KOMFORT EC DB

Suspended heat recovery air handling units



Features

- Air handling units for efficient supply and exhaust ventilation in flats, houses, cottages and other buildings.
- Heat recovery minimises ventilation heat losses.
- Controllable air exchange for creating the best suitable indoor microclimate.
- Compatible with round ∅ 160 mm air ducts.

Air flow:
up to 410 m³/h
114 l/s

Heat recovery efficiency:
up to 98 %

EC motor · ErP 2018 · Wi Fi READY · BMS

Design

- The casing is made of double-skinned aluzinc panels, internally filled with 40 mm mineral wool layer for heat and sound insulation.
- The panel of the casing ensures easy access to the internals for cleaning and other maintenance operations.
- The spigots for connection to the air ducts are located at the sides of the unit and are rubber sealed for airtight connection to the air ducts.

Fans

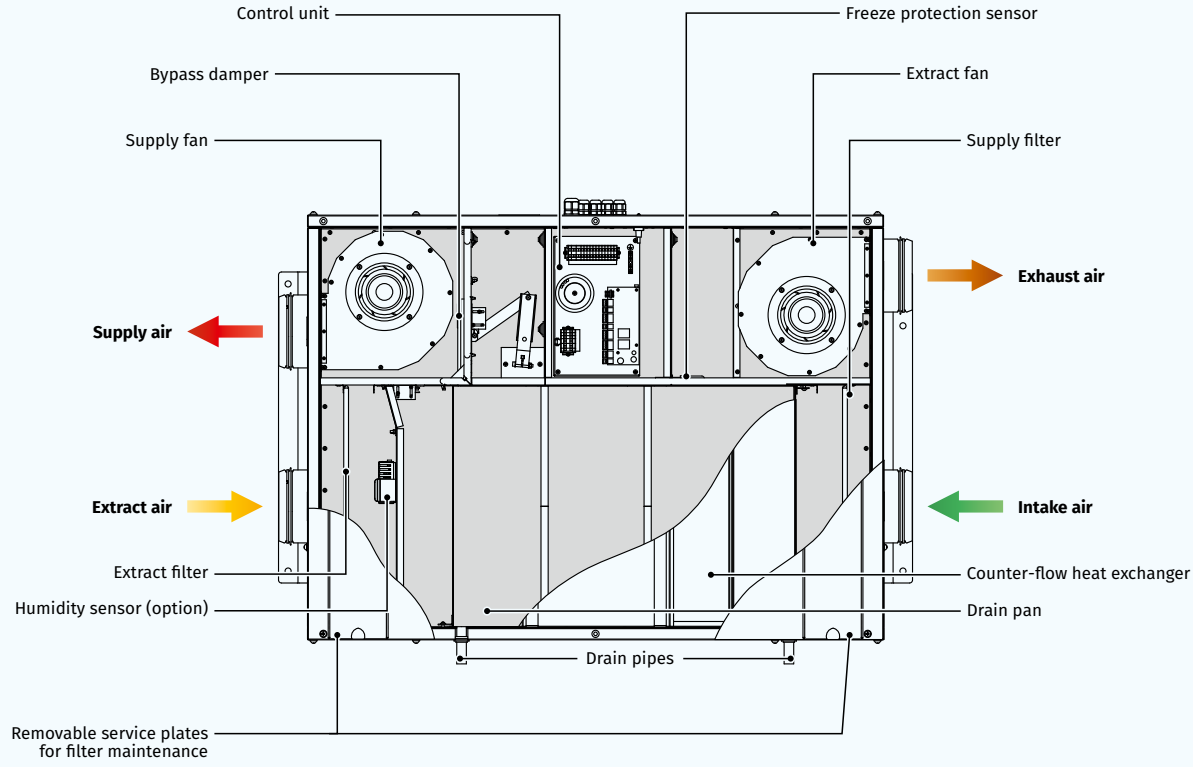
- High-efficient external rotor EC motors and centrifugal impellers with backward curved blades are used for air supply and exhaust.
- EC motors have the best power consumption to air flow ratio and meet the latest demands concerning energy saving and high-efficient ventilation.
- EC motors are featured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

Bypass

- The units are equipped with the 100 % bypass for summer ventilation (room cooling by the cool intake air).

Air filtration

- The built-in F7 filter provides efficient supply air filtration.
- The G4 filter is used for extract air filtration.



Heat recovery



- The unit is equipped with a plate counter-flow aluminium heat exchanger for heat recovery. The unit condensate is collected and drained to the drain pan under the 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.

Control and automation

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

Download the **Blauberg AHU** app for Android

Download the **Blauberg AHU** app for iOS

- The **KOMFORT EC DB S14** units have an integrated automation system with a wall-mounted control panel S14 with a LED indication.

Mounting

- The units are designed for ceiling or wall mounting.
- The mounting place must provide enough space for connection to drain system and condensate drainage using the SFK 20x32 kit (available separately).

