

# KOMFORT EC SB RANGE

## Heat recovery air handling units



### Key Points

- Self-contained MVHR whole house heat recovery unit, designed for mounting in a loft or cupboard space.
- Provides a balanced supply of fresh, filtered, heat recovered air to the living areas, whilst simultaneously extracting stale, moist, odorous air from "wet" rooms.
- Suitable for dwellings of up to 700 m<sup>2</sup> of combined floor space.
- Dramatically reduces the effects of mould, condensation, CO<sub>2</sub> build up, VOC's, damp air and odours.
- Recovers a large percentage of the heat that would otherwise be wasted during conventional ventilation.
- Easy to use controls with optional features including pollen/allergy filters, humidity sensors and CO<sub>2</sub> monitoring.
- 5 year Blauberg warranty.



**Air flow:**  
up to 208 l/s (750 m<sup>3</sup>/h)



**Heat recovery efficiency:**  
up to 98 %



**Specific fan power (SFP)**  
Down to 0.58 w/l/s.



**Sound pressure level**  
Down to 24 dB(A).



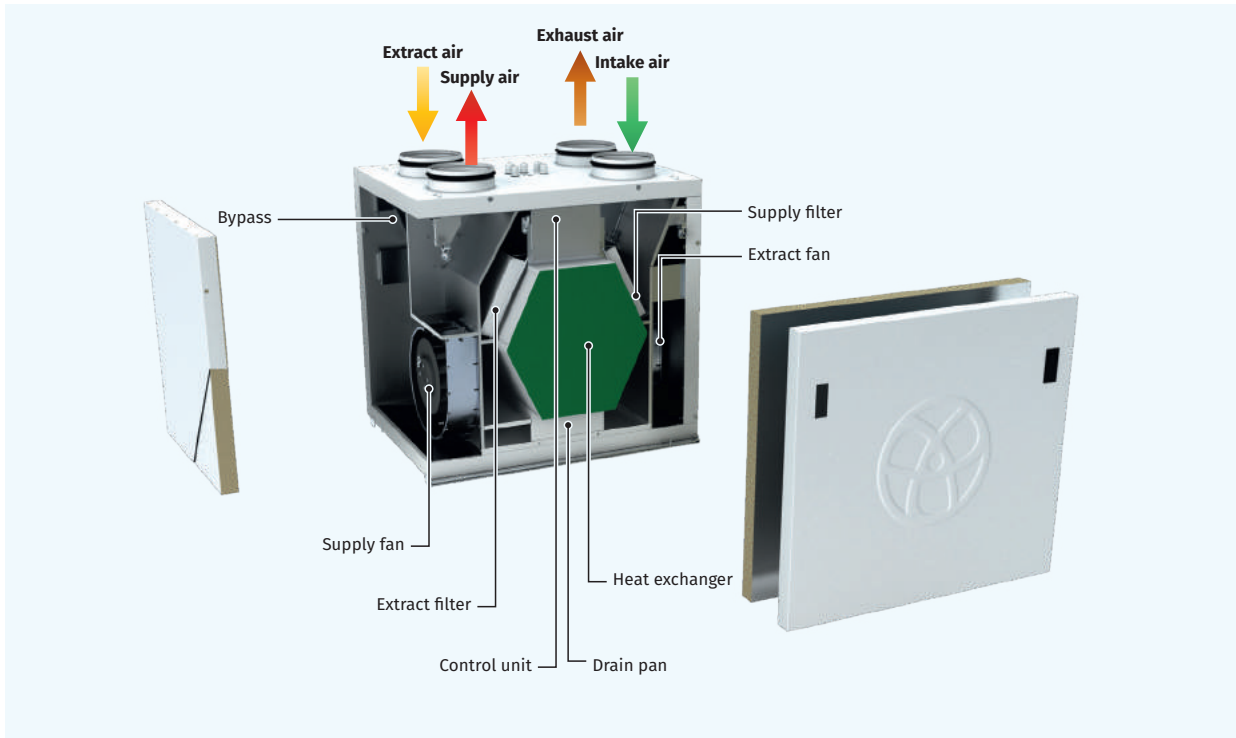
### Benefits & Features

- Supply and extract airflow rate of up to 208 l/s (750 m<sup>3</sup>/hour).
- Summer bypass overrides the heat recovery process in the warmer summer months.
- Extremely low energy consumption with an SFP (specific fan power) as low as 0.58 w/l/s.
- Standard grade G4 filter with F7 pollution/allergy filter upgrade.
- Fitted with German Blauberg, low energy EC motors for smooth, silent operation.
- Can be wired
- ERP 2016, 2018 and A+ energy rating compliant.
- Holiday, trickle, boost, and purge speed control options.
- Easy commissioning via USB connection to laptop.
- Independent BRE SAP Appendix Q listed (PCDB).
- Optional CO<sub>2</sub> and humidity monitoring.
- Lightweight construction allows easy wall mounting in cupboard or loft space.
- Built-in frost protection.
- Fault and filter change indication as standard.
- Connect to fire alarm, external airflow dampers and cooling equipment.
- Designer flush or surface mounting controls.
- Reversible mounting (left or right handed).

### General Technical Data

Parameters	KOMFORT EC SB160 S14	KOMFORT EC SB250 S14	KOMFORT EC SB350 S14	KOMFORT EC SB550 S14
Voltage [V/50-60 Hz]	1 ~ 230	1 ~ 230	1 ~ 230	1 ~ 230
