

KOMFORT ERV EC DB

Suspended heat and energy recovery air handling units

Features

- Air handling units for efficient supply and exhaust ventilation in flats, houses, cottages and other buildings.
- Reduction of load on air conditioning systems in a hot climate and heat loss in a cold climate due to heat and moisture recovery.
- Control of air exchange for creating comfortable indoor microclimate.
- Compatible with round Ø 100 or 150 mm air ducts.



Air flow:
up to 430 m³/h
119 l/s



Heat recovery efficiency:
up to 85 %

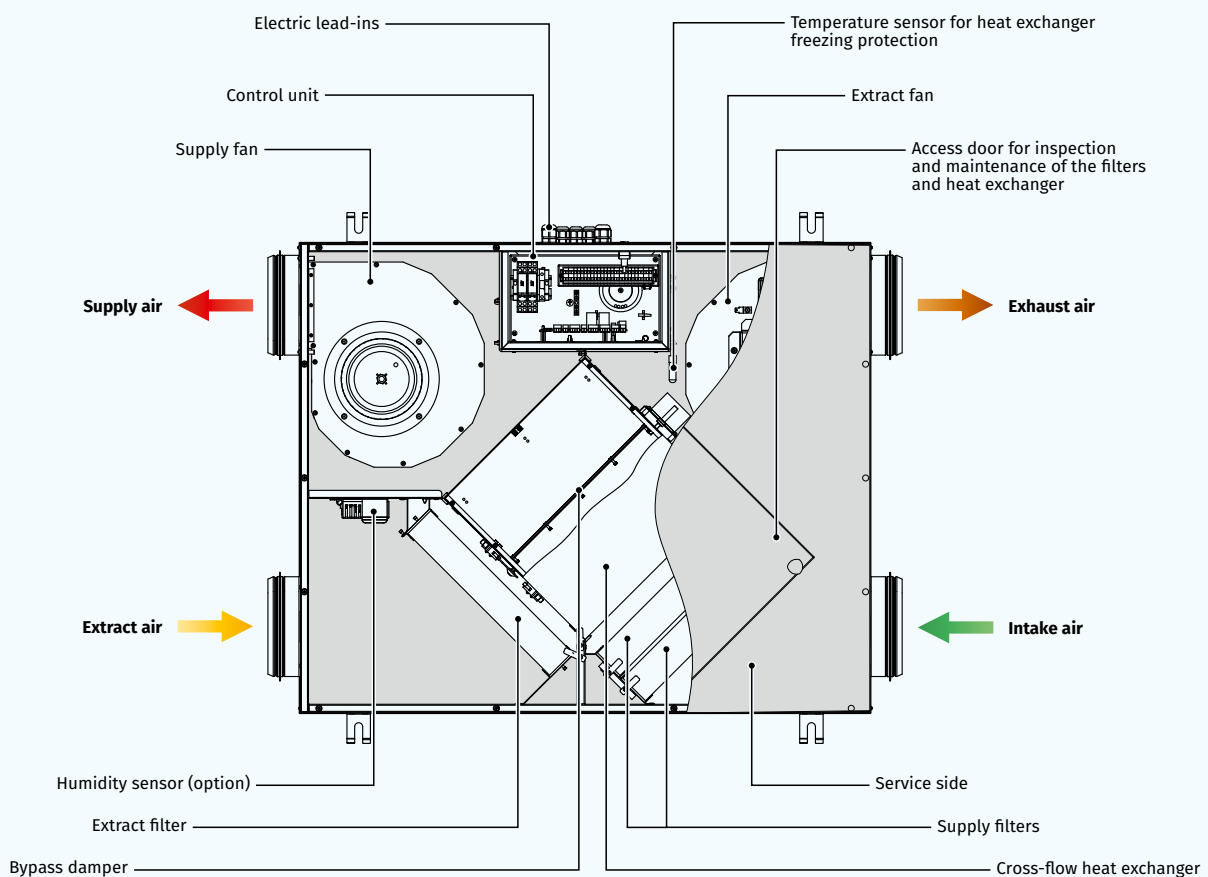


Design

- The casing is made of polymer-coated steel panels, internally filled with foamed polyurethane layer 5–10 mm (depend on modification) for heat- and sound-insulation.
- The unit is equipped with a removable bottom panel for ease of maintenance. This service panel is used to access the filters and the heat exchanger for maintenance operations.
- The spigots are located at the sides of the unit and are equipped with rubber seals for airtight connection to the air ducts.
- The casing is equipped with fixing brackets to suspend the unit to the ceiling.

