



► Venkon
Fan Coils

Venkon

Fan Coils and force flows recirculating air.
Heating, cooling and filtering for the ultimate in
comfort

► **Technical Catalogue**



Contents

01 ▶ Product Information	6
▶ Overview	7
▶ Product data	8
▶ Selection guide: Overview of models	9
▶ Venkon at a glance	10
02 ▶ Technical Data	12
▶ Advice on measuring conditions	13
▶ Venkon EC, continuously variable EC fans, 2-pipe, metric units	14
▶ Venkon EC, continuously variable EC fans, 2-pipe, imperial units	16
▶ Venkon EC, continuously variable EC fans, 4-pipe, metric units	18
▶ Venkon EC, continuously variable EC fans, 4-pipe, imperial units	20
▶ External pressure charts	22
03 ▶ Design Information	24
▶ Casing selection	25
▶ Air discharge direction	27
▶ Connections	27
04 ▶ Controls	30
▶ Venkon EC: electromechanical control	30
05 ▶ Ordering Information	32
▶ Venkon EC	32
▶ Accessories	33





With the Venkon, you are opting for a decentralised air treatment unit, at the same time as meeting all the expectations of a peaceful environment.

01 ▶ Product Information



Schlosshotel Bad Wilhelmshöhe Conference & Spa, Kassel (Germany)

Venkon – So you get the right solution for every challenge!

Fan coils are used in buildings of all types with high heating and cooling requirements as well as exacting user requirements. Venkon EC models are based on the same construction and can be enhanced with a comprehensive range of accessories.

The Venkon EC has been developed for space-saving installations that require low noise emissions. With the use of ECM technology provides energy-savings of up to 70% compared to traditional fan motors.

EC technology

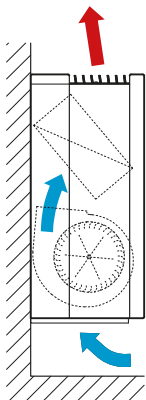
EC fans operate in a fully modulating broad speed range, giving an extremely energy-efficient low range suited to acoustically sensitive areas and a higher range for ducted/concealed applications.

Intelligent motor management permanently detects the operating state of the fans and keeps the pre-set speed constant, regardless of the fan length and external influences. All EC fans are fitted with a motor thermal contact.

Kampmann relies on ebm-papst's innovative knowledge and expertise with its GreenTech EC fans, in terms of efficient, cost-saving technology.

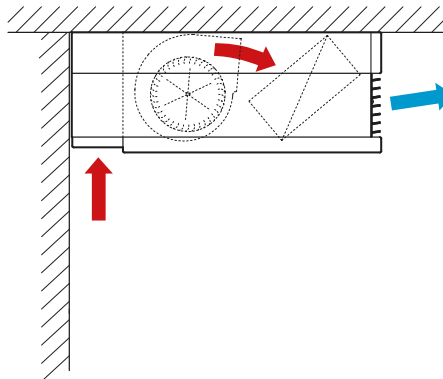
Heating example

Cross-section, wall-mounted without intake grille



Cooling example

Cross-section, ceiling-mounted with intake grille



Product Data



Product Features

- ▶ hygiene-certified to VDI 6022
- ▶ market-leading quiet
- ▶ short delivery times
- ▶ easy to install
- ▶ 0-10V interface for fan speed control with an existing external building automation system



Example of ceiling casing

Features

- ▶ four models
- ▶ various casing/cabinet options
- ▶ continuously variable EC fans
- ▶ optional fresh air connection
- ▶ 2-, 3- way or differential pressure independent valves
- ▶ comprehensive range of accessories

Heating Cooling Installation

- ▶ Hydronic
- ▶ CHW
- ▶ wall- and ceiling-mounted

Heat exchanger

- ▶ 2-pipe
- ▶ 4-pipe

Condensate pump

- ▶ head up to 5 m at 5 l/h (16' 5" at 1.3 gal/h)

Condensate connection:

- ▶ outside diameter 15 mm (0.59 inch)

Casing designs:

- ▶ wall-mounted
- ▶ wall-standing
- ▶ free-standing
- ▶ ceiling recessed

Performance data

Cooling output¹⁾ [kW] (MBh)

- ▶ 0.9 - 8.1 (2.9 - 27.5)

Heat output²⁾ [kW] (MBh)

- ▶ 1.0 - 12.6 (3.3 - 42.9)

Operating limits

- ▶ max. operating pressure: 10 bar (145 psi)
- ▶ min. entering water temperature: 5 °C (41 °F)
- ▶ max. entering water temperature: 90 °C (194 °F)
- ▶ min. entering air temperature: 15 °C (59 °F)
- ▶ max. entering air temperature: 40 °C (104 °F)
- ▶ relative humidity: 20 - 60 %

Uses

Buildings of all kinds that are to be cooled and / or heated with a visually discreet design of unit.



Hotels



Exhibition rooms and showrooms



Offices and commercial buildings



Restaurants and cafés



Residential condos

¹⁾ at CPW 7 / 13, $t_L = 24\text{ °C}$ (45 / 55, $t_L = 75\text{ °F}$), 50 % relative humidity

²⁾ at LPHW 49 / 38, $t_L = 20\text{ °C}$ (120 / 100, $t_L = 68\text{ °F}$)

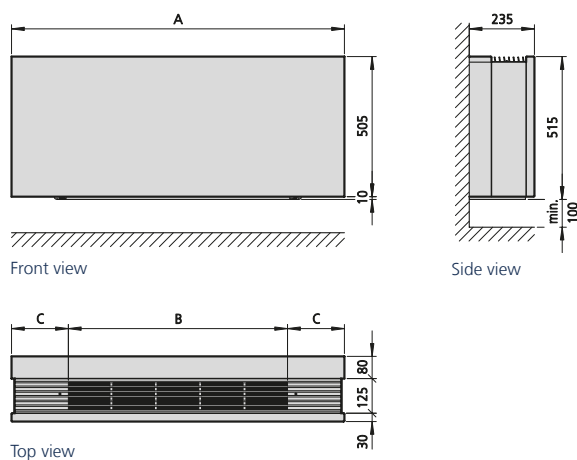
Selection guide: Overview of models

2-/4-pipe	Model	Width	Cooling outputs ¹⁾	Heat outputs ²⁾	More information
			metric units		
		[mm]	Q _{ct} [kW]	Q _k [W]	
2-pipe	61	850	0.9 - 2.4	1.4 - 4.2	▶ Page 14 – 15
	63	1150	1.0 - 3.7	1.7 - 6.1	
	66	1600	1.9 - 6.2	2.9 - 10.1	
	67	2000	2.3 - 8.1	3.5 - 12.6	
4-pipe	61	850	0.9 - 2.3	1.0 - 2.2	▶ Page 18 – 19
	63	1150	1.0 - 3.4	1.3 - 3.5	
	66	1600	1.6 - 5.2	2.1 - 5.4	
	67	2000	2.0 - 7.1	2.5 - 7.0	
			imperial units		
		[inch]	Q _{ct} [MBH]	Q _k [MBH]	
2-pipe	61	33.5	3.1 - 8.3	4.6 - 14.4	▶ Page 16 – 17
	63	45.3	3.6 - 12.7	5.8 - 20.8	
	66	63.0	6.4 - 21.9	9.9 - 34.3	
	67	78.7	7.7 - 27.5	12.1 - 42.9	
4-pipe	61	33.5	2.9 - 7.8	3.3 - 7.3	▶ Page 20 – 21
	63	45.3	3.2 - 11.5	4.3 - 11.9	
	66	63.0	5.3 - 17.6	7.1 - 18.8	
	67	78.7	6.7 - 24.1	8.6 - 23.8	

There are wall- and ceiling-mounted versions of all models available.

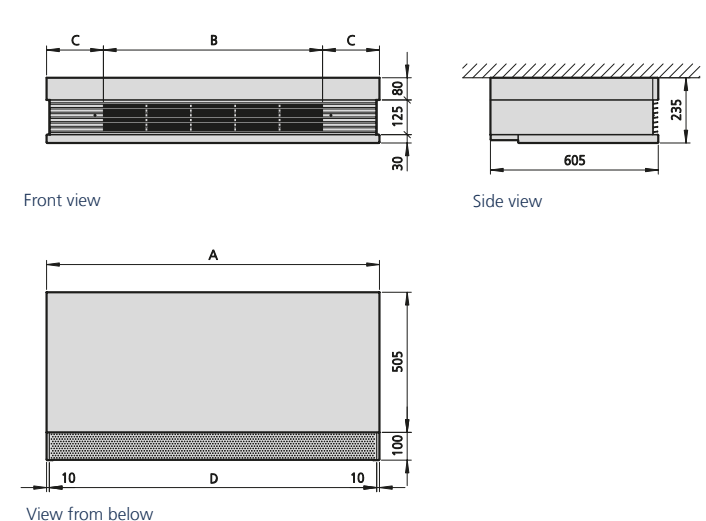
Dimensions

Venkon recirculating air unit, standard casing, wall model



Model	Casing width A	Discharge opening B	C
	[mm]	[mm]	[mm]
61	900	470	215
63	1200	790	205
66	1650	1270	190
67	2000	1590	205

Venkon recirculating air unit, standard casing, ceiling model



Model	Casing width A	Discharge opening B	C	Intake opening D
	[mm]	[mm]	[mm]	[mm]
61	900	470	215	880
63	1200	790	205	1180
66	1650	1270	190	1630
67	2000	1590	205	1980

¹⁾ at CPW 7 / 13, t_l = 24 °C (45 / 55, t_l = 75 °F), 50 % relative humidity

²⁾ at LPHW 49 / 38, t_l = 20 °C (120 / 100, t_l = 68 °F)

