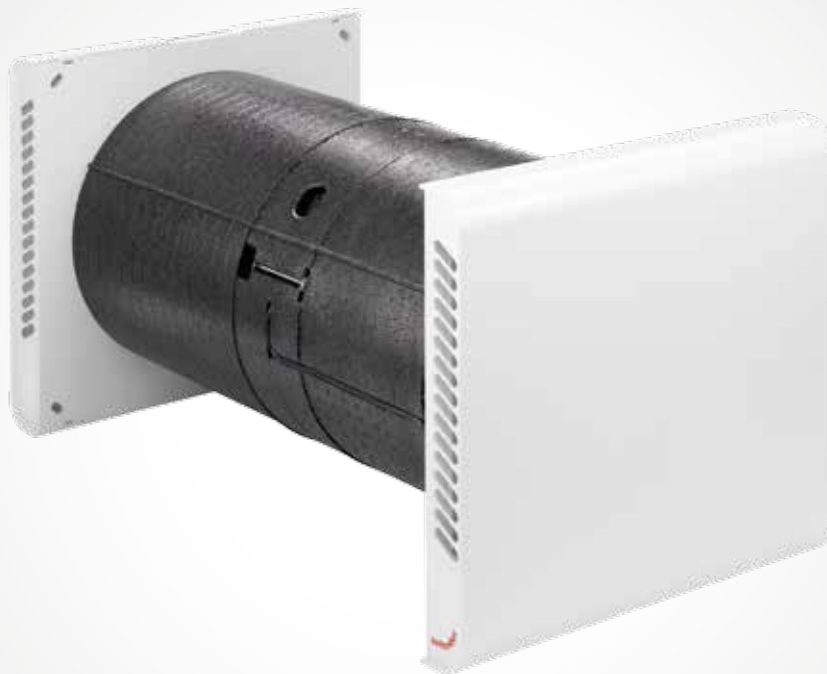


# Zehnder ComfoSpot 50

Technical specification for decentralised comfort ventilation unit



## General

Zehnder ComfoSpot 50 is a decentralised comfort ventilation unit with heat and humidity recovery using synchronous supply and extract air operation. It is often used in apartment renovations as well as in new residential builds. The comfort ventilation unit is suitable for venting individual rooms. An enthalpy exchanger, which ensures a high degree of heat and humidity recovery, is standard on the unit, and therefore provides a comfortable indoor climate and has a positive effect on indoor humidity.



Plastic inside and outside wall panel



Plastic inside wall panel and stainless steel outside wall panel



Zehnder ComfoSpot 50 integrated control panel



Zehnder ComfoLED electronic control panel

Max. current draw	0.07 A
Power consumption	5 W to 15 W (standby: < 1 W)
Shutters	Manually operated shutters for supply and extract air
Protection class	II (protective insulation)
Degree of protection	IP11
Volume flow	15–25–40–55 m <sup>3</sup> /h
Energy efficiency	Up to 82% heat recovery Up to 70% humidity recovery
Weight	6.0 kg
Application	-20 °C to 40 °C
Frost protection	From -5 to -15 °C, unit then switches to standby mode
Control	4 fan speeds, standby, supply air or extract air operation, filter message, fault message, optional sensor control by means of humidity, VOC and CO <sub>2</sub> sensor

## Benefits

- Exceptionally good indoor climate, high energy efficiency and maximum hygiene due to washable enthalpy exchanger
- Quiet operation due to high-quality radial fans and good insulation
- Maximum living comfort due to synchronous and separate supply or extract air operation for continuous heat and humidity recovery
- Optimum feel-good climate due to demand control by means of optional humidity, CO<sub>2</sub> and VOC sensor boards
- Simple and quick installation with minimal intrusion into the living space
- Attractive look: Outside wall panel can be painted over to match the colour of the wall
- Intuitive operation either on the top or bottom of the unit or via the external Zehnder ComfoLED electronic control panel
- Clean operation, as no condensate to dispose of down the façade of the building and no condensate container

## Technical specifications

Data	
Dimensions inside/outside wall panel (H x W x D)	376 x 380 x 50 mm
Outside wall thickness	Min. 335 to 600 mm
Wall installation tube	Ø 315 mm, 600 mm long
Core hole drilling	Ø approx. 340 mm
Fans	DC radial fan
Filter class	G4 supply/extract air (optional F7 supply air)
Heat exchanger	Cross-counterflow enthalpy exchanger
Wall panels	Inside/outside wall panel made of plastic that can be painted over
Unit core	Expanded polypropylene (EPP)
Electrical connection	230 VAC/50–60 Hz

## Energy indicators

### EU energy labelling

Energy efficiency class	<b>A</b> *
Maximum flow rate [m <sup>3</sup> /h]	55
Sound power level L <sub>WA</sub> [dB(A)]	41

\* Depending on the unit configuration chosen.  
Detailed information on page 5 and at <http://international.zehnder-systems.com>.

