**Xvent s.r.o.**
Poděbradská 289
53009 Pardubice-Trnová

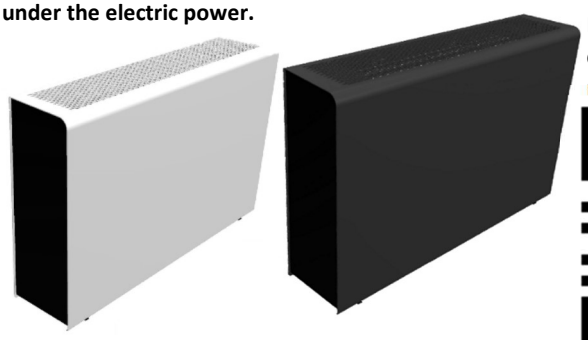
# QUICK INSTALLATION AND OPERTAION MANUAL

Xroom unit

Quick manual will guide you thru quick installation of the unit, but in any case, can not replace full manual. Full manual is available at out web page, www.xvent.cz or you can download it by QR code.

**Check, that in the spot where you will install the unit, there are not any electric wires, water, waste or gas pipes, which you can brake during installation. Check, that the parameters of electric power network, you would like to connect the unit to, comply with requests of the unit (production label).**

**Make sure that the installation of the unit will not interfere the static of the building and comply with all safety legislative requests. Check before the installation, that condensate leaking from the unit thru the outlet grill will not damage the building and will not be in contact with any device under the electric power.**



Read the QR code by smart device enabling QR code reading.

## 1) Usage of the unit

- Xroom is HVAC device using heat recovery ventilation (diagonal counterflow exchanger) and moisture regeneration (enthalpic exchanger) with option of independent heating or cooling (based on type of the unit and source).
-Unit is standardly equipped with CO2 air quality sensor (alternatively with RH sensor), which enables ventilation only in the case when needed. User will set only the performance level and the unit ventilates and heats according the real need.
- Unit can be used in premises with maximum air flow request:
  - o 100 m3/h – Xroom 100 – usual living spaces, smaller offices, hotel rooms etc.
  - o 250 m3/h – Xroom 250 – bigger offices, class rooms, hospital rooms.
- Unit is designed for horizontal installation at periphery wall with access to the outdoor air with minimum thickness 180 mm.
- Unit is designed for covered indoor and dry premisses with temperature inside from +5°C up to +30°C and with max relative humidity 70% without any condensation.

**Supply air temperature from the outdoor can vary from -20 °C up to +40 °C (valid for unit with preheater). If the supply air temperature would be lower than -20 °C, the unit can automatically switch off in order to be protected before its potential damage.**