Venkon at a glance

- 1a 1b Junction box
- 2 Heat exchanger

- 3 Connection
- 4 Condensation tray

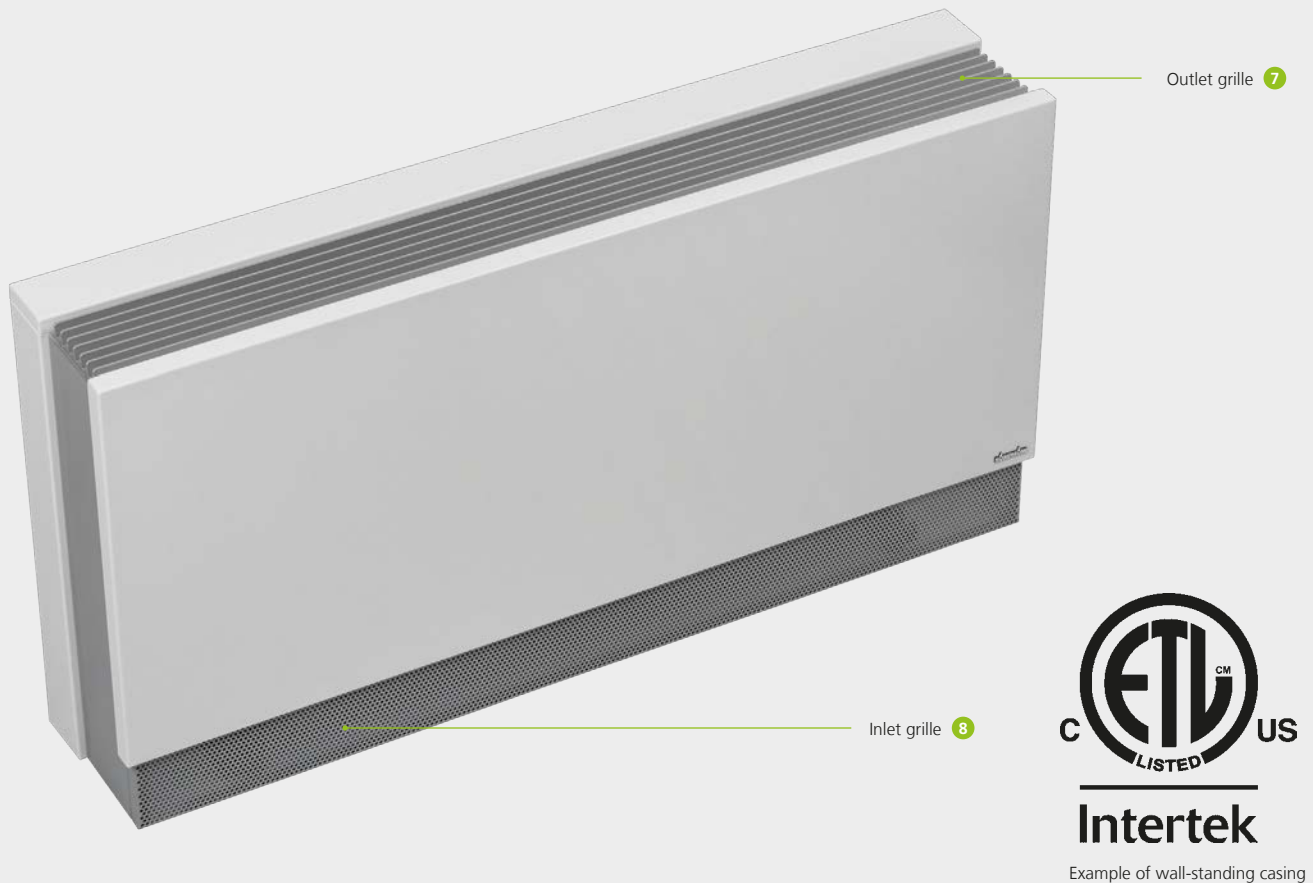
- 5 AC or EC fan

- 6 Filter



Features





- 1a Control configuration C1 with KaControl in the junction box**
- ▶ wired ready for connection
 - ▶ ease of access for maintenance by removable casing
 - ▶ also available as a remote control box with 2.5 m long cable

- 1b Electromechanical control model**
- ▶ wired ready for connection
 - ▶ ease of access for maintenance by removable casing
 - ▶ installation using Velcro strips for simple removal and handling on site

- 2 High-performance heat exchanger**
- ▶ copper-aluminium
 - ▶ optimised air- and water-side flow for maximum heat and cold discharge

- 3 Connection**
- ▶ with anti-twist device to avoid damage to the connector when screwing in the valves
 - ▶ different valve kits (optional) fixed to the unit and printed on the water side
 - ▶ actuators (optional) connected and wired to valve kit

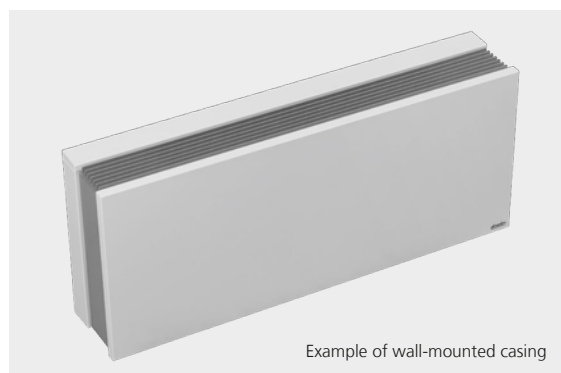
- 4 Condensation tray**
- ▶ can be simply and conveniently removed for maintenance / cleaning

- 5 EC or AC fans**
- ▶ lowest noise levels at low speeds and high outputs at high speeds

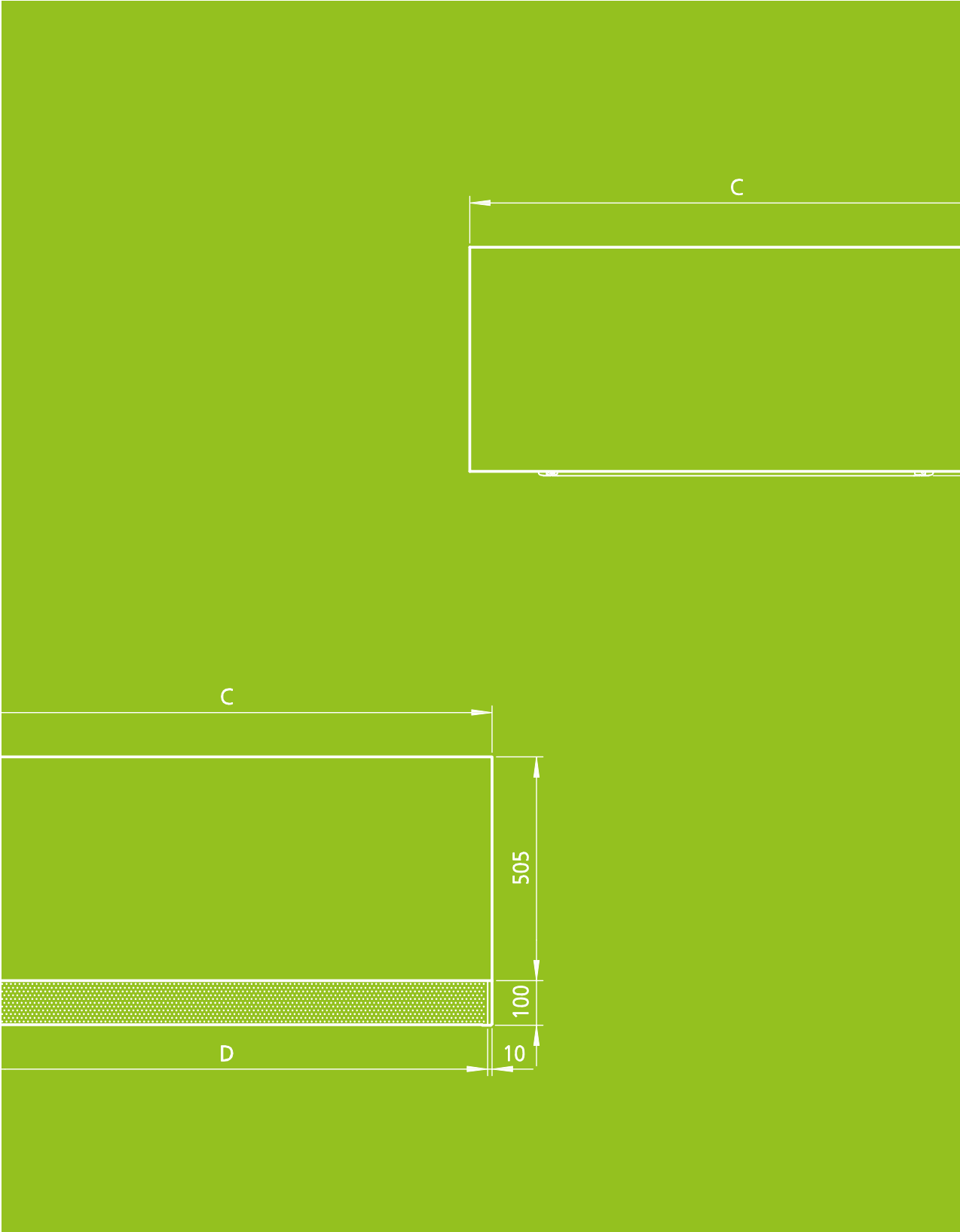
- 6 Filter**
- ▶ maintenance-friendly filter removal at each installation position
 - ▶ washable and hence recyclable filter

- 7 Output grille**
- ▶ flow-optimised output behaviour by means of outlet grille
 - ▶ change of outlet air angle, can also be subsequently retrofitted

- 8 Inlet grille**
- ▶ simple installation and dismantling without a tool
 - ▶ in an attractive, slimline design



02 ▶ Technical Data



Advice on measuring conditions

The cooling and heat outputs have been calculated in line with DIN EN 1397:2015 "Water-air fan convectors, test methods for establishing the performance".

The specific requirements for cooling and heating mode are taken into account in DIN EN 1397. They are also based on Eurovent Certification.

Normative reference

The standard refers to:

- ▶ EN 16583; Determining the sound power levels of noise sources
- ▶ EN 45001; General criteria for the operation of test laboratories
- ▶ ISO 5801; Industrial fans; Performance testing using standardised airways
- ▶ ISO 5221; Air distribution and air diffusion; Rules to methods of measuring air flow rate in an air handling duct

The entering air temperature of the fan convector is selected as the reference / air temperature, which should not be confused with the ambient temperature.

In practice, fan coils are positioned within a suspended ceiling or as sill units along the façade. Due to the temperature stratification that occurs, the entering air temperature differs from the air temperature in the room (measured at a height of 1.5 m).

Acoustics

Fan coils are very often used in acoustically sensitive areas. The units have therefore been optimised in terms of sound emissions.

The acoustic data were recorded in accordance with the provisions of DIN EN 16583 by DIN EN ISO 3744 and DIN EN ISO 3741 in the Kampmann GmbH laboratories.

