



veneco
ventilation systems

Installaton manual
ETP Comfort medium
07/2015 - V 1.1 - EN



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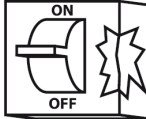


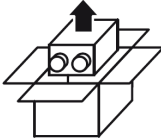

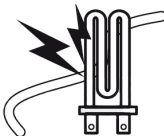
I. SAFETY REQUIREMENTS

- Read and understand the users' manual before operating and mounting the air handling unit with heat recovery, hereinafter referred as the unit.
- While mounting and operating the unit consider the requirements of the present user's manual as well as requirements of all applicable local and national building and electrical codes and standards.
- Read carefully the warnings contained in the manual to make yourself aware of the safety rules!
- Non-compliance with the rules and warnings stated in the user's manual may result in a personal injury or the unit damage.
- Read the user's manual carefully and keep it as long as you use the product.
- In case of transferring operation of the unit to another person provide the user manual..



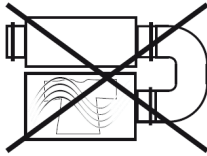
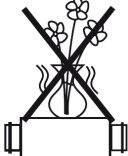



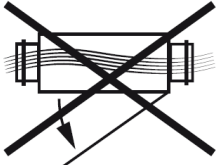
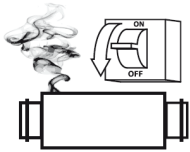
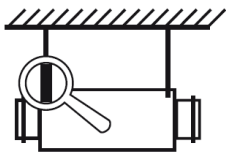
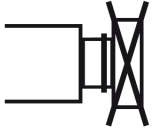

Symbol designation used in the manual:

	WARNING !
	DO NOT !

MOUNTING SAFETY PRECAUTIONS

	Disconnect the unit from power supply before mounting and repair operations.		The unit must be grounded!
 	Do not operate the unit beyond the specified temperature range.		Do not use damaged electric equipment and conductors for electric connections.
 	Follow all applicable electrical safety rules while operating and mounting the unit.		Unpack the unit carefully.
	Unauthorized power cable length modification is not allowed		Keep heating and other devices away from the unit power cable.

OPERATING SAFETY PRECAUTIONS

	<p>Do not touch the speed controller or the control panel with wet hands! No maintenance is allowed with wet hands.</p>		<p>Do not rinse the unit under water. Protect the unit electric parts from water ingress.</p>
	<p>Use the unit for the purpose intended only. Do not connect clothes dryers or similar equipment to the unit or the ventilation system!</p>		<p>Do not put any containers with water, for example, vases on the unit.</p>
	<p>Do not sit on the unit and do not put any objects on it.</p>		<p>Do not damage the power cable while operating the unit. Do not put any objects on the power cable.</p>
	<p>Keep explosive and inflammable products away from the unit</p>		<p>Do not open the operating unit.</p>
	<p>In case of unusual sounds, smell or smoke disconnect the unit from power supply and contact the service centre..</p>		<p>Check the mounting reliability periodically during the unit operation.</p>
	<p>Do not block the air duct when the unit is on.</p>		<p>Do not let air flow from the unit be directed to the open flame devices or candles.</p>

2. INTRODUCTION

This user's manual combines technical description, operation and service manual, technical data sheet and installation guidelines for the air handling unit with heat recovery ETP Comfort medium, hereinafter the unit.

3. USE

The unit is designed to save thermal energy by means of heat recovery and is one of the energy saving components used in buildings and premises. The unit is a component part and is not designed for stand-alone operation.

The unit is designed to arrange permanent controllable air exchange by means of mechanical ventilation in houses, offices, hotels, cafes, conference halls and other residential and public premises as well as extract air heat recovery for warming up of fresh supply air.

The unit is designed for wall surface mounting.

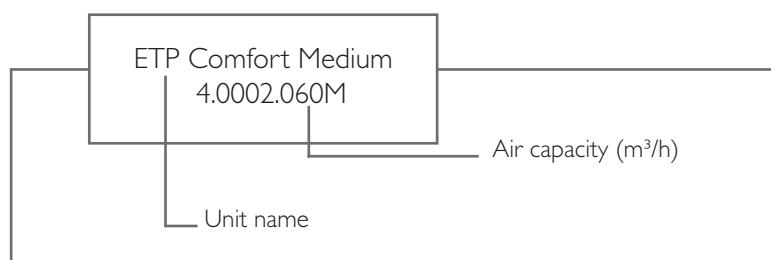
The unit is rated for continuous operation.

