Zehnder Climos 200

Technical specification for comfort ventilation unit

always the best climate

General

The Climos 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 m³/h at an external pressure of 150 Pa.

LED control panel

Article numbers

Description	Article number
Climos 200 L enthalpy	527 003 250
Climos 200 R enthalpy	527 003 240
Climos 200 VL enthalpy	527 003 270
Climos 200 VR enthalpy	527 003 260

All models exclusive of control panel
V = pre-heater, 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
Designer filter cover set, colour RAL 3020	528 007 870
Access panel for dry-wall installation	528 007 930
Filter set for Climos 200, ISO coarse ≥ 75% (M5), contents 2 pieces	527 004 270
Filter set for Climos 200, ISO coarse ≥ 75% / ISO ePM1 ≥ 60% (M5 / F7), contents 2 pieces	527 004 280

Top Benefits

- Flexible installation options due to the compact flat design and the fact that there is no need for a condensate drain
- Energy-efficient operation and maximum climate comfort, as enthalpy exchanger is included as standard.
- Reduces excessively dry air in the winter and excessively humid air in the summer, and means that post-heaters or frost-protection functions are only required with outdoor temperatures of approx. -6 °C or lower
- Maximum energy efficiency due to EC centrifugal fans regulated to a constant volume and with balancing
- 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, connection of electrical and hot water post-heater

Operation

The comfort ventilation unit is controlled via a control panel that is usually positioned in living areas. The standard model of the Climos 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 Climos 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 a 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

Technical specifications

Height (mm)	250 mm
Length (mm)	1019 mm
Width (mm)	594 mm
Weight	25 kg
Cross-counterflow enthalpy exchanger with humidity recovery	Plastic / membrane polymer
Interior lining material	Expanded polypropylene (EPP)
Housing	Galvanized sheet steel, powder-coated
Installation	Ceiling-mounted or lying (horizontally), wall-mounted or inclined wall (horizontally / vertically)
Temperature range	-20 °C up to +40 °C
Weight	25 kg
Supply voltage	230 VAC, 50-60 Hz, connection cable 2m ready-to-plug
Current draw without/with defroster	0.14 kW/ 0.75 kW
Protection class	I
Degree of protection	IP 30
Control modules	LED control panel, TFT touch panel, external boost ventilation switch, external sensors

Energy figures

DIBt (preliminary data)	
Product	**Climos 200 enthalpy**
Approval number	Z 51.3-380
Extract air volume flow V_{ab} [m^3/h]	$76 \leq V_{ab} \leq 200$
Waste heat recovery η_{WRG} [-]	76%
Specific electric power consumption p_{el} [$W/(m^3/h)$]	0.30*

“Passivhaus” certification	
Component ID	0680vs03
Range of application [m^3/h]	100 – 115
Waste heat recovery η_{WRG} [-]	84%
Specific electric power consumption $p_{el,spec}$ [$W/(m^3/h)$]	0.40
Humidity recovery ηX [-]	57%

EU Energy Consumption Label	
Energy efficiency class	A+*
Maximum air volume flow [m^3/h]	200
Sound power level L_{WA} [dB]	45

* Depending on the control unit/sensor technology chosen.
Detailed information on page 9.

Equipment

Equipment	Climos 200	Climos 200 V
Pre-heater		X
Enthalpy exchanger	X	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

Climos 200 comfort ventilation unit with maximum air volume of 200 m^3/h at 100 Pa

- 594 x 1019 x 250 (W x L x H)
- Housing made from galvanised powder-coated sheet steel, RAL 7016 anthracite, maintenance flap RAL 3020 traffic red
- High-quality EPP interior lining
- Climos 200 with cross-counterflow heat exchanger, passive house-certified waste heat recovery of up to 84%
- Climos F 200 with cross-counterflow enthalpy exchanger
- EC centrifugal fans with integrated controllers, regulated to a constant volume, adjustable in 1% increments
- Sensor-controlled summer bypass function
- Optionally available with integrated pre-heaters
- Equipped with outdoor and extract air filters with filter class ISO coarse ≥ 75% (M5), optional pollen filter with filter class ISO ePM1 ≥ 60% (F7)
- Left and right unit versions
- Installation positions: suspended from the ceiling or lying (horizontal), mounted on the wall (horizontal or vertical), and on the wall slope (horizontal or vertical)
- Communication interface for analogue and digital I/O signals, control of post-heater and sub-soil heat exchanger shutter with additional module

