VORTICE

COMMERCIAL VENTILATION

VORT NRG RANGE

High efficiency heat recovery units
equipped with static exchangers

NEW

INDEX

COMMERCIAL VENTILATION

NEW

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Regulations and Standards

Standard related to Machinery Directive

- EN 60204-1
- EN 12100
- EN 12499
- EN 13857
- EN 1886
- EN 13053+A1

Standard related to EMC Directive

- EN 55014-1
- EN 55014-2
- EN 61000-3-2
- EN 61000-3-3

European Directives and relevant regulations for CE marking

- Machinery Directive: Nr. 2006/42/EC
- EMC Directive: Nr. 2014/30/EU
- Energy Related Products (ErP) Directive: Nr. 2009/125/EC
- Electric Motor Efficiency Regulation: Nr. 640/2009/EC
- Motor-fans Regulation: Nr. 327/2011/EU
- Ventilation Units Regulation: Nr. 1253/2014/EU

Marking and Certifications
The heat exchangers utilised on all models are Eurovent certified.

VORT NRG RANGE

High efficiency heat recovery units equipped with static exchangers

VORT NRG are heat recovery systems that guarantee high levels of efficiency and heat exchange with reduced energy consumption (all models fully meet the requirements of the new ErP N° 1253/2014/EU Regulation, 2nd Tier, in force since January 2018). Distinctive elements, like the reduced height and the proportionally small dimensions, make these products easy to install in false-ceilings; the plug-and-play type conception makes them particularly suitable for installation in residential, commercial and industrial environments, such as condominiums, villas, meeting rooms, classrooms, shops, bars, restaurants, etc... The possibility to configure air flows directly on site, by easily modifying the position of the casing external panels, makes the VORT NRG range extremely versatile.

KEY FEATURES

- Wide range of performance.
- Flexible installation thanks to easy configuration of the air flows in the installation phase, exchanging the position of the external closing panels of the casing.
- Reduced height to facilitate ceiling installation.
- High heat exchange efficiency (exceeding 85% all sizes and 90% on the biggest ones); at the respective nominal flow rates, all models exceed the strictest limitations set out by the second phase (2nd Tier), of the ErP Nr. 1253/2014/EU Regulation, in force since January 2018.
- Low consumption, thanks to the EC (brushless) motors coupled to centrifugal impellers with backward-curve blades, which limit turbulence and noise.
- By-pass damper for integrated free-cooling and with automatic drive.
- Excellent heat insulation (to prevent heat loss) and acoustic insulation guaranteed by the criteria used in the design and realisation of the casings, which incorporate an internal polyurethane core.
- High performance (nominal flow rates up to 4000 m^3/h) to meet most market requirements.
- Quick and simplified installation and setting (“plug-and-play” technology).

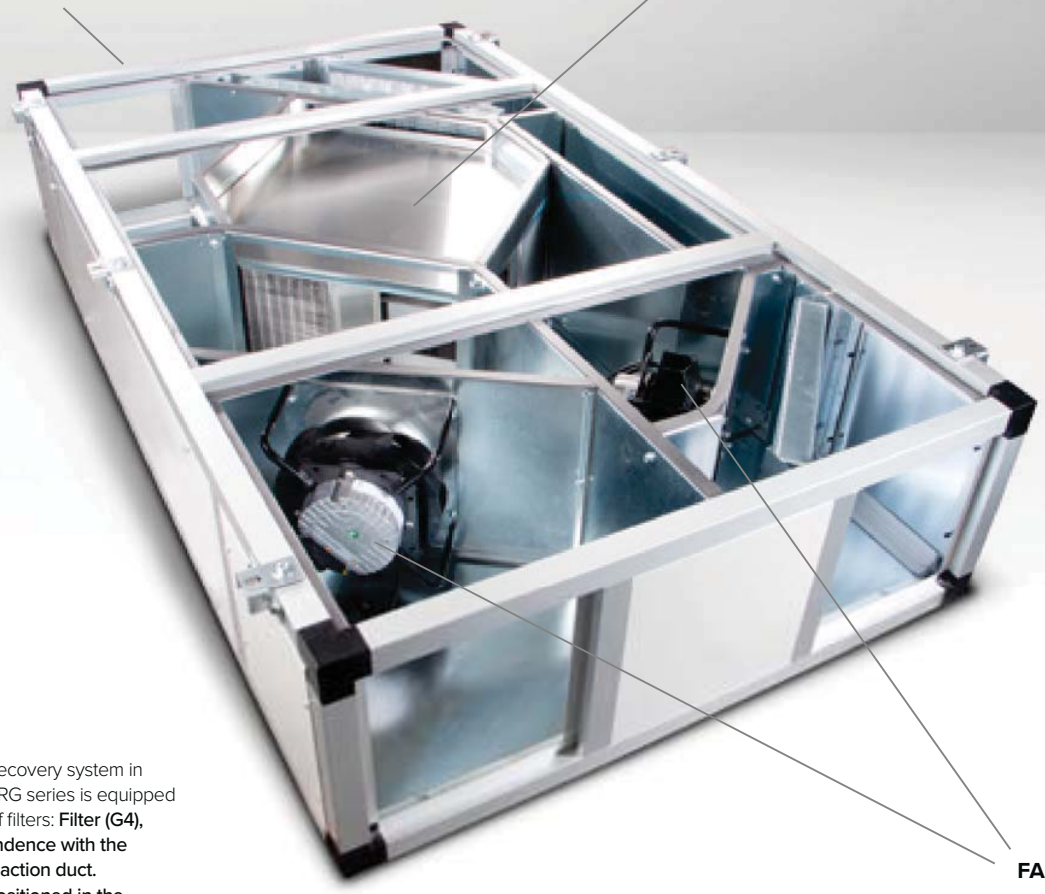
CONSTRUCTION FEATURES

CONSTRUCTION

- Structure in 40 mm anodized aluminium profiles.
- Double panelling (sandwich), thickness 23 mm. Internal parts in expanded polyurethane, density 40 kg/m^3.
- External sheet, thickness 6/10, in pre-painted steel, coated with protective film.
- Galvanised steel internal sheets, thickness 6/10.
- Automatic 100% filtered internal by-pass.
- Feet and brackets for floor or false-ceiling installation respectively.
- Removable panels for direct access to the filters and internal components.

HEAT EXCHANGER

The appliances of the VORT NRG range are equipped with aluminium air-to-air, counter cross-flow heat exchanges, whose efficiency - certified by Eurovent - at nominal flow rate is between 85% and 92% depending on the model, when measured in the following conditions:
Outside air: - 5°C - 80% RH
Indoor air: +20°C- 50% RH
Automatic defrosting of the heat exchanger at low temperatures is assured, when necessary, by opening of the by-pass or by dedicated pre-heaters, depending on the version.



