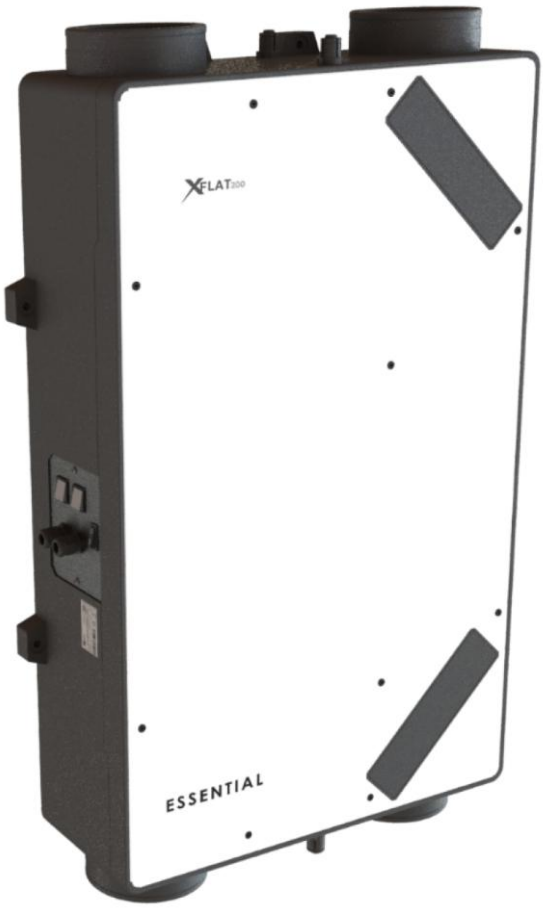
Xvent | Beauty in simplicity




# OPERATING AND ASSEMBLY INSTRUCTIONS

## CENTRAL RECUPERATION UNITS

## XFLAT 200

## ESSENCIAL Regulation

Table of Contents

# 1. General information

## 1.1. Introduction

- This 'Operating and Assembly Instructions' document is designed for the Xflat central heat recovery units (hereinafter only the unit). It is also superior to the brief instructions placed directly on the unit, the so-called 'Quick instructions'.
- **Assembly and connection of the unit must only be performed by a trained person with the appropriate authorisation for the connection of electrical equipment who has the appropriate tools and resources at their disposal. All the instructions and recommendations provided in this manual must be observed during assembly**
- Detailed familiarisation with this document is important for the unit's correct and safe assembly and functioning. Failure to comply with the conditions set out in this document can lead to the unit's malfunction.
- Please retain the unit manual for future reference after reading it thoroughly.
- It is forbidden to interfere in any way with the unit's internal connection other than as specified in this manual. Due to the continuous development of our products, we reserve the right to change this manual without prior notice.
- Children and persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, can only use the unit under supervision or if they have been instructed on the unit's safe operation and understand the potential risks.
- Children must not play with the appliance.

## 1.2. Warnings and symbols

- The following names and symbols shall be used in the operating instructions, on the packaging and on the product for particularly important information:

**Warning,** pay attention to all the risk alerts and warnings, as well as preventive measure instructions.

**Danger**, observe all the warnings as there is a risk of electric shock, or a situation that can result in death or serious injury, if not prevented.

Reference to another section of the manual.

**Caution** – read the Operating Instructions prior to use

Protective conductor connection.

**Notification** of the correct position when handling and storing the packaging.

**Notification** of the need for protection against moisture. Product – packaging marked with this symbol must not be transported on open vehicles, stored in roofless buildings or on the ground without padding.

**Notification** of the content – product's fragility and the need for careful handling of the packaged product.


**Notification** of the need for protection against moisture and of the fragility of the product inside the packaging

## 1.3. Using the Xflat 200 unit

### 1.3.1. Unit designation

- The Xflat 200 unit is an air handling unit using ventilation technology with heat recovery (counter-current heat exchanger – XF1-020-xxxx**HR**xxx-0A0) and humidity (enthalpy heat exchanger – XF1-020-xxxx**ER**xxx-0A0) with the possibility of connecting an external pre-heater (not included in the unit) and an independent external air heater (not included in the unit).
- The unit is equipped as standard with a control panel with rotary switches/dials for setting the desired values/functions according to the user. The controller is connected to the unit by a 10 m connection cable as standard.

The unit has an electronic bypass function for night cooling in summer. See Section 5.3.4.

The unit is designed for forced ventilation. The unit ventilates according to the output set by the user. It is not possible to connect air quality sensors – AQS directly to the unit control.

- The unit can be used to connect the air supply from the right-hand side (right-hand version) or from the left-hand side (left-hand version). Switching between right/left is done by two rocker switches located on the control plate of the unit. Marking L (left) – left version; R (right) – right version – factory setting of the unit. Addressed separately in Section 4.2.1.

- The unit allows switching between two nominal flow rates:
  - 150 $m^3/h$ at disposition pressure of 200 Pa
  - 200 $m^3/h$ at disposition pressure of 200 Pa (unit's factory setting)
- The switching of the nominal flow rate of the unit is done in the control at the JP1 input by changing the location of the connecting bridge – clamp (the factory setting of the unit is for a nominal flow rate of 200 $m^3/h$ – clamp is not installed). Addressed separately in Section 4.2.2.
- The unit is only designed for vertical and horizontal wall and ceiling assemblies.
- The unit is equipped with the 'Mutiflex' system – 90° rotation of the connection sockets
- The unit has constant flow technology – the flow does not decrease with increasing external pressure in the pipe (different pressure drop of individual air ducts). The unit still maintains the user's desired flow rate up to the maximum external pressure.
- The unit is designed for continuous operation – continuous ventilation
- The unit is designed for indoor covered and dry areas with a room temperature of +5°C to +30°C and the maximum relative humidity of 70%, non-condensing.
- The maximum working altitude of the unit is 2,000 m above sea level.

- **The temperature of supplied fresh air from the outside can be between -20°C and +40°C (applies to the version with independent preheating). If the temperature of the supplied air is lower than -20°C, the unit can switch off automatically in order to protect it from possible damage.**

### 1.3.2. Prohibited environment, use, assembly of the Xflat 200 unit:

- **Exhausting burning or glowing substances!**
- **Exhausting readily flammable or explosive gases,**
- **Exhausting aggressive media,**
- **Exhausting liquids of any kind,**
- **In an environment with an increased incidence or risk of explosion, flammable substances, and increased dust and/or air containing other harmful impurities,**
- **In an environment with higher condensation humidity, such as: bathrooms, swimming pools, saunas, etc.,**
- **The unit must not be installed just below the electrical socket or wiring box,**

Neither the manufacturer nor the supplier is liable for damage caused by improper use of the units (e.g. drying out of new buildings). The user bears the risk.

## 1.4. Transport, delivery control and storage

### 1.4.1. Transport

- During transport, keep the product in the position indicated by the symbol on the packaging.
- The packaging must not be loaded with a weight higher than that permitted by the manufacturer.
- The packaging must not be exposed to ambient effects.
- The transport air temperature must range between -25 and 55°C.
- The transport relative humidity must range between 10% and 90% non-condensing.
- **Use adequate tools to prevent damage to the goods and damage to the health and safety of persons.**
- In the case of further transport without original packaging or with changed original packaging, it must be ensured that the equipment is optimally secured and protected against damage.

### 1.4.2. Delivery inspection

- Before starting the assembly and before unpacking the unit from the box, it is necessary to check for any signs of packaging damage. If the packaging is damaged, please write a record of the damage and contact your carrier.
- Check if you have received the product actually ordered by you. After unpacking, check that the unit and other components are in order. Please immediately report any discrepancy with the order to the supplier. If an order complaint is not made immediately after delivery, it will not be considered later.

### 1.4.3. Storage

- If you do not plan to install the unit immediately after purchase, it must be stored in an indoor, non-condensing environment at temperatures ranging between +5 and +40°C. If the product is transported at temperatures below 0°C, it must be put into the working environment where it will be installed for at least 2 hours after unpacking.

## 1.5. Xflat 200 unit package contents

| | |
|---|---|
| - Xflat 200 unit with connected controller (10 m connection cable) | 1x |
| - Siphon hose Ø18/14- 2,000 mm for condensate drainage | 1x |
| - 2.5x120 Tie strap | 2x |
| - Quick instructions + Safety data sheet | 1x |
| - Serial plate | 1x |
| - Energy label | 1x |
| - Pads | 8x |
| - Round socket seal | 4x |

## 1.6. Before starting the assembly

- Before starting the assembly, we recommend attaching the serial plate (by default, supplied with the package) to the operating documentation (e.g. equipment operating book, etc.), which is subsequently kept for later maintenance records and servicing.
- **Check that there are no electrical or other lines (e.g. gas, water, etc.) at the point of assembly of the unit on the wall that could be damaged during assembly.**
- **Ensure that the assembly of the unit, including openings in the wall and wall (depending on the chosen assembly position) for the passage of the connection pipe, does not endanger the statics of the building and meets all the legislative requirements for safety.**
- Check the solution for draining the unit's condensate into the sewer system or another way that ensures smooth condensate drainage

## 2. Technical parameters

### 2.1. Basic unit parts

Figure 1

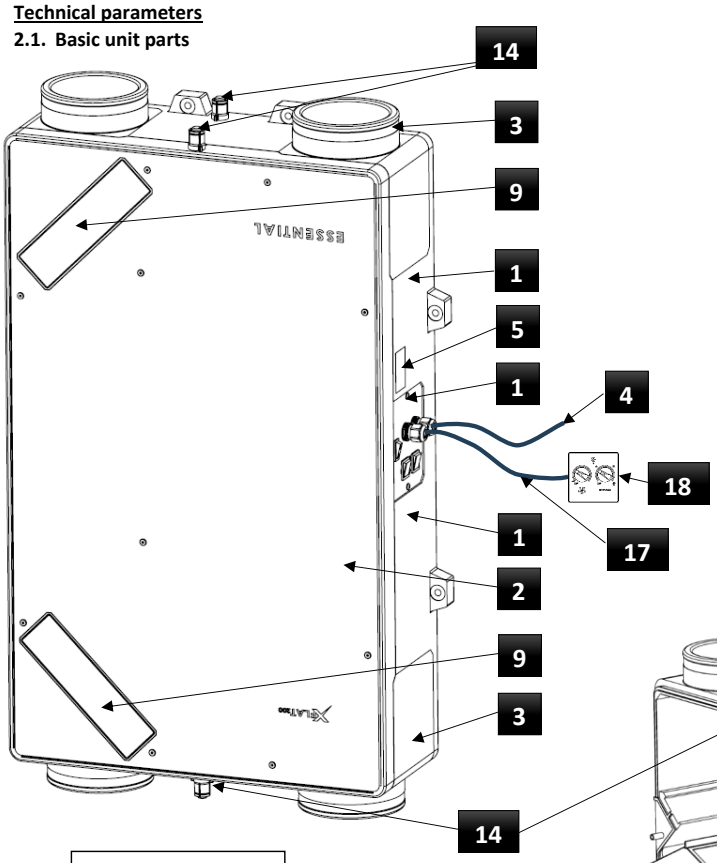
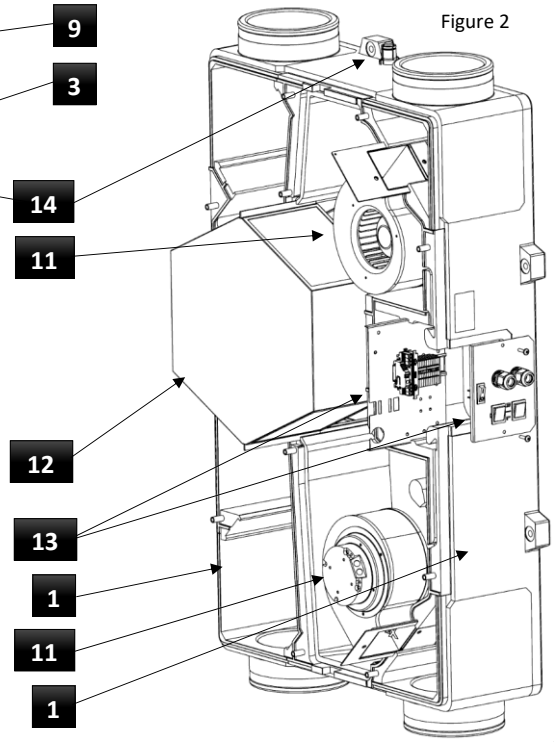



Figure 2




Regulation detail

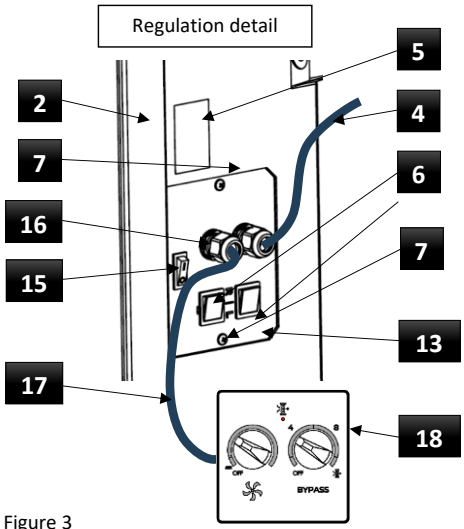



Figure 3

**2.1.1. Unit body – fitting** (position 1)

- The body of the unit is made of black pressed EPP plastic (expanded polypropylene). It ensures the accuracy and repeatability of the assembly of components. The material itself is an advanced technical material with a unique combination of properties such as strength at low weight, rebound elasticity, thermal insulation, chemical resistance, sound insulation and recyclability.

**2.1.2. Unit cover** (position 2)

- The unit cover is made of black pressed EPP plastic (expanded polypropylene). It ensures the accuracy and repeatability of the assembly of components. The material itself is an advanced technical material with a unique combination of properties such as strength at low weight, rebound elasticity, thermal insulation, chemical resistance, sound insulation and recyclability.

**2.1.3. Connection sockets – swivel corners** (position 3)

- The Ø130/Ø160 mm (inner/outer diameter) connection sockets are made of EPP material. To increase the variability of the connection, it is possible to rotate the socket by 90° after opening the lid, thus allowing a direct connection of the pipe to the unit without the need for an elbow (the 90° rotation has no effect on the advertised ventilation parameters).

**2.1.4. Supply cable** (position 4)

- It connects the unit and the connection point from the mains. Cable length approx. 1 m. The CYSY 3x1.5 $mm^2$ cable type with stripped and marked ends of 50 mm.

**2.1.5. Serial plate** (position 5)

- Displays the electrical and other technical parameters of the unit.

**2.1.6. 2x Rocker switch** (position 6)

- Both rocker switches are used to switch the left/right version of the unit – air supply from the right or left.

**2.1.7. Tapping screw ø4.2x13** (position 7)

- Tapping screw (2 pcs) attaches the regulation cover plate. Head type pozidrive size 1.

**2.1.8. Bolt M6x25** (position 8)

- Galvanised flat head hexagon socket head cap screw M6x25 (10 pcs) size 2.

**2.1.9. Filter caps** (position 9)

- Used to seal the filters in the unit lid. They are made of EPP (expanded polypropylene).

**2.1.10. Filters** (position 10)

- M5 filters (ISO COARSE 70%) are included in the delivery. F7 filters (ISO ePM1 60%) can be supplied upon request. Evaluation of filters per ČSN EN ISO 16890

**2.1.11. Fans** (position 11)

- The plastic radiant fan with EC motor from leading European manufacturers ensures the smooth operation, minimal power consumption and long service life of the unit.

**2.1.12. Recuperator** (position 12)

- The counterflow recuperator ensures heat recovery (XF1-020-ECxx**HR**...). In the version with the enthalpy exchanger (XF1-020-ECxx**ER**...), it also allows the transfer of moisture back into the ventilated space.

**2.1.13. Regulation box** (position 13)

- It ensures interconnection of the individual components and also serves for the customer's connection.

**2.1.14. Condensate outlet** (position 14)

- Plastic condensate drain made of ABS material. It is used to drain condensate from the unit.

**2.1.15. Main switch** (position 15)

- The 1-pole main switch is used to connect/disconnect the unit from the mains.

**2.1.16. Screw grommet** (position 16)

- It is designed for the passage of the connection cable (multi-core cable) between the unit and the controller and for the passage of the power cable. As standard, the cables are routed through grommets.

**2.1.17. Connection cable unit – controller** (position 17.)

- Multi-core cable YSLY OZ 7x0.5 $mm^2$ with cable number marking 1 to 7. Cable length approx. 10 m. The connection cable is used to connect the unit and the controller.

**2.1.18. Unit controller** (position 18.)

- The unit controller is made of white PS (polystyrene) RAL 9010 plastic, consisting of a rear and front part. The controller is used to control the unit according to the user's requirement.

Naformátováno: Úroveň 3, Mezera Za: 0 b.

Naformátováno: Úroveň 3, Mezera Za: 0 b.