Transported medium must not contain any flammable or explosive mixtures, evaporation of chemicals, coarse dust, soot and oil or fat particles, sticky substances, fibrous materials, pathogens or any other harmful substances.

4. DELIVERY SET

- ETP Comfort medium unit - 1 piece
- Fastening set - 1 piece
- User's manual - 1 piece
- Master plate - 1 piece
- Sensor speed switch - 1 piece

5. DESIGNATION KEY



6. TECHNICAL DATA

The unit is designed for indoor application with the ambient temperature ranging from +1 °C (+34 °F) up to +40 °C (+104 °F) and relative humidity up to 80%.

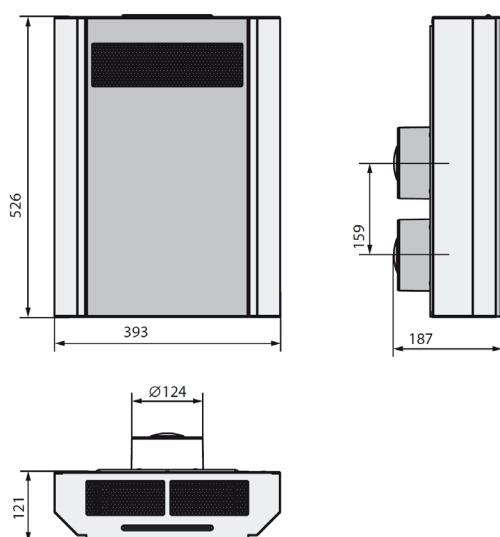
The transported air temperature must be from -20 °C (-4 °F) up to +50 °C (+122 °F).

The unit is classified as a class I electric appliance.

Ingress Protection (IP) rating from solid objects and liquids:

- IP 44 for the unit motors;
- IP 22 for the assembled unit integrated into air ductworks.

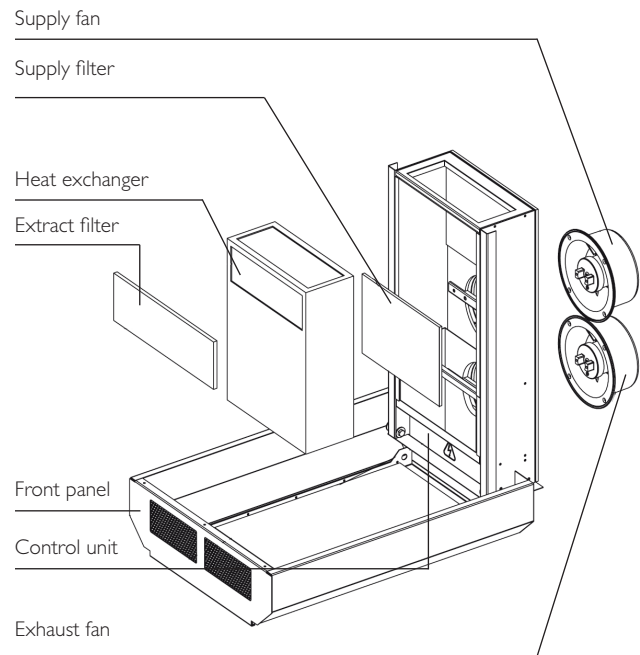
The unit design is regularly improved, so some models may slightly differ from those ones described in this manual.



