Series
VENTS VUT H EC

Heat recovery air handling units in heat- and sound-insulated casing with air capacity **up to 810 m³/h** and heat recovery efficiency **up to 98%**.

Description

The air handling unit VUT H EC is the fully-featured ventilation unit that ensures air filtration, fresh air supply and stale air extract.

The thermal heat energy contained in extract air is transferred to supply air through the plate heat exchanger.

The units is suitable for integration into various ventilation and air conditioning networks.

Due to applied EC motors the unit energy demand is decreased by 1.5-3 times and noise level is lowered as well.

Casing

Made of zinc aluminium, internally filled with 25 mm mineral wool heat- and sound-insulating layer.

Filter

Supply and extract air flows are purified through two panel filters with filtering class G4. Optionally a supply F7 filter may be installed.

Motor

High-efficient electronically commutated (EC) external rotor motor. This motor design is the most state-of-the-art energy saving solution.

EC motors are featured with high performance and total speed controllable range. High efficiency reaching 90% is the premium advantage of the electronically-commutated motors.

The VUT 300 H EC and 400 H EC units are equipped with constant flow fans with forward curved impeller blades. This fan design ensures set air flow that remains constant even at variable ventilation system resistance, for example, in case of filter clogging. The VUT 800 H EC unit is equipped with backward curved blades.

Heat exchanger

The counterflow heat exchanger is made of polystyrene plates. Whenever heat recovery is not required the heat exchanger block can be easily replaced by a "summer" block.

The unit is equipped with a drain pan for condensate water drainage and removal as well as a built-in freezing protection system to prevent the heat exchanger freezing.

Its operating principle is based on switching the supply fan off as the temperature sensor requires. Warm extract air warms up the heat exchanger. After the heat exchanger freezing danger is not longer imminent, the supply fan switches on and the unit reverts to the set operation mode.

Control

Two control system types are available:

- The **VUT H EC** modification is equipped with P-1/010 speed controller with the control signal 0-10 V.

- The **VUT H EC Comfo** is equipped with a controller, control panel with LCD display and a wireless remote controller.

VUT H EC Comfo automation functions:

- Turning the unit on/off from the control panel;
- Three fan speeds, each of those is adjustable for the supply and extract fan;
- Terminal for air damper connection;
- Input for alarm signal from the fire fighting system.

Air handling unit accessories:

Model	Replaceable G4 filter	Replaceable F7 filter	Summer block
VUT 300-1 H EC	SF VUT 300 H EC G4	SF VUT 300 H EC F7	VL VUT 300 H EC
VUT 300-2 Г EC			
VUT 400 Г EC	SF VUT 400 H EC G4	SF VUT 400 H EC F7	VL VUT 400 H EC
VUT 800 Г EC	SF VUT 800 H EC G4	SF VUT 800 H EC F7	VL VUT 800 H EC

Designation example:

Series	Rated air capacity [m³/h]	Duct connection	Motor type	Control
VENTS VUT	300; 400; 800	**H** – horizontal duct connection	**EC** - synchronous electronically commutated motor	**_** – P-1/010 speed controller; **COMFO** – control panel with LCD display.

Accessories


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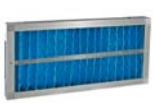
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- Relay input for connection of a CO2 / humidity / IAQ or any other sensor that switches the unit to maximum speed;
- Filter clogging control by motor hours;
- Unit week schedule setting.

Mounting

The unit is designed for wall mounting with a wall bracket, installation on the floor or suspended ceiling mounting.

Any mounting position must enable condensate drainage and removal.

The filters are accessible for servicing and cleaning through the service panel that must be installed during the mounting stage on the left or on the right side along the supply air flow path.

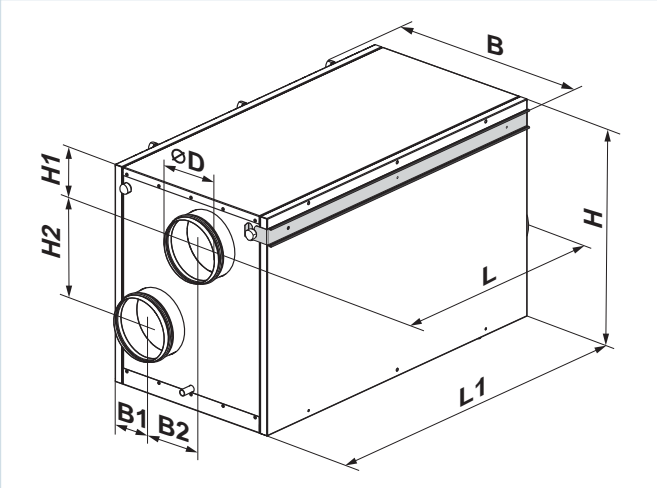
Technical data:

	VUT 300-1 H EC	VUT 300-2 H EC	VUT 400 H EC	VUT 800 H EC
Unit supply voltage, 50/60 Hz [V]	1~ 230			
Max. unit power [W]	140		210	334
Max. unit current [A]	1.2		1.6	2.2
Max. air capacity [m^3/h]	300		400	810
RPM [min^{-1}]	2300		2600	2860
Sound pressure level at 3 m [dB(A)]	24-45		30-45	
Transported air temperature [°C]	from - 25 up to +60			
Casing material	zinc aluminium			
Insulation	25 mm mineral wool			
Extract filter	G4			
Supply filter	G4; (F7)*			
Connected air duct diameter [mm]	⌀150	⌀160	⌀200	⌀250
Weight [kg]	36		67	83
Heat recovery efficiency	from 86 up to 98%			from 81 up to 98%
Heat exchanger type	Counter-flow			
Heat exchanger material	Polystyrene			

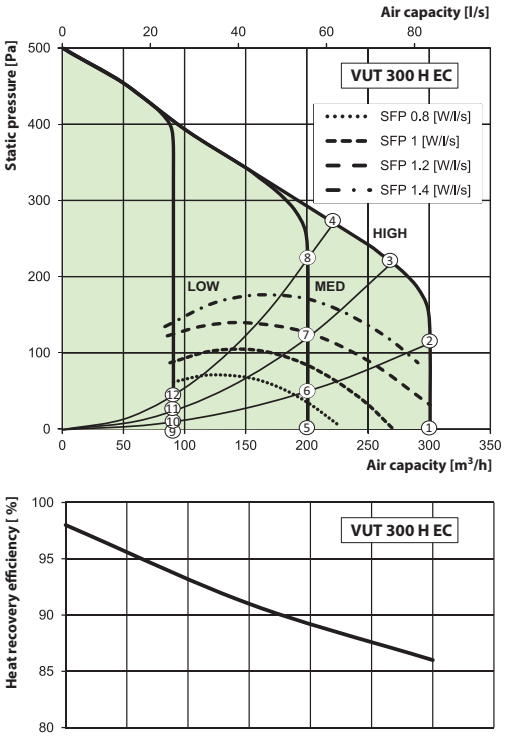
*option

Unit overall dimensions:

Model	Dimensions [mm]								
	⌀D	B	B1	B2	H	H1	H2	L	L1
VUT 300-1 H EC	150	455	130	140	525	105	220	945	830
VUT 300-2 H EC	160	455	130	140	525	105	220	945	830
VUT 400 H EC	200	570	165	230	540	135	225	925	830
VUT 800 H EC	250	840	215	390	660	160	295	1010	890

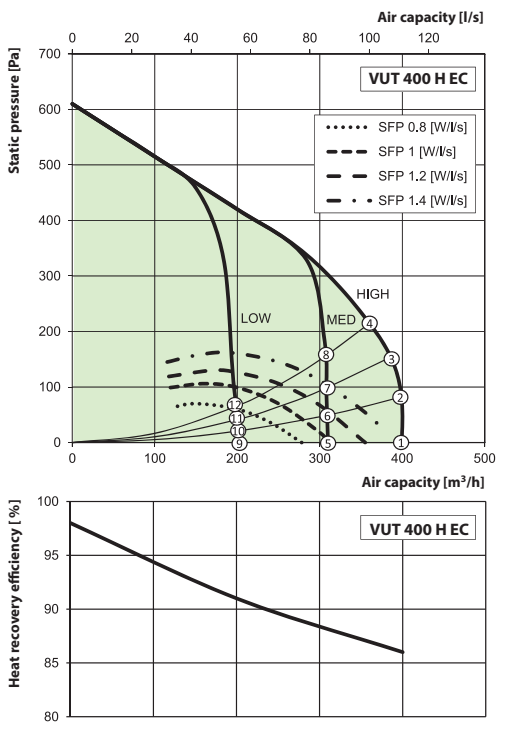


VENTS VUT H EC



Sound pressure level		Octave-frequency band [Hz]								
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dB(A)	51	29	49	47	37	41	39	34	22
L_{wA} to outlet	dB(A)	59	39	53	54	54	46	45	35	24
L_{wA} to environment	dB(A)	32	22	23	30	25	18	16	19	20

