Zehnder ComfoAir Fit 100

Technical specification

always the best climate

General

Introducing the Zehnder ComfoAir Fit 100 – a central heat recovery unit. The integrated enthalpy exchanger ensures a high degree of heat and humidity recovery. Ideal for flats, holiday homes, and apartments, it adapts effortlessly to both renovation and new construction projects.

Combined with the specially designed air distribution components, the Zehnder ComfoAir Fit 100 delivers straightforward and effective indoor ventilation.

User benefits

- Fits lean construction planning: possibility to install the flush-mounting box in advance. Allowing easy installation of the ventilation unit just before residents move in.

- Versatile mounting: wall-mounted, ceiling-mounted, or wall-integrated. Enjoy rotatable duct connections for personalised setups.

- Flush mounting: the unit can be discreetly hidden in the exterior wall with a design cover.

- Limited floor area required thanks to the compact design and the absence of a condensate drain.

Integrated control panel on the front

Zehnder Flush mounting box and design cover

Installation

The Zehnder ComfoAir Fit 100 offers a straight forward installation process. Thanks to its compact size and versatile installation and connection options it fits seamlessly into small spaces.

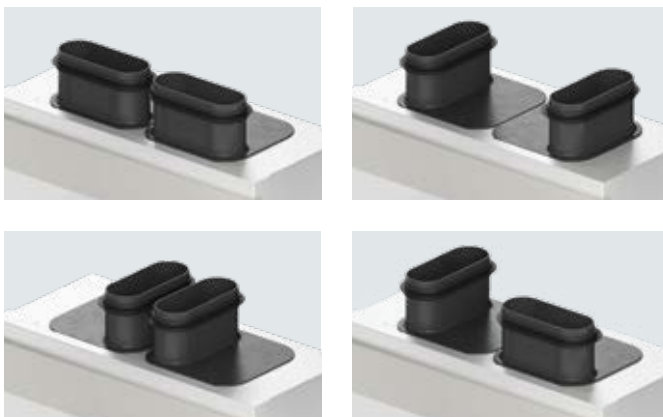Choose between wall-mounted, ceiling-mounted, or even an wall-integrated setup using the flush-mounting box.

The unit's enthalpy heat exchanger eliminates the need for a condensate drain, simplifying the installation process.

Tailored to your project

Choose from 4 variants to tailor the unit to your specific requirements. Options include left or right variants and rear or bottom connections. In addition the unit can be retrofitted with sensor boards. This not only minimizes on-site efforts but also saves valuable time and resources, all while upholding the highest standards of quality.

Zehnder ComfoAir Fit 100 without design cover

Adjustable duct network connections

More benefits

▪ High air performance enables application in appartments with demands up to 110 m^3/h.

▪ Silent operation in any residential dwelling, even in urban settings, thanks to top-notch centrifugal fans and effective insulation.

▪ Low operating cost: high efficiency fans ensure low power consumption.

▪ Air distribution that is quick, easy and secure:
- Seamlessly connect the ventilation unit and manifold with a flat twin or single duct system.
- Enjoy flexible duct network connections that can be easily adjusted in four directions.
- Ensure an airtight seal between components with plug-in connections featuring lip seals.
- Benefit from air outlet housings, grilles, and valves with optimal airflow.
- Maximise space with a combined external wall grille, enabling a space-saving installation for outdoor and exhaust air with an optimal drip-off effect and a flow-optimised design.

▪ Achieve an ideal indoor climate with balanced supply and extract air for continuous heat and humidity recovery. Adding CO_2 and/or humidity sensors allow demand control ventilation.

▪ More comfort at lower cost thanks to the high energy efficiency of the enthalpy exchanger, which ensures heat and humidity recovery.
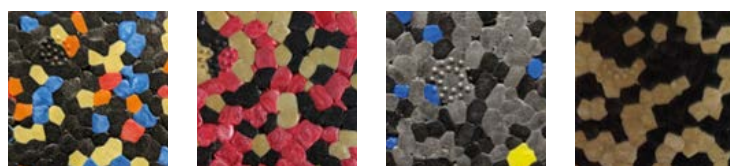
Technical data

