

KOMFORT RoTo EC SE

Heat recovery air handling units

Features

- Air handling units for efficient supply and exhaust ventilation in flats, houses, cottages and other buildings.
- Heat recovery is provided by the rotary heat exchanger and minimizes ventilation heat losses.
- Controllable air exchange for creating the best suitable indoor microclimate.
- Compatible with round Ø 125, 160 and 200 mm air ducts.
- Additional spigot for kitchen hood air duct connection.



Air flow:
up to 670 m³/h
186 l/s



Heat recovery efficiency:
up to 92 %



Design

- The fan casing is made of galvanized steel, internally filled with mineral wool layer for heat and sound insulation.
- The spigots are located at the top of the unit and are rubber sealed for airtight connection to the air ducts.
- The insulation of **KOMFORT Roto EC SE 280, 400** and **600** is 40 mm.
- **KOMFORT Roto EC S(2)E**: model with electric heater.

Fans

- High-efficient external rotor EC motors and centrifugal impellers with forward curved blades are used for air supply and exhaust.

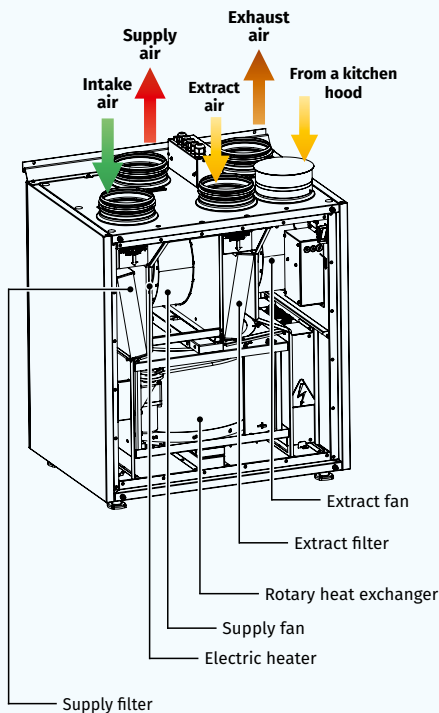
- EC motors have the best power consumption to air flow ratio and meet the latest demands concerning energy saving and high-efficient ventilation.
- EC motors are featured with high performance, low noise level and totally controllable speed range.
- Dynamically balanced impellers.

Kitchen hood

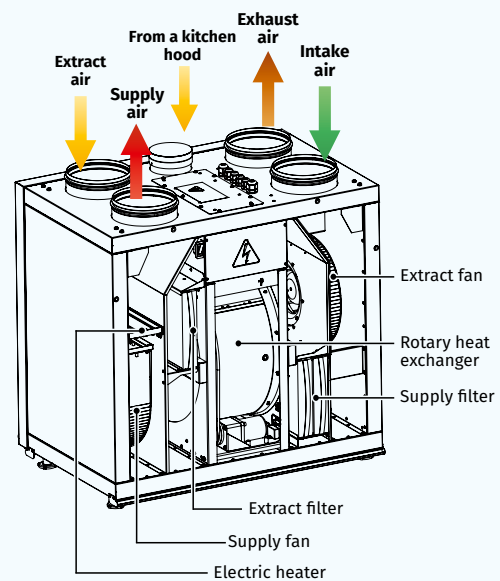
- All units are equipped with a 5th spigot for connection to the kitchen hood air duct.

AIR HANDLING UNITS WITH ROTARY HEAT EXCHANGER

KOMFORT ROTO EC S2E 280



KOMFORT ROTO EC SE 400
KOMFORT ROTO EC SE 600

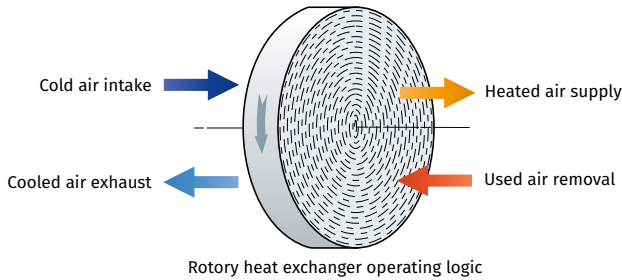


Air filtration

- Two built-in G4 and F7 filters provide efficient supply air filtration. The unit **KOMFORT Roto EC S2E 280** features F7 filter.
- The G4 filter is used for extract air filtration.

