4,79	412	8,5	4,12	354	6,6	3,45	297	4,9
	III		980	5,90	507	11,7	5,32	458	9,9	4,74	408	8,2	4,15	357	6,6	3,57	307	5,1	2,99	257	3,8
	II	MIN	830	5,26	452	9,5	4,74	408	8,1	4,22	363	6,7	3,71	319	5,4	3,19	274	4,2	2,67	230	3,1
	I		735	4,84	416	8,2	4,37	376	7,0	3,89	335	5,8	3,41	293	4,7	2,94	253	3,6	2,46	212	2,7

LEGEND

WT = *Water temperature*
Ph = *Emission*
Qw = *Water flow*
Dp(c) = *Water pressure drop*

Speed = *Fan speed*
MAX = *High speed*
MED = *Medium speed*
MIN = *Low speed*
Qv = *Air flow*

Heating emission of *2 row additional coil*

Entering air temperature: 20°C

Model	Speed		Qv	WT: 65/55 °C			WT: 60/50 °C			WT: 55/45 °C			WT: 50/40 °C			WT: 45/40 °C			WT: 45/35 °C		
				Ph	Qw	Dp(c)	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)
			m³/h	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa
CRC 1	VI	MAX	220	1,67	144	7,1	1,44	124	5,5	1,20	103	4,1	0,97	83	2,9	0,93	160	9,1	0,74	64	1,8
	V		195	1,52	131	6,0	1,31	113	4,7	1,10	95	3,5	0,89	77	2,5	0,85	146	7,8	0,68	58	1,6
	IV	MED	175	1,40	120	5,2	1,21	104	4,1	1,01	87	3,0	0,82	71	2,1	0,78	134	6,7	0,63	54	1,3
	III		150	1,24	107	4,2	1,07	92	3,3	0,90	77	2,5	0,73	63	1,7	0,69	119	5,4	0,56	48	1,1
	II		125	1,10	95	3,4	0,95	82	2,7	0,80	69	2,0	0,65	56	1,4	0,62	107	4,4	0,50	43	0,9
	I	MIN	105	0,97	83	2,7	0,83	71	2,1	0,70	60	1,6	0,57	49	1,1	0,54	93	3,5	0,44	38	0,7
CRC 2	VI		340	2,58	222	17,9	2,23	192	14,0	1,88	162	10,6	1,53	132	7,5	1,44	248	23,1	1,18	101	4,8
	V	MAX	295	2,32	200	14,8	2,00	172	11,6	1,69	145	8,8	1,37	118	6,2	1,30	224	19,2	1,06	91	4,0
	IV		250	2,06	177	12,0	1,78	153	9,4	1,50	129	7,1	1,22	105	5,0	1,15	198	15,5	0,94	81	3,3
	III	MED	220	1,87	161	10,2	1,62	139	8,0	1,37	118	6,0	1,11	95	4,3	1,05	181	13,2	0,86	74	2,8
	II		170	1,52	131	7,1	1,32	114	5,6	1,11	95	4,2	0,91	78	3,0	0,85	146	9,1	0,70	60	1,9
	I	MIN	145	1,39	120	6,0	1,20	103	4,7	1,01	87	3,6	0,83	71	2,5	0,78	134	7,7	0,64	55	1,6
CRC 3	VI		440	3,52	303	6,3	3,04	261	5,0	2,56	220	3,7	2,00	172	2,6	1,97	339	8,2	1,59	137	1,7
	V	MAX	385	3,19	274	5,3	2,76	237	4,2	2,32	200	3,1	1,88	162	2,2	1,79	308	6,9	1,45	125	1,4
	IV		325	2,80	241	4,2	2,42	208	3,3	2,04	175	2,5	1,66	143	1,8	1,57	270	5,5	1,27	109	1,1
	III	MED	270	2,45	211	3,3	2,11	181	2,6	1,78	153	2,0	1,46	126	1,4	1,38	237	4,4	1,13	97	0,9
	II	MIN	235	2,20	189	2,8	1,90	163	2,2	1,60	138	1,6	1,30	112	1,2	1,23	212	3,6	1,00	86	0,7
	I		185	1,82	157	2,0	1,58	136	1,6	1,33	114	1,2	1,08	93	0,8	1,02	175	2,6	0,84	72	0,5
CRC 4	VI		570	4,13	355	8,4	3,56	306	6,5	2,99	257	4,9	2,42	208	3,4	2,31	397	10,8	1,86	160	2,2
	V	MAX	485	3,78	325	7,2	3,26	280	5,6	2,74	236	4,2	2,22	191	3,0	2,11	363	9,2	1,70	146	1,9
	IV		400	3,28	282	5,6	2,83	243	4,4	2,38	205	3,3	1,94	167	2,3	1,84	316	7,2	1,49	128	1,5
	III	MED	335	2,89	249	4,5	2,49	214	3,5	2,10	181	2,6	1,70	146	1,9	1,61	277	5,8	1,31	113	1,2
	II	MIN	265	2,41	207	3,2	2,08	179	2,6	1,76	151	1,9	1,43	123	1,4	1,35	232	4,2	1,10	95	0,9
	I		185	1,81	156	2,0	1,56	134	1,5	1,32	114	1,2	1,07	92	0,8	1,01	174	2,5	0,83	71	0,5
CRC 5	VI	MAX	650	5,23	450	15,6	4,52	389	12,3	3,82	329	9,3	3,11	267	6,6	2,93	504	20,2	2,41	207	4,3
	V		545	4,59	395	12,4	3,97	341	9,8	3,36	289	7,4	2,74	236	5,3	2,57	442	16,1	2,12	182	3,4
	IV	MED	495	4,26	366	10,9	3,68	316	8,6	3,11	267	6,5	2,54	218	4,6	2,38	409	14,1	1,97	169	3,0
	III		420	3,76	323	8,7	3,26	280	6,9	2,75	237	5,2	2,25	194	3,7	2,11	363	11,3	1,74	150	2,4
	II	MIN	315	3,03	261	6,0	2,62	225	4,7	2,22	191	3,6	1,82	157	2,6	1,70	292	7,7	1,41	121	1,7
	I		250	2,52	217	4,3	2,18	187	3,4	1,85	159	2,6	1,51	130	1,8	1,41	243	5,6	1,18	101	1,2
CRC 6	VI		830	6,22	535	21,2	5,38	463	16,6	4,54	390	12,5	3,70	318	8,9	3,48	599	27,4	2,86	246	5,8
	V	MAX	760	5,86	504	19,0	5,06	435	15,0	4,27	367	11,3	3,48	299	8,0	3,28	564	24,6	2,69	231	5,2
	IV		680	5,41	465	16,6	4,68	402	13,0	3,95	340	9,8	3,22	277	7,0	3,03	521	21,4	2,49	214	4,5
	III	MED	590	4,85	417	13,7	4,20	361	10,7	3,54	304	8,1	2,89	249	5,7	2,72	468	17,7	2,24	193	3,8
	II		505	4,32	372	11,2	3,74	322	8,8	3,16	272	6,6	2,58	222	4,8	2,42	416	14,4	2,00	172	3,1
	I	MIN	415	3,70	318	8,5	3,21	276	6,7	2,71	233	5,1	2,21	190	3,6	2,07	356	11,0	1,72	148	2,4
CRC 7	VI	MAX	925	7,30	628	33,3	6,32	544	26,3	5,35	460	19,9	4,37	376	14,2	4,08	702	43,1	3,40	292	9,3
	V		840	6,81	586	29,5	5,90	507	23,3	4,99	429	17,6	4,08	351	12,6	3,81	655	38,2	3,17	273	8,2
	IV	MED	735	6,17	531	24,8	5,34	459	19,6	4,52	389	14,8	3,70	318	10,6	3,45	593	32,1	2,88	248	6,9
	III		630	5,49	472	20,2	4,76	409	16,0	4,03	347	12,1	3,30	284	8,7	3,07	528	26,2	2,57	221	5,7
	II	MIN	535	4,85	417	16,3	4,21	362	12,9	3,57	307	9,8	2,92	251	7,0	2,72	468	21,1	2,27	195	4,6
	I		445	4,24	365	12,8	3,68	316	10,2	3,12	268	7,7	2,56	220	5,5	2,38	409	16,6	1,99	171	3,6
CRC 8	VI	MAX	1200	8,76	753	46,0	7,58	652	36,2	6,41	551	27,4	5,24	451	19,6	4,90	843	59,5	4,07	350	12,8
	V		1100	8,25	710	41,4	7,14	614	32,6	6,04	519	24,7	4,94	425	17,6	4,62	795	53,5	3,83	329	11,5
	IV	MED	1020	7,82	673	37,7	6,78	583	29,7	5,73	493	22,5	4,69	403	16,1	4,38	753	48,8	3,64	313	10,5
	III		815	6,65	572	28,3	5,76	495	22,3	4,87	419	16,9	3,99	343	12,1	3,72	640	36,6	3,10	267	7,9
	II	MIN	655	5,66	487	21,3	4,91	422	16,9	4,16	358	12,8	3,40	292	9,1	3,17	545	27,6	2,65	228	6,0
	I		510	4,66	401	15,1	4,04	347	12,0	3,42	294	9,1	2,81	242	6,5	2,61	449	19,6	2,19	188	4,3
CRC 9	VI	MAX	1500	10,18	875	59,9	8,81	758	47,2	7,45	641	35,7	6,08	523	25,4	-	-	-	4,72	406	16,6
	V		1365	9,59	825	53,9	8,30	714	42,5	7,02	604	32,1	5,73	493	22,9	-	-	-	4,45	383	14,9
	IV	MED	1210	8,84	760	46,8	7,65	658	36,8	6,47	556	27,8	5,29	455	19,9	-	-	-	4,10	353	13,0
	III		980	7,62	655	36,0	6,60	568	28,4	5,58	480	21,5	4,57	393	15,3	-	-	-	3,55	305	10,0
	II	MIN	830	6,74	580	29,0	5,84	502	22,9	4,94	425	17,3	4,04	347	12,4	-	-	-	3,14	270	8,1
	I		735	6,17	531	24,8	5,34	459	19,6	4,52	389	14,8	3,70	318	10,6	-	-	-	2,88	248	6,9

LEGEND

WT = *Water temperature*
Ph = *Emission*
Qw = *Water flow*
Dp(c) = *Water pressure drop*

Speed = *Fan speed*
MAX = *High speed*
MED = *Medium speed*
MIN = *Low speed*
Qv = *Air flow*

Air flow and correction factors for emission with different available pressures

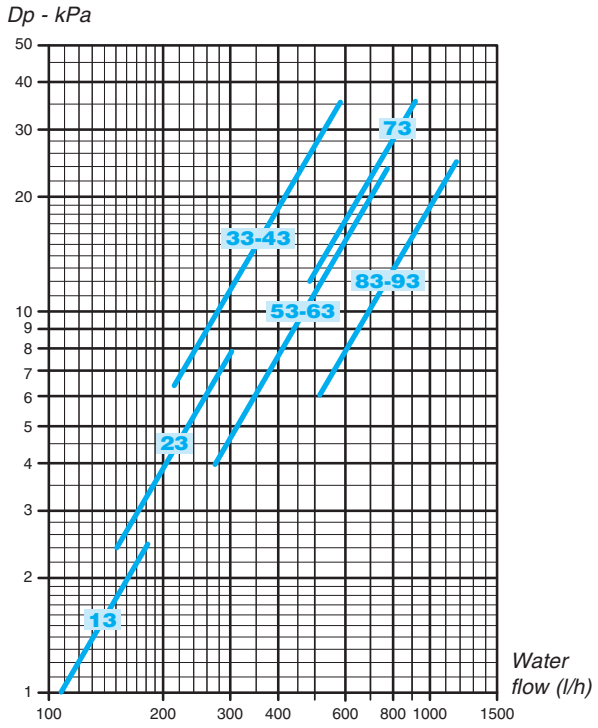
Model	Speed		Qv (m^3/h)						K1						K2					
			Ap (Pa)						Ap (Pa)						Ap (Pa)					
			0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
CRC 1	VI	MAX	220	199	179	154	128	100	1,00	0,92	0,84	0,75	0,66	0,53	-	0,91	0,83	0,73	0,64	0,51
	V		195	174	152	130	102	72	1,00	0,91	0,82	0,72	0,60	-	1,00	0,90	0,80	0,71	0,58	-
	IV	MED	175	151	129	100	74	-	1,00	0,88	0,78	0,65	0,50	-	1,00	0,87	0,77	0,63	0,48	-
	III		150	123	94	69	-	-	1,00	0,85	0,69	0,54	-	-	1,00	0,84	0,67	0,52	-	-
	II		125	96	63	-	-	-	1,00	0,81	0,58	-	-	-	1,00	0,79	0,56	-	-	-
	I	MIN	105	70	43	-	-	-	1,00	0,73	0,49	-	-	-	1,00	0,71	0,47	-	-	-
CRC 2	VI		340	312	287	254	218	180	1,00	0,93	0,87	0,79	0,71	0,61	-	0,92	0,85	0,77	0,69	0,59
	V	MAX	295	260	233	195	163	117	1,00	0,90	0,83	0,72	0,63	0,48	1,00	0,89	0,81	0,70	0,61	0,45
	IV		250	218	180	145	108	-	1,00	0,89	0,77	0,65	0,51	-	1,00	0,88	0,75	0,63	0,49	-
	III	MED	220	177	135	98	-	-	1,00	0,84	0,68	0,52	-	-	1,00	0,82	0,66	0,50	-	-
	II		170	119	92	-	-	-	1,00	0,75	0,62	-	-	-	1,00	0,73	0,60	-	-	-
	I	MIN	145	83	45	-	-	-	1,00	0,64	0,37	-	-	-	1,00	0,62	0,35	-	-	-
CRC 3	VI		440	413	380	348	314	270	1,00	0,95	0,88	0,83	0,76	0,68	-	0,94	0,87	0,81	0,75	0,66
	V	MAX	385	351	320	287	249	208	1,00	0,93	0,86	0,79	0,71	0,62	1,00	0,92	0,84	0,77	0,69	0,60
	IV		325	284	244	209	179	-	1,00	0,89	0,79	0,71	0,63	-	1,00	0,88	0,78	0,69	0,61	-
	III	MED	270	212	178	141	-	-	1,00	1,17	0,72	0,60	-	-	1,00	1,20	0,70	0,58	-	-
	II	MIN	235	177	138	-	-	-	1,00	0,79	0,66	-	-	-	1,00	0,78	0,64	-	-	-
	I		185	125	75	-	-	-	1,00	0,73	0,48	-	-	-	1,00	0,72	0,46	-	-	-
CRC 4	VI		570	527	472	432	381	314	1,00	0,94	0,86	0,80	0,73	0,63	-	0,93	0,84	0,78	0,71	0,61
	V	MAX	485	437	387	340	282	230	1,00	0,92	0,83	0,75	0,65	0,55	1,00	0,91	0,82	0,74	0,63	0,53
	IV		400	343	293	238	187	-	1,00	0,88	0,78	0,67	0,55	-	1,00	0,87	0,76	0,65	0,53	-
	III	MED	335	275	215	159	-	-	1,00	0,85	0,71	0,56	-	-	1,00	0,83	0,69	0,54	-	-
	II	MIN	265	176	124	-	-	-	1,00	0,72	0,55	-	-	-	1,00	0,70	0,53	-	-	-
	I		185	78	-	-	-	-	1,00	0,50	-	-	-	-	1,00	0,48	-	-	-	-
CRC 5	VI	MAX	650	590	532	472	405	341	1,00	0,92	0,85	0,77	0,69	0,60	-	0,91	0,83	0,76	0,67	0,58
	V		545	480	413	341	283	230	1,00	0,90	0,80	0,69	0,60	-	1,00	0,89	0,78	0,67	0,58	-
	IV	MED	495	420	343	275	226	-	1,00	0,87	0,75	0,63	0,54	-	1,00	0,86	0,73	0,61	0,52	-
	III		420	333	247	192	-	-	1,00	0,83	0,66	0,54	-	-	1,00	0,81	0,64	0,52	-	-
	II	MIN	315	205	135	-	-	-	1,00	0,71	0,51	-	-	-	1,00	0,69	0,49	-	-	-
	I		250	150	-	-	-	-	1,00	0,67	-	-	-	-	1,00	0,65	-	-	-	-
CRC 6	VI		830	771	719	648	585	521	1,00	0,94	0,89	0,82	0,76	0,69	-	0,93	0,87	0,80	0,74	0,67
	V	MAX	760	705	639	581	514	446	1,00	0,94	0,87	0,81	0,73	0,66	1,00	0,93	0,85	0,79	0,72	0,64
	IV		680	592	555	503	436	360	1,00	0,89	0,85	0,79	0,70	0,61	1,00	0,88	0,83	0,77	0,69	0,59
	III	MED	590	524	466	411	347	282	1,00	0,91	0,83	0,75	0,66	0,56	1,00	0,89	0,81	0,73	0,64	0,54
	II		505	430	362	298	244	-	1,00	0,88	0,77	0,66	0,56	-	1,00	0,86	0,75	0,64	0,54	-
	I	MIN	415	332	271	-	-	-	1,00	0,83	0,71	-	-	-	1,00	0,82	0,69	-	-	-
CRC 7	VI	MAX	925	873	814	748	673	593	1,00	0,95	0,90	0,84	0,78	0,70	-	0,95	0,89	0,83	0,76	0,69
	V		840	794	775	676	609	542	1,00	0,95	0,93	0,84	0,77	0,71	1,00	0,95	0,93	0,82	0,76	0,69
	IV	MED	735	686	633	573	512	443	1,00	0,94	0,88	0,82	0,75	0,67	1,00	0,94	0,87	0,80	0,73	0,65
	III		630	580	522	470	405	352	1,00	0,93	0,86	0,79	0,71	0,63	1,00	0,92	0,84	0,77	0,69	0,61
	II	MIN	535	471	415	359	302	-	1,00	0,90	0,81	0,73	0,64	-	1,00	0,89	0,80	0,71	0,62	-
	I		445	373	318	254	-	-	1,00	0,87	0,77	0,65	-	-	1,00	0,85	0,75	0,63	-	-
CRC 8	VI	MAX	1200	1138	1076	1020	952	869	1,00	0,96	0,91	0,87	0,83	0,77	-	0,95	0,90	0,86	0,81	0,75
	V		1100	1043	975	907	834	751	1,00	0,95	0,90	0,85	0,80	0,74	1,00	0,95	0,89	0,84	0,78	0,72
	IV	MED	1020	946	885	815	736	668	1,00	0,94	0,89	0,83	0,77	0,72	1,00	0,93	0,88	0,82	0,75	0,70
	III		815	736	668	589	526	452	1,00	0,92	0,85	0,77	0,71	0,63	1,00	0,91	0,83	0,75	0,69	0,61
	II	MIN	655	556	487	385	312	-	1,00	0,87	0,79	0,66	0,56	-	1,00	0,86	0,77	0,64	0,54	-
	I		510	406	291	208	-	-	1,00	0,83	0,65	0,49	-	-	1,00	0,81	0,63	0,47	-	-
CRC 9	VI	MAX	1500	1438	1387	1315	1233	1063	1,00	0,96	0,94	0,90	0,85	0,76	-	0,96	0,93	0,88	0,84	0,74
	V		1365	1312	1259	1190	1127	931	1,00	0,97	0,93	0,89	0,85	0,74	1,00	0,96	0,93	0,88	0,84	0,72
	IV	MED	1210	1167	1114	1055	964	803	1,00	0,97	0,93	0,89	0,83	0,72	1,00	0,97	0,92	0,88	0,82	0,70
	III		980	927	873	799	724	597	1,00	0,95	0,91	0,85	0,79	0,68	1,00	0,95	0,90	0,83	0,77	0,66
	II	MIN	830	761	702	633	575	447	1,00	0,93	0,87	0,80	0,75	0,62	1,00	0,92	0,86	0,79	0,73	0,60
	I		735	662	599	525	457	-	1,00	0,91	0,85	0,77	0,69	-	1,00	0,91	0,83	0,75	0,67	-