Speed	1	2	3
Voltage , 50-60 Hz	1 ~ 100-240		
Power (W)	4,2	9,6	15,4
Total unit current (A)	0,02	0,04	0,07
Air capacity (m ³ /h)	30 (17,7)	45 (26,5)	60 (35,3)
RPM (min)	1165	1720	2685
Noise level, 3m (dBA)	22 (0,38)	25 (0,42)	29 (1,0)
Max. transported air temperature	from -20° tot +50		
IP	IP 22		
Casing material	painted steel		
Insulation	PE foam		
Filter	extract	x	
	supply	x	
Connected air duct diameter	dia.125		
Weight	10,3		
Heat recovery efficiency	79%	74%	70%
Heat exchanger type	Counterflow		
Heat exchanger material	Aluminium		

7. DESIGNS AND OPERATING LOGIC

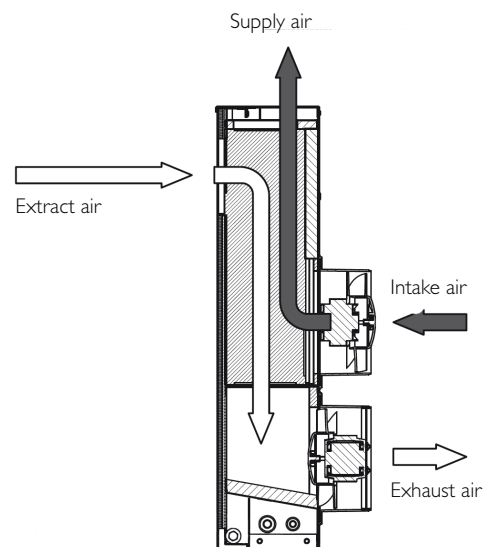
- The unit casing is made of painted steel, internally filled with a heat- and sound-insulating material.
- The plate heat exchanger and two fans are located inside the unit.
- The front panel is installed on the rotating sleeves to enable access for the unit servicing.
- The casing bottom is equipped with a protecting service panel to enable service access to the automation unit.
- The supply filter is installed between the fan and the heat exchanger and provides fresh filtered air supply to the unit.
- The extract filter is installed in the upper part of the front panel.
- The temperature sensor downstream of the heat exchanger in the exhaust air duct provides the heat exchanger freezing protection. If the exhaust air temperature drops down below $+3\text{ }^{\circ}\text{C}$ ($+37,4\text{ }^{\circ}\text{F}$) the heat exchanger freezing danger is registered. In this case the supply fan is turned off and the unit operates in exhaust mode only. After the heat exchanger is warmed up and the freezing danger is no longer imminent the unit reverts to the standard operation mode.



Unit operation logic

Warm stale extract air from the room flows through the air ducts to the unit, is purified in the extract filter, then it is moved to the heat exchanger and exhausted outside by the exhaust fan. Clean cold air from outside is moved by supply fans to the unit where it is purified through the supply filter. Then clean air flows through the heat exchanger and is supplied to the room.

Heat energy contained in the warm extract air is transferred to the fresh intake inside of the heat exchanger. Heat recovery minimizes heat energy losses and operating heating costs.

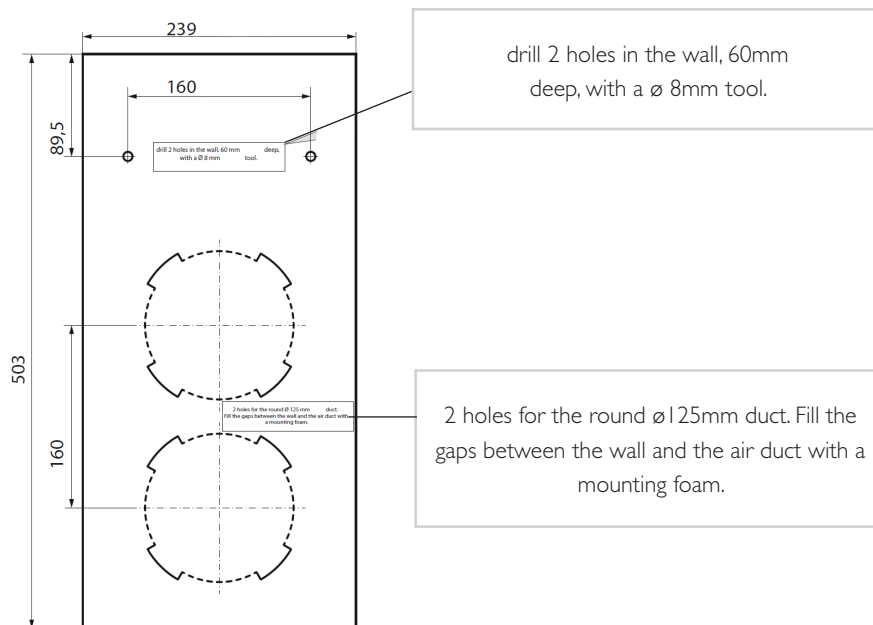


8. MOUNTING AND SET-UP

The unit mounting is carried out with the master plate from the delivery set and two air ducts of required length or any of the mounting kits, 4.0002.0001.