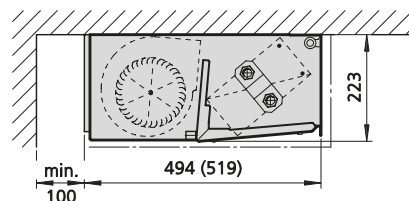
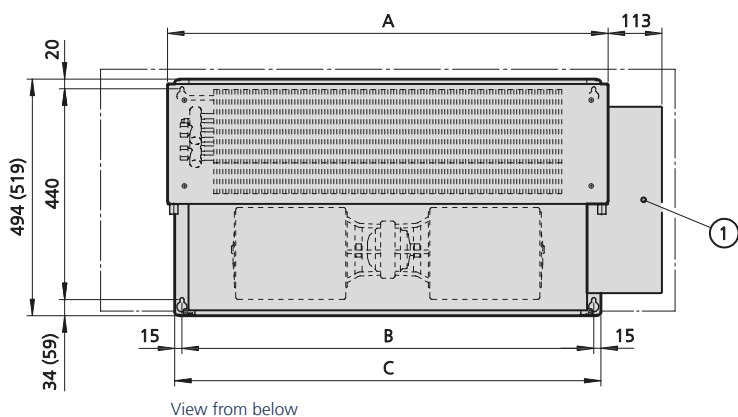
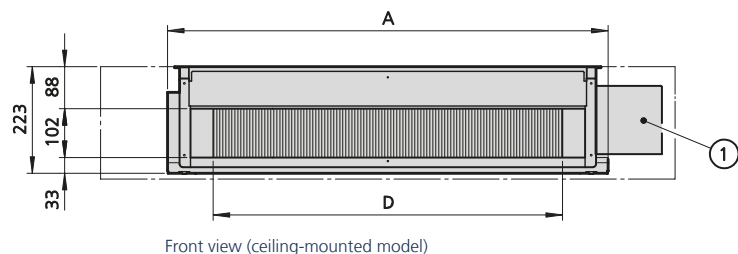


Acoustic laboratory

Venkon EC

Models 61 – 67, continuously variable EC fans, 2-pipe, metric units

Technical drawings, ceiling-mounted model (dimensions in mm)



Dimensions in brackets = model with cassette filter
ePM10>50% (M5) or ePM1> 50% (F7)

① There is no need for EC1M control with
electromechanical or external control model

Model	Basic unit width A	Spacing of suspension points B	Rear wall C	Outlet opening D
	[mm]	[mm]	[mm]	[mm]
61	625	560	590	431
63	925	860	890	731
66	1375	1310	1340	1181
67	1725	1660	1690	1531

Specifications

Water connections

	Models 61 – 63	Models 66–67
Heat exchanger	C / H*	C / H*
Connection	1/2"	3/4"

Water content of heat exchanger

Model	Internal volume 2-pipe
	[l]
61	1.3
63	2.0
66	3.1
67	3.9

Technology

Model	Weight (basic unit)	Number of impellers	Number of motors	MOP	FLA
	[kg]			[A]	[A]
61	19.0	1	1	15	1.4
63	24.5	2	1		1.0
66	36.5	3	2		2.4
67	46.5	4	2		2.0

* C = Cooling / H = Heating

Make use of our online calculation programs to calculate your heat outputs and flow rates with a couple of clicks!

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**Design: 2-pipe cooling
(4 pipe rows),
EC fans**



Model	Fan stage	Airflow	Cooling capacity ¹⁾		Outlet air temperature	Water flow	Pressure drop	Heating capacity ²⁾	Outlet air temperature	Water flow	Pressure drop	Power consumption	Current consumption	Sound pressure level ³⁾	Sound power level
			Q _{cl} [kW]	Q _{cs} [kW]											
61	2	52	0.9	0.7	12.8	0.04	2.6	1.4	41.8	0.03	1.3	4.3	0.1	27	35
	4	103	1.7	1.3	12.9	0.07	8.1	2.5	40.3	0.05	4.0	14.1	0.23	43	51
	6	147	2.1	1.7	13.9	0.09	12.4	3.3	38.8	0.07	6.7	33.6	0.5	52	60
	8	186	2.4	1.9	15.0	0.10	14.9	3.9	37.5	0.08	9.0	64.6	1.0	57	65
	10	214	2.4	2.0	15.9	0.10	15.5	4.2	36.5	0.09	10.5	97.6	1.3	61	69
63	2	63	1.0	0.8	13.7	0.04	1.6	1.7	42.4	0.04	1.0	3.4	0.1	20	28
	4	135	2.3	1.8	12.8	0.10	7.2	3.5	41.5	0.07	4.0	11.5	0.2	36	44
	6	197	3.1	2.4	13.4	0.13	12.8	4.8	40.3	0.10	7.3	28.7	0.5	45	53
	8	248	3.6	2.9	14.1	0.15	16.9	5.7	39.3	0.12	10.1	54.1	0.8	51	59
	10	273	3.7	3.0	14.5	0.16	18.5	6.1	38.7	0.13	11.5	70.8	1.1	53	61
66	2	113	1.9	1.4	13.5	0.08	0.7	2.9	41.5	0.06	0.4	8.1	0.2	28	36
	4	235	3.9	3.0	13.0	0.17	3.1	5.8	40.5	0.12	1.6	25.8	0.4	44	52
	6	343	5.2	4.1	13.7	0.22	5.5	7.9	39.2	0.17	2.9	62.4	0.9	53	61
	8	427	5.9	4.7	14.4	0.25	7.0	9.3	38.2	0.20	4.0	117.8	1.7	58	66
	10	482	6.2	5.0	15.0	0.27	7.8	10.1	37.5	0.22	4.7	151.2	2.2	62	70
67	2	129	2.3	1.6	13.2	0.10	1.2	3.5	42.9	0.08	0.8	6.8	0.2	23	31
	4	269	4.8	3.7	12.1	0.21	5.5	7.1	42.0	0.15	2.9	22.5	0.4	39	47
	6	386	6.5	5.1	12.6	0.28	9.8	9.7	41.0	0.21	5.1	54.6	0.8	48	56
	8	488	7.6	6.1	13.3	0.33	13.4	11.6	40.0	0.25	7.2	102.6	1.5	54	62
	10	543	8.1	6.5	13.7	0.35	15.1	12.6	39.4	0.27	8.4	134.4	2.0	56	64

¹⁾ at CPW 7 / 13, t_L = 24 °C, 50 % relative humidity

²⁾ at LPHW 49 / 38, t_L = 20 °C

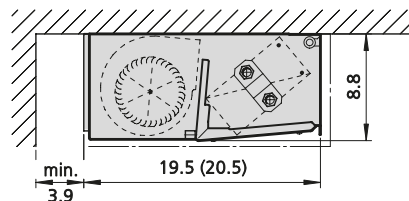
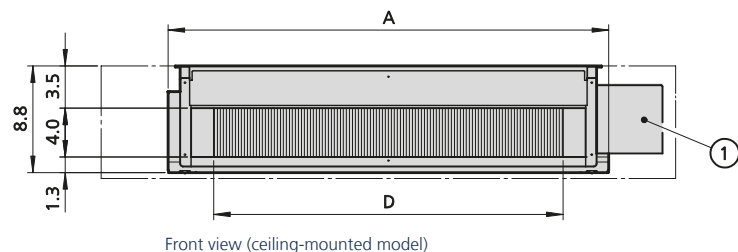
³⁾ The sound pressure levels were calculated with an assumed room insulation of 8 dB(A).

This corresponds to a distance of 2 m, a room volume of 100 m³ and a reverberation time of 0.5 s (in accordance with VDI 2081).

Venkon EC

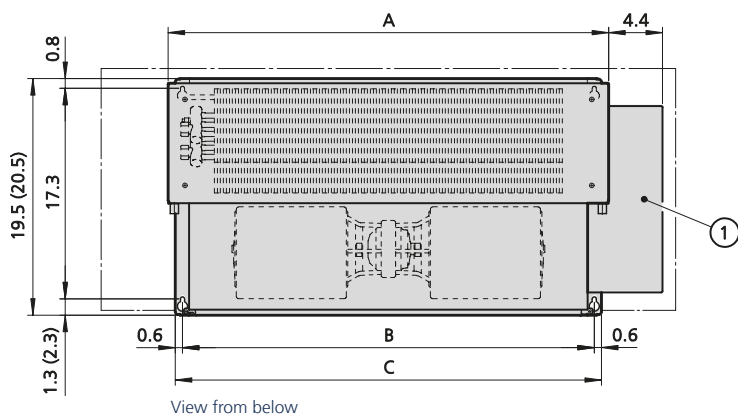
Models 61 – 67, continuously variable EC fans, 2-pipe, imperial units

Technical drawings, ceiling-mounted model (dimensions in mm)



Dimensions in brackets = model with cassette filter ePM10>50% (M5) or ePM1> 50% (F7)

① There is no need for EC1M control with electromechanical or external control model



Model	Basic unit width A	Spacing of suspension points B	Rear wall C	Outlet opening D
	[inch]	[inch]	[inch]	[inch]
61	24,61	22,05	23,23	16,97
63	36,42	33,86	35,04	28,78
66	54,13	51,57	52,76	46,50
67	67,91	65,35	66,54	60,28

Specifications

Water connections

	Models 61 – 63	Models 66 – 67
Heat exchanger	C / H*	C / H*
Connection	1/2"	3/4"

Water content of heat exchanger

Model	Internal volume 2-pipe [l]
61	1.3
63	2.0
66	3.1
67	3.9

Technology

Model	Weight (basic unit) [lbs]	Number of impellers	Number of motors	MOP [A]	FLA [A]
61	41,89	1	1	15	1.4
63	54,01	2	1		1.0
66	80,47	3	2		2.4
67	102,52	4	2		2.0

* C = Cooling / H = Heating

Make use of our online calculation programs to calculate your heat outputs and flow rates with a couple of clicks!

