

KOMFORT RoTo EC S6EK 200

Air handling units with rotary heat exchanger



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 mm air ducts.
- Additional spigot for kitchen hood air duct connection.



Air flow:
up to 270 m³/h
75 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 is 20 mm thick.
- **KOMFORT Roto EC S6EK:** model with an electric heater.

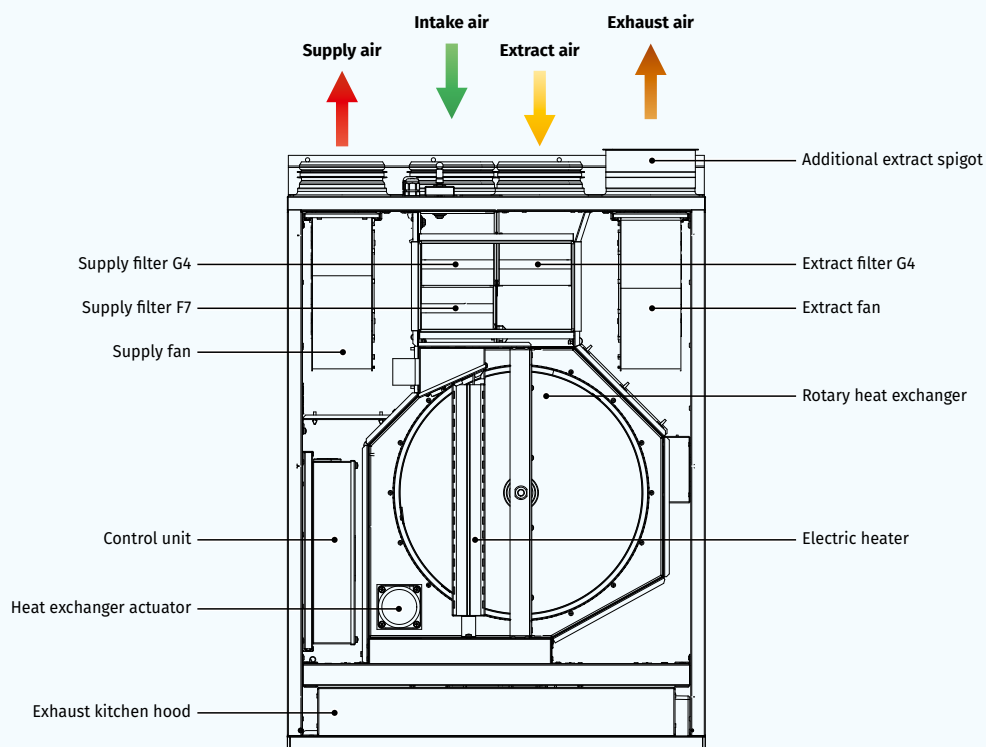
- EC motors are featured with high performance, low noise level and totally controllable speed range.
- Dynamically balanced impellers.

Kitchen hood

- All units are equipped with a built-in kitchen hood.

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.

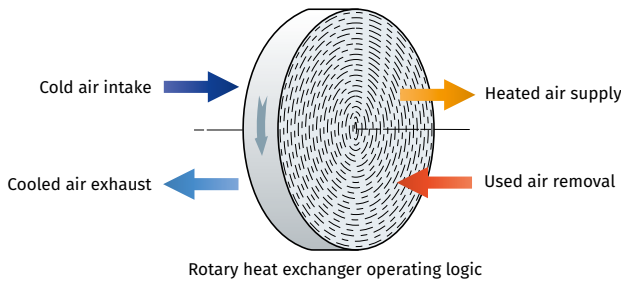


Air filtration

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

Heat recovery

- The unit has a high-efficient rotary heat exchanger (regenerator).
- The rotary heat exchanger is a short, rotating cylinder, filled with corrugated aluminium sheet layers. The air streams flow through them.
- The band layers of the heat exchanger 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 heat exchanger as compared to plate heat exchangers include no condensate generation, maintaining comfort air humidity and high freeze resistance.



Heater

- The **KOMFORT Roto EC S6EK** units are equipped with an 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 unit can be fixed to the wall and embedded into the kitchen set.
- It is possible to attach decorative kitchen panels to the front panel of the unit.
- During mounting stage the front and the back panels can be reversed providing either left-handed or right-handed unit mounting.

Control and automation

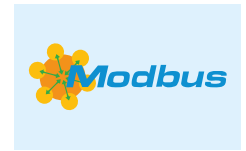
- The units are equipped with an integrated automation system. The remote control panel is not included in the delivery set (purchased separately).
- The S21 controller allows integrating the unit into the **Smart Home** system or **BMS (Building Management System)**.
- The unit can be controlled via 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 |
| Minimum supply air temperature control | + |
| Humidity control | option |
| CO ₂ control | option |
| VOC control | option |
| PM2.5 control | option |
| Fire alarm sensor connection | option |

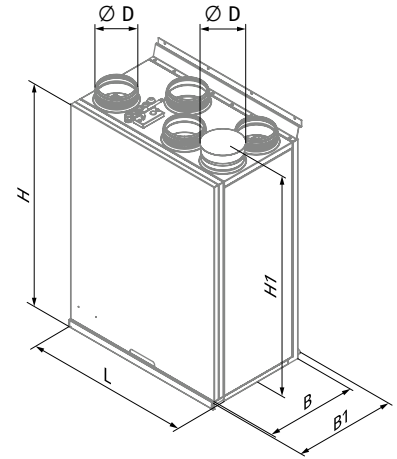
option: function is available when purchasing the appropriate accessory (see the "Accessories" section).