FILTERS

Every heat recovery system in the VORT NRG series is equipped with a pair of filters: **Filter (G4), in correspondence with the stale air extraction duct. Filter (F7), positioned in the outdoor ventilation air flow.** Both the filters are mounted on guides with lip seals to guarantee effective sealing. Their position, upstream from the internal components, also guarantees their protection.

FANS

Independently adjustable, they are constructed from backward-curved centrifugal impellers, directly coupled to **EC (brushless)** external rotor motors with bearings single-phase or three-phase (depending on the model) incorporating heat protectors and able to adapt performance to requirements of the moment (EVO TOP P, Q, H versions) adjustment of the air flow from 10% to 100%, ensuring low consumption and reduced noise emissions.

VORT NRG EVO RANGE

Double flow, centralised ventilation unit with heat recovery for horizontal and vertical installation, equipped with aluminium plate exchangers of the counter cross flow type and EC (brushless) motor fans.

Electromechanical wall-mounted control box.

The main distinctive features of the VORT NRG EVO range are:

- Independent adjustment of the fans via potentiometers housed in the control unit separate from the product.
- Automatic management of the by-pass valve for "free-cooling" function.
- Automatic defrosting.
- Monitoring of the degree of clogging of the filters.
- Operation to -5°C outdoor temperature without pre-heating devices of the delivery air.

In particular, every model in the VORT NRG EVO series, offers as per standard:

- A general alarm switch to stop the product in the event of faults or malfunctioning.
- An external air temperature sensor.
- A pair of differential pressure switches to control the status of clogging of the filters.
- A wired remote control unit.

Note:
A local switch, mounted externally on all models, allows the unit to be stopped in the case of breakdown.

CONTROLS AND SAFETY DEVICES

The models in the VORT NRG EVO range are supplied complete with wired remote control unit, which incorporates two potentiometers for adjustment of the EC fan speed, the control for setting summer/winter mode and a clogged filter alarm LED. The control box is locked to prevent undesired modifications to previously-set machine settings.

RANGE COMPOSITION

The new range of VORT NRG EVO heat recovery systems is made up of 6 models, with nominal air flow rates, respectively equal to 500, 1000, 1500, 2000, 3000 and 4000 m^3/h, referring to the residual static pressure of 150 Pa. Each model is available in the horizontal variant (H), in the versions for ceiling or floor-standing installation (on request) and vertical variant (V), in the versions with inspection panels on the right and the left (on request).

HORIZONTAL	
Model	**Code**
VORT NRG EVO 500	45620
VORT NRG EVO 1000	45622
VORT NRG EVO 1500	45624
VORT NRG EVO 2000	45626
VORT NRG EVO 3000	45628
VORT NRG EVO 4000	45630

VERTICAL	
Model	**Code**
VORT NRG EVO 500 V	45621
VORT NRG EVO 1000 V	45623
VORT NRG EVO 1500 V	45625
VORT NRG EVO 2000 V	45627
VORT NRG EVO 3000 V	45629
VORT NRG EVO 4000 V	45631

TECHNICAL DATA

Models	Codes	W max	V	Hz	Phases	Max. flow rate m^3/h	Efficiency of heat exchange*	Sound pressure Lp 3m dB (A)	Duct diam. mm**	Temp. of use °C	Protecion rating	Kg
VORT NRG EVO 500	45620	335	230	50	1	568	85%	56	200	-5/+40	IP54	96
VORT NRG EVO 500 V	45621											
VORT NRG EVO 1000	45622	1049	230	50	1	1380	89%	56	250	-5/+40	IP54	137
VORT NRG EVO 1000 V	45623											
VORT NRG EVO 1500	45624	1449	230	50	1	1969	88%	65	315	-5/+40	IP54	176
VORT NRG EVO 1500 V	45625											
VORT NRG EVO 2000	45626	1472	230	50	1	2622	89%	60	355	-5/+40	IP54	230
VORT NRG EVO 2000 V	45627											
VORT NRG EVO 3000	45628	2240	400	50	1	3530	92%	65	355	-5/+40	IP54	300
VORT NRG EVO 3000 V	45629											
VORT NRG EVO 4000	45630	3040	400	50	1	5275	92%	67	400	-5/+40	IP54	435
VORT NRG EVO 4000 V	45631											

*At nominal flow range in the following conditions: Indoor +20°C, 50% RH - Outdoor -5°C, 80% RH
** Using NPK rectangle-round adapters, available as an option

VORT NRG EVO RANGE

High efficiency heat recovery units equipped with static exchangers

ENERGY DATA

Model Code	Unit of measurement	VORT NRG EVO 500 VORT NRG EVO 500 V 45620 - 45621	VORT NRG EVO 1000 VORT NRG EVO 1000 V 45622 - 45623	VORT NRG EVO 1500 VORT NRG EVO 1500 V 45624 - 45625
Manufacturer's name or brand name	-	Vortice	Vortice	Vortice
Type of ventilation unit declared	-	UVNR-B**	UVNR-B**	UVNR-B**
Type of drive	-	VSD***	VSD***	VSD***
Type of heat exchanger system HRS	-	altro	altro	altro
Heat efficiency of the heat recovery	%	81.5	81.6	82.7
Nominal flow rate	m^3/s	0.13	0.29	0.38
Effective electric power input	kW	0.33	1.06	1.4
SFPint ****	$W/(m^3/s)$	934	1134	1159
Face velocity at nominal flow rate	m/s	4.16	6,00	4,89
Nominal external pressure (Δps, ext)	Pa	150	150	150
Internal pressure drop of the ventilation components (Δps, int)	Pa	231	319	313
Internal pressure drop of the non-ventilation components (Δps, add)	Pa	NA*	NA*	NA*
Static efficiency of the fans used according to the 327/2011/EU Regulation	%	42.8	56.4	54.0
Maximum percentage of internal leakage of the case	%	4.1	4.2	4.3
Maximum percentage of external leakage of the case	%	8.1	8.2	8.3
Description of the visual filter warning	-	See instruction book	See instruction book	See instruction book