Heat recovery

- The unit has a high-efficient rotary heat exchanger.
- The rotary regenerator is a short, rotating cylinder, filled with corrugated aluminium sheet layers. The air streams flow through them.
- The band layers of the heat regenerator first come in contact with the supply and then with extract air flows.
- Therefore the band is alternatively warmed up and cooled down and the extract air heat and humidity are transferred to the cold intake air. This way heat recovery reduces heat losses in the cold season and reduces operation load for air conditioner in the warm season.
- The advantages of the rotary regenerator as compared to the plate heat exchangers include no condensate generation, maintaining comfort air humidity and high freeze resistance.



Heater

- The **KOMFORT Roto EC SE** 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.

Mounting

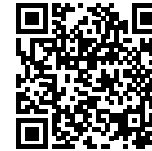
- The units can be fixed to the wall or mounted on the floor.
- During mounting stage the front and the back panels can be reversed providing either left-handed or right-handed unit mounting.

Control and automation

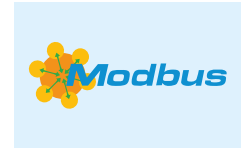
- KOMFORT Roto EC S... S21** units are equipped with an integrated automation system. The remote control panel is not included in the delivery set (purchased separately).
- The S21 controller allows to integrate the unit into the **Smart Home** system or **BMS (Building Management System)**.
- The unit can be controlled via the **Blauberg AHU** mobile application via Wi-Fi.






Download the **Blauberg AHU** app for Android



Download the **Blauberg AHU** app for iOS



Automation functions

Functions	Description
Control via Wi-Fi using a mobile application	+
Control via a wired remote control panel	S22 control panel (option) 
Control via a wireless remote control panel	S22 Wi-Fi control panel (option) 
Control via a wired remote LCD control panel	S25 control panel (option) 
BMS (Building Management System)	RS-485
	Wi-Fi
	Ethernet
	MODBUS (RTU, TCP)
Blauberg Cloud Server service	+
Speed selection	+
Filter replacement indication	by filter timer
Alarm indication	full alarm description in the mobile application
Week-scheduled operation	+
Timer	+
Boost mode	+
Fireplace mode	+
Cooler connection	option
Kitchen hood connection	option
Minimum supply air temperature control	+
Humidity control	option
CO ₂ control	option
VOC control	option
PM2.5 control	option
Fire alarm sensor connection	option

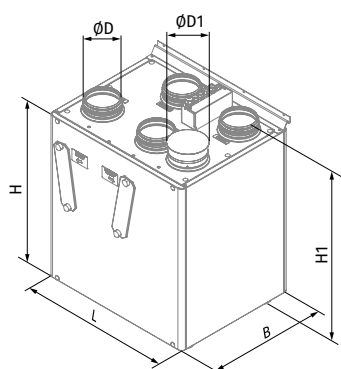
Option: function is available when purchasing the appropriate accessory (see the "Accessories" section).

Designation key

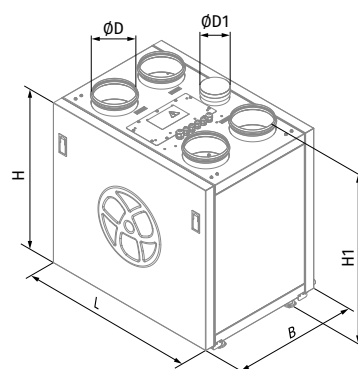
Series	Unit type	Motor type	Spigot modification	Insulation	Heater type	Rated air flow [m³/h]	Control
KOMFORT	Roto: rotary heat exchanger	EC: electronically commutated motor	S: vertical spigot orientation	_: 40 mm	E: electric heater	280; 400; 600	S21

Overall dimensions [mm]

Model	Ø D	Ø D1	B	B1	H	H1	H2	L	L1
KOMFORT Roto EC SE 280 S21	125	125	482	-	630	754	-	598	-
KOMFORT Roto EC SE 400 S21	160	100	528	-	675	755	-	747	-
KOMFORT Roto EC SE 600 S21	200	125	628	-	772	852	-	819	-



KOMFORT Roto EC SE 280



KOMFORT Roto EC SE 400
KOMFORT Roto EC SE 600

Technical data

Parameters	KOMFORT Roto EC SE 280 S21
Voltage [V / 50 (60) Hz]	1~230
Max. unit power without electric heater [W]	195
Max. power of electric heater [W]	650
Max. unit power [W]	845
Max. unit current without electric heater [A]	1.9
Max. unit current of electric heater [A]	2.8
Max. unit current [A]	4.7
Maximum air flow [m³/h (l/s)]	300 (83)
Sound pressure level at 3 m distance [dBA]	26
Operating temperature [°C]	-25...+40
Casing material	polymer coated steel
Insulation	40 mm mineral wool
Extract filter	G4
Supply filter	F7
Connected air duct diameter [mm]	125
Weight [kg]	64
Heat recovery efficiency [%] *	81-90
Heat exchanger type	rotary
Heat exchanger material	aluminum
SEC class	A
ErP	2016, 2018

