

KOMFORT Roto EC S(E)

Wall-mounted heat recovery air handling units

Features

- o Air handling units for efficient supply and exhaust ventilation in flats, houses, cottages and other buildings.
- o For arranging of controlled energy saving ventilation systems.
- o Heat recovery is provided by the rotary heat exchanger and minimizes ventilation heat losses.
- o Controllable air exchange for creating the best suitable indoor microclimate.
- o Compatible with round Ø125, 160 and 200 mm air ducts.
- o Additional spigot for kitchen hood air duct connection.



Air flow:
up to 670 m³/h
186 l/s



Heat recovery efficiency:
up to 92 %



NEW



Design

- o The fan casing is made of polymer coated steel and is heat- and sound-insulated with mineral wool.
- o The insulation of **KOMFORT Roto EC S2(E) 200** is 20 mm, for **KOMFORT Roto EC S(E)400** and **600** is 40 mm.
- o **KOMFORT Roto EC S:** model without electric heater.
- o **KOMFORT Roto EC SE:** model with electric heater.

Fans

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

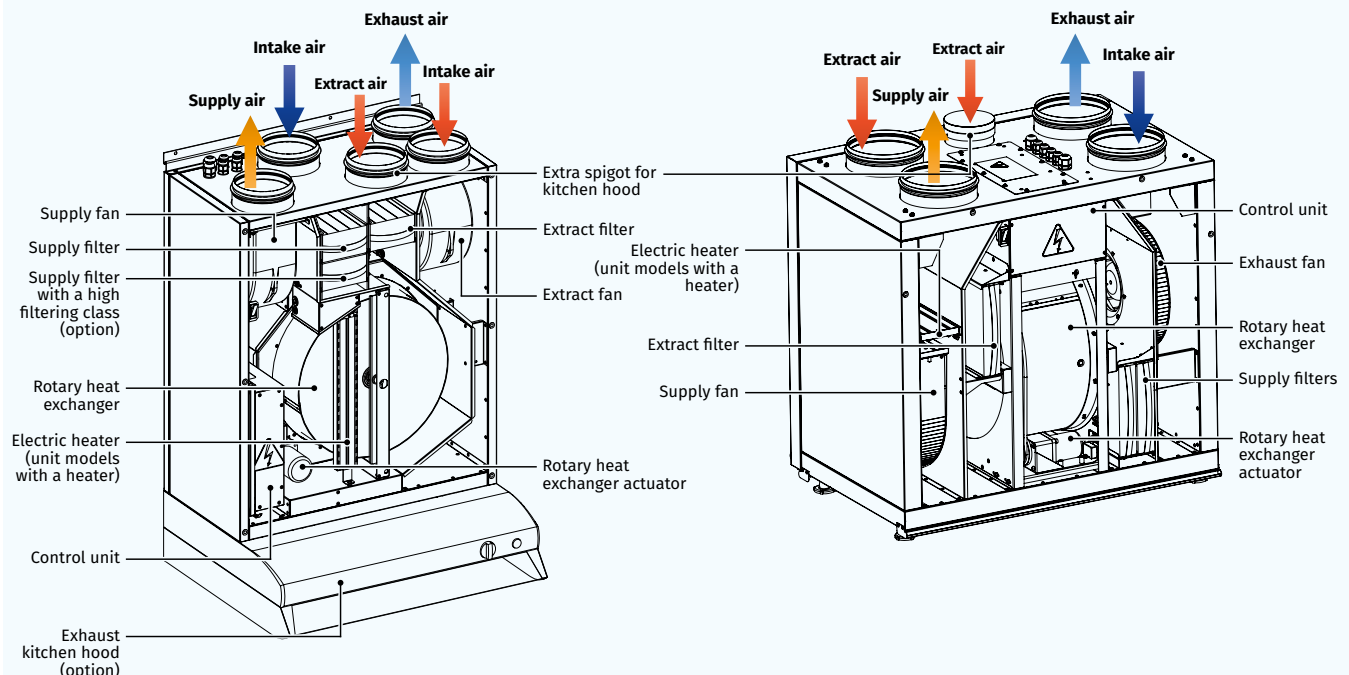
Kitchen hood

- o All units are equipped with a 5th spigot for connection to the kitchen hood air duct.
- o The distinctive feature of **KOMFORT Roto EC S2(E) 200** is the possibility to connect the kitchen hood DAH 251-13 (ordered separately) directly to the unit.



