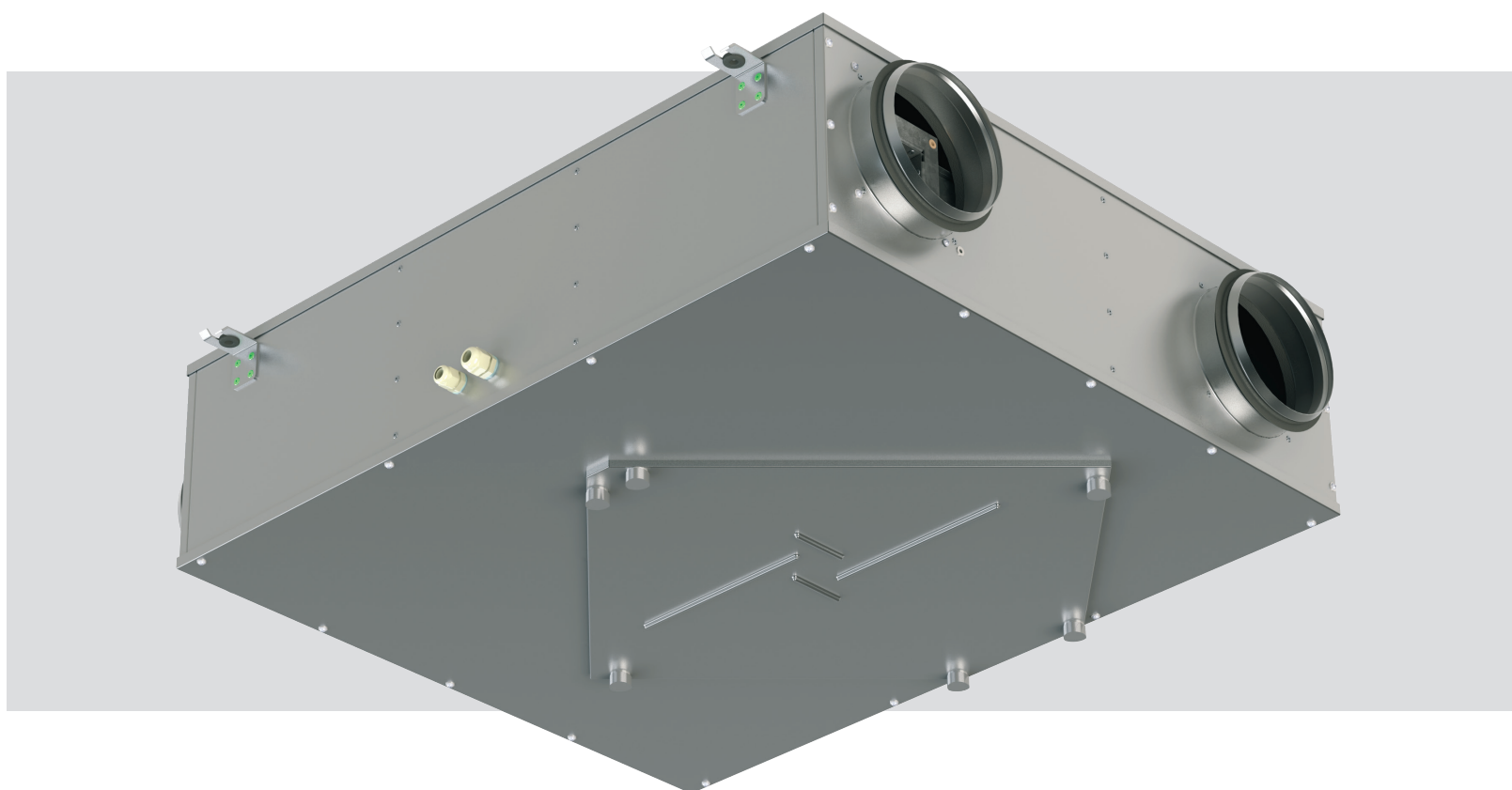


USER'S MANUAL

VUE P3 A1



Heat and humidity recovery
air handling unit



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This user's manual consisting of the technical details, operating instructions and technical specification covers the installation and mounting of the VUE P3 A1 heat and humidity recovery air handling unit (hereinafter referred to as „the unit“).

SAFETY REQUIREMENTS

Read the user's manual carefully prior to installing and operating the unit.

Fulfil the user's manual requirements as well as the provisions of all the applicable local and national construction, electrical and technical norms and standards.

The warnings contained in the user's manual must be considered most seriously since they contain vital personal safety information.

