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Focus 200

Technical specification for comfort ventilation unit

PAUL

General

The Focus 200 comfort ventilation unit was developed for use in demanding residential and commercial buildings.
It guarantees comfort ventilation paired with user-friendly operation and the highest energy efficiency.
The various installation options and different models allow it to be flexibly incorporated into building services. The comfort ventilation unit moves a maximum of 200 m^3/h at an external pressure of 150 Pa.

Focus 200

TFT control panel

LED control panel

Benefits

- Secure and flexible installation due to compact design
- Maximum energy efficiency due to EC centrifugal fans regulated to a constant volume and with balancing
- Quiet and efficient operation due to EPP interior lining with excellent thermal and acoustic insulation properties
- Intelligent and user-friendly control with filter replacement indicator and clock- or sensor-controlled automatic functions
- Expandable options due to interface for analogue and digital I/O signals and connection of electrical and hot water post-heater

Technical specifications

Focus 200	
Height (mm)	565 mm
Width (mm)	752 mm
Depth (mm)	362 mm
Weight	25 kg
Cross-counterflow heat exchanger	Plastic
Cross-counterflow enthalpy exchanger with humidity recovery	Plastic / membrane polymer
Interior lining material	Expanded polypropylene (EPP)
Temperature range	Frost-free interior area, < 70% r.h. in 22° C
Tube connections	DN 125 (sleeve dimensions)
Installation	Wall-mounted / horizontally on frame
Electrical connection	230 Vac, 50-60 Hz, ready-to-plug, power cable 2 m, CAT-5 cable 1.5 m
Connection power	0.14 kW
Protection class	I
Protection type	IP 30
Efficiency criteria	0.31 Wh/m^3 (at 135 m^3/h / 100 Pa)

Energy figures

DIBt (preliminary data)	
Product	**Focus 200**
Approval number	Z-51.3-272
Extract air volume flow V_{ab} [m^3/h]	$104 \leq V_{ab} \leq 144$
Waste heat recovery η_{WRG} [-]	94%
Specific electric power consumption p_{el} [W/(m^3/h)]	-

“Passivhaus” certification	
Component ID	0300vs03
Range of application [m^3/h]	116 – 155
Waste heat recovery η_{WRG} [-]	91%
Specific electric power consumption $p_{el,spec}$ [W/(m^3/h)]	0.31
Humidity recovery ηX [-]	-

EU Energy Consumption Label	
Energy efficiency class	A+*
Maximum air volume flow [m^3/h]	200
Sound power level L_{WA} [dB]	41

* Depending on the control unit/sensor technology chosen.

Article numbers

Description	Article number
Focus 200 L	527 002 060
Focus 200 R	527 002 070
Focus 200 L enthalpy	527 002 080
Focus 200 R enthalpy	527 002 090

All models exclusive of control panel

L/R = left-hand/right-hand supply air

Accessories	Article number
LED RD control panel	521 014 130
TFT RD touch control panel	521 014 140
Summer box (module for replacing the heat exchanger for summer ventilation)	527 002 940
Focus floor stand	527 002 280
Dry siphon 5/4	990 201 330
Filter set for Focus 200, ISO coarse ≥ 70% (G4), contents 2 pieces	527 004 260
Filter set for Focus 200, ISO coarse ≥ 70% / ISO ePM1 ≥ 60% (G4 / F7), contents 2 pieces	527 003 430

Level of efficiency

The Focus 200 comfort ventilation unit is equipped with a high-efficiency cross-counterflow heat exchanger and achieves a passive house–certified waste heat recovery of 91%. Focus 200 enthalpy is equipped with a cross-counterflow heat exchanger (enthalpy exchanger). For user comfort this means: no unpleasant draught effects, because the supply air is heated almost to room temperature even at temperatures around freezing.

Humidity recovery

Because of its physical characteristics, the enthalpy exchanger can transfer not only heat but also up to 75% of the ambient humidity, making it the perfectly hygienic solution to the problem of overly dry winter air. Supply and extract air flows are kept completely separate: no transfer of odours or germs.