KOMFORT ROTO EC S2(E) 200

**KOMFORT ROTO EC S(E) 400
KOMFORT ROTO EC S(E) 600**



Air filtration

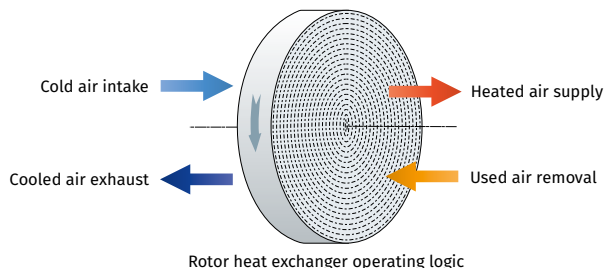
- Two built-in G4 and F7 filters provide efficient supply air filtration. The G4 filter is used for extract air filtration.

Heater

- The **KOMFORT Roto EC S(2)E** units are equipped with the electric heater. If the necessary temperature level of the supply air cannot be achieved through heat recovery, the heater turns on automatically and heats the air supplied to the premise. The heaters incorporate protective measures securing the safe unit operation.

Heat recovery

- The rotary heat exchanger is a short rotating cylinder filled with aluminium band layered in such a way that both supply and exhaust air flows pass through it. The band the heat exchanger is made of first contacts the supply air flow and then the exhaust air flow. As a result it is heated and cooled in turns transferring heat and moisture from the warm air flow to the cold one. The advantages of the rotary heat exchanger compared to plate heat exchangers are the absence of condensate, comfortable humidity level maintenance and low freezing danger.



Control and automation

- The **KOMFORT Roto EC S2(E) S17** units are equipped with the thTune control panel with an LCD display.
- The **KOMFORT Roto EC S2(E) S18** units are equipped with the pGD1 control panel with an LCD display.
- The thTune and pGD1 control panels are interchangeable.
- The standard delivery set includes a 10 m cable for connection to the control panel.
- Automation functions:**
 - Turning the unit on/off.
 - Turning on the operation modes: Automatic mode, Ventilation mode (can be enabled only from the pGD1 control panel).
 - Maintaining a pre-set room temperature by activating/deactivating the rotary heat exchanger.
 - Automatic reduction of the supply and exhaust ventilation air flow rate to obtain the user-defined minimum allowable supply air temperature.
 - Supply and exhaust fan control.
 - Unit operation according to a pre-programmed schedule.
 - Controlling the electric actuators of the supply and exhaust air dampers.
 - System shutdown on signal from fire fighting system.
 - When connecting external electrical heating elements and/or CCU to the unit the activation signal controls their operation if cooling/heating is required.
 - Filter contamination control by the number of operating hours.



Mounting

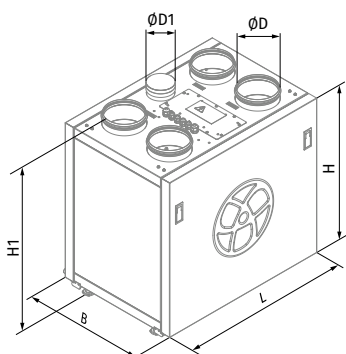
- The units are designed for wall mounting.
- The access for unit and filter maintenance is available from the front panel.
- During mounting stage the front and the back pan-els can be reversed providing either left-handed or right-handed unit mounting.