LEGEND

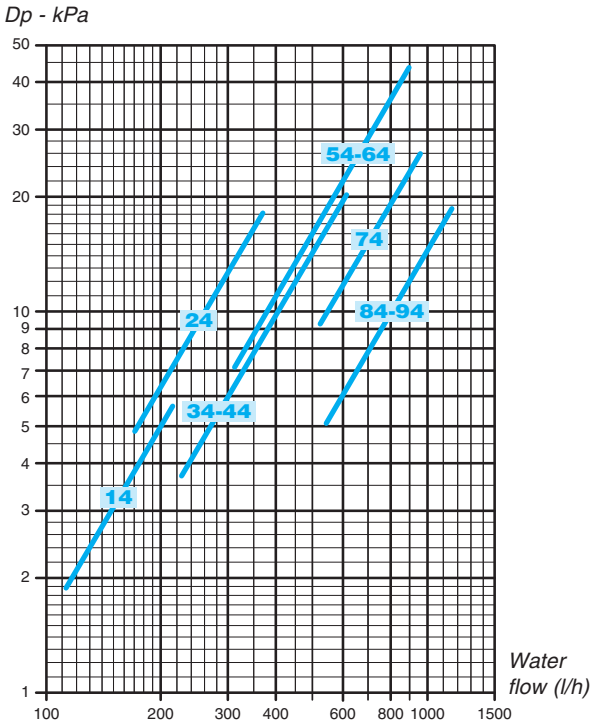
Qv = *Air flow*
K1 = *Correction factors for Total cooling emission*
K2 = *Correction factors for Sensible cooling emission and Heating emission*
Ap = *Available pressure*
Speed = *Fan speed*
MAX = *High speed*
MED = *Medium speed*
MIN = *Low speed*

Water pressure drop

3 row coil



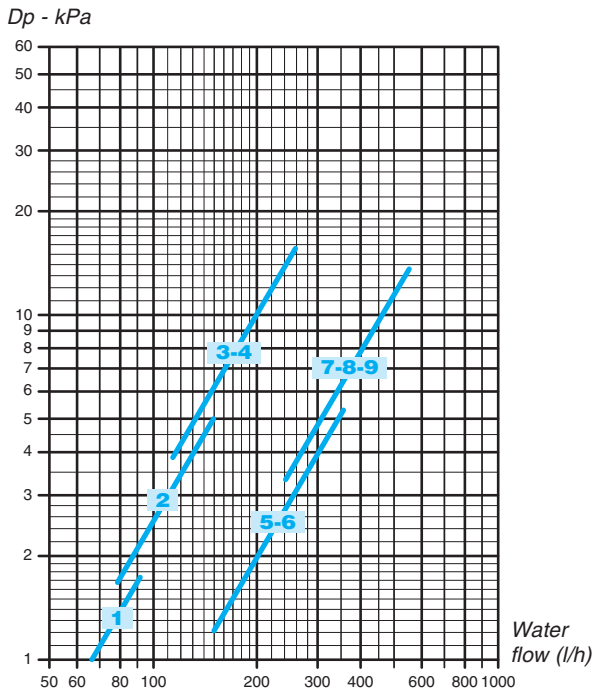
4 row coil



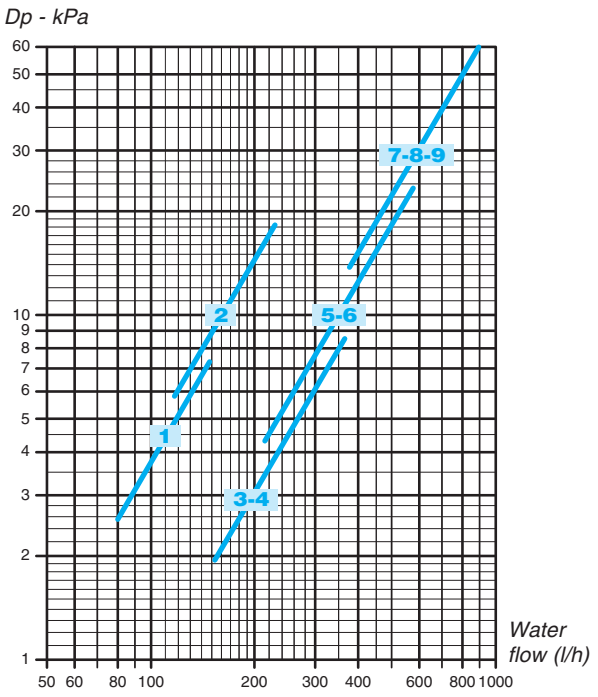
The water pressure drop figures refer to a mean water temperature of ***10°C;*** for different temperatures, multiply the pressure drop figures by the correction factors ***K.***

°C	20	30	40	50	60	70	80
K	0,94	0,90	0,86	0,82	0,78	0,74	0,70

1 row additional coil



2 row additional coil

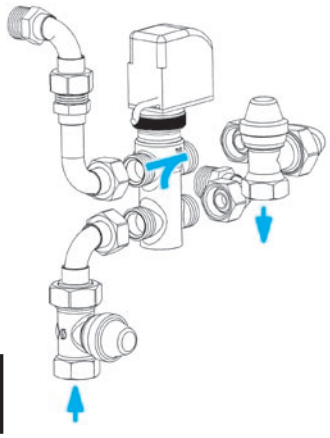


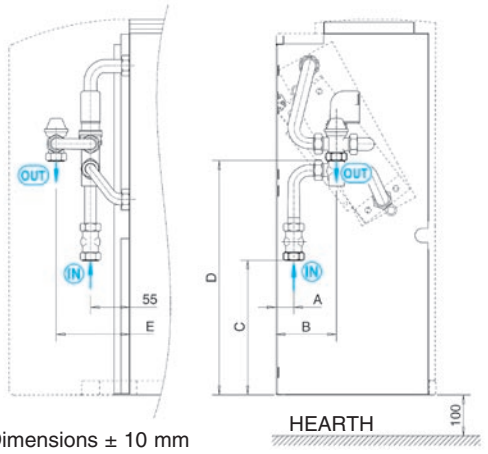
The water pressure drop figures refer to a mean water temperature of ***65°C;*** for different temperatures, multiply the pressure drop figures by the correction factors ***K.***

°C	40	50	60	70	80
K	1,14	1,08	1,02	0,96	0,90

VBP
main coil 3 way valve

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





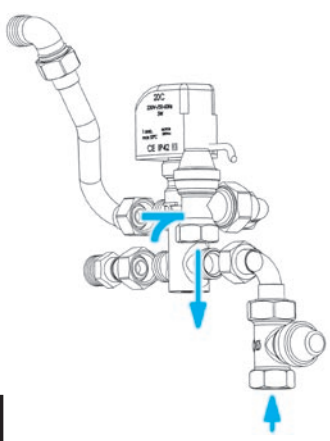
Dimensions ± 10 mm

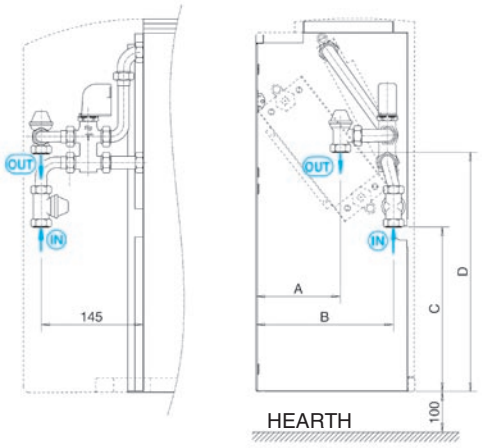
VERSION	CRC
MODEL	MV – MO – MVB – IV – IO

MOD.	Dimensions (mm)					Valve			Micrometric lockshield valve			Code	
	A	B	C	D	E	DN	(Ø)	Kvs	DN	(Ø)	Kvs	FITTED	NOT FITTED
1 ÷ 5	25	85	190	290	105	15	1/2"	1,6	15	1/2" F	2	9066561H	9066560H
6 – 7	25	85	190	290	105	20	3/4"	2,5	15	1/2" F	2	9060471H	9060474H
8 – 9	50	120	185	290	105	20	3/4"	2,5	15	1/2" F	2	9060471H	9060474H

VBA
additional coil 3 way valve

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

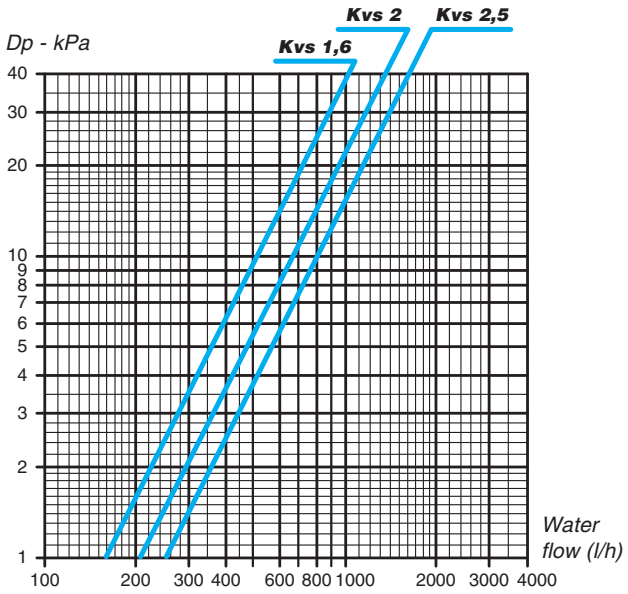




Dimensions ± 10 mm

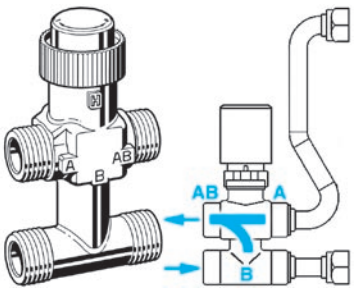
VERSION	CRC
MODEL	MV – MO – MVB – IV – IO

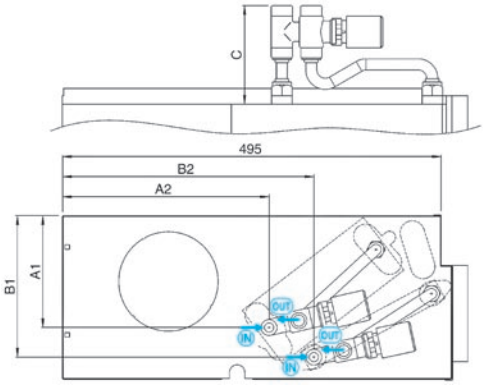
MOD.	Dimensions (mm)				Valve			Micrometric lockshield valve			Code	
	A	B	C	D	DN	(Ø)	Kvs	DN	(Ø)	Kvs	FITTED	NOT FITTED
1 ÷ 7	120	195	240	340	15	1/2"	1,6	15	1/2" F	2	9060472H	9060475H
8 – 9	135	200	235	330	15	1/2"	1,6	15	1/2" F	2	9060472H	9060475H



VS
simplified kit for 3 way valve *(concealed model only)*

3 way valve, (ON-OFF)
with electric motor and mounting kit.
Valve with flat connection
without micrometric lockshield valve.





