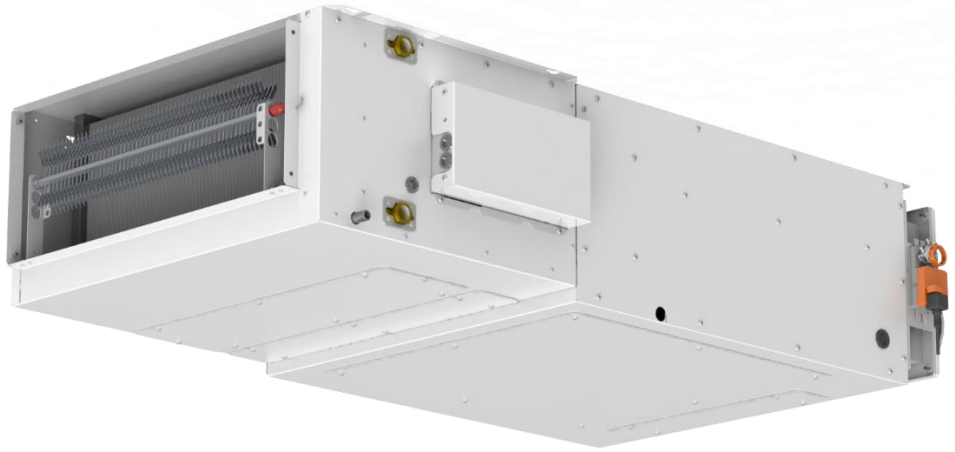
HiDew
Dehumidifiers

www.hidew.it
info@hidew.it



AER

Air-to-air unit for passive houses with heat recovery

INSTALLATION, USE AND MAINTENANCE MANUAL

AER

Air-to-air unit for passive houses with heat recovery

READ THIS MANUAL CAREFULLY BEFORE USING THE UNIT

Dear Customer,

thank you for choosing our product. We are pleased to provide you with this manual to obtain the best use of our product, and for maximum comfort and increased safety.

Please read the recommendations described in the following pages carefully and make the manual available to the personnel who will be responsible for managing and maintaining the unit.

Our company is at your disposal for any questions you may have both during the unit start-up phase or at any other time.

Our Technical Department is at your disposal for any assistance and spare parts you may require, especially during routine or unscheduled maintenance.

Please find our contact details below for a more rapid service:

HiDew S.r.l.
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Operational headquarters
Via dell'Artigianato 5 - 35026 - Conselve (PD) – Italy
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EEE Register: IT18080000010604

SUMMARY

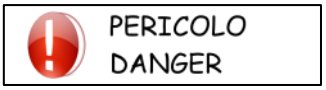
1 FOREWORD

This manual indicates the intended use of the unit and provides instructions on transportation, installation, assembly, adjustment and use. It provides information on maintenance, ordering spare parts, the presence of residual risks and personnel training.

The manual must be read and used as follows:

- Every unit operator and the staff in charge must carefully read the entire manual and comply with the indications given;
- The employer is obliged to ensure that the operator possesses the skills required to operate the unit and has carefully read the manual; the employer must also provide the operator with details about the risk of accidents, especially those deriving from noise, about the personal protective equipment provided and the general accident prevention regulations, required by international laws or regulations or those applicable in the country of use;
- The manual must always be available to the user, managers and operators in charge of transportation, installation, use, maintenance, repairs and final dismantling;
- Keep the manual away from sources of humidity and heat and treat it as an integral part of the unit for its entire duration, passing on the manual to any other user or subsequent owner of the unit;
- Make sure that any update is included in the text;
- Under no circumstances are any parts of the manual to be removed, torn or rewritten. If the manual is mislaid or partially damaged and, therefore, the contents can no longer be fully read, a new manual should be requested from the manufacturer by communicating the serial number of the machine found on the data plate.

Pay utmost attention to the following symbols. Their purpose is to highlight specific information such as:



Dangerous situations that could arise while using the unit, in order to guarantee personal safety.

Dangerous situations that could arise while using the unit, in order to prevent damaging property and the unit itself.

Additional information or suggestions for the unit to be used correctly.

The manufacturer has the right to update the production and manuals, without being obliged to update previous versions, except for exceptional cases.
This manual reflects the applicable technology at the time the unit is sold and cannot be considered inadequate due to subsequent updates based on new technology.
For any requests for updates of the use and maintenance manual or supplements, which are to be considered an integral part of the manual, please refer to the contact information indicated in this manual.
Contact the manufacturer for further information and to submit any proposals on how to improve the manual.
The manufacturer kindly asks you to communicate the address of the new owner if the unit is passed on to third parties, in order to facilitate the forwarding of any supplements of the manual to the new user.

1.1 RESPONSABILITY

The unit is covered by the warranty in accordance with the contractual agreements established at the time of sale.
The manufacturer is deemed exempt from any liability and obligation, and the warranty required by the sales contract will be voided for any accident or damage to persons or property, which may derive from:

failure to comply with the instructions provided in this manual with regard to operation, use, installation, maintenance and events which are however unrelated to normal and correct use of the unit;

- changes made to the unit or to the safety devices without written authorisation from the manufacturer;
- non-authorised attempts at repair;
- negligence in constant maintenance or use of non-original spare parts.

In any case, if the user attributes the accident to a defect in the unit, they must prove that the damage caused was a main and direct consequence of this “defect”.

1.2 RULES FOR CORRECT OPERATION

Failure to follow the instructions given in this manual regarding operation, use, maintenance and any events unrelated to the normal and correct use of the unit shall invalidate the warranty immediately.
In all lifting operations make sure that the unit is properly secured to prevent accidental falls or overturning. Do not move or lift the unit by the removable panels.
The unit must be started up for the first time only by qualified personnel authorised by the manufacturer.
All the operators must comply with international accident prevention regulations and those applicable in the country of use in order to prevent potential accidents.
Install the unit in places where there is no risk of explosion, corrosion (near the sea), fire and where there are no vibrations and electromagnetic fields. It is also prohibited to operate in any way other than that stipulated or disregard required safety operations.
It has not been possible to eliminate certain residual risks during the design phase, found in some areas of the unit, or protect them with guards due to specific features of the unit. Each operator must be aware of the residual risks present in the unit in order to prevent any accidents.
Once the unit has been cleaned, the operator must make sure there are no worn or damaged parts or others that are not fastened securely; otherwise, a maintenance technician should be contacted.
Maintenance should be performed by specialised personnel with the unit disconnected from the power supply. Make sure that the unit is disconnected from the power supply.
Should the unit, or a part of it, be decommissioned, the parts liable to cause any hazard must be rendered harmless.

Qualified personnel must dismantle and demolish the unit.

1.3 SERVICE RULES

The operating rules described in this manual are an integral part of the unit supply.
These rules are also intended for operators previously trained specifically to operate this type of unit and contain all the necessary and important information for operating safety and optimal use of the unit.
Rushed and incomplete training leads to improvisation, which is the cause of many accidents.

Read carefully and comply strictly with the following recommendations before starting work:

the initial start-up must be performed exclusively by qualified personnel authorised by the manufacturer;

- When installing or servicing the unit, the rules indicated in this manual must be complied with, together with those on board the unit and, in any case, all necessary precautions must be taken;
- Potential accidents to persons and property can be prevented by following these technical instructions with reference to the Machinery Directive 2006/42/EC and subsequent amendments. In all cases, always comply with the national safety regulations;
- Do not remove or damage the safety devices, labels and notices, especially those imposed by law and replace them if no longer legible.

The machine-directive 2006/42/EC provides the following definitions:

DANGEROUS ZONE: *any zone within and/or close to a machine in which the presence of an exposed person constitutes a risk to the health and safety of that person.*
EXPOSED PERSON: *any person who is completely or partially in a hazardous zone.*
OPERATOR: *the person or persons assigned to installing, operating, regulating, performing maintenance on, cleaning, repairing and transporting the machine.*

All operators must comply with the accident-prevention regulations (international or of the destination country of the unit) in order to avoid possible accidents.

Please note that the European Union has issued certain Directives regarding health and safety of workers, including: Directive 89/391/EEC, 89/686/EEC, 89/654/EEC, 89/655/EEC, 89/656/EEC, 86/188/EEC, 92/58/EEC and 92/57/EEC, which every employer is obliged to comply with and enforce.

The units have been designed and built according to the current state-of-the-art and technical rules in force.
Applicable laws, provisions, regulations, decrees and directives for such machinery have been complied with.
The materials used and the parts of equipment, as well as production procedures, quality and control assurance comply with the highest standards of safety and reliability.
Unit performance, continuous operation and durability are maintained by using the above-mentioned materials and parts for the purposes specified in this user manual, handling them with due care and performing thorough maintenance and up-to-standard service.

1.4 INTENDED USE

The AER units are air-to-air ductable units for false ceilings with a heat recovery unit for installation in combination with high-efficiency heat pumps. The AER units allow you to dehumidify, cool and heat by exchanging exhaust air with clean air taken from outside.

Its use is recommended within the operating limits indicated in this manual.

Place the unit where there are no explosion, corrosion or fire dangers, either in vibrating areas or in the presence of electro-magnetic fields. It is also prohibited to operate in any way other than that stipulated or disregard required safety operations.

1.5 RESIDUAL RISK AREAS

In some areas of the unit there are residual risks that could not be eliminated during the design phase or delimited with guards due to the particular functionality of the unit. Every operator must be aware of the residual risks present in this unit and exercise extreme caution to avoid any accidents.

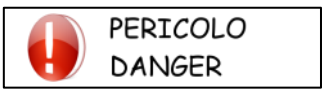
- *danger of short circuit or fire caused by short circuit*
- *danger of explosion because of the presence of pressurised circuits or pollution due to the refrigerant gas in the circuit*
- *danger of burns due to high temperature pipes*
- *danger of cuts*

1.6 INTERVENTION AND MAINTENANCE

It is important to remember that the user manual can never replace adequate user experience. This manual represents a reminder of the main activities to be performed by operators who have received specific training, for example by attending training courses held by the manufacturer, with reference to particular maintenance operations.

Carefully read the following recommendations:

- A constant and pre-scheduled maintenance can grant the safety working of the unit. If there are some necessary maintenance interventions, do not delay them and make reference only to qualified operators and original spare-parts;
- Plan each intervention carefully;
- Operators' working space should be clean and free, in order to grant the necessary movements without dangers;
- Operators should avoid clumsy operations, in uncomfortable conditions which can compromise their balance;
- Operators must pay attention to the risk of clothing and/or hair being caught or entangled in moving parts. A cap should be worn to keep long hair in place;
- The use of chains, bracelets and rings can also be dangerous;
- Even the use of necklaces, bracelets and rings can be a danger; The working place should be correctly lighted; insufficient or excessive lights can be a danger;
- Wait about 10 minutes after switching the unit off before performing any maintenance in order to prevent burns;



Do not repair high pressure pipes with welds;
pressure liquids on the refrigerant circuits and electrical components presence can be dangerous during installation and maintenance operations;

- Reduce as much as possible the time of open for the refrigerant circuit: Oil exposition to air causes the absorb of high quantity of humidity and this leads to the creation of weak acids;
- Only qualified personnel may perform work on the unit;
- Before performing any kind of work or maintenance on the unit, make sure it has been disconnected from the power supply;
- Make sure that safety devices work properly and that there are no doubts about their functioning; if not do not start the unit;
- Use only tools prescribed by the unit manufacturer. In order to avoid personal injury, do not use worn or damaged, low quality or improvised tools;

PERICOLO
DANGER

Once the unit has been cleaned, the operator must check that there are no worn or damaged parts or parts that are not firmly secured; where these are found, request the intervention of the maintenance technician;

- Always keep the area in which the unit is kept clean and tidy. Oil and grease stains, broken tools or broken pieces are harmful to persons as they can cause slips or falls;
- It is prohibited to use flammable fluids to clean the unit.

Do not use diesel, petroleum or solvents to clean the unit as they leave an oily film that encourages dust to settle, while solvents (even if weak) damage the paintwork and encourage the formation of rust. If a jet of water penetrates the electrical equipment, the contacts oxidise and the unit may malfunction. Therefore, do not use jets of water or steam on the sensors, connectors or any electrical part.

Make sure that the pressurised pipes, or other components subject to wear, are intact. Also make sure there are no leaking fluids or hazardous substances.
Should there be a leak, the operator must not restart the unit before having resolved the problem.

1.7 GENERAL SAFETY RULES

1.7.1 Wear protective clothing

Operators should wear personal protective equipment such as gloves, helmet, safety glasses, safety footwear and cap for protection against noise.

1.7.2 Fire extinguisher and first aid

Place a first aid box and a fire extinguisher near the unit.
Periodically check that the fire extinguishers are loaded and all operators know how to use them.
If a fire breaks out, use the fire extinguisher according to the relative regulations in force and contact the fire brigade.
Periodically check that the first aid kit is complete.
Make sure the emergency telephone numbers are readily available and nearby.

AVVERTENZA
CAUTION

The owner of the property where the unit is installed is responsible for providing any fire extinguishers and a first aid kit.

1.7.3 Suggestions for advices and maintenance

Place a notice with the wording: “MAINTENANCE IN PROGRESS” on all sides of the unit.
Carefully check the unit according to the list of operations specified in this manual.

1.7.4 Safety data plate

Generic danger

Hazard: moving mechanical parts

Shearing risk

Electric voltage hazard

Risk of burns

2 PRODUCT DESCRIPTION

The AER units are the solution to the growing demand for heating and cooling systems for passive houses or buildings with limited energy loads. In these contexts, an air-to-air machine guarantees comfort in all rooms taking care not only of maintaining the requested air temperature, but also the relative humidity value and air quality. In fact, in addition to renewal with high-efficiency heat recovery, the AER units can be equipped with the Jonix sanitisation system based on NTP cold plasma technology.
The AER units are also perfect for all-round air conditioning of hotel rooms where individual and precise comfort is required, without any compromise or even less conflict between guests.

Combined with high-efficiency heat pumps, the AER units are monobloc machines developed horizontally, perfect for false ceiling installation inside rooms or in a technical compartment. In addition to the water heat exchanger for heating or cooling the air, they are equipped with a counter-current heat recovery unit with an efficiency of over 90% and a mixing chamber with 3 dampers for continuous modulation of the percentage of external air.

The units are conceived to be ducted with flexible pipes or rigid ducts.
The fan sections consist of modern, directly coupled, maintenance-free EC radial fans. The rotation speed control allows you to modulate the air flow according to the ambient loads, also taking into account the need for silence at night or peak demands due to crowding or particularly severe external conditions.

