

Series

**VENTS VUT 160 PB EC**  
**VENTS VUT 250 PB EC**  
**VENTS VUT 350 PB EC**



Air handling unit in heat- and sound-insulated casing.  
 Air flow up to **410 m<sup>3</sup>/h**.  
 Heat recovery efficiency up to 94 %.

**Description**

The VUT PB EC air-handling units are the fully featured ventilation units with heat recovery for air filtration, fresh air supply and stale air extract. The heat contained in the extract air is recuperated in the high-efficient plate, counter flow heat exchanger to warm up supply air. The units are designed for energy efficient ventilation of cottages and flats and are compatible with round air ducts.

**Casing**

Made of high-quality aluzinc steel, internally lined with 40 mm mineral wool heat- and sound-insulating layer.

**Filter**

The built-in F7 panel filters provide supply air filtration. The built-in G4 panel extract filters provide extract air filtration.

**Fans**

High-efficient electronically commutated motors with external motor and impeller with backward curved blades. Such motors are 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.

**Heat exchangers**

Counter-flow aluminum heat exchangers with high heat recovery efficiency. The drain pan under the heat exchanger block ensures condensate removal in both horizontal and vertical positions. In case of freezing danger determined by the temperature sensor, the supply fan is turned off for the period required for the heat exchanger defrosting. The heat exchanger is easily removed for cleaning.

**Bypass**

The units are equipped with a 100 % bypass, which can be opened if there is a need to cool down the ventilated area with cool intake air.

**Control and automation**

The unit includes integrated automation. The heat exchanger freezing protection operates as follows: In case of freezing danger determined by the temperature sensor the supply fan is turned off to let extract air warm up the heat exchanger. After freezing danger is no longer imminent, the unit reverts to the standard operation mode. Delivery set includes a multifunctional control panel indication and a 10 m long signaling cable.

**Sensor control panel (A14)**

**VUT 160 PB EC A14** and **VUT 350 PB EC A14** units are equipped with A14 sensor control panel with LED indication and following functions:



- ▶ Speed selection: Off, Low, Medium or High
- ▶ Manual opening and closing of the bypass damper
- ▶ Filter clogging control by motor hours
- ▶ Fault indication
- ▶ Control according to the optional duct humidity sensor HV2 feedback or according to an optional external sensor with NO contacts
- ▶ Ventilation system shutdown at signal from the fire alarm system

➔ **VUT 160 PB EC A14** and **VUT 350 PB EC A14** units can be connected to a PC by means of a USB cable. Special software gives following possibilities:

- ▶ Software update of the unit
- ▶ Adjusting of the Off, Low, Medium or High speed modes from 0 to 100 % for supply and exhaust fans separately

- ▶ Adjustment of the humidity level and the speed activated by optional humidity sensor HV2
- ▶ Adjustment of the speed activated by the optional external relay
- ▶ Adjustment of the temperature of activation of freezing protection
- ▶ Adjustment of filter maintenance timer
- ▶ Monitoring of the maintenance timer, humidity level, external relay, and bypass
- ▶ Error code indication.

**PU SENS 01 control panel (A11)**

**VUT 160 PB EC A11** and **VUT 350 PB EC A11** units are equipped with touch-screen LCD control panel PU SENS 01 with following functions:



- ▶ Turning unit on/off
- ▶ Low-medium-high speed selection and adjustment from 0 up to 100% for supply and exhaust fans separately
- ▶ Manual or automatic opening/closing of the bypass for summer ventilation
- ▶ Timer
- ▶ Week scheduled
- ▶ Actuating external air dampers
- ▶ Indication, adjustment and maintaining set room or supply air temperature
- ▶ Control according to the optional duct humidity sensor HV1 feedback or according to the humidity sensor built in the control panel
- ▶ Filter clogging control by motor hours
- ▶ Ventilation system shutdown at signal from the fire alarm system
- ▶ Cooler connection possibility.

**Mounting**

Units can be mounted in two different ways:

- ▶ Suspended to the ceiling
- ▶ Hanged in the wall with vertical position of flanges.

Access for the unit servicing and filter maintenance on the bottom panel side.