► kampmann.ca/venkon

**Design: 2-pipe cooling
(4 pipe rows),
EC fans**



Model	Fan stage	Airflow	Cooling capacity ¹⁾		Outlet air temperature	Water flow	Pressure drop	Heating capacity ²⁾	Outlet air temperature	Water flow	Pressure drop	Power consumption	Current consumption	Sound pressure level ³⁾	Sound power level
	[V]	V[cfm]	Q _{Ct} [MBh]	Q _{Cs} [MBh]	t _{L2} [°F]	[gpm]	[ft H ₂ O]	Q _H [MBh]	t _{L2} [°F]	[gpm]	[ft H ₂ O]	P [W]	I [A]	[dB(A)]	[dB(A)]
61	2	110	3.1	2.3	55.0	0.6	0.9	4.6	107.2	0.5	0.4	4.3	0.1	27	35
	4	219	5.8	4.5	55.3	1.2	2.7	8.6	104.6	0.9	1.3	14.1	0.23	43	51
	6	311	7.3	5.9	57.1	1.5	4.2	11.3	101.9	1.1	2.2	33.6	0.5	52	60
	8	394	8.1	6.6	59.0	1.6	5.0	13.3	99.4	1.3	3.0	64.6	1.0	57	65
	10	454	8.3	6.9	60.5	1.7	5.2	14.4	97.6	1.4	3.5	97.6	1.3	61	69
63	2	134	3.6	2.6	56.7	0.7	0.5	5.8	108.4	0.6	0.4	3.4	0.1	20	28
	4	285	7.7	6.0	55.1	1.6	2.4	11.8	106.7	1.2	1.3	11.5	0.2	36	44
	6	417	10.5	8.3	56.1	2.1	4.3	16.3	104.6	1.6	2.4	28.7	0.5	45	53
	8	524	12.1	9.7	57.4	2.4	5.6	19.4	102.7	1.9	3.4	54.1	0.8	51	59
	10	578	12.7	10.3	58.1	2.5	6.2	20.8	101.7	2.1	3.9	70.8	1.1	53	61
66	2	240	6.4	4.7	56.4	1.3	0.3	9.9	106.7	1.0	0.14	8.1	0.2	28	36
	4	499	13.3	10.3	55.4	2.7	1.0	19.6	104.8	2.0	0.5	25.8	0.4	44	52
	6	728	17.7	14.0	56.6	3.5	1.8	26.9	102.5	2.7	1.0	62.4	0.9	53	61
	8	905	20.1	16.2	58.0	4.0	2.3	31.6	100.7	3.2	1.3	117.8	1.7	58	66
	10	1020	21.9	17.2	59.0	4.2	2.6	34.3	99.4	3.4	1.6	151.2	2.2	62	70
67	2	274	7.7	5.6	55.7	1.5	0.4	12.1	109.2	1.2	0.3	6.8	0.2	23	31
	4	569	16.5	12.7	53.8	3.3	1.8	24.1	107.7	2.4	1.0	22.5	0.4	39	47
	6	817	22.2	17.5	54.7	4.4	3.3	33.0	105.8	3.3	1.7	54.6	0.8	48	56
	8	1033	26.0	20.7	55.9	5.2	4.5	40.0	103.9	4.0	2.4	102.6	1.5	54	62
	10	1150	27.5	22.2	56.7	5.5	5.0	42.9	102.9	4.3	2.8	134.4	2.0	56	64

¹⁾ at CPW 45 / 55, t_L = 75 °F, 50 % relative humidity

²⁾ at LPHW 120 / 100, t_L = 68 °F

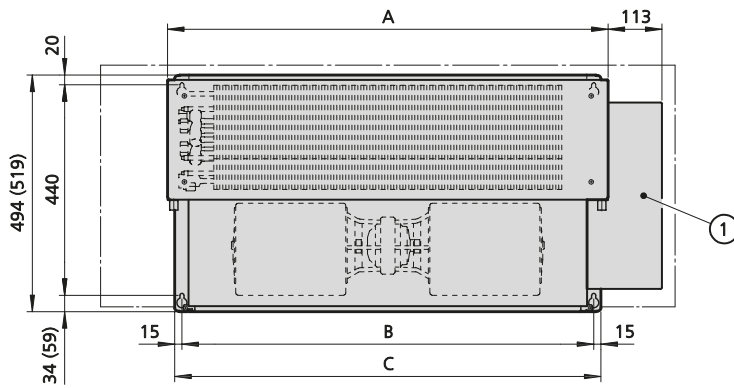
³⁾ The sound pressure levels were calculated with an assumed room insulation of 8 dB(A).

This corresponds to a distance of 6' 7", a room volume of 3531 ft³ and a reverberation time of 0.5 s (in accordance with VDI 2081).

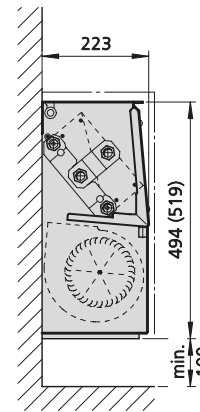
Venkon EC

Models 61 – 67, continuously variable EC fans, 4-pipe, metric units

Technical drawings, wall-mounted model (dimensions in mm)



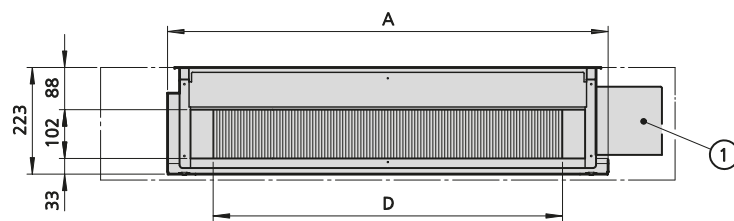
Front view (wall-mounted model)



Side view

Dimensions in brackets
= model with cassette
filter ePM10>50% (M5) or
ePM1>50% (F7)

① There is no need for
EC1M control with
electromechanical or
external control model



Top view

Model	Basic unit width A	Spacing of suspension points B	Rear wall C	Outlet opening D
	[mm]	[mm]	[mm]	[mm]
61	625	560	590	431
63	925	860	890	731
66	1375	1310	1340	1181
67	1725	1660	1690	1531

Specifications

Water connections

	Models 61 – 63	Models 66–67	
Heat exchanger	C / H*	C*	H*
Connection	1/2"	3/4"	1/2"

Water content of heat exchanger

Model	Internal volume 4-pipe cooling	Internal volume 4-pipe heating
	[l]	[l]
61	1.0	0.5
63	1.6	0.6
66	2.4	0.9
67	2.9	1.1

Technology

Model	Weight (basic unit)	Number of impellers	Number of motors	MOP	FLA
	[kg]			[A]	[A]
61	19.0	1	1	15	1.4
63	24.5	2	1		1.0
66	36.5	3	2		2.4
67	46.5	4	2		2.0

* C = Cooling / H = Heating

Make use of our online calculation programs to calculate your heat outputs and flow rates with a couple of clicks!

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**Design:
4-pipe,
EC fans**


Model	Fan stage	Airflow	Cooling capacity ¹⁾		Outlet air temperature	Water flow	Pressure drop	Heating capacity ²⁾	Outlet air temperature	Water flow	Pressure drop	Power consumption	Current consumption	Sound pressure level ³⁾	Sound power level
			Q _{cl} [kW]	Q _{cs} [kW]											
61	2	52	0.9	0.7	12.7	0.04	1.8	1.0	35.4	0.02	1.2	4.3	0.1	27	35
	4	103	1.6	1.3	12.9	0.07	5.7	1.6	32.9	0.03	3.1	14.1	0.2	43	51
	6	147	2.0	1.7	13.9	0.09	8.8	2.0	31.1	0.04	4.5	33.6	0.5	52	60
	8	186	2.2	2.0	15.0	0.10	10.5	2.1	29.5	0.05	5.2	64.6	1.0	57	65
	10	214	2.3	2.0	15.8	0.10	10.9	2.2	28.4	0.05	5.4	97.6	1.3	61	69
63	2	63	1.0	0.7	14.0	0.05	1.1	1.3	36.8	0.03	2.4	3.4	0.1	20	28
	4	135	2.1	1.7	13.2	0.09	4.9	2.3	34.3	0.05	7.0	11.5	0.2	36	44
	6	197	2.8	2.4	13.7	0.12	8.8	3.0	32.6	0.06	11.1	28.7	0.5	45	53
	8	248	3.2	2.8	14.4	0.14	11.7	3.4	31.4	0.07	13.8	54.1	0.8	51	59
	10	273	3.4	2.9	14.8	0.15	12.8	3.5	30.7	0.08	14.9	70.8	1.1	53	61
66	2	113	1.6	1.2	14.7	0.07	0.6	2.1	35.3	0.04	1.7	8.1	0.2	28	36
	4	235	3.2	2.7	14.2	0.14	2.2	3.7	33.0	0.08	4.6	25.8	0.4	44	52
	6	343	4.3	3.7	14.8	0.19	3.7	4.7	31.4	0.10	7.2	62.4	0.9	53	61
	8	427	4.9	4.2	15.5	0.21	4.6	5.2	30.2	0.11	8.7	117.8	1.7	58	66
	10	482	5.2	4.5	16.0	0.22	5.1	5.4	29.4	0.12	9.4	151.2	2.2	62	70
67	2	129	2.0	1.5	13.9	0.04	1.0	2.5	36.3	0.05	2.8	6.8	0.2	23	31
	4	269	4.2	3.5	12.9	0.18	4.0	4.5	34.0	0.10	7.8	22.5	0.4	39	47
	6	386	5.7	4.8	13.4	0.24	7.0	5.8	32.6	0.12	12.3	54.6	0.8	48	56
	8	488	6.7	5.7	14.0	0.29	9.4	6.6	31.4	0.14	15.6	102.6	1.5	54	62
	10	543	7.1	6.1	14.4	0.30	10.5	7.0	30.7	0.16	17.1	134.4	2.0	56	64

¹⁾ at CPW 7 / 13, t_L = 24 °C, 50 % relative humidity

²⁾ at LPHW 49 / 38, t_L = 20 °C

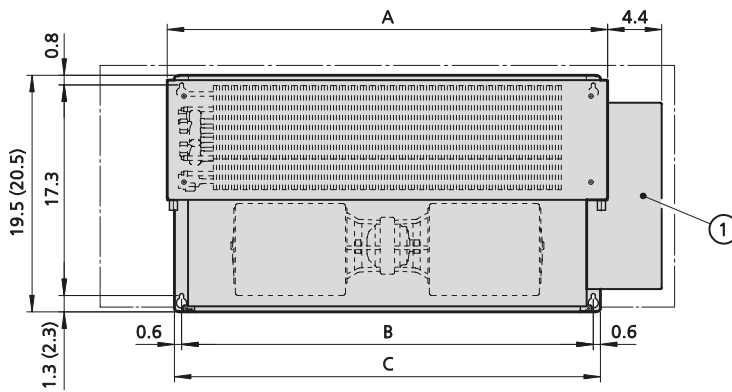
³⁾ The sound pressure levels were calculated with an assumed room insulation of 8 dB(A).

This corresponds to a distance of 2 m, a room volume of 100 m³ and a reverberation time of 0.5 s (in accordance with VDI 2081).

