LICON®
member of KORADO Group

Heat recovery units

VENTBOX

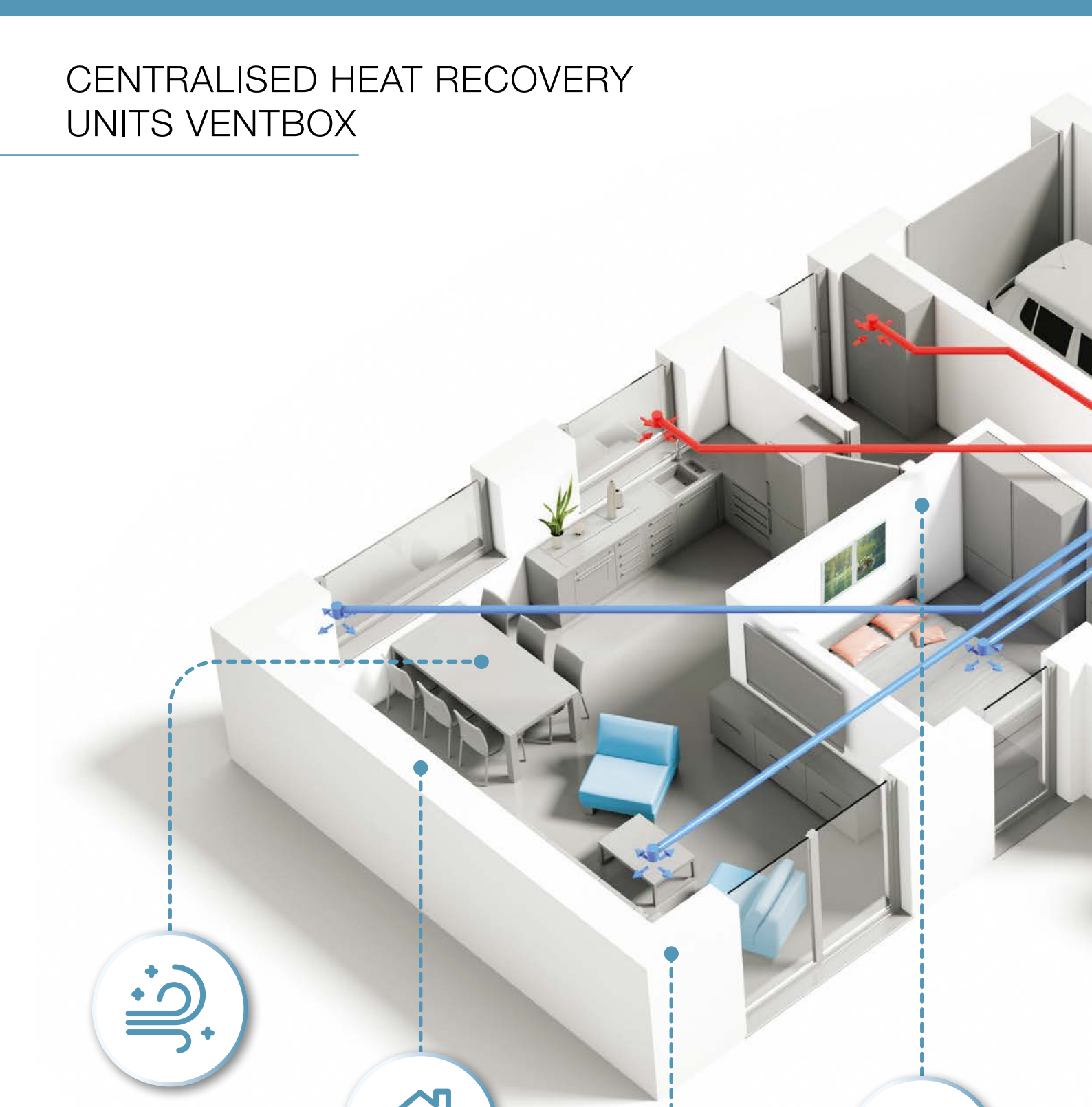
news

KORADO®

10/2025

CONTENTS

CENTRALISED HEAT RECOVERY UNITS VENTBOX



Fresh air without allergens and pollen

The system efficiently filters air, removing allergens, pollen, and impurities. Therefore, the air at your home is healthy and clean.

Flats, apartment buildings, family houses and larger spaces

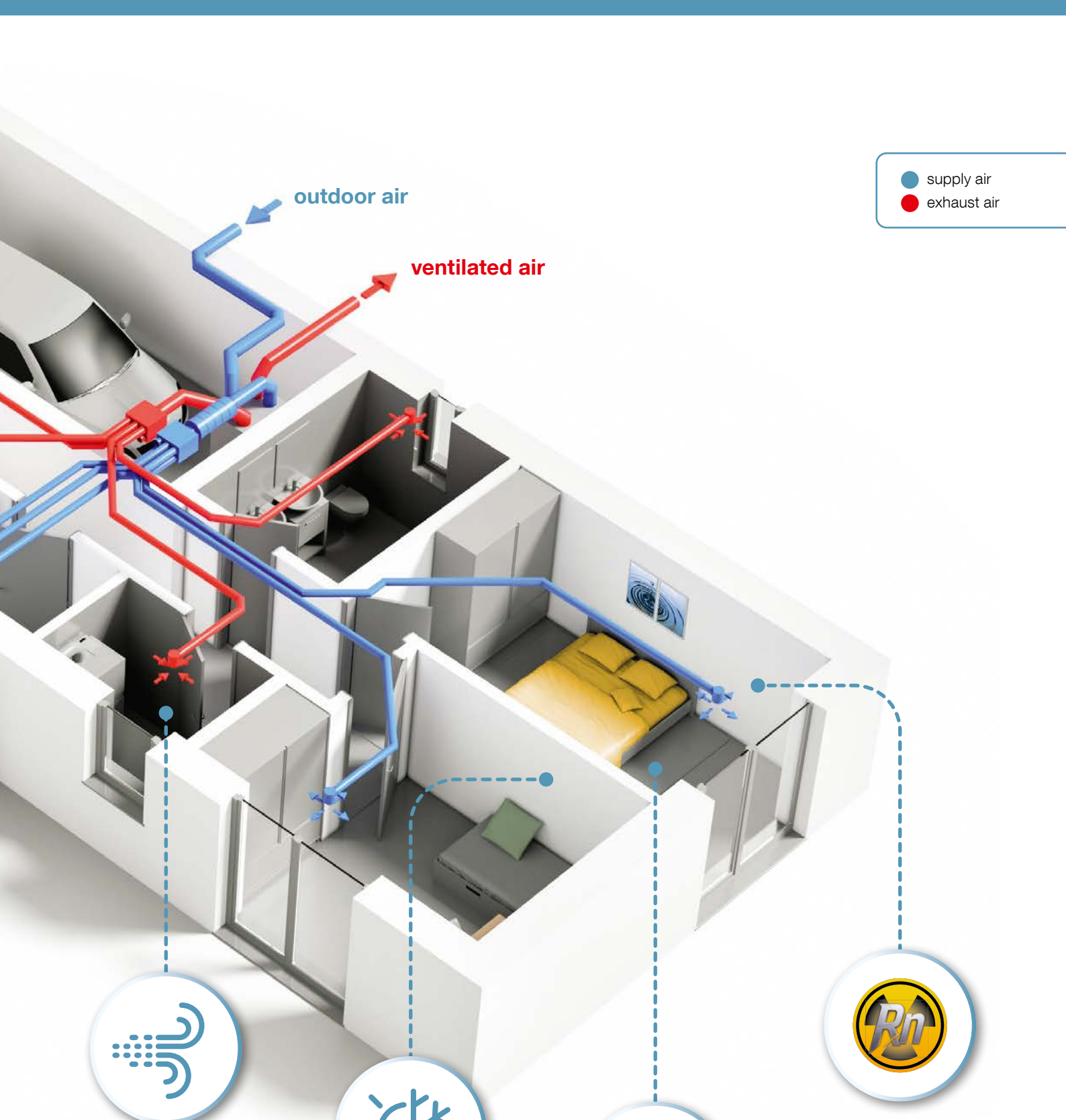
Flats, apartment buildings, family houses offices, schools, café and gyms up to 600 m².

Mobile app control

LICON units can be controlled and monitored through a mobile application, providing you with a convenient way to adjust settings according to your needs.

Moisture removal

CHRV systems feature an integrated mechanism to eliminate excess humidity, contributing to a more comfortable and healthier environment.



Intensive exhaust option

Elevate your air quality with the units' BOOST feature, enabling intensive extraction.

Summer and winter functions

Units compare the temperature of indoor and outdoor air, regulating **the by-pass** damper to prevent the warming of external air from exhaust air.

Low consumption

The units are designed with a focus on energy efficiency, boasting low energy consumption to help you save on operational costs.

Radon-free living

The units are part of the radon protection system and can be used to effectively reduce radon concentration in a building if necessary. They can be equipped with a radon sensor for continuous monitoring, which enables timely and automatic response to any increase in levels.

VENTBOX 150 Thin
VENTBOX 200 Thin

Heat recovery units for apartments

cool, temperate climate
phA
CERTIFIED COMPONENT
Passive House Institute

VENTBOX 150 Thin

The **VENTBOX 150 Thin** central heat recovery system provides a revolutionary and user-friendly solution for optimising the air quality in your home. This modern unit is designed with the latest technology and engineering developments in mind to provide optimum performance and comfort for residential and smaller family homes. Features of this unit include air purification from allergens and pollen, efficient exhaust air and water vapour extraction, low energy consumption, reduced excessive CO_2 and can be controlled via a web interface. With the VENTBOX 150 Thin you can be sure that your home will always have fresh and healthy air.

Specifications

Version	Optimum	Premium	Radon
Recommended area	up to 100 m²		
Energy class	A		
Dimensions (h × w × d)	192 × 593 × 1 248 mm		
Weight	20 kg		
Voltage	230 V / 50 Hz		
Electric current without preheating	0.3 A		
Electric current including preheating	3.7 A		
Max. input power without preheating	72 W		
Max. preheating input power	1 024 W		
IP coverage	30		
Air flow	30–150 m³/h		
Maximum airflow in boost setting	200 m³/h		
Displacement pressure	50–350 Pa		
Acoustic energy L_{WA}	105 m³/h / 50 Pa / 46.9 dB		
Heat transfer efficiency / Flow rate	78 % / 150 m³/h 83 % / 105 m³/h 88 % / 50 m³/h		
Electrical input (without preheating)	55 W / 150 m³/h 29 W / 105 m³/h 17 W / 50 m³/h		
∅ of the connection necks	125 mm		
Type of pipe for condensate drainage	HT DN 32 mm		
Specific power consumption SPI*	0.29 W / m³/h		
Ordering code**	VB1-0150-TC-OHR(L)	VB1-0150-TC-PHR(L)	VB1-0150-TC-RHR(L)

* at reference airflow 105 m³/h and disposition pressure of 50 Pa
** for ordering codes see p. 20

Optimum version

This is an innovative and powerful heat recovery unit designed to optimally achieve **maximum performance while ensuring economic efficiency**. The unit is equipped with all the necessary technical equipment to ensure efficient operation and optimization of all performance parameters.

Premium version

The unit is additionally equipped with **unrivalled motors with constant flow function**. These unique fans compensate for pressure losses (e.g. in case of flow blockage at the inlet). With these premium EC motors, the unit can operate more efficiently and economically; this has a positive effect on the overall dynamics and also the economy when using the heat recovery system. Compensation for changes in pressure losses in the system, e.g. when the filters gradually become clogged. Ensuring uniform ventilation and high efficiency of heat recovery. The unit is more sophisticated.

Radon version

The units are part of a comprehensive radon protection system, within which radon concentrations in a building can be effectively reduced. They can be equipped with a radon sensor for continuous monitoring and automatic response to elevated levels.

The radon versions are based on the premium design of the units, which are fitted with intelligent EC motors with constant airflow. These motors automatically compensate for pressure losses, for example when filters become clogged, thereby contributing to higher operational efficiency.

The result is an optimal overpressure ventilation mode, designed to achieve maximum heat recovery efficiency. Radon variants are available exclusively as part of the radon protection system.

VENTBOX 200 Thin

The **VENTBOX 200 Thin** ensures controlled ventilation with air recuperation, radon extraction, moisture removal in the house, and is also an effective tool for filtering dust and various allergens. At the same time, it helps reduce the thermal demands of the building. The basic principle of controlled ventilation is to bring fresh air into the house, which is heated through the walls of the recuperative exchanger by the exhaust air and then distributed to the living rooms. Conversely, the exhaust air is extracted from the bathrooms, toilets, and kitchen. In the exchanger, it transfers its heat and, together with water vapor, CO_2, and other pollutants, is expelled through the facade out of the house.

Specifications

Version	Economy
Recommended area	up to 150 m²
Energy class	A
Dimensions (h × w × d)	192 × 593 × 1 248 mm
Weight	22.5 kg
Voltage	230 V / 50 Hz
Electric current without preheating	0.9 A
Electric current including preheating	5.8 A
Max. input power without preheating	119 W
Max. preheating input power	1 024 W
IP coverage	30
Air flow	50–200 m³/h
Maximum airflow in boost setting	200 m³/h
Displacement pressure	50–225 Pa
Acoustic energy L_{WA}	140 m³/h / 50 Pa / 39.5 dB
Heat transfer efficiency / Flow rate	75.8 % / 200 m³/h 80.8 % / 140 m³/h 87.5 % / 50 m³/h
Electrical input (without preheating)	119 W / 200 m³/h 51 W / 140 m³/h 23 W / 50 m³/h
∅ of the connection necks	125 mm
Type of pipe for condensate drainage	HT DN 32 mm
Specific power consumption SPI*	0.37 W / m³/h
Ordering code**	VB1-0200-TC-EHR(L)

* at reference airflow 140 m³/h and disposition pressure of 50 Pa
** for ordering codes see p. 20

Economy version

It is designed for highly efficient operation, with optimization of production and operational parameters, allowing for top quality within economic affordability.

This variant offers an excellent price/performance ratio, making it the best choice for those who want to invest in a quality ventilation system with recuperation while staying within reasonable costs.

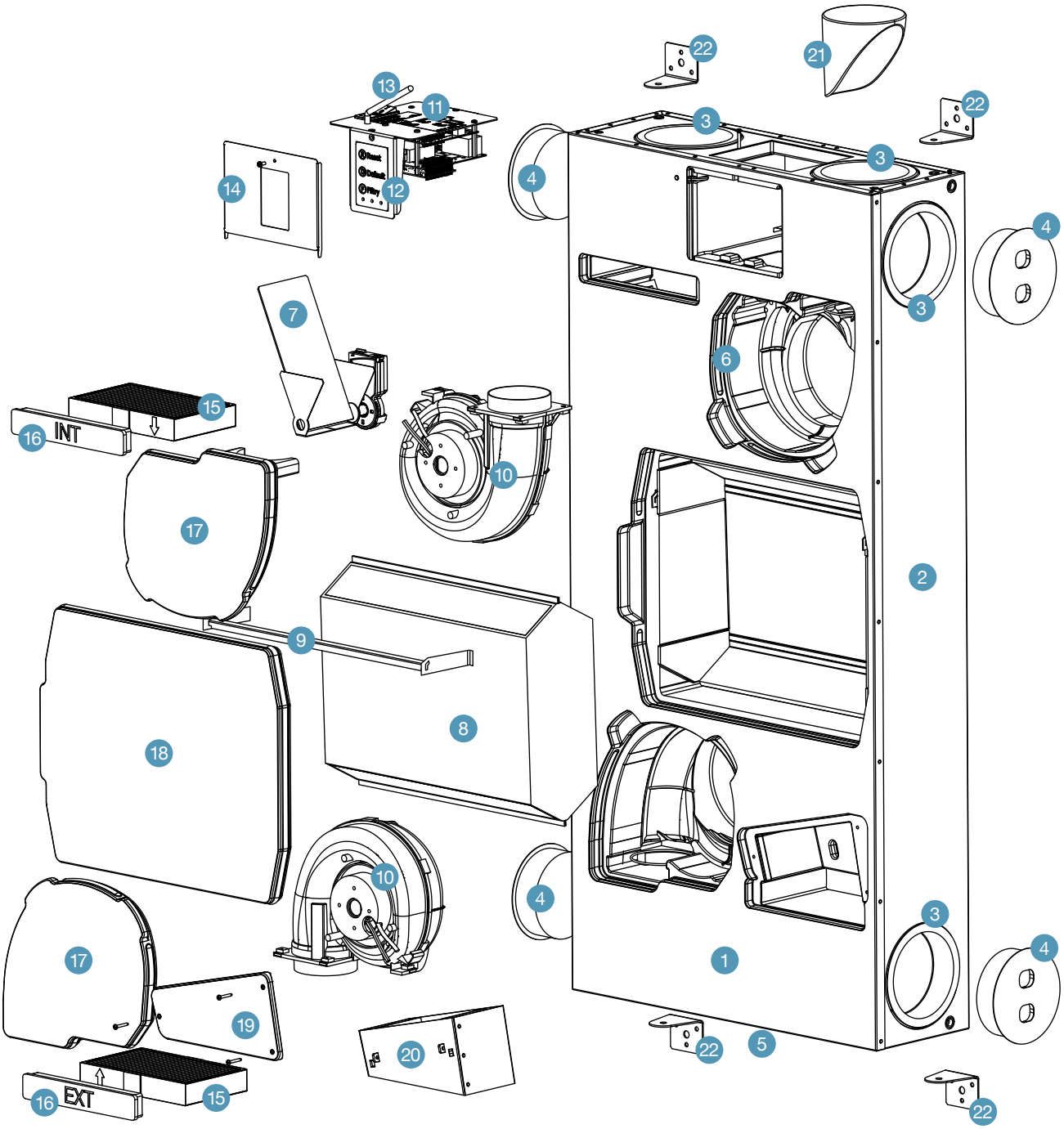
- **Very Quiet Operation**
  The VENTBOX 200 Thin Economy unit excels in acoustic properties. Its operation produces minimal noise, ensuring maximum comfort in living spaces.

- **Compact Design**
  Thanks to its thoughtful dimensions, this unit is easily integrable even into limited spaces. Its very low installation height allows for installation in ceilings without compromising interior design.

- **Suitable for a Wide Range of Users**
  This unit is an ideal choice for a range of residential projects. Whether placed in an apartment, flat, or family house, it provides stable ventilation with maximum heat recuperation efficiency.

The **VENTBOX 200 Thin Economy** model will meet even the highest expectations at a reasonable price while maintaining high quality, efficiency, and functionality.

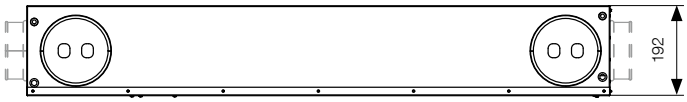
UNIT BREAKDOWN

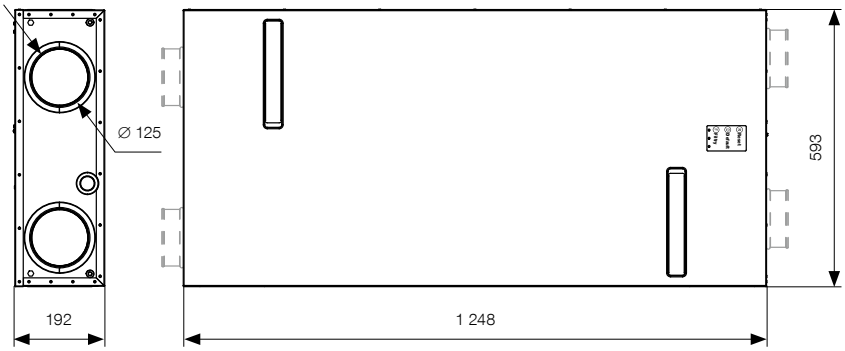


1 back cover of the device (casing not removable)
2 casing of the device
3 air duct connection necks ∅ 125 mm
4 connection caps
5 outlet for condensate discharge
6 unit body
7 by-pass damper including actuator (see p. 58)
8 plate counterflow heat exchanger HRV
9 fixing rail
10 fans with efficient EC motor
11 control electronics and power supply of the unit
12 control and information panel
13 external Wi-Fi antenna
14 control electronics cover
15 air filters
16 filter closing caps
17 fan cover
18 heat exchanger cover
19 preheating cover
20 preheating
21 wedge for directing the airflow (when using side outlets)
22 anchoring/fixing sheet metal hinges with included fasteners
power cord 230 V AC/10 A

Thanks to its universal design, the **VENTBOX** unit has very little installation space requirements and can be installed in almost any position required, whether on the wall, floor, or ceiling. Installation is also possible in very small installation spaces where a standard heat recovery unit would not fit, like the ceiling above the kitchen, or in a wall/recess in a WC or bathroom.

Dimensions of the unit





Dimensions in mm. **Attention!** These are not mounting dimensions. Technical changes reserved.

Basic specifications

- VENTBOX ventilation unit with white galvanised sheet metal on one side
- control and information panel
- 2× analog inputs
- 1× digital input
- holes for connection of necks
- connection hole covers
- outlet for condensate discharge
- plate counterflow heat exchanger HRV
- fans with efficient EC motor
- self-sealing siphon DN 32
- condensate drain hose
- connector for connecting fire sensor or electrical fire alarm system (EPS)
- temperature sensors
- separate temperature sensor for preheating
- filter SUPPLY M5 (ePM10 55 %)*/F7 (ePM1 70 %)* – pollen
- EXHAUST filter M5 (ePM10 55 %)*/F7 (ePM1 70 %)* – pollen
- 230 V mains power cable
- wedge for directing air flow
- air duct connection necks
- anchoring/fixing sheet metal hinges with included fasteners
- mounting template
- product documentation

Optional specification

- VSG 125 connection couplings with seals
- enthalpy counterflow heat exchanger ERV (see p. 56)
- continuous variable manual control (see p. 64)
- CO_2 sensors
- relative humidity (RH) sensor
- radon concentration sensors**
- TVOC and HCHO (volatile substances and formaldehyde) sensor
- INPUT filters (Optimum) F7 (ePM1 70 %)* – pollen
- EXHAUST filters (Optimum) F7 (ePM1 70 %)* – pollen
- insulation box (place the unit in a place with lower temperature)

* the figure in (%) tells how many particles in a given filter class the filter "captures"
** available only with the unit version included in the radon protection system

Basic software functions

- automatic frost protection
- by-pass function (exchanger by-pass)
- control via a web interface (see p. 58)
- weekly time mode
- filter clogging indicator based on filter pressure drop (Premium version VENTBOX 150 Thin)
- filter clogging indicator based on time interval
- Modbus RTU communication
- measuring energy consumption
- BOOST shock ventilation
- language versions CZ, EN, DE, FR

Up to 9 sensors can be connected in total.

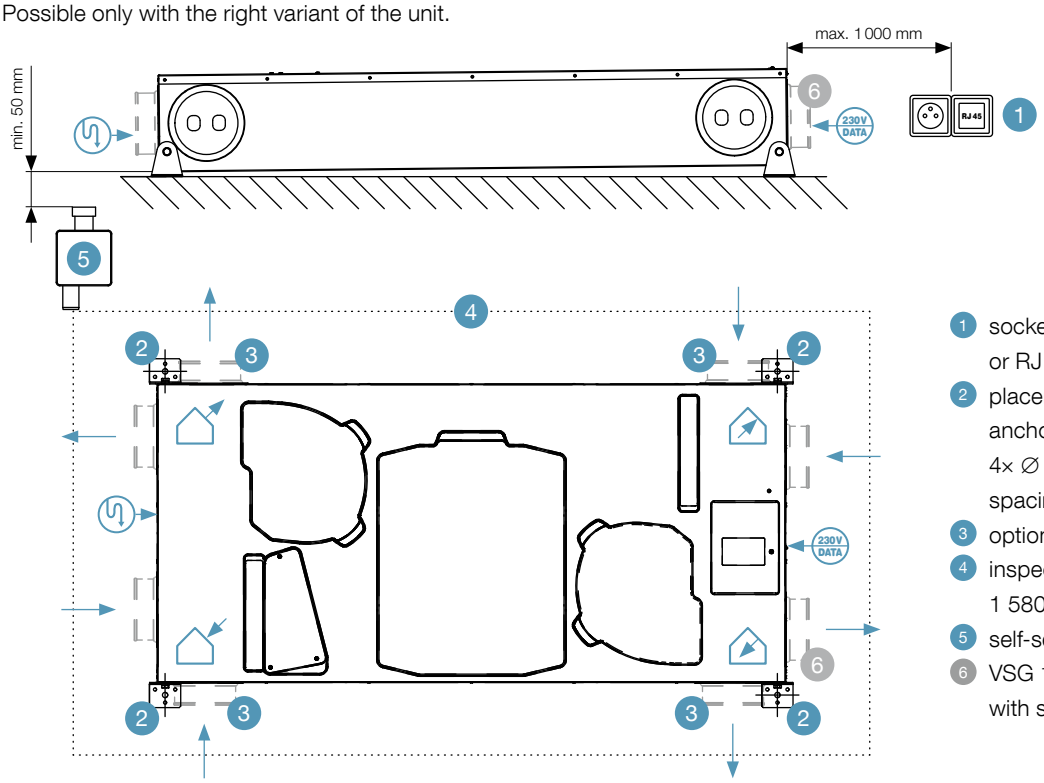
Horizontal mounting (see p. 12)
Installation under the ceiling (e.g. drop ceiling) – always the left variant of the heat recovery unit! Floor mounting (e.g. attic) – always the right variant of the heat recovery unit!

