ROVER®

HIGH QUALITY CLIMATE

Fan Coil Units

Technical Catalogue

ROVER brand was established in 1999 in Germany. Initially, only ventilation equipment was being developed and manufactured. Later sphere of interests and services provided by the company, enlarged, so central air handling units and different types of fan coil units were offered for domestic and external markets.

Strong construction base and development of our own scientific research center allow to make products that match both international quality standards and climatic features of different geographic regions of the planet, as well as to modernize existing types of equipment and to produce new ones. Main **ROVER** factories are located in Germany and Italy. The factories that cooperate with **ROVER** brand by contract manufacturing, pass the most rigorous selection.

The company doesn't rest on it's laurels and today enters the market of VRF systems with **ROVER VRF** product range. Also the company offers equipment for heating office and industrial rooms – air curtains and infrared heating panels.

Success of the **ROVER** products has its reason in implementation of the quality program **"ROVER High Quality Climate"**, developed by company experts. Its requirements accord to German industry standards. This program holds to strict quality parameters of the produced equipment and its aftersales service. Only high quality components and materials are used in manufacturing. All factories included in production process have modern machinery. Testing of each unit of equipment takes place at every stage of its production. Average lifetime of **ROVER** product is over 10 years.

ROVER climatic equipment has a 1-year standard and 3-year extended warranty of the manufacturing plant. Authorized service centers are organized to provide support for **ROVER** products maintenance. Timely delivery of spare parts and components is an essential part of aftersales service provided be the company. We gain special appreciation of the customers for opportunity to bring one's idea of comfort to life together with **ROVER**. Due to its technological achievements, **ROVER** company is considered to be one of the leaders in development and mass production of climatic equipment.

Cooperation with many European industrial designers allows to achieve excellent results in design of products under **ROVER** brand.

All **ROVER** equipment meets European EUROVENT standards and has ROSSTANDART Certificates of conformity. **ROVER** company is known to the customers as a manufacturer of high quality climatic equipment.

ROVER manufactures and supplies wide range of HVAC equipment:*

- duct, axial, roof, centrifugal, exhaust, high pressure and specific fans
- industrial fans
- compact monobloc AHU
- multifunctional central AHU
- with-case and without-case floor/ceiling fan coil units
- cassette, duct (including duct with high static pressure) and ceiling fan coil units
- VRF systems
- infrared heating panels
- air curtains
- accessories and additional equipment

Traditional German quality, modern design, wide range of equipment and accessories allows to perform the most complicated project tasks.

* When choosing equipment, **ROVER** recommends to use the services of technical specialists in authorized companies, which will make the necessary calculations and select the appropriate models in short terms.

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ROVER Fan Coils

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Universal
Fan Coil Unit

Universal is the result of a great commitment of energy and resources, with the aim of offering an innovative product in terms of design, performance, low noise, energy saving and functionality.

Upon request, innovative electronic motors with extremely low energy consumption, controlled by an inverter board and identified by ECM, are available with centrifugal and tangential fan. The ECM motors allow electrical consumption to be decreased by more than 50% compared to traditional asynchronous motors. They enable continuous air flow control and precise control over the ambient temperature, with further benefits in terms of very low noise levels thanks to the reduced average working speed.

The 4 models
(for wall and ceiling installation,
with casing and concealed)
and the different available coils
(with three or four rows for
two pipe systems, one or two rows
for four pipe systems) offer
great installation flexibility and allow the use
of low temperature hot water, in line with the development
of modern boilers and heat pumps.

As a special option, the Universal range can be fitted with the Crystall 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 controls is available,
including the innovative Free patented wireless system, for rapidly obtaining
correct ambient temperature and desired performances and comfort.

The Universal 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 concealed systems.

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Universal SEC/F

Fan Coil Unit with Centrifugal Fan with Asynchronous Motor

Range includes **9 air flow rates** (from 105 to 1500 m^3/h) and **4 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.**

Technical characteristics of the main components:

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)**
- Front panel: **RAL 9003 (white)**
- Other colours on request.

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

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

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

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

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

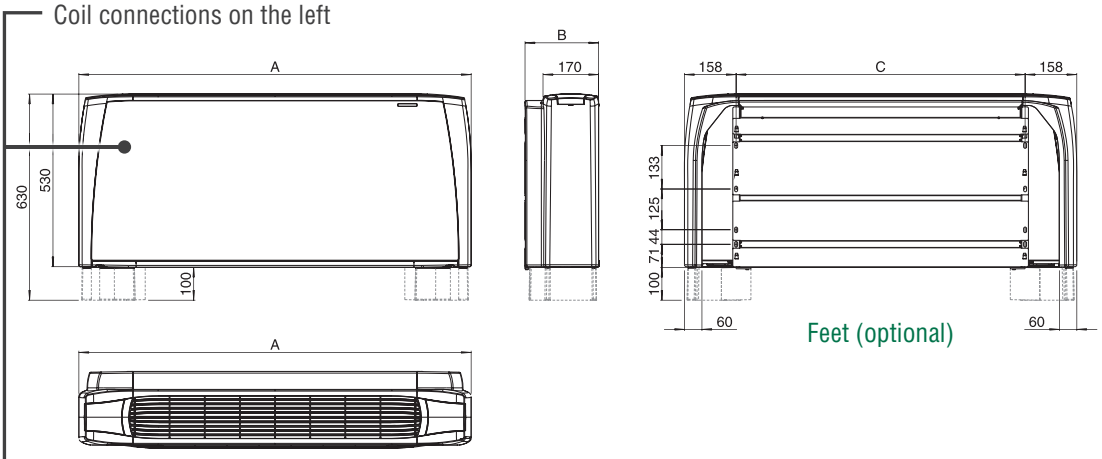
Flow and return pipe connections are situated at the same end on the left side looking at the unit. On request we can deliver the unit with the connections on the right end side. This operation can also be easily carried out on site during installation.

Condensate collection tray: made from plastic with an "L"-shaped plastic fitted on the inner casing; in the CH, CVB and NC model the tray is insulated with polyolefin (PO) foam (class M1). The outside diameter of the condensate discharge pipe is 15 mm.

Dimensions, Weight, Water content

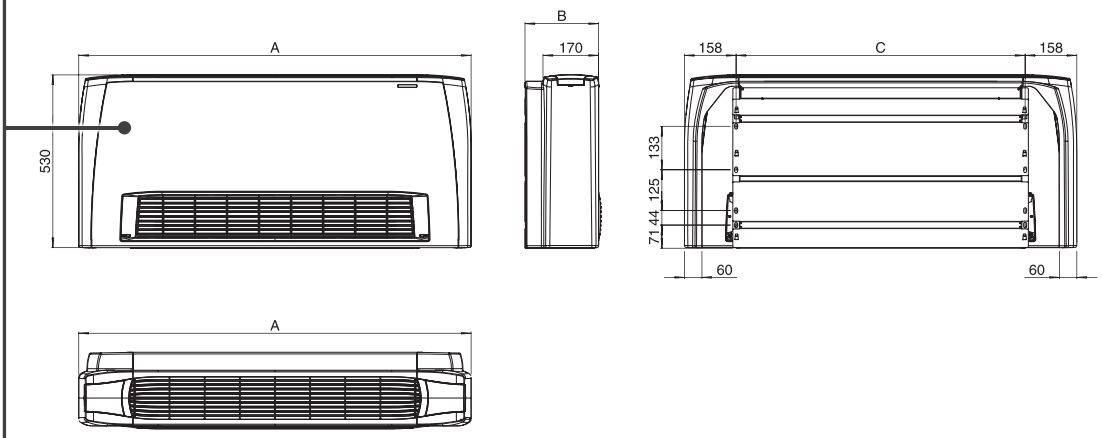
CV model

Coil connections on the left

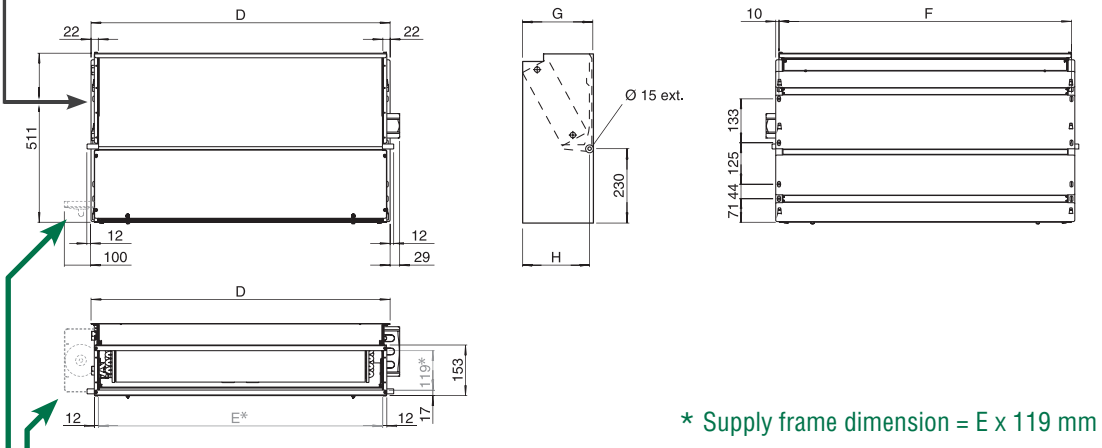


Feet (optional)

CH, CVB models



NC model



* Supply frame dimension = E x 119 mm

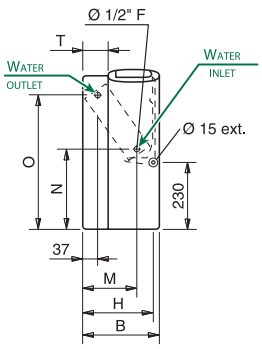
Auxiliary condensate tray (optional)

Dimensions, Weight, Water content

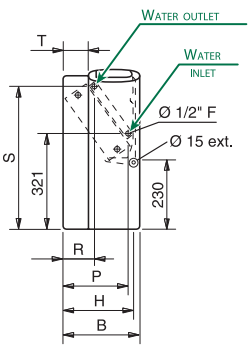
Coil connections

CV, CH, CVB models

3 or 4 row coils

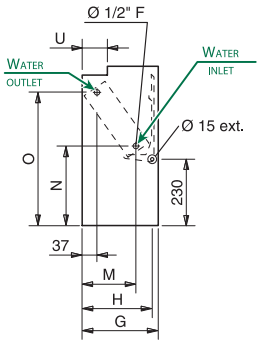


Heating additional coil (1 or 2 rows)

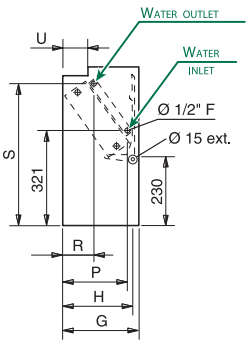


NC model

3 or 4 row coils



Heating additional coil (1 or 2 rows)



Dimension (mm)

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

Weight (kg)

			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*
CV, CH, CVB	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*
NC	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

ROVER
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Certification

EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

www.eurovent-certification.com
www.certiflash.com

Units with 3 row coil

2 pipe units. The following standard rating conditions are used:

***COOLING* (summer mode)**

Entering air temperature: +27°C d.b. +19°C w.b.
Water temperature: + 7°C E.W.T. +12°C L.W.T.

***HEATING* (winter mode)**

Entering air temperature: +20°C
Entering water temperature: +50°C
Water flow rate as for the cooling conditions

MODEL			SEC/F 13						SEC/F 23						SEC/F 33					
Speed			1 (E)	2	3	4 (E)	5	6 (E)	1 (E)	2	3 (E)	4	5 (E)	6	1	2 (E)	3 (E)	4	5 (E)	6
			MIN			MED		MAX	MIN		MED		MAX			MIN	MED		MAX	
Air flow		m³/h	**105**	125	150	**175**	195	**220**	**145**	170	**220**	250	**295**	340	185	**235**	**270**	325	**385**	440
Cooling total emission (E)		kW	**0,59**	0,68	0,77	**0,86**	0,94	**1,03**	**0,91**	1,01	**1,25**	1,38	**1,56**	1,74	1,28	**1,57**	**1,78**	2,07	**2,39**	2,66
Cooling sensible emission (E)		kW	**0,47**	0,54	0,62	**0,71**	0,78	**0,86**	**0,69**	0,77	**0,97**	1,08	**1,24**	1,40	0,94	**1,15**	**1,32**	1,55	**1,80**	2,02
Heating (E)		kW	**0,76**	0,90	1,02	**1,15**	1,26	**1,39**	**1,12**	1,27	**1,59**	1,77	**2,02**	2,28	1,52	**1,87**	**2,15**	2,52	**2,92**	3,27
Heating - Water 70-60°C		kW	**1,31**	1,53	1,75	**1,99**	2,18	**2,42**	**1,90**	2,14	**2,70**	3,00	**3,44**	3,89	2,54	**3,14**	**3,61**	4,24	**4,92**	5,52
Dp Cooling (E)		kPa	**0,9**	1,1	1,4	**1,7**	2,0	**2,3**	**2,5**	3,0	**4,4**	5,3	**6,5**	7,9	6,6	**9,4**	**11,8**	15,4	**19,7**	23,8
Dp Heating (E)		kPa	**0,8**	0,9	1,2	**1,4**	1,7	**2,0**	**2,1**	2,6	**3,7**	4,5	**5,5**	6,7	5,6	**8,0**	**10,0**	13,1	**16,7**	20,2
Fan (E)		W	**16**	19	21	**25**	29	**33**	**14**	16	**22**	26	**32**	40	15	**20**	**25**	32	**41**	49
Sound power (E)		dB(A)	**32**	34	36	**39**	42	**45**	**30**	33	**40**	43	**47**	51	31	**36**	**40**	45	**49**	52
Sound pressure (*)		dB(A)	**23**	25	27	**30**	33	**36**	**21**	24	**31**	34	**38**	42	22	**27**	**31**	36	**40**	43
1 row heating additional coil (Water 70/60°C)	Heating (E)	kW	**0,63**	0,71	0,79	**0,89**	0,96	**1,04**	**0,94**	1,04	**1,25**	1,36	**1,52**	1,68	1,35	**1,59**	**1,77**	2,00	**2,26**	2,48
	Dp Heat. (E)	kPa	**0,7**	0,9	1,0	**1,3**	1,5	**1,7**	**1,7**	2,0	**2,8**	3,3	**4,0**	4,8	3,9	**5,2**	**6,3**	7,8	**9,7**	11,4

MODEL			SEC/F 43						SEC/F 53						SEC/F 63					
Speed			1	2 (E)	3 (E)	4	5 (E)	6	1	2 (E)	3	4 (E)	5 (E)	6	1 (E)	2	3 (E)	4	5 (E)	6
				MIN	MED		MAX			MIN		MED		MAX	MIN		MED		MAX	
Air flow		m³/h	185	**265**	**335**	400	**485**	570	250	**315**	420	**495**	545	**650**	**415**	505	**590**	680	**760**	830
Cooling total emission (E)		kW	1,27	**1,73**	**2,14**	2,46	**2,87**	3,24	1,68	**2,03**	2,58	**2,94**	3,18	**3,64**	**2,54**	2,99	**3,37**	3,77	**4,09**	4,35
Cooling sensible emission (E)		kW	0,93	**1,28**	**1,60**	1,86	**2,19**	2,51	1,24	**1,51**	1,94	**2,23**	2,43	**2,82**	**1,91**	2,27	**2,59**	2,93	**3,20**	3,44
Heating (E)		kW	1,50	**2,09**	**2,61**	3,02	**3,56**	4,06	1,98	**2,42**	3,13	**3,59**	3,89	**4,50**	**3,07**	3,66	**4,13**	4,68	**5,09**	5,45
Heating - Water 70-60°C		kW	2,51	**3,51**	**4,36**	5,08	**6,00**	6,87	3,32	**4,07**	5,26	**6,04**	6,54	**7,57**	**5,17**	6,15	**6,96**	7,87	**8,61**	9,22
Dp Cooling (E)		kPa	6,5	**11,2**	**16,2**	20,8	**27,2**	33,8	4,1	**5,8**	8,8	**11,1**	12,7	**16,2**	**8,6**	11,4	**14,1**	17,2	**19,8**	22,1
Dp Heating (E)		kPa	5,5	**9,5**	**13,8**	17,7	**23,1**	28,7	3,5	**4,9**	7,5	**9,4**	10,8	**13,8**	**7,3**	9,7	**12,0**	14,6	**16,8**	18,8
Fan (E)		W	14	**21**	**28**	34	**44**	57	18	**22**	32	**39**	46	**61**	**37**	46	**55**	67	**78**	88
Sound power (E)		dB(A)	27	**33**	**39**	43	**47**	52	26	**31**	37	**41**	43	**48**	**37**	42	**46**	49	**52**	54
Sound pressure (*)		dB(A)	18	**24**	**30**	34	**38**	43	17	**22**	28	**32**	34	**39**	**28**	33	**37**	40	**43**	45
1 row heating additional coil (Water 70/60°C)	Heating (E)	kW	1,34	**1,73**	**2,06**	2,32	**2,65**	2,88	1,77	**2,07**	2,53	**2,83**	3,03	**3,42**	**2,50**	2,87	**3,19**	3,54	**3,81**	4,04
	Dp Heat. (E)	kPa	3,9	**6,0**	**8,2**	10,1	**12,8**	14,8	1,2	**1,6**	2,3	**2,8**	3,2	**3,9**	**3,2**	4,1	**4,9**	5,8	**6,7**	7,4

MODEL			SEC/F 73						SEC/F 83						SEC/F 93					
Speed			1	2 (E)	3	4 (E)	5	6 (E)	1	2 (E)	3	4 (E)	5	6 (E)	1	2 (E)	3	4 (E)	5	6 (E)
				MIN		MED		MAX		MIN		MED		MAX		MIN		MED		MAX
Air flow		m³/h	445	**535**	630	**735**	840	**925**	510	**655**	815	**1020**	1100	**1200**	735	**830**	980	**1210**	1365	**1500**
Cooling total emission (E)		kW	2,87	**3,34**	3,80	**4,29**	4,76	**5,11**	3,06	**3,74**	4,41	**5,19**	5,47	**5,82**	4,08	**4,47**	5,06	**5,87**	6,36	**6,74**
Cooling sensible emission (E)		kW	2,13	**2,50**	2,87	**3,27**	3,66	**3,95**	2,32	**2,88**	3,44	**4,12**	4,37	**4,68**	3,16	**3,49**	4,00	**4,73**	5,19	**5,55**
Heating (E)		kW	3,41	**4,01**	4,60	**5,19**	5,80	**6,27**	3,84	**4,80**	5,61	**6,74**	7,15	**7,66**	5,21	**5,71**	6,54	**7,72**	8,47	**9,06**
Heating - Water 70-60°C		kW	5,71	**6,72**	7,67	**8,73**	9,76	**10,55**	6,49	**8,11**	9,67	**11,63**	12,36	**13,25**	8,87	**9,82**	11,29	**13,39**	14,70	**15,74**
Dp Cooling (E)		kPa	12,3	**16,2**	20,3	**25,1**	30,1	**34,2**	7,3	**10,3**	13,8	**18,4**	20,2	**22,5**	11,9	**13,8**	17,3	**22,4**	25,9	**28,6**
Dp Heating (E)		kPa	10,5	**13,8**	17,3	**21,3**	25,6	**29,1**	6,2	**8,8**	11,8	**15,6**	17,3	**19,2**	10,2	**12,0**	14,9	**19,1**	22,5	**24,6**
Fan (E)		W	44	**54**	66	**79**	92	**103**	47	**62**	81	**105**	116	**130**	78	**92**	108	**134**	152	**176**
Sound power (E)		dB(A)	38	**42**	47	**51**	54	**56**	39	**45**	50	**56**	58	**60**	47	**50**	54	**58**	62	**64**
Sound pressure (*)		dB(A)	29	**33**	38	**42**	45	**47**	30	**36**	41	**47**	49	**51**	38	**41**	45	**49**	53	**55**
1 row heating additional coil (Water 70/60°C)	Heating (E)	kW	2,89	**3,29**	3,68	**4,09**	4,49	**4,79**	3,03	**3,60**	4,17	**4,86**	5,11	**5,41**	3,89	**4,22**	4,74	**5,46**	5,90	**6,23**
	Dp Heat. (E)	kPa	3,4	**4,3**	5,2	**6,3**	7,4	**8,3**	3,7	**5,0**	6,5	**8,5**	9,3	**10,3**	5,8	**6,7**	8,2	**10,5**	12,0	**13,2**

(E) = Eurovent certified performance. **MIN-MED-MAX** = Standard connected speeds.
(*) = The sound pressure levels are 9 dB(A) lower than the sound power levels and apply to the reverberant field of a 100 m³ room and a reverberation time of 0.5 sec.

Certification

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Units with 4 row coil

2 pipe units. The following standard rating conditions are used:

***COOLING* (summer mode)**

Entering air temperature: +27°C d.b. +19°C w.b.
Water temperature: + 7°C E.W.T. +12°C L.W.T.

***HEATING* (winter mode)**

Entering air temperature: +20°C
Entering water temperature: +50°C
Water flow rate as for the cooling conditions

MODEL			SEC/F 14						SEC/F 24						SEC/F 34					
Speed			1 (E)	2	3	4 (E)	5	6 (E)	1 (E)	2	3 (E)	4	5 (E)	6	1	2 (E)	3 (E)	4	5 (E)	6
			MIN			MED		MAX	MIN		MED		MAX			MIN	MED		MAX	
Air flow		m³/h	**105**	125	150	**175**	195	**220**	**145**	170	**220**	250	**295**	340	185	**235**	**270**	325	**385**	440
Cooling total emission (E)		kW	**0,67**	0,78	0,89	**1,02**	1,11	**1,23**	**1,01**	1,13	**1,43**	1,59	**1,81**	2,04	1,34	**1,65**	**1,89**	2,21	**2,57**	2,88
Cooling sensible emission (E)		kW	**0,51**	0,60	0,68	**0,79**	0,87	**0,97**	**0,74**	0,83	**1,07**	1,19	**1,38**	1,57	0,96	**1,20**	**1,38**	1,62	**1,90**	2,14
Heating (E)		kW	**0,82**	0,96	1,10	**1,27**	1,39	**1,55**	**1,18**	1,34	**1,72**	1,92	**2,20**	2,50	1,56	**1,94**	**2,23**	2,63	**3,07**	3,46
Heating - Water 70-60°C		kW	**1,38**	1,62	1,86	**2,15**	2,36	**2,63**	**1,98**	2,24	**2,88**	3,22	**3,69**	4,19	2,60	**3,23**	**3,73**	4,40	**5,14**	5,80
Dp Cooling (E)		kPa	**1,9**	2,5	3,2	**4,0**	4,7	**5,6**	**4,9**	6,1	**9,2**	11,0	**13,9**	17,2	3,7	**5,3**	**6,7**	8,9	**11,5**	14,1
Dp Heating (E)		kPa	**1,5**	2,0	2,6	**3,3**	3,9	**4,7**	**3,9**	4,9	**7,5**	9,2	**11,6**	14,6	2,9	**4,2**	**5,4**	7,0	**9,2**	11,3
Fan (E)		W	**16**	19	21	**25**	29	**33**	**14**	16	**22**	26	**32**	40	15	**20**	**25**	32	**41**	49
Sound power (E)		dB(A)	**32**	34	36	**39**	42	**45**	**30**	33	**40**	43	**47**	51	31	**36**	**40**	45	**49**	52
Sound pressure (*)		dB(A)	**23**	25	27	**30**	33	**36**	**21**	24	**31**	34	**38**	42	22	**27**	**31**	36	**40**	43
1 row heating additional coil (Water 70/60°C)	Heating (E)	kW	**0,63**	0,71	0,79	**0,89**	0,96	**1,04**	**0,94**	1,04	**1,25**	1,36	**1,52**	1,68	1,35	**1,59**	**1,77**	2,00	**2,26**	2,48
	Dp Heat. (E)	kPa	**0,7**	0,9	1,0	**1,3**	1,5	**1,7**	**1,7**	2,0	**2,8**	3,3	**4,0**	4,8	3,9	**5,2**	**6,3**	7,8	**9,7**	11,4

MODEL			SEC/F 44						SEC/F 54						SEC/F 64					
Speed			1	2 (E)	3 (E)	4	5 (E)	6	1	2 (E)	3	4 (E)	5 (E)	6	1 (E)	2	3 (E)	4	5 (E)	6
				MIN	MED		MAX			MIN		MED		MAX	MIN		MED		MAX	
Air flow		m³/h	185	**265**	**335**	400	**485**	570	250	**315**	420	**495**	545	**650**	**415**	505	**590**	680	**760**	830
Cooling total emission (E)		kW	1,32	**1,83**	**2,28**	2,65	**3,12**	3,56	1,79	**2,19**	2,83	**3,25**	3,54	**4,09**	**2,83**	3,38	**3,86**	4,38	**4,79**	5,13
Cooling sensible emission (E)		kW	0,95	**1,34**	**1,68**	1,97	**2,34**	2,69	1,30	**1,60**	2,08	**2,40**	2,63	**3,07**	**2,07**	2,49	**2,86**	3,27	**3,60**	3,87
Heating (E)		kW	1,54	**2,16**	**2,72**	3,17	**3,76**	4,34	2,06	**2,53**	3,30	**3,81**	4,17	**4,83**	**3,39**	4,07	**4,69**	5,35	**5,88**	6,35
Heating - Water 70-60°C		kW	2,57	**3,62**	**4,56**	5,32	**6,33**	7,30	3,44	**4,23**	5,51	**6,37**	6,97	**8,07**	**5,66**	6,81	**7,85**	8,98	**9,90**	10,68
Dp Cooling (E)		kPa	3,4	**6,1**	**9,0**	11,7	**15,5**	19,6	7,3	**10,4**	16,3	**20,8**	24,2	**31,3**	**14,4**	19,7	**24,8**	30,9	**36,2**	40,9
Dp Heating (E)		kPa	2,5	**4,6**	**6,9**	9,0	**12,2**	15,6	5,7	**8,3**	13,1	**17,0**	19,9	**25,7**	**11,0**	15,2	**19,5**	24,7	**29,3**	33,5
Fan (E)		W	14	**21**	**28**	34	**44**	57	18	**22**	32	**39**	46	**61**	**37**	46	**55**	67	**78**	88
Sound power (E)		dB(A)	27	**33**	**39**	43	**47**	52	26	**31**	37	**41**	43	**48**	**37**	42	**46**	49	**52**	54
Sound pressure (*)		dB(A)	18	**24**	**30**	34	**38**	43	17	**22**	28	**32**	34	**39**	**28**	33	**37**	40	**43**	45
1 row heating additional coil (Water 70/60°C)	Heating (E)	kW	1,34	**1,73**	**2,06**	2,32	**2,65**	2,88	1,77	**2,07**	2,53	**2,83**	3,03	**3,42**	**2,50**	2,87	**3,19**	3,54	**3,81**	4,04
	Dp Heat. (E)	kPa	3,9	**6,0**	**8,2**	10,1	**12,8**	14,8	1,2	**1,6**	2,3	**2,8**	3,2	**3,9**	**3,2**	4,1	**4,9**	5,8	**6,7**	7,4

MODEL			SEC/F 74						SEC/F 84						SEC/F 94					
Speed			1	2 (E)	3	4 (E)	5	6 (E)	1	2 (E)	3	4 (E)	5	6 (E)	1	2 (E)	3	4 (E)	5	6 (E)
				MIN		MED		MAX		MIN		MED		MAX		MIN		MED		MAX
Air flow		m³/h	445	**535**	630	**735**	840	**925**	510	**655**	815	**1020**	1100	**1200**	735	**830**	980	**1210**	1365	**1500**
Cooling total emission (E)		kW	3,03	**3,56**	4,08	**4,64**	5,17	**5,58**	3,27	**4,03**	4,80	**5,73**	6,06	**6,47**	4,42	**4,88**	5,57	**6,54**	7,13	**7,60**
Cooling sensible emission (E)		kW	2,22	**2,62**	3,03	**3,47**	3,89	**4,23**	2,43	**3,04**	3,66	**4,43**	4,71	**5,06**	3,36	**3,72**	4,29	**5,11**	5,63	**6,05**
Heating (E)		kW	3,55	**4,20**	4,86	**5,55**	6,19	**6,71**	4,03	**5,06**	6,11	**7,36**	7,84	**8,43**	5,59	**6,22**	7,14	**8,53**	9,38	**10,08**
Heating - Water 70-60°C		kW	5,93	**7,02**	8,12	**9,30**	10,38	**11,26**	6,78	**8,55**	10,37	**12,52**	13,34	**14,36**	9,47	**10,55**	12,13	**14,52**	16,02	**17,23**
Dp Cooling (E)		kPa	9,5	**12,5**	15,9	**20,0**	24,2	**27,7**	5,2	**7,6**	10,3	**14,1**	15,6	**17,5**	9,0	**10,6**	13,4	**17,8**	20,7	**23,2**
Dp Heating (E)		kPa	7,7	**10,3**	13,3	**16,9**	20,5	**23,7**	4,1	**6,2**	8,4	**11,4**	12,7	**14,5**	7,2	**8,7**	11,1	**14,8**	17,0	**19,3**
Fan (E)		W	44	**54**	66	**79**	92	**103**	47	**62**	81	**105**	116	**130**	78	**92**	108	**134**	152	**176**
Sound power (E)		dB(A)	38	**42**	47	**51**	54	**56**	39	**45**	50	**56**	58	**60**	47	**50**	54	**58**	62	**64**
Sound pressure (*)		dB(A)	29	**33**	38	**42**	45	**47**	30	**36**	41	**47**	49	**51**	38	**41**	45	**49**	53	**55**
1 row heating additional coil (Water 70/60°C)	Heating (E)	kW	2,89	**3,29**	3,68	**4,09**	4,49	**4,79**	3,03	**3,60**	4,17	**4,86**	5,11	**5,41**	3,89	**4,22**	4,74	**5,46**	5,90	**6,23**
	Dp Heat. (E)	kPa	3,4	**4,3**	5,2	**6,3**	7,4	**8,3**	3,7	**5,0**	6,5	**8,5**	9,3	**10,3**	5,8	**6,7**	8,2	**10,5**	12,0	**13,2**

(E) = Eurovent certified performance. **MIN-MED-MAX** = Standard connected speeds.
(*) = The sound pressure levels are 9 dB(A) lower than the sound power levels and apply to the reverberant field of a 100 m³ room and a reverberation time of 0.5 sec.