Fans

The quiet, highly energy-efficient EC centrifugal fans with integrated controllers can be adjusted to the required volume flow in 1% increments and are also regulated to a constant volume. The air volumes of the selectable speeds for the Focus 200 are between 45 and 200 m^3/h at an external pressure of 150 Pa.

Frost protection

The Focus 200 comfort ventilation unit is equipped with automatic frost protection, which prevents the heat exchanger from freezing should the outdoor air temperature drop to a very low level. The frost protection setting switches off the fans if the temperature falls below the temperature limit specified for frost protection mode and the unit type.
In order to ensure reliable operation even at extreme outside temperatures, an optional, integrated electric pre-heater is available. This guarantees safe, continuous, frost-free operation even at temperatures below freezing.

Summer ventilation

The heat exchanger in the ventilation unit can be replaced with a “summer box” (optional) for summer ventilation.
The airflows pass each other in the two separate air ducts in the summer box without any heat or humidity exchange so that, for instance, cooler outdoor air can be directed into the living areas by means of “free cooling”.

Filters

The Focus 200 comfort ventilation unit is equipped with ISO coarse ≥ 70% (G4) filters as standard.
An optional ISO ePM1 ≥ 60% (F7) pollen filter is available for outdoor air. This protects the room air from pollen and reduces contamination from fine particulate matter, spores and germs.

Installation

The Focus 200 comfort ventilation unit is characterised by its highly compact design. All air connections are located on the top of the unit. The various installation positions – upright or lying on the floor bracket (optional) or hung vertically or horizontally on the wall using a mounting rail – provide flexible mounting options. Both left-hand and right-hand supply versions are available to optimise the routing of the ventilation tubes to the comfort ventilation unit.
With inappropriate walls, it is recommended that the height-adjustable floor bracket be used to mount the unit on the floor to keep any structure-borne noise transfer to an absolute minimum.

Maintenance

Maintenance on the Focus 200 comfort ventilation unit is limited to regular replacement of the filter integrated in the front of the unit. The heat exchanger should be inspected for dust and dirt every two years and cleaned as necessary. This can be done by simply removing the front panel, pulling the heat exchanger out of the unit and rinsing it with lukewarm, soapy water. Please refer to the user manual for additional maintenance tips and tasks.

Operation

The comfort ventilation unit is controlled via a control panel that is usually positioned in living areas. The standard model of the Focus 200 comfort ventilation unit is controlled by the TFT RD touch control panel. The text- and icon-based menu navigation on the colour display facilitates user-friendly operation. The optional customised LED RD control panel allows the Focus 200 comfort ventilation unit to be operated using seven preset fan speeds and a mode for “supply air only” and “extract air only”.

Functions with TFT RD control panel

- Standby (darkened display), power consumption < 1 W
- Fan speeds 1 – 3 (programmable in 1% increments)
- Away mode (interval-controlled fan speed 1)
- Intermittent ventilation (duration between 15 and 120 min, individually adjustable)
- Clock-controlled automatic operation (weekly programme that can be individually programmed in 15-min increments for weekdays)
- Automatic sensors, optionally with external sensors (CO_2, humidity, air quality) for demand-based ventilation
- Menu (Information, Settings and Setup menus)
- Context-sensitive help text
- Password-protected keylock for inactive display

Indicators with TFT RD control panel

- Text- and icon-based menu navigation
- Filter replacement indicator (remaining filter life in days)
- Fault notification with notification icon
- Clear text fault indicator in “Information” menu

Functions with LED RD control panel

- Standby (fan speeds not indicated by LED), power consumption < 1 W
- Fan speeds 1 to 7 (fixed settings)
- Intermittent ventilation (duration 15 min, speed 7, fixed setting)
- “Supply air only” / “extract air only” mode (for cooling in summer)
- Reset for filter replacement