Level of efficiency

The comfort ventilation units in the Climos 200 series are equipped with a cross-counterflow enthalpy exchanger with humidity recovery as standard, and achieve a waste heat recovery of 84% as certified for humidity-transferring ventilation units according to passive house regulations.
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 standard enthalpy exchanger can transfer not only heat but also up to 57% 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, particularly 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 Climos 200 are between 50 and 200 m^3/h at an external pressure of 100 Pa.

Frost protection

The Climos 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 electric post-heater is available. This guarantees safe, continuous, frost-free operation even at temperatures below freezing.

Summer ventilation

An electronic bypass function can be used for summer ventilation so that, for instance, cooler outdoor air can be directed into the living areas via “free cooling”. Extract air is deactivated during the active phase of the electronic bypass function in order to prevent the transfer of heat and humidity.

Filters

The Climos 200 comfort ventilation unit is equipped with
ISO coarse ≥ 75% (M5) 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 Climos 200 comfort ventilation unit is characterised by its highly compact, flat design. This makes it ideal for ceiling installation. An optional custom-fitted access panel for dry-wall installation is available for installation in suspended ceilings. No condensate drain is required, which allows for flexible installation options on the ceiling, roof slope or at floor level. As a result, Climos 200 is not only perfect for use in modernisation projects but also for use in confined or complicated spaces in new builds. Both left-hand and right-hand supply versions are available to optimise the routing of the ventilation tubes to the ventilation unit.

Maintenance

Maintenance on the Climos 200 comfort ventilation unit is limited to regular replacement of the filter integrated in the front of the unit. The EPP filter covers on the housing cover are directly accessible for easy filter replacement. 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.

