LICON®
member of KORADO Group

VENTBOX 800

Central heat recovery unit for residential and multi-purpose areas

news

KORADO®

10/2024

CENTRALISED HEAT RECOVERY UNIT VENTBOX 800

Suitable for larger spaces

For offices, schools, cafés, gyms and family houses up to 600 m².

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.

Radon-Free Living

The unit can be equipped with a radon sensor for continuous monitoring of radon concentration in the house, allowing for timely automatic response to potential hazards.

Intensive exhaust option

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

Moisture removal

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

Summer and winter function

The units compare indoor and outdoor air temperature and close or open the **by-pass** damper.

Low consumption

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

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.

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

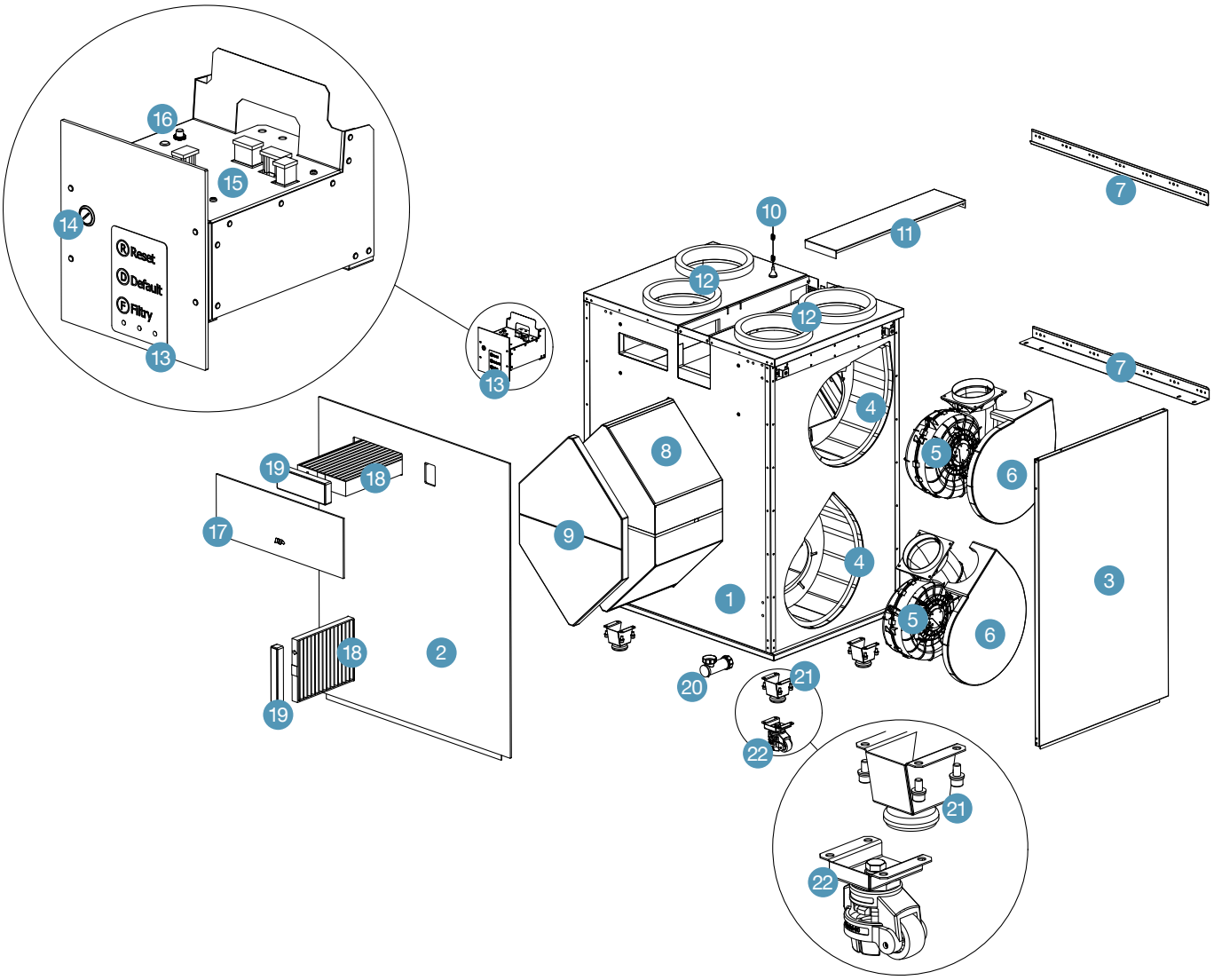
Version	Premium
Recommended area	up to 600 m²
Installation options	wall and floor
Energy class	A+
Dimensions (h × w × d)	1 270 × 1 005 × 745 mm
Weight	112 kg
Voltage	230 V AC/50 Hz
Electric current without preheating	1.5 A
Electric current including preheating	12 A
Max. input power of the unit without 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

* at reference airflow 560 m³/h and disposition pressure of 50 Pa
** for ordering codes see p. 18

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.