Failure to follow the rules and safety precautions noted in this user's manual may result in an injury or unit damage.

After a careful reading of the manual, keep it for the entire service life of the unit.

While transferring the unit control the user's manual must be turned over to the receiving operator.

Symbol legend:



WARNING!



DO NOT!

UNIT MOUNTING AND OPERATION SAFETY PRECAUTIONS



- Disconnect the unit from power mains prior to any installation operations.



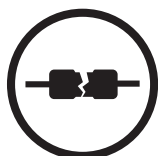
- Unpack the unit with care.



- Do not lay the power cable of the unit in close proximity to heating equipment.



- While installing the unit follow the safety regulations specific to the use of electric tools.



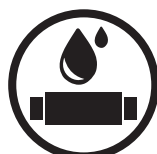
- Do not use damaged equipment or cables when connecting the unit to power mains.



- Do not operate the unit outside the temperature range stated in the user's manual.
- Do not operate the unit in aggressive or explosive environments.



- Do not touch the unit controls with wet hands.
- Do not carry out the installation and maintenance operations with wet hands.



- Do not wash the unit with water.
- Protect the electric parts of the unit against ingress of water.



- Do not allow children to operate the unit.



- Disconnect the unit from power mains prior to any technical maintenance.



- Do not store any explosive or highly flammable substances in close proximity to the unit.



- When the unit generates unusual sounds, odour or emits smoke disconnect it from power supply and contact the Seller.



- Do not open the unit during operation.



- Do not direct the air flow produced by the unit towards open flame or ignition sources.



- Do not block the air duct when the unit is switched on.



- In case of continuous operation of the unit periodically check the security of mounting.



- Do not sit on the unit and avoid placing foreign objects on it.



- Use the unit only for its intended purpose.



THE PRODUCT MUST BE COLLECTED SEPARATELY AT THE END OF SERVICE LIFE.

DO NOT DISPOSE OF AS UNSORTED MUNICIPAL WASTE.

PURPOSE

Due to the ability to save heating energy by means of energy recovery the unit is an important element of energy-efficient premises.

The unit is a component part and is not designed for stand-alone operation.

The unit is designed to ensure continuous mechanical air exchange in houses, offices, hotels, cafés, conference halls and other utility and public spaces as well as to recover the heat energy contained in the air extracted from the premises to warm up the filtered stream of supply air.



THE UNIT MAY NOT BE OPERATED BY CHILDREN OR PERSONS WITH REDUCED PHYSICAL, MENTAL OR SENSORY CAPACITIES, OR LACKING THE APPROPRIATE TRAINING.

THE UNIT MUST BE INSTALLED AND CONNECTED ONLY BY PROPERLY QUALIFIED PERSONNEL AFTER THE APPROPRIATE BRIEFING.

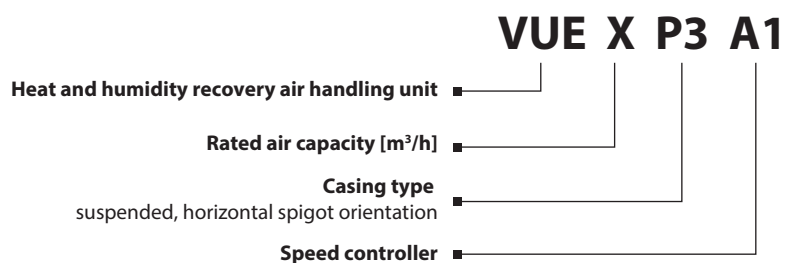
THE CHOICE OF UNIT INSTALLATION LOCATION MUST PREVENT UNAUTHORIZED ACCESS BY UNATTENDED CHILDREN.

Transported air must not contain any flammable or explosive mixtures, evaporation of chemicals, sticky substances, fibrous materials, coarse dust, soot and oil particles or environments favourable for the formation of hazardous substances (toxic substances, dust, pathogenic germs).