Designation key

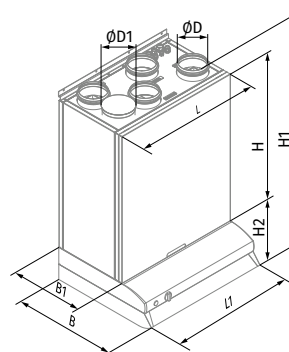
Serie	Unit type	Motor type	Spigot modification	Insulation	Heater type	Nominal air flow [m³/h]	Control
KOMFORT	Roto: rotary heat exchanger	EC: electronically commutated motor	S: vertical spigot orientation	_ : 40 mm 2: 20 mm	_ : no heater E: electric heater	200; 400; 600	S17: thTune control panel S18: pGD1 control panel

Overall dimensions [mm]

Model	D	D1	B	B1	H	H1	H2	L	L1
KOMFORT Roto EC S(E)400	159	99	528	-	755	675	-	780	-
KOMFORT Roto EC S(E)600	199	124	628	-	852	772	-	819	-
KOMFORT Roto EC S2(E) 200	124	124	510	347	901	700	135	598	600



KOMFORT ROTO EC S(E) 400
KOMFORT ROTO EC S(E) 600



KOMFORT ROTO EC S2(E) 200

Technical data

Parameters	KOMFORT Roto EC S2 200	KOMFORT Roto EC S2E200
Voltage [V / 50-60 Hz]	1~ 230	1~ 230
Max. unit power without electric heater [W]	80	80
Max. unit current without electric heater [A]	0.6	0.6
Max. unit power with electric heater [W]	-	780
Max. unit current with electric heater [A]	-	3.4
Maximum air flow [m³/h (l/s)]	200 (56)	200 (56)
RPM [min⁻¹]	1800	1800
Sound pressure level at 3 m [dBA]	27	27
Transported air temperature [°C]	-25...+60	-25...+60
Casing material	polymer coated steel	polymer coated steel
Insulation	20 mm. mineral wool	20 mm. mineral wool
Extract filter	G4	G4
Supply filter	G4, F7	G4, F7
Connected air duct diameter [mm]	125	125
Weight [kg]	47	48
Heat recovery efficiency [%]*	76-92	76-92
Heat exchanger type	rotary	rotary
Heat exchanger material	aluminum	aluminum
SEC class	A	A
ErP	2016, 2018	2016, 2018

* Heat recovery efficiency is specified in compliance with EN 13141-7.

KOMFORT ROTO EC S2(E)200

Sound power level, A-filter applied.

Sound power level, A-weighted	General	Octave frequency band, Hz								LpA, 3 m dB(A)	LpA, 1 m dB(A)
		63	125	250	500	1000	2000	4000	8000		
LWA to supply inlet [dBA]	74	53	59	69	71	66	63	54	45		
LWA to supply outlet [dBA]	61	46	45	59	56	46	38	25	13		
LWA to exhaust inlet [dBA]	66	48	59	67	66	65	60	53	53		
LWA to exhaust outlet [dBA]	60	42	53	58	55	44	34	26	24		
LWA to environment [dBA]	47	26	37	45	42	34	34	28	20	27	37

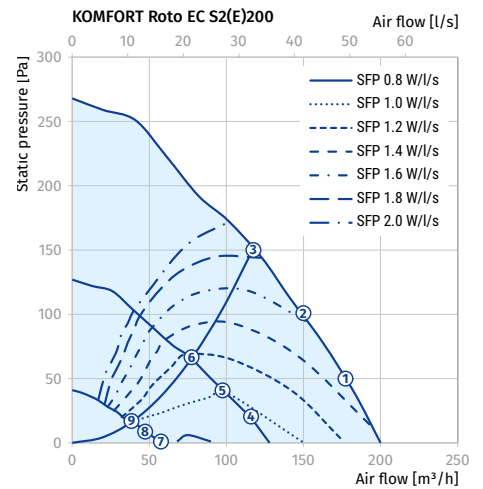
* Data provided for point 1 of the air flow diagram

KOMFORT ROTO EC S2(E)200

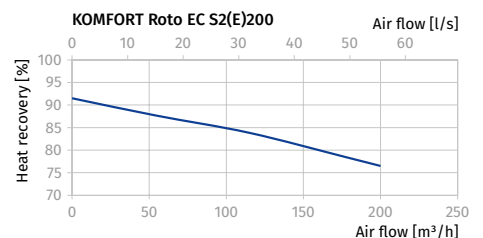
Total power. Total sound pressure level.