Sound specifications

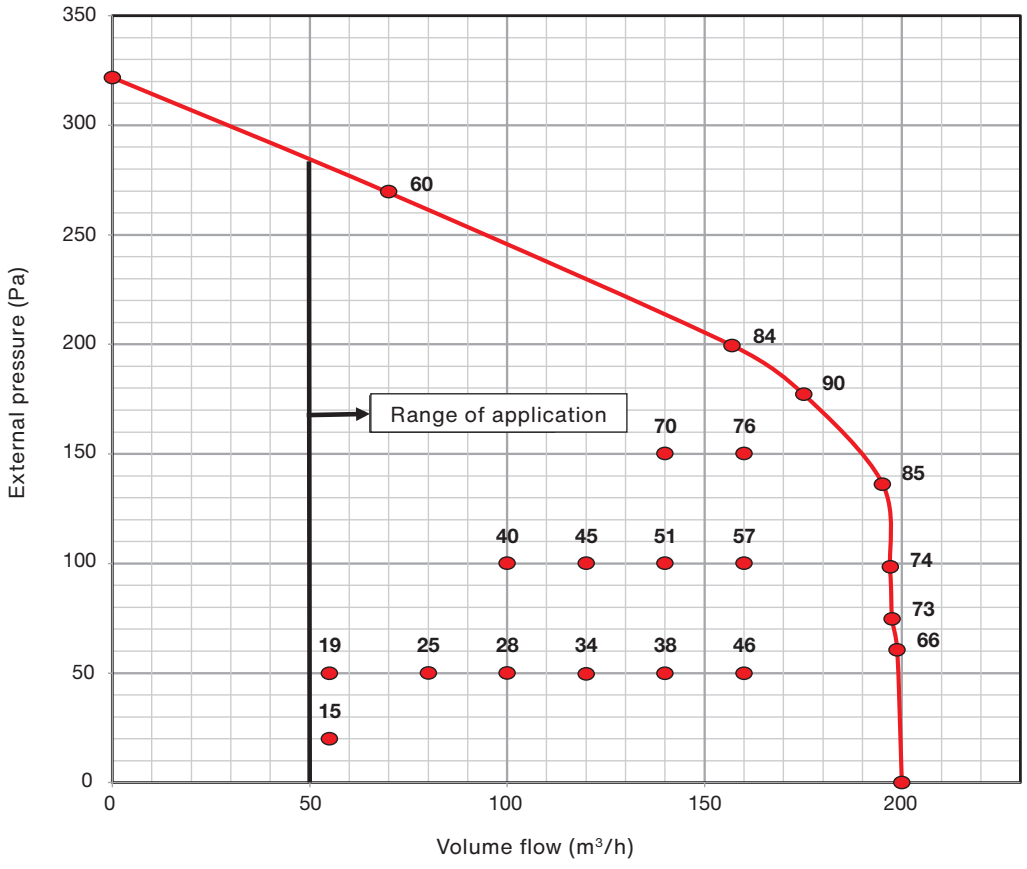
Sound, supply air (at the supply air connector at a distance of 0 m)											
Speed level	Air volume m^3/h	Pressure ΔP st Pa	63 Hz dB(A)	125 Hz dB(A)	250 Hz dB(A)	500 Hz dB(A)	1000 Hz dB(A)	2000 Hz dB(A)	4000 Hz dB(A)	8000 Hz dB(A)	Total dB(A)
45%	100	100	46.9	62.2	60.3	59.6	58.7	51.9	47.3	40.5	66.0
67%	138	100	48.6	61.4	61.3	59.6	60.3	53.6	49.1	43.0	66.6
72%	150	100	47.7	62.0	62.0	60.0	61.1	54.5	50.5	43.8	67.3
100%	200	100	49.6	63.2	65.3	62.7	63.6	58.6	53.7	48.4	70.0

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)
45%	100	100	39.9	52.1	53.4	43.5	33.1	22.5	19.4	15.3	55.6
67%	138	100	43.0	54.3	55.7	45.5	35.5	25.2	20.0	15.3	57.8
72%	150	100	44.4	54.6	56.2	46.0	36.7	25.8	19.5	15.3	58.2
100%	200	100	49.2	58.1	59.3	48.4	40.2	29.4	23.4	15.4	61.2

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)
45%	100	100	33.1	41.7	47.7	49.6	51.9	52.4	37.5	29.5	57.0
67%	138	100	36.1	43.8	50.7	51.5	53.7	52.4	40.6	31.2	58.5
72%	150	100	34.4	44.6	50.6	52.3	54.1	52.4	41.1	31.3	58.8
100%	200	100	37.7	49.4	55.8	58.3	59.5	52.4	47.0	35.7	63.5

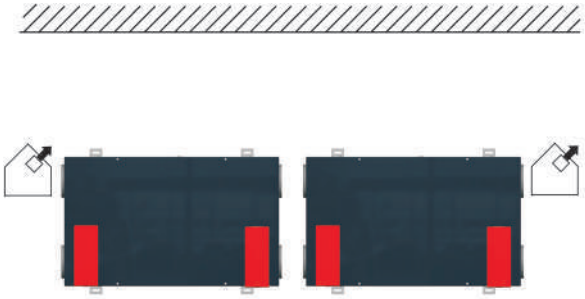
Performance data

Switch setting, factory setting (speed level)	Speed %	Air volume Qv m^3/h	Pressure ΔP st Pa	Power consumption W
Climos 200				
(1)	21	55	50	19
(2)	40	80	50	25
(3)	45	100	50	28
(4)	56	120	50	34
(5)	68	140	50	38
(6)	79	160	50	46
(1)	45	100	100	40
(2)	56	120	100	45
(3)	68	140	100	51
(4)	79	160	100	57
(5)	98	195	100	74
(1)	68	140	150	70
(2)	79	160	150	75
Climos 200 V, pre-heater switched on				
(-)	100	200	(-)	750