DELIVERY SET

Name	Number
Air handling unit	1 item
User's manual	1 item
Speed controller	1 item
Packing box	1 item

DESIGNATION KEY



TECHNICAL DATA

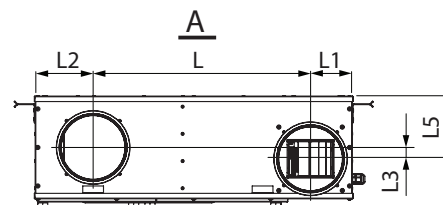
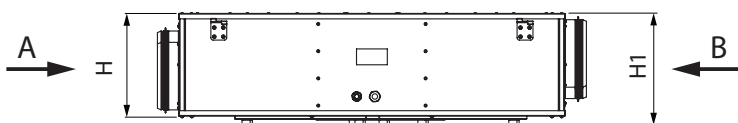
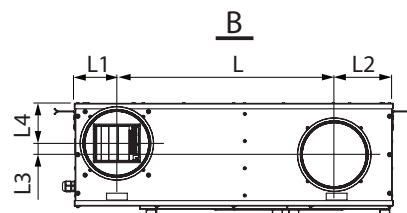
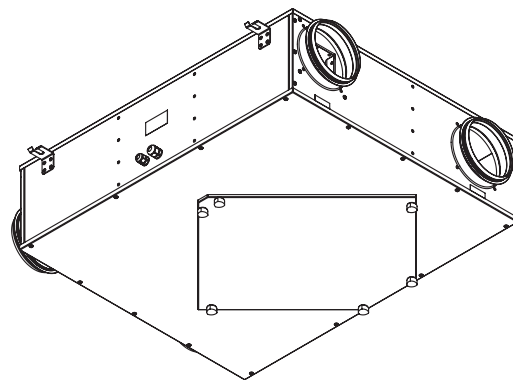
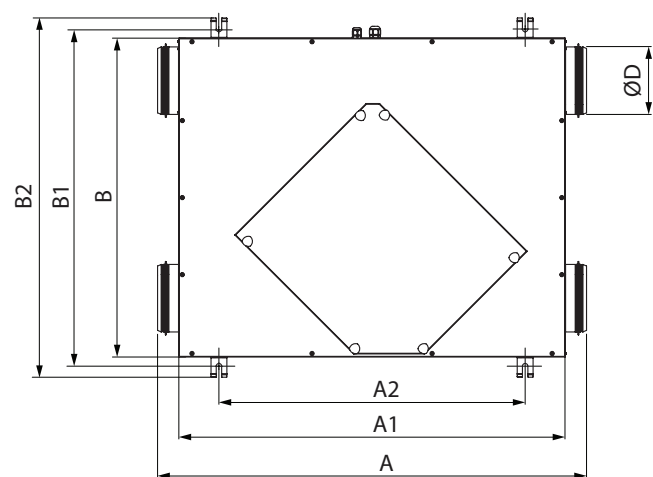
The unit is designed for indoor application with the ambient temperature ranging from +1 °C up to +40 °C and relative humidity up to 80 %.

The unit is rated as a Class I electrical appliance.

Ingress protection rating for the unit connected to air ducts – IP22, for unit motors – IP44.

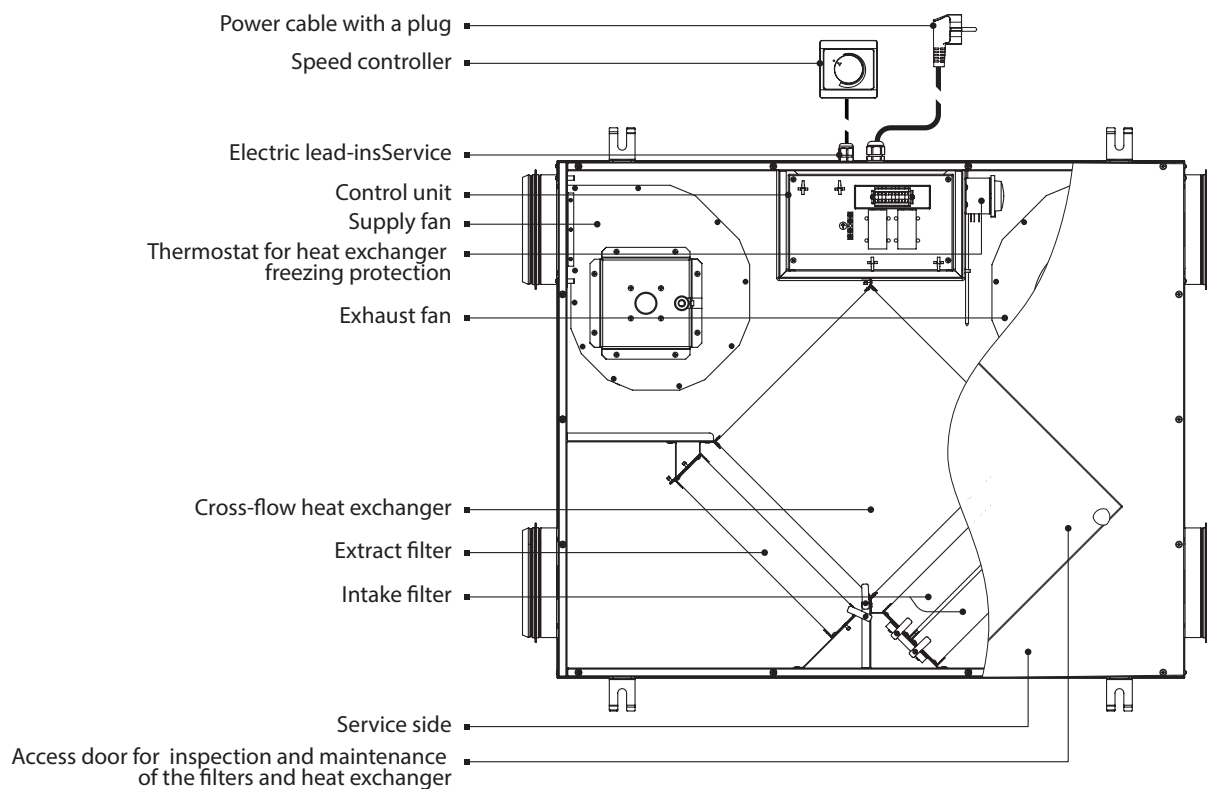
The unit design is constantly being improved, so some models may be slightly different from those ones described in this manual.

