KOMFORT ULTRA EC S2 300

Compact heat recovery air handling units



Features

- Air handling units for efficient supply and exhaust ventilation in flats, houses, cottages and other buildings.
- The heat recovery technology is used to minimize ventilation heat losses.
- Control of air exchange for creating comfortable indoor microclimate.
- Compatible with round ∅ 125 mm air ducts.

Air flow:
up to 300 m³/h
83 l/s

Heat recovery efficiency:
up to 79 %

EC motor

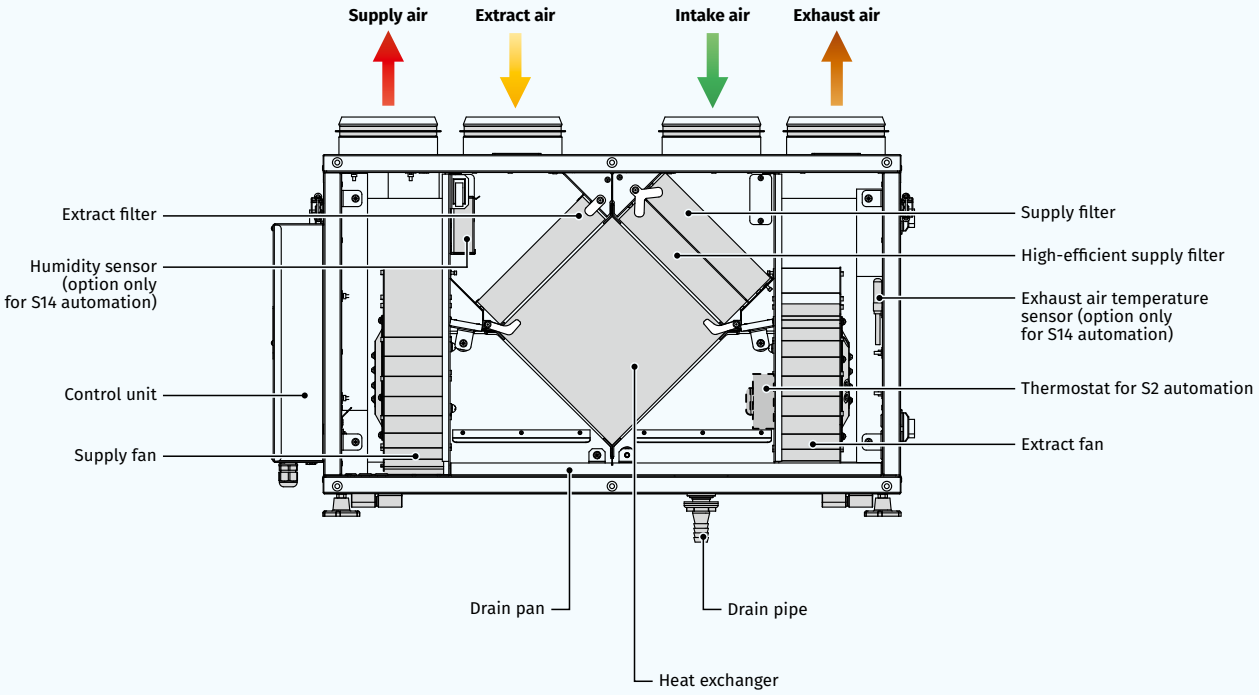
ErP 2018

Design

- The casing of **KOMFORT Ultra EC S2 300 ... white** is made of double-skinned white painted metal panels, internally filled with 20 mm mineral wool layer for heat- and sound-insulation.
- The spigots are located at 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 unit internals for service works including cleaning, filter replacement, etc.

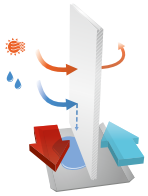
Fans

- The unit is equipped with high-efficient external rotor EC motors and centrifugal impellers with forward curved blades.
- 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.
- The impellers are dynamically balanced.