**2.2. Main dimensions of the Xflat 200 unit**

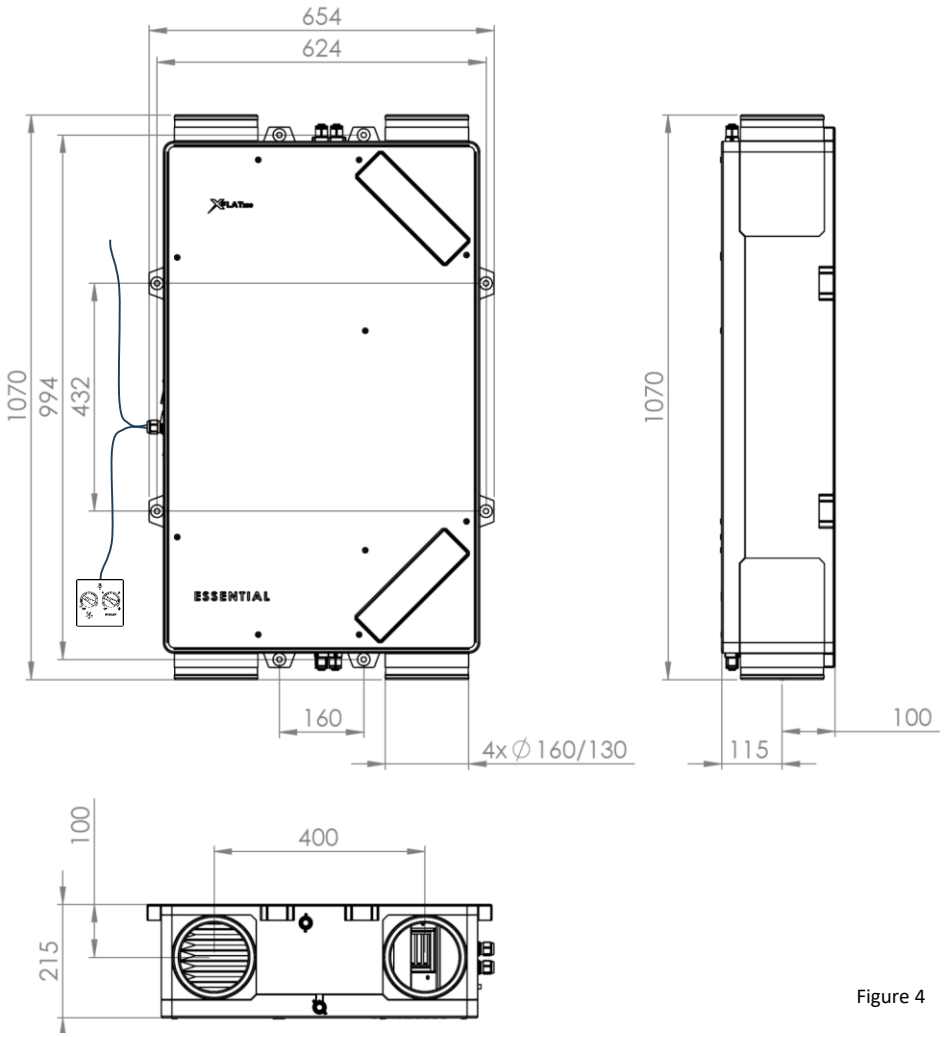



Figure 4

## 2.3. Technical parameters of the Xflat 200 unit – ESSENCIAL control

### 2.3.1. Basic technical parameters

- **Basic technical parameters**

Table 1

| Business name | | | Xflat 200 – Essencial | |
|---|---|---|---|---|
| | | | XF1-020-ECS0HRXAE-0A0 | XF1-020-ECS0ERXAE-0A0 |
| Recuperation exchanger type | | | HRV – temperature | ERV – temperature/humidity |
| Bypass type | | | electronic | electronic |
| Nominal air output* | | $m^3/h$ | 155/207 | |
| Noise level** | | dB(A) | 31.4/35.1 | |
| Weight*** | | kg | 16 | |
| Power supply of the unit | | V/Hz | 1~230/50-60 | |
| Nominal unit power consumption**** | | W | 104/172 (181) | |
| Nominal unit current**** | | A | 0.74/1.22 (1.29) | |
| Recuperation efficacy ***** | heat | % | 89.3/88 | 80.5/78 |
| | humidity | % | - | 43/40 |
| Protection type | | IP | 20 | |
| Energy efficiency ratio (ERP)****** | | - | cool climate A+, medium climate A, warm climate E / cool climate A+, medium climate A+, warm climate E | |

* Nominal air output for 150/200 $m^3/h$ (power input, flow) at external pressure drop of 200 Pa,

** Sound pressure level in free space at a distance of 3 m (Q2) – for an air output of 150/200 $m^3/h$

**** Unit weight without packaging

**** Power input, current – for air output 150/200 $m^3/h$ (max. possible power input, flow)

***** Recuperation efficiency specified at 70% of nominal flow according to EN 308 – for air output 150/200 $m^3/h$

****** Energy efficiency class (ERP) – for air output 150/200 $m^3/h$

- **Performance characteristics of the unit – Xflat 200**

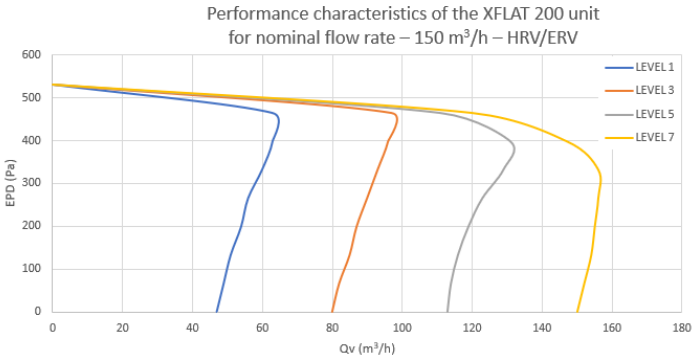



Chart 1

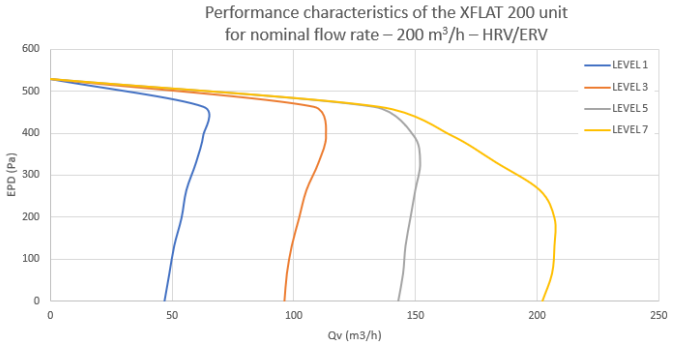



Chart 2

EC Declaration of Conformity – the current and full version of the EC Declaration of Conformity can be found on our www.xvent.cz website in the 'Document downloads' section for the Xflat product

Okomentoval(a): [ZS1]: The section is specifically named "Document downloads' and is really in the Xflat product section.

### 2.3.2. Xflat 200 acoustic data

- **Nominal flow 150 m³/h**
  - Unit radiates to the interior (inside the room)

Table 2

| Air output level | Air output | Sound power level LWA [dB (A)] | | | | | | | | | Sound pressure level in the open field on the reflection plane | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 63 Hz | 125 Hz | 250 Hz | 500 Hz | 1 kHz | 2 kHz | 4 kHz | 8 kHz | $L_{WA}$ | 1.5 m | 3 m |
| LED on the controller | (m³/h) | (dBA) | (dBA) | (dBA) | (dBA) | (dBA) | (dBA) | (dBA) | (dBA) | (dBA) | LPA (dBA) | LPA (dBA) |
| 1. | 49 | - | 12,1 | 23,6 | 23,8 | 22,3 | 15,0 | 13,2 | 12,5 | 31,7 | <20 | <20 |
| 4. | 102 | 17,3 | 26,5 | 34,1 | 30,4 | 38,6 | 28,5 | 22,4 | 14,4 | 44,0 | 30,6 | 22,7 |
| 7. - Nominal* | 155 | 26,5 | 35,5 | 44,3 | 39,3 | 44,1 | 40,3 | 35,4 | 25,9 | 52,7 | 39,3 | 31,4 |

* Nominal flow rate is the same as BOOST mode – intensive ventilation for a set period of time (ventilation intensity and ventilation time can be set in the customer menu)

**nastavil formátování:** Písmo: 3 b., Tučné

  - Unit radiates into the duct – nominal air output

Table 3

| Connecting sockets | Sound power level LWA [dB (A)] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 63 Hz | 125 Hz | 250 Hz | 500 Hz | 1 kHz | 2 kHz | 4 kHz | 8 kHz | $L_{WA}$ |
| | (dBA) | (dBA) | (dBA) | (dBA) | (dBA) | (dBA) | (dBA) | (dBA) | (dBA) |
| ODA | 32,4 | 43,8 | 39,2 | 37,5 | 35,9 | 25,4 | 19,8 | 15,8 | 54,9 |
| SUP | 47,9 | 51,6 | 56,4 | 55,1 | 52,0 | 51,9 | 49,7 | 45,7 | 66,8 |
| ETA | 32,4 | 42,0 | 45,1 | 37,8 | 37,0 | 28,8 | 21,7 | 16,5 | 55,0 |
| EHA | 48,1 | 52,5 | 56,1 | 52,9 | 55,2 | 51,4 | 50,3 | 46,4 | 67,2 |

- **Nominal flow 200 m³/h**
  - Unit radiates to the interior (inside the room)

Table 4

| Air output level | Air output | Sound power level LWA [dB (A)] | | | | | | | | | Sound pressure level in the open field on the reflection plane | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 63 Hz | 125 Hz | 250 Hz | 500 Hz | 1 kHz | 2 kHz | 4 kHz | 8 kHz | $L_{WA}$ | 1.5 m | 3 m |
| LED on the controller | (m³/h) | (dBA) | (dBA) | (dBA) | (dBA) | (dBA) | (dBA) | (dBA) | (dBA) | (dBA) | LPA (dBA) | LPA (dBA) |
| 1. | 48 | - | 11,9 | 23,3 | 23,5 | 22,0 | 14,8 | 12,9 | 12,3 | 31,4 | <20 | <20 |
| 4. | 123 | 17,6 | 27,3 | 36,3 | 31,9 | 40,0 | 30,6 | 24,5 | 15,4 | 45,7 | 32,3 | 24,4 |
| 7. - Nominal | 207 | 30,5 | 38,7 | 47,7 | 42,7 | 47,5 | 45,8 | 40,0 | 31,0 | 56,5 | 43,0 | 35,1 |

* Nominal flow rate is the same as BOOST mode – intensive ventilation for a set period of time (ventilation intensity and ventilation time can be set in the customer menu)

Table 5

  - Unit radiates into the duct – nominal air output

| Connecting sockets | Sound power level LWA [dB (A)] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 63 Hz | 125 Hz | 250 Hz | 500 Hz | 1 kHz | 2 kHz | 4 kHz | 8 kHz | $L_{WA}$ |
| | (dBA) | (dBA) | (dBA) | (dBA) | (dBA) | (dBA) | (dBA) | (dBA) | (dBA) |
| ODA | 37,1 | 47,0 | 42,6 | 40,8 | 38,7 | 29,5 | 25,3 | 19,8 | 57,6 |
| SUP | 50,0 | 54,3 | 59,5 | 58,9 | 55,4 | 58,1 | 54,4 | 50,8 | 70,1 |
| ETA | 36,0 | 44,6 | 48,0 | 41,4 | 39,4 | 33,4 | 26,2 | 21,0 | 57,7 |
| EHA | 52,1 | 56,1 | 58,9 | 55,9 | 58,2 | 56,7 | 53,9 | 51,0 | 70,1 |

### 2.3.3. Heat and moisture recovery efficiency – Xflat 200

- **Nominal flow 150 m³/h**

Table 6

| Business name | | Xflat 200 – Essencial | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Unit type | | XF1-020-ECS0**HRX**AE-0A0 | | | | XF1-020-ECS0**ERX**AE-0A0 | | | | |
| Nominal output | | 155 m³/h | | | | 155 m³/h | | | | |
| Type of recuperator | | HRV – temperature | | | | ERV – temperature/humidity | | | | |
| | | LOW RATE (m³/h | Temperature % efficiency (EN308) | Current (A) | Power supply (W) | LOW RATE (m³/h | Temperature % efficiency (EN308) | Humidity efficiency % (EN308) | Current (A) | Power supply (W) |
| Air output distribution within the range of the rotary switch | min. – 1/7 | 49 | 92 | 0,12 | 13 | 49 | 87,4 | 47,2 | 0,12 | 13 |
| | 2/7 | 68 | 90,6 | 0,15 | 18 | 68 | 84,7 | 44,9 | 0,1 | 18 |
| | 3/7 | 83 | 90 | 0,18 | 23 | 83 | 82,8 | 43,2 | 0,18 | 23 |
| | 4/7 | 102 | 89,35 | 0,26 | 35 | 102 | 80,8 | 41,2 | 0,26 | 35 |
| | 5/7 | 120 | 88,8 | 0,36 | 51 | 120 | 79,2 | 39,4 | 0,36 | 51 |
| | 6/7 | 138 | 88,1 | 0,51 | 72 | 138 | 77,9 | 37,6 | 0,51 | 72 |
| | max. – 7/7 | 155 | 87,5 | 0,74 | 104 | 155 | 76,8 | 36,1 | 0,74 | 104 |
| | BOOST* | 155 | 87,5 | 0,74 | 104 | 155 | 76,8 | 36,1 | 0,7 | 104 |

* BOOST mode – intensive ventilation for a set period of time (ventilation intensity and ventilation time can be set in the customer menu)

Chart 3

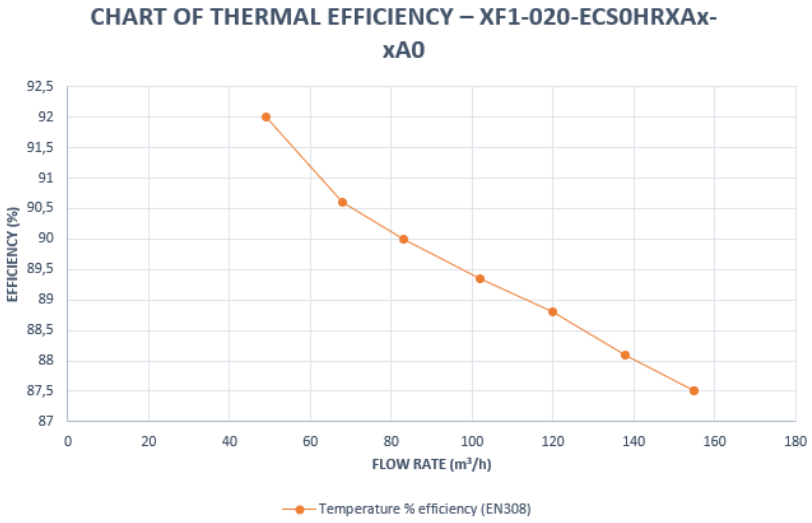



Chart 4

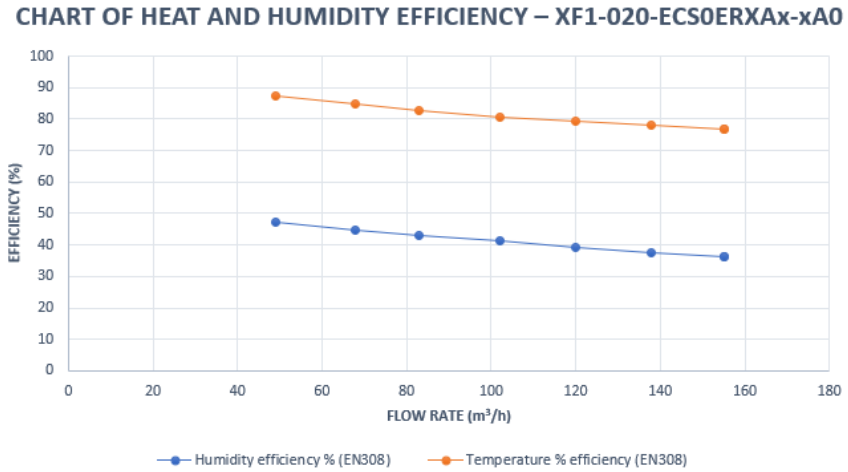


Table 7

- **Nominal flow 200 m³/h**

| Business name | | Xflat 200 – Essencial | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Unit type | | XF1-020-ECS0**HRX**AE-0A0 | | | | XF1-020-ECS0**ERX**AE-0A0 | | | | |
| Nominal output | | 207 m³/h | | | | 207 m³/h | | | | |
| Type of recuperator | | HRV – temperature | | | | ERV – temperature/humidity | | | | |
| | | FLOW RATE (m³/h) | Temperature % efficiency (EN308) | Current (A) | Power supply (W) | FLOW RATE (m³/h) | Temperature % efficiency (EN308) | Humidity efficiency % (EN308) | Current (A) | Power supply (W) |
| Air output distribution within the range of the rotary switch | min. – 1/7 | 48 | 92 | 0,11 | 12 | 48 | 87,4 | 47,2 | 0,11 | 12 |
| | 2/7 | 73 | 90,1 | 0,15 | 18 | 73 | 84 | 44,3 | 0,1 | 18 |
| | 3/7 | 95 | 89,5 | 0,20 | 26 | 95 | 81,5 | 42 | 0,20 | 26 |
| | 4/7 | 123 | 88,4 | 0,31 | 43 | 123 | 79 | 39,1 | 0,31 | 43 |
| | 5/7 | 146 | 87,7 | 0,47 | 66 | 146 | 77,3 | 37 | 0,47 | 66 |
| | 6/7 | 181 | 86,6 | 0,89 | 126 | 181 | 75,4 | 33,8 | 0,89 | 126 |
| | max. – 7/7 | 207 | 85,9 | 1,22 | 173 | 207 | 74,2 | 31,6 | 1,22 | 173 |
| | BOOST* | 207 | 85,9 | 1,22 | 173 | 207 | 74,2 | 31,6 | 1,2 | 173 |