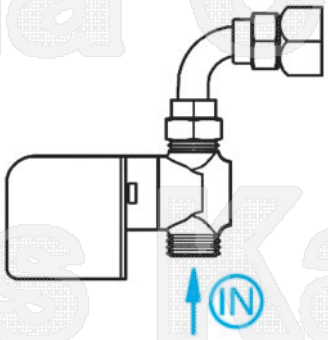
Dimensions ± 10 mm

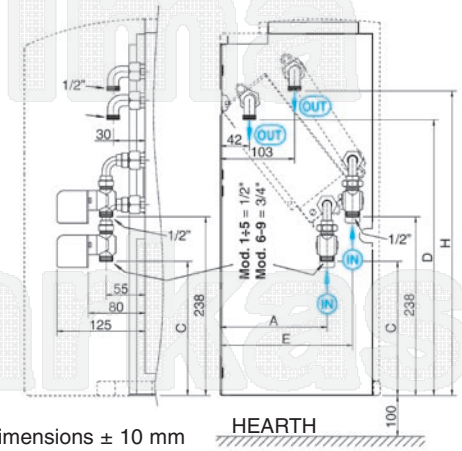
VERSION	CRC
MODEL	IV – IO

MOD.	Dimensions (mm)					MAIN					ADDITIONAL				
	MAIN		ADDITIONAL		C	Valve			Code		Valve			Code	
	A1	A2	B1	B2		DN	(Ø)	Kvs	FITTED	NOT FITTED	DN	(Ø)	Kvs	FITTED	NOT FITTED
1 ÷ 5	152	270	185	330	116	15	1/2"	1,6	9066571H	9066570H	15	1/2"	1,6	9060483H	9060480H
6 – 7	152	268	185	330	124	20	3/4"	2,5	9060484H	9060481H					
8 – 9	177	270	210	327	124	20	3/4"	2,5	9060484H	9060481H					

V2
2 way valve
for main and additional coil

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

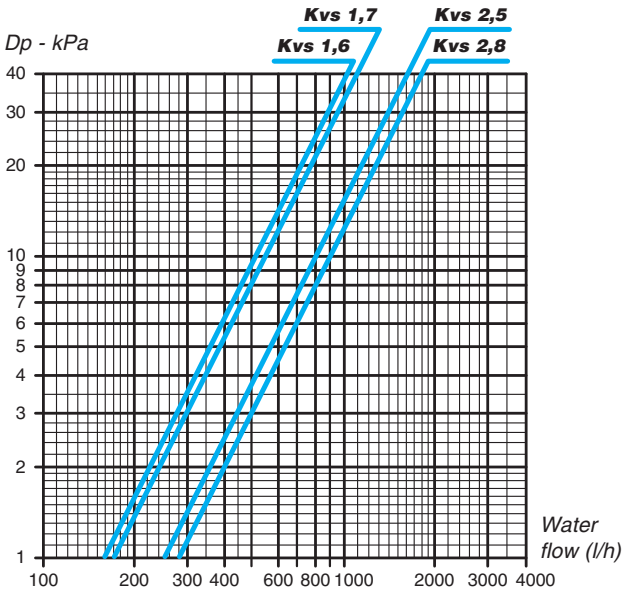




Dimensions ± 10 mm

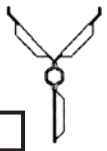
VERSION	CRC
MODEL	MV – MO – MVB – IV – IO

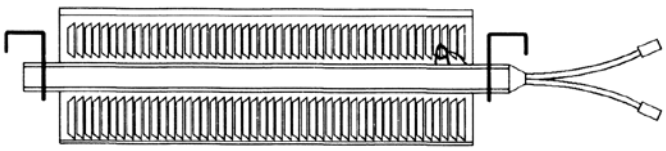
MOD.	Dimensions (mm)					MAIN					ADDITIONAL				
	MAIN			ADDITIONAL		Valve			Code		Valve			Code	
	A	C	D	E	H	DN	(Ø)	Kvs	FITTED	NOT FITTED	DN	(Ø)	Kvs	FITTED	NOT FITTED
1 ÷ 5	149	180	386	186	456	15	1/2"	1,7	9060476W	9060478W	15	1/2"	1,7	9060476W	9060478W
6 – 7	150	181	438	186	456	20	3/4"	2,8	9060477W	9060479W					
8 – 9	176	175	422	210	440	20	3/4"	2,8	9060477W	9060479W					



BEL electric heater
(not available with Crystall)

1 PHASE 230V
Electric heater with integral:
safety thermostat and relay control.

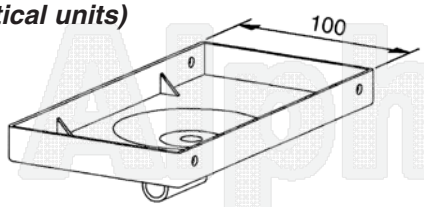




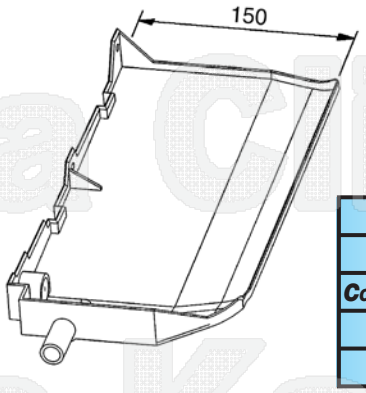
VERSION	CRC											
MODEL	MV – MO – MVB – IV – IO											
SIZE	1	2			3 – 4			5 – 6			7 – 8 – 9		
WATT	650	1000	600	400	1500	900	600	2000	1250	750	2500	1500	1000
CODE	9066491	9066492	9066482	9066472	9066493	9066483	9066473	9066495	9066485	9066475	9066497	9066487	9066477

Extension condensate collection tray to cover valve assembly

BSV
(for vertical units)



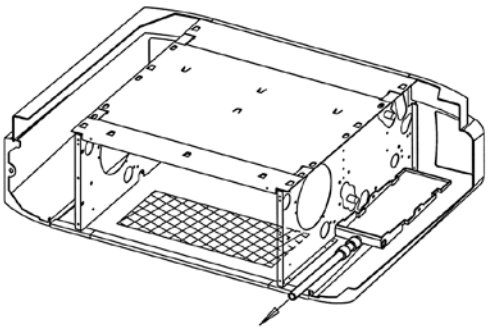
VERSION	CRC
MODEL	MV – MVB – IV *(vertical)*
CODE	6060400

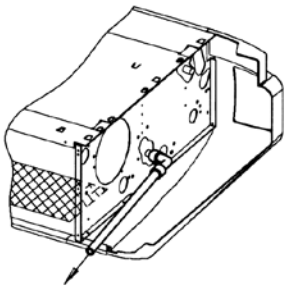


BSO
(for horizontal units)

VERSION	CRC	
MODEL	MO – IO *(horizontal)*	
CONNECTION SIDE	LEFT	RIGHT
TYPE	BSO-SX	BSO-DX
CODE	6060402	6060403

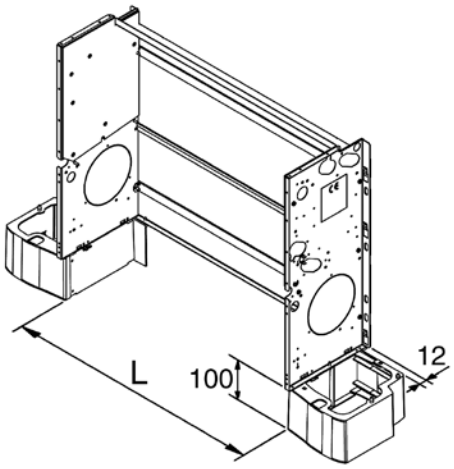
SCR plastic condensate drain pipe with fast connection
(allows correct condensate drain)





VERSION	CRC
MODEL	MO – IO
CODICE	6060420

PAP feet



VERSION	CRC
MODEL	MV

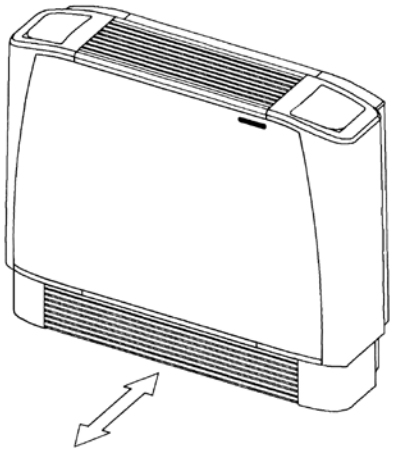
SIZE	L	CODE
1	330	9066351
2	430	9066351
3 – 4	645	9066351
5 – 6	860	9066351
7	1119	9066351
8 – 9	1119	9066358

GAP

Aluminium low intake grid
(to be installed with PAP feet)

Version	CRC
Model	MV

Size	Code
1	9066541
2	9066542
3 – 4	9066543
5 – 6	9066545
7 – 8 – 9	9066547

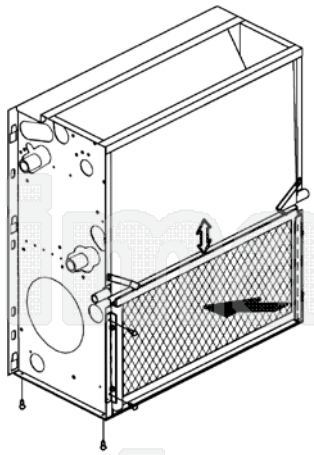


KAF frontal intake kit

Bottom closing panel and filter sliding guides.

Version	CRC
Model	IV – IO

Size	Code
1	9066501
2	9066502
3 – 4	9066503
5 – 6	9066505
7	9066507
8 – 9	9066508

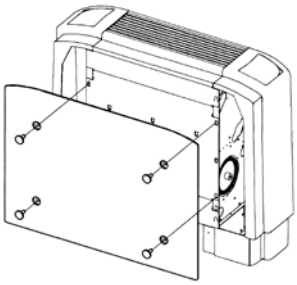


Rear closing panel

PCV
(for vertical units)

Version	CRC
Model	MV – MVB

Size	Code
1	9066511
2	9066512
3 – 4	9066513
5 – 6	9066515
7 – 8 – 9	9066517

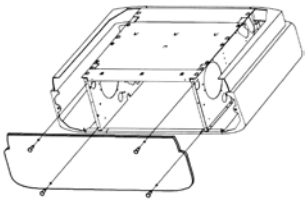


Bottom closing panel

PCO
(for horizontal units)

Version	CRC
Model	MO – MVB

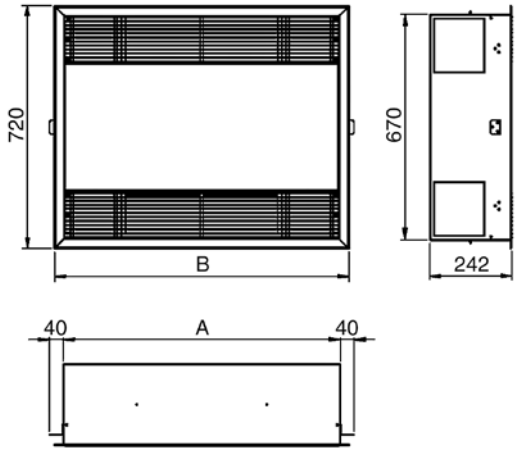
Size	Code
1	9066521
2	9066522
3 – 4	9066523
5 – 6	9066525
7	9066527
8 – 9	9066528



IM frame for wall concealed installation

Version	CRC
Model	IV

Size	Type	A	B	Code
1	–	–	–	–
2	IM 2	825	874	9060575
3 – 4	IM 3/4	1040	1089	9060576
5 – 6	IM 5/6	1255	1304	9060577
7	IM 7	1470	1519	9060578
8 – 9	–	–	–	–

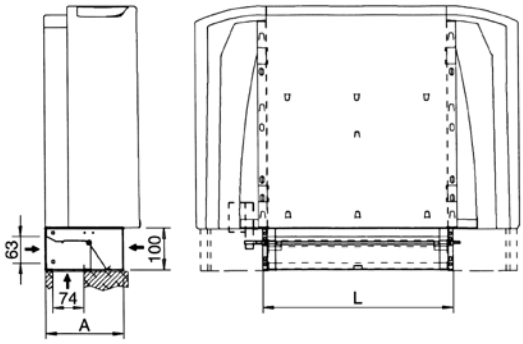


SAE fresh air mixing damper

(can be motorized on request)

Version	CRC
Model	MV – IV – IO

Size	A	L	Code
1	183	354	9066531
2	183	454	9066532
3 – 4	183	669	9066533
5 – 6	183	884	9066535
7	183	1099	9066537
8 – 9	213	1099	9066538

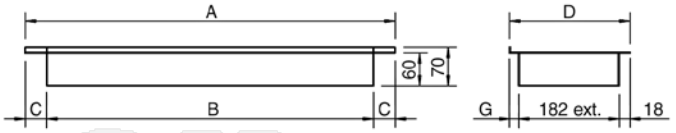


Belimo accessory

Description	Type
Belimo motor fitted on the unit for motorized working of the damper (available with "IAQ" control only)	BESAE

FRD straight inlet flange

Can be used together with GRAG air inlet grid.
Made of galvanized steel.

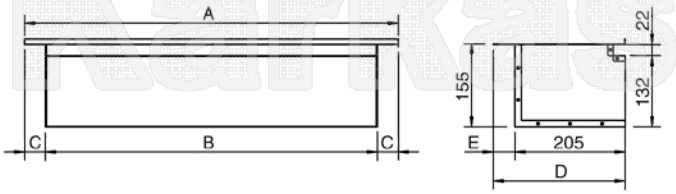


Size	Type	A	B	C	D	G	Code
1	FRD - 1	354	290	32	216	16	9066451
2	FRD - 2	454	390	32	216	16	9060720
3 – 4	FRD - 3/4	669	590	39,5	216	16	9060721
5 – 6	FRD - 5/6	884	790	47	216	16	9060722
7	FRD - 7	1099	990	54,5	216	16	9060723
8 – 9	FRD - 8/9	1099	990	54,5	246	46	9060724

Version	CRC
Model	IV – IO

FR 90 90° inlet flange

Can be used together with GRAP air inlet grid.
Made of galvanized steel.

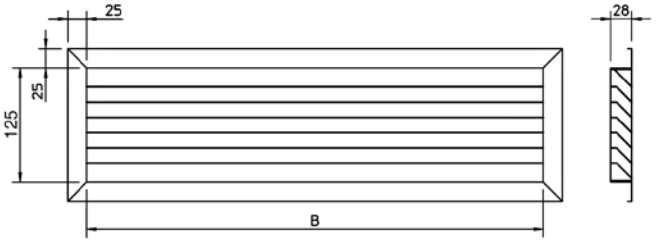


Size	Type	A	B	C	D	E	Code
1	FR90 - 1	354	290	32	216	11	9066441
2	FR90 - 2	454	390	32	216	11	9060710
3 – 4	FR90 - 3/4	669	590	39,5	216	11	9060711
5 – 6	FR90 - 5/6	884	790	47	216	11	9060712
7	FR90 - 7	1099	990	54,5	216	11	9060713
8 – 9	FR90 - 8/9	1099	990	54,5	246	41	9060714

Version	CRC
Model	IV – IO

GRAP air inlet grid

To be used with FR 90 90° inlet flange.
Made of anodized aluminium.

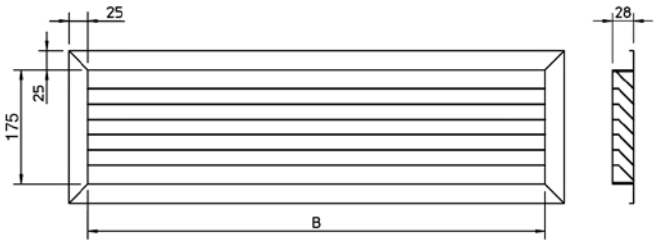


Size	Type	Description	B	Code
1	GRAP - 1	Grid 300x150	275	9066421
2	GRAP - 2	Grid 400x150	375	9060760
3 – 4	GRAP - 3/4	Grid 600x150	575	9060761
5 – 6	GRAP - 5/6	Grid 800x150	775	9060762
7 ÷ 9	GRAP - 7/9	Grid 1000x150	975	9060763

Version	CRC
Model	IV – IO

GRAG air inlet grid

To be used with FRD straight inlet flange.
Made of anodized aluminium.

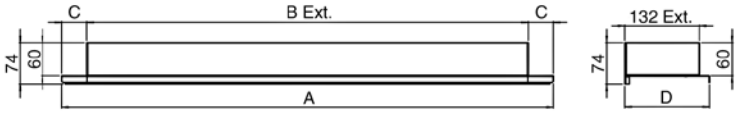


Size	Type	Description	B	Code
1	GRAG - 1	Grid 300x200	275	9066431
2	GRAG - 2	Grid 400x200	375	9060764
3 – 4	GRAG - 3/4	Grid 600x200	575	9060765
5 – 6	GRAG - 5/6	Grid 800x200	775	9060766
7 ÷ 9	GRAG - 7/9	Grid 1000x200	975	9060767

Version	CRC
Model	IV – IO

FMD straight outlet flange

Made of galvanized steel.