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. heat exchanger cover 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. 11)
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. 17)
- 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
- energy label, package leaflet
- assembly and installation instructions, assembly template

Optional Specification

- enthalpy counter-flow plate heat exchanger ERV (see p. 7)
- vontinuous manual P.R.T. control with wall-mounted remote controller (see p. 17)
- 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“

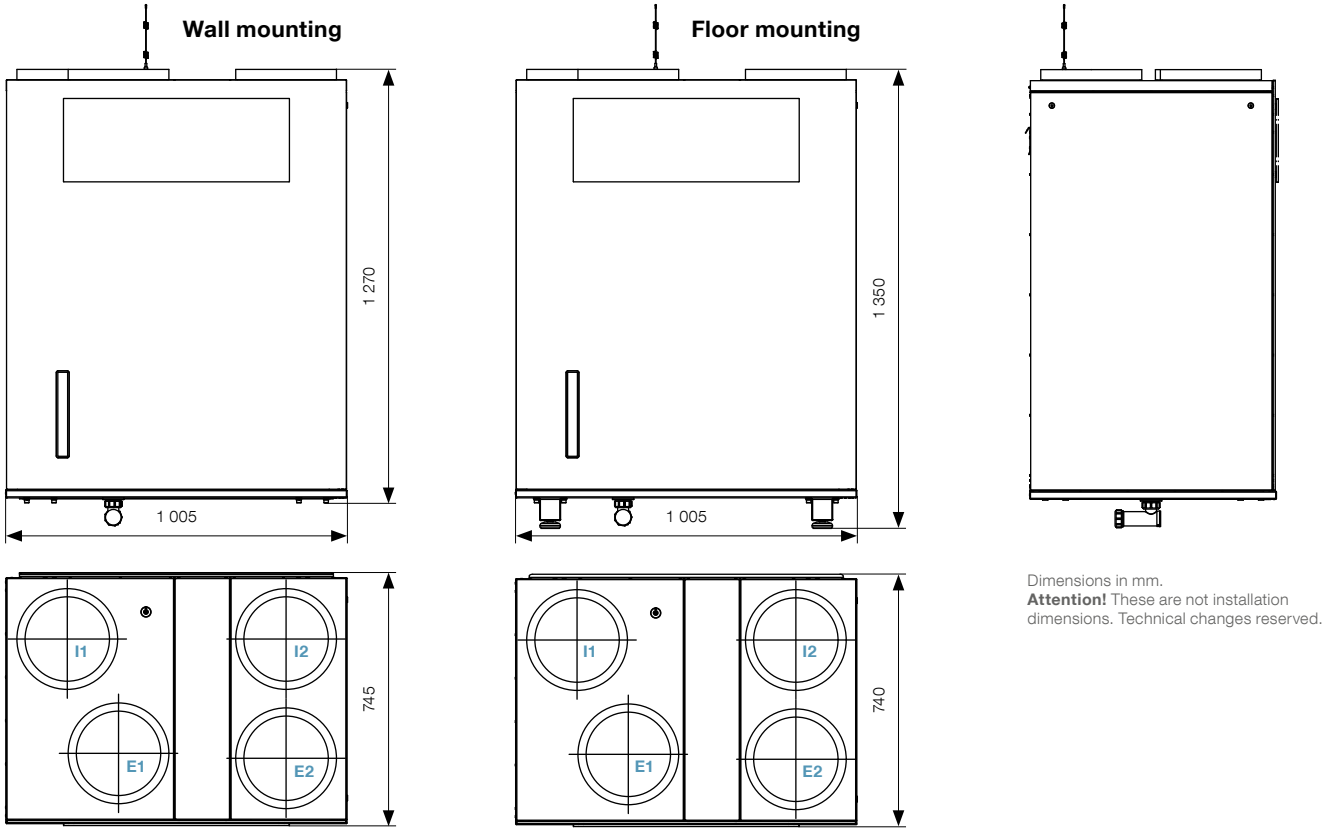
Up to 9 sensors can be connected in total.