Zehnder ComfoAir Fit 100	
Volume flow	100 m³/h of 80 Pa
Control	4 fan speeds, automatic, stand-by, filter and fault signal, optional sensor control using humidity and CO_2 sensors
Heat exchanger	Crossflow enthalpy exchanger, without condensate drain
Level of efficiency	Up to 83% in accordance with EN 13141-7
Dimensions (L x W x H)	821 mm / 465 mm / 216 mm
Power consumption	< 45 W
Max. current draw	0.2 A
Electrical connection	230 V/50 Hz
Filter class	Coarse dust filter set ISO Coarse 65% (Optional hygiene filter set ISO Coarse 65% / ISO ePM1 55%)
Protection class	1
Degree of protection	IP20
Weight	18 kg
Application (temperature in installation room)	+7 to 40°C

Zehnder flush-mounting boxes	
λ-Value	0.048 W/(m*K)
Material thickness of the rear panel	20mm
Application	-25°C to 60°C
Material	Expanded polypropylene (EPP)
Material density	60g/l to 100g/l
Weight	1.7 kg to 2.8 kg
Dimensions (L x W x H)	920 mm / 550 mm / 255 mm
Supply and extract air connections	ComfoMain CK150 Double duct (cannot be set in concrete) / ComfoMain CK150 Plus double duct (can be set in concrete)
Outdoor and exhaust air connections	ComfoPipe Compact 125

Environmentally friendly and unique!
-44%* CO_2 emissions thanks to the direct use of top-quality residual materials.
This gives the flush-mounting box its distinctive design.
Each one is unique with different colours.

* Compared to a conventional EPP material

Zehnder design cover

Application	0°C to 60°C
Material	Polypropylene (PP), galvanised sheet steel, neodymium magnets
Weight	2.5 kg
Dimensions (H / W / D)	960 mm / 590 mm / 3 mm
Material thickness	3 mm
Fixings	Attached to the flush-mounting box with magnets
Features	Can be painted with standard wall paint. Zehnder recommendation: apply 2 coats and roughen the surface slightly to help the colour adhere better.

Article numbers

Zehnder ComfoAir Fit 100

ComfoAir Fit 100 SL Enthalpy	471 360 070
ComfoAir Fit 100 SR Enthalpy	471 360 100
ComfoAir Fit 100 CL Enthalpy	471 360 010
ComfoAir Fit 100 CR Enthalpy	471 360 040

S = Straight, outdoor/exhaust air (ODA/EHA) bottom
C = Corner, outdoor/exhaust air (ODA/EHA) at the back
Enthalpy = enthalpy exchanger
L = with supply air left
R = with supply air right

Accessories

ComfoLED control unit	527 007 290
ComfoAir Fit 100 flush-mounting box	990 800 000
ComfoAir Fit 100 design cover	990 800 001
ComfoAir Fit 100 installation set wall-integrat	990 800 002
ComfoAir Fit 100 installation set wall-mounted or ceiling	990 800 003
ComfoAir Fit 100 humidity sensor board	400 330 017
ComfoAir Fit 100 humidity and CO2 sensor board	440 330 016

Filters

Coarse dust filter set for ComfoAir Fit 100, ISO Coarse 65%, 2 pieces	400 100 170
Coarse dust filter set for ComfoAir Fit 100, ISO Coarse 65%, 10 pieces	400 100 175
Hygiene filter set for ComfoAir Fit 100, ISO Coarse 65% / ISO ePM1 55%, 2 pieces	400 100 180

System extensions

ComfoEdge Dupla Combined external wall grille, DN125 outside air connection right, stainless steel look galvanised sheet steel	990 430 573
ComfoEdge Dupla Combined-external wall grille, DN125 outside air connection right, white. galvanised sheet steel	990 430 571
ComfoEdge Dupla Combined-external wall grille, DN125 outside air connection left, stainless steel look, galvanised sheet steel	990 430 572
ComfoEdge Dupla Combined-external wall grille, DN125 outside air connection left, white. galvanised sheet steel	990 430 570
ComfoMain CK150/300 twin duct, L= 1,5m, for unit to manifold connection, not suitable for concreting	990 322 051
ComfoMain CK150/300 Plus twin duct, L= 1m, for unit to manifold connection, suitable for concreting	990 322 052
ComfoFit CK150/300 flexible element, L=0,45m, for flexible connection. Usable as flexible bend (up to 45°) as well as height offset	990 328 821
ComfoFit CK300 twin duct bend V for vertical 90° bend. Including 4 lip seal	990 322 022