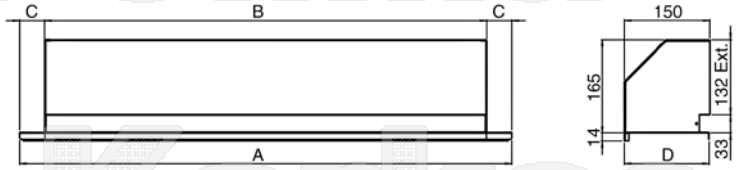


Size	Type	A	B	C	D	Code
1	FMD - 1	352	290	31	152	9066371
2	FMD - 2	452	390	31	152	9066372
3 – 4	FMD - 3/4	667	590	38,5	152	9066373
5 – 6	FMD - 5/6	882	790	46	152	9066375
7	FMD - 7	1097	990	53,5	152	9066377
8 – 9	FMD - 8/9	1097	990	53,5	179	9066378

Version	CRC
Model	IV – IO

FM 90 90° outlet flange

Made of galvanized steel
insulated with polyethylene lining.

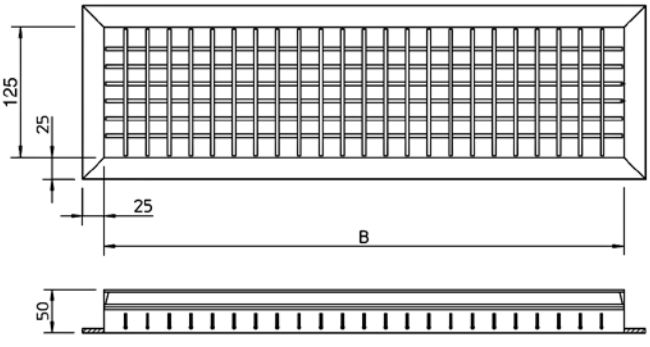


Size	Type	A	B	C	D	Code
1	FM90 - 1	352	290	31	152	9066381
2	FM90 - 2	452	390	31	152	9066382
3 – 4	FM90 - 3/4	667	590	38,5	152	9066383
5 – 6	FM90 - 5/6	882	790	46	152	9066385
7	FM90 - 7	1097	990	53,5	152	9066387
8 – 9	FM90 - 8/9	1097	990	53,5	179	9066388

Version	CRC
Model	IV – IO

BMA air outlet grid

Double louvre grid to be fitted to the duct,
to the FMD straight outlet flange
or to the FM 90 90° outlet flange.
Made of anodized aluminium.

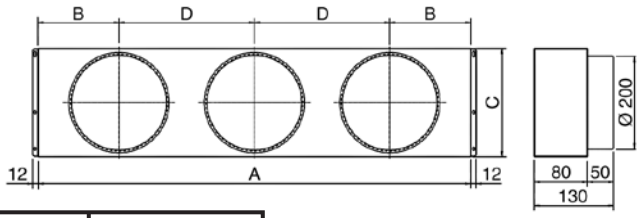


Size	Type	B	Code
1	BMA - 1	275	9066411
2	BMA - 2	375	9060750
3 – 4	BMA - 3/4	575	9060751
5 – 6	BMA - 5/6	775	9060752
7 ÷ 9	BMA - 7/9	975	9060753

Version	CRC
Model	IV – IO

PRC air inlet spigot plenum

Made of galvanized steel
insulated with polyethylene lining.



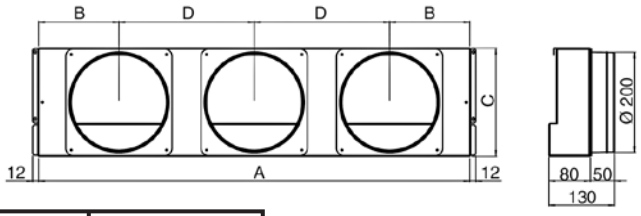
Size	Type	A	B	C	D	Spigots	Code
1	PRC - 1	330	165	218	/	N° 1	9066461
2	PRC - 2	430	107	218	216	N° 2	9066462
3 – 4	PRC - 3/4	645	166	218	313	N° 2	9066463
5 – 6	PRC - 5/6	860	160	218	270	N° 3	9066465
7	PRC - 7	1075	190	218	347,5	N° 3	9066467
8 – 9	PRC - 8/9	1075	190	248	347,5	N° 3	9066468

All the plenums are supplied
with spigots
for the connection of flexible ducts.

Version	CRC
Model	IV – IO

PMC spigot diffuser

Made of galvanized steel
insulated with polyethylene lining.



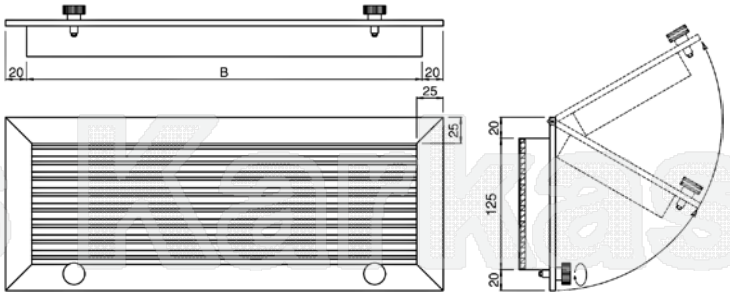
Size	Type	A	B	C	D	Spigots	Code
1	PMC - 1	330	165	218	/	N° 1	9066361
2	PMC - 2	430	107	218	216	N° 2	9066362
3 – 4	PMC - 3/4	645	166	218	313	N° 2	9066363
5 – 6	PMC - 5/6	860	160	218	270	N° 3	9066365
7	PMC - 7	1075	190	218	347,5	N° 3	9066367
8 – 9	PMC - 8/9	1075	190	248	347,5	N° 3	9066368

All the plenums are supplied
with spigots
for the connection of flexible ducts.

Version	CRC
Model	IV – IO

GRAFP air inlet grid with filter

To be fitted to the FR 90 90° inlet flange.
Made of anodized aluminium.

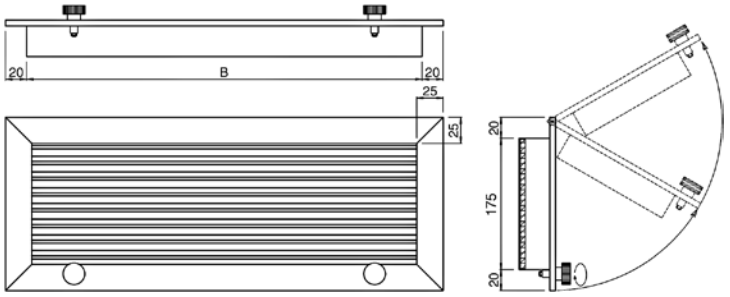


Size	Type	B	Code
1	GRAFP - 1	275	9066391
2	GRAFP - 2	375	9060770
3 – 4	GRAFP - 3/4	575	9060771
5 – 6	GRAFP - 5/6	775	9060772
7 ÷ 9	GRAFP - 7/9	975	9060773

Version	CRC
Model	IV – IO

GRAFG air inlet grid with filter

To be fitted to the FRD straight inlet flange.
Made of anodized aluminium.

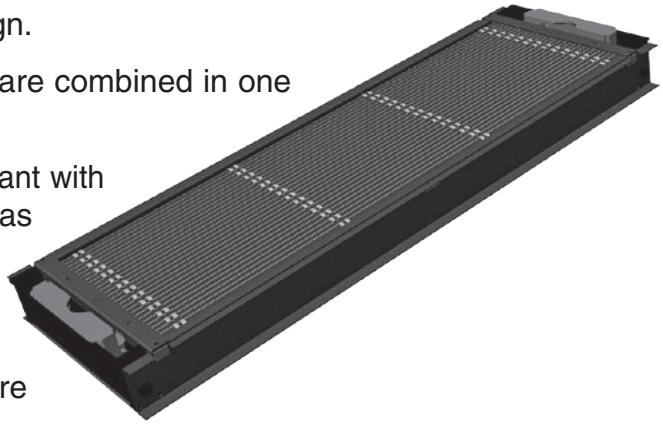


Size	Type	B	Code
1	GRAFG - 1	275	9066401
2	GRAFG - 2	375	9060774
3 – 4	GRAFG - 3/4	575	9060775
5 – 6	GRAFG - 5/6	775	9060776
7 ÷ 9	GRAFG - 7/9	975	9060777

Version	CRC
Model	IV – IO

Introduction

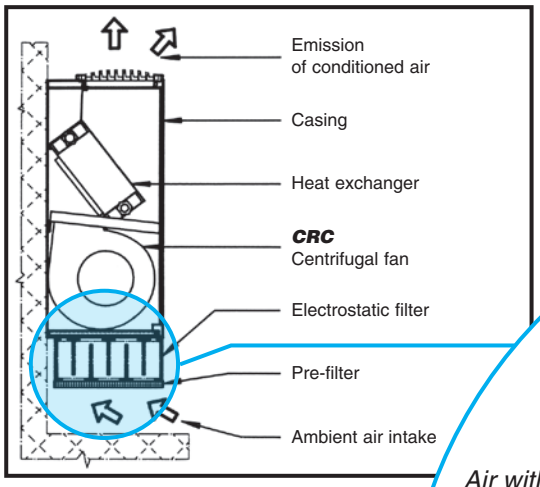
The ***CRYSTALL*** **SABIANA** electrostatic filter matches the need for better air conditioning with the concepts of space and design.



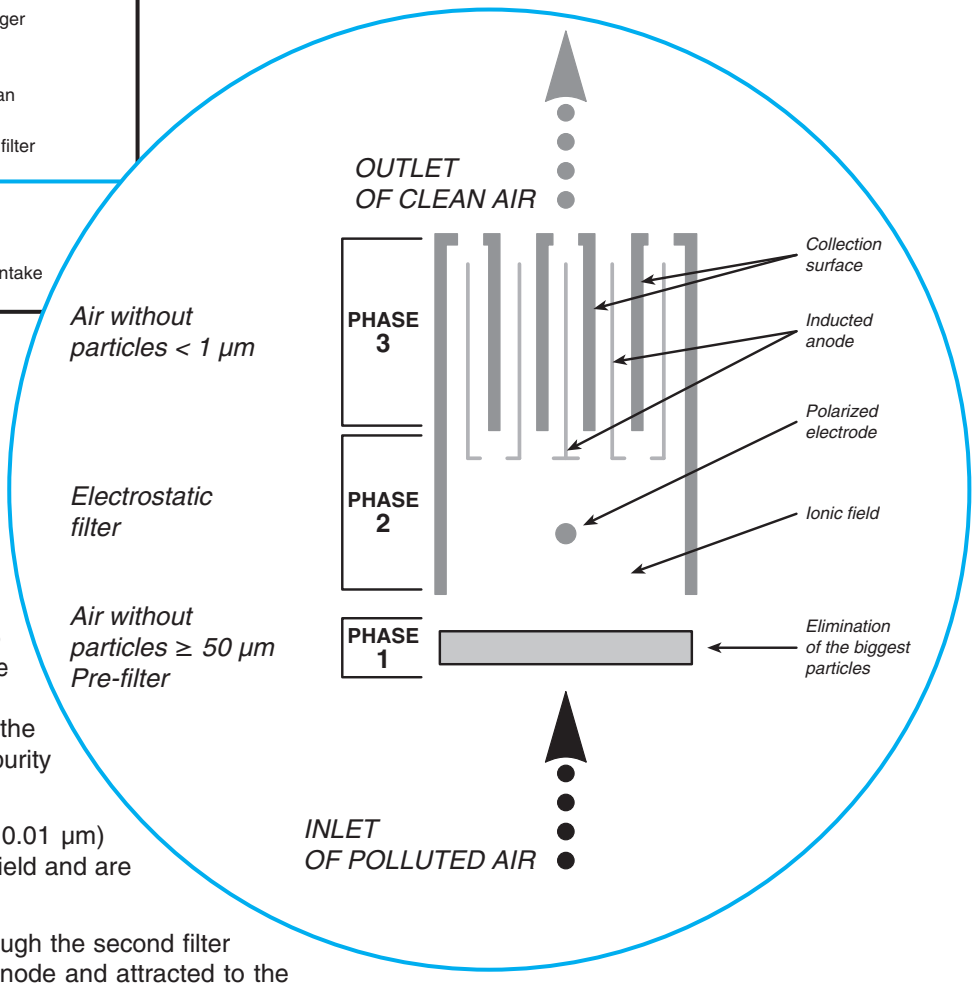
With this filter the various stages of air treatment are combined in one appliance.

Thanks to this new patented filter (efficiency compliant with new Standard UNI 11254), air pollutants such as cigarette smoke, dust (PM10, PM2.5), 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 electronic filter



The patented ***CRYSTALL*** **SABIANA** works on the electrostatic principle that electric charges of opposite polarity attract each other.
When crossing the first filter section the particles in the air pass through an electric field which gives them a positive charge.
In the second filter section the particles are attracted and adhere to the filter plates which have a negative electrostatic charge.
In this way while passing through the filter the air is cleaned and any impurity is removed.

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 to the collection surfaces by a strong, induced magnetic field *(Phase 3).*

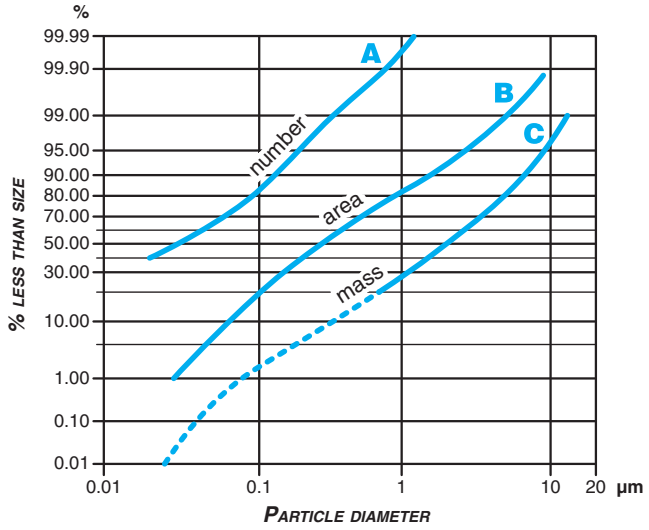
The air which leaves the unit is free from polluting particles.

Indoor air quality (IAQ)

The expression Indoor Air Quality (IAQ) covers all the procedures and methodologies used to **improve the quality of the air we breathe** in the places where we live and work, from all points of view, from temperature to cleanliness, to relative humidity, etc. (EN 15251 and EN 13779). Thanks to its new patented electronic filter, **the *CRYSTALL* electrostatic filter totally eliminates the pollutants present in the air,** including tobacco smoke, dust (PM10, PM2.5), fibres, microbiological substances such as bacteria, fungi, etc., which are harmful to human health (source: OMS 2009).
Purifying the air means not only greater well-being, but also **energy saving,** as the outdoor air changes that are required to restore ideal climatic conditions and that entail greater consumption, are significantly reduced (it is sufficient to enter the quantity of air required to restore the optimum level of CO_2 - source: EN 13779:2007).
Moreover, according to the UNI 10339rev, air recirculated by the ***CRYSTALL*** appliance can be considered as outdoor air, to be added to the minimum requirements (0,5 ls/m^2).
Purifying the air with the Sabiana ***CRYSTALL*** appliance also **entails no reduction of living room space,** as the dimensions of the fan convector are practically unchanged (just 7 cm higher).
The positioning of the electronic filter allows **simple and effective maintenance** and, as it is easy to wash, **its working life is practically unlimited.** The modularity of the filter components and their ease of mounting make the system extremely competitive in terms of cost compared with other types of filters present on the market. In spring and autumn, if environmental air conditioning/heating is not required, the appliance acts simply as an **air purifier.**

The concentration of particles suspended in one litre of air varies from 4.000, in high mountain areas, to 400.000, in a living room environment. The reference unit used to measure the dimensions of a particle is the micron (µm); 1 µm = 0.001 mm.
The graph on the following page shows the distribution of particles according to their size, weight and quantity. The dimensions and health risks associated with the particles that are most commonly present in the air are indicated in the table on the following page.
The graph on the following page illustrates the filtering capacity of the most common filters, depending on particle size.
As can be seen, the electronic filter is the only filter capable of stopping particles with dimensions less than 1 µm (more than 99% of all the particles present in the air) without altering the appliance air flow (additional load losses are in fact negligible).
Absolute mechanical filters cannot be used on the fan convector, as they create unacceptable load losses.
The electrostatically charged polypropylene filtering fabric (passive Electrete type), sometimes used on some appliances, such as fan convectors or Split System units, has a number of disadvantages: it becomes quickly saturated, it becomes less effective in the presence of high levels of humidity, and its high load losses increase as the filter becomes saturated.