## 2) Technical parameters

- Xroom 100

| Line | | | XR1-010-ECS0...X... | | XR1-010-ECV1...X... | | XR1-010-ECCO...X... | | XR1-010-ECE1...X... | | XR1-010-ECS0...P... | | XR1-010-ECV1...P... | | XR1-010-ECCO...P... | | XR1-010-ECE1...P... | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type of recovery exchanger | | | HRV | ERV | HRV | ERV | HRV | ERV | HRV | ERV | HRV | ERV | HRV | ERV | HRV | ERV | HRV | ERV |
| Unit equipment | pre-heater | | - | | - | | - | | - | | electric | | electric | | electric | | electric | |
| | after heater | | - | | water | | water heat/cool | | electric | | - | | water | | water heat/cool | | electric | |
| Nominal airflow/ BOOST* | | m3/h | 100/215 | 90/205 | 100/215 | 90/205 | 100/215 | 90/205 | 100/215 | 90/205 | 100/215 | 90/205 | 100/215 | 90/205 | 100/215 | 90/205 | 100/215 | 90/205 |
| Heat output (range) of heating** | | kW | - | | 0,33 - 1,38 | | | | 0,5 | | - | | 0,33 - 1,38 | | | | 0,5 | |
| Cooling capacity (range)*** | | kW | - | | - | | 0,14 - 0,48 | | - | | - | | - | | 0,14 - 0,48 | | - | |
| Noise level** | | dB(A) | 32,1 | | | | | | | | | | | | | | | |
| Weight**** | | kg | 16,3 | | 18,3 | | 18,8 | | 19,3 | | 16,8 | | 18,8 | | 19,3 | | 19,8 | |
| Water volume in exchanger | | l | - | | 0,51 | | 0,51 | | - | | - | | 0,51 | | 0,51 | | - | |
| Power supply of the unit | | V / Hz | 1 ~ 230 / 50-60 | | | | | | | | | | | | | | | |
| Nominal input power of the unit / | | W | 30 / 167 | | 30 / 167 | | 30 / 167 | | 530 / 667 | | 300 / 437 | | 300 / 437 | | 300 / 437 | | 800 / 937 | |
| Nominal current of the unit / BOOST* | | A | 0,3 / 1,32 | | 0,3 / 1,32 | | 0,3 / 1,32 | | 2,5 / 3,5 | | 1,5 / 2,5 | | 1,5 / 2,5 | | 1,5 / 2,5 | | 3,7 / 4,7 | |
| Recovery efficiency per EN 308 | heat | % | up 87 | up 90 | up 87 | up 90 | up 87 | up 90 | up 87 | up 90 | up 87 | up 90 | up 87 | up 90 | up 87 | up 90 | up 87 | up 90 |
| | humidity | % | - | up 85 | - | up 85 | - | up 85 | - | up 85 | - | up 85 | - | up 85 | - | up 85 | - | up 85 |
| Protection type | | IP | 20 | | | | | | | | | | | | | | | |
| Energy efficiency class (ERP) | | | cold climate A+ (-47 HRV, -45.9 ERV); middle climate A (-40.4 HRV, -38.9 ERV); warm climate A (-34.1 HRV), warm climate B (-33.1 ERV) | | | | | | | | | | | | | | | |

- Xroom 250

| Line | | | XR1-025-ECS0...X... | | XR1-025-ECV1...X... | | XR1-025-ECCO...X... | | XR1-025-ECE1...X... | | XR1-025-ECS0...P... | | XR1-025-ECV1...P... | | XR1-025-ECCO...P... | | XR1-025-ECE1...P... | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type of recovery exchanger | | | HRV | ERV | HRV | ERV | HRV | ERV | HRV | ERV | HRV | ERV | HRV | ERV | HRV | ERV | HRV | ERV |
| Unit equipment | pre-heater | | - | | - | | - | | - | | electric | | electric | | electric | | electric | |
| | after heater | | - | | water | | water heat/cool | | electric | | - | | water | | water heat/cool | | electric | |
| Nominal airflow/ BOOST* | | m3/h | 250/350 | 240/335 | 250/350 | 240/335 | 250/350 | 240/335 | 250/350 | 240/335 | 250/350 | 240/335 | 250/350 | 240/335 | 250/350 | 240/335 | 250/350 | 240/335 |
| Heat output (range) of heating** | | kW | - | | 1,34 - 3,49 | | | | 1 | | - | | 1,34 - 3,49 | | | | 1 | |
| Cooling capacity (range)*** | | kW | - | | - | | 0,39 - 1,27 | | - | | - | | - | | 0,39 - 1,27 | | - | |
| Noise level** | | dB(A) | 32,6 | | | | | | | | | | | | | | | |
| Weight**** | | kg | 36 | | 39,4 | | 40,4 | | 41,2 | | 37 | | 40,4 | | 41,4 | | 42,2 | |
| Water volume in exchanger | | l | - | | 1,17 | | 1,17 | | - | | - | | 1,17 | | 1,17 | | - | |
| Power supply of the unit | | V / Hz | 1 ~ 230 / 50-60 | | | | | | | | | | | | | | | |
| Nominal input power of the unit / | | W | 61 / 169 | | 61 / 169 | | 61 / 169 | | 1061 / 1169 | | 479 / 709 | | 479 / 709 | | 479 / 709 | | 1480 / 1709 | |
| Nominal current of the unit / BOOST* | | A | 0,61 / 1,42 | | 0,61 / 1,42 | | 0,61 / 1,42 | | 5 / 5,8 | | 3 / 3,8 | | 3 / 3,8 | | 3 / 3,8 | | 7,3 / 8,2 | |
| Recovery efficiency per EN 308 | heat | % | up 87 | up 86 | up 87 | up 86 | up 87 | up 86 | up 87 | up 86 | up 87 | up 86 | up 87 | up 86 | up 87 | up 86 | up 87 | up 86 |
| | humidity | % | - | up 75 | - | up 75 | - | up 75 | - | up 75 | - | up 75 | - | up 75 | - | up 75 | - | up 75 |
| Protection type | | IP | 20 | | | | | | | | | | | | | | | |
| Energy efficiency class (ERP) | | | cold climate A+ (-47.5 HRV, -47.2 ERV); middle climate A (-40.5 HRV, -40.2 ERV); Warm climate A (-34.6 HRV, -34.4 ERV) | | | | | | | | | | | | | | | |