2.1 SERIES

There are 3 models, classified according to the nominal air flow:

AER 024	AER 036	AER 058

2.2 AIR FLOWS

AER units are provided with 5 predispositions for connection to air ducts:

1. Supply in ambient (rooms and living)
2. Return from the room (generally the hallway or corridor) for internal recirculation to the house
3. Exhaust air extraction (from dirty environments such as bathrooms, laundry, kitchen or closet)
4. Fresh air intake from outside
5. Exhaust air expulsion to outside

Nominal air flows vary based on the unit model:

	AER 024	**AER 036**	**AER 058**
Supply in ambient	400 m^3/h	600 m^3/h	800 m^3/h
Return from room	280 m^3/h	420 m^3/h	560 m^3/h
Exhaust air extraction	120 m^3/h	180 m^3/h	240 m^3/h
Fresh air inlet	120 m^3/h	180 m^3/h	240 m^3/h
Exhaust air expulsion	120 m^3/h	180 m^3/h	240 m^3/h

The units can function in 4 modes, which will be automatically managed according to the values of desired temperature and humidity and level of air exchange set:

1. The room temperature and humidity meet the set values and the exchange is set to zero: the unit is switched off
2. The room temperature and humidity do not meet the set values and the exchange is on zero: the unit is treating the air or the air is being heated/cooled/dehumidified; the unit is in recycle mode only.
3. The room temperature and humidity meet the set values and the exchange is set to a value above zero: the unit renews the air or expels exhaust air and draws air into the room from outside.
4. The room temperature and humidity do not meet the set values and the exchange is set to a value above zero: the unit renews the air; the unit is in recycling and exchange mode.

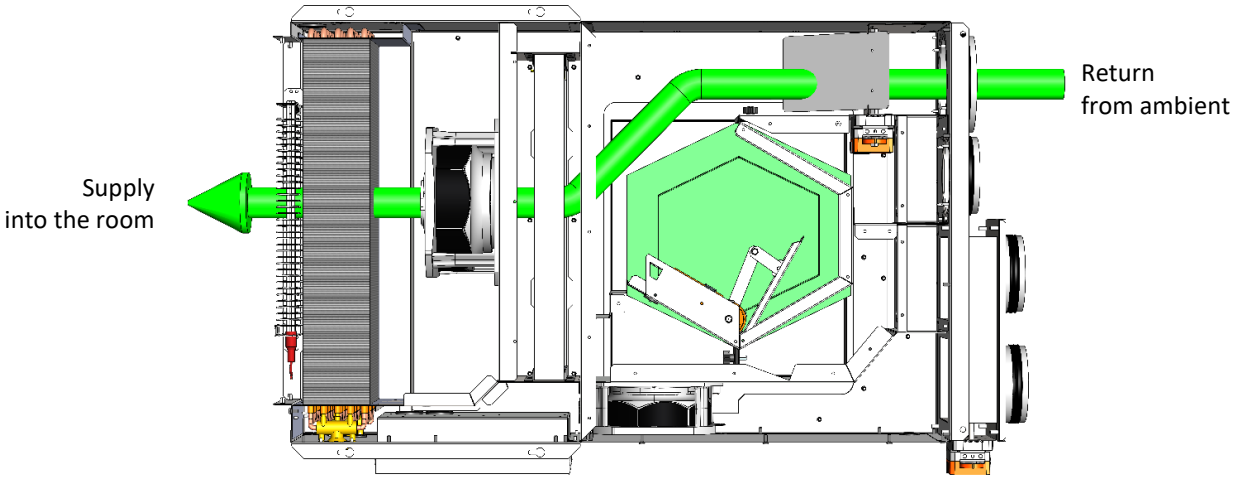
The following images illustrate the air flows for all the operating methods and for each size.

- In heating and cooling, the recirculation flow rate modulates as a percentage to the maximum and varies according to the distance from the setpoint
- In dehumidification, the recirculation flow rate is a fixed value
- The air flows which pass through the recovery unit are always the same and balanced
- The exchange can be adjusted on 5 levels, from 1 to 5. The number indicates the percentage of air renewal, e.g. exchange equal to 2 means 2/5 or 40%.

