Kitchen heat recovery air handling units

KOMFORT EC SKE270-1.5

Air capacity – up to 270 m³/h

Heat recovery efficiency – up to 95 %

Use

- ❑ Air handling unit with a kitchen hood 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 mm air ducts.

Design

❑ The casing is made of double-skinned white polymer coated steel panels, internally filled with polypropylene foam layer of 15 mm for heat and sound insulation.

❑ The unit includes an integrated kitchen hood with control buttons on the front panel.

❑ Wall mounting with the fixing components on the casing.

❑ The spigots for connection to the air ducts are located on the top of the unit and are rubber sealed for airtight connection to the air ducts.

❑ The hinged panel of the casing ensures easy access to the internals for cleaning 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 unit is equipped with a plate counter-flow polystyrene heat exchanger with a large surface area and high heat recovery efficiency.

❑ 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 is used to prevent the heat exchanger freezing in cold seasons. In case of heat exchanger freezing danger communicated by the temperature sensor the supply fan stops to let warm extract air warm up the heat exchanger. After that the the supply fan is turned on and the unit reverts to the normal operation mode.

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

❑ When the kitchen hood is ON, the extract air is exhausted through it and does not come in contact with the heat exchanger.

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 up to +30 °C if set indoor air temperature may not be reached by means of heat recovery only.

❑ The electric heater shuts down once the set air temperature is reached.

❑ 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

❑ The built-in G4 pocket supply filter and G4 pocket extract filter provide efficient air filtration. Optionally, an F7 supply filter may be used.

❑ The kitchen hood has a multilayer fat aluminium filter.

Control and automation

❑ The unit incorporates an integrated control system, a built-in control panel with an LCD display and a remote control.

❑ The air handling unit has two operation modes:

• **Heat recovery mode.** When the kitchen hood is off, warm air from the premises is extracted through the air ducts to the heat exchanger to transfer its heat energy to supply air stream.

• **Kitchen hood mode.** When the kitchen hood is on, warm air is extracted through the kitchen hood and is removed through the exhaust air duct outside. Both operation modes provide balanced indoor ventilation.

❑ Automation functions:

• Activating/deactivating the unit.

• Setting low, medium and high speeds for the supply and extract fan. Air flow control. Each speed is individually adjusted during set-up.

• Changeover between heat recovery and kitchen hood operation modes.

• Unit shutdown on signal from a fire alarm panel.

• Switching to the maximum speed in case of activation of a CO_2 sensor,

humidity sensor, IAQ sensor or any other sensor (available separately).
- Filter clogging control and indication by operating hours.
- Setting week-scheduled operation of the unit.
- Preventing overheating of the electric heating elements.

Mounting

❑ Wall mounting in the kitchen.

❑ The correct mounted unit must provide sufficient access for servicing and repair operations.

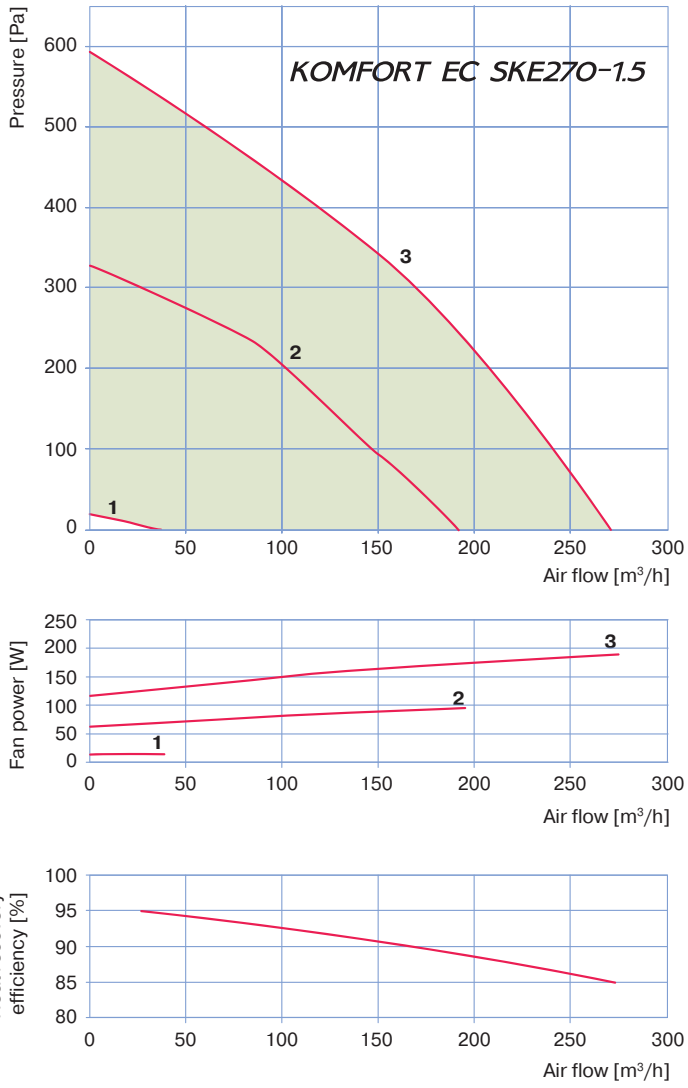
❑ The unit must be connected to a drain system.

❑ To enable the correct supply air warming function install a duct temperature sensor from the delivery set not further than 1 m from the spigot in the supply air duct.

Technical data

Parameters	KOMFORT EC SKE270-1.5		
Voltage [V / 50-60 Hz]	1 ~ 230		
Speed	1	2	3
Fan power [W]	16	94	187
Fan current [A]	0.1	0.6	1.1
Electric heater power [kW]	1.5		
Electric heater current [A]	6.5		
Total unit power [kW]	1.69		
Total unit current [A]	7.6		
Maximum air capacity [m³/h]	40	190	270
RPM	1280	2240	3200
Sound pressure level at 3 m [dBA]	28	39	42
Transported air temperature [°C]	-25 up to +60		
Casing material	steel		
Insulation	15 mm polypropylene foam		
Extract filter	pocket G4		
Supply filter	pocket G4 (F7)*		
Replaceable filter**	FPT-EC SKE270 G4 FPT-EC SKE270 F7		
Connected air duct diameter [mm]	125		
Weight [kg]	38		
Heat recovery efficiency [%]***	up to 95		
Heat exchanger type	counter-flow		
SEC class	A		
Heat exchanger material	polystyrene		

*Option.
**Replaceable filter kits are specially ordered accessories and are available separately.
*** Heat recovery efficiency is specified in compliance with the EN308 EU norms.



Overall dimensions, mm