* BOOST mode - intensive ventilation for 10 minutes

**at a temperature gradient of 75/60 and an inlet air temperature of 20°C

***at a temperature gradient of 7/12 and a recuperated air temperature of 24°C under inlet conditions: 30°C air temperature intake from the outside; 23°C air temperature sucking out of the room

**** Sound pressure level in free space at a distance of 3m

***** Unit weight, excluding water and packaging

**Prohibited usage of Xroom unit**

**- Unit can not be used for extracting firing, burning, explosive or aggressive medias, gases or liquids.**

**- Unit can not be installed very close to electric socket, electric box or close to curtains, inflammable materials and in to the premises with higher risk of explosions, high dustiness or in to the premises with very high relative humidity like pools, bathrooms, saunas.**

- For the damages caused by improper usage of the unit is responsible the user, not the distributor, neither manufacturer.

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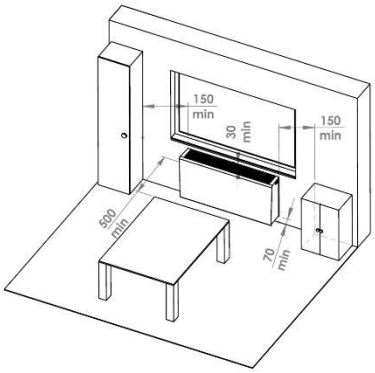
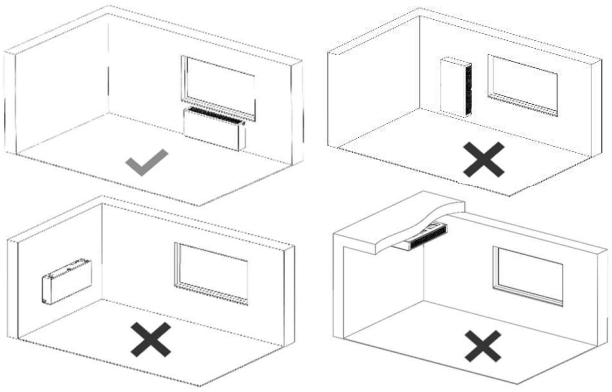
**3) Installation of Xroom unit**

- Minimum installation dimensions



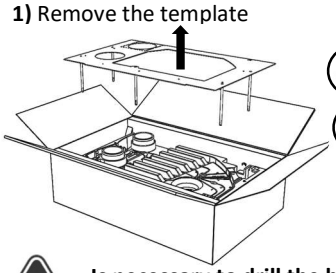

- Installation positions



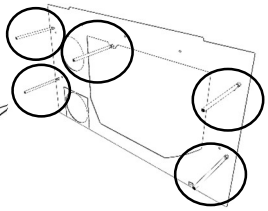
The unit has to be installed and commissioned in line with general and safety law instructions valid in the area of the installation and performed only by authorised person. **By breaking the installation rules might lead to the damage of the unit, improper function and damage of healthiness and property of the user.**