Vertical mounting (see p. 13)
Wall mounting – mounting of both right and left variants of the heat recovery unit

ASSEMBLY

Floor mounting

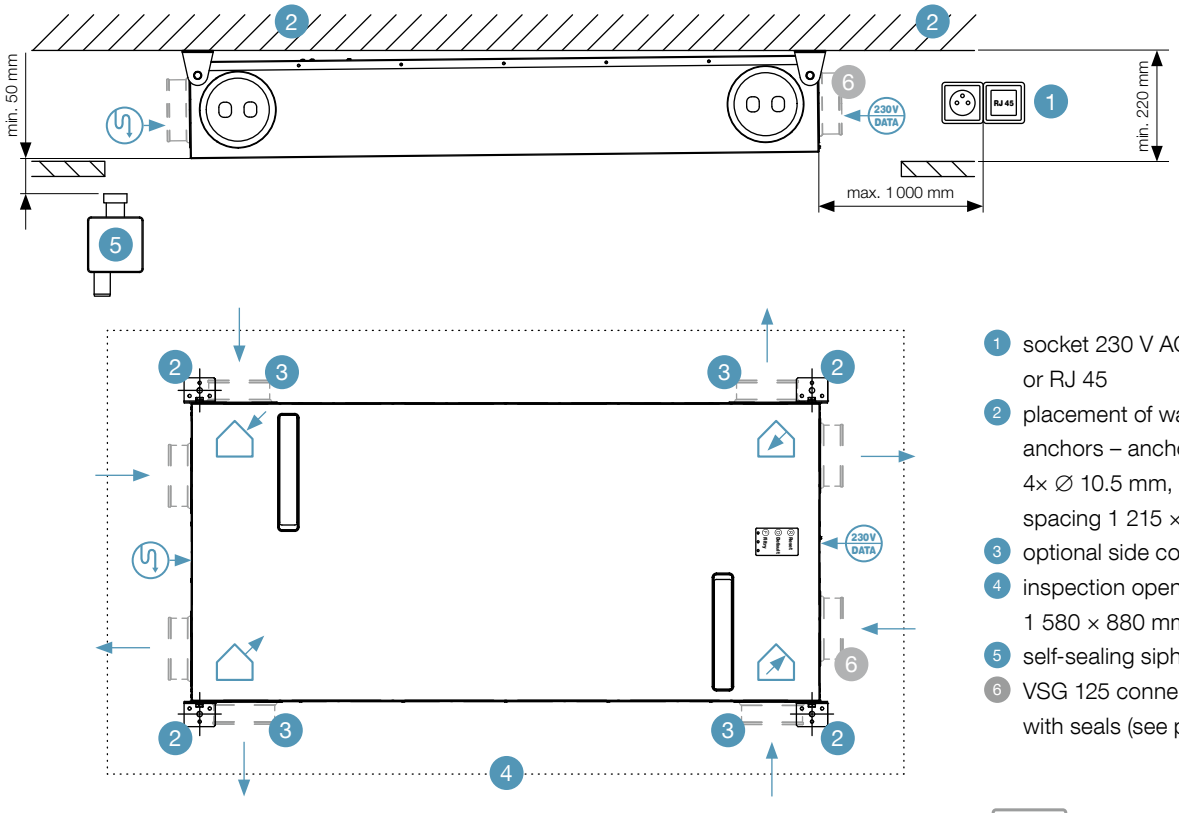
Caution! Possible only with the right variant of the unit.



1. socket 230 V AC/50 Hz, or RJ 45
2. placement of wall mounting anchors – anchor holes 4× ∅ 10.5 mm, mounting spacing 1 215 × 642 mm
3. optional side connections
4. inspection opening 1 580 × 880 mm
5. self-sealing siphon DN 32
6. VSG 125 connection necks with seals (see p. 65)

Installation under the ceiling

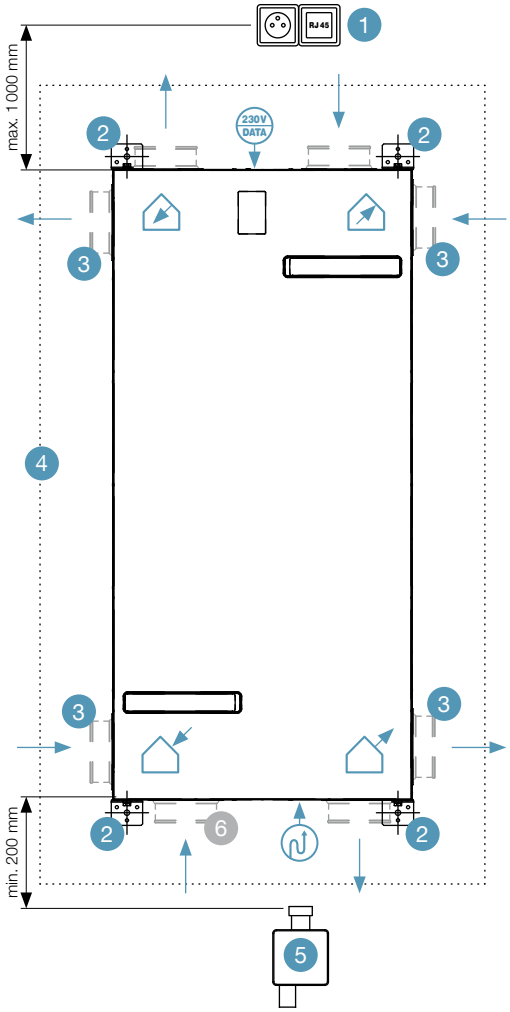
Caution! Possible only with the left variant of the unit.



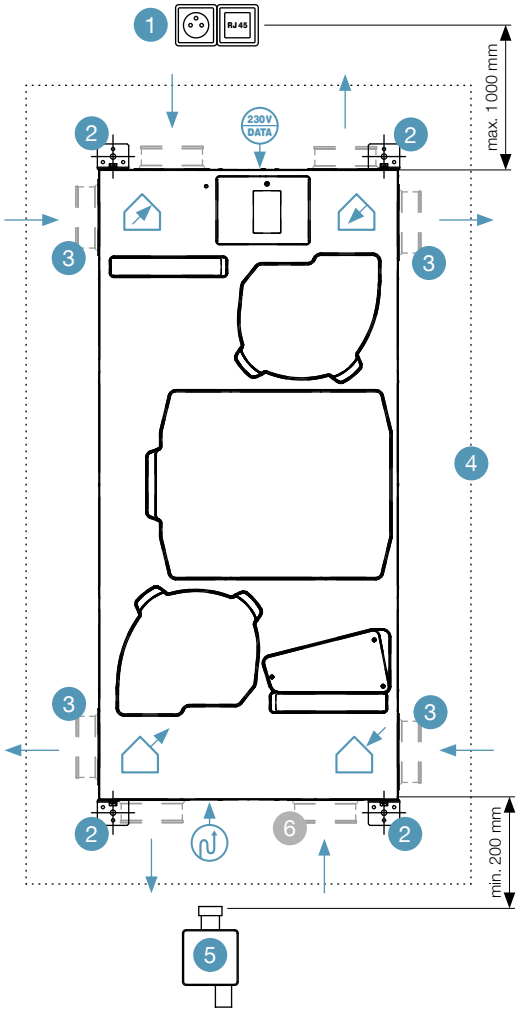
1. socket 230 V AC/50 Hz, or RJ 45
2. placement of wall mounting anchors – anchor holes 4× ∅ 10.5 mm, mounting spacing 1 215 × 642 mm
3. optional side connections
4. inspection opening 1 580 × 880 mm
5. self-sealing siphon DN 32
6. VSG 125 connection necks with seals (see p. 65)

Always place the unit on a level surface, and ensure it is correct orientation and overall gradient!

Wall mounting – left variant



Wall mounting – right variant



1. socket 230 V AC/50 Hz, or RJ 45
2. placement of wall mounting anchors – anchor holes 4× ∅ 10.5 mm, mounting spacing 1 298 × 536 mm
3. optional side connections
4. min. inspection opening 1 580 × 880 mm
5. self-sealing siphon DN 32
6. VSG 125 connection necks with seals (see p. 65)

Dimensions in mm. Technical changes reserved.

Legend

Supply E1
of fresh outdoor air to the unit

Exhaust I2
of used air from the unit to the outside

Distribution E2
of fresh air from the unit to living areas

Exhaust I1
of used air from living areas to the unit

Power socket (230 V AC/ 50 Hz), peripherals

Condensate discharge (HT waste pipe – DN 32 mm)

Air duct connection

REQUIREMENTS FOR OTHER PROFESSIONS

Electrical requirements

Mandatory preparation

Fixed power cables 3×2.5 with circuit breaker 16 A char. B from the switchboard to the heat recovery unit

- Terminate with an AC 230 V/50 Hz socket no further than 1 m from the power socket of the heat recovery unit (the power socket of the heat recovery unit is located between the necks facing the interior).
- Marking of the circuit breaker with the label “heat recovery”.
- **Do not block – bulk remote control!**

Optional preparation

UTP cable from the home Wi-fi router to the heat recovery unit

- Terminate with RJ 45 socket at the location of the heat recovery unit. This is used only in case of a weak Wi-fi signal, for possible connection of a Wi-fi router, and for Wi-fi signal amplification (it is not used for physical connection of the heat recovery unit).

Intensive exhaust buttons “WC, Bathroom, Kitchen”

- Bring UTP cable or J-Y(ST)Y 2×2×0.8 to all rooms with exhaust requirement (WC, bathroom, kitchen and other optional rooms).
- Connect all wires from the intensive exhaust buttons in parallel and connect them to the recovery unit.
- Terminate with a free cable with a reserve of min. 2 m, not farther than 0.5 m from the data terminal of the heat recovery unit and mark “WC button, Bathroom, Kitchen”, etc.
- In the rooms, install a push button with a return to the original position.

CO_2 and RH sensors and continuous control panel (P.R.T.)

- Bring UTP cable or J-Y(ST)Y 2×2×0.8 for sensors and P.R.T. to the required rooms, the wires must be connected in series according to the requirements of the technical design of the RS 485 bus – sensors communicate using Modbus RTU!
- Terminate the cable with a margin of min. 2 m, at the furthest 0.5 m from the data terminal of the heat recovery unit (data terminals are always located between the necks facing the interior).

Recommendations

- The CO_2 sensor for bedrooms or living rooms should be placed at the height of the switches.
- Humidity sensors for bathrooms should be placed on the wall 10 cm below the ceiling.
- Always leave a margin of at least 0.3 m on the continuous cables that connect the individual sensors in series.

Requirements for water installation

Mandatory preparation

HT waste pipe – DN 32 mm

- Fit with a dry siphon and terminate it near the outlet of the condensate drain from the recovery unit (the condensate drain is always located between the outlet of the recovery unit that faces the exterior).
- Keep in mind the required “inspection opening” and the possibility of disconnecting the recovery unit from the waste.
- It is necessary to ensure that the outlet has free flow, considering the overall gradient of the waste system (min. 3 %).

Vertical wall mounting

- Terminate the drain at least 20 cm below the bottom edge of the recovery unit.

Horizontal mounting on the ceiling or floor

- Terminate the drain at least 5 cm from the bottom edge of the recovery unit.

Requirements for construction

Mandatory preparation

Air ducts ∅ 125 mm

- Supply air ducts according to the selected configuration of the rec. unit (right/left variant) and the location of air inlets (front/side outlet). Keep in mind the overall location of the heat recovery unit in the building (wall/drop ceiling/floor mounting).

Revision opening (min. 1 580 × 880 mm)

- Ensure sufficient space for installation and servicing with regard to the location of the heat recovery unit.
- The minimum required installation depth of the heat recovery unit is 220 mm.

Anchor holes

- With regard to the chosen mounting variant and it’s weight.

Horizontal mounting
(see p. 12)

- Installation under the ceiling (e.g. drop ceiling) – always the **left** variant of the heat recovery unit!
- Floor mounting (e.g. attic) – always the **right** variant of the heat recovery unit!

Vertical mounting
(see p. 13)

- Wall mounting – mounting of **both right and left** variants of the heat recovery unit

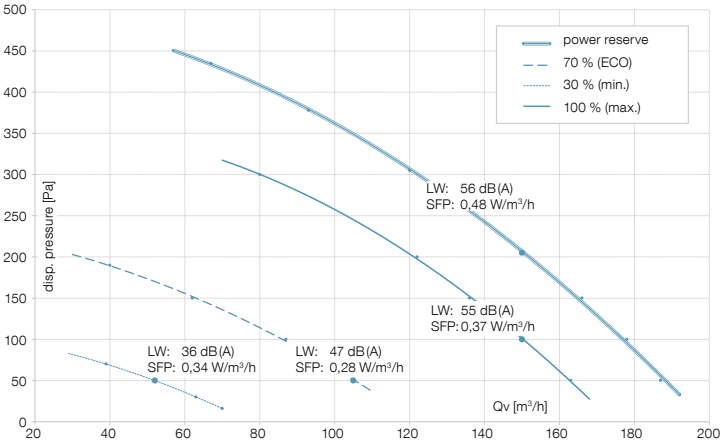
VENTILATION PERFORMANCE

VENTBOX 150 Thin

Available ventilation capacity.

Unit power [%]	External pressure [Pa]	Airflow [m³/h]	Power input [W]	SFP [W/m³/h]	Heat recovery efficiency	
					Heat ηt [%]	Humidity ηx [%]
With standard heat exchanger according to EN 13141-7						
30	**50**	50	17	0.34	87.5	–
70	**50**	105	29	0.28	82.5	–
100	**100**	150	55	0.37	78.0	–
100	**200**	150	72	0.48	78.2	–
With enthalpy heat exchanger according to EN 13141-7:2011						
30	**50**	50	17	0.34	81.5	63.2
70	**50**	105	29	0.28	74.2	53.2
100	**100**	150	55	0.37	69.6	47.8
100	**200**	150	71	0.47	69.7	47.8

VENTBOX 150 Thin – Optimum



VENTBOX 200 Thin

Available ventilation capacity.

Unit power [%]	External pressure [Pa]	Airflow [m³/h]	Power input [W]	SFP [W/m³/h]	Heat recovery efficiency	
					Heat ηt [%]	Humidity ηx [%]
With standard heat exchanger according to EN 13141-7						
25	**50**	50	23	0.35	87.5	–
70	**50**	140	51	0.37	80.3	–
100	**100**	200	119	0.58	75.8	–
With enthalpy heat exchanger according to EN 13141-7:2011						
25	**50**	50	23	0.35	81.5	63.2
70	**50**	140	51	0.37	70.5	41.0
100	**100**	200	119	0.58	65.3	35.4

ACOUSTIC PARAMETERS

VENTBOX 150 Thin

Noise emitted from the unit to the surroundings according to EN ISO 9614-2

Acoustic energy L_{WA} – to the surroundings											
Unit power [%]	**External pressure [Pa]**	**Air flow [m³/h]**	**63 [dB(A)]**	**125 [dB(A)]**	**250 [dB(A)]**	**500 [dB(A)]**	**1 000 [dB(A)]**	**2 000 [dB(A)]**	**4 000 [dB(A)]**	**8 000 [dB(A)]**	**Total [dB(A)]**
20	**50**	50	35.6	28.4	40.1	35.8	28.4	18.5	7.9	2.5	35.6
70	**50**	105	42.3	37.5	51.3	44.4	37.8	30.3	21.9	15.9	46.9
100	**100**	150	41.8	42.2	48.4	57.6	46.7	39.1	31.3	9.8	54.7
100	**200**	150	44.8	46.4	50.8	57.7	50.2	40.3	33.2	14.5	56.3

Noise emitted into the duct according to EN ISO 5136 – at the discharge to the pipe

Acoustic energy L_{WA} – discharge to the pipe – E2											
Unit power [%]	**External pressure [Pa]**	**Air flow [m³/h]**	**63 [dB(A)]**	**125 [dB(A)]**	**250 [dB(A)]**	**500 [dB(A)]**	**1 000 [dB(A)]**	**2 000 [dB(A)]**	**4 000 [dB(A)]**	**8 000 [dB(A)]**	**Total [dB(A)]**
20	**50**	50	61.0	56.4	55.9	48.4	44.6	36.2	26.7	17.2	50.7
70	**50**	105	65.5	62.3	66.6	56.4	54.5	48.6	42.4	30.0	62.0
100	**100**	150	72.0	67.5	64.7	73.4	65.3	57.5	51.4	41.7	70.9
100	**200**	150	73.7	69.0	66.8	72.6	67.3	60.8	55.7	47.1	72.3
Acoustic energy L_{WA} – discharge to the pipe – I2											
Unit power [%]	**External pressure [Pa]**	**Air flow [m³/h]**	**63 [dB(A)]**	**125 [dB(A)]**	**250 [dB(A)]**	**500 [dB(A)]**	**1 000 [dB(A)]**	**2 000 [dB(A)]**	**4 000 [dB(A)]**	**8 000 [dB(A)]**	**Total [dB(A)]**
20	**50**	50	61.6	58.3	53.6	48.2	43.6	34.2	25.2	18.6	50.1
70	**50**	105	65.5	64.3	63.6	58.1	54.0	46.9	39.4	29.6	60.4
100	**100**	150	73.2	71.5	66.0	73.2	62.7	56.0	51.6	43.7	70.5
100	**200**	150	76.2	71.3	67.7	72.2	64.3	57.2	55.4	48.5	71.1

Noise emitted from the unit into the duct (according to EN ISO 5136) – for suction into the duct

Acoustic energy L_{WA} – intake to the duct – E1											
Unit power [%]	**External pressure [Pa]**	**Air flow [m³/h]**	**63 [dB(A)]**	**125 [dB(A)]**	**250 [dB(A)]**	**500 [dB(A)]**	**1 000 [dB(A)]**	**2 000 [dB(A)]**	**4 000 [dB(A)]**	**8 000 [dB(A)]**	**Total [dB(A)]**
20	**50**	50	51.3	44.2	44.5	39	29.9	13.9	4.7	4.7	39.2
70	**50**	105	56.4	50.2	55.0	46.6	39.9	25.1	9.3	4.7	50.0
100	**100**	150	62.5	55.9	53.4	63.3	49.3	34.8	23.2	10.3	59.5
100	**200**	150	64.3	59.2	53.0	60.8	52.9	37.7	23.1	15.5	59.2
Acoustic energy L_{WA} – suction into the duct – I1											
Unit power [%]	**External pressure [Pa]**	**Air flow [m³/h]**	**63 [dB(A)]**	**125 [dB(A)]**	**250 [dB(A)]**	**500 [dB(A)]**	**1 000 [dB(A)]**	**2 000 [dB(A)]**	**4 000 [dB(A)]**	**8 000 [dB(A)]**	**Total [dB(A)]**
20	**50**	50	52.8	47.7	41.6	36.3	26.1	12.5	4.7	4.7	37.6
70	**50**	105	57.5	52.7	53.0	45.3	35.8	24.0	13.5	4.7	48.2
100	**100**	150	65.4	60.0	51.6	57.4	44.6	33.9	23.9	10.4	54.8
100	**200**	150	66.6	61.2	52.7	59.0	47.9	35.9	25.0	15.6	57.2

VENTBOX 200 Thin

Noise emitted from the unit to the surroundings according to EN ISO 9614-2

Acoustic energy L_{WA} – to the surroundings											
Unit power [%]	**External pressure [Pa]**	**Air flow [m³/h]**	**63 [dB(A)]**	**125 [dB(A)]**	**250 [dB(A)]**	**500 [dB(A)]**	**1 000 [dB(A)]**	**2 000 [dB(A)]**	**4 000 [dB(A)]**	**8 000 [dB(A)]**	**Total [dB(A)]**
25	**50**	50	49.6	41.1	36.3	31.7	33.6	28.5	17.0	3.5	37.3
70	**50**	140	50.6	48.4	45.8	40.6	40.4	33.3	28.5	11.6	44.4
100	**100**	200	45.7	53.2	53.5	47.0	46.4	40.9	38.0	23.4	51.1

Noise emitted into the duct according to EN ISO 5136 – at the discharge to the pipe

Acoustic energy L_{WA} – discharge to the pipe – E2											
Unit power [%]	**External pressure [Pa]**	**Air flow [m³/h]**	**63 [dB(A)]**	**125 [dB(A)]**	**250 [dB(A)]**	**500 [dB(A)]**	**1 000 [dB(A)]**	**2 000 [dB(A)]**	**4 000 [dB(A)]**	**8 000 [dB(A)]**	**Total [dB(A)]**
25	**50**	50	67.9	65.6	57.1	52.5	51.6	43.7	38.1	31.2	56.4
70	**50**	140	74.3	69.8	65.0	60.2	57.7	52.2	48.0	43.4	63.2
100	**100**	200	79.1	76.6	72.6	69.9	64.4	62.4	58.4	55.2	71.7
Acoustic energy L_{WA} – discharge to the pipe – I2											
Unit power [%]	**External pressure [Pa]**	**Air flow [m³/h]**	**63 [dB(A)]**	**125 [dB(A)]**	**250 [dB(A)]**	**500 [dB(A)]**	**1 000 [dB(A)]**	**2 000 [dB(A)]**	**4 000 [dB(A)]**	**8 000 [dB(A)]**	**Total [dB(A)]**
25	**50**	50	66.1	66.3	57.5	51.6	51.7	45.3	37.6	32.2	56.7
70	**50**	140	74.1	73.0	65.8	60.7	58.4	56.4	46.9	44.3	64.7
100	**100**	200	81.6	78.2	75.1	69.9	65.4	63.7	59.1	57.8	72.8

Noise emitted from the unit into the duct (according to EN ISO 5136) – for suction into the duct

Acoustic energy L_{WA} – intake to the duct – E1											
Unit power [%]	**External pressure [Pa]**	**Air flow [m³/h]**	**63 [dB(A)]**	**125 [dB(A)]**	**250 [dB(A)]**	**500 [dB(A)]**	**1 000 [dB(A)]**	**2 000 [dB(A)]**	**4 000 [dB(A)]**	**8 000 [dB(A)]**	**Total [dB(A)]**
25	**50**	50	58.1	53.3	43.8	37.8	35.5	24.7	9.1	4.8	42.1
70	**50**	140	64.7	58.1	51.2	45.0	42.1	32.6	18.0	11.4	48.5
100	**100**	200	71.1	65.0	56.6	53.3	48.8	41.1	29.4	22.4	55.5
Acoustic energy L_{WA} – suction into the duct – I1											
Unit power [%]	**External pressure [Pa]**	**Air flow [m³/h]**	**63 [dB(A)]**	**125 [dB(A)]**	**250 [dB(A)]**	**500 [dB(A)]**	**1 000 [dB(A)]**	**2 000 [dB(A)]**	**4 000 [dB(A)]**	**8 000 [dB(A)]**	**Total [dB(A)]**
25	**50**	50	56.9	53.6	41.4	34.5	35.1	23.3	7.2	4.8	41.0
70	**50**	140	64.4	59.7	48.8	42.9	41.9	31.7	19.4	13.1	47.9
100	**100**	200	71.5	65.6	56.0	50.4	48.3	39.6	30.3	25.0	54.5

TECHNICAL PARAMETERS

VENTBOX 150 Thin

	Optimum	Premium	Radon
Recommended area	up to 100 m²*		
Height	192 mm		
Width	593 mm		
Length/depth	1 248 mm		
Weight	20 kg		
Weight with enthalpy heat exchanger	21.5 kg		
Electric current (including preheating)	0.3 (3.7) A		
Air flow	30–150 m³/h		
Maximum air flow in BOOST mode	200 m³/h		
Reference air flow	105 m³/h		
Displacement pressure (at reference flow)	50 Pa		
Acoustic energy L_{WA} to the surroundings (at reference flow and a pressure of 50 Pa)	46.9 dB (A)		
Heat transfer efficiency with standard heat exchanger (%/air flow)	78 %/150 m³/h; 83 %/105 m³/h; 88 %/50 m³/h		
Heat transfer efficiency with ent. exchanger (%/air flow)	70 %/150 m³/h; 74 %/105 m³/h; 82 %/50 m³/h		
Moisture transfer efficiency with ent. exchanger (%/air flow)	48 %/150 m³/h; 53 %/105 m³/h; 63 %/50 m³/h		
Electrical input without preheating at external pressure 50 Pa	55 W/150 m³/h; 29 W/105 m³/h; 17 W/50 m³/h		
SPI specific energy consumption	0.29 W (at reference flow 105 m³/h and disp. pressure 50 Pa)		
Energy class standard/enthalpy heat exchanger	A		
Max. number of all sensors (CO_2/RH/TVOC)	9		
Max. number of all sensors (radon)	–	–	5
Connector for fire sensor or EPS connection	Yes		
Automatic frost protection	Yes		
Max. power without preheating	72 W		
Max. preheating input power	1 024 W		
Total power consumption	1 096 W		
By-pass function (exchanger by-pass)	Yes		
Shock ventilation	Yes		
Weekly time mode	Yes		
Measuring energy consumption	Yes		
Modbus TCP/IP communication	Yes		
Modbus RTU communication	Yes		
Analogue input	2		
Digital input	1		
Diameter of the connection necks	125 mm		
Motors with constant flow function	No	Yes	
Filter clogging indicator based on filter pressure drop	No	Yes	
Filter clogging indicator based on time interval	Yes		
Filters supply (% of particles captured in a given filter class)	M5 ePM10 55 % (F7 optional)	F7 ePM1 70 %	
Filters exhaust (% of particles captured in a given filter class)	M5 ePM10 55 % (F7 optional)	F7 ePM1 70 %	

values with enthalpy heat exchanger

* with regard to the total internal volume of the building

VENTBOX 200 Thin

	Economy
Recommended area	up to 150 m²*
Height	192 mm
Width	593 mm
Length/depth	1 248 mm
Weight	22.5 kg
Weight with enthalpy heat exchanger	24 kg
Electric current (including preheating)	0.9 (5.8) A
Air flow	50–200 m³/h
Maximum air flow in BOOST mode	200 m³/h
Reference air flow	140 m³/h
Displacement pressure (at reference flow)	50 Pa
Acoustic energy L_{WA} to the surroundings (at reference flow and a pressure of 50 Pa)	44.4 dB (A)
Heat transfer efficiency with standard heat exchanger (%/air flow)	75.8 %/200 m³/h; 80.8 %/140 m³/h; 87.5 %/50 m³/h
Heat transfer efficiency with ent. exchanger (%/air flow)	65.3 %/200 m³/h; 70.9 %/140 m³/h; 82.0 %/50 m³/h
Moisture transfer efficiency with ent. exchanger (%/air flow)	35.4 %/200 m³/h; 41.3 %/140 m³/h; 63.2 %/50 m³/h
Electrical input without preheating at external pressure 50 Pa	119 W/200 m³/h; 51 W/140 m³/h; 23 W/50 m³/h
SPI specific energy consumption	0.37 W (at reference flow 140 m³/h and disp. pressure 50 Pa)
Energy class	A
Max. number of all sensors (CO_2/RH/TVOC)	9
Max. number of all sensors (radon)	–
Connector for fire sensor or EPS connection	Yes
Automatic frost protection	Yes
Max. power without preheating	119 W
Max. preheating input power	1 024 W
Total power consumption	1 143 W
By-pass function (exchanger by-pass)	Yes
Shock ventilation	Yes
Weekly time mode	Yes
Measuring energy consumption	Yes
Modbus TCP/IP communication	Yes
Modbus RTU communication	Yes
Analogue input	2
Digital input	1
Diameter of the connection necks	125 mm
Motors with constant flow function	Yes
Filter clogging indicator based on filter pressure drop	No
Filter clogging indicator based on time interval	Yes
Filters supply (% of particles captured in a given filter class)	M5 ePM10 55 % (F7 optional)
Filters exhaust (% of particles captured in a given filter class)	M5 ePM10 55 % (F7 optional)

values with enthalpy heat exchanger

* with regard to the total internal volume of the building

TECHNICAL INFORMATION

Compliance with the regulation on the display of energy consumption information for ventilation units for residential buildings
(according to EU Commission Regulation No 1254/2014 and supplementing EU Directive 2010/30/EU)
Name/trademark of the manufacturer: LICON s.r.o. **Model designation:** VENTBOX 150 Thin, VENTBOX 200 Thin

Climate zone	hot	moderate	cool	hot	moderate	cool
Specific energy consumption SEC kWh/(m².a)	-17.95/-16.95	-41.12/-41.2	-79.14/-79.14	-16.16/-14.73	-39.4/-37.55	-75.77/-73.19
SEC climate class	E	A	A+	E	A	A+
Type of ventilation unit	BUV – bidirectional					
Installed drive type	multi-speed					
Heat recovery system	recuperative; **standard**			recuperative; **enthalpy**		
Thermal efficiency, dry non-condensing %	82.5/80.3			74.2/70.5		
Maximum air flow m³/h	150/200					
Electrical input at maximum air flow W	55/119					
Acoustic energy level L_{WA} dB(A)	47/44					
Reference flow rate m³/h	105/140					
Reference displacement pressure Pa	50					
SPI W/m³/h	0.288/0.37					
Control factor and control typology (if fitted with sensors)	0.65	local control		0.65	local control	
Declared maximum unit air leakage %	internal		0.9	internal		0.9
	external		0.7	external		0.7
Locating and describing the optical filter change message	user manual					
Internet address of user and installation instructions	www.licon.cz					
Annual electricity consumption AEC kWh/(m².a)	–	0.687	8.888	–	0.687/0.883	8.888/11.419
Annual heat savings AHS kWh/(m².a)	20.759	45.381	88.777	19.973/19.623	43.663/42.897	85.416/83.917

The differentiated values are listed in the order: VENTBOX 150 Thin/VENTBOX 200 Thin

ORDERING CODES

VENTBOX 150 Thin

VENTBOX	Generation		Volume flow		Design	Heat recovery unit type		Model/Type	Exchanger type	Connection option
VB	1	-	0150	-	T Thin	C centralized	-	O Optimum P Premium R Radon*	H standard E enthalpy	R right L left

Example of ordering code: VB1-0150-TC-OHR
VENTBOX 150 Thin first generation, with central heat recovery, standard EC fans version Optimum, standard heat exchanger with right-hand side connection.

