

Vasco D275 III

Description

The Vasco D275 III is a centralised balanced ventilation unit with heat recovery for residential applications. The unit mechanically supplies fresh air to the home and mechanically extracts stale air using integrated fans. During this process, heat is recovered from the extracted air and transferred to the incoming air via a high-efficiency heat exchanger.

This unit has been approved in accordance with:

- ✓ EN 308 / EN 13141-7:2010; in Belgium, this also complies with EN 308, Annex G, whereby the unit is included in the EPB product data database under '4.4 Fan and ventilation unit' with code 4.4.2 Dual air flow with heat recovery.
- ✓ BCRG quality statement and equivalence statement for the Netherlands.

The ventilation units bear the CE mark and comply with the following directives: 2014/53/EU (Radio Equipment Directive), 2011/65/EU (RoHS), 2009/125/EU (ErP Directive).

Design

Connections:

The unit is fitted with air duct connections with a nominal diameter of Ø150 mm made from EPP (expanded polypropylene).

For all installation methods, the orientation of the unit is clearly defined as follows:

- ✓ The underside of the unit is the side where the condensate drain connection is located, with:
 - The exhaust to outside on the left;
 - The supply from outside on the right;
- ✓ The top of the unit is the residential side, with:
 - Left is the exhaust from home;
 - Right is the supply to home.

This definition applies regardless of whether the unit is mounted on a wall, on the ceiling or under a thatched roof.

Insulated air ducts can be connected directly to the connections using the standard fittings supplied and any additional reducers, ensuring a condensation-free and airtight connection.

Mounting:

Ceiling and sloping roof installation

When installing the unit in a (near) horizontal position on the ceiling or beneath a sloping roof, it must be positioned with a minimum gradient of 3° towards the condensate drain to ensure proper internal drainage of the condensate.

Wall mounting

For wall mounting, the unit is mounted vertically and perfectly level against a wall.

No slope is required for wall mounting.

The mounting screws with washers required for installation are supplied and must be used in accordance with the unit's installation instructions.

Frost protection:

Ensures that the ventilation unit operates frost-free by temporarily limiting the speed of the supply fan. This ensures adequate ventilation throughout the winter.

An optional electric preheating element prevents the heat exchanger from freezing and avoids temporary imbalances, resulting in greater comfort and improved system performance.

Material

Casing:

EPP (expanded polypropylene), encased between two galvanised metal side panels.

Inner side:

Thermally insulating and airtight expanded polypropylene (EPP), which prevents thermal bridges.

PP (polypropylene), ABS (acrylonitrile butadiene styrene) and high-quality (Sendzimir) galvanised metal.

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Technical specifications

Dimensions:	Height:	1180 mm
	Width:	592 mm
	Depth:	300 mm
Weight:		23 kg
Supply voltage:	230V AC, 50 Hz, equipped with a 1.8 m cord with earth connection / Euro plug.	
Maximum power consumption:	2x 83 W	
Maximum air flow rate:	275 m ³ /h – 150 Pa Adjustable from 185 m ³ /h to 275 m ³ /h in increments of 15 m ³ /h	
Efficiency values:	93.8% according to EN13141-7 80% at 275 m ³ /h 83% at 251 m ³ /h 84% at 200 m ³ /h 85% at 172 m ³ /h according to EN308 Annex G	
Noise level:	Sound power unit emission	52.0 dB(A) at 70% Qmax at 50 Pa
	Sound power supply channel	62.0 dB(A) at 70% Qmax at 50 Pa
	Sound power of drainage channel	57.0 dB(A) at 70% Qmax at 50 Pa
Energy class:	A A+ with 2 optional RF CO ₂ or RH (humidity) switches.	
Fans:	EC (electronically commutated) radial fans with robust, backward-curved blades that are easy to clean. The fans are mounted vertically in a metal housing. The electrical connections are splash-proof and comply with protection class IP57.	
Heat exchanger:	The ventilation unit is fitted with a counter-flow heat exchanger with low flow resistance. The heat exchanger is made of polystyrene. The design facilitates heat recovery within the unit and contributes to a stable air flow and low pressure drop.	
Air filters:	Fitted as standard with ISO 16890 ePM1 55% (= F7 according to EN 779) for the supply air and ISO 16890 Coarse 65% (= G4 according to EN 779) for the exhaust air. Optionally available: 2x ISO 16890 ePM1 55% (= F7 according to EN 779). The filters are easily accessible by removing the filter caps. The filters have a replacement interval of 6 months, which is automatically indicated via, for example, the standard RF 3-position switch supplied with the unit.	
Condensate drainage:	The ventilation unit is fitted with a condensate drain to which the supplied dry trap must be connected. A slip-on sleeve is also supplied. This sleeve must be used to ensure that the condensate drain can be easily disconnected from the drain connection and the internal drip tray at any time, for the purposes of inspection and maintenance. The condensate drain must be connected to a suitable drainage system in accordance with the applicable installation guidelines. For ceiling mounting, a 3% gradient towards the condensate drain must be provided to ensure proper drainage.	