Fans

- The unit is equipped with high-efficient external rotor EC motors used for air supply and exhaust.
- The **KOMFORT ERV EC DB 100 S14**, **KOMFORT ERV EC DB 150 S14** and **KOMFORT ERV EC DB 250 S14** units are equipped with a centrifugal impeller with forward curved blades and the **KOMFORT ERV EC DB 350 S14** units – with backward curved blades.
- 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.
- The impellers are dynamically balanced.



Heat recovery

- The unit is equipped with an enthalpy plate cross-flow heat exchanger for energy (heat and humidity) recovery. Due to humidity recovery condensate is not generated in the enthalpy heat exchanger.



- The air flows are completely separated in the heat exchanger. Thus smells and contaminants are not transferred from the extract air to the supply air.
- Heat recovery is based on heat and/or humidity transfer through the heat exchanger plates. 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 ventilation heat losses and heating costs respectively.
- In the warm season the heat exchanger performs reverse and intake air is cooled in the heat exchanger by the cool extract air. That reduces operation load on air conditioners and saves electricity.

FROST PROTECTION

- The integrated automatic freeze protection is used to prevent freezing of the heat exchanger in the cold season. The supply fan turns off according to the temperature sensor to get the heat exchanger warmed up with extract air. After that the supply fan turns on and the unit continues to run in the standard mode.

Air filtration

- Two built-in G4 and F8 filters provide efficient supply air filtration.
- The G4 filter is used for extract air filtration.

Bypass

- The units are equipped with a bypass for summer ventilation (air cooling by the cool air from outside).

Control and automation

- The **KOMFORT ERV EC DB S14** units have an with a wall-mounted control panel S14 with a LED indication. The units are equipped with a USB connector (Type B) and can be connected to a PC for configuring the advanced settings in a special software.
- The standard delivery set includes a 10 m cable for connection of the unit to the control panel.
- S14 automation functions:**
 - Unit On/Off.
 - Unit performance control (selection of Low, Medium or High speed).
 - Bypass damper opening and closing for summer ventilation.
 - Alarm indication.
 - Filter maintenance indication.
- Additional functions of the S14 automation with installed software:**
 - Fan speed adjustment from 0 to 100 %. Each speed is individually adjusted for the supply and the extract fans.
 - Operation control on feedback from the FS2 duct humidity sensor (to be ordered separately).
 - Unit operation setting according to the external control unit (to be ordered separately).
 - Temperature setting for freeze protection system activation.
 - Control and operation adjustment of the filter maintenance timer
 - External relay control unit and humidity level control.
 - Software version upgrading.



Mounting

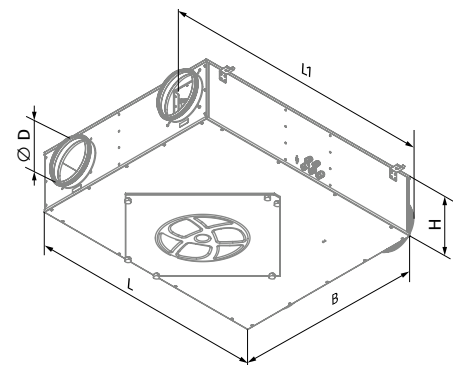
- Due to a low casing height the air handling units are a perfect solution for space-restricted installation above suspended ceilings.
- The unit mounting position must provide access for service maintenance.

