

AIR HANDLING UNITS WITH HEAT RECOVERY

Series

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



Air handling units in heat- and sound-insulated casing.
Air flow up to 410 m³/h.
Heat recovery efficiency up to 94 %

■ Description

The VUT PB EC air handling units are the fully-featured ventilation units that ensure air filtration, fresh air supply and stale air extract. During the operation process the extract air heat is transferred to the supply air through the high-efficiency plate heat exchanger.

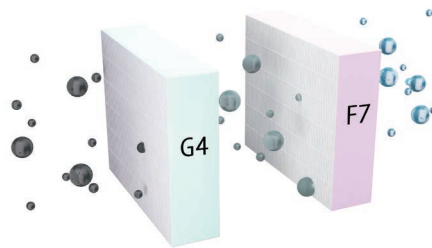
The units are applied as components of ventilation and air conditioning networks for various premises. Due to high-efficient EC motors and expanded counter-flow heat exchanger surface the energy saving parameters of the units are among the best on the market. Compatible with round Ø 125 and 160 mm air ducts.

■ Casing

Made of galvanised steel, internally filled with a 40 mm heat- and sound-insulating layer of mineral wool.

■ Filter

Built-in panel filters with filtration class F7 provide efficient supply air filtration.
Panel filters with filtration class G4 provide efficient extract air filtration.



■ Fans

High-efficient electronically-commutated motors with an external rotor and backward curved blades. These state-of-the-art motors are the most advanced solution in energy efficiency today.

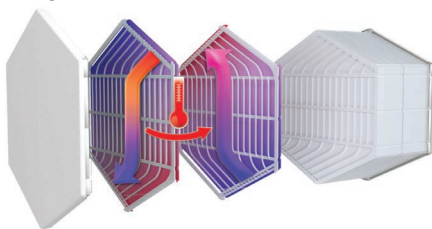
EC motors are characterised with high performance and optimum control across the entire speed range. In addition to that, the efficiency of the electronically commutated motor reaches very impressive levels of up to 90 %.

■ Heat exchanger

The units are equipped with a high-efficient counter-flow aluminium heat exchanger. In the cold season the extract air heat is captured and transferred to the supply air stream which reduces the ventilation-generated heat losses.

This can lead to formation of condensate that is collected in a special drain pan and discharged into the sewage system. In the warm season the ambient air heat is transferred to the exhaust air stream.

This allows for a considerable reduction of the supply air temperature which, in turn, reduces the air conditioning load.



■ Freeze protection

To protect the heat exchanger from freezing in the cold season, the unit has a Frost Protection mode based on the temperature sensor readings. The sensor is installed in the exhaust air duct downstream of the heat exchanger. The Frost Protection mode is activated at an exhaust air temperature of +3 °C. After temperature increase the unit returns to the previous operation mode. In case of freezing danger, the supply fan is turned off in VUT 160/250/350 PB EC A14 units.

After temperature increase the unit returns to the previous operation mode. Three modes of freeze protection are available in VUT 160/250/350 PB EC A21 models:

- gradual reduction of the supply fan speed
- with the bypass
- with the electric preheater (if the unit is equipped with a duct preheater).

■ 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.

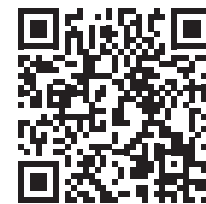
■ Control and automation

The VUT PB EC A21 units are equipped with an integrated automation system.

The A21 controller enables integration of the unit into the **Smart Home System** or **BMS (Building Management Systems)**.

The remote control panel is not included in the delivery set (purchased separately).

To control the unit via Wi-Fi, download the VENTS AHU mobile app.



Google play



Download on the App Store



The VUT PB EC A14 units are equipped with an integrated automation system and a wall-mounted control panel A14 with LED indication.





