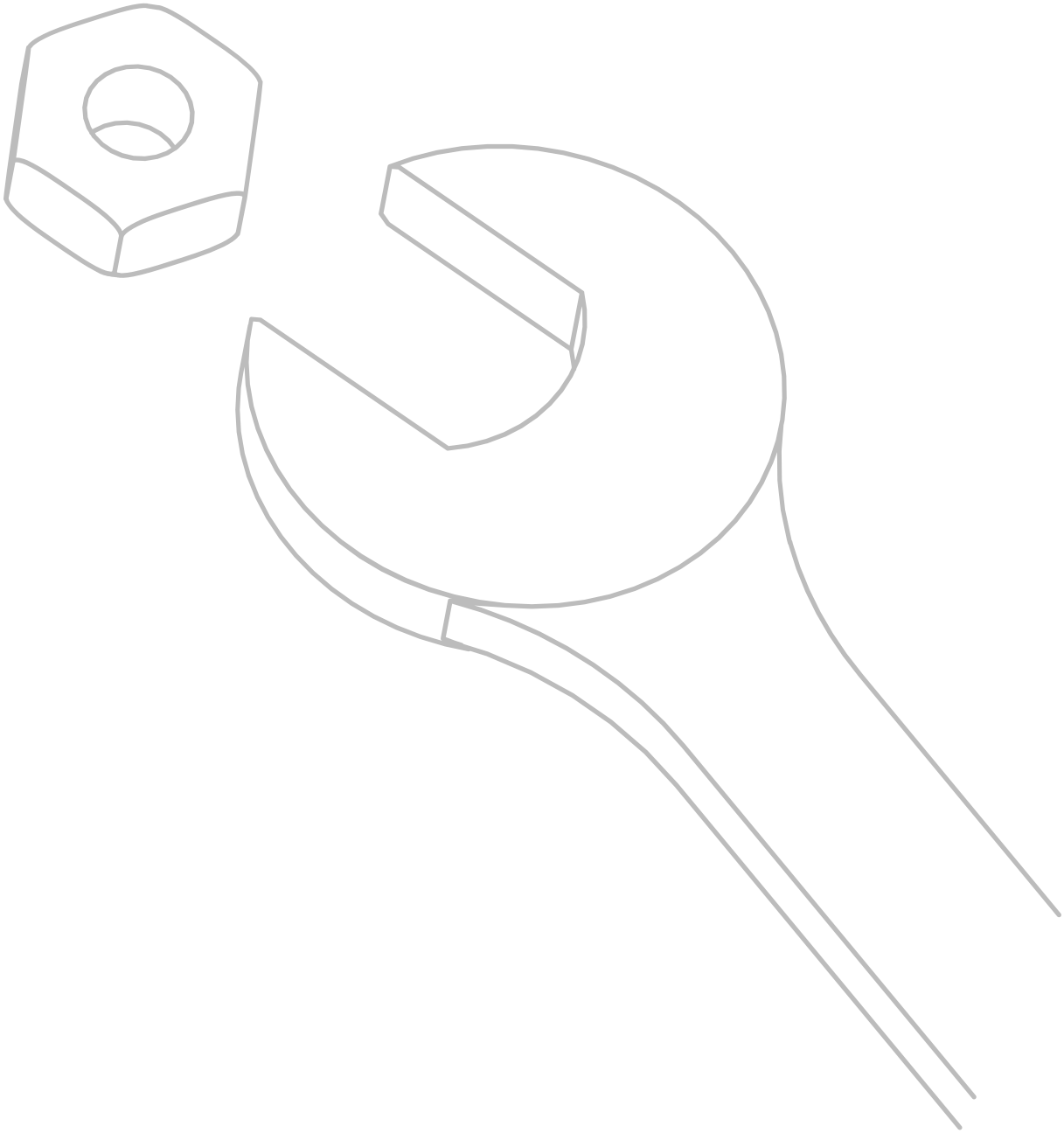
Ventilation unit
with heat and moisture recovery

FUTURA

Installation manual



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JABLOTRON CREATING COMFORT

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1. Introduction

This User Manual covers the **FUTURA S/S2 heat recovery unit**, which is designed for controlled ventilation and indoor air quality management in residential spaces. The unit ensures heat and humidity recovery, filters incoming air, and uses an integrated automatic bypass to provide night-time cooling during the summer.

Before proceeding with the installation and commissioning of the ventilation unit, please read the Installation Manual carefully. It is intended for professionally trained personnel with appropriate technical qualifications. The Installation Manual provides essential information regarding the basic configuration, installation, setup, and maintenance of the unit.

Please pay close attention to all instructions and data provided and follow them accordingly. This is the only way to ensure the correct and safe operation of the ventilation unit.

The ventilation unit complies with Commission Regulation (EU) No. 1253/2014 on the ecodesign requirements for ventilation units and Commission Regulation (EU) No. 1254/2014.

ANY CHANGES DUE TO TECHNICAL ADVANCEMENTS ARE RESERVED. WE RESERVE THE RIGHT TO MODIFY THE CONTENT OF THE INSTALLATION MANUAL AT ANY TIME WITHOUT PRIOR NOTICE.

1.1. Symbols used in the manual

Please pay special attention to the symbols used, and for your safety and the proper operation of the ventilation unit, follow the instructions provided with each symbol.

Symbol	Explanation
	**IMPORTANT NOTICE**
	**WARNING! DANGER!** (Risk of injury to the user or service technician; risk of damage to the ventilation unit or disruption of its proper operation.)
	**WARNING! ELECTRICAL DEVICE!**
	**DANGER! WARNING! RISK OF HAND INJURY**

2. Identification and Use

The FUTURA S/S2 ventilation unit is an air handling system with heat recovery and moisture reclaim, designed for comfortable and energy-efficient controlled ventilation of residential spaces and small family homes. The unit provides controlled ventilation of living spaces with an air volume range from 60 to 200 m^3, within an outdoor air temperature range of -20 °C to +40 °C. The unit can be operated in environments with relative humidity below 60% at a temperature of 22 °C.

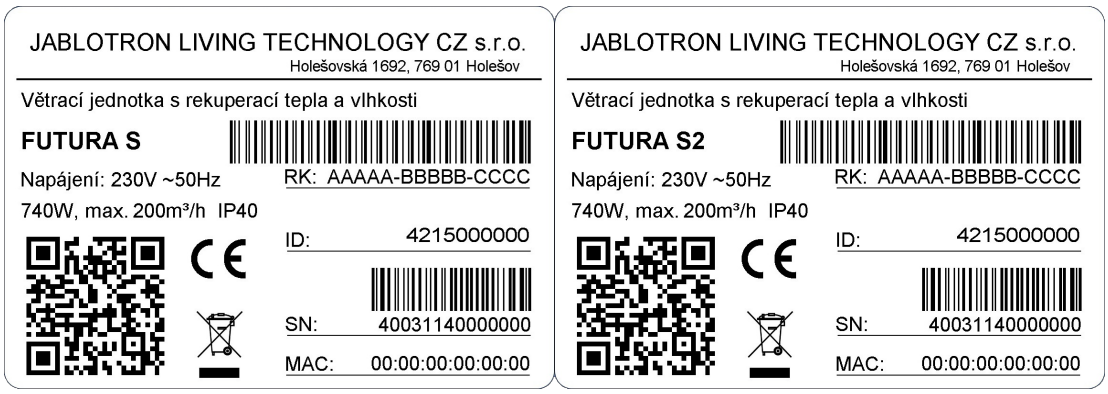


Figure 1 – Identification Label

3. Safety Instructions

Always follow the safety instructions provided in the Installation Manual. Failure to do so may result in personal injury or damage to the ventilation unit.

- The device has been developed and manufactured for the purpose of controlled ventilation in buildings and spaces intended for residential use.
- The unit may only be used for the purposes for which it was developed and manufactured, and for which it is technically suitable – in accordance with the conditions defined by the manufacturer. Its design, construction, and technical condition must comply with safety regulations.
- The ventilation unit must be installed in accordance with general safety regulations and those applicable at the installation site.
- The ventilation unit may only be installed, connected, commissioned, and maintained by an authorized service technician with the appropriate technical qualification. A service technician is a person with the necessary education, experience, and knowledge of applicable regulations, standards, potential risks, and hazards.
- Cables connected to the unit must be routed in a way that prevents mechanical damage, exposure to harmful environmental effects, and obstruction of the usable space where the unit is installed.
- The ventilation unit may only be operated independently by physically and mentally capable persons who have thoroughly familiarized themselves with the Installation and User Manual. These manuals must be stored in an easily accessible location for the user.
- Do not make any changes or modifications to the ventilation unit!
- The unit must not be used or switched on during ongoing construction work. The unit should only be mounted and started once the building is fully finished and cleaned.
- The ventilation unit is prepared for operation in conjunction with a fireplace designed for passive houses, equipped with a sealed combustion chamber and a dedicated air supply.
- Use with fireplaces is only permitted if all related safety and fire protection regulations and standards are met. This operation requires the configuration and use of the Overpressure function.

The device must not be operated together with an open fireplace or with any fireplace that does not have its own dedicated air supply!

Any servicing activities, including filter replacement, may only be carried out on the ventilation unit when it is disconnected from the power supply or switched off!

Do not insert your hands into the filter slot during filter replacement! Avoid the risk of hand injury!

4. Technical Specifications

Specific technical data for the ventilation unit can be found in the following table:

Description	Data
Airflow	60 – 200 m^3/h
Model Identification Label	FUTURA S/S2
Specific Energy Consumption (SEC) in kWh/(m^2·a) for each applicable climate zone and each applicable SEC class	A+
Dimensions (H x W x D)	250 × 1019 × 594mm
Weight	25 kg
Declared Typology	bidirectional
Type of Drive	variable speed drive
Heat Recovery Type	recuperative
Heat Exchanger	enthalpy counterflow
Thermal efficiency of heat recovery	82,5 %×
Humidity recovery efficiency	60,3 %×
Reference flow rate	110 m^3/h×××
Electrical power consumption of the fan drive, including the motor control device, at maximum airflow and pressure/td>	140 W
Maximum power input including electric reheating	740 W
Sound power level LwA	46 dBa××
Reference pressure difference	100 Pa×××
SPI	0,38 W(m^3/h)×××
Condensate connection	Not required××××
Electrical connection	230 V / 50 Hz, 16 A, type B; connection to the electrical network via a socket
Operating temperature range of outdoor air	-20 °C to +40 °C
Maximum operating relative humidity of indoor air	Max. 60 % RH at 22 °C
Storage temperature and relative humidity range	-5 °C to +45 °C at max. 80 % RH without condensation
Recommended storage temperature and relative humidity range	5 °C to +30 °C at 40 % RH to 60 % RH without condensation
Protection rating	IP 40

Description	Data
Fans	2× EBM Papst with integrated electronics and airflow control
Annual energy consumption (AEC) (in kWh/m² of electrical energy/year) "average," "warm," "cold" at reference airflow	204/159/741
Annual heat savings (AHS) (in kWh/m² of primary energy/year) for different climate types ("average," "warm," "cold") at reference airflow	4445/2010/8695
Summer function	Automatic bypass controlled based on the set preferred temperature.
Control	Integration with the MyJABLOTRON service, enabling control of all user functions and settings, remote monitoring, management, and automatic notifications for filter replacement and error states. Comes standard with a wall controller featuring an integrated CO_2 sensor (1 unit).
Optional accessories	Alfa controllers (max. 8 units) or CO_2 sensors (max. 8 units), zone ventilation dampers, HVAC materials, and distribution elements.

× According to DIN EN 13141-7

×× According to ČSN EN ISO 3744

××× According to Commission Regulation (EU) No. 1253/2014

×××× In the case of sloping of the supply and exhaust air away from the unit.

5. Installation

Upon receiving the ventilation unit, check whether it has been delivered to the destination without defects and that the delivery is complete. The delivery includes:

- FUTURA S/S2 ventilation unit
- Wall controller
- Mounting brackets
- 230 V connection cable
- LAN cable
- User manual
- Installation manual

Choose the installation location in such a way that there is enough space in front of the unit for easy access and maintenance. Place the ventilation unit in a space protected from frost and high temperatures, ideally in a separate technical room.

The installation site must have:

- 2 × EPS air duct connections for outdoor environment and 2 × Sonotex flexi (noise attenuator) for indoor environment,
- A 230 V network power connection with a separate 16A circuit breaker, type B.

All doors from mechanically ventilated rooms must be threshold-free with a gap of at least 8 mm!

Remove the packaging from the recovery unit just before the installation itself. If the installation is interrupted, ensure the closing of the flanges on both sides of the recovery unit to prevent the infiltration of construction dust and moisture into the interior. The recovery unit is fixed using 4 brackets (see the following image). For installation, use a technique suitable and recommended for the material of the supporting wall or ceiling on which the unit will be mounted.

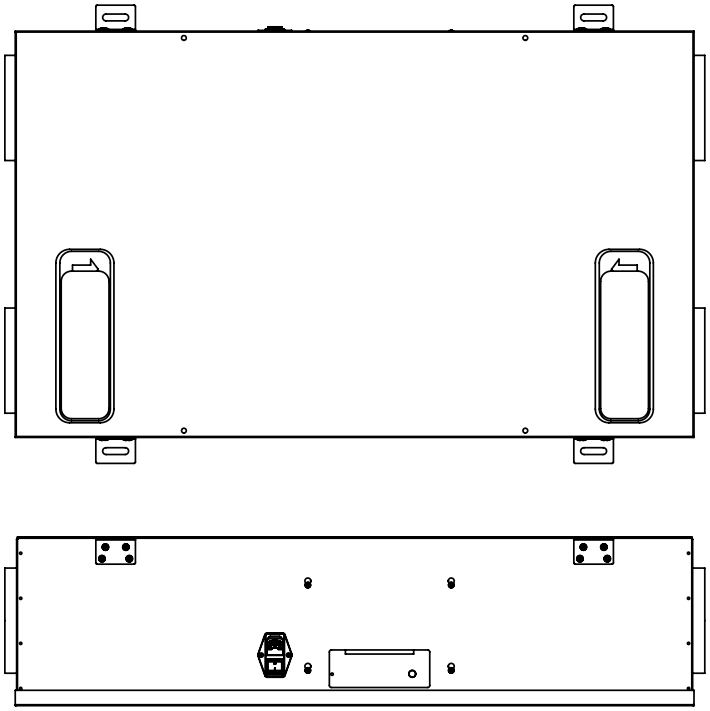


Figure 2 – Installation

5.1. Installation Positions

The following installation positions are possible:

- Under the ceiling or lying down (i.e., horizontally)
- On the wall (horizontally or vertically)
- On a perpendicular wall (horizontally or vertically)

In the vertical position, the exhaust air outlet must always be positioned at the top!

5.1.1. Suspended from the ceiling

For the ceiling installation position, the installation is carried out horizontally onto the ceiling surface using holes (38x10 mm) in the mounting bracket, with appropriate fastening elements according to the ceiling structure. If the unit is to be installed in the ceiling space, we recommend creating an access opening so that the distance from the ceiling structure is at least 270 mm. The ventilation unit will be installed in the ceiling structure at the center of the access opening.

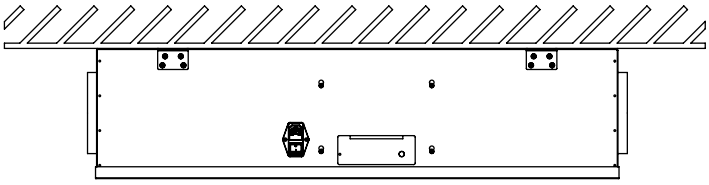


Figure 3 – Ceiling Installation

5.1.2. Placed on the floor

For the lying position, the installation is carried out horizontally onto the floor surface, attaching the appropriate fastening elements to the holes in the mounting brackets (38x10 mm) according to the floor structure.

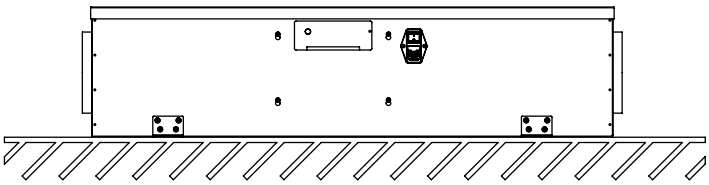


Figure 4 – Floor Installation

5.1.3. Horizontally wall-mounted

For the wall-mounted horizontal position, the installation is carried out horizontally onto the wall surface, using appropriate fastening elements in the long holes (38x10 mm) of the four mounting brackets, according to the wall structure.

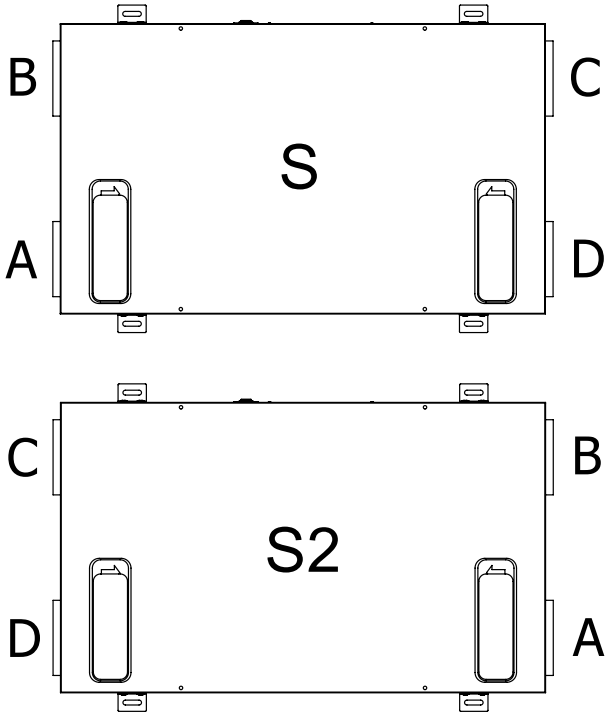


Figure 5 – Installation

Description of the connection of individual ducts:

A - Outdoor air
B - Exhaust air
C - Supply air
D - Extracted air

5.1.4. Vertically wall-mounted

For the vertically wall-mounted position, the installation is carried out horizontally onto the wall surface, using appropriate fastening elements in the long holes (38x10 mm) of the four mounting brackets, according to the wall structure.

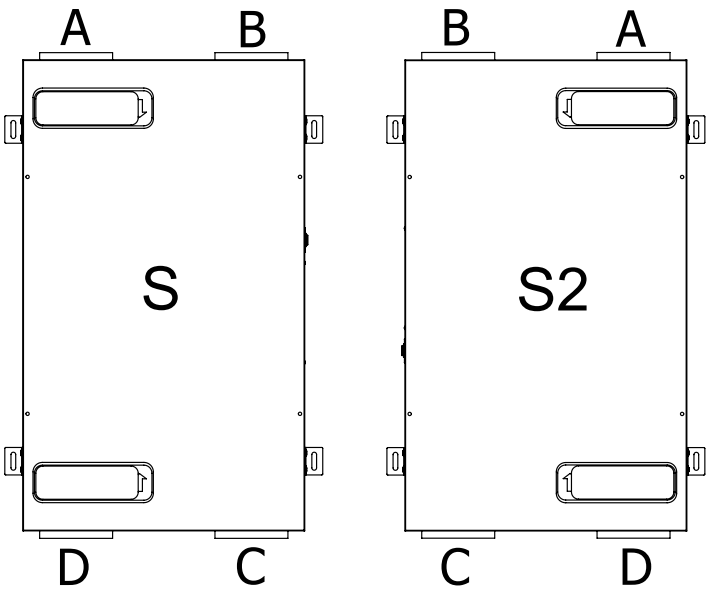


Figure 6 – Vertical Installation

Description of the connection of individual ducts:

A - Outdoor air
B - Exhaust air
C - Supply air
D - Extracted air

5.2. Connection of Ventilation Ducts

The ventilation unit is equipped with 4 EPP flanges ⌀ 125 mm. For the air supply and exhaust to/from the exterior, EPP/EPS pipes (intake/exhaust) should be used to prevent the possibility of unwanted condensation inside the supply and exhaust ducts. A SONOTEX noise attenuator is used for connecting the internal ducts to the unit.

The air supply and exhaust openings must remain clear and unobstructed! For both the air supply and exhaust to/from the interior, it is necessary to install noise attenuators with a length of approximately 1.5 m, equipped with end elements with a diameter of 125 (150) mm, according to the manufacturer's specifications and recommendations – see Appendix 2.

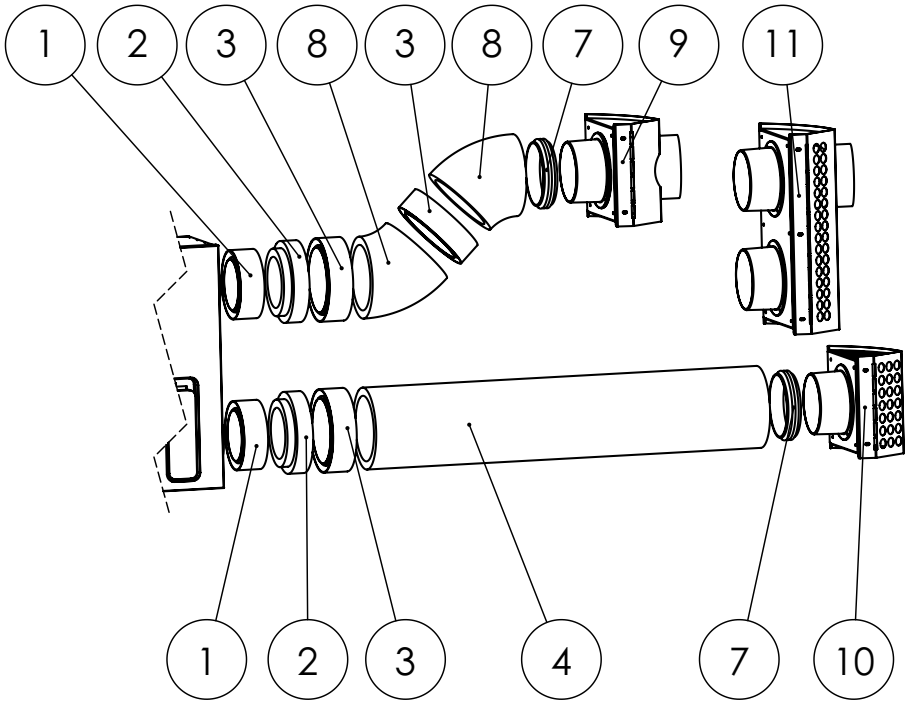


Figure 7 – Connection of the facade box

Label	Description	Item Code EPS
1	Coupling ⌀125 mm	VZ_EPS_04
2	Reducer 125/160/200 mm	FU_RED_06
3	Coupling ⌀160 mm	VZ_EPS_03
4	Duct ⌀160 mm	VZ_EPS_02
7	Reducer (Adapter) ⌀150/160 mm	FU_RED_04
8	Elbow 45°	VZ_EPS_01
9	Exhaust facade box	VZ_FBX_VYF
10	Intake facade box	VZ_FBX_SANI
11	Combined facade box	VZ_FBX_HSLV(HSPV)

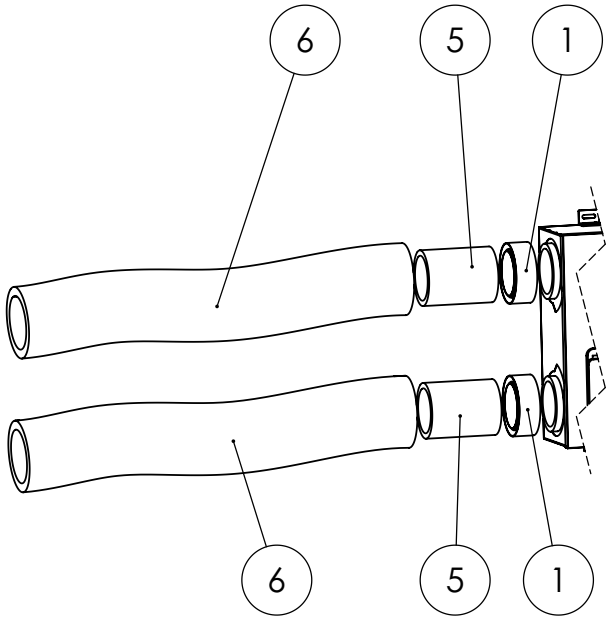


Figure 8 – Connection of the distribution box

Label	Description	Item Code EPS
1	Coupling ⌀125 mm	VZ_EPS_04
5	Duct ⌀125 mm	VZ_EPS_05
6	Silencer ⌀150 mm	For example, Sonotex

5.3. Condensate Drain Connection

In the enthalpic heat exchanger, the exhaust air is cooled by the incoming air, causing condensation of moisture, which is then transferred to the fresh incoming air into the building. The unit does not require a direct connection for condensate drainage.

Condensate connection is not required if both the supply and exhaust ducts are sloped outward from the unit and, if necessary, sufficiently thermally insulated to prevent the condensation of airborne moisture, particularly in the exhaust duct!

If it is not possible to prevent the supply and, in particular, the exhaust air from being routed upwards and out of the building, a condensate drainage connection (so-called condensate trap) must be installed!

It is not recommended to install a straight duct for exhaust air from the unit's connection all the way to the roof covering, as this could lead to the potential thawing of ice particles, which may fall onto the exhaust air fan blades and damage them.

5.4. Electrical Connection

The electrical connection of the ventilation unit must comply with the relevant standards and regulations, and it may only be performed by a trained service technician with the appropriate electrical qualifications, who is familiar with the ventilation unit to the required extent.

The ventilation unit requires a separately protected 230 V/50 Hz socket (16 A, type B). The unit is supplied as standard with a 3-meter power cable. A LAN cable for internet connection needs to be brought to the unit. For connecting peripherals, an RS-485 bus with 24 VDC power supply is provided. **We recommend using the Jablotron CC-01 installation cable.** It is also possible to use a four-wire cable with twisted pairs, such as LiYCY 2 x 2 x 0.34-0.5 mm^2 or 2 x 2 x 0.8 mm^2, and UTP or STP cables can also be used. We recommend using the same cable for the boost and overpressure buttons as well. Cables must not be routed parallel to low or high voltage power lines. Occasional crossing is not an issue. For easier connection of wires, it is possible to use the Jablotron JA-110Z-B RS-485 bus splitter and the JA-190PL box.

When installing cables for RS-485, either bus (linear) or star topology can be used, with the Futura unit as the central node and multiple connected devices. The length and topology depend on the type of cable used and the number of connected peripherals. Using the CC-01 cable with a larger cross-section for powering the bus allows for the installation of peripherals at longer distances.

In the table below, you will find the allowed maximum lengths and topologies, depending on the peripherals used. The T variant is designed for connecting VarioBreeze dampers in a technical room, where installation on a separate branch is allowed. Other variants describe the allowed combinations of Alfa / JB-112TP controllers, CO_2 sensors JB-112TH, and VarioBreeze buttons depending on the topology and cable length.

Topology		Maximum branch length by cable type (m):		Maximum number of devices per branch:			
Var.	Number of branches	Jablotron CC-01	UTP Cat5e	Alfa / JB-112TP	CO_2 sensor	VarioBreeze button	VarioBreeze damper
T	1	10	10	0	0	0	64
A	T+1	80	60	6	8	16	64
B	T+1	100	80	4	8	16	64
C	T+2	100	80	4	4	8	64
D	T+4	140	120	2	2	8	64

Further details can be found in the appendices:

- Wiring diagram – see Appendix 3,
- Connectors of the control board – see Appendix 4,,
- Device connection – see Appendix 5,,
- CO_2 sensor connection and address setting – see Appendices 6 and 7,
- Zone ventilation – see Chapter 8.

5.5. Commissioning

Before the first commissioning, it is important to pay particular attention to the complexity of the installation, cleanliness of the equipment, air duct clearance, proper orientation of the filters, functionality of the condensate drainage from the ducts, correct electrical connection, and the readiness of all technical components of the ventilation unit for operation.

Any deficiencies must be addressed before the first startup of the ventilation unit!

Before commissioning, the following settings need to be configured:

- Fan powers for individual performance levels 1 – 5,
- Fan speed coefficient for the Overpressure and Radon Protection functions,
- Nominal airflow in the case of using the VarioBreeze system,
- Initialization of new filters.

The settings are performed by the installation partner through the MyCOMPANY application.

6. Unit Configuration via Bluetooth

Connection to the ventilation unit

The configuration is performed via Bluetooth and the MyCOMPANY mobile app.

Remove the filter cover and press the service button for a long time to activate Bluetooth. The button needs to be pressed and held until the color of the light guide on the front cover changes to blue. If it doesn't, repeat the process. A short press = filter initialization, a long press = Bluetooth connection. The configuration is saved directly in the unit.

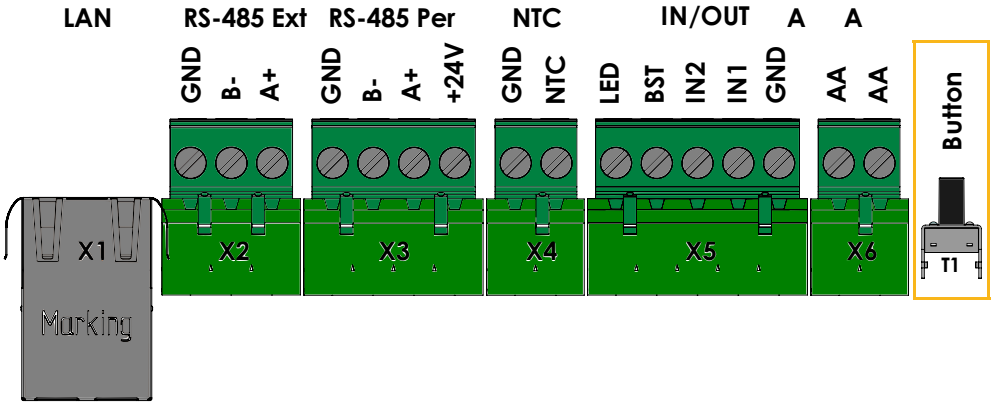
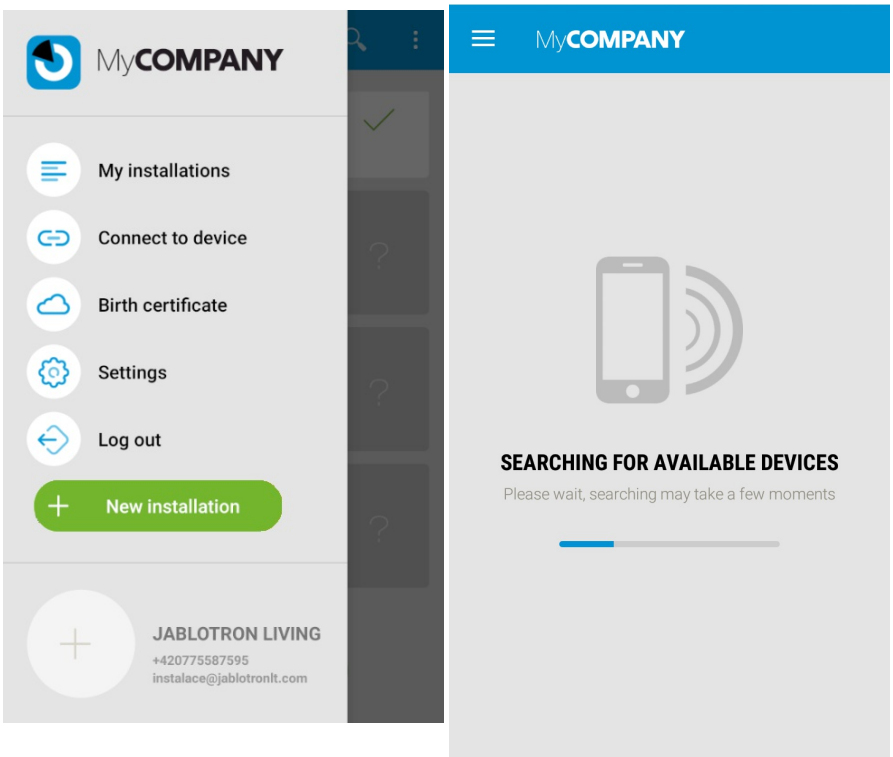


Figure 9 – Bluetooth connection button

- **Make sure that new, clean filters are inserted into the unit.** You can **„Continue"** to the next step.
- In the top-left "hamburger" menu, select **"Connect to the device."**, Tap on the desired found device, in our case **"FUTURA"** and the app will automatically proceed to the next step.



Figures 10 and 11 – Connecting to the unit via Bluetooth

- A message will appear: **"Ventilation system connected"** a **"Fully open"**, If this is the case, confirm these and you can **„Continue"** to the next step.

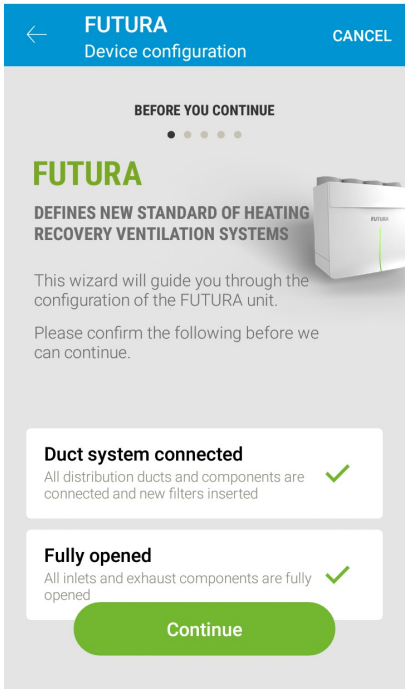
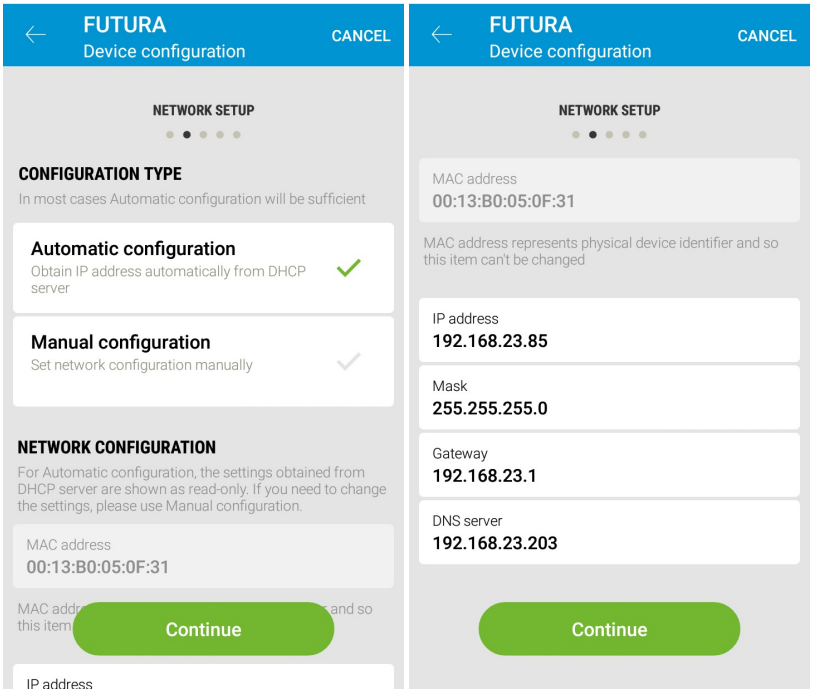


Figure 12 – Checking the connection of the ventilation system

Setting the IP address

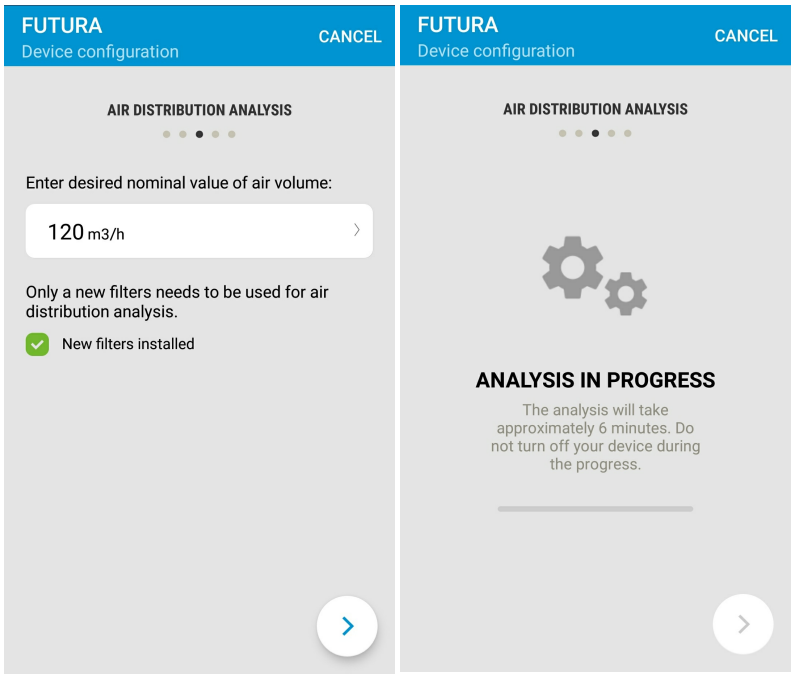
- The IP address is **automatically set from the DHCP server**, but manual configuration can also be used. For manual configuration, you need to enter the connection parameters provided by your network administrator.



Figures 13 and 14 – Automatic network connection setup – manual network connection configuration

Pressure loss – analysis of air distribution system

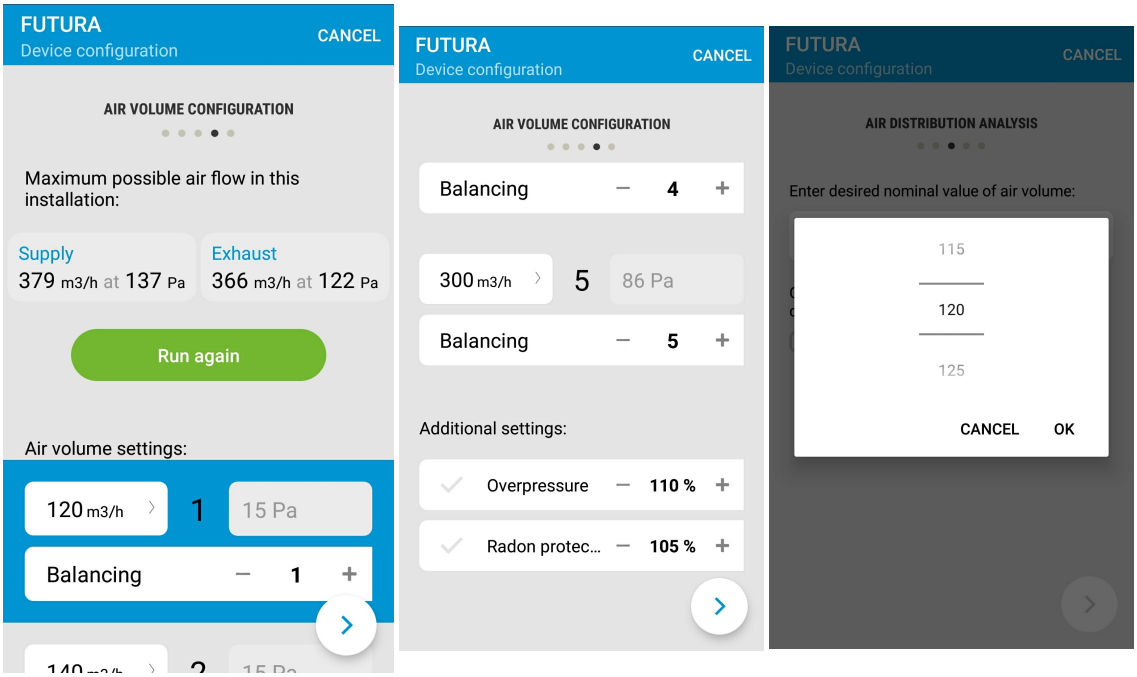
Since each air distribution system is unique in its way and thermodynamic properties, the MyCOMPANY application includes the "Air Distribution Analysis and Configuration" feature. This function serves for calculating the air volume and pressure loss for individual ventilation stages, both for exhaust and supply, for the specific installation.



Figures 15 and 16 – Setting the nominal air volume – ongoing analysis

In the application, you set the nominal air volume, and by pressing the continue button, the air distribution system is analyzed. Based on the state of the ducts (cross-sections, lengths, outlets, T-joints, etc.), the unit will analyze the maximum supplied air volume for each ventilation stage and calculate the pressure loss for the given installation. This process is fully automatic.

As part of the measurement of the air distribution system for calculating the pressure loss, filter calibration is also performed.



Figures 17, 18, and 19 – Result of maximum air volume – balancing of individual stages – setting the air volume for each ventilation stage.

In the above screens, you can manually set and balance the values for each stage. The pressure losses for each ventilation stage can only be viewed. When the air volume for a specific ventilation stage is changed, FUTURA will calculate the pressure loss for that particular stage.

When the *Overpressure* and *Radon Protection functions* are activated (only one of them can be active at a time), the fan performance coefficient will change. The coefficient is set in percentage.

Example: Overpressure set to 120% – this means that the fresh air fan is running at 120% of the current exhaust fan's performance.

Nominal air volume of zones

In the case of installing the VarioBreeze system, it is necessary to set the nominal air volume for the zones.

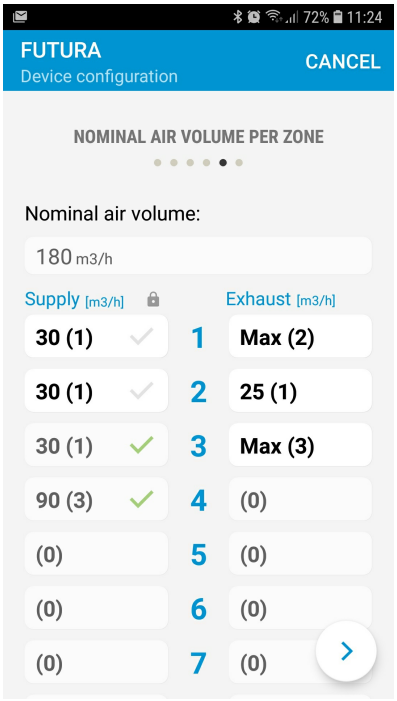


Figure 20 – Setting the Nominal Airflow Rate of Zones

In the application, set the required airflow rate for each supply zone for the case of nominal flow. The specified ratio of airflow between the individual zones is also applied to flow rates other than the nominal one.

The application displays a list of zones and their addresses as defined in the configuration – see Annex 8. The number of dampers for each zone is shown in parentheses.

By clicking on a specific zone, the airflow settings menu will open. At the same time, the LED indicators on the VarioBreeze dampers of the selected zone, the indicator LED on the Alfa controller, and the LEDs on the VarioBreeze button will light up.

Supply Configuration

On the supply air side, the total nominal airflow must be distributed among the individual zones. The distribution is proposed automatically, with the option for manual adjustment. Once the desired airflow is entered for a specific zone, that zone is locked, and the airflow in the remaining zones is recalculated so that the total nominal airflow matches the overall nominal value. A locked zone is marked with a green checkmark. By clicking the icon, the zone can be unlocked and the airflow adjusted.

Exhaust Configuration

On the exhaust air side, it is possible to limit the extracted airflow to the desired nominal value. This can be useful, for example, in zones with low pressure loss (such as a technical room). If the airflow is not meant to be limited in any way, we recommend selecting the MAX option.

7. Online Unit Registration

During registration **the unit must be connected to the internet.**. After powering on, the unit logs into a predefined server and maintains a permanent connection.

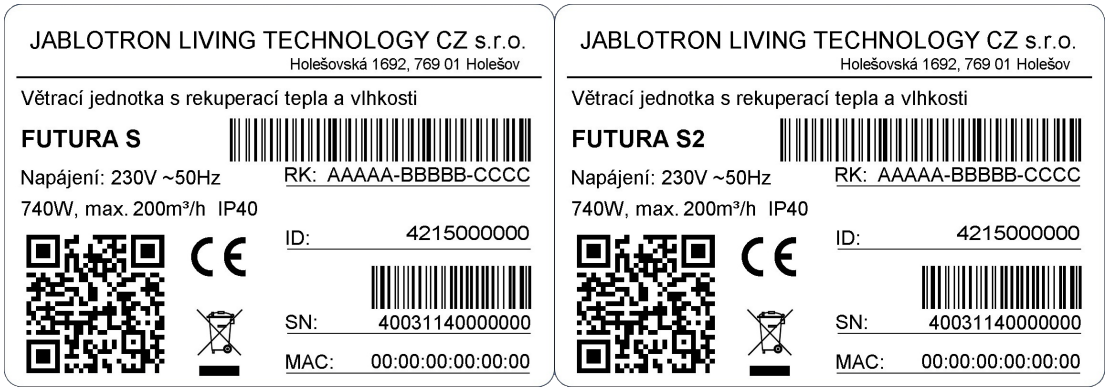
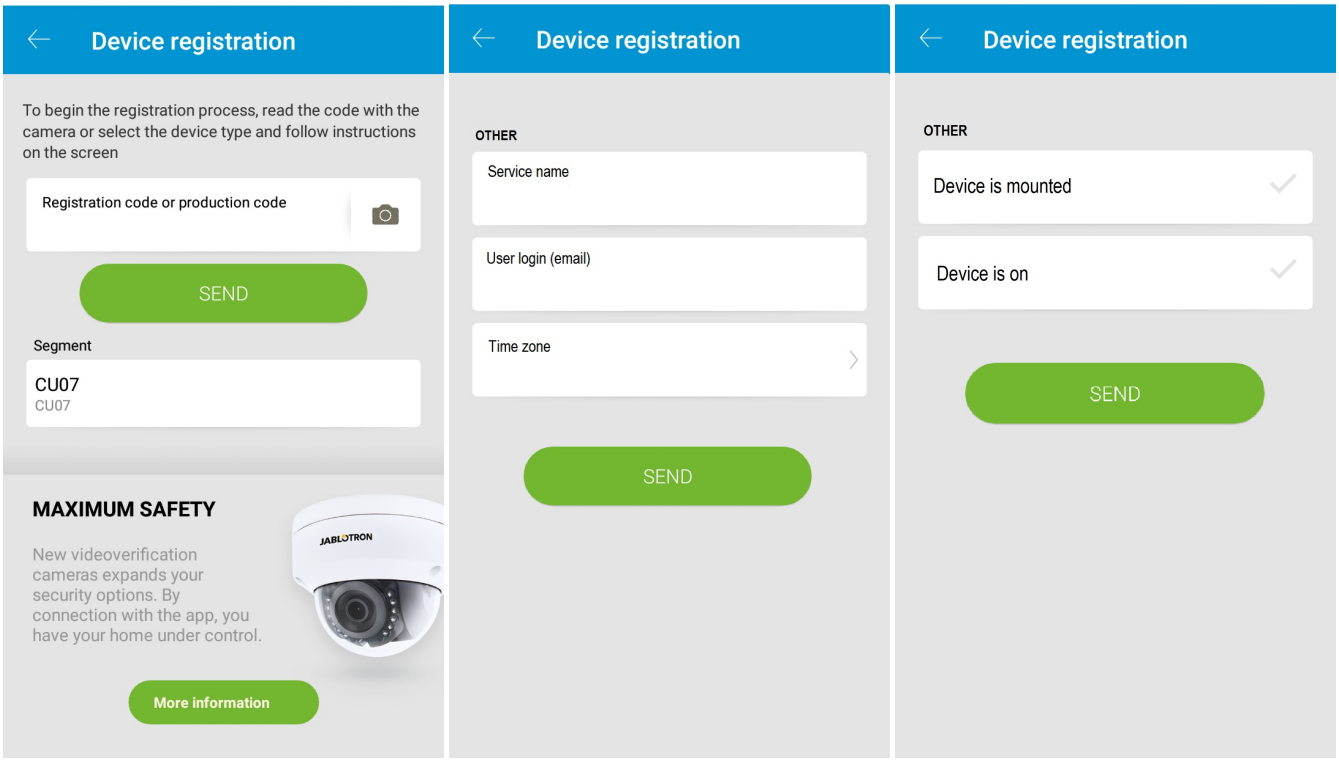


Figure 21 – Registration Key

- Log in to MyCOMPANY, start the installation of a new device, and enter the **registration key of the unit** either manually or by scanning the barcode using the app's camera. Then optionally enter the "Service Name," the customer's email address, and the time zone. Press Submit to complete the registration process.
- During a new installation, the app must have **"Device Location Access" enabled!**
- If the unit is not online, the following screen will appear, where you need to confirm the two highlighted lines.



Figures 22 and 23 – Entering the Registration Key – Device Registration, Figure 24 – Confirming Additional Parameters

8. Zonal Ventilation

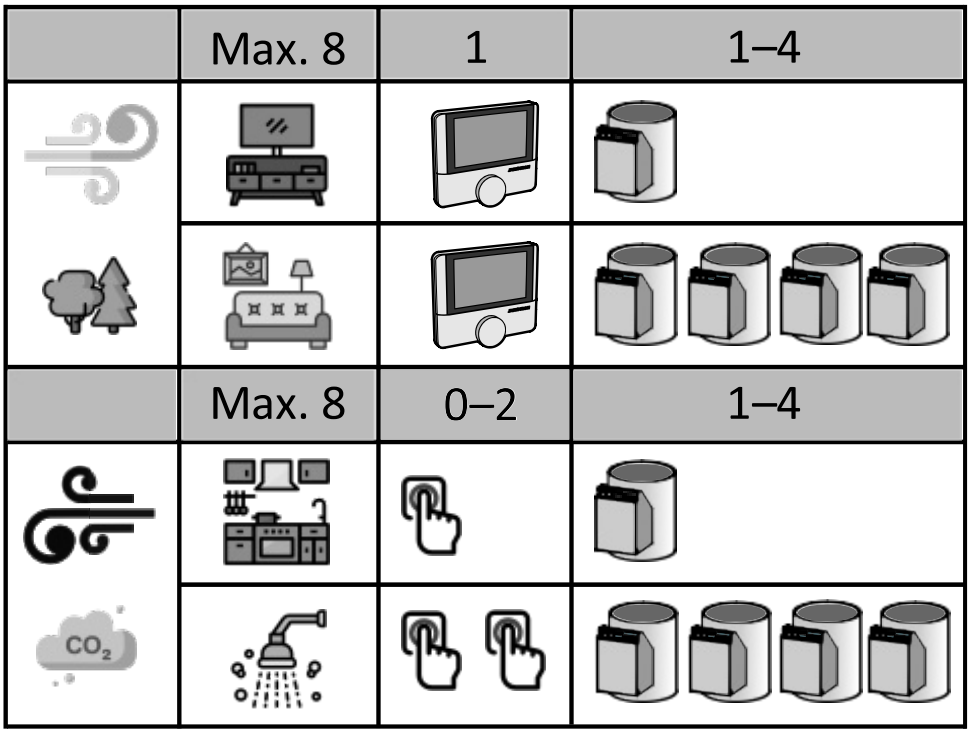


Figure 25 – Possible Basic Zone Combinations

The figure above illustrates the possible numbers of controllers, dampers, and buttons assigned to individual exhaust and supply air zones.

When setting up the individual zones, each zone must be configured using DIP switches on the controller, damper, and button.

8.1. DIP Switch Settings on the Alfa Controller

The zone number (1–8) is set on the controller, as shown in the figure below. Only the first three switches are used to set the zone number! Switch number 6 is used to enable or disable the terminating resistor. When set to ON, the terminating resistor is enabled.

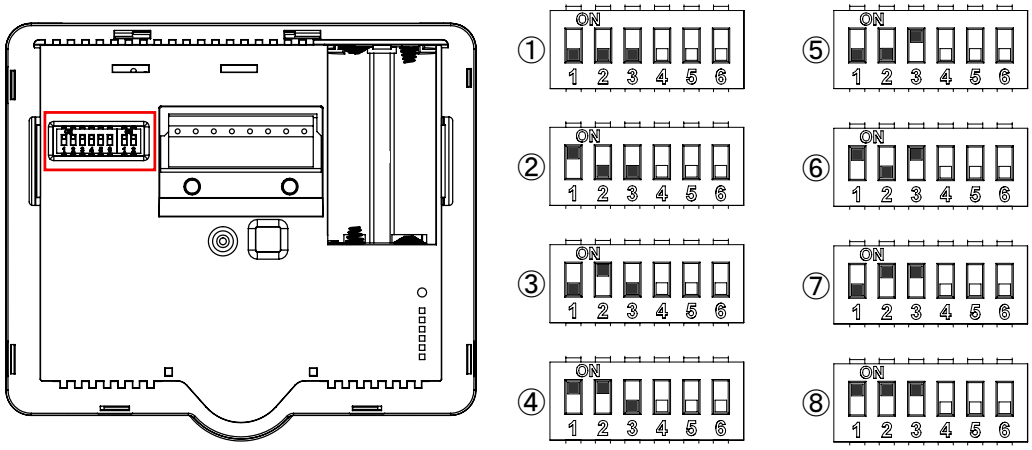


Figure 26 – Setting the Zone Number on the Alfa Controller

8.2. Setting the address on the JB-122TP Thermostat

The JB-112TP thermostat does not contain a DIP switch for address setting; the address must be set using the control buttons only:

- there is no default address set — it must always be configured manually
- when the unit is powered on for the first time with the RS-485 bus connected, only a digit for address setting will appear on the thermostat display
- use the **+** and **-** buttons to select the desired address (the digit will blink during selection), and confirm the setting by pressing the **i** button (the blinking will stop after pressing)
- The address can be changed again only within 5 minutes of powering on by pressing **+** and **-** simultaneously for 5 seconds. After that, the address can be modified and confirmed by pressing the **i** button.
- The address can also be changed via the Connect Lite web interface. In the peripherals tab, you must select the corresponding VarioBreeze zone and enable address change by clicking the Identify button (see image 24). During identification, the address can be changed using the **+** and **-** buttons and saved by pressing the **i** button.

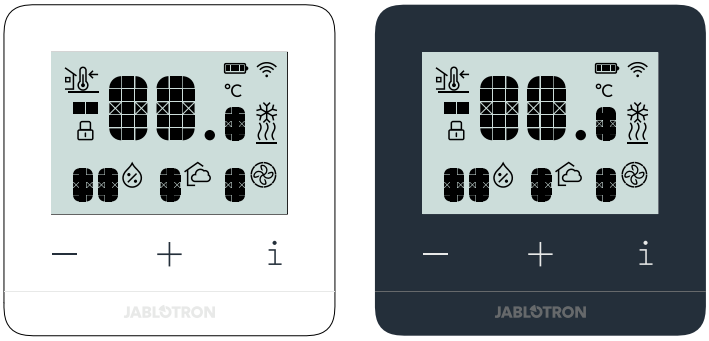


Figure 27 – Thermostat JB-112TP

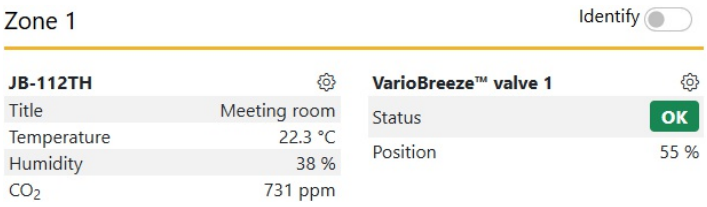


Figure 28 – Connect Lite - identification

8.3. Address setting on the JB-112TH CO_2 sensor

JB-112TH CO_2 sensor does not include a DIP switch for address configuration. The address must be set using the control button:

- no default address is preconfigured — it must always be set manually (indicated by the orange LED blinking after power-up).
- The address can only be set within 5 minutes of powering on. Pressing and holding the button for **5s** activates address setting mode
- each subsequent press of the button increments the address from 1 to 8. The selected address is indicated by the number of LED blinks
- To save the address, press and hold the button for **5s**. The LED will stop blinking to confirm the address has been saved.

Figure 29 – JB-112TH CO_2 sensor

8.4. DIP Switch Settings on the Damper

Next, it is necessary to set the DIP switches on the dampers themselves. Switches 1–3 are used to set the zone number, switches 4 and 5 are used to set the damper address, and the last switch, number 6, is used to set supply/exhaust. Supply = switch in the OFF position, exhaust = switch in the ON position.

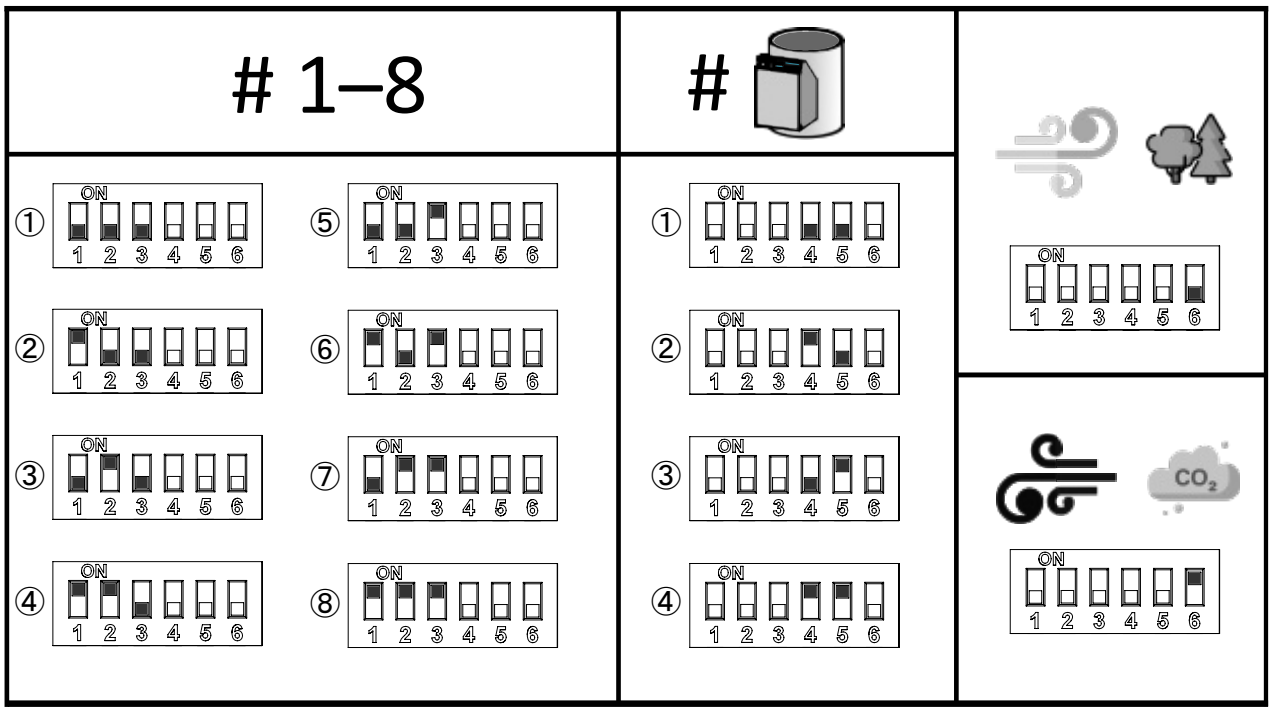


Figure 30 – Setting the Switches on the Damper

8.5. DIP Switch Settings on the Exhaust Button

Finally, it is necessary to configure the exhaust button. Switches 1–3 are again used to set the zone number, switch 4 sets the button address within the zone (1st or 2nd), switch 5 configures the button function (see below), and switch 6 controls the use of the line terminating resistor. When set to ON, the resistor is enabled.

Switch 5 setting – button configuration: The button can either function as a toggle switch or as a momentary push button.

When switch 5 is set to OFF, the button acts as a momentary push button. Pressing it activates the Boost/exhaust function for a preset time, after which it automatically deactivates. Example use case: bathroom or toilet exhaust.

When switch 5 is set to ON, the button acts as a toggle switch. Pressing it turns the Boost/exhaust function on or off, and it remains active until the button is pressed again. Example use case: kitchen hood during cooking.

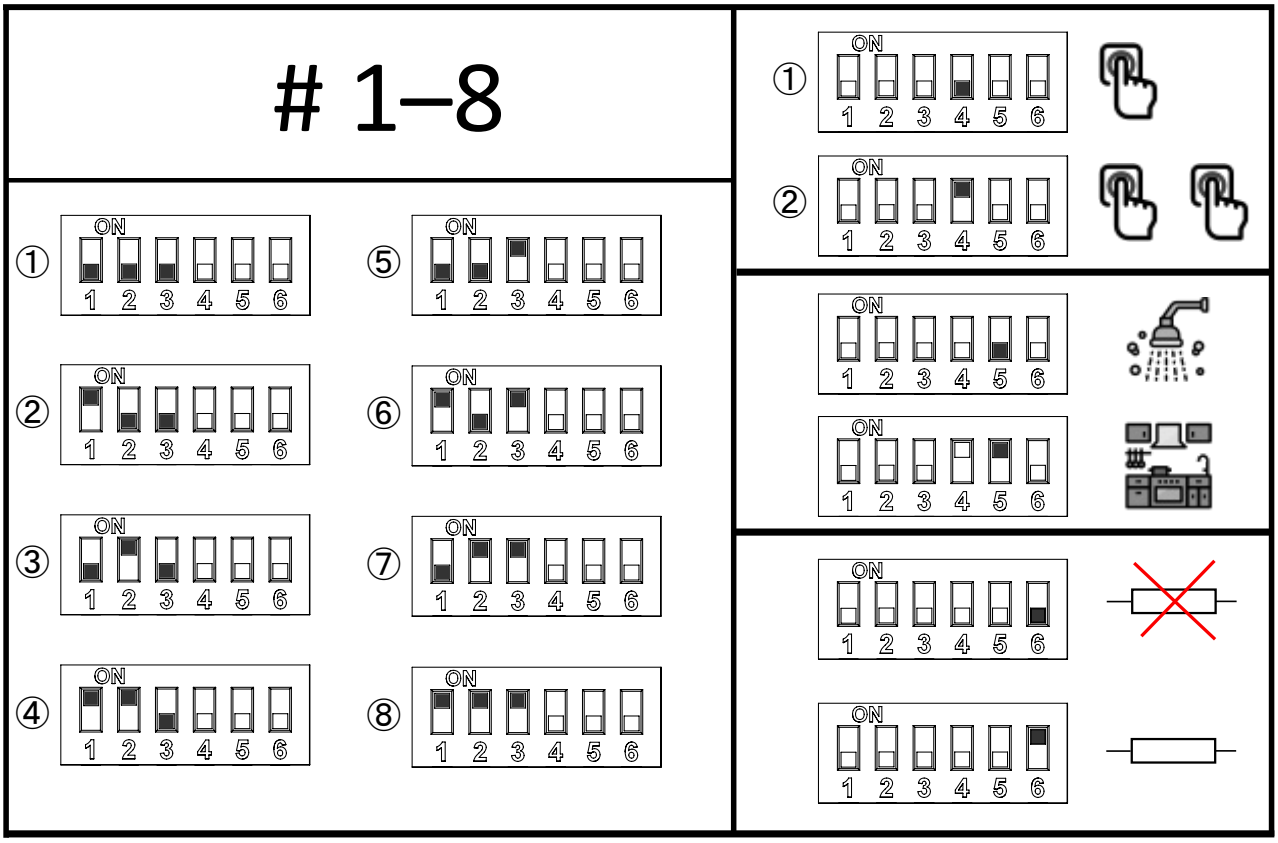


Figure 31 – Setting the Switches on the Button

When assembling individual zones, it is essential to ensure the correct setting of the switches. This means that when configuring zone five, the zone number must be set to five on the controller, the damper, and, if applicable, the button. The unit itself "pairs" all components automatically, thanks to the identical switch settings.

The supply/exhaust configuration is done by setting switch 6 on the damper — see above.

If there is more than one damper in a zone, each damper must have a unique address. For example, in a zone with three dampers, the addresses can be set as 1, 2, 3 or 2, 3, 4 or 1, 3, 4 — but each address must be unique!

8.6. Example of Supply Zone Configuration

- The first column (switches 1 to 3) represents the zone number setting for the Alfa controller on the controller's DIP switch (zone 5).
- The remaining two columns represent the damper address settings (switches 4 and 5) and the supply/exhaust setting on the dampers' DIP switch (switch 6).

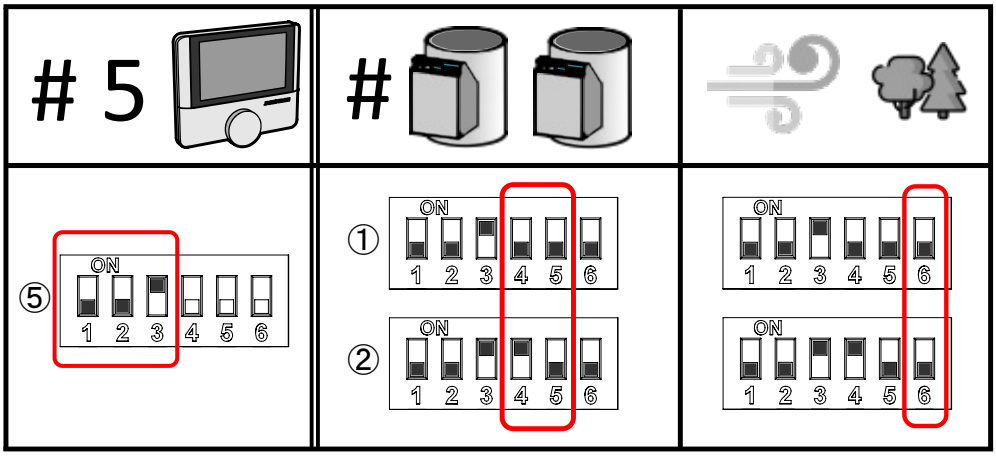


Figure 32 – Supply Example: Zone Five, Two Dampers, Supply.

8.7. Example of setting up the extension of the supply zone with additional dampers

- The first column shows the standard address 5 setting (switches 1 to 3) for the Alfa controller, and switch 4, which specifies that the dampers with the next higher address, i.e. address 6, extend this zone. In zone 6, neither the Alfa controller nor the CO2 sensor is connected.
- The second column contains only the damper address settings (switches 1 to 3) and the number of dampers, which are distinguished by switches 4 and 5.

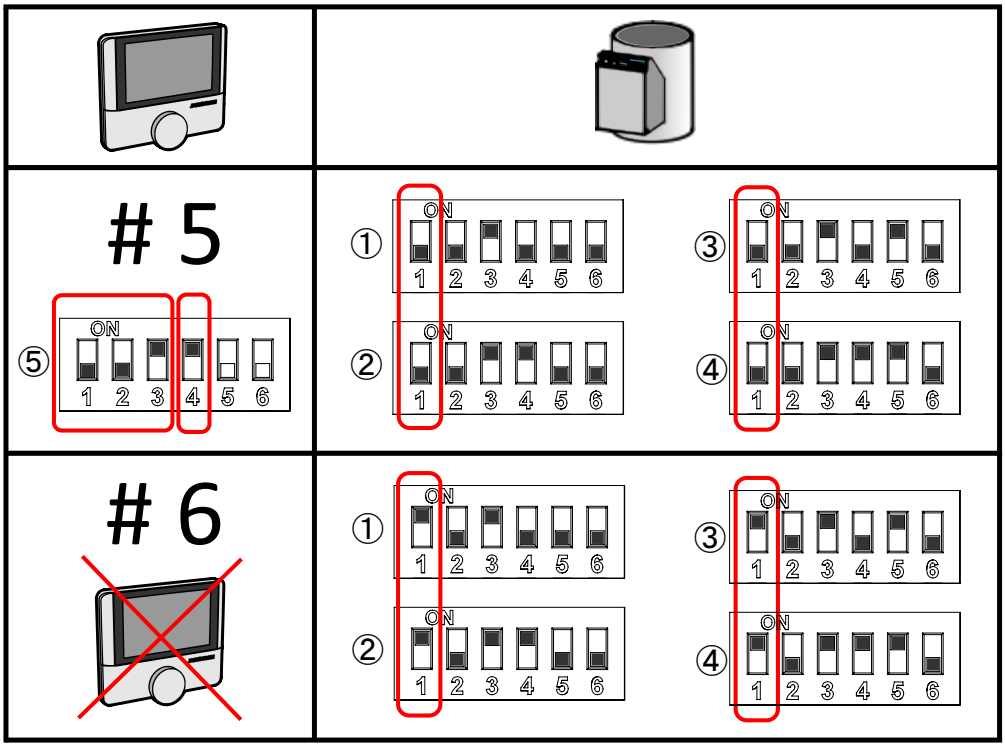


Figure 33 – Supply example: Zone five, extended to up to 8 dampers, Supply

8.8. Example of Exhaust Zone Configuration

First table – Damper DIP switch

- The first column (switches 4 and 5) shows the damper address settings (1, 2, 3).
- The second column (switch 6) is the switch setting for exhaust.

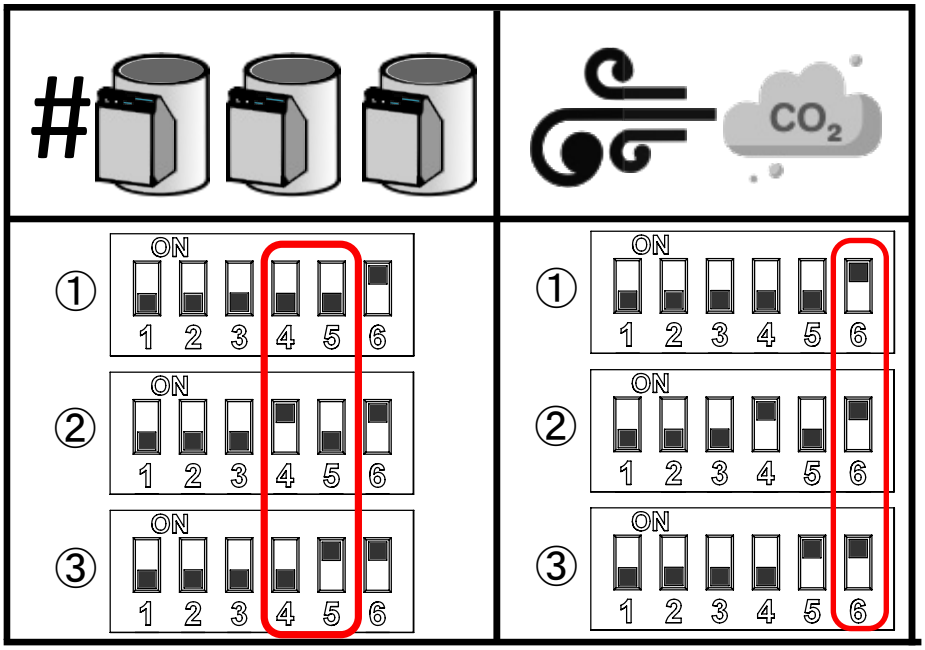


Figure 34 – Example of Damper Exhaust Setting: Zone One, Three Dampers, Exhaust

Second Table – Button DIP Switch

Just like in the table above, the first three switches must be set to zone number one.

- The first column (switch 4) shows the button addresses.
- The second column (switch 5) sets the button mode to **toggle switch** (it remains active until pressed again).
- The third column (switch 6) – use of the terminating resistor is enabled.

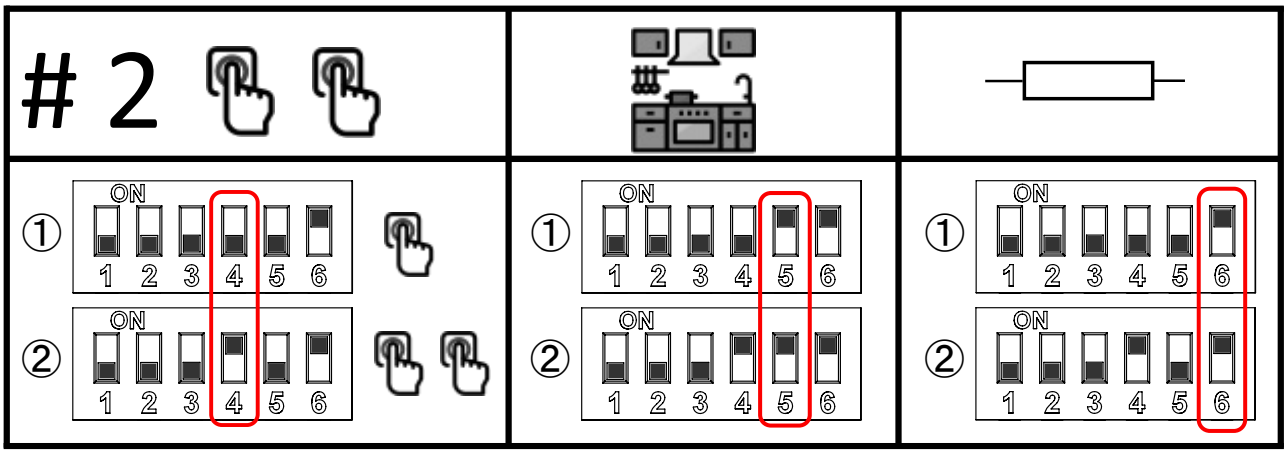


Figure 35 – Example of Button Settings: Two Buttons, Toggle Switch Mode, Use of Terminating Resistor

9. Connecting the Unit to the Control System

- **Modbus TCP Bus** – enables control of the unit's performance, including activating user functions and monitoring the current status of the unit. The unit is connected to Modbus via the current IP address, port 502. A detailed description of the registers is available upon request from the manufacturer.
- **Analog Input IN1 and IN2 (0–10 V)** – used to control the unit's performance in Automatic Mode. A linear relationship between the unit's performance and the input voltage (0–10 V) can be user-defined. **Warning:** Some systems may not be able to supply a voltage starting from 0 V. In such cases, we recommend setting the airflow performance curve to a minimum of 1 V, as shown in Figure 29. This ensures the ventilation unit will not stop. The minimum value, even with an input voltage of 0 V, corresponds to 1% of the unit's performance, approximately 60 m^3/h.

If integration of the FUTURA unit into a higher-level home system is required, this can be done via Modbus TCP communication. For JLT support, please request the Modbus TCP register specification.

- In the MyCOMPANY application, log in and connect to the device you want to configure → select Settings from the top-right menu.

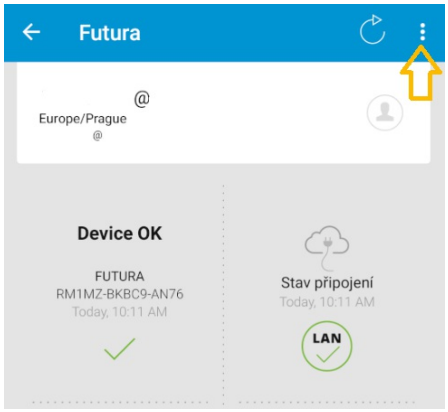
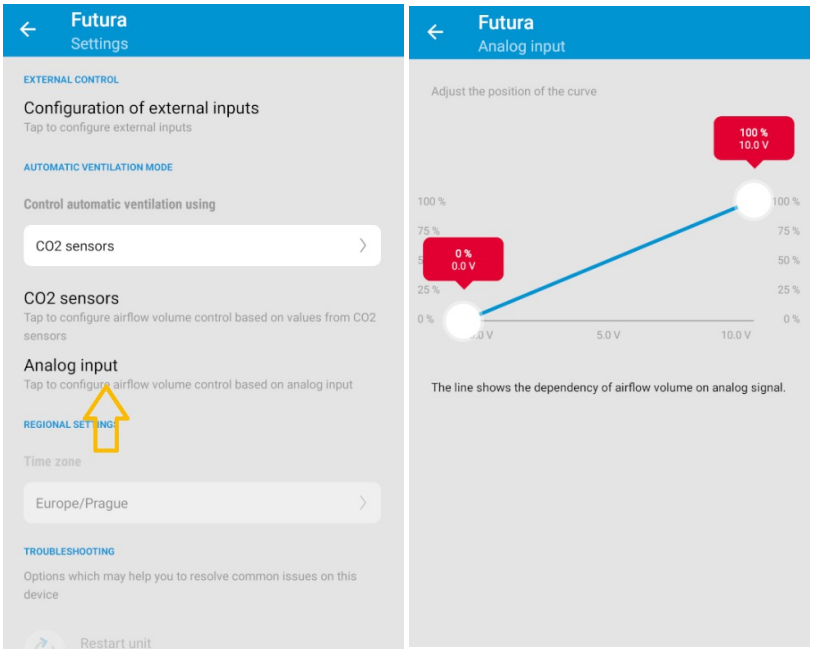


Figure 36 – Settings Menu

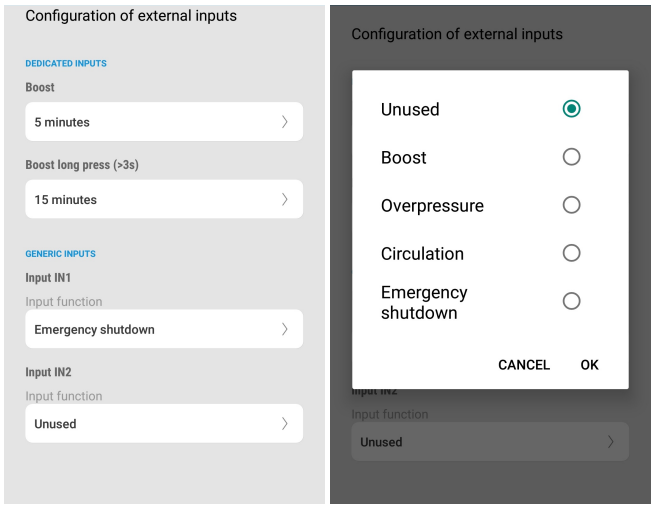
- Select Analog Input Control and go to **"Analog Input Settings."** Here, you can adjust the desired dependency using the curve's end slider points. **Analog control takes precedence over CO_2 sensor-based control.**



Figures 37 and 38 – Digital Input Settings – Analog Input Curve Configuration

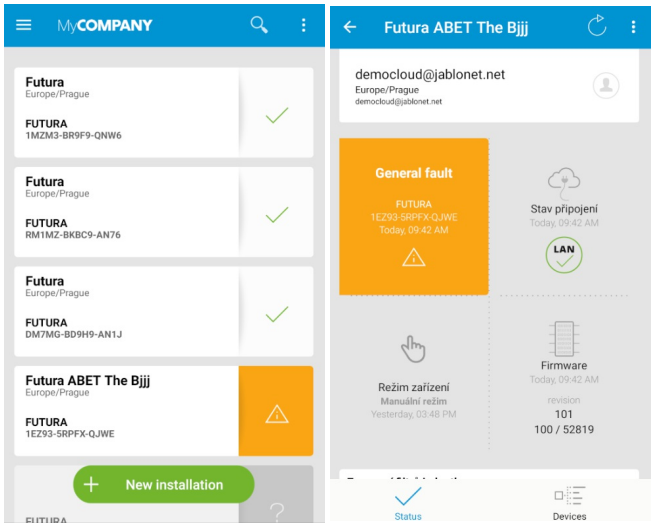
10. Emergency Shutdown Function

The unit includes an "Emergency Shutdown" function. This function is intended for the immediate shutdown of the unit in non-standard situations (fire, alarm, etc.). The emergency shutdown is assigned to external inputs as a potential-free contact and is configured in the MyCOMPANY application, where it is linked to the selected input → see the figures below. No configuration is required for the Emergency Shutdown input. The mode is activated by disconnecting the contact. Closing the contact deactivates the mode. The emergency shutdown function has no duration time; it is directly controlled by the input.



Figures 39 and 40 – Emergency Shutdown Input Settings

If the unit is in the emergency shutdown state, it will appear in the device list and in the unit's information display as a general fault.



Figures 41 and 42 – Display of Unit Status After Emergency Shutdown

11. Error States and Troubleshooting

The heat recovery unit is not designed for performing complex repairs at individual user locations due to its technical and structural design. Not all faults can be repaired on-site! In the event of a malfunction with the fans or heat exchanger, refer to the table below. If the issue persists, please contact our service department.

11.1. Errors and Warnings Displayed on the Alfa Controller

Number	Error or Warning Explanation	Solution
1	Uninitialized filters	Insert new filters and initiate the filter initialization
2	Clogged filters	Replace the filters
3	Old filters	Replace the filters
4	Weak backup battery	Replace the backup battery of the electronics
5	Too high supply air fan speed	Check if the supply air is blocked
6	Too high exhaust air fan speed	Check if the exhaust air is blocked
9	Too low outdoor temperature	–
10	Incorrect configuration of ventilation zones - supply	Check the ventilation zone settings on the supply side
11	Incorrect configuration of ventilation zones - exhaust	Check the ventilation zone settings on the exhaust side
12	Emergency shutdown	Remove the cause of the emergency shutdown
13	Communication error with Superbreeze	Check the RS485 bus, or replace the Superbreeze communication module
14	Superbreeze unit error	Check the status of the internal and external Superbreeze units
101	Ambient sensor error	Replace the ambient sensor
102	Indoor sensor error	Replace the indoor sensor
103	Fresh sensor error	VReplace the fresh sensor
104	Waste sensor error	Replace the waste sensor
105	Supply fan error	Check the connection of the supply fan cable
106	Exhaust fan error	Check the connection of the exhaust fan cable
109	Input/output board error	Replace the input/output board
110	Supply fan blocked	Check the supply fan
111	Exhaust fan blocked	Check the exhaust fan

11.2. Errors Displayed on the Wall Controller

In the top right corner of the controller display, there is an error symbol labeled "Error" showing numbered error codes from the ventilation unit. The overview of errors and their solutions is shown in the following table.

Error Code	Explanation	Solution
Error No. 1	Sensor error	Replace the sensor
Error No. 2	Fan error	Check cable connections
Error No. 4	Input/output board error	Replace the input/output board
Error No. 5–9	Unspecified	

12. Maintenance

Basic maintenance of the ventilation unit consists of regular filter replacement and checking the condensate drain.
Proper and trouble-free operation of the ventilation unit depends on regular filter replacement, which should be performed approximately every 2–6 months (depending on the air quality in the environment where the unit is used).
Check the condensate drain at least once a year and remove any debris if necessary.

Depending on the quality of the outdoor environment, we recommend checking the unit's inlet and outlet (e.g., facade box, grille, etc.).

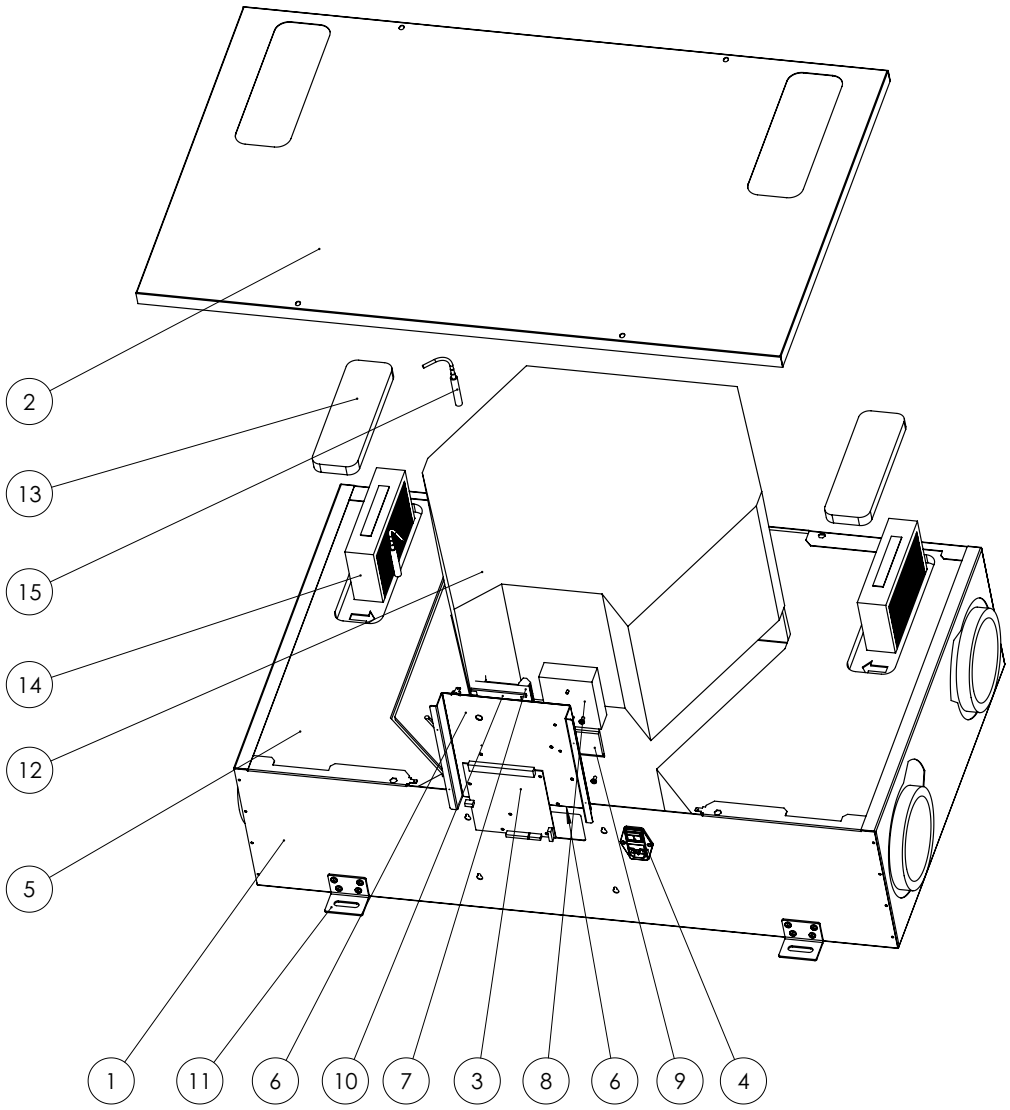
Before performing any maintenance, make sure the ventilation unit is disconnected from the electrical power supply.

To fulfill the conditions of the five-year warranty, it is necessary to carry out an annual service inspection, during which the following tasks should be performed:

Individual service inspection tasks and description of their execution	
Functionality before inspection	- unit running and mode set - stopping operation by controller or MyJ app - power off
Status of the heat recovery exchanger	- Remove the front cover (4 × screws) - Remove the filter plugs and take out the filters - Remove 4 metal clamps - Remove and visually inspect the exchanger - Clean the exchanger - Clean both the left and right sides of the EPP housing with fans - Vacuum any debris if necessary
Electrical Installation Check	- Tightening connections - Power supply connection - Connection and function of controllers - Function of buttons and other peripherals
Ductwork	- Cleanliness of the façade box - Supply and exhaust ducts from the outdoor area - Checking condensate drainage from the ducts, if installed - Connection of noise dampers between the unit and the distribution box - Connection of flexible ducts to distribution boxes
Clogged filters	- Check clogging level in % - Replace the set if needed and start initialization - Option to supply filters for the whole year
Airflow regulation	- Setting the control dampers - Checking the locking in the set position - Setting distribution elements - Adjustments according to customer requirements

13. Appendices

13.1. Appendix 1 – Unit Assembly



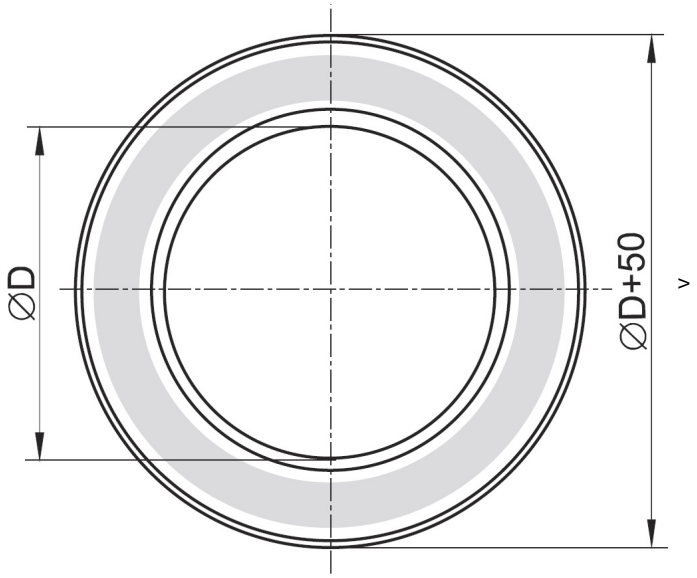
Legend to the image:

1 - Metal chassis
2 - Metal cover
3 - Control electronics
4 - Panel socket with fuse
5 - EPP box with fan (including preheater)
6 - Metal bracket for electronics
7 - Expansion IO electronics
8 - 24V DC power supply
9 - Power electronics
10 - Plastic electronics pad
11 - Chassis holder
12 - EPP casing including heat recovery exchanger
13 - EPP filter cover
14 - F7 filter
15 - Temperature-humidity sensor

13.2. Appendix 2 – SONOTEX Sound Attenuator

Specification

Flexible, insulated duct composed of multiple layers of polypropylene fabric, thermally and acoustically insulated with fiberglass wool, and covered with an outer aluminum-laminated jacket. SONOTEX can be connected to both oval and circular fittings and is suitable for use in ventilation, air conditioning, and HVAC systems.



Technical Specifications

Insulation thickness: 25 mm, R = 0.65 [m²K/W]

Minimum temperature: -30 °C

Maximum temperature: +140 °C

Operating pressure: -188 to +2500 Pa

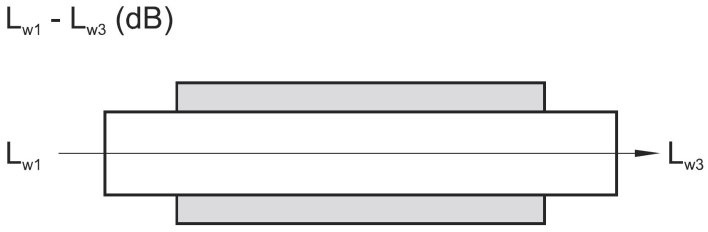
Maximum air velocity: 25 m/s

Bending radius: 82 – 406 mm

Standard diameter: ⌀ D 150 mm

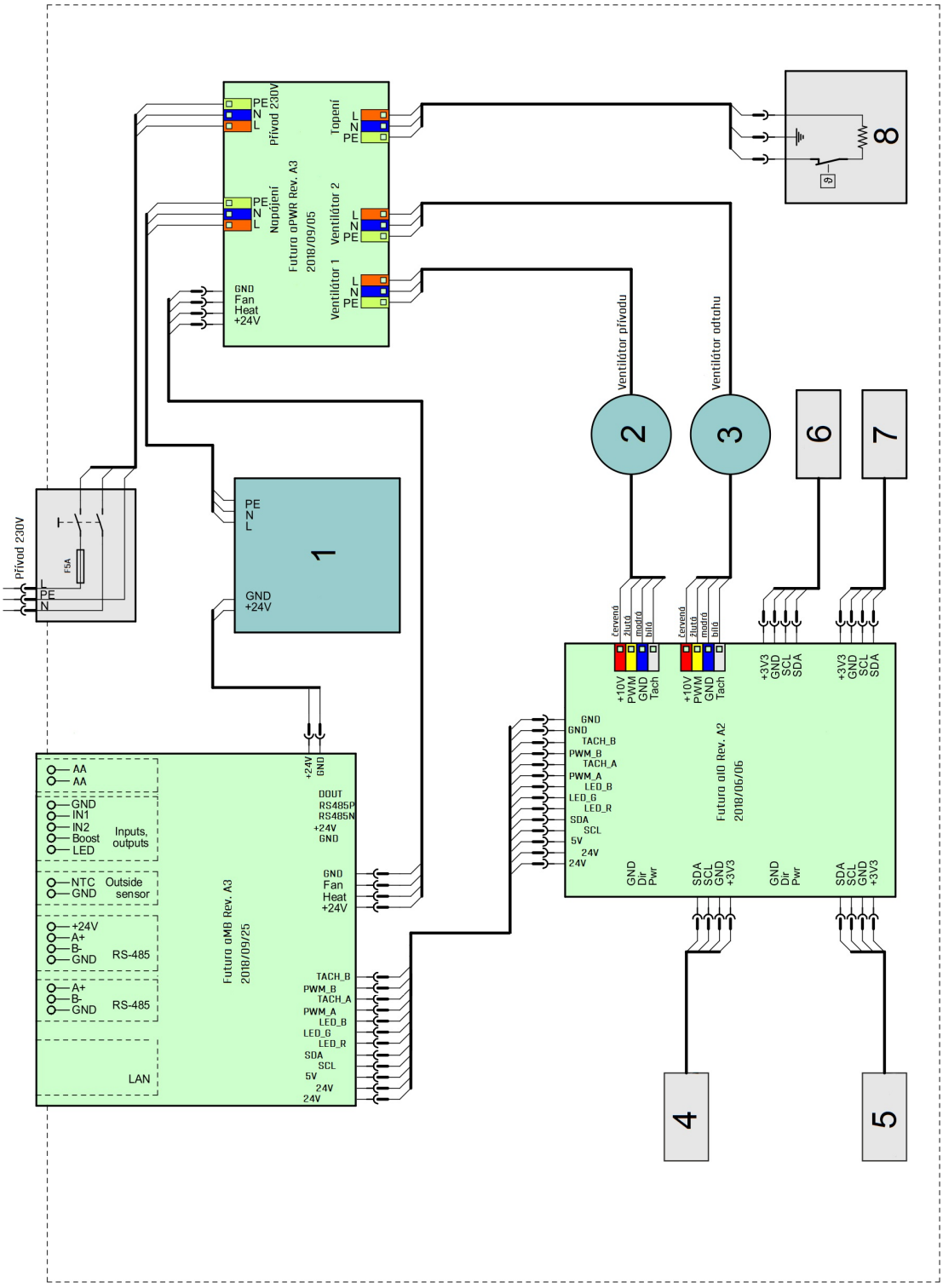
Standard length: 10 m

Duct noise attenuation (dB) for duct lengths of 1 and 3 meters. Measurement accuracy is ±2 dB in lower octave bands and ±1 dB in higher bands.



Diameter (mm)	Length (m)	Frequency in Octave Bands (Hz)					
		125	250	500	1000	2000	4000
150	1	10.9	29.7	30.1	29.0	38.3	34.6
180	3	29.0	36.8	32.6	32.7	40.8	43.4

13.3. Appendix 3 – Wiring Diagram



3a: Internal Wiring of the FUTURA Unit

Diagram Legend:

1 - 24 V Power Supply
2 - Supply Air Fan
3 - Exhaust Air Fan
4 - Outdoor Air Sensor
5 - Exhaust Air Sensor
6 - Fresh Air Sensor
7 - Extract Air Sensor (from the house)
8 - Preheater 590 W

13.4. Appendix 4 – Control Board Connectors

Description of Control Board Connectors

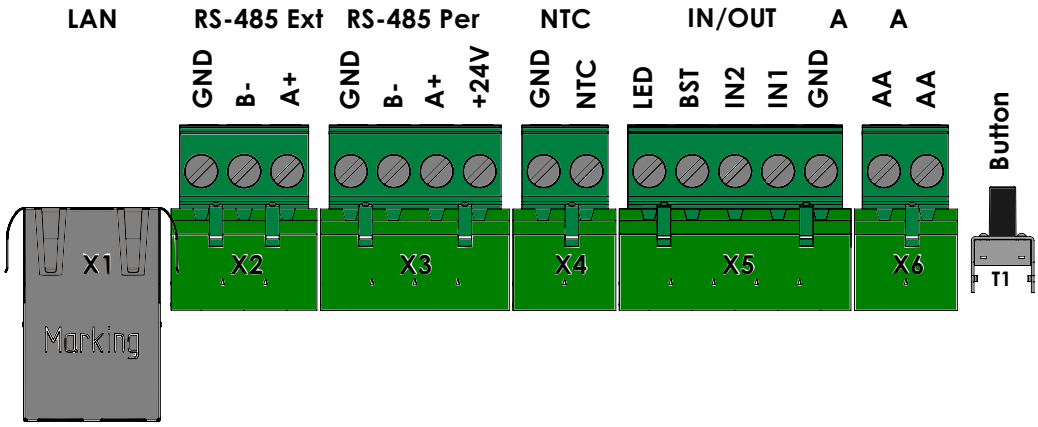
- X1 – LAN network connection
- X2 – RS-485 bus, currently unused, GND – common ground, B- – data wire, A+ – data wire
- X3 – RS-485 bus for connecting controllers and CO_2 sensors, GND – common ground, B- – data wire, A+ – data wire, +24 V – power supply
- X4 – Outdoor resistive temperature sensor NTC 10k, GND – common ground, NTC – temperature sensor
- X5 – Input and output connections, GND – common ground, IN1, IN2 – analog input 0–10V or digital input for volt-free contact against GND, BST – button for increased exhaust (Boost), LED – output for LED indicating increased exhaust, +24 V/20 mA max.
- X6 - AA bus connection
- T1 – Button

Short press – initiates new filter initialization

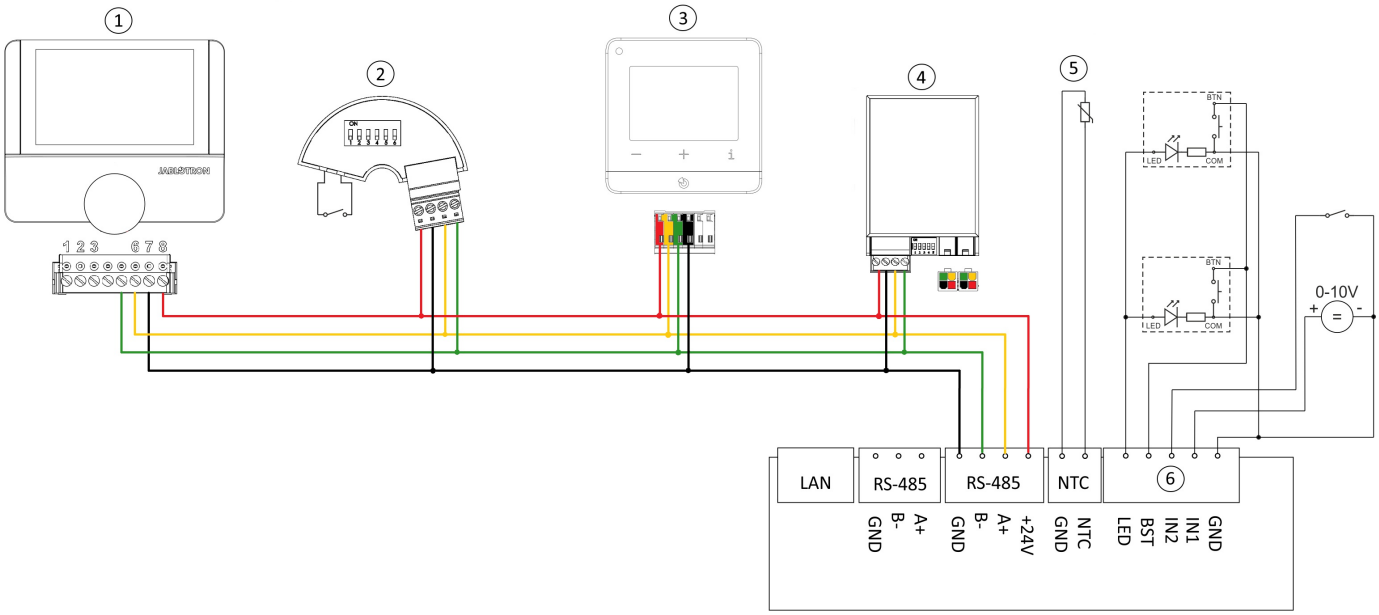
Long press – activates Bluetooth service mode

Connector Types

- X1 – RJ45
- X2 – Phoenix Contact terminal block MSTB 2,5/3-ST-5,08
- X3 – Phoenix Contact terminal block MSTB 2,5/4-ST-5,08
- X4 – Phoenix Contact terminal block MSTB 2,5/2-ST-5,08
- X5 – Phoenix Contact terminal block MSTB 2,5/5-ST-5,08
- X6 - Phoenix Contact terminal block MSTB 2,5/2-ST-5,08



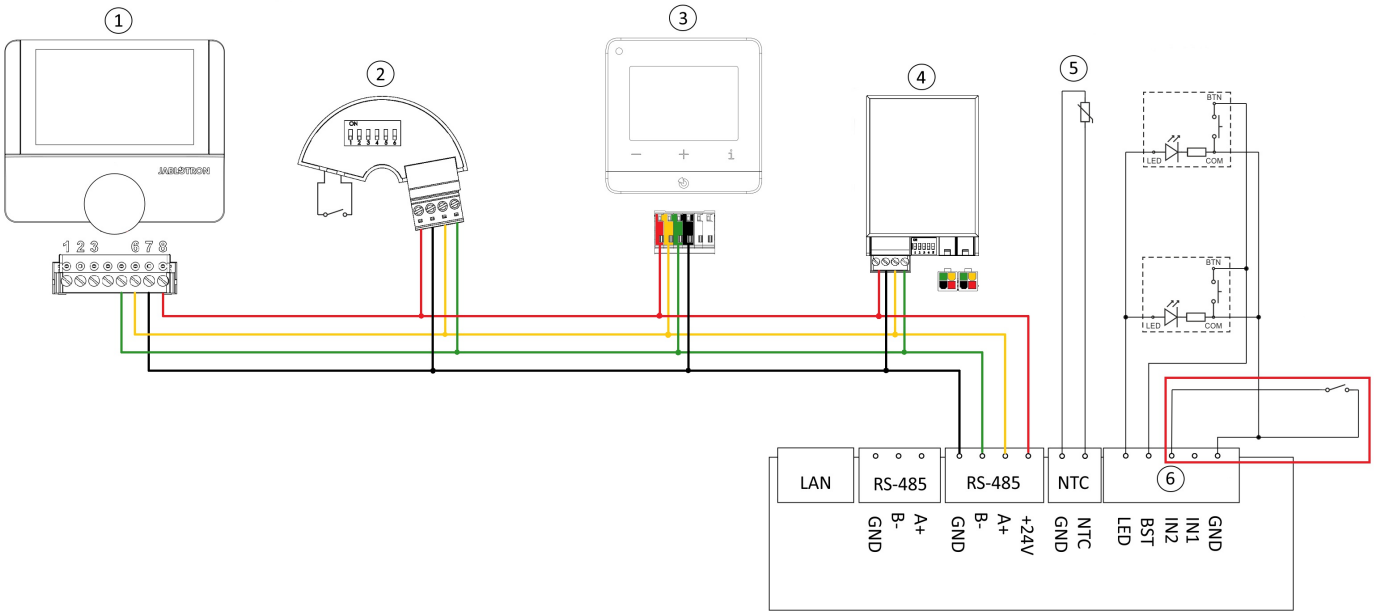
13.5. Appendix 5 – Device Connections



Possible Number of Connected Devices:

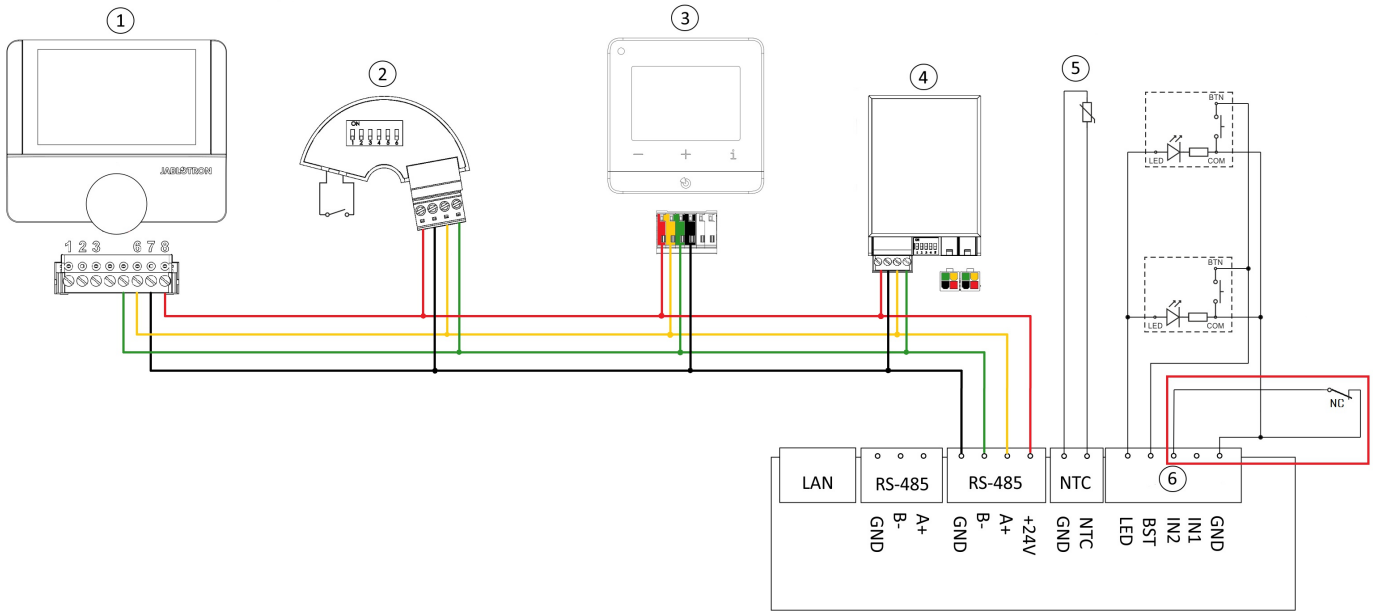
- 1. Alfa Room Controller – 1 to 8 units
- 2. VarioBreeze – Zonal Ventilation Button – 1 to 16 units
- 3. The thermostat JB-112TP or CO_2 sensor JB-112TH, 1 to 8 pieces.
- 4. VarioBreeze – Zonal Ventilation Damper – 1 to 64 units
- 5. NTC Outdoor Temperature Sensor
- 6. Inputs and Outputs

13.5.1. Examples of IN1 and IN2 Input Connections



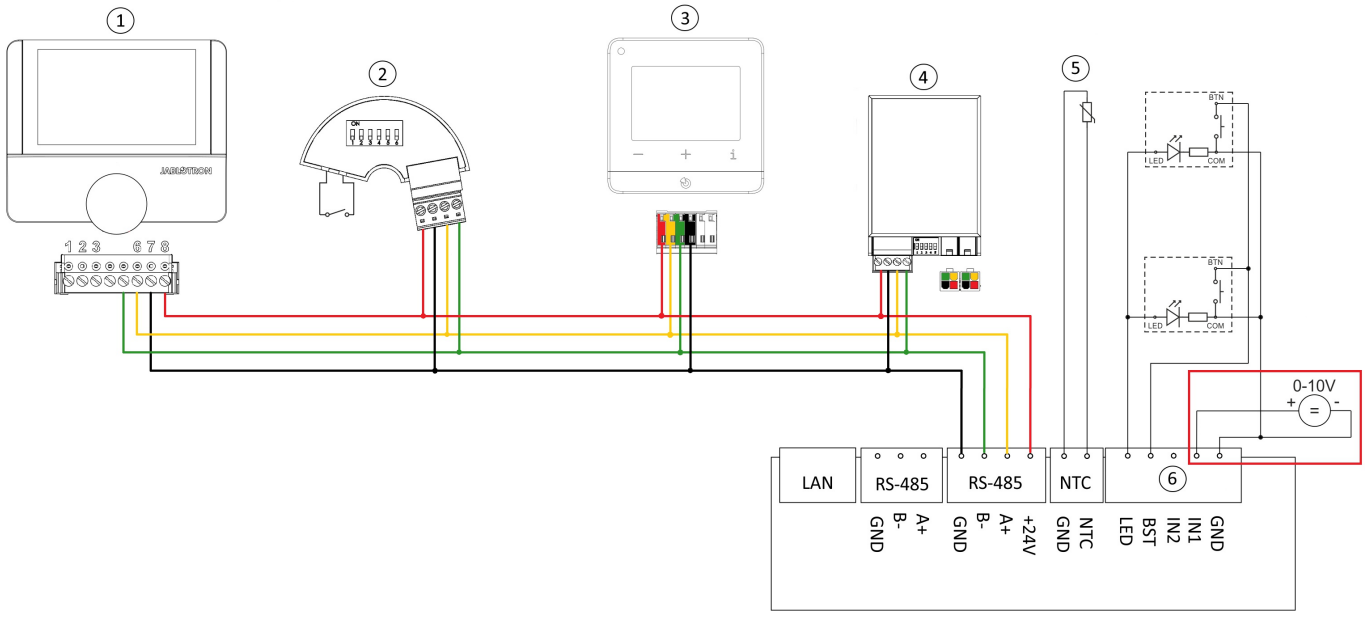
Example of wiring an analog input for *boost, overpressure, circulation*.

- A permanent volt-free contact is connected to the input. The modes are activated by closing the contact.



Example of wiring an analog input for *emergency shutdown*.

- The mode is activated by opening the contact. Closing the contact deactivates the mode.

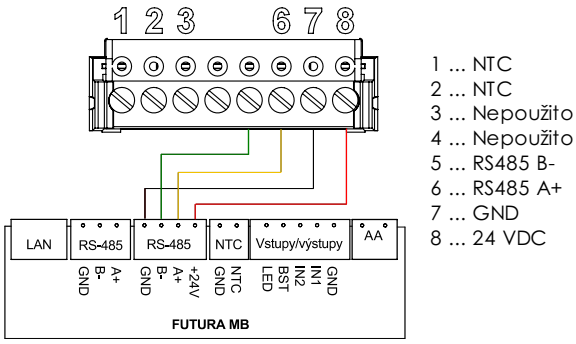


Example of wiring an analog input 0–10 V.

- It is possible for the user to set a linear dependency of the unit's output power on the input voltage 0–10 V, see the chapter **"Connecting the Unit to the Control System"**.

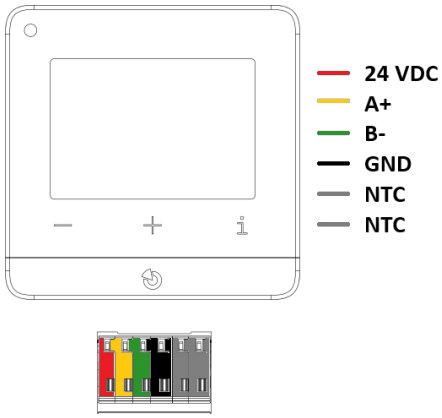
13.6. Appendix 6 – Connection of Room Controllers and CO_2 Sensor

13.6.1. Connecting Alfa control panel via RS-485 bus



1 ... NTC
2 ... NTC
3 ... not used
4 ... not used
5 ... RS-485 B-
6 ... RS-485 A+
7 ... GND
8 ... 24 VDC

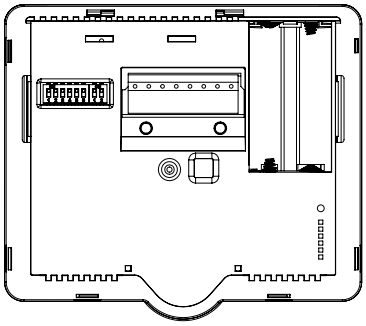
13.6.2. Connection of the thermostat JB-112TP and CO_2 sensor JB-112TH

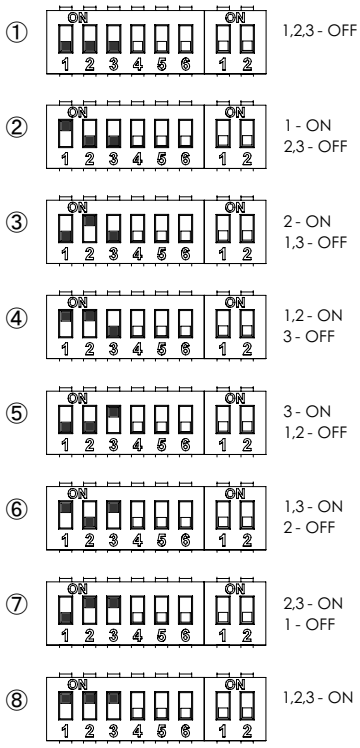


- The NTC sensor terminals cannot be used for wiring on the thermostat JB-112TP and the CO_2 sensor JB-112TH.

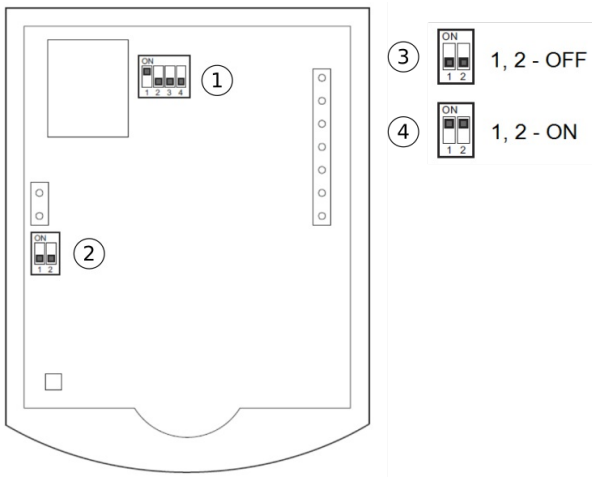
13.7. Appendix 7 – Modbus RTU Address Settings for Controller and CO_2 Sensor

13.7.1. Alfa Room Controller





13.7.2. Standard Room Controller with CO_2 Sensor and Standalone CO_2 Sensor

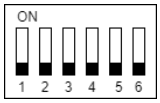
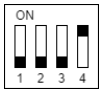
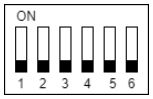
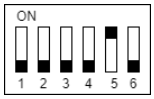
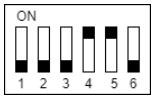
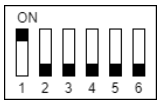
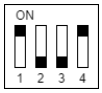
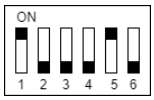
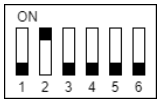
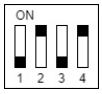
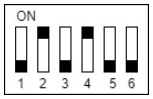
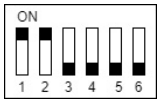
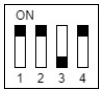
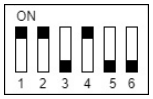
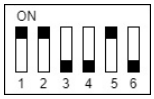
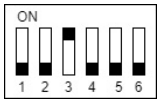
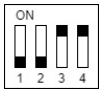
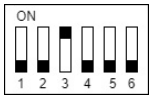
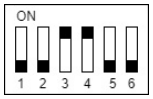
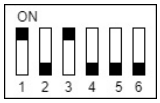
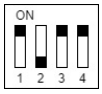
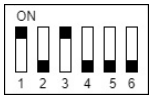
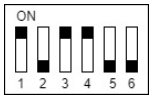
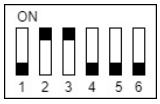
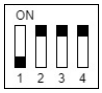
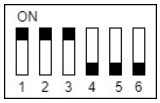


Always connect a terminating resistor on the last device (controller or sensor) in the line! Always connect it to only one device! The second terminating resistor is connected in the FUTURA unit.

13.8. Appendix 8 – Zonal Ventilation – DIP Switch Configuration Options

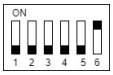
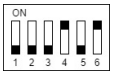
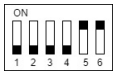
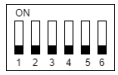
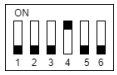
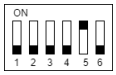
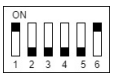
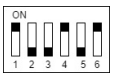
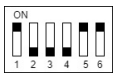
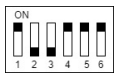
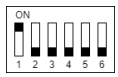
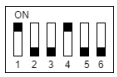
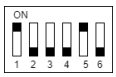
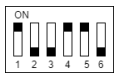
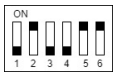
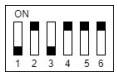
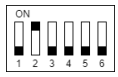
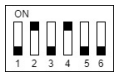
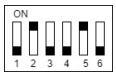
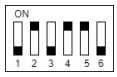
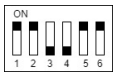
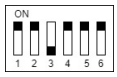
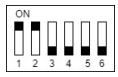
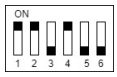
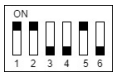
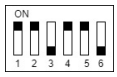
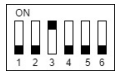
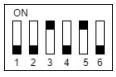
The following table shows all possible DIP switch settings for wall controllers, CO_2 sensors, and dampers for up to 8 supply zones. The DIP switch settings of the controller or CO_2 sensor used in each zone are shown in columns 2 to 4. The DIP switch settings for the dampers are shown in columns 5 to 8 according to their actual number in the given zone.

Supply Zones

Zone	Alfa	JB-112TP(TH)	CO2 Sensor	Damper 1	Damper 2	Damper 3	Damper 4
1		1(1x LED)					
2		2(2x LED)					
3		3(3x LED)					
4		4(4x LED)					
5		5(5x LED)					
6		6(6x LED)					
7		7(7x LED)					
8		8(8x LED)					

The following table shows all possible DIP switch settings for dampers and exhaust buttons for up to 8 exhaust zones. The DIP switch settings for the dampers are shown in columns 2 to 5 according to their actual number in each zone. The DIP switch settings for the exhaust buttons are shown in columns 6 and 7. The button settings for use with fume hoods are shown in columns 8 and 9.

Exhaust Zones

Zone	Damper 1	Damper 2	Damper 3	Damper 4	Boost 1	Boost 2	Fume Hood 1	Fume Hood 2
1								
2								
3								
4								
5								
6								
7								
8								

There must be at least one zone with a button in the system. A maximum of two buttons can be installed in one zone!

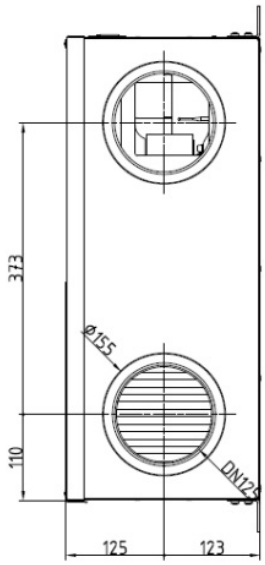
13.9. Appendix 9 – Information Sheet

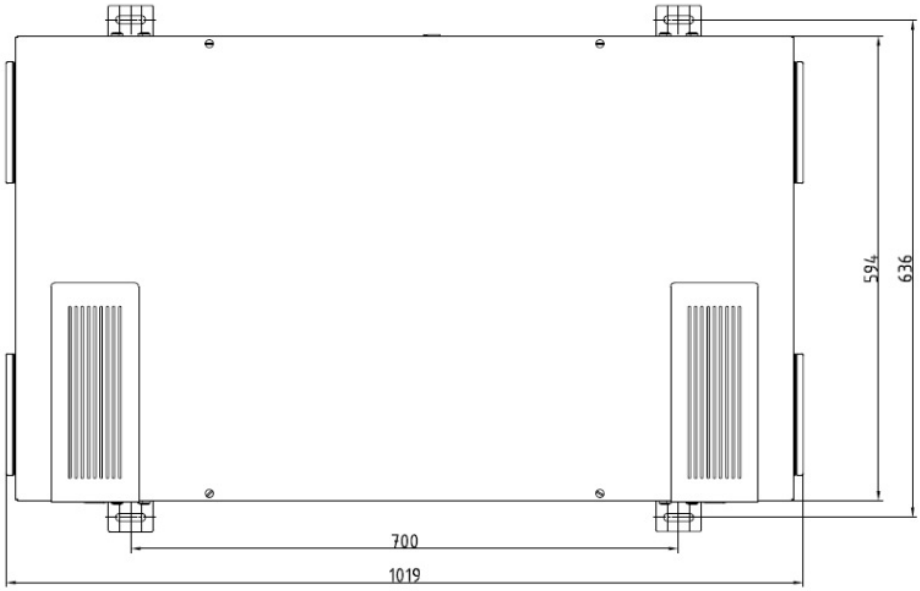
(According to Annex III of EU Regulation No. 1254/2014)

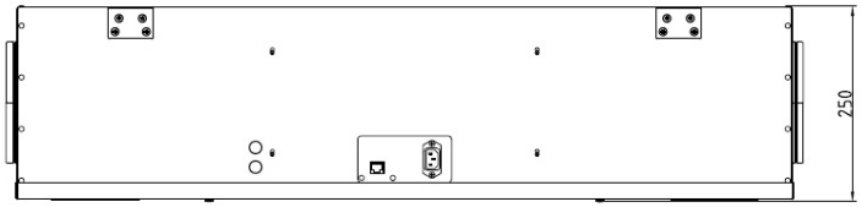
Name	
Model Identification Code	FUTURA S/S1
Specific Energy Consumption (SEC) in kWh/(m^2·a) for each applicable climate zone and each applicable SEC class	A+
Declared Typology	bidirectional
Type of Drive	variable speed drive
Type of Heat Recovery System	heat recovery
Heat Recovery Efficiency	82,5 %
Maximum Airflow	200 m^3/h
Electric power consumption of the fan drive, including motor control device, at maximum airflow	140 W
Sound Power Level (Lwa)	46 dBa
Reference Flow Rate	110 m^3/h
Reference Pressure Difference	100 Pa
SPI	0,38 W(m^3/h)
Declared Maximum Internal and External Leakages	XX %/YY %
Position and description of the visual filter replacement indicator, including text emphasizing the importance of regular filter replacement for the unit's performance and energy efficiency.	User manual, section 5.3; installation manual, section 13; LED indicator on the unit; alert on the Alfa controller and in the mobile app.
Web address of the preliminary installation/removal manual	JABLOTRONLT.COM
Annual Electric Energy Consumption (AEC) (in kWh/m^2 electric energy/year) ("average," "warm," "cold") at reference airflow	204/159/741
Annual Heat Savings (AHS) (in kWh/m^2 primary energy/year) for each climate type ("average," "warm," "cold") at reference airflow	4445/2010/8695

13.10. Appendix 10 – Dimensional Drawing

Main Dimensions







Your installer/distributor:

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