* Available only with the unit version included in the radon protection system. Detailed information about the radon protection system, its operating principles, and possible applications, including recommendations for specific building types, can be found at **www.radonfree.eu**

VENTBOX 200 Thin

VENTBOX	Generation		Volume flow		Design	Heat recovery unit type		Model/Type	Exchanger type	Connection option
VB	1	-	0200	-	T Thin	C centralized	-	E Economy	H standard E enthalpy	R right L left

Example of ordering code: VB1-0200-TC-EHR
VENTBOX 200 Thin first generation, with central heat recovery, standard EC fans version Optimum, standard heat exchanger with right-hand side connection.

VENTBOX 300
VENTBOX 400

Heat recovery units for apartments and family houses

VENTBOX 300

The **VENTBOX 300** central heat recovery system is designed with an emphasis on modern technology, including a user-friendly solution for keeping the air in your home fresh and healthy. The unit achieves ideal parameters and is suitable for providing optimum performance and comfort in family houses **up to 200 m²**. The unit is equipped with an advanced air purification system that effectively removes allergens and pollen from the air. It also ensures efficient exhaust air extraction with the possibility of dehumidifying the air from water vapour. The unit has low energy consumption. It also reduces the excessive presence of CO_2 in the room.

Specifications

Version	Optimum	Premium
Recommended area	up to 200 m²	
Installation options	wall and floor	
Design variants	left, right	
Energy class	A+	
Dimensions (h × w × d)	750 × 790 × 625 mm	
Weight	30.2 kg	32.5 kg
Voltage	230 V AC / 50 Hz	
Electric current without preheating	0.7 A	
Electric current including preheating	4.6 A	
Max. input power of the unit without preheating	118 W	
Max. preheating input power	850 W	
IP coverage	30	
Air flow	60–300 m³/h	
Max. airflow in BOOST setting	300 m³/h	
Displacement pressure	50–400 Pa	
Acoustic energy L_{WA}	210 m³/h / 50 Pa / 42.9 dB	
Heat transfer efficiency / Flow rate	86 % / 300 m³/h 88 % / 210 m³/h 93 % / 60 m³/h	
Power input (without preheating) at displacement pressure 50 Pa	88 W / 300 m³/h 31 W / 210 m³/h 16 W / 60 m³/h	
∅ of the connection necks	180 mm	
Type of condensate drain pipe (5/4" thread)	HT DN 32 mm	
Specific power consumption SPI*	0.20 W / m³/h	
Ordering code**	VB2-0300-BC-OHR(L)	VB2-0300-BC-PHR(L)

* at reference airflow 210 m³/h and disposition pressure of 50 Pa
** for ordering codes see p. 34

Optimum version

This is an innovative and powerful heat recovery unit designed to optimally achieve **maximum performance while ensuring economic efficiency**. The unit is equipped with all the necessary technical equipment to ensure efficient operation and optimization of all performance parameters.

Premium version

This is a more sophisticated version of the unit, which is equipped with unique **EC motors with a constant flow function to compensate for pressure losses** (e.g. when air filters become clogged). With these EC motors, the unit can operate more efficiently; this has a positive effect on the overall dynamics as well as the economy when using the heat recovery system. The Premium version unit can automatically compensate for pressure loss in the system, e.g. when the air filters become clogged. At the same time, it ensures uniform ventilation and high heat recovery efficiency. The Premium unit is equipped with a front design cover.

VENTBOX 400

94% Heat recovery efficiency – 50 m³/h

The **VENTBOX 400** is an innovative and user-friendly solution for optimizing the air quality in your home. This unit has been designed with an emphasis on the latest technology and engineering developments to provide optimum performance and comfort for family homes **up to 300 m²**. Features of this unit include an advanced allergen and pollen air purification system, efficient exhaust air and water vapour extraction, low energy consumption and reduction of excess CO_2. The unit can be controlled via a web interface, making it user friendly and simple to set parameters.

Specifications

Version	Optimum	Premium	Comfort	Radon
Recommended area	up to 300 m²			
Installation options	wall and floor			
Design variants	left, right			
Energy class	A+			
Dimensions (h × w × d)	750 × 790 × 625 mm			
Weight	30.2 kg	32.5 kg	34.5 kg	32.5 kg
Voltage	230 V AC/50 Hz			
Electric current without preheating	1.3 A			
Electric current including preheating	5.1 A			
Max. input power of the unit without preheating	184 W			
Max. preheating input power	850 W			
IP coverage	30			
Air flow	80–400 m³/h			
Max. airflow in boost setting	400 m³/h			
Displacement pressure	50–450 Pa			
Acoustic energy L_{WA}	280 m³/h/50 Pa/46.3 dB			
Heat transfer efficiency/Flow rate	84 %/400 m³/h 87 %/280 m³/h 92 %/80 m³/h			
Power input (without preheating) at displacement pressure 50 Pa	135 W/400 m³/h 65 W/280 m³/h 18 W/80 m³/h			
∅ of the connection necks	180 mm			
Type of condensate drain pipe (5/4" thread)	HT DN 32 mm			
Specific power consumption SPI*	0.23 W/m³/h			
Ordering code**	VB2-0400-BC-OHR(L)	VB2-0400-BC-PHR(L)	VB2-0400-BC-CHR(L)	VB2-0400-BC-RHR(L)

* at reference airflow 280 m³/h and disposition pressure of 50 Pa
** for ordering codes see p. 34

Heating and cooling capacity for the Comfort version on request from the manufacturer.

Optimum version

This is an innovative and powerful heat recovery unit designed to optimally achieve **maximum performance while ensuring economic efficiency**. The unit is equipped with all the necessary technical equipment to ensure efficient operation and optimization of all performance parameters.

Premium version

This is a more sophisticated version of the unit, which is equipped with unique **EC motors with a constant flow function to compensate for pressure losses** (e.g. when air filters become clogged). With these EC motors, the unit can operate more efficiently; this has a positive effect on the overall dynamics as well as the economy when using the heat recovery system. At the same time, it ensures uniform ventilation and high heat recovery efficiency. The Premium unit is equipped with a front design cover.

Comfort version

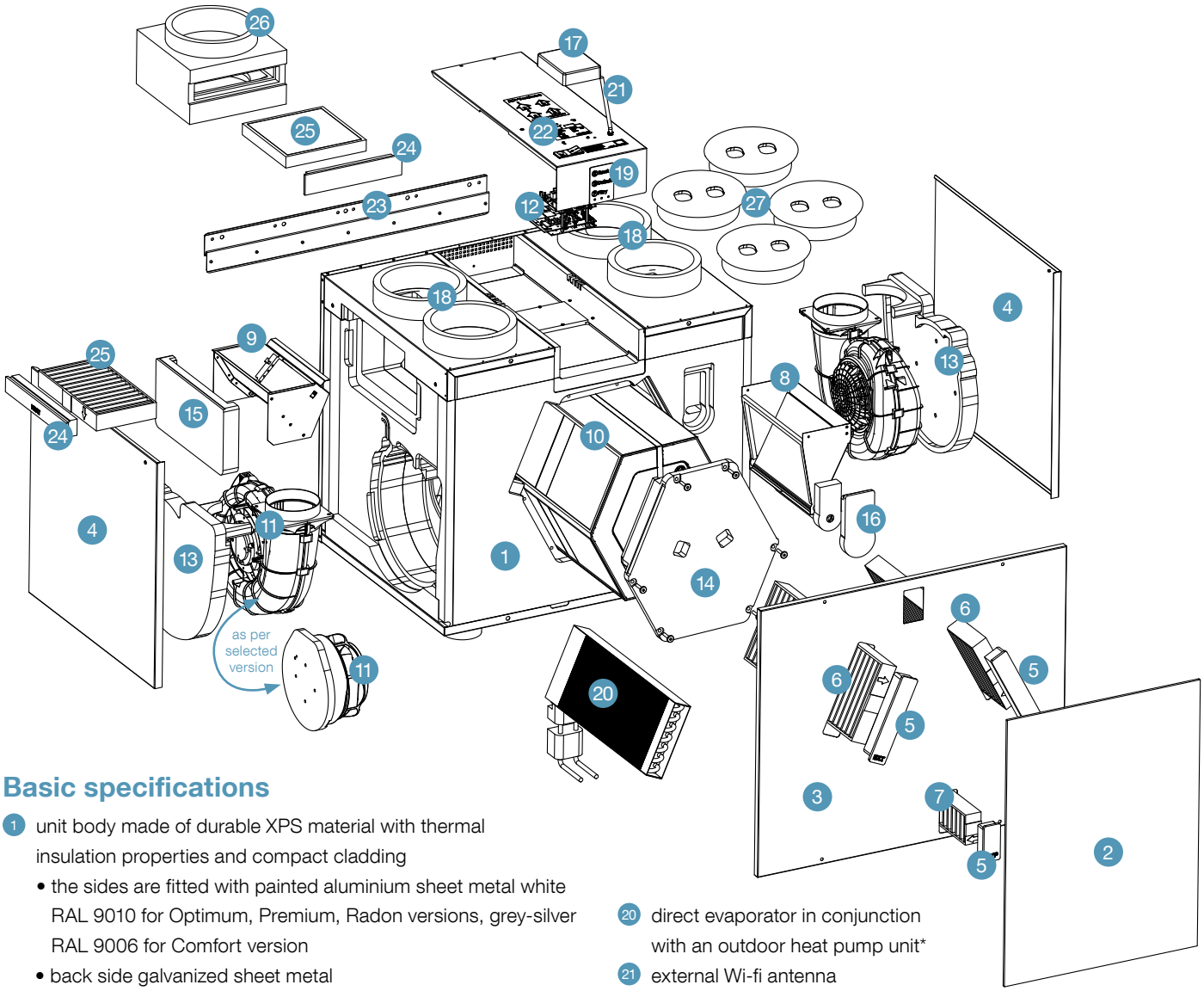
Cooling option | Reheating option

The highest-spec unit includes a direct evaporator on the supply air side, connectable to an outdoor compressor. This creates a complete ventilation system with heat recovery, temperature control, and automatic humidity adjustment based on outdoor conditions. In winter, it reheats the supply air; in summer, it cools and dehumidifies, improving indoor comfort. All functions are easily controlled via the unit's menu. The system is ideal for low-energy and passive houses, where it can partly or fully replace the main heat source during spring or autumn.

Radon version

The units are part of a comprehensive radon protection system, within which the radon activity concentration (OAR) in a building can be effectively reduced. The units are equipped with radon sensors for continuous monitoring and automatic response to elevated radon levels. The radon versions are based on the premium design of the units and are fitted with unique EC motors with constant airflow. These motors automatically compensate for pressure losses, for example when filters become clogged, thereby contributing to higher operational efficiency. Radon variants are available exclusively as part of the radon protection system.

UNIT BREAKDOWN



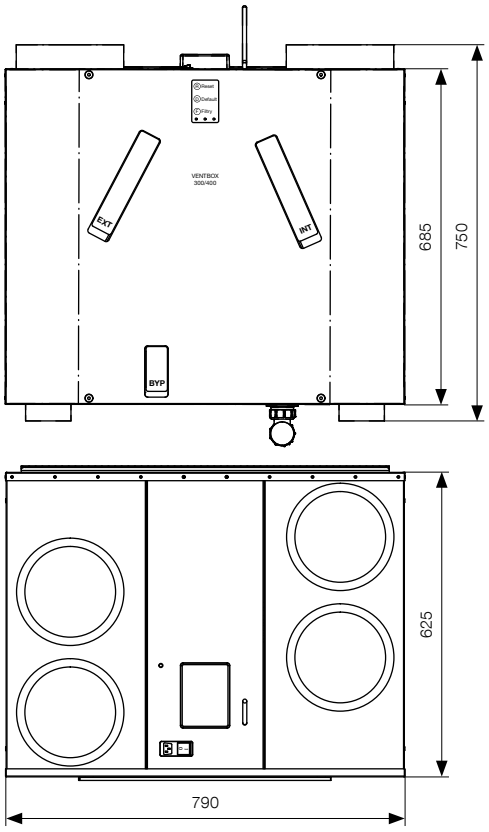
Basic specifications

1. unit body made of durable XPS material with thermal insulation properties and compact cladding
   - the sides are fitted with painted aluminium sheet metal white RAL 9010 for Optimum, Premium, Radon versions, grey-silver RAL 9006 for Comfort version
   - back side galvanized sheet metal
2. front wall design cover (Premium, Comfort, Radon versions)
3. front door made of painted Al sheet metal white RAL 9010
4. side door – service fan covers
5. filter closing caps
6. filters for air purification (see p. 65)
7. bypass filter (see p. 65)
8. bypass damper including actuator
9. PTC cell for air preheating
10. plate counterflow heat exchanger HRV
11. **Premium, Comfort, Radon versions** – fans with economical EC motor and constant flow
    Optimum version – EC fans
12. control electronics and power supply of the unit
13. fan cover
14. heat exchanger cover
15. preheating cover
16. bypass damper actuator cover
17. control electronics cover
18. air duct connection necks (∅ 180 mm)
19. control and information panel with keypad and LED indication
20. direct evaporator in conjunction with an outdoor heat pump unit*
21. external Wi-fi antenna
22. analog and digital inputs
23. hanging anchor rail
24. closing cover of pre-filters
25. pre-filters G2 for air cleaning
26. external filter box – optional specification (see p. 65)
27. connection caps

- filter clogging indicator based on time interval
- condensate drain outlet on the bottom of the unit with 5/4" connection thread
- dry siphon WHB1-DN 32 mm (for Comfort 2× version)
- condensate drain hose (for Comfort 2× version)
- separate temperature sensor for monitoring the preheating function
- temperature sensors for monitoring the air temperature at the outlets and inlets of the ventilation unity
- spacer screws
- power cord 230 V AC / 10 A
- product documentation

* supply air heating/cooling (dehumidification) – option to install a direct evaporator in the unit in conjunction with an outdoor air-to-air heat pump unit (according to manufacturer's specification) – Comfort version only

The **VENTBOX 300** and **400** units are available in right or left-hand versions and can be installed on the wall or on the floor. In the case of floor mounting, we recommend that the unit be fitted with floor mounting spacer stands due to the installation of a dry trap in the bottom.



Basic software functions

- smooth control of air performance (flow volume) of the unit in both automatic and manual modes
- automatic frost protection
- display of the current preheating performance
- automatic by-pass function (exchanger by-pass)
- manual by-pass control (in summer mode)
- option of manual defrosting of the heat exchanger (in winter mode)
- option to connect a fire sensor or electric fire alarm system (EPS)
- control via web interface in local network
- weekly time mode
- Modbus RTU communication
- control of ventilation power also in the application interface
- leaving the premises/holiday function
- Modbus communication with a higher-level system (e.g. LOXONE)
- indicative information on current electricity consumption
- BOOST shock ventilation
- user configurable connected sensors (CO_2, relative humidity, total volatile concentration)
- language versions CZ, EN, DE, FR

Regular and free software updates are available at **www.licon.cz**

Optional specification

- enthalpy counterflow heat exchanger ERV (see p. 56)
- external filter box (see p. 65)
- continuous manual P.R.T. control with wall-mounted remote control
- CO_2 concentration sensor
- relative humidity (RH) sensor
- radon concentration sensors**
- combined TVOC and HCHO (volatile substances and formaldehyde) sensor
- INPUT filters (Optimum) F7 (ePM1 70 %)*
- EXHAUST filters (Optimum) F7 (ePM1 70 %)*
- by-pass filters for Optimum F7 (ePM1 70%)*
- carbon odour filters INPUT F7 (ePM1 70%)*
- insulation box (must be used if the unit is operated in an area where the ambient temperature reaches max. 5 °C)
- spacer stands for floor mounting
- outdoor air/air heat pump unit (Comfort version)

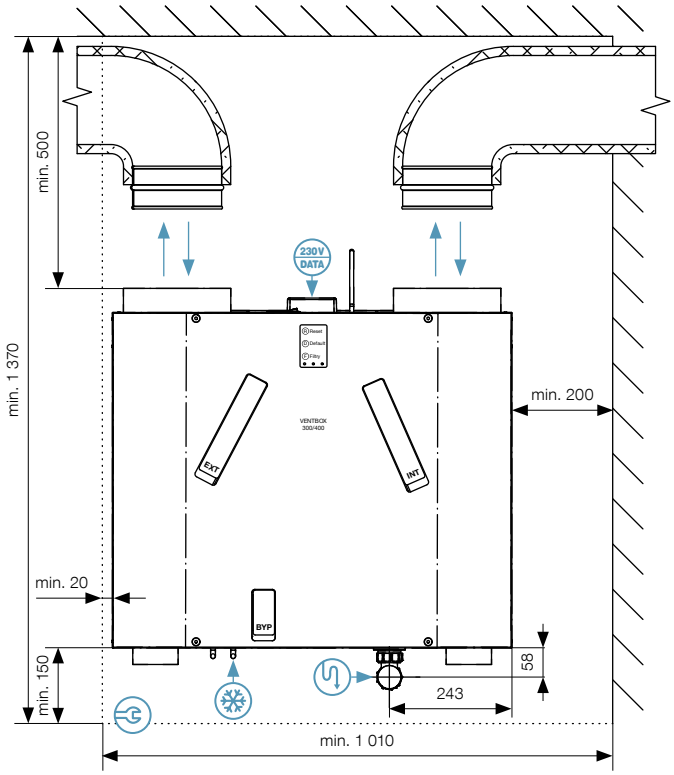
* the figure in (%) tells how many particles in a given filter class the filter "captures"
** available only with the unit version included in the radon protection system

Up to 9 sensors can be connected in total.

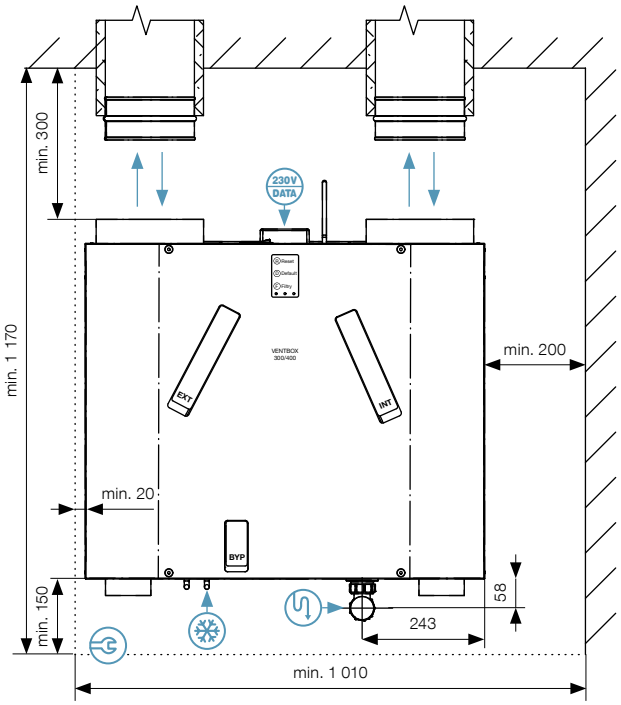
outdoor air/air heat pump unit for Comfort version

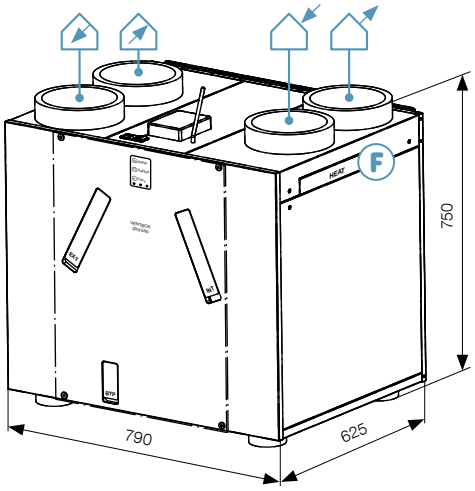
ASSEMBLY

Connection under the ceiling – left variant



Connection through the ceiling – left variant

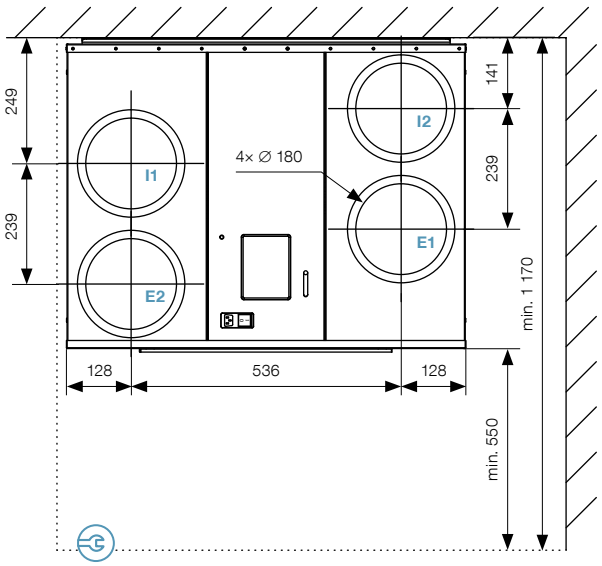




In case of insufficient installation space on the side of the unit, it is necessary to attach an external filter box to air duct inlet E1 – see optional accessories on page 54

Connecting air ducts – left variant

view from above



Legend

Supply E1
of fresh outdoor air to the unit

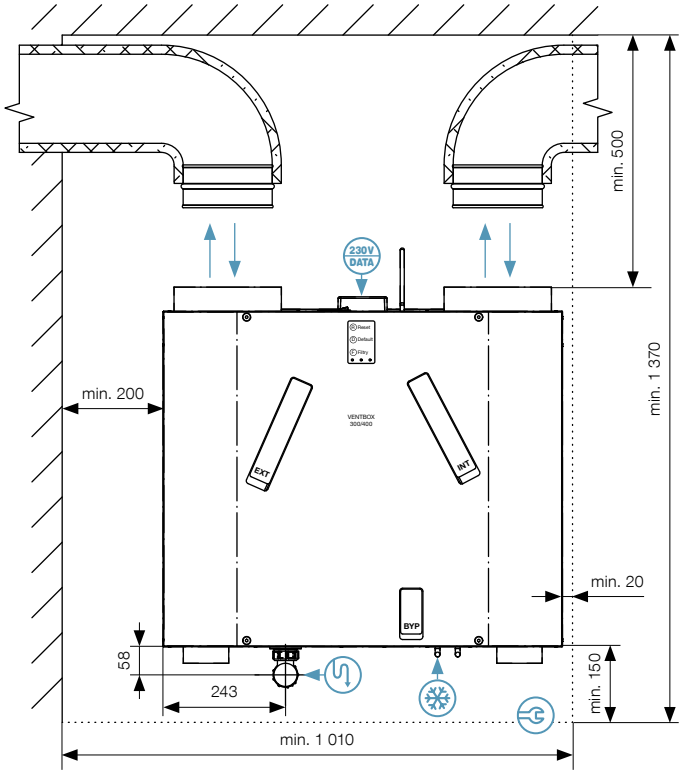
Exhaust I2
of used air from the unit to the outside

Distribution E2
of fresh air from the unit to living areas

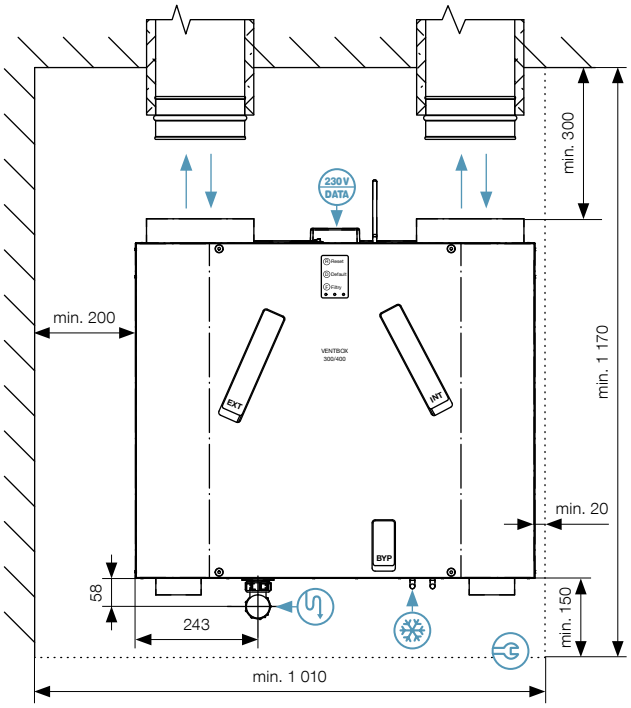
Exhaust I1
of used air from living areas to the unit

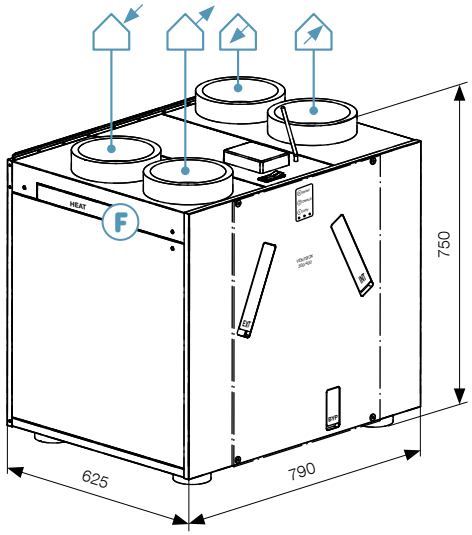
Air duct connection
4× ∅ 180 mm

Connection under the ceiling – right variant



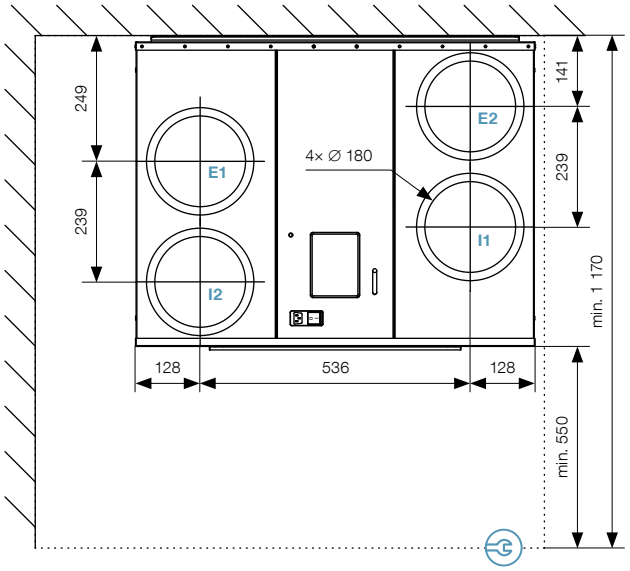
Connection through the ceiling – right variant





Connecting air ducts – right variant

view from above



Dimensions in mm. Technical changes reserved.

