

# KOMFORT D5 180

## 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 heat losses in cold climate conditions and load for air conditioning systems in hot climate conditions due to heat and humidity recovery.
- Control of air exchange for creating comfortable indoor microclimate.
- Compatible with round Ø 150 mm air ducts.



**Air flow:**  
up to 220 m<sup>3</sup>/h  
61 l/s



**Heat recovery efficiency:**  
up to 98 %



### Design

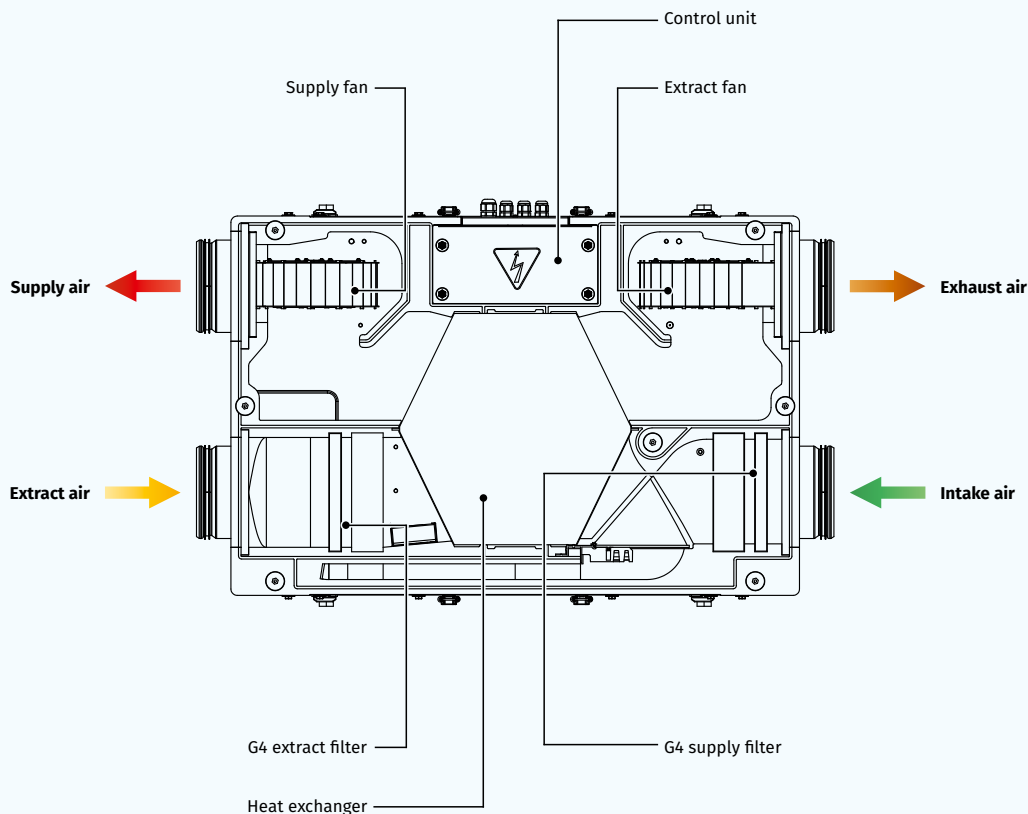
- The casing is made of 15–30 mm thick expanded polypropylene (EPP) with high heat and sound-insulating properties.
- The spigots are located at the side of the unit and are rubber sealed for airtight connection to the air ducts.

### Fans

- Single-phase three-speed external rotor motors with centrifugal impellers and forward curved blades.
- Integrated motor overheating protection with automatic restart.

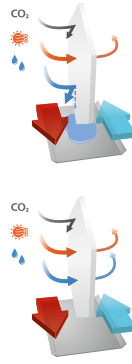
### Air filtration

- Two built-in G4 and F7 filters provide efficient supply air filtration.
- The G4 filter is used for extract air filtration.



### Heat recovery

- o The **KOMFORT D5 180** unit is equipped with a plate counter-flow polystyrene heat exchanger for heat recovery. The unit condensate is collected and drained to the drain pan under the heat exchanger.
- o The **KOMFORT D5 180-E** unit is equipped with an enthalpy plate counter-flow heat exchanger for energy (heat and humidity) recovery. Due to humidity recovery condensate is not generated in the enthalpy heat exchanger.
- o 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.
- o 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.
- o 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

- o The units have integrated control system based on the mechanical three-speed speed switch CDP-3/5 (**KOMFORT D5 180 S3**) or sensor three-speed speed switch SGR-3/1 (**KOMFORT D5 180 S4**) and power cable with mains plug.
- o The control unit is integrated in the unit casing.
- o The power and ground cables are connected to the control unit via the cable glands on the side of the unit.



### Mounting

- o The units are designed for suspended ceiling, wall and horizontal floor mounting.
- o The correct mounted unit must provide service access for maintenance and filter replacement.