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.

ACCESSORIES

Enthalpy Counterflow Heat Exchanger

Enthalpy counter-flow plate 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.

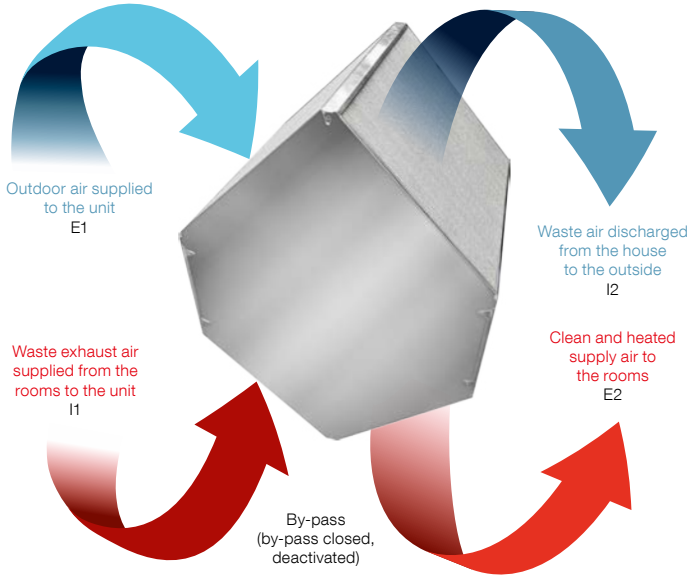
Main features and benefits

- **Heat exchange in winter** – 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.

The enthalpy heat exchanger can be ordered separately or later; after a very simple installation, the entire unit is upgraded with advanced technology. **Ordering code:** P-029

The unit comes with a counterflow plate heat exchanger (HRV) as a standard.

Working principle of the counterflow exchanger



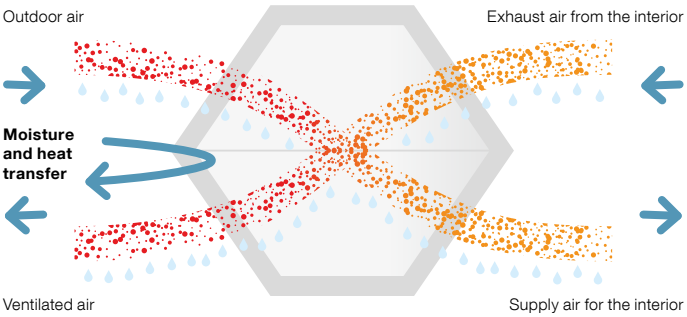
Specifications with enthalpy exchanger

	Premium
Weight of the entire unit	106,5 kg
Heat transfer efficiency / Flow rate	76 % / 800 m³/h 78 % / 560 m³/h 84 % / 120 m³/h
Moisture transfer efficiency / Flow rate	56 % / 800 m³/h 63 % / 560 m³/h 78 % / 120 m³/h

Pleasant indoor climate during both summer and winter

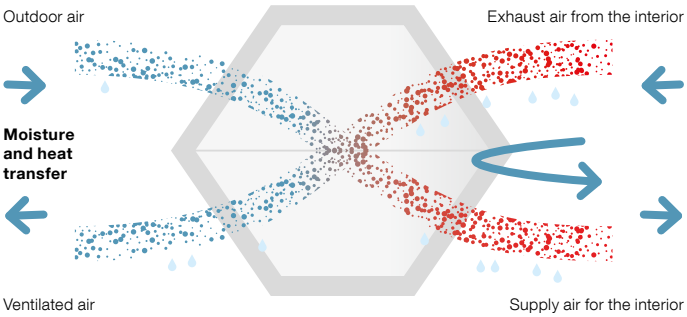
What happens in summer?

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.



FILTERS

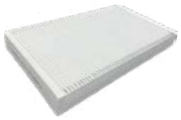
Fresh and clean air for good health
Original filters ensure a fresh and clean air supply to living rooms and significantly reduce the number of unhealthy particles.

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.

