



## Wall-mounted heat recovery air handling units

# KOMFORT EC S(B)200(-E) KOMFORT EC S(B)250(-E)

Air capacity – up to 290 m<sup>3</sup>/h

Heat recovery efficiency – up to 94 %



### Application

- Air handling units for efficient supply and exhaust ventilation in flats, houses, cottages and other buildings.
- Heat recovery minimises ventilation heat losses.
- Controllable air exchange for creating the best suitable indoor microclimate.
- Compatible with round Ø125 and 160 mm air ducts.

### Design

- The casing is made of double-skinned polymer coated steel panels, internally filled with 30 mm mineral wool layer for heat and sound insulation.
- The hinged panel of the casing ensures easy access to the internals for cleaning and other maintenance operations.
- The spigots for connection to the air ducts are located at the top of the unit and are rubber sealed for airtight connection to the air ducts.

### Fans

- High-efficient external rotor EC motors and centrifugal impellers with forward curved blades are used for air supply and exhaust.
- EC motors have the best power consumption to air capacity ratio and meet the latest demands concerning energy saving and high-efficient ventilation.
- EC motors are featured with high performance, low noise level and totally controllable speed range.
- Dynamically balanced impellers.

### Heat recovery

- The **KOMFORT S(SB)200(250)** unit is equipped with a plate counter-flow polystyrene heat exchanger that recovers heat. The drain pan under the heat exchanger block of the KOMFORT S(SB)200(250) is used for condensate collection and drainage.
- The **KOMFORT S(SB)200(250)-E** unit is equipped with a plate enthalpy counter-flow heat exchanger made of enthalpic membrane that recovers heat and humidity. Due to humidity recovery the enthalpy heat exchanger produces no condensate.
  - The air flows are fully separated within the heat exchangers. Odours and contaminants contained in the extract air are not transferred to the supply air flow.
  - Heat recovery is based on heat and/or humidity transfer through the plates of the heat exchanger. In the cold season supply air is heated in the heat exchanger by transferring the heat energy of warm and humid extract air to the cold fresh air. Heat recovery minimizes heat losses, which reduces heating costs.
  - In summer the heat exchanger performs reverse and intake air is cooled in the heat exchanger by the cool extract air. This reduces load on air conditioners and saves electricity.
  - The electronic freeze protection system is used to prevent the heat exchanger freezing in cold seasons. As a standard in case of freezing danger communicated by the exhaust temperature sensor the supply fan is stopped to let warm extract air warm up the heat exchanger. After that the supply fan

is turned on and the unit reverts to the normal operation mode. In case of S11 control system the freeze protection may be activated either by means of turning the supply fan off or by means of activating the electric pre-heater (option).

### Bypass

- The **KOMFORT EC SB** units are equipped with a 100% bypass for summer cooling ventilation mode.

### Air filtration

- **KOMFORT EC S(B)200(-E)** units have two integrated cassette G3 filters for air supply and air extract.
- **KOMFORT EC S(B)250(-E)** units have a G4 cassette supply air filter, a F7 cassette supply air filter for extra efficient filtration and a G4 extract air filter.

### Control and automation

- **KOMFORT EC S S11 / KOMFORT EC SB S11** units incorporate an integrated control system with the S11 wall-mounted control panel with an LCD display.
- **KOMFORT EC S S14 / KOMFORT EC SB S14** units incorporate an integrated control system with the S14 wall-mounted control panel with a LED indication. The units are equipped with the Type B USB Connector for advanced options setting in a special software.
- The standard delivery set includes a 10 m cable for connection of the unit and the control panel.
- **S11 automation functions:**
  - Activating/deactivating the unit.
  - Setting required supply and extract fan speed for the unit air flow control. Each speed is individually adjusted during set-up.
  - Bypass damper opening / closing for summer ventilation.
  - Setting and maintaining room or duct air temperature.
  - Timer turning on/off and timer operation adjustment.
  - Setting day- and week-scheduled operation of the unit.
  - Operation control on feedback from FS1 duct humidity sensor (available separately) or from the humidity sensor in the control panel.
  - Filter clogging indication by motor meter.
  - System shutdown on signal from a fire alarm panel.
  - Controlling supply and exhaust air dampers (available separately).
  - Alarm indication with an error code indication.
  - Cooler control (to be ordered separately).
- **S14 automation functions:**
  - Activating/deactivating the unit.
  - Air capacity control (selecting low, medium or high speed).