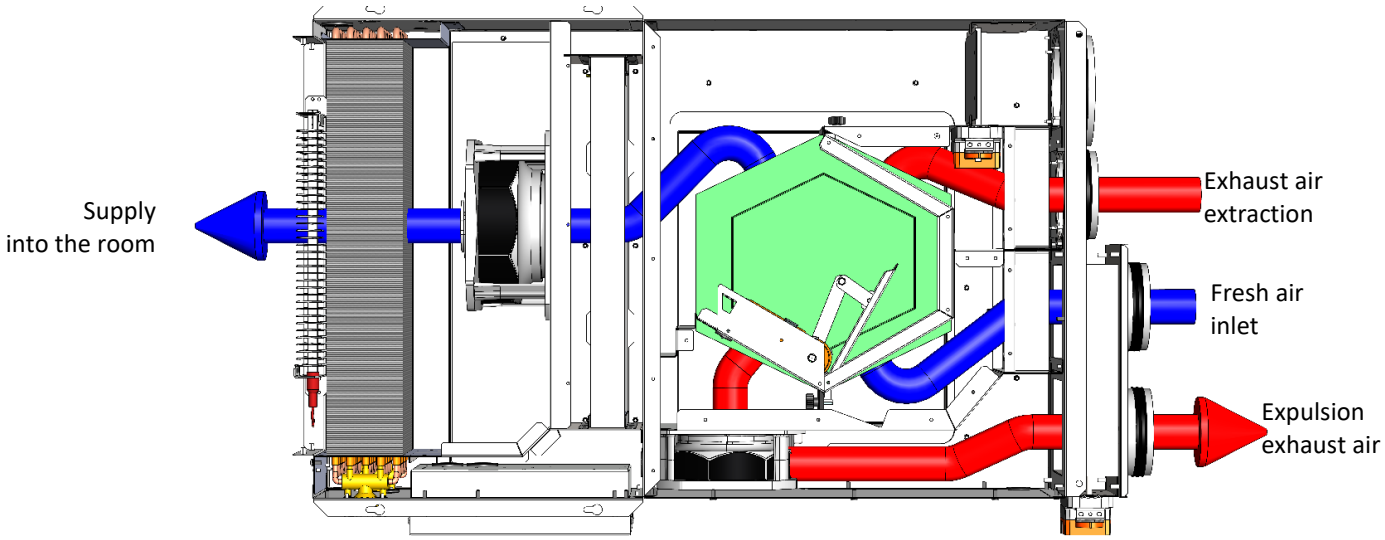
<u>Meaning of the arrows</u>

Red	Expulsion
Blue	Renewal
Green	Recirculation

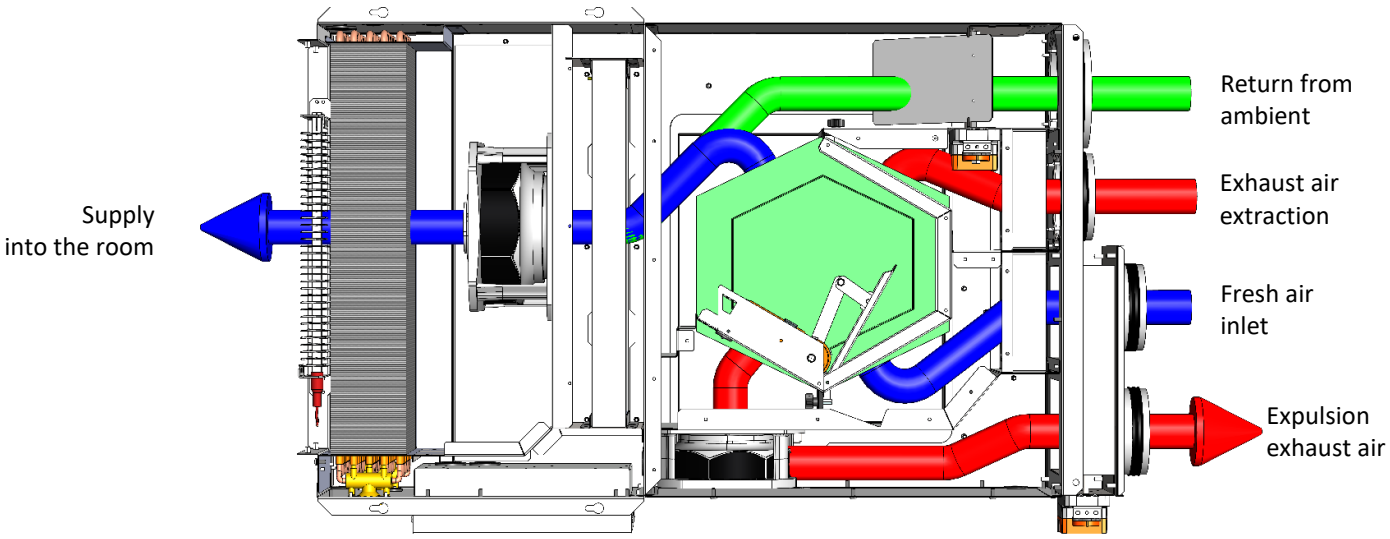
2.2.1 AER 024 – recirculation mode only



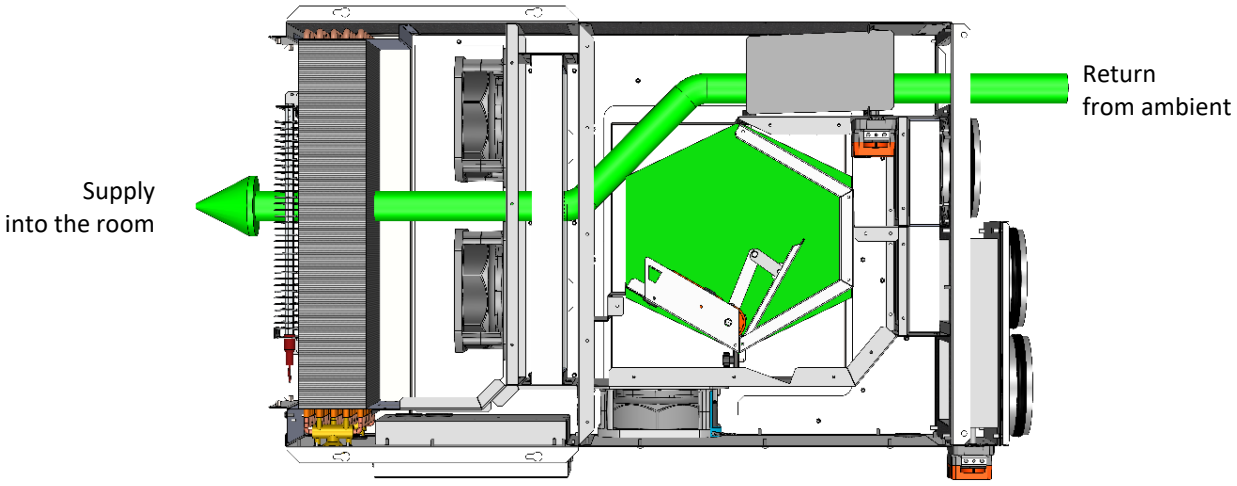
2.2.2 AER 024 – renewal mode only



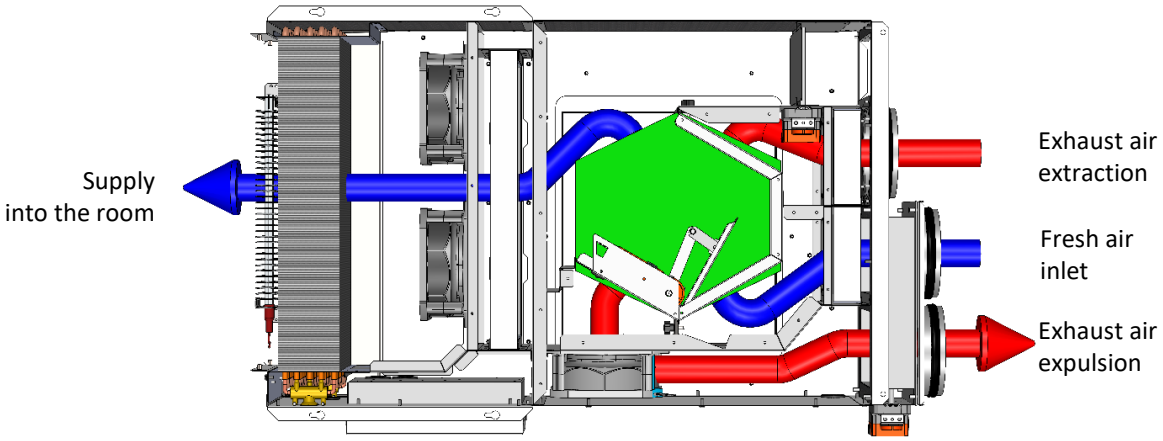
2.2.3 AER 024 – recirculation + renewal



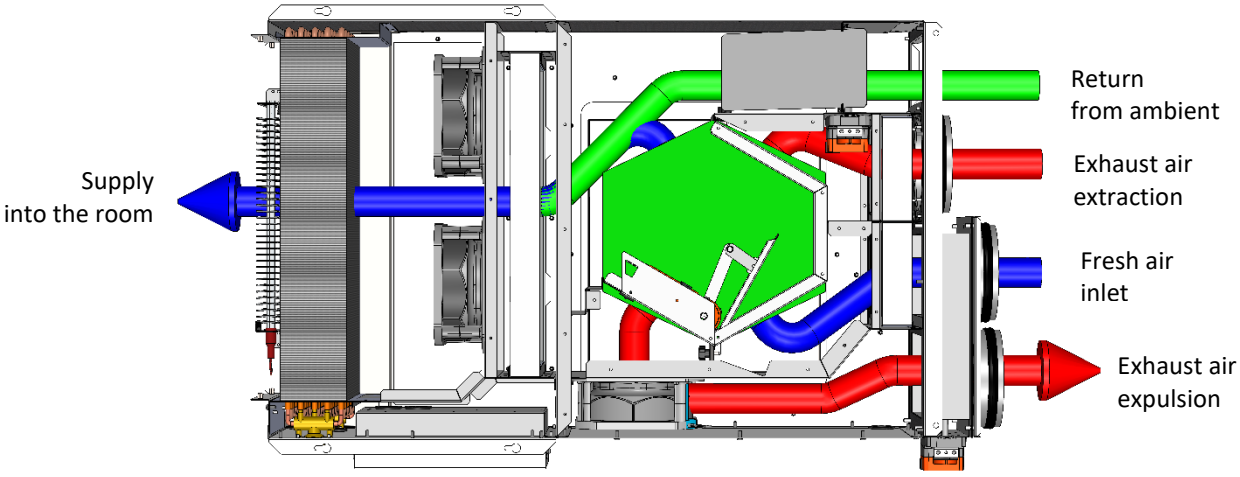
2.2.4 AER 036 – recirculation mode only



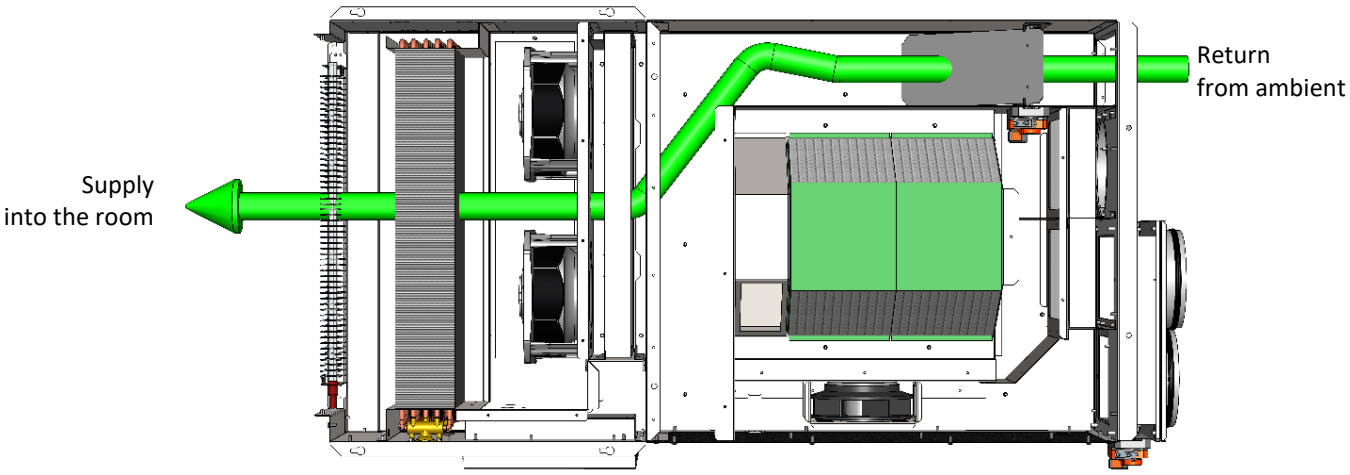
2.2.5 AER 036 – renewal mode only



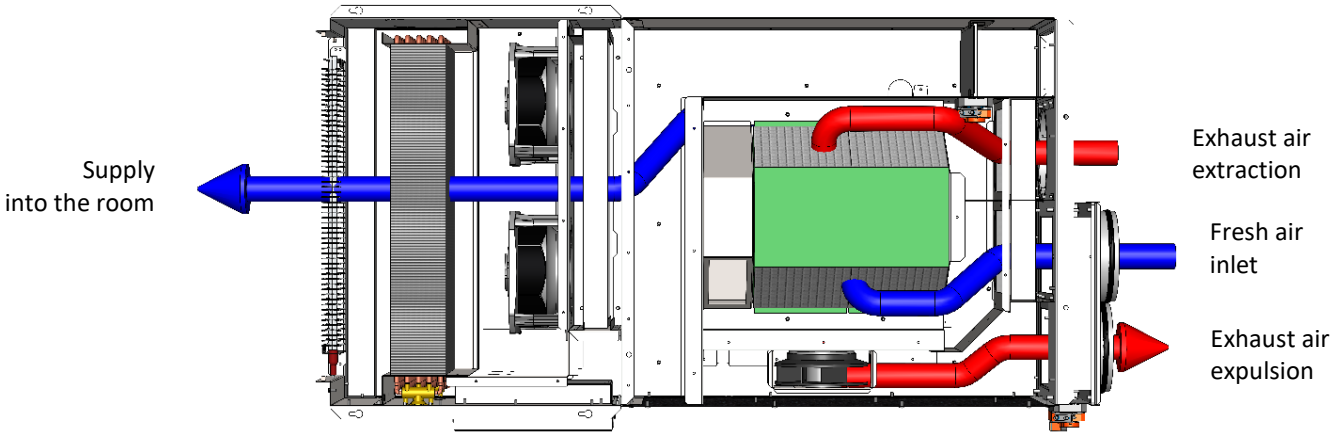
2.2.6 AER 036 – recirculation + renewal



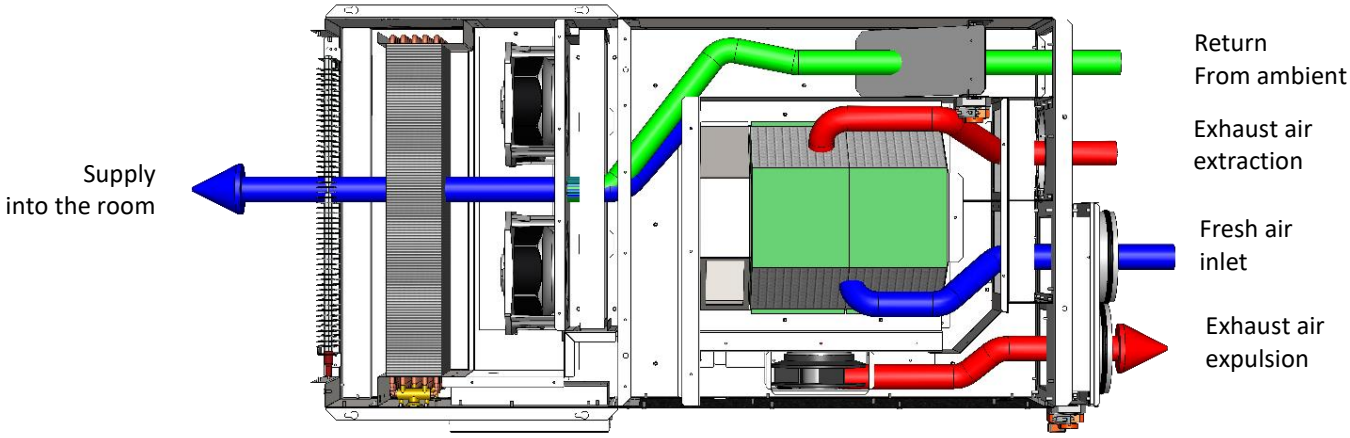
2.2.7 AER 058 – recirculation mode only



2.2.8 AER 058 – renewal mode only



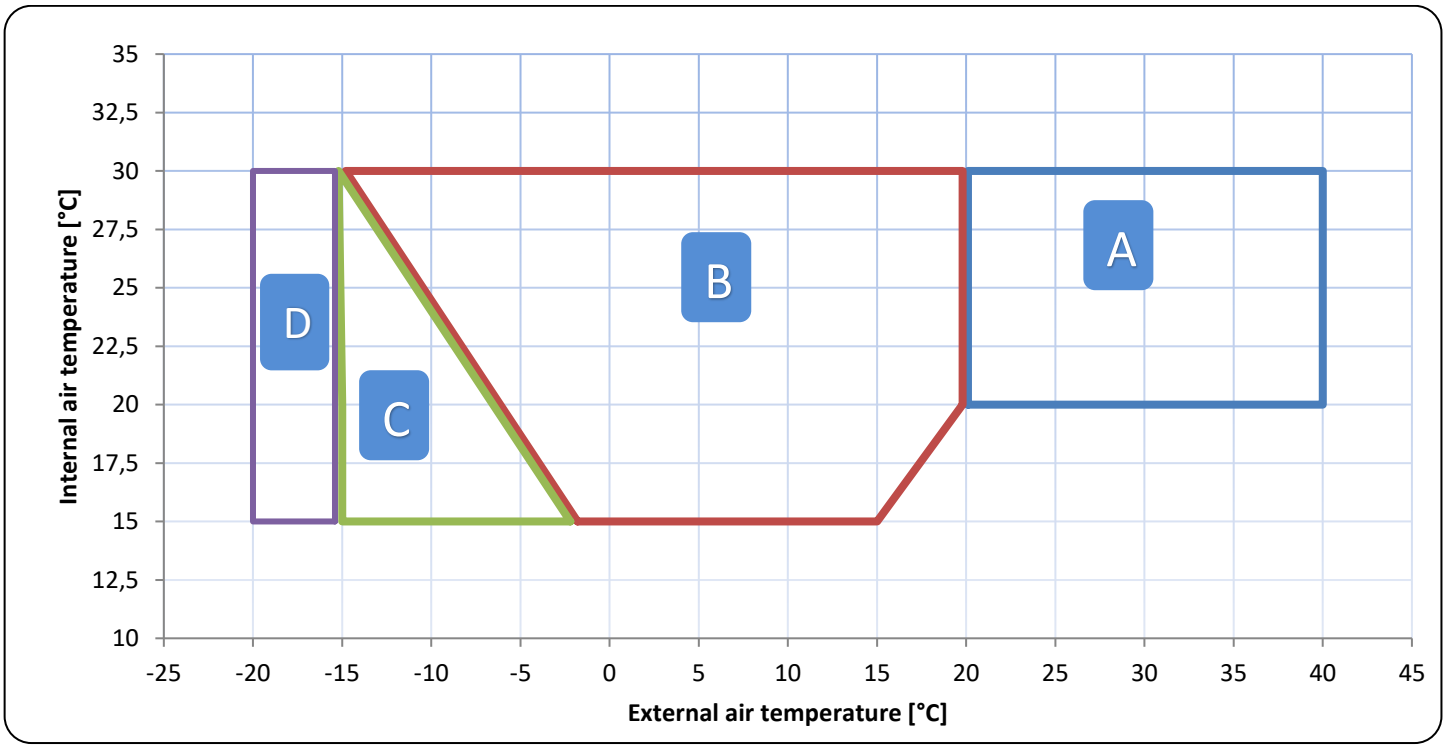
2.2.9 AER 058 – recirculation + renewal



2.3 STRUCTURE

The unit is created with an exclusive design that gives the assembly a pleasant appearance as well as ensuring complete inaccessibility, when the machine is closed, to all the components. This aspect combined with the wide use of sound-absorbing material inside the compartment reduces the sound power level emitted to exceptionally low levels.
Most of the panels are removable to allow full access to the unit. Routine maintenance is done from underneath.
All screws and fastening systems are made of non-oxidisable materials and of carbon steels with surface passivation treatment. The layout of the components guarantees easy access and optimal weight distribution on the base of the unit.

2.4 OPERATIONAL AND FUNCTIONAL LIMITS



In this graphic are indicated the unit functioning limitations:

A *SUMMER*
B *WINTER*
C *Extension of winter operating limits with installation of the automatic defrosting of the heat recovery unit.*
D *Extension of the limits with electric preheating option (optional)*

The humidity operating limits are 40 / 90 % R.H.

ATTENZIONE
WARNING

The temperature and humidity conditions of the installation place must respect the limits indicated in this paragraph. Failure to observe these limits may cause damage to the unit.

2.5 OPTIONS AND FUNCTIONS

	AER 024	AER 036	AER 058
Electronic fans with brushless motor and integrated inverter	SERIES	SERIES	SERIES
Regulation graphic display with temperature and humidity probes and 2 m of connecting shielded cable	SERIES	SERIES	SERIES
5 speeds regulation for fresh air	SERIES	SERIES	SERIES
Dirty filter timed signal	SERIES	SERIES	SERIES
Detailed anomaly signal	SERIES	SERIES	SERIES
Turbo mode	SERIES	SERIES	SERIES
Boost mode	SERIES	SERIES	SERIES
Clock card – time scheduling	SERIES	SERIES	SERIES
Water anti-frost function	SERIES	SERIES	SERIES
Kitchen extractor hood function	SERIES	SERIES	SERIES
On/off control for supply air temperature	SERIES	SERIES	SERIES
RS485 Modbus serial card	SERIES	SERIES	SERIES
Free cooling	SERIES	SERIES	SERIES
Automatic defrost of the heat recovery	SERIES	SERIES	SERIES
Connecting shielded cable (display of 5, 10 or 20 m)	OPTION	OPTION	OPTION
Temperature and humidity probes mounted on board	SERIES	SERIES	SERIES
CO_2 probe	OPTION	OPTION	OPTION
Motorized dampers for ambient dew point control	SERIES	SERIES	SERIES
High efficiency air filters set	OPTION	OPTION	OPTION
Second display	OPTION	OPTION	OPTION
Supply plenum	OPTION	OPTION	OPTION
Recirculation plenum	OPTION	OPTION	OPTION
Electric heating elements	OPTION	OPTION	OPTION

2.5.1 Turbo mode

TURBO mode is particularly useful to eliminate unpleasant odours as quickly as possible. In fact, it activates fresh air exchange at the maximum speed for 10 minutes (the time can be changed from the installer menu). To activate TURBO mode, simply press OK on the advanced control display for 3 seconds. After the 10 minutes, the unit will automatically go back to the previous operating conditions. The function can be activated using the configurable inputs.

2.5.2 Boost mode

Possibility of enabling the Boost mode: full circulation of the room which in heating turns on the electric heating elements (IF PRESENT) if you are very far from the room temperature set-point.

2.5.3 Water anti-frost function

The unit is equipped with a special probe, placed before the water coils, which checks the air temperature and allows the unit to avoid freezing the water inside the coils if the outside air is particularly cold.

2.5.4 Kitchen extractor hood function

During the period in which this function is active, the unit will release more air than it extracts, to compensate for the effect of an extractor hood. The hood function can be activated using the configurable inputs.

2.5.5 On/off control for supply air temperature

The function allows the unit to monitor the air that is introduced into the environment and if it does not respect the limits, which can be modified in the installer menu, the unit circulates water inside the water coil to dilute the air.

2.5.6 RS485 Modbus serial card

Connection with bus RS485 is available for remote supervision or domotic management.
More information available on request.

2.5.7 Free cooling

When in summer the external conditions are more comfortable than indoor conditions, the unit automatically activates the external air inlet without holding up the heat of the air in expulsion. This provides a major comfort indoors taking advantage of the “fresh” external air. The inner air temperature, after which the free cooling is activated, is the one set at the desired temperature. This option also includes the free heating function.

2.5.8 Automatic defrost of the heat recovery

A temperature probe placed in exhausted air expulsion together with a software function, allows the installation of the unit even where the outside temperature is really cold, by proceeding with a defrost of the heat recovery each time it is necessary, by voiding the block of the thermal exchange and the introduction in the house of cold air.

2.5.9 Connecting shielded cable (display of 5, 10 or 20 metres)

A double-wire shielded cable, measuring 5, 10 or 20 metres in length, is available for the connection between the unit and the on-wall display. *The request has to be communicated when the order is placed.*

2.5.10 Temperature and humidity probes mounted on board

A temperature probe and a humidity probe in ambient air intake are mounted on the unit. This allows positioning of the wall display in a technical room and setting of the temperature and humidity reading from the machine and not from the display.
The request has to be communicated when the order is placed.

2.5.11 CO_2 probe

The CO_2 probe is particularly useful for installations in public places, such as offices or meeting rooms, where the carbon monoxide levels are subject to broad-ranging and sudden variations. In this case, the air renewal will always be aligned with the effective needs of the indoor ambient. The probe is supplied separately which must be assembled in the room.
The CO2 probe (carbon dioxide) detects the quantity of carbon monoxide in the room.
The request has to be communicated when the order is placed.

2.5.12 Motorised dampers

The dampers are assembled in the unit for greater precision and adjustment during the recirculation, exchange and free cooling stages.
The dampers are automatically controlled by the unit software.

2.5.13 High-efficiency air filter set

It consists of a set of more efficient filters than the one installed in the unit which cleans the air more effectively and helps to prevent external micro particles from entering.
The request has to be communicated when the order is placed.

2.5.14 Second display

An additional display is provided to be connected to the electronic board in order to control the machine from two different points of the house.

2.5.15 Supply plenum

A supply plenum allows the unit supply to be channelled with flexible spiral hose pipes.
More information available on request.