Point	Total power of the unit [W]	Sound pressure level at 3 m (1m) [dBA]
1	68	27 (37)
2	68	26 (36)
3	68	26 (36)
4	26	21 (31)
5	26	21 (31)
6	24	20 (30)
7	12	19 (29)
8	12	19 (29)
9	10	17 (27)

KOMFORT Roto EC S2(E)200



KOMFORT Roto EC S2(E)200



Calculation of the exhaust air temperature:

$$t = t_{out} + k_{hre} \times (t_{exh} - t_{out}) / 100,$$

where

t_{out} – outdoor air temperature [°C],

t_{exh} – extract air temperature [°C],

k_{hre} – heat recovery efficiency (according to the diagram) [%]

Parameters	KOMFORT Roto EC S400	KOMFORT Roto EC SE400
Voltage [V / 50-60 Hz]	1~ 230	1~ 230
Max. unit power without electric heater [W]	175	175
Max. unit current without electric heater [A]	1.3	1.3
Max. unit power with electric heater [W]	-	1600
Max. unit current with electric heater [A]	-	6.9
Maximum air flow [m³/h (l/s)]	440 (122)	440 (122)
RPM [min ⁻¹]	3200	3200
Sound pressure level at 3 m [dBA]	33	33
Transported air temperature [°C]	-25...+60	-25...+60
Casing material	polymer coated steel	polymer coated steel
Insulation	40 mm, mineral wool	40 mm, mineral wool
Extract filter	G4	G4
Supply filter	G4, F7	G4, F7
Connected air duct diameter [mm]	160	160
Weight [kg]	81	82
Heat recovery efficiency [%]*	76-85	76-85
Heat exchanger type	rotary	rotary
Heat exchanger material	aluminum	aluminum
SEC class	A	A
ErP	2016, 2018	2016, 2018

* Heat recovery efficiency is specified in compliance with EN 13141-7.

KOMFORT ROTO EC S(E)400

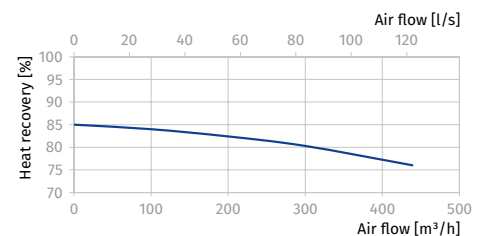
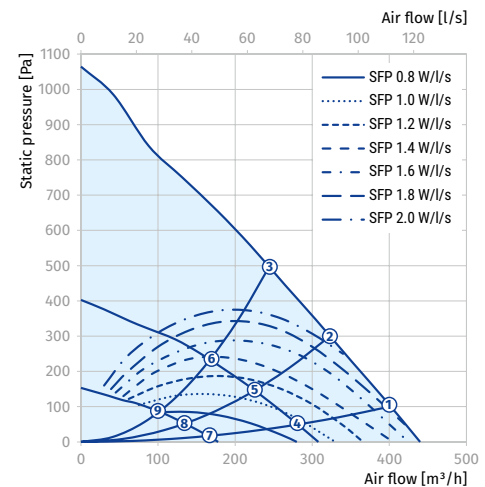
Sound power level, A-filter applied.

Sound power level, A-weighted	General	Octave frequency band, Hz								LpA, 3 m dB(A)	LpA, 1 m dB(A)
		63	125	250	500	1000	2000	4000	8000		
L _{WA} to supply inlet [dBA]	59	27	46	54	55	53	48	44	35		
L _{WA} to supply outlet [dBA]	60	27	46	54	55	53	49	44	35		
L _{WA} to exhaust inlet [dBA]	55	25	41	50	51	44	42	39	30		
L _{WA} to exhaust outlet [dBA]	55	26	41	51	51	44	42	39	31		
L _{WA} to environment [dBA]	54	18	36	47	49	48	43	37	33	33	43

* 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	170	33 (43)
2	170	33 (43)
3	170	32 (42)
4	68	31 (41)
5	65	28 (38)
6	59	27 (37)
7	26	23 (33)
8	25	21 (31)
9	25	19 (29)