Technical data	VUE 150 P3 A1	VUE 250 P3 A1	VUE 350 P3 A1
Unit supply voltage, 50 Hz [V]	1~ 230		
Maximum unit power [W]	125	250	310
Maximum unit current [A]	0,6	1,1	1,4
Maximum air capacity [m ³ /h]	230	370	400
RPM	2235	2400	2150
Sound pressure level at 3 m distance [dB(A)]	49	52	57
Transported air temperature [°C]	from -25 up to +40		
Casing material	painted steel		
Insulation	foam rubber 5 mm, 10 mm		
Extract air filter	G4		
Supply air filters	G4 and F8 (PM2.5 93 %)	G4 and F8 (PM2.5 83 %)	G4 and F8 (PM2.5 87 %)
Connected air duct diameter [mm]	100	150	150
Heat recovery efficiency [%]	72–87	66–76	71–87
Humidity recovery efficiency [%]	27–47	22–32	23–40
Heat exchanger type	cross-flow		
Heat exchanger material	polymerized cellulose		
Weight [kg]	26	29	42
Energy efficiency class	D	E	E



Model	Dimensions [mm]														
	Ø D	A	A1	A2	B	B1	B2	H	H1	L	L1	L2	L3	L4	L5
VUE 150 P3 A1	99	947	854	676	704	743	793	227	247	480	92	128	25	113	138
VUE 250 P3 A1	149	947	854	676	704	743	793	227	247	480	92	128	25	113	138
VUE 350 P3 A1	149	1117	1024	846	754	793	843	277	297	488	109	153	50	88	138

DESIGN AND OPERATING PRINCIPLE



The service side of the unit is equipped with a detachable access door with manual bolts for cleaning or replacement of the filters and heat exchanger. The plate enthalpy cross-flow heat exchanger is made of polymerized cellulose. The control unit is positioned inside the unit casing. The power and the ground cable are to connect to the control unit through the airtight electric lead-in in the unit casing side. The unit is equipped with a speed controller and the Euro Plug XP.

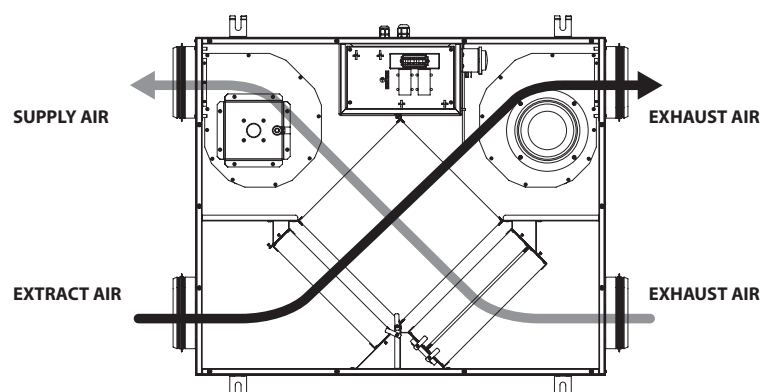
UNIT OPERATION MODES

Heat recovery: warm extract air from the room flows into the unit and is cleaned in the extract filter. Then the air is moved through the heat exchanger and is exhausted outside with the extract fan.