The mounting set 4.0002.0001 is specially designed for mounting of the unit in a ready-built premise. It includes two plastic air ducts, 500 mm long, a master plate for marking holes and an outer ventilation hood that prevents ingress of foreign objects inside the unit. If the building's wall thickness is above 500 mm prepare two extra \varnothing 125 mm air ducts of required length.

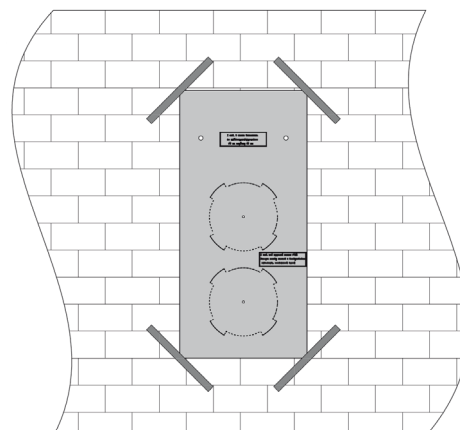
PAPER MASTER PLATE FOR HOLE MARKING (MM) (INCHES)



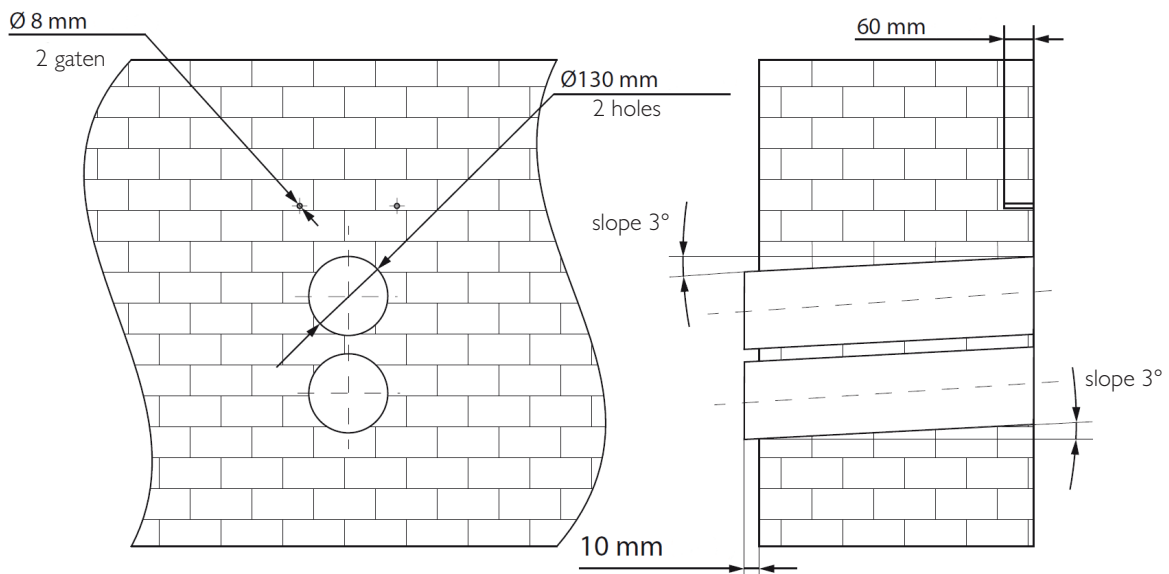
UNIT MOUNTING

The unit is mounted as follows:

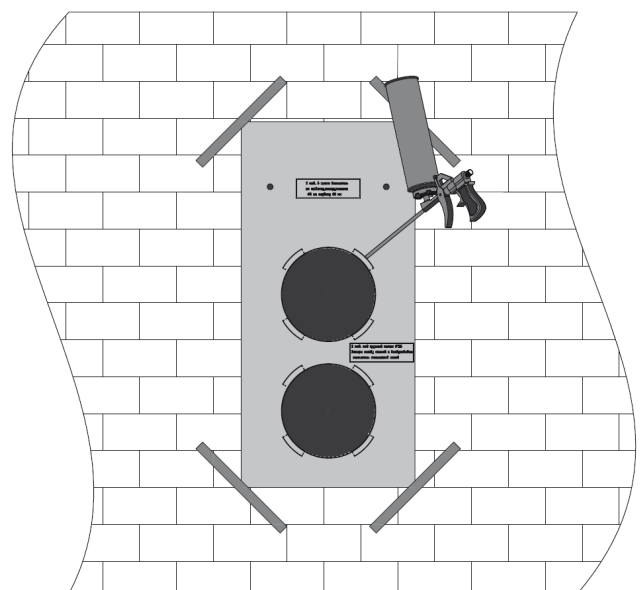
- I. Fix the master plate from the delivery set on the wall with a sealing tape on required level.



2. Use a master plate to mark two $\varnothing 130$ mm holes for the air ducts and two $\varnothing 8$ mm holes for the dowels.
3. Remove the master plate and drill through holes for the air ducts and the 60 mm deep holes for the dowels. Drill the holes for the air ducts sloped down by 2-3°. Then insert the dowels (included into delivery set) into respective holes.



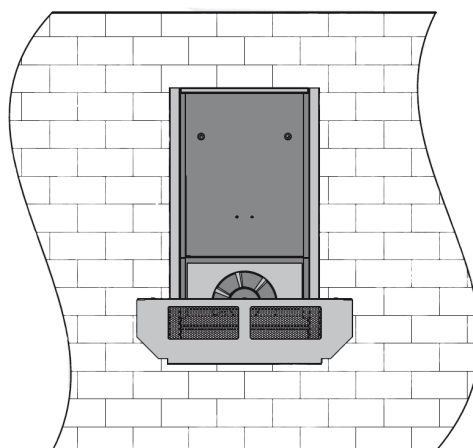
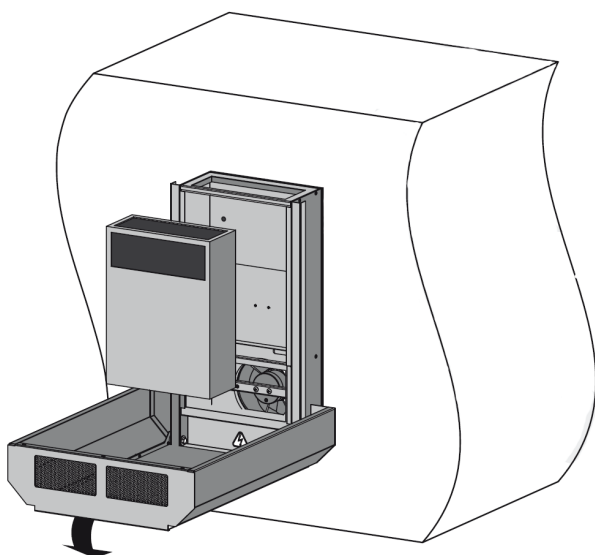
4. Re-install the master plate with a sealing tape back. Fix the master plate from the mounting kit on outer wall side to align the air ducts with respect to each other. Fix the master plate from the mounting kit somewhat lower to ensure the minimum required slope 3°. Before mounting the master plate press the perforated holes to remove the master plate fragments and prepare holes for the air ducts.
5. Insert the air ducts inside the holes in the master plate designed for the air ducts and seal those with a mounting foam through the holes in the master plate. Install the air ducts sloped down by 2-3° to ensure the condensate drainage from the unit.
6. After the mounting foam gets hard (see the solidification time in the product specification) remove the master plate and cut the protruding parts of the air ducts to be flush with the inner wall. On outer wall side, the air ducts must protrude for 10 mm to prevent condensate dropping on the wall.

