



# Zehnder ComfoAir Flex 250

Technical specification for ceiling mounted ventilation unit

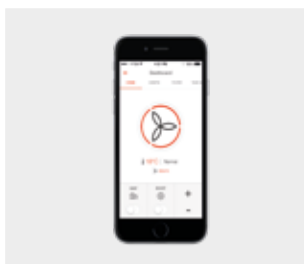
## General

The Zehnder ComfoAir Flex has been developed as an ideal solution for apartments and small dwellings, where an efficient use of space for living is important. Thanks to its compact design with minimal dimensions of 1068 x 868 x 299 mm (L x W x H), the Zehnder ComfoAir Flex enables space-saving installation in suspended ceilings for a harmonious integration into any apartment.

The Zehnder ComfoAir Flex delivers an impressive performance with air volumes up to 250 m<sup>3</sup>/h at an external pressure of 200 Pa, to guarantee a comfortable and healthy indoor climate. Additionally the new innovative ventilation unit from Zehnder is fitted with what have been proven to be the quietest fans on the market in their size. Even during full operation, the residential ventilation unit convinces with low casing radiation which provides an incredibly quiet noise level for more comfort in your home. In conjunction with the custom made heat exchanger, it's possible for our new ceiling mounted unit to achieve an excellent energy efficiency with very low electric consumption. Due to high quality components which are custom made to work together in perfect harmony, the ComfoAir Flex enables an efficient, reliable and durable operation. With the enhanced filter concept with standard ISO Coarse (G4) filters for supply and extract air and the optional ePM 1 (F7) filter, the Zehnder ComfoAir Flex can deliver pollen free fresh air. Moreover the filter replacement is always at the right time, due to a time and flow based filter alert.

## Benefits

- The best automatically adjusted indoor climate all year round guaranteed by the Climate Switch® technology.
- Reduces pollutants entering the home: enhanced filter concept filter for supply of clean fresh air into your dwelling.
- Space-saving installation in suspended ceilings for a harmonious integration into any apartment due to its minimal dimensions of 1068 x 868 x 299 mm (L x W x H).
- Increased comfort thanks to incredible quiet noise level even during full operation.
- An impressive performance in a compact design with air volumes up to 250 m<sup>3</sup>/h at an external pressure of 200 Pa to guarantee a comfortable and healthy indoor climate.
- High level of heat recovery combined with very low energy consumption: due to a custom made heat exchanger and the latest fan technology.
- Easy and convenient operation: built-in WiFi connection enables a direct control via the Zehnder ComfoControl App.
- Reduction of excessively dry and humid air thanks to the humidity recovery with the Zehnder enthalpy exchanger (available in 2022).
- Flexibility and security for planning and installation as one unit combines right and left orientation, which can be changed through the Zehnder ComfoControl App.
- Easy and flexible mounting on the ceiling, thanks to the 4 x 45 degrees turnable bends.
- Quick and easy commissioning by constant air flow with assistance via the Zehnder ComfoControl App which guides you through the steps.



Zehnder ComfoControl App for commissioning and control



Zehnder ComfoSwitch C



Zehnder CO<sub>2</sub> sensor C



Zehnder filter ISO Coarse (G4)

