Cert. n° 0545

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Carisma CRC Fan Coil Unit

The Ultra Quiet Fan Coil

TECHNICAL GUIDE

Carisma CRC

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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 a patented electronic filter featuring a class D rating according to Standard UNI 11254, with similar performances to the initial ones of a traditional mechanical filter featuring a class F9 rating according to Standard UNI EN 779.

A full range of adjustment and control devices is available for rapidly obtaining correct environmental temperature and with an investment proportional to performances, comfort and desired measurement precision.

The **Carisma** model is complemented with a full range of accessories: various types of adjustment valves, sturdy support feet, rear covering panel for glass installation, additional electric heater, auxiliary condensate pump, fresh air intake louver, air inlet/outlet diffusers for fitted installations.

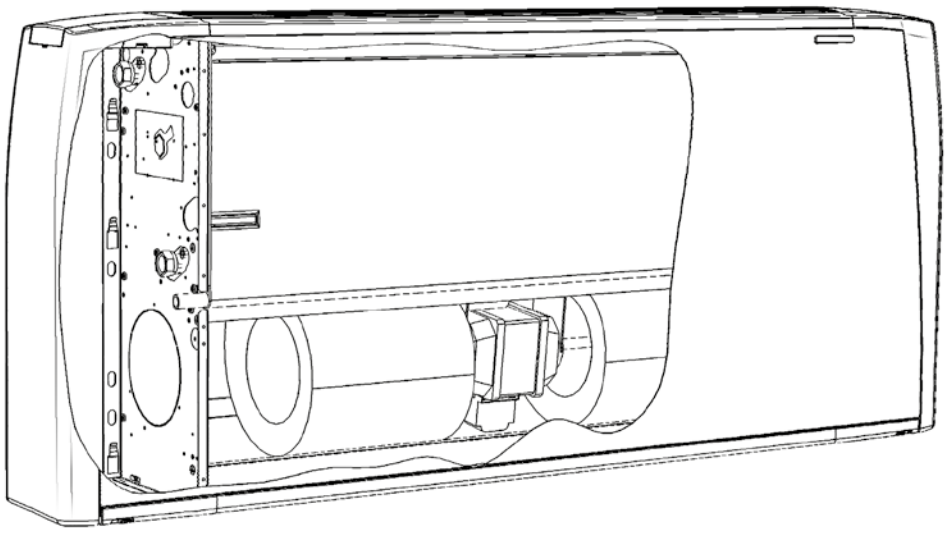
EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

Sabiana take part to the Eurovent program of fan coil performance certification. The official figures are published in the 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
- 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 wet bulb
- Heating emission (2 pipe units) at the following conditions:
  - Water temperature +45°C E.W.T. +40°C L.W.T.
  - Entering air temperature +20°C
- Heating emission (4 pipe units) at the following conditions:
  - Water temperature +65°C E.W.T. +55°C L.W.T.
  - Entering air temperature +20°C

• Fan absorption • Water pressure drop • Sound power

Range includes 9 air flow rates (from 105 to 1500 m^3/h) and 5 models (for wall and ceiling installation, with casing and concealed), each equipped with 3 or 4 row coil and with the possibility to add a 1 or 2 row coil for 4 pipe systems. It is the most comprehensive range, perfectly suited to meet all of the climate control needs of work environments such as offices, shops, restaurants and hotel rooms featuring ducted installations with available pressure up to 50 Pa.



PLASTIC
OUTLET GRID
IN ***ONE SINGLE PIECE:***
EXTRAORDINARY
DESIGN
AND STRENGTH

Outer casing

Made with strong synthetic lateral corners and from galvanized and pre-painted front steel panel. The plastic top grid has fixed louvres and is reversible in order to distribute the air in two different directions.

Standard colours:

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

Inner casing

Made from 1 mm galvanized steel insulated with 3 mm polyolefin (PO) foam (class M1).

Filter

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

Fan assembly

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

Electric motor

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

Coil

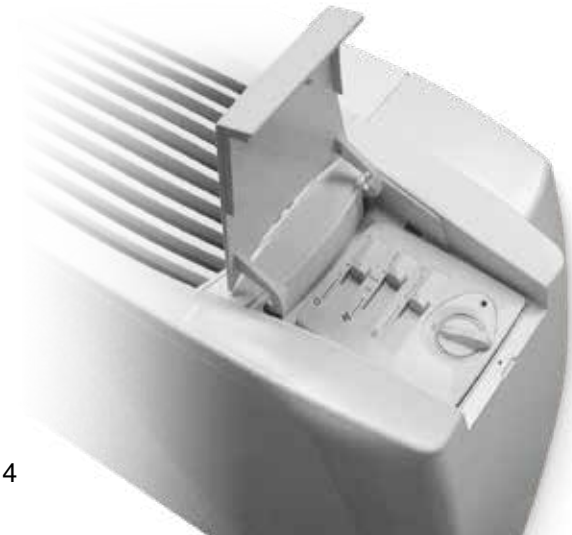
It is manufactured from drawn copper tube and the aluminium fins are mechanically bonded onto the tube by an expansion process. The coil has two 1/2inch BSP internal connections and 1/8 inch BSP air vent and drain. The coil is not suitable for use in corrosive atmosphere or in environments where aluminium may be subject to corrosion. **The connections are on the left hand side facing 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.**

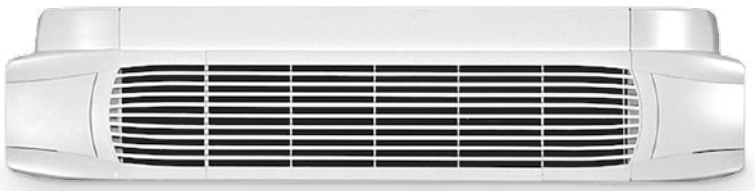
Condensate collection tray

Made from plastic (ABS UL94 HB) with an “L”-shaped plastic fitted on the inner casing; in the MO-MVB and IV-IO model the tray is insulated with 3 mm polyolefin (PO) foam (class M1). The outside diameter of the condensate discharge pipe is 15mm.

Accessories and Controls

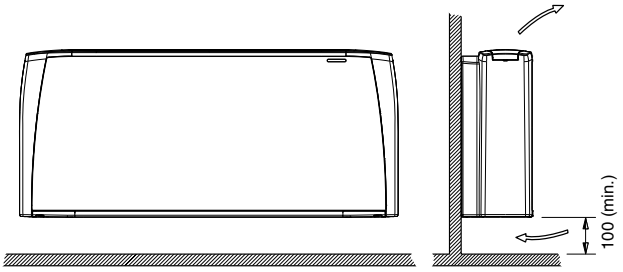
See pages 26 - 54.





MV

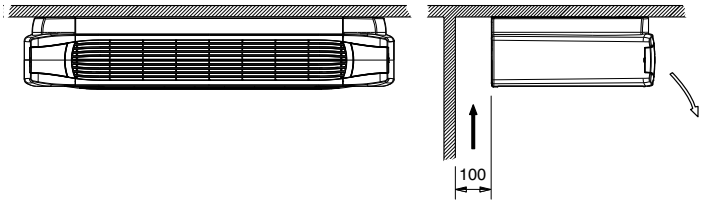
Vertical Casing – *Wall Installation*



MV

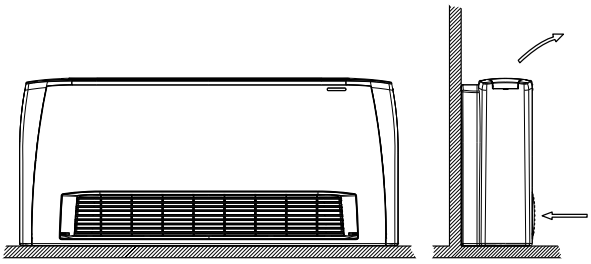
Vertical Casing – *Ceiling Installation*

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



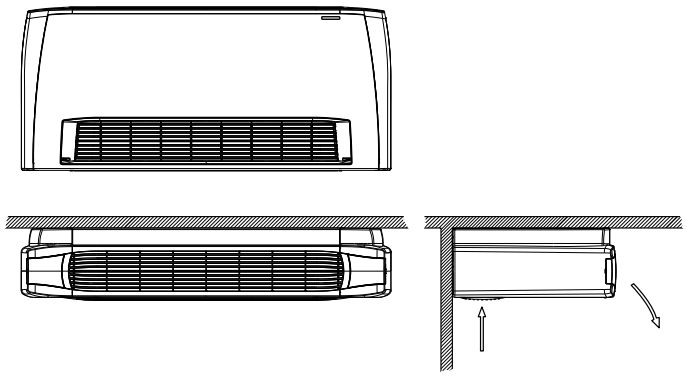
MO-MVB

Vertical Casing – *Floor Installation*



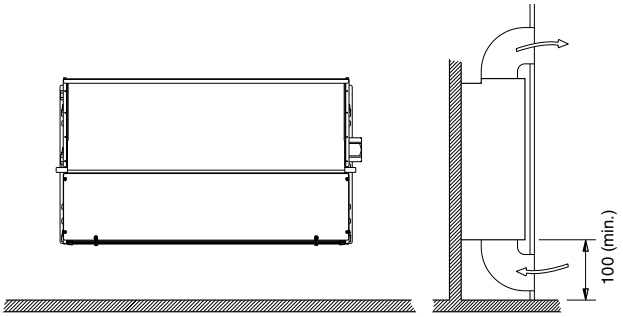
MO-MVB

Horizontal Casing



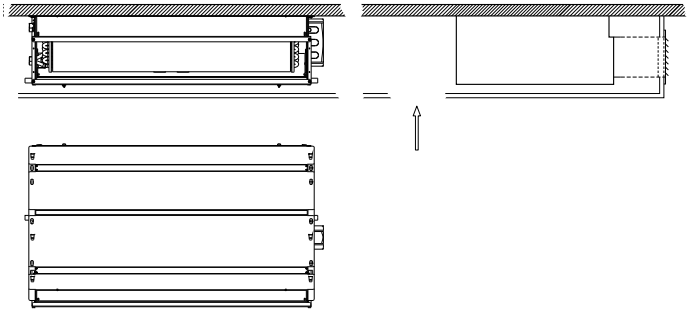
IV-IO

Vertical Concealed



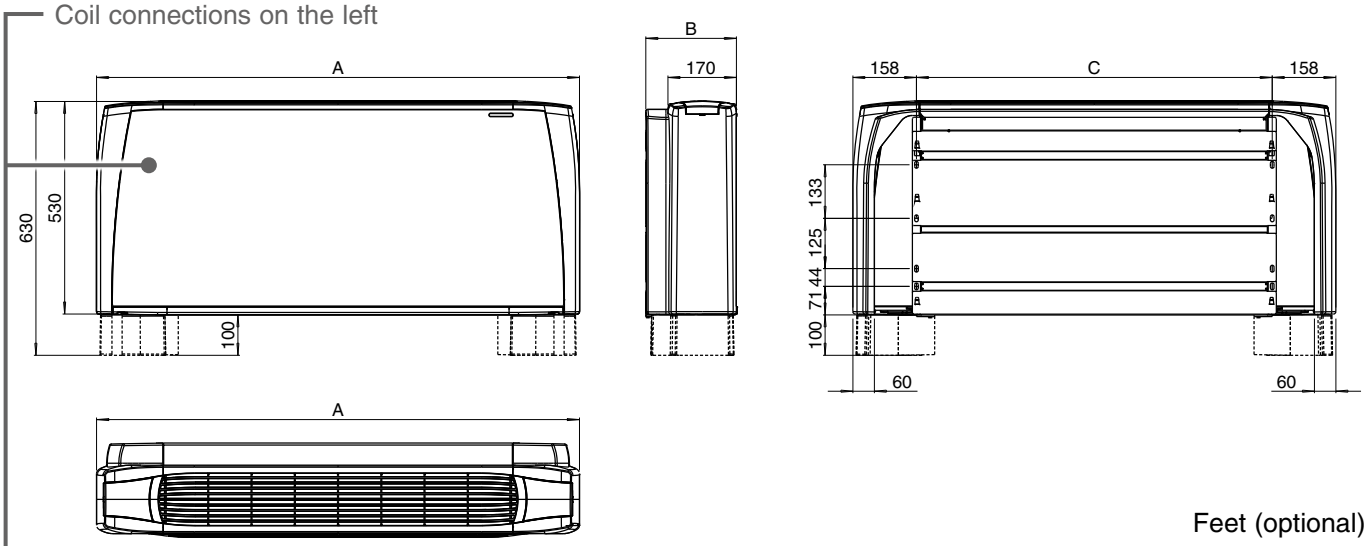
IV-IO

Horizontal Concealed



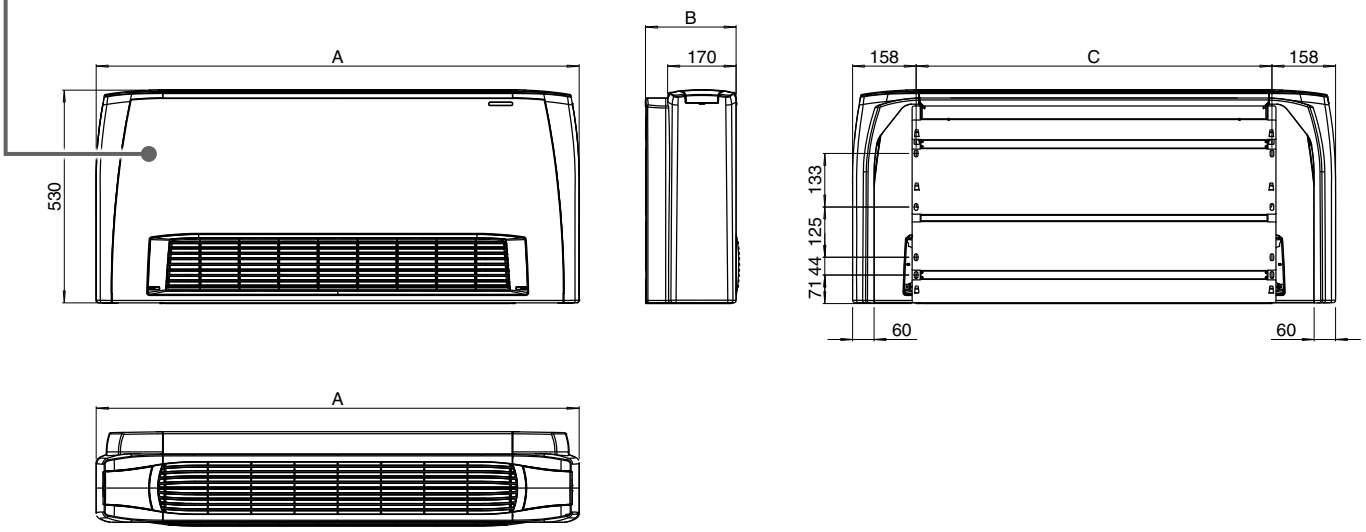
MV

Coil connections on the left



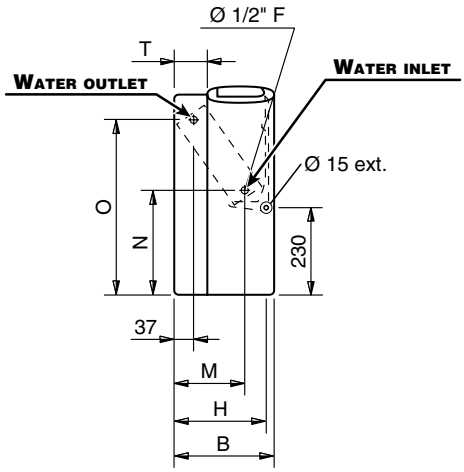
Feet (optional)

MO-MVB

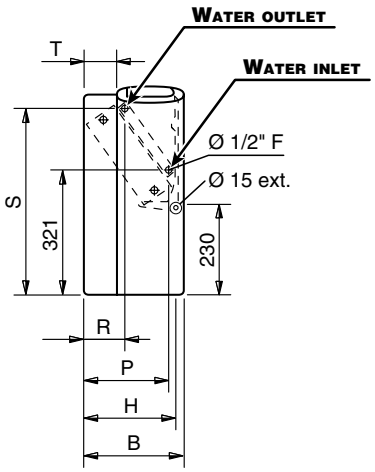


COIL CONNECTIONS

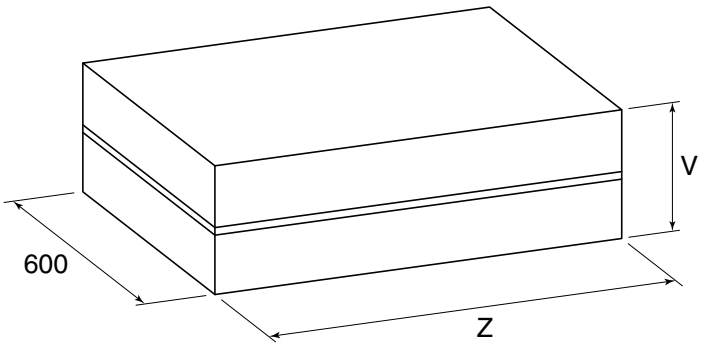
3 or 4 row coils



Heating additional coil (1 or 2 rows)



PACKAGING



Dimension (mm)

MODEL	1	2	3	4	5	6	7	8	9
A	670	770	985	985	1200	1200	1415	1415	1415
B	225	225	225	225	225	225	225	255	255
C	354	454	669	669	884	884	1099	1099	1099
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)

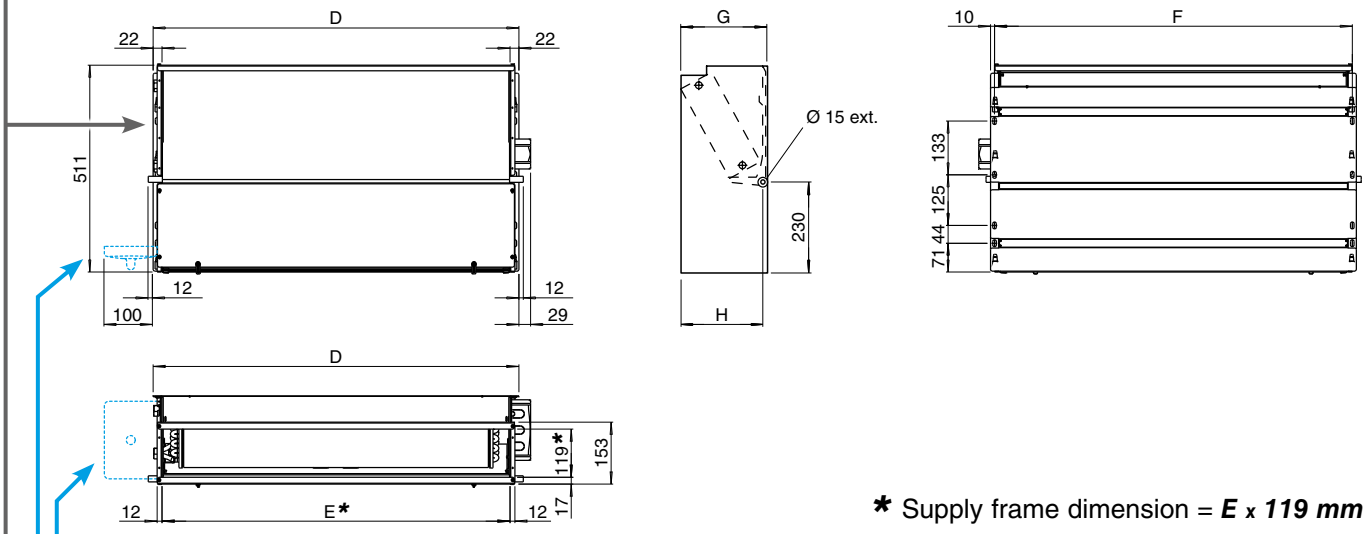
		Weight with packaging									Weight without packaging								
MODEL		1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
ROWS	3	15,5	17,2	21,4	22,5	26,9	27,7	32,1	35,7	35,9	13,9	15,4	19,1	20,2	24,1	24,9	28,8	32,0	32,2
	3+1	16,2	18,0	22,6	23,7	28,4	29,2	33,9	37,5	37,7	14,6	16,2	20,3	21,4	25,6	26,4	30,6	33,8	34,0
	3+2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

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

IV-IO *Vertical Installation*

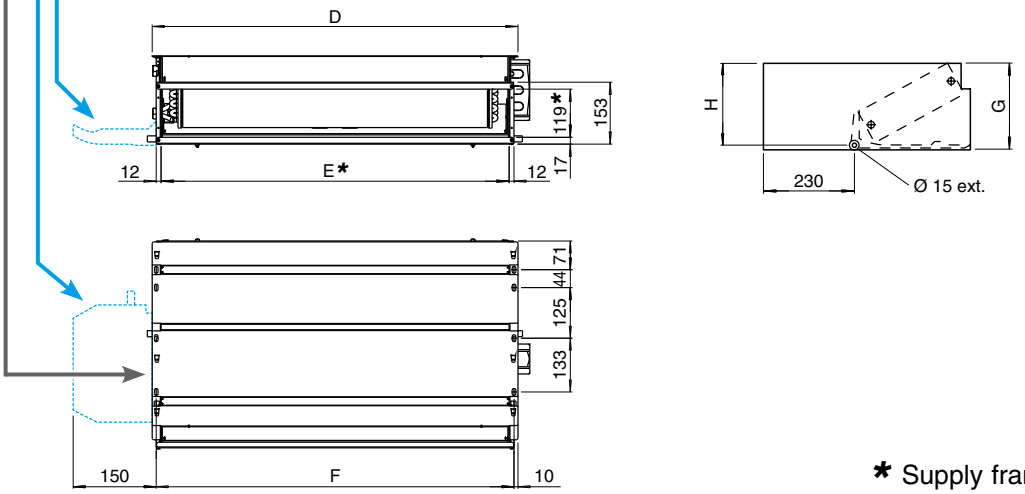
Coil connections on the left



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

Auxiliary condensate tray (optional)