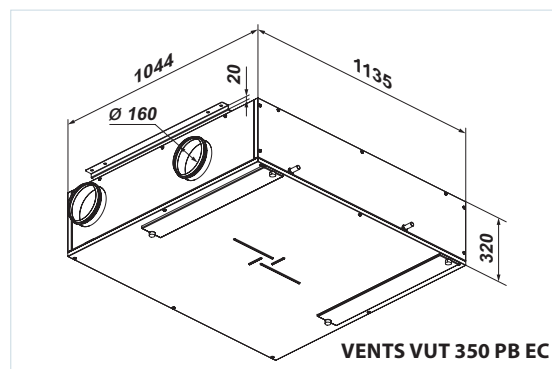
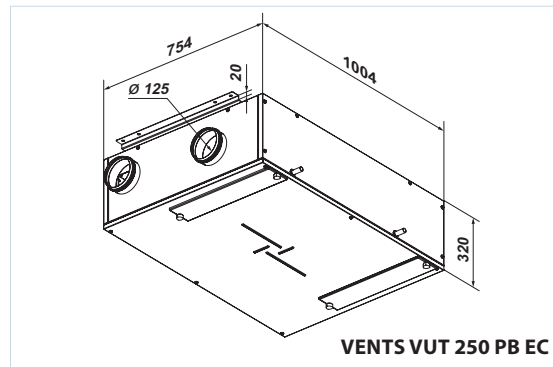
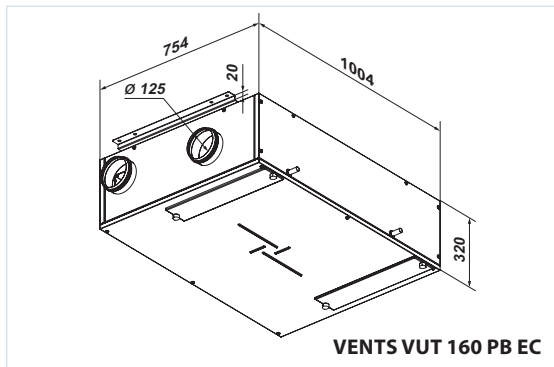
**Designation key**

Series	Rated air flow [m <sup>3</sup> /h]	Mounting type		Motor type	Control
<b>VENTS VUT</b>	160; 250; 350	<b>P:</b> ceiling suspended	<b>B:</b> bypass	<b>EC:</b> synchronous electronically commutated motor	<b>A11:</b> touch-screen LCD control panel PU SENS 01 <b>A14:</b> touch-screen panel with LED indication

**Technical data**

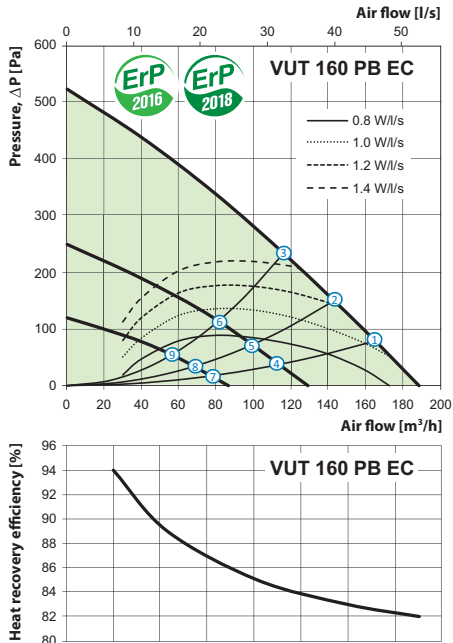
	VUT 160 PB EC	VUT 250 PB EC	VUT 350 PB EC
Voltage [V / Hz]	1~ 230		
Total unit power [W]	50	101	170
Total unit current [A]	0.4	0.8	1.3
Max. air flow [m³/h]	190	270	410
RPM [min <sup>-1</sup> ]	3770	4480	3200
Sound pressure level at 3 m [dBA]	26	28	34
Transported air temperature [°C]	from -25 °C up to +60		
Casing material	aluzinc		
Insulation	40 mm mineral wool		
Filter: extract / supply	G4 / F7		
Connected air duct diameter [mm]	Ø 125	Ø 125	Ø 160
Weight [kg]	48	48	70
Heat recovery efficiency	82 up to 94 %	80 up to 98 %	80 up to 91 %
Heat exchanger type	counter-flow		
Heat exchanger material	aluminum		
SEC Class	A+	A	A

**Overall dimensions**



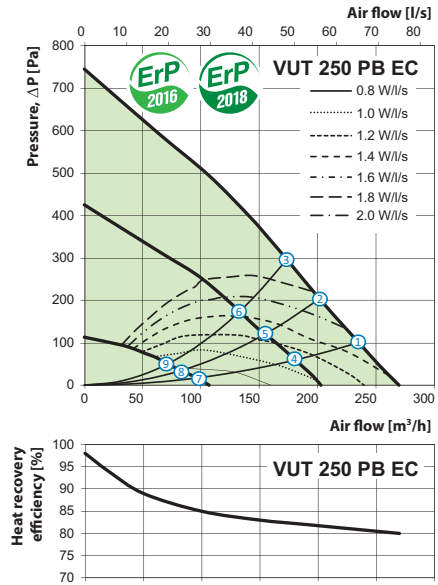
VENTS VUT  
 HEAT RECOVERY AIR  
 160 PB EC /  
 250 PB EC /  
 HANDLING UNITS  
 350 PB EC

