



Suspended heat recovery air handling unit

KOMFORT EC DE

Air capacity – up to 4000 m³/h
Heat recovery efficiency – up to 90 %

■ Use

- ❑ Air handling units for efficient supply and exhaust ventilation in flats, houses, cottages and other buildings.
- ❑ For controllable mechanical energy saving ventilation systems.
- ❑ Heat recovery minimises ventilation heat losses.
- ❑ Control of air exchange for creating comfortable indoor microclimate.
- ❑ Compatible with round Ø160 to 400 mm air ducts.

■ Design

- ❑ The casing is made of double-skinned aluzinc panels, internally filled with 20 or 25 mm mineral wool layer for heat- and sound-insulation.
- ❑ The casing has fixing brackets with vibration absorbing connectors for easy installation.
- ❑ The spigots for connection to the air ducts are located at the side of the unit and are rubber sealed for airtight connection to the air ducts.
- ❑ The service panel ensures easy access to the internals for cleaning, filter replacement and other maintenance operations.

■ 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 KOMFORT EC DE400/700/1100 models are equipped with a high-efficient counter-flow aluminium heat exchangers with a large surface area.
- ❑ The KOMFORT EC DE2000/4000 models are equipped with a high-efficient cross-flow aluminium heat exchangers with a large surface area.
- ❑ The air flows are fully separated within the heat exchanger. Odours and contaminants contained in the extract air are not transferred to the supply air flow.
- ❑ Heat recovery is based on utilization of heat energy contained in the extract air stream for heating up of 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 of intake air. This contributes to better performance of the air conditioner in ventilated premises.

- ❑ The electronic frost protection system based on bypass and heater is used to prevent the heat exchanger freezing in cold seasons. The bypass damper is opened and the heater is turned on automatically according to temperature sensor readings. Cold intake air passes by the heat exchanger and is warmed up to set temperature in the heat exchanger. Synchronously extract air that passes by the heat exchanger is used for its defrosting. After a freezing danger is over the bypass damper is closed, the heater is turned off. The unit reverts to the normal operation mode.

- ❑ The drain pan under the heat exchanger block is used for condensate collection and drainage.

■ Air heater

- ❑ The unit is equipped with an electric heater for operation during cold seasons at low outside temperature.
- ❑ The integrated electric heater is activated to warm up supply air flow if set indoor air temperature may not be reached by means of heat recovery only.
- ❑ Smooth heat output control ensures automatic supply air temperature maintaining.
- ❑ Two integrated overheat protection thermostats, one actuated at +60 °C with automatic restart and the other one actuated at +90 °C with manual restart.

■ Air filtration

- ❑ KOMFORT EC DE400/700/1100: the built-in G4 (optionally F7) pocket supply filter and G4 cassette extract filter provide efficient air filtration.
- ❑ KOMFORT EC DE2000/4000: the built-in G4 supply and extract cassette filters provide efficient air filtration.

Control and automation

- The unit incorporates an integrated control system with a wall-mounted control panel and a sensor display.
- The standard delivery set includes a 10 m cable for connection of the unit and the control panel.
- Automation functions:
 - Activating/Deactivating the unit.
 - Setting required speed for the supply and extract fan for the unit air flow control. Each speed is individually adjusted during set-up.
 - Automatic heater activation/deactivation and smooth heat output control. Heater overheating protection. Cooling of the heater at the end of the heating cycle.
 - Opening/closing the bypass damper for summer ventilation.
 - Setting and maintaining room or duct air temperature.
 - Timer activation/deactivation and set-up.

- Setting day- and week-scheduled operation of the unit.
- Operation control on feedback from **FS1** duct humidity sensor (to be ordered separately) or on the humidity sensor in the control panel.
- Filter clogging control.
- System shutdown on signal from the fire alarm panel.
- Controlling supply and exhaust air dampers (to be ordered separately).
- Cooler control (to be ordered separately).