230V DATA
Power socket (230 V AC/50 Hz), peripheral terminals

Condensate discharge (HT waste pipe – DN 32 mm)/5/4" thread)

Connection for refrigerant lines ∅ 6,35/9,52 mm (Comfort version)

Minimum assembly/handling space

F
Filter service hole

REQUIREMENTS FOR OTHER PROFESSIONS

Electrical requirements

Mandatory preparation

Fixed power cables 3×2.5 with circuit breaker 16 A char. B from the switchboard to the heat recovery unit

- Terminate with a 230 V AC/50 Hz socket no further than 1 m from the power socket of the heat recovery unit (the power socket is located on the top side, at the front edge of the heat recovery unit between the air duct connection necks).
- Marking of the circuit breaker with the label “heat recovery”.
- **Do not block – bulk remote control!**

In addition, preparation is mandatory for the Comfort version

Fixed power cables 3×2.5 with circuit breaker 16 A char. B from the switchboard to the outdoor heat pump unit

- Terminate with a free cable with a reserve of min. 1.5 m, in the immediate place of installation of the outdoor heat pump unit and mark the cable with the label “Heat pump-Recuperation”.
- Marking the circuit breaker with the “Heat pump-Recuperation” label.

Fixed power cables 5×1.5 from the heat recovery unit to the outdoor heat pump unit

- Terminate with a free cable with a reserve of min. 1.5 m, in the immediate place of installation of the outdoor heat pump unit and mark the cable with the label “Heat pump-Communication”.
- Terminate the cable with a reserve of min. 2 m, no further than 0.5 m from the peripheral terminal of the heat recovery unit (the peripheral terminals are always located on the upper side at the front edge of the heat recovery unit between the air duct connection necks) and mark as “Heat pump-Communication”.

Optional preparation

UTP cable from the home Wi-fi router to the heat recovery unit

- Terminate with RJ 45 socket at the location of the heat recovery unit. This is used only in case of a weak Wi-fi signal, for possible connection of a Wi-fi router, and for Wi-fi signal amplification (it is not used for physical connection of the heat recovery unit).

Intensive exhaust buttons “WC, Bathroom, Kitchen”

- Bring UTP cable or J-Y(ST)Y 2×2×0.8 to all rooms with exhaust requirement (WC, bathroom, kitchen and other optional rooms).
- Connect all wires from the intensive exhaust buttons in parallel and connect them to the recovery unit.
- Terminate with a free cable with a reserve of min. 2 m, not farther than 0.5 m from the data terminal of the heat recovery unit and mark “WC button, Bathroom, Kitchen”, etc.
- In the rooms, install a push button with a return to the original

CO_2 and RH sensors and continuous control panel (P.R.T.)

- Bring UTP cable or J-Y(ST)Y 2×2×0.8 for sensors and P.R.T. to the required rooms, the wires must be connected in series according to the requirements of the technical design of the RS 485 bus – sensors communicate using Modbus RTU!
- Terminate the cable with a margin of min. 2 m, at the furthest 0.5 m from the data terminal of the heat recovery unit (data terminals are always located between the necks facing the interior

Recommendations

- The CO_2 sensor for bedrooms or living rooms should be placed at the height of the switches.
- Humidity sensors for bathrooms should be placed on the wall 10 cm below the ceiling.
- Always leave a margin of at least 0.3 m on the continuous cables that connect the individual sensors in series.

Smoke detector and supply air overpressure control

- Lead UTP or J-Y(ST)Y 2×2×0.8 cables to the required room with air excess pressure or smoke detection requirements (room with fireplace, boiler room, etc.)
- Terminate the cable with a reserve of min. 2 m, no further than 0.5 m from the terminal block of the heat recovery unit (terminal blocks are located on the top side at the front edge of the heat recovery unit between the connection necks) and mark as “smoke detector(s), air pressure relief”.
- When installing smoke detectors, follow strictly the smoke detector manufacturer’s recommendations.
- When selecting the push button air pressure control, a push button with ON/OFF function must be fitted.

Requirements for water installation

Mandatory preparation

Drain pipes HT DN 32 mm, 5/4" thread

- Lead the HT DN 32 mm waste pipe, fit it with a dry trap and terminate it near the condensate drain of the heat recovery unit (the condensate drain is located on the bottom side of the heat recovery unit).
- It is necessary to ensure a free outflow with respect to the overall gradient of the waste water system (min. 3 %).
- For the Comfort version, double mounting of the dry trap to drain the condensate collected from the evaporator of the heat recovery unit and connect it to one line, then continue with the standard waste pipe DN 32 mm.

Optional preparation for Comfort version

- Waste pipe for condensate drainage of the external air conditioning unit.
- Lead the waste pipe outside the building under the air conditioning unit.

Requirements for construction

Mandatory preparation

- Supply optional air ducts ∅ 180 mm or ∅ 160 mm (when using reducer).
- Make the necessary penetrations through walls, floors and ceilings.
- **Ensure sufficient handling space according to the chosen right/left variant and the connection (to the ceiling/under the ceiling)!**

In addition, preparation is mandatory for the Comfort version

Lead the refrigerant pipe from the external air conditioning unit according to specification, max. length 15 m. Route the refrigerant pipe together with the waste pipe under the underside of the heat recovery unit.

General requirements

Further requirements are governed by the project documentation. The requirements for the outdoor air conditioning unit are governed documentation.

VENTILATION PERFORMANCE

VENTBOX 300

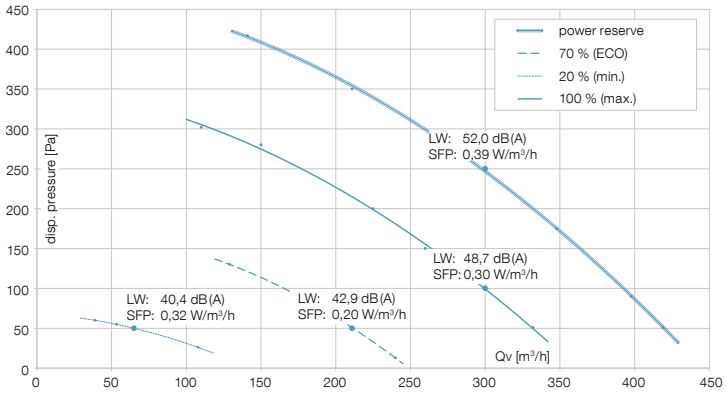
Available ventilation capacity

The values given refer to filtration class F7.

Unit power [%]	External pressure [Pa]	Airflow [m³/h]	Filtration class F7		Heat recovery efficiency	
			Power input [W]	SFP [W/m³/h]	Heat ηt [%]	Humidity ηx [%]
With standard heat exchanger according to EN 13141-7						
20	**50**	60	16	0.32	92.5	–
70	**50**	210	43	0.20	87.9	–
70	**50**	210	31	0.16*	87.9	–
100	**100**	300	88	0.30	86.4	–
100	**250**	300	118	0.39	86.4	–
With enthalpy heat exchanger according to EN 13141-7:2011						
20	**50**	60	16	0.32	90.3	75.1
70	**50**	210	42	0.20	80.1	58.0
70	**50**	210	31	0.16*	80.1	58.0
100	**100**	300	87	0.30	76.1	53.8
100	**250**	300	118	0.39	76.1	53.8

* the values given refer to filtration class F5

The values given refer to filtration class F7.



VENTBOX 400

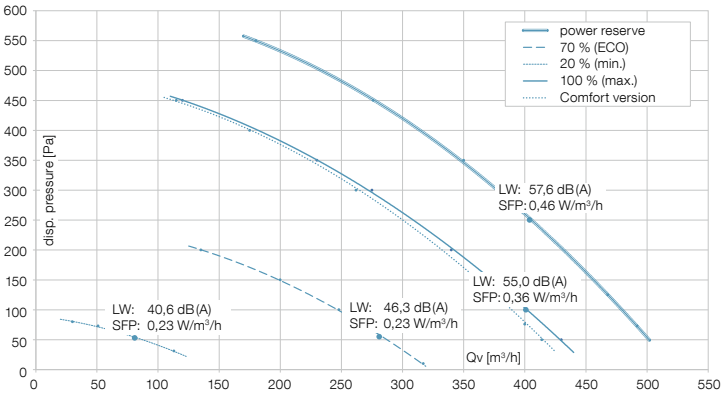
Available ventilation capacity

The values given refer to filtration class F7.

Unit power [%]	External pressure [Pa]	Airflow [m³/h]	Filtration class F7		Heat recovery efficiency	
			Power input [W]	SFP [W/m³/h]	Heat ηt [%]	Humidity ηx [%]
With standard heat exchanger according to EN 13141-7						
20	**50**	80	18	0.23	91.9	–
70	**50**	280	65	0.23	86.9	–
70	**50**	280	47	0.17*	86.9	–
100	**100**	400	135	0.36	84.0	–
100	**250**	400	184	0.46	84.0	–
With enthalpy heat exchanger according to EN 13141-7:2011						
20	**50**	80	18	0.23	90.1	73.7
70	**50**	280	63	0.23	76.9	55.7
70	**50**	280	47	0.17*	76.9	55.7
100	**100**	400	128	0.36	73.0	47.8
100	**250**	400	184	0.46	73.0	47.8

The values given refer to filtration class F5.

The values given refer to filtration class F7.



VENTBOX 400 Comfort

Available cooling and heating outputs

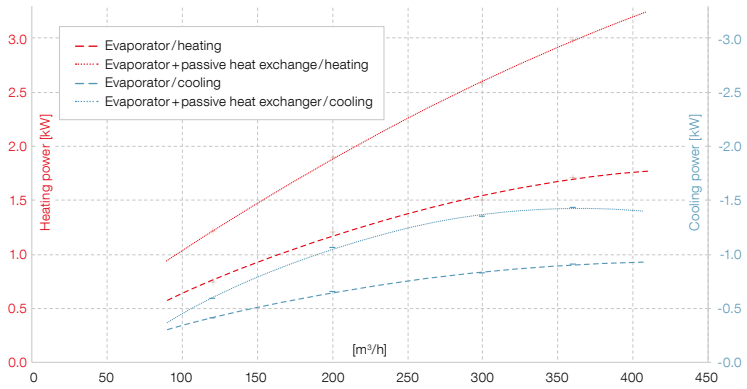
Example of real measurement

The heating/cooling curves show the usable range of thermal output of the **VENTBOX 400 Comfort** unit at it its output outlet to ensure stable conditions inside a two-story residential house with living area of 160 m², whose heat loss is 2.3 kW. The indoor temperature is maintained at 22–23 °C throughout the year with air humidity of RH 55 %.

Outdoor conditions for reheating (spring and autumn periods)
Outdoor temperature 0–10 °C with air humidity RH 80 %

Outdoor conditions for cooling (summer period)
Outdoor temperature 28–35 °C with air humidity RH 45 %

The values given refer to filtration class F7.



Air flow [m³/h]	Heating min. [W]	Heating max. [W]	Cooling min. [W]	Cooling max. [W]
120	0.772	1.213	-0.410	-0.589
200	1.207	1.903	-0.656	-1.061
300	1.512	2.586	-0.826	-1.353
360	1.719	2.984	-0.907	-1.432

ACOUSTIC PARAMETERS

VENTBOX 300

Noise emitted from the unit to the surroundings according to EN ISO 9614-2

Acoustic energy L_{WA} – to the surroundings

Unit power [%]	External pressure [Pa]	Air flow [m³/h]	63 [dB(A)]	125 [dB(A)]	250 [dB(A)]	500 [dB(A)]	1 000 [dB(A)]	2 000 [dB(A)]	4 000 [dB(A)]	8 000 [dB(A)]	Total [dB(A)]
20	**50**	60	44.8	40.7	48.6	36.1	24.8	23.4	15.8	6.5	40.4
70	**50**	210	46.4	43.1	48.9	40.5	33.9	29.1	11.8	5.3	42.9
100	**100**	300	43.1	46.0	54.6	44.5	39.5	37.9	24.7	9.2	48.7
100	**250**	300	45.8	46.8	57.4	48.5	42.5	39.9	27.1	14.0	52.0

Noise emitted into the duct according to EN ISO 5136 – at the discharge to the pipe

Acoustic energy L_{WA} – discharge to the pipe – E2

Unit power [%]	External pressure [Pa]	Air flow [m³/h]	63 [dB(A)]	125 [dB(A)]	250 [dB(A)]	500 [dB(A)]	1 000 [dB(A)]	2 000 [dB(A)]	4 000 [dB(A)]	8 000 [dB(A)]	Total [dB(A)]
20	**50**	60	64.6	65.3	52.0	45.9	38.6	30.3	16.7	12.6	51.2
70	**50**	210	63.4	62.6	65.4	55.1	49.8	44.3	35.1	27.6	58.4
100	**100**	300	69.9	67.5	75.2	61.7	56.4	52.2	47.3	40.0	69.2
100	**250**	300	74.2	70.9	72.8	68.4	60.0	57.6	50.7	44.1	69.3

Acoustic energy L_{WA} – discharge to the pipe – I2

Unit power [%]	External pressure [Pa]	Air flow [m³/h]	63 [dB(A)]	125 [dB(A)]	250 [dB(A)]	500 [dB(A)]	1 000 [dB(A)]	2 000 [dB(A)]	4 000 [dB(A)]	8 000 [dB(A)]	Total [dB(A)]
20	**50**	60	64.9	64.0	51.9	45.2	36.1	27.9	13.8	9.4	50.1
70	**50**	210	62.5	60.7	65.5	54.0	48.1	44.0	33.6	20.3	57.5
100	**100**	300	68.0	67.0	68.2	59.9	55.1	52.0	45.2	35.2	63.3
100	**250**	300	73.0	71.1	69.4	64.6	59.0	56.4	48.9	41.5	66.7

Noise emitted from the unit into the duct (according to EN ISO 5136) – for suction into the duct

Acoustic energy L_{WA} – intake to the duct – E1

Unit power [%]	External pressure [Pa]	Air flow [m³/h]	63 [dB(A)]	125 [dB(A)]	250 [dB(A)]	500 [dB(A)]	1 000 [dB(A)]	2 000 [dB(A)]	4 000 [dB(A)]	8 000 [dB(A)]	Total [dB(A)]
20	**50**	60	51.7	51.3	44.4	31.6	20.7	10.3	4.6	4.6	38.8
70	**50**	210	55.3	54.0	54.7	41.9	32.6	22.3	11.6	4.6	46.6
100	**100**	300	63.5	62.3	60.2	51.1	42.0	35.5	23.8	12.0	54.6
100	**250**	300	70.6	70.6	60.5	52.8	47.5	45.5	37.3	26.6	58.0

Acoustic energy L_{WA} – suction into the duct – I1

Unit power [%]	External pressure [Pa]	Air flow [m³/h]	63 [dB(A)]	125 [dB(A)]	250 [dB(A)]	500 [dB(A)]	1 000 [dB(A)]	2 000 [dB(A)]	4 000 [dB(A)]	8 000 [dB(A)]	Total [dB(A)]
20	**50**	60	50.9	51.5	44.7	32.0	20.8	15.2	4.6	4.6	39.1
70	**50**	210	56.3	54.6	56.6	40.3	33.0	30.3	17.3	5.9	47.7
100	**100**	300	61.9	61.2	59.6	47.0	40.9	38.1	25.3	12.9	53.4
100	**250**	300	76.2	76.5	62.8	54.5	44.8	39.2	32.8	26.9	61.6

VENTBOX 400

Noise emitted from the unit to the surroundings according to EN ISO 9614-2

Acoustic energy L_{WA} – to the surroundings

Unit power [%]	External pressure [Pa]	Air flow [m³/h]	63 [dB(A)]	125 [dB(A)]	250 [dB(A)]	500 [dB(A)]	1 000 [dB(A)]	2 000 [dB(A)]	4 000 [dB(A)]	8 000 [dB(A)]	Total [dB(A)]
20	**50**	80	42.3	38.3	48.5	35.0	25.1	17.7	10.6	7.6	40.6
70	**50**	280	47.4	44.7	52.1	42.6	37.4	35.4	21.5	6.1	46.3
100	**100**	400	50.9	52.2	60.2	52.6	44.5	44.0	32.5	18.9	55.0
100	**250**	400	51.9	51.4	57.3	60.9	45.8	44.6	33.1	19.5	57.6

Noise emitted into the duct according to EN ISO 5136 – at the discharge to the pipe

Acoustic energy L_{WA} – discharge to the pipe – E2

Unit power [%]	External pressure [Pa]	Air flow [m³/h]	63 [dB(A)]	125 [dB(A)]	250 [dB(A)]	500 [dB(A)]	1 000 [dB(A)]	2 000 [dB(A)]	4 000 [dB(A)]	8 000 [dB(A)]	Total [dB(A)]
20	**50**	80	64.6	64.0	53.6	47.8	40.7	32.3	18.7	14.2	51.8
70	**50**	280	70.0	66.4	71.9	59.9	55.2	51.5	44.6	36.6	65.6
100	**100**	400	76.6	72.9	70.9	80.5	63.2	61.9	58.5	50.0	76.6
100	**250**	400	76.0	72.7	71.1	80.7	63.6	61.1	55.9	49.7	76.7

Acoustic energy L_{WA} – discharge to the pipe – I2

Unit power [%]	External pressure [Pa]	Air flow [m³/h]	63 [dB(A)]	125 [dB(A)]	250 [dB(A)]	500 [dB(A)]	1 000 [dB(A)]	2 000 [dB(A)]	4 000 [dB(A)]	8 000 [dB(A)]	Total [dB(A)]
20	**50**	80	62.8	63.6	52.5	47.5	38.3	30.4	16.4	10.3	50.7
70	**50**	280	67.2	65.1	67.6	58.2	53.3	51.5	43.8	31.2	62.1
100	**100**	400	72.8	71.6	77.9	71.2	60.8	59.5	54.9	46.1	73.2
100	**250**	400	75.7	73.0	70.7	79.2	62.3	58.9	54.4	49.1	75.3

Noise emitted from the unit into the duct (according to EN ISO 5136) – for suction into the duct

Acoustic energy L_{WA} – intake to the duct – E1

Unit power [%]	External pressure [Pa]	Air flow [m³/h]	63 [dB(A)]	125 [dB(A)]	250 [dB(A)]	500 [dB(A)]	1 000 [dB(A)]	2 000 [dB(A)]	4 000 [dB(A)]	8 000 [dB(A)]	Total [dB(A)]
20	**50**	80	52.2	53.6	45.1	34.9	26.7	21.0	12.8	5.3	40.9
70	**50**	280	61.4	59.8	57.9	47.1	38.6	30.1	23.7	10.1	51.6
100	**100**	400	69.0	68.0	62.1	60.0	48.8	42.4	36.1	27.6	59.3
100	**250**	400	70.0	69.0	61.4	61.9	50.3	46.6	37.1	28.7	60.4

Acoustic energy L_{WA} – suction into the duct – I1

Unit power [%]	External pressure [Pa]	Air flow [m³/h]	63 [dB(A)]	125 [dB(A)]	250 [dB(A)]	500 [dB(A)]	1 000 [dB(A)]	2 000 [dB(A)]	4 000 [dB(A)]	8 000 [dB(A)]	Total [dB(A)]
20	**50**	80	52.2	53.8	45.4	34.3	23.4	14.0	4.6	4.6	41.0
70	**50**	280	58.5	58.2	59.0	44.4	38.8	36.7	25.9	14.9	51.9
100	**100**	400	67.6	66.8	61.9	59.6	47.5	42.2	32.0	23.9	58.9
100	**250**	400	80.2	78.7	63.2	62.1	48.2	42.8	34.7	28.1	64.4

TECHNICAL PARAMETERS

VENTBOX 300

	Optimum	Premium
Recommended area	up to 200 m²*	
Height	750 mm (overall height including supports and aid duct bends)	
Width	790 mm	
Length / depth	625 mm	
Weight	30.2 kg	32.5 kg
Weight with enthalpy heat exchanger	33.7 kg	36 kg
Electric current (including preheating)	0.7 (4.6) A	
Air flow	60–300 m³/h	
Maximum air flow in BOOST mode	300 m³/h	
Reference air flow	210 m³/h	
Displacement pressure (at reference flow)	50 Pa	
Acoustic energy L_{WA} to the surroundings (at reference flow and a pressure of 50 Pa)	42.9 dB (A)	
Heat transfer efficiency with standard heat exchanger (% / air flow)	86 % / 300 m³/h; 88 % / 210 m³/h; 93 % / 60 m³/h	
Heat transfer efficiency with ent. exchanger (% / air flow)	76 % / 300 m³/h; 80 % / 210 m³/h; 90 % / 60 m³/h	
Moisture transfer efficiency with ent. exchanger (% / air flow)	54 % / 300 m³/h; 58 % / 210 m³/h; 75 % / 60 m³/h	
El. input without preheating at external pressure 50 Pa	88 W / 300 m³/h; 31 W / 210 m³/h; 16 W / 60 m³/h	
El. input without preheating with ent. exchanger at external pressure 50 Pa	87 W / 300 m³/h; 31 W / 210 m³/h; 60 W / 60 m³/h	
SPI specific energy consumption W / m³ / h	0.20 W (at reference airflow 210 m³/h and disposition pressure of 50 Pa)	
Energy class standard / enthalpy heat exchanger	A+	
Moisture transfer efficiency with ent. exchanger (% / air flow)	A	
Max. number of all sensors (CO_2 / RH / TVOC)	9	
Max. number of all sensors (radon)	–	
Connector for fire sensor or EPS connection	Yes	
Automatic frost protection	Yes	
Max. power without preheating	118 W	
Max. preheating input power	850 W	
Total power consumption	968 W	
Bypass function (exchanger bypass)	Yes	
Shock ventilation	Yes	
Weekly time mode	Yes	
Measuring energy consumption	Yes	
Modbus TCP/IP communication	Yes	
Modbus RTU communication	Yes	
Analogue input	2	
Digital input	1	
Diameter of the connection necks	180 mm	
Motors with constant flow function	No	Yes
Filter clogging indicator based on filter pressure drop	No	Yes
Filter clogging indicator based on time interval	Yes	
Filters supply (% of particles captured in a given filter class)	M5 ePM10 55 % (F7, F7 AC optional)	F7 ePM1 70 % (F7 AC optional)
Filters exhaust (% of particles captured in a given filter class)	M5 ePM10 55 % (F7 optional)	F7 AC ePM1 70 %

values with enthalpy heat exchanger * with regard to the total internal volume of the building

VENTBOX 400

	Optimum	Premium	Comfort	Radon
Recommended area	up to 300 m²*			
Height	750 mm (overall height including supports and aid duct bends)			
Width	790 mm			
Length / depth	625 mm			
Weight	30.2 kg	32.5 kg	34.5 kg	32.5 kg
Weight with enthalpy heat exchanger	33.7 kg	36 kg	38 kg	36 kg
Electric current (including preheating)	1.3 (5.1) A			
Air flow	80–400 m³/h			
Maximum air flow in BOOST mode	400 m³/h			
Reference air flow	280 m³/h			
Displacement pressure (at reference flow)	50 Pa			50 Pa
Acoustic energy L_{WA} to the surroundings (at reference flow and a pressure of 50 Pa)	46.3 dB (A)			
Heat transfer efficiency with standard heat exchanger (% / air flow)	84 % / 400 m³/h; 87 % / 280 m³/h; 92 % / 80 m³/h			
Heat transfer efficiency with ent. exchanger (% / air flow)	73 % / 400 m³/h; 77 % / 210 m³/h; 90 % / 80 m³/h			
Moisture transfer efficiency with ent. exchanger (% / air flow)	48 % / 400 m³/h; 56 % / 280 m³/h; 74 % / 80 m³/h			
El. input without preheating at external pressure 50 Pa	135 W / 400 m³/h; 65 W / 280 m³/h; 18 W / 80 m³/h			
El. input without preheating with ent. exchanger at external pressure 50 Pa	128 W / 400 m³/h; 63 W / 280 m³/h; 18 W / 80 m³/h			
SPI specific energy consumption W / m³ / h	0.23 W (at reference airflow 280 m³/h and disposition pressure of 50 Pa)			
Energy class standard / enthalpy heat exchanger	A+			
Moisture transfer efficiency with ent. exchanger (% / air flow)	A			
Max. number of all sensors (CO_2 / RH / TVOC)	9			
Max. number of all sensors (radon)	–	–	–	5
Connector for fire sensor or EPS connection	Yes			
Automatic frost protection	Yes			
Max. power without preheating	184 W			
Max. preheating input power	850 W			
Total power consumption	1 034 W			
Bypass function (exchanger bypass)	Yes			
Shock ventilation	Yes			
Weekly time mode	Yes			
Measuring energy consumption	Yes			
Modbus TCP/IP communication	Yes			
Modbus RTU communication	Yes			
Analogue input	2			
Digital input	1			
Diameter of the connection necks	180 mm			
Motors with constant flow function	No	Yes		
Filter clogging indicator based on filter pressure drop	No	Yes		
Filter clogging indicator based on time interval	Yes			
Filters supply (% of particles captured in a given filter class)	M5 ePM10 55 % (F7, F7 AC optional)	F7 ePM1 70 % (F7 AC optional)	F7 ePM1 70 % (F7 AC optional)	F7 pollen/odor ePM1 70 % (F7 odor optional)
Filters exhaust (% of particles captured in a given filter class)	M5 ePM10 55 % (F7 optional)	F7 ePM1 70 %	F7 ePM1 70 %	F7 pollen ePM1 70 %

values with enthalpy heat exchanger * with regard to the total internal volume of the building

TECHNICAL INFORMATION

Compliance with the regulation on the display of energy consumption information for ventilation units for residential buildings
(according to EU Commission Regulation No 1254/2014 and supplementing EU Directive 2010/30/EU)
Name/trademark of the manufacturer: LICON s.r.o. **Model designation:** VENTBOX 300, VENTBOX 400

	VENTBOX 300						VENTBOX 400					
Climate zone	**hot**	**moderate**	**cool**	**hot**	**moderate**	**cool**	**hot**	**moderate**	**cool**	**hot**	**moderate**	**cool**
Specific energy consumption SEC kWh/(m².a)	-18.56	-43.34	-82.42	-17.82	-41.72	-79.26	-17.58	-42.24	-81.13	-16.63	-40.17	-77.08
SEC climate class	E	A+	A+	E	A	A+	E	A+	A+	E	A	A+
Type of ventilation unit	BUV – bidirectional											
Installed drive type	multi-speed											
Heat recovery system	recuperative/**standard**			recuperative/**enthalpy**			recuperative/**standard**			recuperative/**enthalpy**		
Thermal efficiency, dry non-condensing %	87.9			80.1			86.9			76.9		
Maximum air flow m³/h	300						400					
Electrical input at maximum air flow W	88			87			135			128		
Acoustic energy level L_{WA} dB(A)	43						46					
Reference flow rate m³/h	210						280					
Reference displacement pressure Pa	50											
SPI W/m³/h	0.20						0.23					
Control factor and control typology (if fitted with sensors)	0.65	local control		0.65	local control		0.65	local control		0.65	local control	
Declared maximum unit air leakage %	internal		0.51	internal		0.51	internal		0.75	internal		0.75
	external		1.20	external		1.20	external		1.48	external		1.48
Locating and describing the optical filter change message	user manual											
Internet address of user and installation instructions	www.licon.cz											
Annual el. consumption AEC kWh/(m².a)	–	0.489	6.319	–	0.489	6.319	–	0.649	8.399	–	0.649	8.399
Annual heat savings AHS kWh/(m².a)	21.271	46.499	90.940	20.532	44.884	87.805	21.176	46.292	90.559	20.229	44.222	86.509

ORDERING CODES

VENTBOX 300

VENTBOX	Generation		Volume flow		Design	Heat recovery unit type		Model/Type	Exchanger type	Connection option
VB	2	-	0300	-	B box	C centralized	-	O Optimum P Premium	H standard E enthalpy	R right L left

Example of ordering code: VB2-0300-BC-OHR
Second generation VENTBOX 300 unit, with central heat recovery, with standard EC motors of the Optimum version, standard heat exchanger and right-hand side connection.