## Technical specifications

### Zehnder ComfoAir Flex 250

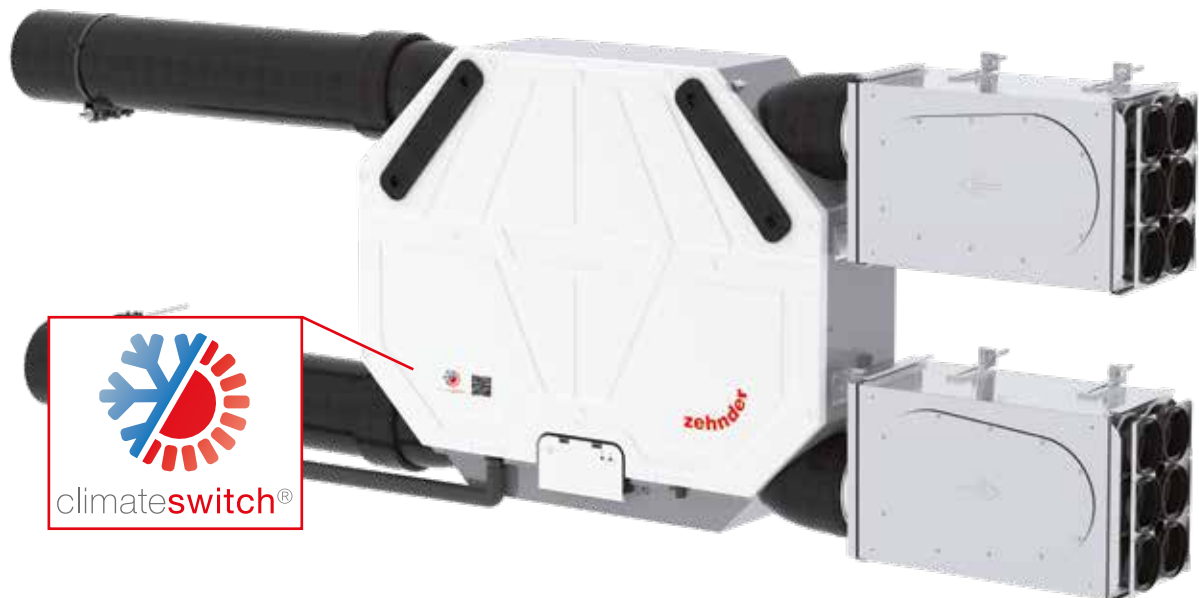
Max. air volume	250 m <sup>3</sup> /h
Length	1068 mm
Width	868 mm
Height	299 mm
Weight	41 kg
Installation	Ceiling mounted
Temperature range	-20 °C to +50 °C during transport and storage +7 °C to +40 °C in the installation room
Condensate drain (Ø)	32 mm
Air connection size (Ø)	160 mm internal
Supply voltage	230 V, 50 Hz
Maximum power consumption	114 W (without preheater)
Current draw	0.92 A
Specific fan power	0.25 Wh/m <sup>3</sup>
Cos φ	0.39 - 0.54
Sound power level L <sub>wa</sub>	42 dB(A)
Protection class	IP40
Housing	Sheet metal
Front panel	Sheet metal, RAL 9003
Inner zone	EPP / ABS
Heat exchanger	PS
ISO-classification	B

## Flexibility

The Zehnder ComfoAir Flex impresses with an easy and flexible installation which allows trouble free mounting on the ceiling, due to the 4 x 45 degrees turnable bends and adjustable mounting brackets. Each air connection can be individually turned to connect to a duct inline with the unit, or rotated 90 degrees. For even more flexibility in planning and installation the right and left orientation is achieved through one single unit and can be changed with the ComfoControl App. This reduces installation time, and also reduces the risk of ordering the incorrect unit. Thanks to its ingenious design with focus on accessibility of components, the ceiling mounted ventilation unit is also easy to service and to maintain.

## Compact configuration

- Can be mounted in suspended ceilings with a height of > 299 mm
- Very compact solution - in combination with Zehnder ComfoWell 320 the system has a max. width of 880 mm
- Condensate drain runs along the notch and doesn't increase the installation width
- 45 degrees turnable bends ensure the most suitable connection to the ductwork
- Integrated inclination insures the correct condensation drainage angle, without increasing the build in height
- Easy to install using solid mounting bracket
- Supplied with 1.1 m cable and plug