* BOOST mode – intensive ventilation for a set period of time (ventilation intensity and ventilation time can be set in the customer menu)

## CHART OF THERMAL EFFICIENCY – XF1-020-ECS0HRXAx-xA0

Chart 5

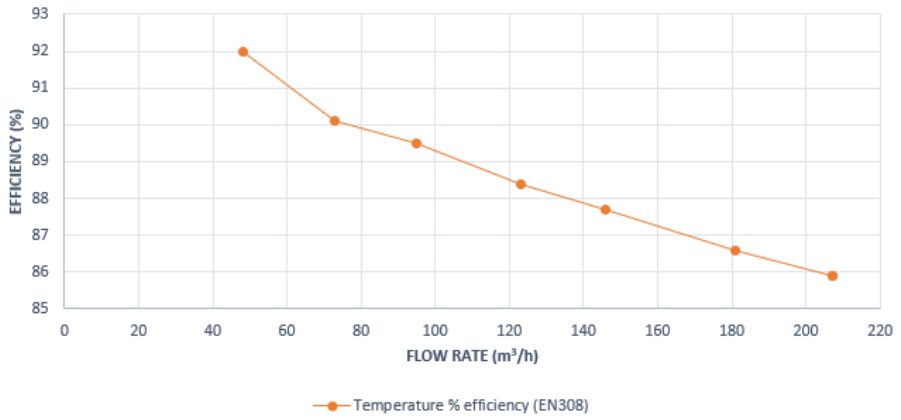
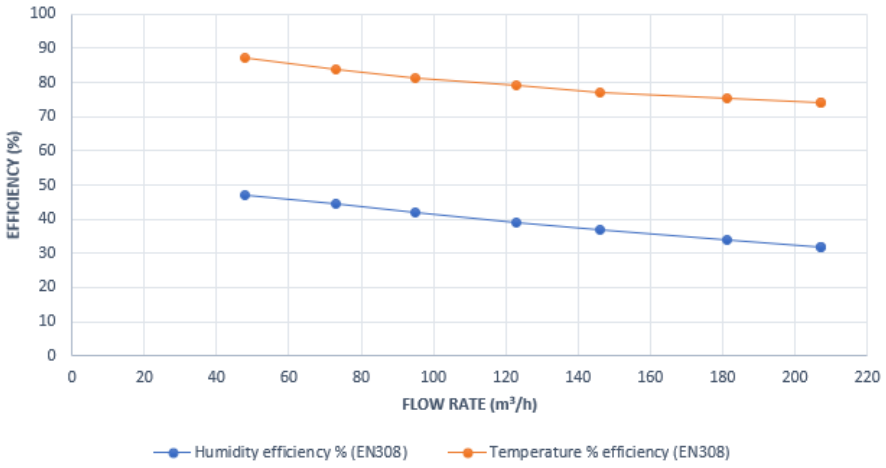



Chart 6

## CHART OF HEAT AND HUMIDITY EFFICIENCY – XF1-020-ECS0ERXAx-



# 3. Unit assembly

## 3.1. General information, recommendations and safety when assembling the Xflat 200 unit

### 3.1.1. Electrical safety before the unit assembly

- **Before starting any assembly work, make sure that the wiring box or mains socket that you want to use to connect the unit is equipped with a protective (green-yellow) conductor or contact (pin).**
- **If you use a wiring box to electrically connect the unit, you must turn off the power and secure the power supply against accidental turn on.**

Check that the electrical connection point (wiring box, outlet) meets the unit's power supply requirements (voltage, current, etc.) specified on the unit's serial plate. The electrical values necessary for the unit's operation can be found in Section 3.3.3. Display of electrical parameters

### 3.1.2. Unpacking the Xflat 200 unit

- Always unpack the unit in a sufficiently large area to allow for removing the unit from the packaging.
- Never unpack the entire unit from the packaging, the unpacking of the unit must be gradual, as specified in this manual, according to the assembly work in progress (protection of the unit from damage and dust generated during assembly)

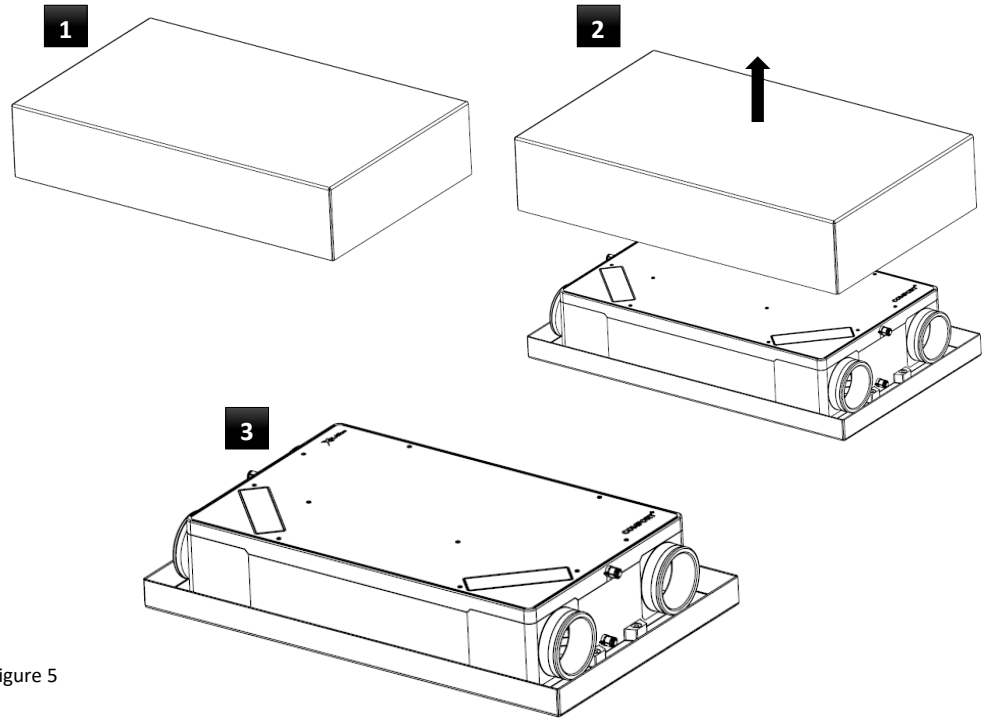



Figure 5

Please return all the unneeded packaging to the appropriate recycling points where they will be disposed of professionally. Only packaging recycled in this way can be reused properly and returned to utility.

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### 3.1.3. Unit location

- **When selecting a location for the assembly of the unit, always consider the layout of the building within the overall HVAC system (e.g. location of dampers, supply and exhaust ducts, etc.). Consult an HVAC designer or a person knowledgeable in the field for the proper design of the entire HVAC system. The manufacturer is in no way responsible for the design of the ventilation system.**
- The unit should be installed in indoor covered and dry areas with a room temperature of +5°C to +30°C and with maximum relative humidity of 70% non-condensing.
- Consider the indoor location of the unit away from surrounding objects in relation to the recommended clearances from the unit (e.g. filter changes, opening the unit – servicing) as given in Section 3.1.4.
- Check your options for connecting the condensate outlet to the waste pipe.

#### 3.1.3.1. Location and operation of the unit in a furnace area (fire place)

- If air ducts are located in rooms with a furnace, consult a chimney sweep for unit location. Otherwise, the unit can malfunction. The operation of the unit can in no way replace a separate air supply to the heating unit

#### 3.1.3.2. Unit location and operation in an air conditioned area

- When operating the unit during the summer months and using an air conditioner in a ventilated area, condensation can form inside the unit in the opposite supply branch.
- For trouble-free operation, we recommend installing a unit equipped with an enthalpy exchanger (XF1-020-ECS0**ER**XAx-xA0).

### 3.1.4. Minimum assembly distances

- Distances from fixed objects:

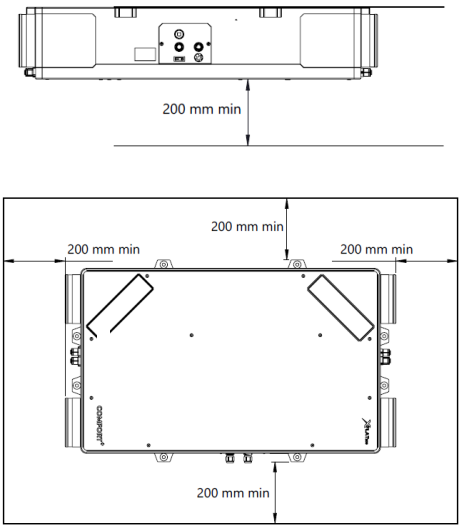


Figure 6

- The unit must be installed and adjusted (switching two rocker switches – right/left version) in such a way that the direction of air flow through the unit itself is identical to the air flow in the air handling system.
- Failure to observe the specified clearances can result in the unit not working properly and can damage the fan, increase noise or prevent service access to the unit.

### 3.1.5. Allowed Xflat 200 unit installation positions according to the left/right switch versions of the unit

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#### 3.1.5.1. Right version of the unit – rocker switches switched to position R

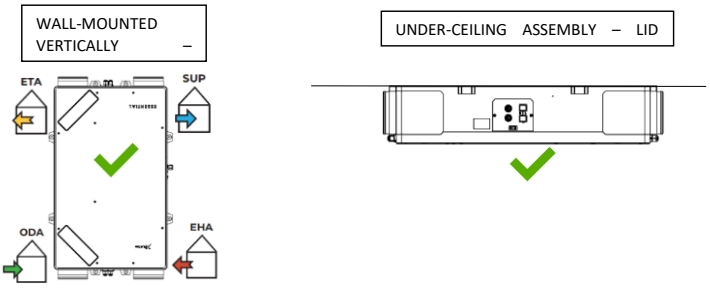



Figure 7

#### 3.1.5.2. Left version of the unit – rocker switches switched to position L

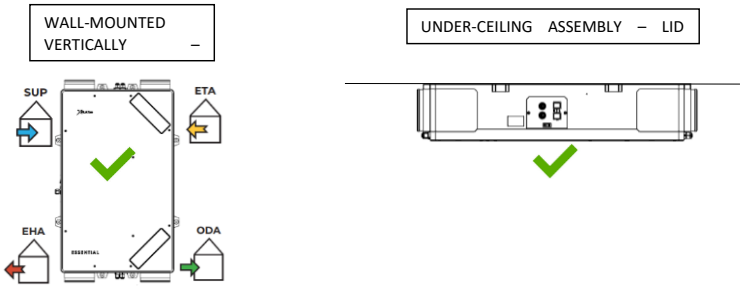



Figure 8

- **Any other position is prohibited**
- **The unit must always be accessible from the front (lid side) for access to the filters and for servicing. If the unit is placed under a wall or ceiling, (bricked up) wall, the ceiling must be provided with an inspection hole for access to the unit.**

### 3.1.6. Prohibited assembly positions of the Xflat 200 unit

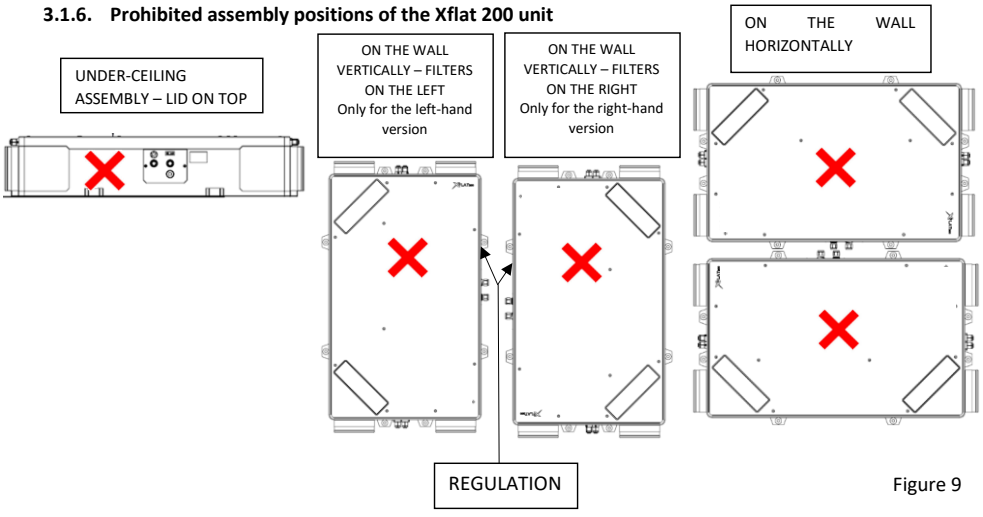



Figure 9

### 3.2. Xflat 200 unit assembly

- The unit must be operated in enclosed and dry areas with room temperature ranging between +5°C and +30°C.
- The recovery unit must be installed in accordance with the general and local safety regulations.
- The recovery unit can be installed, connected, commissioned and repaired by a person with adequate education, experience and knowledge of applicable regulations, standards and potential risks and hazards, or by a properly trained service technician.
- **Failure to follow the assembly procedure can result in the unit's damage or malfunction, or potential harm to the health and property of the user.**
- **Take special care when draining the condensate using a condensation tray (not a part of the supply) into the sewerage piping. The unit manufacturer accepts no liability for damage caused by incorrect assembly of the condensation tray, drain piping and other peripherals required for their operation.**

#### 3.2.1. Mounting equipment required to assemble the Xflat 200 – general requirements

- Prepare the auxiliary assembly material for the assembly of the unit:
  - Anchoring elements (e.g. dowels, dowel screws) 6-8 pcs
- Select the anchoring material according to the wall or ceiling construction, the weight of the unit and the weight of the connected peripherals.

The unit variant weights are given in Section 2.3.1. 'Basic technical parameters'
The unit dimensions are given in Section 2.2. 'Basic dimensions of the Xflat 200 unit'

#### 3.2.2. Positioning, assembly of the unit on the wall or ceiling

- Select the appropriate anchoring material (not included) according to the composition of the wall, ceiling. To use the unit's suspension system, choose a screw with max. Ø8 mm
- **The wall or ceiling to which you anchor the unit must always be sufficiently strong and cohesive. If necessary, contact a specialist in the structural engineering field.**
- Use a spirit level to measure the anchor holes for attaching the unit. Alternatively, place the unit against a wall or ceiling and use a spirit level to set it level.
- Draw the mounting holes for anchoring the unit.