Mounting

- Ceiling mounting with fixing brackets.
- The correct mounted unit must provide free condensate collection and drainage as well as good access for servicing and filter replacement.
- Access for maintenance:
 - KOMFORT EC DE400 / 700 / 1100: on the right or left side panel.
 - KOMFORT EC DE2000 / 4000: on the bottom.

Overall dimensions

Model	Dimensions [mm]											Figure №
	D	B	B1	B2	B3	B4	H	H1	L	L1	L2	
KOMFORT EC DE400-1.5	160	485	415	596	132,5	220	285	130	1238	1286	925	1
KOMFORT EC DE700-2	199	827	711	–	294	345	283	120	1238	1286	–	2
KOMFORT EC DE1100-3.3	249	1350	1215	607,5	430	655	317	143	1346	1395	–	2
KOMFORT EC DE2000-12	314	1050	915	457,5	247	575	750	375	1360	1408	–	3
KOMFORT EC DE4000-21	399	1265	1130	565	297	632,5	830	415	1595	1643	–	3

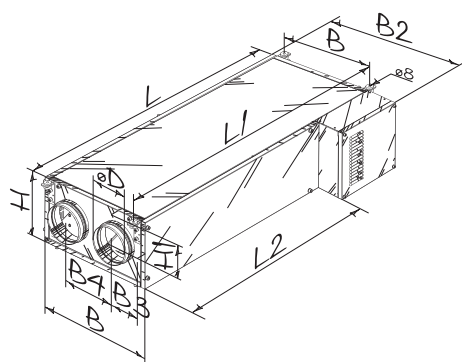


Fig. 1

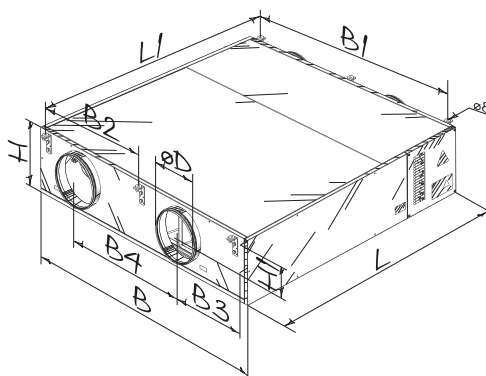


Fig. 2

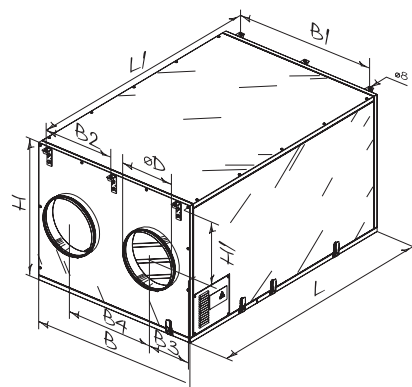



Fig. 3

Accessories

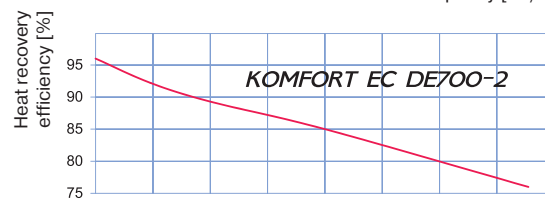
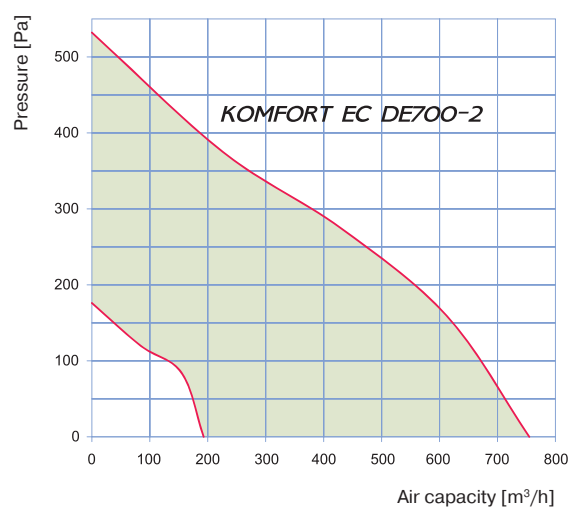
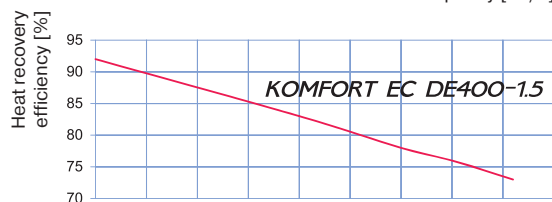
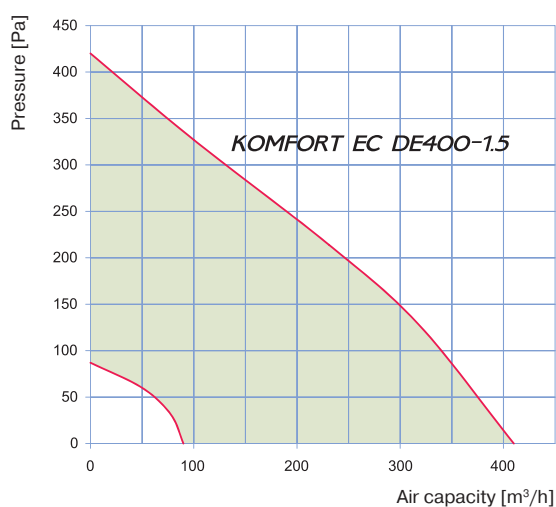
Model	Replaceable filter G4 (pocket)	Replaceable filter F7 (pocket)	Replaceable filter G4 (cassette)	Replaceable filter G4 (cassette)	Duct humidity sensor
KOMFORT EC DE400-1.5	FPT-EC DE400 G4	FPT-EC DE400 F7	-	FP-EC DE400 G4	 FS1