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

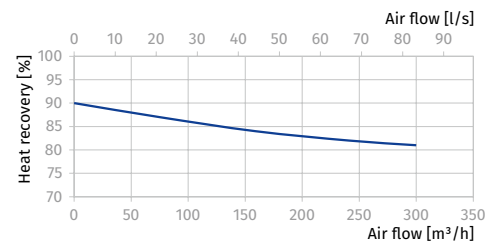
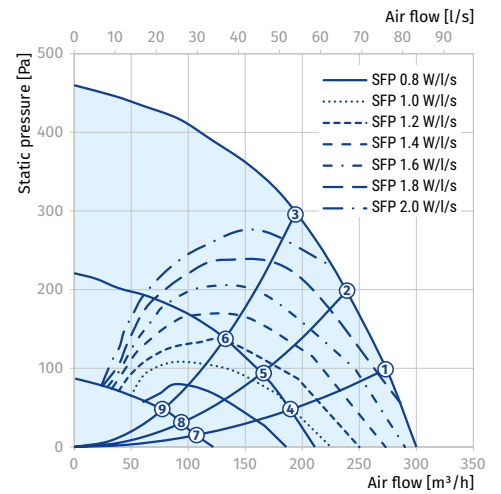
KOMFORT ROTO EC SE 280

Sound power level, A-weighted	Total	Octave frequency band [Hz]								LpA 3 m	LpA 1 m
		63	125	250	500	1000	2000	4000	8000		
LWA to supply inlet [dBA]	54	47	42	50	44	41	39	39	31		
LWA to supply outlet [dBA]	69	63	56	65	59	55	50	52	46		
LWA to exhaust inlet [dBA]	54	47	41	51	43	33	31	34	30		
LWA to exhaust outlet [dBA]	65	61	50	61	55	46	43	46	40		
LWA to environment [dBA]	47	42	37	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 (1 m) [dBA]
1	154	26 (36)
2	132	26 (36)
3	110	25 (35)
4	55	24 (34)
5	47	24 (34)
6	38	22 (32)
7	19	15 (25)
8	18	14 (24)
9	17	13 (23)



Calculation of air temperature downstream of the heat exchanger:

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

where

t_{outd} – outdoor air temperature [°C]

t_{extr} – extract air temperature [°C]

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

Parameters	KOMFORT Roto EC SE 400 S21
Voltage [V / 50 (60) Hz]	1~230
Max. unit power without electric heater [W]	200
Max. power of electric heater [W]	1400
Max. unit power [W]	1600
Max. unit current without electric heater [A]	1.4
Max. unit current of electric heater [A]	6.1
Max. unit current [A]	7.5
Maximum air flow [m ³ /h (l/s)]	440 (122)
Sound pressure level at 3 m distance [dBA]	33
Operating temperature [°C]	-25...+40
Casing material	polymer coated steel
Insulation	40 mm mineral wool
Extract filter	G4
Supply filter	G4+F7
Connected air duct diameter [mm]	160
Weight [kg]	82
Heat recovery efficiency [%] *	76-85
Heat exchanger type	rotary
Heat exchanger material	aluminum
SEC class	A
ErP	2016, 2018

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

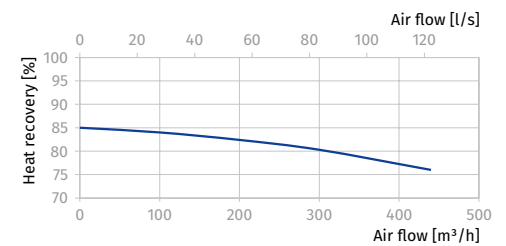
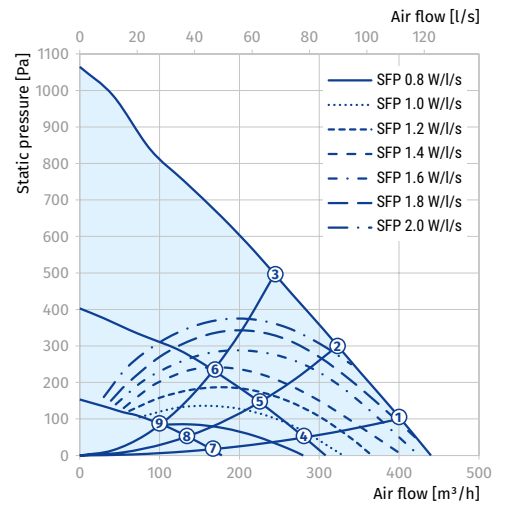
KOMFORT ROTO EC SE 400