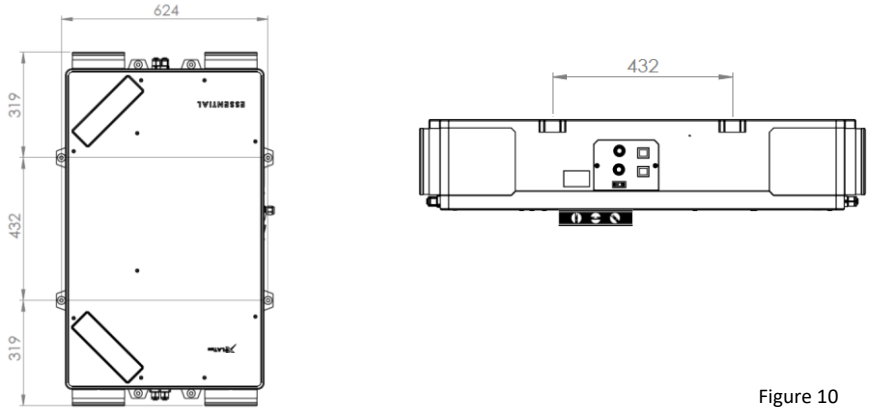



Figure 10

- Drill holes for anchoring, fix with suitable anchoring material (dowels) using washers on individual feet and screw the unit in. Consider using oval holes to anchor the unit in the anchor footings.
- Tighten the anchor bolts adequately to secure the unit against any undesired movement – falling.
- **Make sure the unit is set correctly LEVEL using a spirit level, NEVER TILT THE UNIT in any direction.**

#### 3.2.3. Mounting the unit controller

- The controller is supplied as standard connected to the unit with a 10 m long multi-core cable. The individual 'cores' of the interconnecting cable are marked with numbers for better orientation when disconnecting/connecting from the periphery. One side of the connecting cable is plugged into the terminal block in the unit. The other side is connected to the controller. The controller is designed for wall assembly.
- **If it is necessary to pull the connection cable through a construction cavity (e.g. through a protective sleeve), disconnect the end of the cable connected to the controller. Take extra care to protect the loose end of the cable when handling the disconnected connecting cable. Disconnection/connection of the connecting cable is dealt with separately in Section 3.2.3.5.**
- **Preparation of interconnecting peripherals and wiring must only be carried out by persons qualified for this activity with a valid licence and knowledge of the relevant standards and guidelines in the country concerned.**

### 3.2.3.1. Basic controller dimensions

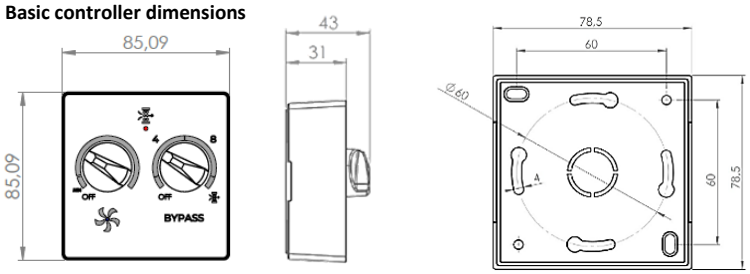



Figure 11

### 3.2.3.2. Installation of the controller on the wall – standard length of the connecting cable 10 m

- Open the controller box – from the side of the controller, press the top and bottom of the box towards you, then open the box away from you. This will split the box and at the same time split it into front and back – wall part.
- Use appropriate force to break open the box so as not to damage any of its parts.

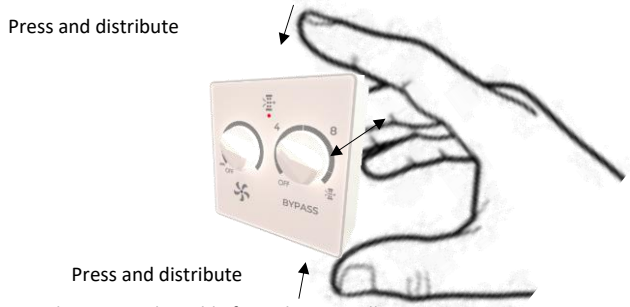



Figure 12

- Do not disconnect the cable from the controller
- Screw the rear wall section of the controller to the wiring box with adequate fasteners.

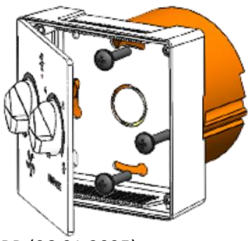


Figure 13

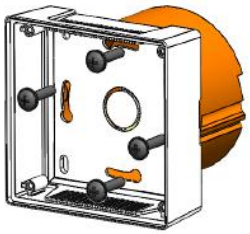


Figure 14

- **Secure the cable route between the unit and the controller so that it is stable and cannot be accidentally destroyed, damaged or even possibly jammed from another source.**

**3.2.3.3. Disconnecting the communication cable from the controller**

- **Before disconnecting – pulling out the wires from the terminal of the controller, make sure that the unit is switched off – disconnected from the mains and the switching element is secured against arbitrary switching on.**
- If necessary, the connected end of the communication cable can be disconnected from the controller, e.g., when the cable is pulled through a construction cavity (protective sleeve).
- Before disconnecting – pulling the wire out of the terminals, first press the orange lock button. Then slide the wire out and release the lock.

Clamp locking

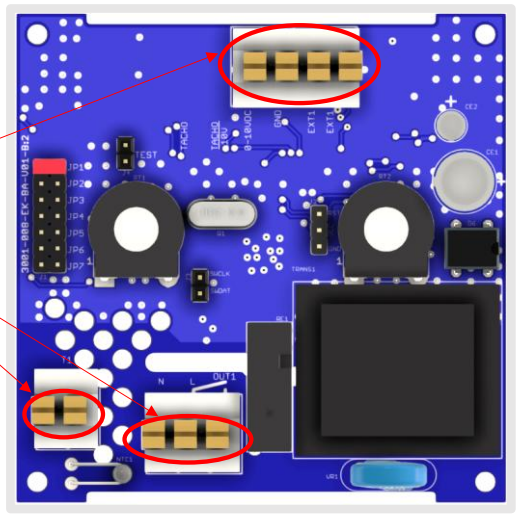


Figure 15

- **Use appropriate force to release the clamp lock to prevent damage to the clamp or the DPS controller.**
- **Take extra care when wiring the connecting cable to ensure that the correct wiring (individual numbers) of the individual cores are connected to the terminal block. Failure to ensure correct wiring can result in damage to the unit, the controller and electric shock.**

**3.2.3.4. Access to control in the unit**

- The unit control contains the main connection periphery of all unit components. To access it, follow these steps:
  - Loosen the 2x flathead 5x20 screws that secure the cover plate of the regulation box.
  - Loosen the grommet nuts from the supply and communication cable
  - Remove the cover plate of the regulation box
  - Make the necessary intervention in the connection periphery – terminals of the unit

- Spring clamps with manual wire locking are used for connection. A strand-type conductor (stranded wire) and a solid conductor (wire) in the cross-section range from 0.5 to 1.5 mm² can be installed in the terminals.
- Before inserting the conductor into the terminals, first press the locking orange push-button. Then retract the conductor, release the lock and slightly pull it out of the terminal to verify that the conductor is properly secured. If the conductor needs to be removed from the terminal, the procedure is the same.

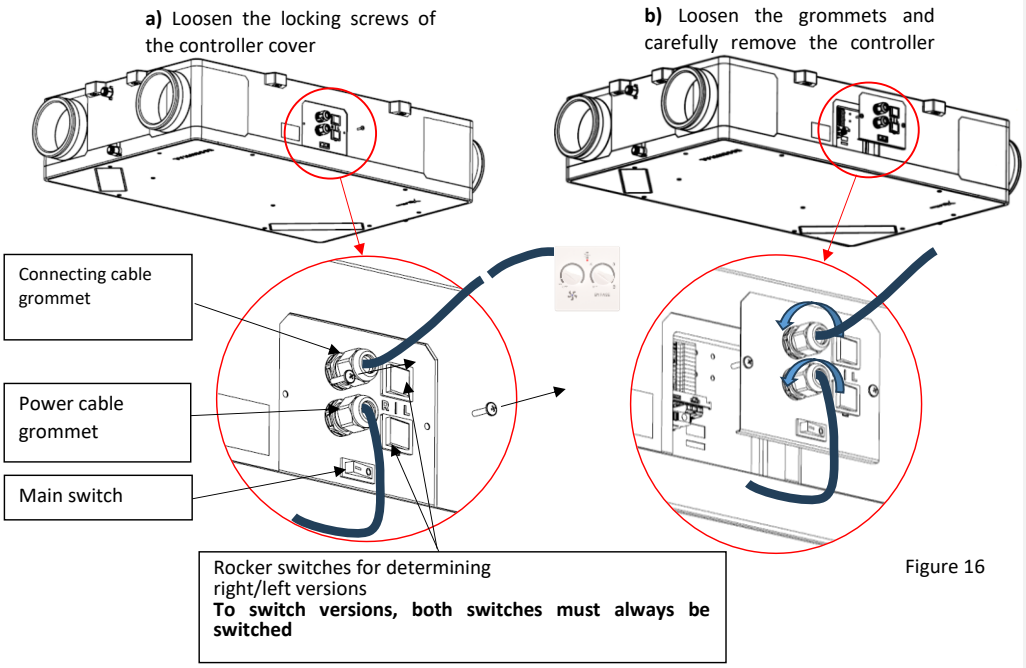



Figure 16

- Repeat the procedure in reverse order for reassembly

### 3.2.3.5. Installing the controller on the wall – external connection cable

- **Before starting any activities related to the installation of the external connection cable, make sure that the unit is switched off – disconnected from the mains and the switching element is secured against arbitrary switching on.**
- **Installation must only be carried out by persons qualified for this activity with a valid licence and knowledge of the relevant standards and guidelines in the country.**
- The interconnection cable to connect the unit and the controller can also be part of the site preparation or the standard cable length may be insufficient.
- Make sure to use a multi-core cable for installation:
  - YSLY-OZ 7x0.75 $mm^{2-}$ cable without PE conductor.
  - The maximum length of the connection cable between the unit and the controller is 25 m.
- Spring clamps with manual wire locking are used to connect the wires in the unit and in the controller. A strand-type conductor (stranded wire) and a solid conductor (wire) in the cross-section range from 0.5 to 1.5 mm² can be installed in the terminals. Before inserting the conductor into the terminals, first press the

locking orange push-button. Then insert the conductor, release the lock and check that the conductor is properly secured by pulling lightly on the clamp. If the conductor needs to be removed from the terminal, the procedure is the same.

- **The optimum cross-section of the conductor must be selected according to the actual length of the conductor route; however, the maximum diameter of the conductor must be 1.5 mm².**
- **All the wires shall be connected to terminals with adequate force to prevent damage to them or damage to the electrical board. The insulation stripping on the individual conductors must be 10 mm. For strand conductors, the terminal must be crimped (socket).**
- Prepare both ends of the connecting cable – strip off a length of approx. 50 mm and fit the ends of the individual cores with a crimp end (sleeve) with insulation of an adequate cross-section
- Open the controller box – from the side of the controller, press the top and bottom of the box towards you, then open the box away from you. This will split the box and at the same time split it into front and back – wall part.
- Use appropriate force to break open the box so as not to damage any of its parts.

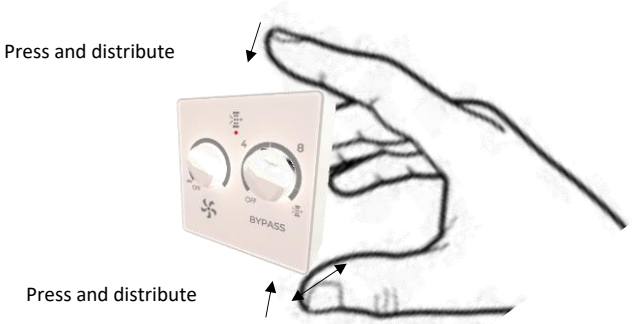



Figure 17

Disconnect the already connected cables from the terminal block of the controller – according to Section 3.2.3.3.

- Pull the prepared – stripped connection cable through the round hole at the back of the controller and screw it to the wiring box (fasteners not included).

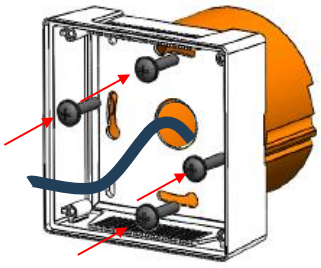


Figure 18

Connect the prepared connection cable according to Section 3.2.3.3 – reverse procedure
Make sure to connect the individual wires – numbers to the terminals in the controller according to the wiring diagram in the controller box

- **Take extra care when wiring the connecting cable to ensure that the correct wiring (individual numbers) of the individual cores are connected to the terminal block. Failure to ensure correct wiring can result in damage to the unit, the controller and electric shock.**

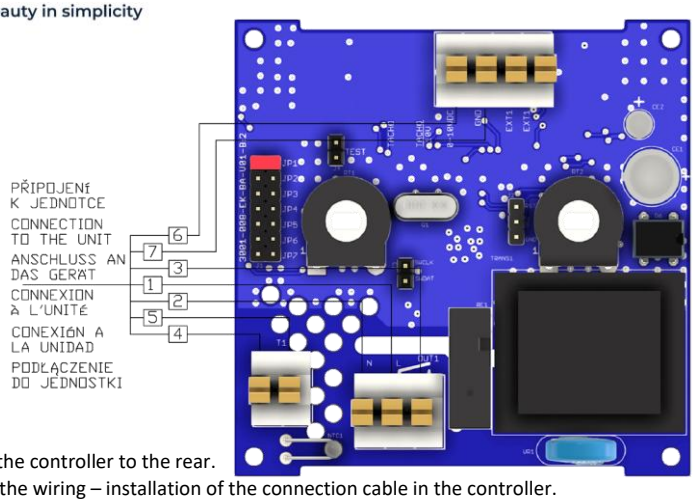



Figure 19

- Fit the front of the controller to the rear.
- This completes the wiring – installation of the connection cable in the controller.
- Disconnect the other end of the connection cable in the control unit. To access the control, follow the procedure in Section 3.2.3.4. Regulation approach
- Disconnect the existing connection cable from the control terminal block and pull it out of the appropriate grommet it passes through.

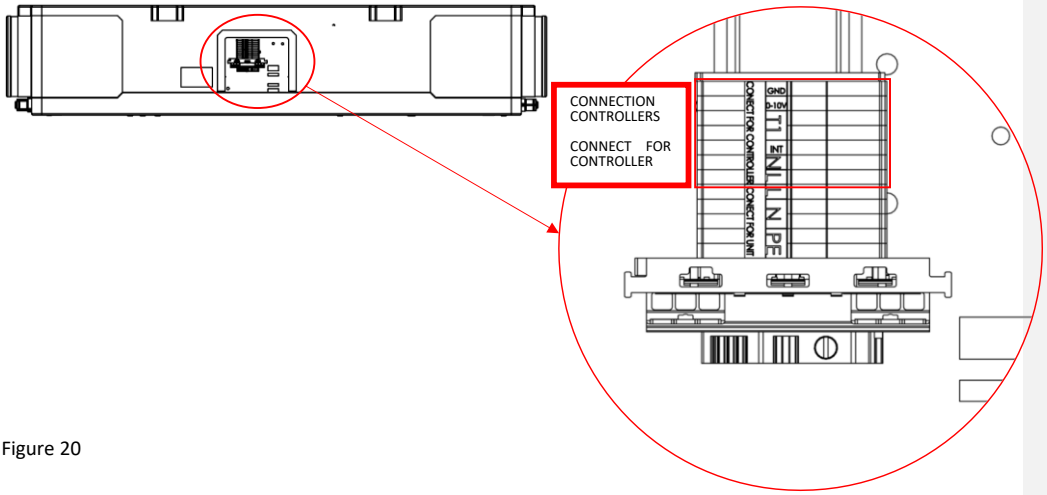



Figure 20

- Pull the prepared – stripped end of the connecting cable through the loose grommet. Do not yet tighten the grommet.
- Plug the stretched cable into the terminal block in the control area of the unit.
  - **Take extra care when wiring the connecting cable to ensure that the correct wiring (individual numbers) of the individual cores are connected to the terminal block. Failure to ensure correct wiring can result in damage to the unit, the controller and electric shock.**
  - Connect the individual cores of the cable according to the diagram:

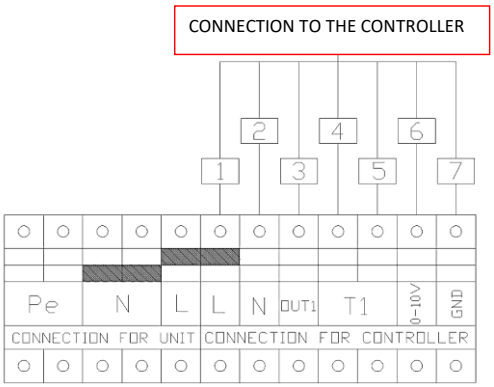



Figure 21

Reassemble the control cover according to Section 3.2.3.4. Approach to regulation – the reverse approach.

- **Ensure that the cables between the control housing and the unit terminal block are properly aligned to avoid pinching or damage. The cables must be loose so that the end connections of the individual cables cannot be stressed.**

- This completes the connection between the unit and the controller using the external cable. Put the unit into operation.

### 3.2.4. Connection of condensate drain – siphon

- The unit must always be fitted with a siphon (included in the delivery) with a connection to the sewer system.
- Always check the watering of the siphon and the condensate drainage before starting up for the first time or after shutting down the unit (the unit has been switched off for a long time).
- The unit is equipped with a condensate drain for each approved position and version (right/left). There are a total of 3 condensate drains on the unit for each version. The outlets are plugged as standard.