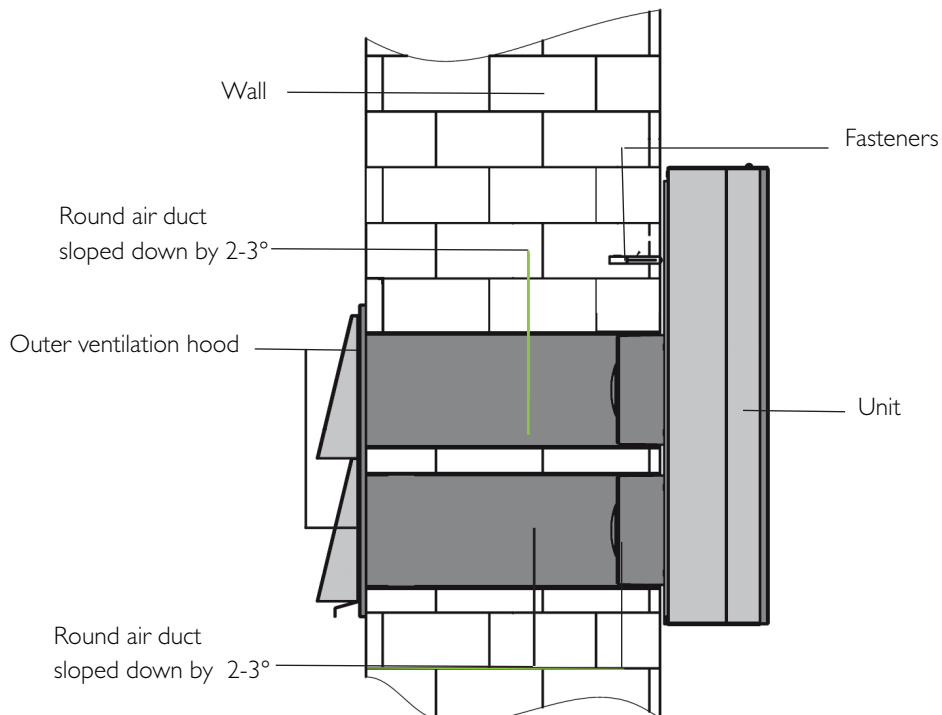


7. Unit installation sequence:

- Open the front panel and remove the heat exchanger.
- Connect the unit spigots to the plastic air ducts.
- Fix the unit to the wall with the screws 5,0x50 from the delivery set by inserting those to the Ø8 mm holes.
- Install the heat exchanger and close the front panel.
- Install the outer ventilation hood NB ETP comfort medium on outer side of the building to prevent ingress of large foreign objects into the air ducts.

Attention! The round plastic air ducts and the outer ventilation hood are not included into the delivery set and are available on separate order. You may use other ventilation grilles and hoods of the matching size.





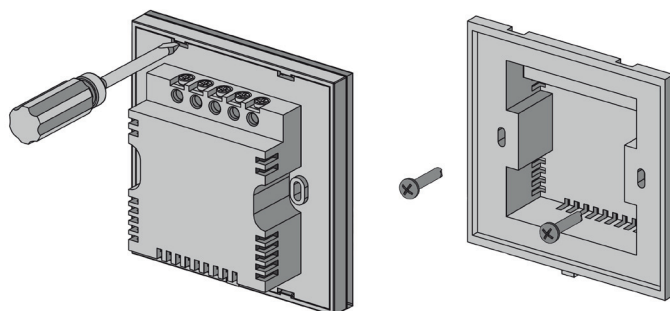
SENSOR SPEED SWITCH MOUNTING



MAKE SURE THAT THE SWITCH IS NOT DAMAGED. DO NOT OPERATE A DAMAGED SWITCH! DO NOT INSTALL THE SWITCH ON AN UNEVEN SURFACE! DO NOT APPLY EXCESSIVE FORCES WHILE TIGHTENING THE SCREWS TO AVOID THE SPEED SWITCH CASING DEFORMATION.

Mounting sequence of the sensor speed switch:

- Unfasten gently the switch front panel latches.
- Remove the front panel.
- Route the cable in the wall to the speed switch installation site.
- Attach the back panel to the wall through the fastening openings.
- Connect the control cable to the speed switch following the wiring diagram, page 13.
- Install the front panel on the latches.

