

Series
VENTS
VUT/VUE 180 P5



Heat recovery air handling units
in sound- and heat-insulated casings.
Air flow up to **220 m³/h**.
Heat recovery efficiency up to **98 %**.

Description

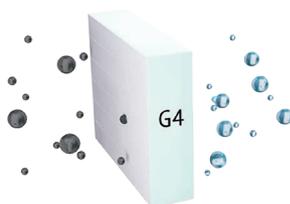
The air handling units are the fully featured ventilation units with heat recovery for air filtration, fresh air supply and stale air extract. The extract air heat is used for warming up of the supply air stream in the high-efficient plate heat exchanger. The units offer energy-efficient ventilation for cottages and flats and are compatible with round Ø 150 mm air ducts.

Casing

The casing is made of expanded polypropylene (EPP) possessing high heat- and sound-insulating properties.

Filter

The built-in G4 supply filter and G4 extract filter provide air filtration. A F7 supply filter (specially ordered accessory) may be used for efficient supply air filtration.



Fans

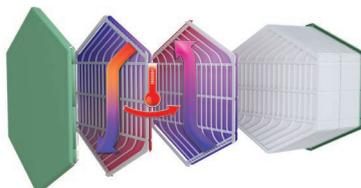
Single-phase three-speed external rotor motors with centrifugal impellers and forward curved blades. The motors have overheating protection with automatic restart.

Heat exchanger

The **VUT 180 P5** units are equipped with a counter-flow polystyrene heat exchanger.

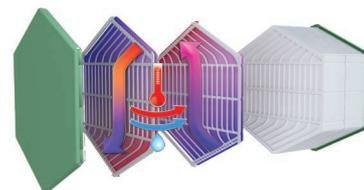
In the cold season the extract air heat is transferred to the intake air stream which reduces ventilation-generated heat losses. This can lead to formation of condensate that is collected in a special drain pan and discharged into the sewage system.

In the warm season the outside air heat is transferred to the exhaust air stream. This allows for a considerable reduction of the supply air temperature which, in its turn, reduces the air conditioning load.



The **VUE 180 VP** units are equipped with a counter-flow heat exchanger with an enthalpy membrane at the core. In the cold season the extract air heat and moisture are transferred to the supply air stream through the enthalpy membrane. Heat recovery minimises heat losses from ventilation.

In the warm season the outdoor air heat and moisture are transferred to the exhaust air stream through the enthalpy membrane. This enables considerable reduction of the supply air temperature and humidity which, in its turn, reduces the air conditioning load.



Control and automation

The unit is equipped with integrated control system. It can be supplied either with the mechanical three-speed speed controller P3-1-300 or the sensor three-speed speed controller SP3-1, power cable with Europlug XP mains plug. The service side of the unit has a removable inspection door with hand screws to enable heat exchanger and filter cleaning and replacement. The control unit is located inside of the unit casing. The power cable and the ground cable are connected to the control unit via the cable glands on the side on the unit.



P3-1-300



SP3-1

Freeze protection

The freeze protection is realized by means of shutdown the supply fan as follows: in case of freezing danger communicated by the temperature sensor the supply fan is turned off to let the heat exchanger defrosting with the extract air heat. After freezing danger is no longer imminent, the unit reverts to the standard operation mode.

Installation

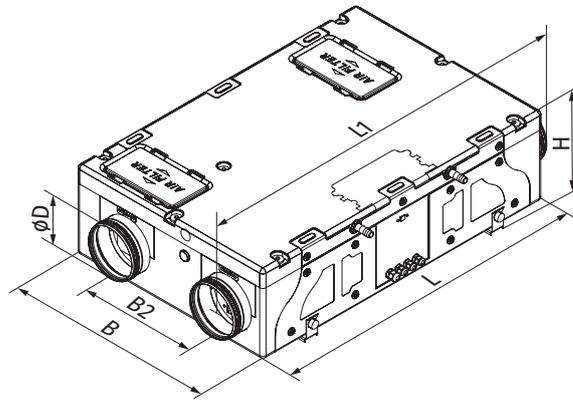
The unit is designed for suspended ceiling, wall horizontal or vertical installation using the fixing brackets. The mounting position of the unit must provide service access for maintenance and repair.