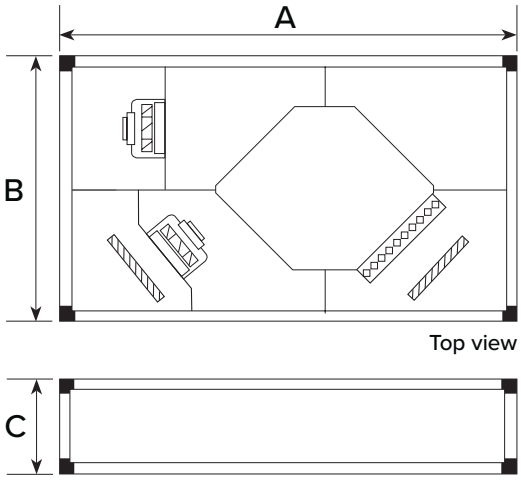
ENERGY DATA

Model Code	Unit of measurement	VORT NRG EVO 2000 VORT NRG EVO 2000 V 45626 - 45627	VORT NRG EVO 3000 VORT NRG EVO 3000 V 45628 - 45629	VORT NRG EVO 4000 VORT NRG EVO 4000 V 45630 - 45631
Manufacturer's name or brand name	-	Vortice	Vortice	Vortice
Type of ventilation unit declared	-	UVNR-B**	UVNR-B**	UVNR-B**
Type of drive	-	VSD***	VSD***	VSD***
Type of heat exchanger system HRS	-	other	other	other
Heat efficiency of the heat recovery	%	82.8	85.4	83.5
Nominal flow rate	m^3/s	0.57	0.72	1.11
Effective electric power input	kW	1.38	2.48	3.00
SFPint ****	$W/(m^3/s)$	1148	1020	953
Face velocity at nominal flow rate	m/s	5.78	7.33	3.00
Nominal external pressure (Δps, ext)	Pa	150	150	150
Internal pressure drop of the ventilation components (Δps, int)	Pa	333	304	355
Internal pressure drop of the non-ventilation components (Δps, add)	Pa	NA*	NA*	NA*
Static efficiency of the fans used according to the 327/2011/EU Regulation	%	58.0	59.6	70.3
Maximum percentage of internal leakage of the case	%	4.5	4.7	4.9
Maximum percentage of external leakage of the case	%	8.3	8.4	8.5
Description of the visual filter warning	-	See instruction book	See instruction book	See instruction book

* NA: Not Applicable. ** UVNR-B: Non- Residential Ventilation Unit - Bidirectional. *** VSD: Multiple Speed. **** SFPint: Specific internal power of the ventilation components.

DIMENSIONS

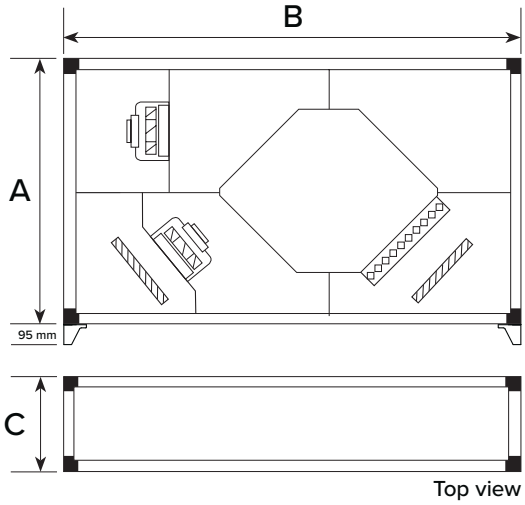
HORIZONTAL VERSIONS



Products	A	B	C
VORT NRG EVO 500	1400	970	400
VORT NRG EVO 1000	1900	1100	400
VORT NRG EVO 1500	1980	1200	470
VORT NRG EVO 2000	2200	1400	550
VORT NRG EVO 3000	2400	1550	680
VORT NRG EVO 4000	3000	1900	680

Dimensions (mm)

VERTICAL VERSIONS



Products	A	B	C
VORT NRG EVO 500 V	970	1400	400
VORT NRG EVO 1000 V	1100	1900	400
VORT NRG EVO 1500 V	1200	1980	470
VORT NRG EVO 2000 V	1400	2200	550
VORT NRG EVO 3000 V	1550	2400	680
VORT NRG EVO 4000 V	1900	3000	680

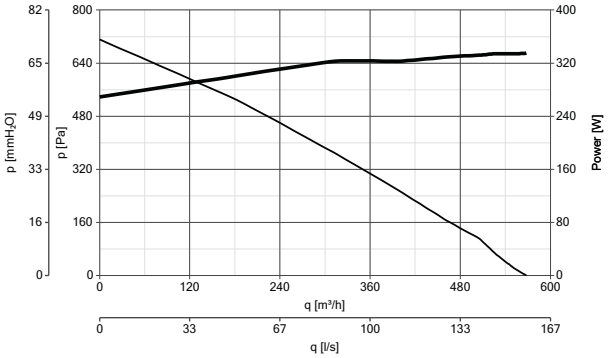
Dimensions (mm)

VORT NRG EVO RANGE

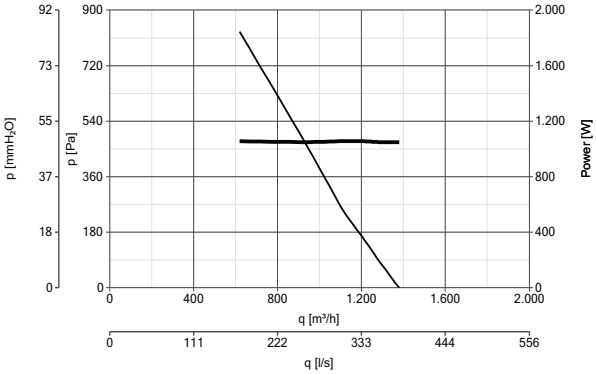
High efficiency heat recovery units equipped with static exchangers

PERFORMANCES AND CONSUMPTIONS

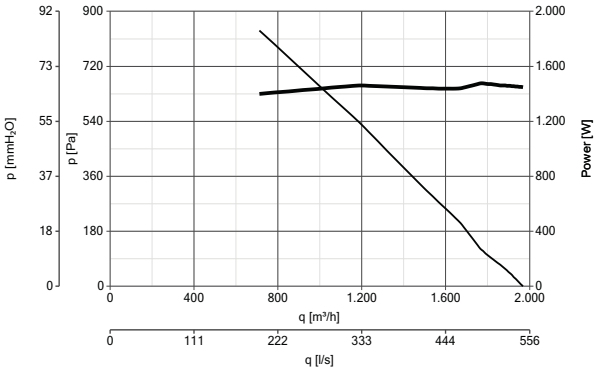
VORT NRG EVO 500 code 45620
VORT NRG EVO 500 V code 45621



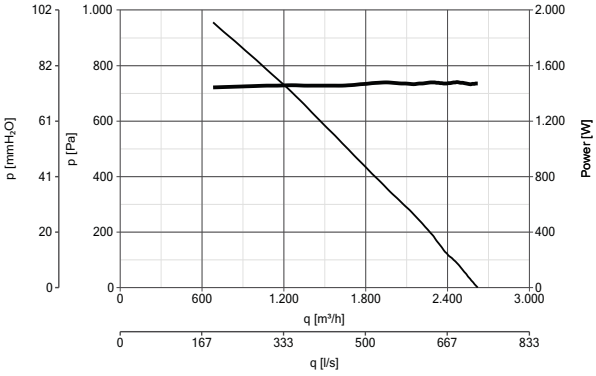
VORT NRG EVO 1000 code 45622
VORT NRG EVO 1000 V code 45623