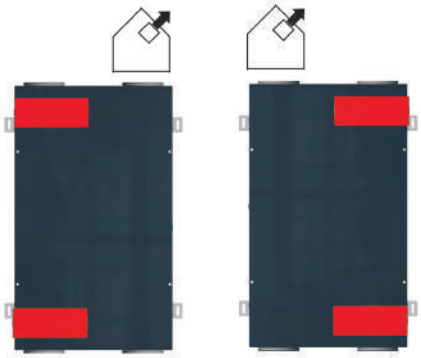


Installation positions

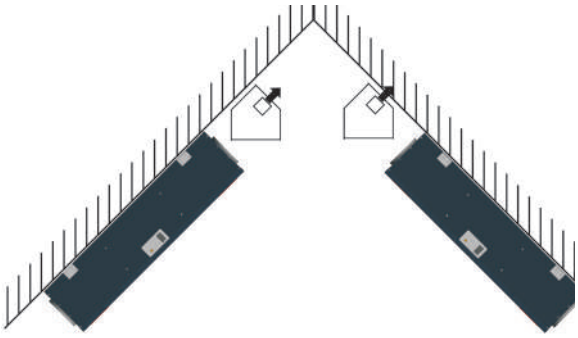
= exhaust air / exhaust air connection must always be at the top



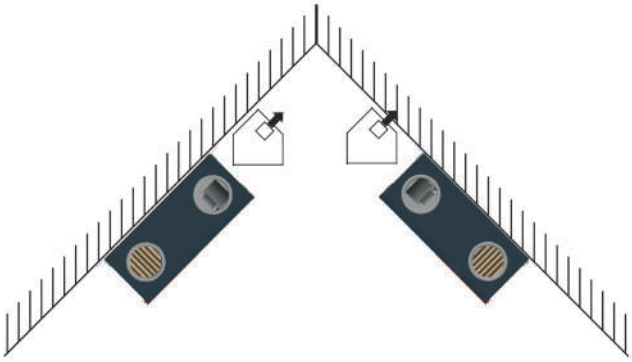
Installation position:
mounted horizontally on the wall



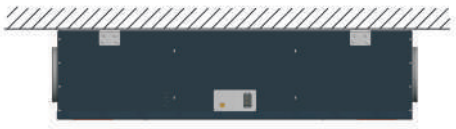
Installation position:
mounted vertically on the wall



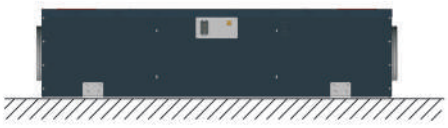
Installation position:
mounted vertically on the wall slope