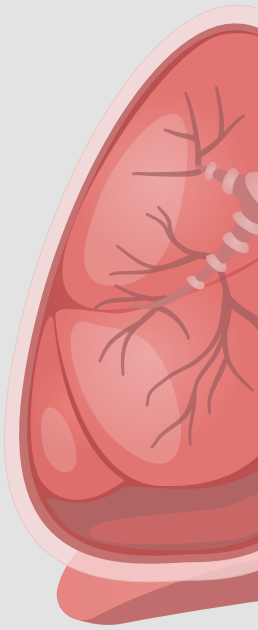


Types of filters

	F7 – intake	F7 AC (carbon) – intake	F7 – exhaust/by-pass
Filtration class – inlet	ePM1	ePM1	–
Percentage capture of particles in a given filtration class – inlet	70 %	70 %	–
Filtration class – exhaust	–	–	ePM1
Percentage capture of particles in a given filtration class – exhaust	–	–	70 %
Dimensions (h × w × d)	450 × 253 × 50 mm	450 × 253 × 50 mm	642 × 254 × 29 mm
Ordering code	P-024B	P-024U	P-024D

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 %	–

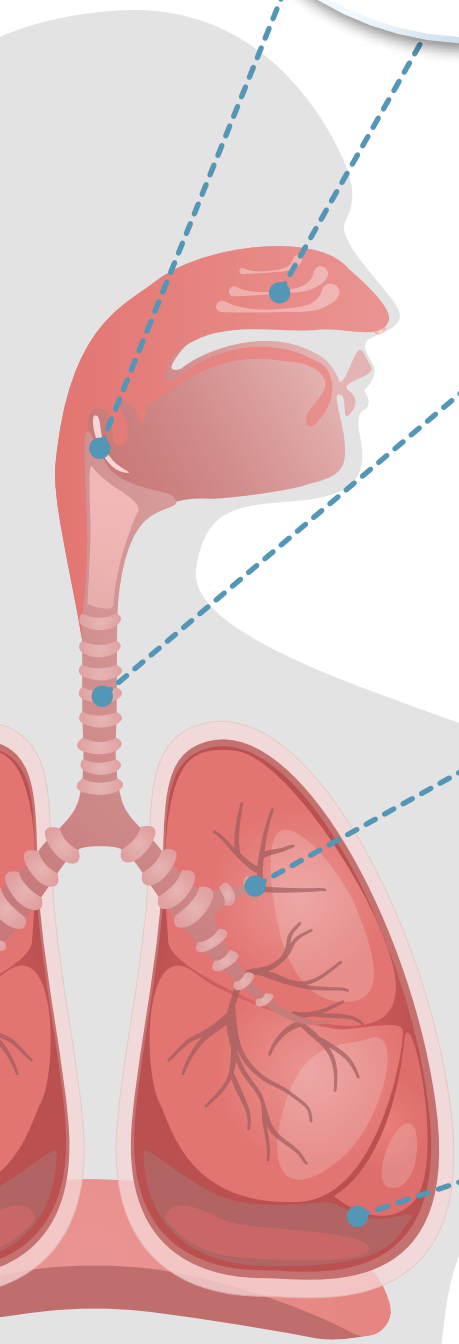


ISO Coarse
enters the nose and neck (coarse dirt)

> 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 %.

CONTROLS AND FUNCTIONS

Unit control via web interface

The home screen is used to view information, control and set up the VENTBOX 800. 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)
- user device settings
- manual by-pass flap switching (summer only)

Control and information panel

The VENTBOX 800 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

By-pass mode is one of the key components of VENTBOX central heat recovery units. This mode is enabled by a by-pass flap equipped with a servo drive. In case of manual or automatic activation and based on defined temperatures in the web interface, the by-pass flap allows by-passing the heat exchanger. The air extracted from the interior is deflected by the by-pass 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. By-pass 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 by-pass thus provides an effective way to ensure optimal thermal comfort in the interior during the warm summer months.

Activation conditions

By-pass 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 by-pass 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 by-pass flap is supplemented with a by-pass 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 by-pass filter is necessary to ensure long-term reliability and efficiency of the recovery unit.

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 by-pass flap, which prevents unwanted heating of the fresh air being supplied. Fresh cool air is blown into the interior.