Power [W]	51	101	170	333
Current [A]	0.4	0.81	1.3	2.3
Maximum air flow l/s (m <sup>3</sup> /h)	50 (180)	81 (290)	115 (415)	208 (750)
RPM [min <sup>-1</sup> ]	3770	2050	3200	3230
Sound pressure level at 3 m [dBA]	24	25	28	26
Transported air temperature [°C]	-25...+60	-25...+60	-25...+60	-25...+60
Casing material	Polymer coated steel	Polymer coated steel	Polymer coated steel	Polymer coated steel
Insulation	20 mm Mineral wool	20 mm Mineral wool	40 mm Mineral wool	40 mm Mineral wool
Extract filter	G4	G4	G4	G4
Supply filter	F7 (Option: G4)	F7 (Option: G4)	F7 (Option: G4)	F7 (Option: G4)
Connected air duct diameter [mm]	125	160	160	200
Weight [kg]	44	51	63	83
Heat recovery efficiency [%]	88-98	85-94	80-89	85-88
Heat exchanger type	Counter-flow	Counter-flow	Counter-flow	Counter-flow
Heat exchanger material	Polystyrene	Polystyrene	Polystyrene	Polystyrene
Mounting type	Wall/Floor	Wall/Floor	Wall/Floor	Wall/Floor
SEC class for S14 automation	A+	A+	A+	A+
ErP	2016, 2018	2016, 2018	2016, 2018	2016, 2018

**General Arrangement**



**Design**

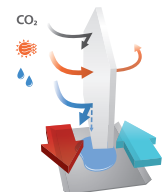
- The casing is made of high-quality, polymer coated steel, internally filled with a heat- and sound-insulated layer of mineral wool.
- The spigots are located at the top of the unit, and are rubber sealed for airtight connection to the air ducts.
- The units are equipped with either hinged service panel for easy maintenance operations or separate access for quick filter replacement, depending on the model.

**Air filtration**

- The built-in F7 supply filter and G4 extract filter provide efficient air filtration.
- KOMFORT EC SB160 S14 units are equipped with G3 supply and extract filters.
- KOMFORT EC SB250 S14 units are equipped with G4 and F7 filters for supply and G4 filters for extract.

**Fans**

- Highly-efficient EC motors and centrifugal impellers are used for air supply and exhaust.
- EC motors have the best power consumption to air flow ratio and meet the latest demands concerning energy saving and high-efficient ventilation.
- Dynamically balanced impellers.
- EC motors are fully speed controllable.



All **KOMFORT EC SB** units have a counter-flow polystyrene heat exchanger that maximises heat recovery efficiency.