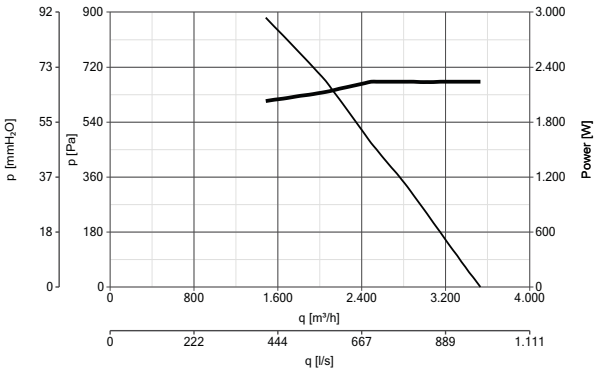
VORT NRG EVO 1500 code 45624
VORT NRG EVO 1500 V code 45625



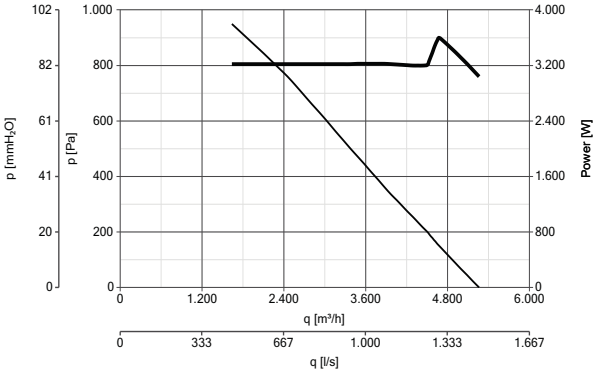
VORT NRG EVO 2000 code 45626
VORT NRG EVO 2000 V code 45627



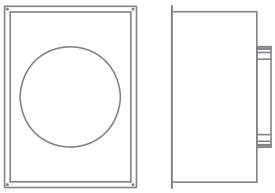
VORT NRG EVO 3000 code 45628
VORT NRG EVO 3000 V code 45629



VORT NRG EVO 4000 code 45630
VORT NRG EVO 4000 V code 45631



ACCESSORIES



Rectangle-round adapters for connection to circular piping

NRG EVO 500 NPK - code 79874
for VORT NRG EVO 500

NRG EVO 1000 NPK - code 79875
for VORT NRG EVO 1000

NRG EVO 1500 NPK - code 79876
for VORT NRG EVO 1500

NRG EVO 2000 NPK - code 79877
for VORT NRG EVO 2000

NRG EVO 3000 NPK - code 79878
for VORT NRG EVO 3000

NRG EVO 4000 NPK - code 79879
for VORT NRG EVO 4000

Rain canopy

NRG EVO 500 RCC - code 68825
for VORT NRG EVO 500

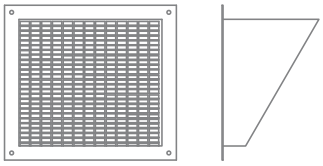
NRG EVO 1000 RCC - code 68826
for VORT NRG EVO 1000

NRG EVO 1500 RCC - code 68827
for VORT NRG EVO 1500

NRG EVO 2000 RCC - code 68828
for VORT NRG EVO 2000

NRG EVO 3000 RCC - code 68829
for VORT NRG EVO 3000

NRG EVO 4000 RCC -code 68830
for VORT NRG EVO 4000



Galvanised steel sheet hood with anti-bird mesh

NRG EVO 500 ABC - code 68581
for VORT NRG EVO 500

NRG EVO 1000 ABC - code 68582
for VORT NRG EVO 1000

NRG EVO 1500 NPK - code 68583
for VORT NRG EVO 1500

NRG EVO 2000 NPK - code 68584
for VORT NRG EVO 2000

NRG EVO 3000 NPK - code 68585
for VORT NRG EVO 3000

NRG EVO 4000 NPK - code 68586
for VORT NRG EVO 4000

NRG EVO 500 SPK - code 79830
Extra sound-proofing kit for for VORT NRG EVO 500

NRG EVO 1000 SPK - code 79831
Extra sound-proofing kit for for VORT NRG EVO 1000

NRG EVO 1500 SPK - code 79832
Extra sound-proofing kit for for VORT NRG EVO 1500

NRG EVO 2000 NPK - code 79833
Extra sound-proofing kit for VORT NRG EVO 2000

NRG EVO 3000 SPK - code 79834
Extra sound-proofing kit for VORT NRG EVO 3000

NRG EVO 4000 SPK - code 79835
Extra sound-proofing kit for VORT NRG EVO 4000

VORT NRG EVO TOP RANGE

Double flow, centralised ventilation unit with heat recovery for horizontal and vertical installation, equipped with aluminium plate exchangers of the counter cross flow type and EC (brushless) motor fans.

Advanced remote controle panel with LCD display.

The main features of the VORT NRG EVO TOP range are:

- Programmable start and end times that for automatic operation.
- Control at constant flow rate or pressure (Q and P versions respectively) or according CO_2 concentration (C versions).
- Wide range of available configurations thanks to the possibility of integrating electric and/or water coils, to ensure excellent performance in a wide variety of environmental conditions.
- Automatic management of the by-pass valve for "free-cooling" function.
- Automatic defrosting.
- Monitoring of the degree of clogging of the filters.
- Operation to -5°C outdoor temperature without pre-heating devices of the delivery air.
- Possible integration in a Buildin Management System (BMS).

Accessory functions and/or devices available on different product configurations:

- Sound-proofing ventilating section.
- 2-row internal post-heating hot water coil.
- External post-cooling cold water coil.
- External post-heating/water cooling coil.
- External electrical post-heater (mounted inside the machine).
- Damper for external air recovery, discharge, recirculation, air delivery, room air recovery.

Additional accessories available upon request and therefore not included in the products listed in the standard configuration include:

- Direct expansion module (R410A) complete with mechanical expansion valve unit with external equaliser and check valve for reversible operation (installed in external module, external motocondensing unit not included).
- Internal damper with recirculation function complete with automatic ON/OFF actuator.
- External damper that can be positioned on the external air side, discharge, delivery and/or recovery, complete with automatic ON/OFF actuator.
- More powerfull electrical pre-heater, suitable for particularly cold climates.

In particular, every model in the VORT NRG EVO TOP series offers as per standard:

- A general alarm switch to stop the product in the event of faults or malfunctioning.
- Remote ON/OFF control.
- Summer/winter season change.
- External air temperature sensor.
- Delivery air temperature sensor.
- Recovery air temperature sensor.
- A pair of differential pressure switches to control the status of filters clogging.
- Remote functions management terminal with LCD display.
- RS-485 Modbus port for communicating with BMS systems (Building Management System).
- Fan speed control with 0-10 Vdc signal.

CONTROLS AND SAFETY DEVICES

VORT NRG EVO TOP range models are controlled by an advanced electronic suite which automatically manages operation based on the environmental conditions detected by the sensors.

- On **"P"** range models, the electronics allow the machine to operate at constant pressure.
- On **"Q"** range models, the electronics allow the machine to operate at constant flow rate.
- On **"C"** range models, the electronics automatically manage the product operation based on CO_2 concentration.