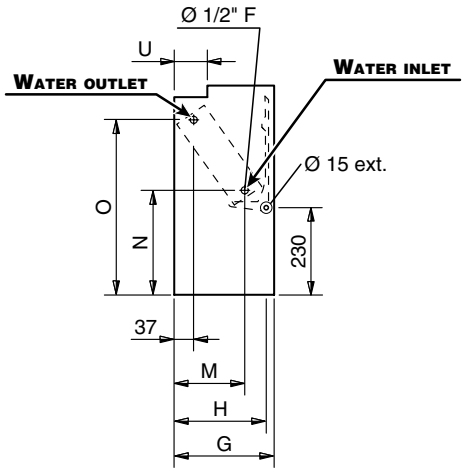
IV-IO *Horizontal Installation*



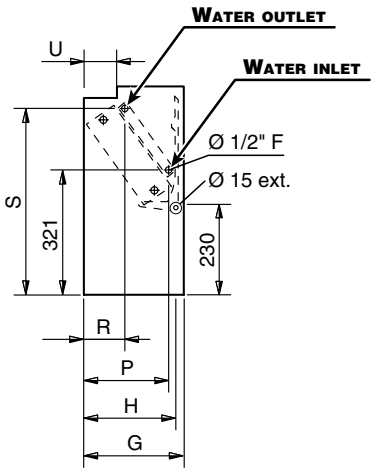
* Supply frame dimension = ***E x 119 mm***

COIL CONNECTIONS

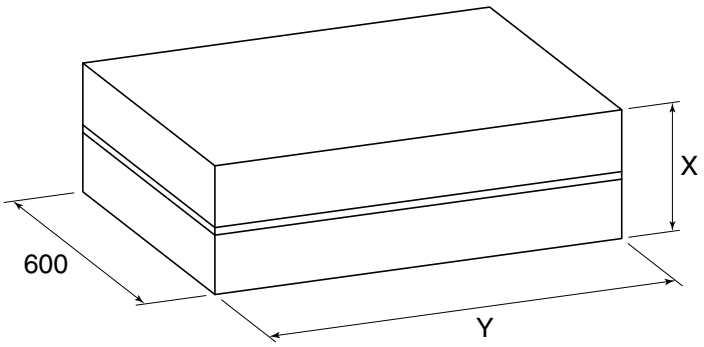
3 or 4 row coils



Heating additional coil (1 or 2 rows)



PACKAGING



Dimension (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	12,2	13,6	17,1	18,1	21,9	22,8	27,0	30,2	30,4	10,6	11,8	15,3	16,3	19,6	20,5	24,2	27,1	27,3
	3+1	12,9	14,4	18,3	19,3	23,4	24,3	28,8	32,0	32,2	11,3	12,6	16,5	17,5	21,1	22,0	26,0	28,9	29,1
	3+2	13,4	15,0	19,0	20,0	24,3	25,2	29,9	33,1	33,3	11,8	13,2	17,2	18,2	22,0	22,9	27,1	30,0	30,2
	4	12,7	14,4	18,1	19,1	23,1	24,1	28,5	31,7	31,9	11,1	12,6	16,3	17,3	20,8	21,8	25,7	28,6	28,8
	4+1	13,4	15,2	19,3	20,3	24,6	25,6	30,3	33,5	33,7	11,8	13,4	17,5	18,5	22,3	23,3	27,5	30,4	30,6

Water content (litres)

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

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

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	**0,57**	0,66	0,75	**0,84**	0,91	**1,00**	**0,90**	0,99	**1,23**	1,35	**1,53**	1,70	1,27	**1,55**	**1,76**	2,04	**2,35**	2,61
Cooling sensible emission **(E)**		kW	**0,45**	0,53	0,60	**0,69**	0,75	**0,83**	**0,68**	0,76	**0,95**	1,06	**1,21**	1,36	0,92	**1,13**	**1,30**	1,51	**1,76**	1,97
Heating **(E)**		kW	**0,64**	0,76	0,86	**0,98**	1,07	**1,19**	**0,94**	1,06	**1,34**	1,49	**1,70**	1,92	1,26	**1,56**	**1,79**	2,10	**2,44**	2,74
Dp Cooling **(E)**		kPa	**2,5**	3,0	3,8	**4,7**	5,4	**6,3**	**2,5**	3,0	**4,4**	5,3	**6,5**	7,9	6,6	**9,4**	**11,8**	15,3	**19,7**	23,8
Dp Heating **(E)**		kPa	**0,9**	1,1	1,4	**1,8**	2,1	**2,5**	**2,2**	2,8	**4,2**	5,0	**6,4**	7,9	5,4	**7,8**	**10,0**	13,2	**17,1**	21,0
Fan **(E)**		W	**16**	19	21	**25**	29	**33**	**14**	16	**22**	26	**32**	40	15	**20**	**25**	32	**41**	49
Sound power **(E)**	Lw	dB(A)	**32**	34	36	**39**	42	**45**	**30**	33	**40**	43	**47**	51	31	**36**	**40**	45	**49**	52
Sound pressurea **(*)**	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	1,25	**1,71**	**2,11**	2,43	**2,83**	3,19	1,66	**2,01**	2,55	**2,90**	3,13	**3,58**	**2,50**	2,94	**3,32**	3,70	**4,01**	4,26
Cooling sensible emission **(E)**		kW	0,91	**1,26**	**1,57**	1,82	**2,15**	2,45	1,22	**1,49**	1,91	**2,19**	2,38	**2,76**	**1,87**	2,23	**2,54**	2,86	**3,12**	3,35
Heating **(E)**		kW	1,25	**1,74**	**2,18**	2,52	**2,97**	3,41	1,65	**2,02**	2,61	**3,00**	3,24	**3,75**	**2,56**	3,05	**3,45**	3,90	**4,26**	4,56
Dp Cooling **(E)**		kPa	6,5	**11,2**	**16,2**	20,8	**27,2**	33,8	4,1	**5,8**	8,8	**11,1**	12,7	**16,2**	**8,6**	11,4	**14,1**	17,2	**19,8**	22,1
Dp Heating **(E)**		kPa	5,3	**9,5**	**14,0**	18,2	**24,3**	30,8	3,4	**4,8**	7,5	**9,6**	11,0	**14,2**	**7,3**	9,9	**12,3**	15,2	**17,8**	20,1
Fan **(E)**		W	14	**21**	**28**	34	**44**	57	18	**22**	32	**39**	46	**61**	**37**	46	**55**	67	**78**	88
Sound power **(E)**	Lw	dB(A)	27	**33**	**39**	43	**47**	52	26	**31**	37	**41**	43	**48**	**37**	42	**46**	49	**52**	54
Sound pressurea **(*)**	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	2,82	**3,29**	3,74	**4,21**	4,66	**5,01**	3,01	**3,68**	4,32	**5,09**	5,36	**5,69**	4,00	**4,38**	4,95	**5,74**	6,21	**6,56**
Cooling sensible emission **(E)**		kW	2,08	**2,45**	2,80	**3,19**	3,56	**3,85**	2,27	**2,82**	3,35	**4,02**	4,26	**4,55**	3,08	**3,40**	3,89	**4,60**	5,03	**5,37**
Heating **(E)**		kW	2,83	**3,34**	3,83	**4,33**	4,83	**5,23**	3,22	**4,02**	4,78	**5,75**	6,11	**6,55**	4,42	**4,86**	5,58	**6,62**	7,26	**7,78**
Dp Cooling **(E)**		kPa	12,3	**16,2**	20,3	**25,1**	30,1	**34,2**	7,2	**10,3**	13,8	**18,4**	20,2	**22,5**	11,8	**13,8**	17,3	**22,4**	25,9	**28,6**
Dp Heating **(E)**		kPa	10,1	**13,5**	17,2	**21,3**	25,9	**29,7**	5,6	**8,3**	11,3	**15,6**	17,3	**19,6**	9,8	**11,6**	14,8	**19,9**	23,5	**26,5**
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 pressurea **(*)**	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.

www.eurovent-certification.com

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

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	**0,65**	0,77	0,87	**1,00**	1,08	**1,20**	**1,00**	1,11	**1,41**	1,56	**1,78**	2,00	1,32	**1,63**	**1,87**	2,17	**2,53**	2,83
Cooling sensible emission **(E)**		kW	**0,49**	0,58	0,66	**0,77**	0,84	**0,94**	**0,73**	0,82	**1,05**	1,17	**1,35**	1,53	0,95	**1,18**	**1,36**	1,59	**1,86**	2,09
Heating **(E)**		kW	**0,69**	0,80	0,92	**1,07**	1,17	**1,31**	**0,99**	1,11	**1,43**	1,60	**1,83**	2,08	1,30	**1,62**	**1,87**	2,19	**2,59**	2,88
Dp Cooling **(E)**		kPa	**1,9**	2,5	3,2	**4,0**	4,7	**5,6**	**4,9**	6,1	**9,1**	11,0	**13,9**	17,2	3,7	**5,3**	**6,7**	8,8	**11,5**	14,1
Dp Heating **(E)**		kPa	**1,7**	2,2	2,8	**3,7**	4,3	**5,3**	**4,0**	4,9	**7,6**	9,3	**11,8**	14,8	2,8	**4,2**	**5,4**	7,1	**9,8**	11,5
Fan **(E)**		W	**16**	19	21	**25**	29	**33**	**14**	16	**22**	26	**32**	40	15	**20**	**25**	32	**41**	49
Sound power **(E)**	Lw	dB(A)	**32**	34	36	**39**	42	**45**	**30**	33	**40**	43	**47**	51	31	**36**	**40**	45	**49**	52
Sound pressurea **(*)**	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	1,31	**1,81**	**2,25**	2,62	**3,08**	3,50	1,77	**2,17**	2,79	**3,21**	3,49	**4,03**	**2,79**	3,34	**3,81**	4,31	**4,71**	5,04
Cooling sensible emission **(E)**		kW	0,94	**1,32**	**1,65**	1,93	**2,30**	2,63	1,28	**1,58**	2,04	**2,36**	2,58	**3,01**	**2,03**	2,45	**2,81**	3,20	**3,52**	3,79
Heating **(E)**		kW	1,28	**1,80**	**2,27**	2,64	**3,14**	3,62	1,71	**2,10**	2,74	**3,16**	3,46	**4,01**	**2,82**	3,39	**3,90**	4,46	**4,92**	5,31
Dp Cooling **(E)**		kPa	3,4	**6,1**	**9,0**	11,7	**15,5**	19,6	7,3	**10,4**	16,3	**20,8**	24,2	**31,3**	**14,4**	19,7	**24,8**	30,9	**36,2**	40,9
Dp Heating **(E)**		kPa	2,6	**5,0**	**7,2**	9,4	**12,8**	16,4	5,6	**8,1**	12,9	**16,6**	19,5	**25,2**	**11,9**	16,5	**21,1**	26,8	**31,8**	36,3
Fan **(E)**		W	14	**21**	**28**	34	**44**	57	18	**22**	32	**39**	46	**61**	**37**	46	**55**	67	**78**	88
Sound power **(E)**	Lw	dB(A)	27	**33**	**39**	43	**47**	52	26	**31**	37	**41**	43	**48**	**37**	42	**46**	49	**52**	54
Sound pressurea **(*)**	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	2,99	**3,51**	4,01	**4,56**	5,08	**5,48**	3,22	**3,97**	4,72	**5,63**	5,94	**6,34**	4,34	**4,79**	5,45	**6,41**	6,98	**7,42**
Cooling sensible emission **(E)**		kW	2,18	**2,57**	2,96	**3,39**	3,80	**4,13**	2,38	**2,98**	3,58	**4,33**	4,59	**4,93**	3,28	**3,63**	4,18	**4,98**	5,48	**5,87**
Heating **(E)**		kW	2,95	**3,49**	4,03	**4,62**	5,15	**5,59**	3,37	**4,26**	5,14	**6,27**	6,60	**7,20**	4,70	**5,23**	6,01	**7,18**	7,93	**8,52**
Dp Cooling **(E)**		kPa	9,5	**12,5**	15,9	**20,0**	24,2	**27,7**	9,6	**14,0**	19,0	**26,0**	28,6	**32,2**	8,9	**10,6**	13,4	**17,8**	20,7	**23,2**
Dp Heating **(E)**		kPa	7,5	**10,1**	13,1	**16,6**	20,1	**23,2**	8,5	**12,8**	17,9	**24,9**	27,8	**31,7**	8,3	**10,0**	12,8	**17,6**	20,9	**23,7**
Fan **(E)**		W	44	**54**	66	**79**	92	**103**	47	**62**	81	**105**	116	**130**	78	**92**	108	**134**	152	**176**
Sound power **(E)**	Lw	dB(A)	38	**42**	47	**51**	54	**56**	39	**45**	50	**56**	58	**60**	47	**50**	54	**58**	62	**64**
Sound pressurea **(*)**	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.

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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 +65°C E.W.T. +55°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	**0,57**	0,66	0,75	**0,84**	0,91	**1,00**	**0,90**	0,99	**1,23**	1,35	**1,53**	1,70	1,27	**1,55**	**1,76**	2,04	**2,35**	2,61
Cooling sensible emission **(E)**		kW	**0,45**	0,53	0,60	**0,69**	0,75	**0,83**	**0,68**	0,76	**0,95**	1,06	**1,21**	1,36	0,92	**1,13**	**1,30**	1,51	**1,76**	1,97
Heating **(E)**		kW	**0,55**	0,62	0,69	**0,77**	0,83	**0,91**	**0,83**	0,91	**1,09**	1,19	**1,33**	1,47	1,19	**1,40**	**1,56**	1,76	**1,99**	2,18
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**	15,3	**19,7**	23,8
Dp Heating **(E)**		kPa	**0,5**	0,7	0,8	**1,0**	1,1	**1,3**	**1,3**	1,6	**2,2**	2,5	**3,1**	3,7	3,2	**4,2**	**5,1**	6,3	**7,8**	9,2
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 pressurea **(*)**	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	1,25	**1,71**	**2,11**	2,43	**2,83**	3,19	1,66	**2,01**	2,55	**2,90**	3,13	**3,58**	**2,50**	2,94	**3,32**	3,70	**4,01**	4,26
Cooling sensible emission **(E)**		kW	0,91	**1,26**	**1,57**	1,82	**2,15**	2,45	1,22	**1,49**	1,91	**2,19**	2,39	**2,76**	**1,87**	2,23	**2,54**	2,86	**3,12**	3,35
Heating **(E)**		kW	1,18	**1,52**	**1,81**	2,04	**2,33**	2,60	1,55	**1,84**	2,22	**2,50**	2,66	**3,00**	**2,19**	2,51	**2,79**	3,09	**3,33**	3,53
Dp Cooling **(E)**		kPa	6,5	**11,2**	**16,2**	20,8	**27,2**	33,8	5,4	**7,6**	11,5	**14,6**	16,7	**21,1**	**8,6**	11,4	**14,1**	17,2	**19,8**	22,1
Dp Heating **(E)**		kPa	3,1	**4,9**	**6,6**	8,2	**10,3**	12,5	1,0	**1,3**	1,9	**2,3**	2,6	**3,2**	**1,8**	2,3	**2,8**	3,3	**3,8**	4,2
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 pressurea **(*)**	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	2,82	**3,29**	3,74	**4,21**	4,66	**5,01**	3,01	**3,68**	4,32	**5,09**	5,36	**5,69**	4,00	**4,38**	4,95	**5,74**	6,21	**6,56**
Cooling sensible emission **(E)**		kW	2,08	**2,45**	2,80	**3,19**	3,56	**3,85**	2,27	**2,82**	3,35	**4,02**	4,26	**4,55**	3,08	**3,40**	3,89	**4,60**	5,03	**5,37**
Heating **(E)**		kW	2,54	**2,89**	3,23	**3,59**	3,94	**4,20**	2,66	**3,16**	3,66	**4,26**	4,48	**4,75**	3,41	**3,71**	4,15	**4,79**	5,17	**5,46**
Dp Cooling **(E)**		kPa	12,3	**16,2**	20,3	**25,1**	30,1	**34,2**	7,2	**10,3**	13,8	**18,4**	20,2	**22,5**	12,5	**14,6**	18,2	**23,6**	27,3	**30,1**
Dp Heating **(E)**		kPa	2,8	**3,5**	4,2	**5,1**	6,0	**6,7**	3,0	**4,1**	5,3	**6,9**	7,5	**8,3**	4,7	**5,4**	6,6	**8,5**	9,7	**10,7**
Fan **(E)**		W	44	**54**	66	**79**	92	**103**	47	**62**	81	**105**	116	**130**	78	**92**	108	**134**	152	**176**
Sound power **(E)**	Lw	dB(A)	38	**42**	47	**51**	54	**56**	39	**45**	50	**56**	58	**60**	47	**50**	54	**58**	62	**64**
Sound pressurea **(*)**	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.

Highest water inlet temperature.....+ 85 °C

Lowest water inlet temperature.....+ 6 °C

for entering water temperatures below + 6°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 6°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	1,08	0,83	191	2,7	0,95	0,78	169	2,1	0,69	0,69	124	1,2	0,58	0,58	105	0,9
	V		195	0,99	0,75	175	2,3	0,87	0,70	155	1,8	0,61	0,60	110	1,0	0,52	0,52	95	0,8
	IV	MED	175	0,92	0,69	162	2,0	0,81	0,64	143	1,6	0,58	0,56	103	0,9	0,48	0,48	86	0,6
	III		150	0,81	0,60	143	1,6	0,72	0,56	127	1,3	0,51	0,48	91	0,7	0,42	0,42	76	0,5
	II		125	0,72	0,52	127	1,3	0,64	0,49	114	1,1	0,46	0,42	83	0,6	0,37	0,37	67	0,4
	I	MIN	105	0,62	0,45	110	1,0	0,55	0,42	98	0,8	0,40	0,36	72	0,5	0,31	0,31	57	0,3
CRC 23	VI		340	1,84	1,35	323	9,0	1,63	1,27	287	7,3	1,19	1,10	212	4,2	0,96	0,96	172	2,9
	V	MAX	295	1,66	1,20	291	7,5	1,47	1,13	258	6,1	1,08	0,98	191	3,5	0,86	0,86	153	2,3
	IV		250	1,46	1,05	256	6,0	1,30	0,98	229	4,9	0,96	0,85	170	2,9	0,75	0,75	134	1,8
	III	MED	220	1,33	0,95	232	5,1	1,19	0,89	208	4,1	0,88	0,77	155	2,4	0,68	0,68	120	1,5
	II		170	1,07	0,75	187	3,5	0,96	0,70	169	2,8	0,71	0,61	126	1,7	0,54	0,54	96	1,0
	I	MIN	145	0,97	0,68	169	2,9	0,86	0,63	150	2,3	0,65	0,55	114	1,4	0,49	0,49	86	0,8
CRC 33	VI		440	2,81	1,96	492	27,1	2,52	1,84	442	22,3	1,90	1,60	335	13,5	1,41	1,41	251	8,0
	V	MAX	385	2,53	1,75	442	22,4	2,27	1,65	397	18,4	1,72	1,43	303	11,2	1,26	1,26	224	6,5
	IV		325	2,20	1,51	384	17,4	1,97	1,42	344	14,4	1,50	1,23	263	8,8	1,08	1,08	191	5,0
	III	MED	270	1,90	1,30	330	13,4	1,70	1,22	296	11,1	1,30	1,06	227	6,8	0,94	0,94	165	3,8
	II	MIN	235	1,66	1,13	289	10,6	1,50	1,06	261	8,8	1,14	0,92	200	5,4	0,81	0,81	143	3,0
	I		185	1,37	0,93	237	7,5	1,23	0,87	213	6,2	0,95	0,75	165	3,9	0,66	0,66	115	2,1
CRC 43	VI		570	3,43	2,44	600	38,5	3,07	2,29	538	31,5	2,30	1,99	406	19,0	1,75	1,75	311	11,7
	V	MAX	485	3,04	2,14	530	31,0	2,73	2,01	476	25,4	2,06	1,75	361	15,4	1,54	1,54	272	9,2
	IV		400	2,62	1,82	456	23,7	2,35	1,71	409	19,5	1,78	1,49	311	11,8	1,31	1,31	230	6,9
	III	MED	335	2,27	1,57	396	18,5	2,04	1,47	356	15,2	1,55	1,28	272	9,3	1,12	1,12	198	5,3
	II	MIN	265	1,84	1,26	320	12,8	1,66	1,18	289	10,5	1,27	1,03	222	6,5	0,91	0,91	160	3,6
	I		185	1,35	0,92	234	7,3	1,22	0,86	212	6,1	0,94	0,75	163	3,8	0,66	0,66	115	2,0
CRC 53	VI	MAX	650	3,86	2,75	674	23,0	3,45	2,58	604	18,9	2,59	2,25	456	11,4	1,97	1,97	349	7,0
	V		545	3,37	2,37	588	18,1	3,02	2,23	528	14,9	2,27	1,94	399	9,0	1,70	1,70	301	5,4
	IV	MED	495	3,12	2,19	544	15,8	2,80	2,05	488	12,9	2,11	1,78	370	7,9	1,57	1,57	277	4,6
	III		420	2,75	1,91	478	12,5	2,46	1,79	428	10,3	1,87	1,56	327	6,3	1,37	1,37	241	3,6
	II	MIN	315	2,16	1,49	375	8,3	1,95	1,40	339	6,8	1,48	1,21	258	4,1	1,07	1,07	187	2,4
	I		250	1,78	1,22	310	5,9	1,60	1,14	279	4,9	1,22	0,99	213	3,0	0,87	0,87	153	1,6
CRC 63	VI		830	4,60	3,33	807	25,2	4,10	3,13	721	20,6	3,06	2,72	542	12,3	2,39	2,39	427	7,9
	V	MAX	760	4,32	3,11	757	22,6	3,86	2,92	678	18,5	2,89	2,55	511	11,0	2,23	2,23	397	7,0
	IV		680	3,99	2,85	698	19,6	3,57	2,68	626	16,0	2,67	2,33	471	9,6	2,04	2,04	363	6,0
	III	MED	590	3,58	2,53	624	16,0	3,20	2,38	559	13,1	2,41	2,07	423	7,9	1,82	1,82	322	4,8
	II		505	3,16	2,22	552	13,0	2,83	2,08	495	10,6	2,14	1,81	377	6,4	1,59	1,59	282	3,8
	I	MIN	415	2,69	1,87	470	9,7	2,41	1,75	421	8,0	1,82	1,52	320	4,9	1,34	1,34	237	2,8
CRC 73	VI	MAX	925	5,40	3,84	946	38,8	4,93	1,78	848	31,9	3,64	3,14	643	19,3	2,76	2,76	492	11,9
	V		840	5,03	3,55	881	34,2	4,59	3,42	790	28,1	3,40	2,91	600	17,1	2,55	2,55	454	10,3
	IV	MED	735	4,54	3,18	795	28,6	4,15	3,07	713	23,5	3,08	2,60	544	14,3	2,28	2,28	406	8,5
	III		630	4,02	2,79	703	23,1	3,68	2,69	632	19,0	2,73	2,28	482	11,6	2,00	2,00	356	6,7
	II	MIN	535	3,54	2,45	617	18,3	3,23	2,35	556	15,1	2,42	1,99	425	9,3	1,75	1,75	310	5,3
	I		445	3,04	2,08	530	14,0	2,77	2,00	477	11,6	2,09	1,70	366	7,2	1,50	1,50	265	4,0
CRC 83	VI	MAX	1200	6,14	4,52	1078	21,7	5,46	4,25	961	17,6	4,03	3,71	716	10,3	3,23	3,23	578	7,0
	V		1100	5,78	4,23	1015	19,5	5,15	3,97	906	15,8	3,81	3,46	676	9,3	3,02	3,02	540	6,2
	IV	MED	1020	5,50	4,00	963	17,7	4,90	3,76	860	14,4	3,63	3,27	642	8,5	2,86	2,86	509	5,6
	III		815	4,67	3,34	817	13,3	4,17	3,14	731	10,8	3,11	2,73	549	6,5	2,39	2,39	425	4,1
	II	MIN	655	3,97	2,81	693	9,9	3,55	2,63	621	8,1	2,66	2,29	468	4,9	2,02	2,02	358	3,0
	I		510	3,24	2,26	566	7,0	2,91	2,12	509	5,7	2,19	1,84	385	3,5	1,62	1,62	287	2,0
CRC 93	VI	MAX	1500	7,09	5,32	1250	28,1	6,30	5,01	1115	22,8	4,62	4,38	826	13,2	3,80	3,80	685	9,4
	V		1365	6,71	5,00	1180	25,4	5,96	4,70	1051	20,6	4,39	4,10	781	12,0	3,57	3,57	640	8,4
	IV	MED	1210	6,20	4,57	1089	22,0	5,51	4,29	970	17,9	4,07	3,75	722	10,5	3,27	3,27	585	7,1
	III		980	5,34	3,87	937	16,9	4,76	3,64	838	13,8	3,53	3,16	626	8,2	2,77	2,77	495	5,3
	II	MIN	830	4,73	3,39	829	13,6	4,22	3,18	741	11,1	3,14	2,76	556	6,6	2,42	2,42	432	4,2
	I		735	4,32	3,07	757	11,6	3,85	2,88	676	9,5	2,88	2,50	509	5,7	2,19	2,19	390	3,5