Designation key

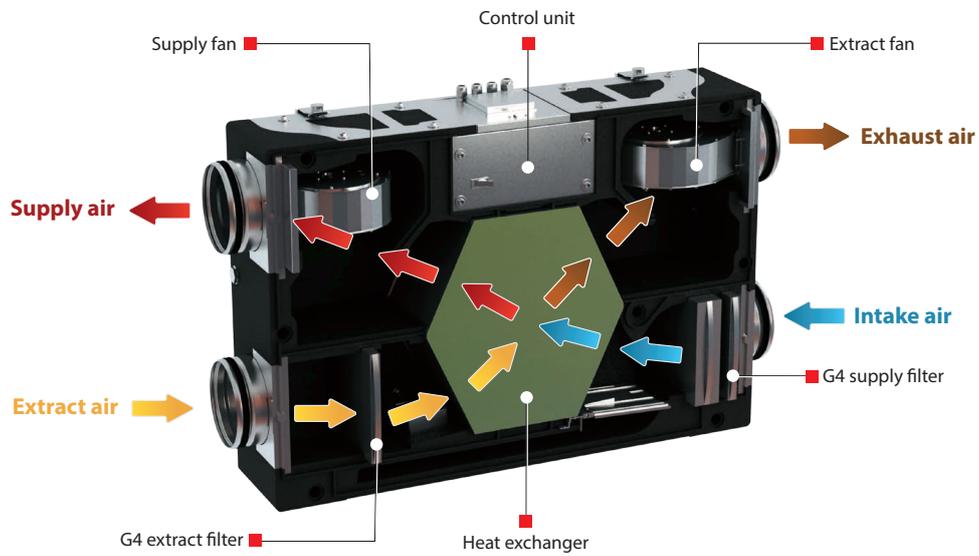
| Series | Rated air flow [m³/h] | Mounting type | Casing design | Control |
|--|-----------------------|---------------------|----------------------------------|--|
| VUT: ventilation with heat recovery VUE: ventilation with energy recovery | 180 | P: suspended | 5: expanded polypropylene | A3: P3-1-300 speed controller A4: SP3-1 sensor speed controller |

Overall dimensions

| Model | Dimensions [mm] | | | | |
|----------------|-----------------|-----|-----|-----|-----|
| | Ø D | B | B2 | L | H |
| VUT/VUE 180 P5 | 150 | 600 | 326 | 900 | 264 |



Unit design



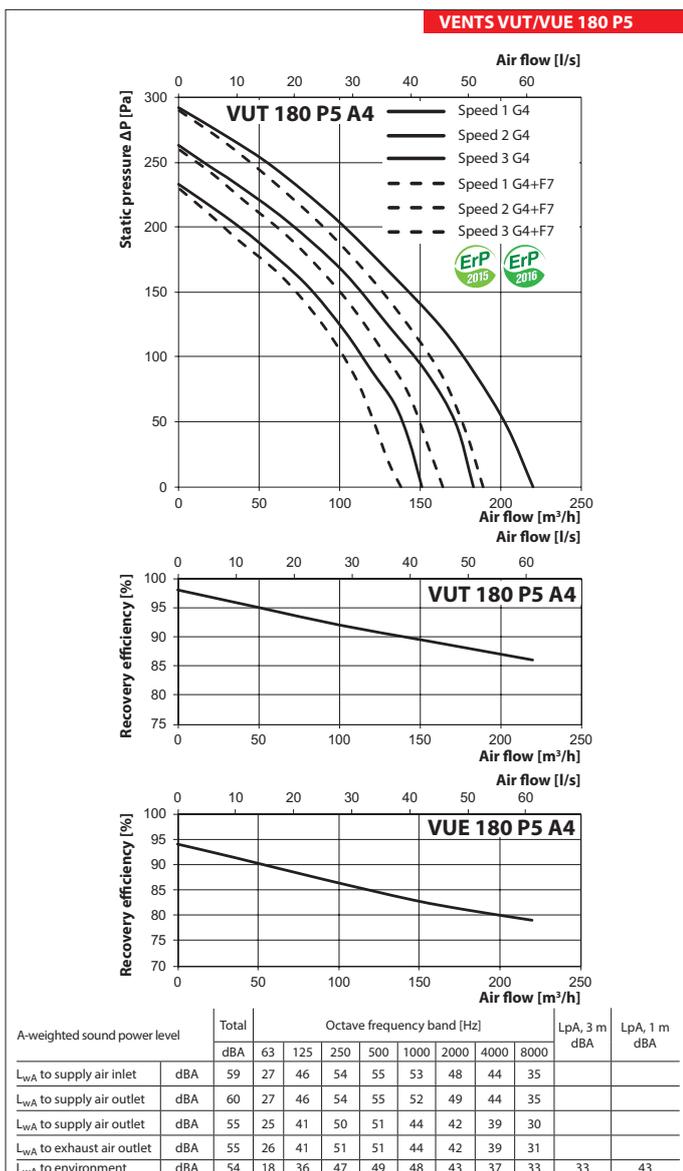
Accessories for air handling units

| | G4 panel supply filter | F7 panel supply filter |
|------------|---|---|
| Model |  |  |
| VUT 180 P5 | SF 214 x 186 x 18 G4 | SF 214 x 186 x 48 F7 |
| VUE 180 P5 | | |