Specification text

Zehnder ComfoAir Fit 100 is a centralised comfort ventilation unit with heat and humidity recovery with synchronised supply and extract air operation. The comfort ventilation unit is particularly suitable for flats, holiday homes, and apartments. It can be used both during renovations and in new build projects.
The casing is made of galvanised and painted sheet steel. The inner lining is made of expanded polypropylene (EPP) for heat and sound insulation. Centrifugal fans with DC motors are particularly resistant to wind loads and enable economical operation with high electrical efficiency.
The supply and extract air fans can be controlled separately and can be adjusted by entering the balance air volume to the exact percentage.

An enthalpy exchanger is installed in the unit as a standard which ensures a high level of heat and humidity recovery positively influences the room air humidity and thus ensures a comfortable indoor climate.
Thanks to its compact dimensions (L 821 / W 465 /H 216 mm) and flexible installation and connection options, the Zehnder ComfoAir Fit 100 can be wall-mounted, ceiling-mounted, or even wall-integrated by using the flush-mounting box in the external wall. The flush-mounted box can be installed early in the building envelope and the ComfoAir Fit 100 ventilation unit can be installed at a later stage.

With optimally matched air distribution components Zehnder ComfoAir Fit 100 is perfectly integrated into the Zehnder overall system for comfortable indoor ventilation. The supply and extract air are connected via 2 swivelling ductwork connections, which are supplied with the unit as standard.

The unit is operated as standard via the integrated control unit or optionally via the external wired Zehnder ComfoLED control unit. The control panel is only suitable for flush-mounted indoor installation and is connected via a 25 m long, 4-core cable (e.g. type: J-Y(ST) Y 2x2x0.6) to the ventilation unit. The control unit is suitable for installation in the standard switch programmes available on the market.
There are four fan speeds can be selected, supply air or extract air operation is possible, and the unit can be switched to stand-by mode. The control panel displays error messages and filter changes.

The filters can be changed easily by the user from the front without any tools and without opening the unit.

- Automatic frost protection control
- Filter change indicator
- Coarse dust filter set ISO Coarse 65% (optional hygiene filter set ISO Coarse 65% / ISO ePM1 55%)
- Supply and exhaust air fan can be switched on individually
  Heat exchanger: enthalpy exchanger with polymer membrane, plastic, without condensate connection
- Fans: axial inflow and radial outflow, housing and impeller outflow, plastic housing and impeller.
- Air duct connections: 2 x swivelling spigots at the top, 2 x DN125 connections at the bottom or rear Mains connection: 230V, 50 Hz
- Application limits: 7°C to 40°C in the installation room
- Heat recovery rate: up to 83%
- Volume flow: maximum 100 m^3/h at 80 Pa external minimum 20 m^3/h
- Power consumption: maximum 90 watts
- Electrical efficiency: 0.28 Wh/m^3 at 70 m^3/h
- Dimensions: Length: 821 mm (with spigot: 896 - 921 mm), Width: 465 mm, height: 216 mm
- Weight: 18 kg
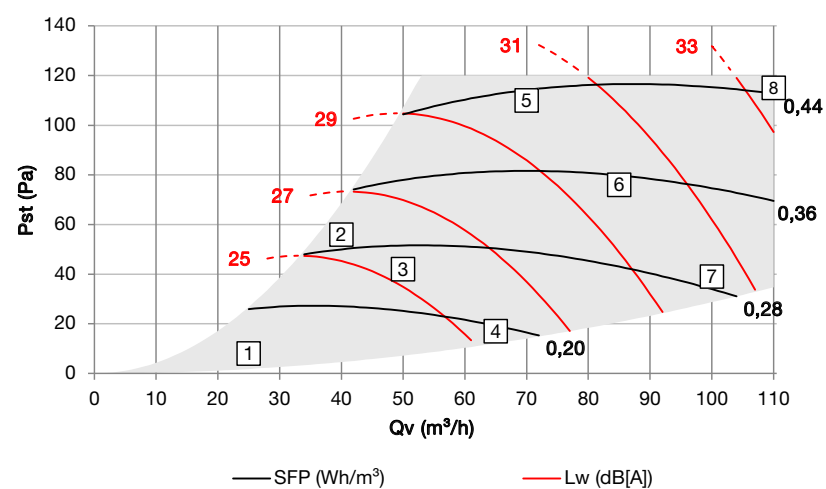- Options: Humidity or humidity and CO_2 sensors