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Features

- Regulation / control:** The ventilation units are fitted as standard with an automatic, pressure-independent speed control system to maintain a constant air flow rate. The set air flow rate is automatically and continuously regulated, regardless of the resistance in the ductwork system and the level of contamination in the air filters.
- Bypass:** The bypass operates fully automatically based on measurements of the indoor and outdoor temperatures. When heat exchange is not required, the bypass diverts the air around the heat exchanger. This ensures optimum indoor comfort with minimal energy consumption.
- Free-Cooling
- When the outside temperature is lower than the inside temperature, such as on cool summer evenings or nights, the filtered outside air is brought directly into the home without heat exchange. This provides natural and energy-efficient cooling of the indoor air.
- Filter contamination indicator:** The ventilation unit is equipped with a time-based automatic filter contamination indicator. As soon as the filters need replacing, the LED will flash orange twice when the standard RF 3-position switch is operated. The filter contamination indicator can then be reset using the RF 3-position switch.
- Both the alert and its reset can also be performed via other optional control elements.
- Frost protection:** Ensures the ventilation unit remains frost-free by limiting the speed of the supply fan in the event of a temporary imbalance. This guarantees effective ventilation throughout the winter.
- An optional electric preheating element prevents the heat exchanger from freezing and avoids temporary imbalances, resulting in increased comfort and improved system performance.

Controls

- RF 3-position switch:** Included as standard, equipped with a 3V Lithium CR2450N battery, with an average lifespan of 10 years. Communication with the ventilation unit is wireless. To be mounted on a wall under construction by means of screw or adhesive mounting.
- The switch has the following functions:
- ✓ Operating the ventilation mode (1, 2, 3, Timer)
 - ✓ Setting the maximum air flow rate
 - ✓ Resetting the filter dirt message
 - ✓ LED feedback for error messages
- Dimensions:**
- H: 83 mm
W: 83 mm
D: 15 mm
- Housing:** plastic
- 3 positions contact:** The ventilation unit can be controlled in 3 positions via contact X9 on the circuit board. Position 1 provides 25% air flow, position 2 provides 50% air flow and position 3 provides the maximum set air flow.
- 1-10V contact:** Via contact X26 on the circuit board, the ventilation unit can be continuously controlled by means of a 1-10V signal. 1V corresponds to the minimum ventilation flow rate of the ventilation unit and 10V to the maximum.
- Relay contact error:** Error messages can be read via contact X8 on the ventilation unit's circuit board. This so-called fault relay is a normally open (NO) potential-free contact that closes as soon as an error message occurs or when the filters need replacing.

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Accessories

RF CO₂ switch (surface-mounted):

For automatically controlling and regulating the air flow rate of the ventilation unit based on the CO₂ level in the room. The switch must be connected to a supply voltage of 230V+N and the communication with the ventilation unit is wireless. To be mounted on a wall in construction by means of screw mounting.

The switch has the following functions:

- ✓ Operating the ventilation mode (1, 2, 3, Eco, Comfort)
- ✓ 2 automatic modes (Eco = 950 ppm and Comfort = 800 ppm)
- ✓ LED feedback for error messages
- ✓ Automatic self-calibrating

Dimensions:

H: 100 mm
W: 100 mm
D: 28 mm

Housing: plastic

RF RH Switch:

For automatic control and regulation of the air flow rate of the ventilation unit based on the relative humidity (%) in the room. The switch is equipped with 2 alkaline batteries 1.5V AA for power supply and communication with the ventilation unit is wireless. To be mounted on a wall in construction by means of screw mounting.

The switch has the following functions:

- ✓ Operating the ventilation mode (1, 2, 3, Eco, Comfort)
- ✓ 2 automatic modes (Eco = 60 min setting 2 and Comfort = 30 min position 3)
- ✓ LED feedback for error messages

Dimensions:

H: 100 mm
W: 100 mm
D: 28 mm

Housing: plastic

Gateway:

For operating and reading the ventilation unit via the Vasco Climate Control App. The Gateway must be connected via the supplied micro-USB cable + adapter to a 230V+N socket and the communication with the ventilation unit is wireless. The connection to the modem (LAN) is done via the supplied UTP cable. To be mounted on a wall.

The gateway has the following functions:

- ✓ Operating the ventilation mode (1, 2, 3, Timer, Auto, Away, Party, Vacation, Fireplace)
- ✓ Automatic weekly program
- ✓ Status of bypass, electric preheating element, etc.
- ✓ Display of error messages
- ✓ Setting parameters (e.g. ventilation flows, temperature bypass)

Dimensions:

H: 105 mm
W: 81 mm
D: 28 mm

Housing: plastic

Electric preheater:

An electric preheating element can be used to prevent the heat exchanger from freezing and to avoid triggering the defrost cycle (temporary imbalance). The element is installed in the outdoor air intake duct and has a flange diameter of 150 mm. The preheating element is thermally insulated and is connected to an external power supply via a 230 V + N socket.

Communication with the ventilation unit takes place via the supplied control cable, which transmits a modulating signal from the unit's circuit board (connection point X17) to the preheating element's relay. The nominal electrical power is 900 W.