#### 3.2.4.1. **Condensate drains right version of the unit** – rocker switches switched to position R

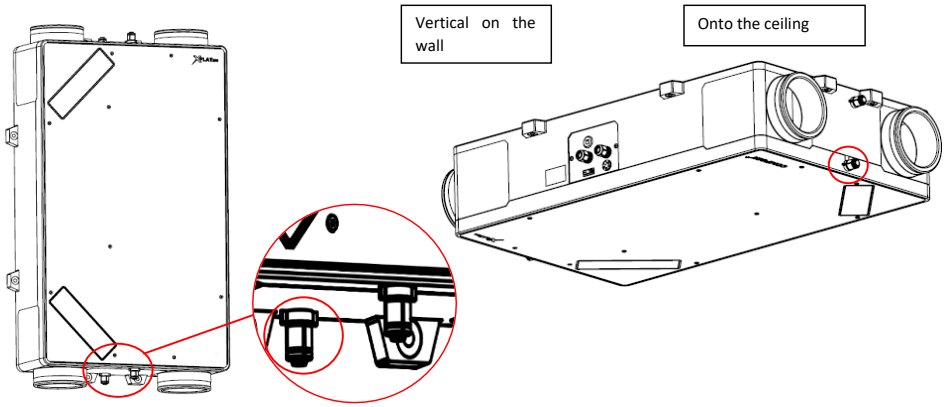



Figure 22

**3.2.4.2. Condensate drain left version of the unit** – rocker switches switched to position L

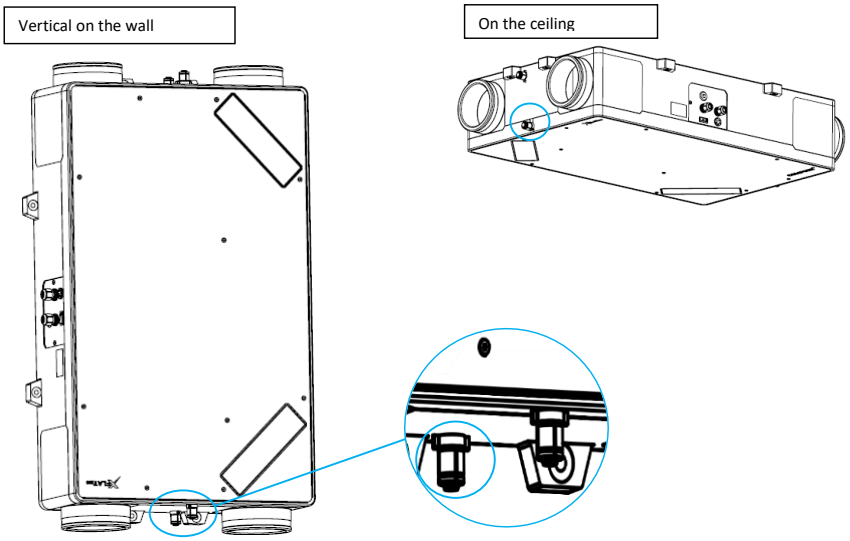



Figure 23

- **The siphon must always be watered, well connected and sealed to the unit drain, otherwise there is a risk of condensate not draining from the unit and thus accumulating in the unit with a possible overflow of the condensate tray. This can subsequently lead to property damage.**

**3.2.4.3. Connecting the condensate drain to the siphon**

Select the appropriate condensate outlet according to the assembly position and the unit version. Correctly determine the condensate outlet according to Section 3.2.4.1. or 3.2.4.2.

- Cut the end of the condensate socket 5 mm long

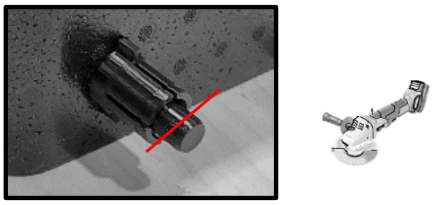


Figure 24

- Remove the PVC siphon hose Ø18/14 – **2 m** and 2 pcs of 2.5x120 mm tie strap from the unit package
- Approximately halfway along the siphon hose, create a 150 mm diameter loop.
- Secure the loop with 1 piece of tie strap, against arbitrary movement, but at the same time so as not to deform (break) the siphon hose

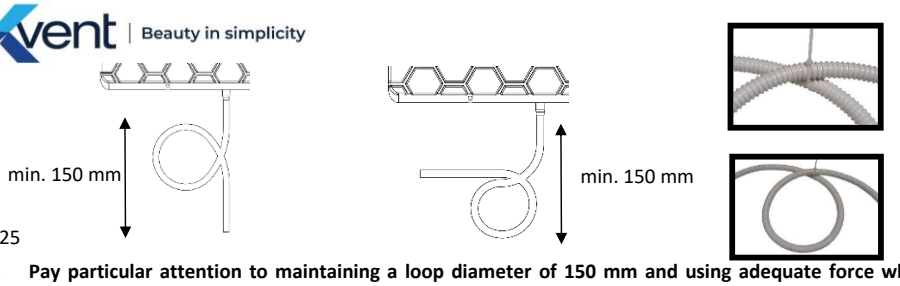



Figure 25

- **Pay particular attention to maintaining a loop diameter of 150 mm and using adequate force when tightening the tie strap. If these requirements are not met, there is a risk of condensate not draining from the unit and thus accumulating in the unit with a possible overflow of the condensate pan. This can subsequently lead to damage to the user's property and health.**
- Water the siphon – pour water into the siphon from the drain connection side of the unit until water flows out the other side of the siphon.
- Fit the siphon to the main drain
- Orient the formed siphon loop so that it functions as a water trap.

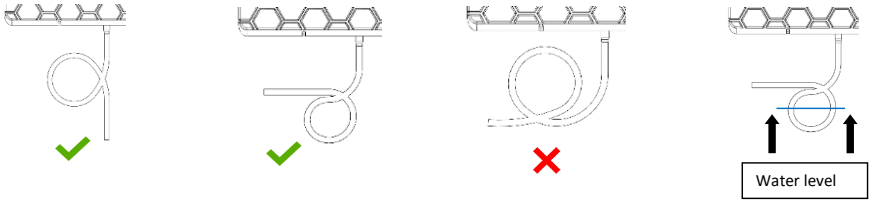



Figure 26

- **When creating a bend – elbow on the siphon hose, make sure to keep the correct bend radius of the hose to avoid 'breaking' the hose and consequently choking the hose and preventing condensate drainage.**
- Secure the formed siphon with a second 2.5x120 mm tie strap (included) to the main drain located on the unit.

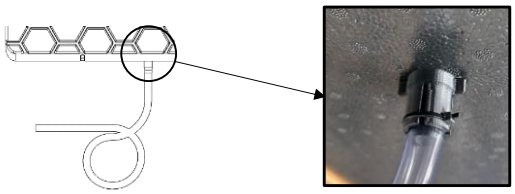


Figure 27

- Adjust the other end of the siphon hose in length and connect – secure into the sewer system, keeping the minimum height difference between the siphon hose and the sewer connection.

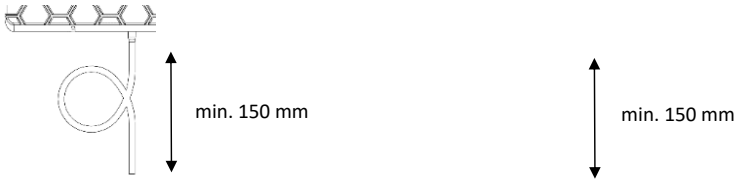



Figure 28

- **Extension of the siphon hose is only permissible beyond the created hose loop. Extend with a hose of the same or larger diameter using a hose connector. Always ensure the smallest possible reduction of the inner diameter with the hose coupling.**

### 3.2.5. Connecting the air duct to the unit

- To connect the air duct to the unit, use the four spigots located on the outline of the unit
- You can use both 130 mm inner socket diameter and 160 mm outer socket diameter to connect the pipe.
- The unit necks allow the connection of pipes both in the axis of the unit (factory setting) and perpendicular to the unit – so called MULTIFLEX.
    - Turning the socket perpendicular to the unit significantly reduces the building requirements at the assembly site
    - Every socket can be turned separately, regardless of the number of sockets in the axis and the number of sockets perpendicular to the unit
    - Turning the sockets perpendicular to the unit has no effect on the flow rate or the reduction of external pressure drop

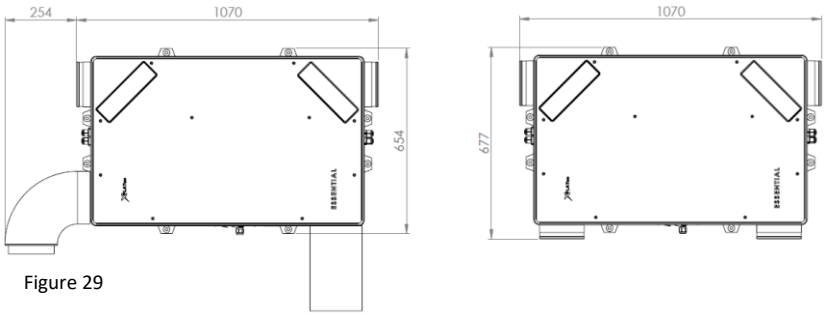



Figure 29

- To turn the socket perpendicular to the unit, proceed as follows:

1. Unscrew the 10x M6x25 bolt on the lid

2. Remove the lid – gradually around the perimeter

3. Pull the socket you wish to turn out

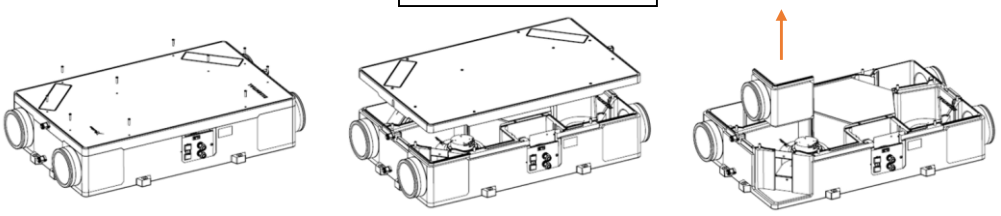


Figure 30

4. Turn the socket perpendicular and push it into the groove

5. Put on the lid – push gradually around the perimeter of the lid

6. Secure the lid with 10x M6x30 bolts.

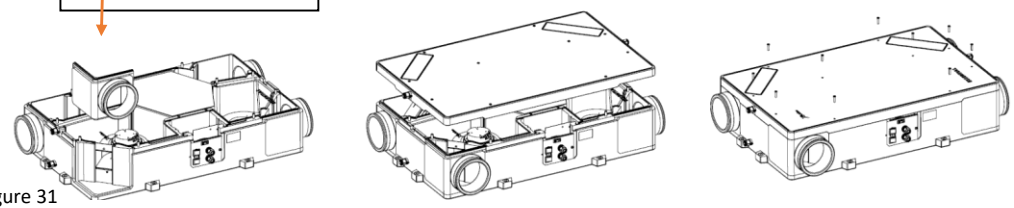
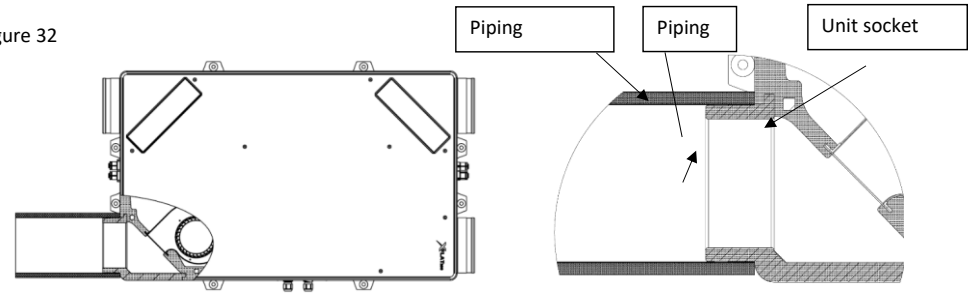


Figure 31

- Push the pipe all the way onto the socket
- Seal the joints with aluminium tape or connecting sleeves to prevent vibration transmission.
- Insulate the connected pipe with thermal insulation material (rock wool, butyl rubber, etc.)
- Pull the pipe insulation all the way through the socket to the unit and secure against arbitrary movement. This prevents the formation of a thermal bridge at the connection point.

Figure 32




- All the piping that is connected to the unit must be sufficiently sealed to prevent unwanted leaks and subsequent problems such as condensation.

### 3.3. Electrical assembly – connection to the mains

#### 3.3.1. General information – safety

- **Before starting all the assembly works, make sure that the wiring box or mains power outlet that you want to use to connect the unit is equipped with a protective (green-yellow) conductor or contact (pin).**
- **If you use a mains plug to connect the unit, it must always remain accessible so that the unit can be safely disconnected from the mains in the event of danger.**
- **Check that the power supply meets the requirements for power supply of the unit (voltage, current, frequency, etc.) specified on the unit's serial plate. Section 3.3.3. Displaying the electrical parameters.**
- **The relevant current circuit must be protected in the electric power distribution system by the maximum of 16 A.**
- **The electrical cable to be connected to the mains must not be broken.**
- **Local electrical regulations must always be respected.**
- **Electrical connection of the unit to the mains must only be carried out by persons qualified for this activity with a valid authorisation and knowledge of relevant standards and directives in the country.**
- **Before starting any assembly work, it is necessary to switch off the power supply. During the assembly, the switch must be secured against being switched on again by an unauthorised person. The switch must have the minimum contact spacing of 3 mm.**
- **A two-pole disconnecting means (circuit breaker) must be connected to the unit's supply.**
- **It is forbidden to interfere in any way with the internal connection of the unit, unauthorised interventions in the unit can lead to loss of warranty servicing claims**
- **This unit belongs to the product group with type Y connection. If the supply cord is damaged, it must be replaced by the manufacturer, its service centre, or similarly qualified person to avoid dangerous situations**.
- **The unit is classified as protection class 1 category of appliances in terms of protection against electric shock.**
- **The unit supply voltage of 1~230 V/50-60 Hz must not be modified in any way, otherwise there is a risk of damaging the electrical elements of the unit.**

### 3.3.2. Connection to mains

- The unit is equipped with a separate strand-type supply cable (stranded wire). The stripping of the cables to the individual wires is 50 mm. The individual conductors are equipped with crimped terminals.
- The power supply cable length of 1 m may be shortened by a qualified person as needed.
- The individual conductors are colour-coded
  - brown/black – Phase conductor – L
  - blue – Neutral conductor – N
  - green-yellow – Protective conductor – PE

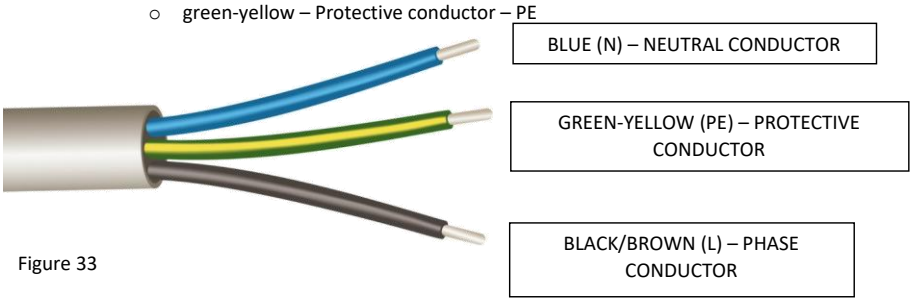



Figure 33

#### 3.3.2.1. Connection of the unit to the wiring box

- The power supply cable is prepared by the manufacturer for connection to the wiring box.
- Use adequate connecting elements (e.g. terminal plates, spring terminals, etc.) to connect the power supply cable to the mains.
- **The assembly of the power supply cable in the wiring box and connection to the mains must be carried out by a qualified person who has a valid authorisation for this activity and knowledge of the relevant standards and directives in the given country.**

#### 3.3.2.2. Connecting the unit to the electrical outlet

- The supply cable can be equipped with a fork with a protective conductor (pin) – not included in the delivery.
- **Connection – assembly of a plug on the supply cable must be performed by a qualified person who has a valid authorisation for this activity and knowledge of the relevant standards and directives in the given country.**

#### 3.3.2.3. Recommendations for protecting the Xflat 200 unit

- It is recommended to protect the unit with a 1-phase (1x230V) circuit-breaker with the current value of 6 A. The correct value of the protection element must be designed by an electrical expert taking into account the conditions at the assembly site, e.g., (cable length)

### 3.3.3. Display of electrical parameters

- All of the unit's electrical parameters are provided on the serial plate

Naformátováno: Úroveň 3, Mezera Za: 0 b.

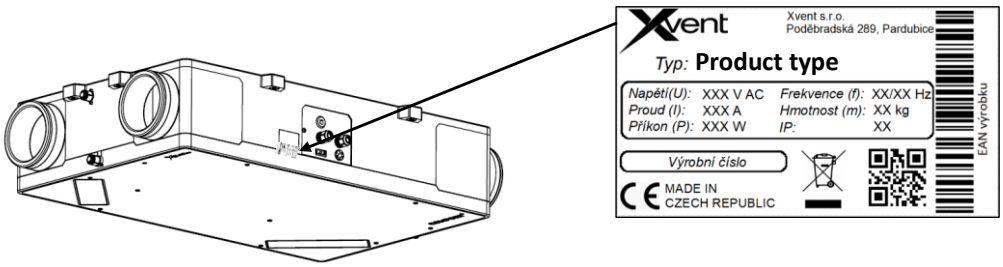



Figure 34

## 4. Regulation

### 4.1. General information

- Nothing else needs to be connected for proper operation of the unit. It is, therefore, ready for its immediate use after assembly.