## Article numbers

Comfort ventilation unit	Article number
Zehnder ComfoSpot 50, plastic outside wall panel	527 007 210
Zehnder ComfoSpot 50, stainless steel outside wall panel	527 007 220

Accessories	Article number
Round wall installation tube, made of plastic, Ø 315 mm, length = 600 mm, with 2 blanking plugs, for retrofitting	527 005 440
Square wall installation tube, made of EPP, 360 x 360 (W x H), length = 600 mm, with 2 blanking plugs, for new builds	527 005 450
Humidity sensor board	527 007 260
Humidity and VOC sensor board	527 007 270
Humidity and CO <sub>2</sub> sensor board	527 007 280
Zehnder ComfoLED electronic control panel	527 007 290
Filter set for ComfoSpot 50, G4, 2 pieces	527 005 390
Filter set for ComfoSpot 50, F7/G4, 2 pieces	527 005 400
Filter set for ComfoSpot 50, G4, 10 pieces	527 005 410
Filter set for ComfoSpot 50, G4/F7, 10 pieces	527 005 420

## Scope of delivery

To install Zehnder ComfoSpot 50 into the wall, a wall installation tube is required which must be ordered separately. The unit is delivered ready to install with the chosen outside wall panel.

## Level of efficiency

The generously proportioned enthalpy exchanger, the core of the ventilation unit, functions particularly energy-efficiently. It uses both the sensitive and the latent energy in the extract air. Heat recovery of up to 82% and humidity recovery of up to 70% are possible. Using humidity recovery, the unit functions at temperatures as low as -5 °C without the need for a pre-heater or frost protection. This also saves energy and provides the best possible, comfortable indoor climate.

## Fans

Supply and extractor fans are driven by energy-efficient EC direct-current motors. The high-quality radial fans are particularly resistant to wind loads. The unit operates very quietly due to the arrangement of the fans in the sound-insulated unit housing in the wall. The fans can be set to any of four speeds.

## Filters

Standard equipment on Zehnder ComfoSpot 50 includes G4 supply and extract air filters (coarse dust filters). After the expiry of a certain interval, an indicator on the control panel visually indicates that the filter must be replaced. The filter should then be replaced as soon as possible. A Class F7 pollen filter (optional) can be installed in the supply air inlet.

## Installation

The comfort ventilation unit is installed in an outside wall. No condensate forms in the unit, therefore there is no condensate drain. The façade of the house always remains clean and dry, as no dirt can form due to condensate dripping down. Installation of the unit is quick and easy. Two different wall installation tubes are available: either a round tube that is used for renovations and is inserted in the core hole of the outside wall, or a square tube that can be embedded in the wall. Zehnder ComfoSpot 50 is inserted from inside the room. A 230 VAC mains power supply is connected behind the subshell of the inside wall cover of the unit. After the insulated housing tube is adjusted, the weather-resistant outside wall panel is fixed to the outside wall. It is that easy to install the unit and have it ready for operation without great intrusion into the living space.

## Operation

Zehnder ComfoSpot 50 has a built-in control panel on the inside wall cover. Depending on where the unit is installed, this can be removed from the bottom of the unit and mounted on the top. The control panel facilitates easy and uncomplicated control of the unit. By pressing the plus/minus buttons, 4 fan speeds can be set or the unit can be switched to standby mode. The automatic function can be set by pressing the plus button from fan speed 4. Visualisation is implemented by a separate LED. To avoid heat recovery in summer, it is possible to select only supply air or only extract air. Operating status, filter replacement and fault messages are indicated. The unit has automatic frost protection. In the event of power failure, or when the unit is switched off, the supply and extract air opening is closed with the manually operated shutters.

The optional external Zehnder ComfoLED electronic control panel allows the Zehnder ComfoSpot 50 comfort ventilation unit to be conveniently operated remotely. The functions of the external electronic control panel correspond to those on the internal control panel installed on the unit. If an external electronic control panel is installed, the internal control panel supplied as standard remains fully functional. As an option, sensor boards to control humidity, VOC or CO<sub>2</sub> can also be used. In the automatic function, the ventilation

unit's control panel checks the measurement results of the sensors and controls the unit's fan speeds to ensure maximum living comfort.