### FREEZE PROTECTION

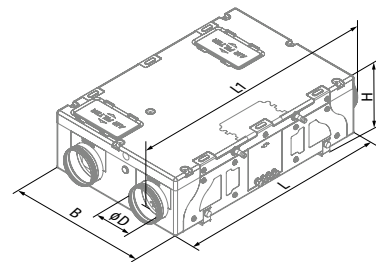
- o The freeze protection of the heat exchanger is activated by shutdown on the supply fan as follows: in case of freezing danger communicated by the temperature sensor the supply fan turns off for the time required for defrosting of the heat exchanger with the warm extract air flow. After freezing danger is no longer imminent, the unit reverts to the standard operation mode.

### Designation key

Series	Mounting type	Casing modification	Rated air flow [m³/h]	Heat exchanger type	Control
KOMFORT	D: suspended mounting, horizontally directed spigots	5: expanded polypropylene	180	-: heat recovery -E: energy recovery	S3: mechanical speed switch CDP-3/5 S4: sensor speed switch SGR-3/1

### Overall dimensions [mm]

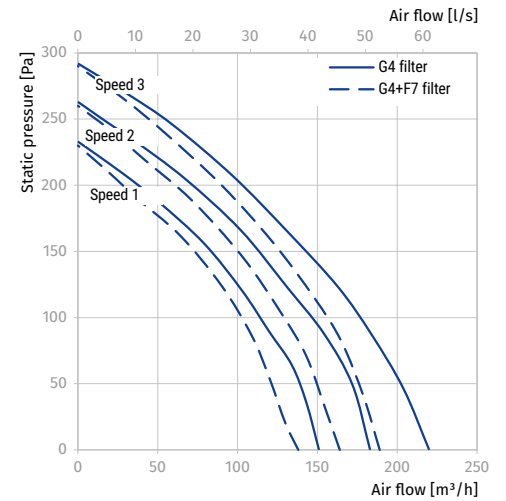
Model	D	B	L	L1	H
KOMFORT D5 180(-E) S3/S4	150	600	900	1009	264



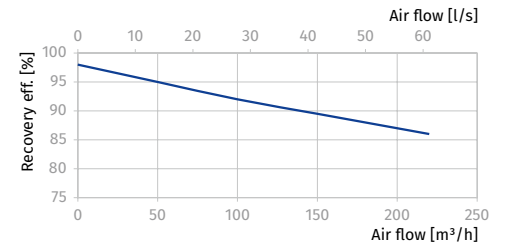
**Technical data**

Parameters	KOMFORT D5 180 S3 KOMFORT D5 180 S4	KOMFORT D5 180-E S3 KOMFORT D5 180-E S4
Voltage [V / 50 (60) Hz]	1 ~ 230	1 ~ 230
Power [W]	117	117
Current [A]	0.54	0.54
Maximum air flow [m³/h (l/s)]	220 (61)	220 (61)
RPM [min <sup>-1</sup> ]	2317	2317
Sound pressure level at 3 m [dBA]	35	35
Transported air temperature [°C]	-25...+40	-25...+40
Casing material	EPP	EPP
Insulation	15-30 mm EPP	15-30 mm EPP
Extract filter	G4	G4
Supply filter	G4 (option: F7)	G4 (option: F7)
Connected air duct diameter [mm]	150	150
Weight [kg]	14	14
Heat recovery efficiency [%]	86-98 %	79-94 %
Heat exchanger type	counter-flow	counter-flow
Heat exchanger material	polystyrene	enthalpy
SEC class	D	D
ErP	2016	2016

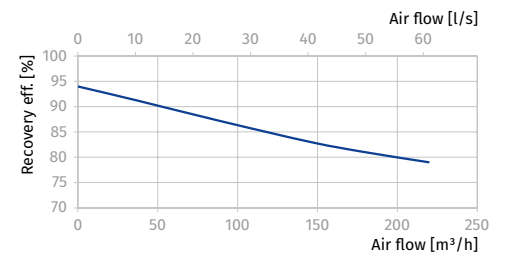
EPP HEAT AND ENERGY RECOVERY AIR HANDLING UNITS



**KOMFORT D5 180**



**KOMFORT D5 180-E**



**Calculation of air temperature downstream of the heat exchanger:**

$$t = t_{\text{outd}} + k_{\text{hr}} \times (t_{\text{extr}} - t_{\text{outd}}) / 100,$$




where

$t_{\text{outd}}$  – outdoor air temperature [°C]

$t_{\text{extr}}$  – extract air temperature [°C]

$k_{\text{hr}}$  – heat exchanger efficiency (according to the diagram) [%]

## Accessories

		KOMFORT D5 180 S3 KOMFORT D5 180 S4	KOMFORT D5 180-E S3 KOMFORT D5 180-E S4
G4 panel filter		FP 214x186x18 G4	FP 214x186x18 G4
F7 panel filter		FP 214x186x48 F7	FP 214x186x48 F7
Syphon kit		SFK 20x32	-