AIO® Vertical Stack with ERV (Gen 3)

Installation Guide



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DISCLAIMER

IMPORTANT - TRAINING IS REQUIRED PRIOR TO PERFORMING INSTALLATION.

While this guide outlines the general installation requirements for the unit, it does not replace required installer training. Before commencing installation, the project manager must contact the INNOVA VIP Department at (212) 204-2700 to coordinate training for the installer.

Failure to ensure that installation is performed by INNOVA-trained personnel may result in improper operation or equipment damage, and may void the warranty.

Training may be conducted in person or remotely (online).

This overview serves as the official installation training and may include overview videos, best practices, and system requirements

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INNOVA is constantly innovating and improving its products and reserves the right to modify product design and specifications without notice, and without incurring any obligations.

CERTIFICATIONS & LISTINGS

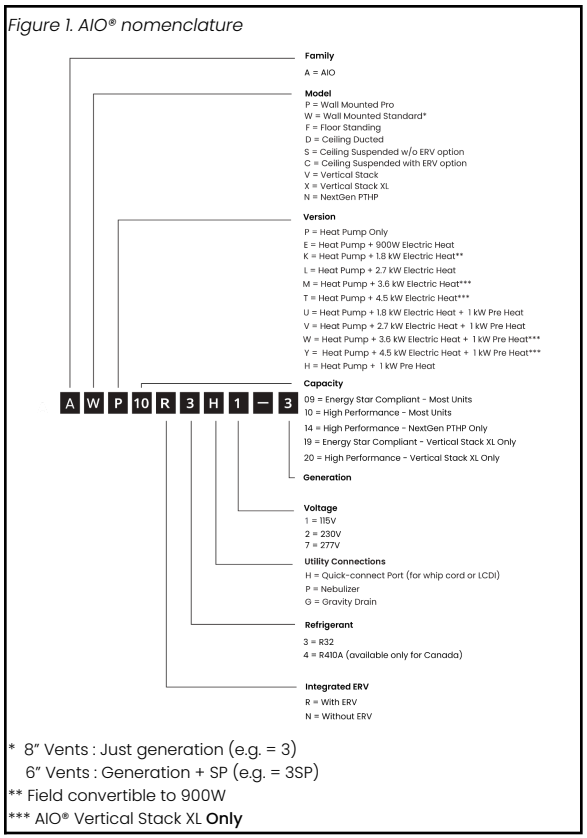
The AHRI Certified® mark indicates INNOVA's participation in the AHRI Certification program. For verification of individual certified products, go to www.ahridirectory.org.

ETL Listed. Control Number: 5032306. Conforms to: UL 60335-2-40:2022 Ed.4 | CSA C22.2#60335-2-40:2022 Ed.4 | UL 60335-1:2016 Ed.6 | CSA C22.2#60335-1:2016 Ed.2

MODEL NUMBER NOMENCLATURE

The code identifies the family, model, version, size, voltage, accessories, refrigerant type, and ERV option. See the diagram below for details.

Figure 1. AIO® nomenclature



* 8” Vents : Just generation (e.g. = 3)
6” Vents : Generation + SP (e.g. = 3SP)
** Field convertible to 900W
*** AIO® Vertical Stack XL **Only**

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1. GENERAL INFORMATION

1.1 About the manual

This manual was written to provide all the explanations for the correct management of the appliance.

- This instruction manual is an integral part of the appliance and can be downloaded from the website.
- Read this manual carefully before proceeding with any operation, and follow the instructions in the individual chapters.
- Specific warnings are given in each chapter of the document and should be read before starting operations.
- The manufacturer accepts no liability for damage to persons or property resulting from failure to observe the regulations contained in this booklet.
- This document is confidential under the terms of the law and may not be reproduced or passed on to third parties without the express authorisation of the company.

Editorial pictograms
The pictograms in the following chapter provide quick and unambiguous information necessary for the correct and safe use of the machine.

Related to safety

- **High risk warning (bold text)**
  The operation described above presents a risk of serious physical injury, fatality, major damage to the appliance and/or to the environment if not carried out in compliance with safety regulations.
- **Low risk warning (plain text)**
  The operation described above presents a risk of minor physical injury or minor damage to the appliance and/or to the environment if not carried out in compliance with safety regulations.
- **Prohibition (normal text)**
  Marks the actions that absolutely must not be done.
- **Important information (bold text)**
  This indicates important information that must be taken into account during the operations.

In the texts
Purpose of the actions

► Actions required
Expected responses following an action

- Lists

In the figures

1	The numbers indicate the individual components.
A	Capital letters indicate a combination of components and dimensions.
❶	White numbers in black marks indicate a series of actions to be carried out in sequence.
Ⓐ	Black letters in white identify an image when there are several images in the same figure.

Pictograms on the product
Symbols are used in some parts of the appliances:

Related to safety

	Warns relevant personnel of the presence of electricity and the risk of electric shock.

Related to the R32 refrigerant
Symbols are used in some parts of the appliance:

	The refrigerant gas R32 is slightly flammable and odorless. Avoid proximity to continuous ignition sources, such as open flames, gas appliances, electric heaters, and lit cigarettes.

	**Instructions** Read the instructions carefully before performing any operation on the appliance.
	**Instructions for Service** The Technical Assistance Center must read the instructions before performing any operation on the appliance.
	**Instructions for the User** Further information is available in the technical documentation of the appliance.

Recipients

User
A non-expert person capable of operating the product in safe conditions for people, for the product itself, and the environment, interpreting an elementary diagnostic of faults and abnormal operating conditions, carrying out simple adjustments, checking, and maintenance operations.

Installer
An expert person qualified to position and connect (hydraulically, electrically, etc.) the unit to the plant; this person is responsible for handling and correctly installing according to the instructions provided in this manual and the national standards currently in force.

This unit must only be installed and serviced by qualified personnel. The installation must be carried out in compliance with regulations in force in the place of installation and the installation instructions of the manufacturer.

Service
An expert and qualified person authorised directly by the manufacturer to carry out all routine and supplementary maintenance operations, as well as every adjustment, check, repair, and replacement of parts necessary during the life of the unit itself. This unit must only be installed and serviced by qualified personnel. Work on the refrigerant system can only be performed by a properly licensed individual. The installation must be carried out in compliance with regulations in force in the place of installation and the installation instructions of the manufacturer.

Organization of the manual
The manual is divided into sections, each dedicated to one or more target groups.

General information
It addresses all recipients.
It contains general information and important warnings that should be known before installing and using the appliance.

Product introduction
Addressed to all recipients, contains general information on the product.

Installation
It is addressed exclusively to the installer.
It contains specific warnings and all the necessary information for the positioning, installation, and connection of the appliance.

Commissioning, maintenance, and troubleshooting
They are addressed exclusively to the installation and service technicians.
It contains specific warnings and useful information for the most common commissioning and routine maintenance.

Technical information
It addresses all recipients.
It contains detailed technical information about the appliance.

1.2 General warnings

- Specific warnings are given in each chapter of the document and should be read before starting operations.
- All personnel involved must be aware of the operations and dangers that may arise when beginning all unit installation operations.
- Installation performed outside the warnings provided in this manual and use of the appliance outside the prescribed temperature limits will invalidate the warranty.
- The installation and maintenance of air conditioning equipment can be dangerous as they contain pressurized refrigerant gas and live electrical components. The installation, initial startup, and subsequent maintenance stages must be carried out exclusively by authorized and qualified personnel (see first startup request form attached to the equipment).
- Any contractual or extra-contractual liability for damage caused to persons, animals, or property, due to installation, adjustment, and maintenance errors or improper use, is excluded. All uses not expressly indicated in this manual are not permitted.
- The installation of the appliances must be carried out by a qualified company which, on completion of the work, will issue a declaration of compliance to the person in charge of the plant in accordance with the regulations in force, and the instructions provided in the instruction booklet accompanying the appliance.
- The first start-up and repair or maintenance operations must be carried out by the Technical Assistance Centre or by qualified personnel following the provisions of this manual.
- Do not modify or tamper with the appliance as this can lead to dangerous situations.
- Use suitable accident-prevention clothing and equipment during installation and/or maintenance operations. The manufacturer is not liable for the non-observance of the current safety and accident prevention regulations.
- In case of liquid or oil leaks, switch off the main power switch of the system and close the water valves. Promptly contact the authorized Technical Assistance Center or professionally qualified personnel, and refrain from personally intervening on the equipment.
- When replacing components, use only original spare parts.
- The manufacturer reserves the right to make changes to its models at any time to improve its product, without prejudice to the essential characteristics described in this manual. The manufacturer is not obliged to add such modifications to machines previously manufactured, already delivered, or under construction.

Specific safety rules for R32
The document only contains some of the safety rules regarding R32 refrigerants. For more comprehensive information, please read the safety data sheet available from retailers.

- In each chapter, specific warnings are included for the operations described within. These warnings should be read before starting any activities.
- All precautions regarding the handling of refrigerant must be followed in accordance with current regulations.
- The unit uses environmentally-friendly R32 refrigerant, with a Global Warming Potential (GWP) of 675. Do not release R32 gas into the atmosphere.
- The R32 refrigerant gas is slightly flammable and odorless.
- Do not place flammable objects (spray cans) within 1 meter of the air discharge.
- Avoid proximity to continuously operating ignition sources (open flames, gas appliances, electric stoves, lit cigarettes, etc.).

1.3 Basic safety rules

We would like to remind you that the use of products that use electricity and water involves observing certain basic safety precautions, such as:

⚠DANGER

- This appliance can be used by children aged 8 years and older and by persons with limited ability, or lack of experience or knowledge, if they are supervised or have received instructions on the safe use of the appliance and understand the associated dangers. Children should not play with the appliance.
- The cleaning and maintenance tasks intended to be carried out by the user should not be performed by children without supervision. It is necessary to take precautions to prevent the room from having a backflow of gases from the flue or from other fuel-burning appliances.

- It is forbidden for children and unassisted disabled persons to use the appliance.
- Do not touch the appliance with wet hands or when water is present.
- Before performing any service or maintenance, disconnect the power by removing the LCDI plug from the outlet or by switching the disconnect switch to "off".
- It is forbidden to modify the safety or adjustment devices without the authorisation and instructions of the appliance manufacturer.
- It is forbidden to pull, unplug, or twist the electrical cables coming out of the appliance, even if it is disconnected from the main supply.
- It is forbidden to introduce objects and substances through the openings provided for the intake and delivery of air.
- It is forbidden to open the access doors to the internal parts of the appliance without first setting the plant master switch to "off".
- It is forbidden to leave packaging material in reach of young children. Plastic wrapping material may cause suffocation or death.

Specific safety rules for R32

The document only contains some of the safety rules regarding R32 refrigerant. For more comprehensive information, please read the safety data sheet available from the retailers.

- Smoking is prohibited near the appliance.
- The use of mobile phones is prohibited near the appliance.
- The use of leak detectors with halogen lamps is prohibited.

1.4 Disposal

Figure 2. Disposal symbol



The symbol on the product or its packaging indicates that the product must not be treated as normal household waste, but must be taken to the appropriate collection point for the recycling of electrical and electronic equipment.

Proper disposal of this product avoids harm to humans and the environment and promotes the reuse of valuable raw materials.

For more detailed information about the recycling of this product, contact your local city office, your household waste disposal service, or the shop where you purchased the product.

Illegal disposal of the product by the user could result in fines or other charges.

Always check local regulations before disposing of the product.

⚠CAUTION

Avoid disassembling the appliance yourself.

⚠DANGER

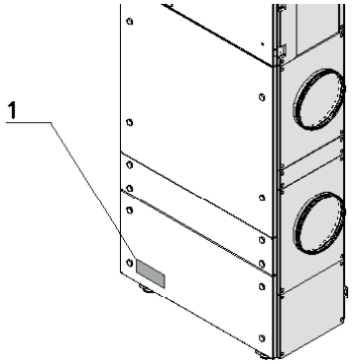
- This unit contains fluorinated greenhouse gases covered by the Kyoto Protocol. Maintenance and disposal operations must be carried out only by qualified personnel.
- Contact an authorized Technical Assistance Centre to disassemble the appliance.

2. PRODUCT INTRODUCTION

2.1. Identification

The appliance can be identified by the rating plate:

Figure 3. Identification of rating plate



1	Technical rating plate

Technical rating plate
This shows the technical and performance specifications of the appliance.

⚠ WARNING

- The rating label provides required information related to the electrical requirements and quantity of refrigerant.
- Tampering with, removing, or missing identification plates does not allow the product to be reliably identified by its serial number and, therefore, invalidates the warranty.

2.2 Destination of use

AIO® Vertical Stack (with ERV) is an active recovery unit for heating, cooling, and air renewal in the environment.

The unit consists of a single block comprising all components for proper operation:

- Fans with a constant airflow function.
- Refrigeration circuit with horizontal BLDC compressor.
- Flexible air filtration options, including MERV 13.
- High-efficiency heat recovery unit.

AIO® Vertical Stack (with ERV) can function as a passive heat recovery system and as an air conditioner.

It is particularly suitable for residential premises and is supplied as a plug-and-play unit for quick and simplified installation.

2.3 Description of the appliance

Structure: Self-supporting frame in sheet metal, externally coated galvanized sheet panels, with interposed insulation in polystyrene. Internal closures in thick galvanized sheet metal.

Heat exchanger: Counterflow type, high-efficiency, cross-flow, polypropylene, heat exchanger.

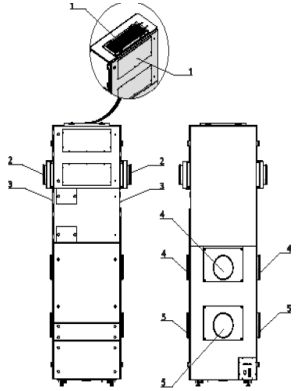
Brushless fans: DC fans regulated by inverters allow high levels of comfort and energy efficiency with a constant flow function.

Filters: Filters on supply air and exhaust air with low pressure drop. Easily removable for routine maintenance.

Refrigeration circuit: Copper brazed with high-efficiency BLDC compressor, drier filter, finned coils, electronic expansion valve, and safety devices.

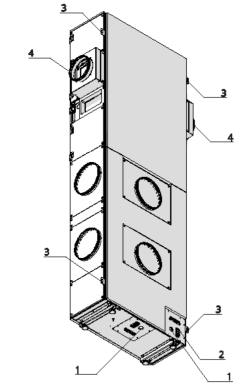
2.4 List of external components

Figure 4. External components



1	Supply air (configurable)	4	Outdoor air intake (configurable)
2	Air recirculation - Indoor air return	5	Outdoor air exhaust (configurable)
3	Exhaust air (configurable)		

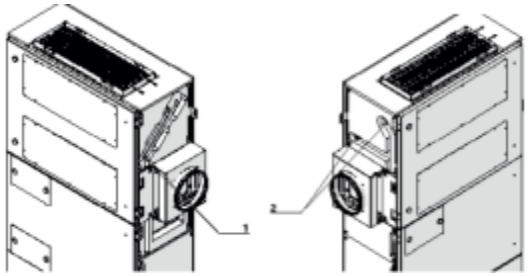
Figure 5. External components



1	Condensate drain connection (side or bottom connection)	3	Installation bracket
2	Plate for electrical connections (side or bottom)	4	Return air filter

2.5 List of internal components

Figure 6. Identification of rating plate



1	Pipe routing	**2**	Electrical connection passage

3. INSTALLATION

3.1 Preliminary warnings

- For detailed information on the products, refer to chapter 9.
- The installation must be carried out by the installer. There is a risk of water leakage, electric shock, or fire if the installation is not performed correctly.
- During installation, it is necessary to observe the precautions mentioned in this manual, and on the labels affixed to the inside of the appliances, as well as to take every precaution suggested by common sense and the safety regulations in force at the place of installation.
- Using only the supplied installation-specific components is recommended. Use of different components could lead to water leakage, electric shock, or fire.
- Failure to apply the indicated rules may cause malfunctions of the appliances and will relieve the manufacturer of any warranty and any responsibility for damage caused to persons, animals, or property.
- If the unit is installed in an environment with salt, chemical, or acidic air exposure, apply a protective coil coating, such as DiversiTech Coil Guard, to protect the coil surfaces from corrosion and ensure long-term performance.

Preliminary warnings for R32

- Before working on systems containing flammable refrigerants, it is necessary to perform safety checks to ensure that the risk of combustion is minimized.
- The appliance must be protected from accidental impacts to prevent mechanical damage.
- Do not pierce or burn.

3.2 Reception

Preliminary Warnings

- Upon receipt of the package, check that it is not damaged. If there is damage, be sure to note this on the shipping documents and take photos for evidence.
- In the event of damage, notify the shipper by registered mail with a return receipt within 3 days of receipt. Presenting photographic documentation, similar information should also be sent by fax to the manufacturer.
- No reports of damage will be taken into account later than 3 days after delivery.
- The packaging should be transported in a vertical position without tilting. If it is tilted, please notify the carrier immediately.

Package description

The packaging is made of suitable material and carried out by experienced personnel.

The units are all checked and tested and are delivered complete and in perfect condition.

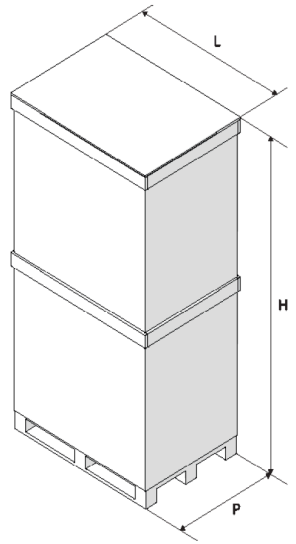
The appliance is shipped in standard packaging consisting of a cardboard box and a set of polystyrene foam protectors, placed on a wooden pallet and secured with straps.

The packaging consists of a fumigated crate, a cardboard casing, and a set of expanded polystyrene protections.

The units are shipped in batches of three.

3.3 Dimensions and weights with packaging

Figure 7. Packaging dimensions



Models	u.m.	50/15-V
Packaging Dimensions		
Length	in.	44.49
	mm	1130
Depth	in.	31.50
	mm	800.1
Height	in.	88.76
	mm	2254.5
Weight	lbs.	661.40
	kg	300

3.4 Handling of packaging

Preliminary Warnings

- The product should only be handled by qualified personnel, adequately equipped, and using tools suitable for the weight and dimensions of the product.
- Before each handling operation, **check the lifting capacity** of the machinery used in accordance with the indications on the packaging.
- The packaging must be transported in a vertical position without being tilted.
- When the load is lifted from the ground, **stay clear** of the immediate and surrounding area.
- **Check the information** on the packaging for the number of stackable packages.
- In manual operations, the maximum weight per person required by current legislation must always be observed.

Handling

- For most handling, always **use a forklift**.
- The unit can only be moved manually for short trips in exceptional cases. In this case, it is necessary to carefully check that the weight of the unit does not exceed what is stipulated by the regulations with respect to the number of people employed.

3.5 Storage

Preliminary warnings

- Stored in accordance with the applicable national regulations.
- **Store in a closed environment** protected from the weather, off the ground by means of sleepers or pallets with temperatures not below 32°F (0°C), up to a maximum of 104°F (40°C).
- Do not **overturn the packaging**.
- **Place the appliance** only in a vertical position.

3.6 Unpacking

Preliminary warnings

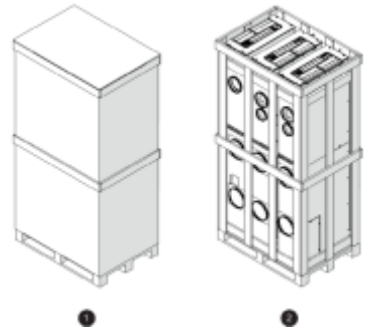
- **Check that the individual components** are present.
- **Check that no components** were damaged during transport.
- **Dispose of the packaging components** following the applicable waste disposal regulations. **Check for disposal arrangements** with your municipality.
- **Handle with care**.
- The appliance must always be **moved in a vertical position**.

The packing material (cardboard, staples, plastic bags, etc.) could pose a risk of injury or a suffocation hazard for young children. Always dispose of packing materials properly.

Removing the packaging

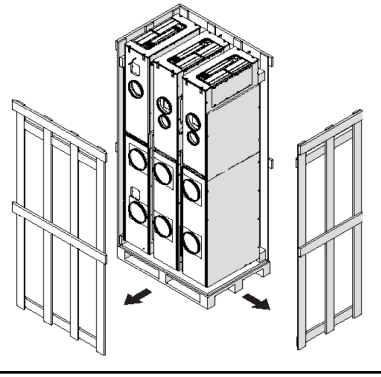
To remove the packaging

Figure 8. Removing the packaging



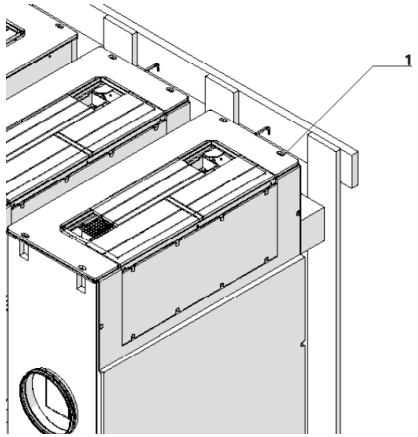
1. Remove the cardboard casing
2. Remove the accompanying components
3. Remove the polystyrene elements
4. Remove the cage cover

Figure 9. Removing the crosspieces



5. Remove the crosspieces and slats from one of the long sides of the crate

Figure 10. Indication of buttonhole



1	Buttonhole

6. Remove the appliance from the box

⚠ WARNING

- It's recommended to lift the units from above using the slots on the top panel. Use equipment suitable for the weight and dimensions of the product.
- It's possible to slide the units sideways or frontally with extreme caution. Pay close attention to avoid damaging the unit, the surrounding environment, or oneself.

Accompanying material

They are included with the appliance, inside the packaging:

- Installation manual.
- Adjustable spacers (4 pcs).

Check the presence of the individual components

3.7 Handling without packaging

Preliminary Warnings

- The appliance must be handled only by qualified personnel, adequately equipped, and with equipment suitable for the weight and dimensions of the appliance.
- The unit must be handled using non-slip gloves.
- Before each handling operation, check the lifting capacity of the machinery used in accordance with the indications on the packaging.
- When the load is lifted from the ground, stay clear of the immediate and surrounding area.
- Check the information on the packaging for the number of stackable packages.
- In manual operations, the maximum weight per person required by current legislation must always be observed.

Movement methods

1. Use a forklift, scaffolding, or other suitable lifting system

⚠ WARNING

The unit can only be moved manually for short trips in exceptional cases. In this case, it is necessary to carefully check that the weight of the unit does not exceed what is stipulated by the regulations with respect to the number of people employed.

3.8 Installation site

The location of the appliance must be determined by the plant engineer or a competent person and must take into account both purely technical requirements and any national/local legislation in force.

The unit is intended to be installed indoors in a vertical position on a wall. The installation location should be chosen adjacent to a wall that communicates with the outside.

Preliminary warnings

- Avoid installing the unit in the vicinity of:
  - Obstacles or barriers that cause recirculation of the exhaust air.
  - Narrow places where the sound level of the appliance can be enhanced by reverberations or resonances.
  - Environments with the presence of flammable or explosive gases.
  - Very damp environments (laundries, greenhouses, bathrooms with high humidity, etc.), to prevent the formation of condensation on the external panels of the unit.
  - Environments with the presence of flammable or explosive gases or flammable fluids.
  - Solar radiation and proximity to heat sources.
- Avoid installing the unit in the vicinity of the sea. Salty atmospheres cause corrosion and oxidation of the internal components, compromising the functioning of the unit.
- Avoid placing the unit within 1 metre of radio and video equipment.
- Do not install above heat sources.
- Ensure that:
  - The installation site of the unit must be chosen with utmost care to guarantee adequate protection from shocks and consequent damage.
  - The supporting surface is capable of supporting the weight of the appliance.
  - The supporting surface does not affect load-bearing building elements, piping, or power lines.
  - The functionality of load-bearing elements is not compromised.
  - There are no obstacles to the free circulation of air through the holes (plants, leaves, etc).
  - The unit must be installed in a position where it can be easily serviced.

- The safety distances between the units and other appliances or structures are scrupulously respected so that the air entering and leaving the fans is free to circulate.

- If the unit is installed incompletely or on an unsuitable surface, it could cause damage to persons or property if it becomes detached.
- The appliance must not be in a position where the air flow is aimed directly at a person.
- Provide the following:
  - A drain is nearby for the outflow of condensation.
  - A nearby compliant power supply.

Preliminary warnings for R32

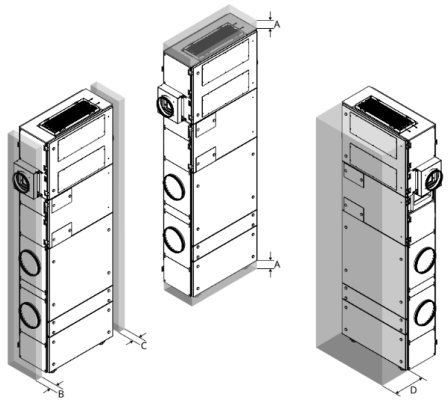
- The appliance must be installed in well-ventilated environments that have a minimum floor area as indicated in the table. Minimum Floor Area is based on the total refrigerant charge of the circuit.
- The refrigerant charge refers to the total amount of refrigerant in the circuit, which includes the factory charge and any additional charge.
- Please refer to the technical rating plate on the associated outdoor unit for the quantity of refrigerant loaded into the unit.
- If the appliance is placed in a poorly ventilated area, precautions must be taken to prevent the accumulation of leaked refrigerant, thus avoiding the risk of fire or explosion.
- The appliance should be placed in a room where there are no continuously operating open flames (such as a gas appliance in operation) or ignition sources (such as an operating electric heater).
- Any ventilation openings must be kept clear of obstacles.
- Perform the following checks:
  - Perform safety checks to ensure that the risk of combustion is minimized.
  - Avoid working in confined spaces.
  - Delimit the area around the workspace.
  - Ensure safe working conditions around the area by checking for flammable materials.

3.9 Minimum installation distances

The clearance zones for the installation and maintenance of the appliance are shown in the figure. Established spaces are necessary to avoid barriers to airflow and allow for normal cleaning and maintenance.

- Make sure that there is sufficient space to allow the panels to be removed for routine and supplementary maintenance operations.

Figure 11. Installation distances



Minimum distances		
A	in.	2.0
	mm	50
B	in.	2.0
	mm	50
C	in.	2.0
	mm	50
D	in.	2.0
	mm	50

3.10 Positioning

Preliminary Warnings

The unit must be installed on the wall.

- Check that:
  - The surface supports the weight of the appliance.
  - The surface does not affect piping or power lines.
  - The functionality of load-bearing elements is not compromised.

Drilling the outside wall

The external wall must be prepared with holes for air ducting.

To drill the holes:

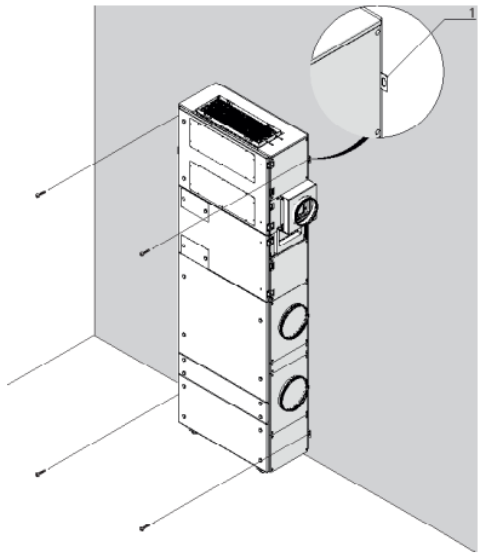
1. Mark the position of the hole.
2. Use a drill.
3. Drill a guide hole.
4. Use a core drill.
5. Make a hole through the wall.
6. Maintain a downward slope towards the outside.

⚠CAUTION

- To avoid the release of large amounts of dust and debris into the room, you are advised to couple the core drill with a vacuum system.
- Proceed with caution near the outside wall to avoid breaking the plaster around the hole.
- Take precautions so that the removed material does not hit people and objects below.

Positioning the unit
To position the unit:

Figure 12. Positioning the unit



1	Installation bracket

1. Mark the position of the fixing holes.
2. Use screws and expansion plugs suitable for the weight of the appliance and the material of the supporting wall.
3. Secure the unit to the wall using the brackets.

3.11 Condensate drain connection

Preliminary Warnings

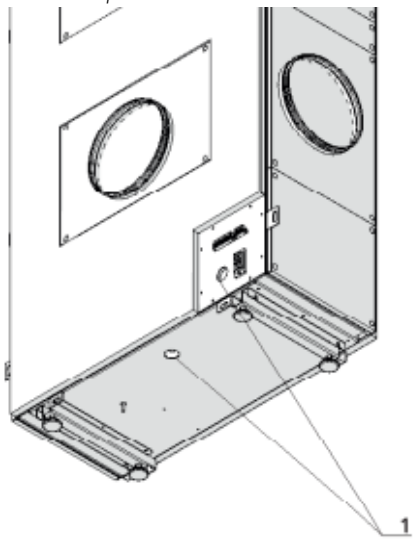
- This appliance is equipped with trays for collecting the condensate that is produced during operation. Condensate must be routed to a suitable place for drainage.
- The hole for the condensate pipe must always have an outwards slope.
- When connecting the condensate drain, take care not to crush the rubber pipe.
- The factory-installed condensate drain is a ⅝" flexible drain pipe. To extend the drain line, insert the flexible pipe into a larger ¾" PVC or equivalent plumbing pipe and secure it using an external clamp or approved method. Do not use internal couplings or barbed fittings that reduce the internal diameter of the drain line, as this may restrict flow and lead to drainage issues.

⚠CAUTION

- For installations in regions subject to **freezing winter conditions**, drain line piping must strictly adhere to the following pitch (slope) requirements to prevent ice blockages, water backup, and potential property damage:
  - **Direct Outdoor Drainage:** Any drain line routing directly to the outside environment **MUST maintain a minimum 30% pitch (approximately 3.6 in. per 12 in. / 300 mm per 1 meter)**. This steep slope ensures rapid, complete water evacuation before freezing can occur within the pipe.
  - **Internal Riser Drainage:** Drain lines routed into an internal building riser **MUST maintain a standard minimum pitch of 2% (approximately ¼ in. per 12 in. / 20 mm per 1 meter)**.
- Do not allow sags, traps, kinks, or low points where water can collect and freeze.
- The installer must verify proper condensate drainage during commissioning before operating the unit.
- Failure to follow these pitching guidelines in freezing environments will void the warranty for water damage caused by frozen or blocked drain lines.

Attachment position
The size and position of the condensate drain attachments are shown below.

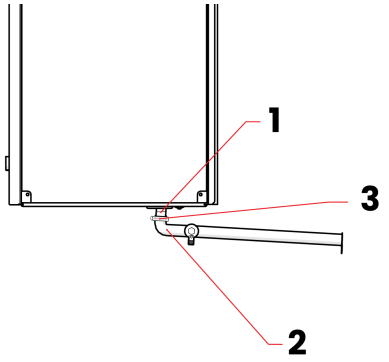
Figure 13. Attachment position of condensate drain



1	Condensate drain connection

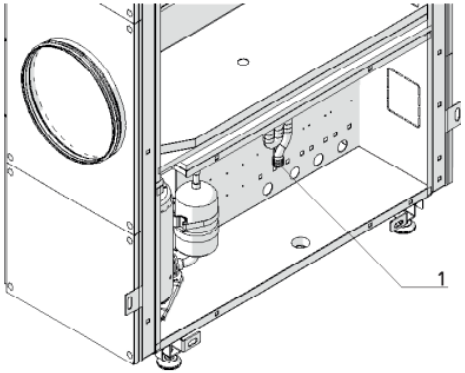
Connections

Figure 14. Connections



1	Condensate drain connection	3	Hose clamp
2	Condensate drain pipe		

Figure 15. Drainage



1	Drainage trap

To connect the drain:

1. Connect the drainage pipe to the connection provided on the unit.
2. Connect the drainage pipe to the hydraulic network.
3. Direct the condensate drain pipe to a suitable place for draining.
4. Maintain a minimum slope of 3% towards the drain location.
5. Insulate junction points.

⚠WARNING

- Use PVC drainage pipes.
- Avoid metal pipes.
- Avoid using barbed fittings.
- Make sure all joints are sealed to prevent leakage of water.
- Condensate drain pipes must be insulated for both indoor and outdoor sections to avoid condensation on the surface and/or frosting problems. The insulation must be inserted all the way to the condensate drain pipe connection on the unit.

3.11.1 Condensate Drain Maintenance

To reduce the risk of zooglea biofilm formation and maintain effective drainage, apply a coil-safe drain line cleaner (such as Valterra PowerMax) to all drain line components during installation. This helps inhibit early microbial growth within the system.

For ongoing maintenance, clean all condensate drain line components, including drain pans, collection boxes, pumps, and associated tubing, at least once every six months. In more demanding environments, more frequent cleaning may be necessary.

Always use coil-safe cleaning products to protect system components and ensure long-term performance.

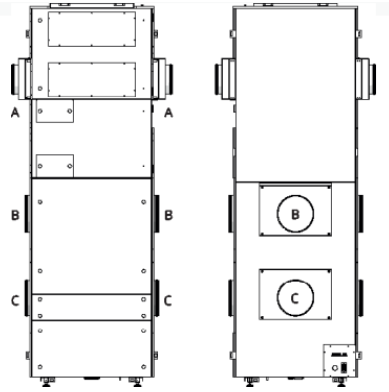
3.12 Duct connections

Preliminary Warnings

- The sizing of ducting, supply, and extract grids must be carried out by a professionally qualified person.
- To prevent the transmission of any vibrations of the machine into the room, an anti-vibration joint should be placed between the fan outlets and the ducts.
- The connecting pipes must be of a suitable diameter and supported so that their weight does not put a strain on the appliance.

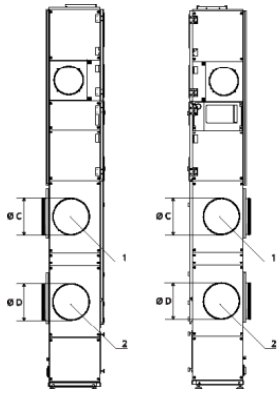
Connections

Figure 16. Connections



A	Exhaust Air (Bathroom Exhausted)	C	Outdoor air exhaust
B	Outdoor air intake		

Figure 17. Connections



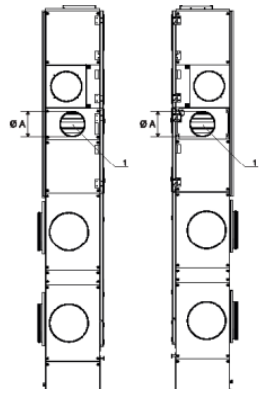
1	Outdoor air intake (PDC) and ventilation air inlet (ERV)
2	Outdoor air exhaust (PDC) and stale air exhaust (ERV)

The stale air exhaust vent (D) may be ducted to a bathroom or other location, provided the duct system does not exceed 0.5 in. w.c. (12.7 mm) external static pressure.

To exhaust air through a duct leading to a bathroom exhaust, connect the stale air exhaust fan to the BOOST EXH terminal on the jumper board.

This connection boosts the exhaust fan airflow to 80 CFM, allowing the fan to move air to the final exhaust location.

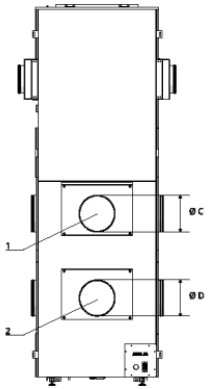
Figure 18. Connections



1	Exhaust Air (bathroom exhaust)

Models	**u.m.**	**50/15-0**
Product dimensions		
Air Connection A	in.	4.9
	mm	124.5

Figure 19. Connections

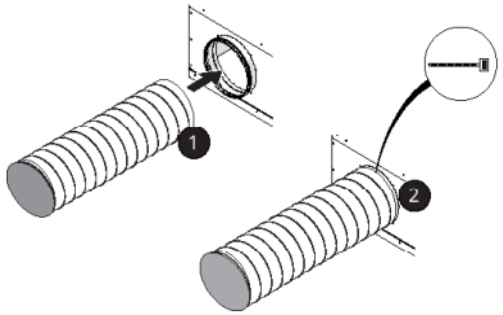


1	Outdoor air intake (PDC) and ventilation air inlet (ERV)
2	Outdoor air exhaust (PDC) and stale air exhaust (ERV)

Models	**u.m.**	**50/15-0**
Product dimensions		
Air Connection C	in.	7.9
	mm	200.7
Air Connection D	in.	7.9
	mm	200.7

Circular connections

Figure 20. Circular connections



1. Position the ducts on the connections provided on the appliance.
2. Use a metal clamp or duct fixing collar.
3. Fix the ducts on the attachments

Use ducts lined with anti-condensation material or insulation of a suitable thickness.

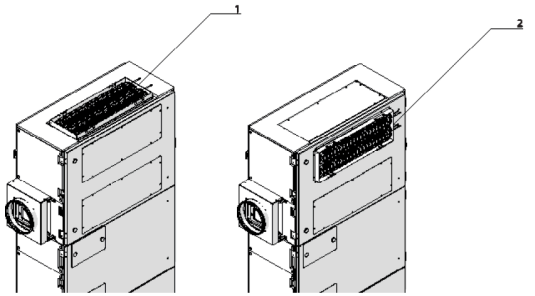
Airflow configurations

Internal air flows

The unit is supplied with the air outlet towards the environment from the top.

It is possible to change the configuration of the air outlet towards the environment to the front position.

Figure 21. Internal air supply configurations



1	Configuration A (standard)	**2**	Configuration B

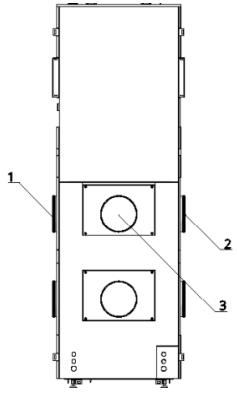
External air flows

The unit is supplied with the intake and exhaust air ducts plugged.

It is necessary to select an intake for external air and an outlet for external air from the three possible configurations.

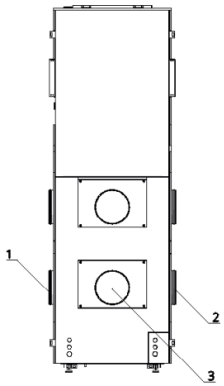
- Configuration A: left side
- Configuration B: rear side
- Configuration C: right side

Figure 22. External air intake configurations



1	Configuration A	**3**	Configuration C
2	Configuration B		

Figure 23. Outdoor air exhaust configurations

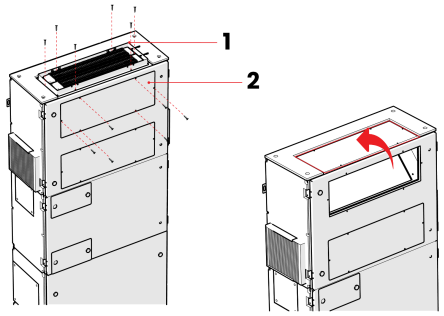


1	Configuration A	3	Configuration C
2	Configuration B		

Changing the internal air flow configuration

To modify the air supply configuration:

Figure 24. Modifying air supply configuration



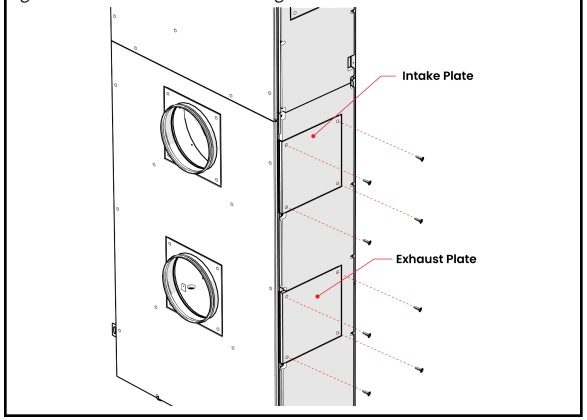
1	Electrical heater	2	Front air outlet stopper

1. Remove the fixing screws of the electric heater and the fixing flange of the duct.
2. Open the upper front panel.
3. Remove the insulation.
4. Remove the front air outlet stopper.
5. Place the stopper on the upper outlet.
6. Install the resistors with the supply flange in the front position.

External air flow configuration

Depending on the chosen configuration:

Figure 25. External air flow configurations



1. Remove the existing intake and exhaust plates.
2. Install the intake and exhaust plates on the desired side or at the back.

3.13 Electrical connections

The appliance leaves the factory fully wired and only requires connection to the power supply, control, and any accessories.

Preliminary Warnings

- All operations of an electrical nature must be carried out by qualified personnel who have the necessary legal requirements and are trained and informed about the risks related to such operations.
- All connections must be made in accordance with the relevant regulations in force in the country of installation.
- Before carrying out any work, make sure that the power supply is switched off.
- The unit should only be powered after the plumbing and electrical work has been completed.
- References:
  - For electrical connections, please refer to the wiring diagrams in this manual, especially for the part concerning the power terminal board.
  - For the supply voltage, please refer to the nameplate on the appliance.
- Check that:
  - The main characteristics are adequate for the power consumption of the appliance, also taking into account any other machinery in parallel operation.
  - The power supply voltage and frequency correspond to those specified on the nameplate of the appliance.
  - The cables are suitable for the type of laying in accordance with the IEC standards in force.
  - The cable terminals are provided with ferrule terminals, of a cross-section proportionate to the connecting cables, before inserting them into the terminal board.
  - The power supply is adequately protected against overloads and/or short circuits.
- It is mandatory:
  - To connect the appliance to an effective grounding system.
  - For units with a three-phase power supply, check the correct phase connection.
  - To install a dedicated disconnector equipped with delayed fuses or an all-pole magnetothermic circuit breaker complying with IEC-EN standards, suitable for the absorption of the appliance, with a differential relay, with a maximum setting equal to that specified by the individual electrical regulations.
- Ensure the terminal is properly grounded to earth. Do not ground the appliance to distribution pipes, surge arresters, or the ground of the telephone system. If not performed correctly, grounding can cause an electric shock. Momentary high voltage surges caused by lightning or other causes could damage the ventilation unit.
- A ground dispersion breaker is recommended. Failure to install this device could result in an electric shock.

- Electrical connections must be carried out in accordance with the instructions in the manual and the standards or practices governing the connection of electrical appliances at the national level. Insufficient capacity or incomplete electrical connections could lead to an electric shock or fire.
- The power supply line must be adequately dimensioned to avoid voltage drops or overheating of cables or other devices placed on the line.
- Use a dedicated power supply circuit. Never use a power supply to which another appliance is also connected due to the risk of overheating, electric shock, or fire.
- For the electrical connection, use a cable of sufficient length to cover the entire distance without any connection. Do not use extension cables. Do not apply other loads on the power supply.
- After connecting the interconnection and power supply cables, ensure that the cables are arranged so that they do not exert excessive forces on the covers or electrical panels. Install the covers on the cables. Incomplete connections of the covers can lead to overheating of the terminals, electric shock, or fire.
- Any replacement of the power cable must only be carried out by qualified personnel and in accordance with current national regulations.
- The manufacturer is not liable for any damage caused by the lack of earthing or failure to comply with the specifications in the respective diagrams.
- The appliance is equipped with a noise filter as required by current regulations. Use selective residual current circuit breakers to compensate for the micro leakage to earth of this device.

Using gas and water pipes to ground the appliance is prohibited.

Preliminary warnings for R32

- The R32 refrigerant gas is slightly flammable and odorless.
- All precautions regarding the handling of refrigerant must be followed in accordance with current regulations.
- Avoid proximity to continuously operating ignition sources (open flames, gas appliances, electric stoves, lit cigarettes, etc.).

- Smoking is prohibited near the appliance.
- The use of mobile phones is prohibited near the appliance.

- Perform the following checks:
  - Perform safety checks to ensure that the risk of combustion is minimized.
  - Avoid working in confined spaces.
  - Delimit the area around the workspace.
  - Ensure safe working conditions around the area by checking for flammable materials.

Power line dimensioning

Use the tables below for the sizing of the power supply line and its protection device.

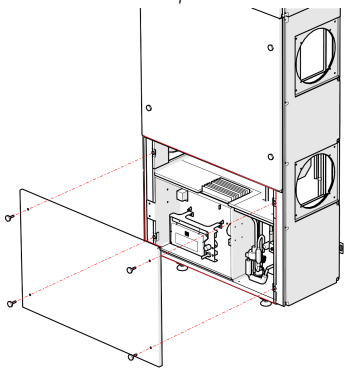
These are not average draw or transient peaks, but values to be considered for the correct sizing of the plant and the request of the contractual power (excluding loads due to the normal operation of the building).

- Maximum power is reached only in exceptional cases. Therefore, the indicated trip current is suggested to guarantee a balance between machine absorption and incidence in the general system.
- The indicated minimum cable cross-section area must be verified according to the actual conditions of the installation: length of the cable, characteristics of the electrical supply, etc.
- For units equipped with electrical heating elements, the draw values of the units must be added to those of the heating elements shown in the following tables.

Access to the electrical panel

- Access to the electrical panel is only permitted to qualified personnel.
- Before carrying out any work, ensure that the power supply is switched off.

Figure 26. Access to the electrical panel



To access the connections:

1. Remove the adjustable spacer from the lower front panel.
2. Remove the panel.

Connections

- We strongly recommend using our LCDI or Quick-connect whip cords.
- If customers choose not to use these options, any alternative electrical configuration must comply with all applicable local codes.
- All electrical connections must be performed by a licensed electrician and rated for the appropriate voltage and amperage.

Before connecting the unit to the mains power supply, make sure that the disconnector is open. The power supply of the single-phase unit must be connected to the appropriate terminals and subjected to the action of the isolating switch.

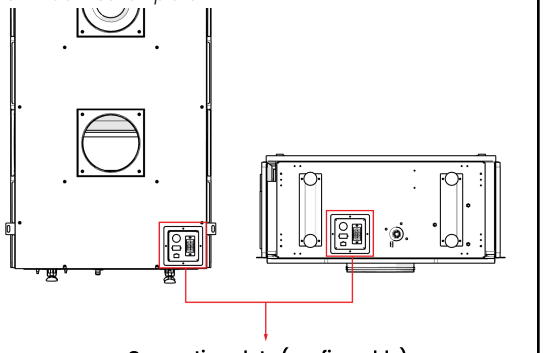
- Use properly sized cables to avoid voltage drops or overheating.

Connection plate

The unit comes with a plate for electrical connections positioned on the lower back panel.

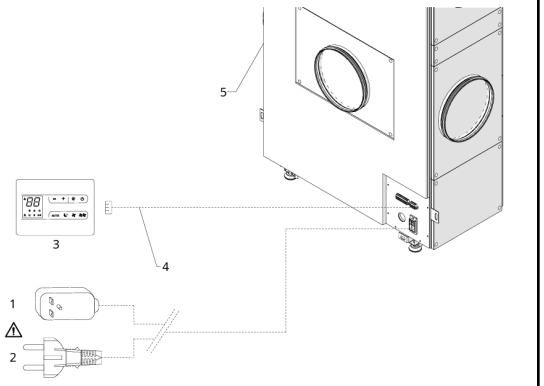
It is possible to change the configuration of the plate by placing it on the side facing downwards.

Figure 27. Connection plate



Connection diagram

Figure 28. Connection diagram



1	Unit power supply with LCDI plug	**4**	Control panel communication cable
2	Unit power supply with Schuko plug (not included for this model)	**5**	Vertical Stack
3	Remote control (not included for this model)		

On-board electrical panel

Wiring scheme

To view the image as a high-resolution PNG, click the link below.

AIO VERTICAL STACK - Wiring.png

Figure 29. Wiring scheme

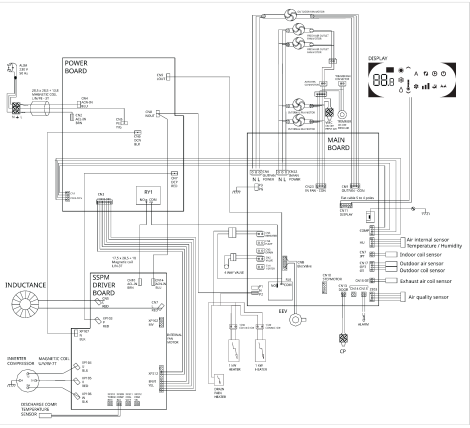
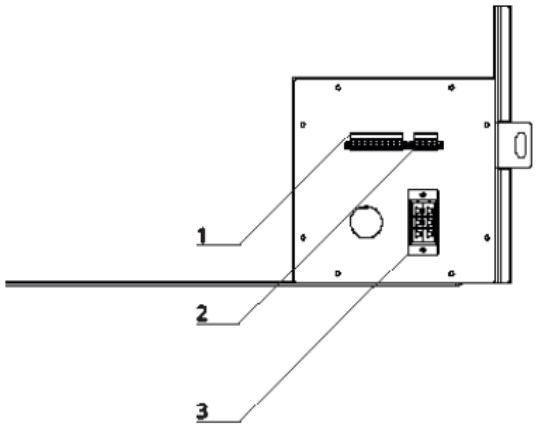


Figure 30. Wiring scheme



1	TPG display	**3**	Power supply
2	Remote control / GWB		

On-Off remote connection

Through this contact, it is possible to connect an external device that inhibits the operation of the appliance, such as:

- Remote On-Off (on board).

Operation

When the contact connected to the CP input is closed, all units are switched off.

When a button is pressed on the display, the symbol ⚠ flashes.

It is forbidden to connect the CP input in parallel with other electronic boards. In this case, use separate contacts.

Rear connections show. The Vertical Stack unit is also available with optional side or bottom connections.

4. ON-BOARD DISPLAY

4.1 Interface

Description

The unit is controlled through the built-in Wi-Fi panel.

The onboard display allows you to:

- View the operating status.
- View any alarms.
- Select the different functions by pressing the various symbols.

Display

Figure 31. Display interface



88.8	Indicates the set point.
^	Increases the set temperature.
v	Decreases the set temperature.
⏻	Allows you to activate or put the appliance in standby.
A	Function not used.
❄	Allows the function in cooling mode only.
💧	Allows the function in cooling mode only.
✽	Allows the function in ventilation mode only.
☀	Allows the function in heating mode only.
🌙	Night mode.
▮▮	Allows control of the ventilation speed.
◷	Allows you to set the timer function.
🌡	Digital thermometer 1 to 7 red bars in winter and blue in summer.

General switch-on

To be able to control the appliance using the remote control or the touch display:

1. Insert the power plug of the appliance into the power outlet of the installation or turn on the main switch provided on the power line.

Once the operation is performed, by pressing the symbols on the touch screen display, it will be possible to manage the operation of the system.

To activate the device

1. Press and hold the ⏻ button.

The display switches on.

The set point is shown on the three digits of the display: 88.8

- The control system of the device has a memory, so all the settings will not be lost in case of a power outage or shutdown, except for the ventilation. The button in question is used to activate and deactivate the device for short periods.
- In case of prolonged shutdown of the device, it should be deactivated by switching off the main power switch or unplugging it from the power outlet.

4.2 Main functions

Set the temperature

To set the room temperature

1. Press the keys ^ v to increase or decrease the desired value.

The value shown on the display changes.

- The temperature adjustment range is from 62 to 88°F (16.7 to 31.1°C), with an accuracy of 1°F (0.6°C).
- Avoid setting the temperature too low or too high, as it can be detrimental to health and also lead to unnecessary energy waste.

Operation in cooling mode only

To select the cooling operation

1. Press and hold the button ❄ for approx. 2 seconds.

The ❄ symbol on the display indicates that the Cooling function is activated.

By using this function, the appliance dehumidifies and cools the environment.

When the setpoint is lower than the room temperature, the fan coil unit starts and begins to deliver cold air, maintaining the ventilation even when the setpoint is reached.

Operation in ventilation mode only

To select the ventilation operation:

1. Press and hold the button ✽ for approx. 2 seconds.

The ✽ symbol on the display indicates that the Ventilation function is activated.

By using this function, the device only activates the fan and does not have any effect on the temperature or humidity of the ambient air.

It is possible to choose the fan speed.

Set the fan speed

To select the ventilation speed:

1. Hold down the button ▮.

The ▮▮ symbol varies according to the ventilation.

Speed is in the following sequence:

- ▮ Minimum
- ▮▮ Medium
- ▮▮▮ Maximum
- ▮ Automatic (visible by scrolling the three speed bars on the display)

- The higher the fan speed is set, the greater the performance of the appliance, but the lower its quietness.
- By setting the automatic fan speed, the onboard microprocessor independently adjusts the speed, keeping it higher as the deviation between the detected room temperature and the set temperature increases. The speed is automatically reduced as the room temperature approaches the set temperature.
- In Dehumidification mode or Night Comfort mode, the control of fan speed is disabled as the unit can only operate at the minimum speed.

Operation in heating mode only

To select the heating operation:

1. Press and hold the button for approx. 2 seconds

The symbol on the display indicates that the Heating function is activated.

By using this function, the device heats the environment.

With a setpoint higher than the room temperature, the fan coil unit starts and begins to deliver hot air.

The anti-freeze function is enabled by default. In the event that the ambient temperature drops below 43°F (6.1°C), the unit will automatically activate even in the shutdown mode to prevent freezing.

Night Mode

To select night mode operation:

1. Press and hold the button for approx. 2 seconds.

The symbol lit on the display indicates that the Nocturnal Wellness function is activated.

- The ventilation speed is automatically set to the minimum speed.
- The set temperature varies automatically:
  - In heating mode, the set temperature decreases by 1.8°F (1°C) after the first hour and by an additional degree in the second hour.
  - In cooling mode, the set temperature increases by 1.8°F (1°C) after the first hour and by an additional degree in the second hour.
  - In both cases, after the second hour, the temperature setpoint will not be further altered, and after 6 hours, the unit will go into standby mode.
- This function is not available for dehumidification-only and ventilation-only operation.
- This function can be disabled at any time by pressing the button again.
- If the Timer function is set simultaneously, the appliance will turn off when the set time expires.

Set the timer function.

To set the timer function:

1. Hold down the button for 5 seconds.

The symbol on the display indicates that the Timer function is activated.

- This function allows you to schedule the activation or deactivation of the appliance.
- To program the activation of the appliance:
  - With the display off, press the key for 5 seconds. The symbol on the display indicates that the Timer function is activated.
  - Select with the arrows the number of hours (from 1 to 24 h) after which the appliance will be switched on automatically.
  - Press the button again to confirm the operation. The display lights up completely, showing the settings (setpoint, active functions, etc.) that will be activated when the appliance is turned on automatically.
  - Press the button again to confirm the operation.

To program the device to turn off:

Set the key lock

To set the key lock:

1. Press and hold the button for approx. 10 seconds.

The display lights up entirely, showing the active settings, and the flashes with a frequency of 1 second. The user is prevented from performing any action.

To deselect the key lock:

1. Press and hold the button again for approx. 10 seconds.

The display lights up entirely, showing the active settings, and the button remains fixed.

To deactivate/put the control unit in standby mode

1. Press and hold the button for approx. 2 seconds.

The control panel switches off.

- The control system of the appliance is equipped with memory, so all settings will be retained in case of power loss or shutdown (except for ventilation).
- In stand-by mode, the control system ensures anti-freeze protection.
- In case of extended shutdown of the appliance, it should be deactivated by disconnecting the main switch or removing the plug from the power outlet.

4.3 Warnings

Alarm display

- In case of an appliance malfunction, an alarm code is displayed on the screen.
- In case of an alarm, the appliance still maintains some active functions.

Alarm	Cause	Operation
E1	Faulty room temperature sensor (RT).	It is possible to activate Cooling, Dehumidification, and Heating functions regularly.
E2	Faulty internal battery sensor (IPT).	It is possible to activate Cooling, Dehumidification, and Heating functions regularly.
E5	Faulty indoor fan motor.	It is not possible to activate any operation of the device.
E7	Lack of communication with the display.	It is not possible to activate any operation of the device.
cP	Open contact for presence detection (CP)	The appliance only activates if the contact is closed. Please check the connection of the terminals.
☀	Flashing: Unsuitable water temperature	In heating mode, the water temperature is lower than 86°F (30°C).
❄	Flashing: Unsuitable water temperature	In cooling mode, the water temperature is higher than 68°F (20°C).

Problem diagnosis

It is important for the user to be able to distinguish between any malfunctions or functional anomalies and the expected behavior of the device during its normal operation.

Most common issues can be easily resolved by the user through simple operations, while for some alarms displayed on the screen, it is necessary to contact the Customer Support Service.

Any attempt at repair carried out by unauthorized personnel immediately voids any form of warranty.

5. START-UP

5.1 Preliminary Warnings

- This section is dedicated to the Technical Service Centre. The specifications of the Technical Service Centre are described in chapter p. 5.
- Initial commissioning must be carried out by the Technical Service Centre.
- For detailed information on accessories, please refer to the relevant instruction sheets.
- The customer must be present when the appliance is tested and informed of the contents of the manual and procedures. After commissioning, the manual and the warranty certificate must be handed over to the customer.
- Before start-up, all works (electrical, hydraulic, and airflow connections) must have been completed.

5.2 First start-up

5.2.1 Preliminary Checks

Before commissioning, check that:

Operational checks

- All safety conditions have been met.
- The unit has been properly secured to the supporting surface or wall.
- The minimum technical spaces have been followed.

Airflows

- The airflow connections have been made according to the instructions in the manual.
- All airflow connections are correctly secured.
- The ducting is correctly supported.
- The ducting does not have any bottlenecks.
- The outdoor and supply air ducts are thermally insulated.

Electrical checks

- The cross-section of the power supply cables is adequate for the absorption of the appliance and the length of the connection made.

- Grounding is correctly performed.
- The electrical connections have been established correctly.
- All control wires are connected, and all electrical connections are secure.

5.2.2 Airflow program selection

Because the unit is ducted, you must set the fan pressure correctly during startup to ensure proper indoor and outdoor airflow through the unit.

This setting is essential for proper heat pump operation. Incorrect airflow can reduce performance and may prevent the refrigeration circuit from operating correctly.

The unit includes eight predefined airflow programs. Each program sets the fan pressure combination for the indoor and outdoor sides of the unit.

To select a program:

1. Press and hold the button for 5 seconds until "P1" flashes.
2. Use the arrow buttons (' ') to select the desired program.

Program	Description	Indoor Side	Available Pressure (inWC / Pa)	Outdoor Side	Available Pressure Side Outlet (inWC / Pa)	Available Pressure Rear Outlet (inWC / Pa)
P1	IN LOW/ OUT LOW	LOW	0.1 / 25	LOW	0	0.1 / 25
P2	IN MED / OUT LOW	MED	0.3 / 75	LOW	0	0.1 / 25
P3	IN HIGH / OUT LOW	HIGH	0.5 / 125	LOW	0	0.1 / 25
P4	IN LOW / OUT MED	LOW	0.1 / 25	MED	0.2 / 50	0.4 / 100
P5	IN MED / OUT MED	MED	0.3 / 75	MED	0.2 / 50	0.4 / 100
P6	IN HIGH / OUT MED	HIGH	0.5 / 125	MED	0.2 / 50	0.4 / 100
P7	IN LOW / OUT HIGH	LOW	0.1 / 25	HIGH	0.4 / 100	0.8 / 200
P8	IN HIGH / OUT HIGH	HIGH	0.5 / 125	HIGH	0.4 / 100	0.8 / 200

5.2.3 ERV airflow configuration

Units equipped with ERV require ventilation airflow adjustment during startup to ensure proper air exchange.

The ERV introduces fresh air into the system, while the supply fan distributes that air through the ductwork. By default, ERV fans operate in parallel with the supply fan and follow its speed.

For installations requiring continuous ventilation or precise airflow control, the ERV fans can be operated independently using the potentiometer (trimmer kit).

Independent control of ERV Fans

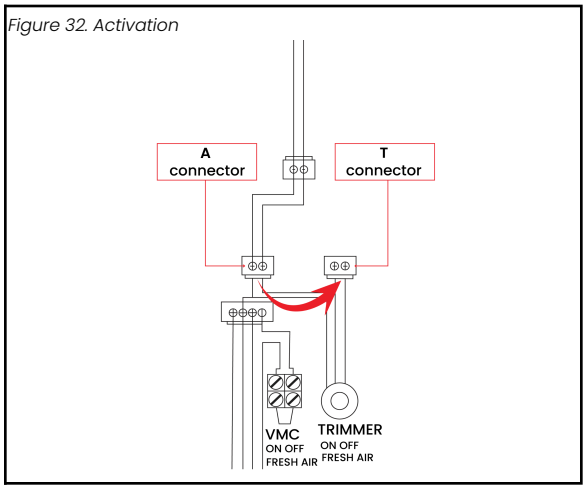
This board allows the ERV fans to be disconnected from the unit control signal and operated independently using the trimmer (potentiometer).

By default, the ERV fans are controlled by the unit and operate in relation to the supply fan speed.

When independent control is activated, the ERV fans no longer follow the unit control logic and instead operate based on a fixed signal set by the potentiometer.

To activate independent control:

Figure 32. Activation



1. Disconnect the A connector.
2. Connect the A connector to the T connector.

This reroutes the control signal from the main board to the potentiometer, allowing manual adjustment of ERV airflow.

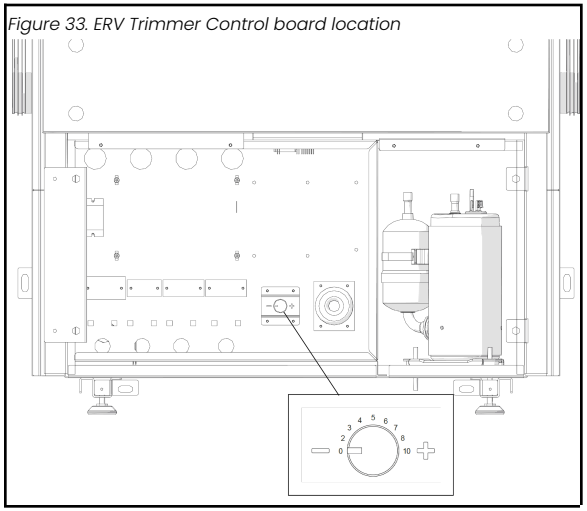
ERV airflow adjustment

The potentiometer provides a manual 0–10 V control signal to set ERV fan speed.

To adjust ERV airflow:

1. Ensure ERV fans are set to independent operation.
2. Locate the Trimmer Control board on the electrical panel (see Figure 32 for the location).
3. Rotate the adjustment knob until the desired airflow is reached.

Figure 33. ERV Trimmer Control board location



When configured this way:

- ERV airflow remains constant.
- ERV fans can continue operating even when the supply fan is off.

Airflow measurement and verification

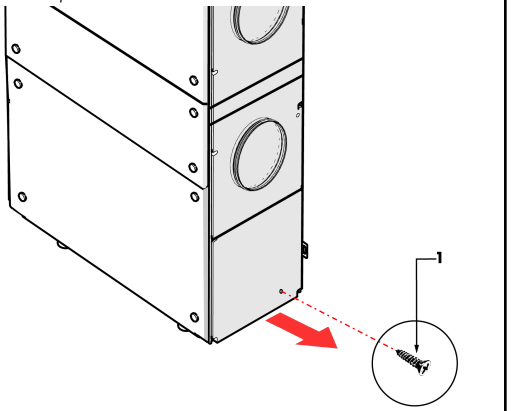
After setting ERV airflow, verify performance using an anemometer.

1. With ERV operating independently, measure the airflow introduced into the system (at the supply fan section or another representative location).
2. Adjust the potentiometer until the required airflow is achieved.
3. Restore normal system operation (if applicable).

4. Verify overall system airflow by measuring:
    - Indoor return airflow at the side intakes or lower intake
    - Outdoor intake airflow
    - Outdoor exhaust airflow

5.2.5 Compressor safety block

Figure 34. Compressor lock screw



1	Compressor lock screw

Before starting the unit, make sure you have removed the compressor safety lock screw. Failure to remove it could damage the refrigeration circuit and jeopardize the proper functioning of the unit.

Start-up
After all checks have been carried out, the unit can be put into operation.

To activate the appliance, refer to the user guide.

Checks with the Machine Switched On
After starting up, check that:

Operational checks:

- Verify the different modes of operation.
- Verify that the appliance stops and then restarts.
- Switch the appliance off and on again and check that it restarts correctly.
- Verify that the appliance operates within the recommended operating conditions (see technical specifications table).
- Check that the air flow rates are correct.

Hydraulic Checks

- Check for proper condensate drainage.

Electrical Checks

- The current absorbed is less than the maximum indicated in the technical data table.
- The supply voltage value is within the set limits and does not fall below the nominal value -10 % during operation.

Unit delivery
Once all the checks and controls on the correct operation of the unit have been completed, the installer must explain the following to the user:

- The basic functional characteristics of the unit.
- The instructions for use.
- The routine maintenance.

5.3 Switching off for extended periods

If the appliance is not used for a long period of time, the following steps must be taken:

1. Deactivate the device.
2. Disconnect the power supply.

To restart the appliance after it has been out of use for a long period, call the Technical Service Centre.

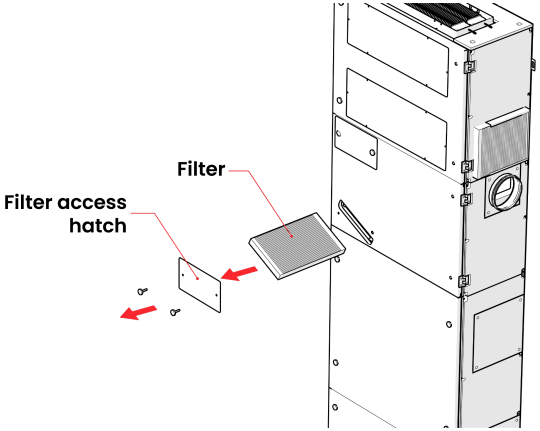
6. MAINTENANCE

6.1 Routine maintenance

6.1.1 Monthly Operations

Cleaning or filter replacement
Return and exhaust air filters

Figure 35. Cleaning or filter replacement



To remove:

1. Disconnect the power supply to the unit.
2. Remove the knobs from the access door to the filter.
3. Remove the filter access hatch.
4. Take out the filter.

⚠CAUTION

Pay attention to sharp surfaces.

- If the condition of the filters is acceptable, they can be cleaned using a vacuum cleaner or a low-pressure compressor.
- If it is impossible to clean them, the filters must be replaced.

To reposition:

1. Proceed in reverse order.

6.1.2 Annual operations

The once-a-year maintenance plan includes the following operations and checks and must be carried out by the Technical Service Centre or by qualified personnel.

Electrical Circuit

Check:

- The electrical supply voltage.
- The electrical absorption.
- The connections are sufficiently tightened.
- That there is no damage or excessive wear to electrical cables.
- That the gaskets and sealing materials have not deteriorated to such an extent that they are no longer suitable for the purpose of preventing the development of flammable atmospheres inside.
- The correct fixing of cable grommets and other connections.
- The safety devices.
- Float switches
- Corrosion on boards
- Electrical box cleanliness

Mechanical checks

Check:

- The tightening of the screws, fans, and electrical box of the unit's external panelling.
- The state of the structure.
- Mounting stability
- Fan cleanliness

⚠ WARNING

- Bad fixings result in abnormal noise and vibration.
- If oxidised parts are present, treat them with suitable paints to eliminate or reduce oxidation.

Hydraulic controls

Check:

- The regular drainage of condensate.
- The cleanliness of the condensate collection trays.
- The cleanliness of the exhaust ducts.
- Pump operation
- Backflow valve
- Drain pitch

Airflow controls

Check:

- The regular flow of air.
- The cleanliness of any intake grids.
- The cleanliness of the ducting.

Cleaning

- Cleaning of aesthetic cover.
- Cleaning or filter replacement.
- Cleaning the heat exchanger.
- Cleaning the condensate collection trays.
- Cleaning the louvers and outdoor screens.

Performance check

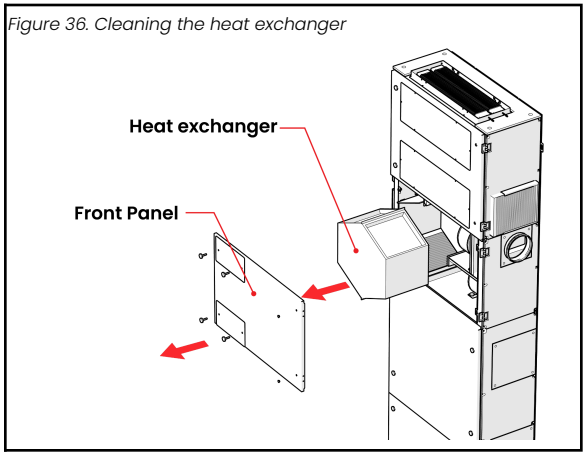
Check:

- Temperature differential between supply and return air.
- Operation in heating and cooling modes.
- ERV operation.
- Airflow is unobstructed at supply and return.

Cleaning the heat exchanger

To clean the heat exchanger:

Figure 36. Cleaning the heat exchanger



1. Disconnect the power supply to the unit.
2. Remove the knobs from the front panel of the unit.
3. Remove the front panel from the unit.
4. Take out the heat exchanger.
5. Gently proceed with cleaning using a vacuum cleaner or a low-pressure compressor.

Never touch the fins of the heat exchanger. Handle only the closed sides.

- There is a special clamp/green strap for removing the heat exchanger.
- To prevent dirt from entering the heat exchanger, clean in the opposite direction to the air flow.

To reposition:

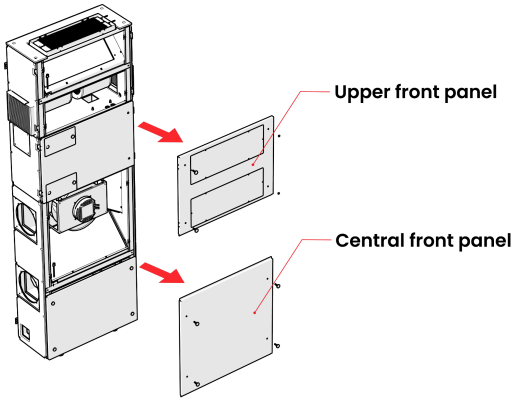
1. Proceed in reverse order.

Cleaning the condensate collection trays

To clean the condensate collection trays:

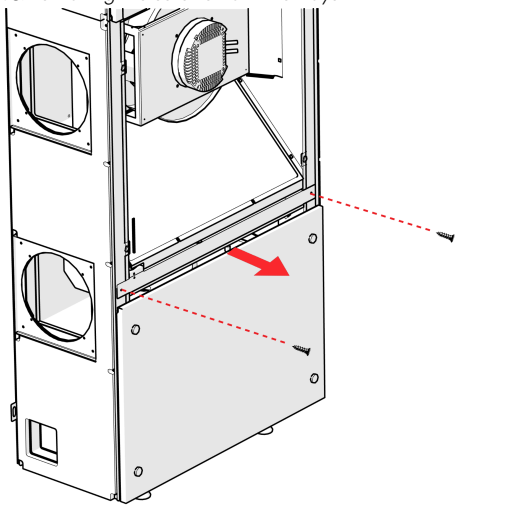
1. Disconnect the power supply to the unit.

Figure 37. Cleaning the condensate collection trays



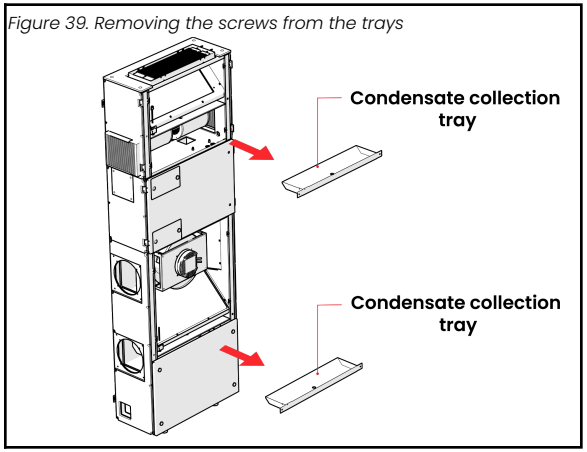
2. Remove the knobs from the upper and central front panel.
3. Remove the upper and central front panel.

Figure 38. Removing the screws from the trays



4. Remove the screws from the trays.

Figure 39. Removing the screws from the trays



5. Remove the drainage collection trays.
6. Proceed with cleaning using warm water and mild detergents.
7. Dry the trays with a soft cloth or a clean towel.

Make sure to use non-aggressive detergents to prevent damage to the surfaces.

Avoid using aggressive chemical products, abrasive brushes, or sharp objects that could damage the surfaces of the trays.

To reposition:

1. Proceed in reverse order.

To reduce the risk of zooglea biofilm formation and maintain effective drainage, clean all condensate drain line components, including drain pans, collection boxes, pumps, and associated tubing, at least once every six months using a coil-safe drain line cleaner (such as Valterra PowerMax). In more demanding environments, more frequent cleaning may be necessary. Always use coil-safe cleaning products to protect system components and ensure long-term performance.

6.2 Extraordinary maintenance

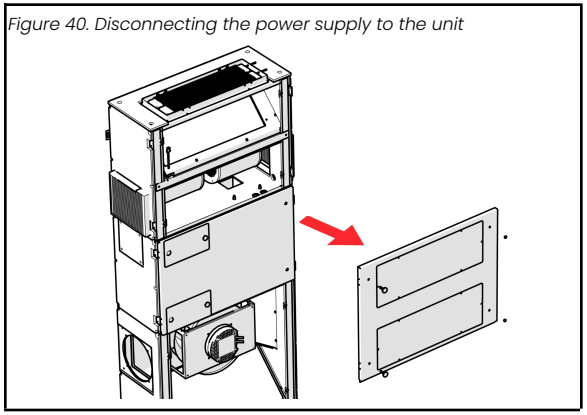
Cleaning of the fans

Supply fans

To clean the supply fans:

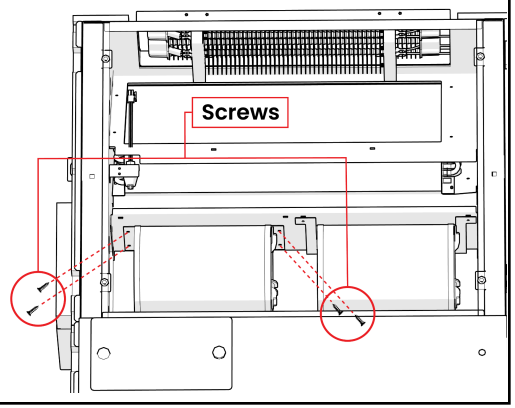
1. Disconnect the power supply to the unit.

Figure 40. Disconnecting the power supply to the unit



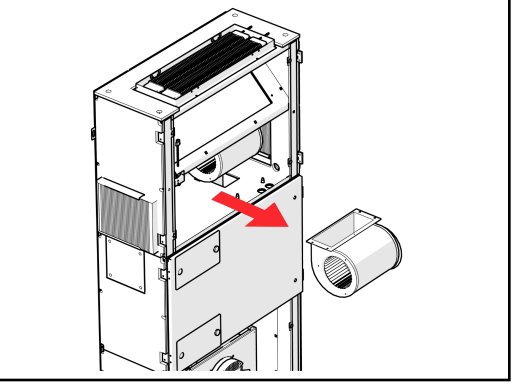
2. Remove the knobs from the upper front panel of the unit.
3. Remove the upper front panel from the unit.

Figure 41. Removing the screws from the fan



4. Remove the screws from the fan.

Figure 42. Removing the fan from the unit



5. Remove the fan from the unit.
6. Gently proceed with cleaning using a vacuum cleaner or a low-pressure compressor.

To reposition:

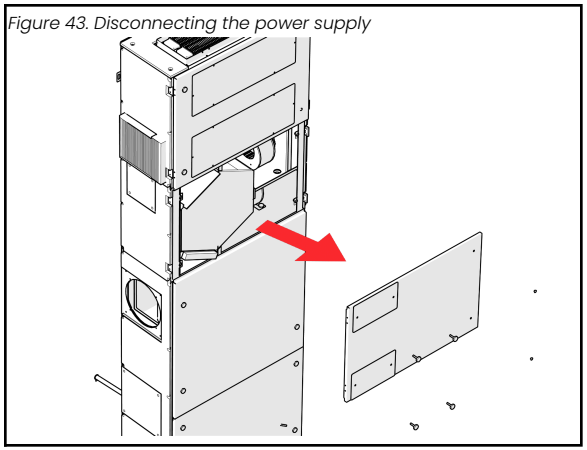
1. Proceed in reverse order.

ERV fans

To clean the ERV fans:

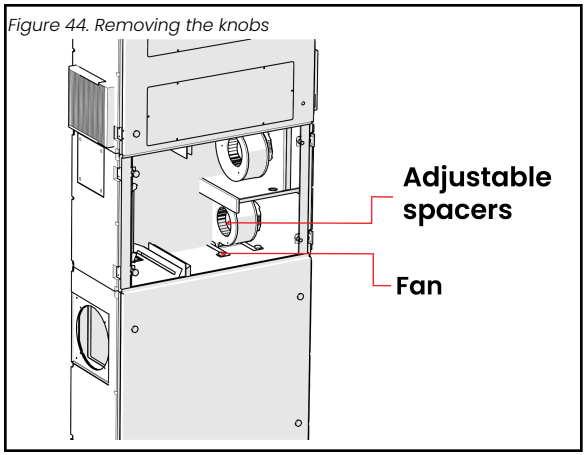
1. Disconnect the power supply to the unit.

Figure 43. Disconnecting the power supply



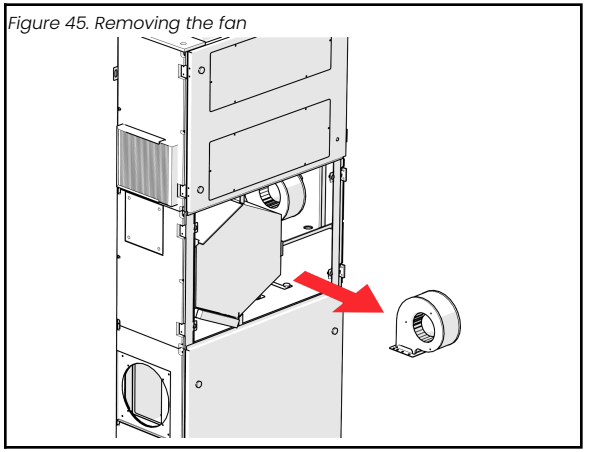
2. Remove the knobs from the front panel of the unit.
3. Remove the front panel from the unit.

Figure 44. Removing the knobs



4. Remove the knobs from the fixing brackets.

Figure 45. Removing the fan



5. Remove the fan from the unit.
6. Gently proceed with cleaning using a vacuum cleaner or a low-pressure compressor.

To reposition:

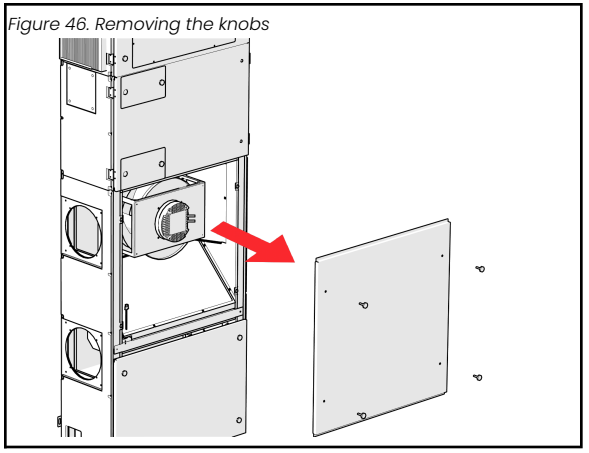
1. Proceed in reverse order.

Outdoor air fan

To clean the Outdoor air fan:

1. Disconnect the power supply to the unit.

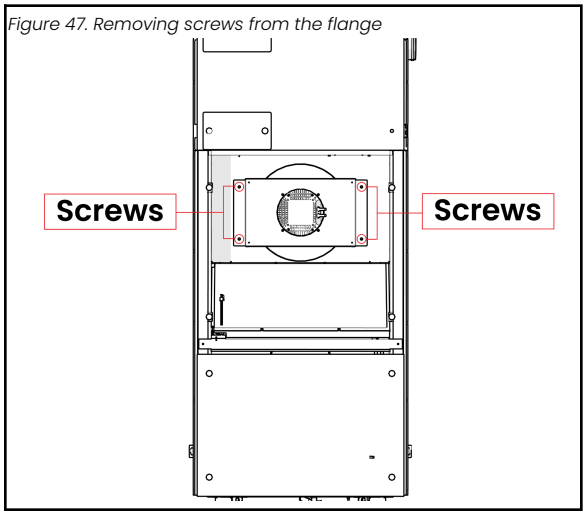
Figure 46. Removing the knobs



2. Remove the knobs from the front panel of the unit.

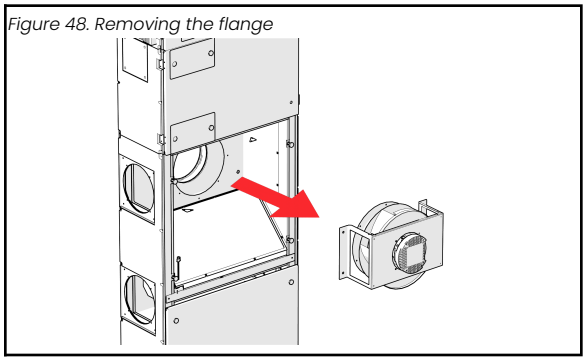
3. Remove the front panel from the unit.

Figure 47. Removing screws from the flange



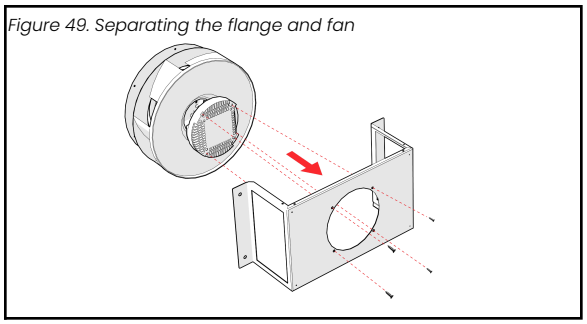
4. Remove the screws from the flange.

Figure 48. Removing the flange



5. Remove the flange with the fan from the unit.

Figure 49. Separating the flange and fan



6. Separate the flange and fan.
7. Remove the screws from the flange.
8. Gently proceed with cleaning using a vacuum cleaner or a low-pressure compressor.

To reposition:

1. Proceed in reverse order.

7. FAULTS AND REMEDIES

7.1 Preliminary Warnings

If one of the following faults is found:

- Ventilation does not activate.
- The appliance makes excessive noise.
- There is dew formation on the front panel.

Follow the instructions below:

1. Immediately disconnect the power supply.
2. Contact an authorized Technical Assistance Centre or professionally qualified personnel.

⚠ WARNING

Work must be carried out by a qualified installer or a specialized service centre.

Repairs by unauthorized persons are prohibited.

7.2 Troubleshooting Table

Description of Fault	Cause	Remedy
Display off.	No power supply (light switch off).	Check the electrical connection to the power supply.
		Check, and if necessary, replace the fuse located on the power connector (black) on the side of the unit.
Low or absent air flow, the rooms remain humid.	Clogged filters	Replace filters.
	Clogged heat exchanger	Clean the heat exchanger.
	Frozen heat exchanger	Move the heat exchanger to a warm place and wait for it to defrost. Do not heat it directly with heat sources.
	Dirty fan.	Clean the fan.
	Clogged fan ducts.	Clean the ventilation ducts.