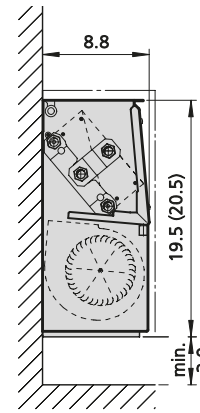
Venkon EC

Models 61 – 67, continuously variable EC fans, 4-pipe, imperial units

Technical drawings, wall-mounted model (dimensions in mm)



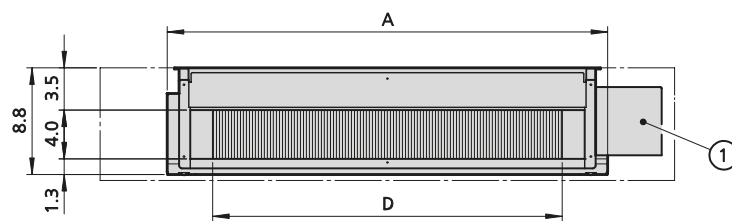
Front view (wall-mounted model)



Side view

Dimensions in brackets
= model with cassette
filter ePM10>50% (M5) or
ePM1>50% (F7)

① There is no need for
EC1M control with
electromechanical or
external control model



Top view

Model	Basic unit width A	Spacing of suspension points B	Rear wall C	Outlet opening D
	[inch]	[inch]	[inch]	[inch]
61	24,61	22,05	23,23	16,97
63	36,42	33,86	35,04	28,78
66	54,13	51,57	52,76	46,50
67	67,91	65,35	66,54	60,28

Specifications

Water connections

	Models 61 – 63	Models 66 – 67
Heat exchanger	C / H*	C* H*
Connection	1/2"	3/4" 1/2"

Water content of heat exchanger

Model	Internal volume 4-pipe cooling	Internal volume 4-pipe heating
	[l]	[l]
61	1.0	0.5
63	1.6	0.6
66	2.4	0.9
67	2.9	1.1

Technology

Model	Weight (basic unit)	Number of impellers	Number of motors	MOP	FLA
	[lbs]			[A]	[A]
61	41,89	1	1	15	1.4
63	54,01	2	1		1.0
66	80,47	3	2		2.4
67	102,52	4	2		2.0

* C = Cooling / H = Heating

Make use of our online calculation programs to calculate your heat outputs and flow rates with a couple of clicks!

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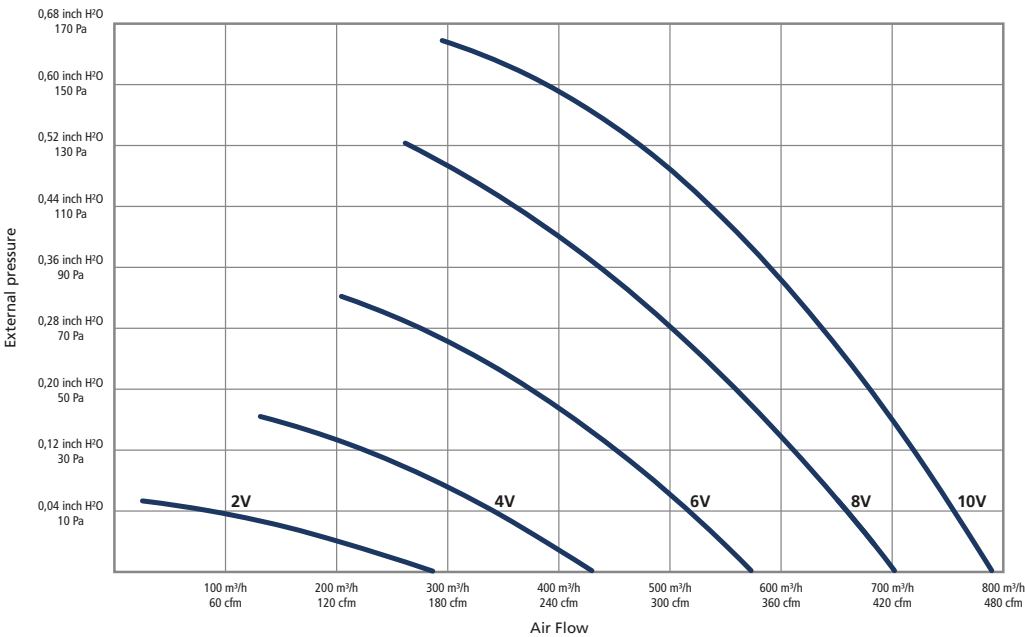
**Design:
4-pipe,
EC fans**

Model	Fan stage	Airflow	Cooling capacity ¹⁾		Outlet air temperature	Water flow	Pressure drop	Heating capacity ²⁾	Outlet air temperature	Water flow	Pressure drop	Power consumption	Current consumption	Sound pressure level ³⁾	Sound power level
			Q _{CL} [MBh]	Q _{CS} [MBh]											
	[V]	V[cfm]			t _{L2} [°F]	[gpm]	[ft H ₂ O]	Q _H [MBh]	t _{L2} [°F]	[gpm]	[ft H ₂ O]	P [W]	I [A]	[dB(A)]	[dB(A)]
61	2	110	2.9	2.3	54.9	0.6	0.6	3.3	95.8	0.3	0.4	4.3	0.1	27	35
	4	219	5.5	4.6	55.2	1.1	1.9	5.4	91.3	0.54	1.0	14.1	0.2	43	51
	6	311	6.9	5.9	57.0	1.4	2.9	6.6	88.0	0.7	1.5	33.6	0.5	52	60
	8	394	7.6	6.7	59.0	1.5	3.5	7.2	85.1	0.7	1.8	64.6	1.0	57	65
	10	454	7.8	6.9	60.5	1.6	3.7	7.3	83.1	0.7	1.8	97.6	1.3	61	69
63	2	134	3.2	2.5	57.3	0.6	0.36	4.3	98.2	0.4	0.8	3.4	0.1	20	28
	4	285	7.1	5.8	55.7	1.4	1.6	7.8	93.7	0.8	2.3	11.5	0.2	36	44
	6	417	9.5	8.0	56.7	1.9	3.0	10.1	90.7	1.0	3.7	28.7	0.5	45	53
	8	524	11.0	9.4	57.9	2.2	3.9	11.5	88.5	1.1	4.6	54.1	0.8	51	59
	10	578	11.5	9.9	58.6	2.3	4.3	11.9	87.3	1.2	5.0	70.8	1.1	53	61
66	2	240	5.3	4.2	58.4	1.1	0.6	7.1	95.5	0.7	0.6	8.1	0.2	28	36
	4	499	11.1	9.1	57.5	2.2	1.6	12.5	91.4	1.2	1.6	25.8	0.4	44	52
	6	728	14.8	12.5	58.7	3.0	2.4	15.9	88.5	1.6	2.4	62.4	0.9	53	61
	8	905	16.7	14.4	59.9	3.3	2.9	17.7	86.3	1.8	2.9	117.8	1.7	58	66
	10	1020	17.6	15.3	60.8	3.5	3.1	18.5	85.0	1.8	3.1	151.2	2.2	62	70
67	2	274	6.7	5.2	57.0	1.3	0.3	8.6	97.4	0.9	0.9	6.8	0.2	23	31
	4	569	14.4	11.8	55.3	2.9	1.3	15.4	93.3	1.5	2.6	22.5	0.4	39	47
	6	817	19.4	16.2	56.1	3.9	2.4	19.7	90.6	2.0	4.1	54.6	0.8	48	56
	8	1033	22.7	19.3	57.2	4.5	3.2	22.6	88.5	2.3	5.2	102.6	1.5	54	62
	10	1150	24.1	20.6	57.9	4.8	3.5	23.8	87.3	2.4	5.7	134.4	2.0	56	64

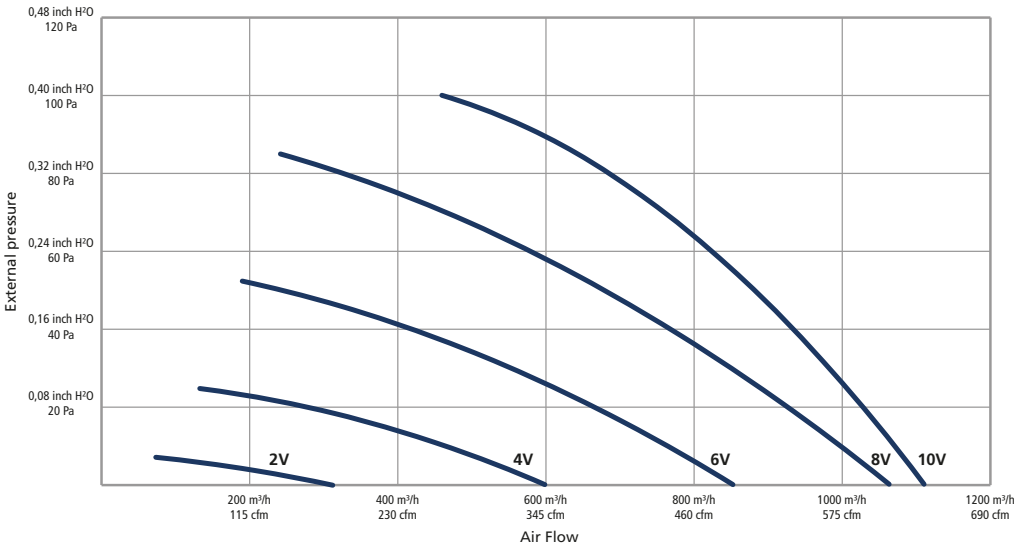
¹⁾ at CPW 45 / 55, t_L = 75 °F, 50 % relative humidity²⁾ at LPHW 120 / 100, t_L = 68 °F³⁾ The sound pressure levels were calculated with an assumed room insulation of 8 dB(A).

This corresponds to a distance of 6' 7", a room volume of 3531 ft³ and a reverberation time of 0.5 s (in accordance with VDI 2081).

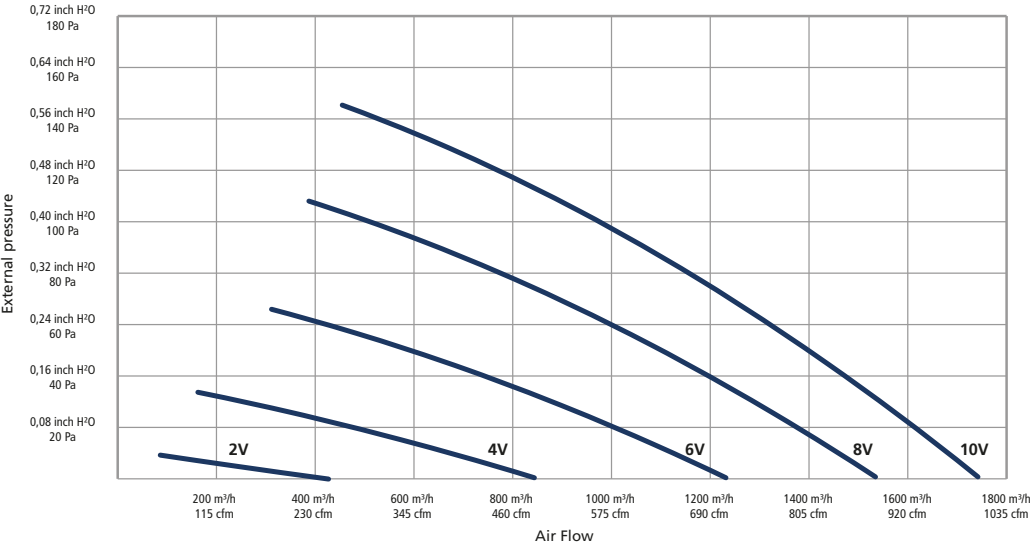
External pressure charts



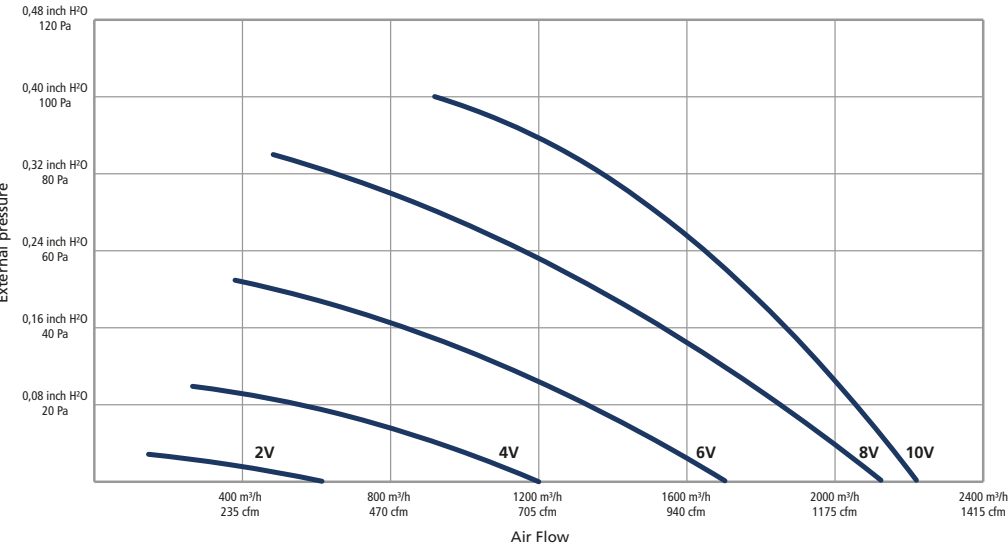
Model 1



Model 3



Model 6



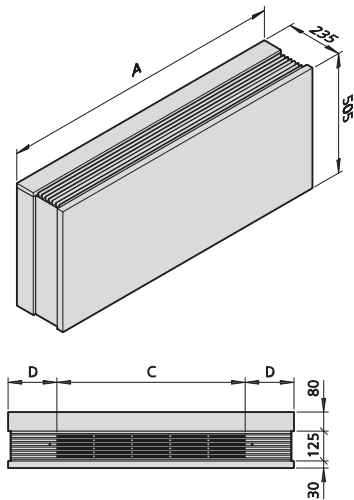
Model 7

03 ▶ Design Information

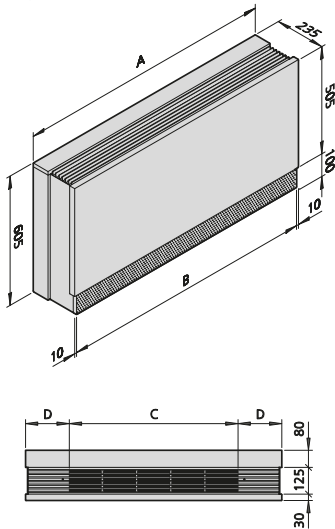


Casing selection

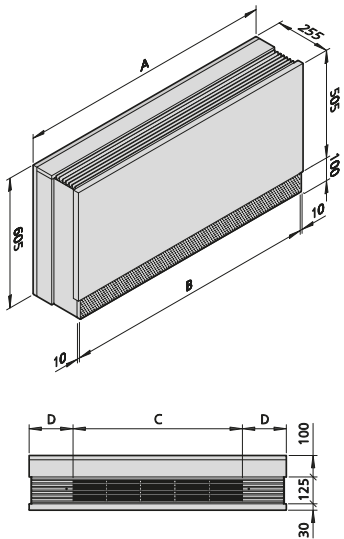
Casing, wall-mounted without inlet grille



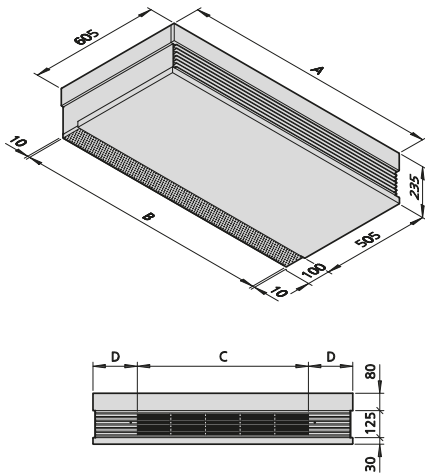
Casing, wall-mounted with inlet grille



Free-standing casing without air inlet grille with rear panel



Casing, ceiling-mounted with inlet grille



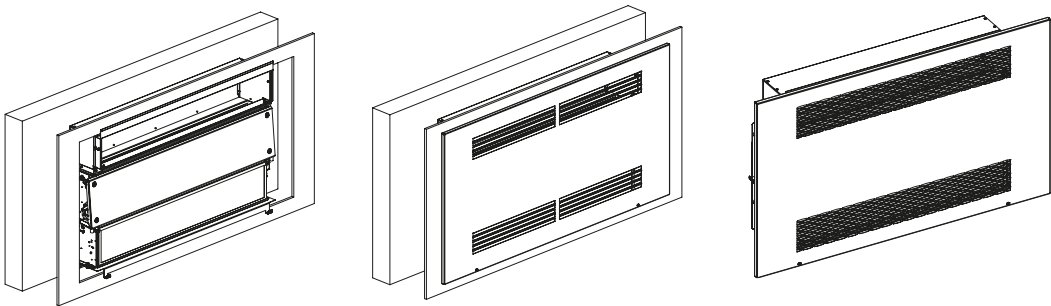
Dimensions

Model	A	W	C	D
	[mm]	[mm]	[mm]	[mm]
61	900	880	470	215
63	1200	1180	790	205
66	1650	1630	1270	190
67	2000	1980	1590	205

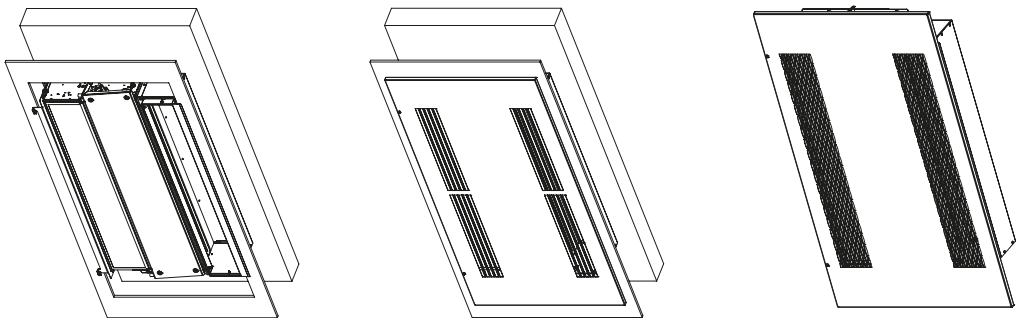
Other casing options



School casing



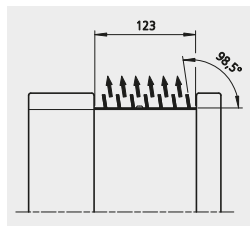
Recessed casing (example: wall)



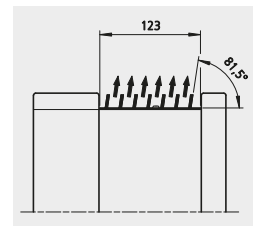
Recessed casing (example: ceiling)

Air discharge direction

The air flow direction is defined by the mounting position of the ventilation grille. As standard, the air flows towards the wall/ceiling from the air grille. The air can also be discharged on the room side by rotating the ventilation grille.



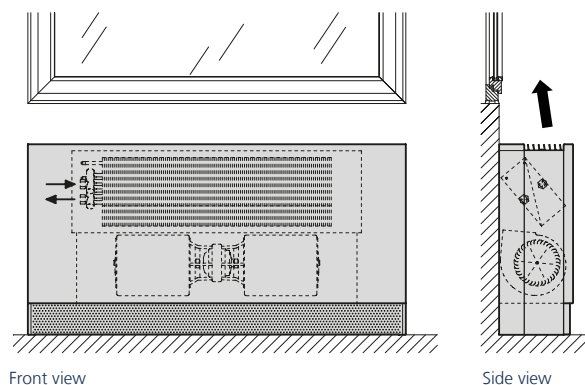
Standard air discharge direction



Alternative air discharge direction

Connections, definition of the water connection side

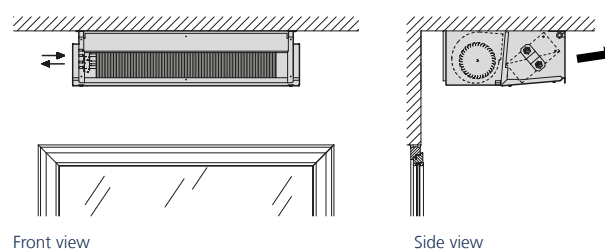
Water connection on left, illustrated by Venkon with casing, wall-standing



Front view

Side view

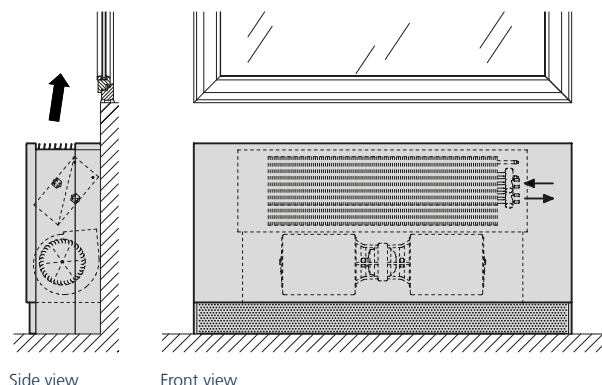
Water connection on left, illustrated by Venkon basic unit, ceiling-mounted model



Front view

Side view

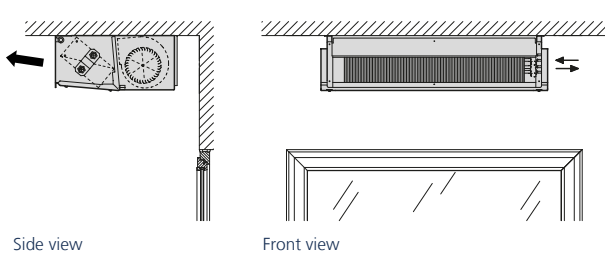
Water connection on right, illustrated by Venkon with casing, wall-standing



Side view

Front view

Water connection on right, illustrated by Venkon basic unit, ceiling-mounted model