VENTBOX 400

VENTBOX	Generation		Volume flow		Design	Heat recovery unit type		Model/Type	Exchanger type	Connection option
VB	2	-	0400	-	B box	C centralized	-	O Optimum P Premium C Comfort R Radon*	H standard E enthalpy	R right L left

Example of ordering code: VB2-0400-BC-PER
Second generation VENTBOX 400 unit, with central heat recovery, EC motors with constant flow Premium version, enthalpy counterflow heat exchanger and right-hand side connection.

* Available only with the unit version included in the radon protection system. Detailed information about the radon protection system, its operating principles, and possible applications, including recommendations for specific building types, can be found at **www.radonfree.eu**

VENTBOX 800
VENTBOX 800 Public

Heat recovery units for residential and multi-purpose areas

VENTBOX 800

The **VENTBOX 800** central heat recovery unit provides controlled ventilation with air recovery and also serves as an effective tool for perfect filtration and removal of dust and various allergens from fresh incoming air. The heat recuperation unit also contributes to improvement of the building thermal performance. The use of sensors makes it possible to effectively ventilate radon, control CO_2 levels, or remove excessive moisture building in the house. This version is one of the most efficient ventilators on the market with the A+ energy class.

Specifications

Version	Premium	Radon
Recommended area	up to 600 m²	
Installation options	wall and floor	
Energy class	A+	
Dimensions (h × w × d)	1 270 × 1 005 × 745 mm	
Weight	112 kg	
Voltage	230 V AC / 50 Hz	
Electric current without preheating	1.5 A	
Electric current including preheating	12 A	
Max. input power of the unit without preheating	318 W	
Max. preheating input power	2 550 W	
IP coverage	30	
Air flow	120–800 m³/h	
Max. airflow in BOOST setting	800 m³/h	
Displacement pressure	50–200 Pa	
Acoustic energy L_{WA}	560 m³/h / 50 Pa / 49 dB	
Heat transfer efficiency / Flow rate	82 % / 800 m³/h 82 % / 560 m³/h 81 % / 120 m³/h	
Power input (without preheating)	263 W / 800 m³/h 105 W / 560 m³/h 20 W / 120 m³/h	
∅ of the connection necks	250 mm	
Type of condensate drain pipe	HT DN 32 mm	
Specific power consumption SPI*	0.19 W / m³/h	
Ordering code**	VB1-0800-BC-PHR	VB1-0800-BC-RHR

* at reference airflow 560 m³/h and disposition pressure of 50 Pa
** for ordering codes see p. 53

Premium version

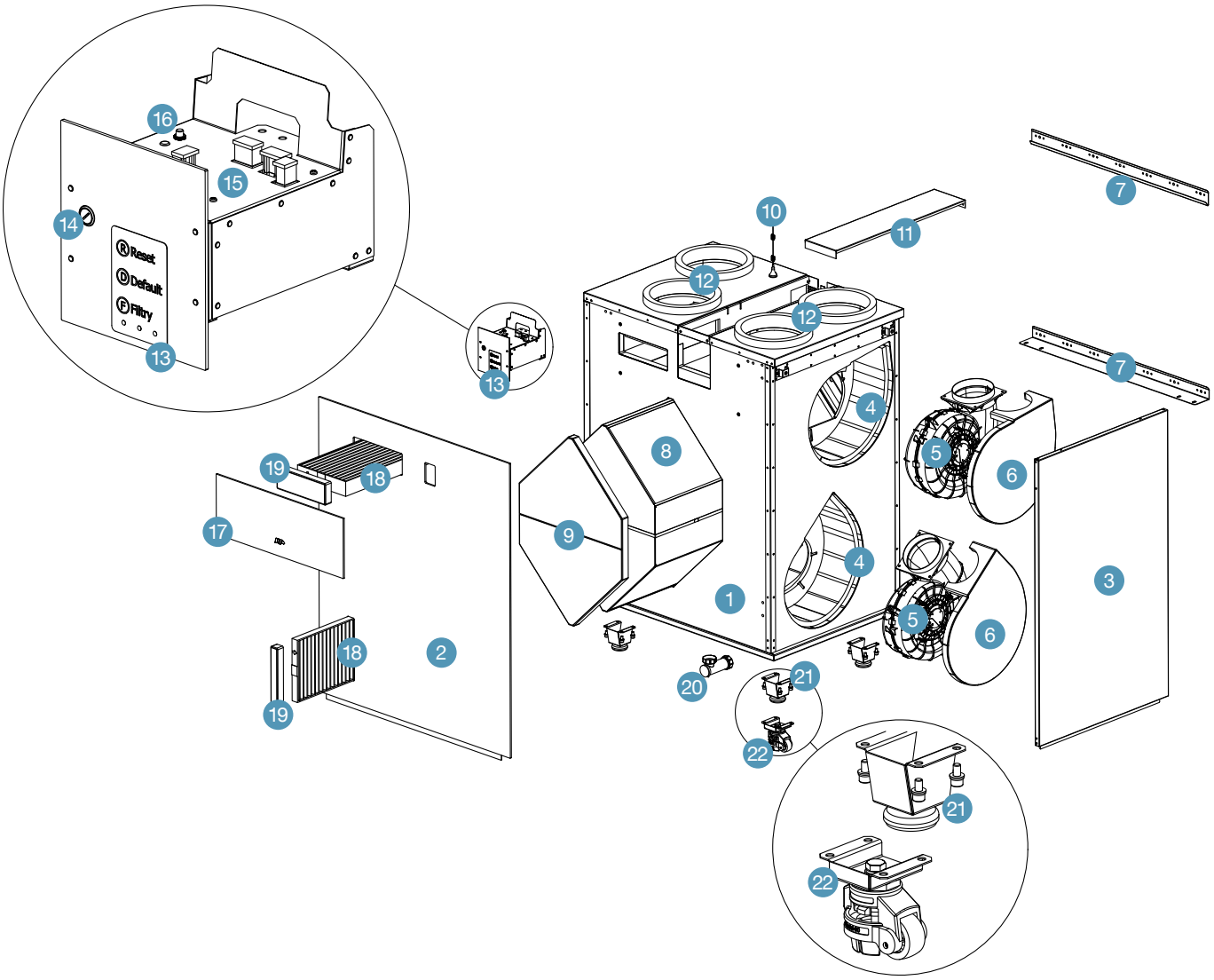
The unit is equipped with unique **EC motors with constant flow function**. These unique motors compensate for pressure losses when the supply air flow is reduced, e.g. when the air filters become clogged. With these premium EC motors, the unit can operate more efficiently and economically; which positively affects the overall dynamics and also the economy of the heat recovery system use. The unit is provided with frost protection, and performance setting according to the current need and temperature. The unit is also equipped with an automatic by-pass function, where it compares the temperature of the indoor and outdoor air and switches on the by-pass damper as required. This prevents the outdoor air from being heated by the exhaust air. The heat recovery unit can also be operated via a web interface from a computer, smartphone, or tablet connected to the local network in the house.

Radon version

The VENTBOX 800 Radon unit provides an efficient and reliable solution for healthy indoor air and long-term radon protection in large residential or commercial buildings up to 600 m². It combines high performance, economical operation, and intelligent control.

- At the core of the unit are EC motors with constant airflow control, automatically compensating for pressure losses and ensuring efficient, stable operation. The design includes frost protection and an automatic bypass that regulates temperature to prevent unwanted heating.
- Operation can be monitored and controlled remotely via a web interface on any connected device.
- An external radon probe continuously measures indoor radon levels and automatically adjusts airflow to maintain safe limits, ensuring healthy conditions and high heat recovery efficiency.

UNIT BREAKDOWN



Basic specifications

1. the unit's enclosure is made of durable material with thermal insulation properties and a compact enclosure
2. front service plate
3. fan service door
4. acoustic panels
5. fans with efficient EC motors
6. fan covers
7. unit suspension system
8. plate counterflow heat exchanger HRV
9. heat exchanger cover
10. external Wi-Fi antenna
11. cable route cover
12. air duct sockets
13. control and information panel (see p. 58)
14. fuse case with fuse
15. control panel – analogue and digital inputs
16. external Wi-Fi antenna terminal
17. design front cover
18. air purification filters
19. filter closing caps
20. dry rap – condensate drain outlet at the bottom of the unit with 5/4" connection thread
21. height-adjustable legs
22. adjustable travel – optional accessories (see p. 66)
- condensate drain hose
- filter clogging indicator based on time interval
- air preheating (3 PTC cells)
- filter clogging indicator based on time interval
- filter clogging indicator based on filter pressure drop
- separate temperature sensor for monitoring the preheating function
- temperature sensors for monitoring the air temperature at the outlets and inlets of the ventilation unit
- connector for connecting fire sensor or electrical fire alarm system (EFS)
- power cord 230 V AC / 16 A
- product documentation

Optional specification

- enthalpy counter-flow plate heat exchanger ERV (see p. 56)
- vontinuous manual P.R.T. control with wall-mounted remote controller (see p. 64)
- CO_2 concentration sensor
- relative humidity (RH) sensor
- radon concentration sensor
- combined TVOC and HCHO (volatile substances and formaldehyde) sensor
- carbon odour filters INPUT F7 AC (ePM1 70 %)*
- sheet metal air duct inserts
- adjustable travel

* the figure in (%) tells how many particles in a given filter class the filter „captures“

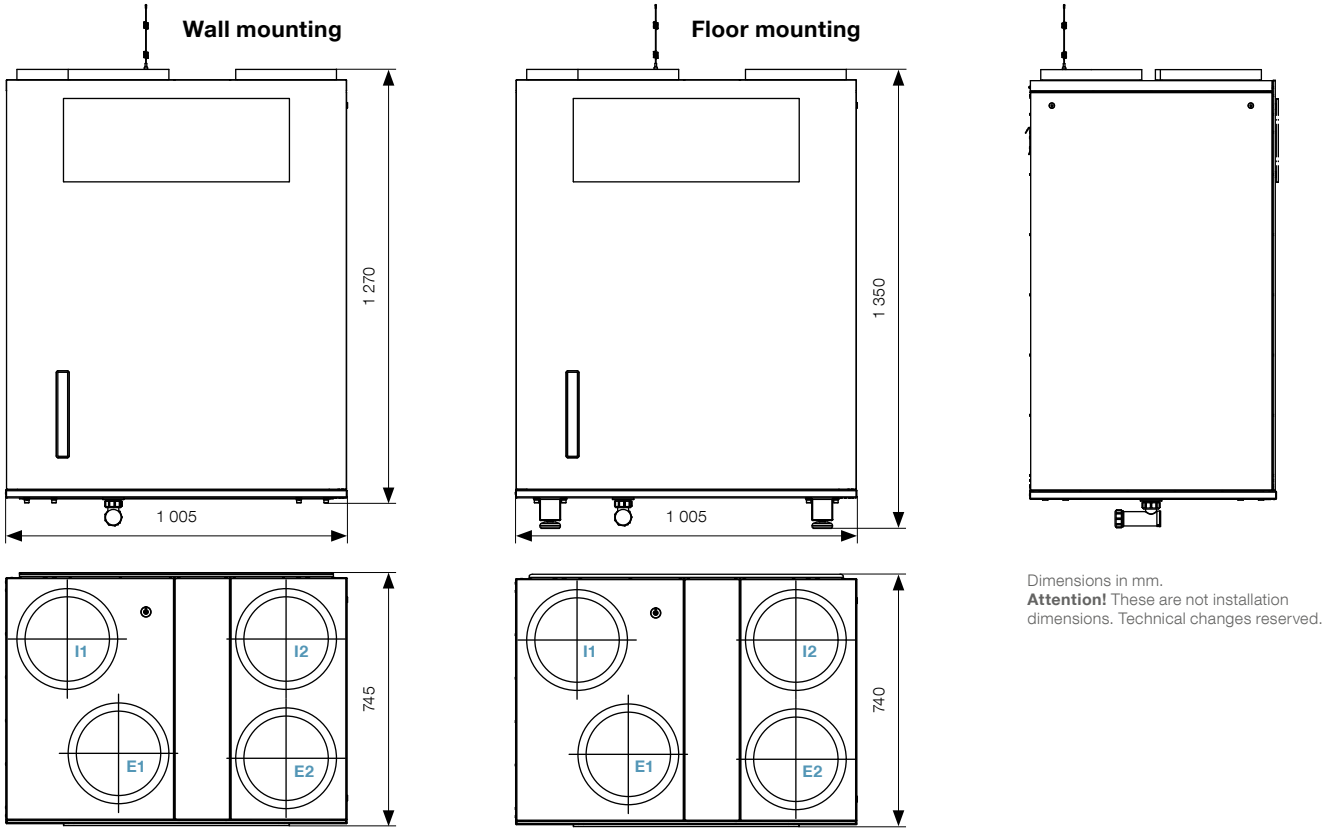
Up to 9 sensors can be connected in total.

Basic software functions

- automatic frost protection
- display of the current preheating performance
- automatic by-pass function (exchanger by-pass)
- manual by-pass control (in summer mode)
- optional manual defrosting of the heat exchanger (in winter mode)
- optional connection of a fire sensor or electric fire alarm system (EFS)
- user configurable connected sensors (CO_2, relative humidity, total volatile concentration)
- Modbus communication with a higher-level system (e.g. LOXONE)
- communication with Modbus RTU sensors
- control including ventilation performance via local network web application interface
- weekly time mode
- leaving the premises / holiday function
- indicative information on current electricity consumption
- BOOST shock ventilation
- language versions CZ, EN, DE, FR

The **VENTBOX 800** unit is available in the right version and can be installed on the wall or on the floor. In the case of floor mounting, it is necessary to fit the unit with adjustable legs or travel gear due to the installation of a dry trap in the lower part.

Unit dimensions by mounting type



Dimensions in mm.
Attention! These are not installation dimensions. Technical changes reserved.

REQUIREMENTS FOR OTHER PROFESSIONS

Electrical requirements

Mandatory preparation

Fixed power cables 3×2.5 with a 16 A circuit breaker class B from the switchboard to the heat recovery unit

- Terminate with a 230 V AC/50 Hz socket not farther than 1.5 m from the power supply module of the heat recovery unit (the power supply module is located on the top of the unit, between the air duct sockets).
- Mark the circuit breaker with a “heat recovery” label.
- **Do not block – bulk remote control!**

Optional preparation

UTP cable from the local network Wi-fi router to the heat recovery unit

- Terminate with a RJ45 socket at the location of the heat recovery unit. This is only used in case of a weak Wi-Fi signal, for possible connection of a Wi-Fi router, and for Wi-Fi signal amplification (it is not used for physical connection of the heat recovery unit).

Buttons for intensive extraction (BOOST) to the desired rooms

- Lead a UTP or J-Y(ST)Y 2×2×0.8 cable to all rooms with exhaust requirement (bathroom, WC, kitchen, storage room, reception, server room and other optional rooms).
- Connect all wires from the intensive exhaust buttons in parallel and connect them to the recovery unit.
- Terminate with a free cable with a reserve of min. 2 m, not farther than 0.5 m from the data terminal of the peripheral heat recovery unit and mark the button “Storage”, “WC”, “Bathroom”, etc.
- In the rooms, install a push button with return to original position.

CO_2 and RH sensors and continuous control panel (P.R.T.)

- Lead a UTP or J-Y(ST)Y 2×2×0.8 cable for sensors and P.R.T. to the required rooms – the wires must be connected in series according to the requirements of the technical design of the RS485 bus – sensors communicate using Modbus RTU.
- Terminate the cable with a margin of min. 2 m, not farther than 0.5 m from the data terminal of the heat recovery unit (peripheral data terminals are always located between the sockets facing the interior).

Recommendations

- The CO_2 sensor (for places with a higher concentration of people) should be placed at the height of the switches.
- Humidity sensors for bathrooms should be placed on the wall 10 cm below the ceiling.
- Always leave a margin of at least 0.3 m on the continuous cables that connect the individual sensors in series.

Smoke detector and supply air overpressure control

- Lead a UTP or J-Y(ST)Y 2×2×0.8 cable to the required room with air pressure or smoke detection requirements (room with fireplace, boiler room, etc.).
- Terminate the cable with a reserve of min. 2 m, not farther than 0.5 m from the terminal block of the heat recovery unit (terminal blocks are located on the top side at the front edge of the heat recovery unit between the connectors) and mark as “smoke detector(s), air pressure relief”.
- When installing smoke detectors, follow strictly the smoke detector manufacturer‘s recommendations.
- When selecting the push button air pressure control, a push button with ON/OFF function must be fitted.

Requirements for water installation

Mandatory preparation

HT waste pipe – DN 32 mm, or 5/4" thread

- Lead the HT DN 32 mm waste pipe, fit it with WHB1-32 a dry trap and terminate it near the condensate drain of the heat recovery unit (the condensate drain is located on the bottom side of the heat recovery unit).
- Keep in mind the required “inspection opening” and the possibility to disconnect the recovery unit from the waste.
- It is necessary to ensure a free outflow with respect to the overall gradient of the waste water system (min. 3 %).

Requirements for construction

Mandatory preparation

Air ducts ∅ 250 mm

- Lead air ducts according to the selected configuration of the heat recovery unit and the corresponding positioning of air duct connections.
- Keep in mind the overall location of the heat recovery unit in the building (wall/drop ceiling/floor mounting).
- Ensure sufficient handling space for installation and servicing with regard to the location of the heat recovery unit according to the selected variant and connection.

Anchor holes

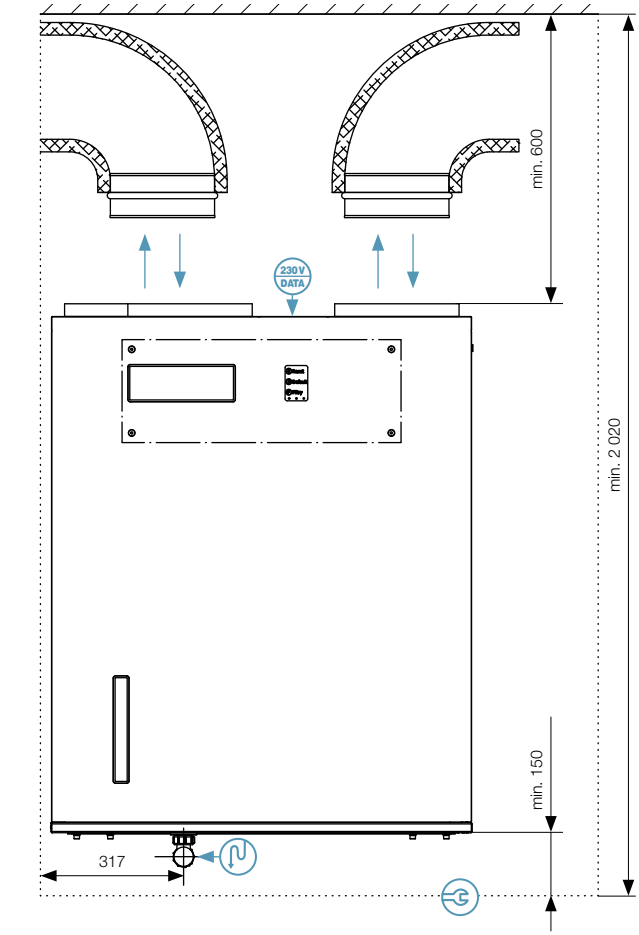
- With regard to the chosen mounting variant and weight.

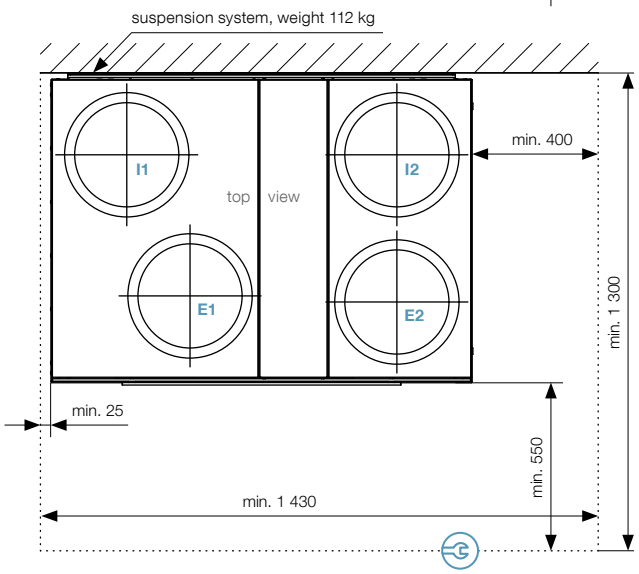
General requirements

Other requirements are governed by the project documentation.

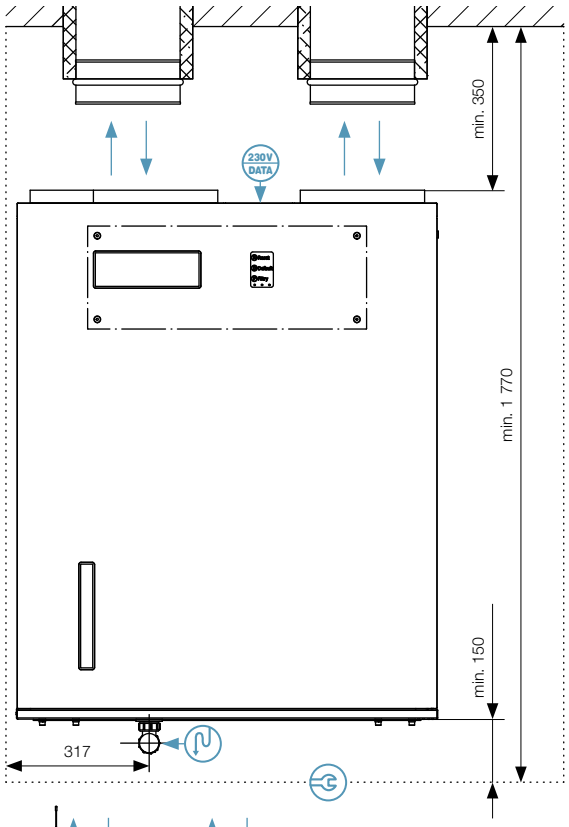
ASSEMBLY

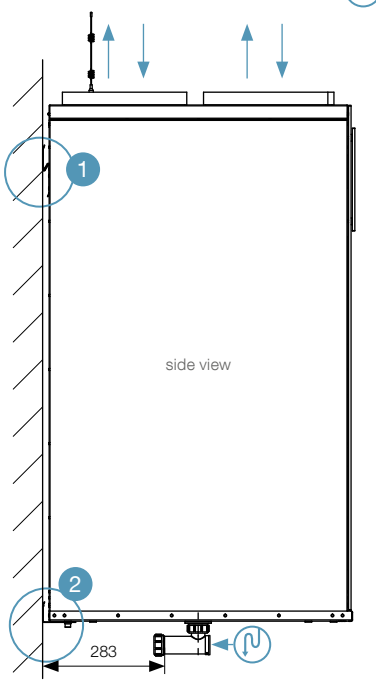
Wall mounting
connection under the ceiling beam





Wall mounting
connection through the ceiling beam





1 main anchor rail
2 auxiliary anchor rail

Dimensions in mm.
Technical changes reserved.