KOMFORT EC DE700-2	FPT-EC DE700 G4	FPT-EC DE700 F7	-	FP-EC DE700 G4	
KOMFORT EC DE1100-3.3	FPT-EC DE1100 G4	FPT-EC DE1100 F7	-	FP-EC DE1100 G4	
KOMFORT EC DE2000-12	-		FP-EC DE2000 G4		
KOMFORT EC DE4000-21	-		FP-EC DE4000 G4		

Technical data

Parameters	KOMFORT EC DE400-1.5	KOMFORT EC DE700-2	KOMFORT EC DE1100-3.3	KOMFORT EC DE2000-12	KOMFORT EC DE4000-21
Voltage [V / 50-60 Hz]	1 ~ 230			3 ~ 400	
Fan power [kW]	0.2	0.27	0.4	0.84	1.98
Fan current [A]	1.62	1.6	2.26	5	3.4
Electric heater power [kW]	1.5	2.0	3.3	12.0	21.0
Electric heater current [A]	6.5	8.7	14.3	17.4	30.0
Total unit power [kW]	1.7	2.27	3.7	12.84	23.0
Total unit current [A]	8.12	10.3	16.56	22.4	33.4
Air capacity [m³/h]	400	700	1100	2000	4000
RPM	3560	3060	2780	2920	2580
Sound pressure level at 3 m [dBA]	48	53	52	58	59
Transported air temperature [°C]	-25 up to +40	-25 up to +60		-25 up to +40	-25 up to +50
Casing material	aluzinc				
Insulation	20 mm mineral wool			25 mm mineral wool	
Extract filter	cassette G4				
Supply filter	pocket G4 (F7)*			cassette G4	
Connected air duct diameter [mm]	160	200	250	315	400
Weight [kg]	67	75	95	190	290
Heat recovery efficiency [%]**	up to 90			up to 75	
Heat exchanger type	counter-flow			cross-flow	
Heat exchanger material	aluminum				

* option.

** Heat recovery efficiency is specified in compliance with the EN308 EU norms.



■ Technical data