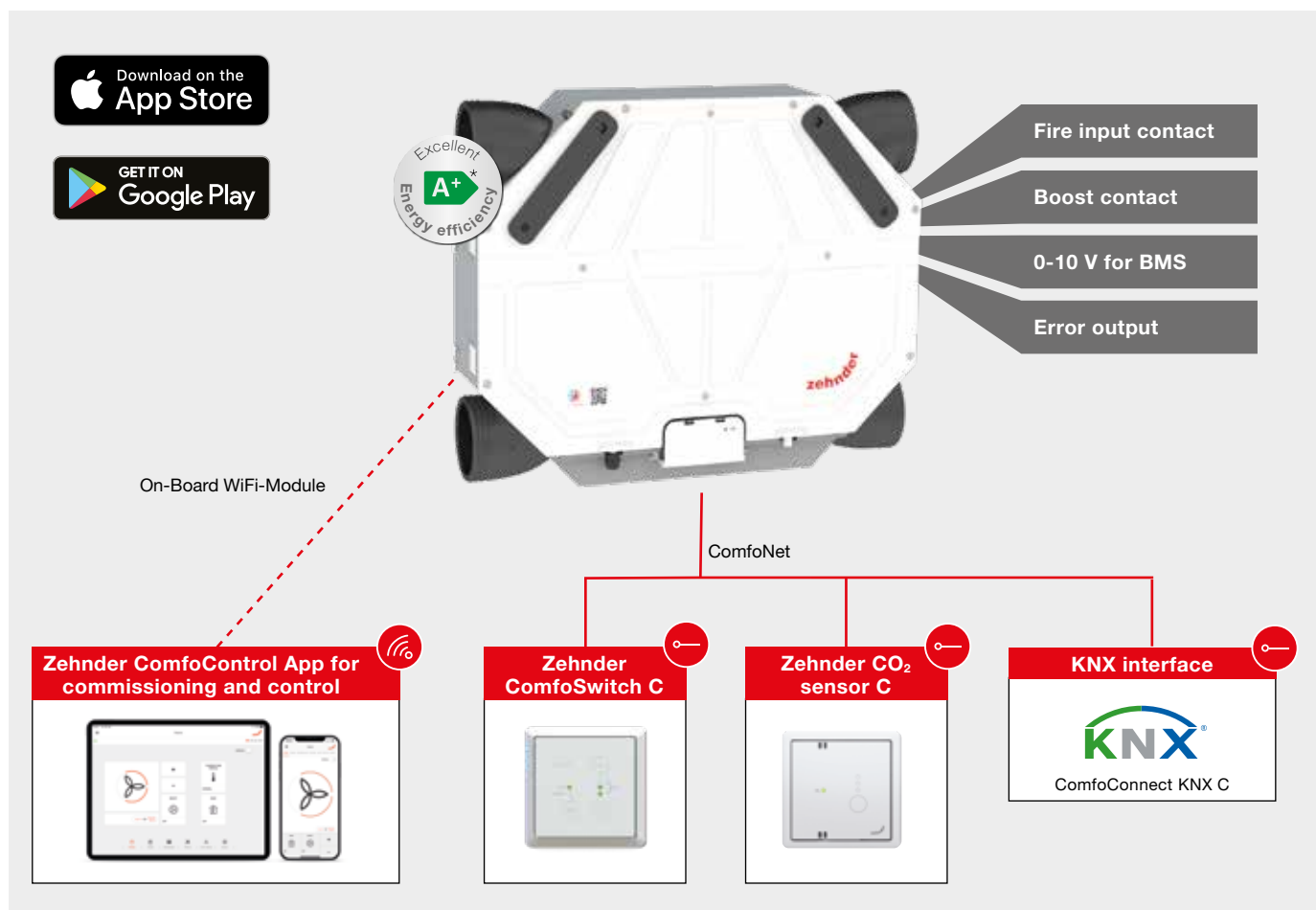
## Climate Switch®

The ComfoAir Flex with Climate Switch® technology from Zehnder guarantees the best automatically adjusted indoor climate all year round. In summer the bypass activation brings cool outdoor air directly into the house or can be used for passive heating in shoulder season. Another feature is the cold recovery, where the heat exchanger cools down the supply air. On the other hand in winter we speak of heat recovery where the heat exchanger transfers heat to the cold outdoor air.