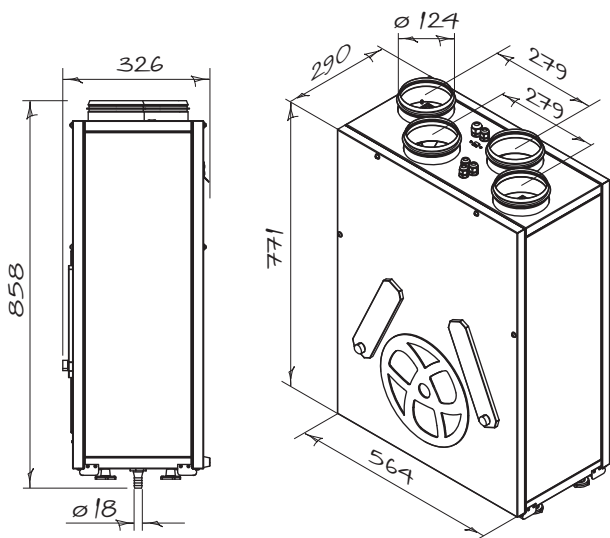
- Bypass damper opening/closing for summer ventilation.
- Alarm indication.
- Filter maintenance indication.
- **Extra functions of the S14 automation with the installed software:**
  - Fan speed control from 0 to 100 %. Each speed is individually adjusted for the supply and the exhaust fans.
  - Operation control on feedback from FS2 duct humidity sensor or any other optionally connected sensor as CO<sub>2</sub> sensor, IAQ sensor, etc. (not included in the delivery set).
  - Unit operation setting according to external control unit (available as a specially ordered accessory).
  - Temperature setting for freeze protection system activation.

- Control and operation adjustment of the filter maintenance timer.
- Error code indication.
- Remote control unit, bypass and humidity control.
- Software version upgrading.

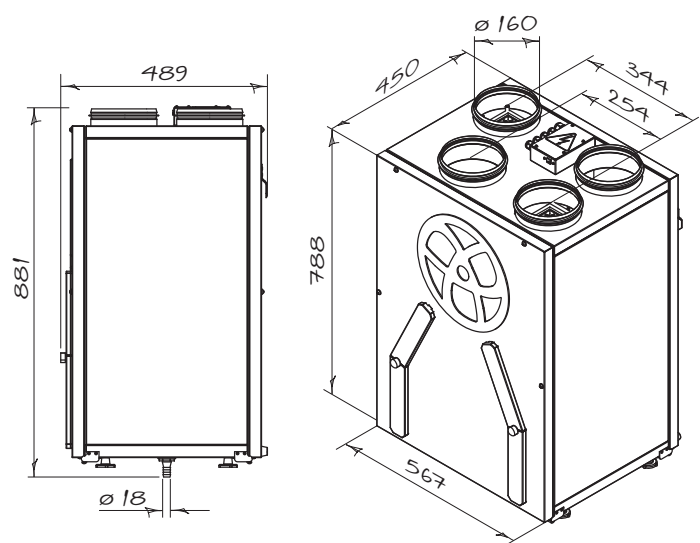
### ■ Mounting

- The units are designed for wall mounting.
- The casing is versatile. The side of air ducts connection may be changed by turning the unit by 180° and reversing the front and the back panels.
- The mounting place must provide sufficient access for connection to drain system and condensate drainage using the 20x32 KIT SFK kit (available as a specially ordered accessory).