Cold fresh air from outside flows into the unit, where it is cleaned in the supply filter. Then the air flows through the heat exchanger and is moved to the room with the supply fan.

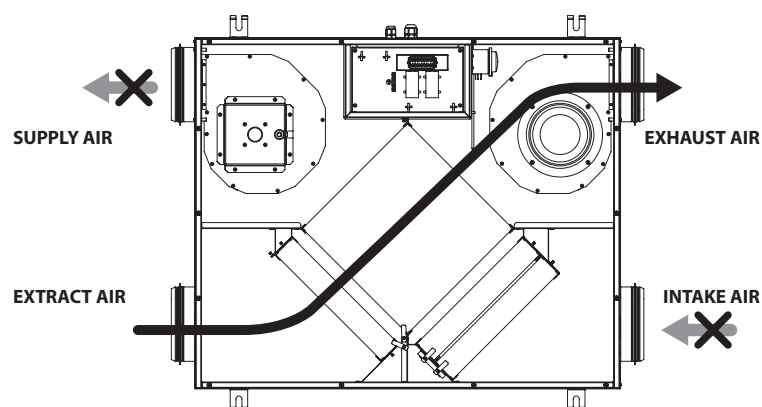
Supply air is heated in the heat exchanger by transferring the heat energy of warm and humid extract air to the cold fresh air. The air flows are fully separated while flowing through the heat exchanger. Heat recovery minimizes heat losses, which reduces the cost of space heating in the cold season. The enthalpy heat exchanger allows to recover humidity as well as heat.

In the summer period, the supplied fresh air is cooled and dried by the heat exchanger, in the winter period it is heated and moisturized. The water vapour is devaporated from the stale wet air and absorbed with heat exchanger plates. The released heat and moisture are transferred to the supply air. The transferring of dirt, odours and microorganisms from one air flow to another is excluded.



Defrosting mode: to prevent the heat exchanger freezing in the cold season the unit is equipped with a thermostat in the exhaust air duct downstream of the heat exchanger. The unit switches to the defrosting mode at the extract air temperature $+3^{\circ}\text{C}$. As the temperature rises the unit returns to the previous mode. In the Defrosting mode the supply fan is turned off and the heat exchanger is warmed up with warm extract air flow.

To set the thermostat temperature threshold turn the control knob to the according position. The recommended thermostat operating temperature is $+3^{\circ}\text{C}$ (factory setting).



MOUNTING AND SET-UP



THE UNIT MUST BE MOUNTED BY A QUALIFIED EXPERT ONLY, PROPERLY TRAINED AND HAVING THE REQUIRED TOOLS AND MATERIALS.

The unit is designed for ceiling mounting with anchor threaded bolts, nuts and vibration-absorbing rubber. Fasteners for unit mounting are not included in the delivery set and should be ordered separately. While choosing fasteners consider the material of the mounting surface as well as the weight of the unit, refer to the Technical Data section. Fasteners for unit mounting should be selected by the service technician.

Before mounting make sure that the casing is free of any foreign objects like film or paper. While installing the unit ensure convenient access for subsequent maintenance and repair.

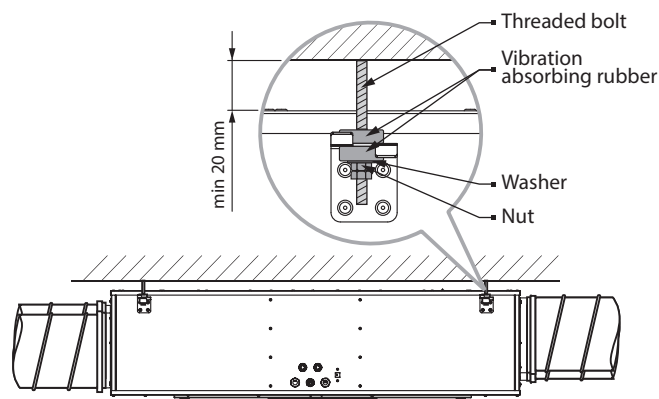
Minimum required distance from the unit to the ceiling is 20 mm.

To attain the best performance of the unit and to minimise turbulence-induced air pressure losses connect the straight air duct section to the spigots on both sides of the unit while mounting.

Minimum straight air duct length:

- equal to 1 air duct diameter on intake side
- equal to 3 air duct diameters on outlet side

If the air ducts are too short or not connected, protect the unit parts from ingress of foreign objects. To prevent uncontrollable access to the fans the spigots may be covered with a protecting grille or other protecting device with mesh width not more than 12.5 mm.