**- Installation procedure**

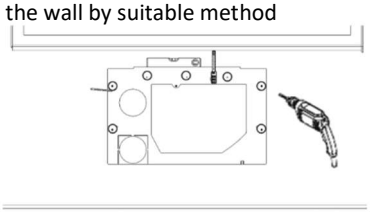
**1)** Remove the template



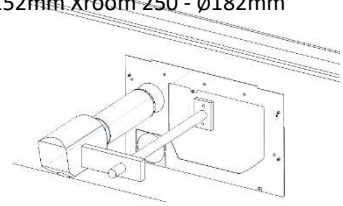
**2)** unscrew the bolts



**3)** level the template and fixed to the wall by suitable method

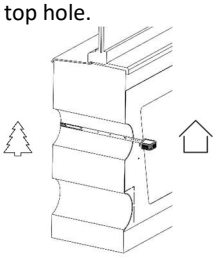


**4)** Drill the holes in to the wall according the template. Ø diameter Xroom 100 - Ø152mm Xroom 250 - Ø182mm

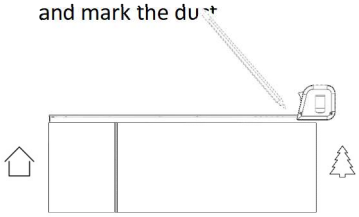


**Is necessary to drill the holes leveled and in 90° angle to the inside part of the periphery wall. Make sure the diameters of the holes are correct. In other case there is a risk of improper installation and thus wrong function of the unit.**

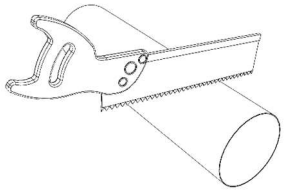
**5)** measure wall thickness in top hole.



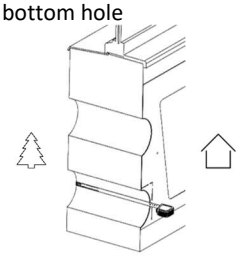
**6)** transfer the dimensions and mark the duct



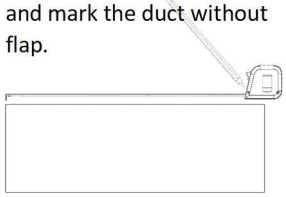
**7)** adjust the duct according wall thickness



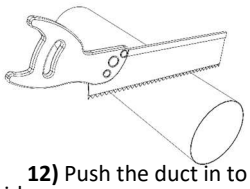
**8)** measure wall thickness in the bottom hole



**9)** transfer the dimensions and mark the duct without flap.



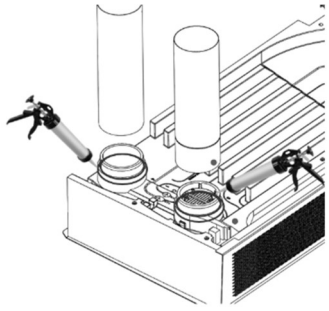
**10)** adjust the duct according wall thickness



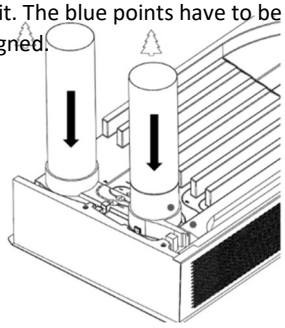
**When cutting the duct, the cut has to be nice and vertical to the axis of the duct.**

- Installation accessories which is standardly supplied with the unit as the mandatory accessories is for maximum wall thickness 0,5 m.
- Extension of the ducts for walls with bigger thickness is described in Full manual in chapter 3.2.4.1.
- Use the mastic - MS polymers

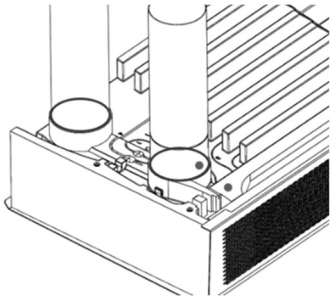
**11)** Apply the mastic on the outside edge of the throat on unit body



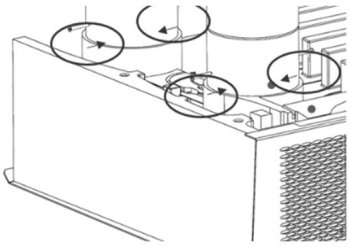
**12)** Push the duct in to the grooves in vertical way to the unit. The blue points have to be aligned.