Designation key

| Series | Unit type | Motor type | Spigot modification | Casing type | Additional components | Rated air flow [m ³ /h] | Control |
|---------|---------------------------------|--|---------------------------------------|--|---|------------------------------------|------------|
| KOMFORT | Roto: rotary regenerator | EC: electronically commutated motor | S: vertical spigot orientation | 6: casing for a thin kitchen hood | E: electric heater K: kitchen hood | 200 | S21 |

Overall dimensions [mm]

| Model | ∅ D | B | B1 | H | H1 | L |
|------------------------------|-----|-----|-----|-----|-----|-----|
| KOMFORT Roto EC S6EK 200 S21 | 125 | 348 | 371 | 791 | 865 | 598 |



Technical data

| Parameters | KOMFORT Roto EC S6EK 200 S21 |
|---|------------------------------|
| Voltage [V / 50 (60) Hz] | 1~230 |
| Max. unit power without electric heater [W] | 118 |
| Max. power of electric heater [W] | 700 |
| Max. unit power [W] | 818 |
| Max. unit current without electric heater [A] | 1.0 |
| Max. unit current of electric heater [A] | 3.0 |
| Max. unit current [A] | 4.0 |
| Maximum air flow [m³/h (l/s)] | 270 (75) |
| RPM [min⁻¹] | 1800 |
| Sound pressure level at 3 m distance [dBA] | 28 |
| Operating temperature [°C] | -25...+40 |
| Casing material | polymer coated steel |
| Insulation | 20 mm mineral wool |
| Extract filter | G4 |
| Supply filter | G4+F7 |
| Connected air duct diameter [mm] | 125 |
| Weight [kg] | 48 |
| Heat recovery efficiency [%] * | 75-92 |
| 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 S6EK 200

| 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 | 48 | 42 | 51 | 44 | 41 | 40 | 39 | 31 | | |
| LWA to supply outlet [dBA] | 69 | 34 | 45 | 54 | 61 | 64 | 64 | 59 | 54 | | |
| LWA to exhaust inlet [dBA] | 54 | 48 | 41 | 52 | 43 | 33 | 32 | 34 | 30 | | |
| LWA to exhaust outlet [dBA] | 61 | 32 | 40 | 51 | 57 | 53 | 55 | 53 | 47 | | |
| LWA to environment [dBA] | 49 | 25 | 41 | 43 | 43 | 39 | 38 | 35 | 24 | 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 3 m (1 m) [dBA] |
|-------|-----------------------------|---|
| 1 | 103 | 28 (38) |
| 2 | 98 | 28 (38) |
| 3 | 85 | 29 (39) |
| 4 | 43 | 21 (31) |
| 5 | 40 | 21 (31) |
| 6 | 37 | 20 (30) |
| 7 | 18 | 19 (29) |
| 8 | 17 | 19 (29) |
| 9 | 16 | 17 (27) |

Calculation of air temperature downstream of the heat exchanger:

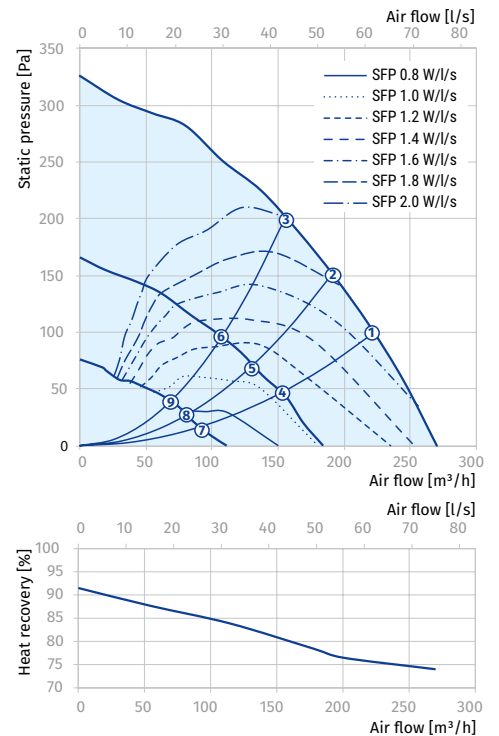
$$t = t_{\text{outd}} + k_{\text{hr}} \times (t_{\text{extr}} - t_{\text{outd}}) / 100,$$

where

















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

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

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



Accessories

| | | KOMFORT Roto EC S6EK 200 S21 |
|--|---|------------------------------|
| G4 panel filter |  | FP 284x103x60 G4 |
| F7 panel filter |  | FP 284x103x60 F7 |
| Control panel |  | S22 |
| Wireless control panel |  | S22 Wi-Fi |
| LCD control panel |  | S25 |
| Humidity sensor |  | FS2 |
| Humidity sensor |  | HR-S |
| Humidity sensor |  | DPWC11200 |
| CO ₂ sensor with indication |  | CD-1 |
| CO ₂ sensor |  | CD-2 |
| External CO ₂ sensor |  | DPWQ40200 |
| VOC sensor |  | DPWQ30600 |
| Silencer |  | SD 125 |
| Backdraft air damper |  | VRV 125 |
| Air damper |  | VKA 125 |
| Electric actuator |  | TF230 |