**Control Functions**

Functions	S14
Control Functions	
Unit on/off	✓
Holiday, trickle, boost & purge speed options	✓
Filter change alarm	✓
Alarm failure indication	✓
Summer bypass control	Manual
Control cable (10m)	✓
UK Plug & lead	✓
Fan speed adjustment from 0 to 100 %	✓
<b>Additional equipment available</b>	
Internal humidity sensor	Optional
Fire contacts (NC)	✓
Air damper contacts	✓
F8 Pollen/ Pollution/ Allergy filter	Optional



# KOMFORT EC SB160 S14

**Air flow:**  
up to 50 l/s (180 m³/h)

**Specific fan power (SFP)**  
Down to 0.8 w/l/s.

**Heat recovery efficiency:**  
up to 98 %

**Sound pressure level**  
Down to 24 dB(A).



## SAP Appendix Q Performance - PCDB (Product Characteristic Database)



### SAP Results 2005

Exhaust Terminal Configuration	Fan Speed Setting	Air Flow Rate (l/s)	Specific Fan Power (w/l/s)	Heat Exchange Efficiency (%)
Kitchen + 1 additional wet room	Supply Extract	15.0	(Pending)	(Pending)
Kitchen + 2 additional wet rooms	Supply Extract	21.0	(Pending)	(Pending)
Kitchen + 3 additional wet rooms	Supply Extract	27.0	(Pending)	(Pending)
Kitchen + 4 additional wet rooms	Supply Extract	33.0	(Pending)	(Pending)
Kitchen + 5 additional wet rooms	Supply Extract	39.0	(Pending)	(Pending)
Kitchen + 6 additional wet rooms	Supply Extract	45.0	(Pending)	(Pending)
Kitchen + 7 additional wet rooms	Supply Extract	51.0	(Pending)	(Pending)

### SAP Results 2012

Exhaust Terminal Configuration	Fan Speed Setting	Air Flow Rate (l/s)	Specific Fan Power (w/l/s)	Heat Exchange Efficiency (%)
Kitchen + 1 additional wet room	Supply Extract	21.0	(Pending)	(Pending)
Kitchen + 2 additional wet rooms	Supply Extract	29.0	(Pending)	(Pending)
Kitchen + 3 additional wet rooms	Supply Extract	37.0	(Pending)	(Pending)
Kitchen + 4 additional wet rooms	Supply Extract	45.0	(Pending)	(Pending)

## KOMFORT EC SB160 S14

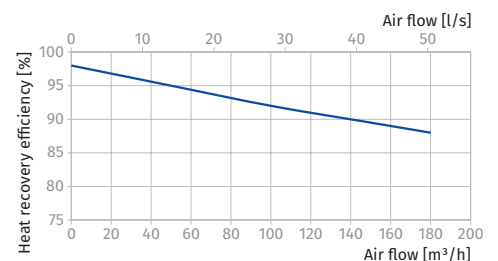
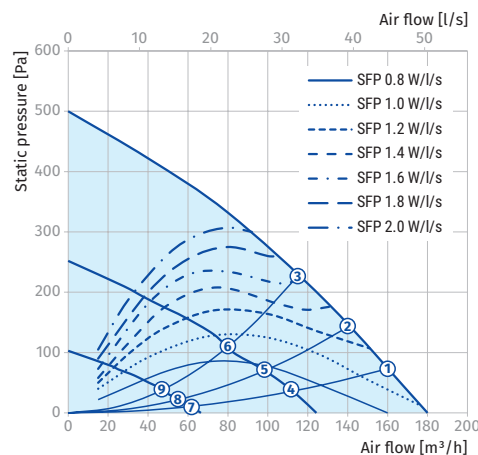
Sound power level, A-filter applied.

Sound power level, A-weighted	General	Octave frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
		63	125	250	500	1000	2000	4000	8000		
LWA to supply air inlet [dBA]	52	28	46	49	41	35	33	36	29		
LWA to supply air outlet [dBA]	60	32	52	58	47	37	36	41	35		
LWA to exhaust air inlet [dBA]	51	27	45	49	41	36	32	35	29		
LWA to exhaust air outlet [dBA]	60	31	50	59	48	36	36	41	32		
LWA surrounding [dBA]	45	25	41	42	34	31	28	27	22	24	34

\* Data provided for point 1 of the air flow diagram

Total power. Total sound pressure level.