■ Mounting

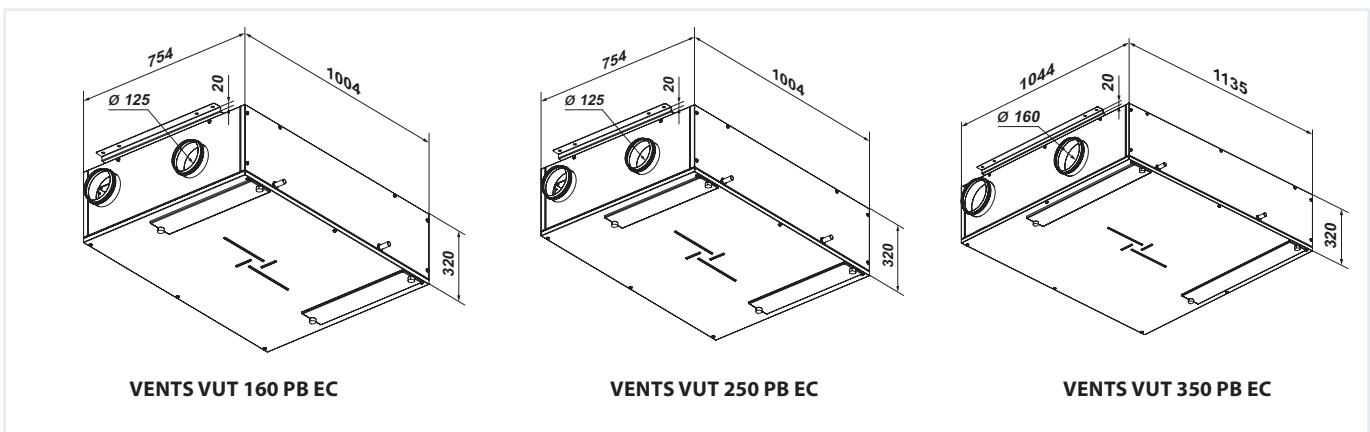
The units are designed for ceiling or wall mounting (horizontal spigot orientation) in a position allowing condensate collection and removal into a special drain pan. The access for filter maintenance and replacement is available from the bottom panel.

Designation key

Series	Rated air flow [m ³ /h]	Installation type	Bypass	Motor type	Automation
VENTS VUT	160; 250; 350	P: suspended installation	B: bypass	EC: synchronous electronically commutated motor	A14 A21