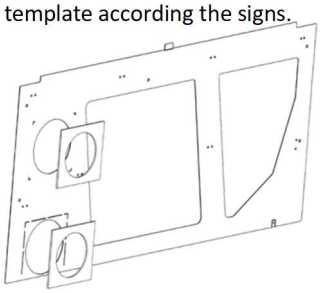
**13)** Apply the mastic to the outside joint.



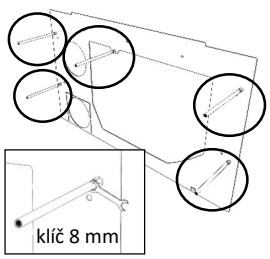
**14)** Secure the duct by two screws – 2pcs each side opposite each way in distance 20 mm from the throat. Cut the packaging box and remove the unit out.



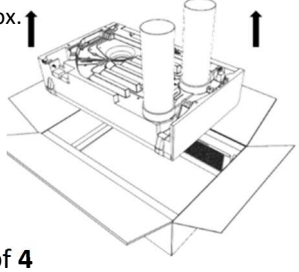
**15)** Glue the insulation pads to the template according the signs.



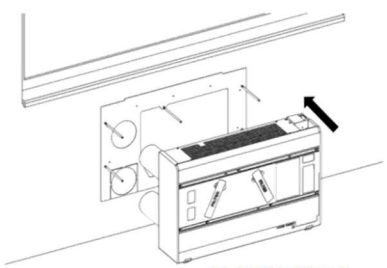
**16)** Screw the bolts back to the template




**17)** Remove the unit with the duct out from the packaging – front cover has to stay in the box.



**18)** Place the unit on bolts and the duct thru the wall.



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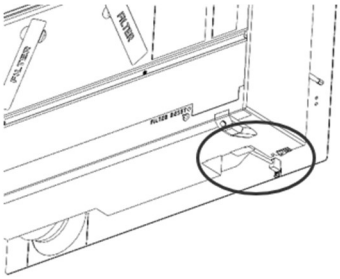
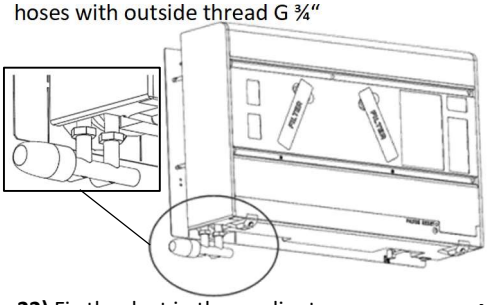
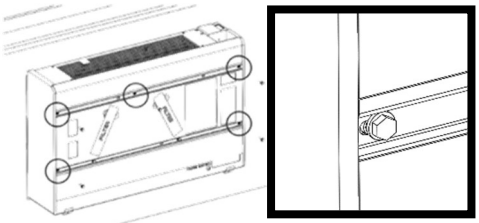
**19.a)** Put the unit on the bolts partially and connect the ground cable to the connector on template.