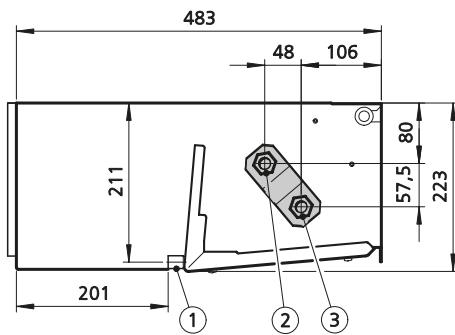
Side view

Front view

Water connections

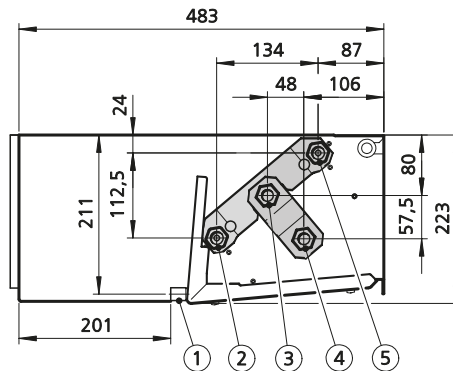
2-pipe

(all dimensions in mm)



- ① Condensation connection Ø 15 mm
- ② Heating or cooling return Rp 1/2" / Rp 3/4"*
- ③ Heating or cooling flow Rp 1/2" / Rp 3/4"*

4-pipe

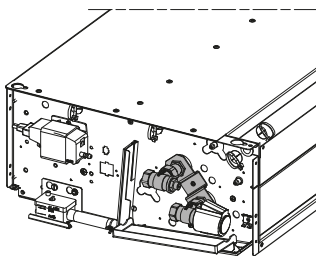


- ① Condensation connection Ø 15 mm
- ② Heating return Rp 1/2"
- ③ Cooling return Rp 1/2" / Rp 3/4"*
- ④ Cooling flow Rp 1/2" / Rp 3/4"*
- ⑤ Heating flow Rp 1/2"

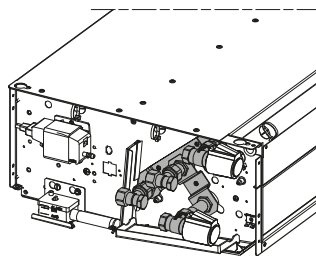
Models 61 – 63 1/2", models 66 – 67: 3/4"

Water connection accessories, valve kit selection

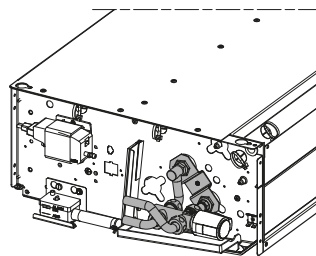
2-way valve kit, 2-pipe



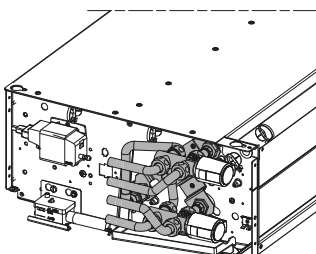
2-way valve kit, 4-pipe



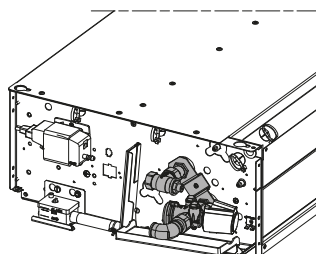
3-way valve kit, 2-pipe



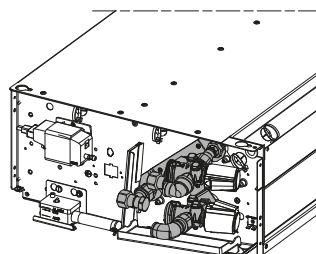
3-way valve kit, 4-pipe



Differential pressure-independent valve kit, 2-pipe



Differential pressure-independent valve kit, 4-pipe



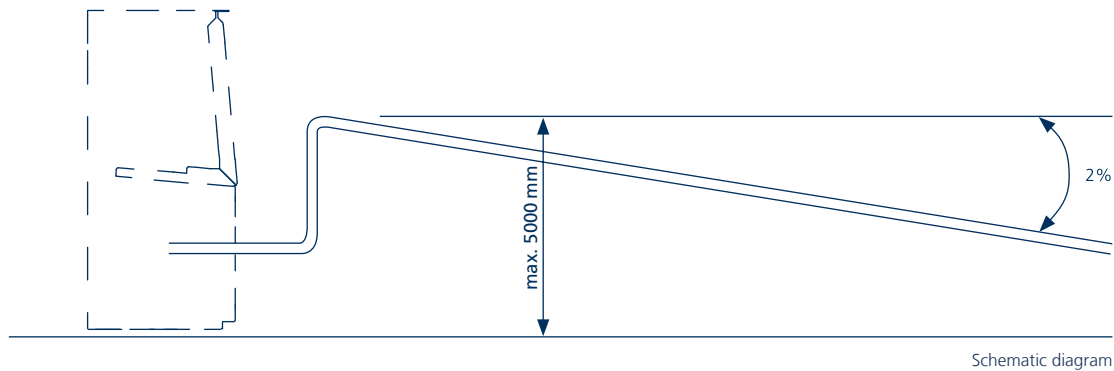
Condensation drain

Condensation is produced if Venkons are operated at a system temperature below the dew point. The condensation from the heat exchanger drips into the condensate tray underneath. You will need a condensation pump (optional accessories) should a natural gradient be impossible on site. This is used to pump the condensation into higher collection or discharge equipment.

The condensation to be disposed of from the Venkon, directly from the condensation tray or from the condensation pump hose, has to follow a minimum 1% gradient. The condensation has to be collected in a pool pump on site if it has to be drained higher than the integrated pump allows.

Important:

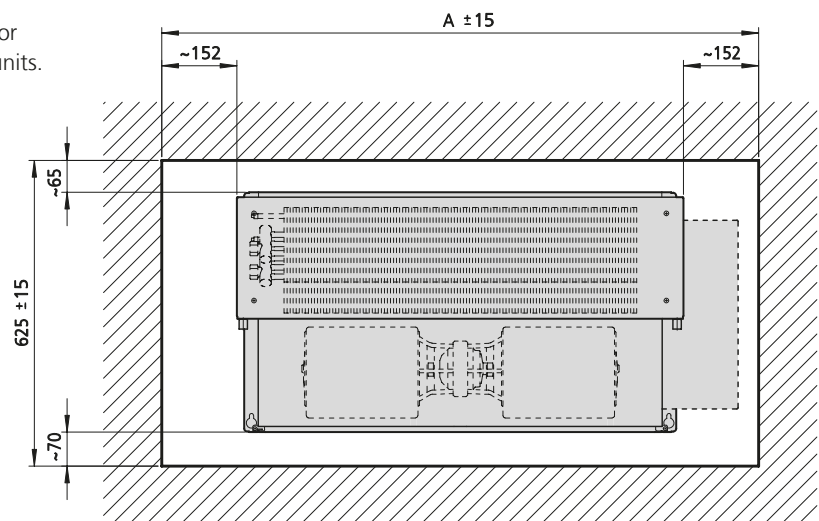
The condensation can be monitored via a dewpoint sensor fitted to the basic unit with "dry cooling" (optional accessories).



Inspection hatch

Provide the following service opening dimensions for maintenance and inspection of suspended ceiling units.

Model	Opening dimension ceiling width A ±15
	[mm]
61	925
63	1225
66	1675
67	2025



04 ▶ Controls

Venkon EC: electromechanical control

Programmable Digital Temperature Controller

2-pipe controller: 196000030246

4-pipe controller: 196000030226



On/Off Heating/Cooling for ECM variable airflow fans, surface-mounted, unobtrusive design

Product features

- ▶ pre-set 7 day program with 4 daily schedules
- ▶ On/Off control of heating/cooling output without the possibility of overlap
- ▶ early fine tune function to ensure programmed temperature is reached by scheduled time
- ▶ 12- or 24-hour format with battery backed day and time
- ▶ full proportional control for electronically commutated (ECM) fan
- ▶ CFM minimum and maximums can be set on the room thermostat
- ▶ room temperature or setpoint temperature selectable for display
- ▶ optional Remote sensor (RS) input interface for connecting to remote temperature sensor
- ▶ adjustable unoccupied setpoints for heating and cooling mode control
- ▶ adjustable HI/LOW limit set point range
- ▶ agency approval: CE directive 2004/108/EC
- ▶ low voltage Class 2 as per UL/CSA standards

05 ▶ Ordering Information

Venkon EC

Model	Air volume	Sound pressure level ¹⁾	2-/4-pipe	Cooling capacity $Q_{c}^{2)}$	Heating capacity $Q_{H}^{2)}$	Connection side	Art. No.
	[l/s] (cfm)	[dB(A)]		[kW] (MBh)	[kW] (MBh)		
61	50-215 (110-455)	27-61	2-pipe	0.9-2.3 (3.1-8.3)	1.4-4.3 (4.6-14.4)	left	14861WUL210U02M
						right	14861WUR210U02M
			4-pipe	0.9-2.1 (2.9-7.8)	1.0-2.2 (3.3-7.3)	left	14861WUL410U02M
						right	14861WUR410U02M
63	65-275 (135-580)	20-53	2-pipe	1.1-3.6 (3.6-12.7)	1.7-6.2 (5.8-20.8)	left	14861WUL230U02M
						right	14861WUR230U02M
			4-pipe	1.0-3.3 (3.2-11.5)	1.3-3.5 (4.3-11.9)	left	14861WUL430U02M
						right	14861WUR430U02M
66	115-480 (240-1020)	28-61	2-pipe	1.9-6.0 (6.4-21.1)	2.9-10.2 (9.9-34.3)	left	14861WUL260U02M
						right	14861WUR260U02M
			4-pipe	1.6-5.0 (5.3-17.6)	2.1-5.5 (7.1-18.5)	left	14861WUL460U02M
						right	14861WUR460U02M
67	130-545 (275-1150)	23-56	2-pipe	2.3-7.9 (7.7-27.5)	3.6-12.7 (12.1-42.9)	left	14861WUL270U02M
						right	14861WUR270U02M
			4-pipe	2.0-6.9 (6.7-24.1)	2.5-7.1 (8.6-23.8)	left	14861WUL470U02M
						right	14861WUR470U02M

¹⁾ at CPW 7 / 13, $t_L = 24\text{ °C}$, 50 % relative humidity

²⁾ at LPHW 49 / 38, $t_L = 20\text{ °C}$ (120 / 100, $t_L = 68\text{ °F}$)