CONNECTION TO POWER MAINS



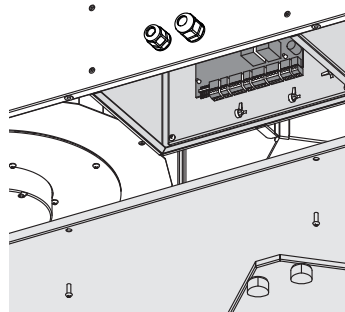
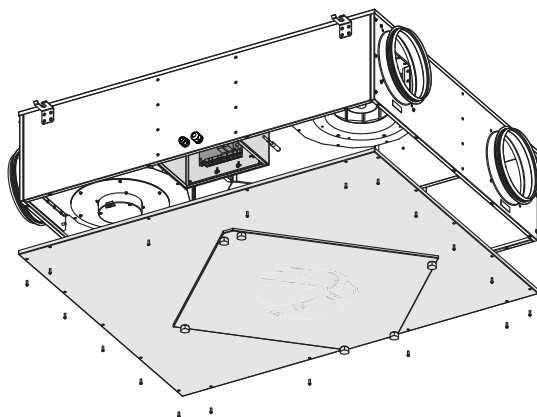
DISCONNECT THE UNIT FROM POWER SUPPLY PRIOR TO ANY OPERATIONS WITH THE UNIT. INSTALLATION SHALL ONLY BE PERFORMED BY A PROFESSIONAL ELECTRICIAN QUALIFIED FOR UNASSISTED OPERATIONS WITH ELECTRICAL INSTALLATIONS UP TO 1000 V AFTER CAREFUL STUDY OF THE PRESENT USER'S MANUAL. THE RATED ELECTRICAL PARAMETERS OF THE UNIT ARE GIVEN ON THE MANUFACTURER'S LABEL. ANY INTERNAL CONNECTION MODIFICATIONS ARE NOT ALLOWED AND RESULT IN WARRANTY LOSS.

The unit is rated for connection to single-phase ac 230 V / 50 Hz.

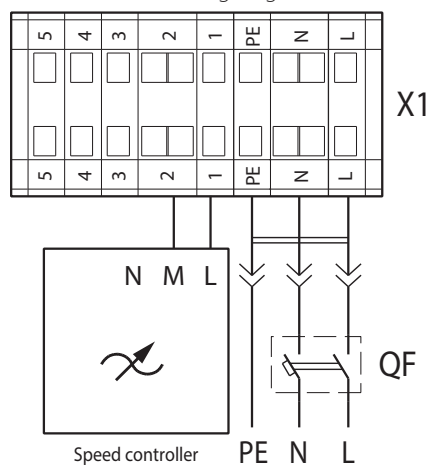
Connect the unit to power mains using the pre-wired power cord with the Euro Plug XP. Connection is made through the external automatic circuit breaker with magnetic trip integrated into the fixed wiring system. The position of the automatic circuit breaker must ensure free access for quick power-off of the unit. The trip current must be not less than the consumption current, refer to Technical data.

The speed controller is connected to the unit by the manufacturer using the cable of 3 m length. The reconnection of the controller is allowed if the cable length needs to be changed. Technical requirements to a cable: type – 2x0.5 mm², length – up to 10 m.

To access the control unit, remove the mounting screws of the service side panel of the unit and take it off.



External wiring diagram



UNIT CONTROL

The unit is operated with the speed controller. The speed controller is included in the scope of delivery. The mounting recommendations, the wiring diagram and controller operation are given in the user's manual of the speed controller.

TECHNICAL MAINTENANCE



DISCONNECT THE UNIT FROM POWER MAINS PRIOR TO ANY MAINTENANCE OPERATIONS. THE CONTROL UNIT MAINTENANCE MUST BE PERFORMED BY AN EXPERT QUALIFIED FOR UNASSISTED OPERATIONS WITH ELECTRICAL INSTALLATIONS WITH THE VOLTAGE UP TO 1000 V AFTER CAREFUL READING OF THE USER'S MANUAL.

The unit must undergo technical maintenance 3 to 4 times a year. Maintenance includes general cleaning of the unit and the following operations:

1. Filter maintenance (3–4 times per year).

Dirty filters increase air resistance in the system and reduce supply air volume. The filters require replacing as they get contaminated but not less than 3–4 times per year.