**19.b)** In the case of unit with water exchanger (XR1-xxx-ECV1…) place the unit around 0,1m far from the wall and connect the water exchanger by flexible hoses with outside thread G ¾“

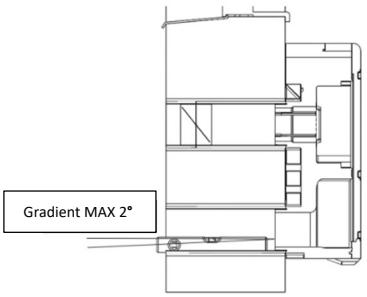


**20)** Fix the unit to the installation bolts by screws M6x25.

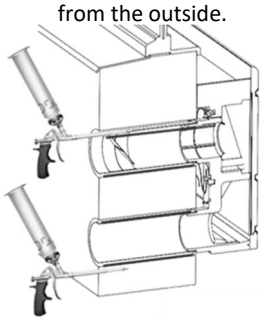


**Screw the bolts by maximum power 5Nm. There is a risk of damage otherwise.**

**21)** Put the exhaust duct in gradient max 2° (¼ bubble niveli)



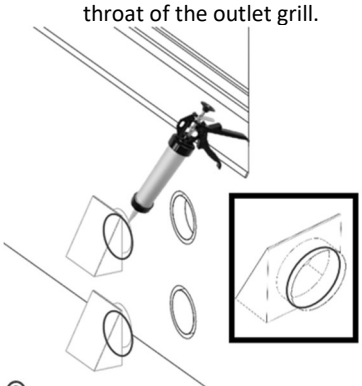

**22)** Fix the duct in the gradient – insulate by low-expansion foam from the outside.



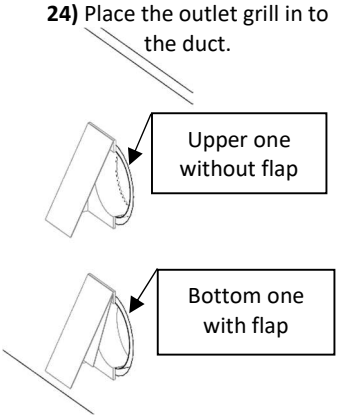
Make sure the installation foam in entire length and around whole duct. Otherwise, there is risk of condensation on the duct and its potential leak in to the wall and inside.

- Once the installation foam is hard, cut it align with the outside facade.
- Clean the cut in order to avoid leaking of the water from façade to inside. (IE.: liquid membrane).

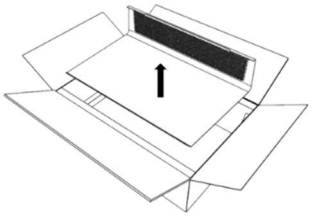
**23)** Apply the mastic around whole throat of the outlet grill.



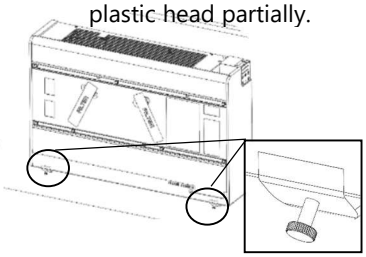
**24)** Place the outlet grill in to the duct.



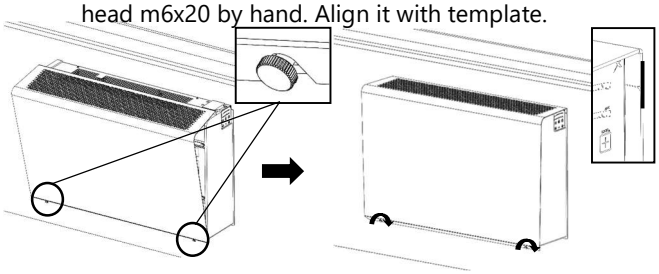

**25)** Remove the front cover from the packaging



**26)** Screw the bolts M6x20 with plastic head partially.



**27)** Place the front cover and tight the screws with plastic head m6x20 by hand. Align it with template.

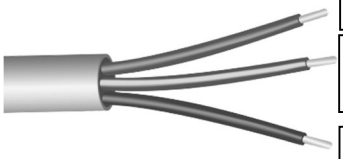


**Perfect sealing between throat of the flap and duct ensures correct condensate leakage thru the outside grill.**

**4) Connection to the electric power network.**

**- Make sure, prior any installation work, that the electric socket/box to be used for the unit is equipped with security (green-yellow) wire or connector.**
**- If you use electric plug, it has to be always accessible to be able the unit safely disconnect from the electric power.**
**- The electric circuit which will be used for unit has to be secured by maximum 16 A.**
**- The electric connection has to be in line with general and safety law instructions valid in the area of the installation and performed only by authorised person.**
**- This unit is type Y – connection group. If the input power wire cable is damaged, it has to be replaced by manufacturer, its service department or by person with similar qualification in order to avoid danger situation.**
**- Input voltage of the unit is 1~230V/50-60Hz. It must not be modified anyhow, otherwise there is a risk of damage of electric components of the unit.**