AIR HANDLING UNITS WITH HEAT RECOVERY

Technical data

| | VUT 180 P5 | VUE 180 P5 |
|--|------------------------------|-------------------|
| Voltage 50 (60) Hz [V] | 1~ 230 | |
| Maximum power [W] | 117 | |
| Maximum current [A] | 0.54 | |
| Maximum air flow [m³/h] | 220 | |
| RPM [min⁻¹] | 2317 | |
| Sound pressure level at 3 m distance [dBA] | 35 | |
| Transported air temperature [°C] | -25...+60 | |
| Casing mater | Expanded polypropylene (EPP) | |
| Insulation | EPP 30-15 mm | |
| Extract filter | G4 | |
| Supply filter | G4 (F7 Option) | |
| Connected air duct diameter [mm] | Ø150 | |
| Mass [kg] | 14 | 14 |
| Recovery efficiency [%] | 86 up to 98 | 79 up to 94 |
| Heat exchanger type | Counter-flow | |
| Heat exchanger material | Polystyrene | Enthalpy membrane |
| SEC class | D | D |



Calculation of air temperature downstream of the heat exchanger:

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

where

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

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

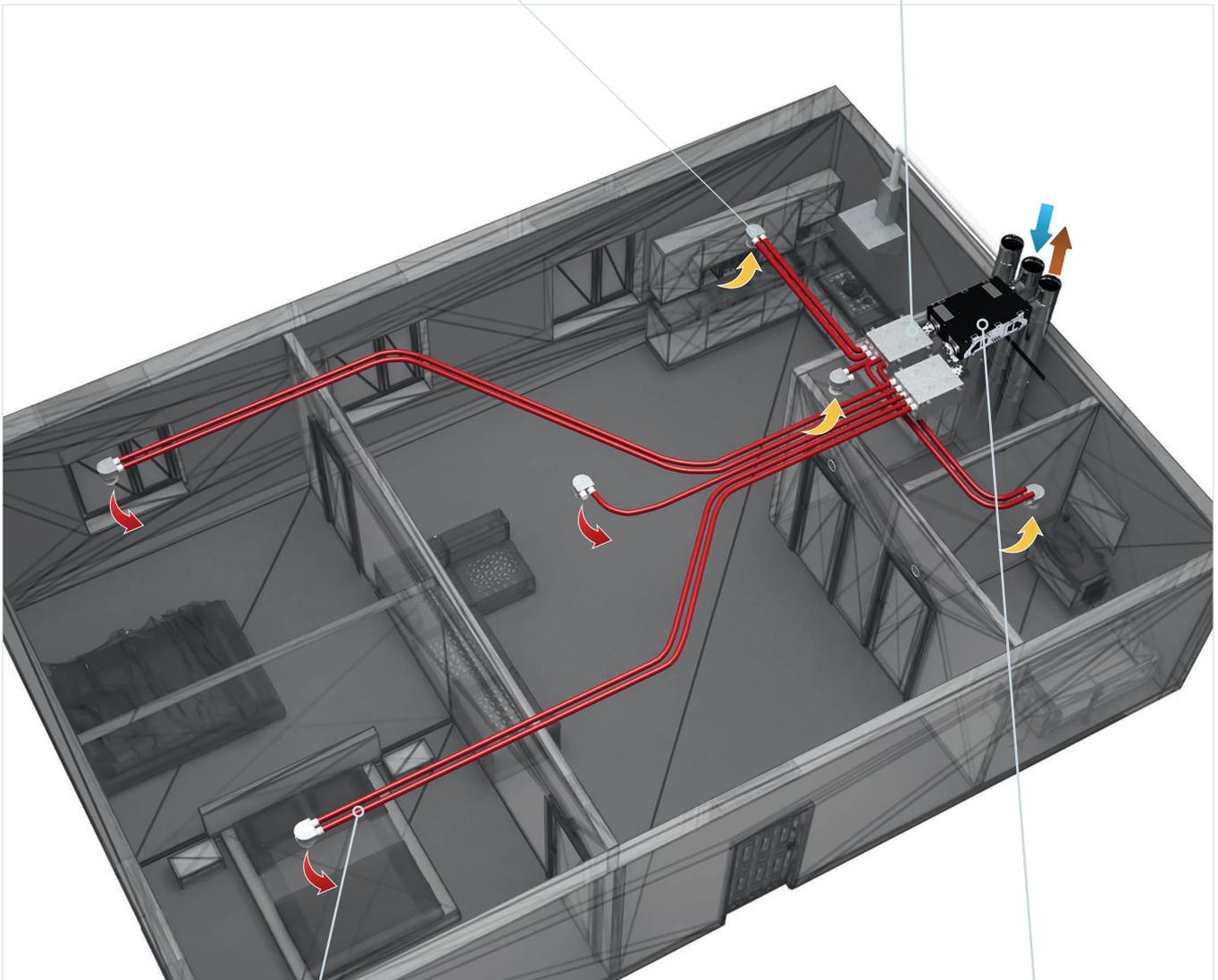
k_{hr} – heat exchanger efficiency (according to the diagram) [%]

Application options

Ceiling plenum with disc valve



Air distribution box



FlexiVent air duct



Air handling unit