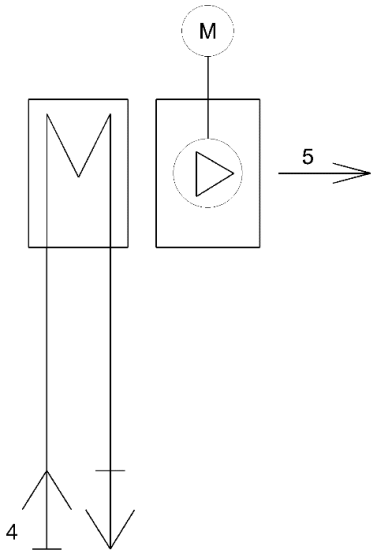
2.5.16 Recirculation plenum

A recovery plenum is provided which is used to channel the room air intake for recirculation with spiral hoses.
More information available on request.

3 REFRIGERANT AND HYDRAULIC CIRCUITS

3.1 FUNCTIONAL SCHEMES

AER



KEY	
4	Water flow
5	Air flow
M	Fan motor

4 ELECTRIC CIRCUITS

4.1 ELECTRICAL DEVICES

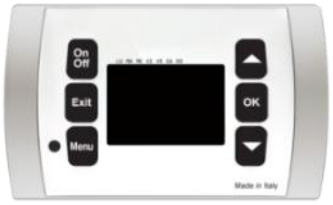
The electrical panel is created and wired according to the regulations mentioned in the Declaration of Conformity.
You should add a fuse to the electrical system in order to protect the unit.
All the remote controls are implemented with low voltage signals, powered by an isolation transformer.

ATTENZIONE
WARNING

Use the ON-OFF button on the display to switch the unit off.
If the power supply is cut, the time is reset which means that the timer settings will not work correctly. The servomotors for the dampers may also not be in the correct position.

5 DISPLAY

The AER air-to air units are managed by an advanced control system. A wall-mounted display is supplied with this function to install on a flush-mount 503 electrical box.
The advanced control is essential when you want to control parameters such as CO_2 values, air quality, supply air temperature, timer settings, etc. The functions which can be managed by the advanced control are shown in the relevant table.
There are 6 keys in the graphic display.



5.1 KEYS

ON/OFF KEY

- On the “main” screen, it allows you to turn off the unit
- On the “OFF” screen, it allows you to turn on the unit

EXIT KEY

- It allows you to exit and return to the “main” screen
- If you are modifying a value, it allows to exit from the modification
- From the “main” screen, by keeping it pushed for 3 seconds, it allows to display the software version

MENU KEY

- On the “main” screen, it allows you to enter the first screen of the ‘user menu’
- On the timer settings programming screens, it allows you to modify the day you are programming

UP KEY

- It allows you to scroll from screen to screen or to modify a value

OK KEY

- It allows you to perform the function displayed or to confirm a value

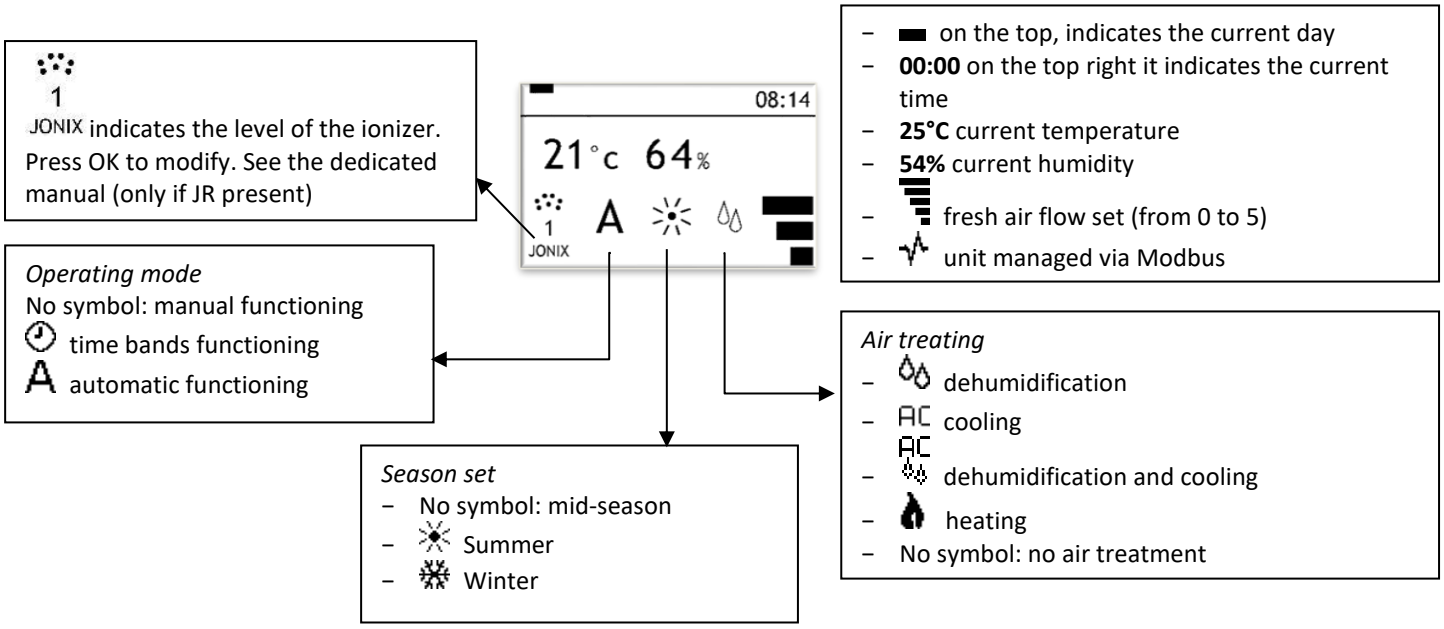
DOWN KEY

- It allows you to scroll from screen to screen or to modify a value

5.2 MAIN MASK

AVVERTENZA
CAUTION

USE OF KEYS
- *With OFF you turn off the unit*
- *By keeping pushed EXIT, you display temporarily the software version*
- *With MENU you enter the user menu*
- *If the unit is in manual mode, use UP and DOWN to increase/decrease the exchange level*
- *With OK you can change the ionization level (only if present)*



Cleaning filters alert
CLEAN THE AIR FILTERS remember to check the state of cleanliness of the air filters.
To hide the writing simply press the EXIT key

Pipe cleaning and replacement signaling
CLEAN or REPLACE HOSES reminds you to check the cleaning/replacement of the ionizer tubes (if present)
To hide the writing simply press the EXIT key

5.3 USER MENU

The user menu consists of 9 screens to configure the unit:

1. Unit operating modes: manual, timer settings or automatic *
2. Season: summer, mid-season or winter
3. Desired summer/winter temperature setting *
4. Desired humidity setting *
5. Alarms management *
6. Time-bands programming *
7. Day and time setting
8. Unit status display
9. Password request

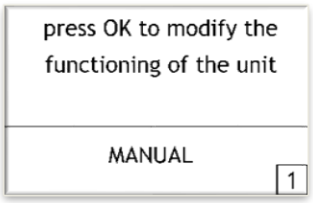
** Screen not always present*

Every screen is numbered at the bottom right.

AVVERTENZA
CAUTION

USE OF KEYS
- *With UP and DOWN you slide from one screen to another (some screens do not always appear)*
- *Press EXIT to exit and to return to the main screen*
- *With OK you execute the function indicated on the screen*

The user menu screens are listed below.

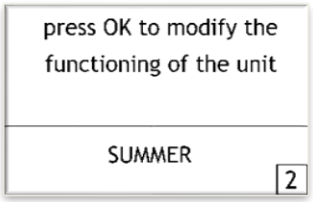


Screen 1 of the user menu allows you to set the unit operation:

1. MANUAL: humidity and temperature required, the on/off and the renewal can be changed via the appropriate screens
2. TIME BANDS: the on/off of the machine, the humidity and the desired temperature and the renewal will work as set in the time slot programming menu
3. AUTOMATIC: the humidity and temperature are pre-set to optimal values and cannot be changed, the on/off and the renewal can be modified via the appropriate screens

(the screen does not appear if: the unit is controlled by Modbus serial)

- press OK to enter the modification phase, press UP and DOWN to modify and press OK to confirm and to exit from the modification phase
- press EXIT to exit and return to the main screen
- press DOWN to move to the next screen

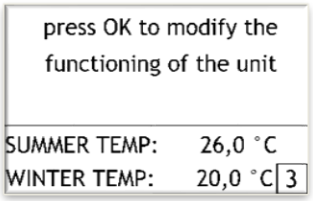


Screen 2 of the user menu allows you to set the active season:

1. SUMMER: renewal, dehumidification and cooling treatment
2. WINTER: renewal and heating treatment
3. MID SEASON: renewal only

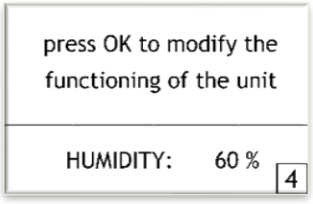
(the screen does not appear if: the unit is controlled by Modbus serial)

- press OK to enter the modification phase, press UP and DOWN to modify and press OK to confirm and to exit from the modification phase
- press EXIT to exit and return to the main screen
- press UP to return to the previous screen
- press DOWN to move to the next screen



Screen 3 of the user menu allows you to set the desired temperature
(the screen does not appear if: the unit is controlled by a Modbus serial or if it is not set in manual mode)

- press OK to enter in the modification phase
- press UP and DOWN to modify the first value
- press OK to confirm and go to the following value
- press UP and DOWN to modify the second value
- press OK to confirm and exit from the modification phase
- press EXIT to exit and return to the main screen
- press UP to return to the previous screen
- press DOWN to move to the next screen



Screen 4 of the user menu allows you to set the desired humidity level
(the screen does not appear if: the unit is controlled by a Modbus serial or if it is not set in manual mode)

- press OK to enter the modification phase, press UP and DOWN to modify and press OK to confirm and to exit from the modification phase
- press EXIT to exit and return to the main screen
- press UP to return to the previous screen
- press DOWN to move to the next screen

Screen 5 of the user menu allows you to manage the alarms
(the screen appears if: there are alarms present)

- press OK to enter the alarm menu
- press EXIT to exit and return to the main screen
- press UP to return to the previous screen
- press DOWN to move to the next screen

Screen 6 of the user menu allows you to program the timer settings.
(the screen does not appear if: the unit is controlled by Modbus serial or if it is not set in timer settings)

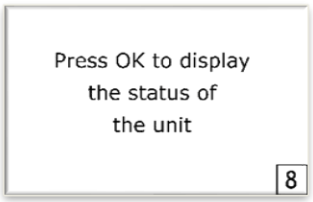
- press OK to enter the time-bands menu
- press EXIT to exit and return to the main screen
- press UP to return to the previous screen
- press DOWN to move to the next screen

Screen 7 of the user menu allows you to set the date and time required to correctly operate the timer settings and other unit functions

They are modified in the following sequence:

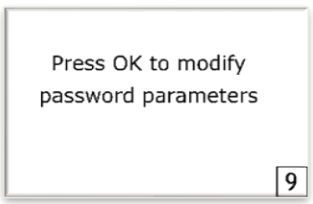
1. the day of the week
2. the hour
3. the minutes
4. the day
5. the month
6. the year

- press OK to enter in the modification phase
  press UP and DOWN to modify the setting
  press OK to confirm and to go to the following modification
  having arrived at the last modification, with OK you confirm and exit from the modification phase
- press EXIT to exit and return to the main screen
- press UP to go back to the previous screen
- press DOWN to go to the next screen



Screen 8 of the user menu allows you to display the unit status, what is on and what is off and the reading of the temperature and humidity probes

- press OK to enter the unit status menu
- press EXIT to exit and return to the main screen
- press UP to return to the previous screen
- press DOWN to move to the next screen

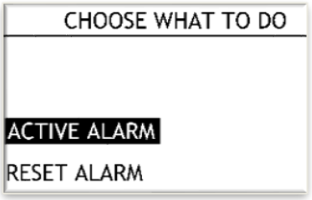


Screen 9 of the user menu allows to modify the parameters protected by password and allows the access to the installer menu

- press OK to enter the screen with password request
- press EXIT to exit and return to the main screen
- press UP to return to the previous screen

5.4 ALARMS MENU

This menu is accessible only if an alarm is present. It allows you to view the active alarm and, if possible, to reset it.

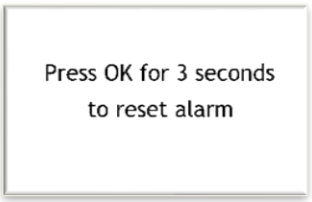


The screen allows you to choose to view or reset the alarm.

- press EXIT to exit and return to the main screen
- press UP and DOWN to scroll through the items
- press OK to confirm the choice and access the screen

An example of an alarm display screen is shown on the left. The component that has triggered the alarm or the type of alarm is shown at the bottom. In this example, the alarm is for high pressure in the compressor.
This screen should be reported to the technical support team in the event of alarms

- press EXIT to exit and return to the previous screen



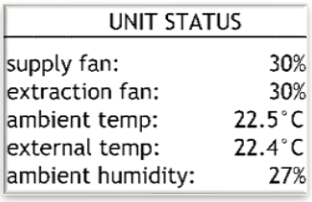
Only some alarms can be reset and you can proceed by paying attention to the fact that the cause of the alarms has not been solved and the alarm could appear again.

- pressing OK for 3 seconds, the alarm is reset and you return to the main screen
- press EXIT to exit and return to the alarms menu

5.5 UNIT STATUS MENU

This menu is always accessible and allows you to view all the information on the status of the unit, in particular, the following are displayed: supply fan, extraction fan, recirculation damper, external dampers, pump contact, modulating water valve, electric heating elements, ionizing tubes, humidifier, room temperature, ambient humidity, water temperature, water coil anti-freeze temperature, heat recovery unit defrost temperature, external temperature, ambient CO_2, dehumidification request, cooling request, heating request, humidification request, free cooling request, free cooling damper, filter cleaning, cleaning tubes, replacing tubes.

Some components are optional or included depending on the type of unit; in this case, a series of dashes will be displayed in the corresponding line.



The example screen shows the supply fan running at 30%, the extraction fan is running at 30% and the recirculation damper is 100% open.

- press UP and DOWN to scroll and display other lines
- press EXIT to exit and return to the main screen

5.6 TIME BANDS MENU

This menu is accessible only if the unit is set to timer setting mode and allows you to program the timer settings which manage when the unit is switched on and off, the summer temperature, winter temperature, humidity and air exchange.

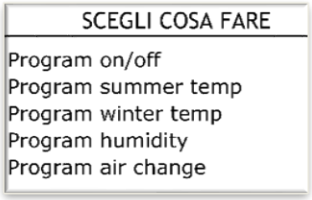
AVVERTENZA
CAUTION

It is very important to set the correct time and date; see screen 7 of the user menu (more information in the previous paragraphs)

Default values are:

- Unit always turned on (24h/day and 7 days/week)
- Desired summer temperature always set at 26°C (24h/day and 7 days/week)
- Desired winter temperature set for all days:
  - 20°C from 8 am to 8 pm
  - 18°C from 8 pm to 8 am
- desired humidity always set at 55% (24h/day and 7 days/week)
- Fresh air flow desired always set at level 3 of 5 (24h/day and 7 days/week)

You can set different parameters for each hour of the day and for each day of the week.