**- Xroom unit connection to the power network**



BLUE (N) – NEUTRAL WIRE

GREEN-YELLOW (PE) – SECURITY WIRE

BLACK/BROWN (L) – PHASE WIRE

**- Connection of the unit in to the electric box**

- Input wire is ready from the manufacturer for connection in to the electric box.
- For connection of the income wire to the electric power network use appropriate components. (IE connectors, spring clamps)

**- Connection of the unit to the electric socket**

- Income wire is possible to connect with plug with security connector (pin) – this is not part of the delivery.

**Installation of the income wire to the electric box or installation of the plug to the income wire and connection to the electric power network has to be performed only by authorised person and inline with safety law instructions valid in the area of the installation.**

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**5) Controls**

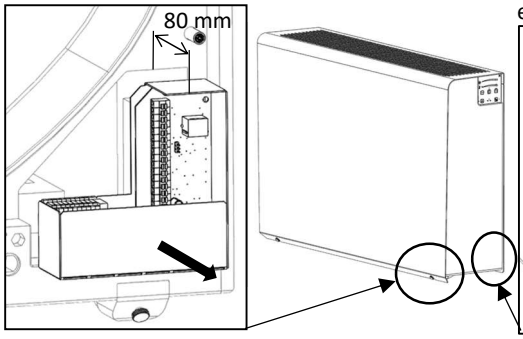
**-** For the correct operation there is no need to connect anything else. The unit is standardly delivered with complete integrated controls with air quality sensor CO2. After the installation on the wall is ready for usage.

**- Connection of electric accessories**

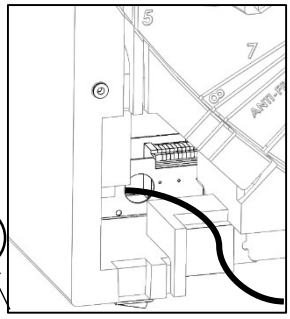
**- Before connection of electric accessories always switch off the unit on the control panel and by main switch.**

- Electric accessories connect in control box. In case of need is possible to place the box around 80mm above the body of the unit.
- The components are connected by spring clamps with hand lock of the wire. Wire type licna (rope with hollow) or hard wire can be installed in to the clamps. Cross section in the range from 0,5 up to 1,5 mm², uninsulated part 10 mm. Before entering the with in to the clamp press the orange lock button. Then input the wire, release the lock and by light pull-of make sure the wire correctly secured. In need of its removal is the process the same. Choose optimal cross section of the wire according the length of the cable route.
- Pull income cables necessary to the connection of the accessories thru the body of the unit in space of AQS sensors.

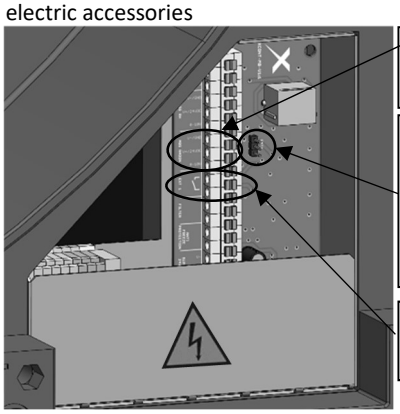
**1)** Eject regulation box




**2)** Pull in the cable for electric accessories



**3)** Orient yourself in the controls and connect the electric accessories

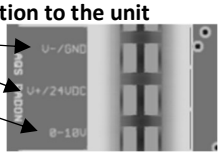



**- Connection of Radon sensor – AQS RADON**

**-** It is possible to connect Radon sensor to the unit, which enables measuring concentration of the radon in the air in the space where unit installed is. Thanks to sensor the unit ventilates autonomously and reduce radon concentration level. Ventilation is only way how to effectively reduce radon concentration.