Indicators with LED RD control panel

- Filter replacement indicator (LED indicator over “Filter replacement reset” button)
- Fault notification using LED codes

Equipment

Equipment	Focus 200	Focus 200 enthalpy
Enthalpy exchanger		X
Left-hand/right-hand model	X	X
DN125 connector	X	X
Ready to plug in design	X	X
TFT RD control panel	X	X
LED RD control panel	X	X

Tender specification

Focus 200 comfort ventilation unit with maximum air volume of 200 m^3/h at 150 Pa

- 752 x 565 x 362 mm (W x H x D)
- Housing made from galvanised powder-coated sheet steel, RAL 7016 anthracite
- High-quality EPP interior lining
- Focus 200 with cross-counterflow heat exchanger, passive house-certified waste heat recovery of up to 91%
- Focus F 200 with cross-counterflow enthalpy exchanger with 75% humidity recovery
- EC centrifugal fans with integrated controllers, regulated to a constant volume, adjustable in 1% increments
- Summer box (optional) for summer ventilation
- Outdoor and extract air filters with filter class ISO coarse ≥ 70% (G4), optional pollen filter with filter class ISO ePM1 ≥ 60% (F7)
- Left and right unit versions
- Horizontal wall mounting or optional mounting on floor bracket
- Communication interface for analogue and digital I/O signals, control of post-heater and sub-soil heat exchanger shutter with additional module

Sound specifications

Sound, supply air (at the supply air connector at a distance of 0 m)

Speed level	Air volume m^3/h	Pressure ΔP st Pa	63 Hz dB(A)	125 Hz dB(A)	250 Hz dB(A)	500 Hz dB(A)	1000 Hz dB(A)	2000 Hz dB(A)	4000 Hz dB(A)	8000 Hz dB(A)	Total dB(A)
46%	100	100	51.8	56.6	55.1	54.8	56.9	49.4	45.4	39.8	62.2
74%	155	100	51.9	65.0	61.7	58.6	62.6	54.0	50.5	45.3	67.9
100%	200	100	51.6	65.7	62.6	59.1	63.6	55.3	51.9	47.2	68.7

Sound, extract air (at the extract air connector at a distance of 0 m)