Heat recovery

- The **KOMFORT Ultra EC S2 300-H ... white** unit is equipped with a plate cross-flow polystyrene heat exchanger for heat recovery. The unit condensate is collected and drained to the drain pan under the heat exchanger.



- The **KOMFORT Ultra EC S2 300-E ... white** unit is equipped with an enthalpy plate cross-flow heat exchanger for energy (heat and humidity) recovery. Due to humidity recovery condensate is not generated in the enthalpy 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.
- When the indoor and outdoor temperature difference is insignificant, heat recovery is not reasonable. In this case the heat exchanger can be temporary replaced with a summer block for the warm season (available as a specially ordered accessory).

FREEZE PROTECTION

- The integrated automatic freeze protection is used to prevent freezing of the heat exchanger in the cold season. The supply fan turns off according to the temperature sensor to get the heat exchanger warmed up with extract air. After that the supply fan turns on and the unit continues to run in the standard mode.

Air filtration

- Two built-in G4 and F8 filters provide efficient supply air filtration.
- The G4 filter is used for extract air filtration.

Control and automation





- The **KOMFORT Ultra EC S2 300-H(E) S2 white** unit is equipped with the CDT E/0-10 speed controller that is included in the delivery.
- The **KOMFORT Ultra EC S2 300-H(E) S14 white** units have an integrated control system with a wall-mounted control panel S14 with a LED indication.

Mounting

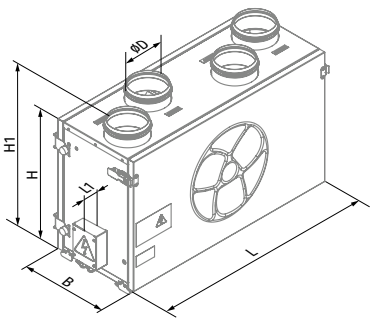
- The units can be fixed to the wall or mounted on the floor using the mounting brackets. The **KOMFORT Ultra EC S2 300-E ... white** unit is also suitable for ceiling mounting.
- The **KOMFORT Ultra EC S2 300-H ... white** unit mounting position must provide condensate collection and drainage.
- While mounting provide free access to the service panel for filter replacement and servicing.
- Due to universal casing design both left and right mounting is possible. It requires swapping the service and the back panel.

Designation key

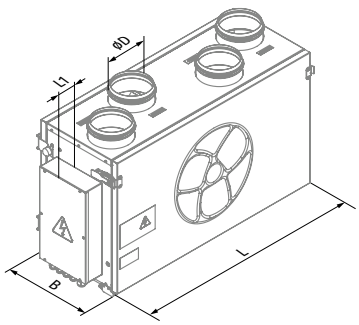
Series	Unit type	Motor type	Spigot modification	Insulation	Rated air flow [m³/h]		Heat exchanger type	Control	Casing
KOMFORT	**Ultra:** compact unit	**EC:** electronically commutated motor	**S:** vertical spigot orientation	**2:** insulation 20 mm	**300**	–	**H:** heat recovery **E:** energy recovery	**S2:** CDT E/0-10 speed controller **S14:** sensor control panel with LED indication	**white:** painted steel

Dimensions [mm]

Model	D	B	H	H1	L	L1
KOMFORT Ultra EC S2 300-H(E) S2 white	125	300	443	490	713	43
KOMFORT Ultra EC S2 300-H(E) S14 white	125	300	443	490	713	63



KOMFORT Ultra EC S2 300-H(E) S2 white



KOMFORT Ultra EC S2 300-H(E) S14 white

Technical data

Parameters	KOMFORT Ultra EC S2 300-H S2 white KOMFORT Ultra EC S2 300-H S14 white	KOMFORT Ultra EC S2 300-E S2 white KOMFORT Ultra EC S2 300-E S14 white
Voltage [V / 50 (60) Hz]	1 ~ 230	1 ~ 230
Power [W]	165	165
Current [A]	1.3	1.3
Maximum air flow [m³/h (l/s)]	300 (83)	300 (83)
Sound pressure level at 3 m [dBA]	33	33
Transported air temperature [°C]	-25...+40	-25...+40
Insulation	20 mm mineral wool	20 mm mineral wool
Extract filter	G4	G4
Supply filter	G4, F8	G4, F8
Connected air duct diameter [mm]	125	125
Weight [kg]	32	28
Heat recovery efficiency [%]*	55–79	51–73
Humidity recovery efficiency [%]	–	26–45
Heat exchanger type	cross-flow	cross-flow
Heat exchanger material	polysterene	enthalpy
SEC class for S2 automation	B	C
SEC class for S14 automation	A	A
ErP	2016, 2018	2016, 2018

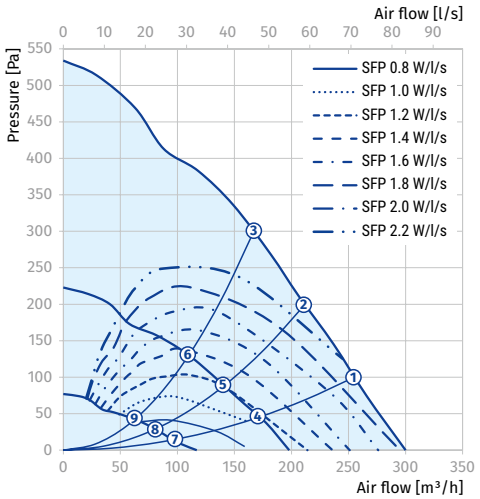
*Heat recovery efficiency is specified in compliance with the EN 13141-7.

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]	**56**	48	43	53	44	44	40	26	24		
L_{WA} to supply outlet [dBA]	**71**	53	53	68	65	60	59	52	51		
L_{WA} to exhaust inlet [dBA]	**57**	43	51	52	52	45	37	26	21		
L_{WA} to exhaust outlet [dBA]	**72**	53	60	66	67	61	62	55	48		
L_{WA} to environment [dBA]	**53**	33	44	47	50	44	38	29	24	**33**	**43**

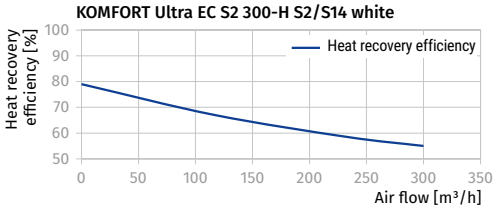
Data provided for point 1 of the air flow diagram

Total power. Total sound pressure level.

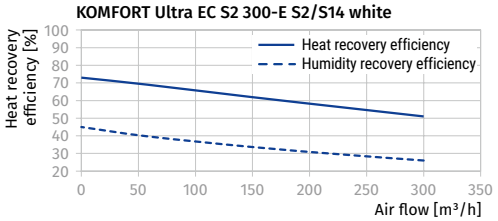
Point	Total power of the unit [W]	Sound pressure level at 3 m (1 m) [dBA]
1	150	33 (43)
2	138	33 (43)
3	121	32 (42)
4	52	31 (41)
5	48	28 (38)
6	41	27 (37)
7	17	27 (37)
8	16	23 (33)
9	14	23 (33)



KOMFORT Ultra EC S2 300-H S2/S14 white



KOMFORT Ultra EC S2 300-E S2/S14 white



Accessories

		KOMFORT Ultra EC S2 300-H S2 white KOMFORT Ultra EC S2 300-E S2 white	KOMFORT Ultra EC S2 300-H S14 white KOMFORT Ultra EC S2 300-E S14 white
G4 panel filter		FP 240x184x40 G4	FP 240x184x40 G4
F8 panel filter		FP 240x184x40 F8	FP 240x184x40 F8
Humidity sensor		–	FS2
CO_2 sensor with indication		–	CD-1
CO_2 sensor		–	CD-2
Humidity sensor		–	HR-S
Silencer		SD 125	SD 125
Backdraft air damper		VRV 125	VRV 125
Air damper		–	VKA 125
Electric actuator		–	TF230
Summer block		SB C4 200/240	SB C4 200/240