An LCD display lets:

- The installer set initial machine set-up.
- The end user monitor the operating status of the machine, set the summer/winter mode and time slot programming.
- The maintenance operator access the functional parameters in the case of intervention due to a fault.

All range models can manage:

- Automatic opening and closing of the bypass damper.
- Filter clogging status control through differential pressure switches.
- Automatic activation or deactivation of electric or water, pre- or post-heaters and post-coolers (depending on the configuration envisaged by the model).
- All the models in the range guarantee operation at a minimum temperature of -5°C, even in the absence of pre-heaters.
- A local switch, mounted on the front of all models, allows the unit to be stopped in the case of breakdown.

CONFIGURATION

VORT NRG EVO TOP P

Ventilation speed is modulated by the 0-10 Vdc analogue signal sent to the fans according to the measurement of the useful static pressure detected by the controller. In this way, the desired useful static pressure value at the delivery point is ensured when external load conditions vary (pressure loss along the duct).

VORT NRG EVO TOP Q

Ventilation speed is modulated by the 0-10 Vdc analogue signal sent to the fans according to the measurement of the flow rate detected in the delivery channel. In this way, the constant flow rate value (which can be set on the remote display) is automatically guaranteed also based on the level of filter clogging.

VORT NRG EVO TOP C

Ventilation speed is modulated by the 0-10 Vdc analogue signal sent to the fans according to the measurement of the amount of CO_2 present in the indoor air. The fan speed will vary between minimum and maximum based on the CO_2 set point (measured in ppm).

VORT NRG EVO TOP RANGE

High efficiency heat recovery units equipped with static exchangers

RANGE COMPOSITION

The new range of VORT NRG EVO TOP heat recovery systems is made up from 6 models, with nominal air flow rates, respectively equal to 500, 1000, 1500, 2000, 3000 and 4000 m^3/h, referring to the residual static pressure of 150 Pa. Each model is available in the horizontal variant (H), in the versions for ceiling or floor-standing installation (on request) and vertical variant (V), in the versions with inspection panels on the right or left (on request).

DESCRIPTION OF THE STANDARD FITTINGS AVAILABLE FOR EACH MODEL

The following configurations can be selected only through the corresponding software. For further information contact Vortice local partner.

Example of Vortice code

VORT NRG EVO TOP | 500 | C | 06

Name of range

SIZE	
500	nominal flow rate 500 m^3/h
1000	nominal flow rate 1200 m^3/h
1500	nominal flow rate 1550 m^3/h
2000	nominal flow rate 2300 m^3/h
3000	nominal flow rate 2870 m^3/h
4000	nominal flow rate 4500 m^3/h

MODE OF FUNCTION	
P	constant pressure
Q	constant flow rate
C	CO_2 control level

TYPE OF CONFIGURATIONS	
00	Base version
01	Hydronic post heating coil (integrated)
02	Electric post heater (integrated)
03	Post cooling coil (external mounted)
04	Hydronic post heating coil (integrated) + Post cooling coil (external mounted)
05	Electric defrosting pre-heater (external box)
06	Electric pre-heater (external box) + hydronic post heating coil (integrated)
07	Electric pre-heater (external box) + electric post heater (integrated)
08	Electric pre-heater (external box) + post cooling coil (external mounted)
09	Electric pre-heater (external box) + hydronic post heating coil (integrated) + post cooling coil (external mounted)

TECHNICAL DATA (performance data referring to base versions without accessories)

Models	W max	V	Hz	Phases	Max. flow rate m³/h	Efficiency of heat exchange*	Sound pressure Lp 3m dB (A)	Duct diam. mm**	Temp. of use °C	Protecion rating	Kg
VORT NRG EVO TOP 500	335	230	50	1	568	85%	56	200	-5/+40	IP54	96
VORT NRG EVO TOP 500 V											
VORT NRG EVO TOP 1000	1049	230	50	1	1380	89%	56	250	-5/+40	IP54	137
VORT NRG EVO TOP 1000 V											
VORT NRG EVO TOP 1500	1449	230	50	1	1969	88%	65	315	-5/+40	IP54	176
VORT NRG EVO TOP 1500 V											
VORT NRG EVO TOP 2000	1472	230	50	1	2622	89%	60	355	-5/+40	IP54	230
VORT NRG EVO TOP 2000 V											
VORT NRG EVO TOP 3000	2240	400	50	1	3530	92%	65	355	-5/+40	IP54	300
VORT NRG EVO TOP 3000 V											
VORT NRG EVO TOP 4000	3040	400	50	1	5275	92%	67	400	-5/+40	IP54	435
VORT NRG EVO TOP 4000 V											

*At nominal flow range in the following conditions: Indoor +20°C, 50% RH - Outdoor -5°C, 80% RH - ** Using NPK rectangle-round adapters, available as an option

ENERGY DATA (performance data referring to base versions without accessories)

	Unit of measurement	VORT NRG EVO TOP 500 VORT NRG EVO TOP 500 V	VORT NRG EVO TOP 1000 VORT NRG EVO TOP 1000 V	VORT NRG EVO TOP 1500 VORT NRG EVO TOP 1500 V
Manufacturer's name or brand name	-	Vortice	Vortice	Vortice
Type of ventilation unit declared	-	UVNR-B**	UVNR-B**	UVNR-B**
Type of drive	-	VSD***	VSD***	VSD***
Type of heat exchanger system HRS	-	other	other	other
Heat efficiency of the heat recovery	%	81.5	81.6	82.7
Nominal flow rate	m³/s	0.13	0.29	0.38
Effective electric power input	kW	0.33	1.06	1.4
SFPint ****	W/(m³/s)	934	1134	1159
Face velocity at nominal flow rate	m/s	4.16	6,00	4,89
Nominal external pressure (Δps, ext)	Pa	150	150	150
Internal pressure drop of the ventilation components (Δps, int)	Pa	231	319	313
Internal pressure drop of the non-ventilation components (Δps, add)	Pa	NA*	NA*	NA*
Static efficiency of the fans used according to the 327/2011/EU Regulation	%	42.8	56.4	54.0
Maximum percentage of internal leakage of the case	%	4.1	4.2	4.3
Maximum percentage of external leakage of the case	%	8.1	8.2	8.3
Description of the visual filter warning	-	See instruction book	See instruction book	See instruction book

* NA: Not Applicable. ** UVNR-B: Non- Residential Ventilation Unit - Bidirectional. *** VSD: Multiple Speed. **** SFPint: Specific internal power of the ventilation components.