IAQ accessory (only for SEC/F version)

Crystall

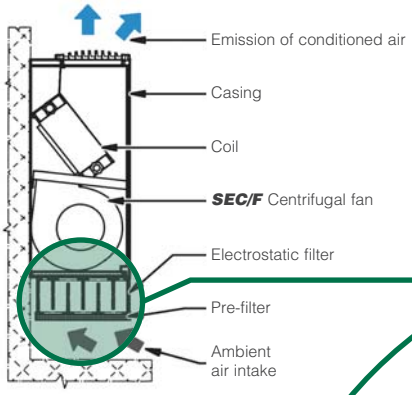
The Crystall electrostatic filter matches the need for better air conditioning with the concepts of space and design.

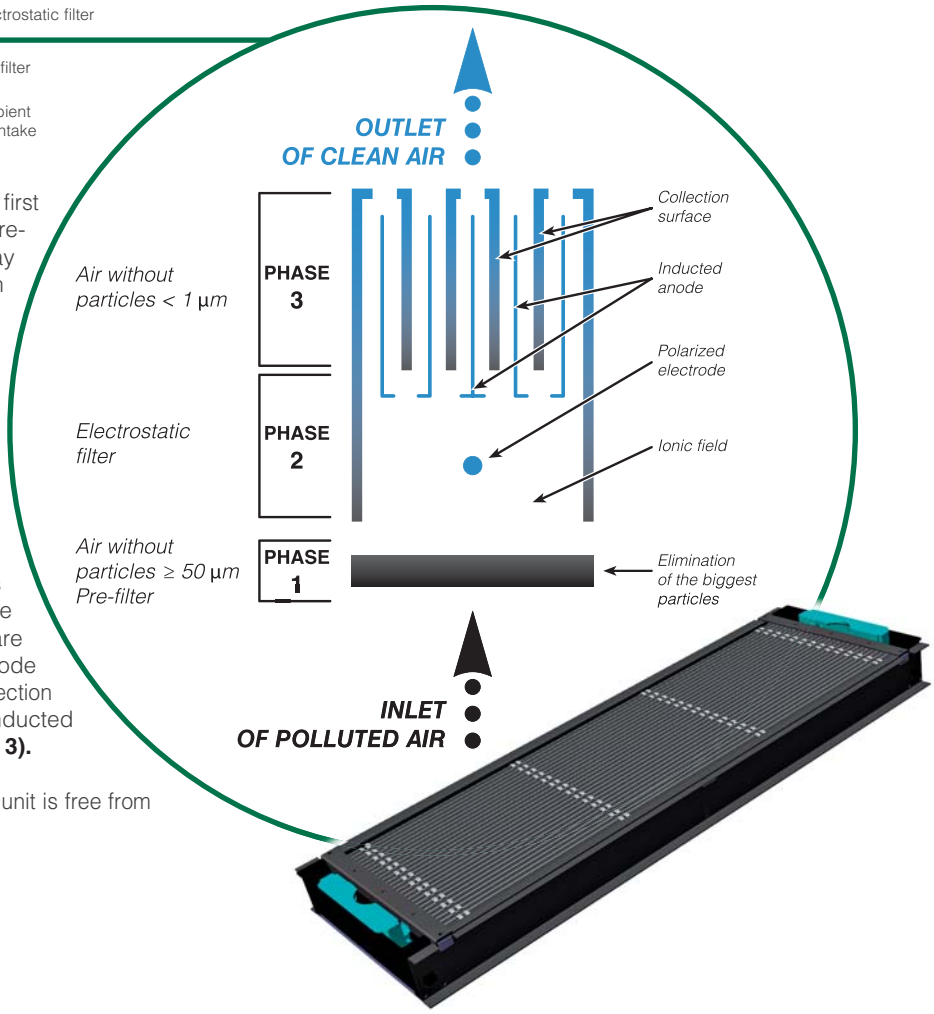
With this filter the various stages of air treatment are combined in one appliance.

Thanks to this new patented filter (efficiency compliant with new Standard UNI 11254), air pollutants such as cigarette smoke, dust (PM10, PM2.5), pollen and most biological organisms are eliminated.

In addition, as fresh air is not being introduced to obtain the best climatic conditions, there are consequential energy savings.

Operating principle of the Crystall electronic filter





The air is sucked in and first passes a mechanical pre-filter, which stops away particles of more than 50 µm (dust, insects, etc.) **(PHASE 1).**

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.

Built in electronic controls

Standard CV, CVB models

MV-3V	3 speed control
TMV-S	3 speed control with electronic thermostat and manual summer/winter switch
TMV-C	3 speed control with electronic thermostat and centralized summer/winter switch
TMV-AU	Automatic 3 speed control with electronic thermostat and summer/winter switch

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

Wall electronic controls

Standard CV, CH, CVB and NC models

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

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

Free wireless control system

Free-Com	Remote control to be used with electronic boards described at Page 84

Electronic controls for MB boards

MB-M	MB electronic board fitted on the unit
MB-S	MB electronic board supplied with separate packaging
T-MB	Wall control (to be used with MB board only)
T-MB-M	Control fitted on the unit, for CV, CVB models with left connections (available with right connections, to be used with MB board only)
T-MB-S	Control supplied with separate packaging, for CV, CVB models with left connections (available with right connections, to be used with MB board only)
RM-RT03	RT03 infra-red remote control with fitted receiver, for CV, CH, CVB models (to be used with MB board only)
RS-RT03	RT03 infra-red remote control with receiver supplied with separate packaging (to be used with MB board only)
RT03	RT03 infra-red remote control supplied with separate packaging (to be used with MB board only)
RM	Receiver for RT03 infra-red remote control fitted on the unit, for CV, CH, CVB models (to be used with MB board only)
RS	Receiver for RT03 infra-red remote control supplied with separate packaging (to be used with MB board only)
PSM-DI	Multifunction control (to be used with MB board only)

Net management system for a network of fan coils

Net	Hardware/software supervisory system (to be used with MB board only)
ROUTER-S	Router for Net
SIOS	Relay output board for Net

NOTES: *for more details about the Controls, see Page 80.*
for full list of main Accessories, see Page 32.

ROVER
HIGH QUALITY CLIMATE

Universal SET
Fan Coil Unit with Tangential Fan with Asynchronous Motor

Range includes **6 air flow rates** (from 90 to 945 m^3/h) and **4 models** (for wall and ceiling installation, with casing and concealed), each equipped with 3 row coil and with the possibility to add a 1 row coil for 4 pipe systems.

Among fan coils with asynchronous motors, the SET series is the one that offers the best compromise between electrical consumption, performance and cost. At minimum speed (Eurovent estimates that this is 65% of its operating time), electrical absorption ranges between 6 and 19W according to size and the sound pressure levels are between 19 and 23 dB(A). Therefore, it is the ideal solution for aesthetic systems, in areas with low background noise.

Technical characteristics of the main components:

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)**
- Front panel: **RAL 9003 (white)**
- Other colours on request.

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

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

Fan assembly: the tangential fan assembly is composed of two fan shrouds: an external one in ABS and an internal one of perforated, shaped steel. The fan has an external diameter of 120mm and is the length of the coil. The fins are concave and are positioned in a spiral shape along the whole length of the fan.

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

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

Flow and return pipe connections are situated at the same end on the left side looking at the unit. On request we can deliver the unit with the connections on the right end side: this must be specified on the order as this operation can not be carried out on site during installation.

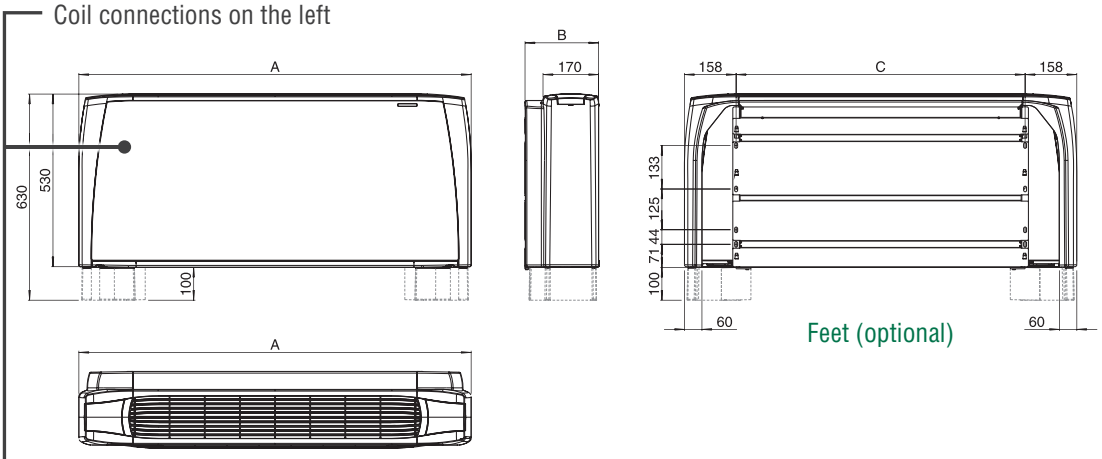
Condensate collection tray: made from plastic with an "L"-shaped plastic fitted on the inner casing; in the CH, CVB and NC models the tray is insulated with polyolefin (PO) foam (class M1). The outside diameter of the condensate discharge pipe is 15 mm.

ROVER
HIGH QUALITY CLIMATE

Dimensions, Weight, Water content

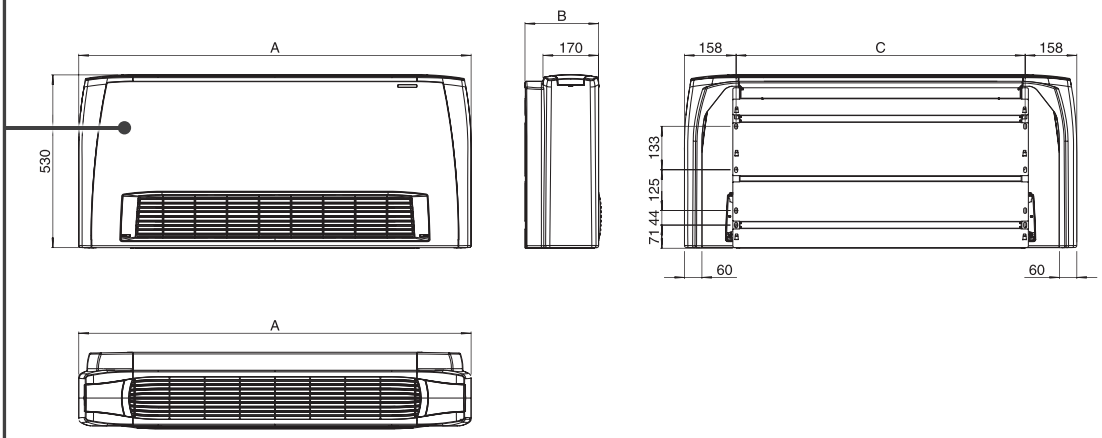
CV model

Coil connections on the left

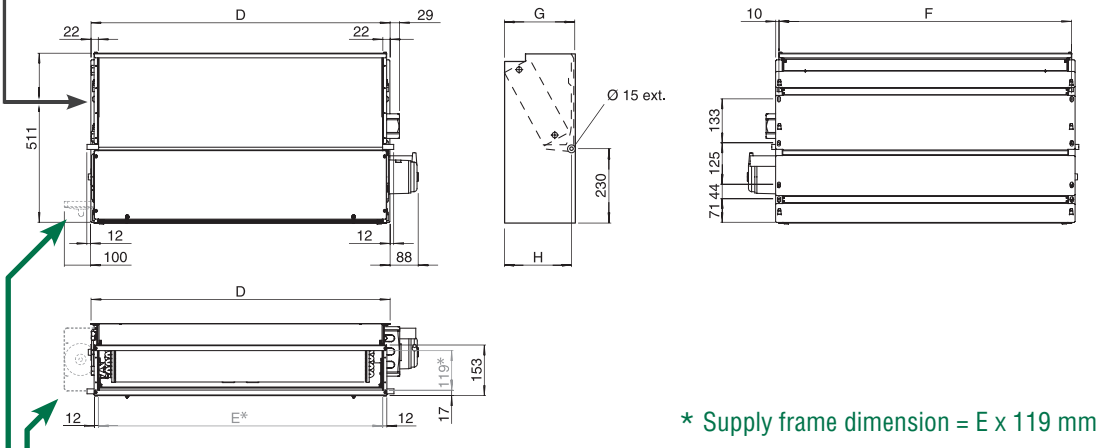


Feet (optional)

CH, CVB models



NC model



* Supply frame dimension = E x 119 mm

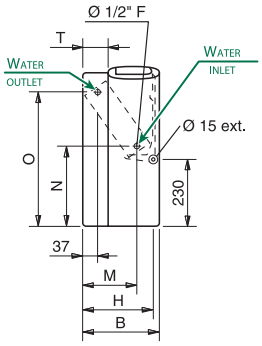
Auxiliary condensate tray (optional)

Dimensions, Weight, Water content

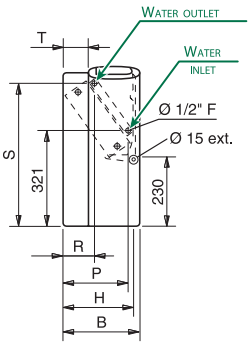
Coil connections

CV, CH, CVB models

3 row coil

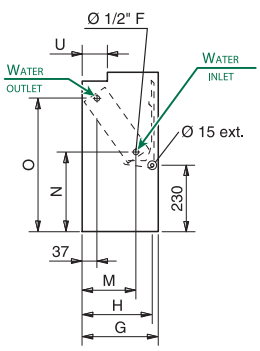


Heating additional coil (1 row)

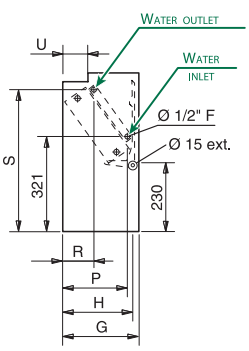


NC model

3 row coil



Heating additional coil (1 row)



Dimension (mm)

MODEL	1	2	3	5	6	7
A	670	770	985	1200	1200	1415
B	225	225	225	225	225	225
C	354	454	669	884	884	1099
D	374	474	689	904	904	1119
E	330	430	645	860	860	1075
F	354	454	669	884	884	1099
G	218	218	218	218	218	218
H	205	205	205	205	205	205
M	145	145	145	145	145	145
N	260	260	260	260	260	260
O	460	460	460	460	460	460
P	185	185	185	185	185	185
R	105	105	105	105	105	105
S	475	475	475	475	475	475
T	55	55	55	55	55	55
U	65	65	65	65	65	65

Weight (kg)

			WEIGHT WITH PACKAGING						*WEIGHT WITHOUT PACKAGING*					
	MODEL		1	2	3	5	6	7	*1*	*2*	*3*	*5*	*6*	*7*
CV, CH, CVB	ROWS	3	14,8	16,2	19,6	24,2	24,9	28,7	*13,2*	*14,4*	*17,3*	*21,4*	*22,1*	*25,4*
		3+1	15,5	17,0	20,8	25,7	26,4	30,5	*13,9*	*15,2*	*18,5*	*22,9*	*23,6*	*27,2*
NC	ROWS	3	11,5	12,6	15,3	19,2	20,0	23,6	*9,9*	*10,8*	*13,5*	*16,9*	*17,7*	*20,8*
		3+1	12,2	13,4	16,5	20,7	21,5	25,4	*10,6*	*11,6*	*14,7*	*18,4*	*19,2*	*22,6*

Water content (litres)

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

Certification

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Units with 3 row coil

2 pipe units. The following standard rating conditions are used:

***COOLING* (summer mode)**

Entering air temperature: +27°C d.b. +19°C w.b.
Water temperature: + 7°C E.W.T. +12°C L.W.T.

***HEATING* (winter mode)**

Entering air temperature: +20°C
Entering water temperature: +50°C
Water flow rate as for the cooling conditions

MODEL		SET 13						SET 23						SET 33					
Speed		1	2 (E)	3 (E)	4	5 (E)	6	1	2 (E)	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	95	**115**	**140**	175	**200**	240	125	**150**	**180**	225	**250**	305	170	**205**	**275**	315	**370**	440
Cooling total emission (E)	kW	0,51	**0,59**	**0,69**	0,79	**0,87**	0,99	0,73	**0,85**	**0,96**	1,14	**1,24**	1,41	1,09	**1,29**	**1,63**	1,83	**2,04**	2,36
Cooling sensible emission (E)	kW	0,40	**0,48**	**0,56**	0,66	**0,74**	0,86	0,56	**0,66**	**0,75**	0,91	**0,99**	1,15	0,81	**0,96**	**1,23**	1,39	**1,56**	1,83
Heating (E)	kW	0,68	**0,80**	**0,94**	1,11	**1,24**	1,44	0,94	**1,11**	**1,27**	1,53	**1,66**	1,93	1,32	**1,57**	**2,02**	2,27	**2,55**	2,99
Heating - Water 70-60°C	kW	1,17	**1,39**	**1,64**	1,94	**2,17**	2,52	1,59	**1,88**	**2,16**	2,61	**2,86**	3,33	2,21	**2,64**	**3,41**	3,83	**4,31**	5,07
Dp Cooling (E)	kPa	0,7	**0,9**	**1,2**	1,5	**1,8**	2,2	1,6	**2,1**	**2,6**	3,6	**4,1**	5,2	5,0	**6,7**	**10,1**	12,3	**15,2**	20,0
Dp Heating (E)	kPa	0,5	**0,7**	**0,9**	1,2	**1,5**	1,9	1,3	**1,8**	**2,2**	3,0	**3,3**	4,3	4,1	**5,3**	**8,3**	10,2	**12,5**	15,6
Fan (E)	W	6	**8**	**11**	14	**17**	23	7	**9**	**12**	16	**19**	25	8	**10**	**15**	18	**23**	31
Sound power (E)	dB(A)	27	**31**	**36**	41	**44**	47	26	**31**	**35**	40	**43**	47	28	**31**	**36**	40	**44**	48
Sound pressure (*)	dB(A)	18	**22**	**27**	32	**35**	38	17	**22**	**26**	31	**34**	38	19	**22**	**27**	31	**35**	39

MODEL		SET 53						SET 63						SET 73					
Speed		1	2 (E)	3 (E)	4	5 (E)	6	1	2 (E)	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	225	**285**	**360**	440	**495**	610	305	**370**	**475**	560	**635**	780	360	**445**	**570**	680	**780**	945
Cooling total emission (E)	kW	1,46	**1,77**	**2,17**	2,53	**2,76**	3,23	1,88	**2,19**	**2,67**	3,02	**3,33**	3,87	2,29	**2,72**	**3,32**	3,77	**4,18**	4,82
Cooling sensible emission (E)	kW	1,08	**1,32**	**1,64**	1,93	**2,12**	2,52	1,41	**1,66**	**2,05**	2,34	**2,61**	3,07	1,70	**2,04**	**2,52**	2,89	**3,23**	3,78
Heating (E)	kW	1,77	**2,17**	**2,69**	3,16	**3,47**	4,13	2,31	**2,73**	**3,34**	3,83	**4,26**	5,03	2,78	**3,33**	**4,10**	4,71	**5,27**	6,16
Heating - Water 70-60°C	kW	2,97	**3,65**	**4,54**	5,34	**5,87**	6,98	3,89	**4,59**	**5,66**	6,49	**7,23**	8,55	4,66	**5,62**	**6,91**	7,96	**8,91**	10,44
Dp Cooling (E)	kPa	3,3	**4,6**	**6,5**	8,5	**9,9**	13,1	5,1	**6,6**	**9,4**	11,6	**13,8**	18,0	8,5	**11,5**	**16,6**	20,9	**25,1**	31,7
Dp Heating (E)	kPa	2,7	**3,7**	**5,4**	7,0	**8,1**	11,0	4,1	**5,5**	**7,6**	9,7	**11,4**	15,2	7,0	**9,1**	**13,1**	16,2	**19,8**	25,2
Fan (E)	W	12	**15**	**22**	27	**33**	46	15	**20**	**28**	35	**44**	60	19	**24**	**34**	43	**53**	72
Sound power (E)	dB(A)	26	**31**	**37**	41	**43**	48	31	**36**	**43**	47	**50**	54	32	**36**	**43**	47	**50**	55
Sound pressure (*)	dB(A)	17	**22**	**28**	32	**34**	39	22	**27**	**34**	38	**41**	45	23	**27**	**34**	38	**41**	46

(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.

Certification

EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

www.eurovent-certification.com
www.certiflash.com

Units with 1 row additional coil

4 pipe units. The following standard rating conditions are used:

***COOLING* (summer mode)**

Entering air temperature: +27°C d.b. +19°C w.b.
Water temperature: + 7°C E.W.T. +12°C L.W.T.

***HEATING* (winter mode)**

Entering air temperature: +20°C
Water temperature: +70°C E.W.T. +60°C L.W.T.

MODEL		SET 13+1						SET 23+1						SET 33+1					
Speed		1	2 (E)	3 (E)	4	5 (E)	6	1	2 (E)	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	90	**110**	**135**	165	**190**	225	115	**140**	**170**	210	**240**	290	165	**200**	**255**	300	**345**	415
Cooling total emission (E)	kW	0,49	**0,57**	**0,67**	0,76	**0,84**	0,95	0,68	**0,80**	**0,92**	1,08	**1,20**	1,36	1,05	**1,25**	**1,54**	1,73	**1,94**	2,22
Cooling sensible emission (E)	kW	0,38	**0,46**	**0,55**	0,63	**0,71**	0,81	0,52	**0,62**	**0,71**	0,86	**0,96**	1,11	0,78	**0,93**	**1,16**	1,32	**1,49**	1,73
Heating (E)	kW	0,60	**0,69**	**0,80**	0,91	**1,01**	1,13	0,82	**0,95**	**1,07**	1,25	**1,38**	1,56	1,25	**1,45**	**1,74**	1,93	**2,14**	2,43
Dp Cooling (E)	kPa	0,6	**0,8**	**1,1**	1,4	**1,6**	2,0	1,4	**1,9**	**2,4**	3,3	**3,9**	4,9	4,5	**6,1**	**8,8**	10,8	**13,2**	16,8
Dp Heating (E)	kPa	0,6	**0,8**	**1,0**	1,3	**1,5**	1,9	1,3	**1,6**	**2,0**	2,6	**3,1**	3,9	3,4	**4,4**	**6,1**	7,3	**8,8**	11,0
Fan (E)	W	6	**8**	**11**	14	**17**	23	7	**9**	**12**	16	**19**	25	8	**10**	**15**	18	**23**	31
Sound power (E)	dB(A)	27	**31**	**36**	41	**44**	47	26	**31**	**35**	40	**43**	47	28	**31**	**36**	40	**44**	48
Sound pressure (*)	dB(A)	18	**22**	**27**	32	**35**	38	17	**22**	**26**	31	**34**	38	19	**22**	**27**	31	**35**	39

MODEL		SET 53+1						SET 63+1						SET 73+1					
Speed		1	2 (E)	3 (E)	4	5 (E)	6	1	2 (E)	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	215	**275**	**345**	420	**475**	580	285	**345**	**440**	520	**600**	735	345	**420**	**540**	640	**735**	895
Cooling total emission (E)	kW	1,41	**1,72**	**2,09**	2,44	**2,67**	3,11	1,77	**2,09**	**2,53**	2,87	**3,19**	3,70	2,21	**2,59**	**3,17**	3,62	**4,04**	4,63
Cooling sensible emission (E)	kW	1,04	**1,28**	**1,57**	1,85	**2,05**	2,41	1,32	**1,57**	**1,93**	2,21	**2,48**	2,93	1,64	**1,93**	**2,40**	2,76	**3,11**	3,61
Heating (E)	kW	1,64	**1,95**	**2,31**	2,65	**2,87**	3,30	2,00	**2,31**	**2,74**	3,07	**3,39**	3,90	2,52	**2,89**	**3,46**	3,90	**4,31**	4,91
Dp Cooling (E)	kPa	3,0	**4,3**	**6,1**	8,0	**9,4**	12,2	4,6	**6,1**	**8,5**	10,6	**12,8**	16,6	7,8	**10,3**	**14,8**	18,6	**22,6**	28,7
Dp Heating (E)	kPa	1,1	**1,5**	**2,0**	2,5	**2,9**	3,7	1,5	**2,0**	**2,7**	3,2	**3,9**	4,9	2,7	**3,4**	**4,7**	5,8	**6,9**	8,7
Fan (E)	W	12	**15**	**21**	27	**33**	46	15	**20**	**28**	35	**44**	60	19	**24**	**34**	43	**53**	72
Sound power (E)	dB(A)	26	**31**	**37**	41	**43**	48	31	**36**	**43**	47	**50**	54	32	**36**	**43**	47	**50**	55
Sound pressure (*)	dB(A)	17	**22**	**28**	32	**34**	39	22	**27**	**34**	38	**41**	45	23	**27**	**34**	38	**41**	46

(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.

ROVER
HIGH QUALITY CLIMATE

Built in electronic controls

Standard CV, CVB models

MV-3V	3 speed control
TMV-S	3 speed control with electronic thermostat and manual summer/winter switch
TMV-C	3 speed control with electronic thermostat and centralized summer/winter switch
TMV-AU	Automatic 3 speed control with electronic thermostat and summer/winter switch

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

Wall electronic controls

Standard CV, CH, CVB and NC models

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

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

Free wireless control system

Free-Com	Remote control to be used with electronic boards described at Page 84

Electronic controls for MB boards

MB-M	MB electronic board fitted on the unit
MB-S	MB electronic board supplied with separate packaging
T-MB	Wall control (to be used with MB board only)
T-MB-M	Control fitted on the unit, for CV, CVB models with left connections (available with right connections, to be used with MB board only)
T-MB-S	Control supplied with separate packaging, for CV, CVB models with left connections (available with right connections, to be used with MB board only)
RM-RT03	RT03 infra-red remote control with fitted receiver, for CV, CH, CVB models (to be used with MB board only)
RS-RT03	RT03 infra-red remote control with receiver supplied with separate packaging (to be used with MB board only)
RT03	RT03 infra-red remote control supplied with separate packaging (to be used with MB board only)
RM	Receiver for RT03 infra-red remote control fitted on the unit, for CV, CH, CVB models (to be used with MB board only)
RS	Receiver for RT03 infra-red remote control supplied with separate packaging (to be used with MB board only)
PSM-DI	Multifunction control (to be used with MB board only)

Net management system for a network of fan coils

Net	Hardware/software supervisory system (to be used with MB board only)
ROUTER-S	Router for Net
SIOS	Relay output board for Net

NOTES: *for more details about the Controls, see Page 80.*
for full list of main Accessories, see Page 32.

Built-in
electronic control

Wall
electronic control

TMO-T

FREE

ROVER
HIGH QUALITY CLIMATE

Universal FSR

Fan Coil Unit with Tangential Fan with Asynchronous Motor

Range includes **4 air flow rates** (from 110 to 500 m^3/h) and **1 model,** vertical for wall installation, equipped with 2 row coil.

The **FSR** series was created to offer a **residential** fan coil with a sophisticated design and low depth **(183 mm)** and a specially silent tangential fan assembly.

Technical characteristics of the main components:

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:

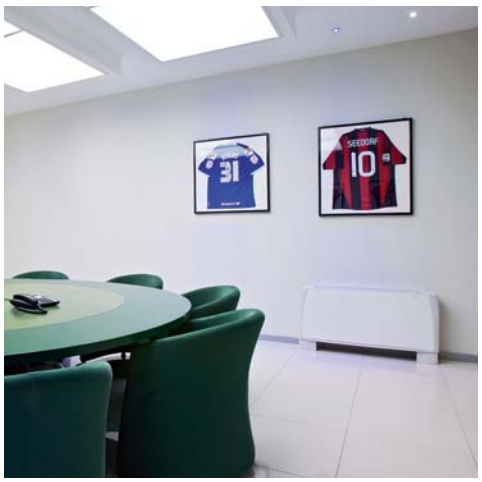
- Lateral corners and top grid: **Pantone Cool Grey 1C (light grey)**
- Front panel: **RAL 9003 (white)**
- Other colours on request.