Control and automation

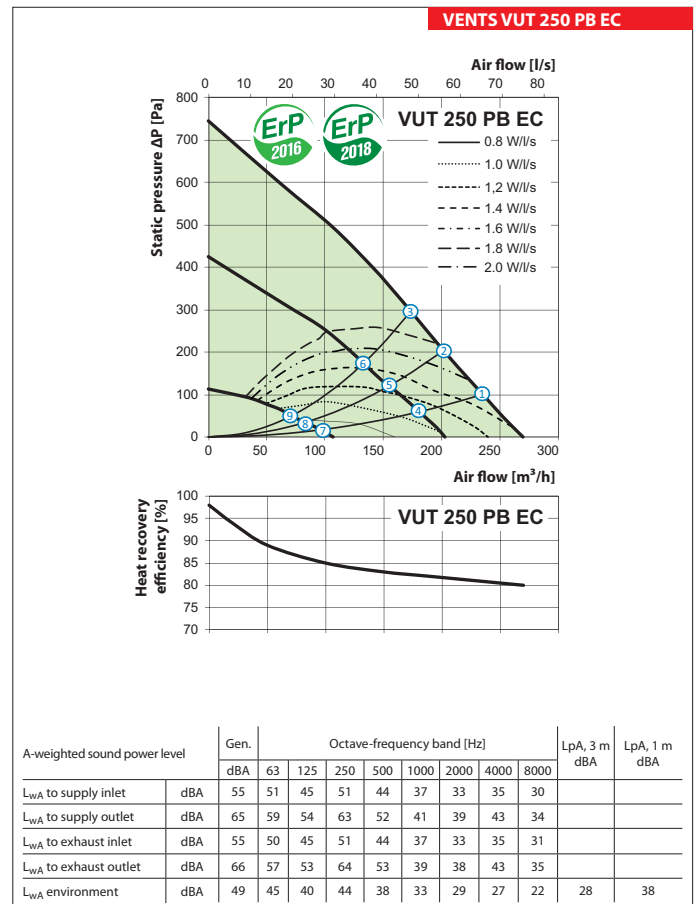
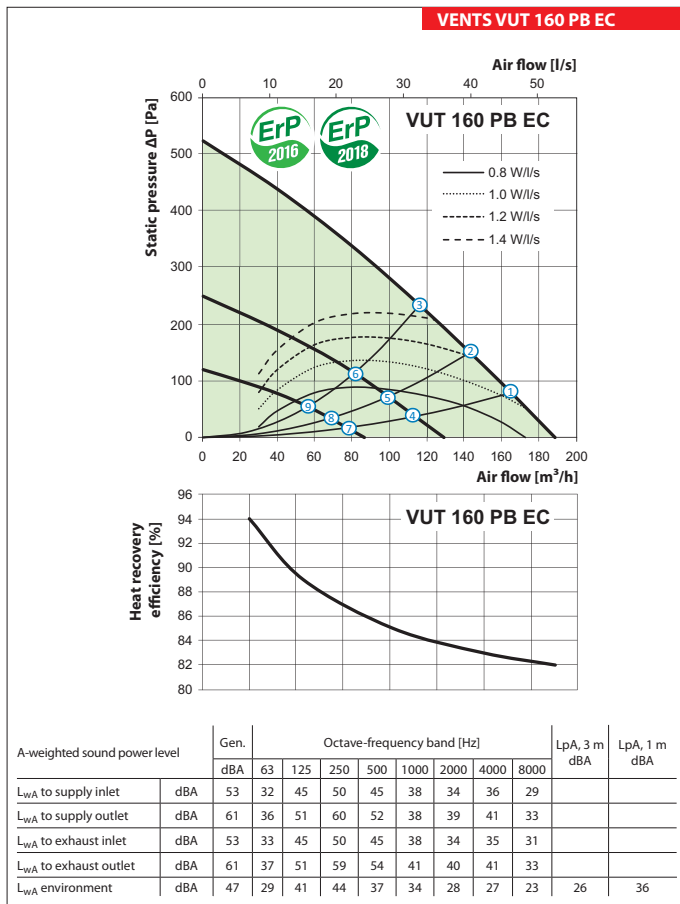
Functions	A21	A14
Wired remote control panel	Option (A22) 	A14 
Control via a wired remote LCD control panel	Option (A25) 	-
Wireless remote control panel	Option (A22 Wi-Fi) 	-
BMS	RS-485 Wi-Fi Ethernet MODBUS (RTU, TCP)	-
Vents Cloud Server service	+	-
Control via Wi-Fi using a mobile application	+	-
Freeze protection	+	+
Bypass	Auto + manual	Manual
Week-scheduled operation	+	-
Filter replacement indication	According to filter timer	According to filter timer
	According to filter clogging differential pressure switch readings	
Alarm indication	+	+
Speed selection	+	+
Timers	+	-
RH% sensor	Option	Option
CO ₂ sensor	Option	Option
VOC sensor	Option	Option
PM2.5 sensor	Option	Option
Boost mode	+	-
Fireplace mode	+	-
Preheater connection	Option	-
Reheater connection	Option	-
Cooler connection	Option	-
Fire alarm sensor	Option	Option
Minimum supply air temperature control	+	-

Overall dimensions


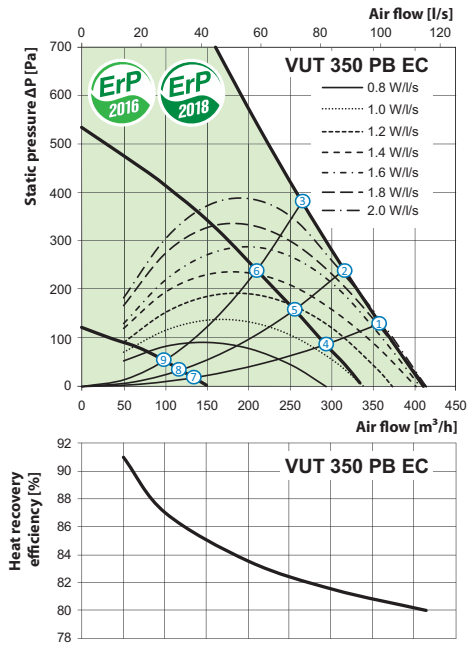
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Technical data