## Enthalpy exchanger

The built-in enthalpy exchanger is available in the ComfoAir Flex ERV, which reduces excessively dry and humid air for even better indoor air quality. This retains warmth and humidity indoors in winter while ensuring that you still get an adequate supply of fresh air. In summer, heat and humidity are removed from the warm, humid outdoor air before the fresh air enters the house.

## Control options



## Control functions

The ComfoAir Flex is WiFi enabled as standard and can be conveniently controlled via a smartphone or tablet with the ComfoControl App. In addition to this the unit can easily be operated with various control options like the Zehnder ComfoSwitch C, can also be integrated into smart home via KNX and can work demand controlled with the CO<sub>2</sub> sensor C. In addition, the ComfoAir Flex benefits from a quick and easy commissioning process by constant air flow, all whilst following a step-by-step guide on the intuitive App. This is possible thanks to the direct point to point WiFi connection for installers.

### Comfort ventilation unit

Commissioning wizard

Filter change wizard

Real time information for energy saving/consumption

Adaptive comfort temperature control

Flow control technology and constant volume

4 levels, party and absence settings

Weekly time schedule

Frost protection function

Fire input contact

Error output contact

Boost contact

0-10 V for building management system

### Control units

### Article number

Zehnder ComfoSwitch C55 control panel	655 010 245
Zehnder ComfoSwitch C67 control panel	655 010 255
Zehnder CO <sub>2</sub> sensor RF 55 (built in)	655 000 860
Zehnder CO <sub>2</sub> sensor RF 67 (built in)	655 000 865
Zehnder CO <sub>2</sub> sensor RF 67 (on wall)	655 000 870
Zehnder CO <sub>2</sub> sensor C55 (built in)	655 000 875
Zehnder CO <sub>2</sub> sensor C67 (built in)	655 000 880
Zehnder CO <sub>2</sub> sensor C67 (on wall)	655 000 885
Zehnder RF upgrade kit	400 502 016
Zehnder RFZ control panel*	655 000 755
Zehnder Timer RF control panel*	655 000 780
ComfoConnect LAN C interface	655 011 100
ComfoConnect KNX C interface	655 011 120

\* only in conjunction with the RF PCB

## Article numbers

Comfort ventilation unit	Article number
ComfoAir Flex 250 HRV IT	471 234 010
ComfoAir Flex 250 ERV IT	471 234 020
ComfoAir Flex 250 HRV ES	471 234 150
ComfoAir Flex 250 ERV ES	471 234 160
ComfoAir Flex 250 HRV BE	471 234 070
ComfoAir Flex 250 HRV PRH NL	471 234 090
ComfoAir Flex 250 ERV PRH NL	471 234 100
ComfoAir Flex 250 HRV PRH RF NL	471 234 110
ComfoAir Flex 250 ERV PRH RF NL	471 234 120

Filters	Article number
Filter set for CA Flex 250/350, ISO Coarse (G4/G4) (contains 2 filters)	400 100 121
Filter set for CA Flex 250/350, ISO Coarse / ePM1 (G4/F7) (contains 2 filters)	400 100 122
Filter set for CA Flex 250/350, 5 x ISO Coarse / 5 x ePM1 (G4/F7), (contains 10 filters)	400 100 123
Filter set for CA Flex 250/350 : 10 x ePM1 (F7) (contains 10 filters)	400 100 124
Filter set for CA Flex 250/350 : 10 x ISO Coarse (G4) (contains 10 filters)	400 100 125

## Energy efficiency classes

Energy efficiency classes in accordance with EU Regulation no. 1254/2014.

Energy figures	
<b>EU Energy Consumption Label</b>	
Energy efficiency class	<b>A<sup>+</sup></b> **
Maximum air volume flow [m <sup>3</sup> /h]	250
Sound power level L <sub>WA</sub> dB(A)	42

\*\* depending on the control unit/sensor technology chosen.