Legend

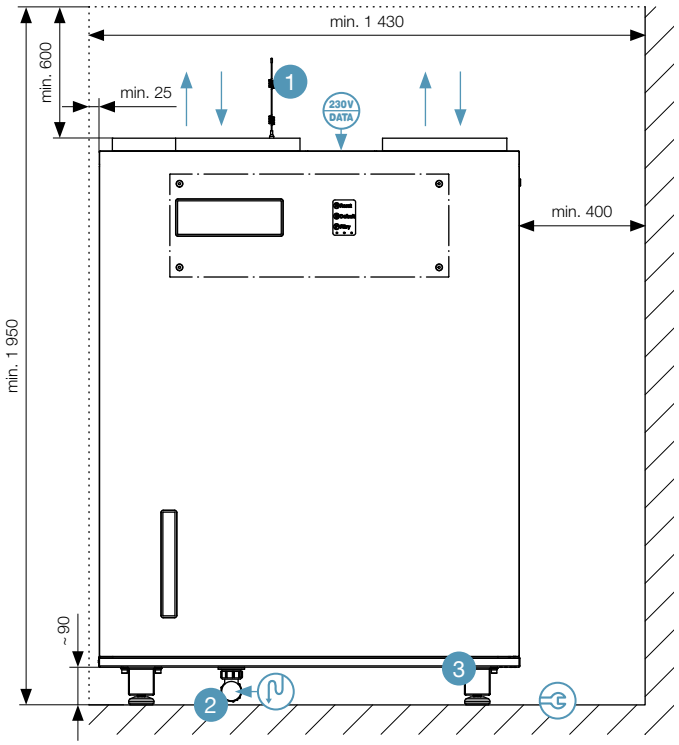
Supply E1
of fresh outdoor air to the unit

Exhaust I2
of used air from the unit to the outside

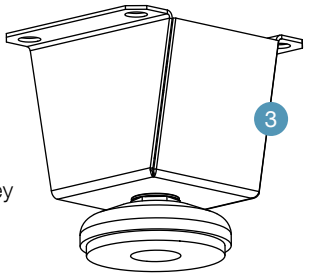
Distribution E2
of fresh air from the unit to living areas

Exhaust I1
of used air from living areas to the unit

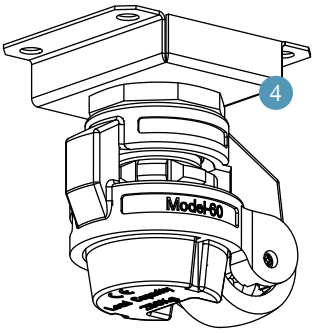
Floor mounting



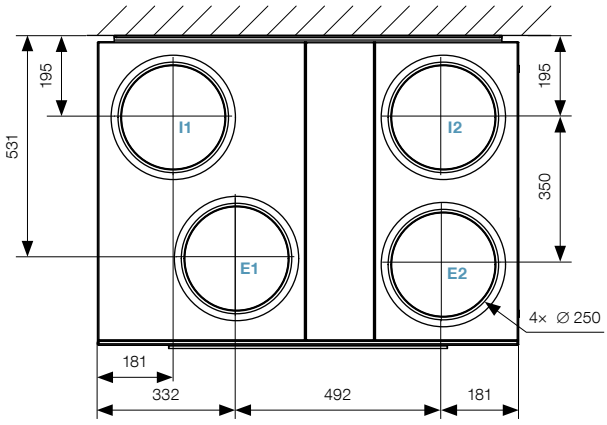
Adjustable leg
- rubber foot
- levelling ⎔ with a key



Adjustable travel
- rubber foot
- manual levelling
- travel wheel



Connecting air ducts



1. wireless communication antenna (Wi-Fi)
2. dry trap – outlet for condensate drainage (waste pipe HT DN 32 mm / thread 5/4")
3. adjustable legs or 4 adjustable travel gear (optional accessories see p. 66)

The air duct connection procedure applies to all installation methods. An air duct connection template is included in the instructions/packaging.

The unit must always be placed on a flat surface with sufficient load capacity, ensure its correct orientation with respect to the air ducts and the overall resulting gradient of the waste removal system (min. 3°).

Air duct connection 4× ∅ 250 mm

Power socket (230 V AC/50 Hz), peripheral terminals

Condensate discharge (HT waste pipe – DN 32 mm)/ 5/4" thread)

Minimum assembly/ handling space

VENTBOX 800 Public

The **VENTBOX 800 Public** ventilation unit has its own solution for connecting exterior air inlets, for example through a window infill. The termination of air ducts on the outside of the building is always done with a requirement for aesthetic appearance and functionality. The ventilation unit is equipped with an efficient heat exchanger and reduces heat losses that occur during conventional ventilation 'only by opening windows' or other economically and technically unsuitable methods of ventilation. **It ensures a permanent reduction in CO_2 concentration and maximum elimination of outdoor odors using carbon filters and brings the comfort of fresh clean air**. The installation of a unit with an enthalpy exchanger does not require connection to a waste pipe for condensate drainage.

Specifications

Version	Premium	Radon
Recommended area	up to 600 m²	
Installation options	floor	
Energy class	A+	
Dimensions (h × w × d)	2 050 × 1 005 × 740 mm	
Weight	152 kg	
Voltage	230 V AC / 50 Hz	
Electric current without preheating	1.5 A	
Electric current including preheating	1.5 (12) A	
Max. input power of the unit without preheating	318 W	
Max. preheating input power	2 550 W	
IP coverage	30	
Air flow	120–800 m³/h	
Max. airflow in BOOST setting	800 m³/h	
Displacement pressure	50–100 Pa	
Acoustic energy L_{WA}	560 m³/h / 50 Pa / 39 dB	
Heat transfer efficiency / Flow rate	82 % / 800 m³/h 82 % / 560 m³/h 81 % / 120 m³/h	
Power input (without preheating)	263 W / 800 m³/h 105 W / 560 m³/h 20 W / 120 m³/h	
∅ of the connection necks	250 mm	
Type of condensate drain pipe (5/4" thread)	HT DN 32 mm	
Specific power consumption SPI	0.19 W / m³/h	
Ordering code	VB1-0800-PD-PHL	VB1-0800-PD-RHL

88% Heat recovery efficiency – 60 m³/h

Premium version

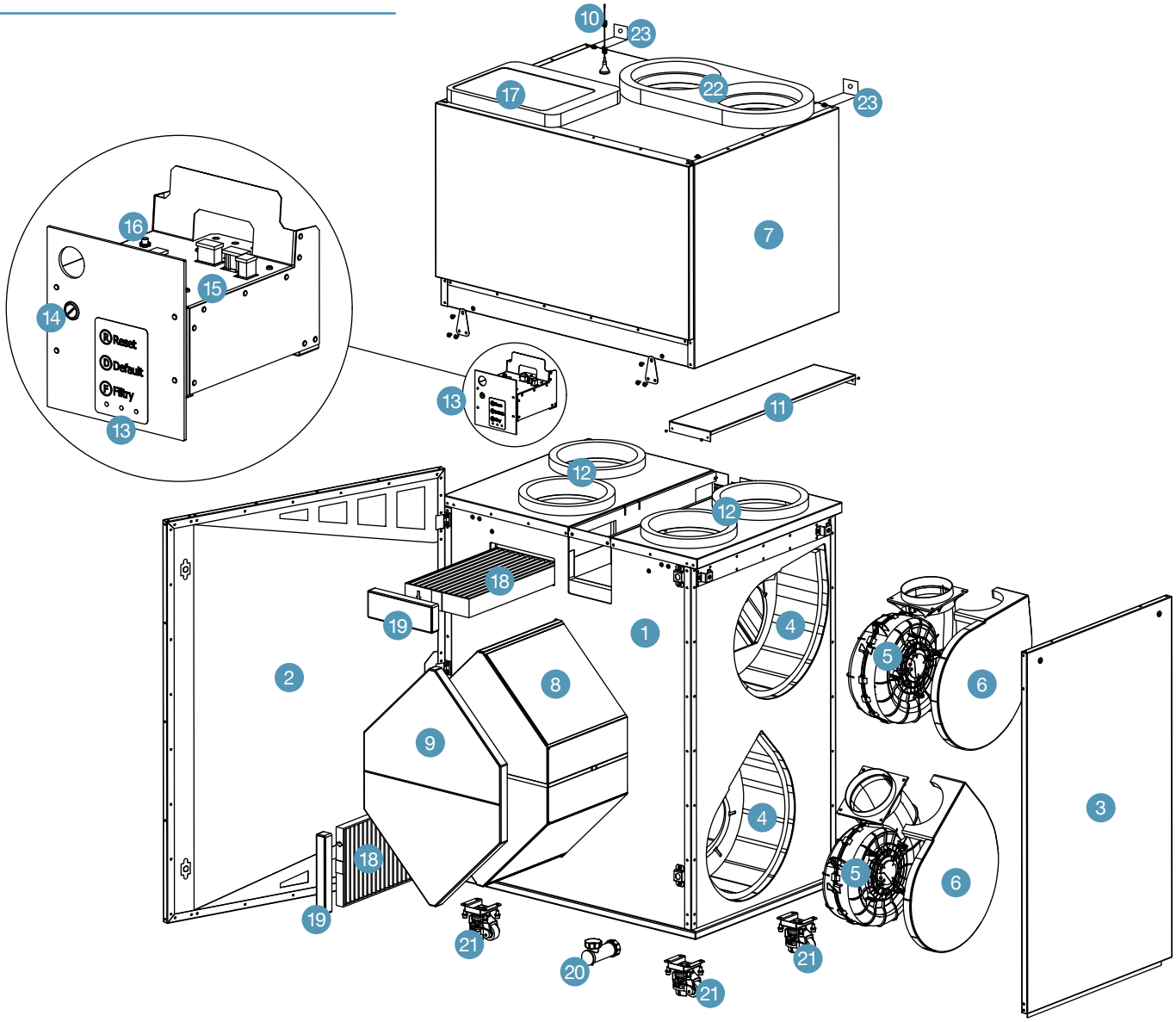
- Suitable for schools, kindergartens, halls, training centres, libraries, and offices up to 600 m²
- Low noise – integrated indoor and outdoor silencer
- Premium version with EC motors for constant airflow and filter clogging indication
- Decentralised installation – no ductwork required
- Optional enthalpy exchanger for heat and humidity recovery without condensate drain (operates down to –10 °C)
- Standard exchanger with automatic frost protection and intelligent PTC heater control
- Automatic bypass

Radon version

This version is designed for schools and educational facilities, combining high ventilation efficiency, radon protection, and quiet operation. Integrated noise suppression ensures acoustic comfort even in classrooms.

- Efficient EC motors with constant airflow automatically compensate for pressure losses, maintaining stable air exchange and reducing energy consumption. The unit includes frost protection and an automatic bypass for optimal temperature control.
- Operation can be monitored and controlled remotely via a web interface. The external radon probe continuously measures indoor concentration and automatically adjusts airflow to maintain safe levels.
- The result is a quiet, efficient system that ensures healthy air and reliable radon protection in educational environments.

UNIT BREAKDOWN



Basic specifications

1. compact casing
2. front service door with handles and locks
3. fan service door
4. acoustic panels
5. fans with efficient EC motors
6. fan covers
7. noise dampener
8. plate counterflow heat exchanger HRV
9. heat exchanger cover
10. external Wi-Fi antenna
11. cable route cover
12. air duct sockets
13. control and information panel (see p. 58)
14. fuse case with fuse
15. control panel – analogue and digital inputs
16. external Wi-Fi antenna terminal
17. directional nozzle for air exhaust with coarse debris screen
18. air purification filters
19. filter closing caps
20. dry rap – condensate drain outlet at the bottom of the unit with 5/4" connection thread
21. adjustable travel
22. exterior connection fittings
23. fixing anchors
- bypass damper including actuator
- air preheating (3 PTC cells)
- filter clogging indicator based on time interval
- filter clogging indicator based on filter pressure drop
- separate temperature sensor for monitoring the preheating function
- temperature sensors for monitoring the air temperature at the outlets and inlets of the ventilation unit
- connector for connecting fire sensor or electrical fire alarm system (EFS)
- air exhaust with a screen to prevent foreign objects from entering
- power cord 230 V AC / 16 A
- product documentation

Optional specification

- enthalpy counter-flow plate heat exchanger ERV (see p. 56)
- vontinuous manual P.R.T. control with wall-mounted remote controller (see p. 64)
- CO_2 concentration sensor
- relative humidity (RH) sensor
- radon concentration sensor
- combined TVOC and HCHO (volatile substances and formaldehyde) sensor
- carbon odour filters INPUT F7 AC (ePM1 70 %)*
- sheet metal air duct inserts

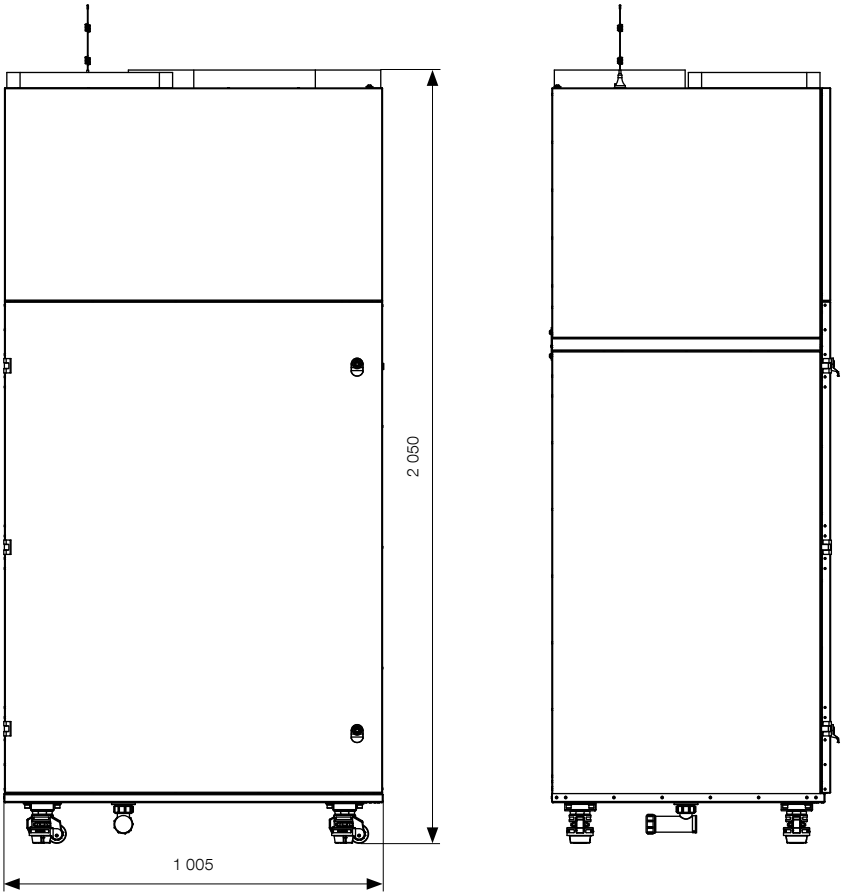
* the figure in (%) tells how many particles in a given filter class the filter „captures“

Up to 9 sensors can be connected in total.

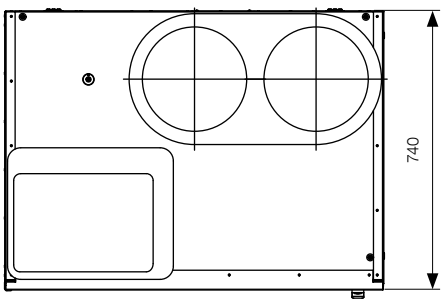
Basic software functions

- automatic or manual performance setting
- automatic frost protection
- display of the current preheating performance
- automatic by-pass function (exchanger by-pass)
- manual by-pass control (in summer mode)
- optional manual defrosting of the heat exchanger (in winter mode)
- optional connection of a fire sensor or electric fire alarm system (EFS)
- user configurable connected sensors (CO_2, relative humidity, total volatile concentration)
- Modbus communication with a higher-level system (e.g. LOXONE)
- communication with Modbus RTU sensors
- control including ventilation performance via local network web application interface
- weekly time mode
- leaving the premises/holiday function
- indicative information on current electricity consumption
- BOOST shock ventilation
- language versions CZ, EN, DE, FR

Unit Dimensions



View from above



REQUIREMENTS FOR OTHER PROFESSIONS

Electrical requirements

Mandatory preparation

Fixed power cables 3×2.5 with a 16 A circuit breaker class B from the switchboard to the heat recovery unit

- Terminate with a 230 V AC/50 Hz socket not farther than 1.5 m from the power supply module of the heat recovery unit (the power supply module is located on the top of the unit, between the air duct sockets).
- Mark the circuit breaker with a “heat recovery” label.
- **Do not block – bulk remote control!**

Optional preparation

UTP cable from the local network Wi-fi router to the heat recovery unit

- Terminate with a RJ45 socket at the location of the heat recovery unit. This is only used in case of a weak Wi-Fi signal, for possible connection of a Wi-Fi router, and for Wi-Fi signal amplification (it is not used for physical connection of the heat recovery unit).

Buttons for intensive extraction (BOOST) to the desired rooms

- Lead a UTP or J-Y(ST)Y 2×2×0.8 cable to all rooms with exhaust requirement (bathroom, WC, kitchen, storage room, reception, server room and other optional rooms).
- Connect all wires from the intensive exhaust buttons in parallel and connect them to the recovery unit.
- Terminate with a free cable with a reserve of min. 2 m, not farther than 0.5 m from the data terminal of the peripheral heat recovery unit and mark the button “Storage”, “WC”, “Bathroom”, etc.
- In the rooms, install a push button with return to original position.

CO_2 and RH sensors and continuous control panel (P.R.T.)

- Lead a UTP or J-Y(ST)Y 2×2×0.8 cable for sensors and P.R.T. to the required rooms – the wires must be connected in series according to the requirements of the technical design of the RS485 bus – sensors communicate using Modbus RTU.
- Terminate the cable with a margin of min. 2 m, not farther than 0.5 m from the data terminal of the heat recovery unit (peripheral data terminals are always located between the sockets facing the interior).

Recommendations

- The CO_2 sensor (for places with a higher concentration of people) should be placed at the height of the switches.
- Humidity sensors for bathrooms should be placed on the wall 10 cm below the ceiling.
- Always leave a margin of at least 0.3 m on the continuous cables that connect the individual sensors in series.

Smoke detector and supply air overpressure control

- Lead a UTP or J-Y(ST)Y 2×2×0.8 cable to the required room with air pressure or smoke detection requirements (room with fireplace, boiler room, etc.).
- Terminate the cable with a reserve of min. 2 m, not farther than 0.5 m from the terminal block of the heat recovery unit and mark as “smoke detector(s), air pressure relief”.
- When installing smoke detectors, follow strictly the smoke detector manufacturer‘s recommendations.
- When selecting the push button air pressure control, a push button with ON/OFF function must be fitted.

Requirements for water installation

Mandatory preparation

HT waste pipe – DN 32 mm, or 5/4" thread

- Lead the HT DN 32 mm waste pipe, fit it with WHB1-32 a dry trap and terminate it near the condensate drain of the heat recovery unit (the condensate drain is located on the bottom side of the heat recovery unit).
- Keep in mind the required “inspection opening” and the possibility to disconnect the recovery unit from the waste.
- It is necessary to ensure a free outflow with respect to the overall gradient of the waste water system (min. 3 %).

Requirements for construction

Mandatory preparation

Air ducts ∅ 250 mm

- Lead air ducts according to the selected configuration of the heat recovery unit and the corresponding positioning of air duct connections.
- Keep in mind the overall location of the heat recovery unit in the building (wall/drop ceiling/floor mounting).
- Ensure sufficient handling space for installation and servicing with regard to the location of the heat recovery unit according to the selected variant and connection.

Anchor holes

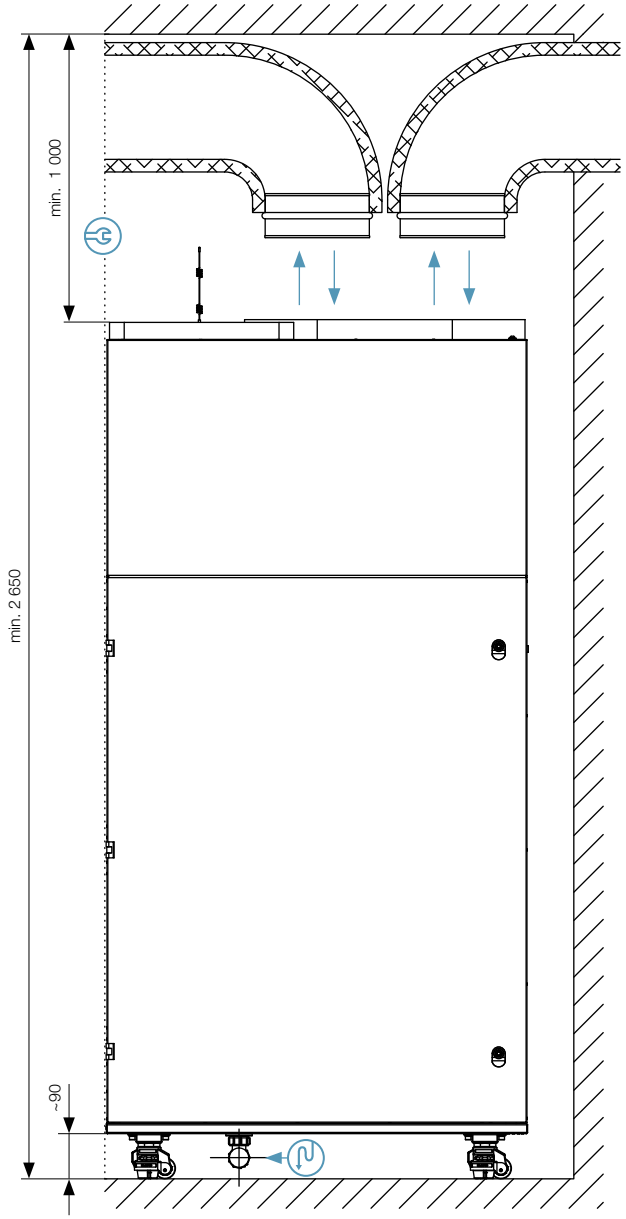
- With regard to the chosen mounting variant and weight.

General requirements

Other requirements are governed by the project documentation.

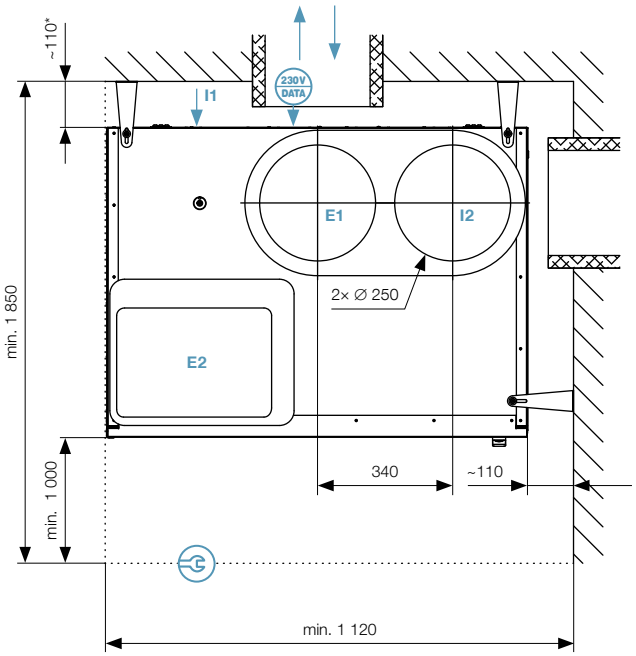
ASSEMBLY

Floor mounting – connection under the ceiling beam



View from above

Installation in the corner of the room with a direct elbow connection



* The distance of the anchoring element required for safe placement is 110 mm. This must be taken into account during installation.

Dimensions in mm.
Technical changes reserved.

Legend

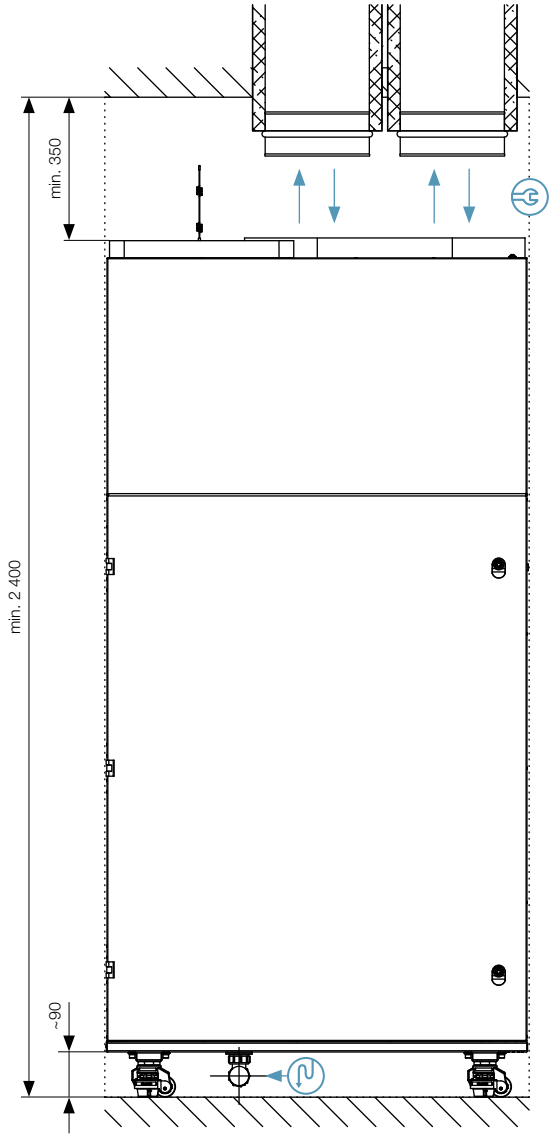
Supply E1
of fresh outdoor air to the unit

Exhaust I2
of used air from the unit to the outside

Distribution E2
of fresh air from the unit to living areas

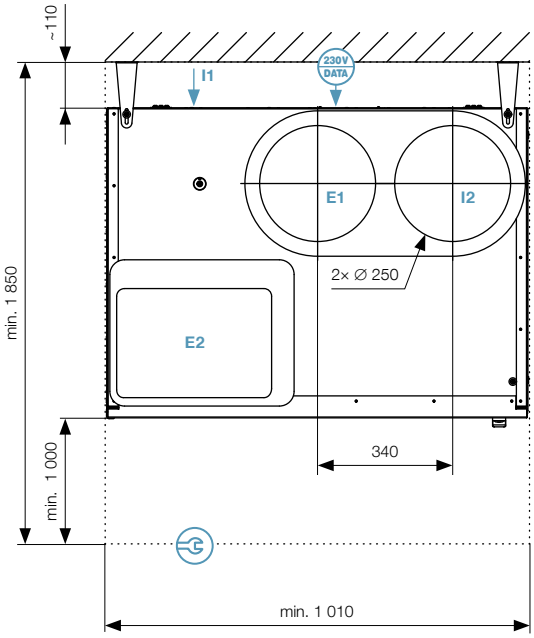
Exhaust I1
of used air from living areas to the unit

Floor mounting – connection through the ceiling beam



View from above

Free installation in the space with a flexible supply



The unit must always be placed on a flat surface with sufficient load capacity, ensure its correct orientation with respect to the air ducts and the overall resulting gradient of the waste removal system (min. 3°).