VORT NRG EVO TOP RANGE

High efficiency heat recovery units equipped with static exchangers

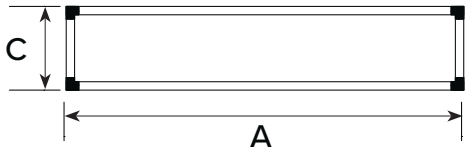
ENERGY DATA (performance data referring to base versions without accessories)

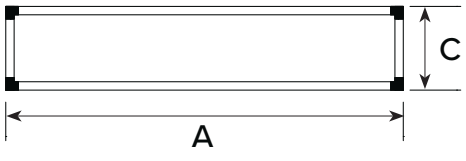
Model	Unit of measurement	VORT NRG EVO TOP 2000 VORT NRG EVO TOP 2000 V	VORT NRG EVO TOP 3000 VORT NRG EVO TOP 3000 V	VORT NRG EVO TOP 4000 VORT NRG EVO TOP 4000 V
Manufacturer's name or brand name	-	Vortice	Vortice	Vortice
Type of ventilation unit declared	-	UVNR-B**	UVNR-B**	UVNR-B**
Type of drive	-	VSD***	VSD***	VSD***
Type of heat exchanger system HRS	-	other	other	other
Heat efficiency of the heat recovery	%	82.8	85.4	83.5
Nominal flow rate	m^3/s	0.57	0.72	1.11
Effective electric power input	kW	1.38	2.48	3.00
SFPint ****	$W/(m^3/s)$	1148	1020	953
Face velocity at nominal flow rate	m/s	5.78	7.33	3.00
Nominal external pressure (Δps, ext)	Pa	150	150	150
Internal pressure drop of the ventilation components (Δps, int)	Pa	333	304	355
Internal pressure drop of the non-ventilation components (Δps, add)	Pa	NA*	NA*	NA*
Static efficiency of the fans used according to the 327/2011/EU Regulation	%	58.0	59.6	70.3
Maximum percentage of internal leakage of the case	%	4.5	4.7	4.9
Maximum percentage of external leakage of the case	%	8.3	8.4	8.5
Description of the visual filter warning	-	See instruction book	See instruction book	See instruction book

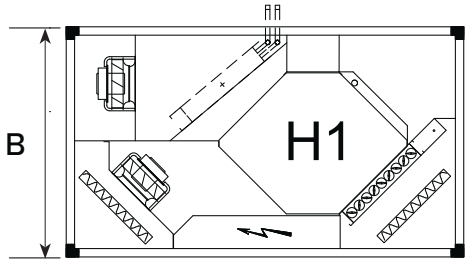
* NA: Not Applicable. ** UVNR-B: Non- Residential Ventilation Unit - Bidirectional. *** VSD: Multiple Speed. **** SFPint: Specific internal power of the ventilation components.

DIMENSIONS

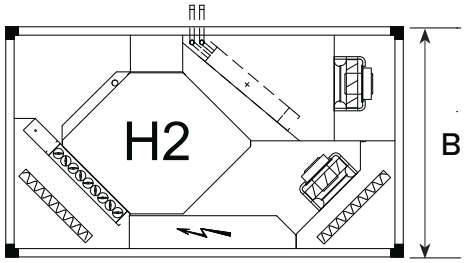
HORIZONTAL CEILING VERSIONS





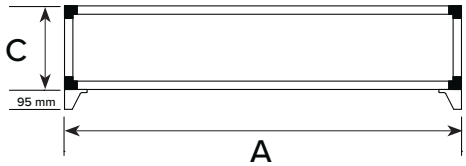


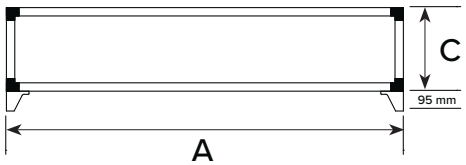
Top view

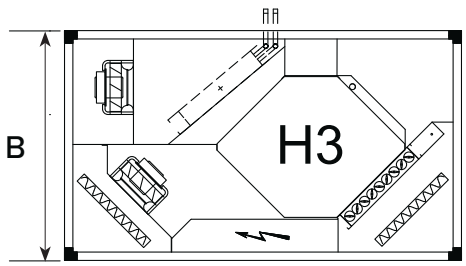


Top view

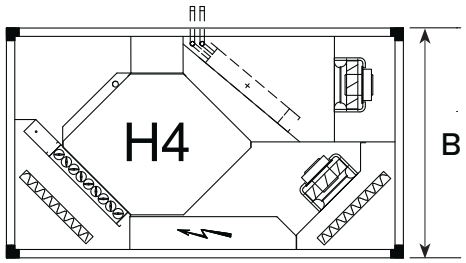
HORIZONTAL FLOOR VERSIONS







Top view



Top view

Products	A	B	C
VORT NRG EVO TOP 500	1400	970	400
VORT NRG EVO TOP 1000	1900	1100	400
VORT NRG EVO TOP 1500	1980	1200	470
VORT NRG EVO TOP 2000	2200	1400	550
VORT NRG EVO TOP 3000	2400	1550	680
VORT NRG EVO TOP 4000	3000	1900	680

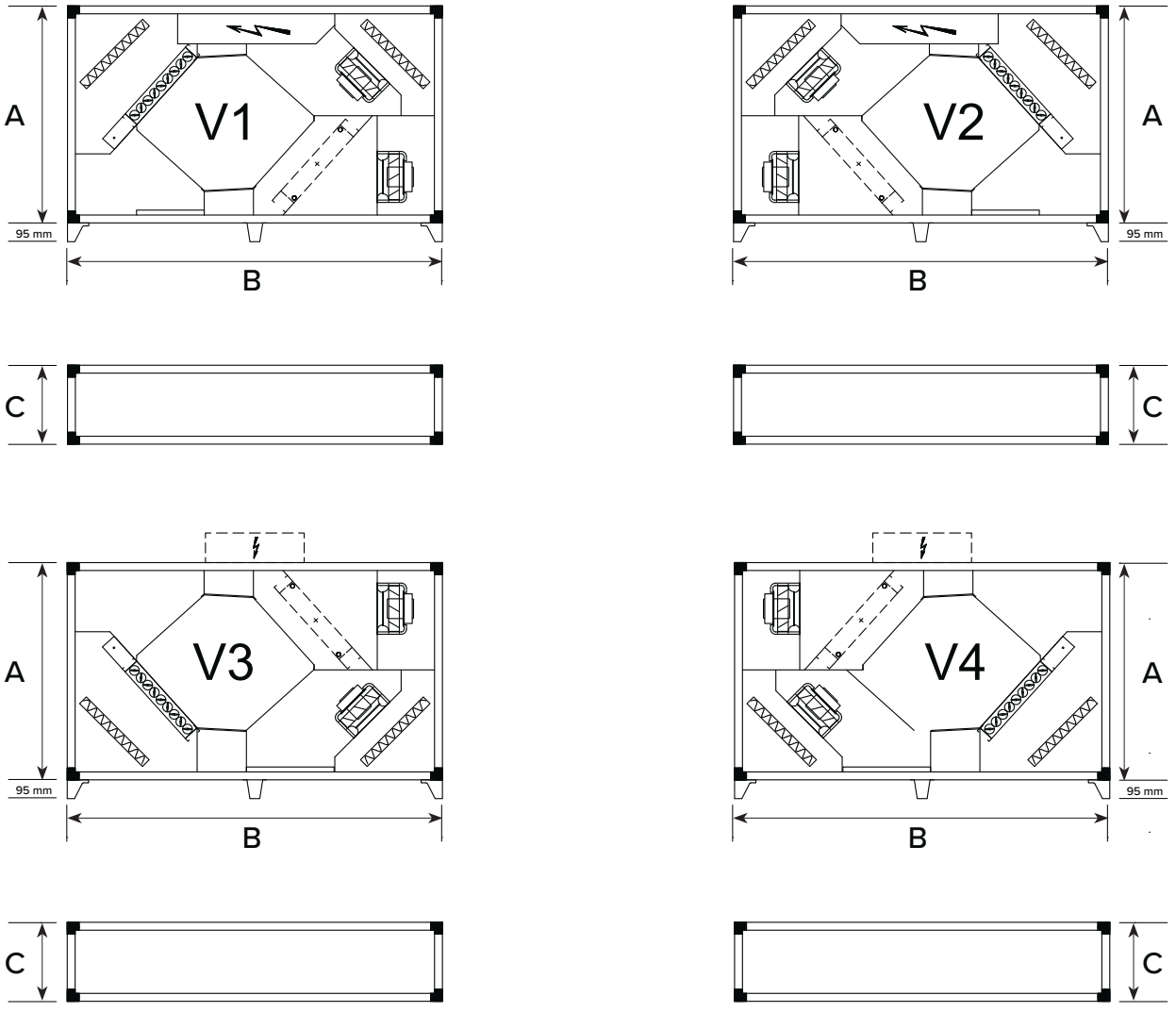
Dimensions (mm)