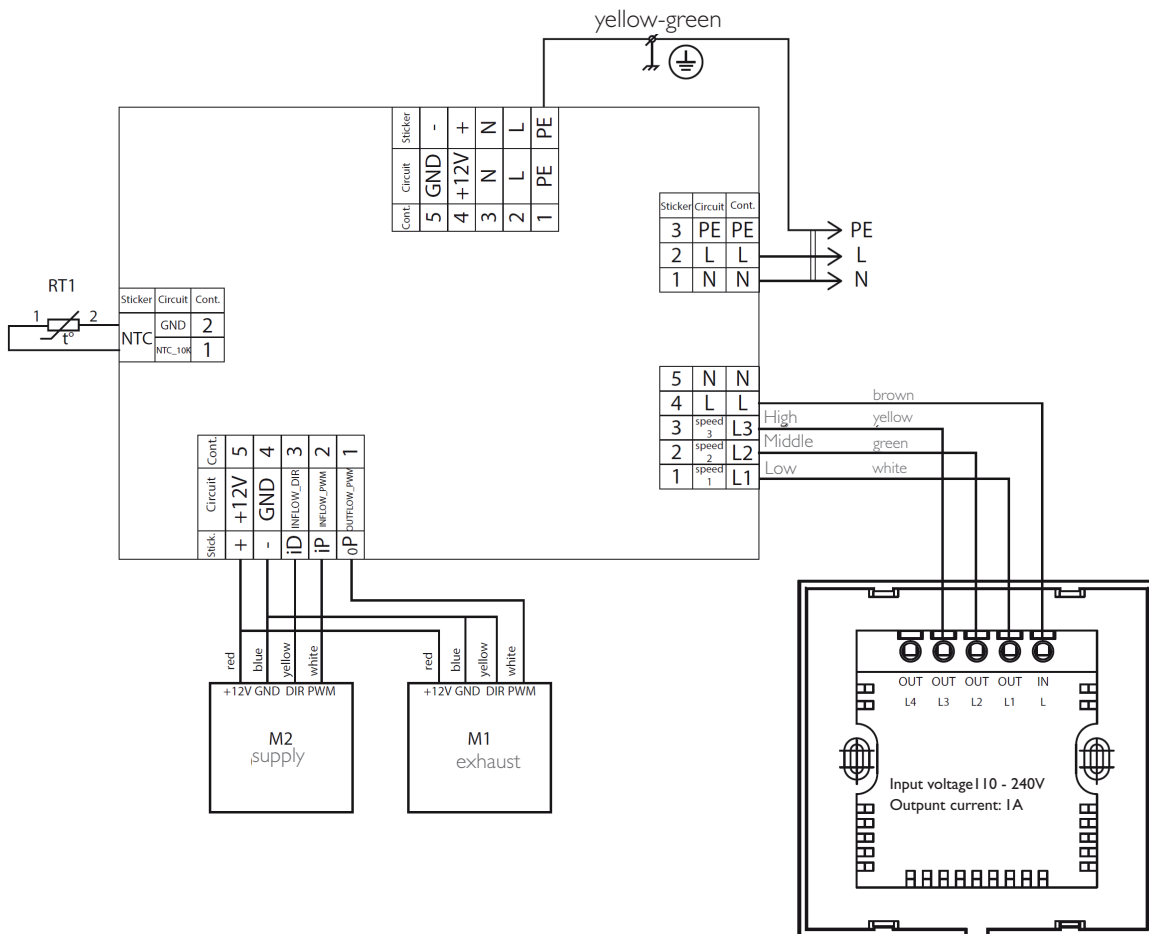


9. CONNECTION TO POWER MAINS

DISCONNECT THE UNIT FROM POWER MAINS PRIOR TO ANY ELECTRIC INSTALLATION OPERATIONS. CONNECT THE UNIT TO A CORRECT INSTALLED SOCKET WITH A GROUNDED TERMINAL. ANY INTERNAL CONNECTION MODIFICATIONS ARE NOT ALLOWED AND RESULT IN WARRANTY LOSS.

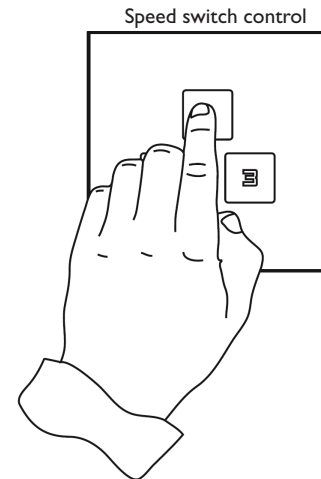
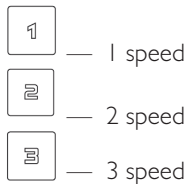
The unit is rated for connection to single-phase ac 1~100-240V/ 50-60 Hz power mains. The unit wiring diagram is shown below.