### ■ Overall dimensions

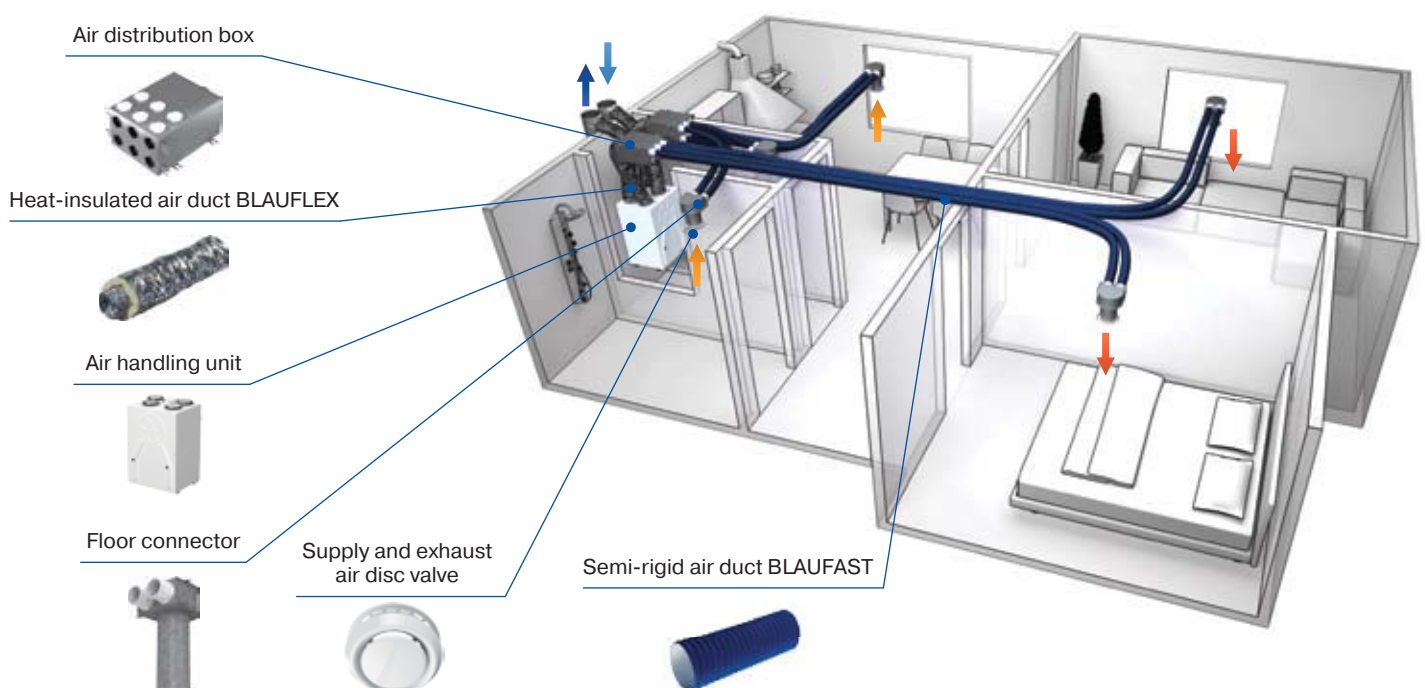


KOMFORT EC S(B)200



KOMFORT EC S(B)250

### ■ Mounting example



## Technical data

Parameters	KOMFORT EC S200	KOMFORT EC S200-E	KOMFORT EC SB200	KOMFORT EC SB200-E
Unit supply [V / 50-60 Hz]	1~ 230		1~ 230	
Total unit power [W]	130		130	
Maximum unit current [A]	1,0		1,0	
Maximum air capacity [m <sup>3</sup> /h]	260		260	
RPM [min <sup>-1</sup> ]	2050		2050	
Noise level at 3m [dB(A)]	24		24	
Transported air temperature [°C]	from -25 to +60		from -25 to +60	
Casing material	polymer coated steel		polymer coated steel	
Insulation thickness	30 mm mineral wool		30 mm mineral wool	
Extract filter	G3		G3	
Supply filter	G3		G3	
Connected air duct diameter [mm]	Ø125		Ø125	
Weight [kg]	45		45	
Heat recovery efficiency	83 up to 98 %	74 up to 94 %	83 up to 98 %	74 up to 94 %
Heat exchanger type	counter-flow		counter-flow	
Heat exchanger material	polysterene	enthalpic membrane	polysterene	enthalpic membrane
SEC class	A+	A	A+	A

Point	Unit power [W]	Total sound pressure level at 3 m [dBA]	Total sound pressure level at 1 m [dBA]
	<b>KOMFORT EC S200(-E) KOMFORT EC SB200(-E)</b>		
1	124	24	34
2	115	23	33
3	106	23	33
4	50	19	29
5	47	18	28
6	40	18	28
7	17	12	22
8	16	12	22
9	15	11	21