To replace the filters, open the access door on the service panel and remove the dirty filters, then install new filters and close the access door.

For new filters contact the Seller.

2. Heat exchanger maintenance (once a year).

Some dust may accumulate on the heat exchanger block even in case of regular maintenance of the filters. To maintain the high heat exchange efficiency, regular heat exchanger vacuum cleaning using a crevice nozzle is recommended.

To replace the heat exchanger, open the access door and remove the dirty exchanger from the unit. Then install new heat exchanger and close the access door.

For a new heat exchanger contact the Seller.

3. Fan maintenance (once a year).

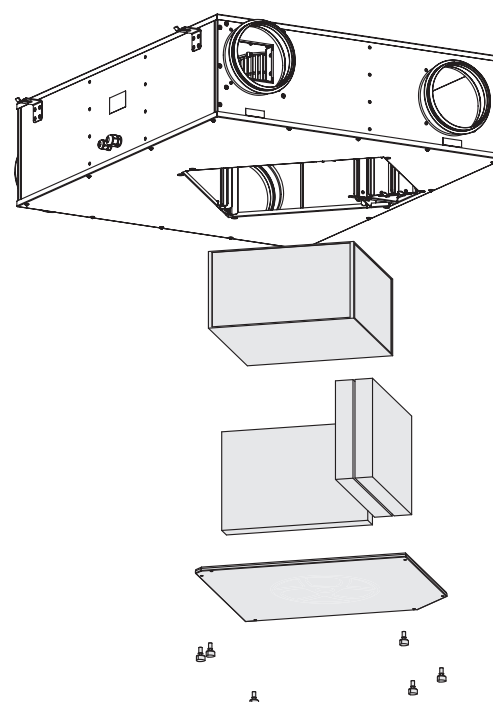
Even in case of regular maintenance of the filters, some dust may accumulate inside the fans and reduce the fan performance and supply air flow. Clean the fans with a soft brush or cloth. Do not use water, aggressive solvents or sharp objects as they may damage the impeller.

4. Technical maintenance of air duct system (every 5 years).

Even regular fulfilling of all the prescribed above maintenance operations may not completely prevent dirt accumulation in the air ducts which reduces the unit capacity. Duct maintenance means regular cleaning or replacement.

5. Control unit maintenance (if necessary).

The control unit is positioned inside the unit casing. To access the control unit, remove the mounting screws of the service panel of the unit and take it off.



TROUBLESHOOTING

Problem	Possible reasons	Troubleshooting
The fan(s) do(es) not get started.	The unit is disconnected from network.	Make sure the power supply line is connected correctly, otherwise troubleshoot a connection error.
Low air flow.	Filters, fans or the heat exchanger are soiled.	Clean or replace the filters. Clean the fans and the heat exchanger.
	The ventilation system is clogged or damaged.	Clean the ventilation system components. Replace the damaged components.
Noise, vibration	The fan impeller is soiled.	Clean the impellers.
	The fan or casing screw connection is loose.	Tighten the screw connection of the fans or the casing against stop.

STORAGE AND TRANSPORTATION REGULATIONS

Store the unit in the manufacturer's original packing box in a dry closed ventilated premise with temperature range from +5 °C to + 40 °C. Storage environment must not contain aggressive vapours and chemical mixtures provoking corrosion, insulation and sealing deformation.

The unit can be carried in the original packing by any mode of transport provided proper protection against precipitation and mechanical damage.

Use suitable hoist machinery for handling and storage operations to prevent possible damage to the unit.

Follow the handling requirements applicable for the particular type of cargo.

Avoid sharp blows, scratches or rough handling during loading and unloading.

Do not expose the unit to sudden changes in temperature. Such changes can lead to condensation of moisture inside the unit and performance disturbance when the unit is switched on.

Prior to the initial power-up after transportation at subzero temperatures allow the unit to warm up at room temperature for at least 2 hours.

MANUFACTURER'S WARRANTY

The manufacturer hereby warrants normal operation of the unit for 24 months after the retail sale date provided the user's observance of the transportation, storage, mounting and operation regulations.

Should any malfunctions occur in the course of the unit operation through the Manufacturer's fault during the guaranteed period of operation the user is entitled to elimination of faults by the manufacturer by means of warranty repair at the factory free of charge.

The warranty repair shall include work specific to elimination of faults in the unit operation to ensure its intended use by the user within the guaranteed period of operation. The faults are eliminated by means of replacement or repair of the unit components or a specific part of such unit component.