## Maintenance

Routine maintenance of Zehnder ComfoSpot 50 is easy to carry out and should be performed regularly to keep the unit operating in a flawlessly hygienic manner. After the cover is removed, the filters can be pulled out of the housing without tools. The enthalpy exchanger can also be pulled out of the unit in the same way and can be washed out with water. Please see the user manual for information about servicing tasks.

## Frost protection

Using the enthalpy exchanger for humidity recovery, the unit functions at temperatures as low as -5 °C without the need for a pre-heater. Should the outside temperature fall below that level, frost protection is activated to regulate the supply of cold outdoor air. If the outside temperature falls further, the unit switches to standby mode at -15 °C. Unit operation is regulated by a temperature sensor. The unit begins to work automatically when the outside temperature rises again. Frost protection prevents the unit from freezing.

## Tender specification

Zehnder ComfoSpot 50 is a decentralised, compact comfort ventilation unit with heat recovery and an enthalpy exchanger. The ventilation unit is perfectly suited for use in the renovation of single- and two-family houses, vacation apartments, student accommodation and retirement homes, apartment blocks and new builds. The housing is made of high-quality plastic and the outside wall panel can be painted over to match the colour of the wall. The unit housing is made of expanded polypropylene (EPP) to provide heat and sound insulation. The high-quality radial fans are driven by energy-efficient direct-current motors and are particularly resistant to wind loads. This enables economical operation with a high degree of electrical efficiency.

The core of Zehnder ComfoSpot 50 is its plastic cross-counterflow enthalpy exchanger. With heat recovery of up to 82% and humidity recovery of up to 70%, it ensures the maximum in energy recovery. No condensate forms in the unit. It functions at temperatures as low as -5 °C without the need for a pre-heater or frost protection.

The control panel on the inside wall panel of the unit can be removed from the bottom of the unit and mounted on top if needed. This facilitates flexible unit installation.

As an option, Zehnder ComfoSpot 50 can also be operated remotely with the external Zehnder ComfoLED electronic control panel.

To ensure even greater convenience and energy efficiency, optional humidity, CO<sub>2</sub> or VOC sensor boards can be used. There

is a choice of four fan speeds, supply air or extract air is possible and the unit can be switched to standby mode.

The control panel displays fault and filter replacement messages. Zehnder ComfoSpot 50 is delivered ready to connect to the 230 VAC mains power supply with plastic or stainless steel outside wall panel.

The wall installation tube must be ordered separately. The filters are located at the front and can be easily replaced by the user without tools after removing the cover.

Zehnder ComfoSpot 50 is mounted in an outside wall and vents outdoor and exhaust air directly via the outside wall panel.

- Four fan speeds, manual selection
- Automatic function can be selected
- Supply or extract air operation for summer ventilation
- Automatic frost protection
- Manual shutter fastener
- Time-controlled filter replacement indicator
- Fault indicator

### Options

- Zehnder ComfoLED electronic control panel
- Humidity sensor board
- Humidity and VOC sensor board
- Humidity and CO<sub>2</sub> sensor board
- Class F7 pollen filter
- Unit with stainless steel outside wall panel
- Round wall installation tube, made of plastic, Ø 315 mm, length = 600 mm, with 2 blanking plugs, for retrofitting
- Square wall installation tube, made of EPP, 360 x 360 (W x H), length = 600 mm, with 2 blanking plugs, for new builds

## Sound specifications

### Noise level at a distance of 3 m, open space\*

	Noise level [dB(A)]
Fan speed 1	5.2
Fan speed 2	14.7
Fan speed 3	23.2
Fan speed 4	29

### Sound transmission\*

	Weighted sound reduction index Rw [dB]	Weighted normalised level difference Dn [dB]
Shutter open	30	48
Shutter closed	32	51

### Operation data (manufacturer's specifications)

	Volume flow [m <sup>3</sup> /h]	Thermal efficiency [%]	Humidity efficiency [%]	Power consumption [W]
Standby				< 1
Fan speed 1	15	81.8	69.6	5
Fan speed 2	25	75.2	58.4	7
Fan speed 3	40	67.7	48.2	12
Fan speed 4	55	63.5	44	15

\* Measured by independent test laboratory.