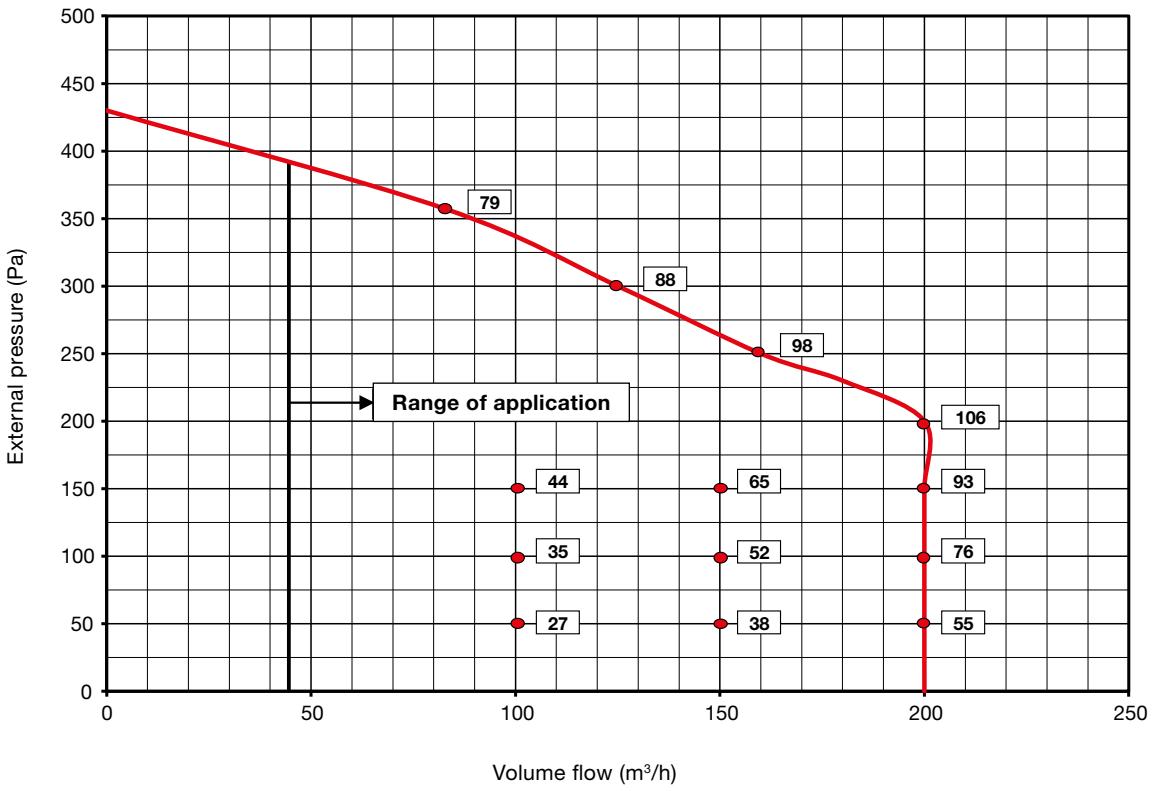
Speed level	Air volume m^3/h	Pressure ΔP st Pa	63 Hz dB(A)	125 Hz dB(A)	250 Hz dB(A)	500 Hz dB(A)	1000 Hz dB(A)	2000 Hz dB(A)	4000 Hz dB(A)	8000 Hz dB(A)	Total dB(A)
46%	100	100	42.4	43.3	42.4	41.7	38.0	27.9	17.4	5.3	48.6
74%	155	100	41.0	45.8	49.3	44.1	46.2	31.7	23.1	15.5	52.1
100%	200	100	40.6	47.1	50.5	45.4	47.6	34.3	25.9	18.2	53.4

Sound, unit emission (at unit at a distance of 0 m)