Advantages of the by-pass flap

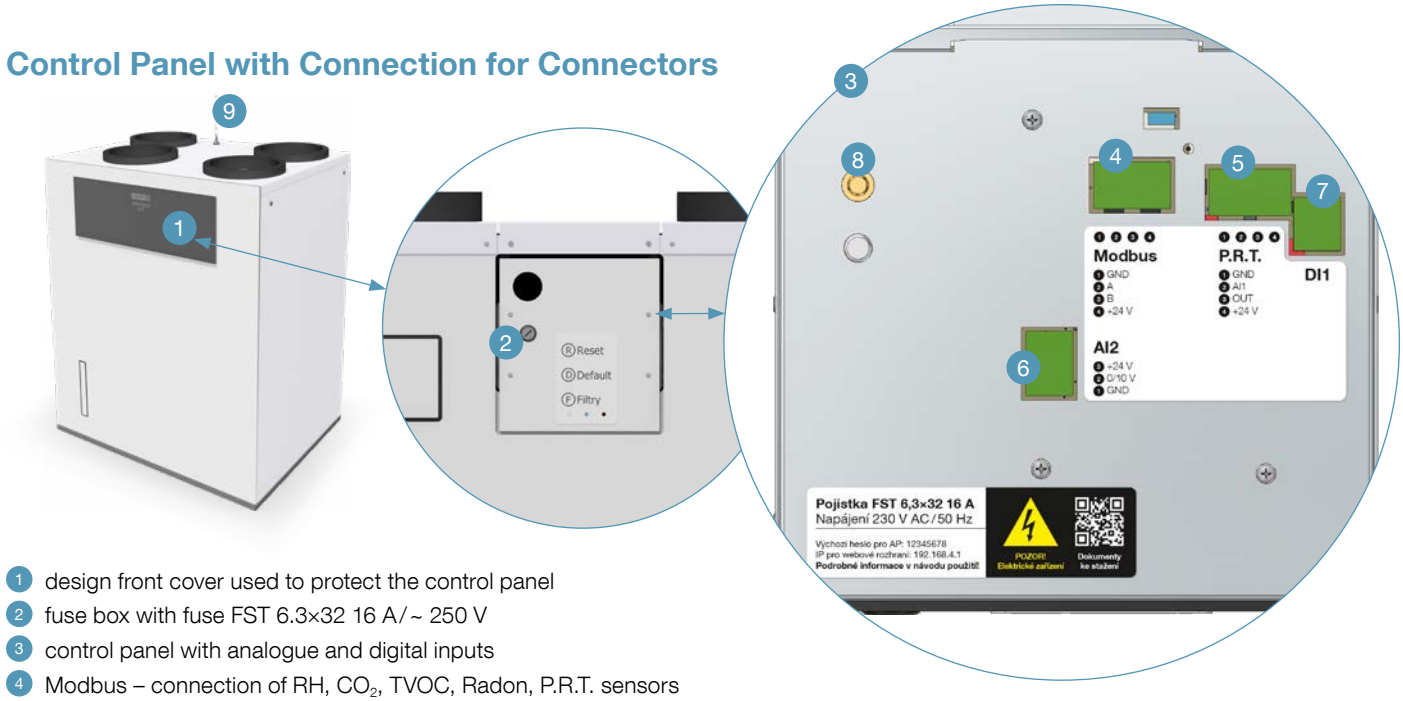
Energy savings – reduces the need for active interior cooling in the summer.

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

ELECTRICAL CONNECTION

The electrical power connection of the VENTBOX 800 is via a 2.5 metre power cable. All connector connections are located on the **Control Panel**, which can be found under the design cover on the unit front. The power supply fuse and the main power supply module are also located here.

Control Panel with Connection for Connectors

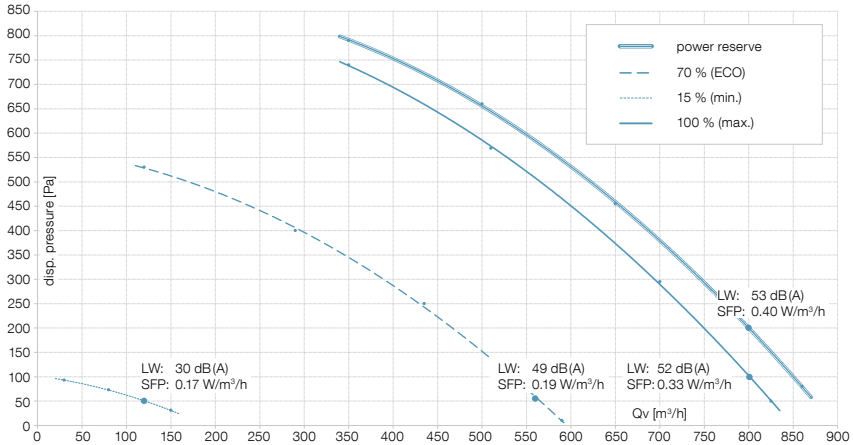


1. design front cover used to protect the control panel
2. fuse box with fuse FST 6.3×32 16 A / ~ 250 V
3. control panel with analogue and digital inputs
4. Modbus – connection of RH, CO_2, TVOC, Radon, P.R.T. sensors
5. P.R.T. – analogue input for connection of external ventilation output controller 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)