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

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

Fan assembly: the tangential fan assembly is composed of two fan shrouds: an external one in ABS and an internal one of perforated, shaped steel. The fan has an external diameter of 120mm and is the length of the coil. The fins are concave and are positioned in a spiral shape along the whole length of the fan.

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



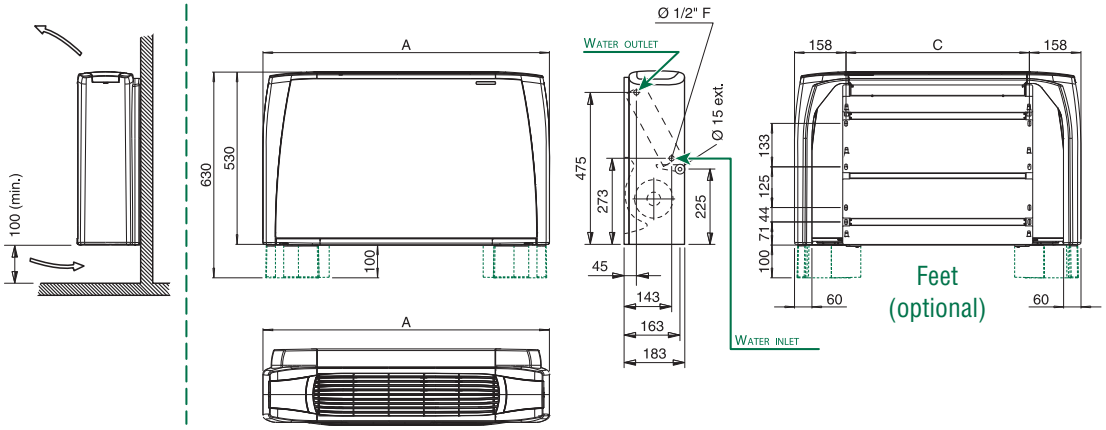
Coil: it is manufactured from drawn copper tube and the aluminium fins are mechanically bonded onto the tube by an expansion process. The coil has two 1/2inch BSP internal connections and 1/8 inch BSP air vent and drain. The coil is not suitable for use in corrosive atmosphere or in environments where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

Flow and return pipe connections are situated at the same end on the left side looking at the unit. On request we can deliver the unit with the connections on the right end side: this must be specified on the order as this operation can not be carried out on site during installation.

Condensate collection tray: made from plastic fitted on the inner casing. The outside diameter of the condensate discharge pipe is 15 mm.

Dimensions, Weight, Water content

CV model



Dimension (mm)

MODEL	1	2	3	4
A	670	770	985	1200
C	354	454	669	884

Weight (kg)

	WEIGHT WITH PACKAGING				*WEIGHT WITHOUT PACKAGING*			
MODEL	1	2	3	4	*1*	*2*	*3*	*4*
	13,8	14,7	17,6	22,2	*12,6*	*13,2*	*15,6*	*19,7*

Water content (litres)

MODEL	1	2	3	4
	0,4	0,5	0,8	1,1

Certification

www.eurovent-certification.com
www.certiflash.com

Units with 2 row coil

2 pipe units. The following standard rating conditions are used:

***COOLING* (summer mode)**
Entering air temperature: +27°C d.b. +19°C w.b.
Water temperature: + 7°C E.W.T. +12°C L.W.T.

***HEATING* (winter mode)**
Entering air temperature: +20°C
Entering water temperature: +50°C
Water flow rate as for the cooling conditions

MODEL		FSR 1			FSR 2			FSR 3			FSR 4		
Speed		1 (E)	2 (E)	3 (E)	1 (E)	2 (E)	3 (E)	1 (E)	2 (E)	3 (E)	1 (E)	2 (E)	3 (E)
		MIN	MED	MAX	MIN	MED	MAX	MIN	MED	MAX	MIN	MED	MAX
Air flow	m^3/h	110	150	180	160	200	250	230	290	360	320	400	500
Cooling total emission (E)	kW	0,63	0,78	0,87	0,95	1,10	1,30	1,31	1,59	1,87	2,00	2,40	2,80
Cooling sensible emission (E)	kW	0,50	0,60	0,70	0,71	0,86	1,01	1,08	1,31	1,53	1,40	1,71	2,05
Heating (E)	kW	0,80	1,00	1,20	1,13	1,32	1,60	1,80	2,20	2,60	2,50	3,00	3,60
Heating - Water 70-60°C	kW	1,40	1,78	2,03	1,91	2,25	2,69	3,02	3,80	4,57	4,22	5,08	6,12
Dp Cooling (E)	kPa	6,0	9,0	11,0	11,5	15,5	20,0	4,4	6,3	7,8	11,0	14,5	20,0
Dp Heating (E)	kPa	4,0	5,5	7,0	9,5	12,5	16,5	4,0	5,0	7,0	10,5	14,1	18,8
Fan (E)	W	20	22	28	20	22	27	22	26	31	25	30	36
Sound power (E)	dB(A)	34	37	42	34	39	45	34	39	45	34	40	46
Sound pressure (*)	dB(A)	25	28	33	25	30	36	25	30	36	25	31	37

(E) = Eurovent certified performance. **MIN-MED-MAX** = Standard connected speeds.
(*) = The sound pressure levels are 9 dB(A) lower than the sound power levels and apply to the reverberant field of a 100 m^3 room and a reverberation time of 0.5 sec.

Built in electronic controls

MV-3V	3 speed control
TMV-S	3 speed control with electronic thermostat and manual summer/winter switch
TMV-C	3 speed control with electronic thermostat and centralized summer/winter switch
TMV-AU	Automatic 3 speed control with electronic thermostat and summer/winter switch

Wall electronic controls

Free wireless control system

Free-Com	Remote control to be used with electronic boards described at Page 84.

NOTES: *for more details about the Controls, see Page 80.*
for full list of main Accessories, see Page 32.

ROVER
HIGH QUALITY CLIMATE

Graf HPO

Duct Fan Coil Unit
with Asynchronous Motor

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

Technical characteristics of the main components:

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

Filter: polypropylene cellular fabric regenerating filter. The filter frame of galvanized steel is inserted into special plastic sliding guides fastened to the internal structure for easy insertion and removal of the filter.

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

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

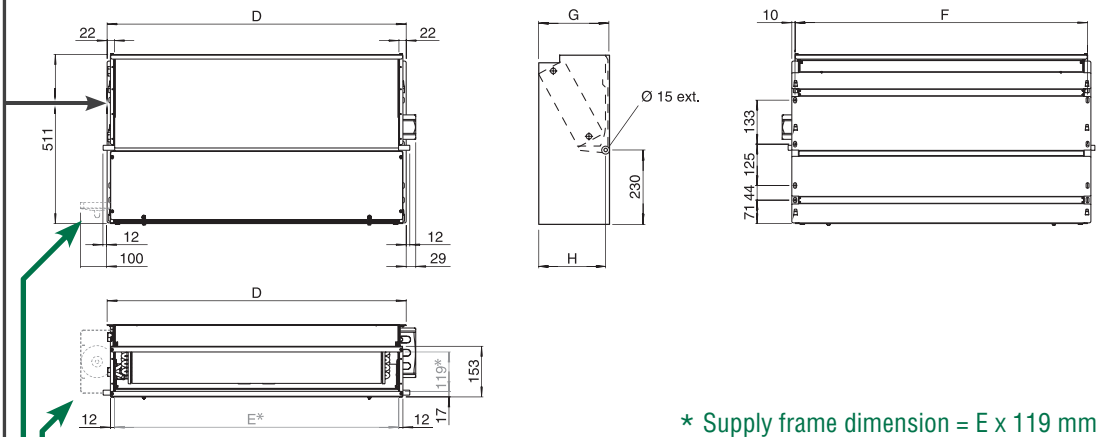
Coil: it is manufactured from drawn copper tube and the aluminium fins are mechanically bonded onto the tube by an expansion process. The coil has two 1/2inch BSP internal connections and 1/8 inch BSP air vent and drain.
The coil is not suitable for use in corrosive atmosphere or in environments where aluminium may be subject to corrosion.
Flow and return pipe connections are situated at the same end on the left side looking at the unit. On request we can deliver the unit with the connections on the right end side. This operation can also be easily carried out on site during installation.

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

Dimensions, Weight, Water content

Vertical Installation

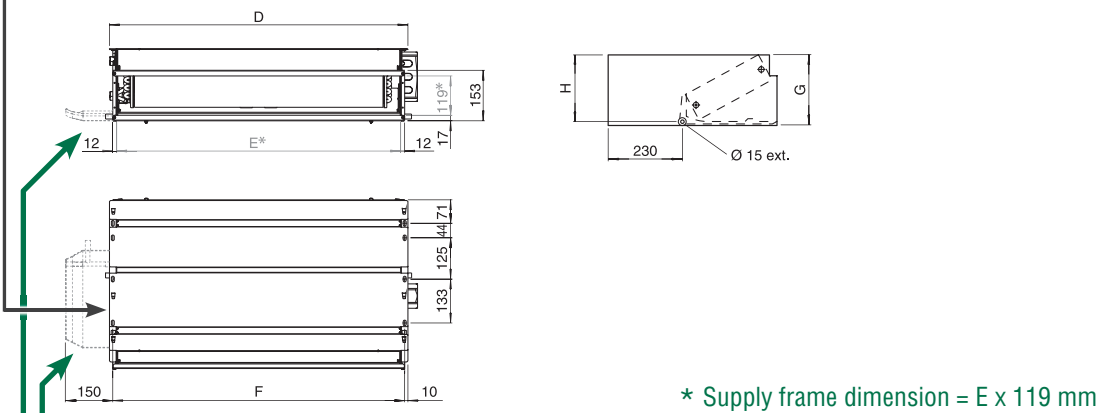
Coil connections on the left



* Supply frame dimension = E x 119 mm

Auxiliary condensate tray (optional)

Horizontal Installation



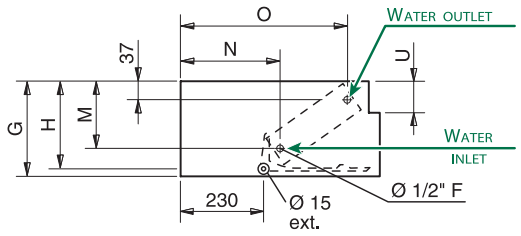
* Supply frame dimension = E x 119 mm

Auxiliary condensate tray (optional)

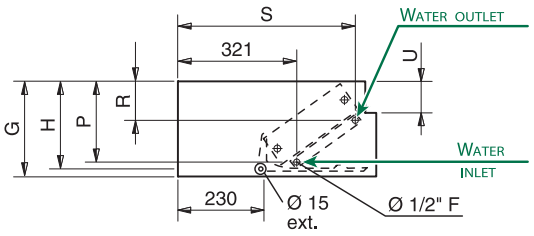
Dimensions, Weight, Water content

Coil connections

3 or 4 row coils



Heating additional coil (1 or 2 rows)



Dimension (mm)

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

Weight (kg)

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

Water content (litres)

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

EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

Certification

www.eurovent-certification.com
www.certiflash.com

Units with 3 and 4 row coil

2 pipe units. The following standard rating conditions are used:

***COOLING* (summer mode)**

Entering air temperature: +27°C d.b. +19°C w.b.
Water temperature: + 7°C E.W.T. +12°C L.W.T.

***HEATING* (winter mode)**

Entering air temperature: +20°C
Entering water temperature: +50°C
Water flow rate as for the cooling conditions

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

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

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

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

Certification

www.eurovent-certification.com
www.certiflash.com

Units with 1 row additional coil

4 pipe units. The following standard rating conditions are used:

***COOLING* (summer mode)**

Entering air temperature: +27°C d.b. +19°C w.b.
Water temperature: + 7°C E.W.T. +12°C L.W.T.

***HEATING* (winter mode)**

Entering air temperature: +20°C
Water temperature: +70°C E.W.T. +60°C L.W.T.

MODEL		HPO 13+1			HPO 23+1			HPO 33+1			HPO 43+1		
Speed **(E)**		2	3	4	2	3	4	2	3	4	1	2	3
Air flow **(E)**	m³/h	240	285	310	470	525	580	760	885	960	945	1155	1285
Available pressure **(E)**	Pa	40	50	60	40	50	60	40	50	60	35	50	60
Cooling total emission **(E)**	kW	1,58	1,81	1,93	2,94	3,19	3,42	4,44	4,92	5,20	5,95	6,87	7,40
Cooling sensible emission **(E)**	kW	1,14	1,31	1,41	2,17	2,37	2,57	3,36	3,80	4,05	4,39	5,16	5,62
Heating **(E)**	kW	1,66	1,87	1,98	2,85	3,08	3,28	4,14	4,57	4,82	5,55	6,33	6,79
Dp Cooling **(E)**	kPa	9,0	11,5	12,9	11,2	13,0	14,7	11,4	13,7	15,1	8,9	11,5	13,1
Dp Heating **(E)**	kPa	5,3	6,6	7,3	3,8	4,3	4,8	6,2	7,4	8,1	13,5	17,2	19,5
Fan **(E)**	W	40	46	55	82	90	97	107	121	134	140	148	158
Sound power outlet **(E)**	dB(A)	44	47	50	46	49	51	51	54	57	52	56	58
Sound power inlet + radiated **(E)**	dB(A)	52	54	57	52	54	57	57	60	63	59	62	64
Sound pressure outlet **(*)**	dB(A)	35	38	41	37	40	42	42	45	48	43	47	49
Sound pressure inlet + radiated **(*)**	dB(A)	43	45	48	43	45	48	48	51	54	50	53	55
Plenum code **(E)**		9066363			9069222			9066368			9069224		

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

ROVER
HIGH QUALITY CLIMATE

Wall electronic controls

Standard models

M0-3V	3 speed control
CR-T	3 speed control with electronic thermostat and manual summer/winter switch
TM0-T	3 speed control with electronic thermostat and summer/winter switch
TM0-T-AU	Automatic speed control with electronic thermostat and summer/winter switch
TM0-DI	Automatic speed control with electronic thermostat, summer/winter switch and liquid crystal display
TM0-503-SV2	Automatic speed control with electronic thermostat to be mounted in the DIN 503 box (for units with valves)
T2T	Electromechanical thermostat with summer/winter switch (only for 2 pipe units)

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

Free wireless control system

Free-Com	Remote control to be used with electronic boards described at Page 84

Electronic controls for MB boards

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

Net management system for a network of fan coils

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

NOTES: *for more details about the Controls, see Page 80.*
for full list of main Accessories, see Page 32.

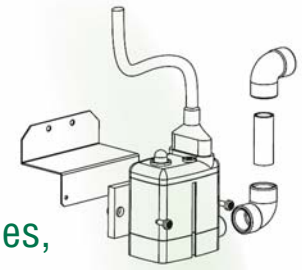
Wall
Electronic controls

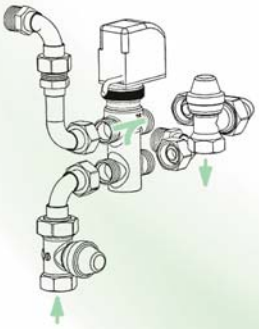
RT03 infrared remote control

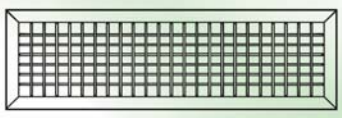
ROVER
HIGH QUALITY CLIMATE

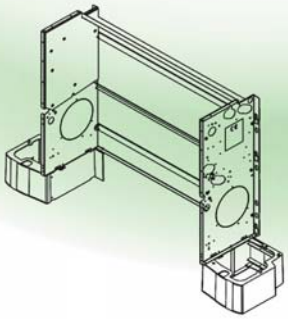
Accessories
for Universal and Graf Fan Coil Units

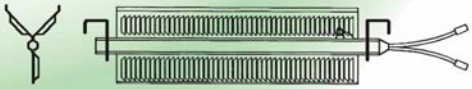
All ROVER Universal and Graf fan coils, whether with **Asynchronous Motor** or with **Electronic Motor and Inverter,** can be equipped with a **very large series of Accessories,** such as, to name only the most common, numerous types of regulating valves, sturdy support feet, rear cover panel for installing against glass, additional electrical resistances, auxiliary condensation drain pump, outdoor air intake louvre, inlet and outlet ducts and grills for ducted installations.









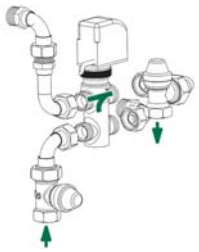


Accessories for SEC/F, SET, FSR, HPO

VBP

Main coil 3 way valve

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



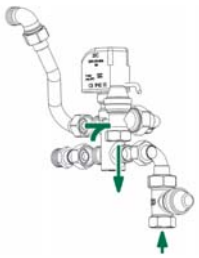
Version: SEC/F, SET, FSR, HPO

Model: CV, CH, CVB, NC

VBA

Additional coil 3 way valve

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



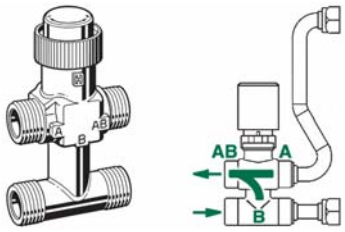
Version: SEC/F, SET, HPO

Model: CV, CH, CVB, NC

VS

Simplified kit
for 3 way valve
for main and additional coil
(concealed model only)

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



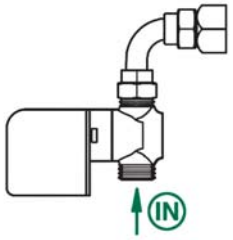
Version: SEC/F, SET, HPO

Model: NC

V2

2 way valve
for main and additional coil

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



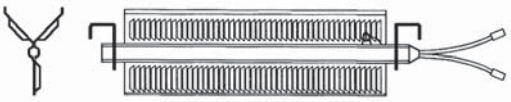
Version: SEC/F, SET, FSR, HPO

Model: CV, CH, CVB, NC

BEL

Electric heater
(not available with Crystall filter)

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



Version: SEC/F, SET, HPO

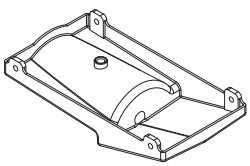
Model: CV, CH, CVB, NC

BSV
BSO

Extension
condensate collection tray
to cover valve assembly

- ***BSV for vertical units***
- ***BSO for horizontal units***

BSV



BSO

Version: SEC/F, SET, FSR, HPO

Model: CV, CVB, NC

Model: CH, NC

Accessories for SEC/F, SET, FSR, HPO

DRPV-C DRPO-C

Condensate pump:

- ***DRPV-C for vertical units***
- ***DRPO-C for horizontal units***

DRPV-C

DRPO-C

Version: SEC/F, SET

Model: CV, CVB, NC

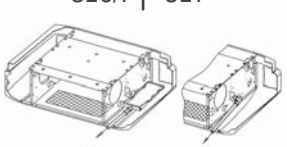
Model: NC, CH

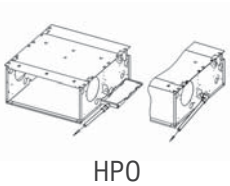
SCR

Plastic condensate drain pipe with fast connection

Allows correct condensate drain.

SEC/F | SET





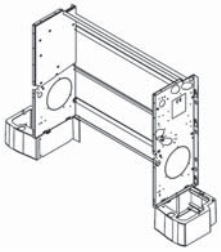
HPO

Version: SEC/F, SET, HPO

Model: NC, CH

PAP

Feet



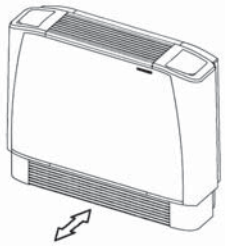
Version: SEC/F, SET, FSR

Model: CV

GAP

Aluminium low intake grid

To be installed with PAP feet.



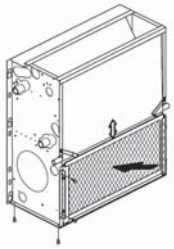
Version: SEC/F, SET

Model: CV

KAF

Frontal intake kit

Bottom closing panel and filter sliding guides.

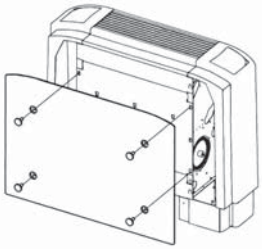


Version: SEC/F, SET, HPO

Model: NC

PCV

Rear closing panel *(for vertical units)*



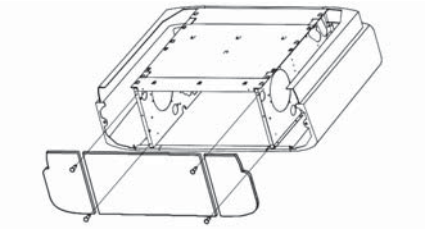
Version: SEC/F, SET

Model: CV, CVB

Accessories for SEC/F, SET, FSR, HPO

PCO

Bottom closing panel
(for horizontal units)



Version: SEC/F, SET

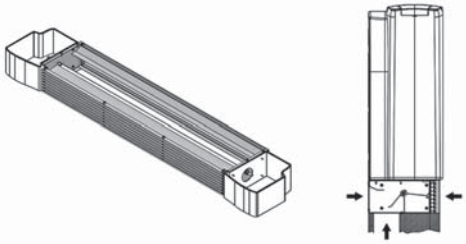
Model: CH, CVB

SAEM

Fresh air mixing damper

Mounted on the unit
with feet and intake grid included.

Can be motorized on request.



Version: SEC/F, SET

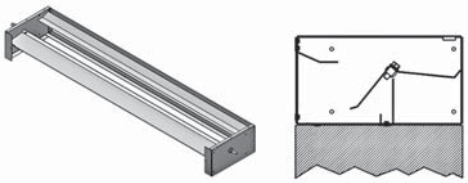
Model: CV

SAE

Fresh air mixing damper

Not mounted.

Can be motorized on request.



Version: SEC/F, SET

Model: NC

BESAE

Belimo motor
(not available with ECM range)

Fitted on the unit
for motorized working of the damper.

(available with "IAQ" control only)

Version: SEC/F, SET

Model: NC

IM

Frame
for buitl-in wall installation

Version: SEC/F

Model: NC

FRD

Straight inlet flange

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

Version: SEC/F, SET, HPO

Model: NC

ROVER
HIGH QUALITY CLIMATE

Accessories for SEC/F, SET, FSR, HPO

FR 90

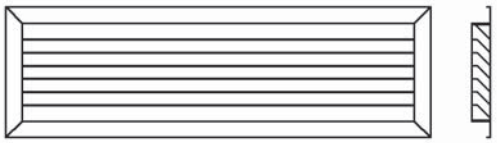
90° inlet flange
Can be used
together with GRAP air inlet grid.
Made of galvanized steel.

Version: SEC/F, HPO

Model: NC

GRAP

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

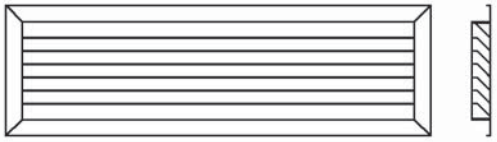


Version: SEC/F, HPO

Model: NC

GRAG

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



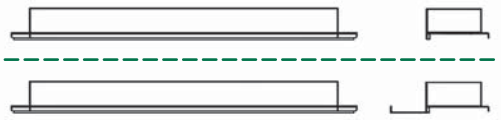
Version: SEC/F, SET, HPO

Model: NC

FMD

Straight outlet flange
Made of galvanized steel.

SEC/F 1÷9 / SET 1÷7 / HPO 1÷3



only HPO 4

Version: SEC/F, SET, HPO

Model: NC

FM 90

90° outlet flange
Made of galvanized steel
insulated with polyethylene lining.

SEC/F 1÷9 / HPO 1÷3

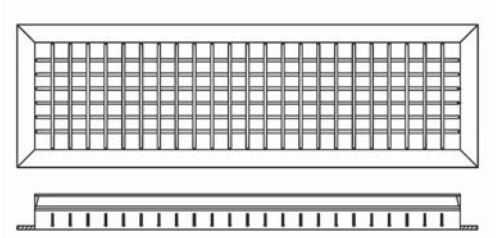
only HPO 4

Version: SEC/F, HPO

Model: NC

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.



Version: SEC/F, SET, HPO

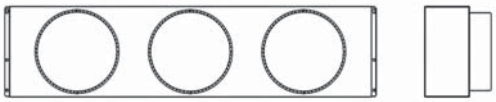
Model: NC

Accessories for SEC/F, SET, FSR, HPO

PRC

Air inlet spigot plenum

Made of galvanized steel
insulated with polyethylene lining.



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

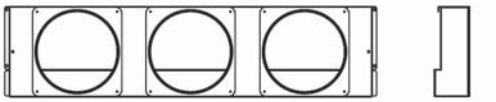
Version: SEC/F, HPO

Model: NC

PMC

Spigot diffuser

Made of galvanized steel
insulated with polyethylene lining.



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

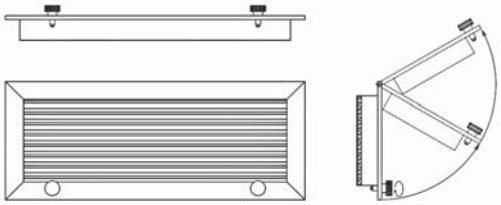
Version: SEC/F, HPO

Model: NC

GRAFP

Air inlet grid with filter

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



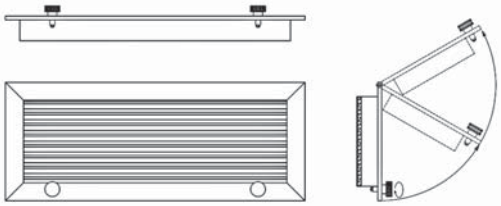
Version: SEC/F

Model: NC

GRAFG

Air inlet grid with filter

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

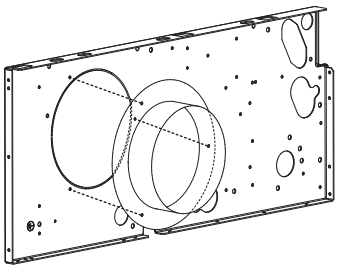


Version: SEC/F

Model: NC

FRC

Fresh air connection



Version: SEC/F

ROVER
HIGH QUALITY CLIMATE

Typhoon

High Pressure Fan Coil Unit with Asynchronous Motor

The Typhoon high pressure fan coils are produced in 5 sizes. Designed and built for concealed installations, they have small dimensions, are very silent and have a particularly interesting price in relation to their performance (all sizes, even at the lowest speed, have a residual pressure head of at least 160 Pa).

They are suitable for climate control for small and medium commercial and sports environments or for large civil environments and integrate perfectly in regular false ceilings. Each size is equipped with 4 speed fans, 3 of which are connected to the terminal board. The base models call for a 4 row coil but upon request, units with 3 row coils or additional coils (for 4 pipe systems) with one or two rows can be provided.

A complete set of accessories solves any type of system problem.

Technical characteristics of the main components:

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

Fan assembly: consists of quiet centrifugal fans in galvanized steel with two impellers and a directly driven single phase, four speed motor, 230V 50Hz, with capacitor, insulation class B.

Coil: it is manufactured from drawn copper tube and the aluminium fins are mechanically bonded onto the tube by an expansion process. The ROVER Typhoon range is available with the combination of either 3 or 4 row coils (sizes 1÷5) with the possibility to add a 1 or 2 row coil (3+1, 4+1, 3+2, 4+2 versions for 4 pipe systems), and 4 or 6 row coils (sizes 6-7) with the possibility to add a 2 row coil (4+2, 6+2 versions for 4 pipe systems).

The connections are on the left hand side looking from the air inlet of the unit (see picture).

On request or on site the connections can be moved to the other side.

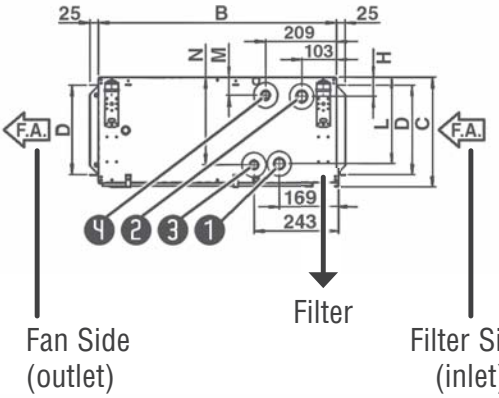
The coil is not suitable for use in corrosive atmosphere or in environments where aluminium may be subject to corrosion.

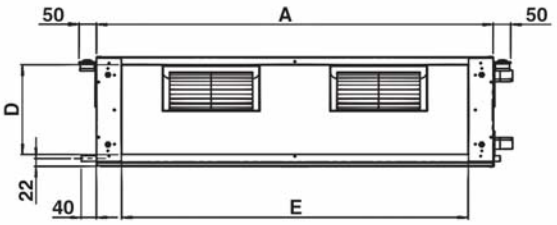
Filter: polypropylene cellular fabric regenerating filter.
The filter frame of galvanized steel is inserted into special PVC sliding guides fastened to the internal structure for easy insertion and removal of the filter.