**VENTS VUT 160 PB EC**



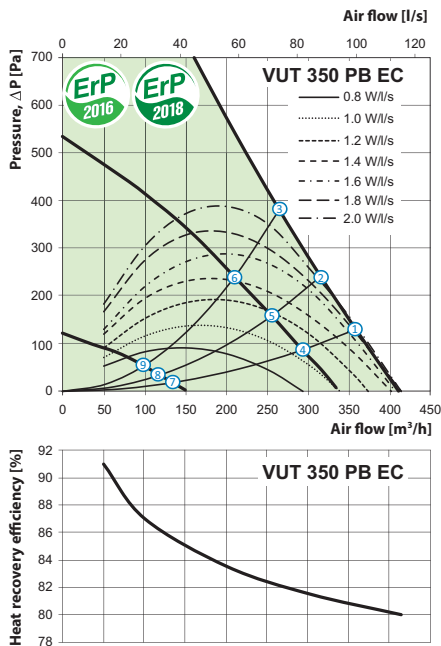
Sound power level, A-weighted	Hz	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA	
		Gen	63	125	250	500	1000	2000	4000			8000
L <sub>WA</sub> to supply inlet	dBA	53	32	45	50	45	38	34	36	29		
L <sub>WA</sub> to supply outlet	dBA	61	36	51	60	52	38	39	41	33		
L <sub>WA</sub> to exhaust inlet	dBA	53	33	45	50	45	38	34	35	31		
L <sub>WA</sub> to exhaust outlet	dBA	61	37	51	59	54	41	40	41	33		
L <sub>WA</sub> to environmet	dBA	47	29	41	44	37	34	28	27	23	26	36

**VENTS VUT 250 PB EC**



Sound power level, A-weighted	Hz	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA	
		Gen	63	125	250	500	1000	2000	4000			8000
L <sub>WA</sub> to supply inlet	dBA	55	51	45	51	44	37	33	35	30		
L <sub>WA</sub> to supply outlet	dBA	65	59	54	63	52	41	39	43	34		
L <sub>WA</sub> to exhaust inlet	dBA	55	50	45	51	44	37	33	35	31		
L <sub>WA</sub> to exhaust outlet	dBA	66	57	53	64	53	39	38	43	35		
L <sub>WA</sub> to environmet	dBA	49	45	40	44	38	33	29	27	22	28	38