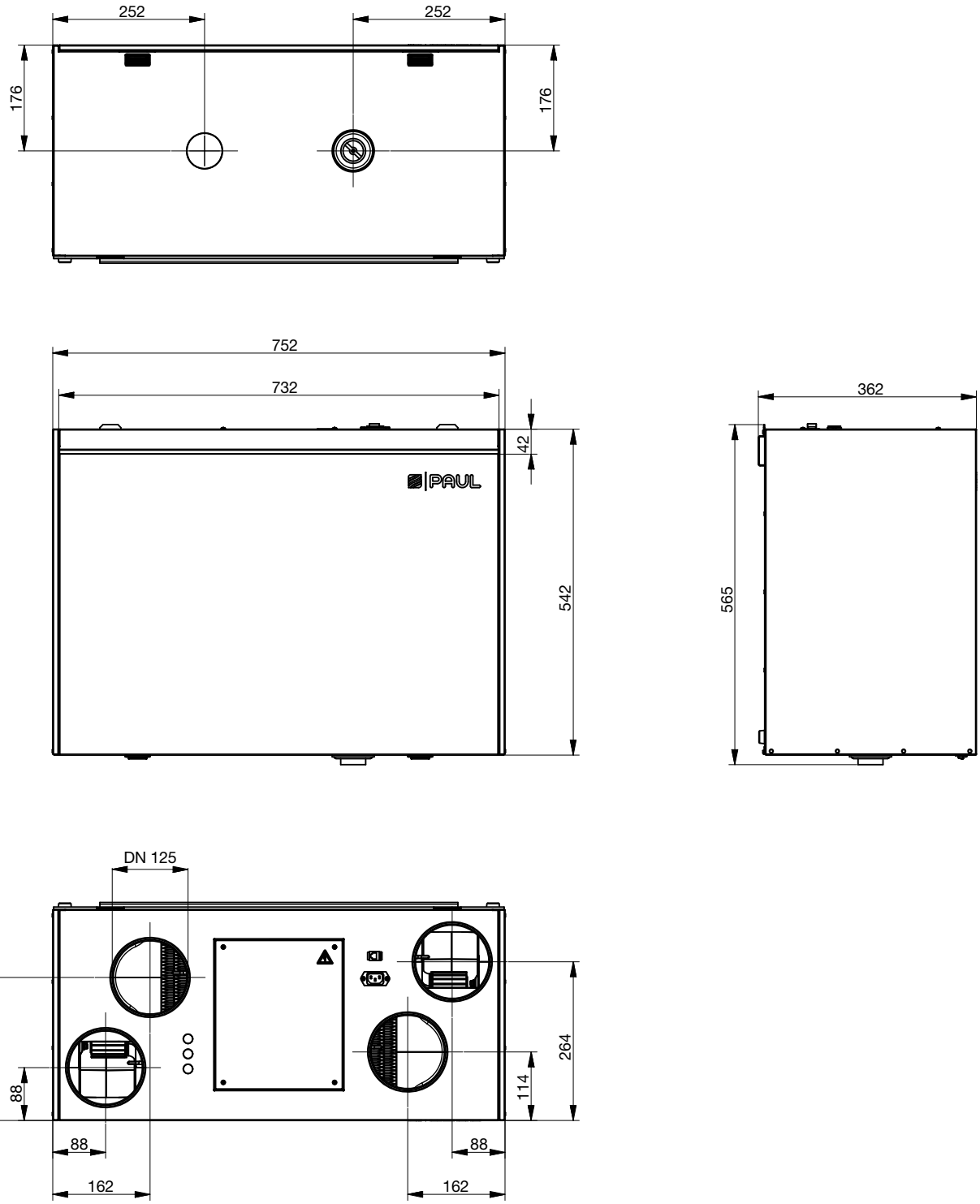
Speed level	Air volume m^3/h	Pressure ΔP st Pa	63 Hz dB(A)	125 Hz dB(A)	250 Hz dB(A)	500 Hz dB(A)	1000 Hz dB(A)	2000 Hz dB(A)	4000 Hz dB(A)	8000 Hz dB(A)	Total dB(A)
74%	155	100	31.2	36.8	44.7	49.9	41.0	52.4	28.2	22.6	55.0
100%	200	100	23.9	31.0	37.4	43.5	36.1	46.1	26.3	15.9	48.7

Performance data

Switch setting, factory setting (speed level)	Speed %	Air volume Qv m^3/h	Pressure ΔP st Pa	Power consumption W
Focus 200				
(1)	46	100	50	27
(2)	73	150	50	38
(3)	100	200	50	55
(1)	46	100	100	35
(2)	73	150	100	52
(3)	100	200	100	74
(1)	46	100	150	44
(2)	73	150	150	65
(3)	100	200	150	93



Dimensional drawing



Air directions

Version with supply air on left (L)

Version with supply air on right (R)

Energy efficiency classes

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

Energy efficiency classes

Comfort ventilation unit	Article numbers	Control according to site requirements			Central demand control		Clock control	Manual control
		2 x CO_2 sensors 528 007 250 and Expansion set 528 007 290	Humidity sensor 659 000 330 and Expansion set 528 007 290	2 x humidity sensors 659 000 330 and Expansion set 528 007 290	CO_2 sensor 528 007 280 or Humidity sensor 659 000 330 and Expansion set 528 007 290		TFT RD 521 014 140	LED RD 521 014 130
Focus 200	527 002 060 527 002 070		A+		A		A	A
Focus 200 enthalpy	527 002 080 527 002 090		A		A		A	A

Focus 200 Declaration of Performance

Product data sheet for RVUs as per EU Regulation No. 1254/2014
Contains information required for RVUs as per EU Regulation No. 1253/2014
Room ventilation unit Zehnder Focus 200