VENTILATION PERFORMANCE

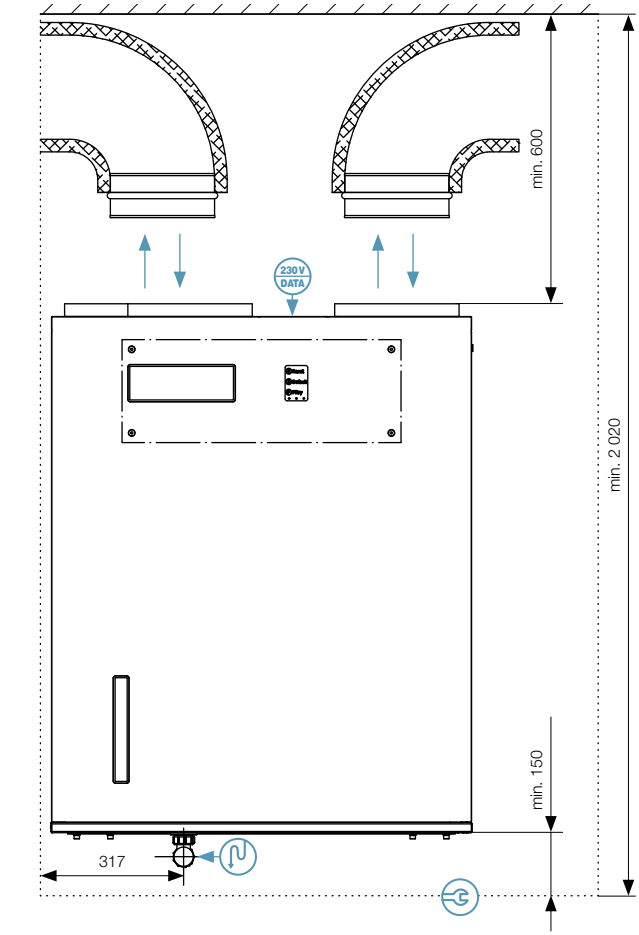
Unit power [%]	External pressure [Pa]	Airflow [m³/h]	Power input [W]	SFP [W/m³/h]	Heat recovery efficiency	
					Heat ηt [%]	Humidity ηx [%]
With standard heat exchanger according to EN 13141-7						
15	**50**	120	20	0.17	80.8	–
70	**50**	560	105	0.19	81.8	–
100	**100**	800	263	0.33	81.6	–
100	**200**	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

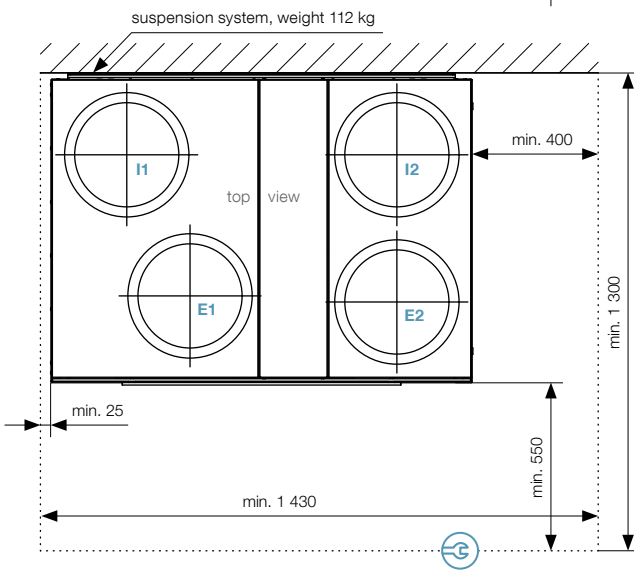
VENTBOX 800 Premium – available ventilation capacity