The screen allows you to choose which program to set.

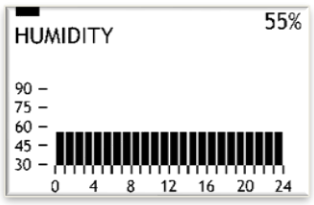
- press EXIT to exit and return to the main screen
- press UP and DOWN to select what to do
- press OK to confirm the choice and to access the dedicated screen indicated below

AVVERTENZA
CAUTION

the "program ionizer" choice appears only and exclusively if an ionizer is present.

5.6.1 Programs

By selecting a program, you access the programming screen (see the example for humidity).



- When you access the screen, the first bar is flashing, from midnight to 1 am and the value set will flash in the top right corner.
- The rectangle indicates the day which is being programmed in the top left corner
- The name of program being configured is shown under the rectangle indicating the day: "HUMIDITY"
- the 24-hour period is show in the bar at the bottom
- the desired humidity level (configurable) is shown in the bar on the left

AVVERTENZA
CAUTION

USE OF KEYS

- *pressing OK you change the time to program*
- *pressing MENU, you change the day to program*
- *pressing UP and DOWN you modify the programming of the flashing hour*
- *With EXIT you return to the previous screen*
- *keeping pressed OK and MENU, you copy the program of the active day to the following day*

5.6.2 Guide

Selecting this guide, you have access to 5 screens which explain how to program the timer settings.

AVVERTENZA
CAUTION

USE OF KEYS
- *With UP and DOWN you scroll from one screen to another (5 total screens)*
- *With EXIT you return to the previous screen*

5.6.3 Default recovery

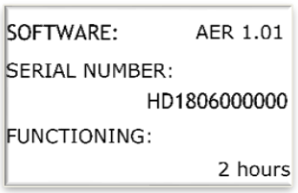
Within the menu for programming the timer settings, selecting the "Restore Default" line accesses the screen that allows resetting of all the values of the timer settings using the initial default setting.

AVVERTENZA
CAUTION

USE OF KEYS
- *- Pressing for 3 seconds OK, you recover all the values*
- *With EXIT you return to the previous screen*

5.7 OTHER SCREENS

5.7.1 Software version



This screen allows you to view the software version, unit serial number and operating hours; this screen is only entered from the main one, by pressing and holding the EXIT key for 3 seconds; the screen is displayed for few seconds and then, it automatically returns to the main screen

5.7.2 Password

This screen allows you to enter the password to modify advanced parameters

- press EXIT to exit and return to the main screen
- press UP and DOWN to set each number of the password
- press OK to move on to the modification of the following value or to confirm

Password to enter the installer menu = 0010

6 TECHNICAL DATA

6.1 TECHNICAL DATA SHEET

		AER 024	AER 036	AER 058
		A / A+ (1)		
Nominal heating power (1)	kW	2.89	3.80	5.77
Nominal cooling power (2)	kW	2.92	3.68	5.83
Nominal power	W	72.5	89	90
Maximum power	W	140	223	425
Nominal power with heating elements option 1	kW	1.72	1.74	2.65
Maximum power with heating elements option 1	kW	1.79	1.87	2.98
Nominal power with heating elements option 2	kW	3.37	3.38	3.39
Maximum power with heating elements option 2	kW	3.44	3.52	3.73
Heating elements power option 1	kW	1.65	1.65	2.56
Heating elements power option 2	kW	3.3	3.3	3.3
Nominal current	A	0.63	0.82	0.81
Maximum current	A	1.18	1.93	3.55
Inrush current	A	1.18	1.93	3.55
Nominal current (heating elements opt.1)	A	4.98	7.34	9.51
Nominal current (heating elements opt.2)	A	7.8	8	11.9
Maximum current (heating elements opt.1)	A	5.53	8.45	12.25
Maximum current (heating elements opt.2)	A	8.35	9.1	14.68
Inrush current (heating elements opt.1)	A	5.53	8.45	12.25
Inrush current (heating elements opt.2)	A	8.35	9.1	14.68
Power supply	V / ph / Hz	230 / 1~+N / 50	230 / 1~+N / 50	230 / 1~+N / 50
Nominal flow water coil	m^3/h	0.5	0.7	1
Loss of water pressure	kPa	14	16	18
Supply fans	no.	1	2	2
Expulsion fans	no.	1	1	1
Nominal air flow	m^3/h	400	600	800
Renewal air flow	m^3/h	0 - 120	0 – 180	0 – 240
Maximum nominal head pressure	Pa	160	160	160
Maximum nominal extraction pressure	Pa	160	160	160
Sound pressure (3)	dB(A)	40	43	45
Storage temperature limit	°C	-10/+43	-10/+43	-10/+43
Storage humidity limit	%	90	90	90
Dimensions (base x depth x height)	mm	1125 x 680 x 250	1125 x 680 x 300	1545 x 810 x 350
Unladen weight	kg	27	33	40

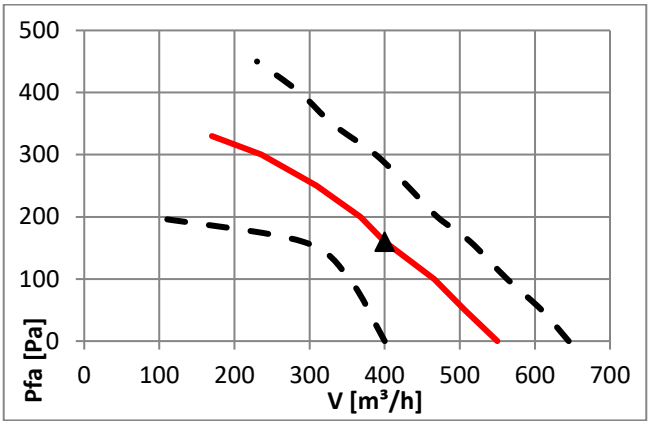
1. Winter efficiency is declared with ambient +20°C, 50% RH and with water +45°C.
2. Summer efficiency is declared with ambient +27°C, 47% RH and with water +7°C.
3. Sound pressure level measured in free field, 2 m from the unit, with a correction factor Q=2, according to the ISO 9614 standard, ducted unit with static pressure 50 Pa.

In different conditions the values will vary: the further the variations are from the nominal point, the bigger they will be.

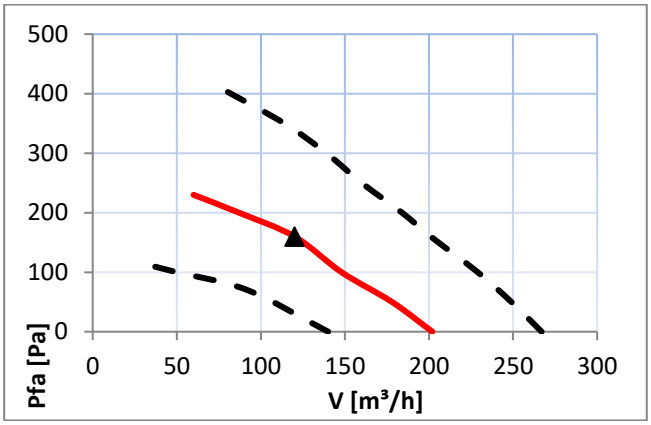
6.2 AIR FLOWS AND PRESSURE

Electronic fans with built-in inverter and brushless motor are installed in the unit with a factory-set maximum speed. Please make reference to the installation paragraph to calibrate the unit.
On the x axis the air flow rate, on the y axis the useful static pressure, and the nominal curve of the machines (solid line) and the curves of maximum and minimum flow rate (dotted lines) are shown.

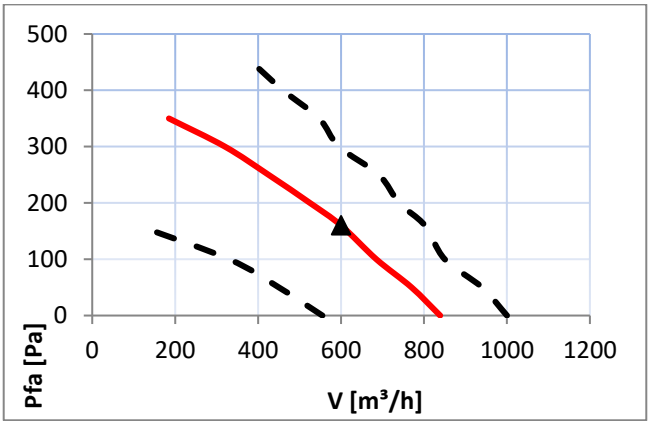
SUPPLY SIZE 024



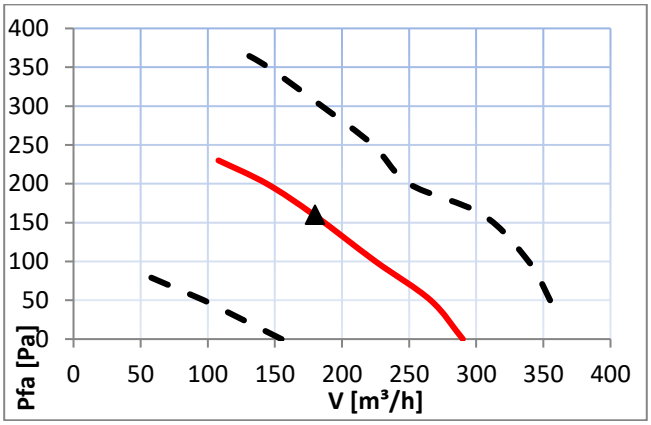
EXTRACTION SIZE 024



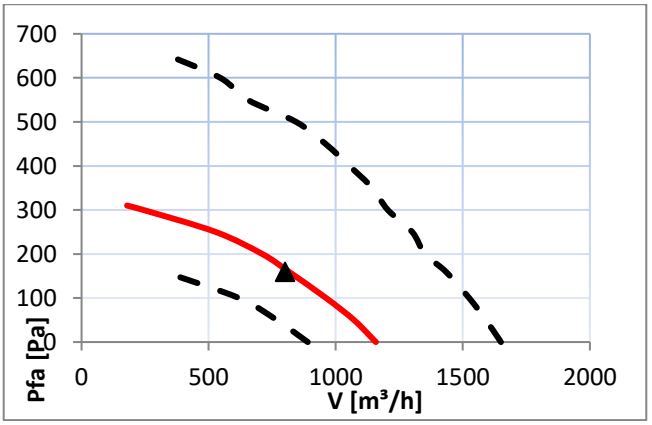
SUPPLY SIZE 036



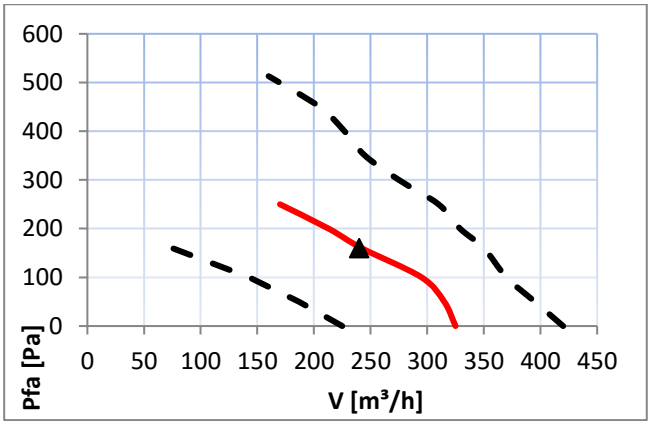
EXTRACTION SIZE 036



SUPPLY SIZE 058



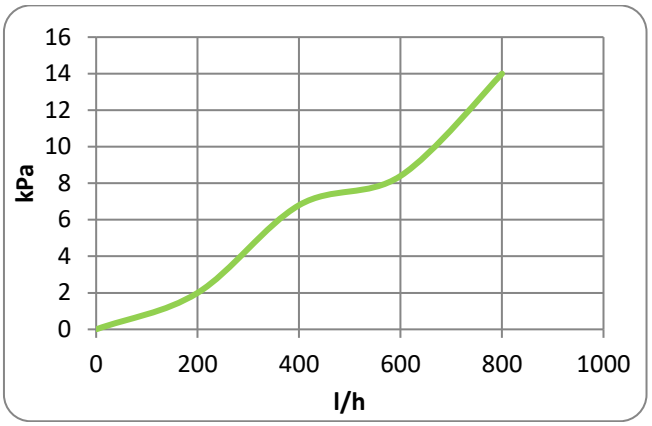
EXTRACTION SIZE 058



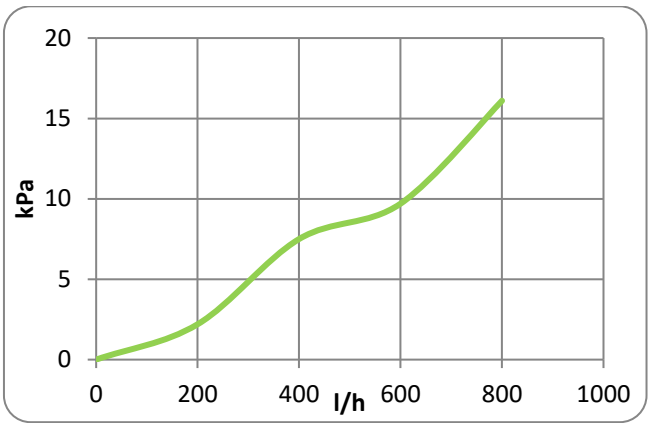
6.3 HYDRAULIC CIRCUIT LOAD LOSSES

The water flow rate is on the x axis, the hydraulic circuit load losses are on the y axis.

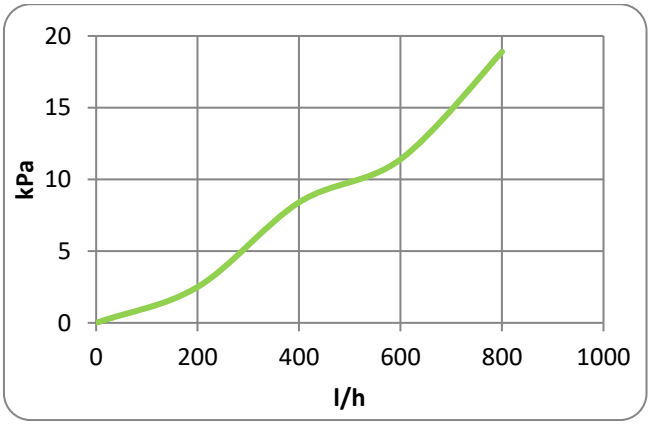
TAGLIA 024



TAGLIA 036



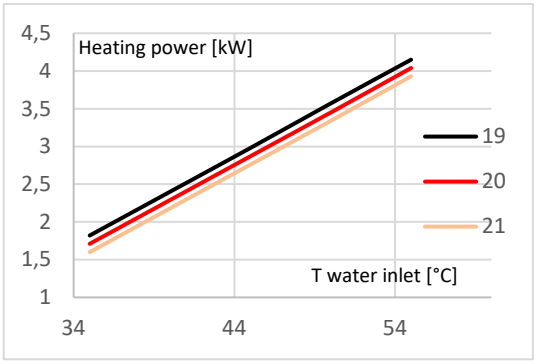
TAGLIA 058

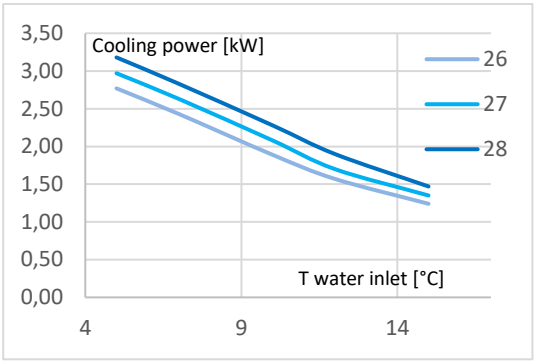


6.4 UNIT COOLING POWER

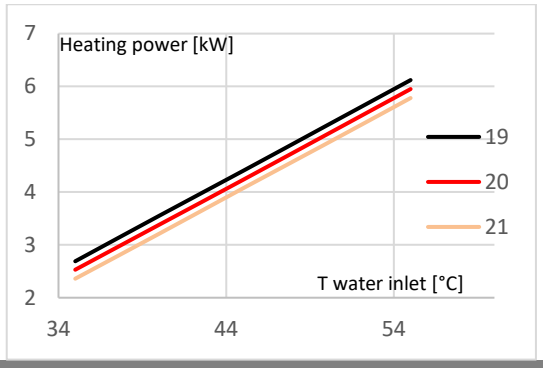
The water inlet pressure on the x axis and the cooling power on the y axis.
The curves are at different temperatures of the recirculated air.