Automation functions

Functions	KOMFORT EC DB S21	KOMFORT EC DB S14
Unit control via Wi-Fi using a mobile application	+	–
Unit control via a wired remote control panel	S22 control panel (option) 	S14 control panel 
Unit control via a wireless remote control panel	S22 Wi-Fi control panel (option) 	–
Unit 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	by filter timer
	by filter clogging differential pressure switch	–
Alarm indication	full alarm description in the mobile application	LED alarm indication
Week-scheduled operation	+	–
Bypass	automatic	–
	manual	manual
Timer	+	–
Boost mode	+	–
Fireplace mode	+	–
Freeze protection	through cyclic stops of the supply fan	through cyclic stops of the supply fan
	through preheating (option)	–
Reheater connection	option	–
Minimum supply air temperature control	+	–
Humidity control	option	option
CO_2 control	option	option
VOC control	option	–
PM2.5 control	option	–
Fire alarm sensor connection	option	option

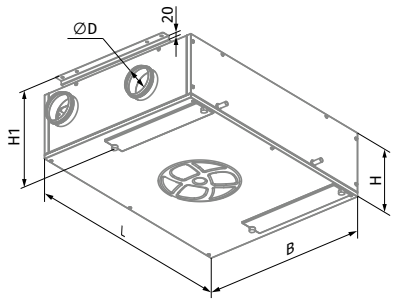
Option: function is available when purchasing the appropriate accessory (see the "Accessories" section).

Designation key

Series	Motor type	Mounting type	Bypass	Rated air flow [m³/h]	Service side	Control
KOMFORT	**EC:** electronically commutated motor	**D:** suspended mounting, horizontally directed spigots	**B:** integrated bypass	**350**	**R:** right **L:** left	**S21** **S14**

Dimensions [mm]

Model	D	B	H	H1	L
KOMFORT EC DB 350 S21/S14	160	1044	320	363	1138



Technical data

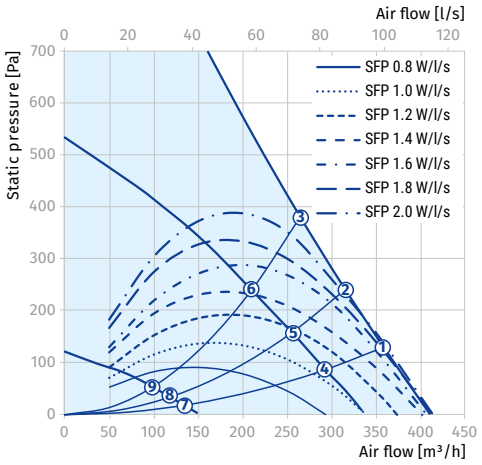
Parameters	KOMFORT EC DB 350 S21 KOMFORT EC DB 350 S14
Voltage [V / 50 (60) Hz]	1 ~ 230
Power [W]	170
Current [A]	1.3
Maximum air flow [m³/h (l/s)]	410 (114)
Sound pressure level at 3 m [dBA]	34
Transported air temperature [°C]	–25...+40
Casing material	galvanized steel
Insulation	40 mm mineral wool
Extract filter	G4
Supply filter	F7
Connected air duct diameter [mm]	160
Weight [kg]	70
Heat recovery efficiency [%]	80–91
Heat exchanger type	counter-flow
Heat exchanger material	polystyrene
SEC class	A+
ErP	2016, 2018

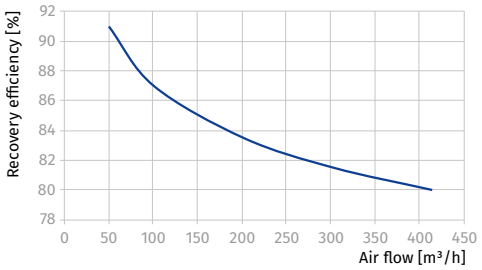
KOMFORT EC DB 350

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]	**60**	46	54	58	50	46	40	40	31		
L_{WA} to supply outlet [dBA]	**63**	52	58	60	54	46	40	41	35		
L_{WA} to exhaust inlet [dBA]	**61**	47	54	58	50	47	41	41	32		
L_{WA} to exhaust outlet [dBA]	**63**	51	58	59	56	46	40	41	35		
L_{WA} to environment [dBA]	**55**	44	51	51	43	38	32	28	24	**34**	**44**

Data provided for point 1 of the air flow diagram

Point	Total power of the unit [W]	Sound pressure level at 3 m (1 m) [dBA]
1	169	34 (44)
2	169	34 (44)
3	169	33 (43)
4	87	28 (38)
5	86	28 (38)
6	84	27 (37)
7	20	22 (32)
8	19	22 (32)
9	19	21 (31)





Accessories

		KOMFORT EC DB 350 S21	KOMFORT EC DB 350 S14
G4 panel filter		FP 603x253x48 G4	FP 603x253x48 G4
F7 panel filter		FP 603x253x48 F7	FP 603x253x48 F7
Control panel		S22	–
Wireless control panel		S22 Wi-Fi	–
LCD control panel		S25	–
Humidity sensor		FS2	FS2
Humidity sensor		HR-S	HR-S
CO_2 sensor with indication		CD-1	CD-1
CO_2 sensor		CD-2	CD-2
Electric preheater		EVH 160 S21 V.2	–
Electric reheater		ENH 160 S21 V.2	–
Syphon kit		SFK 20x32	SFK 20x32
Silencer		SD 160	SD 160
Air damper		VKA 160	VKA 160
Electric actuator		TF230	TF230