## BRE

Exhaust terminal configuration	Air flow rate [l/s]	Specific fan power [W/l/s]	Heat exchange efficiency [%]
Kitchen + 1 additional wet room	21	0,67	87
Kitchen + 2 additional wet rooms	29	0,69	85
Kitchen + 3 additional wet rooms	37	0,88	84
Kitchen + 4 additional wet rooms	45	1,13	83
Kitchen + 5 additional wet rooms	53	1,37	83

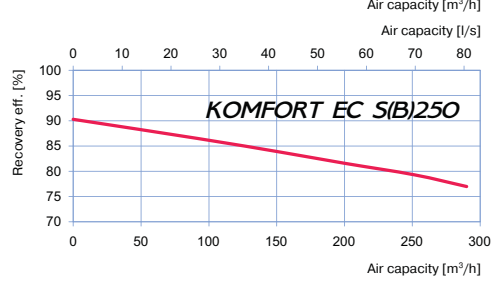
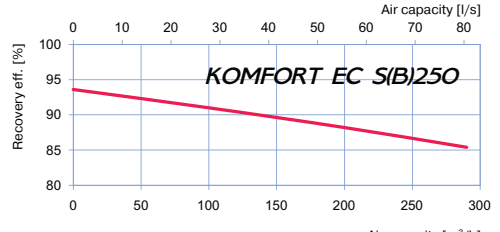
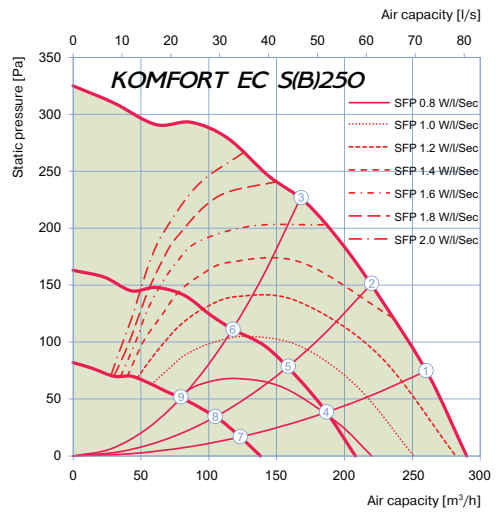
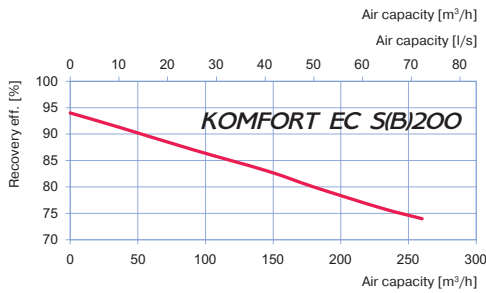
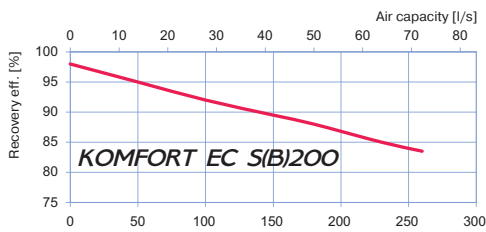
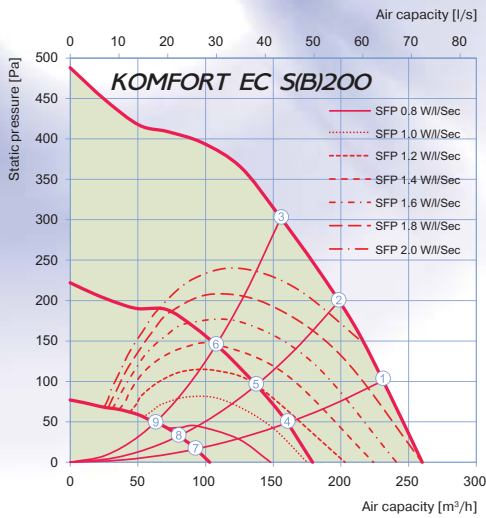
**Technical data**