VORT NRG EVO TOP RANGE

High efficiency heat recovery units equipped with static exchangers

DIMENSIONS

VERTICAL VERSION

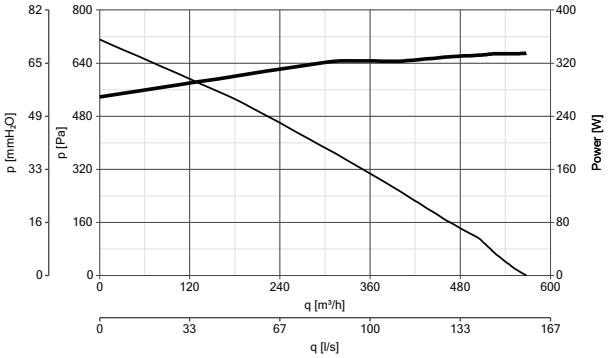


Products	A	B	C
VORT NRG EVO 500 V	970	1400	400
VORT NRG EVO 1000 V	1100	1900	400
VORT NRG EVO 1500 V	1200	1980	470
VORT NRG EVO 2000 V	1400	2200	550
VORT NRG EVO 3000 V	1550	2400	680
VORT NRG EVO 4000 V	1900	3000	680

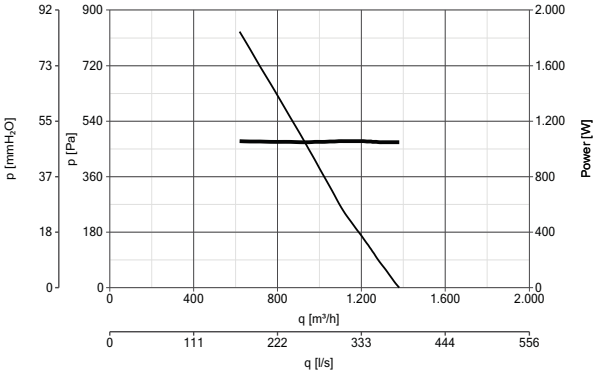
Dimensions (mm)

PERFORMANCES AND CONSUMPTIONS (referring to base versions without accessories)

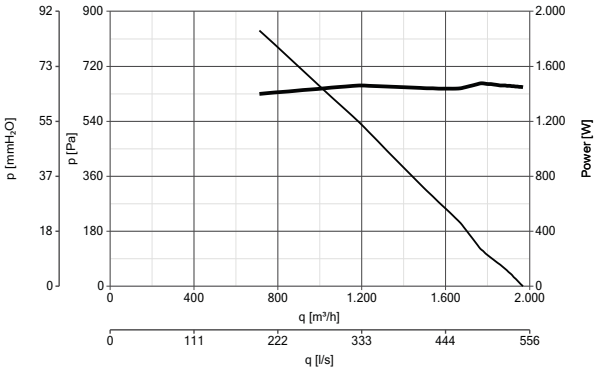
VORT NRG EVO TOP 500
VORT NRG EVO TOP 500 V



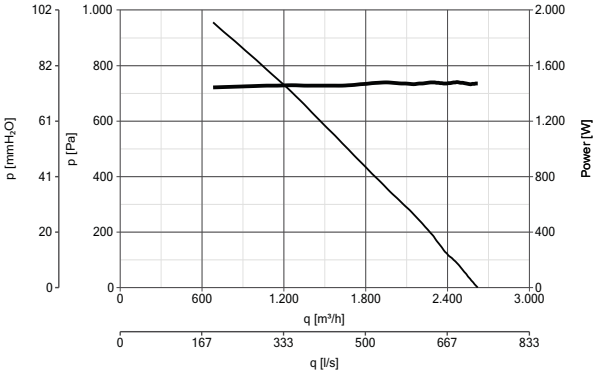
VORT NRG EVO TOP 1000
VORT NRG EVO TOP 1000 V



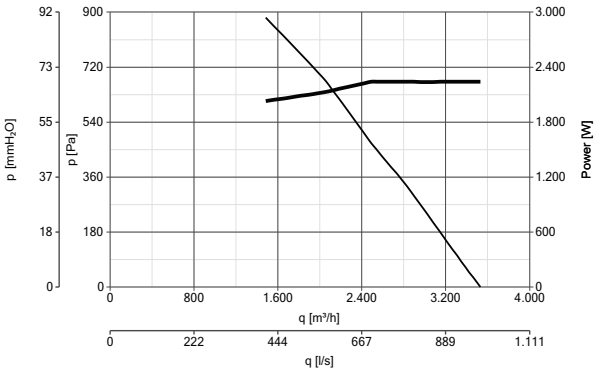
VORT NRG EVO TOP 1500
VORT NRG EVO TOP 1500 V



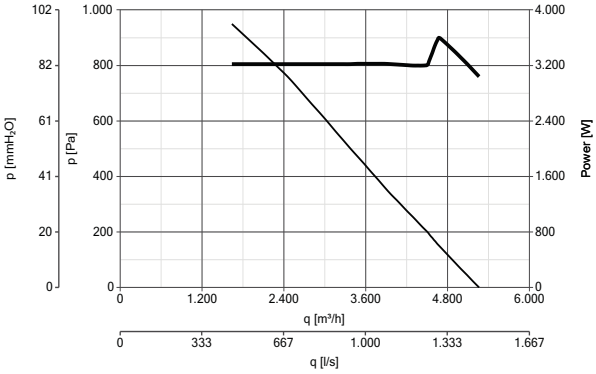
VORT NRG EVO TOP 2000
VORT NRG EVO TOP 2000 V