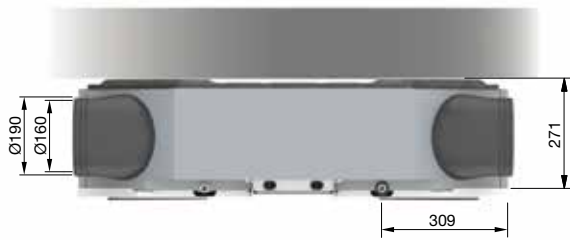
### Tender specification

The ceiling mounted recovery ventilation unit Zehnder ComfoAir Flex 250 has been developed for apartments and small dwellings, where an efficient use of space for living is important. The Zehnder ComfoAir Flex 250 can be mounted in suspended ceilings with a height of 299 mm thanks to its compact design with minimal dimensions of 1068 x 868 x 299 mm (L x W x H). The ventilation unit impresses with air volumes up to 250 m<sup>3</sup>/h at an external pressure of 200 Pa. The Zehnder ComfoAir Flex 250 is a centralised, compact and flexible ventilation unit with heat recovery and integrated modulating summer and winter by-pass. The Zehnder ComfoAir Flex with the Climate Switch® technology from Zehnder guarantees the best automatically adjusted indoor climate all year round. With the custom made heat exchanger, it's possible for the Zehnder ComfoAir Flex to achieve an excellent energy efficiency with very low electric consumption. The housing is crafted with painted sheet metal and is acoustically and thermally insulated which combined with a highly sophisticated fan technology results in very low noise levels. The Zehnder ComfoAir Flex is WiFi enabled as standard, it's controlled and commissioned via the Zehnder ComfoControl App. Optionally it can be operated with control options like the Zehnder ComfoSwitch C, can be integrated into smart home via the ComfoConnect KNX C and can work demand controlled with the CO<sub>2</sub> sensor C. The right and left orientation is achieved through one single unit and can be changed with the App. The Zehnder ComfoAir Flex is delivered ready to plug in and use. The filters (standard: ISO Coarse G4) and other components can be replaced easily thanks to the ingenious design with focus on accessibility of components for service and maintenance. Each air connection can be individually directed due to 4x45 degrees turnable bends. It is connected via 4 x DN 160 pipe connections.

- Dimensions (with bends): 1068 x 868 x 299 mm (L x W x H)
- 4 turnable bends with 160 mm duct connection
- Filter: extract air/ outdoor air: Standard ISO Coarse (G4) filter (optional ePM 1 (F7))
- Flow control technology and constant flow
- Automatic and temperature-controlled by-pass
- Fans: EC motor, RadiCal wheel
- Supply and extract air can temporarily be deactivated separately
- Commissioning wizard / Filter change wizard
- Adaptive comfort temperature
- Automatic frost protection
- Error output contact
- Boost contact
- Fire input contact
- 0-10 V for building management system
- Simple user interface on unit
- Condensate drain: DN 32
- Mains power supply: 230 V, 50 Hz
- Temperature range: 7 °C to 40 °C in the installation room
- Heat exchanger: PS
- Sound power level (max.):  
Extract air: 56 dB(A) / Supply air: 75 dB(A)
- Heat recovery efficiency (Ecodesign): up to 88 %
- Volume flow: max. 250 m<sup>3</sup>/h at 200 Pa external
- Power consumption: Maximum 114 Watt
- Type: Zehnder ComfoAir Flex ceiling mounted ventilation unit
- Brand: Zehnder Comfosystems
- Article number:

## Dimensional drawings

### Zehnder ComfoAir Flex ceiling mounting

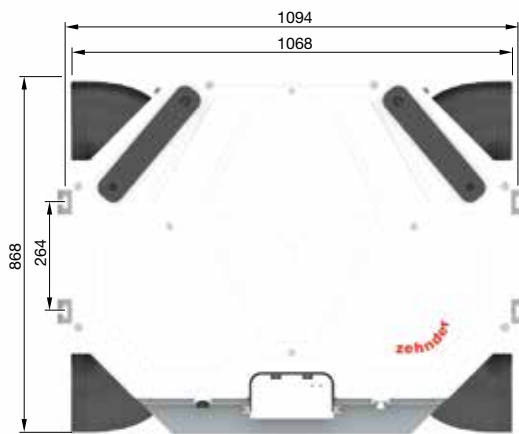


Side



Inclination of 2 degrees to guarantee optimum condensation drainage

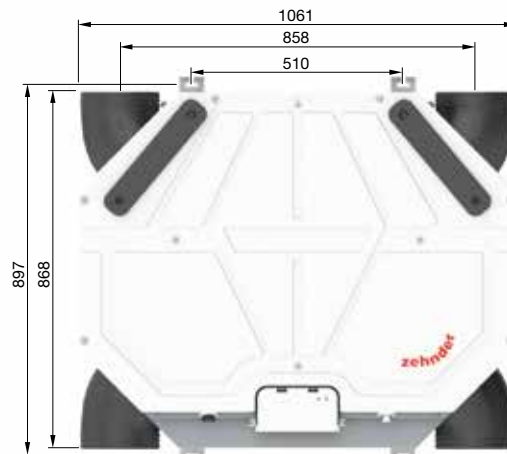
### Zehnder ComfoAir Flex built-in size in width



