

Use

The Zehnder ComfoAir 550 ventilation unit was specially developed for use in residential and commercial buildings with high ventilation demand. It combines maximum comfort, simple operation and high efficiency with flexible integration into building services. The ComfoAir 550 ventilation unit moves 550 m³/h of air at an external pressure of 200 Pa.

Efficiency

The integrated cross-counterflow heat exchanger achieves efficiencies of up to 95%. For user comfort this means no unpleasant draft effects, because the supply air is heated almost to room temperature even when external temperatures are around freezing.

Fans

The two supply and extract fans are driven by efficient DC motors. Differential pressures in the supply and extract air distribution systems can be compensated thanks to direct control. The especially quiet fans can be adjusted to the required volumetric flow in 1% increments. The air volumes of the selectable stages can be set to between 50 m³/h and 550 m³/h on the Zehnder ComfoAir 550.

Filters

The ComfoAir 550 ventilation unit is equipped with a class G4 filter. An optional F7 pollen filter is available for outside air.

Installation

The Zehnder ComfoAir 550 ventilation unit is characterised by its compact design. All air and electrical connections are located on the top. The condensate drain is located on the bottom of the unit to save space.

Operation

The ventilation unit is controlled using a control unit commonly employed in living areas. The ComfoAir 550 is controlled by the CC-Ease control unit as standard. The optional high-quality Luxe control unit allows the ComfoAir 550 to be controlled with intuitive full-text menus using a touch screen.

Servicing

All necessary servicing is simple to perform on the Zehnder ComfoAir 550 ventilation unit. Filter replacement requires no tools thanks to the filter covers integrated in the front of the unit. The heat exchanger can also be easily removed from the unit for cleaning after opening the front. Please see the unit operating instructions for additional notes on servicing tasks.

Frost protection

If the ventilation unit is operated without a geothermal heat exchanger, the condensate in the extract air may freeze. The frost protection setting prevents this by variably reducing the supply air volume. In order to ensure reliable operation even at extreme outside temperatures, an optional electrical preheater register is available.



Wireless remote control



CC-Ease control unit



Luxe control unit

Bypass

During summer nights and in the transition periods with strong sunshine, the house often becomes too warm, while the outside air remains pleasantly cool. In this case heat removal by what is known as *free cooling* helps: The cooler outside air is fed to the rooms in the living area, bypassing the heat exchanger. The Zehnder ComfoAir 550 ventilation unit is equipped with an automatic bypass for just this purpose. The bypass is a standard component and takes 100% of the extract air past the heat exchanger. The personal comfort temperature is adjustable.

Options

- **Moisture recovery with the Zehnder enthalpy exchanger**
The Zehnder enthalpy cross-counterflow heat exchanger provides a hygienically ideal solution for excessively dry air in winter. Not only heat, but also up to 65% of the moisture contained in the extract air is transferred from the exhaust air to the supply air. Supply and extract air flows are kept completely separate therefore no transfer of odours or bacteria.
- **Zehnder ComfoFond geothermal heat exchanger**
With the Zehnder ComfoFond geothermal heat exchanger fresh air is preconditioned by means of ground collectors. The outside air is passed through the ground. The results are more comfort and greater efficiency in winter and cooler supply air in summer.
- **Zehnder ComfoFond-L brine geothermal heat exchanger**
The Zehnder ComfoFond-L utilises the ground as passive storage via a brine loop. During the summer, it extracts heat from the outside air and transfers it to the ground. In winter, the outside air is preheated using the heat stored in the ground. It is controlled using the ComfoAir 550 or an optional universal controller.
- **Electric air heater and hot water postheater**
An external electrical air heater or hot water postheater guarantees a defined supply air temperature, even in extreme climatic conditions and demanding situations.
- **Wireless remote control**
More installation freedom. With the Zehnder wireless remote control the ventilation unit can be wirelessly controlled from several switching points distributed throughout the house or flat.
- **Chimney sweep control**
Simultaneous operation of a house or flat ventilation system and an open flue fireplace can be registered in the control unit. This prevents a controller-related negative pressure. In a frost protection situation both fans are stopped. Pure supply or extract air mode is not possible and the intact fan is also switched off if a fault occurs. Whether these measures suffice or additional safety groups are required is controlled by the chimney sweep control.