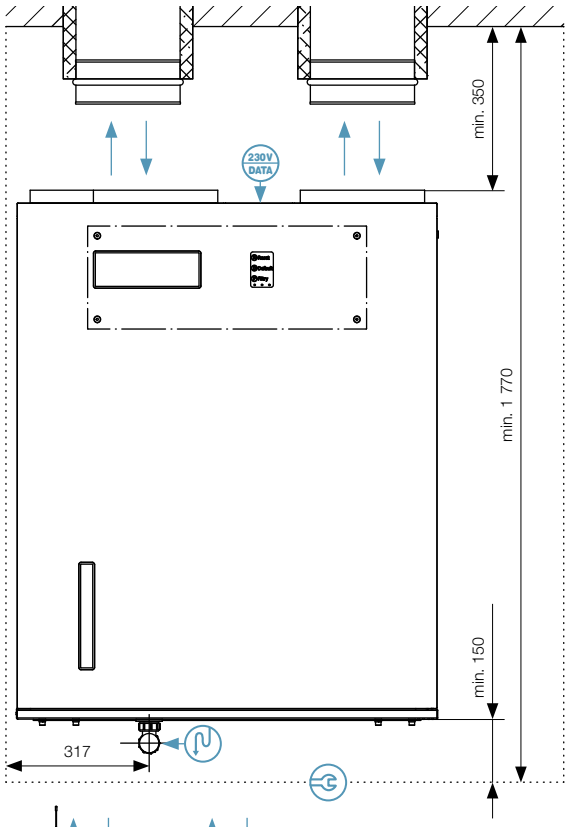
ASSEMBLY

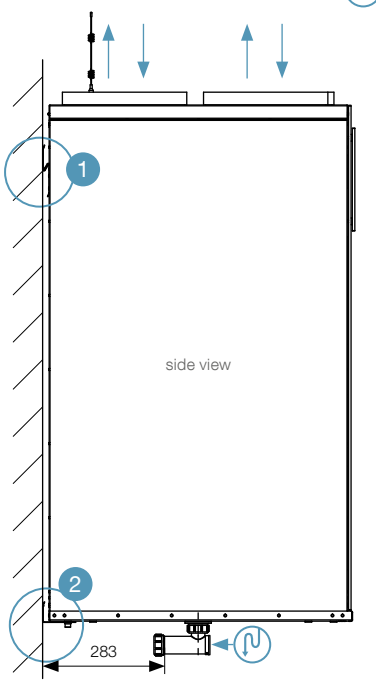
Wall Mounting
connection under the ceiling beam





Wall Mounting
connection through the ceiling beam





1 main anchor rail
2 auxiliary anchor rail

Dimensions in mm.
Technical changes reserved.

Legend

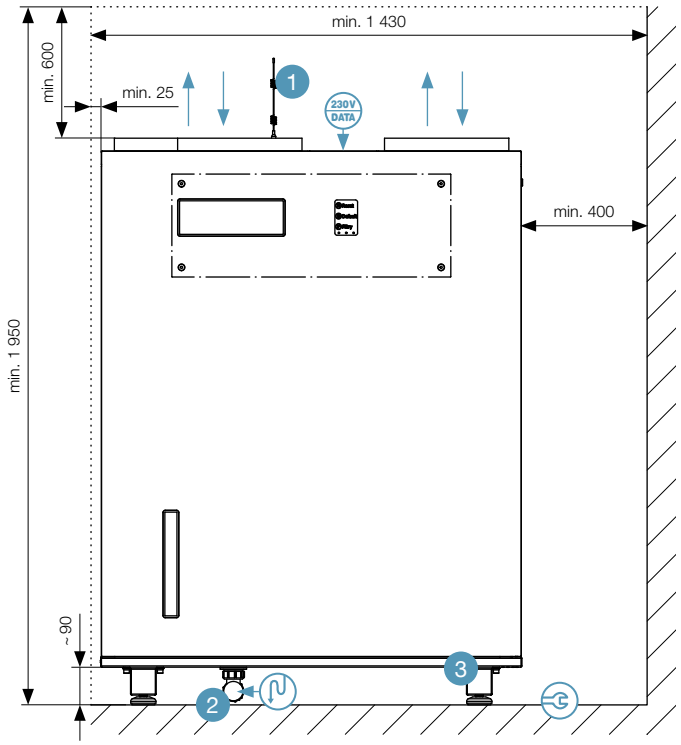
Supply E1
of fresh outdoor air to the unit

Exhaust I2
of used air from the unit to the outside

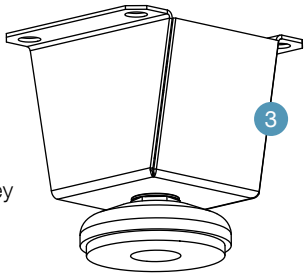
Distribution E2
of fresh air from the unit to living areas