Air duct connection
2× ∅ 250 mm

Power socket
(230 V AC / 50 Hz),
peripheral terminals

Condensate discharge
(HT waste pipe – DN 32 mm) /
5/4" thread)

Minimum assembly / handling space

ACOUSTIC PARAMETERS

VENTBOX 800

Noise emitted from the unit to the surroundings according to EN ISO 9614-2

Acoustic energy L_{WA} – to the surroundings											
Unit power [%]	External pressure [Pa]	Air flow [m³/h]	63 [dB(A)]	125 [dB(A)]	250 [dB(A)]	500 [dB(A)]	1 000 [dB(A)]	2 000 [dB(A)]	4 000 [dB(A)]	8 000 [dB(A)]	Total [dB(A)]
15	**50**	120	50.2	37.6	32.6	22.1	20.0	21.4	10.5	9.0	29.9
70	**50**	560	50.9	46.1	58.0	35.9	27.5	27.6	17.1	14.5	49.6
100	**100**	800	56.6	50.3	58.7	46.1	33.3	28.1	24.4	17.3	52.4
100	**200**	800	57.7	52.6	59.2	47.1	34.2	28.9	25.0	17.6	53.4

Noise emitted into the duct according to EN ISO 5136 – at the discharge to the pipe

Acoustic energy L_{WA} – discharge to the pipe – E2											
Unit power [%]	External pressure [Pa]	Air flow [m³/h]	63 [dB(A)]	125 [dB(A)]	250 [dB(A)]	500 [dB(A)]	1 000 [dB(A)]	2 000 [dB(A)]	4 000 [dB(A)]	8 000 [dB(A)]	Total [dB(A)]
15	**50**	120	59.5	43.8	41.2	31.3	9.4	4.8	4.8	4.8	37.1
70	**50**	560	71.0	67.8	75.0	58.8	45.4	35.3	30.9	25.0	66.9
100	**100**	800	76.9	73.7	78.7	68.0	54.7	43.4	41.1	36.4	72.8
100	**200**	800	77.7	74.8	79.5	69.8	55.3	44.5	42.2	37.1	74.8

Acoustic energy L_{WA} – discharge to the pipe – I2											
Unit power [%]	External pressure [Pa]	Air flow [m³/h]	63 [dB(A)]	125 [dB(A)]	250 [dB(A)]	500 [dB(A)]	1 000 [dB(A)]	2 000 [dB(A)]	4 000 [dB(A)]	8 000 [dB(A)]	Total [dB(A)]
15	**50**	120	60.6	47.8	45.8	34.9	18.6	13.4	5.5	5.5	40.1
70	**50**	560	72.4	69.2	78.0	61.6	57.4	58.4	48.7	42.8	70.5
100	**100**	800	78.7	74.9	82.1	71.5	63.9	64.7	58.1	54.4	76.8
100	**200**	800	79.3	75.9	83.5	72.6	64.8	65.6	59.1	55.1	78.1

Noise emitted from the unit into the duct (according to EN ISO 5136) – for suction into the duct

Acoustic energy L_{WA} – intake to the duct – E1											
Unit power [%]	External pressure [Pa]	Air flow [m³/h]	63 [dB(A)]	125 [dB(A)]	250 [dB(A)]	500 [dB(A)]	1 000 [dB(A)]	2 000 [dB(A)]	4 000 [dB(A)]	8 000 [dB(A)]	Total [dB(A)]
15	**50**	120	46.2	36.7	35.4	16.5	6.9	4.8	4.8	4.8	28.4
70	**50**	560	72.6	66.8	69.0	51.0	42.3	34.0	27.6	18.1	61.2
100	**100**	800	82.7	78.9	73.4	65.9	57.3	49.9	40.0	30.7	68.6
100	**200**	800	83.5	79.8	74.8	66.8	58.4	50.8	41.2	31.4	70.0

Acoustic energy L_{WA} – suction into the duct – I1											
Unit power [%]	External pressure [Pa]	Air flow [m³/h]	63 [dB(A)]	125 [dB(A)]	250 [dB(A)]	500 [dB(A)]	1 000 [dB(A)]	2 000 [dB(A)]	4 000 [dB(A)]	8 000 [dB(A)]	Total [dB(A)]
15	**50**	120	47.3	31.3	32.3	7.9	4.8	4.8	4.8	4.8	26.0
70	**50**	560	76.6	69.8	66.2	53.0	41.4	31.9	26.5	16.4	59.8
100	**100**	800	85.6	80.8	75.7	69.4	61.0	49.7	39.0	36.6	71.3
100	**200**	800	86.8	81.7	76.9	70.6	62.2	50.4	40.2	37.1	72.9

VENTBOX 800 Public

Noise emitted from the unit to the surroundings according to EN ISO 9614-2

Unit power [%]	External pressure [Pa]	Air flow [m³/h]	Sound pressure level L_P (A) – within 1m 63 [dB(A)]	125 [dB(A)]	250 [dB(A)]	500 [dB(A)]	1 000 [dB(A)]	2 000 [dB(A)]	4 000 [dB(A)]	8 000 [dB(A)]	Total [dB(A)]
50	50	400	39.5	41.1	32.6	18.6	7.8	1.4	0.0	0.0	28.8
		500	42.7	39.4	48.0	25.4	16.1	9.1	0.0	0.0	37.7
70		560	44.2	40.6	49.0	27.9	19.5	15.2	4.5	0.0	39.6
		600	41.7	39.9	50.2	27.4	17.6	11.9	1.4	0.0	40.2
100	100	800	50.6	44.9	50.0	34.1	25.9	21.5	12.8	0.5	43.2

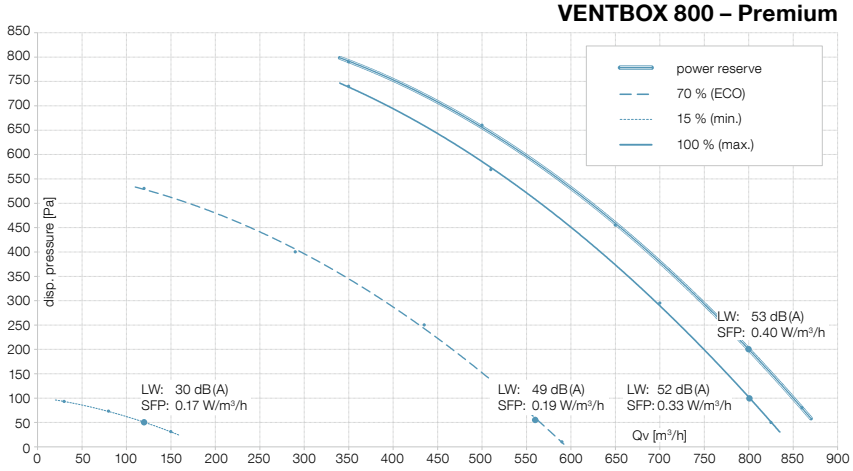
VENTILATION PERFORMANCE

VENTBOX 800

Available ventilation capacity

Unit power [%]	External pressure [Pa]	Airflow [m³/h]	Power input [W]	SFP [W/m³/h]	Heat recovery efficiency Heat ηt [%]	Humidity ηx [%]
With standard heat exchanger according to EN 13141-7						
15	50	120	20	0.17	80.8	–
70	50	560	105	0.19	81.8	–
100	100	800	263	0.33	81.6	–
100	200	800	318	0.40	81.6	–
With enthalpy heat exchanger according to EN 13141-7:2011						
15	50	120	19	0.16	84.0	77.8
70	50	560	106	0.19	77.7	62.5
100	100	800	263	0.33	75.5	56.3
100	200	800	318	0.40	75.5	56.3

VENTBOX 800 – Premium

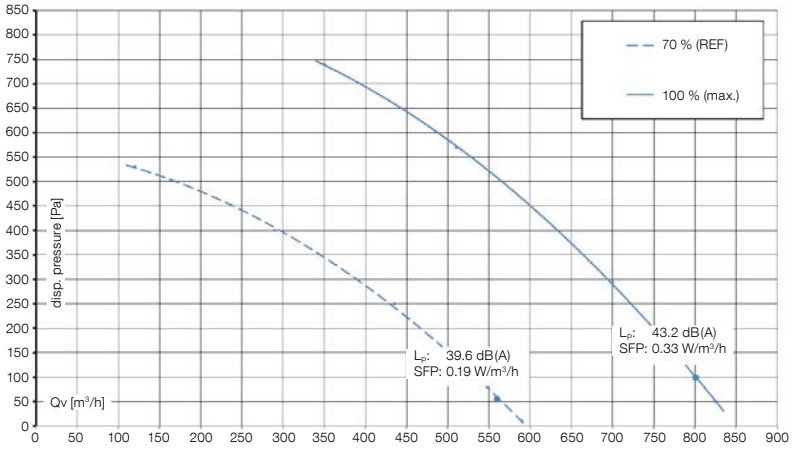


VENTBOX 800 Public

Available ventilation capacity

Unit power [%]	External pressure [Pa]	Airflow [m³/h]	Power input [W]	SFP [W/m³/h]	Heat recovery efficiency Heat ηt [%]	Humidity ηx [%]
With standard heat exchanger according to EN 13141-7						
70	50	560	105	0.19	81.8	–
100	100	800	240	0.30	81.6	–
With enthalpy heat exchanger according to EN 13141-7:2011						
70	50	560	106	0.19	77.7	62.5
100	100	800	238	0.30	75.5	56.3

VENTBOX 800 Public – Premium



TECHNICAL PARAMETERS

VENTBOX 800

	Premium	Radon
Recommended area	up to 600 m²*	
Height	1 270 mm	
Width	1 005 mm	
Length / depth	745 mm	
Weight	112 kg	
Weight with enthalpy heat exchanger	106.5 kg	
Electric current (including preheating)	1.5 (12) A	
Air flow	120–800 m³/h	
Maximum air flow in BOOST mode	800 m³/h	
Reference air flow	560 m³/h	
Displacement pressure (at reference flow)	50 Pa	
Acoustic energy L_{WA} to the surroundings (at reference flow and a pressure of 50 Pa)	49 dB (A)	
Heat transfer efficiency with standard heat exchanger (% / air flow)	82 % / 800 m³/h; 82 % / 560 m³/h; 81 % / 120 m³/h	
Heat transfer efficiency with ent. exchanger (% / air flow)	76 % / 800 m³/h; 78 % / 560 m³/h; 84 % / 120 m³/h	
Moisture transfer efficiency with ent. exchanger (% / air flow)	56 % / 800 m³/h; 63 % / 560 m³/h; 78 % / 120 m³/h	
El. input without preheating at external pressure 50 Pa	263 W / 800 m³/h; 105 W / 560 m³/h; 20 W / 120 m³/h	
SPI specific energy consumption W / m³ / h	0.19 W (at reference airflow 560 m³/h and disposition pressure of 50 Pa)	
Energy class standard heat exchanger	A+	
Energy class enthalpy heat exchanger	A	
Max. number of all sensors (CO_2 / RH / TVOC)	9	
Max. number of all sensors (radon)	–	5
Connector for fire sensor or EPS connection	Yes	
Automatic frost protection	Yes	
Max. power without preheating	318 W	
Max. preheating input power	2 550 W	
Total power consumption	2 868 W	
By-pass function (exchanger by-pass)	Yes	
Shock ventilation	Yes	
Weekly time mode	Yes	
Measuring energy consumption	Yes	
Modbus TCP/IP communication	Yes	
Modbus RTU communication	Yes	
Analogue input	2	
Digital input	1	
Diameter of the connection necks	250 mm	
Motors with constant flow function	Yes	
Filter clogging indicator based on filter pressure drop	Yes	
Filter clogging indicator based on time interval	Yes	
Filters supply (% of particles captured in a given filter class)	F7 ePM1 70% (F7 AC optional)	
Filters supply / exhaust (% of particles captured in a given filter class)	F7 ePM1 70%	

values with enthalpy heat exchanger * with regard to the total internal volume of the building

VENTBOX 800 Public

	Premium	Radon
Recommended area	up to 600 m²*	
Height	2 050 mm	
Width	1 005 mm	
Length / depth	740 mm	
Weight	152 kg	
Weight with enthalpy heat exchanger	146.5 kg	
Electric current (including preheating)	1.5 (12) A	
Air flow	120–800 m³/h	
Maximum air flow in BOOST mode	800 m³/h	
Reference air flow	560 m³/h	
Displacement pressure (at reference flow)	50 Pa	
Acoustic energy L_{WA} to the surroundings (at reference flow and a pressure of 50 Pa)	39 dB (A)	
Heat transfer efficiency with standard heat exchanger (% / air flow)	82 % / 800 m³/h; 82 % / 560 m³/h; 81 % / 120 m³/h	
Heat transfer efficiency with ent. exchanger (% / air flow)	76 % / 800 m³/h; 78 % / 560 m³/h; 84 % / 120 m³/h	
Moisture transfer efficiency with ent. exchanger (% / air flow)	56 % / 800 m³/h; 63 % / 560 m³/h; 78 % / 120 m³/h	
El. input without preheating at external pressure 50 Pa	263 W / 800 m³/h; 105 W / 560 m³/h; 20 W / 120 m³/h	
SPI specific energy consumption W / m³ / h	0.19 W (at reference airflow 560 m³/h and disposition pressure of 50 Pa)	
Energy class standard heat exchanger	A+	
Energy class enthalpy heat exchanger	A	
Max. number of all sensors (CO_2 / RH / TVOC)	9	
Max. number of all sensors (radon)	–	5
Connector for fire sensor or EPS connection	Yes	
Automatic frost protection	Yes	
Max. power without preheating	318 W	
Max. preheating input power	2 550 W	
Total power consumption	2 868 W	
By-pass function (exchanger by-pass)	Yes	
Shock ventilation	Yes	
Weekly time mode	Yes	
Measuring energy consumption	Yes	
Modbus TCP/IP communication	Yes	
Modbus RTU communication	Yes	
Analogue input	2	
Digital input	1	
Diameter of the connection necks	250 mm	
Motors with constant flow function	Yes	
Filter clogging indicator based on filter pressure drop	Yes	
Filter clogging indicator based on time interval	Yes	
Filters supply (% of particles captured in a given filter class)	F7 ePM1 70% (F7 AC optional)	
Filters supply / exhaust (% of particles captured in a given filter class)	F7 ePM1 70%	

values with enthalpy heat exchanger * with regard to the total internal volume of the building

TECHNICAL INFORMATION

Compliance with the regulation on the display of energy consumption information for ventilation units for residential buildings
(according to EU Commission Regulation No 1254/2014 and supplementing EU Directive 2010/30/EU)

Name / trademark of the manufacturer: LICON s.r.o.
Model designation: VENTBOX 800, VENTBOX 800 Public

VENTBOX 800

Climate zone	hot	moderate	cool	hot	moderate	cool
Specific energy consumption SEC kWh/(m².a)	-18.19	-42.28	-80.16	-16.36	-38.28	-72.34
SEC climate class	E	A+	A+	E	A	A+
Type of ventilation unit	BUV – bidirectional					
Installed drive type	multi-speed					
Heat recovery system	recuperative/**standard**			recuperative/**enthalpy**		
Thermal efficiency, dry non-condensing %	81.8			77.7		
Maximum air flow m³/h	800					
Electrical input at maximum air flow W	263					
Acoustic energy level L_{WA} dB(A)	49					
Reference flow rate m³/h	560					
Reference displacement pressure Pa	50					
SPI W/m³/h	0.19					
Control factor and control typology (if fitted with sensors)	0.65	local control		0.65	local control	
Declared maximum unit air leakage %	internal		0.9	internal		1.1
	external		1.2	external		1.2
Locating and describing the optical filter change message	user manual					
Internet address of user and installation instructions	www.licon.cz					
Annual electricity consumption AEC kWh/(m².a)	–	0.452	5.842	–	0.452	5.842
Annual heat savings AHS kWh/(m².a)	20.693	45.236	88.494	18.865	41.240	80.677

VENTBOX 800 Public

Type of ventilation unit	BUV – bidirectional					
Installed drive type	multi-speed					
Heat recovery system	recuperative/**standard**			recuperative/**enthalpy**		
Thermal efficiency, dry non-condensing %	81.8			77.7		
Maximum air flow m³/h	800					
Electrical input at maximum air flow W	263					
Sound pressure level L_P dB(A)	39					
Reference flow rate m³/h	560					
Reference displacement pressure Pa	50					
SPI W/m³/h	0.19					
Control factor and control typology (if fitted with sensors)	0.65	local control		0.65	local control	
Declared maximum unit air leakage %	internal		0.9	internal		1.1
	external		1.2	external		1.2
Locating and describing the optical filter change message	user manual					
Internet address of user and installation instructions	www.licon.cz					

ORDERING CODES

VENTBOX 800

VENTBOX	Generation		Volume flow		Design	Heat recovery unit type		Model/Type	Exchanger type	Connection option
VB	1	-	0800	-	**B** box	**C** centralized	-	**P** Premium **R** Radon*	**H** standard **E** enthalpy	**R** right

Example of ordering code: VB1-0800-BC-PHR

First generation VENTBOX 800 unit, with central heat recovery, EC constant flow motors Premium version, with standard counterflow plate heat exchanger and right-hand side connection.

VENTBOX 800 Public

VENTBOX	Generation		Volume flow		Design	Heat recovery unit type		Model/Type	Exchanger type	Connection option
VB	1	-	0800	-	**P** public	**D** decentralized	-	**P** Premium **R** Radon*	**H** standard **E** enthalpy	**L** left

Example of ordering code: VB1-0800-PD-PHL

VENTBOX 800 Public, a first-generation unit for decentralized air distribution, EC constant flow motors Premium version, with standard counterflow plate heat exchanger and left-hand side connection.

* Available only with the unit version included in the radon protection system. Detailed information about the radon protection system, its operating principles, and possible applications, including recommendations for specific building types, can be found at **www.radonfree.eu**

FILTERS

Fresh and clean air for good health
Original filters ensure a fresh and clean air supply to living rooms and significantly reduce the number of unhealthy particles.

More efficient operation reduces operating costs
With the original filters, developed specially for the specific purposes of VENTBOX ventilation units, they achieve lower energy consumption. They guarantee perfect operation and maximum energy efficiency, resulting in cost savings.

Low noise increases living comfort
Thanks to the original filters, VENTBOX heat recovery units are almost inaudible. They contribute to the already very quiet controlled ventilation operation and increase the comfort of living.

Particle sizes and filter classifications
As of 1 July 2018, the ISO 16890 filter standard is in force throughout Europe. It divides filters into four classes according to their ability to filter different sizes of particles in the air. To be classified in a particular class, a filter must capture at least 50% of the particles of a given size.

The service life of the filters is always dependent on the quality of the environment in which the VENTBOX is operated. In some locations, the service life may be significantly shorter than normal (e.g. due to high dust levels). We therefore recommend paying close attention to their service. 6 months is the normal filter lifetime, while 12 months is the maximum filter lifetime. New filters can be easily ordered at **www.licon.cz** in the **Heat recovery unit** section.

Efficiency of filters

EN 779	ISO ePM1 bacteria, soot etc.	ISO ePM2,5 mold spores, pollen, bacteria etc.	ISO ePM10 pollen, agricultural and stone dust etc.	ISO Coarse coarse dirt – sand, fluff, fine hair, etc.
G2	–	–	–	>60 %
G3	–	–	–	>80 %
G4	–	–	–	>90 %
M5	–	–	>50 %	–
M6	–	50–65 %	>60 %	–
F7	>50 %	70–80 %	>85 %	–
F8	>80 %	>80 %	>90 %	–
F9	>80 %	>95 %	>95 %	–

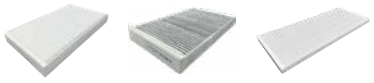
VENTBOX 150/200 Thin

Filters of class M5, F7

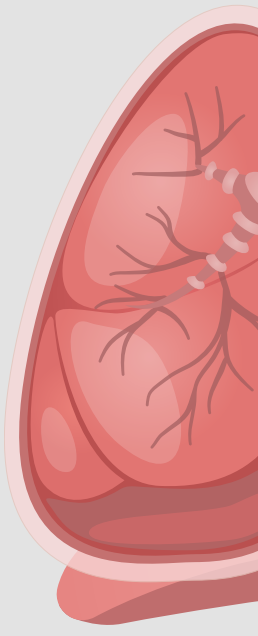
VENTBOX 300/400

Filters of class F7; carbon filter F7; F7 supply; carbon filter F7 supply; F7 by-pass; wire pre-filter G2

VENTBOX 800/800 Public



Filter of class F7; carbon filter F7 supply; filter F7 by-pass



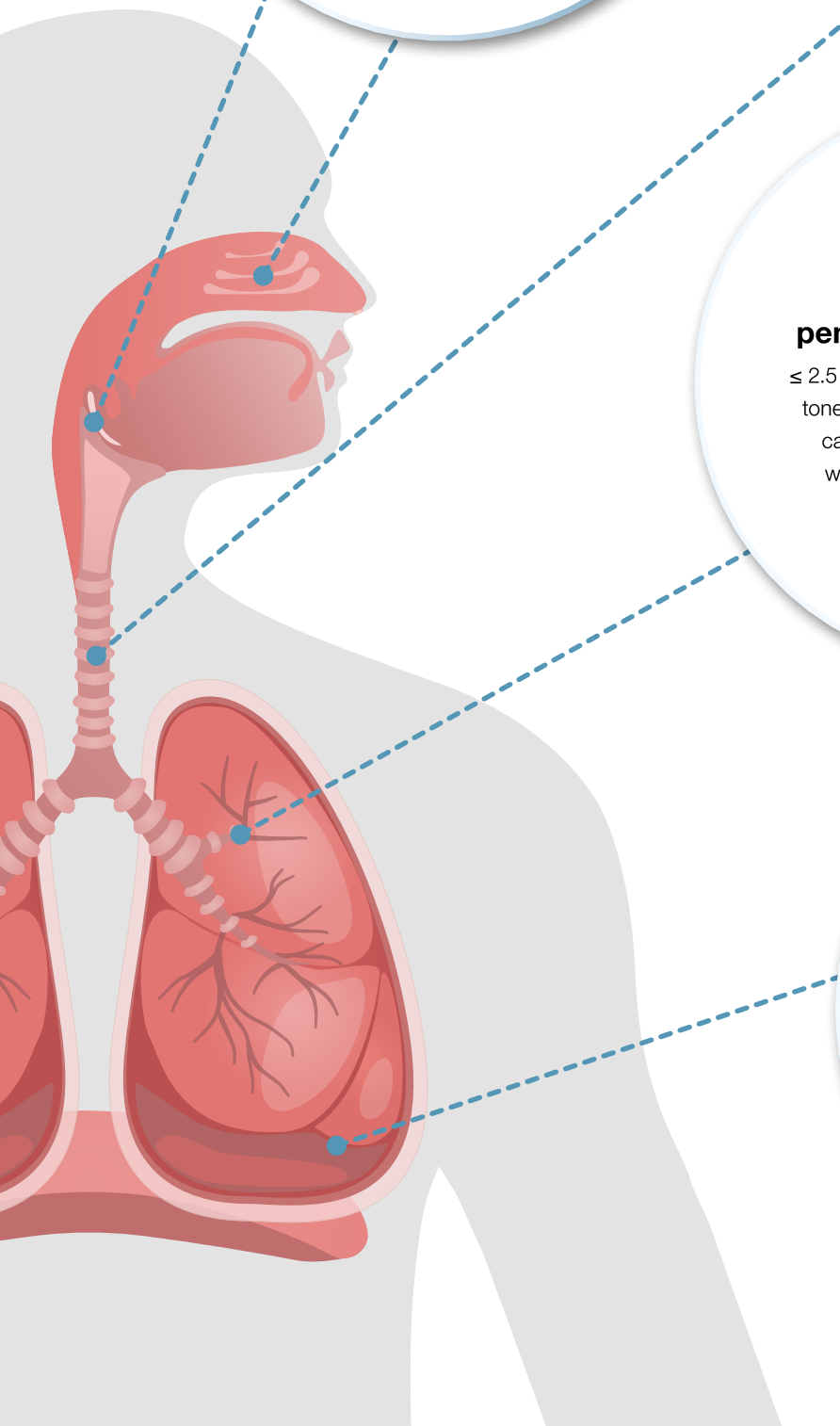
Filters for different types of units see p. 54

ISO Coarse
enters the nose and neck (coarse dirt)

> 10 µm sand, fluff, flying seeds, fine hair etc., most of which is already caught by filters classified in class G2. We use this filter in VENTBOX 300/400 units on the supply air mainly and also to reduce clogging of the downstream filter.

ISO ePM10
enters the upper respiratory tract

≤ 10 µm pollen, stone dust, agricultural dust, etc., these particles are captured with an efficiency of 55 % by the filter with the original M5 designation. The minimum specified filter efficiency for these particles is > 50 %. With the F7 filter, they are probably captured up to 90 %.



ISO ePM2.5
penetrates into the lungs

≤ 2.5 µm mould spores, pollen, bacteria, toner powder, etc., these particles are captured by the F7 filter, probably with an efficiency of about 80 %.

ISO ePM1
enters the bloodstream

≤ 1 µm bacteria, soot, etc., these particles are captured with an efficiency of 70 % by the filter with the original F7 designation. The min. specified filter efficiency for these particles is more than 50 %.

ENTHALPY COUNTERFLOW HEAT EXCHANGER

The enthalpy counterflow heat exchanger (ERV) is an optional part of the heat recovery system which, in addition to heat recovery, also allows moisture recovery, thus supporting the maintenance of optimal indoor air humidity and thus improving the user comfort of apartments and residential buildings. These systems bring many benefits, including energy efficiency, reduced heating costs, and improved indoor air quality.