Sound power level, A-weighted	Total	Octave frequency band [Hz]								LpA 3 m	LpA 1 m
		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 (1 m) [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)



AIR HANDLING UNITS WITH ROTARY HEAT EXCHANGER

Parameters	KOMFORT Roto EC SE 600 S21
Voltage [V / 50 (60) Hz]	1~230
Max. unit power without electric heater [W]	405
Max. power of electric heater [W]	2800
Max. unit power [W]	3205
Max. unit current without electric heater [A]	2.6
Max. unit current of electric heater [A]	12.2
Max. unit current [A]	14.8
Maximum air flow [m³/h (l/s)]	670 (186)
Sound pressure level at 3 m distance [dBA]	35
Operating temperature [°C]	-25...+40
Casing material	polymer coated steel
Insulation	40 mm mineral wool
Extract filter	G4
Supply filter	G4+F7
Connected air duct diameter [mm]	200
Weight [kg]	92
Heat recovery efficiency [%] *	81-89
Heat exchanger type	rotary
Heat exchanger material	aluminum
SEC class	A
ErP	2016, 2018

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

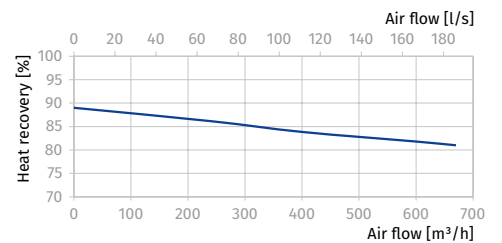
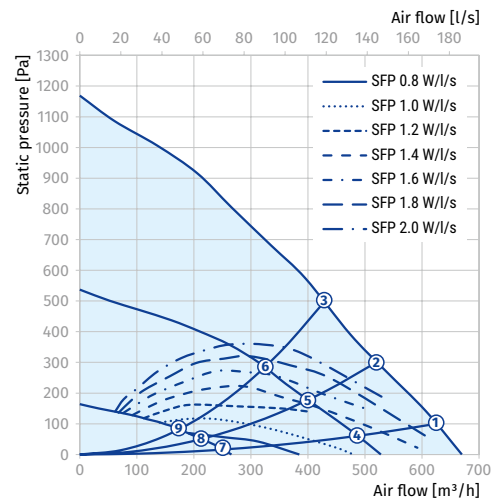
KOMFORT ROTO EC SE 600

Sound power level, A-weighted	Total	Octave frequency band [Hz]								LpA 3 m	LpA 1 m
		63	125	250	500	1000	2000	4000	8000		
LWA to supply inlet [dBA]	82	65	63	65	80	74	74	68	64		
LWA to supply outlet [dBA]	66	60	56	55	63	58	49	40	33		
LWA to exhaust inlet [dBA]	82	64	67	71	81	77	79	75	67		
LWA to exhaust outlet [dBA]	70	51	64	62	68	60	60	50	42		
LWA 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 (1 m) [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 SE 280 S21	KOMFORT Roto EC SE 400 S21
G4 panel filter		FP 400x196x40 G4	FP 436x196x40 G4
F7 panel filter		FP 400x196x40 F7	FP 436x196x40 F7
Control panel		S22	S22
Wireless control panel		S22 Wi-Fi	S22 Wi-Fi
LCD control panel		S25	S25
CO ₂ sensor with indication		CD-1	CD-1
CO ₂ sensor		CD-2	CD-2
Humidity sensor		HR-S	HR-S
Humidity sensor		FS2	FS2
Silencer		SD 125	SD 160
Backdraft air damper		VRV 125	VRV 160
Air damper		VKA 125	VKA 160
Electric actuator		TF230	TF230

KOMFORT Roto EC SE 600 S21		
G4 panel filter		FP 536x220x40 G4
F7 panel filter		FP 536x220x40 F7
Control panel		S22
Wireless control panel		S22 Wi-Fi
LCD control panel		S25
CO ₂ sensor with indication		CD-1
CO ₂ sensor		CD-2
Humidity sensor		HR-S
Humidity sensor		FS2
Silencer		SD 200
Backdraft air damper		VRV 200
Air damper		VKA 200
Electric actuator		TF230