Particle size distribution of atmospheric dust (Source: ASHRAE Handbook Fundamental)



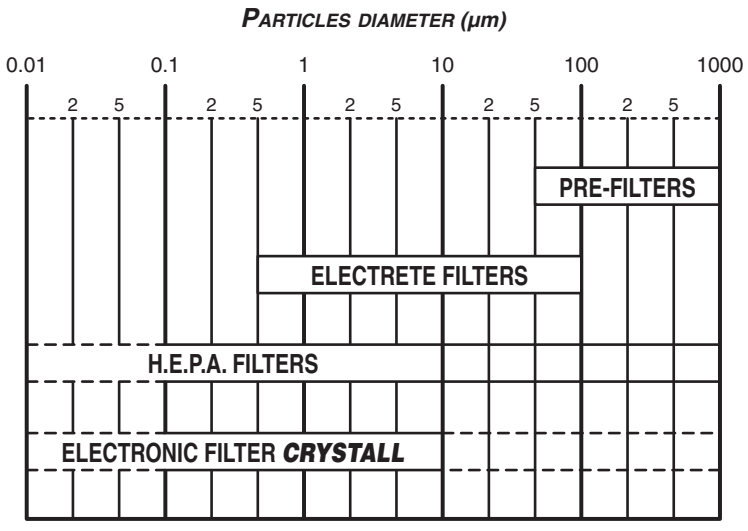
In the diagram there are three different curves that show the particle distribution in accordance to their number (**A**), area (**B**), and mass (**C**). The diagram shows that the 99,9% of the particles in the air is smaller than 1 µm and their mass is only 30% of the total mass. The particles bigger than 1 µm are only 0,1% of the number, but they are 70% of the total mass.

Crystall

Possible indoor concentration of pollutants and its ratio to their outdoor concentration

POLLUTANTS	INDOOR SOURCE	OUTDOOR SOURCE	INDOOR CONCENTRATION	INDOOR/OUTDOOR RATIO	ENVIRONMENTS
CARBON MONOXIDE	fuel-burning equipment, internal combustion engines, defective heating boilers	industrial processes, motor traffic, combustion processes	100 mg/kg 10-100 ppm	>> 1	houses, offices, shops, cars
BREATHABLE PARTICLES	naked flames, cigarettes, sprays, aerosols, kitchen fumes, condensation of volatile substances	combustion, fragmentation of solid substances of animal, vegetable and mineral origin	0.1-0.7 mg/m³	>> 1	homes, offices, cars, restaurants, bars, public facilitie
ORGANIC VAPOURS	combustion, solvents, artificial resins, insecticides, aerosols	/ /	NA	> 1	homes, offices, bars, restaurants, public facilities, hospitals
NITROGEN DIOXIDE	gas ring, water heater, dryer combustion	motor traffic	0.2-1 mg/m³	>> 1	homes
SULPHUR DIOXIDE	heater burners	heating, motor traffic	0.02 mg/m³		
TOTAL SUSPENDED PARTICLES WITHOUT SMOKERS	re-suspension of heating system combustion	/ /	0.1/1 mg/m³	1	homes, offices, restaurants, transport vehicles
SULPHATES	kitchen rings		0.005 mg/m³	< 1	
FORMALDEHYDE	insulation items, plastic resins, furniture finishing	/ /	0.05/1 mg/kg	> 1	homes, offices
RADON	construction materials, ground, groundwater	/ /	0.1/200 nCl/m³	>> 1	cellars, homes, buildings
ASBESTOS	insulation and cladding	/ /	< 10^6 fibres m³	1	homes, schools, offices
MINERAL AND SYNTHETIC FIBRES	plastics, fabrics, carpets, drapes	fragmentation of solid substances	NA	/ /	homes, schools, offices
CARBON DIOXIDE	combustion, human and animal respiration	/ /	3 g/kg	>> 1	homes, schools, offices
MICRO-ORGANISMS	people, animals, insects, plants, fungi, humidifiers, air conditioners, dehumidifiers	pollen, bacteria, virus	NA	> 1	homes, schools, hospitals, offices

Filtering capacity of the most common filters depending on particle size



Outdoor air according to Standards

EN 13779 and EN 15251 Standards

THE ENVIRONMENTAL CONDITION IS ACCEPTABLE WHEN:

- ***Microclimatic parameters are normal***
- ***80% of people are satisfied by the quality of air***
- ***Specific internal contaminants are not in harmful concentrations***

The simplest way to obtain the required air quality is to dilute the pollutants present with outdoor air.
The quantity and quality of outdoor air required is indicated in the european EN 13779 and EN 15251 Standards.

		Rate of outdoor air per person			
Category	Unit	No smoking areas		Smoking areas	
		Typical range	Default value	Typical range	Default value
IDA 1	l.s.$^{-1}$ person^{-1}	> 15	20	> 30	40
IDA 2	l.s.$^{-1}$ person^{-1}	10 – 15	12,5	20 – 30	25
IDA 3	l.s.$^{-1}$ person^{-1}	6 – 10	8	12 – 20	16
IDA 4	l.s.$^{-1}$ person^{-1}	< 6	5	< 12	10

As can be easily understood, the more outdoor air is brought into the environment the more energy costs increase to achieve ideal climatic conditions.

Outdoor air according to Standards

EN 13779:2007 and UNI 10339rev Standards

The example reproduced at the bottom of the page shows how, with adequate air filtering, it is possible to decrease considerably the quantity of outdoor air to be brought into the environment (up to 4-5 times less); the thermal energy dissipated due to ventilation is in fact in direct proportion to the number of air changes, as indicated in the following equation:

$$Qv = \Delta T \cdot \frac{R}{3600} \cdot D \cdot C \cdot Vol.$$

Qv = Thermal energy lost for ventilation - Watt
ΔT = Indoor-Outdoor difference (T) - °C
R = A.C.H.
D = Air density - Kg/m^3
C = Specific air heat - J/Kg-°C
Vol = Room size - m^3

Example of energy saving in accordance to the new Standard

MSR: Minimum Supply Rate (m^3/h/pers.) *(design method - indirect classification)*
DVR: Design Ventilation Rate (m^3/h/pers.) *(performance method)*

When the minimum outdoor air flow is lower than the minimum supply rate (**DVR<MSR**), is possible to use a recirculating air system to integrate and satisfy the requested quantity.

Vsec = 100 · (MSR – DVR) / Ef (m^3/h)

Vsec: filtered recirculated air (SEC)
Ef: (%) filter efficiency for particles (PM10 or PM2,5)

EXAMPLE: Parameters assumed are:

Office space:

Ab = area 20 m^2
Rb = 1,44 m^3/h per m^2 (UNI 10339rev and EN 15251 Standards)

N° of people:

Pd = n° 2
Rp = 25.2 m^3/h per person (UNI 10339rev and EN 15251 Standards)
D = 1

Where:
Ab: building area
Rb: minimum outdoor air per building component
Pd: number of people (occupant)
Rp: minimum outdoor air per person
D: Diversity factor

Design method (indirect classification):

MSR = (Rp · Pd · D) + (Rb · Ab) = (25.2 · 2 · 1) + (1,44 · 20) = 79,2 m^3/h
(the check that this value is ≥ 36 m^3/h per person is positive)

Performance method:

DVR = Rb = 1,8 m^3/h for m^2 (≥0.5 l/s/m^2 from UNI 10339rev EN 13779 paragr. 6.2.5.5)
Ef = minimum **80%** on **PM2.5** (UNI 11254 class D-PE)

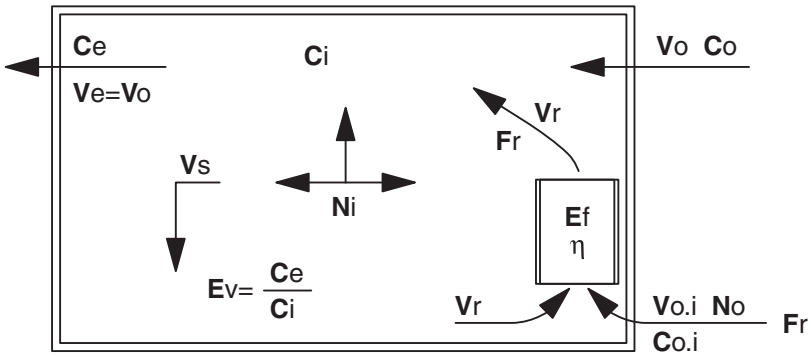
Vsec = 100 · (MSR – DVR) / Ef = 100 · (79.2 - 36) / 80 = 54 m^3/h **recirculated air (SEC)**

then we will have, as calculated:

- **36** m^3/h outdoor air (1,8 · 20 - UNI 10339rev)
- **54** m^3/h filtered secondary air - SEC (80%)

Therefore, installing a secondary air system with the ***CRYSTALL*** SABIANA electronic filter, the energy saving that can be achieved is remarkable.
In fact, only 36 m^3/h of outdoor air is necessary, instead of 79.2 m^3/h in case of total fresh air intake in accordance to EN 13779:2007 Standard.

System type

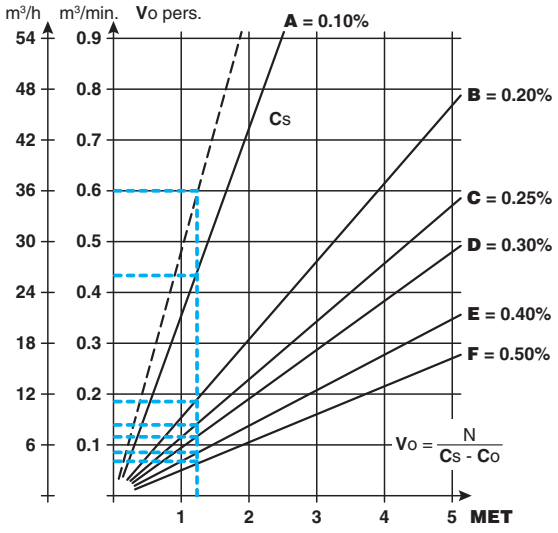


Ce	=	Contaminate concentration (exhaust air flow)	µg/m³
Co	=	Contaminate concentration (outdoor air)	µg/m³
Ci	=	Contaminate concentration (indoor air)	µg/m³
Ef	=	Filter effectiveness (η)	%
Ev	=	Ventilation effectiveness (Ce/Ci)	0 to 1
Fr	=	Flow reduction factor	0 to 1
Ni	=	Contaminant generation rate (indoor) (x pers. or m³)	µg/min.
No	=	Contaminant generation rate (outdoor)	µg/min.
Ve	=	Exhaust air flow	m³/min.
Vo	=	Outdoor air flow	m³/min.
Vs	=	Supply air flow (Vr + Vo)	m³/min.
Vr	=	Return air flow	m³/min.
Vol	=	Building size	m³

$$\mathbf{Vr} = \frac{\mathbf{Ni - Vo \cdot Ev\,(Ci - Co)}}{\mathbf{Fr \cdot Ev \cdot Ef \cdot Ci}} \qquad \mathbf{Ci} = \frac{\mathbf{Ni + Ev \cdot Vo \cdot Co}}{\mathbf{Ev \cdot (Vo + Vr \cdot Ef \cdot Fr)}}$$

To size ***CRYSTALL*** filters and their number, we recommend to use the spreadsheet *"Calculating IAQ ver. 1.7a"* available from Sabiana S.p.A. and from the site www.sabiana.it.

CO_2 room concentration with different outdoor air flows



Cs	= 1000 ppm	= 26	m³/h	person	(**Vo**)	(**A**)
	= 2000 "	= 11	m³/h	person	"	(**B**)
	= 2500 "	= 8.5	m³/h	person	"	(**C**)
	= 3000 "	= 7	m³/h	person	"	(**D**)
	= 4000 "	= 5	m³/h	person	"	(**E**)
	= 5000 "	= 4	m³/h	person	"	(**F**)

Example
of the concentration of CO_2
with a phisical activity of 1.2 MET.

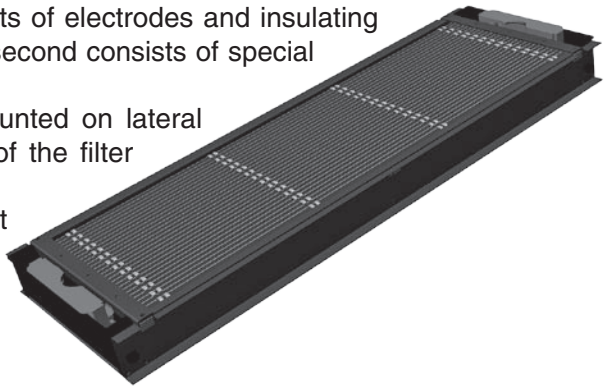
(1 MET = 18.4 BTU/h per Ft²)

Construction features of *CRYSTALL*

The ***CRYSTALL*** electronic filtering system consists of two parts: the first is a **plate type electronic active filter** and is fitted in the suction section of the fan convector, while the second is an **electronic control and regulation board.**
All electrical connections are made during production. The installation of the **Carisma** fan convector incorporating the ***CRYSTALL*** electronic filter is therefore similar to that of a normal fan convector; the only difference is the installation height, for which the filter dimensions must taken into account. ***CRYSTALL*** may be installed on the **entire range and on all versions of the Carisma fan convector.**

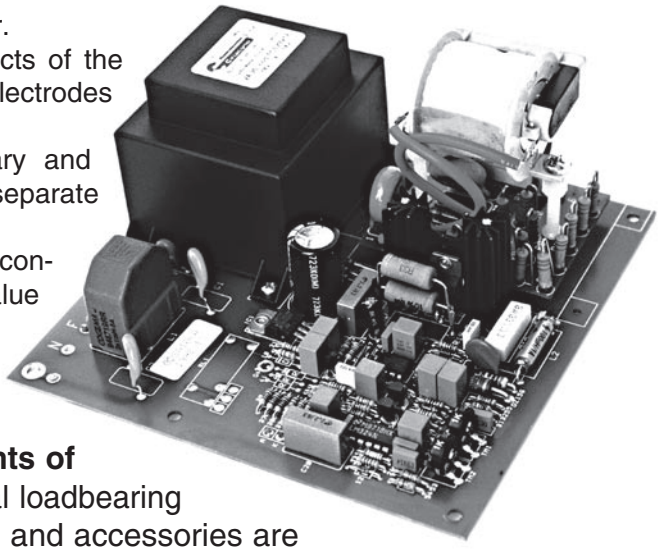
Active plate type electronic filter

The filtering element consists of two sections: the first consists of electrodes and insulating elements, forming a self-supporting ionising frame, while the second consists of special reliable and light aluminium sheet (collector).
The two sections are installed in an extractable drawer mounted on lateral telescopic guides to make the extraction and maintenance of the filter easier.
The extraction of the drawer actuates a safety microswitch that cuts off the voltage supply to the electrodes.
The collector can be cleaned by washing with water and ordinary detergents or steam jets (please consult the maintenance manual for further details).



Electronics board

Controls and regulates all functions of the electronic filter.
It is appropriately protected against any operating defects of the electronic filter. It supplies a constant voltage to the electrodes when the mains supply voltage varies (± 15%).
The supply transformer is constructed with its primary and secondary coils physically separated and wound onto separate cores.
The energy consumption depends on the size of the fan convector on which the filter is mounted, with a maximum value of about 0,015 kW.