POSITION ①

Front

### Zehnder ComfoAir Flex built-in size in length

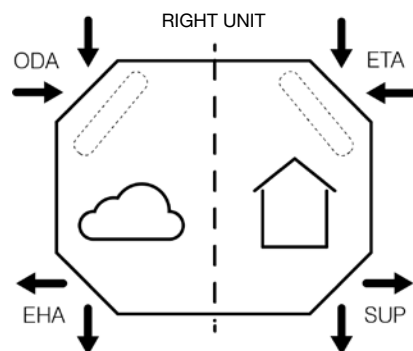


POSITION ②

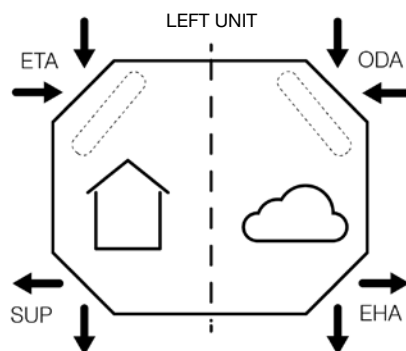
Front

## Air directions

### Zehnder ComfoAir Flex R/L unit - changes via software



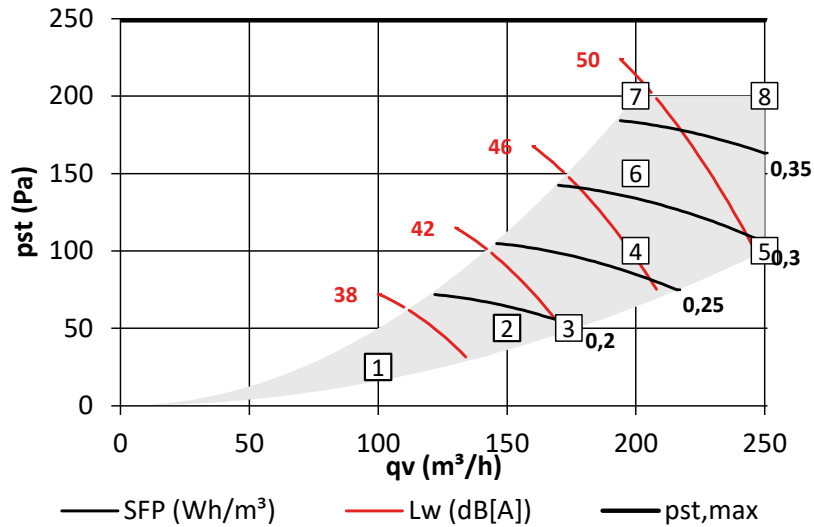
Supply and extract air to right



Supply and extract air to left

## Air graph

### Zehnder ComfoAir Flex 250



## Performance values

### Performance data\* ComfoAir Flex 250

Measurement point	qv [m³/h]	pst [Pa]	P [W]	cos φ	SFP [Wh/m³]	Lw, supply/ exhaust [dB(A)]	Lw, extract/ outdoor [dB(A)]	Lw, casing [dB(A)]
1	100	25	12	0.39	0.12	51	33	35
2	150	50	27	0.44	0.18	55	38	40
3	175	50	35	0.46	0.20	57	40	42
4	200	100	53	0.49	0.27	61	43	46
5	250	100	74	0.51	0.30	65	47	50
6	200	150	63	0.50	0.32	62	44	48
7	200	200	73	0.51	0.37	64	46	49
8	250	200	96	0.52	0.38	67	49	53

\* SFP in Wh/m³ calculated per EN13141-7:2010  
cos phi without pre-heater

## Sound specifications

### Sound (supply air/exhaust air)\* ComfoAir Flex 250

Measurement point	qv [m <sup>3</sup> /h]	pst [Pa]	125 Hz [dB(A)]	250 Hz [dB(A)]	500 Hz [dB(A)]	1,000 Hz [dB(A)]	2,000 Hz [dB(A)]	4,000 Hz [dB(A)]	8,000 Hz [dB(A)]	Total [dB(A)]
1	100	25	57	54	50	43	33	29	18	51
2	150	50	61	58	55	48	39	37	25	55
3	175	50	62	60	57	50	42	40	27	57
4	200	100	64	63	60	53	47	45	32	61
5	250	100	67	66	64	57	52	51	38	65
6	200	150	65	64	62	55	49	48	35	62
7	200	200	66	65	64	57	51	50	37	64
8	250	200	68	68	67	60	55	55	41	67

### Sound (extract air/outdoor air)\*

Measurement point	qv [m <sup>3</sup> /h]	pst [Pa]	125 Hz [dB(A)]	250 Hz [dB(A)]	500 Hz [dB(A)]	1,000 Hz [dB(A)]	2,000 Hz [dB(A)]	4,000 Hz [dB(A)]	8,000 Hz [dB(A)]	Total [dB(A)]
1	100	25	41	34	34	24	11	12	18	33
2	150	50	44	38	39	29	16	16	18	38
3	175	50	46	39	41	31	18	18	19	40
4	200	100	48	42	44	34	21	20	19	43
5	250	100	50	45	48	38	25	23	19	47
6	200	150	49	43	46	36	23	21	19	44
7	200	200	50	44	47	38	25	23	19	46
8	250	200	52	47	50	41	28	25	20	49

### Case radiation\*

Measurement point	qv [m <sup>3</sup> /h]	pst [Pa]	125 Hz [dB(A)]	250 Hz [dB(A)]	500 Hz [dB(A)]	1,000 Hz [dB(A)]	2,000 Hz [dB(A)]	4,000 Hz [dB(A)]	8,000 Hz [dB(A)]	Total [dB(A)]
1	100	25	38	36	30	31	25	20	16	35
2	150	50	41	40	35	36	32	27	21	40
3	175	50	42	41	37	38	34	30	22	42
4	200	100	44	44	40	42	38	35	26	46
5	250	100	47	47	44	46	43	40	30	50
6	200	150	45	45	42	44	40	37	27	48
7	200	200	46	46	44	45	42	39	29	49
8	250	200	48	49	47	48	46	44	32	53

\* Case radiation tested according to ISO 3741:2010

Noise, supply/exhaust/extract/outdoor, tested according to ISO 5135:1997

Lw in dB(A) at reference area 10<sup>-12</sup> W

company name · number street · city · postal code · country  
phone number · fax number · email · web

**zehnder**

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