Performance data *

Measure point	[m³/h]	[Pa]	P [W]	cos Ø	SFP [Wh/m³]	Lw, pressure side [dB(A)]	Lw, suction side [dB(A)]	Lw, casing [dB(A)]		
								Wall-integrated	ceiling mounted	wall mounted
1	25	8	3	0,17	0,11	36	35	22	21	28
2	40	56	11	0,31	0,27	43	41	25	25	35
3	50	42	11	0,31	0,23	42	41	25	25	35
4	65	17	12	0,32	0,19	42	41	25	25	35
5	70	110	27	0,39	0,38	49	48	29	30	42
6	85	76	27	0,40	0,32	49	47	29	30	42
7	100	39	27	0,40	0,27	49	48	30	31	42
8	110	115	44	0,44	0,40	54	53	33	35	48

* SFP in Wh/m³ determined according to EN 13141-7:2021 cos phi without preheater
** For ceiling suspension with 9.5 mm thick plasterboard

Zehnder CA Fit 100

Sound data

Sound on pressure side (supply air / exhaust air)*

Measure point	[m³/h]	[Pa]	125 Hz [dB(A)]	250 Hz [dB(A)]	500 Hz [dB(A)]	1kHz [dB(A)]	2kHz [dB(A)]	4kHz [dB(A)]	8kHz [dB(A)]	Total [dB(A)]
1	25	8	45	41	32	24	10	10	18	36
2	40	56	51	48	40	31	19	17	18	43
3	50	42	50	47	40	31	19	17	18	42
4	65	17	51	48	40	31	19	17	18	42
5	70	110	56	54	47	38	27	23	18	49
6	85	76	56	54	47	38	27	23	18	49
7	100	39	56	54	48	39	28	24	19	49
8	110	115	60	58	53	44	33	28	19	54

Sound on intake side (exhaust air / outside air)*

Measure point	[m³/h]	[Pa]	125 Hz [dB(A)]	250 Hz [dB(A)]	500 Hz [dB(A)]	1kHz [dB(A)]	2kHz [dB(A)]	4kHz [dB(A)]	8kHz [dB(A)]	Total [dB(A)]
1	25	8	47	40	29	20	7	10	18	35
2	40	56	51	47	38	29	16	17	18	41
3	50	42	51	47	37	28	16	16	18	41
4	65	17	51	47	37	29	16	17	18	41
5	70	110	55	53	45	36	24	23	18	48
6	85	76	55	53	45	36	24	23	18	47
7	100	39	55	54	45	37	25	23	18	48
8	110	115	58	59	51	43	31	27	18	53

Housing radiation Installation room*
ComfoAir Fit 100 - Integrated in the external wall

Measure point	[m³/h]	[Pa]	125 Hz [dB(A)]	250 Hz [dB(A)]	500 Hz [dB(A)]	1kHz [dB(A)]	2kHz [dB(A)]	4kHz [dB(A)]	8kHz [dB(A)]	Total [dB(A)]
1	25	8	29	20	17	6	7	14	19	22
2	40	56	32	26	23	14	9	14	19	25
3	50	42	32	26	23	14	9	14	19	25
4	65	17	32	26	23	14	9	14	19	25
5	70	110	34	32	29	21	11	14	19	29
6	85	76	34	32	29	21	11	14	19	29
7	100	39	34	32	29	21	11	14	19	30
8	110	115	35	36	33	26	12	14	19	33

ComfoAir Fit 100 - Ceiling mounted **

Measure point	[m³/h]	[Pa]	125 Hz [dB(A)]	250 Hz [dB(A)]	500 Hz [dB(A)]	1kHz [dB(A)]	2kHz [dB(A)]	4kHz [dB(A)]	8kHz [dB(A)]	Total [dB(A)]
1	25	8	27	21	15	7	6	12	19	21
2	40	56	31	28	22	15	10	15	18	25
3	50	42	30	28	21	15	10	15	18	25
4	65	17	31	28	22	15	10	15	18	25
5	70	110	34	35	28	22	14	17	18	30
6	85	76	34	34	28	22	14	17	18	30
7	100	39	34	35	28	23	14	17	18	31
8	110	115	37	40	32	28	17	19	18	35