Condensate collection tray: made from galvanized steel insulated with polyolefin (PO) foam (class M1).

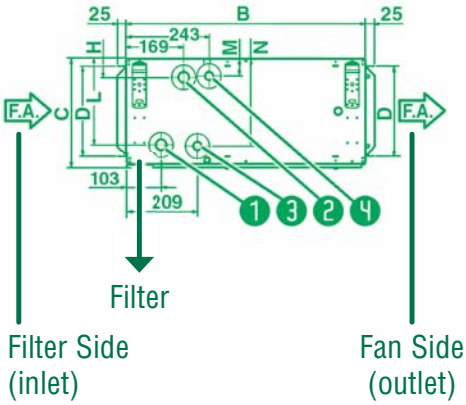
Dimensions, Weight, Water content

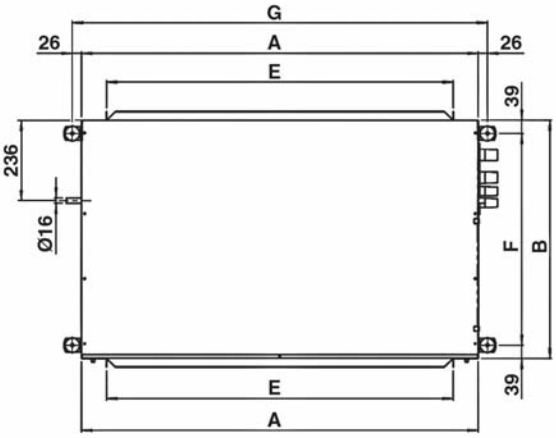
Left connections (standard)





Right connections (on request)





MODEL	DIMENSIONS											COIL			
												MAIN		ADDITIOTIONAL	
	A	B	C	D	E	F	G	H	L	M	N	①	②	③	④
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	IN	OUT	IN	OUT
DFCO 1	1133	698	310	255	991	620	1185	54	245	50	249	3/4"	3/4"	3/4"	3/4"
DFCO 2	1133	698	310	255	991	620	1185	54	245	50	249	1"	1"	3/4"	3/4"
DFCO 3	1133	698	360	305	991	620	1185	54	295	50	299	1"	1"	3/4"	3/4"
DFCO 4	1445	853	360	293	1302	775	1497	58	291	54	295	1 1/4"	1 1/4"	1"	1"
DFCO 5	1445	853	435	368	1302	775	1497	58	367	54	370	1 1/4"	1 1/4"	1"	1"
DFCO 6	1535	1100	488	421	1393	1022	1587	59	416	55	421	1 1/4"	1 1/4"	1"	1"
DFCO 7	1535	1100	588	521	1393	1022	1587	59	516	55	521	1 1/4"	1 1/4"	1"	1"

MODEL	WEIGHT WITHOUT PACKAGING (kg)						WEIGHT WITH PACKAGING (kg)						WATER CONTENT (liters)			
	3R	3+1R	3+2R	4R	4+1R	4+2R	3R	3+1R	3+2R	4R	4+1R	4+2R	3R	4R	1R	2R
DFCO 1	45	48	50	47	50	51	48	51	53	50	53	54	2,0	2,6	0,9	1,5
DFCO 2	46	50	52	48	51	53	49	53	55	51	54	56	2,9	3,7	1,1	1,8
DFCO 3	54	58	60	56	60	62	57	61	63	59	63	65	3,5	4,6	1,4	2,4
DFCO 4	75	80	83	78	83	86	79	84	87	82	87	90	4,7	6,0	2,0	3,2
DFCO 5	85	90	94	88	94	98	89	94	98	92	98	102	5,7	7,1	2,7	4,1
	4R		4+2R		6R	6+2R	4R		4+2R		6R	6+2R	4R	6R	2R	
DFCO 6	124		134		130	140	127		137		133	143	7,6	11,1	4,1	
DFCO 7	140		152		148	160	143		155		151	163	9,7	13,8	5,5	

Certification

EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

www.eurovent-certification.com
www.certiflash.com

Units with 4 row coil

2 pipe units. The following standard rating conditions are used:

***COOLING* (summer mode)**

Entering air temperature: +27°C d.b. +19°C w.b.
Water temperature: + 7°C E.W.T. +12°C L.W.T.

***HEATING* (winter mode)**

Entering air temperature: +20°C
Entering water temperature: +50°C
Water flow rate as for the cooling conditions

MODEL DFCO		14			24			34			44			54 (**)			64 (**)			74 (**)		
Speed (E)		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Air flow (E)	m³/h	790	1125	1410	840	1410	1825	1710	2075	2440	2070	2580	3020	2740	3280	3850	1880	3385	4800	3925	5070	7100
Available pressure (E)	Pa	25	50	75	15	50	80	30	50	70	35	50	67	35	50	70	150	150	150	150	150	150
Cooling total emission (E)	kW	4,28	5,36	6,11	5,16	7,24	8,44	9,06	10,18	11,18	11,33	12,98	14,23	15,04	16,81	18,52	12,99	19,51	24,19	23,06	27,09	33,09
Cooling sensible emission (E)	kW	3,36	4,41	5,22	3,83	5,71	6,90	7,02	8,10	9,12	8,69	10,25	11,49	11,71	13,42	15,13	9,45	14,94	19,28	17,57	21,22	26,99
Heating (E)	kW	5,80	7,55	8,86	6,58	9,79	11,78	12,04	13,87	15,54	14,92	17,55	19,64	19,39	22,12	24,79	20,86	33,52	43,6	39,34	47,85	61,14
Dp Cooling (E)	kPa	5,1	7,6	9,6	6,9	12,7	16,8	16,0	19,8	23,4	13,9	17,7	20,9	13,3	16,2	19,3	7,4	15,3	22,6	14,4	19,3	27,6
Dp Heating (E)	kPa	4,1	6,2	7,9	5,6	10,3	13,6	13,1	16,2	19,1	11,2	14,5	17,0	10,8	13,2	15,7	3,9	9,1	14,7	8,5	12,1	18,8
Fan (E)	W	115	154	191	170	230	285	350	420	470	445	550	630	500	617	760	574	778	1304	1518	1758	2460
Sound power outlet (E)	dB(A)	51	59	64	50	62	67	61	65	69	63	68	70	66	70	73	63	71	77	71	75	81
Sound power inlet + radiated (E)	dB(A)	52	60	65	51	63	68	62	66	70	64	69	71	67	71	74	-	-	-	-	-	-
Sound pressure outlet (*)	dB(A)	42	50	55	41	53	58	52	56	60	54	59	61	57	61	64	54	62	68	62	66	72
Sound pressure inlet + radiated (*)	dB(A)	43	51	56	42	54	59	53	57	61	55	60	62	58	62	65	-	-	-	-	-	-
Plenum code (E)		9034200			9034200			9034220			9034230			9034240			9034280			9034290		

Units with additional coil

4 pipe units. The following standard rating conditions are used:

***COOLING* (summer mode)**

Entering air temperature: +27°C d.b. +19°C w.b.
Water temperature: + 7°C E.W.T. +12°C L.W.T.

***HEATING* (winter mode)**

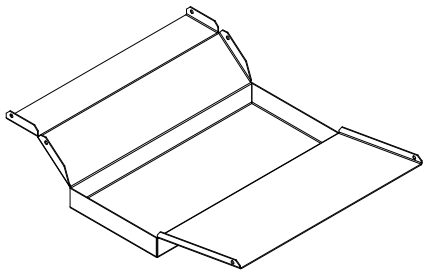
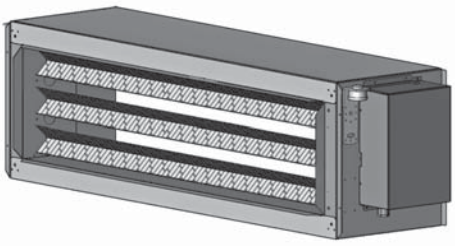
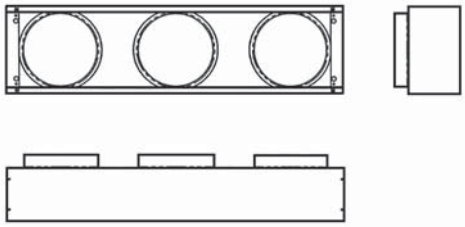
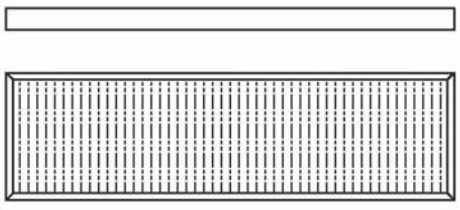
Entering air temperature: +20°C
Water temperature: +70°C E.W.T. +60°C L.W.T.

MODEL DFCO		14+1			24+1			34+1			44+1			54+1 (**)			64+2 (**)			74+2 (**)		
Speed (E)		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Air flow (E)	m³/h	770	1090	1350	840	1390	1775	1680	2045	2390	2055	2545	2960	2700	3245	3800	1860	3330	4680	3920	5040	6980
Available pressure (E)	Pa	25	50	75	15	50	80	30	50	70	35	50	67	35	50	70	150	150	150	150	150	150
Cooling total emission (E)	kW	4,21	5,26	5,97	5,16	7,18	8,30	8,95	10,09	11,04	11,29	12,88	14,08	14,24	15,92	17,48	12,89	19,31	23,85	23,03	26,98	32,74
Cooling sensible emission (E)	kW	3,29	4,31	5,06	3,83	5,65	6,76	6,93	8,02	8,97	8,65	10,15	11,33	11,11	12,74	14,31	9,37	14,77	18,95	17,55	21,12	26,66
Heating (E)	kW	3,96	4,87	5,47	4,63	6,28	7,16	7,62	8,47	9,20	9,83	11,07	12,00	12,67	14,00	15,28	19,81	29,78	37,13	35,50	41,88	51,31
Dp Cooling (E)	kPa	4,9	7,3	9,2	6,9	12,5	16,3	15,7	19,4	22,9	13,8	17,4	20,5	12,0	14,7	17,4	7,3	15,0	22,0	14,4	19,1	27,1
Dp Heating (E)	kPa	11,7	17,0	21,0	14,5	25,2	31,9	15,9	19,3	22,3	27,6	34,1	39,5	26,0	31,1	36,3	11,9	24,9	37,0	23,8	32,0	46,1
Fan (E)	W	115	155	185	170	225	275	345	415	460	440	540	615	495	610	750	565	750	1327	1499	1727	2376
Sound power outlet (E)	dB(A)	51	59	64	50	62	67	61	65	69	63	68	70	66	70	73	63	71	77	71	75	81
Sound power inlet + radiated (E)	dB(A)	52	60	65	51	63	68	62	66	70	64	69	71	67	71	74	-	-	-	-	-	-
Sound pressure outlet (*)	dB(A)	42	50	55	41	53	58	52	56	60	54	59	61	57	61	64	54	62	68	62	66	72
Sound pressure inlet + radiated (*)	dB(A)	43	51	56	42	54	59	53	57	61	55	60	62	58	62	65	-	-	-	-	-	-
Plenum code (E)		9034200			9034200			9034220			9034230			9034240			9034280			9034290		

(E) = Eurovent certified performance.
(*) = The sound pressure levels are 9 dB(A) lower than the sound power levels and apply to the reverberant field of a 100 m³ room and a reverberation time of 0.5 sec.
(**) = Models not covered by EUROVENT certification program.

ROVER
HIGH QUALITY CLIMATE

Accessories

Kit 230V	**Main and auxiliary coil valve kit** ***(to be used only with ON/OFF 230 V controls: QCV-MB, TMO-T and TMO-T-AU)*** 230 V, ON-OFF valve.	
Kit 24V	**Main and auxiliary coil valve kit** ***(to be used only with QCV modulating valve control board)*** Valve with 3 points - 24 Volt actuator.	
BCM	**External auxiliary condensate collection tray**	
BEM	**Electric coil** Consists of electric resistances and a security thermostat, which are inside a galvanized steel and insulated casing.	
PMM	**Intake/supply spigot plenum** Intake/supply spigot plenum with 3 spigots (Sizes 1 - 2 - 3) or 4 spigots (Sizes 4 - 5).	
SFM	**G3 synthetic filter** The filter is a washable synthetic fibre, flame-proof according to Class F1 DIN 53438. Efficiency of ASHRAE 84%, Eurovent EU3.	

Accessories

GAV	**Antivibrating connection** Intake/supply antivibrating connection, made of two galvanized frames and a PVC flexible connection.	

Wall electronic controls

COM	Speed selector with 4 positions: OFF, first speed, second speed, third speed
MO-3V	3 speed control
TMO-T	3 speed control with electronic thermostat and summer/winter switch
TMO-T-AU	Automatic speed control with electronic thermostat and summer/winter switch
SEL-S	Receiving board for centralized control

Modulating valve control board

QCV	Modulating valve control board (ETN 500 wall control, air temperature probe, low temperature cut-out thermostat and Change-Over T2 included)

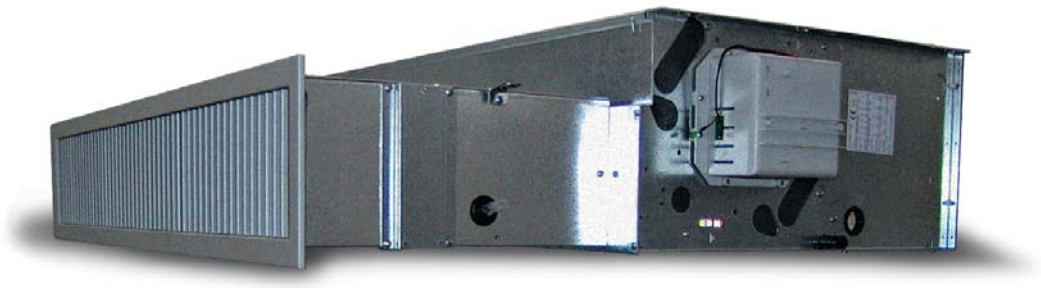
Electronic controls for MB boards

QCV-MB	MB version control board (T-MB wall control included)
PSM-DI	Multifunction control (to be used with QCV-MB control board only)

Net management system for a network of fan coils

Net	Hardware/Software Supervisory system (to be used with QCV-MB control board only)
ROUTER-S	Router for Net
SIOS	Relay output board for Net

NOTES: *for more details about the Controls,* *see Page 80.*



Crystall Flex System

Electronic Filter

The **Crystall Flex System** is an innovative filtering system, designed to be easily installed downstream from horizontal concealed fan coils.
Created especially for the hotel industry, it can be perfectly added to different structures such as nursing homes and retirement homes and, more generally, wherever a high level of comfort and air quality is needed.

It is made up of **3 elements:**

a) patented electronic plate filter (“Femec” type)
b) electronic control and power board
c) high voltage flexible connection cable

The system has been designed to reduce the indoor recirculation of various types of pollutants found in the ducting of air-conditioning systems. As a result, it is ideal for various types of environments, such as schools, hospitals and rest homes (corridors, waiting rooms, wards), doctors' surgeries, hotels and anywhere indoor air quality needs to be improved.

There are many reasons why pollutants can be found in ducts. The main one is the lack of cleaning and maintenance of the ducts, together with other factors such as incorrect equilibrium and/or pressurisation, the circulation of air between different rooms when the system is off, the lack of suitable filters or the air being bypassed around the filtering cells inside the air handling unit, the lack of attention paid when replacing the filters, the presence of favourable conditions in terms of temperature and humidity for the proliferation of bacterial organisms, etc.

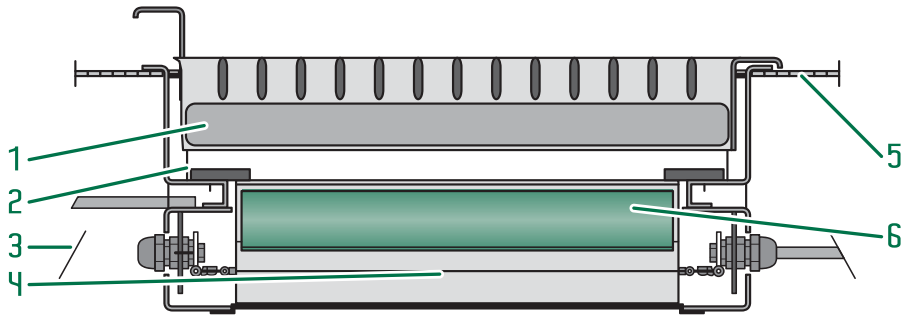
While pollution in ducts can be reduced through periodical maintenance, in reality this is rarely done due to the considerable costs, the difficulty in accessing the systems or the impossibility of shutting down the system for an extended period.

One possible alternative solution that significantly reduces the health risks and drastically cuts the costs of maintenance on ducts involves the installation of active electrostatic filters immediately before the air is introduced into the room.

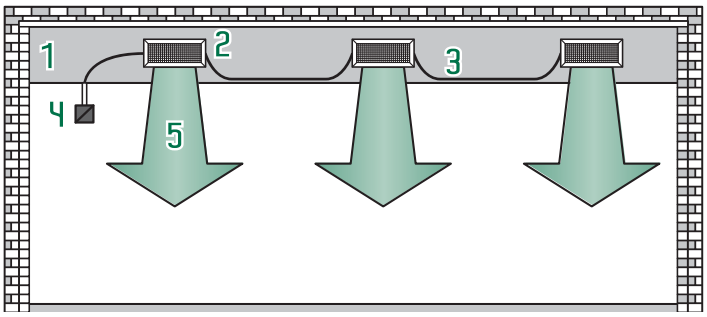
Electronic filters are known to be very effective in trapping particles, fibres, biological substances, etc., even when these are very small in diameter (less than 1 micron), while only causing a moderate pressure drop in the passing air, both initially (when the filter is clean) and over time when there is dirt on the surfaces.

The bactericide action of electronic filters prevents the proliferation of biological substances (bacteria, mould, yeast, etc.) on the surfaces of the transiting dust, even if these are not trapped by the filter (other "mechanical" filtering systems may, on the other hand, represent a support that is favourable to the proliferation of biological substances).

The **Crystall Flex System** is consequently an effective, reliable and simple product. Furthermore, it has extremely low maintenance costs: it never needs replacing and can be washed and sanitised using ordinary detergents, without any decline in efficiency or product life.



1) Air outlet grid
2) Electronic filter lock
3) High voltage cable
4) Ionic field
5) Duct
6) "Crystall" electronic filter



1) Duct
2) Air outlet grid
3) Shielded high voltage cable
4) Power supply and control box
5) Air outlet

Advantages of the Crystall Flex System:

- Installation possible on existing systems
- Low impact on the thermal and aeraulic equilibrium of the system
- Reduced pressure drop even when the filter is dirty
- Significant bactericide action on biological pollutants
- No cost for replacing the filters
  (the filters are totally regenerable by simply washing them)
- Very low additional energy costs
- Simple and fast maintenance
- No system downtime
  for the maintenance of the filtering units
- Remote power supply
  that can power multiple filtering units at the same time

Tests and Certification:

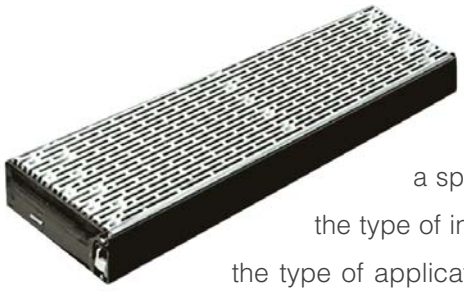
The Crystall system has been the subject of numerous trials and efficiency and effectiveness tests to assess the functions and performance of the systems in real conditions.

At the Turin Polytechnic Department of Energy, efficiency and load loss tests were performed using the EN779 international filter classification standards, where applicable.

The University of Ancona carried out over 180 laboratory tests on microbiological substances (total airborne microbiological load), including bacteria, mould, fungi, etc., which confirmed, through the statistical analysis of the data taken from the Fischer test, the effectiveness of the Crystall electronic filter in reducing the bacterial load.

Other tests have been carried out in the ROVER laboratories on the flow-rate, pressure drop, electrical safety and instrumental efficiency of the filtration process on micro-particles by numerically counting the most common particle size categories in various rooms. The particles monitored had the diameters specified by the WHO (World Health Organization) and the EPA (Environmental Protection Agency) as being the most harmful to our health (<2.5 micron PM 2.5), with volumetric counts (number/m^3) being performed in a common living environment, using a laser particle counter (LPC).

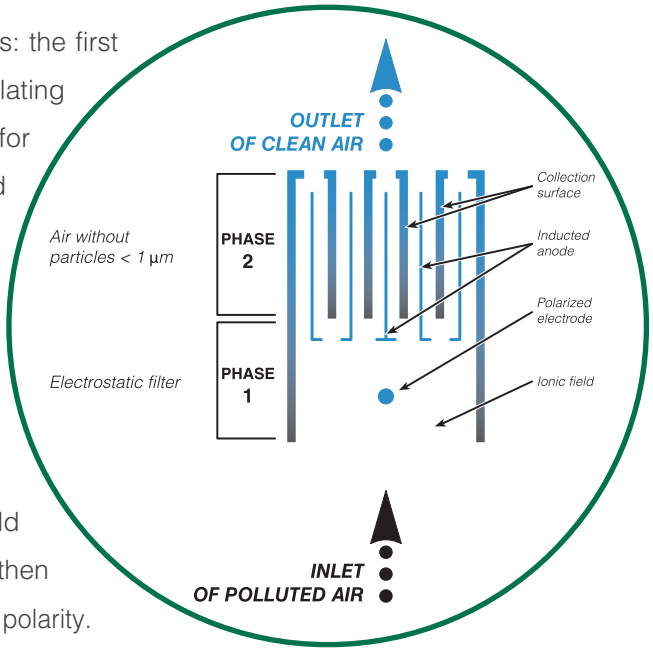
Construction features:



The Crystall electronic filter is made up of two main elements. The first is comprised of an electronic plate filter and is inside a special bearing structure that is designed and shaped based on the type of intended application. The structural element, therefore defines the type of application, allowing its installation downstream of horizontal flush-mounted fan coils (PM-CRY). The second element is the supply and control equipment that contains the circuit board and connection terminals.

Active plate electronic filter Femec type

The filter element is made up of two sections: the first is comprised of tungsten electrodes and insulating elements. The second section, meant for capturing polluting particles, is made of paired and suitably shaped special aluminium sheets, making up the collection manifold. This section can be easily removed for effortless maintenance. The filter's operating principle is extremely simple. Pollutants cross the first section made up of electrodes and electronically charged by the electrical field produced (ionization). The particles are then collected on the filter plates that are in opposite polarity. Due to the high voltage inside the filter an intense and disparate electrical field is generated with an avalanche effect called a "corona discharge".



Electronics board

This mainly contains the filter circuit board. The equipment is supplied with 230V and is capable of generating a high voltage but low intensity current (max 3 mA) needed to produce the ionizing field. A single unit can supply several terminals based on the total filter surface used. The equipment is supplied with a remotable alarm status contact and, locally, with a failure indicator light.

Connection cable

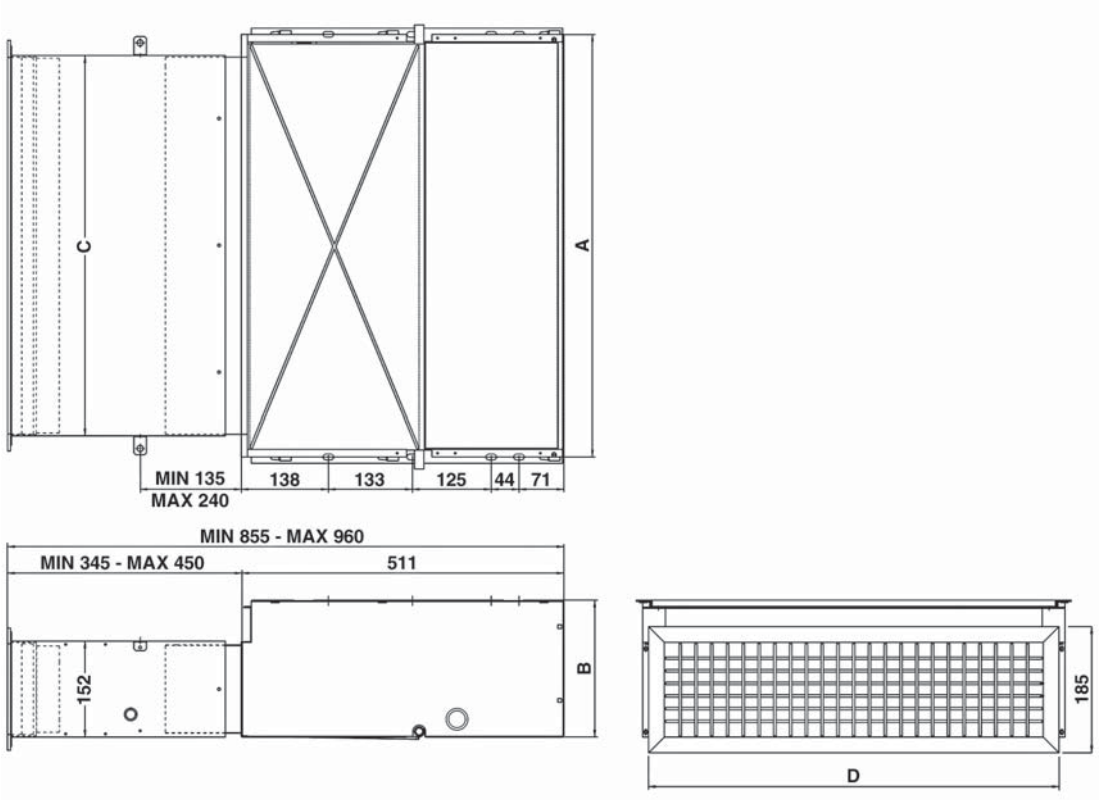
It is made up of a special AWG-22 wire with external insulation suitable for high voltage use.

Dimensions

This type of equipment was specifically created to be able to be inserted downstream of ROVER Universal SEC/F (NC model) horizontal concealed fan coils
and ROVER Graf HPO ducted fan coils.
By adapting the duct and/or the outlet grid, it can also be installed downstream of existing fan coils.

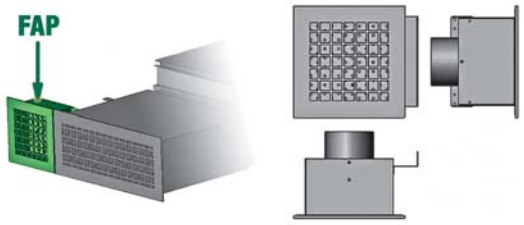
The structure is made of galvanised plate and is comprised of:

- an adjustable length of duct work;
- a Femec type electrostatic filter;
- an electronic filter control unit that can be installed on the side of the duct work or on the side of the fan coil;
- an aluminium outlet grill with a double row of fins.



MODEL	SUITABLE FOR:		DIMENSIONS			
	Universal SEC/F - NC Model	**Graf HPO**	A	B	C	D
	Size	*Size*	mm	mm	mm	mm
PM-CRY-2	**2**	**–**	454	218	400	435
PM-CRY-3-4	**3 - 4**	**1**	669	218	600	635
PM-CRY-5-6	**5 - 6**	**–**	884	218	800	835
PM-CRY-4S	**–**	**2**	884	248	800	835
PM-CRY-7	**7**	**–**	1099	218	1000	1035
PM-CRY-8-9	**8 - 9**	**3**	1099	248	1000	1035

Accessories

FAP	**Fresh air intake kit**	

Wall electronic controls

FUNCTIONS	IDENTIFICATION		
	M0-3V-IAQ	**TM0-T-IAQ**	**TM0-T-AU-IAQ**
ON-OFF switch	●	●	●
ON-OFF switch for Crystall electrostatic filter or electric heater	●	●	●
Manual 3 speed switch	●	●	●
Manual/Automatic 3 speed selection			●
Summer/Winter switch		●	●
Remote centralized Summer/Winter switch or by an automatic change-over fitted on the water pipe		●	●
Automatic Summer/Winter switch with neutral zone for 4 pipe installation with 2 valves			●
Room thermostat for fan control (ON-OFF)		●	●
Room thermostat for 1 valve control (2 pipe installation)		●	●
Room thermostat for 2 valve control (4 pipe installation)		●	●
Simultaneous thermostatic control of the valves and fan			●
Room thermostat for chilled water valve (SUMMER) and electric heater (WINTER) control (in winter only the electric heater is working)		●	●
Installation of electronic low temp. cut-out thermostat (TME)		●	●
Installation of bimetallic low temp. cut-out thermostat (TMM)	●		

M0-3V-IAQ

TM0-T-IAQ

TM0-T-AU-IAQ

ROVER
HIGH QUALITY CLIMATE

Lord

Cassette Fan Coil Unit
with Asynchronous Motor

Innovating and beautiful design, **seven different sizes,** high control flexibility, easy maintenance: the **Lord chilled water Cassette** is the result of an extended technical and design development aimed at achieving the highest level in terms of performance, silent operation and control possibilities. The air diffuser has an highly attractive aesthetical appearance, very innovative, and is also able to offer the best air distribution performance thanks to in-depth computer studies and laboratory tests. The 4 smaller sizes are designed to fit into **600x600 mm false ceiling** standard modules. The 3 bigger sizes have a **dimension of 800x800 mm** which allows the best outcome in terms of quietness and of price/performance ratio for these high capacity models.