Technical specifications

Unit dimensions (mm)	
Max. air volume	550 m ³ /h
Min. air volume	50 m ³ /h
Height	800
Width	725

Benefits

- Comfort ventilation up to 550 m³/h
- Heat recovery with an efficiency of up to 95%
- Moisture recovery with the Zehnder enthalpy exchanger (optional)
- Low power consumption thanks to EC direct current motors
- Automatic 100% summer bypass
- Infinitely variable frost protection function, efficient even at low temperatures
- Quick, safe installation and servicing
- Simple operation
- Integrated preheater (optional)
- Integrated controller for brine geothermal heat exchanger
- Electrical and hot water postheater integration possible
- Controls can be expanded by wireless remote control
- Digital CC-Ease or Luxe control unit
- CO₂ control (optional)
- With weekly timer as standard
- Chimney sweep control

Article numbers

L = supply air left, R = supply air right

V = integrated electric preheater register

Enthalpy = enthalpy heat exchanger integrated

Product	Article number
ComfoAir 550 L Luxe	471 332 210
ComfoAir 550 R Luxe	471 332 215
ComfoAir 550 VL Luxe	471 332 230
ComfoAir 550 VR Luxe	471 332 235
ComfoAir 550 L Luxe Enthalpy	471 332 450
ComfoAir 550 R Luxe Enthalpy	471 332 455

Accessories

ComfoControl CC-Ease control unit	655 010 100
Housing for surface mounting for CC-Ease control unit	659 000 250
ComfoControl Luxe control unit	655 010 110
Wireless remote control	655 000 755
ComfoAir 550 assembly base	642 300 140

Filters

Filter set for ComfoAir 550 G4 (2 pieces)	006 040 202
Filter set for ComfoAir 550 G4/F7 (2 pieces)	006 040 250

Function

Frost protection function/automatic defrost
Supply and extract air separate and infinitely variably programmable
Switch on and off delay for bathroom switch
Adjustable comfort temperature
Filter replacement indicator
Supply and extract air can be switched off separately

Description

Comfort ventilation unit ComfoAir 550 Luxe

The Zehnder ComfoAir 550 Luxe is a centralised, compact ventilation unit with heat recovery and integrated summer bypass. This ventilation unit is eminently suited to new buildings as well as in renovation projects. The ComfoAir 550 Luxe can be installed both wall-hanging and on the floor with an optionally available base. It is connected via 4 x DN 180 pipe connections at the top of the unit. The housing, made of galvanised or painted sheet steel, is acoustically and thermally insulated. EC direct current fans guarantee power-saving operation and provide high electrical efficiency. Supply and extract fans can be controlled separately and can be precisely adjusted to balance air volume to within one percent. The core of the ComfoAir 550 Luxe is the plastic cross-counterflow heat exchanger with more than 95% heat recovery. It is controlled by the cabled (ComfoControl) CC-Ease or (ComfoControl) Luxe control unit, which is connected to the ventilation unit by the on site cable (YSTY 2 x 2 x 0.6). All operating statuses and error messages can be read from the control unit display. The ComfoAir 550 is delivered with a safety mains plug for connecting to the mains. The filters are replaced easily from the front by the user without opening the unit.

Options:

- Integrated electric preheater (CA550 VL and CA550 VR)
- Units with integrated enthalpy heat exchanger (CA550 L Luxe Enthalpy and CA550 R Luxe Enthalpy)

Controller features:

- Automatic frost protection controller
- Timer-controlled filter servicing display
- G4 filter (optionally available in filter class F7)
- With automatic and temperature-controlled 100% summer bypass
- Fault history including the last three error messages
- Supply and exhaust fans can be activated separately
- Connection options for external intermittent ventilation switch
- Comfort temperature controller
- External 'OFF' contact
- Weekly timer programmes
- Chimney sweep control
- Integrated controller for Zehnder ComfoFond-L brine geothermal heat exchanger
- Control and regulating functions with external 0-10 V transducer

Descriptions

Technical specifications

Heat exchanger:	Plastic
Fans:	EC direct current radial fans
Filters:	Extract air: G4 Outside air: G4 (optional F7 pollen filter)
Condensate connection:	DN 32
Air duct connections:	4 x DN 180 at top DN 125 / 150 / 160
Electrical connection:	230 V, 50 Hz
Temperature range:	Min. 10 °C/max. 40 °C
Acoustic performance (min./max.):	Extract air 28 dB(A)/63 dB(A) Supply air: 35 db(A) / 79 dB(A)
Heat recovery:	Up to 95%
Volumetric flow:	Maximum 550 m3/h at 240 Pa external Minimum 50 m3/h at 5 Pa external
Power consumption:	
At 225 m3/h and 100 Pa:	0.30 Wh/m3
Dimensions:	Height: 800 mm Width: 725 mm Depth: 569 mm
Weight:	47 kg

Versions:	ComfoAir 550 R Luxe 471 332 215
	ComfoAir 550 L Luxe 471 332 210
	ComfoAir 550 VR Luxe 471332 235
	ComfoAir 550 VL Luxe 471 332 230
	ComfoAir 550 L Luxe Enthalpy 471 332 450
	ComfoAir 550 R Luxe Enthalpy 471 332 455