### 4.2. Setting general unit parameters

#### 4.2.1. Settings – switching right/left unit

- Unit control allows switching between right (factory setting) and left
- The orientation of the sockets for the right or left version of the unit is separately dealt with in Section 3.1.5.
- Two rocker switches located on the control unit cover are used to set the version.
- To change the version of the unit, do the following:
    - Switch off the unit on the controller – turn the rotary switch (dial) to OFF


Figure 35

    - Switch off the unit with the main switch (position 15)
    - Switch **BOTH ROCKER SWITCHES** (position 6) to the position that corresponds to your desired version.
        - Marking R – right version
        - Marking L – left version

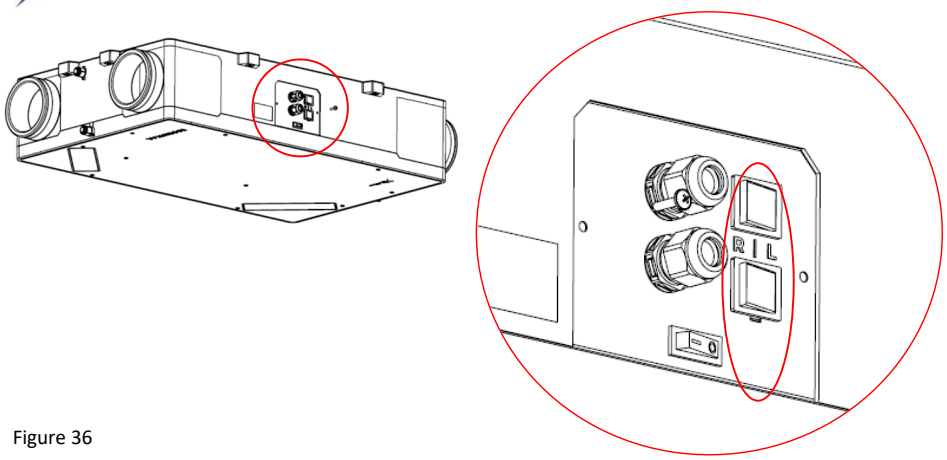



Figure 36

- Switch on the unit with the main switch (position 15). Continue to operate the unit in the regular way – the version change is complete.

- **Pay extra attention when switching the rocker switches, to change the unit version BOTH ROCKER SWITCHES MUST BE SWITCHED. If both switches are not switched to the same position, the unit will not operate properly.**

#### 4.2.2. Setting – switching the rated 150/200 m³/h output of the unit

- The unit has a switchable nominal air output of 150 m³/h and 200 m³/h (factory setting)
- The required air output is set on the unit's controller.
- To reconfigure the rated power, proceed as follows:
  - Switch off the unit on the controller – turn the rotary switch (dial) to OFF


Figure 37

  - Switch off the unit with the main switch (position 15)
  - Open the controller box – from the side of the controller, press the top and bottom of the box towards you, then open the box away from you. This will split the box and at the same time split it into front and back – wall part.
  - Use appropriate force to break open the box so as not to damage any of its parts.

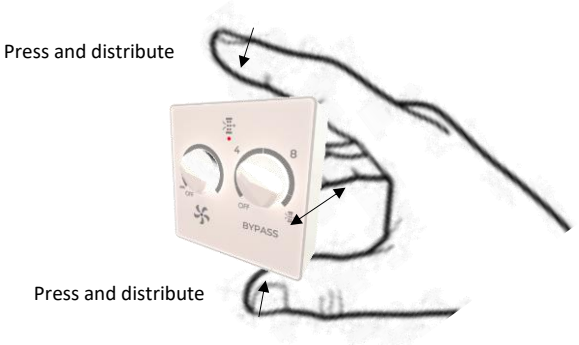



Figure 38

- On the inside of the front of the controller box, remove/add the connecting marked JP1. If removal is necessary, it is recommended to store the clamping bridge.

200 m³/h
Crimping bridge deployed
(factory settings)

150 m³/h
Crimping bridge not installed

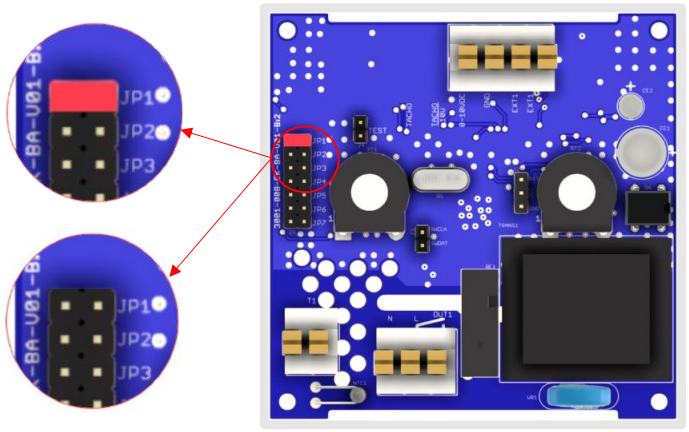



Figure 39

- Close the controller box. Switch on the unit with the main switch (position 15). Continue to operate the unit in the regular way – the change of the rated output of the unit is complete.

### 4.3. Connecting an external contact – BOOST (EXT1)

- The unit regulation allows the connection of an external push-button (flap switch with automatic flap return, e.g., bell push-button with return spring) to start the shock ventilation mode for a time priod of 10 min. – BOOST (hereinafter referred to as BOOST)
- The BOOST mode is designed for 10 min. of shock ventilation in rooms with an immediate need for ventilation, e.g., bathroom, toilet, etc.
- The ongoing BOOST mode is signalled on the unit's controller by a long blue flashing of the STATUS LED – see Section 5.3.1.

#### 4.3.1. Connecting the BOOST button

- To connect the flap to start BOOST mode, proceed as follows:
  - Switch off the unit on the controller – turn the rotary switch (dial) to OFF


Figure 40

- Switch off the unit with the main switch (position 15)
- Open the controller box – from the side of the controller, press the top and bottom of the box towards you, then open the box away from you. This will split the box and at the same time split it into front and back – wall part.
- Use appropriate force to break open the box so as not to damage any of its parts.

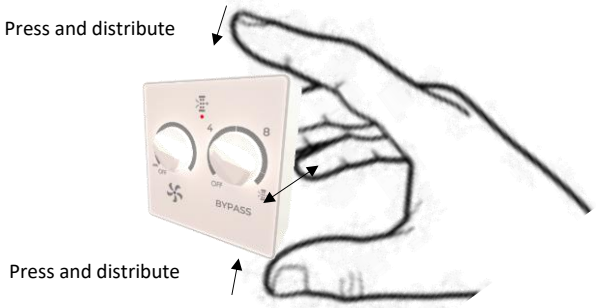



Figure 41

- On the inside of the front of the controller box, remove the red wire clip from the EXT1 contact and connect the wires from the button designed to trigger BOOST mode

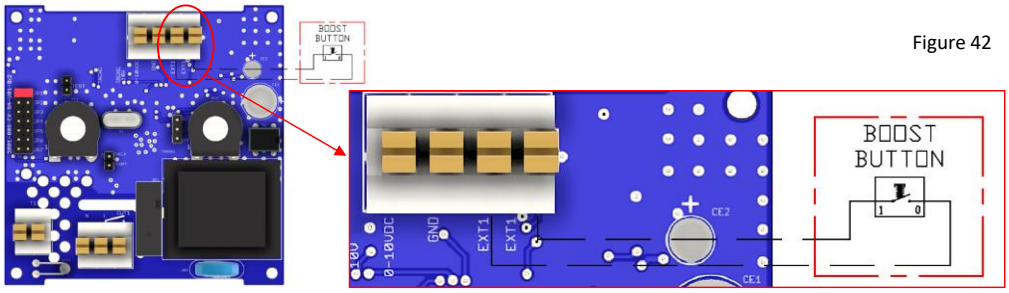



Figure 42

- Close the controller box. Switch on the unit with the main switch (position 15). Continue operating the unit in the regular way – connecting the button to start BOOST mode is done.

**4.3.2. Technical parameters of external contact – BOOST**

- The external contact is designed as potential-free
- Switched voltage 24 VDC/5 mA.

**4.3.3. BOOST mode functionality**

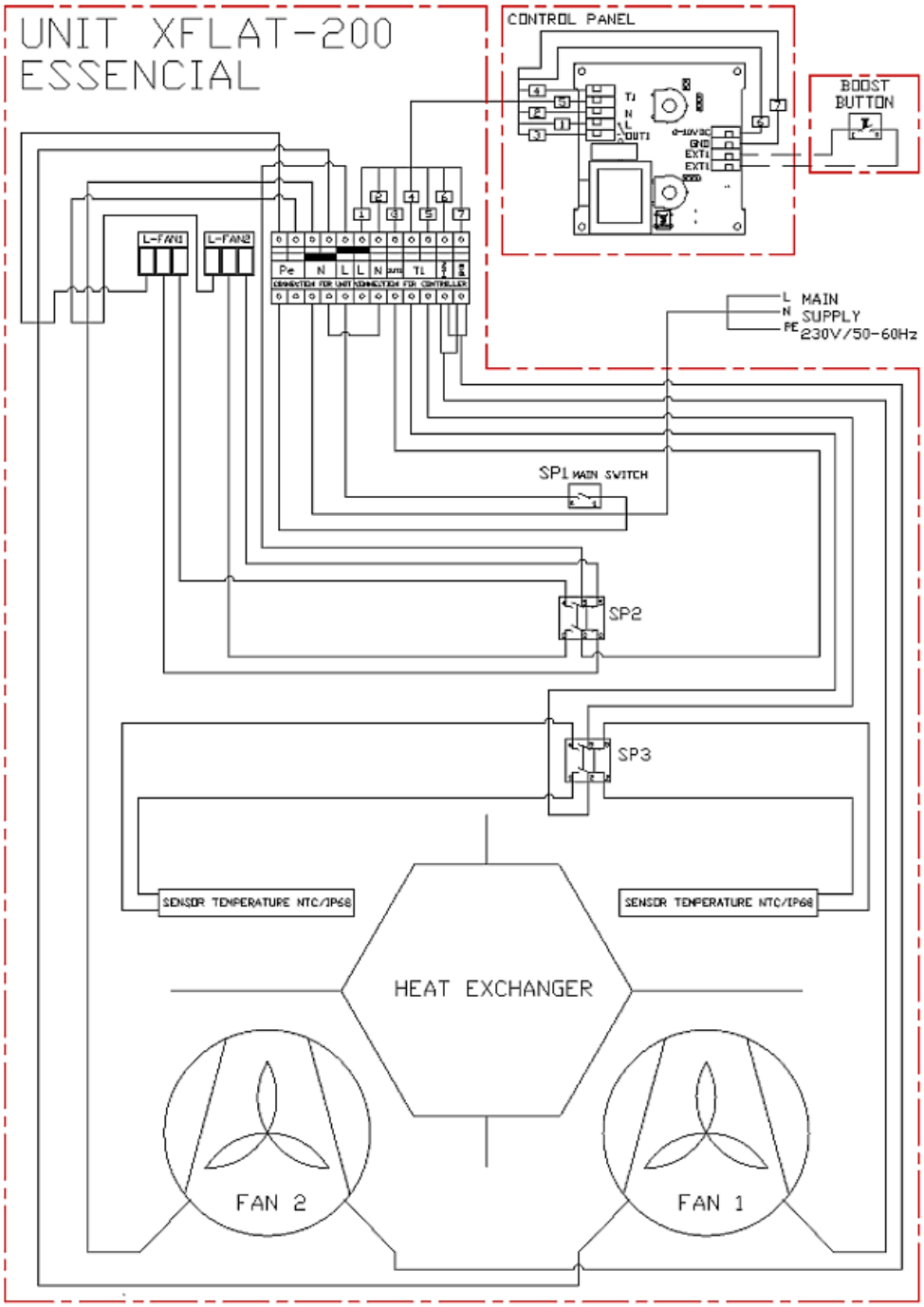
- When the push-button (damper switch with automatic damper return) is pressed, the BOOST mode is activated
  - The BOOST mode is activated and the unit is run at the selected maximum rated air output for 10 min.
  - After the end of the running time of BOOST mode – 10 min., the unit returns to the previous mode
- If you wish to exit BOOST mode before the set run time,
  - hold the push-button for approx. 2 s.
  - The BOOST mode is automatically ended, and the unit returns to its previous mode.

### 4.4. Connecting an external electric preheater, reheater

- **Install the heater – preheater according to the heater manufacturer's instructions, e.g., flow direction, distance from the unit, heater position, distance of temperature sensor from the heater, etc.**
- **If the heater manufacturer requires a minimum piping velocity for proper heater operation, this must be addressed by a separate component (e.g. differential pressure sensor). Under no circumstances can the unit be used for this purpose.**
- **The supply wiring for the heater must be a separate supply including the switched phase controlled by the unit; under no circumstances can the heater be powered from the unit.**
- We recommend using a heater with a channel sensor (for temperature control) and control via an external contact from the unit
- The maximum power of the heater is recommended to be 600 W due to the air output of the unit.
- For trouble-free and long-lasting operation of the external heater, we recommend using a filter box in front of the heater
- to trap coarse dirt.
- **In no event shall the manufacturer of the unit be liable for improper assembly, malfunction or damage caused by the heater.**

Figure 43

**4.5. Block diagram of the Xflat 200 unit – ESSENCIAL regulation**



## 5. Commissioning

### 5.1. Prior to the first start, check:

- That all the assembly works have been duly completed as indicated in Section 3
- Whether the power supply cable of the unit is properly connected to the mains
- If the controller is properly plugged in, if you have disconnected it
- Whether the condensation trap is watered, and the condensate outlet is connected to the sewer system
- Whether the unit contains clean filters

### 5.2. Activation – basic unit commissioning

- **The basic unit commissioning is used to verify the functionality of the unit after completion of the assembly.**

  **Further options and details on unit settings are provided in the following sections.**

1. Switch the main switch from position 0 (OFF) to position 1 (ON) and wait until:
   - The status LED stops flashing – the basic LED colours used (red, blue, green) flash
   - The LEDs stop flashing – controller is loaded – you can continue
     - The controller is only loaded when power is connected to the unit.

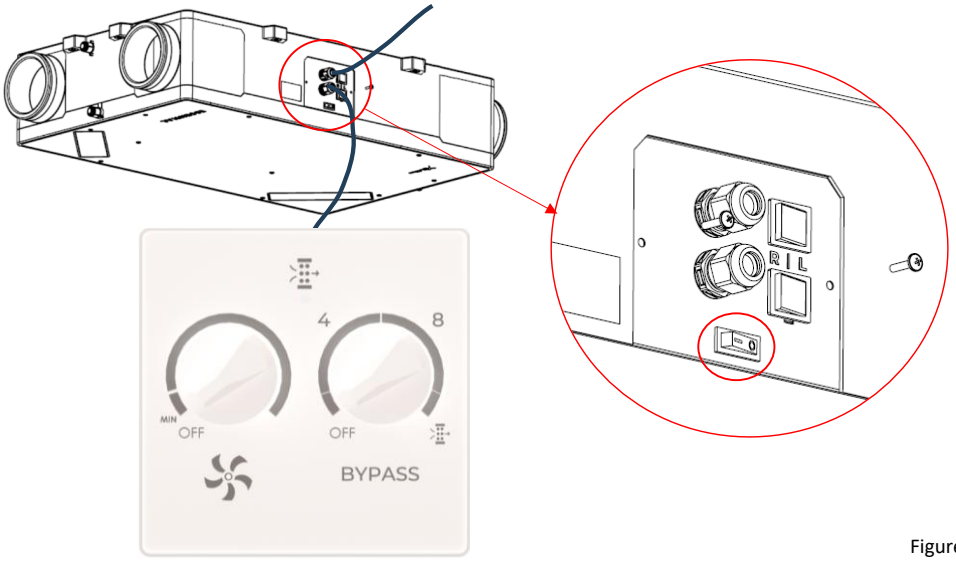



Figure 44

2. Turn the left rotary switch (dial) to any position outside the zone marked ‘MIN’
   a. Status LED lights up blue

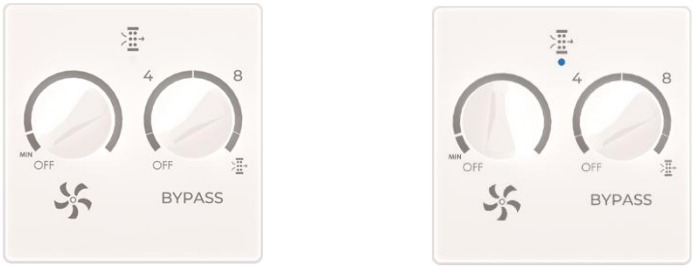



Figure 45

3. Check the unit’s operation – for example, by listening,
4. if the unit is operational.
5. Now you can perform further unit settings according to your requirements.