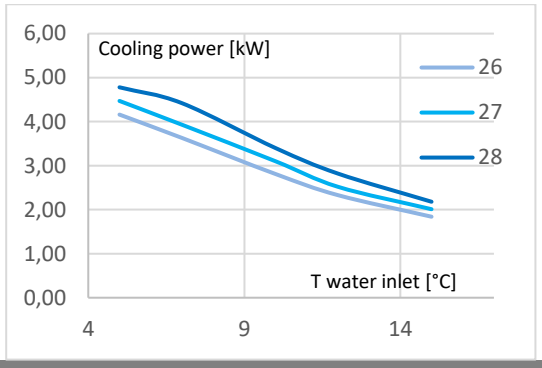
Winter **SIZE 024** **Summer**



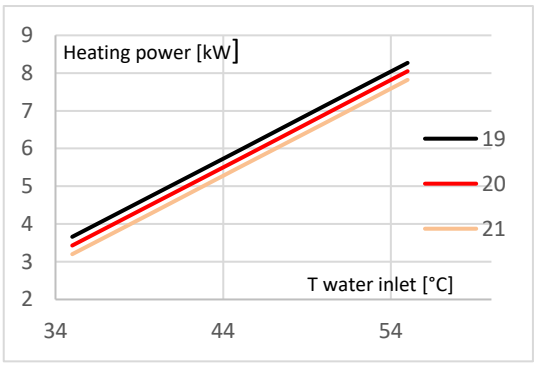


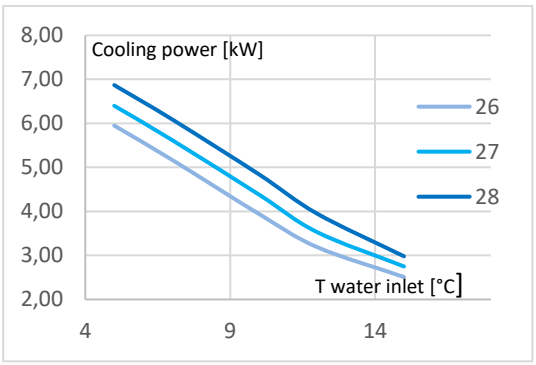
Winter **SIZE 036** **Summer**





Winter **SIZE 058** **Summer**





7 MAINTENANCE AND TROUBLESHOOTING

7.1 FAULTS AND ANOMALIES

The most frequent and common reasons why the unit blocks or malfunctions are listed on the following pages.

Pay the utmost attention in the execution of the suggested operations for resolution of the various problems: excessive lack of attention can cause serious injuries. It is recommended to contact the manufacturer or a qualified technician after having identified the failure.

NR	FAULT	ANALYSIS OF POSSIBLE CAUSES	CORRECTIVE ACTIONS
1	The unit does not start	No electrical power supply to the unit	Check its presence on the power supply terminals
		The display is in OFF	Press ON/OFF to turn it on
		There are alarms present	See on the display, remove the cause and make it start again
2	The display cannot start	There is no power supply to the unit	Make reference to anomaly 1
		Wrong wiring in the connection between display and power board	Check the status of the connection cable, check that the connection A-A and B-B is respected, do not pass the connection cable together with power cables
		The power cable is not shielded or is different to the one indicated	Replace the cable with a suitable one
3	The fan is noisy	An excessively high flow rate has been set	Check the air flow and decrease it if necessary
		The ducts are too small	Check the air duct layout and correct it
4	An alarm is displayed which prevents the unit from being switched on	A device alarm has been triggered in the unit	Check the electrical connections of the device that isn't working on the electronic board and terminals. Replace the damaged component
5	Ambient temperature probe alarm	Probe abnormality (errors can be caused by short circuit or by interruption of the probe)	Check the status of the probe. If the problem is not solved, replace the probe
6	Ambient humidity probe alarm	Probe abnormality (errors can be caused by short circuit or by interruption of the probe)	Check the status of the probe. If the problem is not solved, replace the probe
7	Water temperature probe alarm	Probe abnormality (errors can be caused by short circuit or by interruption of the probe)	Check the status of the probe If the problem is not solved, replace the probe
8	Water coil anti-freeze temperature probe alarm	Probe abnormality (errors can be caused by short circuit or by interruption of the probe)	Check the status of the probe If the problem is not solved, replace the probe
9	Heat recovery defrost temperature probe alarm	Probe abnormality (errors can be caused by short circuit or by interruption of the probe)	Check the status of the probe If the problem is not solved, replace the probe
10	Alarm of the ambient CO_2 probe	Probe abnormality (errors can be caused by short circuit or by interruption of the probe)	Check the status of the probe If the problem is not solved, replace the probe
11	External temperature probe alarm	Probe abnormality (errors can be caused by short circuit or by interruption of the probe)	Check the status of the probe If the problem is not solved, replace the probe

12	Slight or serious electrical heater overtemperature alarm	The air flow is insufficient	Check the cleanliness of the filters, heat exchange coils and recovery unit
			Check that all fans rotate correctly
			Check the length and number of bends of the channels
		Other causes	Call a specialized technician
13	Water coil freezing risk anomaly	The water temp probe has detected a temperature below 6°C with the risk of freezing and damaging the water coil	Check the state of the recovery pack
			Check the correct operation of the extraction fan
14	The message “CLEAN FILTERS” is displayed	The filters need cleaning	Follow the instructions in the sections below for routine maintenance

7.2 MAINTENANCE TABLE

The units function correctly if the maintenance tasks listed in the table are carried out at the scheduled times.

Operation	Period
Air filters	• Visual inspection and cleaning every 6 months (or more frequently for dirty rooms) • Replacement at least every 12 months
Heat recovery unit	• Visual inspection and cleaning at least every 12 months • Replace as necessary or at least every 4 years
Check for correct condensate drainage downstream of the unit	Every 6 months
Check the inlets and air grilles are clean, inside and outside	Every 6 months
Visual and acoustic inspection (check the noise emitted by the unit and make sure it is intact)	Every 6 months
Visual inspection of the hydraulic circuit	Every 12 months
Visual inspection of the electrical panel, cabling and cables	Every 12 months
Check on the status and fastening of the fans	Every 4 years
Condensate drip tray cleaning	Every 4 years
Heat exchange coil cleaning	Every 4 years

ORDINARY MAINTENANCE OPERATIONS REGISTER

Enter the maintenance tasks performed in the following table.

Operation	Year _____		Year _____		Year _____	
	1st semester	2nd semester	1st semester	2nd semester	1st semester	2nd semester
Air filter						
Heat recovery unit						
Check correct condensate drainage						
Check the inlets and air grilles are clean, inside and outside						
Visual and acoustic inspection (check the noise emitted by the unit and make sure it is intact)						
Visual inspection of the hydraulic circuit						
Visual inspection of the electrical panel, cabling and cables						
Check on the status and fastening of the fans						
Condensate drip tray cleaning						
Heat exchange coil cleaning						

EXTRAORDINARY MAINTENANCE OPERATIONS REGISTER

Enter here any extraordinary maintenance tasks carried out on the unit.

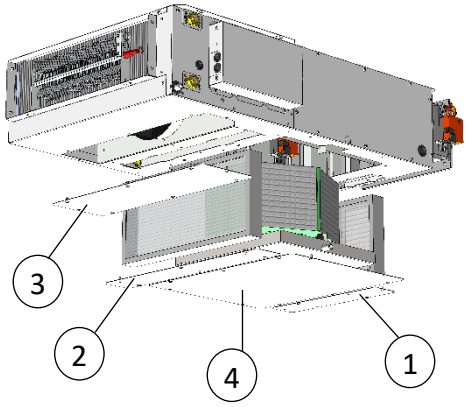
7.3 ORDINARY MAINTENANCE

7.3.1 Exploded view to identify the panels you need to open

Just remove the lower panels for the AER unit for routine maintenance.
Remove the screws and carry out the maintenance tasks.

ATTENZIONE
WARNING

The air filters may fall out when removing the access panels. Therefore, pay maximum attention during the opening phase to prevent the air filters from falling to the ground.

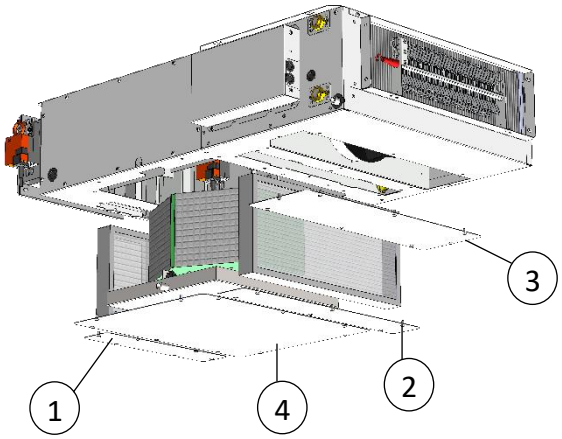


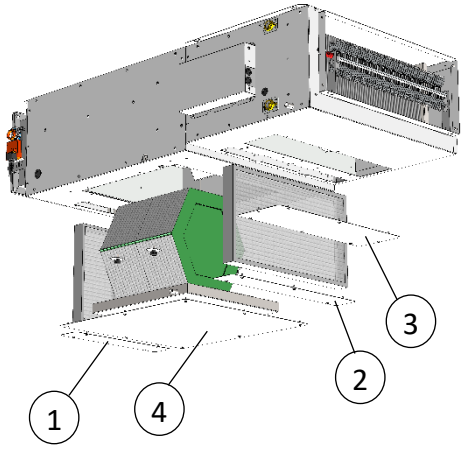
AER 024

1. Panel for exhaust air filter, external air filter
2. Panel for supply air filter
3. Panel for fan compartment access
4. Panel for condensate drip tray and heat recovery unit

AER 036

1. Panel for exhaust air filter, external air filter
2. Panel for supply air filter
3. Panel for fan compartment access
4. Panel for condensate drip tray and heat recovery unit





AER 058

1. Panel for exhaust air filter, external air filter
2. Panel for supply air filter
3. Panel for fan compartment access
4. Panel for condensate drip tray and heat recovery unit

7.3.2 Cleaning the heat recovery unit

AER units: open the specific panel, unscrew the first handwheel and leave the tray for the drain hose hanging, unscrew the second handwheel and lower the heat recovery unit.

7.3.3 Cleaning/replacing air filters

Open the panels containing the filters/dedicated panels, remove the filters and use a vacuum cleaner; if necessary, use your hands to remove impurities which may stop the correct air flow, paying attention not to damage them.
Any damaged, punctured or otherwise damaged filter must always be replaced.

Clogging of the air filters depends on use of the machine and on the installation area. We recommend periodically checking whether the filters are clean. We remind you that, an incorrect cleaning or the removal of the air filters from the unit, leads to serious risks about its correct functioning and integrity. If the cleaning/replacement of the filters is not respected, the warranty expires.

Press EXIT to eliminate the “Clean the air filters” message from the main screen.

7.4 EXTRAORDINARY MAINTENANCE

The unscheduled maintenance has to be done only by qualified staff.
DO NOT IMPROVISE, WOUND OR DEATH DANGER

7.4.1 Cleaning heat exchange coil

Remove any build-up of dust or deposits by cleaning the pack with compressed air in the opposite direction with respect to the air flow; or, alternatively, wash it with water and non-corrosive products.

7.4.2 Electric circuit check

The check should be performed when there is no voltage.

Check that all the terminals are correctly secured; if not, tighten the screws or the connectors.
Check that all the contactors or power relays, if present, are functioning and not blocked or oxidized; if not, they must be replaced.

8 DISMANTLING OF THE UNIT

When the unit needs to be removed or replaced, following the indications below:

- If the structure and the various components cannot be use, they should be demolished and divided into material types. This is particularly important for copper and aluminium of which there are significant quantities in the machine.

This will facilitate the work carried out in the waste collection, disposal and recycling facilities and minimise the environmental impact of such processes.

ATTENZIONE
WARNING

If the unit, or part of it, has been taken out of service, it must be secured to avoid creating any danger to persons.

For the substitution of every component, please make reference to the current directions regarding the process for dismantling.
Please note it is mandatory to register the loading and unloading of special and toxic-harmful waste.
Special and toxic-harmful waste must be collected by authorised companies.
Special and toxic-harmful waste must be disposed of in compliance with the applicable laws in the user's country.
Dismantle the unit according to the requirements imposed by law in force in the user's country.
Before demolishing the unit, ask the relative Authority to perform an inspection and issue a report.
Lastly, scrap the unit in compliance with the applicable laws in the user's country.

AVVERTENZA
CAUTION

Qualified personnel must dismantle and demolish the unit.

8.1 MANAGEMENT OF WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)

This product is covered by Directive 2012/19/EU on the management of waste electrical and electronic equipment (WEEE).
The appliance must not be disposed of with household waste because it is made of different materials that can be recycled at appropriate facilities. Contact your local authority to find out where the nearest ecological platform is, so that the product can be disposed of and recycled.
Also remember that, if you purchase an equivalent appliance, the dealer is required to collect the old product for free.
The product is not potentially harmful to human health and to the environment, as it does not contain harmful substances as per Directive 2011/65/EU (RoHS), but if it is abandoned in the environment, it has a negative impact on the ecosystem.
Read the instructions carefully before using the appliance for the first time. It is recommended not to use the product for any purpose other than that for which it was intended, as there is a risk of electric shock if it is used improperly.

The crossed-out bin symbol on the sticker attached to the appliance indicates that this product complies with the legislation on waste electrical and electronic equipment.
Abandoning the equipment in the environment or disposing of it illegally are punishable by law.

9 INSTALLATION

9.1 PREAMBLE

9.1.1 Inspection

On receiving the unit, check for any damage: the machine left the factory in perfect conditions; immediately report any signs of damage to the carrier and note them on the “Delivery Slip” before signing it.
The manufacturer or its agent must be promptly notified of the extent of the damage.
The Customer should write a paper listing all the eventual relevant damages.

9.1.2 Lifting and transport

While the unit is being unloaded and positioned, utmost care must be taken to avoid abrupt or rough manoeuvres. Be very careful when transporting it inside. Do not use the unit components for lifting purposes.

During all lifting operations, check if the unit has been properly anchored, in order to avoid falls or overturns. Do not move or lift the unit by the removable panels.
The unit must not be tilted ± 30° and/or turned upside down.

9.1.3 Unpacking

The unit should be unpacked by paying attention, in order to avoid any possible damage to the unit itself; the packaging can be of different material, such as wood, paper, carton, nylon, etc. please preserve separately the different materials for the dismantling/recycling, in order to reduce the environmental impact.

9.1.4 Unit identification

Every unit has a rating plate on the frame which indicates all the information required for the installation, maintenance and traceability of the unit.

Take note of the model, serial number, etc. and the machine reference diagrams in the table so that they can be easily referred to if the rating plate becomes illegible.

Modello - Model	
Matricola - Serial number	
Data di produzione - Date of production	
Max temp. di stoccaggio - Max storage temperature [°C]	
Max temp. Funzionamento - Max ambient working temperature [°C]	
Min.temp.ambiente di funzionamento-Min ambient working temp. [°C]	
Peso a vuoto - Empty weight [kg]	
Alimentazione - Power supply	
Potenza assorbita Nominale - Nominal power input [kW]	
Corrente nominale - Nominal absorbed current [A]	
Corrente massima - Full load ampere FLA [A]	
Corrente di spunto - Inrush Current LRA [A]	
Schema elettrico - Wiring diagram	

9.2 POSITIONING

AVVERTENZA
CAUTION

It is very important to always guarantee total access to the unit for routine maintenance work and calibration

Please, pay attention to the following points, in order to define the most suitable place for the installation of the unit and the related connections:

- dimensions and source of the hydraulic pipes;
- place of the power supply;
- complete access for maintenance/repair operations;
- strength of the fixing point.

Refer the “sizing” section

ATTENZIONE
WARNING

We recommend installing anti-vibration feet for each anchoring point to avoid transmitting noise and vibrations.

PERICOLO
DANGER

The unit must not be tilted ± 30° and/or turned upside down even temporarily.
Failure to comply with these recommendations will void the warranty.

ATTENZIONE
WARNING

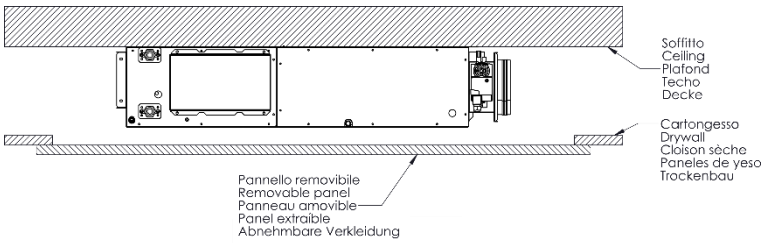
The conditions of the installation place must comply with the limits indicated in the section entitled “Operational and Functional Limits”.

9.2.1 Areas of respect

ATTENZIONE
WARNING

All AER models are designed and built for indoor installation.
Do not install the unit outdoor and make sure it is not exposed to atmospheric agents such as rain, hail, moisture, and frost.

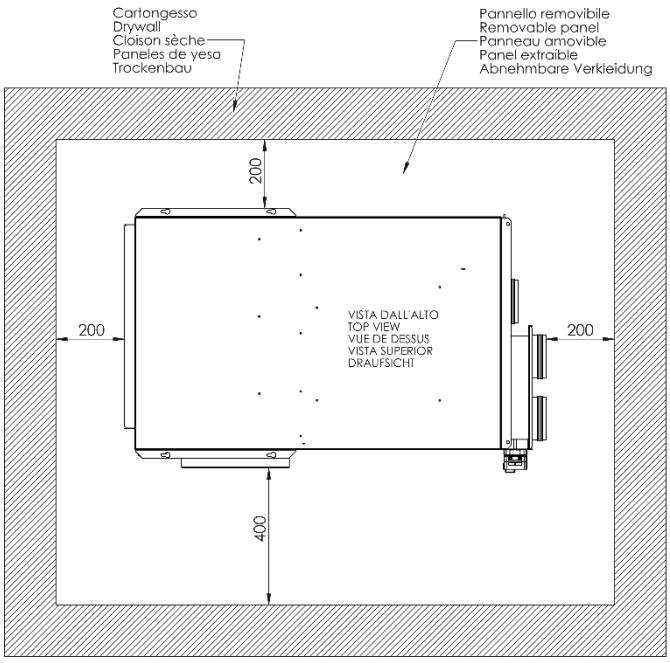
For false ceiling installations always prepare a removable panel as the image below.



The removable panel should have the necessary dimensions to grant the access on all the sides of the unit and should be larger on the electrical panel side and on the supply air side, for the installation of optional accessories.

For the correct dimensions of the panel, please consider also the accessories fixed on the unit (i.e. plenums) and also the necessary calibration (refer to the next paragraphs).

The unit in the picture is AER 024, the indicated dimensions are the minimum suggested.



9.3 DUCTING

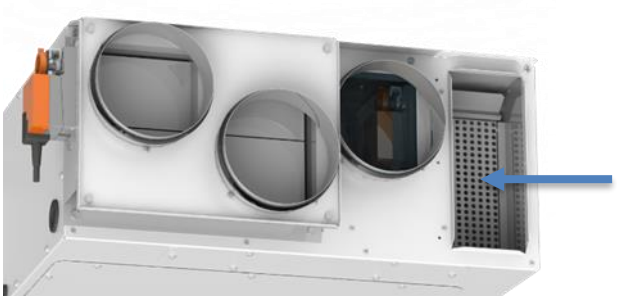
All the units are provided with flanges or gaskets for ducts.
The air intake for recirculation in some installations is not connected to the ducting. In this case, there are very low load losses and the flows are unbalanced. To prevent this from happening, a grille has been inserted in the machine.

AVVERTENZA
CAUTION

The grille is very important when ducts or extraction pipes are not connected for recirculation; when a duct or pipe is connected, however, the grille should be removed to minimise noise.

AER 024

Go to the side where the pipes are located. The recirculation inlet is on the right (return from room); bend the grille to remove it completely. There is a panel behind the grille, do not remove: it is the damper that autonomously regulates the flow.

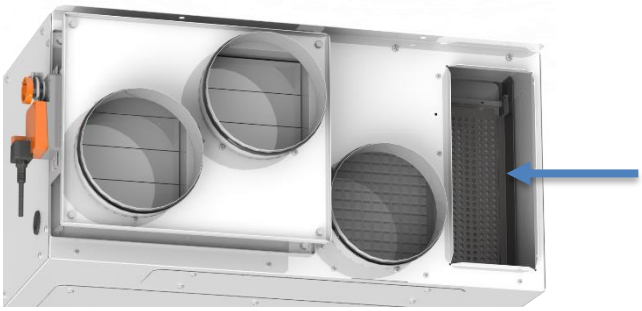


AER 036

Go to the side where the pipes are located. The recirculation inlet is on the right (return from room); bend the grille to remove it completely. There is a panel behind the grille, do not remove: it is the damper that autonomously regulates the flow.

AER 058

Go to the side where the pipes are located. The recirculation inlet is on the right (return from room); bend the grille to remove it completely. There is a panel behind the grille, do not remove: it is the damper that autonomously regulates the flow.



9.4 HYDRAULIC CONNECTIONS

9.4.1 Water circuit connection

When setting up the hydraulic circuit, the following rules and national and/or local standards must be complied with.

ATTENZIONE
WARNING

Do not twine on the connections of the unit. With a key, block the connection and with another one, fix the adaptor.

Adapt the pipes through flexible joints, in order to avoid the transmission of vibrations and compensate the thermal dilatations.

The following components should be installed on the piping:

- Zone valve or dedicated pump commanded from the pomp contact in the terminal box to allow the water flow on the unit; if the pump has a power superior to 1 A, introduce a power relay;
- Temperature and pressure indications for the maintenance and group control. The pressure control indicates the correct functioning of the expansion vase and highlights in advance water losses in the plant;
- Interception valves (dampers) to insulate the hydraulic circuit in case of maintenance interventions;
- Metal filter (inlet pipe) with 1 mm mesh, to protect the exchanger from the impurities present in the pipes. This requirement is, above all, necessary for commissioning;
- Vent valves, to be placed on the highest areas of the hydraulic circuit, in order to allow the air purge. On the internal machine tubes there are manual vent valves: this operation must be carried out with the unit without voltage;
- Discharge tap and, where necessary, drain tank to allow the empty of the plant for maintenance actions/seasonal pauses.

Dimensions and position of the hydraulic connections are indicated in the dimensional drawings.

AVVERTENZA
CAUTION

It is fundamental that the water inlet is realized in correspondence with the connection indicated with the label "Water inlet". Otherwise the countercurrent circuitry would not be respected with the risk of malfunction, blockage or breakage of the unit.

ATTENZIONE
WARNING

The hydraulic circuit must be implemented in such a way as to guarantee a constant nominal water flow (+/- 15%) in all operating conditions.

Water specifications for thermal systems

The UNI 8065/89 standard is the reference stand for water treatment in domestic thermal systems and establishes the chemical and physical parameters required to prevent build-up and corrosion in the systems.
The indications given in the standard are outlined in a table below:

FILLING AND TOPPING UP WATER CHARACTERISTICS	
Appearance	clear
Total hardness	< 15°F

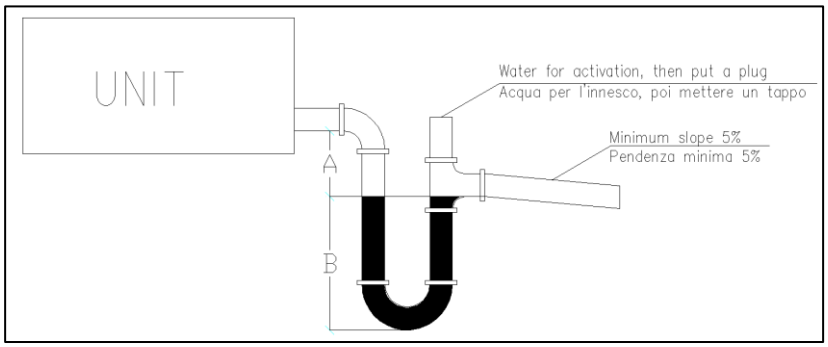
CIRCUIT WATER CHARACTERISTICS	
Appearance	Possibly clear
pH	between 7 and 8
Hardness	<15°F
Iron (Fe)	<0.5 mg/kg
Copper (Cu)	<0.1 mg/kg

9.4.2 Condensate discharge

Connect a pipe with an internal diameter of 16 mm. There should not be any uphill sections along the condensate discharge pipe.
It is necessary to prime the siphon by pouring water into it before starting the unit.
The following image shows the recommended layout for the siphon.

ATTENZIONE
WARNING

There are 2 condensate discharges, one for the dehumidifier and one for the heat recovery unit. A siphon must be installed for every discharge pipe. A T-joint can only be put in downstream. Never insert a T-joint upstream of the siphons.



Minimum siphon height
A more than 50 mm
B more than 50 mm

ATTENZIONE
WARNING

The inclination of the discharge pipe must be such as to drain the water from the unit to the outside in all cases. If this is not granted, condensate can overflow from the unit.

9.5 ELECTRICAL CONNECTIONS

Open the electrical panel, introduce the supply cable and the other necessary cables in the dedicated holes, realize the connections on the terminals and close the panel.

PERICOLO
DANGER

The ground lead is compulsory. The installer should provide the grounding wire with the dedicated terminal located within the electrical panel, labelled with the indications.

The electrical connection, the power cables and the protections must be implemented according to the electrical wiring diagram attached and in compliance with local and international regulations.

	024	036	058
Suggested supply line	H05VV-F 3G1.5	H05VV-F 3G1.5	H05VV-F 3G1.5
Recommended MGT switch to be inserted upstream of the line	C6	C6	C6
Plug-in terminals recommended for power cables: mod CEMBRE	BF-F608P	BF-F608P	BF-F608P

Recommended power supply line WITH OPTIONAL ELECTRICAL RESISTANCES	H05VV-F 3G1.5	H05VV-F 3G1.5	H05VV-F 3G2.5
MGT switch recommended to be inserted upstream of the line WITH OPTIONAL ELECTRIC RESISTANCES	C10	C10	C16
Plug-in terminals recommended for power cables: mod CEMBRE	BF-F608P	BF-F608P	BF-F608P

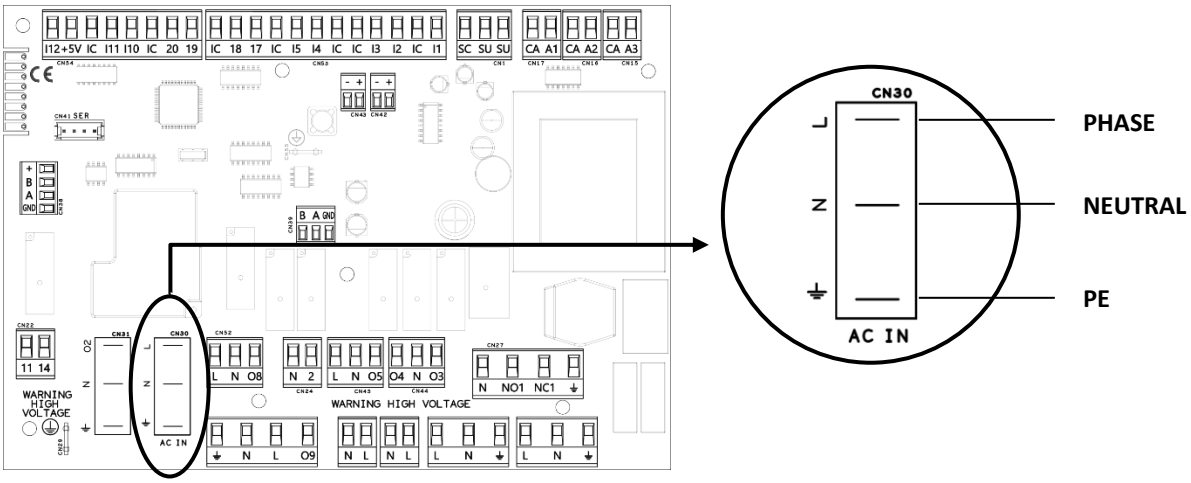
PERICOLO
DANGER

Wiring must be carried out when the power supply is disconnected. DANGER OF DEATH!