ComfoAir Fit 100 - wall-mounted

Measure point	[m³/h]	[Pa]	125 Hz [dB(A)]	250 Hz [dB(A)]	500 Hz [dB(A)]	1kHz [dB(A)]	2kHz [dB(A)]	4kHz [dB(A)]	8kHz [dB(A)]	Total [dB(A)]
1	25	8	27	28	29	20	10	10	18	28
2	40	56	32	35	36	29	20	18	19	35
3	50	42	31	34	35	29	20	18	19	35
4	65	17	32	35	35	29	20	18	19	35
5	70	110	36	41	41	37	29	26	20	42
6	85	76	36	41	41	37	29	25	20	42
7	100	39	36	42	42	38	30	26	20	42
8	110	115	40	46	46	44	36	31	20	48

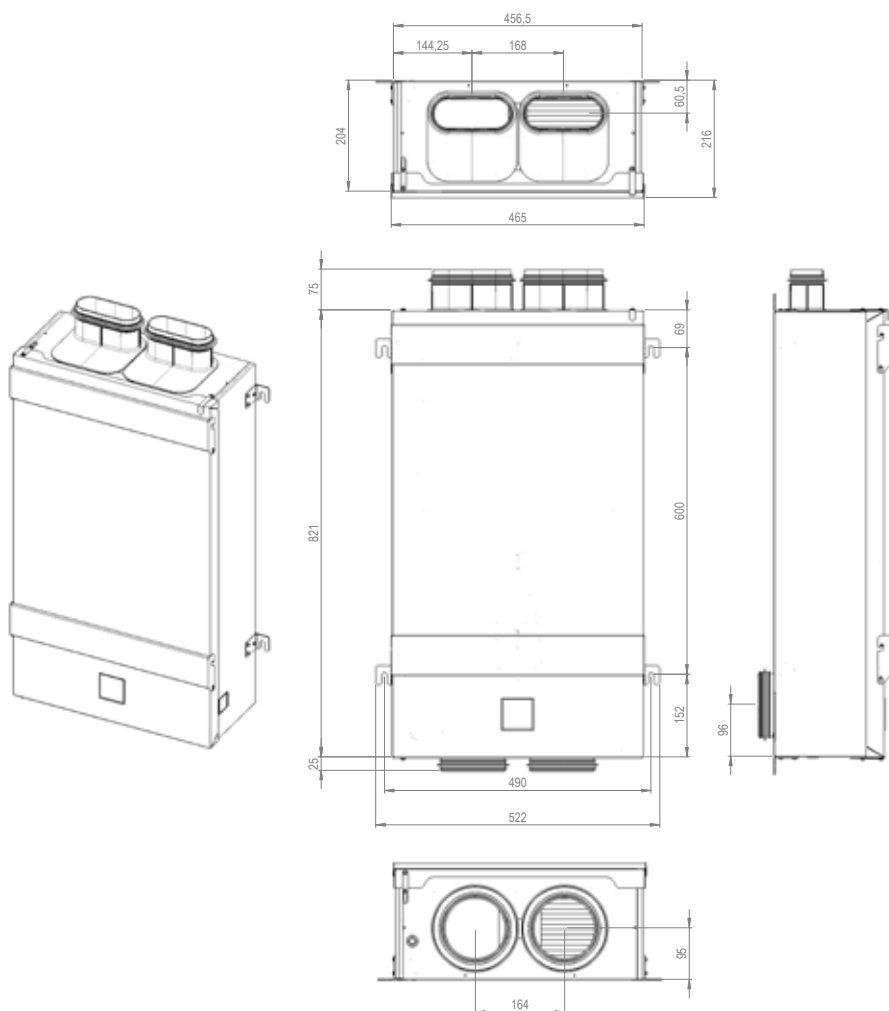* Calculation of SFP in Wh/m³ with data measured in accordance with EN13141-7:2022:
- Supply air and extract air noise measured in accordance with EN 13053:2019 (values incl. end duct correction)
- Noise emission of the housing determined in accordance with ISO 3741:2010
- Sound power level Lw in dB(A) in the reference range 10^-12 W.
- Conversion to sound pressure level Lp in dB(A): Subtract 4 dB(A) for a 10 m² room.