UNIT WIRING DIAGRAM



10. UNIT CONTROL

- Touch the button with a respective speed indication to activate the required unit speed.



- For speed changeover, touch a button with a respective speed indication. The respective current speed button glows blue.
- To turn the unit off touch a respective current speed button again. The sensor switch panel is not lighted when the unit is off.
- The speed switch generates a sound signal each time the sensor panel is touched.

11. MAINTENANCE

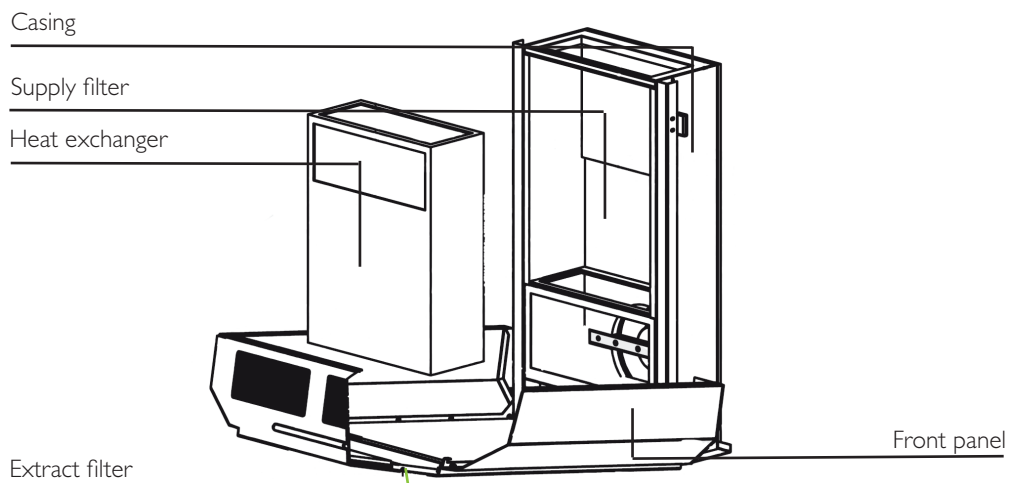


The recommended unit maintenance periodicity is 3-4 times per year.

Maintenance of the unit means regular cleaning of the unit surfaces and its components of dust and cleaning or replacement of the unit filters.

To remove dust use a soft brush, cloth or a vacuum cleaner. Do not use water, abrasive detergents, solvents, sharp objects. The impeller blades must be cleaned once in year.

Clogged filters increase air resistance and impair the unit air capacity. Clean the filters with a vacuum cleaner or flush with running water. The filters must be cleaned at least 3-4 times per year.



To maintain the high heat recovery efficiency, regular heat exchanger cleaning is required. Remove the heat exchanger prior to the cleaning operation. Clean the filters with a vacuum cleaner or flush with running water:

11. FAULT HANDLING

FAULTS AND FAULT HANDLING

Problem	Possible reasons	Fault handling
The fan does not start up during the unit start-up	No power supply	- Make sure of correct power supply, otherwise troubleshoot
	The motor is jammed, the impeller are clogged	- Turn the unit off. Troubleshoot the motor jam. - Clean the blades - Restart the unit
Automatic switch tripping	Overcurrent resulted from short circuit in the electric circuit	- Turn the unit off - Contact the service centre
Low supply air temperature	The extract filter is clogged	- Clean or replace the extract filter
	The heat exchanger is frozen	- Check the heat exchanger for icing. - Turn the unit off and let ice melt
Low air flow	Low set fan speed	- Set higher speed
	The filters, the fan or the heat exchanger is (are) soiled	- Clean or replace the filters - Clean the fan and the heat exchanger
High noise, vibration	The impeller is soiled	- Clean the impeller's
	Loose screw connection	- Tighten the screws
	Not anti-vibration connectors are installed	- Install the anti-vibration mounts (not included into the delivery set).



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