In addition to temperature and speed standard controls, automatic speed selection is also available. More than one unit can be connected to a single control, and the unit control panel can be installed in a remote position that facilitates the maintenance operation. All the Lord units can be supplied in MB version. This version allows a wide range of controls, including the infra-red remote control, which can manage one single unit or several units by using the Modbus RTU - RS 485 communication protocol.

The units can be connected to the most common automatic building management systems.

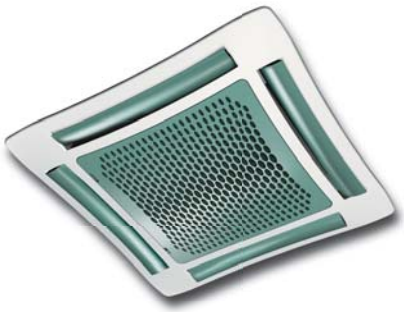
ROVER
HIGH QUALITY CLIMATE

Technical characteristics of the main components:

Air diffuser: intake grid, frame and adjustable air distribution louvers on each side, made from ABS.

HTA version
white ABS, RAL 9003

HTB version
intake grid, frame and louvers in a colour of choice



HTC version
intake grid and louvers in a colour of choice, plus white ABS frame RAL 9003

HTD version
louvers in a colour of choice, while the grid and frame are made from ABS, RAL 9003

MD-600 version
metal diffuser painted in RAL 9003 white colour with 600x600 dimension to perfectly fit into the false ceiling standard modules without overlapping parts (800x800 model is not available)

Casing: made from galvanized steel with internal thermal insulation with polyolefin (PO) foam (class M1) and external anti-condensate lining.

Control panel: made of an external metallic box with control electronic board and easily accessible terminal board.

Fan assembly: the fan assembly, which is mounted on anti-vibrating supports, is extremely silent.
The radial fan has been designed to optimise performance, using wing profile blades with a shape that reduces turbulence, increasing efficiency and reducing noise.
The single air inlet radial fan is connected to a **6 speed** electric motor with **single phase 230 V / 50 Hz** supply, class B insulation and integrated Klixon thermal contact for motor protection.
The units are supplied with 3 standard speeds connected and it is possible to change them on site if necessary.

Coil: made of copper tubes with bonded aluminium fins for maximum transfer contact.
The coils have 1, 2 or 3 rows for 2 pipe models and 2+1 rows for 4 pipe models (the heating row is on the inside part of the coil).
For 4 pipe systems two versions are available:

- **SK04, SK14, SK24, SK34, SK44, SK54, SK64** supply an higher heating emission,
- **SK 26, SK 36, SK 56, SK 66** supply an higher cooling emission.

The coil is not suitable for use in corrosive atmosphere or in environments where aluminium may be subject to corrosion.

Condensate collection tray: high density ABS polystyrene foam condensate tray, shaped in order to optimize the air diffusion, fire retardant rating B1 to DIN 4102.

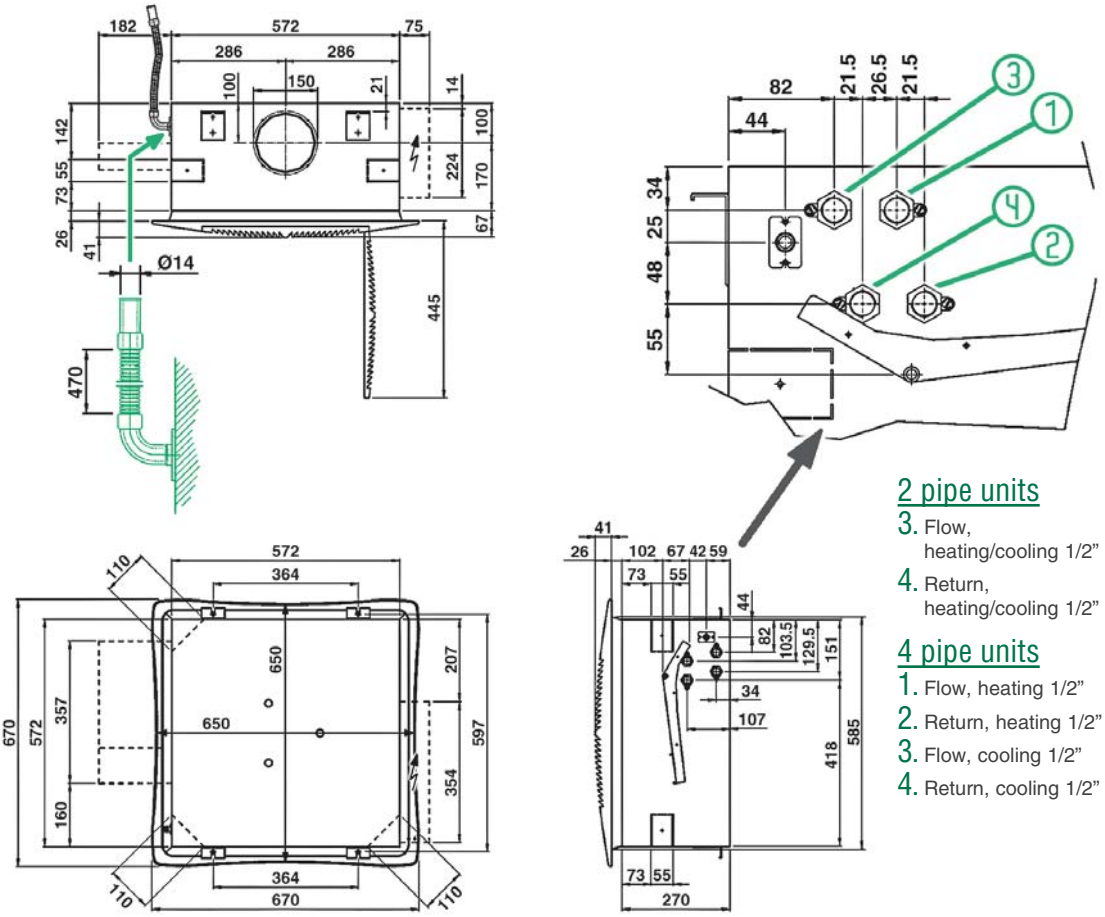
Air filter: synthetic washable filter, easily removable.

Condensate pump: float switch centrifugal pump with 650 mm of maximum head, built into the unit and wired to the control panel on the outside of the casing.

Valve set: two or three way valves for ON/OFF operation, with pipe mounting kit and thermostatic actuator.

Dimensions and Weight

SK 02-04 / SK 12-14 / SK 22-24-26 / SK 32-34-36
(Version 600 x 600)



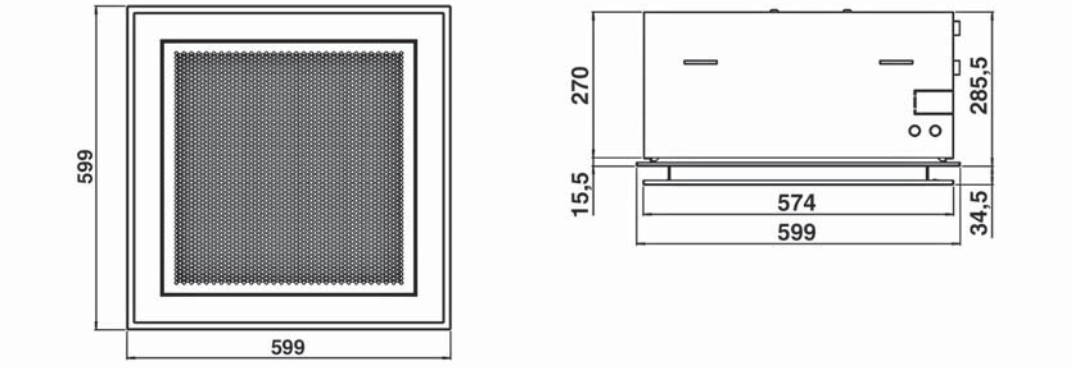
2 pipe units

3. Flow, heating/cooling 1/2”
4. Return, heating/cooling 1/2”

4 pipe units

1. Flow, heating 1/2”
2. Return, heating 1/2”
3. Flow, cooling 1/2”
4. Return, cooling 1/2”

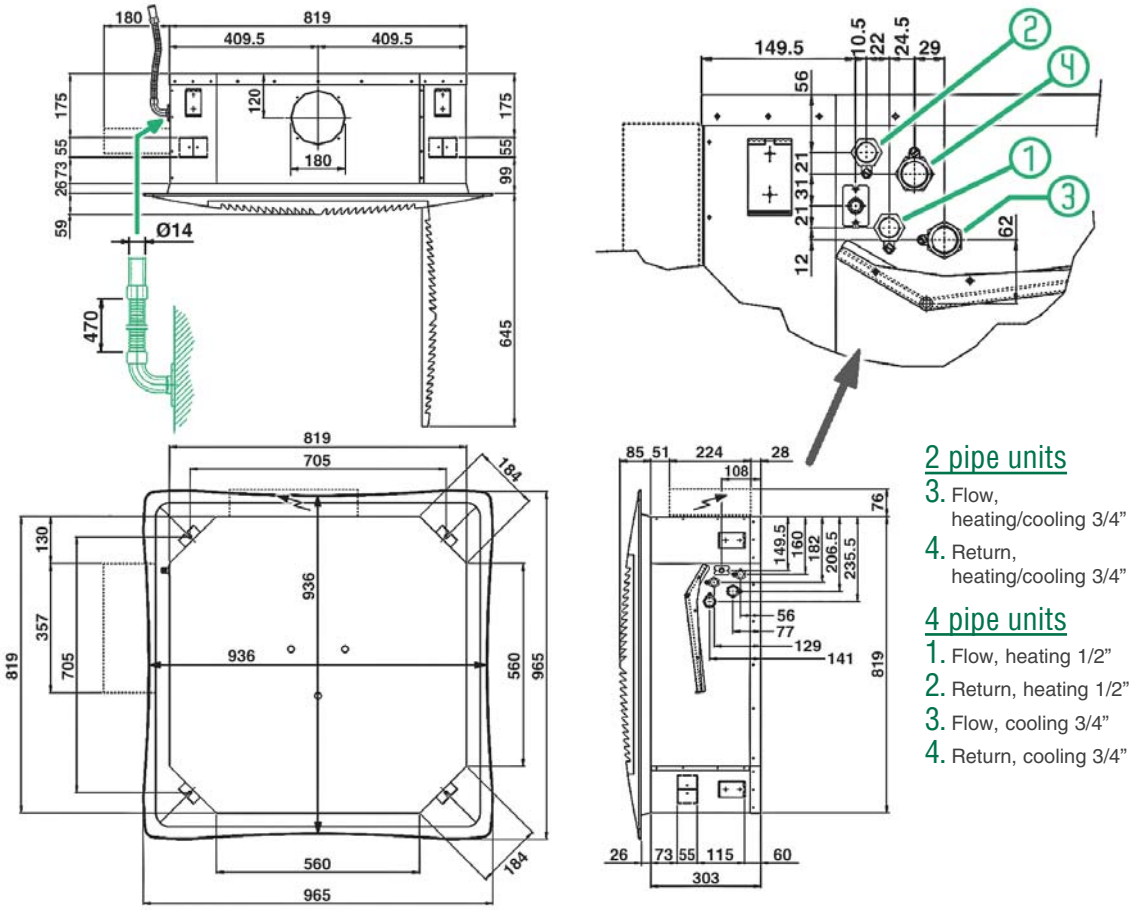
MD-600 metal diffuser



MODEL	Unit		Diffuser					
	WEIGHTS PACKED UNIT	WEIGHTS UNPACKED UNIT	WEIGHTS PACKED UNIT	WEIGHTS UNPACKED UNIT	PACKED UNIT DIMENSIONS (mm)			
	kg	kg	kg	kg	A	B	C	D
SK 02 - 12	28	22	6	3	790	350	750	150
SK 04 - 14	30	24						
SK 22 - 24 - 26								
SK 32 - 34 - 36								

Dimensions and Weight

SK 42-44 / SK 52-54-56 / SK 62-64-66
(Version 800 x 800)



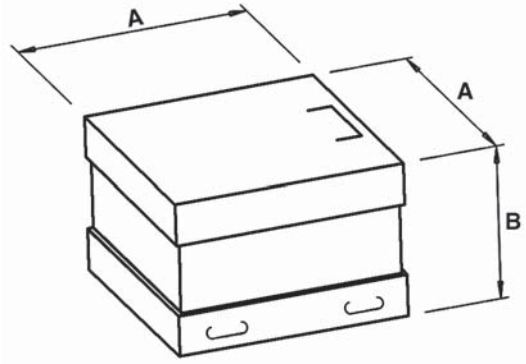
2 pipe units

3. Flow, heating/cooling 3/4”
4. Return, heating/cooling 3/4”

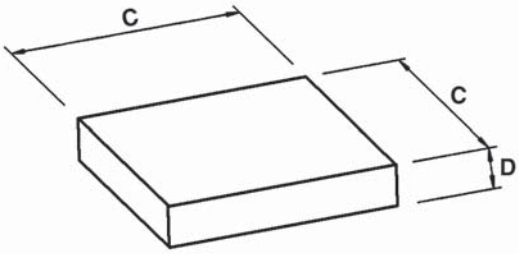
4 pipe units

1. Flow, heating 1/2”
2. Return, heating 1/2”
3. Flow, cooling 3/4”
4. Return, cooling 3/4”

Unit



Diffuser



MODEL	Unit		Diffuser					
	WEIGHTS PACKED UNIT	WEIGHTS UNPACKED UNIT	WEIGHTS PACKED UNIT	WEIGHTS UNPACKED UNIT	PACKED UNIT DIMENSIONS (mm)			
	kg	kg	kg	kg	A	B	C	D
SK 42	44	36	10	6	1050	400	1000	200
SK 44	47	39						
SK 52 - 54 - 56								
SK 62 - 64 - 66								

ROVER
HIGH QUALITY CLIMATE

EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

Certification

www.eurovent-certification.com
www.certiflash.com

2 pipe units. The following standard rating conditions are used:

***COOLING* (summer mode)**

Entering air temperature: +27°C d.b. +19°C w.b.
Water temperature: + 7°C E.W.T. +12°C L.W.T.

***HEATING* (winter mode)**

Entering air temperature: +20°C
Entering water temperature: +50°C

Water flow rate as for the cooling conditions

MODEL		SK 02			SK 12			SK 22			SK 32		
Speed		1	2	3	1	2	3	1	2	3	1	2	3
Air flow	m^3/h	310	420	610	310	420	520	320	500	710	430	610	880
Cooling total emission **(E)**	kW	1,27	1,63	1,98	1,84	2,34	2,68	2,25	3,34	4,33	2,94	3,88	5,02
Cooling sensible emission **(E)**	kW	1,01	1,32	1,64	1,35	1,75	2,04	1,57	2,39	3,18	2,08	2,81	3,74
Heating **(E)**	kW	1,62	2,12	2,64	2,22	2,90	3,35	2,56	3,93	5,23	3,43	4,63	6,17
Heating - Water 70-60°C	kW	2,80	3,66	4,56	4,19	4,91	5,68	4,83	6,96	9,25	6,10	8,25	10,63
Water flow	l/h	219	280	340	316	402	461	387	574	745	506	667	863
Dp Cooling **(E)**	kPa	4,5	7,0	10,0	4,9	7,6	9,7	4,6	9,4	15,1	7,5	12,4	19,7
Dp Heating **(E)**	kPa	4,0	6,0	9,0	4,1	6,3	8,2	3,5	7,3	11,4	6,7	11,2	17,7
Sound power Lw **(E)**	dB(A)	33	40	49	33	40	45	33	45	53	41	49	59
Sound pressure Lp **(*)**	dB(A)	24	31	40	24	31	36	24	36	44	32	40	50
Fan **(E)**	W	25	32	57	25	32	44	25	44	68	32	57	90
	A	0,11	0,15	0,27	0,11	0,15	0,20	0,11	0,20	0,32	0,15	0,27	0,45
Water content	l	0,8	0,8	0,8	1,4	1,4	1,4	2,1	2,1	2,1	2,1	2,1	2,1
Dimensions	mm	575 x 575 x 275											

MODEL		SK 42			SK 52			SK 62		
Speed		1	2	3	1	2	3	1	2	3
Air flow	m^3/h	630	820	1140	710	970	1500	710	1280	1820
Cooling total emission **(E)**	kW	4,21	4,91	6,16	5,31	6,78	9,51	5,31	8,45	11,10
Cooling sensible emission **(E)**	kW	3,03	3,58	4,59	3,46	4,48	6,48	3,71	6,09	8,25
Heating **(E)**	kW	5,12	6,03	7,77	5,61	7,34	10,71	6,13	10,30	14,00
Heating - Water 70-60°C	kW	8,61	10,16	13,14	10,25	13,43	19,76	10,25	17,26	23,68
Water flow	l/h	724	845	1060	913	1166	1636	913	1453	1909
Dp Cooling **(E)**	kPa	10,9	14,3	21,6	9,4	14,7	26,9	9,4	21,8	35,6
Dp Heating **(E)**	kPa	6,7	9,9	15,1	7,9	12,4	23,0	7,9	18,6	30,6
Sound power Lw **(E)**	dB(A)	33	40	48	34	40	53	34	48	58
Sound pressure Lp **(*)**	dB(A)	24	31	39	25	31	44	25	39	49
Fan **(E)**	W	33	48	77	42	63	120	42	95	170
	A	0,15	0,23	0,36	0,18	0,28	0,53	0,18	0,42	0,74
Water content	l	3,0	3,0	3,0	4,0	4,0	4,0	4,0	4,0	4,0
Dimensions	mm	820 x 820 x 303								

(E) = Eurovent certified performance.
(*) = The sound pressure levels are 9 dB(A) lower than the sound power levels and apply to the reverberant field of a 100 m^3 room and a reverberation time of 0.5 sec.

Certification

EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

www.eurovent-certification.com
www.certiflash.com

4 pipe units. The following standard rating conditions are used:

***COOLING* (summer mode)**

Entering air temperature: +27°C d.b. +19°C w.b.
Water temperature: + 7°C E.W.T. +12°C L.W.T.

***HEATING* (winter mode)**

Entering air temperature: +20°C
Water temperature: +70°C E.W.T. +60°C L.W.T.

MODEL		SK 04			SK 14			SK 24			SK 26			SK 34			SK 36		
Speed		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Air flow	m^3/h	310	420	610	310	420	520	320	500	710	320	500	710	430	610	880	430	610	880
Cooling total emission **(E)**	kW	1,51	1,96	2,33	1,85	2,36	2,70	1,85	2,65	3,34	2,09	3,06	3,93	2,36	3,02	3,81	2,72	3,53	4,53
Cooling sensible emission **(E)**	kW	1,15	1,55	1,90	1,34	1,71	1,98	1,34	1,98	2,56	1,49	2,24	2,95	1,75	2,29	2,97	1,97	2,62	3,46
Water flow	l/h	260	337	401	318	406	464	318	456	574	359	526	676	406	519	655	468	607	779
Dp Cooling **(E)**	kPa	6,0	10,0	13,5	4,6	6,9	8,8	4,6	8,8	13,4	4,0	7,0	10,5	7,2	11,2	17,0	6,0	9,0	14,0
Heating **(E)**	kW	1,96	2,54	3,03	2,43	3,02	3,46	2,43	3,46	4,40	1,98	2,71	3,35	3,10	3,97	4,95	2,46	3,06	3,79
Water flow	l/h	169	219	261	209	260	298	209	298	378	170	233	288	267	341	426	212	263	326
Dp Heating **(E)**	kPa	6,5	10,5	14,5	5,7	8,5	10,8	5,7	10,8	16,6	3,6	6,0	9,0	8,8	13,8	20,5	5,0	7,8	11,0
Sound power Lw **(E)**	dB(A)	33	40	49	33	40	45	33	45	53	33	45	53	41	49	59	41	49	59
Sound pressure Lp **(*)**	dB(A)	24	31	40	24	31	36	24	36	44	24	36	44	32	40	50	32	40	50
Fan **(E)**	W	25	32	57	25	32	44	25	44	68	25	44	68	32	57	90	32	57	90
	A	0,11	0,15	0,27	0,11	0,15	0,20	0,11	0,20	0,32	0,11	0,20	0,32	0,15	0,27	0,45	0,15	0,27	0,45
Cooling water content	l	1,0	1,0	1,0	1,4	1,4	1,4	1,4	1,4	1,4	1,7	1,7	1,7	1,4	1,4	1,4	1,7	1,7	1,7
Heating water content	l	0,6	0,6	0,6	0,7	0,7	0,7	0,7	0,7	0,7	0,5	0,5	0,5	0,7	0,7	0,7	0,5	0,5	0,5
Dimensions	mm	575 x 575 x 275																	

MODEL		SK 44			SK 54			SK 56			SK 64			SK 66		
Speed		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Air flow	m^3/h	630	820	1140	710	970	1500	710	970	1500	710	1280	1820	710	1280	1820
Cooling total emission **(E)**	kW	4,14	5,03	6,34	4,52	5,66	7,71	4,99	6,33	8,77	4,52	6,93	8,89	4,99	7,84	10,20
Cooling sensible emission **(E)**	kW	2,96	3,65	4,69	3,25	4,15	5,83	3,53	4,55	6,49	3,25	5,18	6,84	3,53	5,73	7,68
Water flow	l/h	712	865	1090	777	974	1326	858	1089	1508	777	1192	1529	858	1348	1754
Dp Cooling **(E)**	kPa	8,8	12,5	18,9	10,3	15,4	26,9	9,0	14,0	25,0	10,3	22,1	34,7	9,0	20,0	32,0
Heating **(E)**	kW	5,91	7,19	9,10	6,45	8,10	11,00	5,23	6,42	8,56	6,45	9,98	12,70	5,23	7,74	9,80
Water flow	l/h	508	618	783	555	697	946	450	552	736	555	858	1092	450	666	843
Dp Heating **(E)**	kPa	9,8	14,0	21,4	11,5	17,4	29,9	6,5	9,2	15,3	11,5	25,3	38,8	6,5	13,0	19,5
Sound power Lw **(E)**	dB(A)	33	40	48	34	40	53	34	40	53	34	48	58	34	48	58
Sound pressure Lp **(*)**	dB(A)	24	31	39	25	31	44	25	31	44	25	39	49	25	39	49
Fan **(E)**	W	33	48	77	42	63	120	42	63	120	42	95	170	42	95	170
	A	0,15	0,23	0,36	0,18	0,28	0,53	0,18	0,28	0,53	0,18	0,42	0,74	0,18	0,42	0,74
Cooling water content	l	3,0	3,0	3,0	3,0	3,0	3,0	3,6	3,6	3,6	3,0	3,0	3,0	3,6	3,6	3,6
Heating water content	l	1,4	1,4	1,4	1,4	1,4	1,4	1,1	1,1	1,1	1,4	1,4	1,4	1,1	1,1	1,1
Dimensions	mm	820 x 820 x 303														

(E) = Eurovent certified performance.
(*) = The sound pressure levels are 9 dB(A) lower than the sound power levels and apply to the reverberant field of a 100 m^3 room and a reverberation time of 0.5 sec.

Other available Versions

SK-MB

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

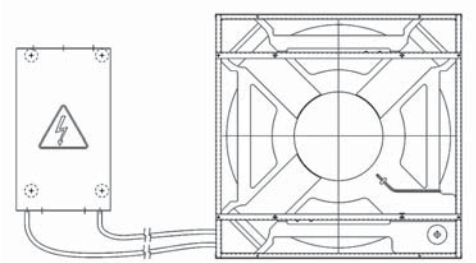
SK-E

The Lord 2 pipe models are available
with electric heater that is controlled in place of the heating coil valve.
The electric heater is controlled in place of the hot water valve and not as integration to it.
The heater is hermetically sealed and supplied inside the coil pipes
and therefore can be only factory mounted.
The electric heaters of the SK 12-22-32 units are for single phase 230V supply.
The electric heaters of the SK 42-52-62 units are for three phase 400V supply.

Model	SK 12-E	SK 22-E / SK 32-E	SK 42-E / SK 52-E / SK 62-E
Emission	1500 Watt	2500 Watt	3000 Watt

Unit with remote electric board

On request the Lord cassettes
are available with electric control panel
reachable from below
and with the electric board
that can be placed in a remote position.



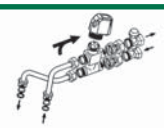
MCT

The **MCT** version has been designed for all environments where false ceilings
are not featured or cannot be constructed.
The cover cabinet fits perfectly to the air intake and outlet diffuser, maintaining
the appealing design that defines the Lord series.
The water fittings can be turned to point upwards.
The **MCT** series includes 7 models, with an installation height of up to 5 m,
thanks to the highly flexible adjustment of the air distribution louvers.
All the technical specifications described on the previous pages remain the same,
while keeping in mind that the **MCT** series features one coil only
(two pipe systems), there is no possibility of fresh air intake,
there is no possibility of additional electric heater.
The **MCT** version features a special casing delivered in separate packaging;
this must only be fitted after having installed the Lord unit
and completed the water and electrical connections.

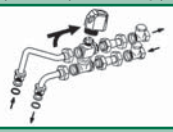
Accessories

3 way ON-OFF valves with micrometric lockshield valve

Valve set, 3 ways, ON-OFF, with thermoelectric actuator. The set includes connection pipes and holders.



SK 02-04 / 12-14 / 22-24-26 / 32-34-36

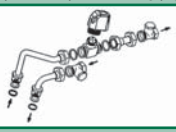


SK 42-44 / 52-54-56 / 62-64-66

2 way ON-OFF valves with micrometric lockshield valve

Valve set, 2 ways, ON-OFF, with thermoelectric actuator. The set includes connection pipes and holders.

SK 02-04 / 12-14 / 22-24-26 / 32-34-36

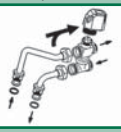


SK 42-44 / 52-54-56 / 62-64-66

3 way ON-OFF valves with simplified kit

Valve set, 3 ways, ON-OFF, with thermoelectric actuator. The set includes connection pipes.

SK 02-04 / 12-14 / 22-24-26 / 32-34-36



SK 42-44 / 52-54-56 / 62-64-66

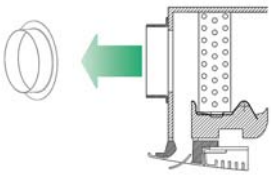
2 way ON-OFF valves with simplified kit

Valve set, 2 ways, ON-OFF, with thermoelectric actuator. The set includes connection pipes.

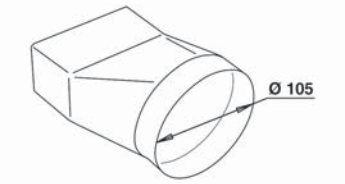
SK 02-04 / 12-14 / 22-24-26 / 32-34-36

SK 42-44 / 52-54-56 / 62-64-66

CDA — **Air distribution connection**



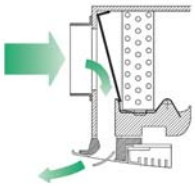
CAP — **Fresh air connection**



PRT

Fresh air kit

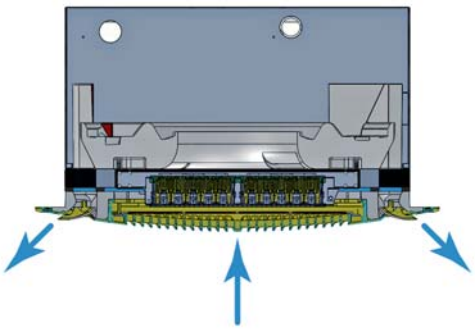
This is used to introduce fresh air into the environment directly through the diffuser.



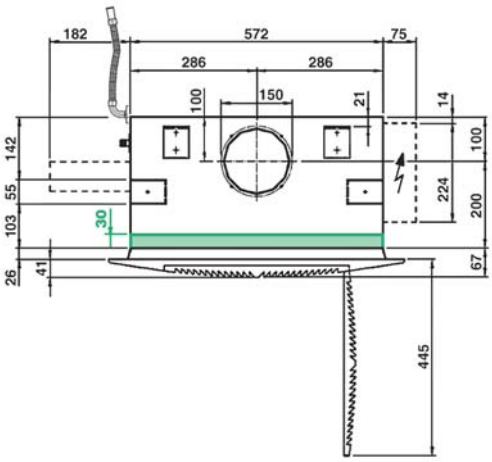
IAQ accessory

Crystall

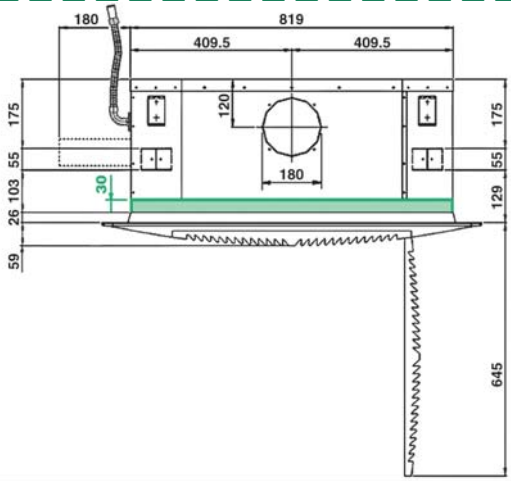
Lord Cassette can be equipped with the innovative plate type electrostatic filter, **Crystall,** combining air treatment and purifying in a single product. The electronic filter is **patented and certified** according to Standard UNI 11254.