** To simulate the ceiling situation, a frame is used that is covered with plasterboard (9.5 mm thick) is used to simulate the ceiling situation. The frame with plasterboard is positioned above the ComfoAir Fit 100.

Dimensional drawings

Ventilation unit

Wall-mounted and ceiling installation:
supply and extract air connections at the rear

Wall-mounted and wall-integrated installation:
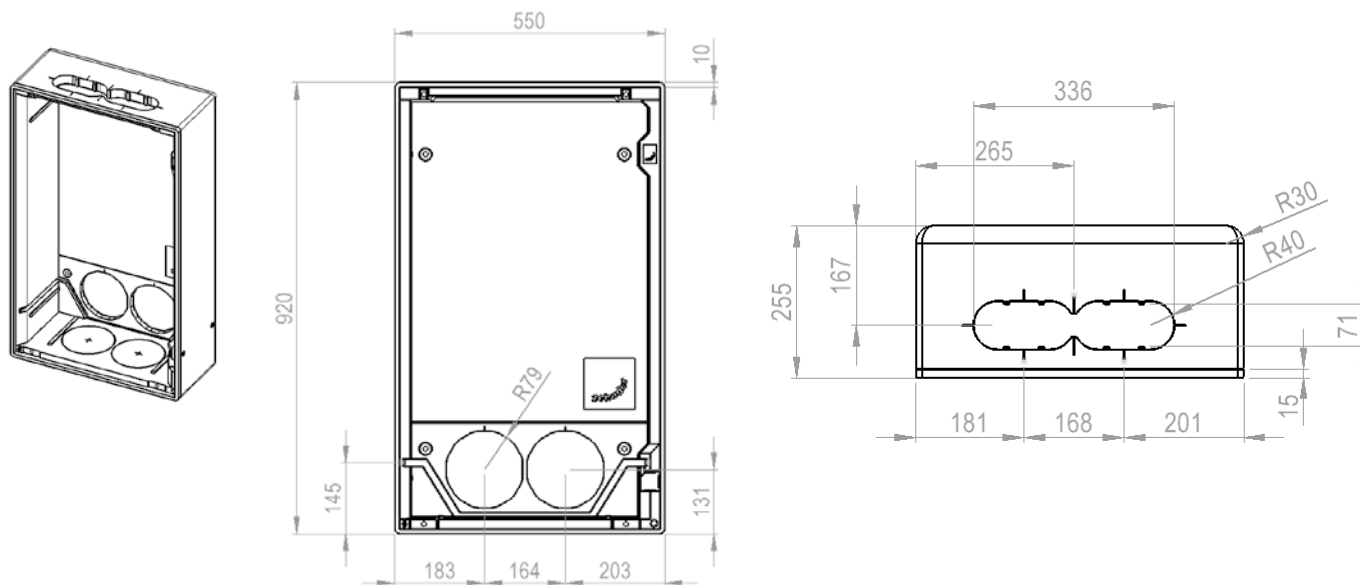supply and extract air connections at the front

Wall-mounted and ceiling installation:
outdoor and exhaust air connections
at the bottom

