Fresh-r In-the-Wall
Specifications and Data

Smart measurement and control technology that reuses heat in the winter and coolness in the summer.

Keeps buildings comfortable and the air healthy, without losing energy.

Demand-driven and balanced ventilation that fits into the facade.

Key Features

1 The heat exchanger is made of copper, that conducts heat 1000 times better than polyethylene, the material used in other heat exchangers. Therefore temperature is exchanged from the outgoing air to the incoming air in a much shorter air path, which has multiple advantages:
1. Keeps the unit thin so it fits in an outside wall;
2. Low pressure drop, resulting in low fan energy usage and low noise levels;
3. Sub-zero efficiency;
4. A thermal efficiency of 90%.

2 Fine dust filter keeps pollen and particulates out.

3 Air quality is monitored by CO_2 sensor and humidity sensor and optionally a fine dust sensor.

4 Ventilators refresh the indoor air if necessary, with a capacity of up to 120 m³ per hour.

5 Wifi antenna sends collected data, for online insight into performance.

6 Fits a maximum of 10 meter extract duct ø125mm to enable cascade ventilation.

7 Wooden frame for easy mounting during installation and prefab construction.

3 year warranty when WiFi connected. 2 year without WiFi connection.

Technical Data

Heat exchanger	copper
HE efficiency	90 % *
ErP label	A+
Controls	CO_2 / RH
Balanced	YES
Mounting	In wall
Outside duct diameter	125 mm
Extract duct connection	YES** (optional)
Condensate discharge	integrated in exhaust
Electricity supply	230v/1ph/50Hz
Max. power consumption Aver. power consumption	45 W total 10 W total
WiFi inside	Yes
Filter class	G2 standard Optional ePM1-70 according to ISO 16890***
Dimensions (H x W x D in mm) *in./excl. filter*	1195 x 355 x 185 or 205

*   90 % at norm volume 60 m3/h
      87 % at volume of 80 m3/h
** Connecting extract duct requires the
      'Fresh-r Everywhere' adaptor kit.
*** ePM1-70 is formerly known as F8
      according EN779:2012

Air flow control

The Fresh-r saves an additional 35% (avg.) on the overall ventilation energy by only ventilating when needed. The air flow rate is automatically adjusted to keep air quality good (well under 1200 PPM CO_2 level). CO_2 and RH sensors with its smart control are always included in the Fresh-r and are situated in outgoing air stream. The automatic mode can manually be overruled for 90 minutes by increasing / decreasing fan speed. The user interface indicates the air quality level in 3 steps with icons for good, medium and bad.

Air balance control

2 EBM Papst backward curved fans (R3G133RA0103) are continuously balanced using smart controls combined with 4 temperature sensors and 4 thermocouples. This worldwide patented system enables very direct balance control, also with strong winds.

Flow & electricity

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25 m³/ hr (7 l/s)	5.3 Watt
53 m³/ hr (15 l/s)	11.7 Watt
76 m³/ hr (21 l/s)	17.6 Watt
97 m³/ hr (27 l/s)	27.6 Watt
120 m³/ hr (33 l/s)	41.2 Watt

Tested by BRE and eligible for SAP Appendix F and certified as Passive House component.

Flow & sound

35 m³/ hr (7 l/s)	25 dB(A)
65 m³/ hr (15 l/s)	30 dB(A)
80 m³/ hr (21 l/s)	35 dB(A)
120 m³/ hr (27 l/s)	45 dB(A)

NEN-EN-ISO 3741 tested by Cauberg-Huygen

Pressure Flow Graph

pressure & flow
Fresh-r® in-the-wall
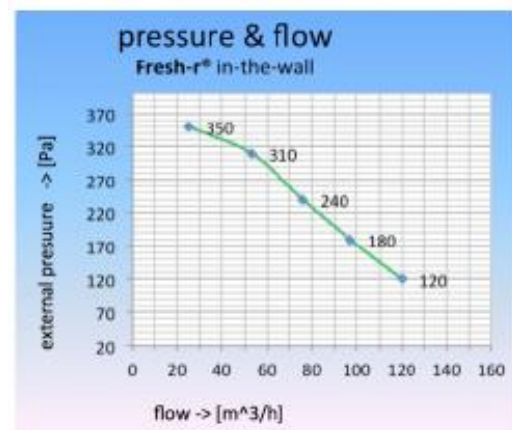
Minimised cold bridge

The cold side of the fresh-r is completely separated from the warm side by a thick layer of EPP foam and Nylon screws.

Sound reduction

The unit reduces the outside noise by 45 dB(A).

Fresh-r, Vaventis BV reserves the right, in the interests of continuous development, to alter specifications without prior notice. All orders are accepted subject to our conditions of sale which are available on request.

CE

Deutsches Institut für Bautechnik

DIBt