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	0,95	0,78	169	2,2	0,82	0,73	146	1,7	0,64	0,64	115	1,1	0,52	0,52	95	0,8
	V		195	0,87	0,70	155	1,8	0,75	0,65	134	1,4	0,57	0,57	103	0,9	0,47	0,47	86	0,6
	IV	MED	175	0,81	0,64	143	1,6	0,70	0,60	124	1,2	0,53	0,53	95	0,8	0,44	0,44	79	0,5
	III		150	0,71	0,56	126	1,3	0,62	0,52	110	1,0	0,46	0,46	83	0,6	0,38	0,38	69	0,4
	II		125	0,63	0,49	112	1,1	0,55	0,46	98	0,8	0,40	0,40	72	0,5	0,33	0,33	60	0,3
	I	MIN	105	0,55	0,42	98	0,8	0,47	0,39	84	0,6	0,35	0,35	64	0,4	0,28	0,28	52	0,3
CRC 23	VI		340	1,62	1,27	286	7,3	1,42	1,19	251	5,7	1,05	1,05	187	3,4	0,87	0,87	157	2,5
	V	MAX	295	1,46	1,13	256	6,0	1,28	1,06	225	4,8	0,94	0,94	167	2,8	0,78	0,78	139	2,0
	IV		250	1,29	0,98	227	4,9	1,13	0,92	200	3,9	0,82	0,82	146	2,2	0,68	0,68	122	1,6
	III	MED	220	1,18	0,89	206	4,1	1,04	0,83	182	3,3	0,72	0,71	127	1,7	0,62	0,62	110	1,3
	II		170	0,95	0,70	167	2,8	0,83	0,66	146	2,2	0,59	0,56	105	1,2	0,49	0,49	88	0,9
	I	MIN	145	0,86	0,63	150	2,3	0,76	0,59	132	1,9	0,54	0,51	95	1,0	0,44	0,44	77	0,7
CRC 33	VI		440	2,50	1,85	439	22,2	2,21	1,72	389	17,8	1,58	1,48	280	9,9	1,28	1,28	229	6,8
	V	MAX	385	2,25	1,65	394	18,4	1,99	1,54	349	14,7	1,43	1,32	253	8,3	1,15	1,15	205	5,6
	IV		325	1,96	1,42	342	14,3	1,73	1,33	303	11,5	1,25	1,14	220	6,5	0,99	0,99	175	4,3
	III	MED	270	1,69	1,22	294	11,0	1,50	1,14	261	8,9	1,09	0,98	191	5,0	0,86	0,86	151	3,3
	II	MIN	235	1,48	1,06	258	8,8	1,32	0,99	230	7,1	0,96	0,85	169	4,0	0,74	0,74	131	2,6
	I		185	1,22	0,87	212	6,2	1,09	0,81	189	5,0	0,80	0,70	139	2,9	0,61	0,61	107	1,8
CRC 43	VI		570	3,05	2,29	535	31,5	2,69	2,14	473	25,1	1,91	1,84	339	13,8	1,60	1,60	286	10,0
	V	MAX	485	2,71	2,02	473	25,3	2,39	1,89	418	20,3	1,71	1,62	301	11,2	1,41	1,41	249	7,9
	IV		400	2,33	1,72	406	19,4	2,06	1,60	359	15,5	1,49	1,38	261	8,7	1,20	1,20	212	5,9
	III	MED	335	2,02	1,47	353	15,1	1,79	1,38	313	12,2	1,29	1,18	227	6,9	1,03	1,03	182	4,5
	II	MIN	265	1,65	1,19	287	10,5	1,46	1,11	255	8,5	1,06	0,95	186	4,8	0,83	0,83	146	3,1
	I		185	1,21	0,86	210	6,1	1,08	0,81	187	4,9	0,79	0,69	138	2,8	0,60	0,60	105	1,7
CRC 53	VI	MAX	650	3,43	2,59	600	18,8	3,02	2,42	530	15,0	2,14	2,08	378	8,1	1,80	1,80	320	6,0
	V		545	3,00	2,23	525	14,9	2,65	2,09	464	11,9	1,89	1,79	334	6,5	1,55	1,55	275	4,6
	IV	MED	495	2,78	2,06	485	12,9	2,45	1,92	428	10,3	1,76	1,65	310	5,8	1,43	1,43	253	4,0
	III		420	2,45	1,80	427	10,3	2,16	1,68	377	8,3	1,56	1,44	273	4,6	1,25	1,25	220	3,1
	II	MIN	315	1,93	1,40	335	6,8	1,71	1,31	298	5,4	1,24	1,12	217	3,1	0,98	0,98	172	2,0
	I		250	1,59	1,14	277	4,9	1,41	1,07	246	3,9	1,03	0,91	181	2,3	0,80	0,80	141	1,4
CRC 63	VI		830	4,09	3,13	719	20,6	3,59	2,93	633	16,3	2,60	2,60	463	9,3	2,17	2,17	389	6,8
	V	MAX	760	3,84	2,93	674	18,4	3,38	2,74	595	14,7	2,38	2,35	423	7,9	2,03	2,02	363	6,0
	IV		680	3,55	2,68	623	16,0	3,12	2,51	549	12,7	2,21	2,15	392	6,9	1,86	1,86	332	5,1
	III	MED	590	3,18	2,38	556	13,1	2,81	2,23	492	10,5	2,00	1,91	353	5,7	1,66	1,66	294	4,1
	II		505	2,82	2,09	494	10,6	2,49	1,95	437	8,5	1,77	1,67	313	4,7	1,45	1,45	258	3,3
	I	MIN	415	2,40	1,76	420	8,0	2,12	1,64	372	6,4	1,52	1,41	268	3,6	1,22	1,22	217	2,4
CRC 73	VI	MAX	925	4,81	3,61	845	31,8	4,24	3,38	746	25,4	3,02	2,91	537	14,0	2,16	2,16	389	6,8
	V		840	4,48	3,34	786	28,0	3,95	3,13	695	22,5	2,82	2,69	501	12,5	2,02	2,02	363	6,0
	IV	MED	735	4,04	2,99	709	23,4	3,57	2,80	628	18,8	2,56	2,40	454	10,5	1,85	1,85	332	5,1
	III		630	3,58	2,63	628	18,9	3,17	2,46	557	15,2	2,28	2,11	404	8,6	1,64	1,64	294	4,1
	II	MIN	535	3,16	2,30	552	15,1	2,80	2,15	490	12,1	2,03	1,85	358	6,9	1,45	1,45	258	3,3
	I		445	2,72	1,96	475	11,5	2,41	1,83	421	9,3	1,75	1,57	308	5,3	1,22	1,22	217	2,4
CRC 83	VI	MAX	1200	5,44	4,26	958	17,6	4,77	3,99	843	13,9	3,53	3,53	630	8,2	2,94	2,94	528	6,0
	V		1100	5,13	3,98	903	15,8	4,49	3,72	793	12,5	3,30	3,30	588	7,3	2,75	2,75	494	5,3
	IV	MED	1020	4,88	3,76	857	14,4	4,28	3,52	753	11,4	3,12	3,12	554	6,6	2,60	2,60	464	4,8
	III		815	4,14	3,15	726	10,8	3,64	2,94	640	8,6	2,56	2,52	454	4,6	2,18	2,18	389	3,5
	II	MIN	655	3,53	2,64	617	8,1	3,11	2,47	545	6,5	2,20	2,11	389	3,5	1,84	1,84	327	2,6
	I		510	2,89	2,13	506	5,7	2,55	1,99	447	4,6	1,82	1,70	322	2,5	1,48	1,48	263	1,7
CRC 93	VI	MAX	1500	5,39	4,21	958	17,6	5,48	4,70	974	18,0	4,16	4,16	746	11,1	3,45	3,45	624	8,0
	V		1365	5,10	3,95	903	15,8	5,20	4,41	920	16,3	3,91	3,91	698	9,9	3,25	3,25	585	7,1
	IV	MED	1210	4,85	3,73	857	14,4	4,81	4,03	850	14,1	3,57	3,57	636	8,4	2,97	2,97	533	6,1
	III		980	4,11	3,12	726	10,8	4,15	3,41	733	10,9	3,02	3,02	538	6,2	2,51	2,51	451	4,5
	II	MIN	830	3,50	2,61	617	8,1	3,69	2,98	650	8,8	2,59	2,55	461	4,7	2,20	2,20	394	3,6
	I		735	2,86	2,10	506	5,7	3,37	2,70	593	7,5	2,37	2,31	421	4,1	1,99	1,99	356	3,0

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	0,82	0,73	146	1,7	0,68	0,67	122	1,2	0,58	0,58	105	0,9	0,47	0,47	86	0,6
	V		195	0,75	0,65	134	1,4	0,62	0,60	112	1,1	0,52	0,52	95	0,8	0,42	0,42	77	0,5
	IV	MED	175	0,70	0,60	124	1,2	0,59	0,56	105	0,9	0,48	0,48	86	0,7	0,39	0,39	71	0,5
	III		150	0,62	0,52	110	1,0	0,52	0,48	93	0,7	0,42	0,42	76	0,5	0,34	0,34	62	0,4
	II		125	0,55	0,46	98	0,8	0,46	0,42	83	0,6	0,37	0,37	67	0,4	0,30	0,30	55	0,3
	I	MIN	105	0,47	0,39	84	0,6	0,40	0,36	72	0,5	0,31	0,31	57	0,3	0,25	0,25	46	0,2
CRC 23	VI		340	1,42	1,19	251	5,8	1,21	1,11	215	4,4	0,96	0,96	172	2,9	0,78	0,78	141	2,0
	V	MAX	295	1,28	1,06	225	4,8	1,09	0,98	193	3,6	0,86	0,86	153	2,4	0,70	0,70	126	1,7
	IV		250	1,13	0,92	200	3,9	0,97	0,86	172	2,9	0,75	0,75	134	1,9	0,61	0,61	110	1,3
	III	MED	220	1,03	0,84	181	3,3	0,89	0,78	157	2,5	0,68	0,68	120	1,6	0,56	0,56	100	1,1
	II		170	0,83	0,66	146	2,2	0,72	0,61	127	1,7	0,54	0,54	96	1,0	0,44	0,44	79	0,7
	I	MIN	145	0,75	0,59	131	1,9	0,65	0,55	114	1,4	0,49	0,49	86	0,9	0,40	0,40	71	0,6
CRC 33	VI		440	2,20	1,73	387	17,8	1,91	1,61	337	13,8	1,41	1,41	251	8,1	1,16	1,16	208	5,8
	V	MAX	385	1,98	1,55	347	14,8	1,72	1,44	303	11,5	1,26	1,26	224	6,6	1,04	1,04	186	4,7
	IV		325	1,73	1,33	303	11,5	1,50	1,24	263	9,0	1,09	1,09	193	5,1	0,90	0,90	160	3,6
	III	MED	270	1,49	1,14	260	8,9	1,30	1,06	227	6,9	0,94	0,94	165	3,9	0,78	0,78	138	2,8
	II	MIN	235	1,31	1,00	229	7,1	1,14	0,93	200	5,5	0,82	0,82	144	3,1	0,67	0,67	119	2,2
	I		185	1,08	0,82	187	5,0	0,95	0,76	165	3,9	0,64	0,64	112	2,0	0,55	0,55	96	1,5
CRC 43	VI		570	2,68	2,15	471	25,2	2,32	2,00	409	19,5	1,76	1,76	313	11,9	1,44	1,44	258	8,4
	V	MAX	485	2,39	1,89	418	20,3	2,07	1,76	363	15,7	1,55	1,55	273	9,4	1,27	1,27	225	6,6
	IV		400	2,06	1,61	359	15,6	1,78	1,50	311	12,1	1,32	1,32	232	7,0	1,08	1,08	191	5,0
	III	MED	335	1,78	1,38	311	12,2	1,55	1,28	272	9,5	1,13	1,13	200	5,4	0,93	0,93	165	3,8
	II	MIN	265	1,45	1,11	253	8,5	1,27	1,03	222	6,6	0,91	0,91	160	3,7	0,75	0,75	132	2,6
	I		185	1,07	0,81	186	4,9	0,94	0,75	163	3,8	0,64	0,63	112	1,9	0,55	0,55	96	1,5
CRC 53	VI	MAX	650	3,02	2,42	530	15,0	2,61	2,26	459	11,6	1,98	1,98	351	7,1	1,62	1,62	289	5,0
	V		545	2,64	2,09	463	11,9	2,28	1,95	401	9,1	1,71	1,71	303	5,5	1,40	1,40	249	3,9
	IV	MED	495	2,45	1,93	428	10,4	2,12	1,79	372	8,0	1,57	1,57	277	4,8	1,29	1,29	229	3,4
	III		420	2,16	1,68	377	8,3	1,87	1,57	327	6,4	1,37	1,37	241	3,8	1,13	1,13	200	2,6
	II	MIN	315	1,71	1,31	298	5,4	1,48	1,22	258	4,3	1,08	1,08	189	2,4	0,89	0,89	157	1,8
	I		250	1,41	1,07	246	3,9	1,23	0,99	215	3,0	0,87	0,87	153	1,6	0,72	0,72	127	1,1
CRC 63	VI		830	3,58	2,94	631	16,4	3,09	2,73	547	12,6	2,39	2,39	427	8,1	1,96	1,96	353	5,7
	V	MAX	760	3,37	2,74	593	14,7	2,91	2,56	514	11,3	2,23	2,23	397	7,1	1,83	1,83	329	5,0
	IV		680	3,12	2,51	549	12,8	2,69	2,34	475	9,9	2,05	2,05	365	6,1	1,68	1,68	301	4,3
	III	MED	590	2,80	2,23	490	10,5	2,42	2,08	425	8,1	1,82	1,82	322	4,9	1,50	1,50	267	3,5
	II		505	2,48	1,95	435	8,5	2,14	1,82	377	6,6	1,59	1,59	282	3,9	1,31	1,31	234	2,8
	I	MIN	415	2,11	1,64	370	6,4	1,83	1,53	322	5,0	1,34	1,34	237	2,9	1,10	1,10	196	2,0
CRC 73	VI	MAX	925	4,23	3,39	745	25,5	3,66	3,16	647	19,8	2,76	2,76	492	12,1	2,27	2,27	408	8,5
	V		840	3,94	3,14	693	22,5	3,41	2,92	602	17,5	2,56	2,56	456	10,5	2,10	2,10	377	7,4
	IV	MED	735	3,56	2,81	626	18,8	3,09	2,61	545	14,6	2,29	2,29	408	8,6	1,88	1,88	337	6,1
	III		630	3,16	2,46	556	15,2	2,74	2,29	483	11,9	2,01	2,01	358	6,9	1,65	1,65	296	4,9
	II	MIN	535	2,79	2,16	488	12,1	2,42	2,00	425	9,5	1,76	1,76	311	5,4	1,45	1,45	258	3,8
	I		445	2,40	1,84	420	9,3	2,09	1,71	366	7,3	1,51	1,51	267	4,1	1,24	1,24	220	2,9
CRC 83	VI	MAX	1200	4,76	3,99	841	14,0	4,08	3,72	724	10,7	3,24	3,24	580	7,1	2,64	2,64	476	5,0
	V		1100	4,49	3,73	793	12,6	3,85	3,47	683	9,6	3,03	3,03	542	6,3	2,47	2,47	445	4,4
	IV	MED	1020	4,27	3,53	752	11,5	3,67	3,28	648	8,8	2,87	2,87	511	5,7	2,34	2,34	420	4,0
	III		815	3,63	2,95	638	8,6	3,13	2,74	552	6,6	2,39	2,39	425	4,1	1,96	1,96	351	2,9
	II	MIN	655	3,10	2,47	544	6,5	2,67	2,30	470	5,0	2,03	2,03	359	3,1	1,66	1,66	296	2,2
	I		510	2,54	1,99	445	4,6	2,20	1,85	387	3,5	1,63	1,63	289	2,1	1,34	1,34	239	1,5
CRC 93	VI	MAX	1500	5,49	4,71	975	18,1	4,68	4,39	836	13,7	3,81	3,81	686	9,6	3,10	3,10	564	6,7
	V		1365	5,20	4,42	920	16,4	4,44	4,11	789	12,4	3,58	3,58	642	8,5	2,92	2,92	528	5,9
	IV	MED	1210	4,81	4,04	850	14,2	4,12	3,76	731	10,8	3,27	3,27	585	7,2	2,67	2,67	482	5,1
	III		980	4,15	3,41	733	11,0	3,56	3,17	631	8,4	2,77	2,77	495	5,4	2,26	2,26	408	3,8
	II	MIN	830	3,68	2,98	648	8,8	3,17	2,78	561	6,8	2,42	2,42	432	4,2	1,98	1,98	356	3,0
	I		735	3,36	2,70	592	7,5	2,90	2,51	513	5,8	2,20	2,20	392	3,6	1,80	1,80	323	2,5