Accessories

Figure	Article	Properties	Suitable for	Art. no.
Casings				
	Casing, wall-mounted	without inlet grille	Model 61	14862WUBH100
			Model 63	14862WUBH300
			Model 66	14862WUBH600
			Model 67	14862WUBH700
	Casing, wall-standing	with inlet grille	Model 61	14862WUBS100
			Model 63	14862WUBS300
			Model 66	14862WUBS600
			Model 67	14862WUBS700
	Free-standing casing	with rear panel and inlet grille	Model 61	14862WUBF100
			Model 63	14862WUBF300
			Model 66	14862WUBF600
			Model 67	14862WUBF700
	Ceiling casing	with inlet grille	Model 61	14862DUBH100
			Model 63	14862DUBH300
			Model 66	14862DUBH600
			Model 67	14862DUBH700
				more »

Dimensions

Model	A	W
	[mm]	[mm]
61	900	880
63	1200	1180
66	1650	1630
67	2000	1980

Accessories


Figure	Article	Properties		Suitable for	Art. no.
Accessories for recirculating air basic unit, water-side, factory-fitted on the basic unit					
	2-way valve kit	water connection on left	2-pipe version with pre-settable 2-way valve with lockable return shut-off valve	all models, combinable control: -00M, -01M, -C1M, -C1E	14863BBL2*2A
		water connection on right			14863BBR2*2A
	2-way valve kit	water connection on left	4-pipe version with pre-settable 2-way valves with lockable return shut-off valve	all models, combinable control: -00M, -01M, -C1M, -C1E	14863BBL4*2A
		water connection on right			14863BBR4*2A
	3-way valve kit	water connection on left	2-pipe version with 3-way valve	all models, combinable control: -00M, -01M, -C1M, -C1E	14863BBL2*3A
		water connection on right			14863BBR2*3A
	3-way valve kit	water connection on left	4-pipe version with 3-way valve	all models, combinable control: -00M, -01M, -C1M, -C1E	14863BBL4*3A
		water connection on right			14863BBR4*3A
	"Differential pressure-independent valve kit"	water connection on left	2-pipe differential pressure-independent valve kit with lockable return shut-off valve	all models, combinable control: -00M, -01M, -C1M, -C1E	14863BBL2*DA
		water connection on right			14863BBR2*DA
	"Differential pressure-independent valve kit"	water connection on left	4-pipe differential pressure-independent valve kit with lockable return shut-off valve	all models, combinable control: -00M, -01M, -C1M, -C1E	14863BBL4*DA
		water connection on right			14863BBR4*DA
					more »



Article key for model (Example of art. no.)

14863BBL212A —> Model 61
3 —> Model 63
6 —> Model 66
7 —> Model 67

Accessories

Figure	Article	Properties	Suitable for	Art. no.
Valve actuators for pre-fitted valve kits, factory-fitted and wired to the basic unit				
	Valve actuator 230 V OPEN/CLOSED for 2-pipe	1x 230 V OPEN/CLOSED valve actuator including plug-in line and valve adapter, factory-fitted and wired to the basic unit	valve kits for 2-pipe and electromechanical control (00M and 01M)	14866BBB201A
	Valve actuator 230 V OPEN/CLOSED for 4-pipe	2x 230 V OPEN/CLOSED valve actuators including plug-in line and valve adapter, factory-fitted and wired to the basic unit	valve kits for 4-pipe and electromechanical control (00M and 01M)	14866BBB401A
	Valve actuator 24 V AC/DC Open/Close 2-pipe	1x 24 V OPEN/CLOSED valve actuator including plug-in line and valve adapter, factory-fitted and wired to the basic unit	valve kits for 2-pipe and electromechanical control (00M and 01M) or KaControl (C1M and C1E)	14866BBB202A
	Valve actuator 24 V AC/DC OPEN/CLOSED 4-pipe	2x 24 V OPEN/CLOSED valve actuators including plug-in line and valve adapter, factory-fitted and wired to the basic unit	valve kits for 4-pipe and electromechanical control (00M and 01M) or KaControl (C1M and C1E)	14866BBB402A
	Valve actuator 24 V AC 0-10 V continuous valve actuation	1x 0-10 V continuous valve actuator including plug-in line and valve adapter, factory-fitted and wired to the basic unit	valve kits for 2-pipe and electromechanical control (00M and 01M)	14866BBB203A
	Valve actuator 24 V AC 0-10 V continuous valve actuation	2x 0-10 V continuous valve actuators including plug-in line and valve adapter, factory-fitted and wired to the basic unit	valve kits for 4-pipe and electromechanical control (00M and 01M)	14866BBB403A
Condensation accessories, factory-fitted to the basic unit				
	Valve condensation tray, wall-mounted unit	factory-fitted to the basic unit, to collect any condensation produced on the valve fitting for left-hand water connection and 2-way valve kit on wall-mounted units	all models	14864WBL002A
		factory-fitted to the basic unit, to collect any condensation produced on the valve fitting for right-hand water connection and 2-way valve kit on wall-mounted units		14864WBR002A
		factory-fitted to the basic unit, to collect any condensation produced on the valve fitting for left-hand water connection and 3-way valve kit and differential pressure-independent valve kit on wall-mounted units		14864WBL003A
		factory-fitted to the basic unit, to collect any condensation produced on the valve fitting for right-hand water connection and 3-way valve kit and differential pressure-independent kit on wall-mounted units		14864WBR003A
	Valve condensation tray for ceiling-mounted units	factory-fitted on the basic unit to collect the condensation produced on the valve assembly with ceiling-mounted units	all models	14864DBB000A
	Condensation pump	110-230V AC, 60 Hz; Head up to 5 m at 5 l/h (16' 5" at 1.3 gal/h); for on-site mounting; CSA certified	all models with valve condensation tray	148991308155

more »

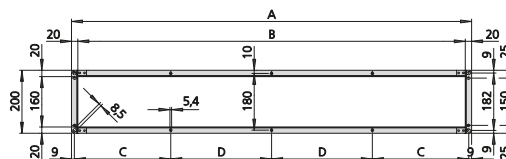
Accessories

Figure	Article	Properties	Suitable for	Art. no.
Spare filter and filter accessories, factory-fitted to the basic unit				
	ISO Coarse spare filter	dry layer filter, filter grade ISO Coarse	all models	14869BBB0*01
	ePM10>50% spare filter (M5)	cassette filter used as spare filter, filter grade ePM10>50% (formerly M5) (only for use with basic units with filter box for cassette filter ePM10>50% or ePM1>50%)	all models	14869BBB0*05
	ePM1>50% spare filter (F7)	cassette filter used as spare filter, filter grade ePM1>50% (formerly F7) (only for use with basic units with filter box for cassette filter ePM10>50% or ePM1>50%)		14869BBB0*07
Sheet steel accessories – recirculating air, provided separately				
	Air duct	standard length 1000 mm, non-standard lengths on request	all models	14865BBB0*01
	Sound attenuator baffle silencer type	length 500 mm	all models	14865BBB0*06
	Flexible connector	with frame on both sides and flexible canvas connection for structure-borne noise decoupling and length compensation of on-site dimensional inaccuracies; Length: 120 – 160 mm	all models	14865BBB0*04
	Flexible pipe connection unit spigot Ø 180 mm	number of adaptors model 61 = 2 model 63 = 3 model 66 = 4 model 67 = 5	all models	14865BBB0*05
	Ceiling swirl diffuser DN 180	circular, white painted, for connection to Ø 158 mm flexible pipe, outer diameter of swirl diffuser 280 mm, type DRS with clamping flange for installation in suspended ceilings	all models	14867BBB0001
	90° duct bend	short bend, e.g. with ceiling arrangement as a transition from horizontal to vertical ductwork	all models	14865BBB0*03
				more »



Dimensions / Frame connection dimensions

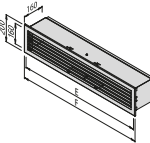
Model	A	B	C	D
	[mm]	[mm]	[mm]	[mm]
61	570	530	276	–
63	870	830	426	–
66	1320	1280	651	–
67	1670	1630	406	420



Article key for model (Example of art. no.)

14865BBB0101 — model 61
3 — model 63
6 — model 66
7 — model 67

Accessories

Figure	Article	Properties	Suitable for	Art. no.
Sheet steel accessories – recirculating air, provided separately				
	Inlet box with primary air connection spigot	unit for fitting on the air inlet of the Venkon, dimensions of connecting sockets DN 100	all models	14865BBB0*07
	Hotel air opening with inlet box and filter	unit for fitting on the air inlet of the Venkon	all models	14867BBB0*05
	Outlet box with primary air connection spigot	unit for fitting on the air outlet of the Venkon, dimensions of connecting sockets DN 100	all models	14865BBB0*08
	Outlet box with hotel opening	unit for installation onto the air discharge of the Venkon	all models	14867BBB0*03
	Outlet box with primary air connection spigot and hotel opening	unit for fitting on the air outlet of the Venkon, dimensions of connecting sockets DN 100	all models	14867BBB0*04
	Air grille, natural aluminium inside, rigid design with connection box	unit for installation onto the air discharge of the Venkon	all models	14867BBB0*02
	Air grille, natural aluminium inside, with adjustable air outlet angle with connection box	unit for installation onto the air discharge of the Venkon	all models	14867BBB0*12
	Inspection hatch, perforated metal with frame	unit for subsequent maintenance in suspended ceilings, colour RAL 9016, suitable for clamping to plasterboard ceilings or for suspending from concrete slab ceilings, 25 mm wide frame on all sides width without frame: 600 mm length without frame: model 61 = 900 mm / model 63 = 1200 mm / model 66 = 1650 mm / model 67 = 2000 mm	all models	14866BBB0*10





Dimensions / Frame connection dimensions

Model	A	B	C	D	E	F	G	H
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
61	570	530	276	–	586	620	625	586
63	870	830	426	–	886	920	925	886
66	1320	1280	651	–	1336	1370	1375	1336
67	1670	1630	406	420	1686	1720	1725	1686

Article key for model (Example of art. no.)

14865BBB0101 —> model 61
3 —> model 63
6 —> model 66
7 —> model 67

Figure	Article	Properties	Suitable for	Art. no.
Electromechanical Control Accessories				
	Programmable digital temperature controller	suitable for heating and/or cooling for 2- or 4-pipe applications. With 3-stage fan speed switch, operating mode selection switch AUTO/RUN, room temperature setpoint adjuster 0-50 °C (32-122 °F), integral temperature sensor and possible connection to external room sensor. Colour: white, similar to RAL 9010. Power supply: 24 VAC/VDC, 50/60 Hz	Venkon EC, electromechanical, all sizes, 2-pipe	196000030246
			Venkon EC, electromechanical, all sizes, 4-pipe	196000030226
	Power supply 24V	slim DIN rail power supply with short circuit, overload and over voltage protection. AC input: 85-264 V, 47-63 Hz DC Output: 24 V Rated Power: 36 W Limited Power Source (LPS).	Venkon EC, electromechanical, all sizes, 2- and 4-pipe	196001335152

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