Dimensions



SK 0 / 1 / 2 / 3
(Model 600 x 600)



SK 4 / 5 / 6
(Model 800 x 800)

Wall electronic controls

SK version

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

Free wireless control system

Free-Com	Remote control to be used with electronic boards described at Page 84

Electronic controls

SK-MB version

T-MB	Wall control (to be used with SK-MB version only)
RCS-RT03	RT03 infra-red remote control with receiver supplied with separate packaging (to be used with SK-MB version only)
RT03	RT03 infra-red remote control supplied with separate packaging (to be used with SK-MB version only)
RCS	Receiver for RT03 infra-red remote control supplied with separate packaging (to be used with SK-MB version only)
RS	Receiver for RT03 infra-red remote control and MD-600 metal diffuser supplied with separate packaging (to be used with SK-MB version only)
PSM-DI	Multifunction control (to be used with SK-MB version only)

Net management system for a network of fan coils

Net	Hardware/Software Supervisory system (to be used with SK-MB version only)
ROUTER-S	Router for Net
SIOS	Relay output board for Net

NOTES: *for more details about the Controls, see Page 80.*

ROVER
HIGH QUALITY CLIMATE

Breeze

High Wall Fan Coil Unit

Breeze is the high wall fan coil unit **designed and manufactured in Europe** by ROVER, in 4 sizes and many different models. Breeze is easy to install like a standard fan coil: without decreasing the emission and without any extra frame, 2 way or 3 way valves and condensate pump can be mounted into the casing.

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

Fly is **available with standard AC motors or low energy EC motors** and in the following versions: with wired wall control, infra-red remote control, MB electronic board for Modbus management and electric heating coil.

The units are for 2 pipe installations only.

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

Technical characteristics of the main components:

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

There are four sizes available in the following versions:

- **FHW** without infra-red remote control and without valve;
- **FHW-2V** without infra-red remote control with fitted 2 way valve;
- **FHW-3V** without infra-red remote control with fitted 3 way valve.
- **FHW-T** with infra-red remote control and without valve;
- **FHW-T-2V** with infra-red remote control with fitted 2 way valve;
- **FHW-T-3V** with infra-red remote control with fitted 3 way valve.
- **FHW-MB** with MB board and without valve;
- **FHW-MB-2V** with MB board with fitted 2 way valve;
- **FHW-MB-3V** with MB board with fitted 3 way valve.

Casing: made of auto-extinguishing ABS UL94 HB plastic with high specifications and great resistance to aging.

Filter: washable-regenerable synthetic filter, readily accessible.

Fan assembly: made of plastic tangential fan.

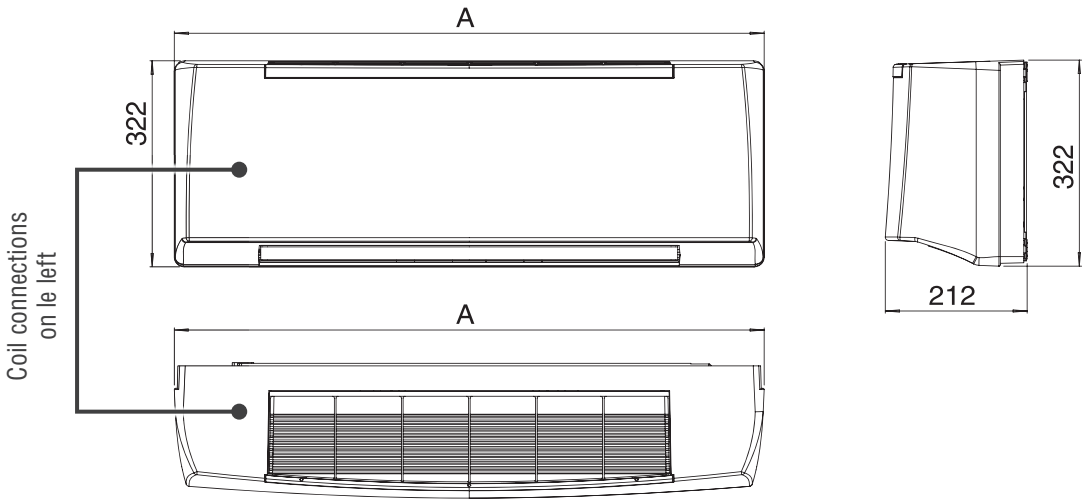
Electric motor: the motor is for single phase supply and has six speeds, three of which are connected, with capacitor. The motor is fitted on sealed for life bearings and is secured on anti-vibration and self-lubricating mountings.
Internal thermal protection with automatic reset, protection IP 20, class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

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

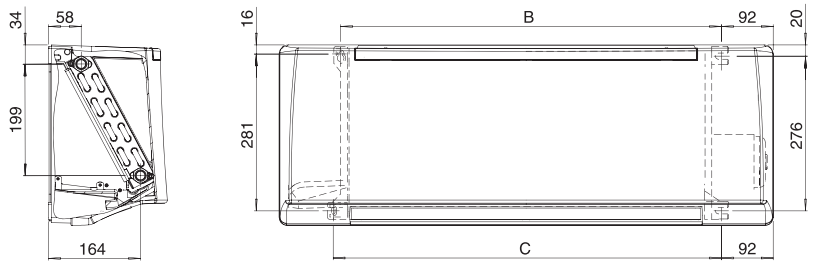
Condensate collection tray: made from polypropylene; the outside diameter of the condensate discharge pipe is 16mm.

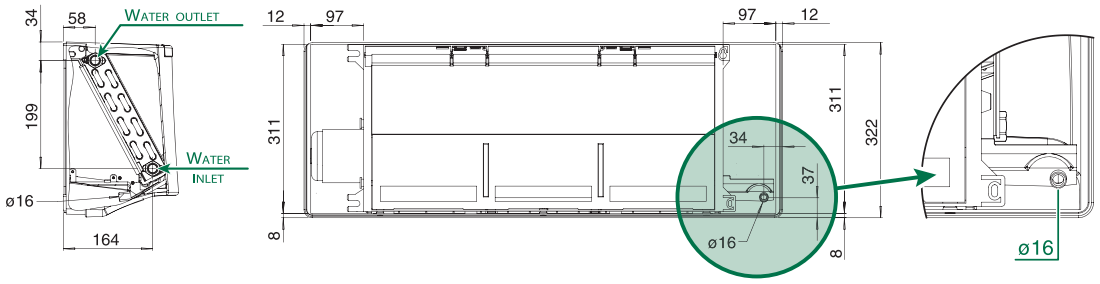
Installation template: a cardboard installation template is supplied with every unit to help the mounting on the wall.

Dimensions, Weight, Water content



Mounting dimensions





MODEL	WEIGHT without valves Kg	WEIGHT with valves Kg	WATER CONTENT Litres	A mm	B mm	C mm
1	10	11	0,85	880	678	691
2	10	11	0,85	880	678	691
3	13	14	1,28	1185	983	996
4	13	14	1,28	1185	983	996

Certification

www.eurovent-certification.com
www.certiflash.com

The following standard rating conditions are used:

***COOLING* (summer mode)**

Entering air temperature: +27°C d.b. +19°C w.b.
Water temperature: + 7°C E.W.T. +12°C L.W.T.

***HEATING* (winter mode)**

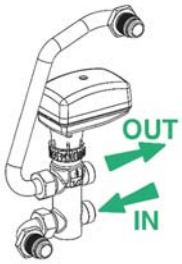
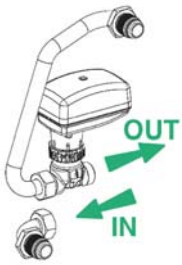
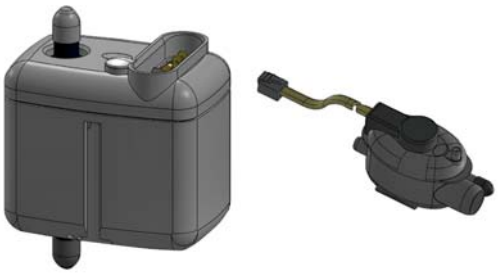
Entering air temperature: +20°C
Entering water temperature: +50°C
Water flow rate as for the cooling conditions

MODEL		1						2					
Speed		1 (E)	2 (E)	3	4 (E)	5	6	1 (E)	2	3 (E)	4	5 (E)	6
		MIN	MED		MAX			MIN		MED		MAX	
Air flow	m³/h	**205**	**270**	340	**375**	470	500	**250**	305	**365**	400	**480**	545
Cooling total emission (E)	kW	**1,24**	**1,50**	1,76	**1,87**	2,15	2,23	**1,43**	1,63	**1,84**	1,95	**2,18**	2,35
Cooling sensible emission (E)	kW	**0,92**	**1,14**	1,36	**1,46**	1,72	1,80	**1,07**	1,25	**1,43**	1,53	**1,75**	1,92
Heating (E)	kW	**1,60**	**2,00**	2,39	**2,58**	3,04	3,17	**1,88**	2,20	**2,39**	2,70	**3,09**	3,38
Dp Cooling (E)	kPa	**4,8**	**6,8**	9,0	**10,1**	13,0	13,9	**6,2**	7,9	**9,8**	10,9	**13,3**	15,2
Dp Heating (E)	kPa	**3,7**	**5,5**	7,2	**8,3**	10,6	10,8	**4,8**	6,4	**7,2**	8,5	**10,9**	12,5
Fan (E)	W	**12**	**14**	17	**18**	24	30	**12**	14	**18**	20	**24**	32
Sound power Lw (E)	dB(A)	**35**	**41**	46	**48**	52	53	**39**	43	**47**	49	**53**	55
Sound pressure Lp (*)	dB(A)	**26**	**32**	37	**39**	43	44	**30**	34	**38**	40	**44**	46

MODEL		3						4					
Velocità		1 (E)	2 (E)	3	4 (E)	5	6	1	2 (E)	3	4 (E)	5	6 (E)
		MIN	MED		MAX				MED		MED		MAX
Portata aria	m³/h	**280**	**375**	480	**545**	730	780	300	**440**	500	**610**	675	**790**
Raffreddamento resa totale (E)	kW	**1,89**	**2,32**	2,78	**3,03**	3,63	3,78	1,99	**2,62**	2,86	**3,26**	3,46	**3,81**
Raffreddamento resa sensibile (E)	kW	**1,35**	**1,69**	2,06	**2,27**	2,81	2,95	1,43	**1,93**	2,12	**2,47**	2,66	**2,98**
Riscaldamento (E)	kW	**2,26**	**2,84**	3,49	**3,86**	4,79	5,03	2,40	**3,26**	3,61	**4,20**	4,53	**5,07**
Dp Raffreddamento (E)	kPa	**11,2**	**16,2**	22,5	**26,2**	36,4	39,1	12,3	**20,2**	23,6	**29,9**	33,4	**39,7**
Dp Riscaldamento (E)	kPa	**8,7**	**12,6**	17,7	**21,2**	29,3	31,9	9,7	**15,9**	19,1	**23,7**	27,2	**31,5**
Assorbimento Motore (E)	W	**16**	**21**	26	**29**	38	46	17	**23**	27	**32**	35	**48**
Potenza acustica Lw (E)	dB(A)	**35**	**40**	45	**48**	55	57	36	**43**	46	**51**	54	**57**
Pressione acustica Lp (*)	dB(A)	**26**	**31**	36	**39**	46	48	27	**34**	37	**42**	45	**48**

(E) = Eurovent certified performance. **MIN-MED-MAX** = Standard connected speeds.
(*) = The sound pressure levels are 9 dB(A) lower than the sound power levels and apply to the reverberant field of a 100 m³ room and a reverberation time of 0.5 sec.

Accessories

3 way valve Control valve kit: 3 way valve, 230V ON-OFF, with electric motor and mounting kit with micrometric lockshield valve.	
2 way valve Control valve kit: 2 way valve, ON-OFF, with electric motor and mounting kit.	
Condensate drain pump	

Wall electronic controls

FHW version

M0-3V	3 speed control
CR-T	3 speed control with electronic thermostat and manual summer/winter switch
TM0-T	3 speed control with electronic thermostat and summer/winter switch
TM0-T-AU	Automatic speed control with electronic thermostat and summer/winter switch
TM0-503-SV2	Automatic speed control with electronic thermostat to be mounted in the DIN 503 box (for units with valves)
T2T	Electromechanical thermostat with summer/winter switch (only for 2 pipe units)

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

Electronic controls for MB boards

FHW-MB version

T-MB	Wall control (to be used with MB board only)
RS-RT03-F	RT03 infra-red remote control with receiver supplied with separate packaging (to be used with MB board only)
RT03	RT03 infra-red remote control supplied with separate packaging (to be used with MB board only)
RS-F	Receiver for RT03 infra-red remote control supplied with separate packaging (to be used with MB board only)
PSM-DI	Multifunction control (to be used with MB board only)

Net management system for a network of fan coils

Net	Hardware/software supervisory system (to be used with MB board only)
ROUTER-S	Router for Net
SIOS	Relay output board for Net

NOTES: *for more details about the Controls, see Page 80.*

ROVER
HIGH QUALITY CLIMATE

Prince ECM

Ceiling Air Conditioner

Prince ECM air conditioners allow
to heat and cool very economically small and medium areas,
like shops, show rooms, workshops, supermarkets.

The range is made up of 12 models:
RE-ECM version, for heating only, is made up of 8 models,
and PE-ECM version, for heating and cooling, is made up of 4 models.
All models are for ceiling installation and for hot/chilled water supply.

The Prince ECM series uses an innovative brushless synchronous permanent magnet electric motor controlled by an inverter card that is directly installed on the unit.

The intake of the air is from the bottom side of the unit and the air supply is from the 4 lateral grids which have individually controllable louvres for the best distribution of the air.

The condensate drain is made through an electronically controlled micro-pump, supplied on every standard PE–ECM model.

Different remote controls of the air flow and of the room temperature are available and it is possible to control up to 10 units with only one remote control.

All the Prince ECM units can be supplied with a wide range of controls using the Modbus RTU - RS 485 communication protocol.

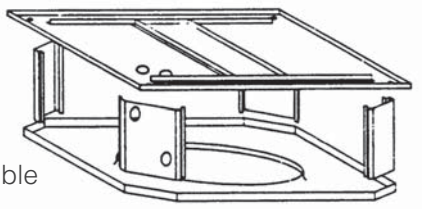
Beside the low installation and running cost, the Rover Prince ECM air conditioners offer the following advantages:

- they take up a small amount of the valuable space in the room, there is not any ducting system and the walls are free.
- they are versatile and provide flexibility of installation: also where there is no false ceiling it is possible to distribute the air evenly.
- they provide easy control and are easily installed.

Construction features

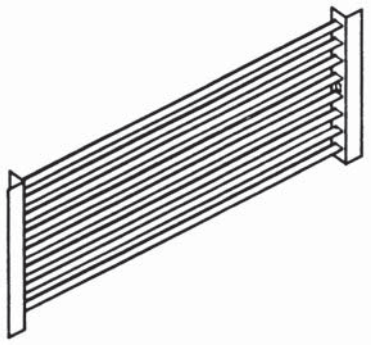
Casing

made of steel on both top and bottom sections and it is then finished with an epoxy-polyester powder coating dried at 180°, in white RAL 9016.
The lower casing is also the condensate collection tray.
The components are assembled with screws and so it is possible to quickly dismantle it for inspection when needed.



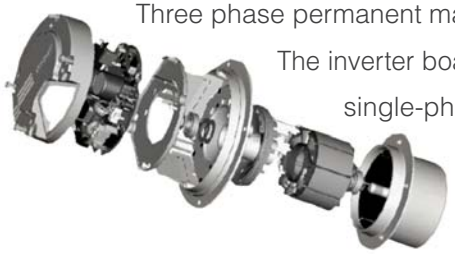
Outlet grids

The discharge of the air is obtained through 4 grids on the 4 lateral sides. They are comprised by a frame in which the louvres are individually adjustable. It is very easy to take off these grids, allowing for easy maintenance of the coil and of the condensate tray.



Electronic motor

Three phase permanent magnet brushless electronic motor.



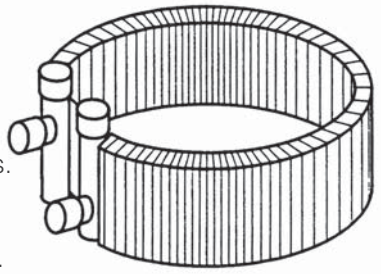
The inverter board that controls the motor operation is powered by 230 Volt, single-phase and it generates a frequency modulated wave form power supply. The electric power supply required for the machine is therefore single-phase with voltage of 230-240V and frequency of 50-60Hz.

Helicoidal fan

The fan is made with statically and dynamically balanced plastic blades. Its rational high-capacity profile provides the maximum air volume with the minimum energy consumption. The fan hub is secured onto the motor shaft and it is protected by a safety guard.

Coil

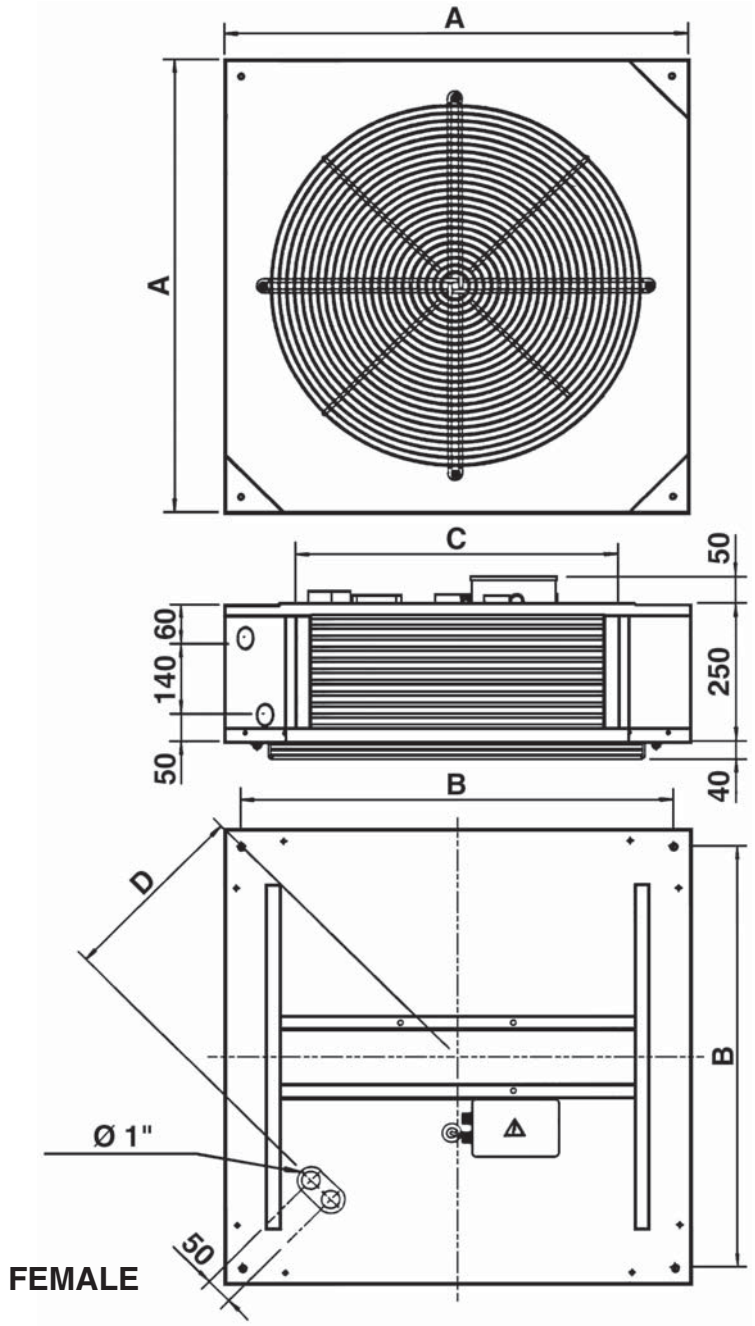
The coil is constructed of copper tubes with aluminium fins and steel headers.
The supply and return connections have a female threading, 1” diameter, and they allow the connection either vertically from above or horizontally from a side.
The coil is supplied in two versions: with 1 row and with 2 rows.
The coil is not suitable for use in corrosive atmosphere or in environments where aluminium may be subject to corrosion.



Condensate micro-pump

The PE–ECM model for cooling is always supplied with an integral micro-pump (discharge head 3m, water flow 6l/h). The pump is installed in the condensate collected tray. This pump controls the level of the condensate collected in the tray and drain it when necessary.

Dimensions, Weight, Water content



With 1 ROW COIL
(only heating)

MODEL		RE–ECM			
		11	21	31	41
DIMENSIONS (mm)	A	600	750	750	830
	B	540	690	690	770
	C	330	480	480	560
	D	220	287	300	344
WEIGHT (kg)		26	31	32	38
WATER CONTENT (Liters)		0.8	1.1	1.1	1.3

With 2 ROW COIL
(heating and cooling)

MODEL		RE–ECM / PE–ECM			
		12	22	32	42
DIMENSIONS (mm)	A	600	750	750	830
	B	540	690	690	770
	C	330	480	480	560
	D	220	287	300	344
WEIGHT (kg)		28	34	35	40
WATER CONTENT (Liters)		1.8	2.4	2.4	2.7

ROVER
HIGH QUALITY CLIMATE

PRINCE TECHNICAL SPECIFICATIONS

RE-ECM units (heating only)

The following standard rating conditions are used:

***HEATING* (winter mode)**

Entering air temperature: +20°C
Water temperature: +70/60°C

MODEL		RE–ECM 11						RE–ECM 12					
Inverter Power **(V)**		**5**	**6**	**7**	**8**	**9**	**10**	**5**	**6**	**7**	**8**	**9**	**10**
Air flow	m^3/h	1045	1265	1465	1635	1805	1890	1005	1215	1410	1570	1735	1820
Heating	kW	5,88	6,60	7,20	7,67	8,14	8,36	9,56	10,88	12,01	12,88	13,74	14,15
Dp Heating	kPa	11,2	13,8	16,2	18,1	20,2	21,1	6,9	8,8	10,5	11,9	13,3	14,1
Sound power Lw	dB(A)	44	48	52	54	56	57	44	48	52	54	56	57
Sound pressure Lp **(*)**	dB(A)	35	39	43	45	47	48	35	39	43	45	47	48
Sound pressure Lp **(**)**	dB(A)	31	35	39	41	43	44	31	35	39	41	43	44
Fan	W	16	24	37	51	69	81	16	24	37	51	69	81

MODEL		RE–ECM 21						RE–ECM 22					
Inverter Power **(V)**		**5**	**6**	**7**	**8**	**9**	**10**	**5**	**6**	**7**	**8**	**9**	**10**
Air flow	m^3/h	1380	1645	1925	2175	2415	2600	1325	1580	1850	2090	2320	2500
Heating	kW	7,59	8,46	9,32	10,03	10,68	11,18	12,64	14,26	15,81	17,13	18,31	19,20
Dp Heating	kPa	7,9	9,6	11,4	13,0	14,6	15,9	13,0	16,2	19,5	22,5	25,4	27,7
Sound power Lw	dB(A)	48	51	54	57	60	62	48	51	54	57	60	62
Sound pressure Lp **(*)**	dB(A)	39	42	45	48	51	53	39	42	45	48	51	53
Sound pressure Lp **(**)**	dB(A)	35	38	41	44	47	49	35	38	41	44	47	49
Fan	W	23	36	55	75	104	136	23	36	55	75	104	136

MODEL		RE–ECM 31						RE–ECM 32					
Inverter Power **(V)**		**5**	**6**	**7**	**8**	**9**	**10**	**5**	**6**	**7**	**8**	**9**	**10**
Air flow	m^3/h	1880	2245	2560	2890	3140	3180	1810	2160	2460	2780	3020	3060
Heating	kW	8,70	9,71	10,50	11,29	11,85	11,95	14,97	16,80	18,24	19,68	20,71	20,89
Dp Heating	kPa	10,5	12,7	14,7	16,7	18,2	18,5	14,2	17,5	20,2	23,2	25,4	25,8
Sound power Lw	dB(A)	50	53	56	59	61	61	50	53	56	59	61	61
Sound pressure Lp **(*)**	dB(A)	41	44	47	50	52	52	41	44	47	50	52	52
Sound pressure Lp **(**)**	dB(A)	37	40	43	46	48	48	37	40	43	46	48	48
Fan	W	37	59	86	121	162	164	37	59	86	121	162	164

MODEL		RE–ECM 41						RE–ECM 42					
Inverter Power **(V)**		**5**	**6**	**7**	**8**	**9**	**10**	**5**	**6**	**7**	**8**	**9**	**10**
Air flow	m^3/h	2475	3090	3515	3995	4450	4680	2380	2970	3380	3840	4280	4500
Heating	kW	10,40	11,84	12,75	13,72	14,57	14,99	17,49	20,08	21,71	23,44	25,00	25,73
Dp Heating	kPa	6,4	8,1	9,2	10,5	11,7	12,4	4,8	6,2	7,1	8,2	9,2	9,7
Sound power Lw	dB(A)	47	51	54	57	59	60	47	51	54	57	59	60
Sound pressure Lp **(*)**	dB(A)	38	42	45	48	50	51	38	42	45	48	50	51
Sound pressure Lp **(**)**	dB(A)	34	38	41	44	46	47	34	38	41	44	46	47
Fan	W	32	54	77	108	150	174	32	54	77	108	150	174

(*) = Measurement performed at 3 meter from the source,
room volume of $500m^3$, reverberation period of 2 s, directional factor Q=2 (hemisphere sound emission)

(**) = Measurement performed at 3 meter from the source,
room volume of $1500m^3$, reverberation period of 2 s, directional factor Q=2 (hemisphere sound emission)

PRINCE TECHNICAL SPECIFICATIONS

PE-ECM units (heating and cooling)

The following standard rating conditions are used:

***COOLING* (summer mode)**

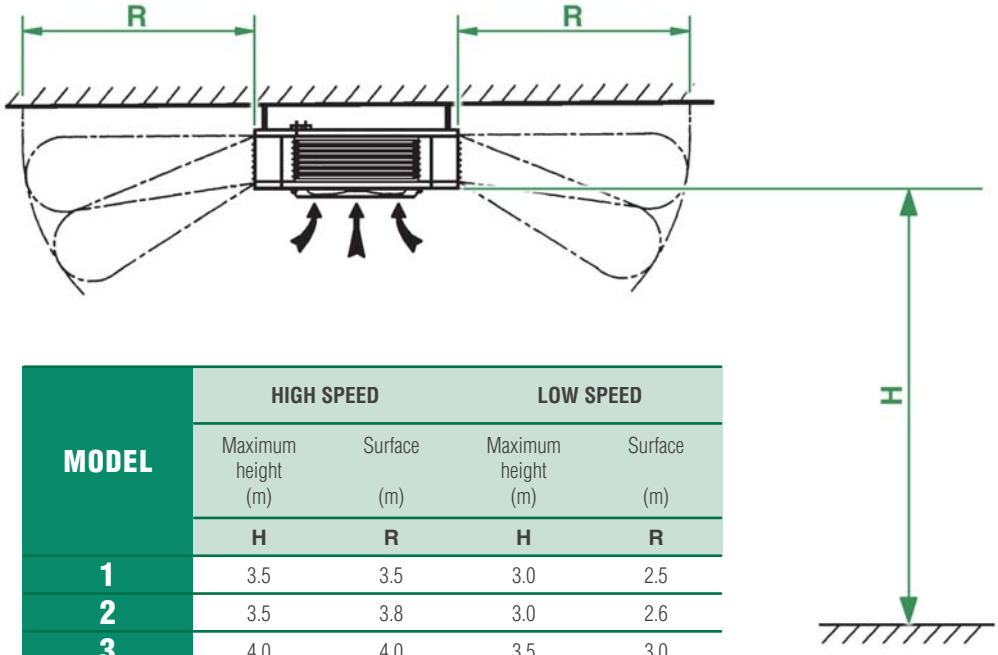
Entering air temperature: +27°C d.b. R.H. 50%
Water temperature: + 7°C E.W.T. +12°C L.W.T.

***HEATING* (winter mode)**

Entering air temperature: +20°C
Water temperature: +70°C E.W.T. +60°C L.W.T.