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	1,30	0,93	229	6,4	1,15	0,88	203	5,2	0,84	0,76	150	3,0	0,67	0,67	120	2,0
	V		195	1,17	0,84	206	5,4	1,04	0,78	184	4,3	0,76	0,68	136	2,5	0,59	0,59	107	1,6
	IV	MED	175	1,08	0,77	189	4,6	0,96	0,72	169	3,7	0,71	0,62	126	2,2	0,55	0,55	98	1,4
	III		150	0,94	0,66	165	3,6	0,84	0,62	148	2,9	0,62	0,53	110	1,7	0,47	0,47	84	1,1
	II		125	0,83	0,58	146	2,9	0,74	0,54	131	2,4	0,55	0,46	98	1,4	0,41	0,41	74	0,9
	I	MIN	105	0,71	0,49	126	2,2	0,63	0,45	112	1,8	0,47	0,39	84	1,1	0,35	0,35	64	0,6
CRC 24	VI		340	2,16	1,52	378	19,6	1,93	1,43	339	16,0	1,45	1,24	256	9,6	1,09	1,09	194	5,9
	V	MAX	295	1,92	1,34	335	15,9	1,72	1,26	301	13,0	1,30	1,09	229	7,8	0,96	0,96	170	4,7
	IV		250	1,68	1,16	294	12,5	1,50	1,09	263	10,3	1,13	0,94	200	6,2	0,83	0,83	148	3,6
	III	MED	220	1,52	1,05	265	10,4	1,36	0,98	237	8,6	1,03	0,85	181	5,2	0,75	0,75	132	3,0
	II		170	1,20	0,81	210	6,9	1,07	0,76	187	5,7	0,82	0,66	144	3,5	0,58	0,58	103	1,9
	I	MIN	145	1,07	0,73	186	5,6	0,96	0,68	167	4,6	0,74	0,59	129	2,9	0,52	0,52	91	1,6
CRC 34	VI		440	3,04	2,09	531	16,0	2,73	1,96	478	13,2	2,07	1,70	365	8,1	1,50	1,50	267	4,6
	V	MAX	385	2,72	1,86	475	13,1	2,44	1,74	427	10,8	1,85	1,51	325	6,6	1,33	1,33	236	3,7
	IV		325	2,34	1,59	408	10,1	2,11	1,49	368	8,3	1,61	1,29	282	5,1	1,14	1,14	201	2,8
	III	MED	270	2,01	1,36	349	7,6	1,81	1,27	315	6,3	1,38	1,10	241	3,9	0,98	0,98	172	2,1
	II	MIN	235	1,75	1,18	304	6,0	1,57	1,10	273	5,0	1,21	0,95	212	3,1	0,84	0,84	148	1,6
	I		185	1,42	0,96	246	4,1	1,29	0,90	224	3,4	0,99	0,78	172	2,2	0,69	0,69	120	1,1
CRC 44	VI		570	3,65	2,54	638	21,2	3,27	2,38	573	17,4	2,47	2,06	435	10,5	1,82	1,82	323	6,2
	V	MAX	485	3,31	2,29	576	17,7	2,97	2,15	518	14,5	2,25	1,86	394	8,8	1,65	1,65	291	5,1
	IV		400	2,82	1,93	490	13,3	2,53	1,81	440	10,9	1,93	1,57	337	6,7	1,39	1,39	244	3,8
	III	MED	335	2,42	1,65	421	10,2	2,18	1,55	380	8,4	1,66	1,34	291	5,2	1,18	1,18	208	2,9
	II	MIN	265	1,95	1,32	339	6,9	1,76	1,24	306	5,7	1,34	1,07	234	3,6	0,95	0,95	167	1,9
	I		185	1,41	0,95	244	3,9	1,27	0,89	220	3,2	0,98	0,77	170	2,0	0,68	0,68	119	1,1
CRC 54	VI	MAX	650	4,34	3,00	757	35,5	3,90	2,82	681	29,3	2,96	2,45	519	18,0	2,16	2,16	382	10,3
	V		545	3,75	2,57	654	27,4	3,37	2,41	588	22,7	2,57	2,10	451	14,0	1,85	1,85	327	7,8
	IV	MED	495	3,45	2,36	600	23,6	3,10	2,21	540	19,5	2,37	1,92	415	12,1	1,69	1,69	298	6,7
	III		420	3,00	2,04	521	18,5	2,71	1,92	471	15,3	2,08	1,67	363	9,5	1,47	1,47	258	5,2
	II	MIN	315	2,33	1,57	404	11,8	2,10	1,48	365	9,8	1,62	1,28	282	6,1	1,13	1,13	198	3,2
	I		250	1,90	1,28	330	8,3	1,72	1,20	299	6,9	1,33	1,04	232	4,3	0,87	0,87	153	2,1
CRC 64	VI		830	5,43	3,77	949	46,5	4,87	3,54	853	38,3	3,69	3,08	650	23,4	2,71	2,71	482	13,6
	V	MAX	760	5,06	3,51	884	41,1	4,55	3,29	796	33,9	3,45	2,86	607	20,8	2,52	2,52	447	12,0
	IV		680	4,63	3,19	808	35,1	4,16	2,99	728	28,9	3,17	2,60	557	17,8	2,29	2,29	406	10,1
	III	MED	590	4,10	2,81	714	28,1	3,69	2,64	643	23,3	2,81	2,29	492	14,4	2,02	2,02	356	8,0
	II		505	3,58	2,44	624	22,3	3,23	2,29	564	18,4	2,47	1,98	433	11,4	1,75	1,75	310	6,2
	I	MIN	415	3,00	2,03	523	16,3	2,70	1,90	471	13,5	2,08	1,65	365	8,4	1,46	1,46	258	4,5
CRC 74	VI	MAX	925	5,90	4,11	1032	31,4	5,29	3,86	927	25,9	4,01	3,36	707	15,8	2,95	2,95	525	9,3
	V		840	5,47	3,79	956	27,5	4,91	3,56	860	22,6	3,72	3,10	655	13,9	2,72	2,72	483	8,0
	IV	MED	735	4,90	3,38	857	22,7	4,40	3,17	771	18,7	3,35	2,76	590	11,5	2,42	2,42	430	6,5
	III		630	4,31	2,95	753	18,1	3,88	2,77	679	14,9	2,95	2,40	519	9,2	2,11	2,11	375	5,1
	II	MIN	535	3,77	2,57	657	14,2	3,39	2,41	592	11,8	2,60	2,09	456	7,3	1,85	1,85	327	4,0
	I		445	3,21	2,18	559	10,7	2,90	2,04	506	8,9	2,22	1,77	389	5,5	1,56	1,56	275	3,0
CRC 84	VI	MAX	1200	6,85	4,91	1201	36,0	6,11	4,60	1073	29,3	4,55	4,00	805	17,5	3,50	3,50	624	11,0
	V		1100	6,41	4,57	1123	32,0	5,72	4,29	1004	26,1	4,27	3,72	755	15,5	3,26	3,26	581	9,7
	IV	MED	1020	6,07	4,31	1061	29,0	5,42	4,04	949	23,6	4,05	3,51	714	14,0	3,08	3,08	547	8,6
	III		815	5,09	3,57	889	21,2	4,56	3,35	798	17,3	3,42	2,91	602	10,4	2,57	2,57	456	6,3
	II	MIN	655	4,28	2,98	746	15,7	3,84	2,79	671	12,8	2,89	2,42	507	7,7	2,13	2,13	377	4,5
	I		510	3,46	2,38	604	10,8	3,11	2,23	544	8,8	2,35	1,93	413	5,4	1,70	1,70	301	3,1
CRC 94	VI	MAX	1500	8,02	5,83	1410	26,5	7,14	5,47	1259	21,6	5,28	4,76	939	12,7	4,16	4,16	746	8,4
	V		1365	7,54	5,45	1323	23,7	6,72	5,12	1182	19,3	4,98	4,46	882	11,4	3,89	3,89	695	7,4
	IV	MED	1210	6,92	4,96	1213	20,3	6,17	4,66	1084	16,5	4,59	4,05	812	9,8	3,54	3,54	631	6,2
	III		980	5,89	4,17	1032	15,3	5,26	3,91	924	12,5	3,93	3,39	695	7,5	2,97	2,97	530	4,6
	II	MIN	830	5,16	3,62	903	12,1	4,62	3,40	810	9,9	3,46	2,94	611	6,0	2,60	2,60	463	3,6
	I		735	4,69	3,27	820	10,2	4,19	3,06	734	8,4	3,15	2,66	556	5,0	2,34	2,34	416	3,0

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

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	1,00	0,82	177	4,1	0,85	0,76	151	3,1	0,67	0,67	120	2,0	0,54	0,54	98	1,4
	V		195	0,90	0,73	160	3,4	0,77	0,68	138	2,6	0,60	0,60	108	1,7	0,48	0,48	88	1,2
	IV	MED	175	0,83	0,67	146	2,9	0,71	0,62	126	2,2	0,55	0,55	98	1,4	0,45	0,45	81	1,0
	III		150	0,73	0,58	129	2,3	0,62	0,54	110	1,8	0,47	0,47	84	1,1	0,38	0,38	69	0,8
	II		125	0,64	0,50	114	1,9	0,55	0,47	98	1,4	0,41	0,41	74	0,9	0,34	0,34	62	0,6
	I	MIN	105	0,55	0,42	98	1,4	0,47	0,39	84	1,1	0,35	0,35	64	0,7	0,28	0,28	52	0,5
CRC 24	VI		340	1,69	1,34	298	12,8	1,46	1,24	258	9,8	1,09	1,09	194	6,0	0,90	0,90	162	4,2
	V	MAX	295	1,51	1,18	265	10,4	1,30	1,10	229	8,0	0,97	0,97	172	4,7	0,79	0,79	141	3,4
	IV		250	1,32	1,02	232	8,2	1,14	0,95	201	6,4	0,83	0,83	148	3,7	0,68	0,68	122	2,6
	III	MED	220	1,19	0,92	208	6,8	1,03	0,85	181	5,3	0,75	0,75	132	3,0	0,62	0,62	110	2,1
	II		170	0,94	0,72	165	4,6	0,82	0,66	144	3,5	0,59	0,59	105	2,0	0,48	0,48	86	1,4
	I	MIN	145	0,85	0,64	148	3,7	0,74	0,59	129	2,9	0,53	0,53	93	1,6	0,43	0,43	76	1,1
CRC 34	VI		440	2,39	1,84	420	10,6	2,07	1,71	365	8,2	1,50	1,50	267	4,7	1,24	1,24	222	3,3
	V	MAX	385	2,14	1,64	375	8,7	1,86	1,52	327	6,7	1,34	1,34	237	3,8	1,10	1,10	196	2,7
	IV		325	1,85	1,40	323	6,7	1,61	1,30	282	5,2	1,15	1,15	203	2,9	0,95	0,95	169	2,0
	III	MED	270	1,59	1,20	277	5,1	1,38	1,11	241	4,0	0,93	0,93	163	2,0	0,81	0,81	143	1,5
	II	MIN	235	1,38	1,04	241	4,0	1,21	0,96	212	3,1	0,82	0,80	144	1,6	0,70	0,70	124	1,2
	I		185	1,13	0,84	196	2,8	0,99	0,78	172	2,2	0,68	0,66	119	1,1	0,57	0,57	100	0,8
CRC 44	VI		570	2,95	2,31	518	14,6	2,56	2,15	451	11,3	1,89	1,89	335	6,7	1,50	1,50	268	4,5
	V	MAX	485	2,60	2,02	454	11,6	2,26	1,87	396	9,0	1,65	1,65	291	5,2	1,36	1,36	241	3,7
	IV		400	2,22	1,70	387	8,8	1,93	1,58	337	6,8	1,40	1,40	246	3,8	1,15	1,15	203	2,7
	III	MED	335	1,91	1,45	334	6,7	1,66	1,35	291	5,3	1,19	1,19	210	2,9	0,98	0,98	174	2,1
	II	MIN	265	1,54	1,16	268	4,6	1,34	1,08	234	3,6	0,91	0,90	160	1,8	0,79	0,79	139	1,4
	I		185	1,12	0,83	194	2,6	0,98	0,77	170	2,0	0,67	0,65	117	1,0	0,56	0,56	98	0,8
CRC 54	VI	MAX	650	3,42	2,65	599	23,5	2,97	2,46	521	18,3	2,16	2,16	382	10,5	1,78	1,78	316	7,4
	V		545	2,96	2,27	518	18,2	2,58	2,11	452	14,2	1,85	1,85	327	8,0	1,53	1,53	272	5,7
	IV	MED	495	2,72	2,08	475	15,7	2,38	1,93	416	12,3	1,70	1,70	299	6,8	1,40	1,40	248	4,8
	III		420	2,38	1,80	415	12,3	2,08	1,68	363	9,7	1,48	1,48	260	5,3	1,22	1,22	215	3,8
	II	MIN	315	1,85	1,39	322	7,9	1,62	1,29	282	6,2	1,11	1,09	194	3,2	0,94	0,94	165	2,4
	I		250	1,51	1,13	263	5,5	1,32	1,05	230	4,4	0,91	0,88	160	2,3	0,76	0,76	134	1,6
CRC 64	VI		830	4,27	3,33	750	30,7	3,70	3,09	652	23,9	2,72	2,72	483	13,9	2,24	2,24	401	9,9
	V	MAX	760	3,99	3,09	700	27,2	3,46	2,87	609	21,2	2,53	2,53	449	12,2	2,08	2,08	372	8,6
	IV		680	3,65	2,81	640	23,2	3,17	2,62	557	18,1	2,30	2,30	408	10,3	1,89	1,89	337	7,3
	III	MED	590	3,24	2,48	566	18,7	2,82	2,30	494	14,6	2,02	2,02	356	8,1	1,67	1,67	296	5,8
	II		505	2,83	2,15	495	14,8	2,47	2,00	433	11,6	1,75	1,75	310	6,4	1,45	1,45	258	4,5
	I	MIN	415	2,38	1,79	416	10,9	2,08	1,66	365	8,5	1,41	1,39	249	4,3	1,21	1,21	215	3,3
CRC 74	VI	MAX	925	4,64	3,63	815	20,7	4,02	3,37	709	16,1	2,96	2,96	526	9,4	2,44	2,44	437	6,7
	V		840	4,30	3,35	755	18,2	3,74	3,11	659	14,1	2,73	2,73	485	8,2	2,25	2,25	402	5,8
	IV	MED	735	3,86	2,98	678	15,0	3,36	2,77	592	11,7	2,43	2,43	432	6,7	2,00	2,00	358	4,7
	III		630	3,40	2,60	597	12,0	2,96	2,42	521	9,4	2,12	2,12	377	5,2	1,75	1,75	313	3,7
	II	MIN	535	2,98	2,27	521	9,4	2,60	2,11	456	7,4	1,86	1,86	329	4,1	1,53	1,53	272	2,9
	I		445	2,54	1,92	444	7,1	2,22	1,78	389	5,6	1,51	1,50	267	2,8	1,30	1,30	230	2,2
CRC 84	VI	MAX	1200	5,32	4,32	937	23,2	4,58	4,02	810	17,8	3,51	3,51	626	11,2	2,87	2,87	516	7,9
	V		1100	4,99	4,02	879	20,7	4,29	3,74	759	15,8	3,27	3,27	583	9,9	2,67	2,67	480	6,8
	IV	MED	1020	4,73	3,79	831	18,7	4,07	3,53	717	14,4	3,08	3,08	547	8,8	2,53	2,53	452	6,3
	III		815	3,98	3,14	698	13,9	3,43	2,92	604	10,6	2,57	2,57	456	6,5	2,11	2,11	377	4,5
	II	MIN	655	3,35	2,62	587	10,3	2,90	2,43	509	7,9	2,14	2,14	378	4,7	1,76	1,76	313	3,2
	I		510	2,72	2,09	476	7,0	2,36	1,94	415	5,4	1,70	1,70	301	3,1	1,40	1,40	249	2,2
CRC 94	VI	MAX	1500	6,22	5,14	1101	17,1	5,33	4,78	948	13,1	4,16	4,16	746	8,5	3,39	3,39	614	5,9
	V		1365	5,85	4,80	1032	15,3	5,02	4,47	889	11,7	3,90	3,90	697	7,5	3,18	3,18	573	5,3
	IV	MED	1210	5,38	4,37	948	13,1	4,62	4,06	817	10,1	3,55	3,55	633	6,3	2,90	2,90	521	4,4
	III		980	4,58	3,67	807	9,9	3,95	3,41	698	7,6	2,98	2,98	531	4,7	2,44	2,44	439	3,3
	II	MIN	830	4,03	3,18	709	7,9	3,48	2,96	614	6,1	2,61	2,61	464	3,7	2,14	2,14	384	2,6
	I		735	3,66	2,87	643	6,7	3,16	2,67	557	5,1	2,35	2,35	418	3,1	1,93	1,93	346	2,2

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	29,3	11,00	946	18,9	7,63	656	10,3	8,77	1508	44,1	7,11	1223	31,0
	V		1100	13,34	1147	25,7	10,22	879	16,6	7,10	611	9,0	8,15	1402	38,9	6,60	1135	27,4
	IV	MED	1020	12,52	1077	23,0	9,60	826	14,9	6,67	574	8,1	7,65	1316	34,7	6,20	1066	24,5
	III		815	10,37	892	16,6	7,96	685	10,8	5,54	476	5,9	6,34	1090	24,8	5,14	884	17,6
	II	MIN	655	8,55	735	11,9	6,57	565	7,6	4,58	394	4,1	5,23	900	17,8	4,24	729	12,6
	I		510	6,78	583	7,9	5,22	449	5,0	3,65	314	2,9	4,15	714	11,9	3,37	580	8,3
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		
				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	1,32	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*

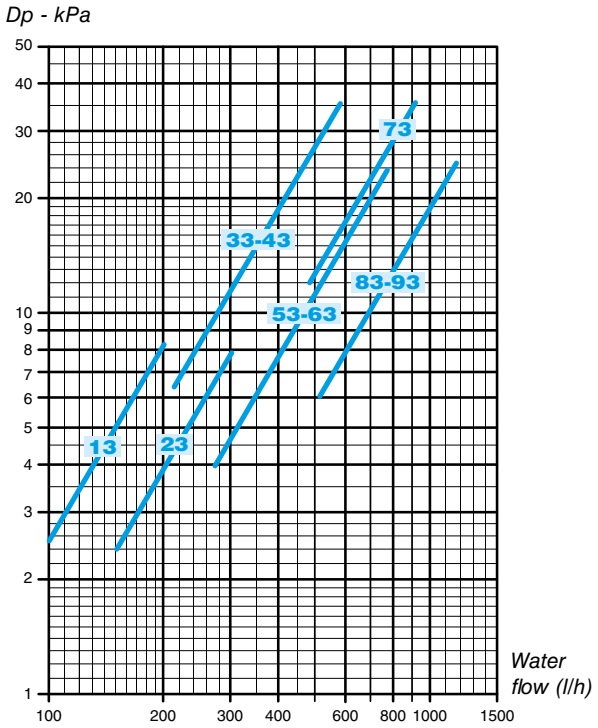
Air flow and correction factors for emission with different available pressures

Model	Speed		Qv (m^3/h) Ap (Pa) 0	10	20	30	40	50	K1 Ap (Pa) 0	10	20	30	40	50	K2 Ap (Pa) 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	-

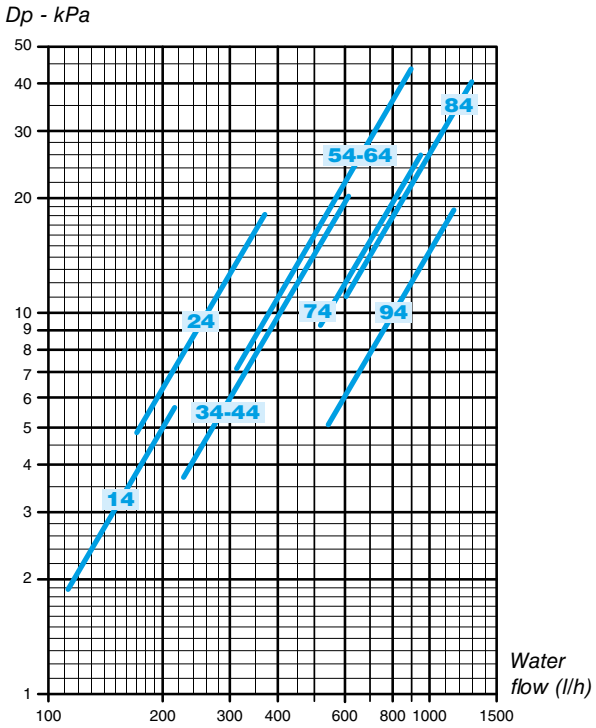
LEGEND

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*

3 row coil



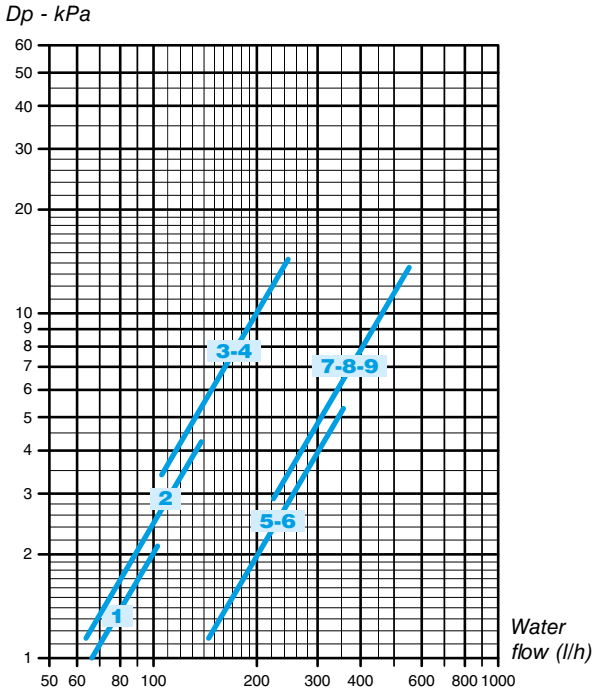
4 row coil



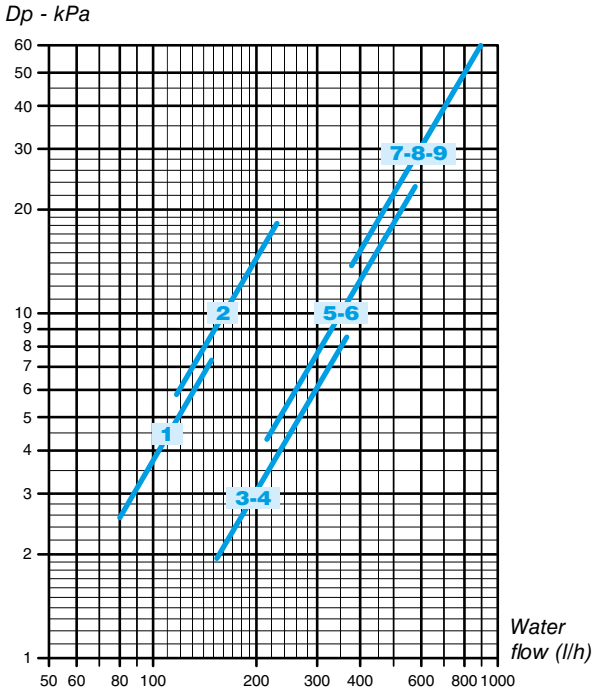
The water pressure drop figures refer to a mean water temperature of ***10°C;*** for different temperatures, multiply the pressure drop figures by the correction factors ***K.***

°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

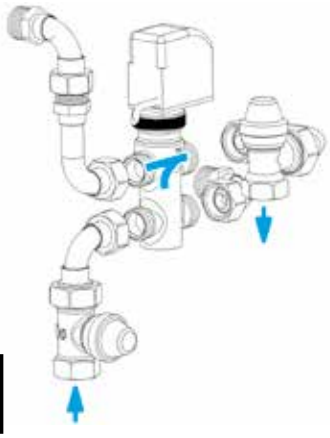


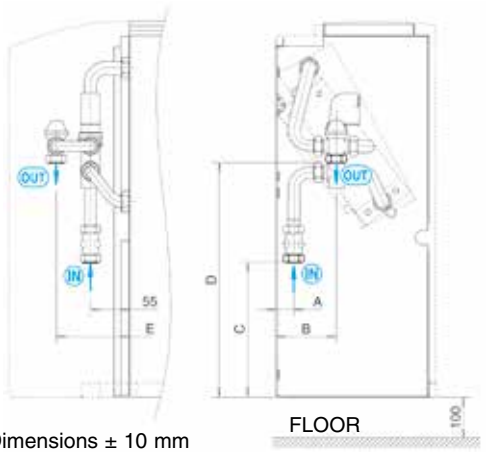
The water pressure drop figures refer to a mean water temperature of ***60°C;*** for different temperatures, multiply the pressure drop figures by the correction factors ***K.***

°C	40	50	70	80
K	1,12	1,06	0,94	0,88

VBP
main coil 3 way valve

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





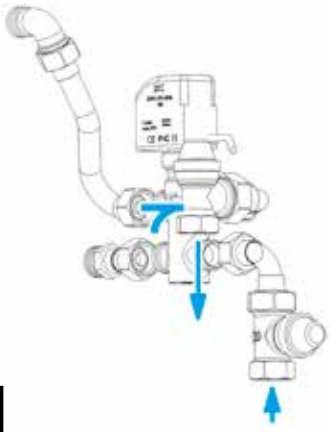
Dimensions ± 10 mm

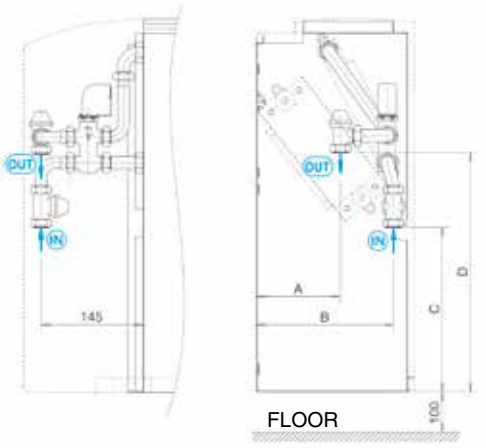
VERSION	CRC
MODEL	MV – MO – MVB – IV – IO

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.