Parameters	KOMFORT EC S250	KOMFORT EC S250-E	KOMFORT EC SB250	KOMFORT EC SB250-E
Unit supply [V / 50-60 Hz]	1~ 230		1~ 230	
Total unit power [W]	101		101	
Maximum unit current [A]	0,81		0,81	
Maximum air capacity [m <sup>3</sup> /h]	290		290	
RPM [min <sup>-1</sup> ]	2050		2050	
Noise level at 3m [dB(A)]	25		25	
Transported air temperature [°C]	from -25 to +60		from -25 to +60	
Casing material	polymer coated steel		polymer coated steel	
Insulation thickness	30 mm mineral wool		30 mm mineral wool	
Extract filter	G4		G4	
Supply filter	G4, F7		G4, F7	
Connected air duct diameter [mm]	Ø160		Ø160	
Weight [kg]	51		51	
Heat recovery efficiency	85 up to 94 %	77 up to 90 %	85 up to 94 %	77 up to 90 %
Heat exchanger type	counter-flow		counter-flow	
Heat exchanger material	polysterene	enthalpic membrane	polysterene	enthalpic membrane
SEC class	A+	A+	A+	A+

Point	Unit power [W]	Total sound pressure level at 3 m [dBA]	Total sound pressure level at 1 m [dBA]
	<b>KOMFORT EC S250(-E) KOMFORT EC SB250(-E)</b>		
1	96	25	35
2	91	24	34
3	77	24	34
4	42	20	30
5	39	19	29
6	34	19	29
7	21	13	23
8	19	12	22
9	17	12	22

**BRE**

Exhaust terminal configuration	Air flow rate [l/s]	Specific fan power [W/l/s]	Heat exchange efficiency [%]
Kitchen + 1 additional wet room	21	0,65	92
Kitchen + 2 additional wet rooms	29	0,68	91
Kitchen + 3 additional wet rooms	37	0,77	90
Kitchen + 4 additional wet rooms	45	0,94	89
Kitchen + 5 additional wet rooms	53	1,12	88
Kitchen + 6 additional wet rooms	61	1,35	87
Kitchen + 7 additional wet rooms	69	1,70	86



Sound pressure level, A-weighted	Hz	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA	
		Gen.	63	125	250	500	1000	2000	4000			8000
LwA to supply inlet	dBA	51	28	46	49	41	35	33	36	29		
LwA to supply outlet	dBA	60	32	52	58	47	37	36	41	35		
LwA to exhaust inlet	dBA	51	27	44	49	41	35	32	34	29		
LwA to exhaust outlet	dBA	60	31	50	59	48	36	36	41	32		
LwA to environment	dBA	44	24	40	41	34	31	27	26	22	24	34

Sound pressure level, A-weighted	Hz	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA	
		Gen.	63	125	250	500	1000	2000	4000			8000
LwA to supply inlet	dBA	52	28	46	50	41	36	33	36	29		
LwA to supply outlet	dBA	61	33	53	60	48	38	37	43	36		
LwA to exhaust inlet	dBA	52	28	46	50	42	36	33	35	30		
LwA to exhaust outlet	dBA	62	32	51	61	49	37	37	42	33		
LwA to environment	dBA	45	25	41	42	35	32	28	27	22	25	35

**Accessories**

		<b>KOMFORT EC S200(-E) S14 KOMFORT EC SB200(-E) S14</b>	<b>KOMFORT EC S200(-E) S11 KOMFORT EC SB200(-E) S11</b>	<b>KOMFORT EC S250(-E) S14 KOMFORT EC SB250(-E) S14</b>	<b>KOMFORT EC S250(-E) S11 KOMFORT EC SB250(-E) S11</b>
G3 cassette filter		FP 264x195x18 G3		-	
G4 cassette filter		-		FP 200x417x18 G4	
F7 cassette filter		-		FP 200x417x18 F7	
Internal humidity sensor		-	FS1	-	FS1
Internal humidity sensor		FS2	-	FS2	-
External CO <sub>2</sub> sensor		CD-1	-	CD-1	-
External CO <sub>2</sub> sensor with indication		CD-2	-	CD-2	-
External humidity sensor		HR-S	-	HR-S	-
Kitchen hood		DAH 251-13	-	DAH 251-13	-
Electrical preheater		-	EVH 125	-	EVH 160
Air damper		VKA 125		VKA 160	
Actuator		Belimo LF230		Belimo LF230	
Summer block		SB C6 366/240		SB C6 366/384	