MODEL		PE–ECM 12						PE–ECM 22					
Inverter Power **(V)**		**5**	**6**	**7**	**8**	**9**	**10**	**5**	**6**	**7**	**8**	**9**	**10**
Air flow	m^3/h	1005	1215	1410	1570	1735	1820	1325	1580	1850	2090	2320	2500
Cooling total emission	kW	3,89	4,30	4,65	4,80	5,17	5,20	5,31	5,83	6,33	6,74	7,13	7,38
Cooling sensible emission	kW	3,14	3,58	3,98	4,23	4,61	4,71	4,14	4,68	5,22	5,68	6,12	6,44
Heating	kW	9,56	10,88	12,01	12,88	13,74	14,15	12,64	14,26	15,81	17,13	18,31	19,20
Dp Cooling	kPa	6,3	7,6	8,8	9,3	10,6	10,7	12,7	15,0	17,4	19,4	21,5	22,9
Dp Heating	kPa	6,9	8,8	10,5	11,9	13,3	14,1	13,0	16,2	19,5	22,5	25,4	27,7
Sound power Lw	dB(A)	44	48	52	54	56	57	48	51	54	57	60	62
Sound pressure Lp **(*)**	dB(A)	35	39	43	45	47	48	39	42	45	48	51	53
Sound pressure Lp **(**)**	dB(A)	31	35	39	41	43	44	35	38	41	44	47	49
Fan	W	16	24	37	51	69	81	23	36	55	75	104	136

MODEL		PE–ECM 32						PE–ECM 42					
Inverter Power **(V)**		**5**	**6**	**7**	**8**	**9**	**10**	**5**	**6**	**7**	**8**	**9**	**10**
Air flow	m^3/h	1810	2160	2460	2780	3020	3060	2380	2970	3380	3840	4280	4500
Cooling total emission	kW	6,43	7,01	7,51	7,99	8,41	8,52	7,19	8,09	8,84	9,32	9,83	10,07
Cooling sensible emission	kW	5,21	5,87	6,44	7,02	7,50	7,60	6,40	7,53	8,40	9,15	9,83	10,07
Heating	kW	14,97	16,80	18,24	19,68	20,71	20,89	17,49	20,08	21,71	23,44	25,00	25,73
Dp Cooling	kPa	16,3	19,0	21,5	24,1	26,4	27,0	7,6	9,4	11,0	12,1	13,4	14,0
Dp Heating	kPa	14,2	17,5	20,2	23,2	25,4	25,8	4,8	6,2	7,1	8,2	9,2	9,7
Sound power Lw	dB(A)	50	53	56	59	61	61	47	51	54	57	59	60
Sound pressure Lp **(*)**	dB(A)	41	44	47	50	52	52	38	42	45	48	50	51
Sound pressure Lp **(**)**	dB(A)	37	40	43	46	48	48	34	38	41	44	46	47
Fan	W	37	59	86	121	162	164	32	54	77	108	150	174



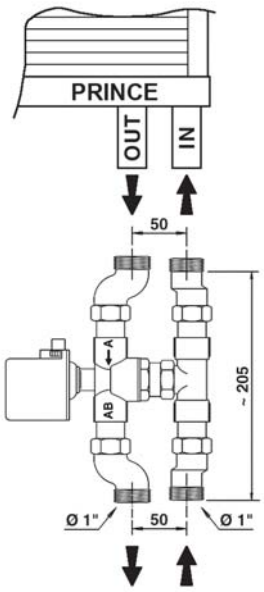
MODEL	HIGH SPEED		LOW SPEED	
	Maximum height (m)	Surface (m)	Maximum height (m)	Surface (m)
	H	**R**	**H**	**R**
1	3.5	3.5	3.0	2.5
2	3.5	3.8	3.0	2.6
3	4.0	4.0	3.5	3.0
4	4.5	4.5	4.0	3.5

Accessories

3-way valve kit

Comprised of:

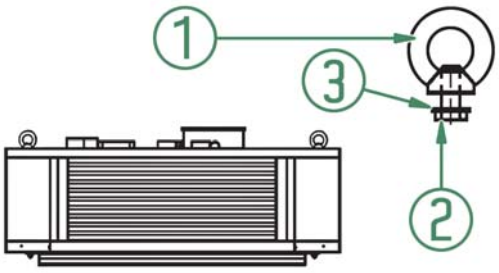
- one 3-way valve 3/4" kVs 4,7
- one actuator
- pipe connections



Hanging brackets

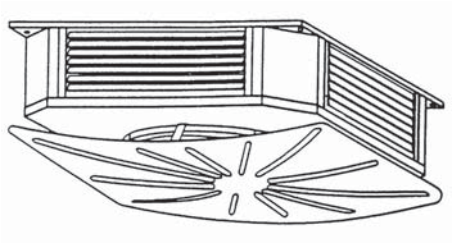
Comprised of 4 eye bolts and screws.

1) Washer for screw M8
2) Screw M8 x 16
3) Eye bolt female M8



Cover panel

To be mounted on the fan guard.



Wall electronic controls

For each unit must be provided
the ADC converter for wall controls

ADC-M	ADC signal converter fitted on the unit
ADC-S	ADC signal converter supplied with separate packaging
MO-3V	3 speed control
TMO-T	3 speed control with electronic thermostat and summer/winter switch
TMO-503-SV2	Automatic speed control with electronic thermostat to be mounted in the DIN 503 box (for units with valves)
T2T	Electromechanical thermostat with summer/winter switch (only for 2 pipe units)

Wall electronic controls

ECM range controls

CR-T-ECM	Continuous fan speed control with electronic thermostat and summer/winter switch
CR-DI-ECM	Continuous fan speed control with electronic thermostat and summer/winter switch
UPM-ECM	Power unit for CR-T-ECM and CR-DI-ECM remote control, fitted on the unit
UPS-ECM	Power unit for CR-T-ECM and CR-DI-ECM remote control, not fitted on the unit

Electronic controls for MBE boards

MBE-M	MB electronic board fitted on the unit
MBE-S	MB electronic board supplied with separate packaging
T-MB	Wall control (to be used with MBE board only)
PSM-DI	Multifunction control (to be used with MB board only)

Net management system for a network of Prince ECM

Net	Hardware/software supervisory system (to be used with MB board only)
ROUTER-S	Router for Net
SIOS	Relay output board for Net

NOTES: *for more details about the Controls,* *see Page 80.*

Star
Air Conditioner

ROVER Star circular unit heaters, for ceiling installation only, are especially suitable for high rooms, even if the optimum ratio between the air flow-rate and the heat / cool output make them suitable for any manufacturing environment.

The large coil and the fan downstream of the coil ensure optimum mixing of the air in the environment, meaning less stratification of the hot air than with traditional unit heaters.

When supplied with cold water they can also be used in the summer months, thus allowing cooling at very reasonable costs.

The Star unit heaters are made in 9 sizes, all fitted with very silent two speeds motors, heat outputs from 17 to 107 kW and cooling capacities from 2 to 20 kW.

Technical characteristics of the main components:

- The casing is made of spun steel on both top and bottom sections which is designed to give greater strength and quieter operation. The casing is then finished with an epoxy, polyester powder coating of light grey, RAL 9002.
- The circular coil is constructed of copper tubes with aluminium fins.
- The helicoidal fan is statically and dynamically balanced, the rational high-capacity profile provides maximum air volume with a minimum power consumption.
- Standard motors are three phase 400 V, closed frame, flange mounted, pre-greased bearings, protection IP 44. Available with double speed double wiring at 6/8 pole (900-700 r.p.m.).

On request: • Speed switch.

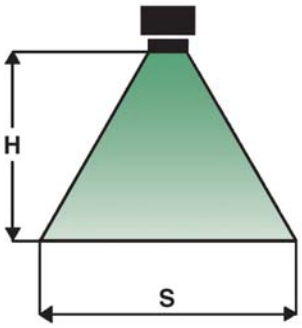
"DRA" radial diffuser

Made of eight separately adjustable large louvres,
shaped so as to be able to cover
the whole outlet area and therefore adaptable
for minimum to maximum heights.
This diffuser allows the air to be directed more easily
to the areas where it is required most, or conversely,
if you do not require air to one particular corner
you can close down one, two or three vanes
and restrict the distribution.

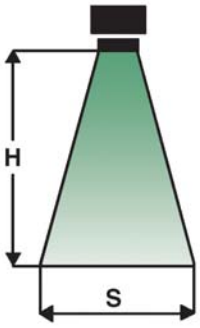
Mounting heights and area of air distribution

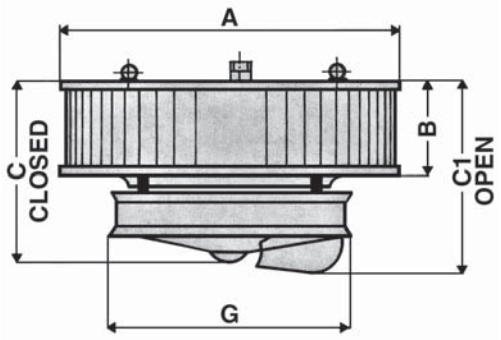
Dimensions, Weight, Water content

with 45° LOUVRES



with VERTICAL LOUVRES





SIZE	900 r.p.m. MOTOR SPEED				DIMENSIONS						WEIGHT	WATER CONTENT
	45° LOUVRES		VERTICAL LOUVRES									
	H suggested m	S diameter m	H suggested m	S diameter m	A mm	B mm	C mm	C1 mm	G mm	Ø	Kg	Liters
0	2.5 ÷ 4	10.5 ÷ 16.5	3.5 ÷ 5	6 ÷ 9	680	180	430	560	560	1 ¼"	31	1,20
1	3 ÷ 4.5	12 ÷ 18	4 ÷ 5.5	7.5 ÷ 10.5	780	180	430	560	560	1 ¼"	36	1,30
3	3.5 ÷ 5.5	15 ÷ 22.5	5 ÷ 7	9 ÷ 13.5	880	280	530	700	660	1 ½"	52	2,40
4	3.5 ÷ 6	15 ÷ 24	5.5 ÷ 8	10.5 ÷ 15	880	380	630	760	660	1 ½"	58	3,20
5	4 ÷ 6.5	16.5 ÷ 25.5	5.5 ÷ 8.5	10.5 ÷ 15	1080	380	630	870	760	2"	75	4,30
6	4 ÷ 8	16.5 ÷ 28.5	6 ÷ 10	12 ÷ 18	1080	455	705	945	760	2"	85	5,20
7	4 ÷ 8	16.5 ÷ 28.5	6 ÷ 10	12 ÷ 18	1080	555	805	1045	760	2"	95	5,90
8	5 ÷ 11	18 ÷ 31.5	6.5 ÷ 14	13.5 ÷ 19.5	1080	555	815	1055	760	2"	97	5,90
9	5 ÷ 11	18 ÷ 33	6.5 ÷ 14	13.5 ÷ 21	1080	605	865	1105	760	2"	106	6,50

STAR Technical Specifications

SIZE	MOD.	NOISE LEVEL AT 5 m.		AIR FLOW		***HEATING:*** Water temperature 85/70°C - Entering air temperature 15°C			
		dB(A)		m³/h		W		Leaving air temp. °C	
		900 r.p.m.	700 r.p.m.	900 r.p.m.	700 r.p.m.	900 r.p.m.	700 r.p.m.	900 r.p.m.	700 r.p.m.
0	CC-0	48		2.000	1.400	17.600	15.100	41	47
1	CC-1	52		2.400	1.680	20.400	17.400	40	46
3	CC-3	55		4.400	3.080	35.300	30.000	38	44
4	CC-4	56		5.700	4.000	46.700	39.600	39	44
5	CC-5	63		7.100	4.970	57.100	48.500	39	44
6	CC-6	64		9.000	6.300	72.200	61.400	38	44
7	CC-7	65		9.900	6.930	85.600	72.700	40	46
8	CC-8	65		11.000	7.700	99.500	84.500	43	48
9	CC-9	66		12.000	8.400	106.700	90.700	42	47

SIZE	MOD.	NOISE LEVEL AT 5 m.		AIR FLOW		***COOLING:*** Relative Humidity 55% Water temperaturea 11/15°C - Entering air temperature 28°C	
		dB(A)		m³/h		W	
		900 r.p.m.	700 r.p.m.	900 r.p.m.	700 r.p.m.	900 r.p.m.	700 r.p.m.
0	CC-0	48	46	2.000	1.400	3.100	2.700
1	CC-1	52	49	2.400	1.680	4.000	3.500
3	CC-3	55	52	4.400	3.080	7.500	6.600
4	CC-4	56	53	5.700	4.000	10.900	9.500
5	CC-5	63	58	7.100	4.970	13.600	11.900
6	CC-6	64	59	9.000	6.300	17.200	15.000
7	CC-7	65	60	9.900	6.930	18.900	16.500
8	CC-8	65	60	11.000	7.700	22.000	19.000
9	CC-9	66	61	12.000	8.400	23.700	20.600

ROVER
HIGH QUALITY CLIMATE

Built-in electronic controls

for Fan Coils with Asynchronous Motor

for Universal SEC/F, SET, FSR versions with casing

FUNCTIONS
ON-OFF switch
ON-OFF switch for Crystall electrostatic filter or electric heater
Manual 3 speed switch
Manual/Automatic 3 speed selection
Summer/Winter switch
Remote centralized Summer/Winter switch or by an automatic change-over fitted on the water pipe
Automatic Summer/Winter switch with neutral zone for 4 pipe installation with 2 valves
Room thermostat for fan control (ON-OFF)
Room thermostat for 1 valve control (2 pipe installation)
Room thermostat for 2 valve control (4 pipe installation)
Simultaneous thermostatic control of the valves and fan
Room thermostat for chilled water valve (SUMMER) and electric heater (WINTER) control (in winter only the electric heater is working)
Room thermostat for fan and electric heater control (not for Crystall)
Installation of electronic low temperature cut-out thermostat (TME)
Installation of bimetallic low temperature cut-out thermostat (TMM)

MV-3V

TMV-C

TMV-S

TMV-AU

IDENTIFICATION

MV-3V	TMV-S	TMV-C	TMV-AU	MV-3V-IAQ	TMV-R-IAQ	TMV-AU-IAQ
●	●	●	●	●	●	●
				●	●	●
●	●	●	●	●	●	●
			●			●
	●		●		●	●
		●	●		●	●
			●			●
	●	●	●		●	●
	●	●	●		●	●
	●	●	●		●	●
			●			●
	●	●	●		●	●
			●		●	●
		●	●		●	●
●	●			●		

TMV-AU-IAQ

TMV-R-IAQ

MV-3V-IAQ

ROVER
HIGH QUALITY CLIMATE

Wall electronic controls

for Fan Coils with Asynchronous Motor

for all Universal, Graf, Lord, Typhoon, Breeze Ranges

FUNCTIONS
ON-OFF switch
ON-OFF switch for Crystall electrostatic filter or electric heater
Manual 3 speed switch
Manual/Automatic 3 speed selection
Summer/Winter switch
Remote centralized Summer/Winter switch or by an automatic change-over fitted on the water pipe
Automatic Summer/Winter switch with neutral zone for 4 pipe installation with 2 valves
Room thermostat for fan control (ON-OFF)
Room thermostat for 1 valve control (2 pipe installation)
Room thermostat for 2 valve control (4 pipe installation)
Simultaneous thermostatic control of the valves and fan
Room thermostat for chilled water valve (SUMMER) and electric heater (WINTER) control (in winter only the electric heater is working)
Room thermostat for fan and electric heater control (not for Crystall)
Installation of electronic low temperature cut-out thermostat (TME)
Installation of bimetallic low temperature cut-out thermostat (TMM)

MO-3V

CR-T

TMO-T

WM-AU (Spring 2014)

TMO-T-AU

IDENTIFICATION

MO-3V	CR-T	TMO-T	TMO-T-AU	TMO-503-SV2	TMO-DI	T2T	MO-3V-IAQ	TMO-T-IAQ	TMO-T-AU-IAQ
●	●	●	●	●	●	●	●	●	●
					●		●	●	●
●	●	●	●	●	●	●	●	●	●
			●	●	●				●
	●	●	●	●	●	●		●	●
		●	●		●			●	●
			●	●	●				●
	●	●	●		●	●		●	●
	●	●	●	●	●	●		●	●
	●	●	●	●	●			●	●
			●	●	●	●			●
	●	●	●		●			●	●
					●				
		●	●	●	●			●	●
●	●						●		

T2T

TMO-DI

TMO-503-SV2

TMO-T-AU-IAQ

TMO-T-IAQ

MO-3V-IAQ

ROVER
HIGH QUALITY CLIMATE

Controls for Fan Coils with Asynchronous Motor

Free wireless control system

for all the Universal, Graf, Lord and Breeze Ranges

Free-Com

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

Temperature probe

This technology provides installation flexibility and a more accurate measurement of the room temperature. The probe can be moved until the most suitable position is found, without the worry of changes in the room layout and of its furniture and also without mounting it on a wall.

If a new fan coil unit is added, no electrical wiring for the control system is required: just define the control unit and the probe which regulates it. The improved measurement accuracy is a result of the possibility to position the probe near the user location: this enables to keep the temperature exactly at the required value with energy savings compared with a traditional measurement system.

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

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

Main components:

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

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

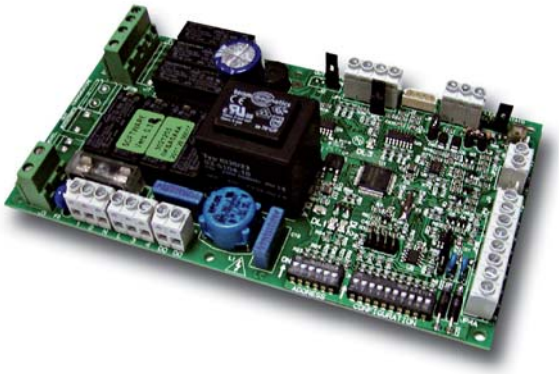
A room temperature probe, which can be wall mounted or positioned on a dedicated table support. It is a battery powered device, able to measure the air temperature in the spot where it is positioned, generating temperature information which is communicated to the other devices.

ROVER
HIGH QUALITY CLIMATE

Controls for network of Fan Coil Units
with Asynchronous Motor and
with EC Brushless Electronic Motor

for all the Universal, Graf, Lord and Breeze Ranges

MB board



The MB boards, besides being used with T-MB controls, with infra-red remote control units, with PSM-DI and with the units managed with Net software, can also be interfaced with BSM supervisory systems that use Modbus communication protocol.

RT03 infra-red remote control and T-MB wall mounted control

All Universal, Graf, Lord and Breeze units can be supplied with a microprocessor management and control unit with infra-red remote control with liquid crystal display or with a T-MB wall mounted control unit combined with the MB board.

RT03
infra-red remote control

T-MB control

PSM-DI multifunction control panel

Another option available for the serial communication between the units is the possibility to connect up to 60 fancoils in series (the maximum length of the connection cable must not exceed 800 m) and manage them with just one wall mounted intelligent PSM-DI controller.

The wall mounted controller can be used to set the operating mode for each individual unit connected, display the operating conditions of each individual unit, and set the ON/OFF time sets for each day of the week.

If more than 60 units need to be connected, two or more wall mounted intelligent controllers must be used.

Each unit must have a MB board.

PSM-DI panel

ROVER
HIGH QUALITY CLIMATE

Electronic controls for Fan Coil Units

with EC Brushless Electronic Motor and Inverter Board

FUNCTIONS	IDENTIFICATION			
	Built-in		Wall	
	TMV-T-ECM	TMV-T-ECM-IAQ	CR-T-ECM	CR-DI-ECM
ON-OFF switch	●	●	●	●
Room thermostat for chilled water valve (SUMMER) and electric heater (WINTER) control (in winter only the electric heater is working)		●		
Manual 3 speed switch or automatic continuous speed control	●	●	●	●
Summer/Winter switch	●	●	●	●
Continuous speed control based on the difference between ambient temperature and Set temperature (speed switch in Auto position)	●	●	●	●
Remote centralized Summer/Winter switch or by an automatic change-over fitted on the water pipe			●	●
Room thermostat for fan control (ON-OFF)	●	●	●	●
Room thermostat for 1 valve control (2 pipe installation)	●	●	●	●
Room thermostat for 2 valve control (4 pipe installation)	●	●	●	●
Simultaneous thermostatic control of the valves and fan	●	●	●	●
Room thermostat for fan and electric heater control (not for Crystall)		●		
Installation of electronic low temperature cut-out thermostat (NTC)	●	●	●	●

TMV-T-ECM

TMV-T-ECM-IAQ

CR-DI-ECM

CR-T-ECM

TMV-T-ECM: for **SEC/F–ECM** and **SET–ECM** versions.

TMV-T-ECM-IAQ: for **SEC/F** versions.

CR-T-ECM: for **SEC/F–ECM, SET–ECM, HPO–ECM** and **SK–ECM** versions.

CR-DI-ECM: for **SEC/F–ECM, SET–ECM, HPO–ECM** and **SK–ECM** versions.

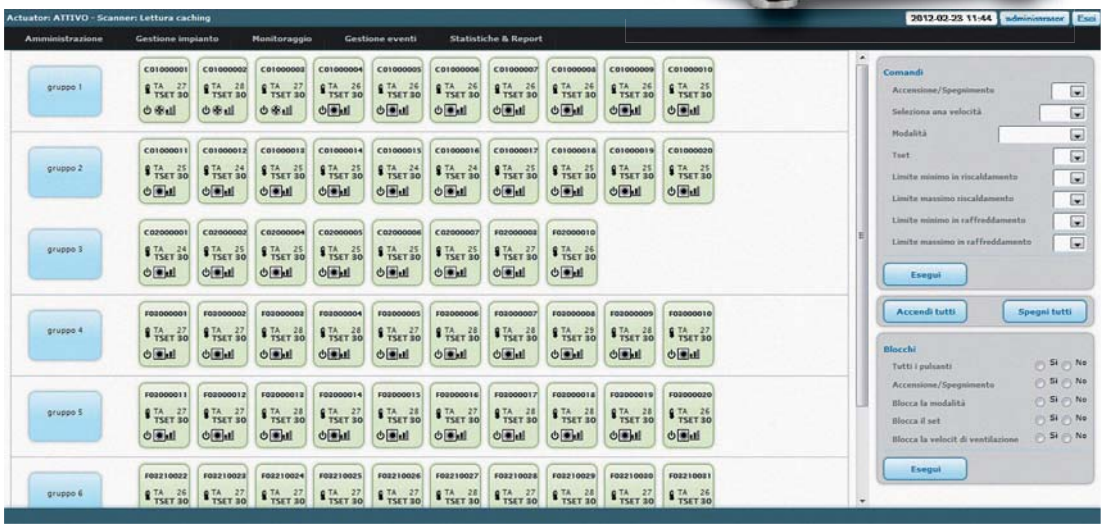
Net management system for a network of fan coils

for all the Universal, Graf, Lord and Breeze Ranges

Net is a centralised control system for networks of MB fan coils, based on software that runs on Linux operating system (the program is provided pre-installed on a PC). The Net software offers a practical and economical solution for managing the fan coils, with the simple click of the mouse. The main characteristics include simplicity of use, an extremely complete and functional weekly program, and the possibility to access the historical operating data for each individual unit connected.

PC

Main menu screenshot



ROVER
HIGH QUALITY CLIMATE

Iceberg

Modular Ducted Air Handling Unit

The **Iceberg** modular ducted air handling units are suitable for heating and cooling small and medium-sized environments. The compact dimensions of the unit and the modularity of the basic components simplify installation in small spaces. **Four basic models and 15 versions** are available, both horizontal and vertical, with air flow-rates ranging from 600 to 5.300 m^3/h, heat outputs **from 6 to 68 kW,** cooling capacities **from 3 to 30 kW.**

As well as the traditional accessories, each unit can be supplied with **the innovative Crystall electronic filter** that significantly improves indoor air quality.

Technical characteristics of the main components:

Casing: consists of self-supporting panels in hot dip galvanized, prepainted steel, which are completely insulated with a 20 mm. thick, thermoacustic, flame retardant lining.

Fan section: for the models 1, 2 and 3 consists of centrifugal fans in galvanized steel with two impellers, and one directly coupled three speed motor.
Model 4 consists of two motors with external rotor directly coupled to the impeller.
The supply is single phase 230V - 50Hz, with permanently installed capacitor, insulation class F.

Coil: is mounted in a galvanized steel carrying frame and constructed in 3/8" dia expanded copper tubes with aluminium fins with a pitch of 2,1 mm.
The steel headers have tapping for air vent and male connectios.
The coils are tested to a pressure of 30 bars.
In normal operation the water temperature should not exceed 95°C and the maximum working pressure 10 bars. Where a cooling coil is fitted the coil should always be fitted in a vertical position.
The coil is not suitable for use in corrosive atmosphere or in environments where aluminium may be subject to corrosion.

Filter: regenerable synthetic filter, 50 mm thick.

Noise level

The average noise level (sound pressure) is measured in the open air at a distance of one meter from the mouth of the unit.

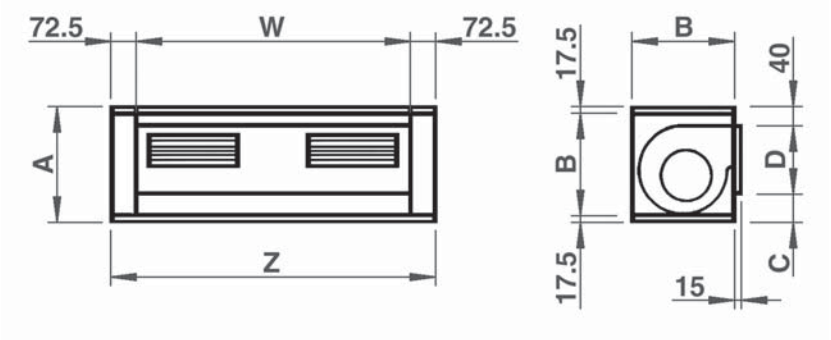
MODEL 1		
SPEED	dB(A)	at AIR FLOW of m^3/h
1	45	650
2	51	1000
3	55	1400

MODEL 2		
SPEED	dB(A)	at AIR FLOW of m^3/h
1	50	1150
2	55	1550
3	60	2100

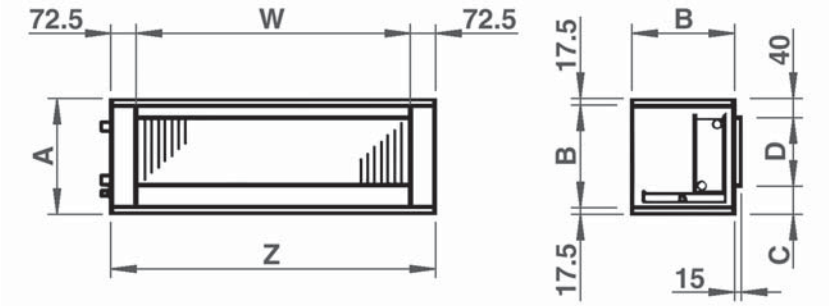
MODEL 3		
SPEED	dB(A)	at AIR FLOW of m^3/h
1	53	1750
2	56	2300
3	61	3000

MODEL 4		
SPEED	dB(A)	at AIR FLOW of m^3/h
1	55	2500
2	61	3800
3	65	5300

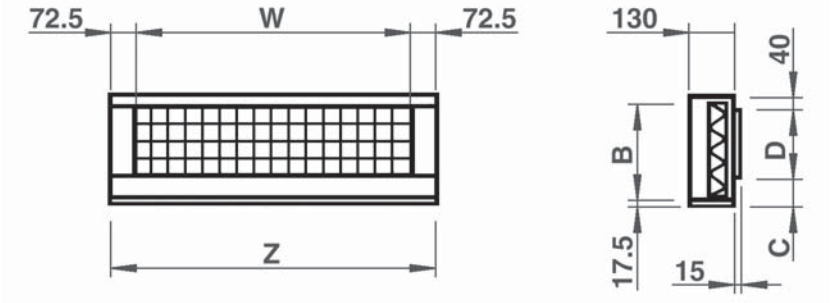
Dimensions and Weight



FAN SECTION SVE



COIL SECTION SBO



FILTER SECTION SFS

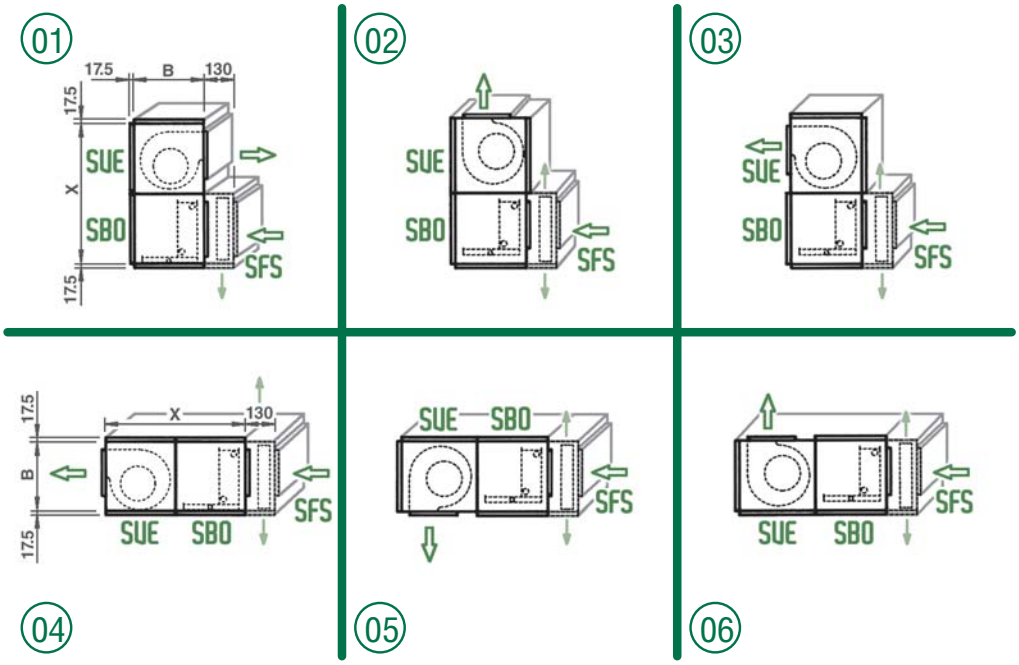
MODEL	DIMENSIONS mm						
	A	B	C	D	X	Z	W
1	335	300	65	195	600	950	805
2	415	380	40	300	760	950	805
3	515	480	40	400	960	950	805
4	515	480	40	400	960	1500	1355

SECTION WEIGHTS (kg)					
MODEL		1	2	3	4
FAN SECTION		23	28	32	52
COIL SECTION	2 ROWS	14	18	22	38
	3 ROWS	16	20	24	42
	4 ROWS	18	22	26	45
	6 ROWS	22	28	34	55
	4 + 2 ROWS	–	26	30	52
	6 + 2 ROWS	–	32	38	62
	DIRECT EXPANSION	19	23	27	46

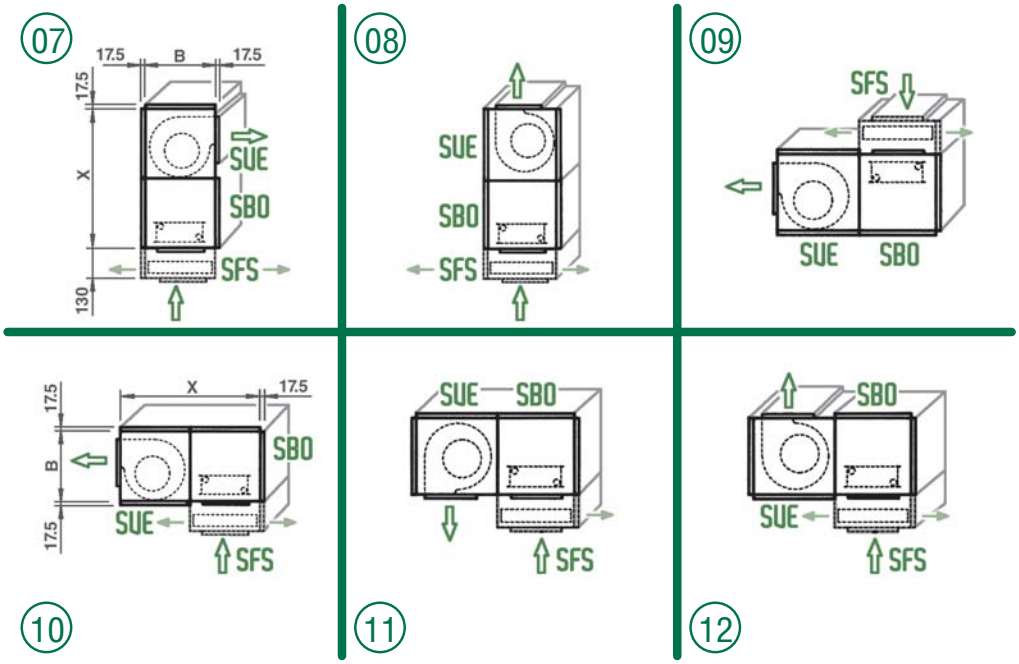
Combination possibilities

In addition to the 12 versions available using standard components a wide range of **further combinations can be achieved** and for each of them you can choose between the four different types of coil.