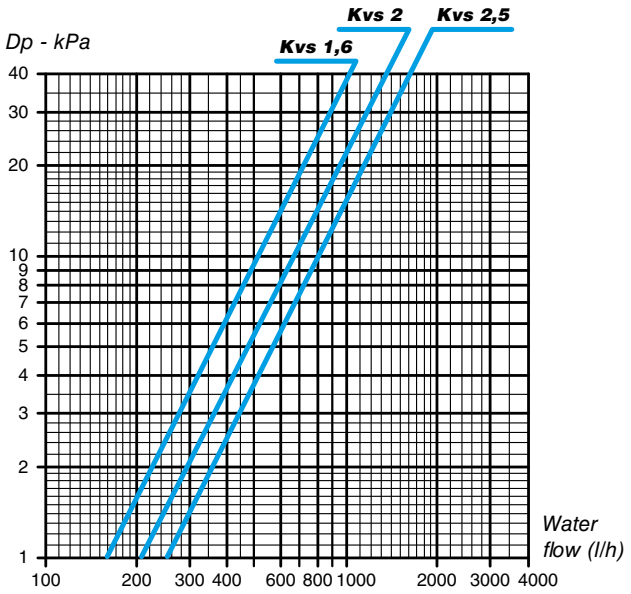




Dimensions ± 10 mm

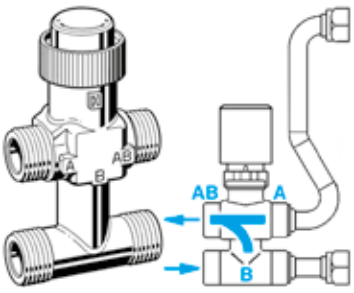
VERSION	CRC
MODEL	MV – MO – MVB – IV – IO

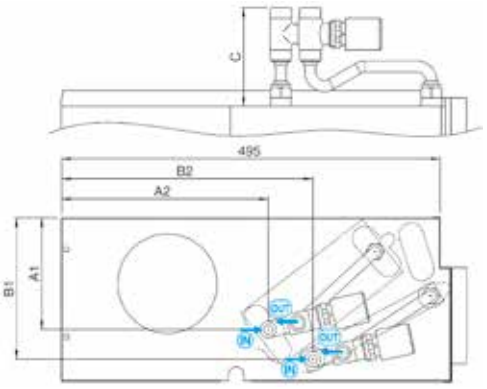
MOD.	Dimensions (mm)				Valve			Micrometric lockshield valve			Code	
	A	B	C	D	DN	(Ø)	Kvs	DN	(Ø)	Kvs	FITTED	NOT FITTED
1 ÷ 7	120	195	240	340	15	1/2"	1,6	15	1/2" F	2	9060472H	9060475H
8 – 9	135	200	235	330	15	1/2"	1,6	15	1/2" F	2	9060472H	9060475H



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.





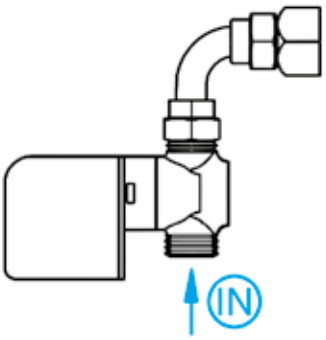
Dimensions ± 10 mm

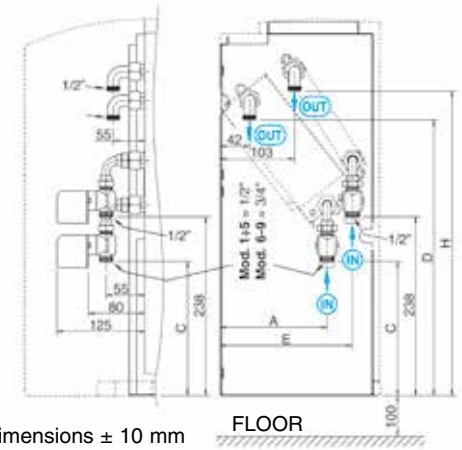
VERSION	CRC
MODEL	IV – IO

MOD.	Dimensions (mm)					MAIN					ADDITIONAL				
	MAIN		ADDITIONAL		C	Valve			Code		Valvola			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.

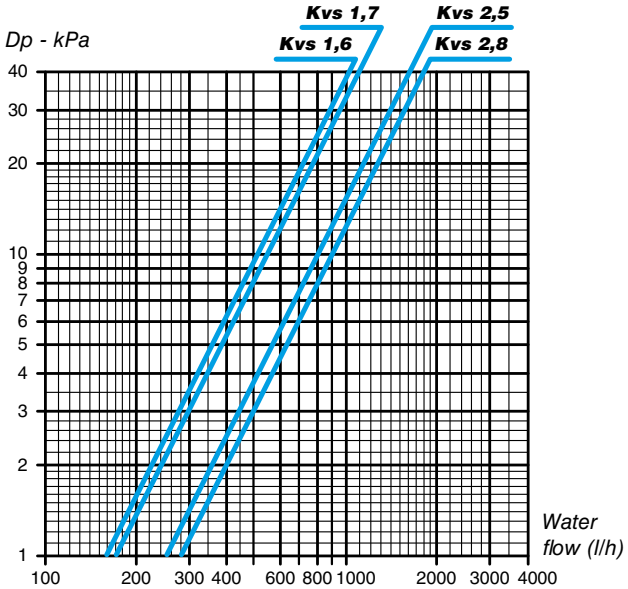




Dimensions ± 10 mm FLOOR

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

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



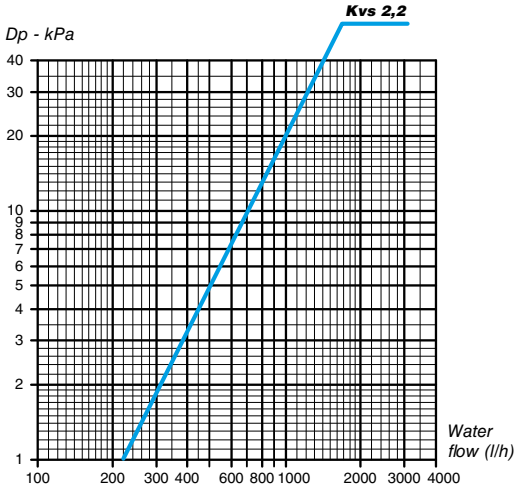
3 way double valve kit for 4 tube installation and single coil

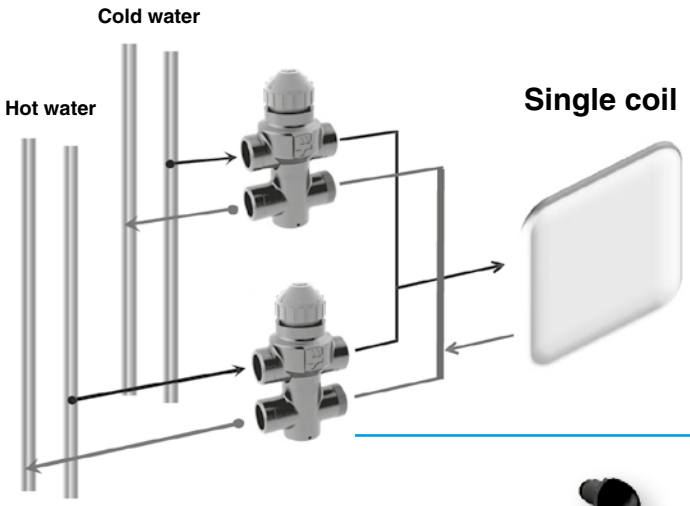
The kit consists of:
- 2 special 3 way valves;
- 2 230 Volt ON-OFF actuators with internal safety micro switch;
- insulated pipe kit;
- external valve insulation sleeve.

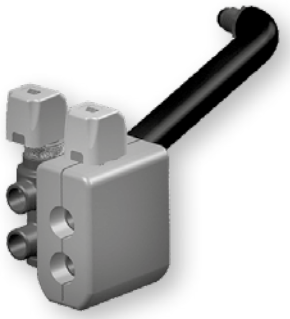
VERSION	CRC
MODEL	MV – MO – MVB – IV – IO

MOD.	Ø	Kvs	FITTED		NOT FITTED	
			CODE	TYPE	CODE	TYPE
1 ÷ 9	3/4"	2,2	9066572W	V3M4X2	9066562W	V3S4X2

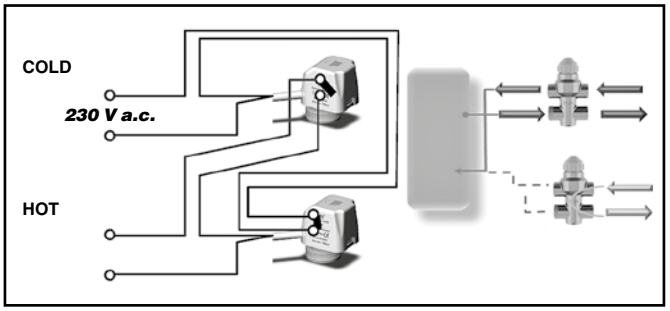
The kit uses a special 3 way valve which allows the transformation of the fan coil, equipped with one single coil, into a 4 tube installation.
The new **4X2** valve has been designed to keep the water flow between flow and return perfectly separated, allowing its use in parallel.
Therefore, it can be used on 4 pipe fan coil systems with one single heat-exchange coil on board the fan coil.

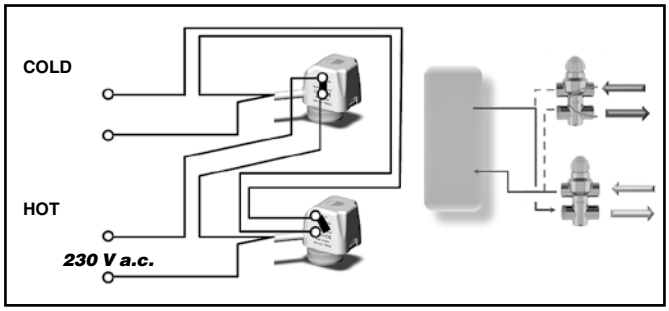






Double actuator electrical connections



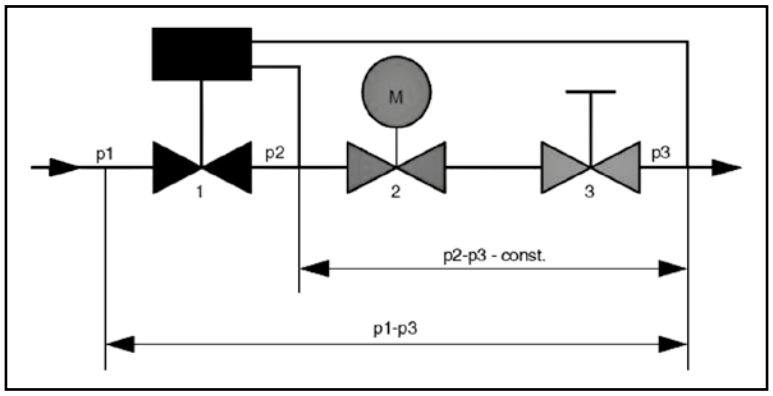


Balancing valves independent from the system pressure

- The balancing valve and a combined 2 way valve allow the regulation of the water flow value autonomously, regardless of the system pressure, and the control of the flow by using an ON/OFF electro-thermal actuator.
- The balancing valve allows you to balance the hydraulic system by supplying the required water flow, for each fan- coil, and to maintain it even under partial load conditions.
- A graduated ring nut placed under the valve allows you to set the flow rate value and also allows direct reading of the set value.

Valve operation logic

- “p1” is the valve inlet pressure.
- “p3” is the outlet pressure.
- “p2” is the diaphragm activation pressure, which allows differential pressure “p2” – “p3” to be maintained at a constant value, in order to guarantee the water to flow at the set value.

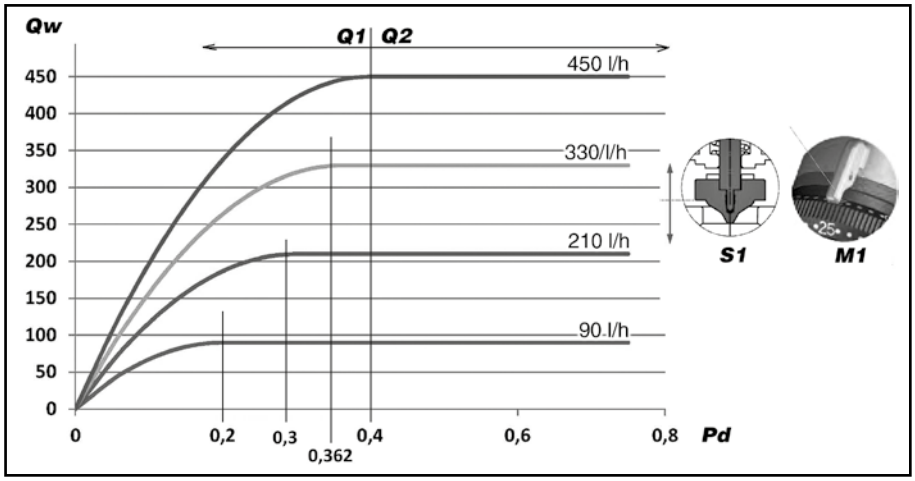


The minimum differential pressure “p1” – ”p3”, required to guarantee the correct value of the set water flow rate, is indicated in the diagrams on page 30. This is an essential factor to size the system pressure drop and pump pressure head. The flow rate is kept at a constant value only if the valve pressure drop is higher than the indicated value.

Minimum operating differential pressure

The minimum differential pressure and the balancing valve pressure drop must be considered to size the system pumps.
Flow rate is constant if the pressure drop is higher than that indicated in the diagrams on page 30.
The following diagram shows an example of the flow rate trend according to the pressure drop and calibration required.

Example DN 10 Model



LEGEND:

Qw = Water flow rate

Pd = Min. differential pressure “p1” – ”p3” (bar)

Q1 = Area with inconstant water flow

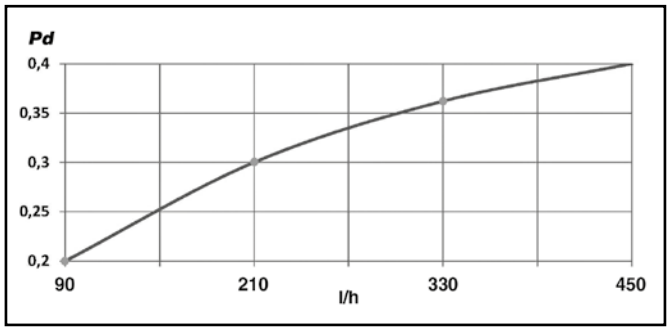
Q2 = Area with constant water flow

S1 = Position of the adjustment valve plunger

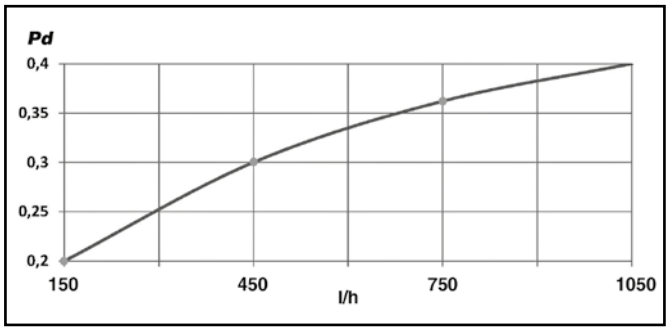
M1 = Position of the knob

The valve upstream-downstream minimum differential pressure ("p1" – "p3"), which depends on the valve calibration value, must be exceeded to access the constant flow rate field.

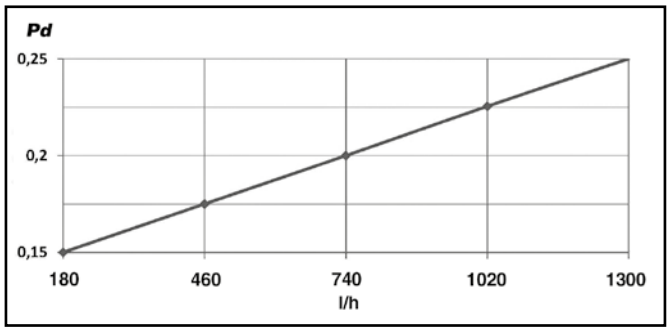
DN 10 Model



DN 15 Model



DN 20 Model



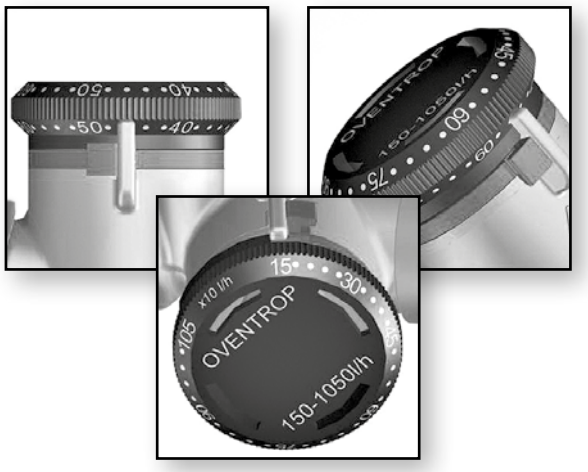
LEGEND:

Pd = Min. differential pressure "p1" – "p3" (bar)

E.g., when sizing the system pump, in which the ***DN 10*** valves will be installed and in which 210 l/h are constantly required for each device, consider a useful pressure of 0.3 bar (to compensate the pressure drop of the valve) for each balancing valve. Therefore, the pressure drop values produced by the system balancing valves must be summed and the pump must be sized to produce a pressure equal to or greater than the value obtained previously.

Benefits

- Reduced dimensions.
- Easy installation on 2 or 4 pipe devices.
- Pre-regulation of the nominal value set even with installed actuator.
- Easy display of the nominal value set. Nominal values are indicated in 10 l/h without any conversion.
- Guarantee of constant flow rate set even with partial loads.
- Pre-regulation can be blocked and leaded with the locking ring.



Technical features

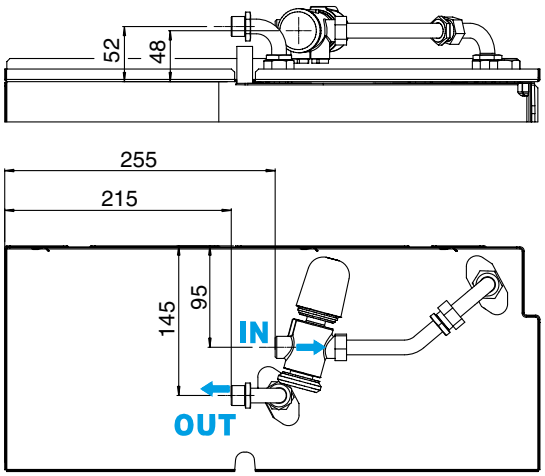
DN Model	Flow Rate Range (l/h)	Kvs
DN 10	90 – 450	1,1
DN 15	150 – 1050	1,8
DN 20	180 – 1300	2,5

Operation limits of the balancing valves

- Maximum operating temperature 120°C
- Maximum operating pressure 16 bar
- Maximum % of water/glycol mixture 50%
- Minimum operating temperature -10°C
- Maximum differential pressure 4 bar

Balancing valves for main coil

2 way valve for main coil and assembly kit.
The valve is supplied equipped with
230 Volt electro-thermal actuator for the ON/OFF control.