The technical features of the various components of the fan convector, such as the casing, the internal loadbearing structure, the mechanical filter, the ventilating unit and accessories are described in this catalogue in the parts referring to the ***CRC range*** (centrifugal fan). The control and regulation controls are described instead on page “Control functions” and the following pages.

Electrical diagrams are shown on the installation, use and maintenance manual

	CONTROL IDENTIFICATION / CONTROL OPERATIONS	ON-OFF switch	ON-OFF switch for Crystall electrostatic filter or electric heater	Manual 3 speed switch	Manual/Automatic 3 speed selection	Summer/Winter switch	Remote centralized Summer/Winter switch or by an automatic change-over fitted on the water pipe	Automatic Summer/Winter switch with neutral zone for 4 pipe installation with 2 valves	Room thermostat for fan control (ON-OFF)	Room thermostat for 1 valve control (2 pipe installation)	Room thermostat for 2 valve control (4 pipe installation)	Simultaneous thermostatic control of the valves and fan	Room thermostat for chilled water valve (SUMMER) and electric resistance (WINTER) control (in winter only the electric heater is working)	Room thermostat for fan and electric heater control (not for CRYSTALL)	Installation of electronic low temperature CUT-OUT thermostat (TME)	Installation of bimetallic low temperature CUT-OUT thermostat (TMM)	CONTROL CODES
MV – MVB	**CB-AU-IAQ**	●	●	●	●	●	●	●	●	●	●	●	●	●	●		**9066307**
	CB-R-IAQ	●	●	●		●	●		●	●	●		●		●		**9066306**
	CB-IAQ	●	●	●												●	**9066305**
	CB-AU	●		●	●	●	●	●	●	●	●	●	●	●	●		**9066303**
	CB-C	●		●			●		●	●	●		●		●		**9066302**
	CB-T	●		●		●			●	●	●		●			●	**9066301**
	CB	●		●												●	**9066300**
MO – IV – IO	**TMO-T-AU-IAQ**	●	●	●	●	●	●	●	●	●	●	●	●		●		**9063023**
	TMO-T-IAQ	●	●	●		●	●		●	●	●		●		●		**9063021**
	MO-3V-IAQ	●	●	●												●	**9063020**
	T2T	●		●		●			●	●		●					**9060174**
	TMO-DI	●	●	●	●	●	●	●	●	●	●	●	●	●	●		**9060165**
	TMO-503-SV2	●		●	●	●		●		●	●	●			●		**9060173**
	TMO-503-S	●		●	●	●			●						●		**9060171**
	TMO-T-AU	●		●	●	●	●	●	●	●	●	●	●		●		**9060164**
	TMO-T	●		●		●	●		●	●	●		●		●		**9060161**
	MO-3V	●		●												●	**9060160**

Electronic controls to be fitted on MV-MVB units

IDENTIFICATION	CODE
CB	9066300

- ON-OFF switch and 3 speed switch.
- Without thermostatic control.
- It allows to control the low temperature cut-out thermostat (TMM).

IDENTIFICATION	CODE
CB-T	9066301

- ON-OFF switch.
- 3 speed switch.
- Summer/Winter switch.
- Electronic room thermostat for fan or valves control (ON-OFF).
- It allows to control the low temperature cut-out thermostat (TMM).
- It allows to control the chilled water valve (ON-OFF) and the electric heater (BEL) only in case that hot water is not used in winter (otherwise please use CB-R-IAQ control with on/off switch for the electric heater).

IDENTIFICATION	CODE
CB-C	9066302

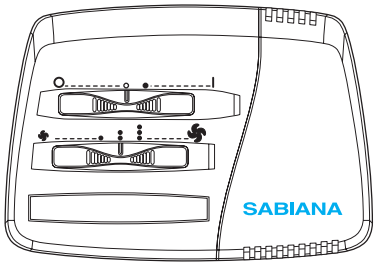
- ON-OFF switch.
- 3 speed switch.
- Summer/Winter switch.
- It allows to control the summer or winter cycle with centralized and remote switch, or an automatic change-over fitted on the water pipe (for 2-tube installations only).
- Electronic room thermostat for fan or valves control (ON-OFF).
- It allows to control the low temperature cut-out thermostat (TME).
- It allows to control the chilled water valve (ON-OFF) and the electric heater (BEL) only in case that hot water is not used in winter (otherwise please use CB-R-IAQ control with on/off switch for the electric heater).

IDENTIFICATION	CODE
CB-AU	9066303

- Manual or automatic speed switch: on Auto Mode there is the automatic speed selection in accordance to the difference between room temperature and setpoint. When the setpoint is reached the fan go on OFF.
- Summer/Winter switch.
- Electronic room thermostat for valve(s) control (ON-OFF).
- Simultaneus thermostatic control of the valves and fan.
- It allows to control the low temperature cut-out (TME).
- It allows to control the chilled water valve (ON-OFF) and the electric heater (BEL) only in case that hot water is not used in winter (otherwise please use CB-AU-IAQ control with on/off switch for the electric heater).
- It allows to control the summer/winter cycle with a centralized and remote switch or with an automatic change-over fitted on the water pipe (for 2-tube installations only).

N.B.: with 4 pipe installations and continuous chilled and hot water supply, it allows the automatic summer/winter change-over in accordance to the room temperature (-1°C = Winter, +1°C = Summer, Neutral Zone 2°C).

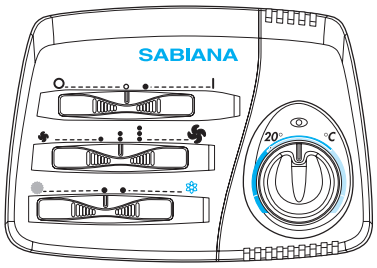
Identification	Code
MO-3V	9060160



Dimensions: 133x93x37 mm

- ON-OFF switch and 3 speed switch.
- Without thermostatic control.
- It allows to control the low temperature cut-out thermostat (TMM).

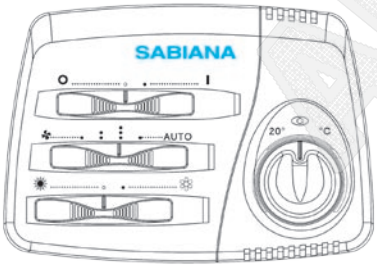
Identification	Code
TMO-T	9060161



Dimensions: 133x93x37 mm

- ON-OFF switch.
- 3 speed switch.
- Summer/Winter switch.
- Electronic room thermostat for fan or valves control (ON-OFF).
- It allows to control the low temperature cut-out thermostat (TME).
- It allows to control the chilled water valve (ON-OFF) and the electric heater (BEL) only in case that hot water is not used in winter (otherwise please use TMO-T-IAQ control with on/off switch for the electric heater).
- It allows to control the summer/winter cycle with a centralized and remote switch or with an automatic change-over fitted on the water pipe (for 2-tube installations only).

Identification	Code
TMO-T-AU	9060164



Dimensions: 133x93x37 mm

- ON-OFF switch.
- 3 speed switch.
- Summer/Winter switch.
- Electronic room thermostat for fan or valves control (ON-OFF)..
- Simultaneus thermostatic control of the valves and fan.
- It allows to control the low temperature cut-out thermostat (TME).
- It allows to control the chilled water valve (ON-OFF) and the electric heater (BEL) only in case that hot water is not used in winter (otherwise please use TMO-T-AU-IAQ control with on/off switch for the electric heater).
- It allows to control the summer/winter cycle with a centralized and remote switch or with an automatic change-over fitted on the water pipe (for 2-tube installations only).

N.B.: with 4 pipe installations and continuous chilled and hot water supply, it allows the automatic summer winter change-over in accordance to the room temperature (-1°C = Winter, +1°C = Summer, Neutral Zone 2°C).

Identification	Code
TMO-503-S	9060171

Dimensions: 118x87x8 mm

The TMO-503-S control for fan coils without valves, is designed to be installed in a DIN 503 wall box.
It is easy to use, it has a big and clear display, and a great precision.
The control is supplied integral with the external frame, but it is possible to use frames of the most known brand on the market (BTicino, Vimar, AVE, Gewiss).
The highest working electric absorbtion is 200 W.
If the fan coil has an higher absorbtion or more units are connected to the same control, the speed switch SEL-CR must be installed.

- Manual or automatic speed switch.
- Manual Summer/Winter switch.
- Electronic thermostat for fan control (ON-OFF).
- It allows to control the low temperature cut-out thermostat, included with the control.

IDENTIFICATION	CODE
TMO-503-SV2	9060173

Dimensions: 118x87x8 mm

The TMO-503-SV2 control for fan coils with valves, is designed to be installed in a DIN 503 wall box. It is easy to use, it has a big and clear display, and a great precision.
The control is supplied integral with the external frame, but it is possible to use frames of the most known brand on the market (BTicino, Vimar, AVE, Gewiss).
The highest working electric absorbtion is 200 W.
If the fan coil has an higher absorbtion or more units are connected to the same control, the speed switch SEL-CR must be installed.

- Manual or automatic speed switch.
- Manual Summer/Winter switch.
- Electronic thermostat for valves control (ON-OFF).
- Simultaneus thermostatic control of the valves and fan.
- It allows to control the low temperature cut-out thermostat, included with the control.

N.B.: with 4 pipe installations and continuous chilled and hot water supply, it allows the automatic summer/winter change-over in accordance to the room temperature (-1°C = Winter, +1°C = Summer, Neutral Zone 2°C).

IDENTIFICATION	CODE
TMO-DI	9060165

Dimensions on the wall: 133x93x27 mm
Dimensions in the DIN 503 box: 133x93x18 mm

To be installed on the wall or in the DIN 503 box.
- Manual or automatic speed switch.
- Manual or centralized Summer/Winter switch.
- Electronic thermostat for fan control (ON-OFF).
- Electronic thermostat for valve(s) control (ON-OFF).
- Simultaneus thermostatic control of the valves and fan.
- It allows to control the low temperature cut-out thermostat (TME).
- It allows to control the chilled water valve (ON-OFF) and the electric heater (BEL) only in case that hot water is not used in winter.
- It allows to control the fan and the electric heater.
- It allows to control up to 10 units with SEL-DI speed switch.

N.B.: with 4 pipe installations and continuous chilled and hot water supply, it allows the automatic summer/winter change-over in accordance to the room temperature (-1°C = Winter, +1°C = Summer, Neutral Zone 2°C).

IDENTIFICATION	CODE
T2T	9060174

Dimensions: 128x75x25 mm

2 pipes units only.

- ON-OFF switch.
- 3 speed switch.
- Manual Summer/Winter switch.
- Thermostatic control on the fan.
- Thermostatic control on the valve and continuous fan operation.
- Simultaneous thermostatic control of the valve and fan.
- Cannot be used with speed switch (master-slave).

Electronic controls to be fitted on the units with *CRYSTALL* filter or electric heater

IDENTIFICATION	CODE
CB-IAQ	9066305

- ON-OFF switch and 3 speed switch.
- Electronic filter ON-OFF switch.
- Without thermostatic control.
- It allows to control the low temperature cut-out thermostat (TMM).

IDENTIFICATION	CODE
CB-R-IAQ	9066306

- ON-OFF switch.
- 3 speed switch.
- Summer/Winter switch.
- Electronic filter ON-OFF switch (or electric heater).
- Electronic room thermostat for fan or valves control (ON-OFF).
- It allows to control the low temperature cut-out thermostat (TME).
- It allows to control the chilled water valve (ON-OFF) and the electric heater (BEL) only in case that hot water is not used in winter.
- It allows to control the summer/winter cycle with a centralized and remote switch or with an automatic change-over fitted on the water pipe (for 2-tube installations only).

IDENTIFICATION	CODE
CB-AU-IAQ	9066307

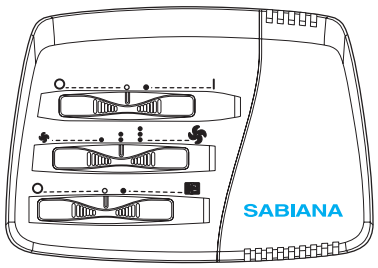
- Manual or automatic speed switch: on Auto Mode there is the automatic speed selection in accordance to the difference between room temperature and setpoint. When the setpoint is reached the fan and the filter go on OFF.
- Summer/Winter switch.
- Electronic filter ON-OFF switch (or electric heater).
- Electronic room thermostat for valve(s) control (ON-OFF).
- It allows to control the low temperature cut-out (TME).
- It allows to control the chilled water valve (ON-OFF) and the electric heater (BEL) only in case that hot water is not used in winter.
- It allows to control the summer/winter cycle with a centralized and remote switch or with an automatic change-over fitted on the water pipe (for 2-tube installations only).

N.B.: with 4 pipe installations and continuous chilled and hot water supply, it allows the automatic summer/winter change-over in accordance to the room temperature (-1.6°C = Winter, +1.6°C = Summer, Neutral Zone 3.2°C).

Wall electronic controls for units with *CRYSTALL* filter or electric heater

Carisma SABIANA

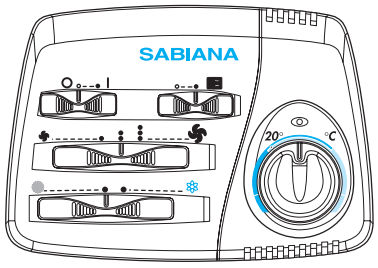
Identification	Code
MO-3V-IAQ	9063020



Dimensions: 133x93x37 mm

- ON-OFF switch and 3 speed switch.
- Electronic filter ON-OFF switch.
- Without thermostatic control.
- It allows to control the low temperature cut-out thermostat (TMM).

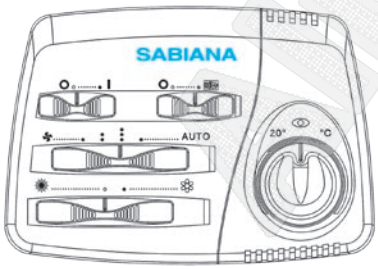
Identification	Code
TMO-T-IAQ	9063021



Dimensions: 133x93x37 mm

- ON-OFF switch.
- 3 speed switch.
- Summer/Winter switch.
- Electronic filter ON-OFF switch (or electric heater).
- Electronic room thermostat for fan or valves control (ON-OFF).
- It allows to control the low temperature cut-out thermostat (TME).
- It allows to control the chilled water valve (ON-OFF) and the electric heater (BEL) only in case that hot water is not used in winter.
- It allows to control the summer/winter cycle with a centralized and remote switch or with an automatic change-over fitted on the water pipe (for 2-tube installations only).

Identification	Code
TMO-T-AU-IAQ	9063023



Dimensions: 133x93x37 mm

- ON-OFF switch.
- 3 speed switch.
- Summer/Winter switch.
- Electronic filter ON-OFF switch (or electric heater).
- Electronic room thermostat for fan or valves control (ON-OFF).
- Simultaneus thermostatic control on the valves and fan.
- It allows to control the low temperature cut-out thermostat (TME).
- It allows to control the chilled water valve (ON-OFF) and the electric heater (BEL) only in case that hot water is not used in winter.
- It allows to control the summer/winter cycle with a centralized and remote switch or with an automatic change-over fitted on the water pipe (for 2-tube installations only).

N.B.: with 4 pipe installations and continuous chilled and hot water supply, it allows the automatic summer/winter change-over in accordance to the room temperature (-1°C = Winter, +1°C = Summer, Neutral Zone 2°C).

Identification	Code
TMO-DI	9060165

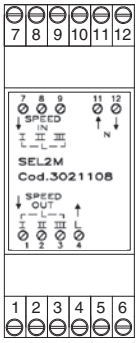
Dimensions on the wall: 133x93x27 mm
Dimensions in the DIN 503 box: 133x93x18 mm

To be installed on the wall or in the DIN 503 box.