## 5.3. Functionality of regulation

### 5.3.1. Controller description

- Basic description of the individual elements and functions available on the controller

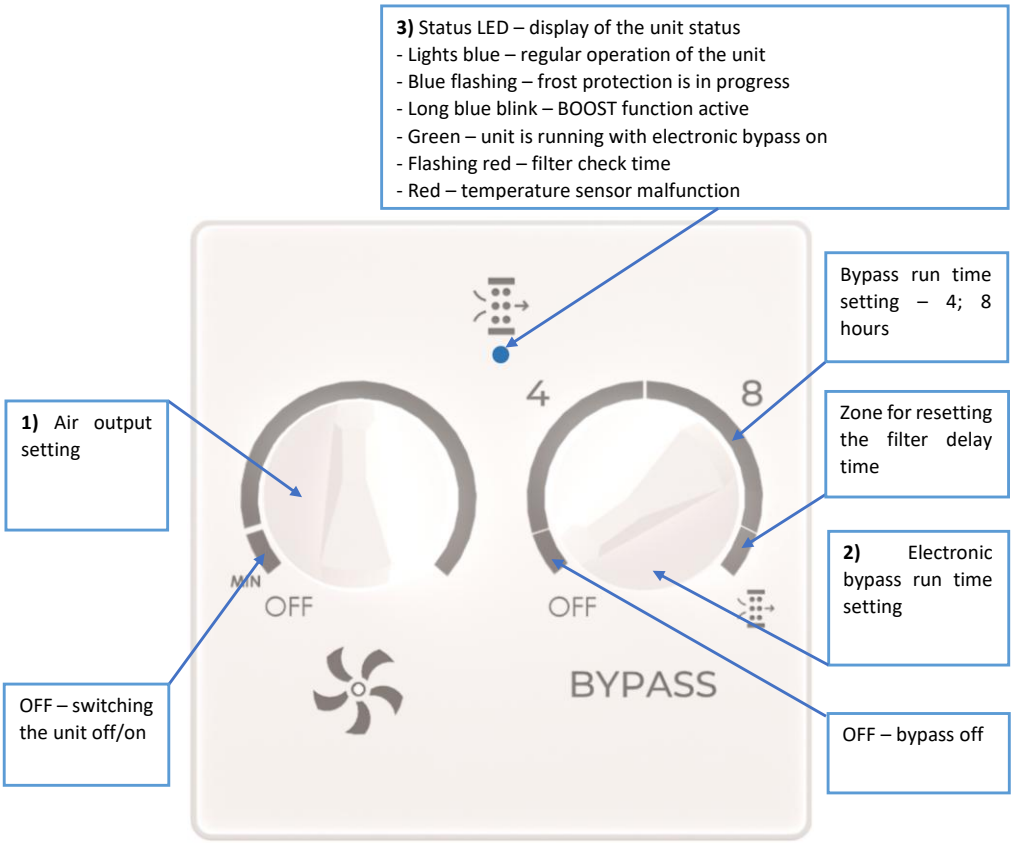



Figure 46

### 5.3.2. Switching the unit On/Off

- The unit is switched on/off by rotary switch 1):
  - Switching on – by turning outside the OFF zone
  - Switching off – by turning to OFF zone

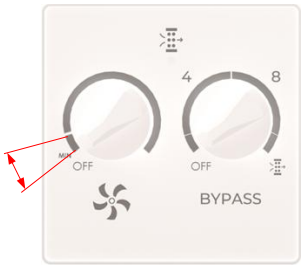



Figure 47

### 5.3.3. Air output setting (right rotary switch 2) in OFF position)

- The air output of the unit is adjusted using the left rotary switch 1)
- The air output is continuously adjustable from minimum (min.) to max. – maximum range of the rotary switch

- Any adjustment of the air output is indicated by a blue status LED.

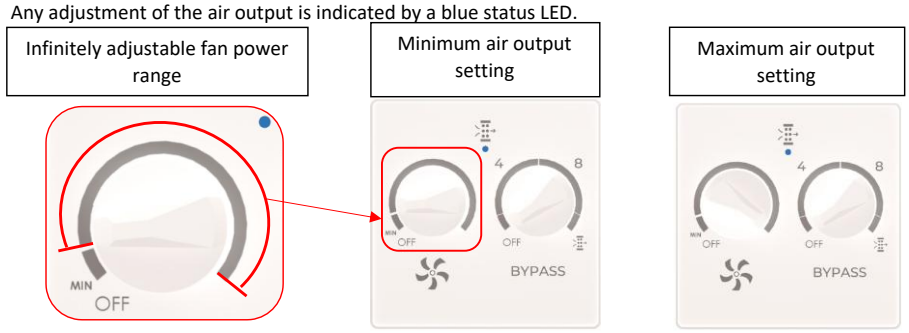



Figure 48

- Air output setting of the unit

Table 8

| Air output level within the range of the rotary switch | Nominal flow 150 $m^3/h$ | Nominal flow 200 $m^3/h$ |
|---|---|---|
| | $m^3/h$* | $m^3/h$* |
| 1/7 – min. | 49 | 48 |
| 2/7 | 68 | 73 |
| 3/7 | 83 | 95 |
| 4/7 – mid-point | 102 | 123 |
| 5/7 | 120 | 146 |
| 6/7 | 138 | 181 |
| 7/7 – max. | 155 | 207 |
| BOOST* | 155 | 207 |

* Air outputs are given at an external pressure drop of 200 Pa per nominal flow (7/7 – max.)
** BOOST mode – maximum intense ventilation for 10 min. (start BOOST mode by contact EXT1 – Section 4.3.)

### 5.3.4. Electronic bypass run time setting

- To start the functionality, the left rotary switch 1) must be set in a certain position – the flow setting range
- The electronic bypass functionality is used to cool the ventilated space in summer with cool night air. In this mode the exhaust fan is stopped.
- Set the supply air intensity with the bypass function switched on using the left selector 1) according to Chapter 5.3.3.
- To set the run time of the bypass functionality, turn the right rotary switch 2) into the field:
  - 4 – bypass functionality will run for 4 hours from start-up
  - 8 – bypass functionality will run for 8 hours from start-up

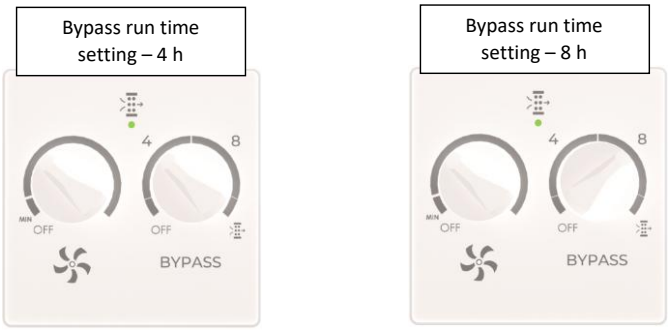



Figure 49

  - The time countdown starts after 2 s from setting the selector 2) to the appropriate time field

- Bypass functionality will only be operated if the supply air temperature is above 15°C
- Bypass functionality is indicated by a green status LED
- To prematurely end the bypass run time, turn the right selector switch 2) to the OFF position:
  - Terminates bypass functionality
  - Unit returns to regular ventilation (exhaust fan operation resumes) as set by the user – status LED reads blue
- After the set running time is over, the unit automatically returns to regular ventilation mode – status LED is blue
- To restart the bypass function:
  - Turn the right rotary switch 2) to OFF, stay in this position for approx. 2 s
  - Set the desired run time again – status LED is green

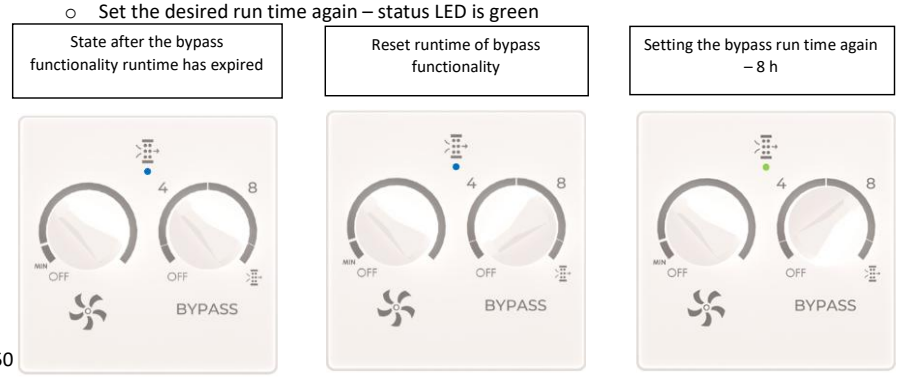



Figure 50

- During the ongoing bypass function it is possible to change the air output requirement according to the user's needs

### 5.3.5. Indicated unit states

- By means of the STATUS diode 3) the controller indicates various operating states of the unit, namely:
  - Lights blue – regular operation of the unit – see Chapter 5.3.3.
  - Blue flashing – frost protection is in progress – see Chapter 5.3.6.
  - Long blue flashing – active BOOST function – see Chapter 4.3.
  - Green – the unit is running with electronic bypass on – see Chapter 5.3.4.
  - Flashing red – filter check time – see Chapter 6.
  - Lights red – temperature sensor malfunction – see Chapter 8.1.

### 5.3.6. Hidden control functions – frost protection

- The control behaviour includes automatic processes that ensure optimal operation of the unit with emphasis on the maximum service life and efficiency of the operation. These processes are part of the manufacturer's factory set-up and know-how. The user cannot change them. As a result of these automatic processes, the behaviour of the unit may be different from that assumed by the user.
- In particular, it is an automatic process of triggering antifreeze measures against freezing of the recuperator:
  - The unit fans are stopped for 2 hours to allow the heat exchanger to defrost
  - After 2 hours, the unit starts up again to regular operation
  - If the conditions for freezing of the heat exchanger are met again, the protection logic is repeated
  - The start of the antifreeze logic is indicated by a short blue blinking of the status diode
  - All user requests are ignored while the antifreeze logic is running, except for the OFF function

## 6. Replacing filters

- Before starting any service work, the power supply must be switched off. **During the assembly, the switch must be secured against being switched on again by an unauthorised person.**
- The unit is equipped with a filter clogging countdown for approx. 6 months (approx. 4,400 hours). The countdown reads the unit's real operation.
- Filter clogging depends on the environment in which the unit operates. Especially on the dustiness of the surrounding air – the more dust particles are contained in the air, the sooner the filter box is clogged. Therefore, when filter clogging is indicated, always consider replacing them.
- The indication of the filter change check is indicated by a red flashing status LED 3) on the unit controller.


Figure 51

- During the ongoing filter failure signalling, the unit's functionalities are not restricted or signalled in any way
- Before starting to replace filters, make sure you have new ones:
  - Filter M5 XF-020-FILTER-M5
  - Filter F7 XF-020-FILTER-F7

### 6.1. Filter removal

- Using the textile straps, remove the plastic caps from the unit lid marked FILTER.
- Remove the filters, check them and or replace with a new filter

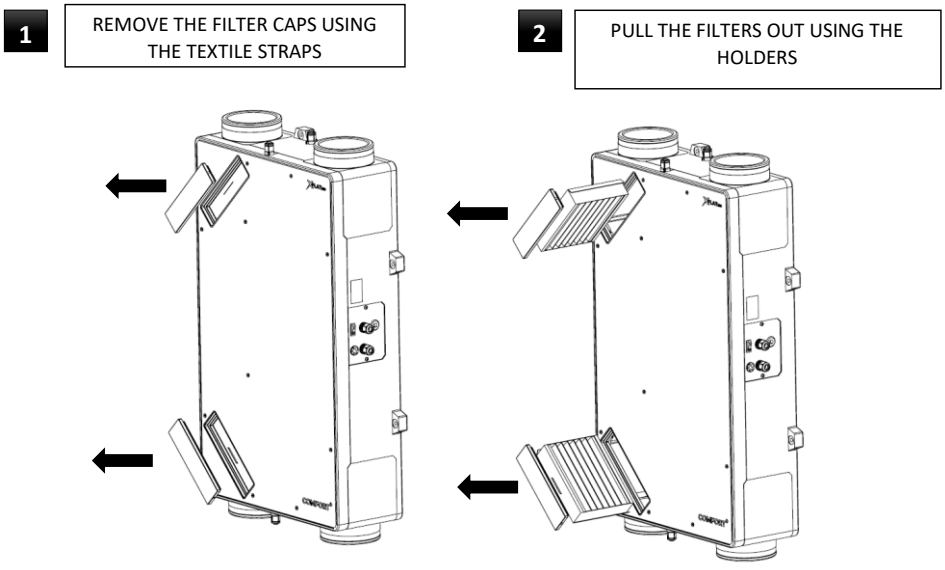



Figure 52

### 6.2. Filter insertion

- **Pay attention to the correct orientation of the filter before it is inserted into the unit with regard to the air flow**

**Okomentoval(a): [ZS4]:** I think this needs to be described better – I do not know what the flow direction is :D

- Insert new filters into the unit.
- Align the filter holders so that they do not interfere with the assembly of the plastic filter caps.
- Fit the filter caps into the unit lid so that they are flush with the unit lid.

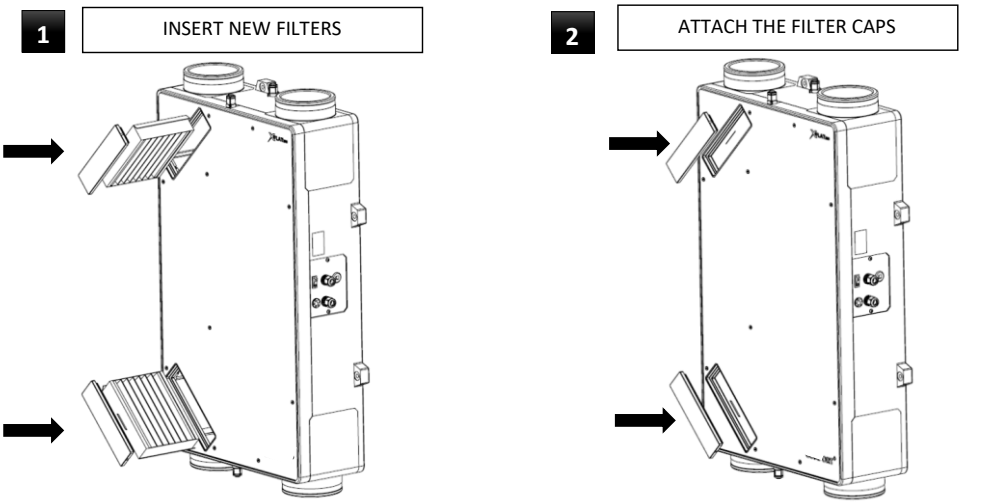



Figure 53

### 6.3. Reset filter countdown

- Resetting of the filter is always done after the filter clogged signal – red blinking of status diode 3)
- Reset the filter in the regular running state of the unit (rotary switch 1) for setting to any position for running the unit), namely:

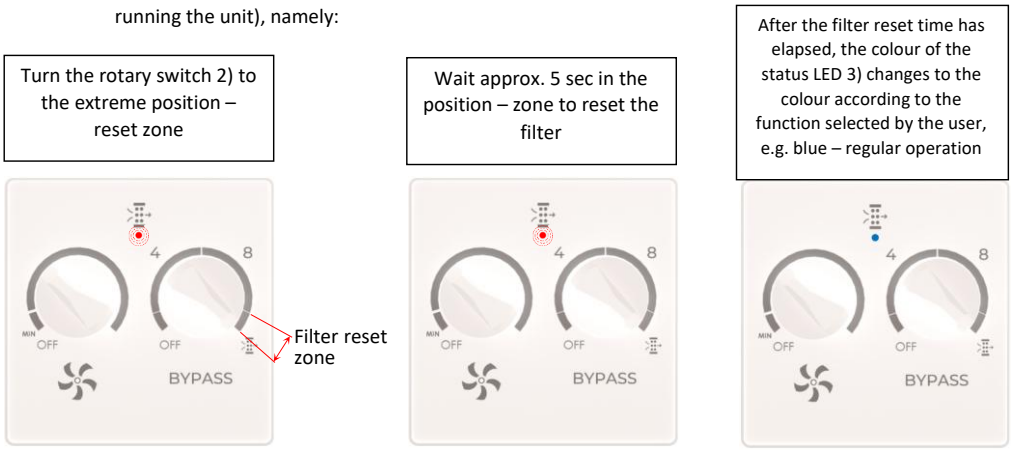



Figure 54

- After a period of about 5 sec, the red status LED changes colour according to the function selected by the user. This will reset the timer and restart the fan running time.
- **If the filters are not properly replaced (cleaned), the functionality of the unit may be reduced.**

- **Never operate the unit without the air filters, this may damage the recuperator and consequently damage the unit.**

## 7. Regular maintenance and cleaning of Xflat units

- **Before opening the unit during its maintenance and cleaning, the unit must be disconnected from the power supply**

- **Maintenance and cleaning must be performed at regular intervals, otherwise the functionality of the unit may be impaired.**
- **Children may not perform cleaning maintenance without supervision.**
- **Compressed air, steam, solvents, aggressive chemicals, abrasive cleaning agents or sharp items must not be used to clean the unit.**
- Perform maintenance and cleaning of the unit in regular cycles to ensure its hygienic operation. In the case of regular filter replacement (use the manufacturer's original filters) as indicated, the maintenance interval of the maximum of 2 years or at intervals determined by the relevant national regulations or practices must be observed.
- If the unit is not used for a longer period of time, it is necessary to switch off the power supply to the unit.
- Service work that is beyond the scope of routine maintenance must only be performed by an authorised service centre or the manufacturer.