Main features and benefits

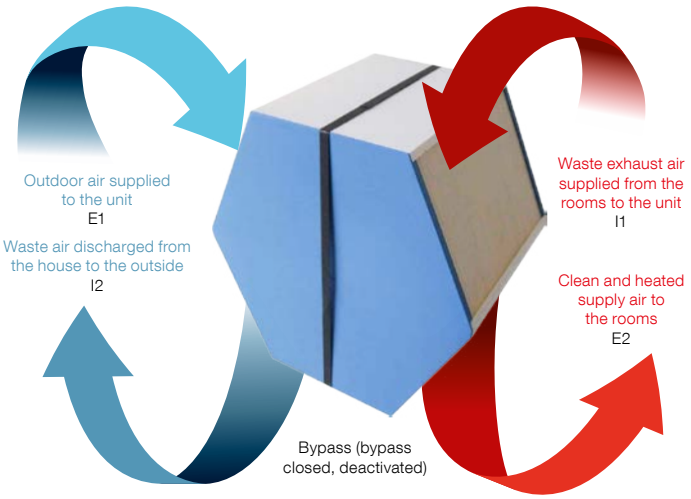
- **Heat exchange** – an enthalpy heat exchanger allows heat energy to be transferred from warmer exhaust air to cooler outdoor air, thereby increasing the temperature of the air entering the building in winter. This helps to reduce heating costs because the fresh air is heated passively during the exchange.

- **Moisture exchange** – in addition to heat, the enthalpy heat exchanger allows moisture transfer. This is important for maintaining optimum humidity indoors. The moisture in the exhaust air is transferred to the supply air, which can be useful in areas with extreme climatic conditions.

- **Reduction of losses and pollution** – the enthalpy heat exchanger also serves to separate the supply and extract air, preventing the transfer of pollution, dirt and unwanted odours from the outside into the building. This improves the indoor air quality.

- **Energy savings** – operation without the need to preheat the incoming air down to –5 °C.

Working principle of the counterflow exchanger



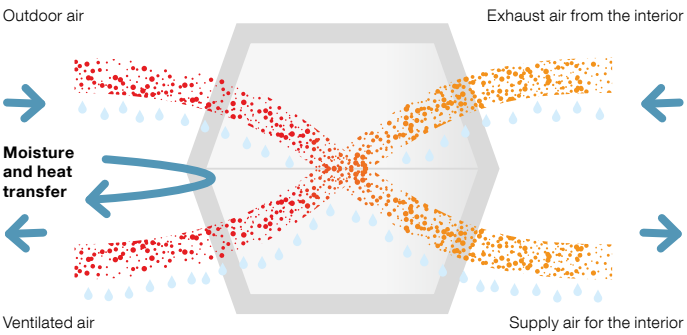
The enthalpy heat exchanger can be ordered separately or later; after a very simple installation, the entire unit is upgraded with advanced technology.

By default, the unit is supplied with a counterflow heat exchanger (HRV).

Pleasant indoor climate during both summer and winter

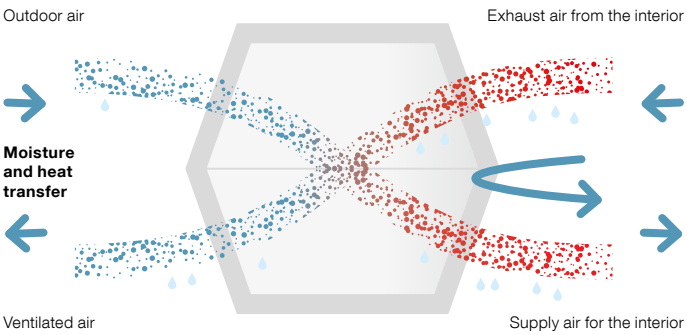
What happens in summer?

Relatively humid air seems warmer in summer than it actually is, so heat and moisture are removed from the warm and humid outside air before fresh air is brought into the house.



How does it work in winter?

In winter, valuable heat is recovered and remains inside. With humidity recuperation, more of the necessary moisture is transferred to the dry outside air.

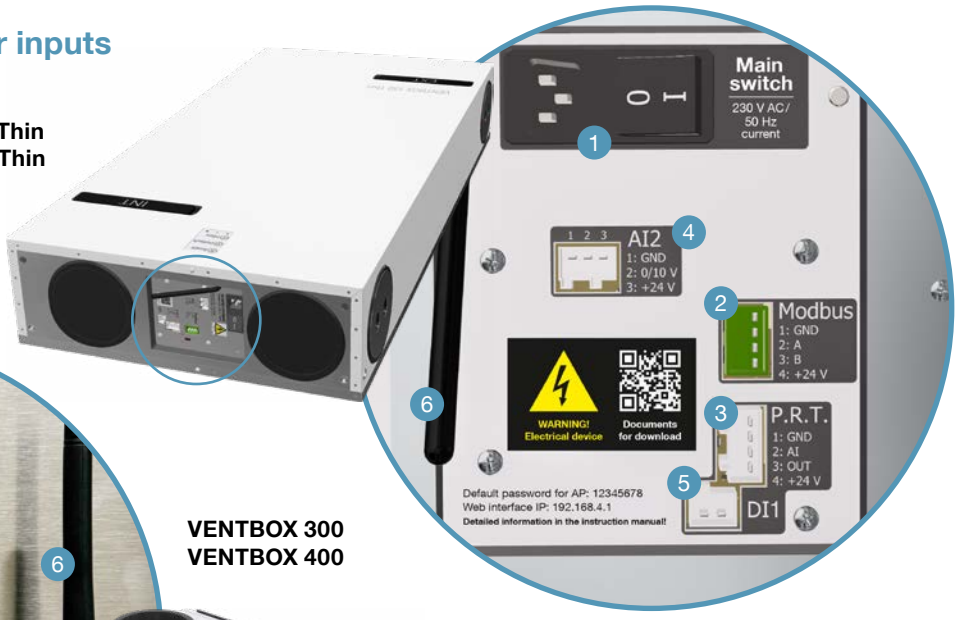


ELECTRICAL CONNECTION

The VENTBOX units' electrical connection is made using a mains power cable. All connector terminals are located on the **control panel**, which is positioned between the indoor ports. The unit's main switch is also located here.

Control panel with connector inputs

VENTBOX 150 Thin
VENTBOX 200 Thin



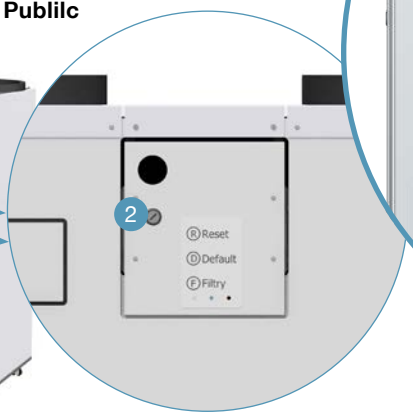
VENTBOX 300
VENTBOX 400

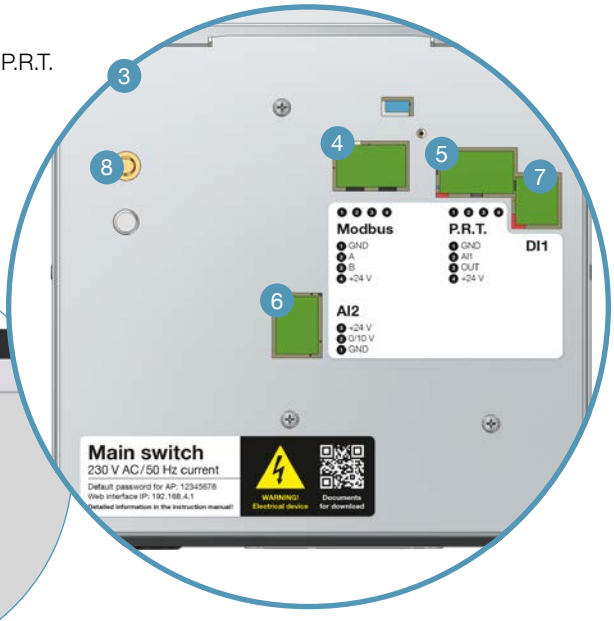
1. Front service door used to protect the control panel
2. Fuse box with fuse FST 6.3×32 16 A/~ 230 V
3. Control panel with analogue and digital inputs
4. Modbus – connection of RH, CO_2, TVOC, Radon, P.R.T. sensors
5. P.R.T. – analogue input for connection of external ventilation output controller P.R.T.
6. AI2 – analogue input
7. DI1 – digital input for intensive extraction buttons (to the required rooms)
8. SMA connector for external Wi-Fi antenna connection
9. Antenna used for wireless communication (connection to Wi-fi network)

1. The unit's main power switch with a socket for 230 V mains cable connection and FST 5× 20 10 A/250 V fuse
2. Modbus – connection of RH, CO_2, TVOC, Radon, P.R.T. sensors
3. P.R.T. – analogue input for connection of external ventilation output controller P.R.T.
4. AI2 – analogue input
5. DI1 – digital input for intensive extraction buttons (to the required rooms)
6. Antenna used for wireless communication (connection to Wi-fi network)

VENTBOX 800

VENTBOX 800 Publilc





CONTROLS AND FUNCTIONS

Unit control via web interface

The home screen is used to view information, control and set up the VENTBOX. The middle part displays the current power of the unit; information and status icons are below, then the current values are measured by the room sensors used by the unit (provided that the sensors are connected to the heat recovery unit). The lower part contains buttons for operating and setting the heat recovery unit.

User functions that you can control

- ventilation shutdown – Standby mode (unit is not disconnected from a power supply)
- switching between automatic and manual mode (A/M)
- one-time reduction of ventilation power when leaving the building (holiday)
- short-term increase of ventilation intensity (BOOST mode)
- manual bypass flap switching (summer only)
- user device settings

Control and information panel

The VENTBOX can normally be operated via the web interface, but all basic service operations can also be performed manually (by pressing the appropriate button) on the control panel located on the front of the device:

R a short press of the button **R** to perform a **reboot**, which preserves all user and service settings of the device.

D a longer press of the button (5 s) **D** to enter the **factory settings**, where the ventilation unit runs permanently at reduced power. At the same time, all user settings will be lost, including weekly program settings and network connections if previously made. The settings for the type of exchanger (ERV / HRV) and fan corrections remain unchanged. The ventilation unit goes back to AP mode including the login password set by the manufacturer.

F press the button (2 s) **F** to set the new **filter change** interval. Use this only for filter changes!

Information LED

- **green** – power
  – flashing – connected to power (Standby mode)
  – lit – device in operation
- **blue** – filters – lit or flashing request for filter change
- **red** – error – must check "Error messages"

By-pass mode

Bypass mode is one of the key components of VENTBOX central heat recovery units. This mode is enabled by a bypass flap equipped with a servo drive. In case of manual or automatic activation and based on defined temperatures in the web interface, the bypass flap allows bypassing the heat exchanger. The air extracted from the interior is deflected by the bypass flap, so that it does not pass through the heat exchanger, after which it is directly discharged outside the building and does not transfer thermal energy to the outdoor air brought into the unit. Bypass mode is commonly used during summer operation, especially at night when the outdoor air is naturally cooler. This allows the temperature of the interior spaces to be effectively reduced without the need for active cooling. The bypass thus provides an effective way to ensure optimal thermal comfort in the interior during the warm summer months.

The principle of the by-pass model

In active mode, warm air from the interior is directly discharged outside without heat exchange. The heat exchanger is deactivated in this mode with the help of a bypass flap, which prevents unwanted heating of the fresh air being supplied. Fresh cool air is blown into the interior.

Activation conditions

Bypass is activated automatically if the temperature in the interior rises above the desired value set in the web interface. Once the desired temperature in the interior is reached, the bypass mode is deactivated and the unit switches back to the standard recovery mode. The web interface can also define the lowest possible temperature of the air supplied to the interior.

Protection and filtration

For the correct function and protection of the system, the bypass flap is supplemented with a bypass filter. This protects the fan from dust with impurities that may be contained in the air diverted from the interior when there is no air flow through the standard exhaust filter. The bypass filter is necessary to ensure long-term reliability and efficiency of the recovery unit.

Advantages of the bypass flap

Energy savings – reduces the need for active interior cooling in the summer.

Increased comfort – allows the use of naturally cooler outdoor air to improve the indoor climate.

RADON

What is radon? Health risks associated with radon.
How does radon enter our homes?
Incr eased radon concentration.

What is RADON?

Radon is a naturally occurring invisible radioactive gas produced by the decay of uranium, thorium, and radium found in soil, rocks, and underground water. It is colorless, tasteless, and odorless, making it undetectable without special instruments.

Health risks associated with radon

Radon is the second leading cause of lung cancer after smoking. Inhaling it causes radioactive particles to settle in the lungs and damage lung tissue, which can eventually lead to cancer. Long-term exposure to high concentrations of radon can significantly increase the risk of the disease.

The World Health Organization (WHO) estimates that radon accounts for approximately 14% of lung cancer cases each year In Europe, radon contributes to approximately 20,000 deaths from this disease each year.

Safe Radon Concentration

Radon is measured in **becquerels per cubic meter** (Bq/m³). The World Health Organization recommends keeping radon concentrations below 100 Bq/m³, as the risk of health problems begins to increase above this threshold.

How does radon enter our homes?

Radon accumulates primarily in enclosed spaces such as homes, schools, kindergartens, and offices, where it can reach dangerous concentrations. Its presence indoors is hazardous in the long term, so it is important to measure radon concentrations in buildings and take measures to reduce its infiltration.

Cracks in walls and foundations
Radon often enters buildings through cracks and fissures in the foundation slab, walls, or floor. These areas then become the main entry points.

Gaps around pipes
Another risk area is the unsealed gaps around water, electricity, or sewage pipes that are not perfectly sealed and can lead to unwanted gas infiltration into living spaces.

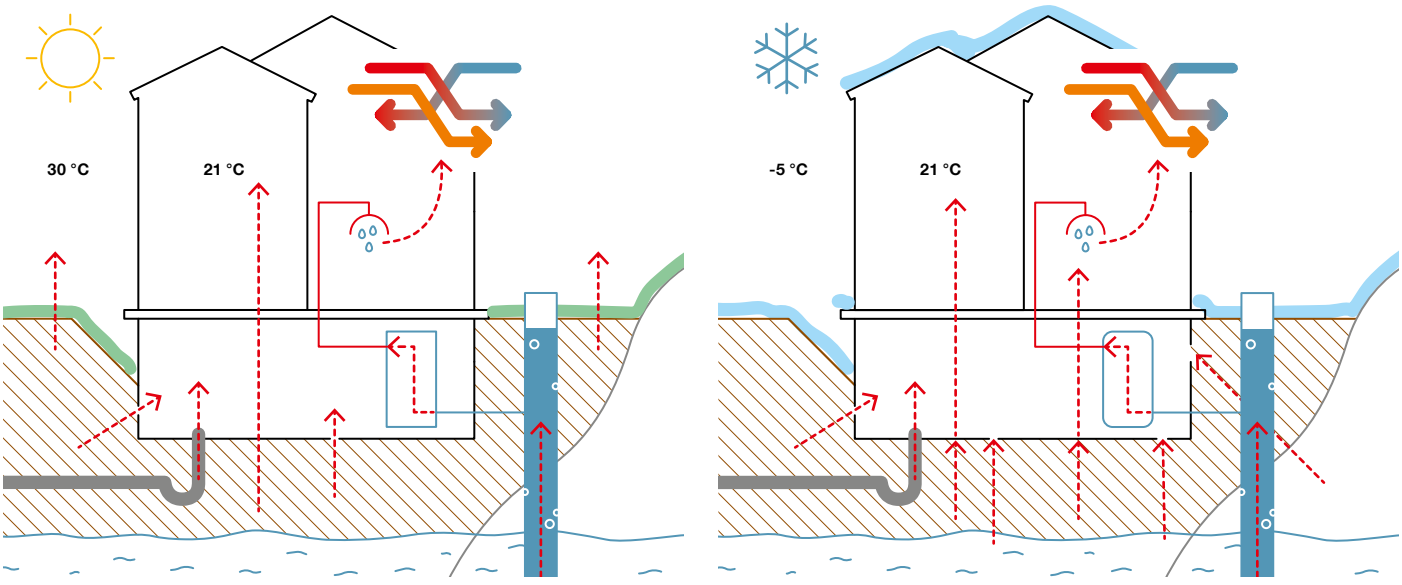
Building joints and seams
Joints between different parts of the building are another weak point, such as where the foundations meet the exterior walls.

Covered spaces and basements
The underground parts of buildings are particularly susceptible to radon accumulation, as they are in direct contact with the soil where radon is naturally released, and there is a higher risk of its concentration.

Groundwater
In some areas, radon is also found in water, especially in water drawn from deep wells. Using such water releases radon into the air, contributing to increased concentration.

Building materials
These are materials commonly used in older residential construction, where building materials with higher uranium content, particularly radium, were often found. This increased content can be of natural origin (e.g., granite) or technological origin (e.g., slag, fly ash).

Radon ventilation using controlled ventilation



– – – The penetration and flow of radon change throughout the year due to external factors such as snow, ice, wind, rain, or temperature. Therefore, we can measure different radon levels in different seasons. The greatest influence on radon intake is the so-called chimney effect, where the building actively draws radon from the ground. This effect intensifies with the increasing difference between indoor and outdoor temperatures, leading to an increase in the negative pressure inside the building.

Increased radon concentration

Increased concentrations of radon and carbon dioxide (CO_2) in a classroom or workplace can have several negative consequences for people's health and well-being.

Health risks

Inhaling radon particles can lead to lung tissue damage and increase the likelihood of developing respiratory diseases or lung cancer.

Mental and physical health

High levels of radon can cause anxiety and stress due to health concerns, which can affect overall well-being and productivity.

When radon concentrations are elevated, it is important to take measures to reduce them and ensure a healthy indoor environment.

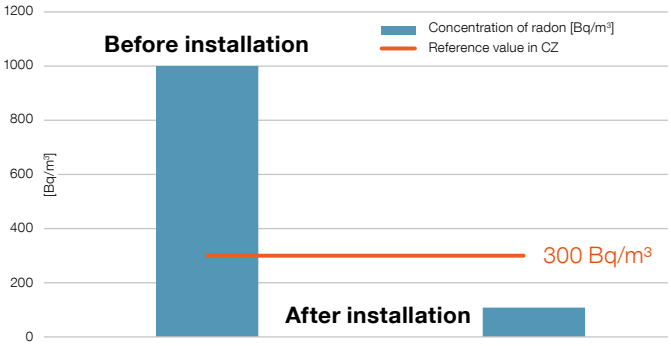
Improving Ventilation

- **Natural ventilation** – ensures that spaces are well-ventilated. Opening windows and ensuring air flow can help reduce radon concentration.
- **Mechanical Ventilation** – installing heat recovery systems and fans can help exchange CO_2-laden air in rooms and reduce radon levels.

Radon and VENTBOX ventilation units

- Heat recovery units VENTBOX are an effective solution for ensuring a healthy environment in homes and workplaces. These units can be equipped with a radon sensor that automatically monitors the indoor radon concentration.
- Thanks to this technology, the unit can respond promptly and continuously to potential dangers associated with elevated radon levels. It automatically adjusts its ventilation mode, thereby reducing the risk of radon accumulation in enclosed spaces.
- VENTBOX systems contribute to better air quality and the protection of residents' health in every season, ensuring a safe and comfortable environment. These systems allow for effective ventilation without the need to open windows and lose valuable heat from the interior. VENTBOX thus enables efficient energy consumption control, monitoring heating costs, and ensuring economical operation.

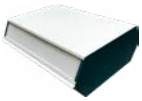
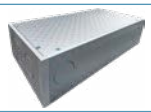
Example of radon concentration measurement in an apartment in Czech Republic before and after the installation of VENTBOX heat recovery ventilation units.

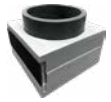


The measurement was conducted by a certified expert, and the results were independently verified by SÚRO (National Radiation Protection Institute in Czech Republic).

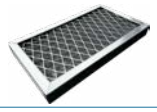
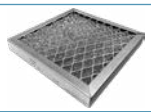
ACCESSORIES

ACCESSORIES

	Name	Compatible with	Description	Order. code
	RH sensor	Every type	Humidity sensor, analogue/digital 12–24 V DC, plaster box	P-001
	CO_2 sensor	Every type	CO_2 concentration sensor, analogue/digital, 12–24 V DC, plaster box	P-002
	TVOC sensor	Every type	Volatile and formaldehyde concentration sensor, analogue/digital, 12–24 V DC, plaster box	P-023
	Radon probe	Every type	Radon concentration probe	P-022
	Continuous manual control of relative P.R.T.	Every type	0–100 % continuous control with intensive exhaust	P-003
	Counterflow plate heat exchanger HRV	VENTBOX 150/200 Thin	Counterflow plate heat exchanger	P-030
		VENTBOX 300/400	Counterflow plate heat exchanger	P-027
		VENTBOX 800/Public	Counterflow plate heat exchanger	P-028
	Enthalpy counterflow heat exchanger ERV	VENTBOX 150/200 Thin	Enthalpy counterflow heat exchanger	P-019
		VENTBOX 300/400	Enthalpy counterflow heat exchanger	P-018
		VENTBOX 800/Public	Enthalpy counterflow heat exchanger	P-029
	Insulation box	VENTBOX 150/200 Thin	Insulation box to uninsulated areas	P-021
		VENTBOX 300/400		P-020
	Self-closing siphon	VENTBOX 150/200 Thin	Straight dry siphon with a self-closing silicone membrane DN 32, 5/4"	P-039
	Self-closing siphon	VENTBOX 300/ 400/800/Public	Low dry siphon with a self-closing silicone membrane DN 32, 5/4"	P-025
	Flexible drain hose	Every type	Flexible drain hose DN 40/DN 32, L = 430–830 mm	P-040

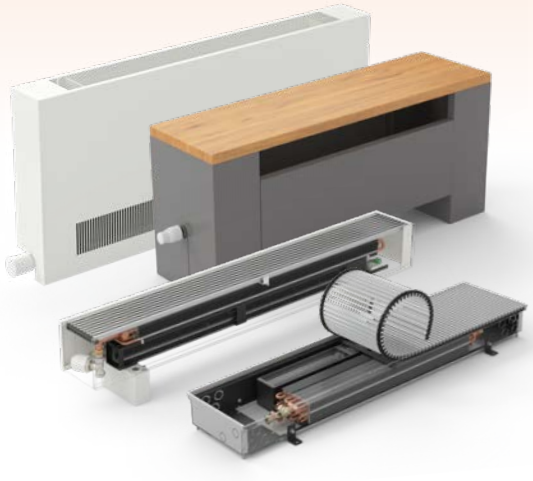
	Name	Compatible with	Description	Order. code
	Insulated XPS transition, single	VENTBOX 300/400	Insulated XPS transition, single, axial DN 160/180	P-23160
		VENTBOX 300/400	Insulated XPS transition, single, axial DN 200/180	P-23200
	Insulated XPS transition, double	VENTBOX 300/400	Insulated XPS transition, double DN 160/180	P-24160
		VENTBOX 300/400	Insulated XPS transition, double DN 200/180	P-24200
	Air duct connection necks	VENTBOX 150/200 Thin	MULTIVAC VSG air duct connection nipples galvanized DN 125 (in 4× pack)	P-037
	Filter box	VENTBOX 300/400	Filter box	P-031
	Folded filter inlet/exhaust	VENTBOX 150/200 Thin	Folded M5 class filter (ePM10 55 %) inlet/exhaust (204 × 127 × 29 mm)	P-012
		VENTBOX 150/200 Thin	Folded F7 class filter (ePM1 70 %) inlet/exhaust (204 × 127 × 29 mm)	P-013
		VENTBOX 300/400	Folded M5 class filter (ePM10 55 %) inlet/exhaust (513 × 194 × 39 mm)	P-016B
			Folded F7 class filter (ePM1 70 %) inlet/exhaust (513 × 194 × 39 mm)	P-016A
			Folded carbon filter class F7 AC (ePM1 70 %) inlet (513 × 194 × 39 mm)	P-016G
	Folded filter inlet	VENTBOX 800/Public	Folded F7 class filter (ePM1 70 %) inlet (450 × 253 × 50 mm)	P-024B
		VENTBOX 800/Public	Folded carbon filter class F7 AC (ePM1 70 %) inlet (450 × 253 × 50 mm)	P-024U
	Folded filter by-pass	VENTBOX 300/400	Folded M5 class filter (ePM1 55 %) by-pass (535 × 74 × 39 mm)	P-016C
			Folded F7 class filter (ePM1 70 %) by-pass (535 × 74 × 39 mm)	P-016E
	Folded filter exhaust – by-pass	VENTBOX 800/Public	Folded F7 class filter (ePM1 70 %) exhaust/by-pass (642 × 254 × 28 mm)	P-024D

ACCESSORIES

	Name	Compatible with	Description	Order. code
	Pre-filter	VENTBOX 300/400	Wire pre-filter G2 (276 × 154 × 28 mm)	P-016D
			Pleated pre-filter class M5 (ePM1 55 %) (276 × 154 × 28 mm)	P-016H
			Wire pre-filter G2 for filtration box (208 × 208 × 28 mm)	P-016I
		VENTBOX 800/Public	Wire pre-filter G2, galvanized (450 × 253 × 20 mm)	P-024E
	Annual filter set	VENTBOX 150/200 Thin	Filter set M5 (ePM10 55 %) 4× inlet/exhaust	P-014
			Filter set F7 (ePM1 70 %) 4× inlet/exhaust	P-015
		VENTBOX 300/400	Filter set M5 (ePM10 55 %) 2× inlet/exhaust M5, 1× by-pass M5	P-017A
			Filter set F7 (ePM1 70 %) 4× inlet/exhaust F7, 1× by-pass F7	P-017B
			Filter set – 2× inlet F7 AC, 2× exhaust F7, 2× pre-filter M5, 1× by-pass F7	P-017U
	Directional wedge	VENTBOX 150/200 Thin	Directional wedge – supply interior/exterior	P-032
	Spacer stands	VENTBOX 300/400	Spacer stands for floor mounting (in 4× pack)	P-026
	Adjustable legs	VENTBOX 800	Height adjustable legs (in 4× pack)	P-033
	Adjustable travel	VENTBOX 800/Public	Adjustable travel (in 4× pack)	P-034
	Outdoor heat pump unit	VENTBOX 400 Comfort	Outdoor heat pump unit air-to-air	P-035
	Communication module	VENTBOX 400 Comfort	For the outdoor heat pump unit	P-036

CONVECTORS

WITH NATURAL
AND FORCED CONVECTION



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