Designation key

Series	Unit type	Motor type	Mounting type	Bypass	Rated air flow [m³/h]	Service side	Control
KOMFORT	ERV: energy recovery ventilation	EC: electronically commutated motor	D: suspended mounting, horizontally directed spigots	B: integrated bypass	100; 150; 250; 350	R: right L: left	S14: sensor control panel with LED indication

Overall dimensions [mm]

Model	D	B	H	L	L1
KOMFORT ERV EC DB 100 S14	100	481	204	600	734
KOMFORT ERV EC DB 150 S14	100	704	222	854	987
KOMFORT ERV EC DB 250 S14	150	704	227	854	987
KOMFORT ERV EC DB 350 S14	150	754	277	1024	1157

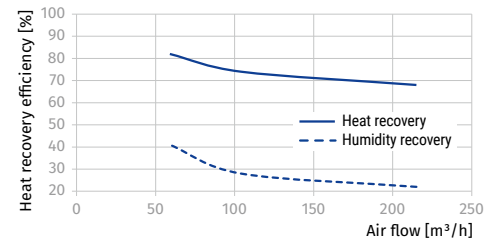
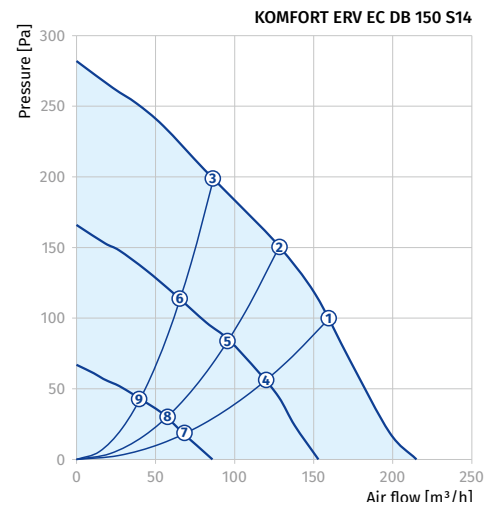
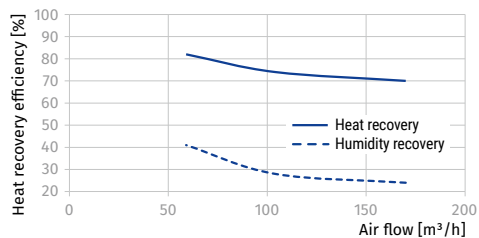
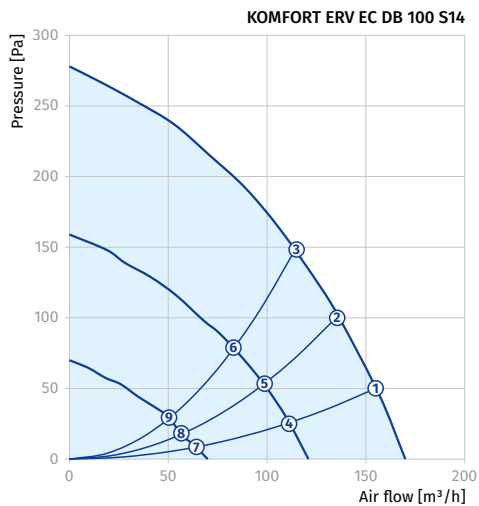


Technical data

Parameters	KOMFORT ERV EC DB 100 S14	KOMFORT ERV EC DB 150 S14	KOMFORT ERV EC DB 250 S14	KOMFORT ERV EC DB 350 S14
Voltage [V / 50 (60) Hz]	1~230	1 ~ 230	1 ~ 230	1 ~ 230
Power [W]	66	83	84	171
Current [A]	0.5	0.7	0.7	1.3
Maximum air flow [m³/h (l/s)]	170 (47)	215 (60)	300 (83)	430 (119)
RPM [min ⁻¹]	2800	2000	2000	3200
Sound pressure level at 3 m [dBA]	30	32	36	46
Transported air temperature [°C]	-5...+40	-5...+40	-5...+40	-5...+40
Extract filter	G4	G4	G4	G4
Supply filter	G4 + F8 (PM2.5 > 93 %)	G4 + F8 (PM2.5 > 93 %)	G4 + F8 (PM2.5 > 83 %)	G4 + F8 (PM2.5 > 87 %)
Connected air duct diameter [mm]	100	100	150	150
Weight [kg]	17	26	29	42
Heat recovery efficiency [%]*	70–82	68–82	63–73	68–85
Humidity recovery efficiency [%]	24–41	22–41	16–27	19–34
Heat exchanger type	cross-flow	cross-flow	cross-flow	cross-flow
Heat exchanger material	enthalpy	enthalpy	enthalpy	enthalpy
SEC class	A	A	A	A
ErP	2016, 2018	2016, 2018	2016, 2018	2016, 2018