- Manual or automatic speed switch.
- Manual or centralized Summer/Winter switch.
- Electronic thermostat for fan control (ON-OFF).
- Electronic thermostat for valve(s) control (ON-OFF).
- Simultaneus thermostatic control of the valves and fan.
- It allows to control the low temperature cut-out thermostat (TME).
- It allows to control the chilled water valve (ON-OFF) and the electric heater (BEL) only in case that hot water is not used in winter.
- It allows to control the fan and the electric heater.
- It allows to control up to 10 units with SEL-DI speed switch.

N.B.: with 4 pipe installations and continuous chilled and hot water supply, it allows the automatic summer/winter change-over in accordance to the room temperature (-1°C = Winter, +1°C = Summer, Neutral Zone 2°C).

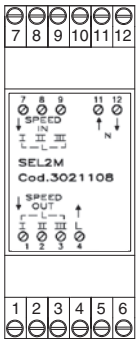
IDENTIFICATION	CODE
SEL-CB	9066304



For MV-MVB models.

- Speed switch (Slave).
- It allows to control up to 8 units with only one centralized wall control (1 speed switch for each unit).
- For controls TMO-T, TMO-T-AU, TMO-503-S and TMO-503-SV2.

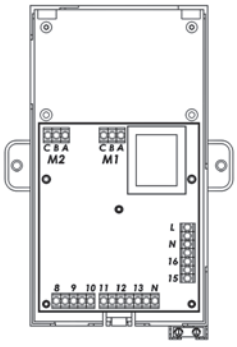
IDENTIFICATION	CODE
SEL-CR	9066311



For MO-IV-IO models.

- Speed switch (Slave).
- It allows to control up to 8 units with only one centralized wall control (1 speed switch for each unit).
- For controls TMO-T, TMO-T-AU, TMO-503-S and TMO-503-SV2.

IDENTIFICATION	CODE
SEL-DI	9060139



- Speed switch (Slave) for TMO-DI
- It allows to control up to 10 units with only one TMO-DI centralized wall control.

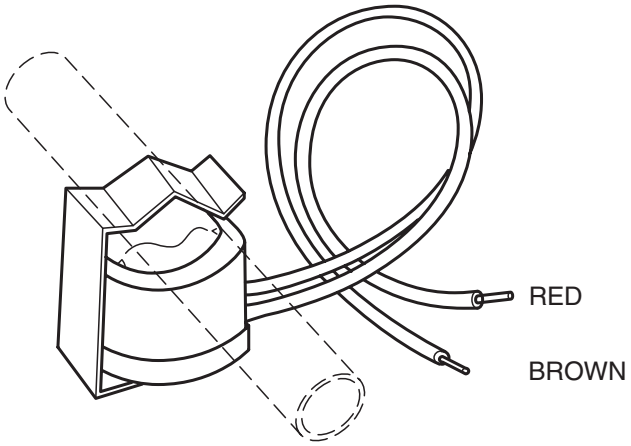
TME low temperature cut-out thermostat

To be fitted between the coil fins; when connecting the control,
the TME probe cable must be separated from the power supply wires.
To be used with the following controls:
CB-C, CB-AU, TMO-T, TMO-T-AU, TMO-DI and corresponding IAQ controls.
It stops the fan when
the water temperature is lower than 38°C
and it starts the fan when is higher than 42°C.

VERSION	CRC
MODEL	MV – MO – MVB – IV – IO
CODE	3021091

TMM low temperature cut-out thermostat

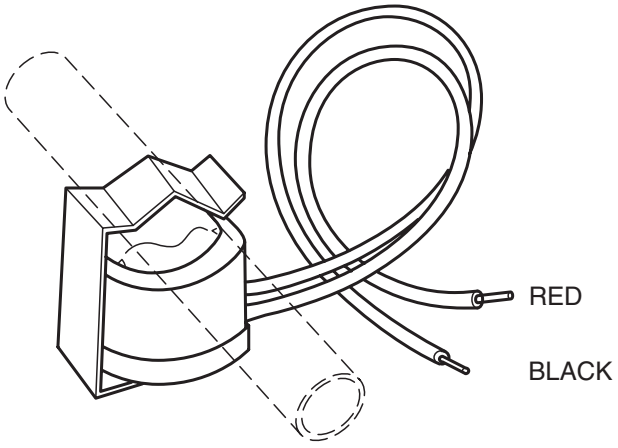
To be installed in contact with the hot water circuit.
To eliminate cold air blow.
Installed by the installing engineer.
To be used with the following controls:
CB, CB-T, CB-IAQ, MO-3V, MO-3V-IAQ.
For units working on heating only.
It stops the fan when
the water temperature is lower than 30°C
and it starts the fan when is higher than 38°C.



VERSION	CRC
MODEL	MV – MO – MVB – IV – IO
CODE	9053048

Change-Over CH 15-25

Automatic summer/winter switch
to be installed in contact with the water circuit.
For 2-tube installations only
(not to be used with 2 way valve).
To be used with the following controls:
CB-C, CB-AU, TMO-T, TMO-T-AU, TMO-DI.



VERSION	CRC
MODEL	MV – MO – MVB – IV – IO
CODE	9053049

FreeSabiana

Free Sabiana is an innovative, **fully wireless,** electronic system for use with fan coil units, based on radio communication.

This technology **provides installation flexibility and a more accurate measurement of the room temperature.** The probe can be moved until the most suitable position is found, without the worry of changes in the environment layout and of its furniture and also without mounting it on a wall. If a new fan coil unit is added, no electrical wiring for the control system is required: just define the control unit and the probe which regulates it. The improved measurement accuracy derives from the possibility to position the probe near the typical location of the user: this enables to keep the temperature exactly at the required value with more energy savings compared with a traditional measurement system.

Transmission is based on communication protocol IEE802.15.4, the most suitable way to transmit a relatively low amount of information with very low consumption and high reliability.

The system has been certified by a leading independent body, officially recognized by the EU authorities and its sale has been authorized in all the EU and EFTA countries.

Fan components

Free Sabiana includes the following components

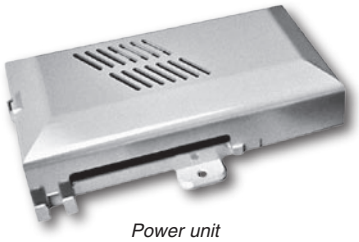
- A remote **control** which features a button panel and LCD display and can be wall-mounted or positioned on a dedicated table support.
  It enables the control of all the operating variables of the fan coil units in different configurations. The control is battery powered.
  The temperature in the operating area of the fan coil unit are set with two large buttons and a user friendly graphics.

Description	Identification	Code
Remote control	Free-Com	9060572

Control unit with support

- A **power unit** to be installed on the fan coil (fan coil interface).
  It controls the fan and the valves of the fan coil. The power unit is connected to the electric supply.
  The power unit receives the information required to control the fan coil both from the remote control and locally, such as the temperature of the coil.

Description	Identification	Code
Power unit fitted on the unit	Free-Upm	9060571
Power unit not fitted on the unit	Free-Ups	9060570



Power unit

- A room **temperature probe,** which can be wall-mounted or positioned on a dedicated table support. It is a battery powered device, able to measure the air temperature in the spot where it is positioned, generating temperature information which is communicated to the other devices.

Description	Identification	Code
Temperature probe	Free-Sen	9060573

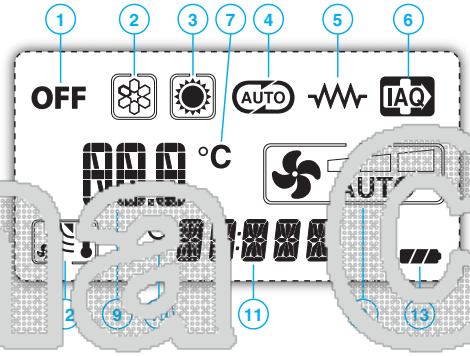
Probe with support

Main features of the remote control

The control enables:

- Fan coil on/off switching
- Fan speed selection (high - medium - low - automatic)
- Summer/winter operation selection
- Valve on/off
- Real time clock setting
- Temperature setting
- Daily switch on/off setting (timer function)
- Enable/disable the timer function
- Activation of the (eventual) electrostatic filter
- Activation of the (eventual) electric heater

Main information displayed:



1. On-off status
2. Summer operation
3. Winter operation
4. Automatic season change
5. Electric heater
6. Crystall filter
7. Room temperature with decimal accuracy
8. Fan operating speed
9. Required/measured temperature
10. Timer
11. Clock
12. Transmission signal
13. Battery level

Main features of the power unit to be installed on the fan coil

The power unit controls the fan and the valves of the fan coil. The power unit receives information required to control such units both from the remote control and locally

It enables the following actions:

- On/off and speed
- Fan speed change (fan on/off)
- Water valve/s on/off (1 valve for 2 tube system - 2 valves for 4 tube system)
- Fan speed change operating the water valve/s
- Control of the electric resistance as main heating unit or as integration to the battery supplied with hot water
- Control of the operation of the electrostatic filter (in parallel to the fan)
- Management of the dead zone function for 4-tube systems
- Available functional inputs:
  - *Consent for remote on/off*
  - *Consent for remote Summer/Winter switch (centralized)*
  - *Consent for the activation of the Energy Saving function with setting change*
  - *Minimum probe*
  - *Probe for season change*

Main features of the temperature probe

This device is able to measure the temperature of the air in the spot where it is positioned and to transmit it by means of radio communication to the other devices in the system. It is battery powered and can be freely positioned in the area to be air-conditioned.

Display:

- Measured environment temperature
- Transmission signal
- Clock
- Battery status

DESCRIPTION	IDENTIFICATION	CODE
Infra-red remote control with electronic board fitted on the unit (MV-MO-MVB only)	*IRC-M*	*9060175*
Infra-red remote control with electronic board not fitted on the unit (IV-IO only)	*IRC-S*	*9060176*

The Carisma units can be supplied with a micro-processor managing system operated by an infra-red remote control with liquid crystall display.

Integral with the unit is the room temperature probe, the water temperature probe (cut-out thermostat), the infra-red remote control and the electronic board with RS485 communicating connection which can control up to 20 units connected between them. The electronic board is of master/slave mode and the serial communicating connection allows the serial connection; in the master/slave connection of more units, it is recommended to install the infra-red receiver on the master unit.

Control operations:

- Temperature set.
- Fan speed switch with possible automatic speed selection.
- 24 hours on/off program.
- on/off cooling valve control.
- on/off heating valve control.
- Control of the valves only or of the valves and the fan together.
- Valve control of 2 or 4 pipe systems with winter/summer switch on the infra-red control.
- Valve control of 4 pipe systems with automatic heating/cooling mode selection with 2°C dead zone.
- Activating the sensor connected to the T3 contact of the board (non active in the standard configuration), it works like a cut-out thermostat: fitted between the coil fins it stops the fan when the water temperature is lower than 38°C and it starts the fan when the water temperature reaches 42°C.

IRC controls are not suitable for Crystall electronic filter and 3EL electric heater

The control board fitted inside the electric panel can manage different control modes and has features to satisfy the requirements of the installation. These modes are selected by suitably positioning the configuration dipswitches, which define the following main functions:

- **2 pipe / 4 pipe** system
- Operation **without / with** remote control
- Continuous ventilation
- Close valve and stop fan in cooling mode (autofan function)
- Close valve and stop fan in heating mode (autofan function)
- Close valve and stop fan in cooling and heating mode (autofan function)

The autofan function allows the simultaneous on/off control of the water valve and the fan, while at the same time optimising the operation of the unit. When reaching the set point, the controller closes the water valve (valve off) and only 3 minutes later stops the fan, so as to correctly compensate for the valve closing time.
To prevent the air probe from measuring an incorrect temperature, when the fan is off the controller runs a number of fan ON cycles to annul the effect of any stratification of the air in the room.

In two pipe systems, a water probe (T2 accessory) can be installed on the supply pipe to the unit upstream of the water valve. Based on the temperature read in this section of the pipe, the device will select either cooling or heating operation.

The electronic board also features a contact for connection to a window switch or remote enabling signal. When the contact is closed, the unit can operate, when the contact is open, the unit stops. The same contact can be used for starting and stopping the unit from an external timer or any other remote switching device.

In addition, a series of units can be switched on or off at the same time, by using a flip-flop switch connected to the terminals present on the board.

Sensors that require a 12 volt power supply, for example occupancy sensors, can be connected to other terminals on the electronic board and then to the on/off contacts. The board is able to power external sensors with a maximum current of 60 mA.

T2 Change-Over for infra-red remote control (accessory)

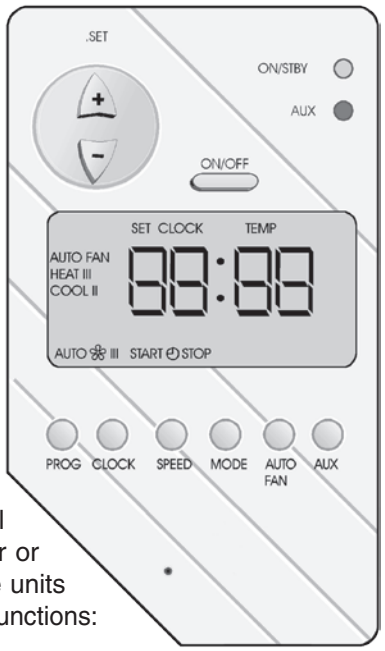
IDENTIFICATION	CODE
T2	9079103

Suitable for units with infra-red remote control only.

The NTC sensor, if connected to the T2 contact of the board, works like a change-over: fitted in contact to the supply pipe it controls automatically the winter/summer switch in accordance to the water temperature.

Connection of the units in series and centralized management

IDENTIFICATION	CODE
PCR-DI	9079102



A group of Carisma units with infra-red remote control microprocessor can be connected via a serial link and can consequently be managed at the same time by just one infra-red remote control. Using the special jumper present on the board, one unit must be configured as the master, and all the others as slaves. It is clear that the remote control must be pointed at the receiver on the master unit. To avoid problems, it is recommended to install and connect the receiver only on the master unit.

Another option available for the serial communication between the units is the possibility to connect up to 60 Carisma units in series (the maximum length of the connection cable must not exceed 800 m) and manage them with just one wall-mounted intelligent PCR-DI controller. The wall-mounted controller can be used to set the operating mode for each individual unit connected, display the operating conditions of each individual unit, and set the on/off time sets for each day of the week. If more than 60 units need to be connected, two or more wall-mounted intelligent controllers must be used. Each wall-mounted controller only manages the units it is connected to.

The PCR-DI control is used to manage a series of cassettes, up to a maximum of 60 units, from one single control point. The PCR-DI control communicates via a serial line with all the units connected, with the possibility of controlling them all together or individually. In fact, the unique address of each individual fan coil means that all the units can be called at the same time, or the individual unit called, to perform the following functions:

- display the current operating mode, the fan speed, the set point
- display the room temperature measured on the individual unit
- turn all the units on and off at the same time or alternatively each unit individually
- change the operating mode (fan only, heating, cooling, automatic changeover)
- change the set point

Each function can then be sent to all the units connected, or alternatively to each individual unit.
Different set points or operating modes can be set for each individual unit.

The PCR-DI panel can also be used for the time management of the units over the week.
Two on times and two off times can be set on the units for each day of the week.

The weekly programming mode can be stopped at any time, returning to the manual setting and then weekly programming mode can subsequently be started again.

Maxinet program for managing a network of IR hydronic terminals

Maxinet is a centralised control system for networks of IR hydronic terminals, based on software that runs on Windows.
The Maxinet software offers a practical and economical solution for managing the terminals, with the simple click of the mouse.
The main characteristics include simplicity of use, an extremely complete and functional weekly program, and the possibility to access the historical operating data for each individual appliance connected.

The program exploits all the potential of our appliances with remote controls, representing an addition to the latter.