**Wall-mounted and wall-integrated
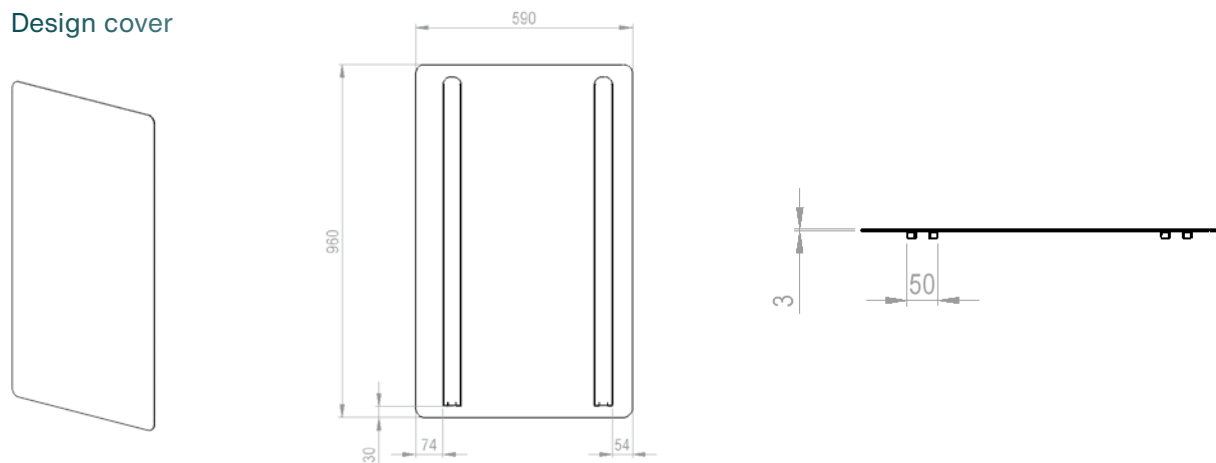installation:** supply and exhaust air
connections at the rear

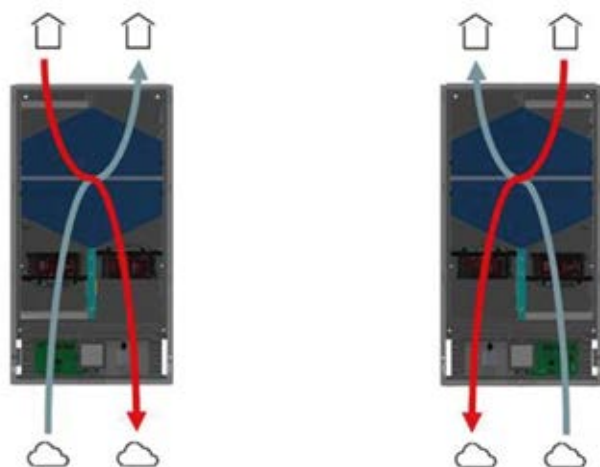## Flush-mounting boxes

Design cover

Air directions

Right unit
(supply air connection on the right)

Left unit
(supply air connection on the left)

Installation scenarios (more examples)

Ceiling installation - Renovation

Wall-mounting - e.g. in a store room

Integration into the external wall with flush-mounting box

Installation on the balcony - serial renovation, in the thermal insulation system

* Please note installation requirements. See installation instructions.

Energy efficiency class

Energy efficiency classes according to EU Regulation No. 1254/2014

Energy efficiency classes				
Comfort-Ventilation unit	**Item number**	**Control according to local requirements**		**Manual control**
		Humidity sensor board 400 300 305	Humidity & CO2 sensor board 400 300 310	without further accessories
ComfoAir Fit 100	471 360 070 471 360 100 471 360 010 471 360 040		A	A

Declaration of performance

Information requirement for RVUs as per EU Regulation Nr. 1254/2014 Contains information requirement for RVUs in accordance with EU Regulation No. 1253/2014 Heat recovery system Zehnder ComfoAir Fit 100 wall-mounted installation												
Supplier's name or trade mark	Zehnder Group			Zehnder Group			Zehnder Group			Zehnder Group		
Supplier's model identifier	ComfoAir Fit 100 wall-mounted installation			ComfoAir Fit 100 wall-mounted installation			ComfoAir Fit 100 wall-mounted installation			ComfoAir Fit 100 wall-mounted installation		
SEC [kWh/(m²a)] specific energy consumption (cold, average, warm)	-70,1	-34,4	-11,3	-71,3	-35,3	-12,0	-74,1	-37,5	-14,0	-78,9	-41,2	-16,9
SEC Class	A+	A	E	A+	A	E	A+	A	E	A+	A	E
Type of ventilation unit	Bidirectional RVU			Bidirectional RVU			Bidirectional RVU			Bidirectional RVU		
Type of drive installed	Multi-speed drive			Multi-speed drive			Variable speed drive			Variable speed drive		
Type of heat recovery system	Recuperative			Recuperative			Recuperative			Recuperative		
Thermal efficiency [%]	81			81			81			81		
Maximum flow rate [m³/h]	100			100			100			100		
Electric power input [W]	47			47			47			47		
Sound power level [dB(A)]	39			39			39			39		
Reference flow rate [m³/h]	0,019			0,019			0,019			0,019		
Reference pressure difference [Pa]	50			50			50			50		
SPI [W/(m³/h)]	0,26			0,26			0,26			0,26		
Control factor and typology	"1 manual control"			"0,95 Clock-controlled"			"0,85 Central demand control"			"0,65 Local demand control"		
Declared maximum internal and external leakage rates [%]	Internal: 0,6			Internal: 0,6			Internal: 0,6			Internal: 0,6		
	External: 2,0			External: 2,0			External: 2,0			External: 2,0		
Mixing rate	-			-			-			-		
Position and description of visual filter warning	Warning on the display of the unit or room controller			Warning on the display of the unit or room controller			Warning on the display of the unit or room controller			Warning on the display of the unit or room controller		
Internet address for assembly and disassembly instructions	www.zehnder-systems.de			www.zehnder-systems.de			www.zehnder-systems.de			www.zehnder-systems.de		
Airflow sensitivity to pressure variations [%]	-			-			-			-		
Indoor/outdoor air tightness [m³/h]	-			-			-			-		
AEC [kWh/a] annual electricity consumption (cold, average, warm)	908	371	326	884	347	302	817	280	235	720	183	138
AHS [kWh/a] annual heating energy saved (cold, average, warm)	8403	4295	1942	8462	4325	1956	8580	4386	1983	8817	4507	2038