The warranty repair does not include:

- routine technical maintenance
- unit installation/dismantling
- unit setup

To benefit from warranty repair the user must provide the unit, the user's manual with the purchase date stamp and the payment document certifying the purchase.

The unit model must comply with the one stated in the user's manual.

Contact the Seller for warranty service.

The manufacturer's warranty does not apply to the following cases:

- User's failure to submit the unit with the entire delivery package as stated in the user's manual including submission with missing component parts previously dismantled by the user.
- Mismatch of the unit model and the brand name with the information stated on the unit packing and in the user's manual.
- User's failure to ensure timely technical maintenance of the unit.
- External damage to the unit casing (excluding external modifications as required for installation) and internal components caused by the user.
- Redesign or engineering changes to the unit.
- Replacement and use of any assemblies, parts and components not approved by the manufacturer.
- Unit misuse.
- User's violation of the unit installation regulations.
- User's violation of the unit control regulations.
- Unit connection to the power mains with a voltage different from the one stated in the user's manual.
- Unit breakdown due to voltage surges in the power mains.
- Discretionary repair of the unit by the user.
- Unit repair by any persons without the manufacturer's authorization.
- Expiration of the unit warranty period.
- User's violation of the unit transportation regulations.
- User's violation of the unit storage regulations.
- Wrongful actions against the unit committed by third parties.
- Unit breakdown due to circumstances of insuperable force (fire, flood, earthquake, war, hostilities of any kind, blockades).
- Missing seals if provided by the user's manual.
- Failure to submit the user's manual with the unit purchase date stamp.
- Missing payment document certifying the unit purchase.



FOLLOWING THE REGULATIONS STIPULATED HEREIN WILL ENSURE A LONG AND TROUBLE-FREE OPERATION OF THE UNIT.



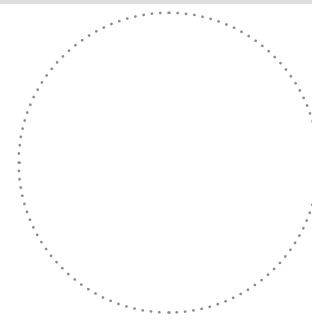
USERS' CLAIMS SHALL BE A SUBJECT TO REVIEW ONLY UPON PRESENTATION OF THE UNIT, THE PAYMENT DOCUMENT AND THE USER'S MANUAL WITH THE SALE DATE STAMP.

ACCEPTANCE CERTIFICATE

Unit Type	Heat and humidity recovery air handling unit
Model	VUE ___P3 A1
Serial Number	
Manufacture Date	
The unit is recognized as serviceable. We hereby declare that the product complies with the essential protection requirements of Electromagnetic Council Directive 2004/108/EC, 89/336/EEC and Low Voltage Directive 2006/95/EC, 73/23/EEC and CE-marking Directive 93/68/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. This certificate is issued following test carried out on samples of the product referred to above.	
Quality Inspector's Stamp	

SELLER INFORMATION

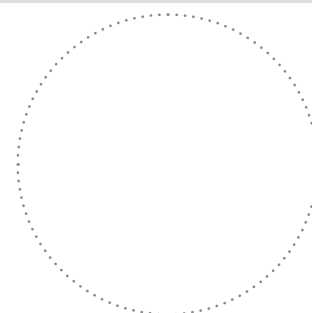
Seller	
Address	
Phone Number	
E-mail	
Purchase Date	
This is to certify acceptance of the complete unit delivery with the user's manual. The warranty terms are acknowledged and accepted.	
Customer's Signature	



Seller's Stamp

INSTALLATION CERTIFICATE

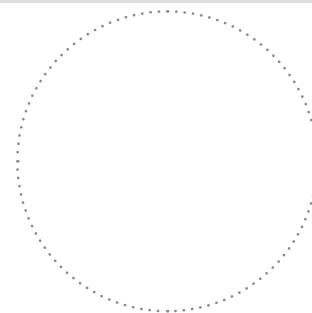
The unit has been connected to power mains pursuant to the requirements stated in the present user's manual.	
Company Name	
Address	
Phone Number	
Expert's Full Name	
Installation Date:	Signature:
The unit has been installed in accordance with the provisions of all the applicable local and national construction, electrical and technical codes and standards. The unit operates normally as intended by the manufacturer.	
Signature:	



Installation Company Stamp

WARRANTY CARD

Unit Type	Heat and humidity recovery air handling unit
Model	VUE ___P3 A1
Serial Number	
Manufacture Date	
Purchase Date	
Warranty Period	
Seller	



Seller's Stamp