**VENTS VUT 350 PB EC**



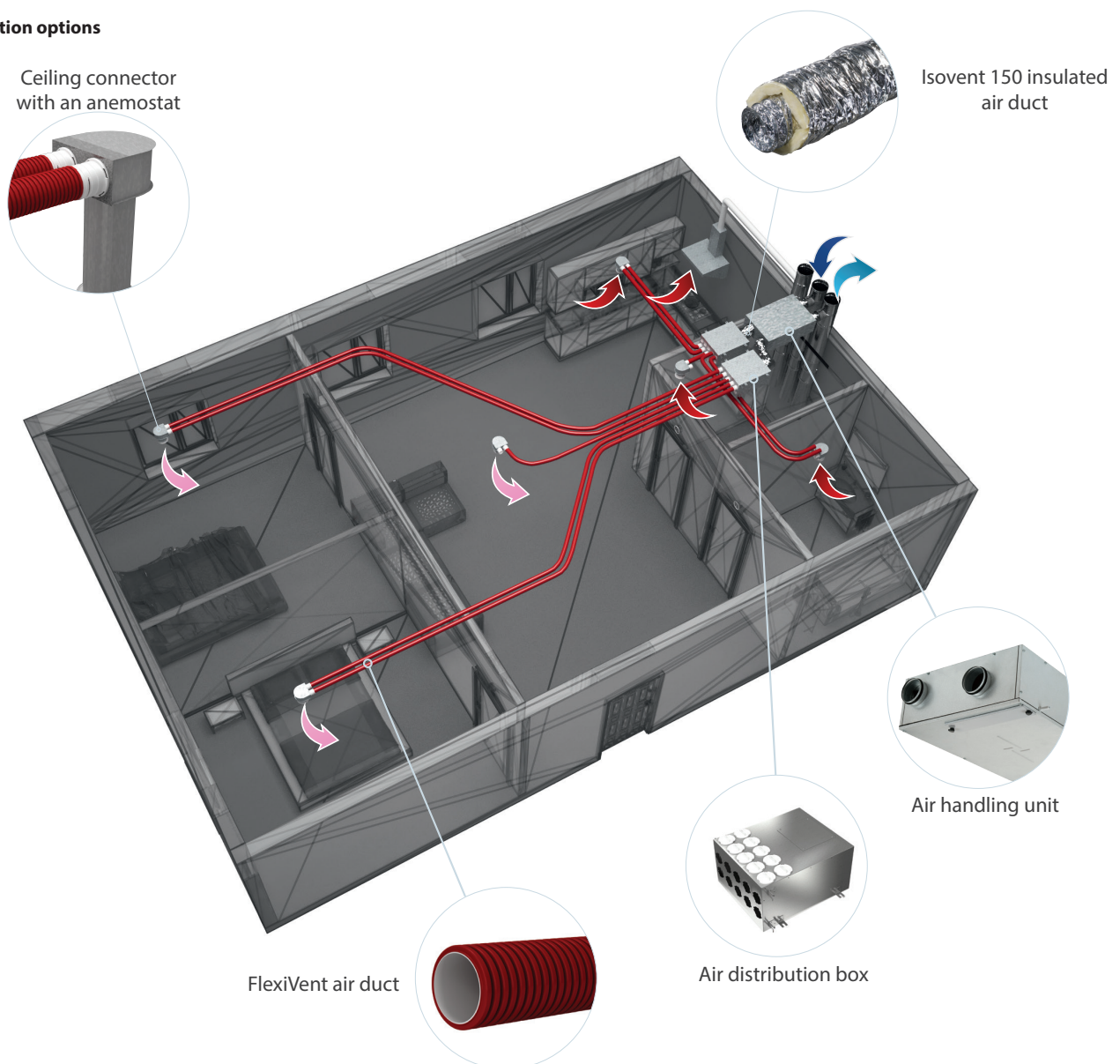
Sound power level, A-weighted	Hz	Octave-frequency band [Hz]								LpA, 3m dBA	LpA, 1m dBA	
		Gen	63	125	250	500	1000	2000	4000			8000
L <sub>WA</sub> to supply inlet	dBA	60	46	54	58	50	46	40	40	31		
L <sub>WA</sub> to supply outlet	dBA	63	52	58	60	54	46	40	41	35		
L <sub>WA</sub> to exhaust inlet	dBA	61	47	54	58	50	47	41	41	32		
L <sub>WA</sub> to exhaust outlet	dBA	63	51	58	59	56	46	40	41	35		
L <sub>WA</sub> to environmet	dBA	55	44	51	51	43	38	32	28	24	34	44

Point	Total power of the unit [W]			Total sound pressure level at 3 m (1 m) [dBA]		
	VUT 160 PB EC	VUT 250 PB EC	VUT 350 PB EC	VUT 160 PB EC	VUT 250 PB EC	VUT 350 PB EC
1	49	100	169	26 (36)	28 (38)	34 (44)
2	49	99	169	26 (36)	27 (37)	34 (44)
3	48	98	169	25 (35)	27 (37)	33 (43)
4	21	55	87	22 (32)	23 (33)	28 (38)
5	21	54	86	22 (32)	22 (32)	28 (38)
6	20	54	84	21 (31)	22 (32)	27 (37)
7	8	17	20	19 (29)	15 (25)	22 (32)
8	8	17	19	18 (28)	14 (24)	22 (32)
9	8	16	19	18 (28)	14 (24)	21 (31)

**Air handling unit accessories**

Model	Panel filter G4	Panel filter F7	Internal humidity sensor	Internal humidity sensor	External CO <sub>2</sub> sensor	External CO <sub>2</sub> sensor with indication	Outdoor humidity sensor	Electric preheater	U-trap kit	Air damper	Electric actuator
VUT 160 PB EC A11			HV1	-	-	-	-	NKP-125	SH-32	KRV 125	LF230
VUT 160 PB EC A14	SF	SF	-	HV2	CO2-1	CO2-2	HR-S	-			
VUT 250 PB EC A11	253x403x48 G4	253x403x48 F7	HV1	-	-	-	-	NKP-125			
VUT 250 PB EC A14			-	HV2	CO2-1	CO2-2	HR-S	-			
VUT 350 PB EC A11	SF	SF	HV1	-	-	-	-	NKP-160			
VUT 350 PB EC A14	253x603x48 G4	253x603x48 F7	-	HV2	CO2-1	CO2-2	HR-S	-			

**Application options**



**VENTS VUT**  
**HEAT RECOVERY AIR**  
**HANDLING UNITS**  
**160 PB EC /**  
**250 PB EC /**  
**350 PB EC**