Description of Fault	Cause	Remedy
	Outdoor temperature below 0°C.	The unit may be in anti-freeze mode. Wait until the outside temperature increases, or consider installing a pre-heating electric heater.
High noise level.	Noise is coming from the unit.	Check for the presence of gaps and/or air leaks from the unit's panels. Check the P-trap connection.
		Check if the motors are running correctly (bearings).
	Noise is coming from the ducts.	Check for the presence of cracks on the intake/exhaust ducts.
High vibrations.	Vibrating panels.	Check the integrity of the panels and aluminum profiles of the unit.
		Check the proper closure of the unit's cover and the panel covering the electronic board.
		Check that there are no walls that could transmit vibrations to the wall/floor/ceiling.
	Imbalanced fan blades.	Check the integrity of the fan blades.
		Clean the fans.
		Check that the small metal clips for balancing the fan blades are still present on the fans.
Condensate leak.	Clogged condensate drain.	Clean the condensate drain.
	The condensation does not flow from the drainage pipe into the collection tray.	Check that the unit is perfectly level.
		Check that the condensate drain connections are not clogged.
The appliance does not turn on.	No power supply.	Check if there is a power supply voltage.
		Check if the dedicated circuit breaker for the appliance has tripped (if so, reset it). If the issue persists, immediately contact the

Description of Fault	Cause	Remedy
		Service Assistance and avoid attempting to operate the appliance.
The appliance does not cool/heat sufficiently.	The set temperature is too high or too low.	Check and adjust the temperature setting if necessary.
	The air filter is clogged.	Check the air filter and clean it if necessary.
	Check for any obstructions to the airflow inside or outside.	Remove anything that could obstruct the airflow.

7.3 Table of alarms indicated by the display

Alarm	Cause	Operation
E1	Faulty room temperature sensor (RT).	It is possible to activate Cooling, Dehumidification, and Heating functions regularly. The control only monitors the internal battery anti-freezing.
E2	Faulty internal battery sensor (IPT).	It is possible to activate Cooling, Dehumidification, and Heating functions regularly.
E3	Faulty outdoor air temperature sensor (OT).	It is possible to activate Cooling, Dehumidification, and Heating functions regularly.
E4	Faulty external battery sensor (OPT).	It is possible to activate Cooling, Dehumidification, and Heating functions regularly. The control performs defrost cycles at fixed intervals.
E5	Faulty indoor fan motor.	It is not possible to activate any operation of the device.
E6	Faulty outdoor fan motor.	It is not possible to activate any operation of the device.
E7	Lack of communication with the display.	It is not possible to activate any operation of the device.
E8	Faulty compressor discharge sensor.	It is not possible to activate any operation of the device.
cP	Open contact for presence detection (CP).	The device only activates if the contact is closed. Please check the connection of the terminals.

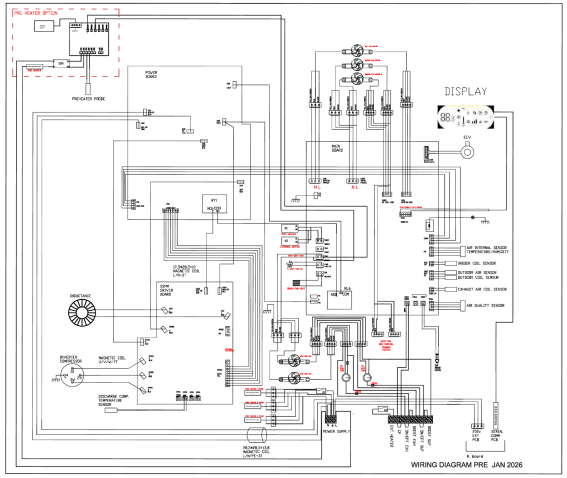
8. TECHNICAL INFORMATION

8.1 Before January, 2026

To view the diagram as a high-resolution PDF, click the link below:

AIO Vertical Stack (Gen 3) Wiring Diagram (Pre-J...

Figure 50.

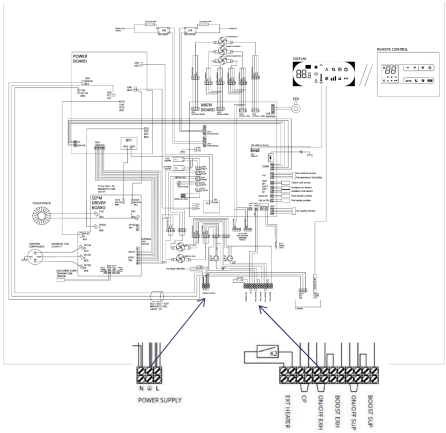


8.2 After January, 2026

To view the diagram as a high-resolution PDF, click the link below:

AIO Vertical Stack (Gen 3) Wiring Diagram (Post-...

Figure 51.



8.3 Dimensions

Figure 52. Vertical Stack Dimensions

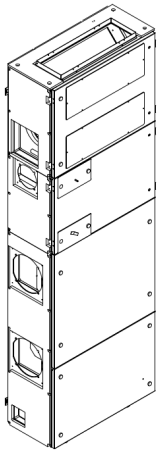


Figure 53. Top view

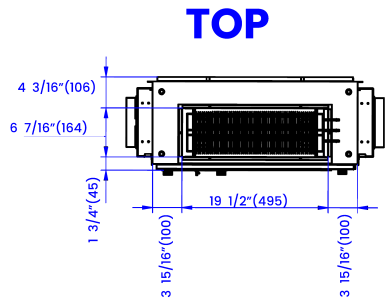


Figure 54. Left view

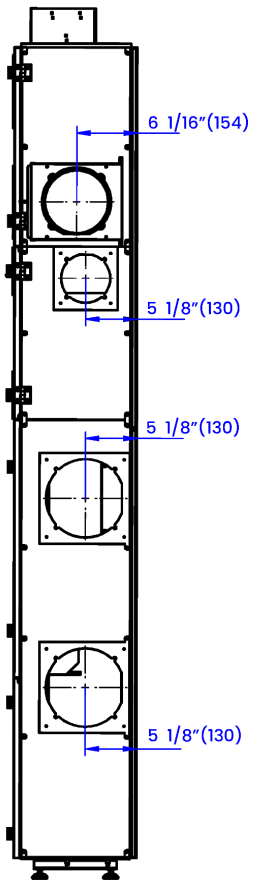


Figure 55. Front view

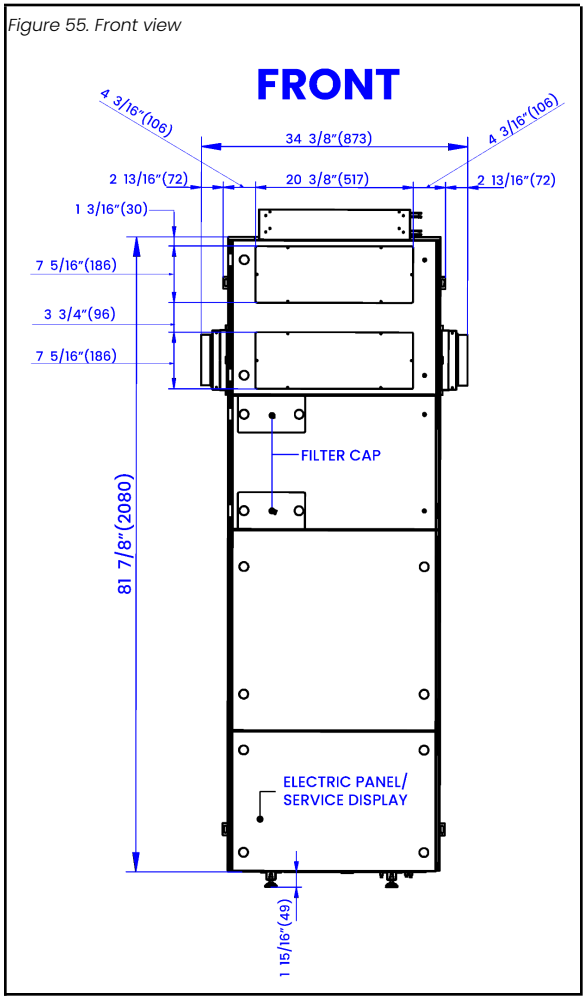
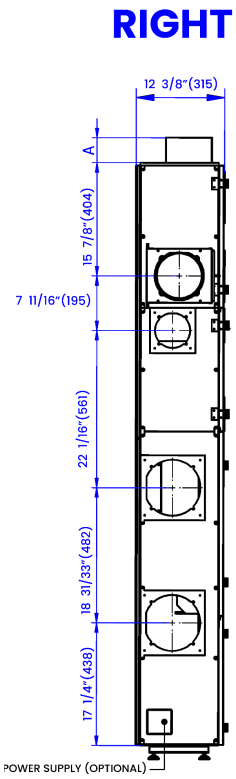


Figure 56. Right view



PRE/POST HEATER OPTIONS	A in Diagram
Standard 1.8 kW without pre-heater	0.63" (16)
Optional 2.7 kW + 1 kW post-heater	3.5" (89)

Figure 57. Rear view

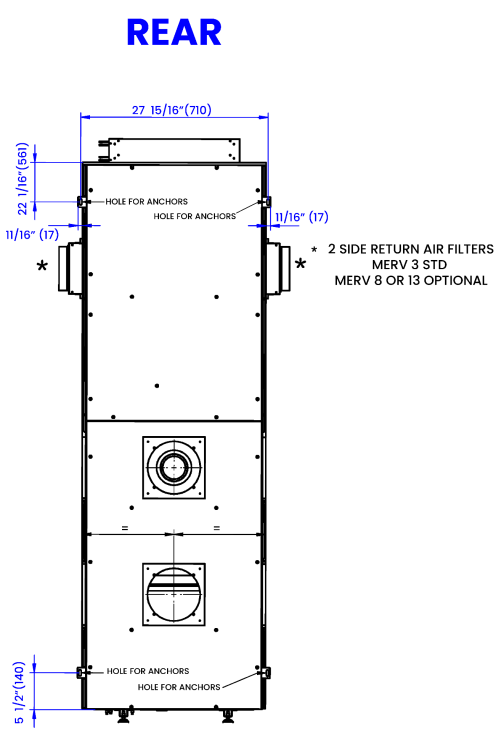
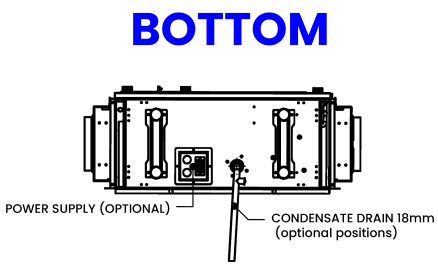


Figure 58. Bottom view



9. WARRANTY INFORMATION

For detailed terms and conditions, click on the link below:

AIO Warranty Terms and Conditions - 2026 - INN...

9.1 Critical Annual Maintenance Procedure

Proper system maintenance requires cleaning the evaporator air filter and the condenser coil, located in the lower compartment near the compressor, and the drain system.



Failure to complete this annual cleaning will void the warranty.

Follow these steps to ensure thorough cleaning and optimal performance:

1. **Remove Front Panel:** Detach the main front panel cover to access the internal components.
2. **Open Bottom Access Panel:** Use a drill or screwdriver to remove the screws and open the bottom metal access panel.
3. **Detach Drain Hose:** Disconnect the clear condensate drain hose from the right side of the drain pan.
4. **Vacuum the Drain Line:** Attach a vacuum cleaner to the clear hose to suction out any debris or blockages.
5. **Flush Drain Pan:** Pour fresh water into the lower section of the evaporator coil drain pan. Use the vacuum cleaner to suction out the water until it runs clear. Repeat the process if necessary until clean water is observed.
6. **Reconnect Drain Hose:** Reattach the clear drain hose to the evaporator pan, ensuring a secure connection.
7. **Refill the Trap:** Pour one cup of water into the evaporator pan to refill the P-trap (trap), located in the compressor compartment. This ensures proper function of the trap by maintaining a water seal.
8. **Check Seals During Reassembly:** While reassembling, inspect the gasket for integrity and ensure the cover is sealed properly, without any air leaks. If gaps are detected, apply additional gasket material or silicone to achieve an airtight seal.
9. **Reattach Metal Cover:** Secure the bottom metal access cover in place to prevent air leakage.
10. **Reattach Front Panel:** Finally, reattach the front panel cover, ensuring it is properly secured.

By following these steps, you ensure the condenser coil and other associated components are well maintained, preventing potential airflow issues and enhancing overall system efficiency.

With over 20 years of experience in the climate comfort sector, we have a clear goal: growth through innovation. Our team is laser-focused on the conception, development, and production of innovative heating, ventilation, and air conditioning solutions. This mission has developed through bringing together technical skills, creativity, technology, design, Italian passion, and a global vision to achieve the best energy efficiency and performance.

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MADE IN ITALY

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AIO® Vertical Stack with ERV (Gen 3) **Installation Guide**