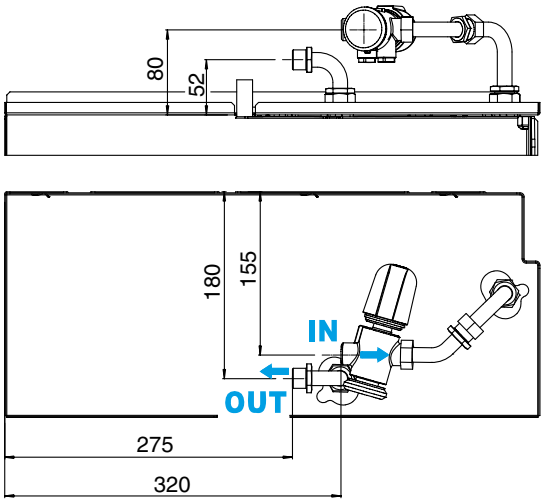


VERSION	CRC
MODEL	MV – MO – MVB – IV – IO

MOD.	VALVE			FITTED		NOT FITTED	
	DN	Ø	Range	CODE	TYPE	CODE	TYPE
1 ÷ 3	10	1/2"	90 – 450	9066660	V2OVBPM 90-450	9066650	V2OVBPS 90-450
4 ÷ 7	15	3/4"	150 – 1050	9066661	V2OVBPM 150-1050	9066651	V2OVBPS 150-1050
8 – 9	20	1"	180 – 1300	9066662	V2OVBPM 180-1300	9066652	V2OVBPS 180-1300

Balancing valves for additional coil

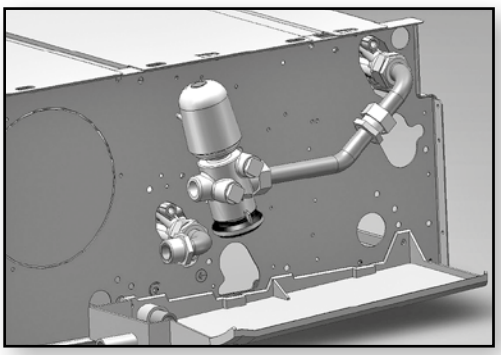
2 way valve for additional coil and assembly kit.
The valve is supplied equipped with
230 Volt electro-thermal actuator for the ON/OFF control.



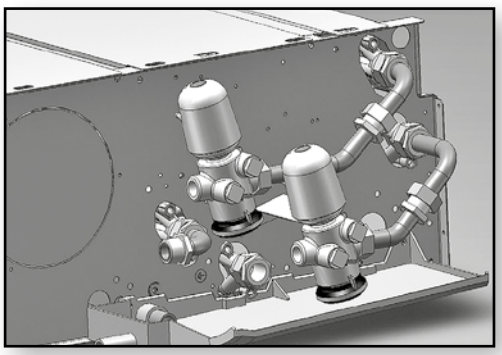
VERSION	CRC
MODEL	MV – MO – MVB – IV – IO

MOD.	VALVE			FITTED		NOT FITTED	
	DN	Ø	Range	CODE	TYPE	CODE	TYPE
1 ÷ 5	10	1/2"	90 – 450	9066663	V2OVBAM 90-450	9066653	V2OVBAS 90-450
6 ÷ 9	15	3/4"	150 – 1050	9066664	V2OVBAM 150-1050	9066654	V2OVBAS 150-1050

2 pipe units

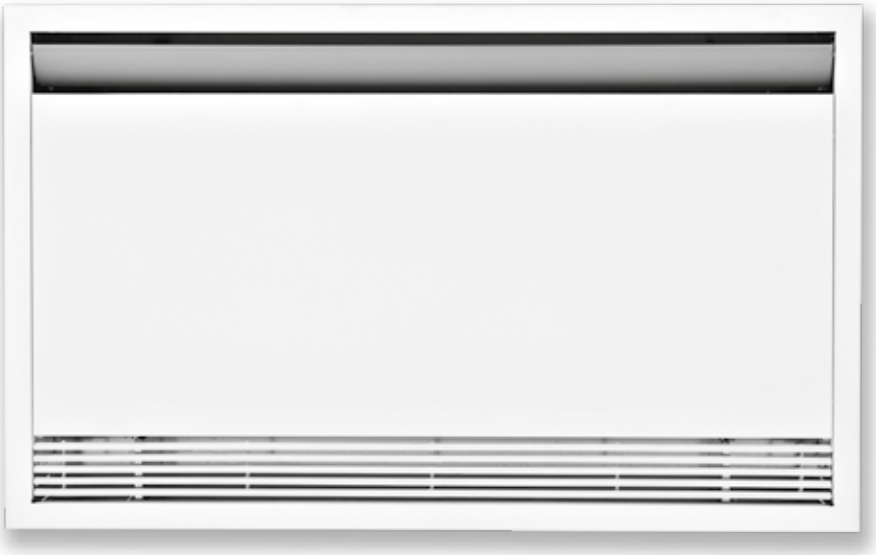


4 pipe units



BREEZE frame kit for wall concealed installation

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



Recessed box kit

Aesthetic frame kit

The **Aesthetic frame kit** and the **Recessed box kit** have different codes as they are separately delivered with their own packaging and they must be assembled together.
These items are only suitable for CRC models, IV version, 2-6 sizes.
When the Fan Coil is equipped with the Recessed box kit, it must be connected to a remote control and it is not possible to use the built-in electronic controls.
With the Breeze frame kit the simplified valve kits can not be installed.

Technical characteristics of the main components:

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

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

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

The Grid is fixed to the frame by using a simple and fast connecting system and it can be easily removed to clean the filter and the inner casing.

The recessed box is made of galvanized steel with opening for the electrical and hydraulic connections. To fit in the Fan Coil easily, there are 4 grub screws.

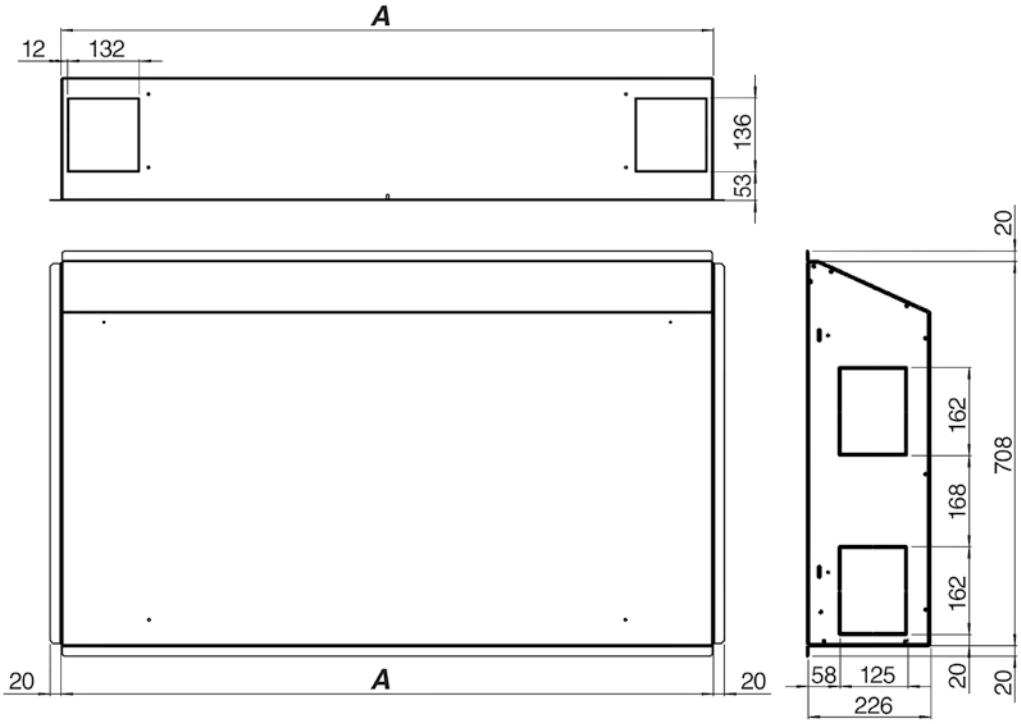
Aesthetic frame dimensions

Version	CRC
Model	IV

Size	Type	A	Code
2	CBR 2	837	9076452
3 – 4	CBR 3-4	1052	9076453
5 – 6	CBR 5-6	1267	9076455

Packaged Aesthetic Frame Weight
10,5
12,5
14,5

Recessed box dimensions



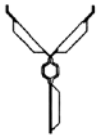
Version	CRC
Model	IV

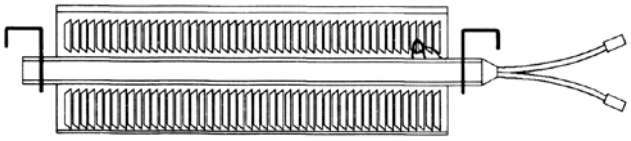
Size	Type	A	Code
2	IBR 2	771	9076462
3 – 4	IBR 3-4	986	9076463
5 – 6	IBR 5-6	1201	9076465

Packaged Recessed Box Weight
13
16
18

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

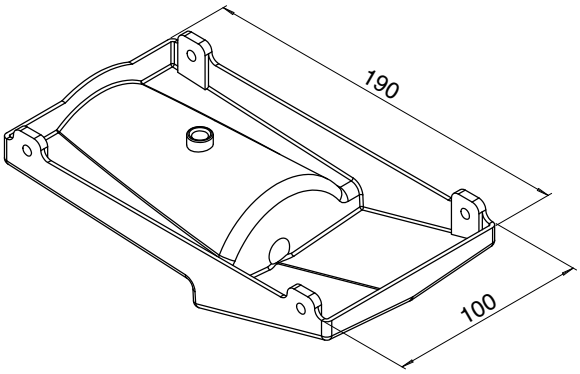
MV – MO – MVB MODEL		
SIZE	WATT	CODE
1	650	9066491
2	1000	9066492
	600	9066482
	400	9066472
3 – 4	1500	9066493
	900	9066483
	600	9066473
5 – 6	2000	9066495
	1250	9066485
	750	9066475
7 – 8 – 9	2500	9066497
	1500	9066487
	1000	9066477

IV – IO MODEL		
SIZE	WATT	CODE
1	650	9066611
2	1000	9066612
	600	9066602
	400	9066592
3 – 4	1500	9066613
	900	9066603
	600	9066593
5 – 6	2000	9066615
	1250	9066605
	750	9066595
7 – 8 – 9	2500	9066617
	1500	9066607
	1000	9066597

NOTE: the electric heater must be fitted on the fan coil unit on site and can not be added later.

BSV extension condensate collection tray to cover valve assembly

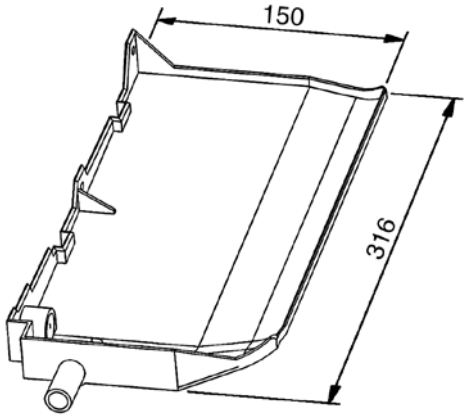
(for vertical units)



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

BSO-C extension condensate collection tray to cover valve assembly

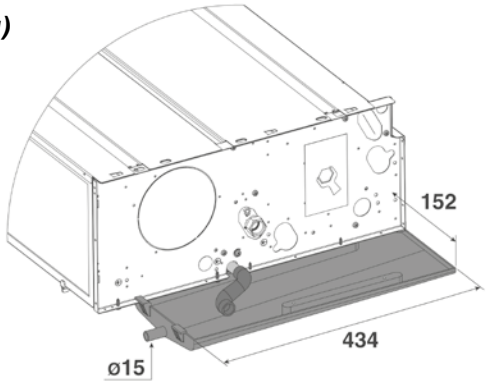
(for MO horizontal units with casing)

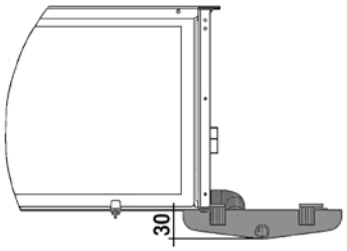


VERSION	CRC	
MODEL	MO *(horizontal)*	
CONNECTION SIDE	LEFT	RIGHT
TYPE	BSO-SX	BSO-DX
CODE	6060402	6060403

BSI-C extension condensate collection tray to cover valve assembly

(for IO horizontal units without casing)





*Not to be used with **KAF** accessory.*

VERSION	CRC
MODEL	IO (horizontal)
CODE	6066039

DRPV-C condensate pump *(for vertical units)*

	FITTED	NOT FITTED
TYPE	DRPV-C-M	DRPV-C-S
CODE	9066297	9066296

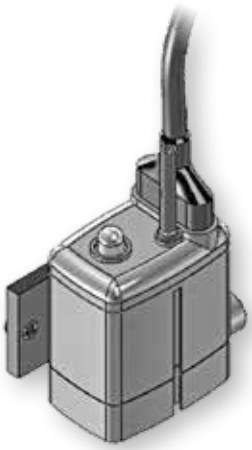
HEIGHT FOR VERTICAL FLOW (m)	WATER FLOW (l/h) DEPENDING ON THE LENGTH OF HORIZONTAL FLOW	
	5 m	10 m
1	7,6	7,2
2	5,6	5,2
3	4,0	3,7
4	3,2	2,9

VERSION	CRC
MODEL	MV – MVB – IV (vertical)

DRPO-C condensate pump *(for MO horizontal units)*

	FITTED	NOT FITTED
TYPE	DRPO-C-M	DRPO-C-S
CODE	9066295	9066294

HEIGHT FOR VERTICAL FLOW (m)	WATER FLOW (l/h) DEPENDING ON THE LENGTH OF HORIZONTAL FLOW	
	5 m	10 m
1	7,6	7,2
2	5,6	5,2
3	4,0	3,7
4	3,2	2,9

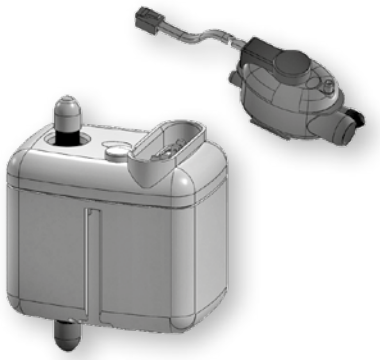


VERSION	CRC
MODEL	MO (horizontal)

DRPI-C condensate pump *(for IO horizontal units)*

	FITTED	NOT FITTED
TYPE	DRPI-C-M	DRPI-C-S
CODE	9066298	9066180

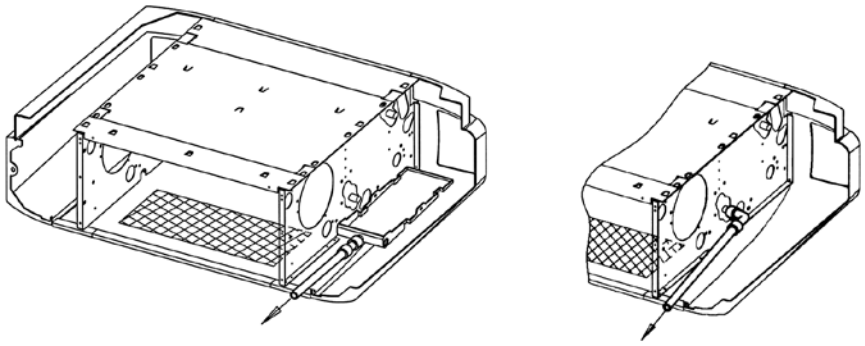
HEIGHT FOR VERTICAL FLOW (m)	WATER FLOW (l/h) DEPENDING ON THE LENGTH OF HORIZONTAL FLOW	
	5 m	10 m
1	7,6	7,2
2	5,6	5,2
3	4,0	3,7
4	3,2	2,9



VERSION	CRC
MODEL	IO (horizontal)

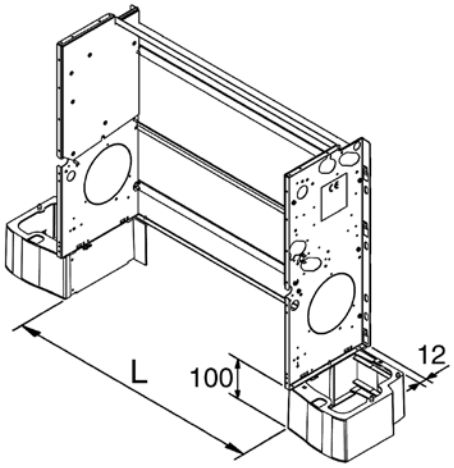
SCR plastic condensate drain pipe with fast connection

(allows correct condensate drain)



VERSION	CRC
MODEL	MO – IO
CODE	6060420

PAP feet

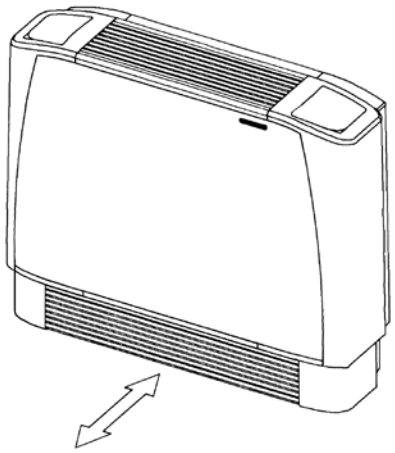


VERSION	CRC
MODEL	MV

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)

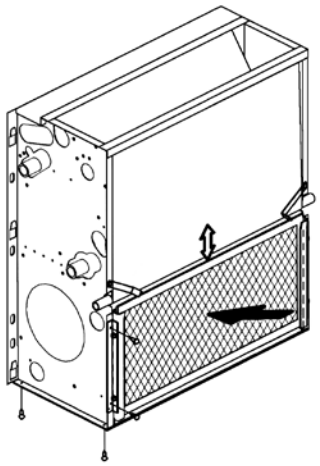


VERSION	CRC
MODEL	MV

SIZE	CODE
1	9066541
2	9066542
3 – 4	9066543
5 – 6	9066545
7 ÷ 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

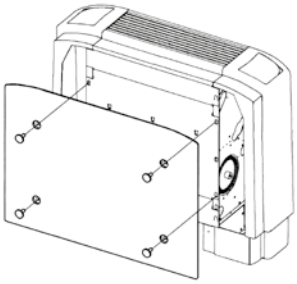
*Not to be used with **BSI-C** accessory.*

PCV rear closing panel

(for vertical units)

VERSION	CRC
MODEL	MV – MVB

SIZE	CODE
1	9066511
2	9066512
3 – 4	9066513
5 – 6	9066515
7 ÷ 9	9066517

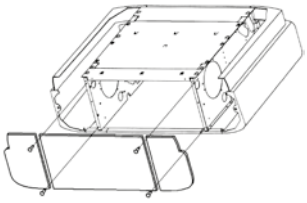


PCO bottom closing panel

(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



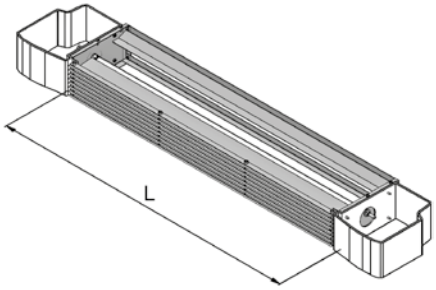
SAEM fresh air mixing damper

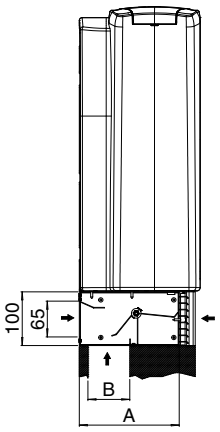
(factory mounted with feet and intake grid included, MV only)

VERSION	CRC
MODEL	MV

(can be motorized on request)

SIZE	A	B	L	CODE
1	186	78	354	9066621
2	186	78	454	9066622
3 – 4	186	78	669	9066623
5 – 6	186	78	884	9066625
7	186	78	1099	9066627
8 – 9	216	108	1099	9066628





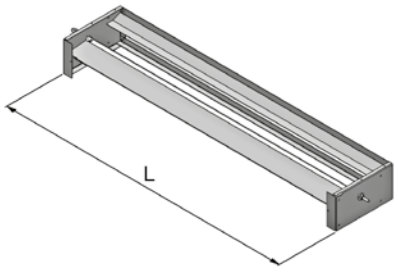
SAE fresh air mixing damper

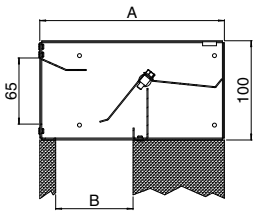
(not mounted, IV – IO only)

VERSION	CRC
MODEL	IV – IO

(can be motorized on request)

SIZE	A	B	L	CODE
1	186	78	354	9066531
2	186	78	454	9066532
3 – 4	186	78	669	9066533
5 – 6	186	78	884	9066535
7	186	78	1099	9066537
8 – 9	216	108	1099	9066538

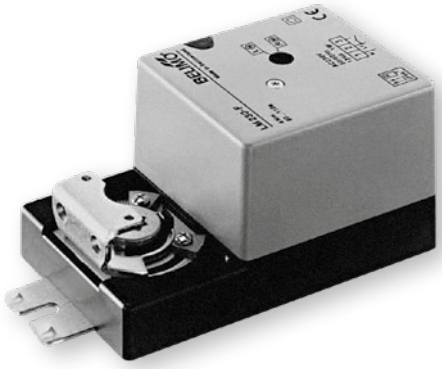




Belimo motor

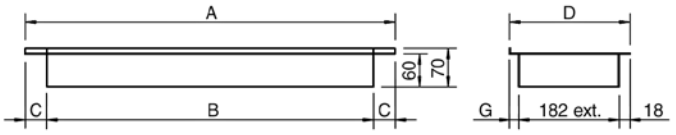
Fitted on the unit for motorized version of the SAE damper (available with “IAQ” control only).