Declaration of performance

Information requirement for RVUs as per EU Regulation Nr. 1254/2014 Contains information requirement for RVUs in accordance with EU Regulation No. 1253/2014 Heat recovery system Zehnder ComfoAir Fit 100 wall-integrated installation												
Supplier's name or trade mark	Zehnder Group			Zehnder Group			Zehnder Group			Zehnder Group		
Supplier's model identifier	ComfoAir Fit 100 wall-integrated installation			ComfoAir Fit 100 wall-integrated installation			ComfoAir Fit 100 wall-integrated installation			ComfoAir Fit 100 wall-integrated installation		
SEC [kWh/(m²a)] specific energy consumption (cold, average, warm)	-70,1	-34,4	-11,3	-71,3	-35,3	-12,0	-74,1	-37,5	-14,0	-78,9	-41,2	-16,9
SEC Class	A+	A	E	A+	A	E	A+	A	E	A+	A	E
Type of ventilation unit	Bidirectional RVU			Bidirectional RVU			Bidirectional RVU			Bidirectional RVU		
Type of drive installed	Multi-speed drive			Multi-speed drive			Variable speed drive			Variable speed drive		
Type of heat recovery system	Recuperative			Recuperative			Recuperative			Recuperative		
Thermal efficiency [%]	81			81			81			81		
Maximum flow rate [m³/h]	100			100			100			100		
Electric power input [W]	47			47			47			47		
Sound power level [dB(A)]	28			28			28			28		
Reference flow rate [m³/h]	0,019			0,019			0,019			0,019		
Reference pressure difference [Pa]	50			50			50			50		
SPI [W/(m³/h)]	0,26			0,26			0,26			0,26		
Control factor and typology	"1 Manual control"			"0,95 Clock-controlled"			"0,85 Central demand control"			"0,65 Local demand control"		
Declared maximum internal and external leakage rates [%]	Internal: 0,6 External: 2,0			Internal: 0,6 External: 2,0			Internal: 0,6 External: 2,0			Internal: 0,6 External: 2,0		
Mixing rate	-			-			-			-		
Position and description of visual filter warning	Warning on the display of the unit or room controller			Warning on the display of the unit or room controller			Warning on the display of the unit or room controller			Warning on the display of the unit or room controller		
Internet address for assembly and disassembly instructions	www.zehnder-systems.de			www.zehnder-systems.de			www.zehnder-systems.de			www.zehnder-systems.de		
Airflow sensitivity to pressure variations [%]	-			-			-			-		
Indoor/outdoor air tightness [m³/h]	-			-			-			-		
AEC [kWh/a] annual electricity consumption (cold, average, warm)	908	371	326	884	347	302	817	280	235	720	183	138
AHS [kWh/a] annual heating energy saved (cold, average, warm)	8403	4295	1942	8462	4325	1956	8580	4386	1983	8817	4507	2038

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