- Regular maintenance must include:
  - Visual inspection of the unit casing – Chapter 7.1.1.
  - Visual inspection of the supply cable – Chapter 7.1.2.
  - Cleaning of fan chambers and fans – Chapter 7.2.1.
  - Visual inspection and cleaning of the heat recovery exchanger – Chapter 7.2.2.
  - Visual inspection – cleaning of external preheating, reheating if installed – Chapter 7.2.4.
- For cleaning the unit from coarse dirt or dust, use a vacuum cleaner or damp cloth with a common cleaning agent (e.g. soapy water).

### 7.1. Inspection – cleaning the unit's exterior

#### 7.1.1. Visual inspection of the unit's housing

- The unit can be cleaned on its entire surface.
- Visually inspect the outer casing of the unit for excessive soiling, damage:
  - If the smooth surfaces of the casing are dirty, wipe them with a damp cloth with a common cleaning agent (e.g. soapy water),

#### 7.1.2. Visual inspection of the supply cable

- Visually check that the supply cable is not damaged, loosened or torn from the connecting peripherals.

- **In case of damage, consult with the person competent for this activity with the valid authorisation and knowledge of the relevant standards and directives.**

### 7.2. Inspection – cleaning of the unit interior

- **Pay particular attention to the disassembly of the internal components of the unit. Improper disassembly may cause the unit to malfunction or limit its functions.**
- Unscrew the 10x M6x20 screws securing the unit cover
- Remove the filter caps using the textile straps
- Remove the filters
- Remove the unit lid using the filter cap holes (position 9)

**1** REMOVE THE SCREWS

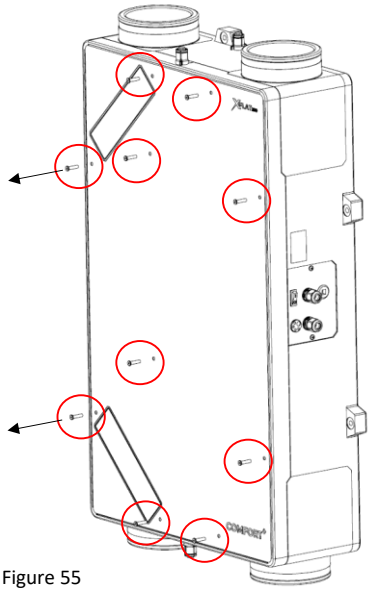


Figure 55

**2** LIFT OFF THE UNIT COVER TO ACCESS ITS INTERNAL COMPONENTS

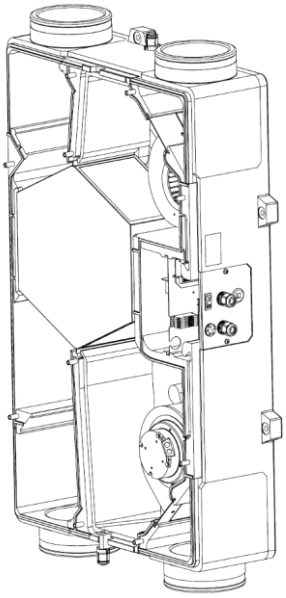


Figure 56

- - Take extra care when removing the unit lid – the connections between the lid and the unit body are sealed in the recuperator location. The sealed joint may resist during disassembly.

- **The following sub-categories of the instructions are consecutive actions to be followed in the order shown.**

### 7.2.1. Cleaning the fan chamber and fans

- For better handling during cleaning, always only clean one fan chamber and fan.
- Release the cables in the fan groove. Take extra care not to damage the fitting when removing them. Cables are secured with adhesive against spontaneous dropping.
- Carefully slide the fan beam assembly (position 11) out of the groove in the unit body.
- You can flip the fan holder with the fan for better access by 180°.

1) Fan placement in the unit

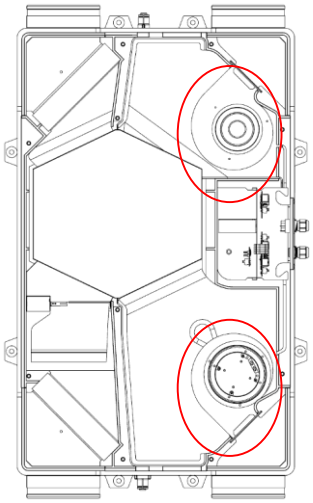


Figure 57

2) Release the fan cables from the grooves

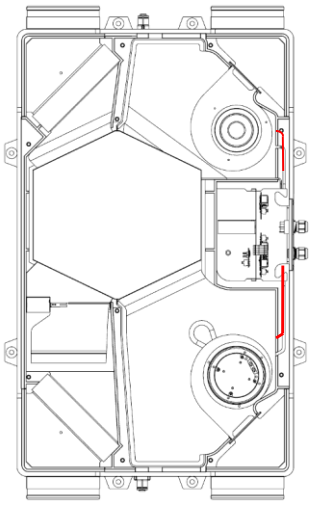


Figure 58

3) Extending the fan sub-assemblies

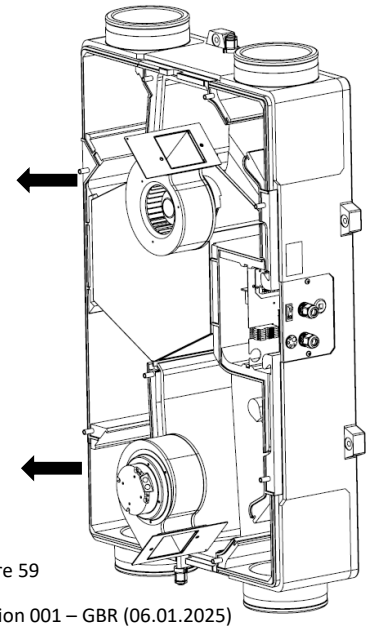


Figure 59

- Vacuum dirt from the fan chamber and, if necessary, wipe it with a damp cloth with a common cleaning agent (e.g. soapy water).
- With extra care, vacuum dust from the fan assembly and, if necessary, wipe it with a damp cloth with a common cleaning agent (e.g. soapy water).
- After cleaning the fans and fan chamber, reassemble in the reverse manner. Ensure that the cables are properly seated in the groove so that they cannot be crushed by the lid.

### 7.2.2. Visual inspection and cleaning of the heat recovery exchanger

- Visually inspect and then clean the heat recovery exchanger (position 12)
- Vacuum the exchanger with a vacuum cleaner or use the brush attachment on the vacuum cleaner. Always vacuum the exchanger at the end to remove fine dust.

Naformátováno: Úroveň 3, Mezera Za: 0 b.

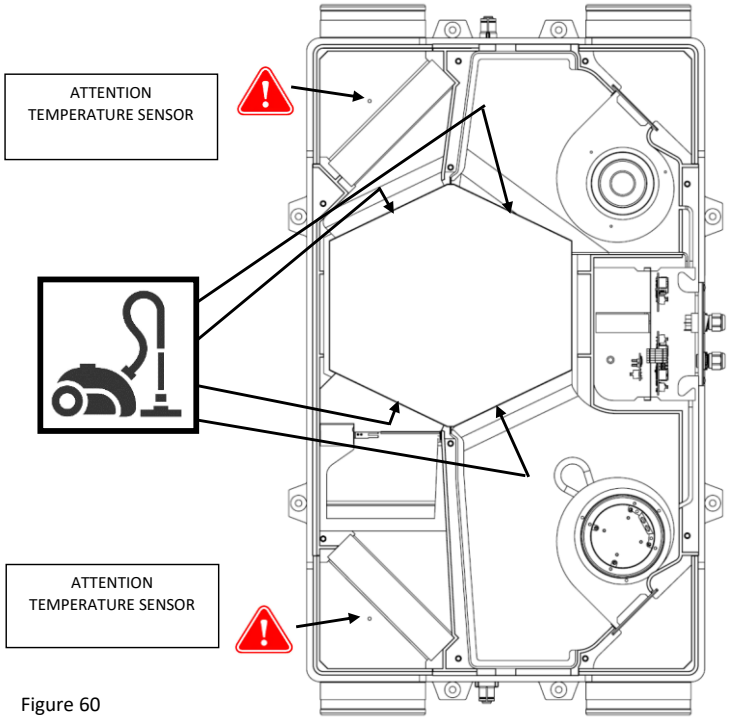



Figure 60

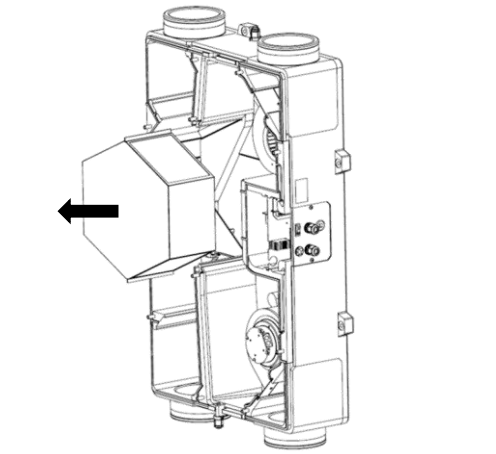



Figure 61

- Treat the removed heat exchanger with a disinfectant or antibacterial product suitable for cleaning and disinfecting aluminium and plastic. Allow the heat exchanger to dry thoroughly before inserting it into the unit!
- **Do not use any sharp tools or hard-bristled brushes to clean the heat exchanger. Avoid pressure washing and chemicals. There is a risk of permanent damage to the heat exchanger!**
- After cleaning, slide the heat exchanger back into the unit body.

### 7.2.3. Reassembly – sealing the Xflat 200 unit

- After checking and cleaning, reassemble the internal components into the unit according to the individual previous sections by reversing the procedure.
    - Fit and then push the lid onto the unit body. Make sure the unit lid is seated correctly.
    - Screw the 10x M6x20 screws in to secure and seal the unit lid.

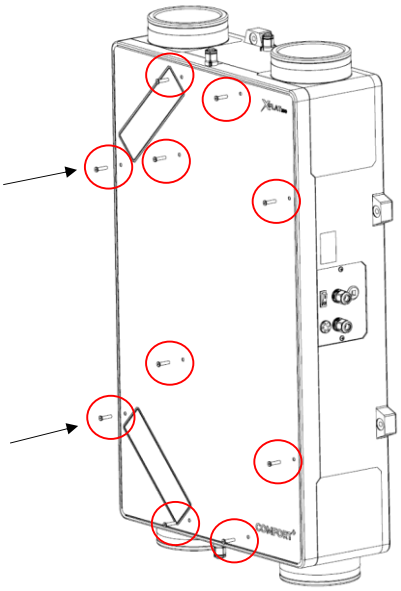


Figure 62

### 7.2.4. Visual inspection – cleaning of the external preheater, reheater – if installed

- The external preheater and reheater are located in the air ducts that are connected to the unit
    - Preheater – ODA air duct designation
    - Reheating – air duct marked SUP
- **Perform maintenance as recommended by the heater manufacturer.**
- The general rules for cleaning pipe heaters (preheater, reheater) are:
    - Clean the heater by vacuuming it.
    - **Never clean the piping heater with a damp cloth.**
    - **Check the supply cable and its connection to the heater supply terminal block.**
- **The manufacturer of the unit is not responsible for poorly performed or neglected maintenance of the external piping heater.**

Naformátováno: Úroveň 3, Mezera Za: 0 b.

## 8. Servicing

- **Warranty and non-warranty servicing may only be performed by a qualified professionally trained worker and only using original spare parts.**
- **The manufacturer reserves the right to make changes to the device that do not affect the fundamental characteristics of the device.**

### 8.1. Error messages – troubleshooting procedure

Table 9

| Error No. | Error message, malfunction | Possible cause of the malfunction | Troubleshooting |
|---|---|---|---|
| 1. | The unit does not start | The power cable is not connected | - check the mains connection<br>- check the activation of the safety element |
| | | The main switch is in position 0 | - set the switch to position I |
| | | The entire controller loading process did not take place | - Switch the unit off with the main switch and switch it on again, wait until the controller has finished loading – the controller stops flashing |
| | | The unit is switched off on the switch – OFF | - turn the left rotary switch outside the OFF zone according to Section 5.3.2. |
| 2. | Status LED flashes red | Filter clogging indication | - replace the filter according to Section 6. |
| 3. | No or low ventilation output even when the unit is set to the maximum power | Clogged filter | - replace the filter according to Section 6. |
| | | Contaminated – blocked piping, unit outlets | - Inspect the piping. Clean the unit per Section 7. |
| 4. | Unit started to be too noisy | Clogged filter | - replace the filter according to Section 6. |
| | | Defective motor bearing | - contact the unit supplier |
| 5. | External electric heating of the unit does not heat (preheating, reheating) | Clogged filter – no flow | - replace the filter according to Section 6. |
| | | Contaminated – blocked piping, unit outlets | - Check and clean the unit according to Section 7. |
| | | Activated heat exchanger protection against overheating | - follow the heating manufacturer's instructions |
| 6. | Unable to activate night cooling function – electronic bypass – right rotary switch is set to 4 or 8 hours | Function start requirements are not met – outside temperature too low | - Wait for the outside temperature to rise. The function is only active at summer temperatures above 15°C. |
| | | another parent mode is running | - check the status LED colour to see what mode the unit is in – wait for the current mode to end or exit it<br>- see Section 5.3.5 for a description of the status LED states. |
| 7. | The unit is not working and the status LED is flashing blue | The unit's frost protection is active | - for the behaviour of the frost protection see Section 5.3.6. |
| 8. | The unit is not working and the status LED is red | Temperature sensor malfunction | - contact the unit supplier |

### 8.2. Malfunction persists

- Restart the unit – switch off the unit on the controller (push-button 2), switch off the unit using the main switch (position 15). Wait approx. 30 s and restart the unit.
- In the event of a persistent failure of the unit, do not attempt to repair the unit yourself.
- Switch the unit off using the main switch and disconnect it from the mains.
- Secure the unit against restarting or handling by an unauthorised person.
- Contact your seller.

**9. Final decommissioning, dismantling and disposal**

- At the end of the machine's service life, or when it would be uneconomical to repair it, dismantle the machine completely.
- During the dismantling process, the generally applicable safety regulations must be observed for the safe execution of all the work activities.
- Once the machine is completely dismantled, dispose of the individual parts in accordance with the requirements of Waste Act No. 541/2020 Coll., as amended.
- Separate the metal components by the type of metal and hand them over to the relevant organisations dealing with the reusable waste collection.
- The parts made of plastic materials and rubber that are not subject to natural decomposition shall be sorted out and sold to an organisation dealing with collection of such reusable waste materials.
- Parts of electrical equipment are handed over to the organisation responsible for electrical waste collection.

Please return all unwanted or obsolete products and packaging to the relevant recycling sites where they will be disposed of professionally. Dispose of the parts of the product that cannot be utilised to a controlled landfill. Only a product recycled in this way can be reused properly and returned to the utility.

**10. Warranty**

The warranty per unit is valid according to legal regulations. The warranty only applies if all the assembly and maintenance instructions have been followed. The warranty covers manufacturing defects, material defects and device operation defects. We do not guarantee the suitability of using the unit for special purposes; determination of suitability is fully within the customer's competence.

The warranty does not cover defects caused by:

- Improper handling
- During transport (damage caused by transport – financial compensation must be resolved with the carrier)
- Failing to comply with the service conditions
- Incorrect electrical connection or protection
- Incorrect operation
- Product intervention
- Regular wear and tear
- Due to a natural disaster.

If the warranty is claimed, it is necessary to submit a report (provided in the product documentation) containing:

- Complainant/company information
- Date and number of the sales document
- Detailed description of the defect
- Data on socket protection
- Photo of the product's manufacturing label and, where appropriate, a serial number
- Photo from the product's assembly site
- Measured product values: air temperature, voltage, current.

In the case of both warranty and post-warranty service, contact your supplier or assembly company that performed your assembly. The method of handling a warranty repair is carried out at the unit assembly site or as agreed. The method of resolving warranty repairs is exclusively at the discretion of the company's service centre. The complaining party shall receive a written statement on the result of the complaint – warranty repair. In the case of an unjustified complaint, all the costs relating to such complaint shall be borne by the complainant.

## 11. In conclusion

If you have any questions about this product, do not hesitate to contact us.

**Contact address:**

Xvent s.r.o.
Poděbradská 289
53009 Pardubice-Trnová
Czech Republic
www.xvent.cz