VORT NRG EVO TOP 3000
VORT NRG EVO TOP 3000 V



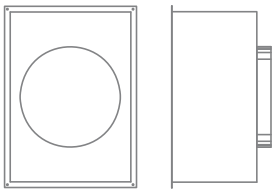
VORT NRG EVO TOP 4000
VORT NRG EVO TOP 4000 V



VORT NRG EVO TOP RANGE

High efficiency heat recovery units equipped with static exchangers

ACCESSORIES



Rectangle-round adapters for connection to circular piping

NRG EVO 500 NPK - code 79874
for VORT NRG EVO TOP 500

NRG EVO 1000 NPK - code 79875
for VORT NRG EVO TOP 1000

NRG EVO 1500 NPK - code 79876
for VORT NRG EVO TOP 1500

NRG EVO 2000 NPK - code 79877
for VORT NRG EVO TOP 2000

NRG EVO 3000 NPK - code 79878
for VORT NRG EVO TOP 3000

NRG EVO 4000 NPK - code 79879
for VORT NRG EVO TOP 4000

Rain canopy

NRG EVO 500 RCC - code 68825
for VORT NRG EVO TOP 500

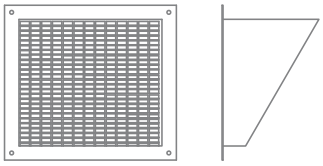
NRG EVO 1000 RCC - code 68826
for VORT NRG EVO TOP 1000

NRG EVO 1500 RCC - code 68827
for VORT NRG EVO TOP 1500

NRG EVO 2000 RCC - code 68828
for VORT NRG EVO TOP 2000

NRG EVO 3000 RCC - code 68829
for VORT NRG EVO TOP 3000

NRG EVO 4000 RCC - code 68830
for VORT NRG EVO TOP 4000



Galvanised steel sheet hood with anti-bird mesh

NRG EVO 500 ABC - code 68581
for VORT NRG EVO TOP 500

NRG EVO 1000 ABC - code 68582
for VORT NRG EVO TOP 1000

NRG EVO 1500 NPK - code 68583
for VORT NRG EVO TOP 1500

NRG EVO 2000 NPK - code 68584
for VORT NRG EVO TOP 2000

NRG EVO 3000 NPK - code 68585
for VORT NRG EVO TOP 3000

NRG EVO 4000 NPK - code 68586
for VORT NRG EVO TOP 4000

NRG EVO 500 SPK - code 79830
Extra sound-proofing kit for for VORT NRG EVO TOP 500

NRG EVO 1000 SPK - code 79831
Extra sound-proofing kit for for VORT NRG EVO TOP 1000

NRG EVO 1500 SPK - code 79832
Extra sound-proofing kit for for VORT NRG EVO TOP 1500

NRG EVO 2000 NPK - code 79833
Extra sound-proofing kit for VORT NRG EVO TOP 2000

NRG EVO 3000 SPK - code 79834
Extra sound-proofing kit for VORT NRG EVO TOP 3000

NRG EVO 4000 SPK - code 79835
Extra sound-proofing kit for VORT NRG EVO TOP 4000

ACCESSORIES

(only for the EVO TOP series, configurable for each version and size; can be selected through the configuration software)

NRGET 500 EDF - NRGET 1000 EDF - NRGET 1500 EDF
NRGET 2000 EDF - NRGET 3000 EDF - NRGET 4000 EDF
External damper - fresh air side

NRGET 500 EDFA - NRGET 1000 EDFA - NRGET 1500 EDFA
NRGET 2000 EDFA - NRGET 3000 EDFA - NRGET 4000 EDFA
Actuator for external damper - fresh air side

NRGET 500 EDE - NRGET 1000 EDE - NRGET 1500 EDE
NRGET 2000 EDE - NRGET 3000 EDE - NRGET 4000 EDE
External damper - exhaust air discharge side

NRGET 500 EDEA - NRGET 1000 EDEA - NRGET 1500 EDEA
NRGET 2000 EDEA - NRGET 3000 EDEA - NRGET 4000 EDEA
Actuator for external damper - exhaust air discharge side

NRGET 500 EDS - NRGET 1000 EDS - NRGET 1500 EDS
NRGET 2000 EDS - NRGET 3000 EDS - NRGET 4000 EDS
External damper - delivery air side

NRGET 500 EDSA - NRGET 1000 EDSA - NRGET 1500 EDSA
NRGET 2000 EDSA - NRGET 3000 EDSA - NRGET 4000 EDSA
Actuator for external damper - delivery air side

NRGET 500 EDR - NRGET 1000 EDR - NRGET 1500 EDR
NRGET 2000 EDR - NRGET 3000 EDR - NRGET 4000 EDR
External damper - recovery air side

NRGET 500 EDRA - NRGET 1000 EDRA- NRGET 1500 EDRA
NRGET 2000 EDRA - NRGET 3000 EDRA - NRGET 4000 EDRA
Actuator for external damper - recovery air side

NRGET 500 AH - NRGET 1000 AH- NRGET 1500 AH
NRGET 2000 AH - NRGET 3000 AH - NRGET 4000 AH
Electric pre-heater for cold climates (H models)

NRGET 500 AHV - NRGET 1000 AHV- NRGET 1500 AHV
NRGET 2000 AHV - NRGET 3000 AHV - NRGET 4000 AHV
Electric pre-heater for cold climates (V models)

NRGET 500 AH-C - NRGET 1000 AH-C - NRGET 1500 AH-C
NRGET 2000 AH-C - NRGET 3000 AH-C - NRGET 4000 AH-C
Electric pre-heater control for cold climates (H models)

NRGET 500 AHV-C - NRGET 1000 AHV-C - NRGET 1500 AHV-C
NRGET 2000 AHV-C - NRGET 3000 AHV-C - NRGET 4000 AHV-C
Electric pre-heater control for cold climates (H models)

NRGET 500 ECOIL - NRGET 1000 ECOIL- NRGET 1500 ECOIL
NRGET 2000 ECOIL - NRGET 3000 ECOIL - NRGET 4000 ECOIL
Direct expansion coil

NRGET 500 ECOILV - NRGET 1000 ECOILV- NRGET 1500 ECOILV
NRGET 2000 ECOILV - NRGET 3000 ECOILV - NRGET 4000 ECOILV
Valve kit for direct expansion coil

NRGET 500 ID - NRGET 1000 ID - NRGET 1500 ID - NRGET 2000 ID
NRGET 3000 ID - NRGET 4000 ID
Internal recirculation damper (without actuator)

NRGET 500 IDA - NRGET 1000 IDA - NRGET 1500 IDA
NRGET 2000 IDA - NRGET 3000 IDA - NRGET 4000 IDA
ON/OFF actuator for recirculation damper

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VORTICE