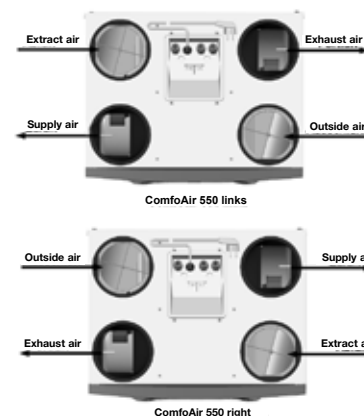
Manufacturer:	Zehnder GmbH
	Almweg 34
	77933 Lahr
	+49 (0) 7821/586-0

Air direction

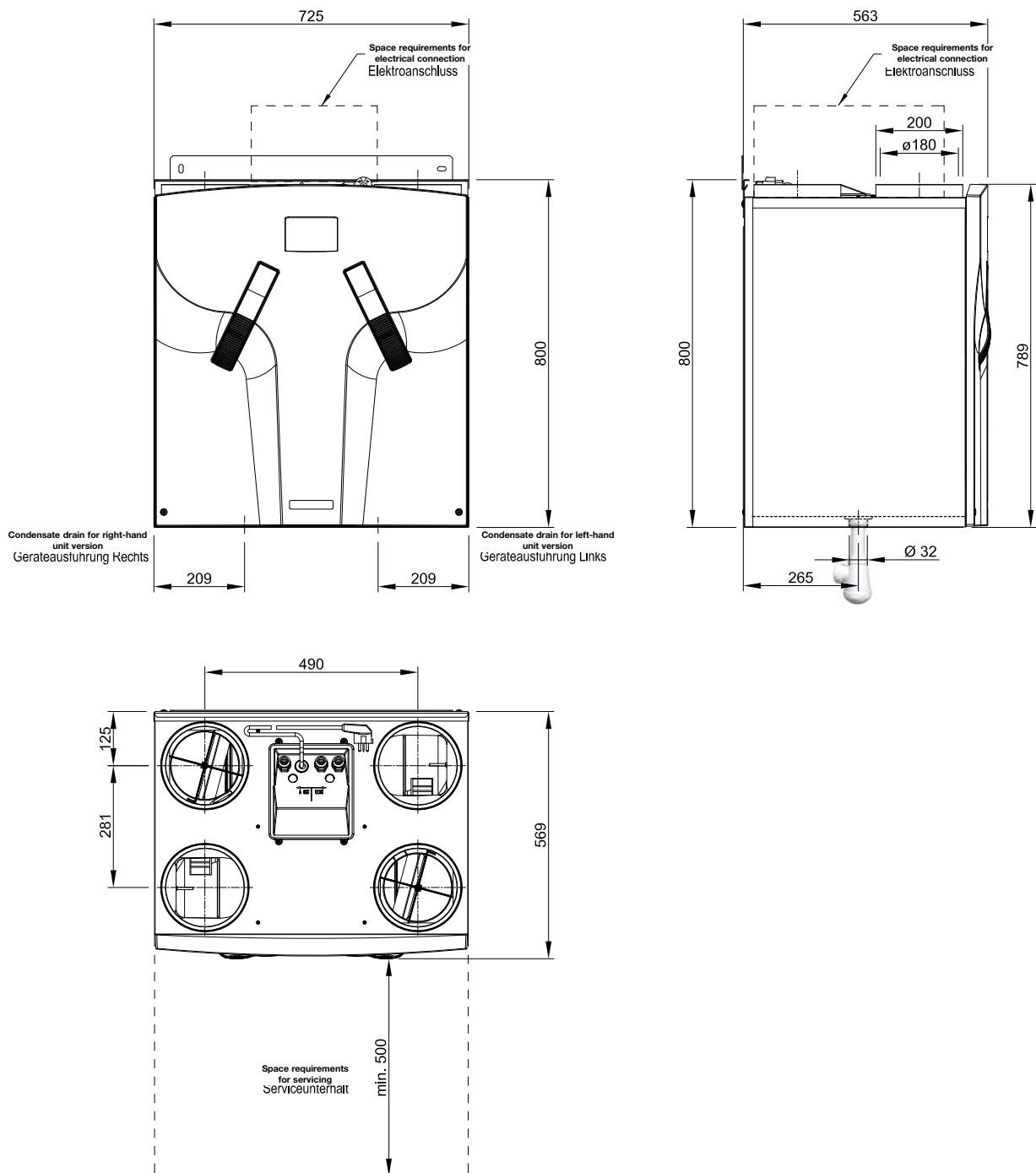
The figures on the right show the air directions (top view).