VERSION	CRC
MODEL	MV – IV – IO
TYPE	BESAE
CODE	9066620



FRD straight inlet flange

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

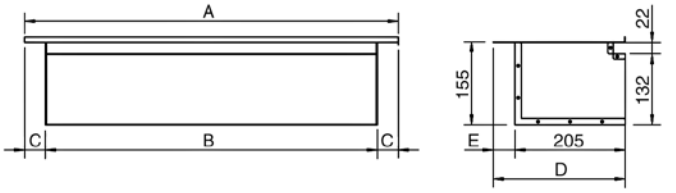


Size	Type	A	B	C	D	G	Code
1	FRD - 1	354	290	32	216	16	9066451
2	FRD - 2	454	390	32	216	16	9060720
3 – 4	FRD - 3/4	669	590	39,5	216	16	9060721
5 – 6	FRD - 5/6	884	790	47	216	16	9060722
7	FRD - 7	1099	990	54,5	216	16	9060723
8 – 9	FRD - 8/9	1099	990	54,5	246	46	9060724

Version	CRC
Model	IV – IO

FR 90 90° inlet flange

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

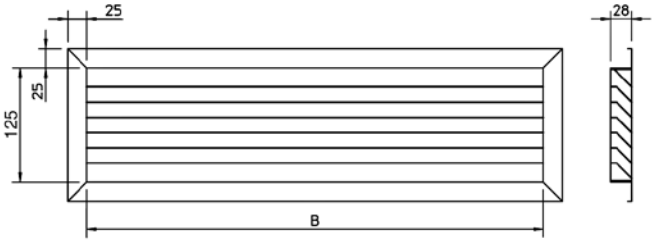


Size	Type	A	B	C	D	E	Code
1	FR90 - 1	354	290	32	216	11	9066441
2	FR90 - 2	454	390	32	216	11	9060710
3 – 4	FR90 - 3/4	669	590	39,5	216	11	9060711
5 – 6	FR90 - 5/6	884	790	47	216	11	9060712
7	FR90 - 7	1099	990	54,5	216	11	9060713
8 – 9	FR90 - 8/9	1099	990	54,5	246	41	9060714

Version	CRC
Model	IV – IO

GRAP air inlet grid

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

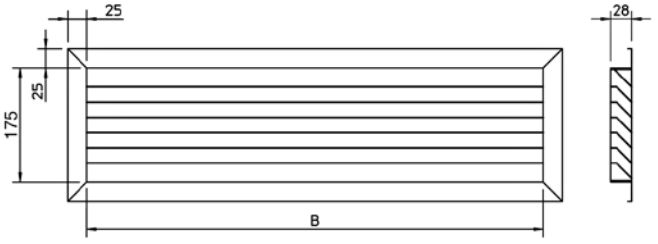


Size	Type	Description	B	Code
1	GRAP - 1	Grid 300x150	275	9066421
2	GRAP - 2	Grid 400x150	375	9060760
3 – 4	GRAP - 3/4	Grid 600x150	575	9060761
5 – 6	GRAP - 5/6	Grid 800x150	775	9060762
7 ÷ 9	GRAP - 7/9	Grid 1000x150	975	9060763

Version	CRC
Model	IV – IO

GRAG air inlet grid

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

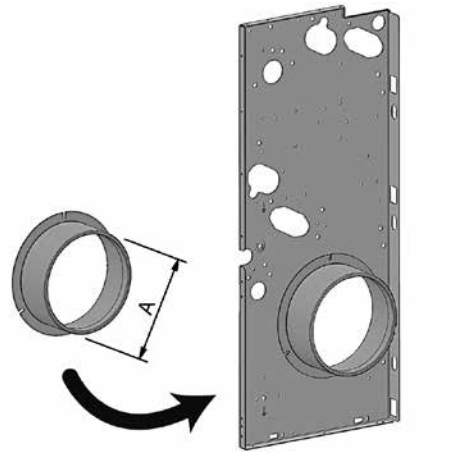


Size	Type	Description	B	Code
1	GRAG - 1	Grid 300x200	275	9066431
2	GRAG - 2	Grid 400x200	375	9060764
3 – 4	GRAG - 3/4	Grid 600x200	575	9060765
5 – 6	GRAG - 5/6	Grid 800x200	775	9060766
7 ÷ 9	GRAG - 7/9	Grid 1000x200	975	9060767

Version	CRC
Model	IV – IO

FRC fresh air connection

(not mounted)

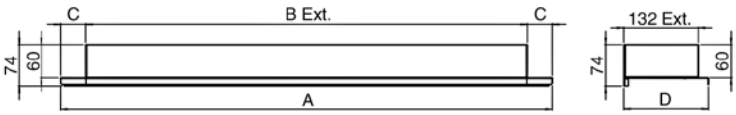


VERSION	CRC
MODEL	IV – IO

SIZE	TYPE	A	CODE
1 ÷ 7	FRC 100	98	6064191
1 ÷ 7	FRC 120	122	6064192

FMD straight outlet flange

Made of galvanized steel.

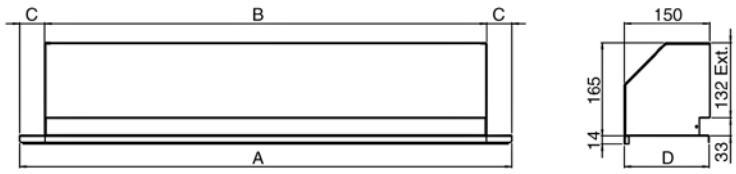


SIZE	TYPE	A	B	C	D	CODE
1	FMD - 1	352	290	31	152	9066371
2	FMD - 2	452	390	31	152	9066372
3 – 4	FMD - 3/4	667	590	38,5	152	9066373
5 – 6	FMD - 5/6	882	790	46	152	9066375
7	FMD - 7	1097	990	53,5	152	9066377
8 – 9	FMD - 8/9	1097	990	53,5	179	9066378

VERSION	CRC
MODEL	IV – IO

FM 90 90° outlet flange

Made of galvanized steel
insulated with polyethylene lining.

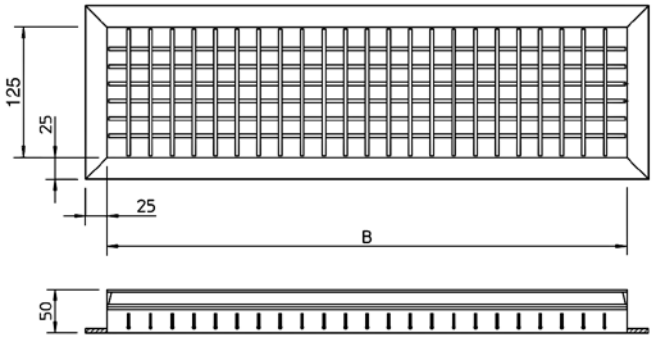


SIZE	TYPE	A	B	C	D	CODE
1	FM90 - 1	352	290	31	152	9066381
2	FM90 - 2	452	390	31	152	9066382
3 – 4	FM90 - 3/4	667	590	38,5	152	9066383
5 – 6	FM90 - 5/6	882	790	46	152	9066385
7	FM90 - 7	1097	990	53,5	152	9066387
8 – 9	FM90 - 8/9	1097	990	53,5	179	9066388

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.

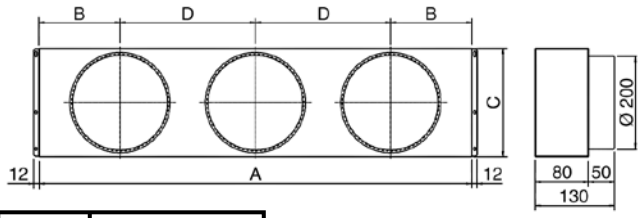


SIZE	TYPE	B	CODE
1	BMA - 1	275	9066411
2	BMA - 2	375	9060750
3 – 4	BMA - 3/4	575	9060751
5 – 6	BMA - 5/6	775	9060752
7 ÷ 9	BMA - 7/9	975	9060753

VERSION	CRC
MODEL	IV – IO

PRC air inlet spigot plenum

Made of galvanized steel
insulated with polyethylene lining.



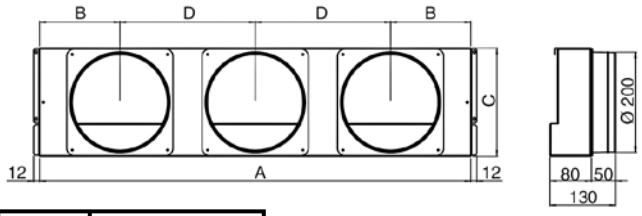
Size	Type	A	B	C	D	Spigots	Code
1	PRC - 1	330	165	218	/	N° 1	9066461
2	PRC - 2	430	107	218	216	N° 2	9066462
3 – 4	PRC - 3/4	645	166	218	313	N° 2	9066463
5 – 6	PRC - 5/6	860	160	218	270	N° 3	9066465
7	PRC - 7	1075	190	218	347,5	N° 3	9066467
8 – 9	PRC - 8/9	1075	190	248	347,5	N° 3	9066468

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.



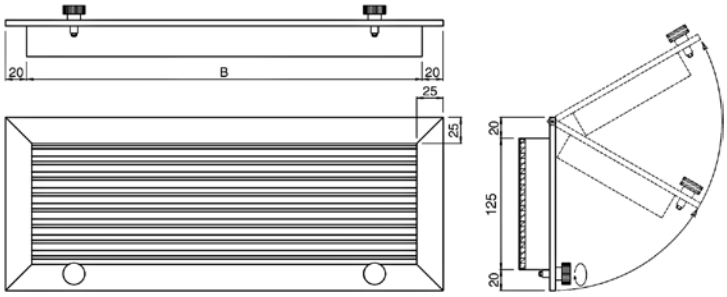
Size	Type	A	B	C	D	Spigots	Code
1	PMC - 1	330	165	218	/	N° 1	9066361
2	PMC - 2	430	107	218	216	N° 2	9066362
3 – 4	PMC - 3/4	645	166	218	313	N° 2	9066363
5 – 6	PMC - 5/6	860	160	218	270	N° 3	9066365
7	PMC - 7	1075	190	218	347,5	N° 3	9066367
8 – 9	PMC - 8/9	1075	190	248	347,5	N° 3	9066368

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.

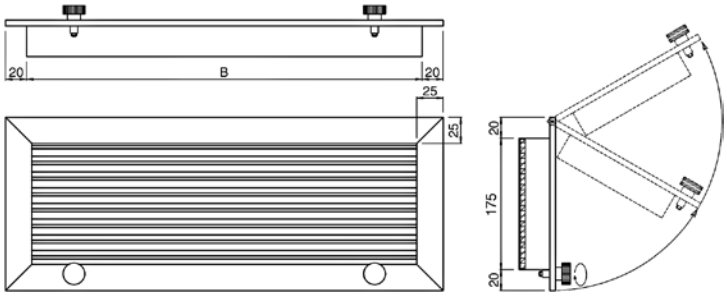


Size	Type	B	Code
1	GRAFP - 1	275	9066391
2	GRAFP - 2	375	9060770
3 – 4	GRAFP - 3/4	575	9060771
5 – 6	GRAFP - 5/6	775	9060772
7 ÷ 9	GRAFP - 7/9	975	9060773

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

CHK Hotel fan kit

Hotel box for concealed installation for Carisma CRC, IO model (frontal return and supply).

The new CHK kit is the best solution for all installations requiring a built-in fan coil where there is no other possibility of accessing the unit except from the air outlet side. The unit is particularly suitable for installation in hotel rooms, offices and homes.

The Kit consists of a box that can easily be installed in a false ceiling, inside which the fan coil is fitted using the special guides. For simply remove the front outlet and access the air filter as well as the electrical and hydraulic parts of the unit.

The air grid is divided into two zones, one for the air intake with horizontally adjustable fins and the other one for the air outlet with horizontally and vertically adjustable fins to ensure better air distribution and diffusion in the room.

The box structure is made of thick galvanised metal sheet. The internal air flow sections are insulated with expanded polyethylene that prevents both condensation and energy loss towards the inside of the false ceiling. The accessory includes the air filter, an anodised aluminium outlet with adjustable fins and a front wall frame.

The box structure is designed so that fan coils with hydraulic connections facing left or right can be installed. According to the configuration, it is in fact sufficient to secure the sliding guides on the panel that will be the upper one.

Only the following accessories can be used with the CHK Kit:

- VS simplified kit for 3 way valve for main and additional coil
- BSI-C extension condensate collection tray

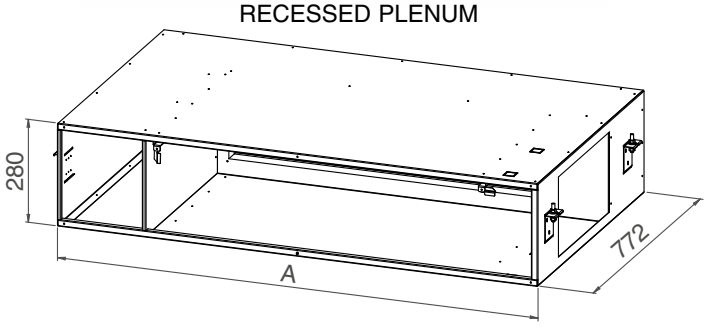
For the CHK Kit installation it is mandatory to use the Kit for hydraulic and electrical connections on the same side (Code 9066805).

When ordering, it must be specified that the fan coil hydraulic and electrical connections must be on the same side.

Note: consider 20 Pa pressure drop.

GRID

RECESSED PLENUM



VERSION	CRC
MODEL	IO

SIZE	TYPE	A	CODE
2	CHK 2	845	9066782
3 – 4	CHK 3-4	1060	9066783
5 – 6	CHK 5-6	1316	9066785
7	CHK 7	1610	9066787

BXS silencers plenum

Sound attenuator module

Made of galvanised steel metal sheet, lined internally with a reinforced glass wool mat on both sides with a black glass coating; the 50 mm and 30 kg/m³ density lining ensures high noise reduction with very low pressure drops.

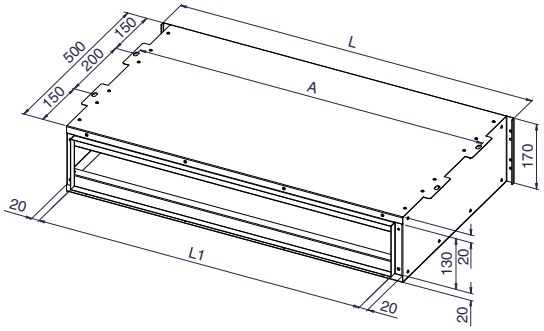
Sound attenuation levels

FREQUENCY	Hz	125	250	500	1000	2000	4000	8000
SOUND ATTENUATION	dB	2.5	5.0	11.5	14.0	13.5	12.0	11.0

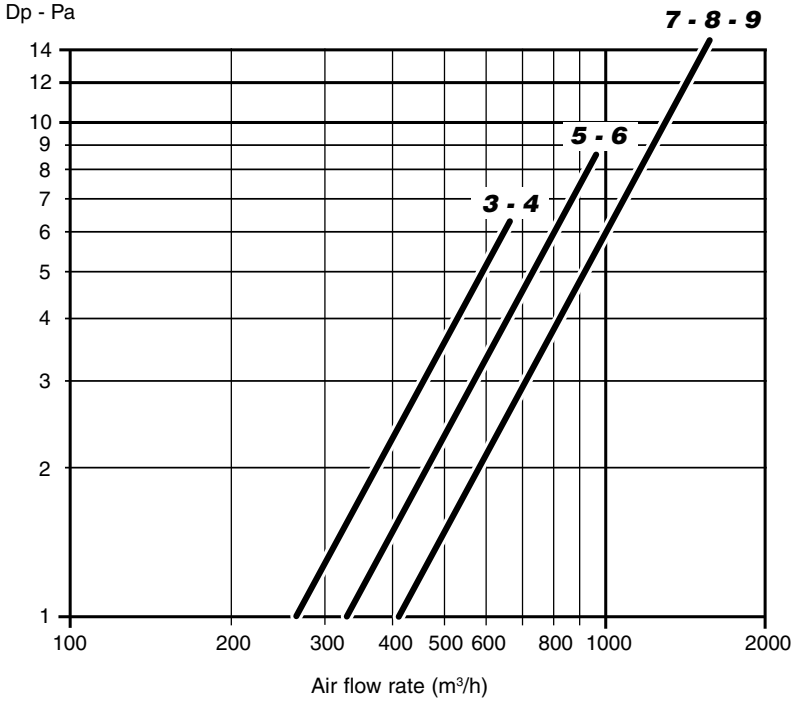
Note: the silencer plenum reduces the sound levels only on the supply side; the sound levels on the return side are not affected by the silencer.

VERSION	CRC
MODEL	IV – IO

SIZE	TYPE	L	L1	A	CODE
3 - 4	BXS-A	675	597	653	9069081
5 - 6	BXS-B	890	812	868	9069082
7 ÷ 9	BXS-C	1105	1027	1083	9069083

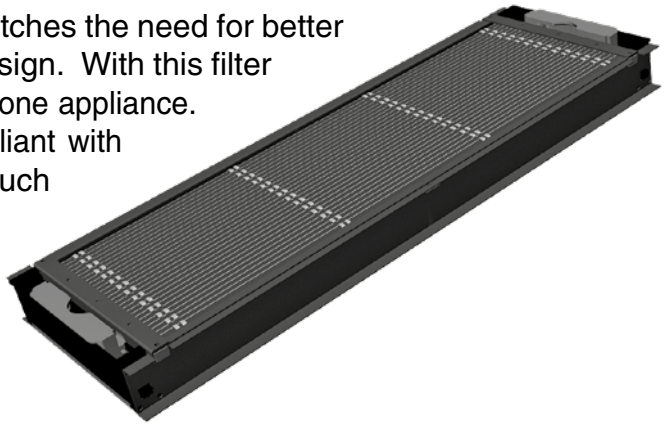


Silencer plenum pressure drop

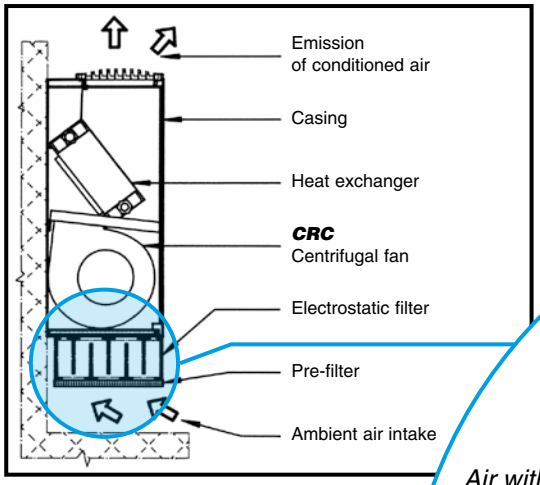


Introduction

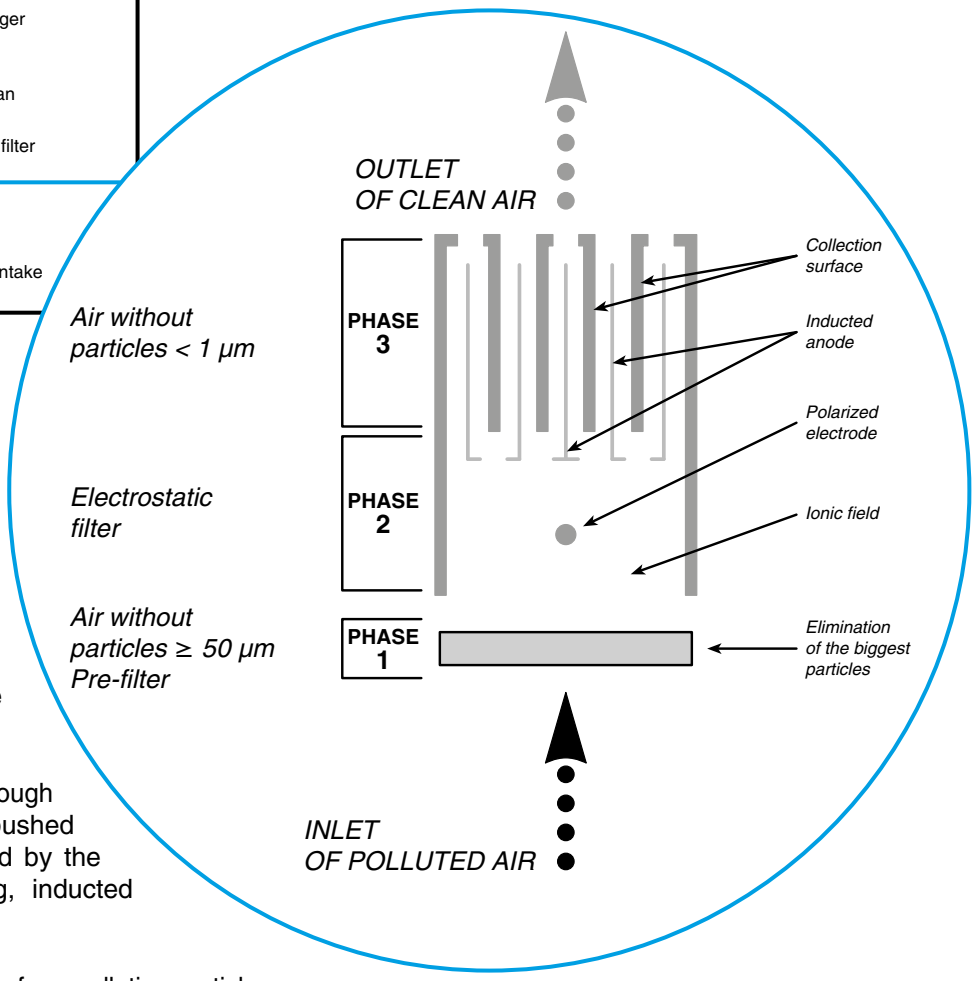
The ***CRYSTALL*** **SABIANA** electrostatic filter matches the need for better air conditioning with the concepts of space and design. With this filter the various stages of air treatment are combined in one appliance. Thanks to this new patented filter (efficiency compliant with UNI 11254 and EN UNI 16890), 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 air is sucked in and first passes a mechanical prefilter, which stops away particles of more than 50 µm (dust, insects, etc.) *(Phase 2).*

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

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

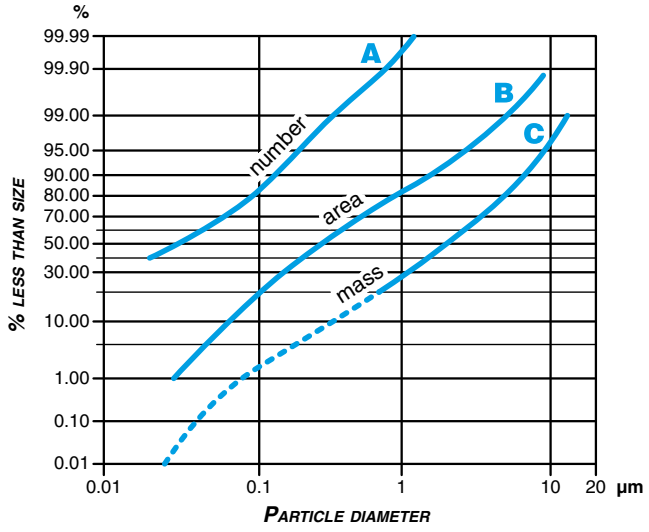
The air which leaves the unit is free from polluting particles.