Parameters	KOMFORT Roto EC S600	KOMFORT Roto EC SE600
Voltage [V / 50-60 Hz]	1~ 230	1~ 230
Max. unit power without electric heater [W]	380	380
Max. unit power with electric heater [W]	-	3200
Max. unit current without electric heater [A]	2.5	2.5
Max. unit current with electric heater [A]	-	13.9
Maximum air flow [m³/h (l/s)]	670 (186)	670 (186)
RPM [min⁻¹]	3230	3230
Sound pressure level at 3 m [dBA]	35	35
Transported air temperature [°C]	-25...+60	-25...+60
Casing material	polymer coated steel	polymer coated steel
Insulation	40 mm, mineral wool	40 mm, mineral wool
Extract filter	G4	G4
Supply filter	G4, F7	G4, F7
Connected air duct diameter [mm]	200	200
Weight [kg]	90	92
Heat recovery efficiency [%]*	81-89	81-89
Heat exchanger type	rotary	rotary
Heat exchanger material	aluminum	aluminum
SEC class	A	A
ErP	2016, 2018	2016, 2018

* Heat recovery efficiency is specified in compliance with EN 13141-7.

KOMFORT ROTO EC S(E)600

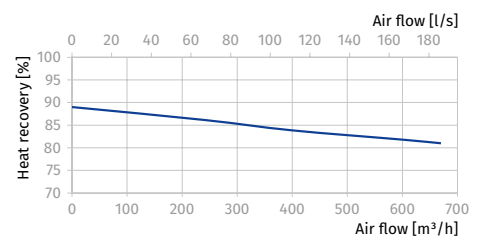
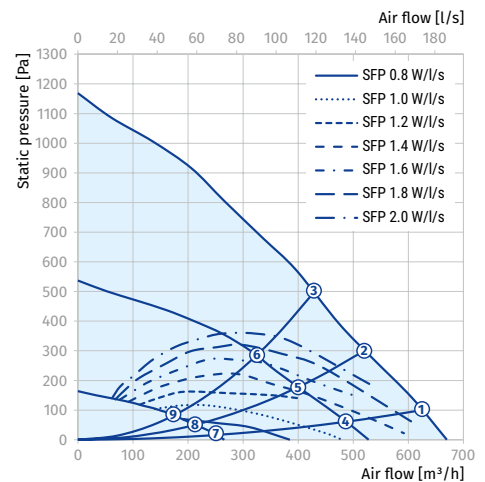
Sound power level, A-filter applied.

Sound power level, A-weighted	General	Octave frequency band [Hz]								LpA, 3 m dB(A)	LpA, 1 m dB(A)
		63	125	250	500	1000	2000	4000	8000		
L _{wA} to supply inlet [dBA]	82	65	63	65	80	74	74	68	64		
L _{wA} to supply outlet [dBA]	66	60	56	55	63	58	49	40	33		
L _{wA} to exhaust inlet [dBA]	82	64	67	71	81	77	79	75	67		
L _{wA} to exhaust outlet [dBA]	70	51	64	62	68	60	60	50	42		
L _{wA} to environment [dBA]	56	39	47	46	54	46	46	44	40	35	45















* 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	375	35 (45)
2	375	35 (45)
3	375	34 (44)
4	163	30 (40)
5	155	29 (39)
6	151	28 (38)
7	43	27 (37)
8	42	23 (33)
9	39	23 (33)



Accessories

		KOMFORT Roto EC S2(E)200	KOMFORT Roto EC S(E)400	KOMFORT Roto EC S(E)600
G4 panel filter		FP 103x284x60 G4	FP 196x436x40 G4	FP 220x536x40 G4
F7 panel filter		FP 103x284x60 F7	FP 196x436x40 F7	FP 220x536x40 F7
External VOC sensor		DPWQ30600	DPWQ30600	DPWQ30600
External CO2 sensor		DPWQ40200	DPWQ40200	DPWQ40200
External humidity sensor		DPWC11200	DPWC11200	DPWC11200
External humidity sensor		HR-S	HR-S	HR-S
Internal humidity sensor		FS2	FS2	FS2
Kitchen hood		DAH 251-13	DAH 251-13	DAH 251-13
Silencer		SD 125	SD 160	SD 200
Silencer		SDF 125	SDF 160	SDF 200
Backdraft air damper		VRV 125	VRV 160	VRV 200
Air damper		VKA 125	VKA 160	VKA 200
Electric actuator		LF230	LF230	LF230
Electric actuator		TF230	TF230	TF230