Certificates

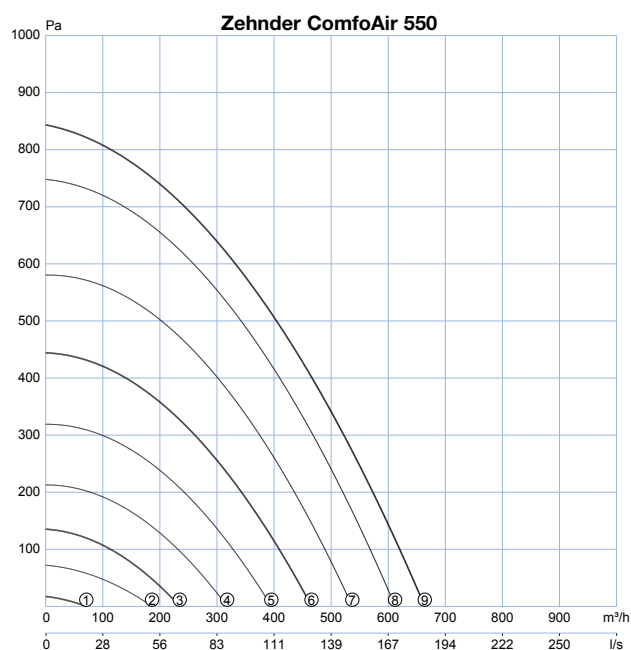
- General Building Regulations [Germany] approval applied for.
- Passivhaus certificate is applied for



Dimensional drawing



Stage	Speed %	Air volume Qv m ³ /h	Pressure ΔP_{st} Pa	Power consumption W	Current consumption A	COS ϕ (-)	Installed noise level		Weight kg
							Extract air	Supply air	
							dB(A)	dB(A)	
Zehnder ComfoAir 550									
(1) Absent	15%	50	5	13	0.12	0.47	28	35	47
(2)	30%	140	30	26	0.22	0.51	38	50	
(3) Stage 1	40%	180	60	41	0.35	0.51	44	58	
(4)	50%	225	100	69	0.57	0.53	48	63	
(5)	60%	280	150	110	0.86	0.56	52	67	
(6) Stage 2	70%	330	215	160	1.21	0.57	55	71	
(7)	80%	380	285	220	1.65	0.58	59	74	
(8)	90%	430	360	310	2.22	0.61	63	78	
(9) Stage 3	100%	460	410	350	2.459	0.62	63	79	



Technical specifications

Sound, supply air

Ventilation unit		Acoustic performance at the intake air connection at a distance of 0 m						
Type	Speed	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
ComfoAir 550	9	78	78	79	69	70	66	53
ComfoAir 550	8	78	77	77	67	69	65	52
ComfoAir 550	7	75	75	73	66	66	61	48
ComfoAir 550	6	73	72	70	63	63	56	43
ComfoAir 550	5	70	70	66	58	58	51	38
ComfoAir 550	4	67	68	61	53	53	44	32
ComfoAir 550	3	63	65	55	45	44	35	24
ComfoAir 550	2	56	55	47	37	37	25	14
ComfoAir 550	1	45	39	29	26	21	9	12

Sound, extract air

Ventilation unit		Acoustic performance at the extract air connection at a distance of 0 m						
Type	Speed	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
ComfoAir 550	9	67	66	63	51	49	42	33
ComfoAir 550	8	66	65	64	50	47	41	3
ComfoAir 550	7	63	62	60	48	45	37	27
ComfoAir 550	6	60	60	54	45	41	33	23
ComfoAir 550	5	57	57	50	41	37	28	20
ComfoAir 550	4	52	55	46	36	32	21	18
ComfoAir 550	3	46	51	38	29	25	14	13
ComfoAir 550	2	45	44	33	27	18	8	11
ComfoAir 550	1	40	29	22	20	3	6	13

Sound, unit emission

Ventilation unit		Acoustic performance at the extract air connection at a distance of 0 m					
Type	Speed	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	db(A)
ComfoAir 550	9	57	56	53	46	44	54
ComfoAir 550	8	56	55	52	45	43	53
ComfoAir 550	7	53	52	50	42	40	50
ComfoAir 550	6	50	49	48	39	36	48
ComfoAir 550	5	47	47	46	34	32	45
ComfoAir 550	4	44	45	39	30	27	41
ComfoAir 550	3	38	41	32	24	21	35
ComfoAir 550	2	37	36	27	20	15	28
ComfoAir 550	1	26	29	20	19	17	25

CDE-FLYERTS108, V0609, en, subject to changes