Heating and cooling



Heating only

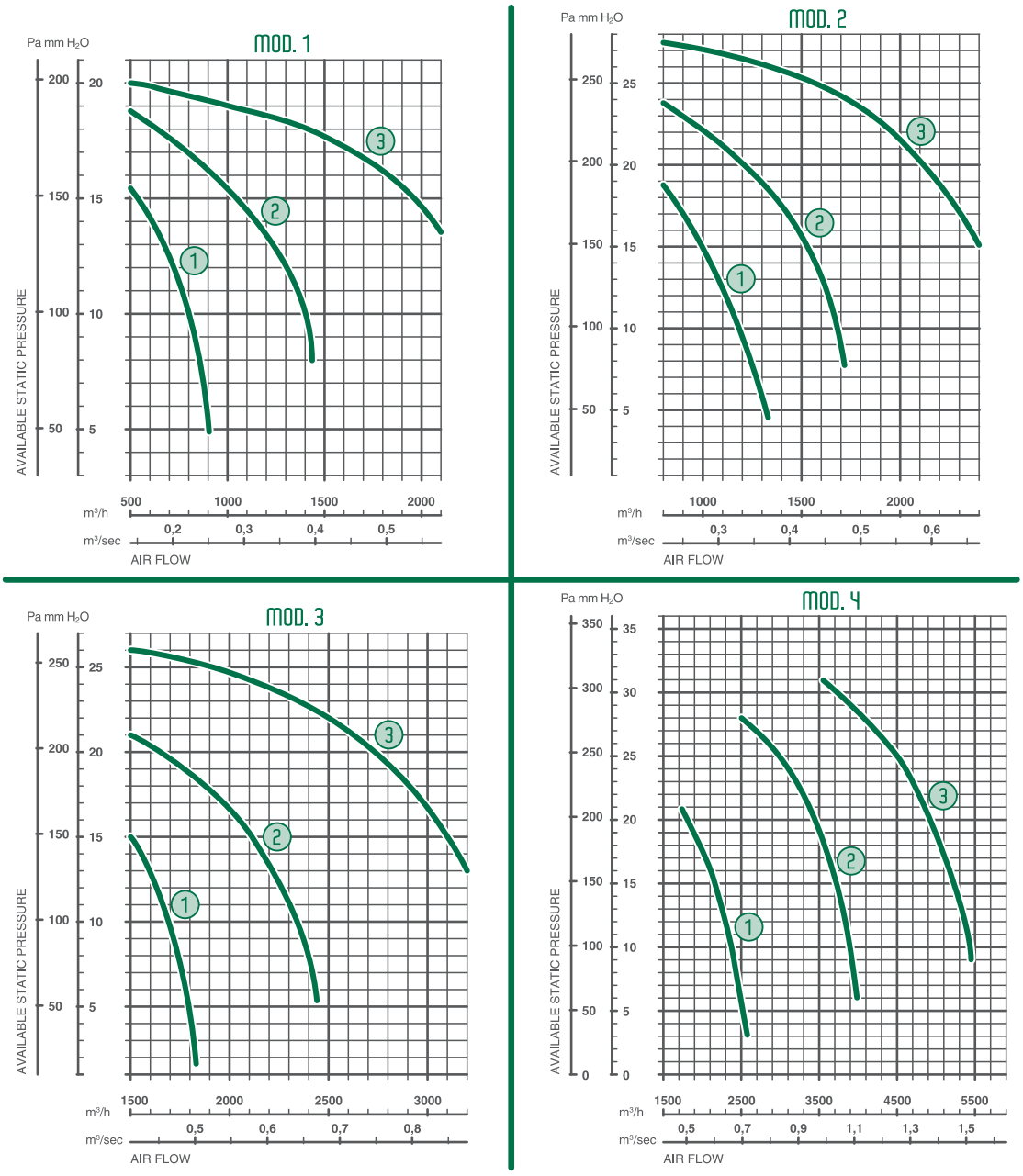


Performance data

Fan section graphs.

The fan section can be used for ventilation or as an air extraction box.
The fan performance curve shows the air flow and the available static pressure for each speed at the mouth of the fan.

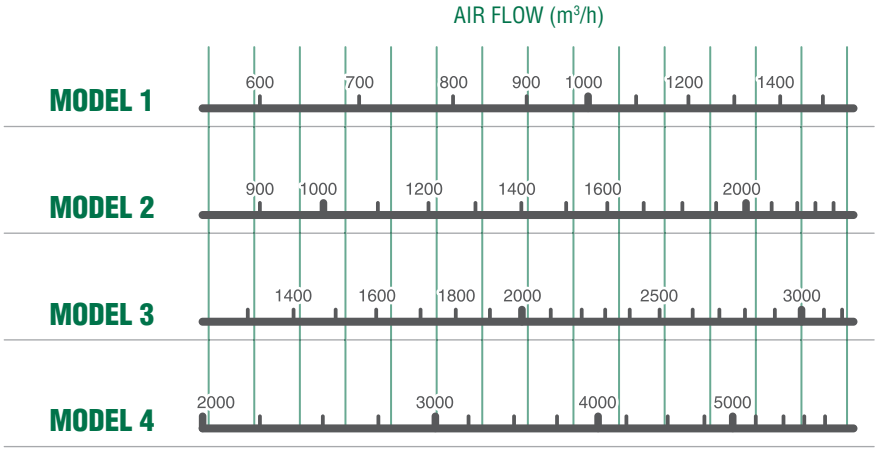
MAXIMUM ABSORPTION (Amp re)				
MODEL	**1**	**2**	**3**	**4**
HIGH	2,1	2,4	2,8	5,9
MEDIUM	1,4	1,4	2,0	3,9
LOW	1,0	1,0	1,5	2,9

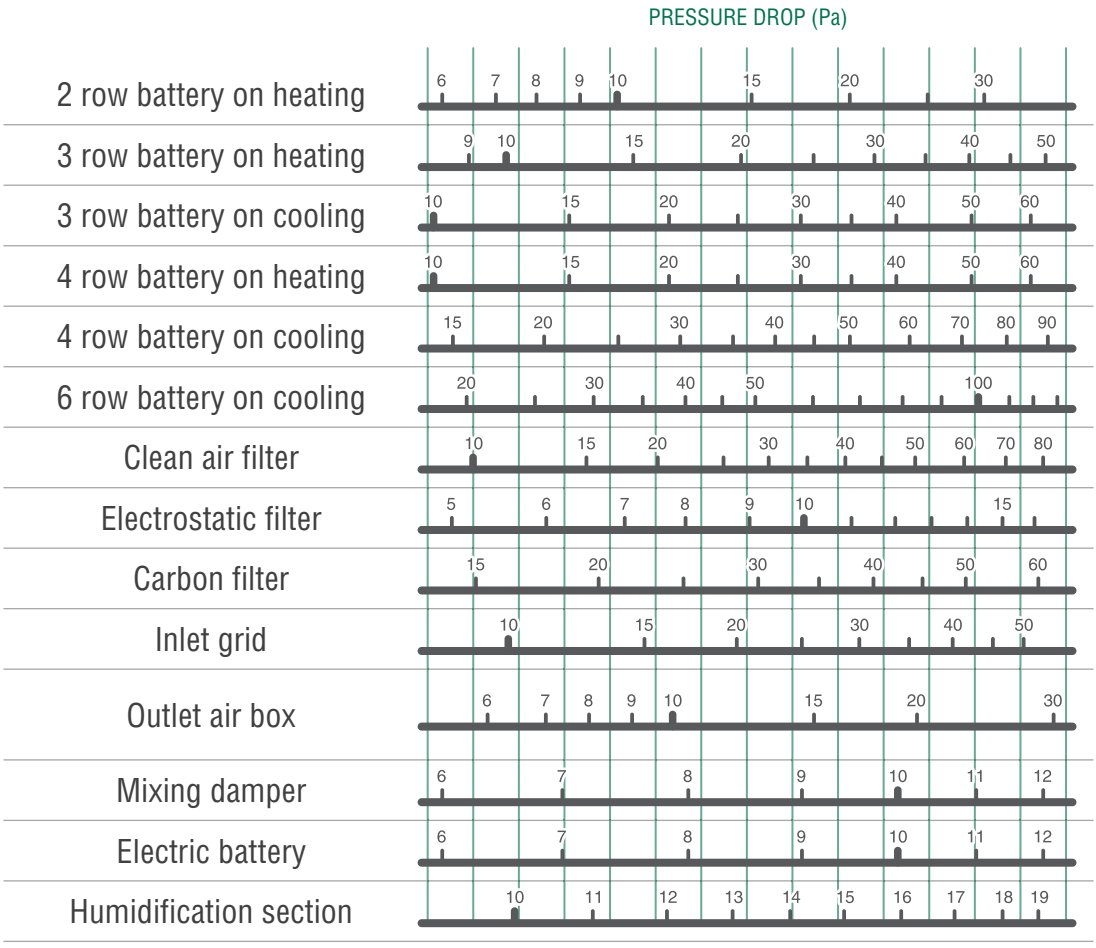


NOTE: (1) (2) (3) fan speed.
The curves show the available static pressure of the fan at its various speeds.

Performance data

Air side pressure drop diagram for internal components (Pa).





NOTE: to find out the available static pressure of the Iceberg modular ducted unit you have to deduct the pressure drop of each component fitted in the unit. This information can be found in the pressure drop diagram.

ICEBERG TECHNICAL SPECIFICATIONS

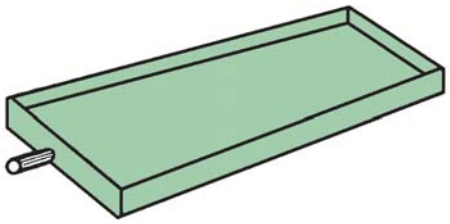
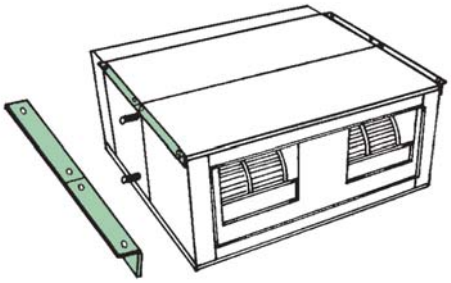
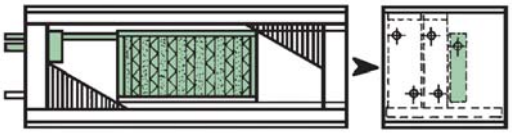
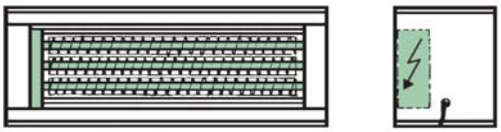
HEATING EMISSION (kW)

MODEL	AIR FLOW	COIL ROWS	WATER °C 50/45			WATER °C 70/60					
			AIR °C			AIR °C			AIR °C		
	m³/h		0	+ 10	+ 20	0	+ 10	+ 20	0	+ 10	+ 20
1	600	2	5,9	4,5	3,2	8,0	6,5	5,1	9,3	7,8	6,4
		3	7,5	5,7	4,0	10,1	8,3	6,5	11,7	9,9	8,1
		4	8,4	6,3	4,6	11,5	9,4	7,4	13,3	11,2	9,1
	1000	2	8,5	6,5	4,5	11,5	9,5	7,4	13,5	11,3	9,2
		3	11,1	8,5	6,0	15,2	12,4	9,8	17,6	14,8	12,1
		4	12,8	9,8	7,0	17,6	14,4	11,4	20,4	17,1	14,0
	1400	2	10,8	8,2	5,8	14,6	12,0	9,5	17,0	14,3	11,7
		3	14,3	10,9	7,7	19,5	16,0	12,6	22,7	19,1	15,6
		4	16,8	12,8	9,1	23,1	18,9	15,0	26,8	22,4	18,4
2	1000	2	9,5	7,3	5,1	12,9	10,6	8,4	15,1	12,6	10,3
		3	12,1	9,2	6,5	16,6	13,5	10,7	19,2	16,1	13,2
		4	13,8	10,4	7,4	18,9	15,4	12,2	21,9	18,3	15,0
	1550	2	13,1	10,0	7,0	17,8	14,5	11,4	20,7	17,3	14,2
		3	17,1	13,0	9,2	23,3	19,1	15,1	27,1	22,7	18,6
		4	19,8	15,1	10,7	27,2	22,2	17,6	31,4	26,3	21,6
	2100	2	16,2	12,3	8,6	21,9	17,9	14,2	25,6	21,5	17,6
		3	21,5	16,4	11,5	29,4	24,0	19,0	34,0	28,6	23,4
		4	25,3	19,3	13,7	34,6	28,3	22,4	40,2	33,7	27,6
3	1500	2	14,3	11,0	7,7	19,4	15,9	12,6	22,7	18,9	15,5
		3	18,2	13,8	9,8	24,9	20,3	16,1	28,8	24,2	19,8
		4	20,7	15,6	11,1	28,4	23,1	18,3	32,9	27,5	22,5
	2100	2	17,7	13,6	9,5	24,1	19,6	15,4	28,0	23,4	19,2
		3	23,2	17,6	12,5	31,6	25,9	20,5	36,7	30,8	25,2
		4	26,8	20,5	14,5	36,9	30,1	23,8	42,5	35,6	29,3
	3000	2	23,1	17,6	12,3	31,3	25,6	20,3	36,6	30,7	25,2
		3	30,7	23,4	16,4	42,0	34,3	27,2	48,6	40,9	33,4
		4	36,2	27,6	19,6	49,4	40,4	32,0	57,4	48,2	39,4
4	2400	2	22,8	17,4	12,3	31,1	25,6	20,3	36,4	30,7	25,3
		3	28,9	22,3	15,9	39,8	32,9	26,2	46,2	39,1	32,3
		4	33,3	25,6	18,3	45,9	37,9	30,2	53,1	44,9	37,1
	3800	2	31,1	23,8	16,8	42,3	34,8	27,6	49,5	41,9	34,5
		3	40,5	31,2	22,3	55,7	46,0	36,7	64,7	54,7	45,3
		4	47,6	36,6	26,1	65,6	54,1	43,2	76,0	64,3	53,1
	5300	2	38,4	29,4	20,7	52,2	43,0	34,1	61,1	51,7	42,6
		3	51,0	39,3	28,0	69,9	57,8	46,1	81,2	68,9	57,0
		4	60,8	46,8	33,4	83,6	69,0	55,1	97,1	82,1	67,9

COOLING EMISSION (kW) – Relativ Humidity 55%

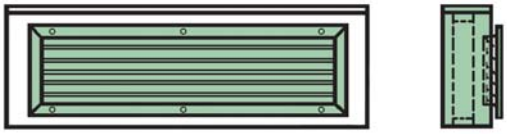
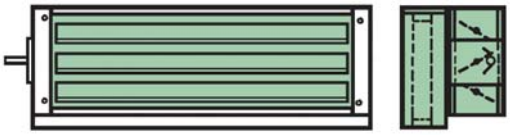
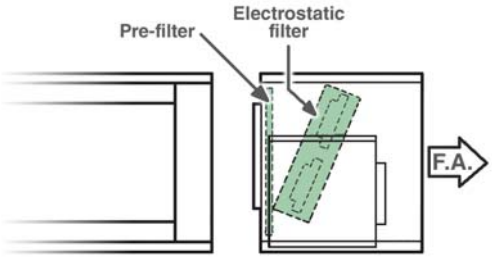
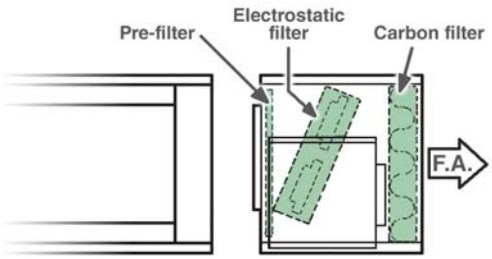
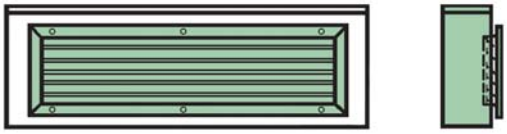
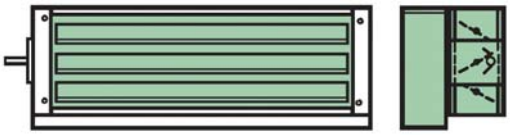
MODEL	AIR FLOW	COIL ROWS	WATER TEMPERATURE 7/12°C											
			ENTERING AIR TEMPERATURE, DRY BULB °C						ENTERING AIR TEMPERATURE, DRY BULB °C					
			+ 26		+ 30		+ 32		+ 26		+ 30		+ 32	
	m³/h		Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible
1	600	3	3,2	2,2	4,8	2,9	5,7	3,0	1,6	1,4	2,9	1,9	3,8	2,2
		4	3,7	2,6	5,6	3,5	6,7	3,8	1,8	1,7	3,4	2,2	4,5	2,6
		6	4,8	3,0	7,0	3,8	8,1	4,1	2,2	2,0	4,6	2,8	5,8	3,2
	1000	3	4,3	3,2	6,6	4,0	7,9	4,3	2,3	2,3	3,9	3,0	5,1	3,4
		4	5,2	3,7	8,0	4,6	9,4	5,1	2,7	2,7	4,7	3,5	6,2	3,9
		6	7,1	4,6	10,4	5,7	12,2	6,3	3,1	3,1	6,6	4,3	8,4	4,8
	1400	3	5,2	4,0	8,0	5,0	9,6	5,4	2,8	2,8	4,6	3,8	6,1	4,3
		4	6,4	4,7	9,8	5,9	11,6	6,4	3,4	3,4	5,7	4,4	7,6	5,0
		6	9,0	6,0	13,3	7,5	15,6	8,2	4,5	4,5	8,3	5,6	10,6	6,3
2	1000	3	5,6	3,8	8,3	4,7	9,8	5,1	2,8	2,8	5,1	3,5	6,6	4,0
		4	5,8	4,1	9,0	5,1	10,7	5,6	3,2	3,2	6,0	4,0	7,8	4,5
		6	7,2	4,7	10,8	6,0	12,7	6,5	3,4	3,4	6,7	4,4	8,7	5,0
	1550	3	6,7	5,1	10,4	6,4	12,5	6,9	3,5	3,5	6,0	4,8	8,0	5,4
		4	7,9	5,8	12,3	7,3	14,7	8,0	4,0	4,0	7,0	5,4	9,4	6,1
		6	10,3	7,0	15,5	8,7	18,3	9,5	4,9	4,9	9,5	6,4	12,3	7,3
	2100	3	8,0	6,4	12,5	7,9	14,9	8,6	4,4	4,4	7,0	6,0	9,5	6,8
		4	9,6	7,3	14,9	9,1	17,8	9,9	5,1	5,1	8,5	6,9	11,4	7,8
		6	13,0	9,0	19,5	11,1	23,0	12,2	6,4	6,4	11,8	8,3	15,4	9,4
3	1500	3	7,8	5,6	11,8	6,9	14,0	7,5	3,9	3,9	7,0	5,2	9,2	5,8
		4	9,8	6,5	14,5	8,1	17,1	8,9	4,4	4,4	8,2	5,8	11,6	6,8
		6	11,9	7,6	17,3	9,4	20,2	10,3	5,4	5,4	11,2	7,0	14,5	7,9
	2100	3	10,2	7,4	15,4	9,1	18,2	9,9	5,4	5,4	9,3	6,9	12,0	7,7
		4	12,2	8,5	18,3	10,5	21,6	11,4	6,2	6,2	11,2	7,8	14,5	8,9
		6	15,4	10,0	22,5	12,4	26,4	13,6	6,6	6,6	14,3	9,2	18,3	10,4
	3000	3	12,5	9,5	18,9	11,6	22,3	12,5	6,8	6,8	11,2	8,9	14,6	9,9
		4	15,2	11,0	22,9	13,5	27,0	14,7	8,1	8,1	13,7	10,3	17,9	11,5
		6	19,7	13,3	29,2	16,4	34,3	17,9	10,0	10,0	18,1	12,3	23,3	13,8
4	2400	3	11,8	8,2	17,8	10,2	21,0	11,1	5,9	5,9	10,7	7,7	14,0	8,6
		4	15,0	9,9	22,0	12,3	25,9	13,4	7,2	7,2	13,9	9,2	17,8	10,4
		6	17,6	11,2	25,4	13,8	29,6	15,1	8,4	7,6	16,6	10,4	20,9	11,7
	3800	3	15,5	11,4	23,5	14,0	27,9	15,8	8,1	8,1	13,9	10,6	18,3	11,9
		4	20,3	14,0	30,1	17,2	35,4	18,7	10,2	10,2	17,3	12,5	22,4	14,1
		6	24,5	16,1	35,6	19,8	41,6	21,5	11,3	11,0	22,9	14,9	28,9	16,7
	5300	3	18,5	14,2	28,2	17,4	33,4	18,9	10,1	10,1	16,5	13,4	21,7	14,9
		4	24,8	17,7	36,8	21,6	43,4	23,5	12,9	12,9	21,1	16,1	27,5	18,0
		6	30,5	20,6	44,5	25,2	52,1	27,4	15,3	15,3	28,2	19,1	35,8	21,4

Standard unit components

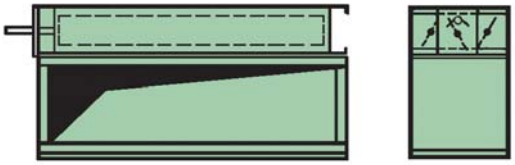
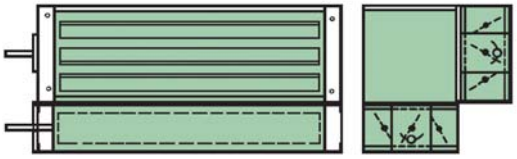
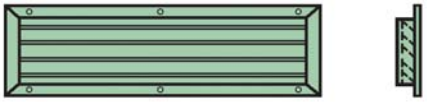
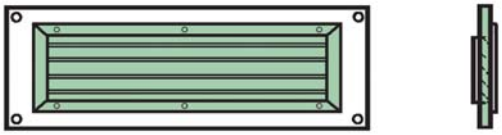
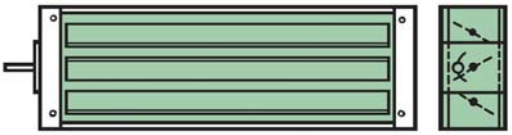
BRC	**Condensate collection tray** Always provided for 01 to 06 versions and in combination with "SUD" humidifying unit and with chilled water coils.	
SQS	**Suspension brackets** Galvanized steel angle brackets for ceiling mounting or wall mounting.	
SUD	**Humidification section** Deck fill humidification with 2 way valve, 230 V 50 Hz supply, with manual regulation of the water flow rate. The "BRC" drip tray must always be used.	
BEL	**Electric heater incorporating a safety thermostat** The electrical heaters must be installed downstream of the fan section.	
V2300PA	**230V ON-OFF VALVE KIT for main and auxiliary coil**	

ROVER
HIGH QUALITY CLIMATE

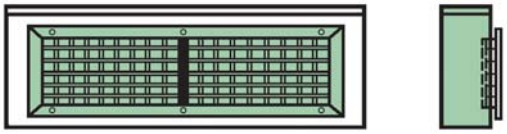
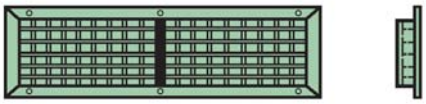
Inlet **accessories**

FGR	**Filter section with inlet grid**	
FSR	**Filter section with damper**	
SFE	**Section with pre-filter and electrostatic filter**	
FCA	**Section with: pre-filter, electrostatic filter and active carbon filter**	
PAG	**Inlet box with grid**	
PAS	**Inlet box with damper**	

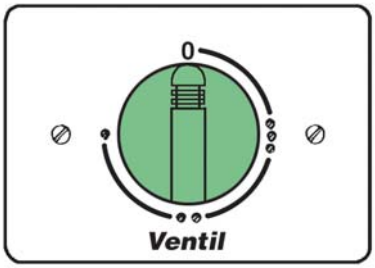
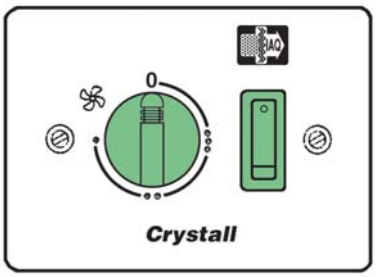
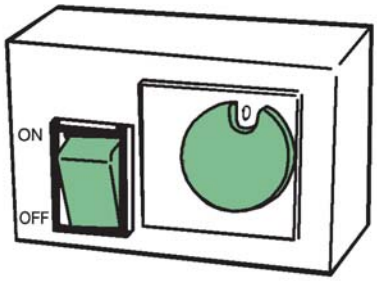
Inlet **accessories**

PMS	**Inlet/outlet box with top or bottom damper**	
PSI	**Top/bottom panel**	
PDS	**Mixing box with two dampers**	
GAS	**Inlet grid** To be installed on the duct.	
PGA	**Panel with inlet grid** To be installed on the fan section or on the plenum.	
SRA	**Inlet damper**	

Outlet **accessories**

PMB	**Supply plenum with double louvres**	
PMC	**Supply plenum with spigots** with 3 diffusers (sizes 1-2-3) with 4 diffusers (size 4)	
BMA	**Supply grid with double louvres** To be installed on the duct.	

Controls

COM	**Speed switch** Remote manual speed control. Switch with 4 positions: - OFF - low speed - medium speed - high speed	
MO-3V	Manual 3 speed switch, Without thermostatic control.	
TMO-T	Manual 3 speed switch. Manual Summer/Winter switch. Electronic room thermostat for fan and valve control (ON-OFF). It allows to control the summer/winter cycle with a centralized and remote switch or with an automatic change-over fitted on the water pipe.	
CIF	**Speed switch and switch for the electrostatic filter**	
VAR	**Electronic variable speed drive with ON-OFF switch**	

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