Point	Total power of the unit [W]	Sound pressure level at 3m (1m) [dBA]
1	50	24 (34)
2	51	23 (33)
3	50	23 (33)
4	22	20 (30)
5	22	20 (30)
6	21	20 (30)
7	9	13 (23)
8	9	13 (23)
9	9	13 (23)



Calculation of the exhaust air temperature:

$$t = t_{\text{outd}} + k_{\text{hr}} \times (t_{\text{extr}} - t_{\text{outd}}) / 100,$$

where

- $t_{\text{outd}}$  – outdoor air temperature [°C],
- $t_{\text{extr}}$  – extract air temperature [°C],
- $k_{\text{hr}}$  – heat exchanger efficiency (according to the diagram) [%]

# KOMFORT EC SB250 S14

**Air flow:**  
up to 81 l/s (290 m³/h)

**Specific fan power (SFP)**  
Down to 0.8 w/l/s.

**Heat recovery efficiency:**  
up to 94 %

**Sound pressure level**  
Down to 25 dB(A).



## SAP Appendix Q Performance - PCDB (Product Characteristic Database)



### SAP Results 2005

Exhaust Terminal Configuration	Fan Speed Setting	Air Flow Rate (l/s)	Specific Fan Power (w/l/s)	Heat Exchange Efficiency (%)
Kitchen + 1 additional wet room	Supply Extract	15.0	(Pending)	(Pending)
Kitchen + 2 additional wet rooms	Supply Extract	21.0	(Pending)	(Pending)
Kitchen + 3 additional wet rooms	Supply Extract	27.0	(Pending)	(Pending)
Kitchen + 4 additional wet rooms	Supply Extract	33.0	(Pending)	(Pending)
Kitchen + 5 additional wet rooms	Supply Extract	39.0	(Pending)	(Pending)
Kitchen + 6 additional wet rooms	Supply Extract	45.0	(Pending)	(Pending)
Kitchen + 7 additional wet rooms	Supply Extract	51.0	(Pending)	(Pending)

### SAP Results 2012

Exhaust Terminal Configuration	Fan Speed Setting	Air Flow Rate (l/s)	Specific Fan Power (w/l/s)	Heat Exchange Efficiency (%)
Kitchen + 1 additional wet room	Supply Extract	21.0	(Pending)	(Pending)
Kitchen + 2 additional wet rooms	Supply Extract	29.0	(Pending)	(Pending)
Kitchen + 3 additional wet rooms	Supply Extract	37.0	(Pending)	(Pending)
Kitchen + 4 additional wet rooms	Supply Extract	45.0	(Pending)	(Pending)

## KOMFORT EC SB250 S14

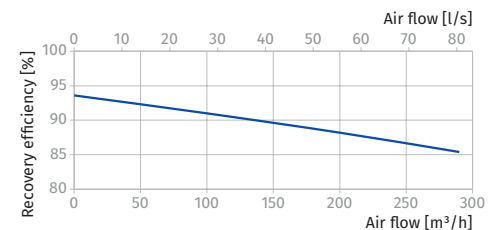
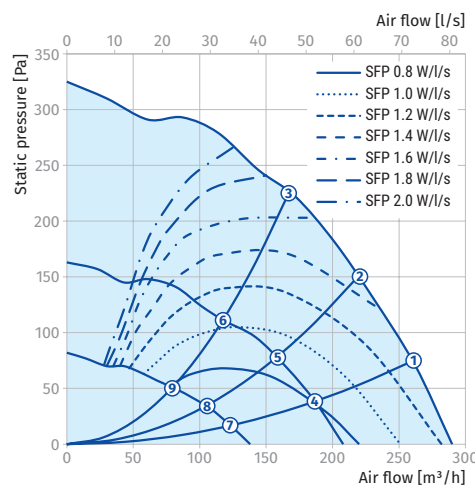
Sound power level, A-filter applied.

Sound power level, A-weighted	General	Octave frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
		63	125	250	500	1000	2000	4000	8000		
L <sub>WA</sub> to supply air inlet [dBA]	52	28	46	50	41	36	33	36	29		
L <sub>WA</sub> to supply air outlet [dBA]	61	33	53	60	48	38	37	43	36		
L <sub>WA</sub> to exhaust air inlet [dBA]	52	28	46	50	42	36	33	35	30		
L <sub>WA</sub> to exhaust air outlet [dBA]	62	32	51	61	49	37	37	42	33		
L <sub>WA</sub> surrounding [dBA]	45	25	41	42	35	32	28	27	22	24	35

\* Data provided for point 1 of the air flow diagram

Total power. Total sound pressure level.