Supplier's name or trademark	Zehnder Group			Zehnder Group			Zehnder Group			Zehnder Group		
Supplier's model identifier	Focus 200			Focus 200			Focus 200			Focus 200		
SEC [kWh/(m²a)] specific energy consumption (cold, average, warm)	-77.2	-38.2	-13.2	-78.1	-38.9	-13.8	-80.2	-40.7	-15.5	-83.5	-43.6	-18.1
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 [%]	92			92			92			92		
Maximum air volume flow rate [m³/h]	200			200			200			200		
Electric power input [W]	76			76			76			76		
Sound power level [dB(A)]	41			41			41			41		
Reference air volume flow rate [m³/h]	140			140			140			140		
Reference pressure difference [Pa]	50			50			50			50		
SPI [W/(m³/h)]	0.25			0.25			0.25			0.25		
Control factor and control 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: 0.8			Internal: 0.8			Internal: 0.8			Internal: 0.8		
	External: 1.6			External: 1.6			External: 1.6			External: 1.6		
Mixing rate	-			-			-			-		
Position and description of visual filter warning	Warning on the unit display			Warning on the unit display			Warning on the unit display			Warning on the unit display		
Internet address for assembly and disassembly instructions	www.zehnder-systems.de www.international.zehnder-systems.com			www.zehnder-systems.de www.international.zehnder-systems.com			www.zehnder-systems.de www.international.zehnder-systems.com			www.zehnder-systems.de www.international.zehnder-systems.com		
Airflow sensitivity to pressure variations [%]	-			-			-			-		
Indoor/outdoor air tightness [m³/h]	-			-			-			-		
AEC [kWh/a] annual electricity consumption (cold, average, warm)	895	358	313	872	335	290	808	271	226	714	177	132
AHS [kWh/a] annual heating saved (cold, average, warm)	9088	4646	2101	9113	4658	2106	9163	4684	2118	9263	4735	2141

Focus 200 enthalpy Declaration of Performance

Product data sheet for RVUs as per EU Regulation No. 1254/2014
Contains information required for RVUs as per EU Regulation No. 1253/2014
Room ventilation unit Zehnder Focus 200 enthalpy

Supplier's name or trademark	Zehnder Group			Zehnder Group			Zehnder Group			Zehnder Group		
Supplier's model identifier	Focus 200 enthalpy			Focus 200 enthalpy			Focus 200 enthalpy			Focus 200 enthalpy		
SEC [kWh/(m²a)] specific energy consumption (cold, average, warm)	-71.0	-35.6	-12.7	-72.1	-36.4	-13.3	-74.7	-38.4	-15.0	-79.2	-41.6	-17.5
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 [%]	80			80			80			80		
Maximum air volume flow rate [m³/h]	200			200			200			200		
Electric power input [W]	76			76			76			76		
Sound power level [dB(A)]	41			41			41			41		
Reference air volume flow rate [m³/h]	140			140			140			140		
Reference pressure difference [Pa]	50			50			50			50		
SPI [W/(m³/h)]	0.21			0.21			0.21			0.21		
Control factor and control 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: 0.8			Internal: 0.8			Internal: 0.8			Internal: 0.8		
	External: 1.6			External: 1.6			External: 1.6			External: 1.6		
Mixing rate	-			-			-			-		
Position and description of visual filter warning	Warning on the unit display			Warning on the unit display			Warning on the unit display			Warning on the unit display		
Internet address for assembly and disassembly instructions	www.zehnder-systems.de www.international.zehnder-systems.com			www.zehnder-systems.de www.international.zehnder-systems.com			www.zehnder-systems.de www.international.zehnder-systems.com			www.zehnder-systems.de www.international.zehnder-systems.com		
Airflow sensitivity to pressure variations [%]	-			-			-			-		
Indoor/outdoor air tightness [m³/h]	-			-			-			-		
AEC [kWh/a] annual electricity consumption (cold, average, warm)	845	308	263	826	289	244	772	235	190	693	156	111
AHS [kWh/a] annual heating saved (cold, average, warm)	8340	4263	1928	8403	4295	1942	8527	4359	1971	8776	4486	2029

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