Exhaust I1
of used air from living areas to the unit

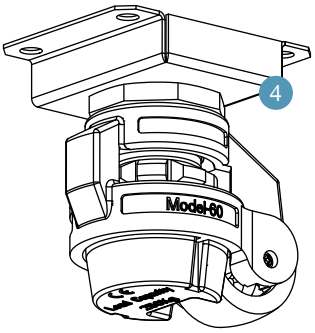
Floor Mounting



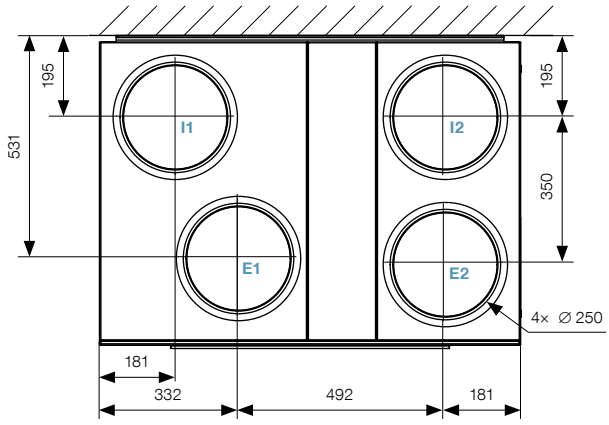
Adjustable leg
- rubber foot
- levelling ⎔ with a key



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. 17)

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

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.

ACOUSTIC PARAMETERS

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

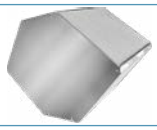
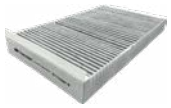
Acoustic energy L_{WA} – intake to the duct – E1											
Unit power [%]	**External pressure [Pa]**	**Air flow [m³/h]**	**63 [dB(A)]**	**125 [dB(A)]**	**250 [dB(A)]**	**500 [dB(A)]**	**1 000 [dB(A)]**	**2 000 [dB(A)]**	**4 000 [dB(A)]**	**8 000 [dB(A)]**	**Total [dB(A)]**
15	**50**	120	46.2	36.7	35.4	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

TECHNICAL PARAMETERS VENTBOX 800

	Premium version
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/radon ...)	9
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/exhaust (% of particles captured in a given filter class)	F7 ePM1 70% (F7 AC optional)

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

ACCESSORIES

	Name	Description	Ordering code
	RH sensor	Humidity sensor, analogue/digital 12–24 V DC, plaster box	P-001
	CO_2 sensor	CO_2 concentration sensor, analogue/digital, 12–24 V DC, plaster box	P-002
	TVOC sensor	Volatile and formaldehyde concentration sensor, analogue/digital, 12–24 V DC, plaster box	P-023
	Radon sensor	Radon concentration sensor	P-022
	Continuous manual control of relative P.R.T.	0–100 % continuous control with intensive exhaust	P-003
	Standard counterflow HRV heat exchanger	Temperature counterflow plate heat exchanger	P-028
	Enthalpy counterflow ERV heat exchanger	Enthalpy counterflow plate heat exchanger	P-029
	Class F7 filter (ePM1 70%) inlet	Collapsible filter – F7 – inlet (450 × 253 × 50 mm)	P-024B
	Class F7 carbon filter (ePM1 70%) inlet	Carbon filter, collapsible – F7 – inlet (450 × 253 × 50 mm)	P-024U
	Class F7 filter exhaust – by-pass	Collapsible filter – F7 – exhaust/by-pass (642 × 254 × 28 mm)	P-024D
	Adjustable legs	Height adjustable legs (4 in the package)	P-033
	Adjustable travel	Adjustable travel (4 in the package)	P-034
	Self-closing trap	Low basin trap with self-closing silicone diaphragm DN 1 ¼" 32 mm	P-025
	VENTBOX 800 Premium	VENTBOX 800 Premium with standard HRV heat exchanger	VB1-0800-BC-PHR
	VENTBOX 800 Premium	VENTBOX 800 Premium **with ERV enthalpy heat exchanger**	VB1-0800-BC-PER

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

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			BUV – bidirectional		
Installed drive type	multi-speed			multi-speed		
Heat recovery system	recuperative/**standard**			recuperative/**enthalpy**		
Thermal efficiency, dry non-condensing %	81.8			77.7		
Maximum air flow m³/h	800			800		
Electrical input at maximum air flow W	263			263		
Acoustic energy level L_{WA} dB(A)	49			49		
Reference flow rate m³/h	560			560		
Reference displacement pressure Pa	50			50		
SPI W/m³/h	0.19			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
Method of location and description of 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

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	H standard E enthalpy	P 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 connection.

CONVECTORS

WITH NATURAL
AND FORCED CONVECTION

member of KORADO Group

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