Point	Total power of the unit [W]	Sound pressure level at 3 m (1m) [dBA]
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)



Calculation of the exhaust air temperature:

$$t = t_{\text{outd}} + k_{\text{hr}} \times (t_{\text{extr}} - t_{\text{outd}}) / 100,$$

where

$t_{\text{outd}}$  – outdoor air temperature [°C],

$t_{\text{extr}}$  – extract air temperature [°C],

$k_{\text{hr}}$  – heat exchanger efficiency (according to the diagram) [%]

# KOMFORT EC SB350 S14

**Air flow:**  
up to 115 l/s (415 m<sup>3</sup>/h)

**Specific fan power (SFP)**  
Down to 0.8 w/l/s.

**Heat recovery efficiency:**  
up to 89 %

**Sound pressure level**  
Down to 28 dB(A).



## SAP Appendix Q Performance - PCDB (Product Characteristic Database)



### SAP Results 2005

Exhaust Terminal Configuration	Fan Speed Setting	Air Flow Rate (l/s)	Specific Fan Power (w/l/s)	Heat Exchange Efficiency (%)
Kitchen + 1 additional wet room	Supply 15% Extract 15%	15.0	0.76	85
Kitchen + 2 additional wet rooms	Supply 18% Extract 19%	21.0	0.61	85
Kitchen + 3 additional wet rooms	Supply 24% Extract 25%	27.0	0.58	85
Kitchen + 4 additional wet rooms	Supply 28% Extract 30%	33.0	0.58	84
Kitchen + 5 additional wet rooms	Supply 33% Extract 35%	39.0	0.62	84
Kitchen + 6 additional wet rooms	Supply 39% Extract 42%	45.0	0.70	83
Kitchen + 7 additional wet rooms	Supply 44% Extract 50%	51.0	0.79	83

### SAP Results 2012

Exhaust Terminal Configuration	Fan Speed Setting	Air Flow Rate (l/s)	Specific Fan Power (w/l/s)	Heat Exchange Efficiency (%)
Kitchen + 1 additional wet room	Supply 20% Extract 22%	21.0	0.66	85
Kitchen + 2 additional wet rooms	Supply 26% Extract 28%	29.0	0.6	84
Kitchen + 3 additional wet rooms	Supply 32% Extract 34%	37.0	0.63	84
Kitchen + 4 additional wet rooms	Supply 39% Extract 43%	45.0	0.71	83
Kitchen + 5 additional wet rooms	Supply 47% Extract 51%	53.0	0.82	83
Kitchen + 6 additional wet rooms	Supply 56% Extract 59%	61.0	0.97	83
Kitchen + 7 additional wet rooms	Supply 64% Extract 65%	69.0	1.16	82

## KOMFORT EC SB350 S14

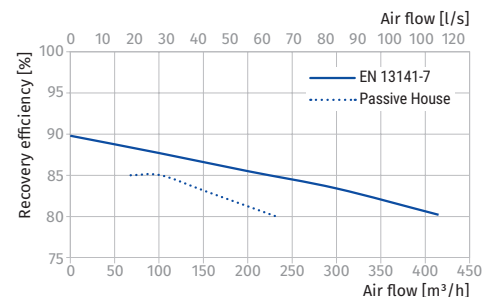
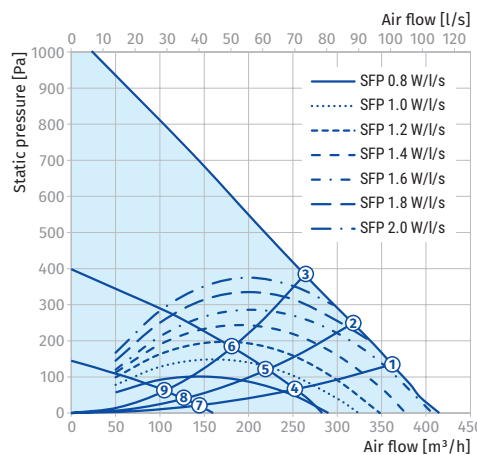
Sound power level, A-filter applied.