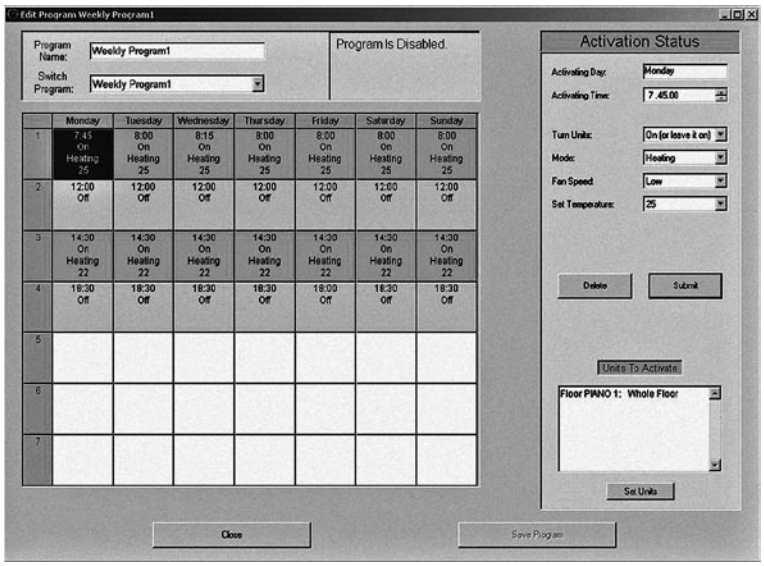
The Maxinet program is a control tool that can be used as a replacement for the remote control, or in parallel, however with the possibility of setting the priority, that is, the settings made using Maxinet can have priority over those made using the remote control.

The program can be used to:

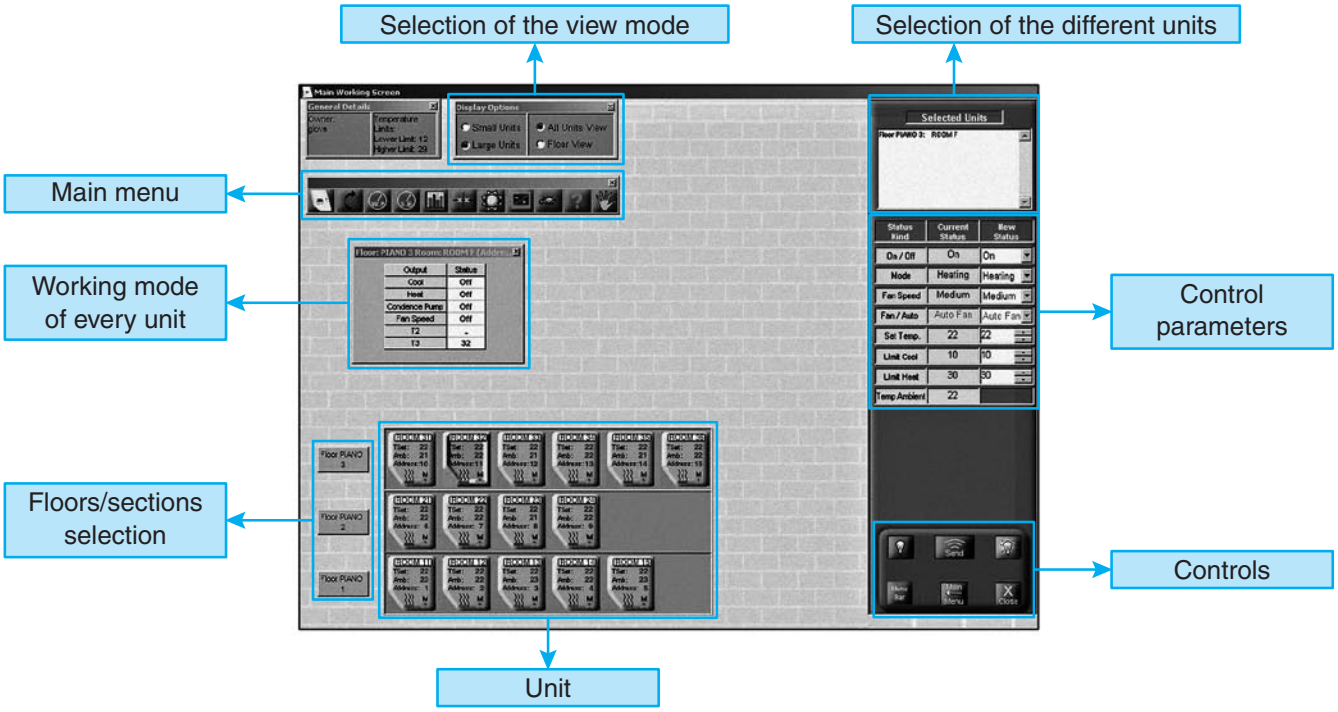
- create uniform logical blocks (groups of units on individual floors, in offices or rooms).
- save weekly programs configured for different types of operation (summer, winter, mid seasons, closing periods etc.); these can then be recalled and activated with a simple click of the mouse.
  Weekly on/off cycles can be set for individual units or groups of units.
- set the operating conditions for each individual unit or groups of units (operating mode, fan speed, temperature setting).
- set the set point limits for each individual unit or groups of units.
- switch each individual unit or groups of units on or off.

The “Weekly Program” can be used to set the unit operating parameters for each day of the week.
Up to 20 different weekly programs can be set.

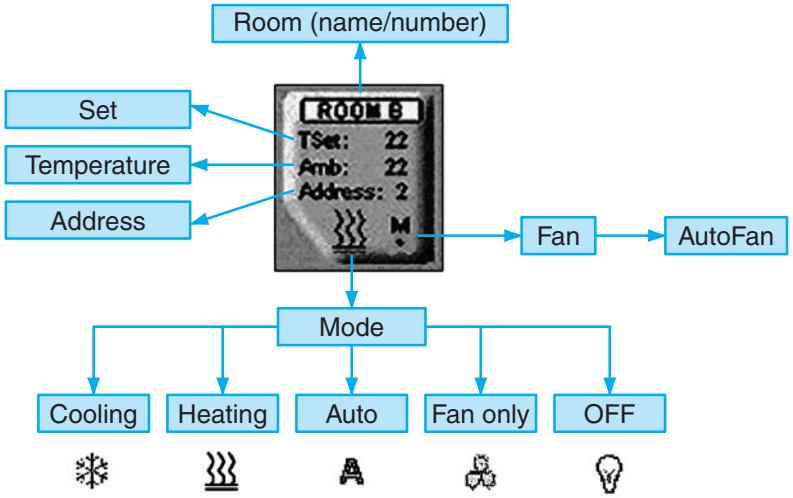
Time bands are available for each day of the week.
The time and the type of operation to be performed by the unit can be set for each band.
The time and the operating parameters can then be displayed before being sent to the unit and implemented.



One especially useful function of the weekly program is to have the program to carry out timed checking routines to identify whether the operating mode or temperature setting have been modified on the terminals, for example using the local remote control. If activated, the routine will reset all the unit operating parameters to the values set in the weekly program.

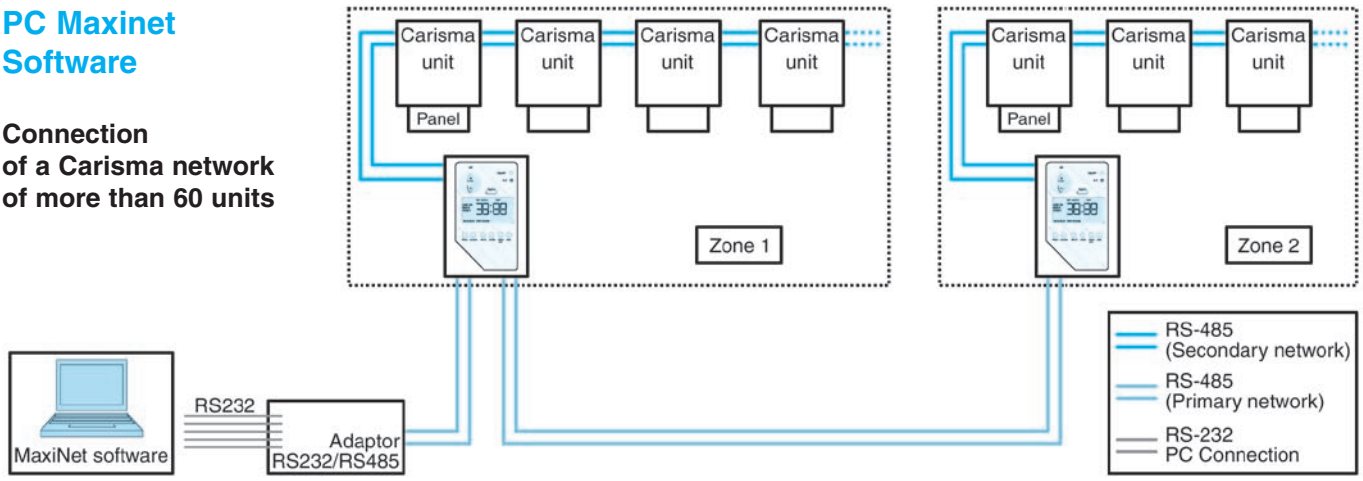


The main program screen can display and interact with the entire network of units. An individual unit, a group of units or the entire network can be called so as to make modifications to the operating mode and the set point. The user can then check the operating status of each individual unit, read the room temperature, the coil temperature and the operating status of the condensate drain pump or any alarms.

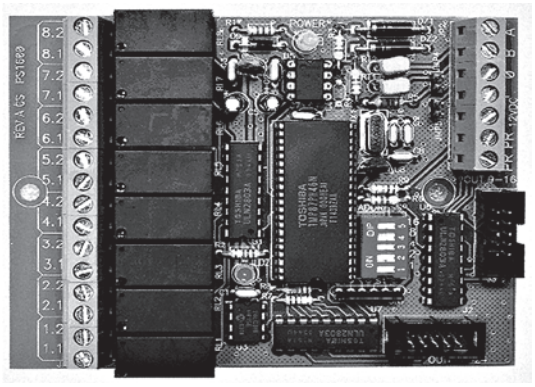


PC Maxinet Software

Connection of a Carisma network of more than 60 units

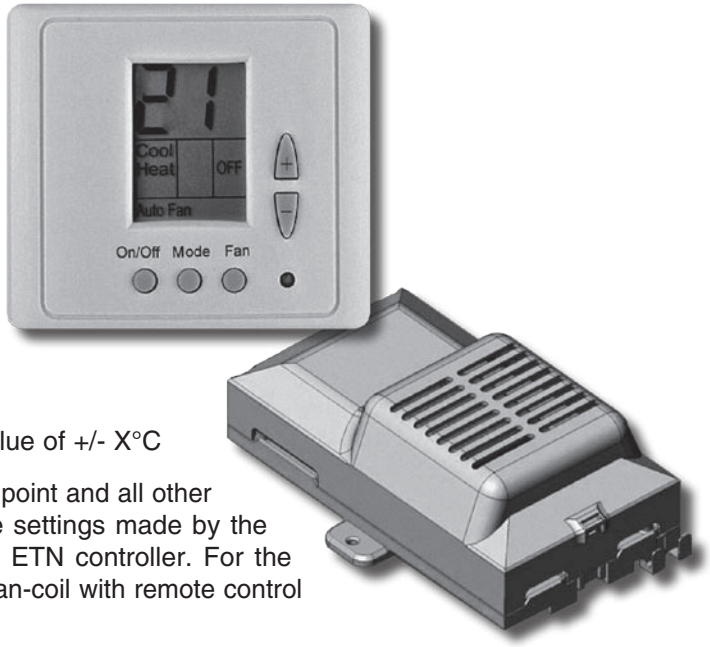


Identification	Code
S08R	9079105



In addition to the air-conditioning units, MaxiNet can also work with general output cards.
Each card contains 8 outputs which can be connected to “On / Off” devices.
Inserting a new output card can be done through the regular units setting.
Handling the existing output cards is done through the output cards’ menu, which can be loaded from the working screen’s menu bar.
In the menu, choose the “General Outputs Cards” title.
The Out-Put card can be connected in a Maxinet network and controlled by the software. Up to 10 cards can used.

Description	Identification	Code
ETN +/-3°C with electronic board fitted on the unit	IRC-ETN-M	9060166
ETN +/-3°C with electronic board not fitted on the unit	IRC-ETN-S	9060167



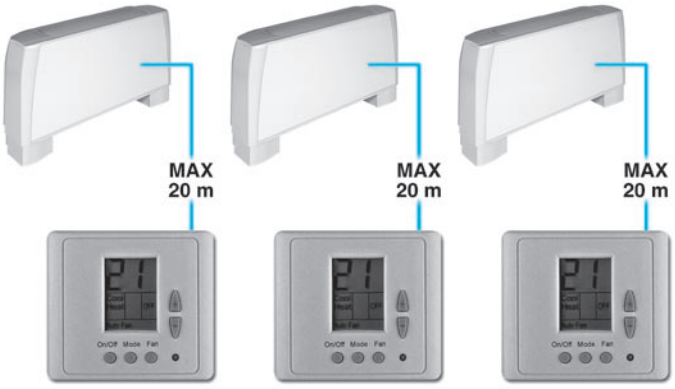
The IRC with ETN +/- 3 is a wall-mounted controller that can be connected to fan coils fitted with the IR electronic board and connected in an RS 485 network managed by the Maxinet supervisor system.
The controller allows to adjust the set-temperature by raising or lowering the temperature set, defined with Maxinet, by increments of 1°C in a range of +/- X°C.

The controller features the following functions:
- switch the appliance on and off
- set the fan speed
- set the range of temperature settings (default +/- 3 °C, modifiable on site up to +/- 9°C)
- modify the set point determined by the system by a value of +/- X°C

The Maxinet system can set the operating mode, the set point and all other operating parameters of the unit, as well as display the settings made by the user. The Maxinet system always has priority over the ETN controller. For the correct use of the system, also see the manual for the Fan-coil with remote control and the Maxinet supervision program.

IRC control with ETN +/-3°C

One control for each unit
(Maximum length of the connection cable = 20 m)



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.

CISQ is a member of

IQNet

www.iqnet-certification.com

IQNet, the association of the world's first class certification bodies, is the largest provider of management System Certification in the world. IQNet is composed of more than 30 bodies and counts over 150 subsidiaries all over the globe.

ICIM

www.icim.it

CERTIFICATO n. / *CERTIFICATE No.* **0545/4**

SI CERTIFICA CHE IL SISTEMA DI GESTIONE PER LA QUALITA' DI
WE HEREBY CERTIFY THAT THE QUALITY MANAGEMENT SYSTEM OPERATED BY

SABIANA S.p.A.

UNITA' OPERATIVE
OPERATIVE UNITS

Via Piave, 53 - 20011 Corbetta (MI)
Italia

E' CONFORME ALLA NORMA
IS IN COMPLIANCE WITH THE STANDARD

UNI EN ISO 9001:2008

PER LE SEGUENTI ATTIVITA'
FOR THE FOLLOWING ACTIVITIES

EA: 18

Progettazione, produzione e assistenza di apparecchiature per il riscaldamento e il condizionamento dell'aria (aerotermi, termostrisce radianti, ventilconvettori e unità trattamento aria) e canne fumarie.

Design, production and service of heating and air conditioning equipment (unit heaters, radiant panels, fan coil units and air handling units) and chimneys.

Riferirsi al Manuale della Qualità per l'applicabilità dei requisiti della norma di riferimento.
Refer to Quality Manual for details of application to reference standard requirements.

Il presente certificato è soggetto al rispetto del regolamento per la certificazione dei sistemi di gestione per la qualità delle aziende.
The use and the validity of this certificate shall satisfy the requirements of the rules for the certification of company quality management systems.

Data emissione *First issue*	Emissione corrente *Current issue*	Data di scadenza *Expiring date*
10/06/1996	16/02/2010	09/04/2012

ICIM S.p.A.
Piazza Don Enrico Mapelli, 75 - 20099 Sesto San Giovanni (MI)

Il presente documento annulla e sostituisce il certificato di pari numero emesso in data 19/04/2009.

CISQ è la Federazione Italiana di Organismi di Certificazione dei sistemi di gestione aziendale
CISQ is the Italian Federation of management system Certification Bodies

FEDERAZIONE CISQ

www.cisq.com

SINCERT

CARISMA - 09/10
Cod. A4660100 B/09/10

SABIANA
ENVIRONMENTAL COMFORT

Sabiana s.p.a. • via Piave, 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