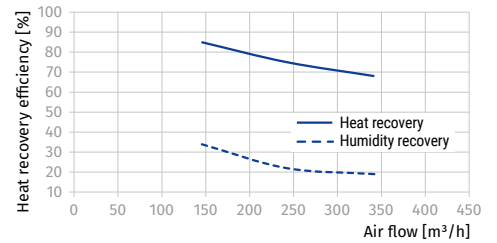
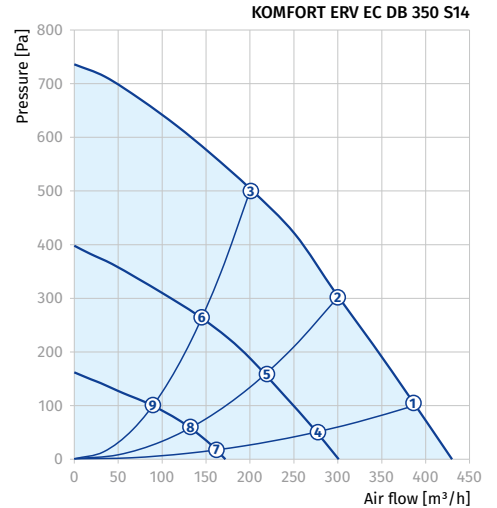
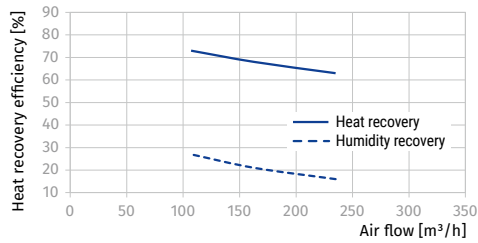
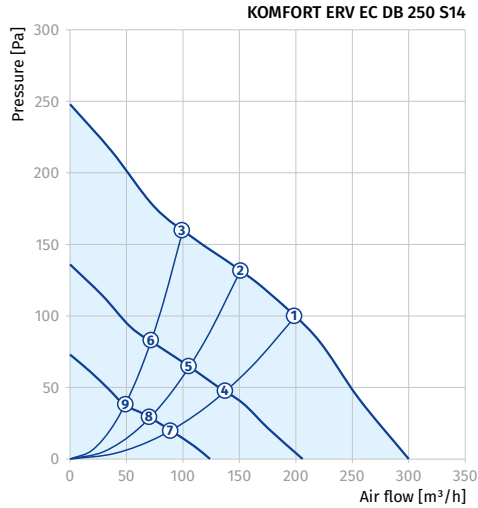
*Heat recovery efficiency is specified in compliance with EN 13141-7.

HEAT RECOVERY AIR HANDLING UNITS



Total power of the unit [W]

Point	KOMFORT ERV EC DB 100 S14	KOMFORT ERV EC DB 150 S14	KOMFORT ERV EC DB 250 S14	KOMFORT ERV EC DB 350 S14
1	62	64	80	147
2	55	61	67	145
3	48	55	59	144
4	30	26	43	75
5	27	24	34	73
6	25	23	28	70
7	13	13	23	21
8	13	13	22	21
9	12	13	19	20



Accessories

		KOMFORT ERV EC DB 100 S14	KOMFORT ERV EC DB 150 S14	KOMFORT ERV EC DB 250 S14	KOMFORT ERV EC DB 350 S14
G4 panel filter		FP 200x191x20 G4	FP 300x220x48 G4	FP 300x220x48 G4	FP 300x270x48 G4
F8 panel filter		FP 200x191x40 F8	FP 300x220x48 F8	FP 300x220x48 F8	FP 300x270x48 F8
Humidity sensor		FS2	FS2	FS2	FS2
CO ₂ sensor with indication		CD-1	CD-1	CD-1	CD-1
CO ₂ sensor		CD-2	CD-2	CD-2	CD-2
Humidity sensor		HR-S	HR-S	HR-S	HR-S
Air damper		VKA 100	VKA 100	VKA 150	VKA 150
Electric actuator		TF230	TF230	TF230	TF230

HEAT RECOVERY AIR HANDLING UNITS