Sound power level, A-weighted	General	Octave frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
		63	125	250	500	1000	2000	4000	8000		
L <sub>WA</sub> to supply air inlet [dBA]	56	50	46	53	45	39	34	36	32		
L <sub>WA</sub> to supply air outlet [dBA]	64	56	52	63	52	39	38	43	35		
L <sub>WA</sub> to exhaust air inlet [dBA]	56	52	46	53	45	38	34	36	31		
L <sub>WA</sub> to exhaust air outlet [dBA]	64	58	53	62	51	40	38	42	33		
L <sub>WA</sub> surrounding [dBA]	49	45	40	44	38	33	29	27	22	28	38

\* Data provided for point 1 of the air flow diagram

Total power. Total sound pressure level.

Point	Total power of the unit [W]	Sound pressure level at 3m (1m) [dBA]
1	165	28 (38)
2	165	27 (37)
3	165	27 (37)
4	63	23 (33)
5	62	22 (32)
6	60	22 (32)
7	21	15 (25)
8	20	14 (24)
9	20	14 (24)



Calculation of the exhaust air temperature:

$$t = t_{\text{outd}} + k_{\text{hr}} \times (t_{\text{extr}} - t_{\text{outd}}) / 100,$$

where

- t<sub>outd</sub> – outdoor air temperature [°C],
- t<sub>extr</sub> – extract air temperature [°C],
- k<sub>hr</sub> – heat exchanger efficiency (according to the diagram) [%]

# KOMFORT EC SB550 S14



**Air flow:**  
up to 208 l/s (750 m<sup>3</sup>/h)



**Specific fan power (SFP)**  
Down to 0.8 w/l/s.



**Heat recovery efficiency:**  
up to 88 %



**Sound pressure level**  
Down to 26 dB(A).



## SAP Appendix Q Performance - PCDB (Product Characteristic Database)



### SAP Results 2005

Exhaust Terminal Configuration	Fan Speed Setting	Air Flow Rate (l/s)	Specific Fan Power (w/l/s)	Heat Exchange Efficiency (%)
Kitchen + 1 additional wet room	Supply 14% Extract 16%	15.0	0.72	81
Kitchen + 2 additional wet rooms	Supply 17% Extract 19%	21.0	0.71	81
Kitchen + 3 additional wet rooms	Supply 22% Extract 23%	27.0	0.77	80
Kitchen + 4 additional wet rooms	Supply 26% Extract 28%	33.0	0.89	80
Kitchen + 5 additional wet rooms	Supply 30% Extract 32%	39.0	1.07	80
Kitchen + 6 additional wet rooms	Supply 33% Extract 36%	45.0	1.26	79
Kitchen + 7 additional wet rooms	Supply 37% Extract 41%	51.0	1.51	79

### SAP Results 2012

Exhaust Terminal Configuration	Fan Speed Setting	Air Flow Rate (l/s)	Specific Fan Power (w/l/s)	Heat Exchange Efficiency (%)
Kitchen + 1 additional wet room	Supply 19% Extract 28%	21.0	0.71	84
Kitchen + 2 additional wet rooms	Supply 23% Extract 26%	29.0	0.65	85
Kitchen + 3 additional wet rooms	Supply 28% Extract 31%	37.0	0.60	85
Kitchen + 4 additional wet rooms	Supply 33% Extract 37%	45.0	0.70	84
Kitchen + 5 additional wet rooms	Supply 39% Extract 42%	53.0	0.88	85
Kitchen + 6 additional wet rooms	Supply 44% Extract 48%	61.0	1.02	85
Kitchen + 7 additional wet rooms	Supply 49% Extract 55%	69.0	1.2	84