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. (UNI EN 16798-1-2-3-4). 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, PM1), 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: UNI EN 16798-3).
Moreover, according to the UNI 10339rev being ratified, air recirculated by the ***CRYSTALL*** appliance can be considered as outdoor air, to be added to the minimum requirements (4 lt/sec/pers.).
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)

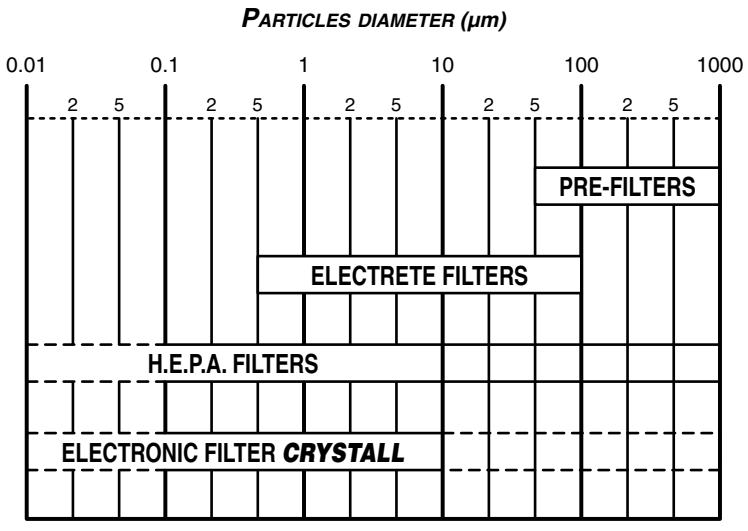


In the diagram there are three different curves that show the particle distribution in accordance to their number (**A**), area (**B**), and mass (**C**). The diagram shows that the 99,9% of the particles in the air is smaller than 1 µm and their mass is only 30% of the total mass. The particles bigger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

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

UNI EN 16798-1-2-3-4 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 UNI EN 16798-2-4 and UNI 10339rev under revision 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

UNI EN 16798-2-4 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:

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

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, PM2,5 or PM1)

EXAMPLE: Parameters assumed are:

Office space:

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

N° of people:

Pd = n° 2
Rp = 25.2 m^3/h per person (source UNI 10339rev)
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 or 4 lt/sec/pers. UNI EN 16798)
Ef = minimum **80%** on **PM2.5** (UNI 11254 class D-PE or UNI EN 16890)

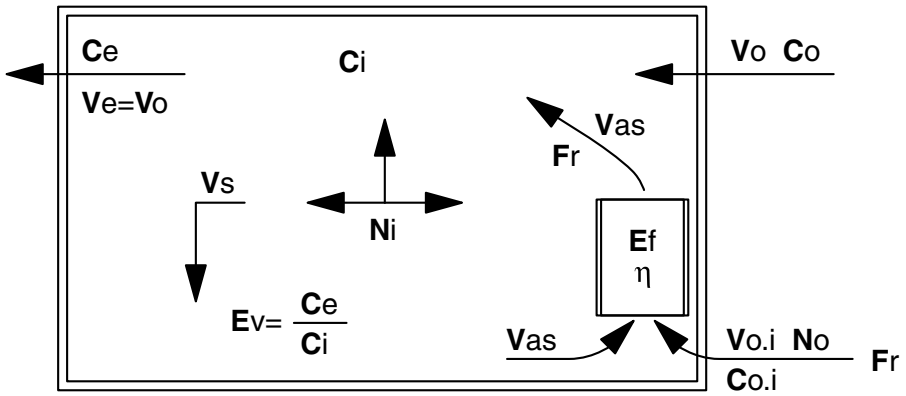
Vsec = 100 · (MSR – DVR) / Ef = 100 · (79.2 - 36) / 80 = 54 m^3/h **recirculated air (SEC)**

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 UNI EN 16798-1-3 Standard.

System type

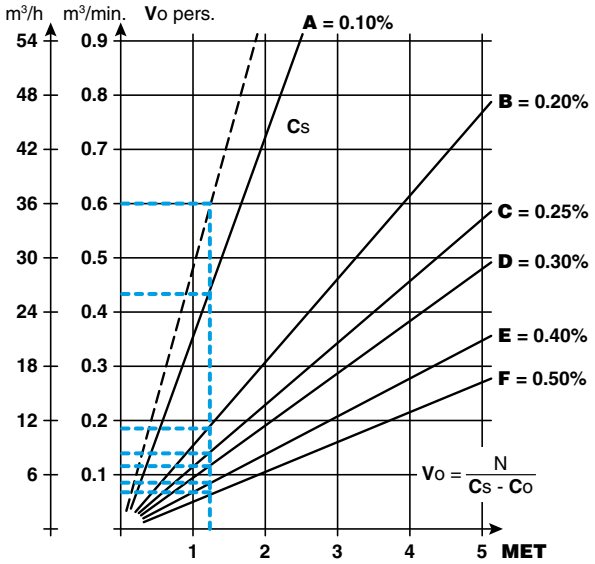


Ce	=	Contaminate concentration (exhaust air flow)	µg/m³
Co	=	Contaminate concentration (outdoor air)	µg/m³
Ci	=	Contaminate concentration (indoor air)	µg/m³
Ef	=	Filter effectiveness (η)	%
Ev	=	Ventilation effectiveness (Ce/Ci)	0 to 1
Fr	=	Flow reduction factor	0 to 1
Ni	=	Contaminant generation rate (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 (Vas + Vo)	m³/min.
Vas	=	Recirculated air flow	m³/min.
Vol	=	Building size	m³

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

To size ***CRYSTALL*** filters and their number, we recommend to use the spreadsheet *"Calculating IAQ"* 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.

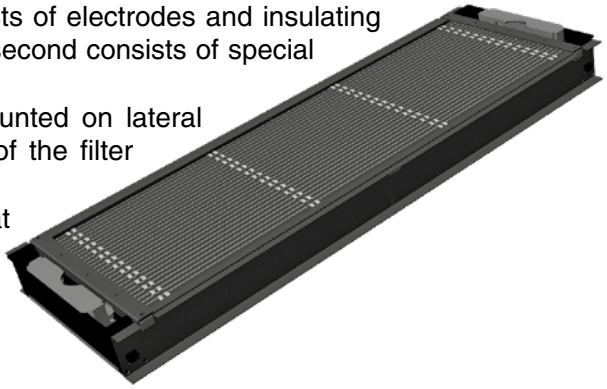
(1 MET = 18.4 BTU/h per Ft²)

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.**

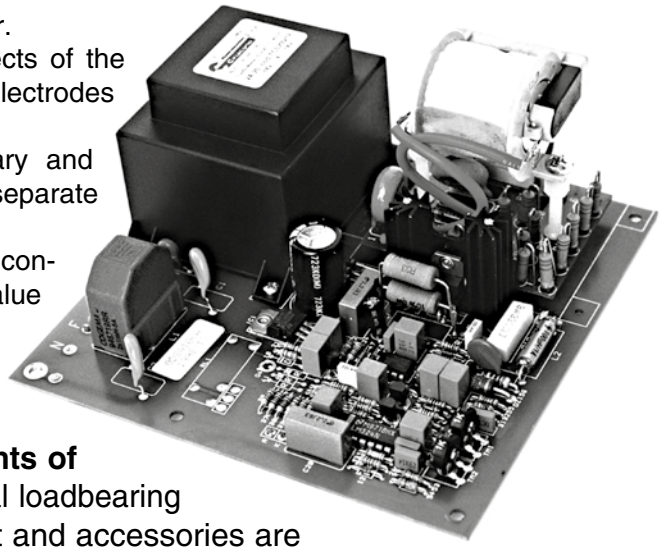
Active plate type electronic filter

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).



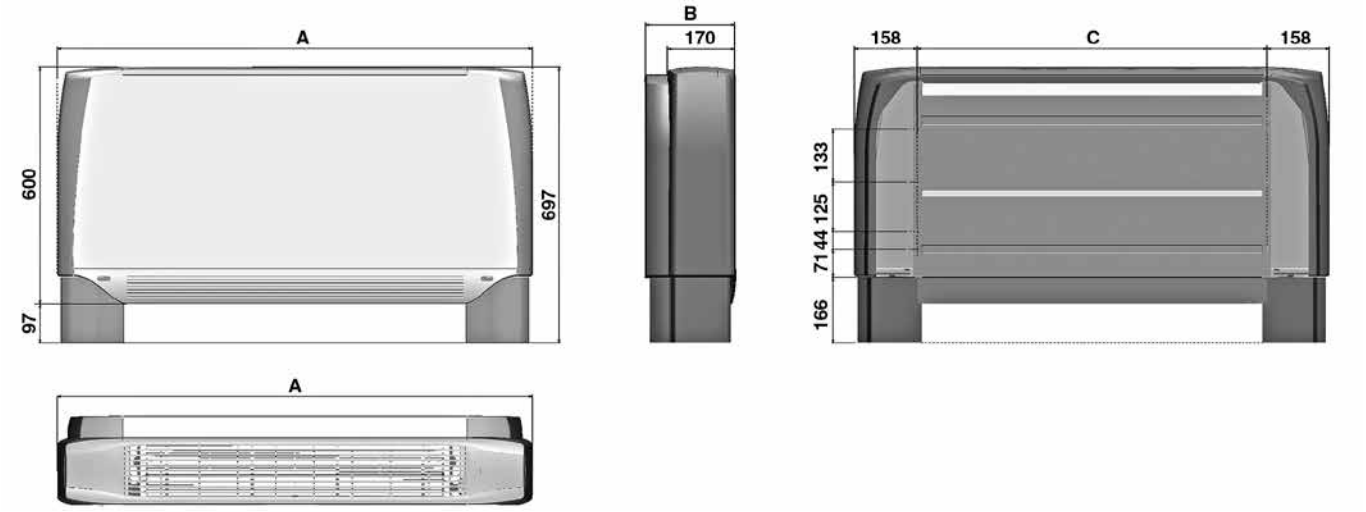
Electronics board

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.



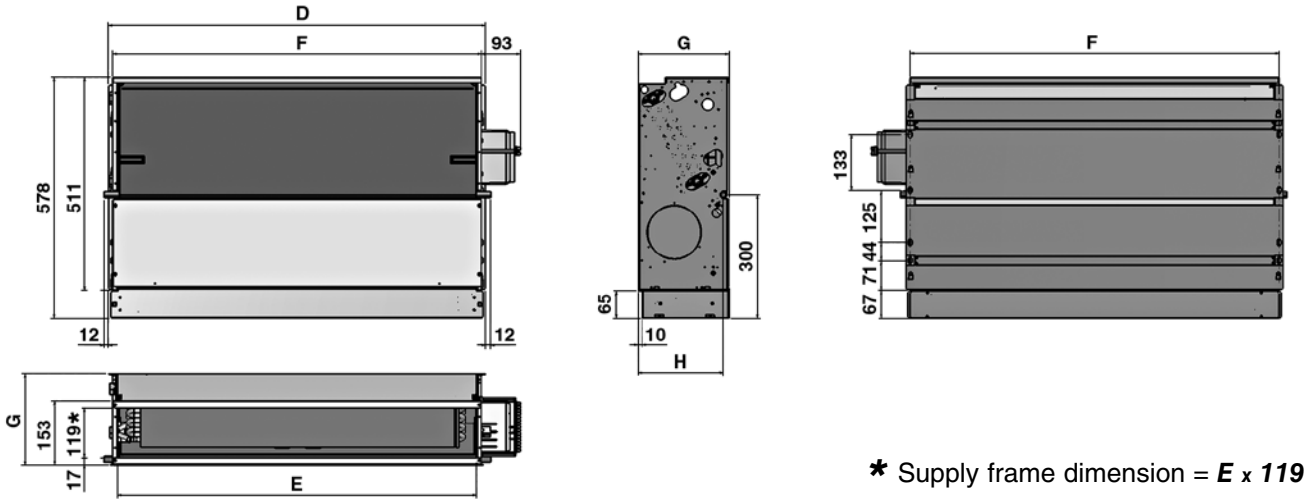
The technical features of the various components of the fan convector, such as the casing, the internal loadbearing structure, the mechanical filter, the ventilating unit and accessories are described in this catalogue in the parts referring to the ***CRC range*** (centrifugal fan). The control and regulation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

MV



Model	1	2	3	4	5	6	7	8	9
A (mm)	670	770	985	985	1200	1200	1415	1415	1415
B (mm)	225	225	225	225	225	225	225	255	255
C (mm)	354	454	669	669	884	884	1099	1099	1099

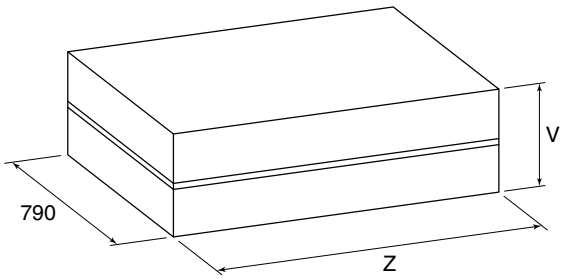
IV-IO



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

Model	1	2	3	4	5	6	7	8	9
D (mm)	374	474	689	689	904	904	1119	1119	1119
E (mm)	330	430	645	645	860	860	1075	1075	1075
F (mm)	354	454	669	669	884	884	1099	1099	1099
G (mm)	218	218	218	218	218	218	218	248	248
H (mm)	205	205	205	205	205	205	205	235	235

PACKAGING



Dimension (mm) – *MV / IV-IO model*

Model	1	2	3	4	5	6	7	8	9
V	280	280	280	280	280	280	280	310	310
Z	690	790	1005	1005	1220	1220	1435	1435	1435

Weight (kg) – *MV model*

		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	19	21	27	28	33	34	39	43	44	17	19	24	25	30	31	35	38	39
	3+1	20	24	33	34	39	40	46	51	52	18	22	30	31	36	37	42	46	47
	3+2	20	27	39	40	45	46	53	59	60	18	25	36	37	42	43	49	54	55
	4	19	23	30	31	36	37	43	49	50	17	21	27	28	33	34	39	44	45
	4+1	20	26	35	36	41	42	49	56	58	18	24	32	33	38	39	45	51	53

Weight (kg) – *IV-IO model*

		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	15	20	27	28	33	34	38	41	41	13	18	24	25	30	31	34	36	36
	3+1	16	23	32	33	38	39	44	48	49	14	21	29	30	35	36	40	43	44
	3+2	17	26	37	38	43	44	50	55	57	15	24	34	35	40	41	46	50	52
	4	16	22	29	30	35	36	41	46	47	14	20	26	27	32	33	37	41	42
	4+1	17	25	34	35	40	41	47	53	55	15	23	31	32	37	38	43	48	50

All the ***Carisma CRC*** units can be supplied
with a wide range of controls to be fitted that allows managing one single unit.

The room temperature can be controlled through electronic room thermostats,
with different solutions according to every ambient conditions.

The options range from the basic ***CB*** control to the electronic room thermostats ***CB-T*** and ***CB-C*** that regulate the room temperature and are suitable when the user wants to set the fan speed.
The most evolved ***CB-AUT*** version allows both the manual and the automatic speed switch.
For the ***Carisma CRC*** units, supplied with Crystal filter or with electric heater,
the ***CB-IAQ, CB-R-IAQ*** and ***CB-AUT-IAQ*** controls are available.

CB

CB-T

CB-C

CB-AUT

CB-IAQ

CB-R-IAQ

CB-AUT-IAQ

All the controls are described in detail in the "Fan Coil Control Range" literature.

All the ***Carisma CRC*** units can be supplied with a wide range of electronic wall controls that allows managing one single unit or several units (by using Dip-Switches or the power unit).

The room temperature can be controlled through electronic room thermostats, with different solutions according to every ambient conditions.

The options range from the basic 3 speed control ***WM-3V*** to the highly sophisticated ***WM-T*** and ***WM-TQR*** electronic room thermostats that regulate the room temperature and are suitable when the user wants to set the fan speed. The most evolved ***WM-AU, T-MB*** and ***WM-503-AC-EC*** versions allow both the manual and the automatic speed switch.

WM-3V

WM-T

WM-TQR

WM-AU

T-MB

WM-503-AC-EC

T2T

All the controls are described in detail in the "Fan Coil Control Range" literature.

All the ***Carisma CRC*** units can be supplied in ***MB version.*** This version includes a wide range of controls, including the **infra-red remote control,** which allows managing one single unit or several units by using the Modbus RTU - RS 485 communication protocol.

Units can be managed according to the Master/Slave logic (up to 20 units) or by supervisory components.

The system consists in a ***MB*** board and a series of controls, such as the ***T-MB*** wall control, the ***RT03*** infra-red remote control, the ***PSM-DI*** multifunction control panel and the ***Sabianet*** supervisory program.

***T-MB** wall control*

***PSM-DI** multifunction control panel*

***RT03** infra-red remote control*

PC

***Sabianet** screenshot*

***Sabianet** software*

All the controls are described in detail in the "Fan Coil Control Range" literature.

Touch screen multifunction control panel

The T-DI multifunction control panel lets supervise and control more units with MB or SIOS boards; the panel is equipped with a 7 inches touch screen display and a serie of graphical pages that allows an easy reading of the data sent by the fan coils and the management of up to 60 units (max. 60 units: SIOS + MB). With the T-DI multifunction control panel it is also possible to control the units remotely with the specific ***Sabiana Cloud*** App for Android and iOS. The ***Sabiana Cloud*** application is simple to use and lets have complete control of all the connected units.

Web gateway for Sabiana Cloud

With the Web gateway for “Sabiana Cloud” it is possible to control remotely up to 60 units, equipped with MB or SIOS boards (max. 60 units: SIOS + MB), with the specific APP for Android and iOS. The “Sabiana Cloud” APP is simple to use and lets have complete control of all the connected units.

All the controls are described in detail in the “Fan Coil Control Range” literature.

The KNX bus system is a building automation standard for controlling, managing and monitoring a wide range of products for:

- heating, cooling, ventilation
- lighting
- alarm systems
- audio and video systems
- electricity and gas

Since 2016, Sabiana is a certified member of the KNX association and the certified products can be added to this system in compliance with the tests carried out at KNX laboratories.

KNX DEVICES

The Sabiana **WM-KNX** room thermostat controls and adjusts the temperature of a room or area in a building. In combination with one or several **UP-KNX** power units, the thermostat is able to control the operation of terminal units such as fan coils. The appliance consists of an **LCD** display with adjustable backlight and a sensor for measuring the room temperature.

WM-KNX is suitable for installation in a recessed wall box.

Recessed thermostat
WM-KNX

WM-KNX
with rectangular plate

WM-KNX
with square plate

Power unit
UP-KNX

All the controls are described in detail in the "Fan Coil Control Range" literature.

THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

CISQ/ICIM SPA has issued an IQNet recognized certificate that the organization:

SABIANA S.p.A.

Head Office and Operative Unit
Via Piave, 53 - I-20011 Corbetta (MI)
Operative Unit
Via Virgilio, 2 - I-20013 Magenta (MI)

has implemented and maintains a

Quality Management System

for the following scope:

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

which fulfils the requirements of the following standard:

ISO 9001:2015

Issued on:	**2018-04-10**
First issued on:	**1996-06-10**
Expires on:	**2021-04-09**

This attestation is directly linked to the IQNet Partner's original certificate and shall not be used as a stand-alone document.

Registration Number: IT-4000

Alex Stoichitoiu
President of IQNET

Ing. Claudio Provetti
President of CISQ

IQNet Partners*:
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