	VUT 160 PB EC	VUT 250 PB EC	VUT 350 PB EC
Unit voltage [V/50 (60) Hz]		1~230	
Maximum unit power [W]	50	101	170
Maximum unit current [A]	0.4	0.8	1.3
Maximum air flow [m ³ /h]	190	270	410
RPM [min ⁻¹]	3770	4480	3200
Sound pressure level at 3 m distance [dBA]	26	28	34
Transported air temperature [°C]		-25...+40	
Casing material	Galvanized steel		
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 [%]	82-94	80-98	80-91
Heat exchanger type	Counter-flow		
SEC class	A+	A	A
Heat exchanger material	Aluminium		





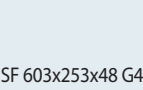
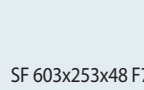
VENTS VUT 350 PB EC






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

Point	Power [W]			Sound pressure level at 3 m (1 m) distance [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)

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Accessories for air handling units

Model	G4 panel filter	F7 panel filter	Control panel	Control panel with Wi-Fi	LCD control panel	Indoor humidity sensor	Indoor humidity sensor	Outdoor CO ₂ sensor with indication	Outdoor CO ₂ sensor			
VUT 160 PB EC A11			-	-	-	HV1	-	-	-			
VUT 160 PB EC A14			-	-	-	-	HV2	-	-			
VUT 160 PB EC A19			-	-	-	-	HV1	-	CO2-1	CO2-2		
VUT 160 PB EC A21			A22	A22 WiFi	A25	-	HV2	-	-			
VUT 250 PB EC A11			-	-	-	-	HV1	-	-	-		
VUT 250 PB EC A14			-	-	-	-	-	HV2	-	-		
VUT 250 PB EC A19			-	-	-	-	HV1	-	CO2-1	CO2-2		
VUT 250 PB EC A21			A22	A22 WiFi	A25	-	HV2	-	-			
VUT 350 PB EC A11					-	-	-	HV1	-	-	-	
VUT 350 PB EC A14					-	-	-	-	HV2	-	-	
VUT 350 PB EC A19					-	-	-	-	HV1	-	CO2-1	CO2-2
VUT 350 PB EC A21					A22	A22 WiFi	A25	-	HV2	-	-	

Model	Outdoor humidity sensor	VOC sensor (0-10 V)	CO ₂ sensor (0-10 V)	Humidity sensor (0-10 V)	Electric heater for preheating	Electric reheater	Hydraulic U-trap	Air damper	Electric actuator
VUT 160 PB EC A11	-	-	-	-	NKP-125	-			
VUT 160 PB EC A14	-	-	-	-	-	-			
VUT 160 PB EC A19	HR-S	-	-	-	NKP-125	NKD-125			
VUT 160 PB EC A21	-	DPWQ30600	DPWQ40200	DPWC11200	NKP-125	NKD-125			
VUT 250 PB EC A11	-	-	-	-	NKP-125	-			
VUT 250 PB EC A14	-	-	-	-	-	-			
VUT 250 PB EC A19	HR-S	-	-	-	NKP-125	NKD-125			
VUT 250 PB EC A21	-	DPWQ30600	DPWQ40200	DPWC11200	NKP-125	NKD-125			
VUT 350 PB EC A11	-	-	-	-	NKP-160	-			
VUT 350 PB EC A14	-	-	-	-	-	-			
VUT 350 PB EC A19	HR-S	-	-	-	NKP-160	NKD-160			
VUT 350 PB EC A21	-	DPWQ30600	DPWQ40200	DPWC11200	NKP-160	NKD-160			
									

Application options