## KOMFORT EC SB550 S14

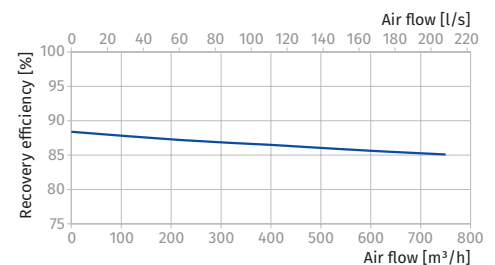
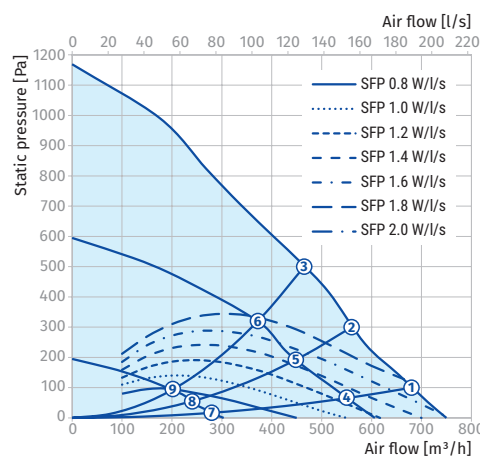
Sound power level, A-filter applied.

Sound power level, A-weighted	General	Octave frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
		63	125	250	500	1000	2000	4000	8000		
L <sub>WA</sub> to supply air inlet [dBA]	54	47	42	50	44	41	39	39	31		
L <sub>WA</sub> to supply air outlet [dBA]	69	63	56	65	59	55	50	52	46		
L <sub>WA</sub> to exhaust air inlet [dBA]	54	47	41	51	43	33	31	34	30		
L <sub>WA</sub> to exhaust air outlet [dBA]	65	61	61	61	55	46	43	46	40		
L <sub>WA</sub> surrounding [dBA]	47	42	42	43	36	31	28	26	21	26	36

\* Data provided for point 1 of the air flow diagram

Total power. Total sound pressure level.

Point	Total power of the unit [W]	Sound pressure level at 3 m (1m) [dBA]
1	332	26 (36)
2	331	26 (36)
3	332	25 (35)
4	133	24 (34)
5	129	24 (34)
6	126	22 (32)
7	32	15 (25)
8	31	14 (24)
9	30	13 (23)



Calculation of the exhaust air temperature:

$$t = t_{\text{outd}} + k_{\text{hr}} \times (t_{\text{extr}} - t_{\text{outd}}) / 100,$$

where

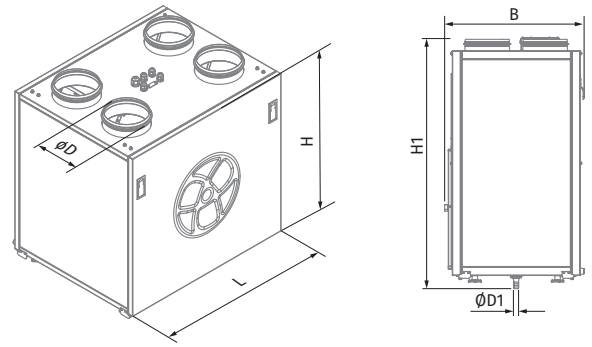
$t_{\text{outd}}$  – outdoor air temperature [°C],

$t_{\text{extr}}$  – extract air temperature [°C],

$k_{\text{hr}}$  – heat exchanger efficiency (according to the diagram) [%]

### Overall dimensions [mm]

Model	D	D1	B	H	H1	L
KOMFORT EC SB160 S14	124	18	348	580	690	600
KOMFORT EC SB250 S14	159	18	489	788	881	567
KOMFORT EC SB350 S14	159	18	610	675	758	730
KOMFORT EC SB550 S14	198	18	741	675	758	828



### Energy Rating

KOMFORT EC SB160 S14	KOMFORT EC SB250 S14	KOMFORT EC SB350 S14	KOMFORT EC SB550 S14



- Meets Ecodesign standards.
- ErP 2016 compliant.



- Meets Ecodesign standards.
- ErP 2018 compliant.

### Accessories

	KOMFORT EC S5B270 S14		KOMFORT EC S5B270 S14	
G4 Panel Filter		FP 182x254x18 G4 (Fitted as standard)	External CO <sub>2</sub> Sensor	CD-2
F8 Panel Filter		FP 182x254x18 F8	External Humidity Sensor	HR-S
Internal Humidity Sensor		FS2	Silencer	SD-125
External CO <sub>2</sub> Sensor with visual Indication		CD-1	Electric Actuator	LF230