VENTS VUT H EC



Sound pressure level		Octave-frequency band [Hz]								
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dB(A)	54	32	53	52	40	44	41	37	22
L_{wA} to outlet	dB(A)	65	42	59	57	56	51	47	38	29
L_{wA} to environment	dB(A)	34	25	24	36	30	23	20	24	25

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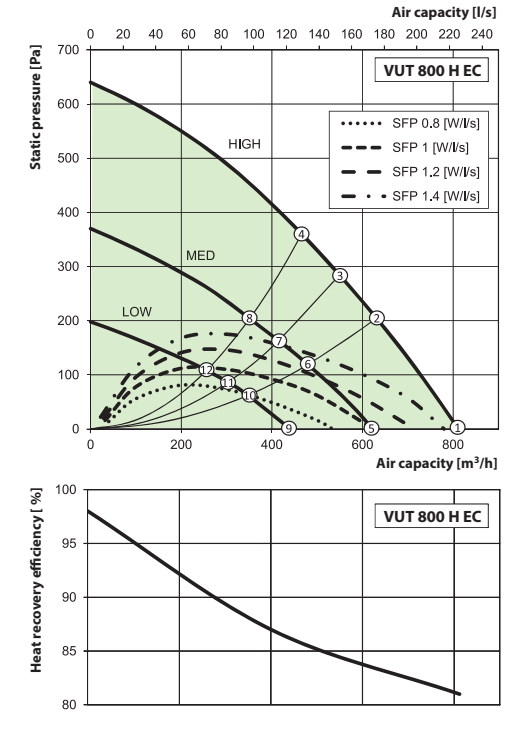
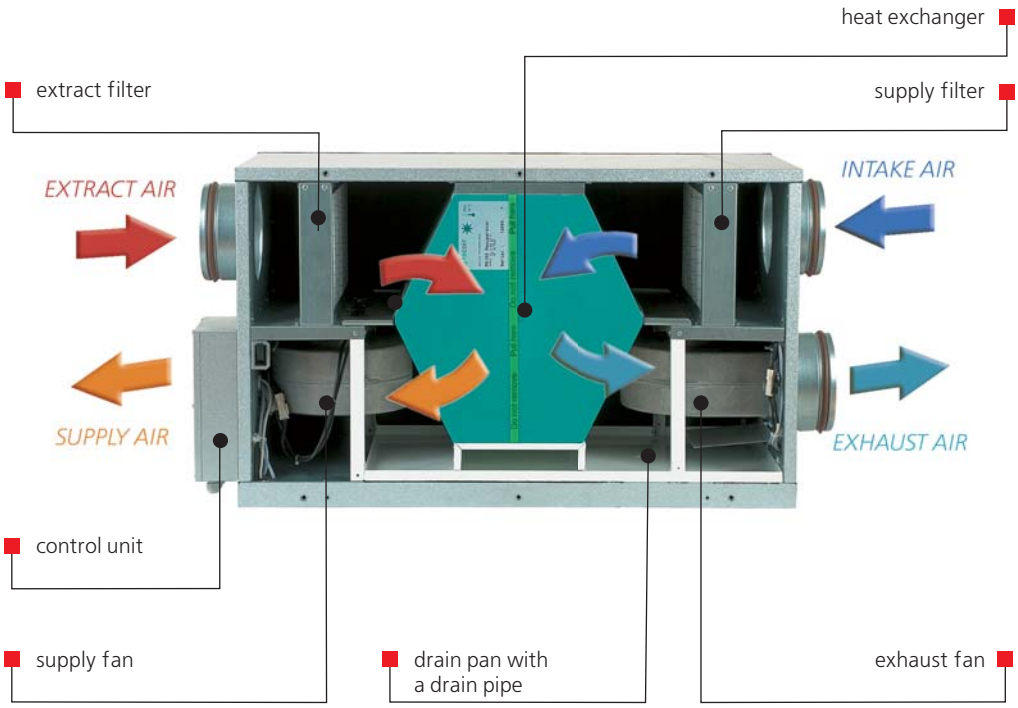


Sound pressure level		Octave-frequency band [Hz]								
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dB(A)	57	36	55	51	41	47	42	38	28
L_{wA} to outlet	dB(A)	67	47	62	62	59	53	52	42	29
L_{wA} to environment	dB(A)	41	26	29	36	32	24	22	26	26

Point	Power [W]		
	VUT 300-1 H EC VUT 300-2 H EC	VUT 400 H EC	VUT 800 H EC
1	93	139	333
2	120	187	334
3	137	219	333
4	122	226	327
5	36	87	179
6	42	101	178
7	60	116	174
8	90	135	167
9	10	32	77
10	12	37	77
11	14	42	75
12	18	47	69

Unit design:



Application examples: