

Suspended heat recovery air handling unit

KOMFORT EC DB

Air capacity – up to 410 m³/h

Heat recovery efficiency – up to 94 %



Use

- 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 Ø125 and 160 mm air ducts.

Design

- The casing is made of double-skinned aluzinc panels, internally filled with 20 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 capacity 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.

Heat recovery

- The units are equipped with a plate counter-flow aluminium heat exchanger with a high heat recovery efficiency.
- Heat recovery is based on utilization of heat energy contained in the extract air stream for heating up the supply air stream. Extract air transfers most of its heat to the intake air flow. Heat recovery reduces heat energy losses in cold seasons. In summer the heat exchanger performs reverse and transfers a part of the accumulated coolness from the cooled extract air for warming up the intake air. This contributes to better performance of air conditioners in ventilated premises.
- The drain pan under the heat exchanger block is used for condensate collection and drainage. The drain pan is fitted with drain pipes for condensate removal.
- The electronic freeze protection system is used to prevent the heat exchanger freezing in cold seasons. In case of a freezing danger registered by the temperature sensor the supply fan turns off to let the heat exchanger surface get warmed up with warm extract air flow. After a freezing danger is over the supply fan is turned on and the unit reverts to the standard operation mode.

Bypass

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

Air filtration

- Two built-in G4 cassette filters provide efficient supply and extract air filtration.
- The replaceable F7 supply air filter is an additional option.

Control and automation

- **KOMFORT EC DB S11** units incorporate an integrated control system with the S11 wall-mounted control panel with an LCD display.
- **KOMFORT EC DB S15** units incorporate an integrated control system with the S15 wall-mounted control panel with a LED indication. The units are equipped with the Type B USB Connector for advanced options setting in a special software.
- The standard delivery set includes a 10 m cable for connection of the unit and the control panel.
- **S11 automation functions:**
 - Activating / deactivating the unit.
 - Setting required supply and extract fan speed for the unit air flow control. Each speed is individually adjusted during set-up.
 - Bypass damper opening / closing for summer ventilation.
 - Setting and maintaining room or duct air temperature.
 - Timer turning on/off and timer operation adjustment.
 - Setting day- and week-scheduled operation of the unit.
 - Operation control on feedback from **FS1** duct humidity sensor (to be ordered separately) or from the humidity sensor in the control panel.
 - Filter clogging indication by motor meter.
 - System shutdown on signal from a fire alarm panel.
 - Controlling supply and exhaust air dampers (to be ordered separately).
 - Alarm indication with an error code indication.
 - Cooler control (to be ordered separately).
- **S15 automation functions:**
 - Activating / deactivating the unit.
 - Air capacity control (selecting low, medium or high speed).
 - Bypass damper opening / closing for summer ventilation.
 - Alarm indication.
 - Filter maintenance indication.
- **Extra functions of the S15 automation with the installed software:**
 - Fan speed adjustment from 0 to 100 %. Each speed is individually adjusted for the supply and the exhaust fans.
 - Operation control on feedback from **FS2** duct humidity sensor (to be ordered separately).
 - Unit operation setting according to external control unit (to be ordered separately).



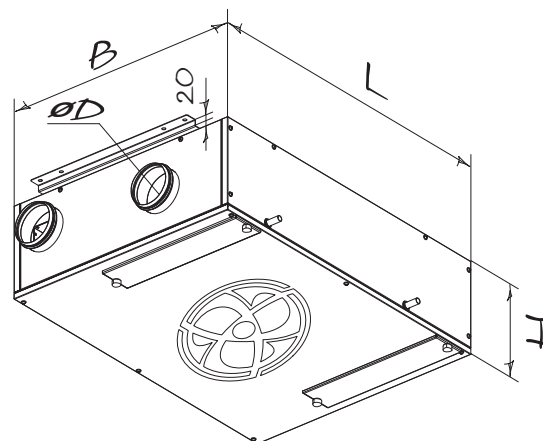
- Temperature setting for freeze protection system activation.
- Control and operation adjustment of the filter maintenance timer.
- Error code indication.
- External control unit, bypass and humidity level control.
- Software version upgrading.

■ Mounting




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

■ Overall dimensions

Model	Dimensions, mm			
	ØD	B	H	L
KOMFORT EC DB160	125	754	340	1004
KOMFORT EC DB350	160	1044	340	1135



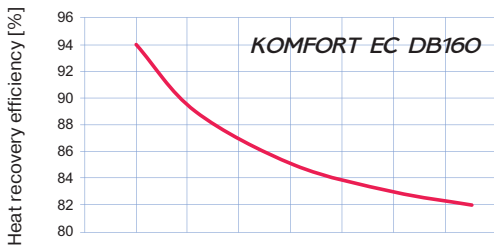
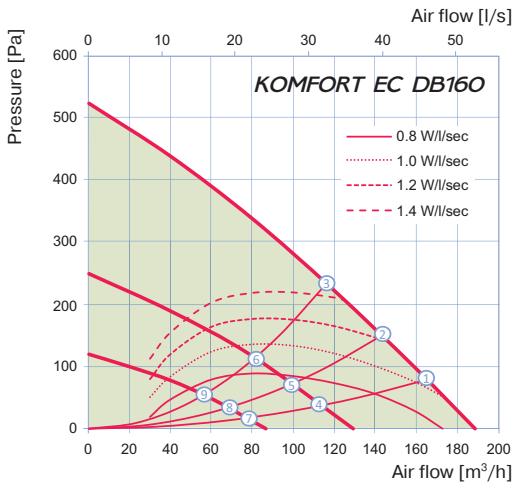
■ Accessories

Model	Replaceable filter G4 (cassette)	Replaceable filter F7 (cassette)	Duct humidity sensor	Condensate drainage kit
KOMFORT EC DB160 S11	FP-EC DB160 G4	FP-EC DB160 F7	FS1	 KIT SFK 20x32
KOMFORT EC DB350 S11	FP-EC DB350 G4	FP-EC DB350 F7		
KOMFORT EC DB160 S15	FP-EC DB160 G4	FP-EC DB160 F7	FS2	
KOMFORT EC DB350 S15	FP-EC DB350 G4	FP-EC DB350 F7		

Technical data

Parameters	KOMFORT EC DB160	KOMFORT EC DB350
Voltage [V / 50-60 Hz]	1 ~ 230	
Unit power [W]	50	170
Unit current [A]	0.4	1.3
Maximum air capacity [m ³ /h]	190	410
RPM	3770	3200
Sound pressure level at 3 m [dBA]	48	58
Transported air temperature [°C]	-25 up to +60	
Casing material	aluzinc	
Insulation	40 mm mineral wool	
Extract filter	cassette G4	
Supply filter	cassette G4 / F7*	
Connected air duct diameter [mm]	125	160
Weight [kg]	52	74
Heat recovery efficiency [%]**	82 up to 94	80 up to 91
Heat exchanger type	counter-flow	
SEC class	A+	A
Heat exchanger material	aluminum	

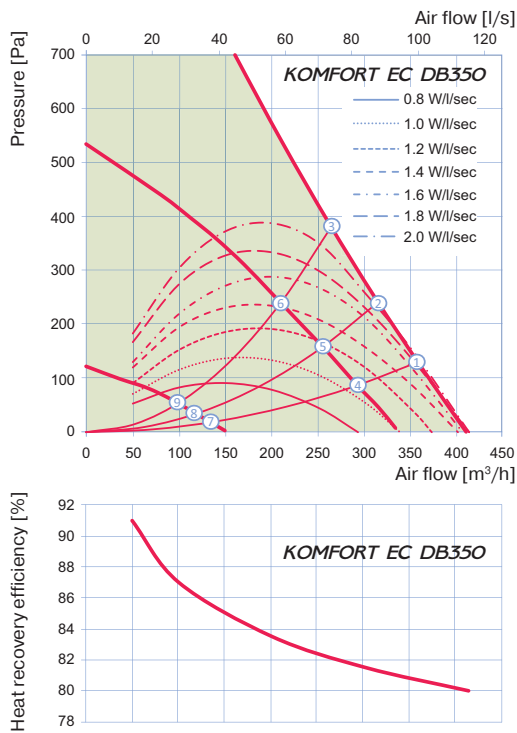
*Option



Point	Power [W]	Sound pressure level at 3 m [dBA]	Sound pressure level at 1 m [dBA]
1	49	26	36
2	49	26	36
3	48	25	35
4	21	22	32
5	21	22	32
6	20	21	31
7	8	19	29
8	8	18	28
9	8	18	28

Sound pressure level, A-weighted	Hz	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA	
		Gen.	63	125	250	500	1000	2000	4000			8000
LwA to supply inlet	dBA	53	32	45	50	45	38	34	36	29	32	42
LwA to supply outlet	dBA	61	36	51	60	52	38	39	41	33	40	50
LwA to exhaust inlet	dBA	53	33	45	50	45	38	34	35	31	32	42
LwA to exhaust outlet	dBA	61	37	51	59	54	41	40	41	33	40	50
LwA to environment	dBA	47	29	41	44	37	34	28	27	23	26	36

*Data provided for point 1 of the air flow diagram



Point	Power [W]	Sound pressure level at 3 m [dBA]	Sound pressure level at 1 m [dBA]
		KOMFORT EC DB350	
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

Sound pressure level, A-weighted	Hz	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA	
		Gen.	63	125	250	500	1000	2000	4000			8000
LwA to supply inlet	dBA	60	46	54	58	50	46	40	40	31	40	50
LwA to supply outlet	dBA	63	52	58	60	54	46	40	41	35	43	53
LwA to exhaust inlet	dBA	61	47	54	58	50	47	41	41	32	40	50
LwA to exhaust outlet	dBA	63	51	58	59	56	46	40	41	35	43	53
LwA to environmet	dBA	55	44	51	51	43	38	32	28	24	34	44

*Data provided for point 1 of the air flow diagram