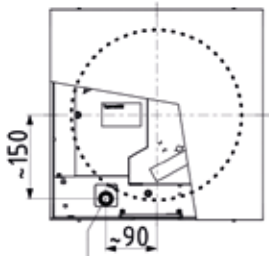
## Energy efficiency classes

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

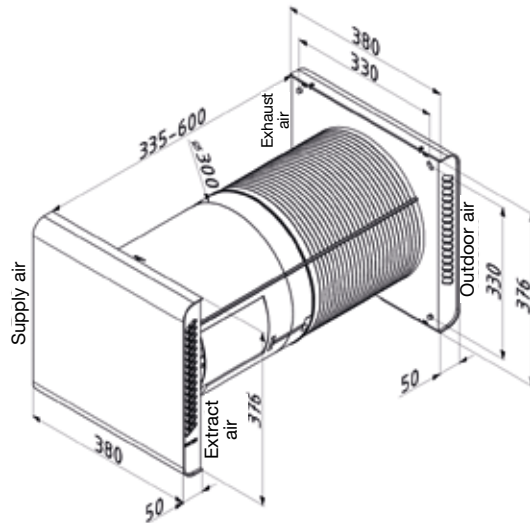
### Energy efficiency classes

Comfort ventilation unit	Article number	Control according to site requirements			Manual control
		Humidity sensor board 527 007 260	Humidity and VOC sensor board 527 007 270	Humidity and CO <sub>2</sub> sensor board 527 007 280	
ComfoSpot 50	527 007 210 527 007 220		<b>A</b>		<b>B</b>

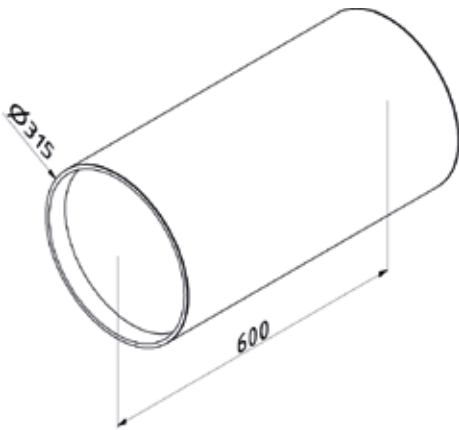
## Dimensional drawing



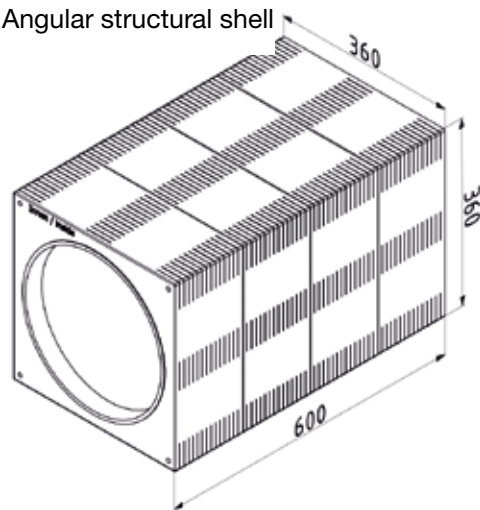
Introduction of mains cable



Round structural shell



Angular structural shell



## ComfoSpot 50 Declaration of Performance

Information requirement for RVUs as per EU Regulation No. 1254/2014										
Heat recovery unit Zehnder ComfoSpot 50										
Supplier's name or trade mark	Zehnder Group			Zehnder Group						
Supplier's model identifier	ComfoSpot 50			ComfoSpot 50 Sensorik						
SEC [kWh/(m <sup>2</sup> a)] specific energy consumption (cold, average, warm)	-57,8	-27,0	-6,8	-71,4	-35,1	-14,5				
SEC Class	A+	B	F	A+	A	E				
Type of ventilation unit	Bidirectional RVU			Bidirectional RVU						
Type of drive installed	Multi-speed drive			Multi-speed drive						
Type of heat recovery system	Recuperative			Recuperative						
Thermal efficiency [%]	68			68						
Maximum flow rate [m <sup>3</sup> /h]	55			55						
Electric power input [W]	15			15						
Sound power level [dB(A)]	41			41						
Reference flow rate [m <sup>3</sup> /h]	40			40						
Reference pressure difference [Pa]	0			0						
SPI [W/(m <sup>3</sup> /h)]	0,3			0,3						
Control factor and typology	1 Manual control			0,65 Local demand control						
Declared maximum internal and external leakage rates [%]	not yet determined			not yet determined						
	not yet determined			not yet determined						
Mixing rate	not yet determined			not yet determined						
Position and description of visual filter warning	Symbolized message on control panel			Symbolized message on control panel						
Internet address for assembly and disassembly instructions	www.international.zehnder-systems.com			www.international.zehnder-systems.com						
Airflow sensitivity to pressure variations [%]	not yet determined			not yet determined						
Indoor/outdoor air tightness [m <sup>3</sup> /h]	not yet determined			not yet determined						
AEC [kWh/a] annual electricity consumption (cold, average, warm)	995	458	413	757	220	175				
AHS [kWh/a] annual heating energy saved (cold, average, warm)	7393	3779	1709	8161	4172	1886				