Installation position:
mounted horizontally on the wall slope



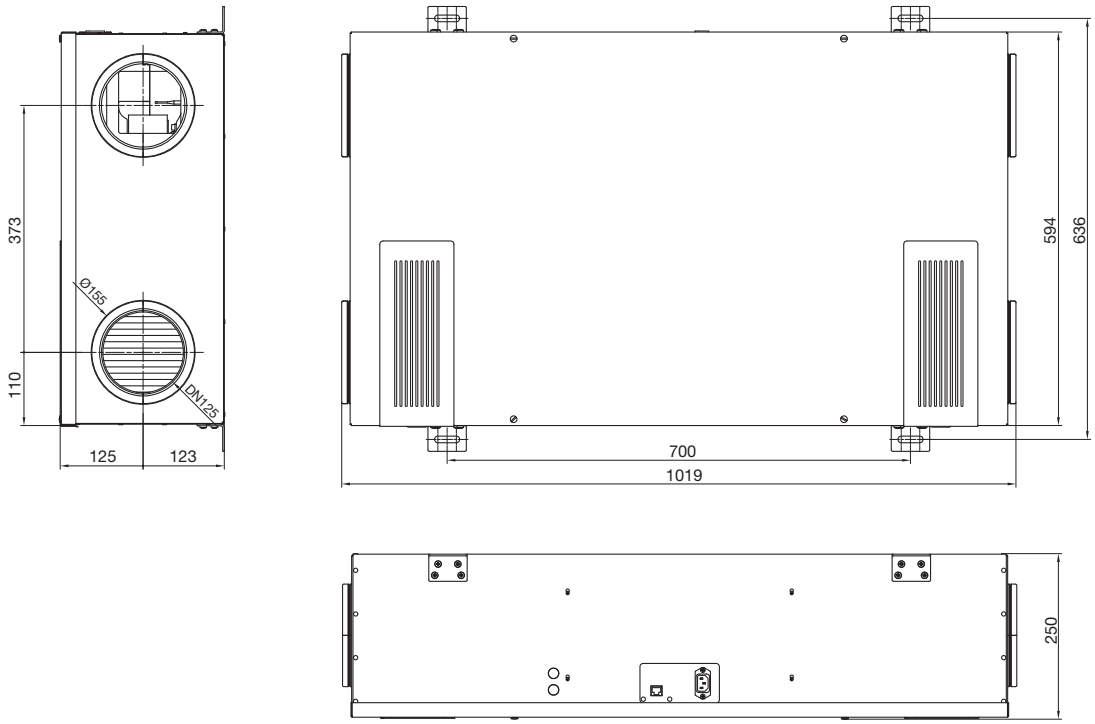
Installation position:
suspended from the ceiling



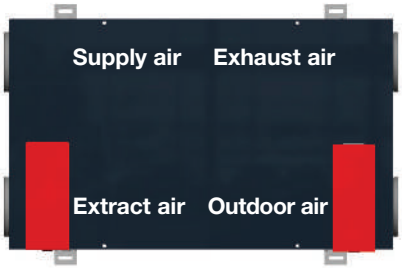
Installation position:
lying

For detailed information on installation positions, please see the user manual.

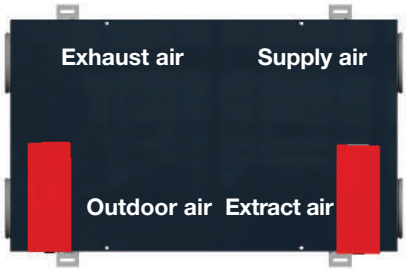
Dimensional drawing



Air directions



Type B, supply air left (L)



Type A, supply air 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
Climos 200 enthalpy	527 003 250 527 003 240 527 003 270 527 003 260		A			A		B	B

Climos 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 V
Room ventilation unit Zehnder Climos 200 enthalpy (V)

Supplier's name or trademark	Zehnder Group			Zehnder Group			Zehnder Group			Zehnder Group		
Supplier's model identifier	Climos 200 enthalpy (V)			Climos 200 enthalpy (V)			Climos 200 enthalpy (V)			Climos 200 enthalpy (V)		
SEC [kWh/(m²a)] specific energy consumption (cold, average, warm)	-66.9	-32.2	-9.6	-68.3	-33.2	-10.4	-71.6	-35.8	-12.7	-77.2	-40.0	-16.1
SEC class	A+	B	F	A+	B	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 [%]	78			78			78			78		
Maximum air volume flow rate [m³/h]	200			200			200			200		
Electric power input [W]	74			74			74			74		
Sound power level [dB(A)]	45			45			45			45		
Reference air volume flow rate [m³/h]	140			140			140			140		
Reference pressure difference [Pa]	50			50			50			50		
SPI [W/(m³/h)]	0.30			0.30			0.30			0.30		
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: 0.5			Internal: 0.5			Internal: 0.5			Internal: 0.5		
	External: 1.3			External: 1.3			External: 1.3			External: 1.3		
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)	958	421	376	930	393	348	854	317	272	741	204	159
AHS [kWh/a] annual heating saved (cold, average, warm)	8216	4200	1899	8284	4235	1915	8421	4305	1947	8695	4445	2010

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