**- Technical parameters for radon sensor connection to the unit**

- Sensor power supply 24VDC
- Analog output 0- 10VDC
- Max sensor input 5W
- Sensor analog input resistance 100kΩ




- **Functionality of the unit when radon sensor connected**
- The unit reacts by continual control based on demand from the sensor in real time
- Turn on concentration level of the radon in the room is 350 Bq/m³
- Turn off concentration level of the radon in the room is 300 Bq/m³

**Supply GND is common with GND of analog output. There is risk of board damage once connected improperly.**

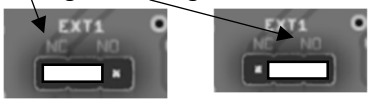
**- Connection of the external contact – EXT 1**

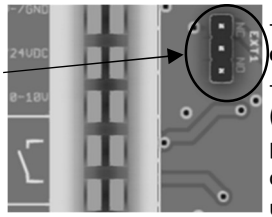
**-** Controls of the unit enables connection of the external contact for remote turn on or turn off of the unit (remote control ON/OFF).

- External contact is concept as un-potential and can be switched on for example by magnetic contact, remote switch, time relay.

**- Technical parameters of the Radon sensor connection to the unit**

- Switching voltage 24 VDC / 5mA
- Contact can change the logic by re-connection of the bridge to logic switching NC or NO (factory setting).

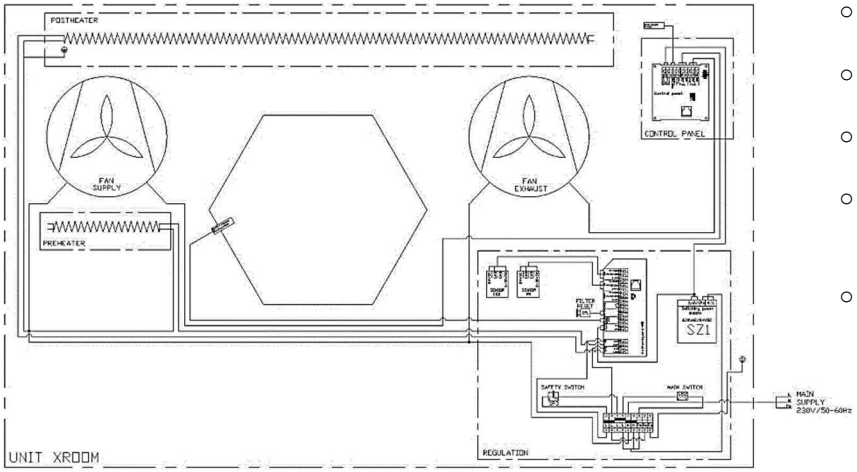



- **Functionality of the unit when controlled by external contact**
- External contact turn on or off the unit. (Same functionality as on the control panel ON/OFF) with logic turning off or on all running processes in time when unit being turned off or on.

-If the unit is ON/OFF by external contact, it can be turn on/off from the control panel of the unit.

**- Block scheme of the unit connection.**




- **Examples of external contact behavior EXT1**
  - EXT1 turn on the unit in selected time(morning) – and the unit operates based on user setting,
  - During operation the unit is turn of by the user – unit turns off,
  - EXT1 turn of the unit in selected time (evening) – unit remains turned off,
  - EXT1 turn on the unit in selected time (next morning) – the unit operates based on user setting.
  - *If you would like to avoid controlling of the unit by user and to control the unit by external contact, we recommend set the child lock of the panel after operation parameters setting. (It is not possible to turn on/off the unit on the control panel – unit can be switch on or off only by external contact.*

- further information about controls of the unit and service are shown in full manual or in Quick (placed on the body of the unit.)