9.5.1 Terminal box and cabling

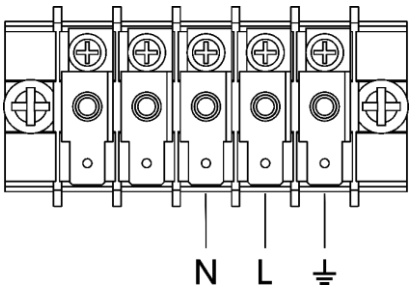
POWER SUPPLY CONNECTION

The unit power supply must be brought to the connector shown in the figure, for each of the 3 connections to be made there is a male faston terminal: one for phase L, one for neutral N and one for grounding PE. Just connect each of the 3 terminals with the respective cable, equipped with a faston terminal with female coupling.

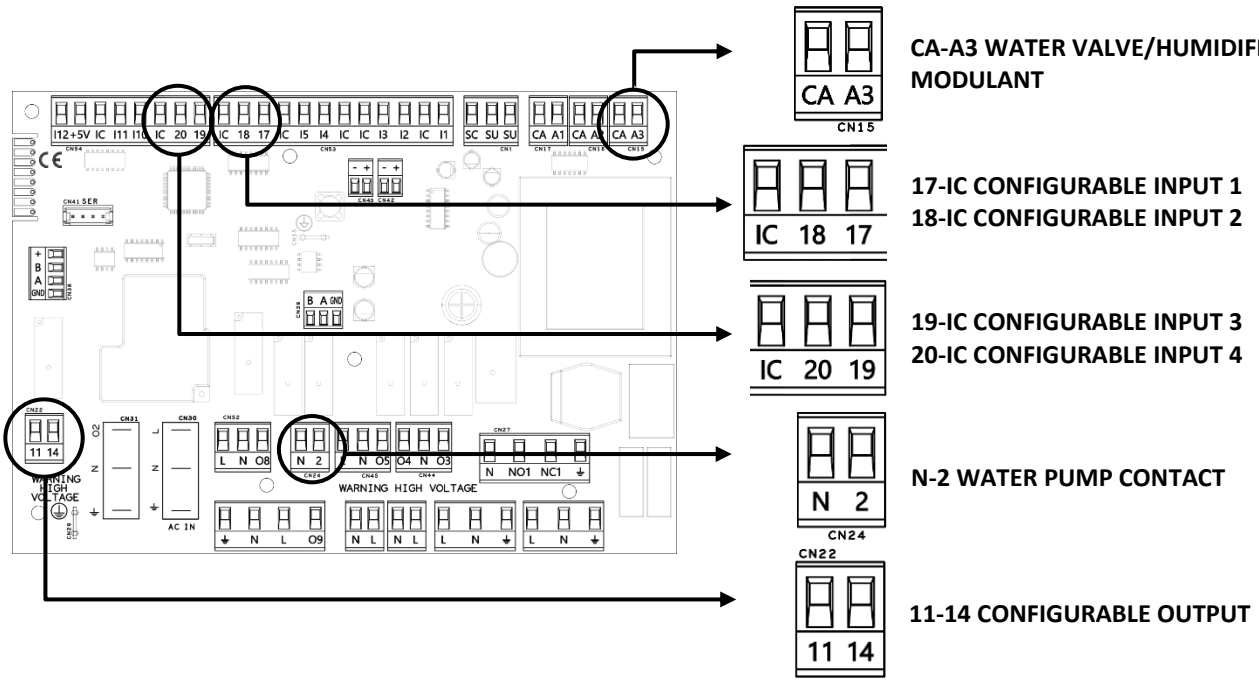


ONLY WITH OPTION ELECTRICAL HEATERS

Bring the 230V power supply only to the terminal block in the electrical panel under the power board, connecting only to the terminals indicated in the picture.



USER CONNECTIONS



CONFIGURABLE DRIVES

The terminals (17-IC) - (18-IC) - (19-IC) - (20-IC) are the configurable controls; there are 4 digital inputs that can be configured to perform various functions. CAUTION: **connect only the clean contacts** and not the tension ones.

POSSIBLE CONFIGURATIONS	OPEN CONTACT	CLOSED CONTACT
Remote ON/OFF	Unit turned off at distance	Unit turned on and managed by the display
Summer/winter commutation	Unit in summer mode	Unit in winter mode
Fresh air activation	with external dampers: renewal off without external dampers: renewal at minimum	Fresh air set from the display
Fresh air forcing	Fresh air set from the display	The fresh air is at max until the contact is closed
Air treatment enabling	Heating, cooling and dehumidification non-active	Heating, cooling and dehumidification active according to the set from the display and to ambient conditions
turbo mode	Fresh air set from the display	The fresh air is at max until the contact is closed and for the further 10 minutes
Temperature drive	summer: air conditioning not active winter: heating not active	summer: active air conditioning winter: heating active
Humidity drive	summer: dehumidification not active winter: dehumidification not active	summer: dehumidification active winter: dehumidification not active
kitchen extractor hood mode	standard unit operation	The unit compensates the air expulsion of the kitchen extractor, so the external flow towards the internal raises the max, while the internal flow towards the external is reduced to the min.
Ionizer	Ionizer off	Ionizer on
Treatment with heating elements only	standard unit operation	Forces the heating element to activate and closes the water valves.
energy saving	standard unit operation	disables the heating element
photovoltaic contact	standard unit operation	Increases or decreases the set point by 2°C depending on the season base on the power available from the photovoltaic system

For each configurable control, it is possible to invert the logic.

All the settings which are not used from configurable drives, have to be done manually from the display

AVVERTENZA
CAUTION

In addition to the electrical cabling, the configurable controls are set via the display during the first start-up; refer to the relevant section.

EXAMPLES:

- **The user requests turning the unit off and on from a wall switch**: use the first configurable control, connect the 2 wires of the switch to the 17-IC terminals and upon the first start of the unit set the first configurable control as remote ON/OFF.
- **Control unit of the temperature control system with a dry contact for summer/winter changeover and a dry contact to enable air treatment:** use the first command configurable as summer/winter changeover and the second command configurable as enabling of the air treatment, connect the first contact on terminals 17-IC and the second contact on terminals 18-IC and upon the first start-up set, both contacts with the relative functions.

The terminals 11-14 are a configurable output. We suggest setting the output as a general alarm or use the terminals for connecting the humidifier (IF PRESENT) or for connecting the ionizer (IF PRESENT). The control is a dry contact. For setting, follow the instructions in the "installer's parameters configuration" chapter. The output cannot be used if the machine is equipped with an ionizer or humidifier.

AVVERTENZA
CAUTION

In addition to the electrical wiring, the configurable output must be set on the display during the first start-up; refer to the dedicated paragraph

Terminals N-2 must be connected to a zone-head, a water valve or a water pump (max 1A) to control the water-supply to the unit. The control is in 230 V. For devices with a consumption over 1 A, interpose a contactor or a power relay. **If the contacts N-2 are not connected as indicate, the machine may be damaged and this will lead to the warranty being voided immediately.**

CO_2 PROBE CONNECTION [optional]

For the functioning and the supplying of the CO_2 probe you need to connect a 3-wires cable from the probe to the unit; for the connection, please follow the indications/procedure here below:

The terminal G of the probe must be connected to one of the terminals of the appropriate transformer for the 24V power supply of the probe.

The terminal G0 of the probe must be connected to the other terminal of the appropriate transformer for the 24V power supply of the probe and to any terminal IC of the power board (extract the connector to be able to connect it).

The terminal Y1 of the probe must be connected **to terminal I5 of the power board**, extract the connector to be able to connect it.

The 230V power supply for the transformer is taken from the CN28 connector of the board (N-L terminals).

MODULATING VALVE CONNECTION 0 - 10 V [optional]

For the functioning and the supplying of the valve you need a shielded cable with 2 wires from the valve to the unit; then, please connect it following the indications here below:

The valve signal terminal must be connected **to terminal A3 of the power board.**

The GND terminal of the valve signal must be connected **to the AC terminal of the power board**, taking care not to disconnect the wires already connected.

The supplying to the valve should not be levied from the clamping box of the unit: please, use a dedicated power supply.

If the negative clamp of the valve supplying and the signal GND are in common, they have to be wired together.

MODULATING HUMIDIFIER CONNECTION 0 - 10 V [optional]

For the functioning and the supplying of the humidifier you need a shielded cable with 2 wires from the humidifier to the unit; then, please connect it following the indications here below:

The humidifier signal terminal must be connected **to terminal A3 of the power board.**

The GND terminal of the humidifier signal must be connected **to the AC terminal of the power board**, taking care not to disconnect the wires already connected.

The modulating humidifier connection excludes the modulating valve connection.

9.5.2 Display

The display and the cable are inside the electrical panel, pay attention not to make them fall.

PLACING AND FIXING OF THE DISPLAY

The display should be installed in a practical position, so that the user can execute the fundamental operations, display the functioning status of the unit and, eventually, the alarms. It should be placed far away from heating sources and air flows, otherwise temperature and humidity probes could read incorrect values and this will lead to a wrong functioning of the unit. For assembly proceed as follows:

- Set up a horizontal flush-mount 503 box on the wall;
- Unscrew the lower screw of the display closing;
- Pass the cable to the dedicated back holes and fix the base on the on-wall box;
- Proceed with electrical wiring and close the drive.

WIRING THE DISPLAY

The display always supplied with the unit is the primary display, the display supplied when the second display option is purchased is the secondary one. Both displays have full functionality and can work independently, what differentiates them is the address with which they are pre-programmed, all the primary displays have address 1 and the secondary ones 2. This address can be verified by entering the appropriate screen accessible from the password menu by entering '2020'.
Normally it is sufficient to connect the primary display of each machine to the same machine with which it was sent. If the second display option is purchased, certain verification steps must be added: firstly, connect only the second display and check that the address is 2, then connect only the primary display and check that the address is 1. Checks can be performed without removing the electric power supply.
If the addresses are both correct can be connected, otherwise check that the displays have not been mistaken with other machines. If not, change the display address to have one at address 1 and the other at 2. The displays can be connected indifferently to the two relevant terminals on the board as indicated in the image below or the second can be connected in parallel to the first starting from the terminal on the primary display.
Never connect two primary or secondary displays to the same unit which could irreparably compromise operation of the electronics.

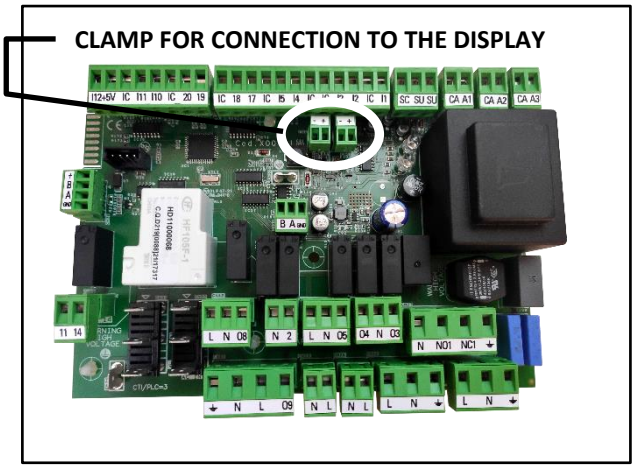
To connect the display, the cable from the unit must be connected as shown on the right:

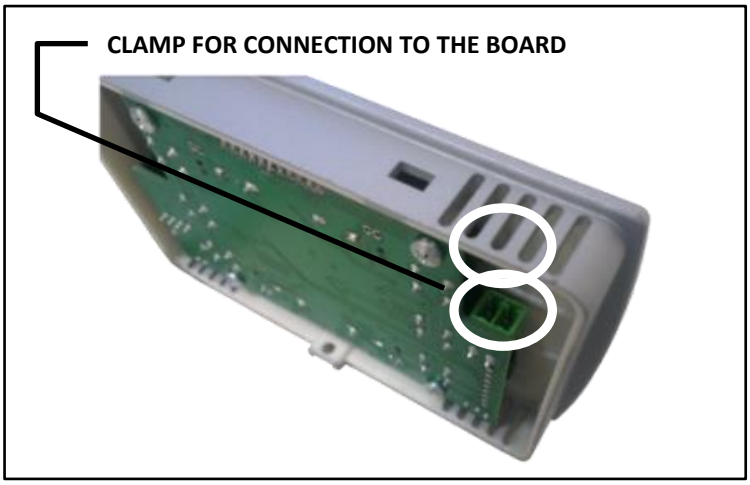
- (negative) first wire and shielding + (positive) second wire

For the connection, it is mandatory to use a shielded and twisted cable like the 2 metre one supplied, or like the 5, 10 or 20 metres cables supplied on request.
Alternatively, especially in the case of installations where there are possible electromagnetic interferences that may compromise communication between the board and the display, it is advisable to use a CEAM Y08761 cable or equivalent (2-wire shielded and twisted belden cable).

If the poles are inverted, the display will not function. The poles are indicated both on the serigraphy of the power board and on the back of the display.

The cable should be connected as shown here below:
POWER BOARD ON UNIT DISPLAY TO BE FIXED IN THE ENVIRONMENT

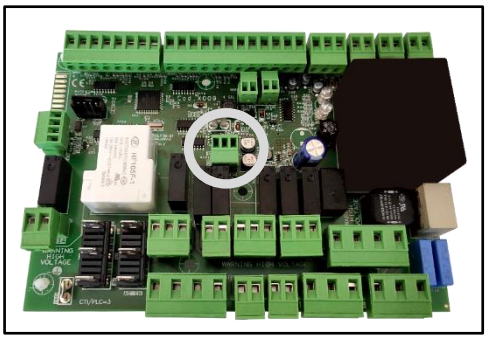
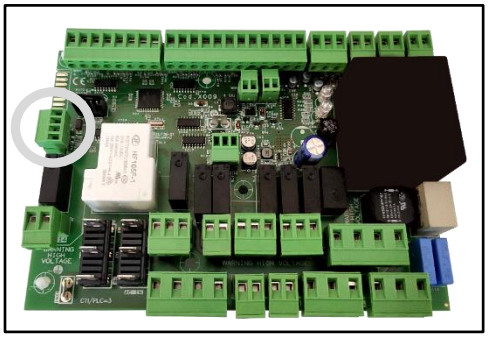




ATTENZIONE
WARNING

It is recommended to keep the communication cable between the board and the display as far as possible from any power cable, in order not to compromise the communication between the two. ***Therefore it is strictly FORBIDDEN to pass the cable with power cables***.

9.5.3 RS485 - Modbus Connection - [optional]

SLAVE (primary)	MASTER (secondary)
	
Unit slave by supervision	Unit master to specific devices

For the connection of all the Modbus system/network use a CEAM Y08761 cable or an equivalent one.
Depending on use, connect the Modbus RS485 cable on the removable clamp indicated on the picture:

- \+ (positive pole) to clamp **A**
- – (negative pole) to clamp **B**
- the shielding braid to terminal **GND**

Respect, on all the connected devices, the connection A, B, GND.
For the Modbus parameters configuration, refer to the installer paragraph on the following pages.
RS485 Modbus connection is optional, but the clamp should be always present.

9.6 FIRST START, CALIBRATION AND CONFIGURATIONS

ATTENZIONE
WARNING

Initial start-up, calibration and configuration must be carried out exclusively by specialist personnel.
DO NOT IMPROVISE, UNIT MALFUNCTION DANGER

Before starting, check that all the panels are in their position and tightened with their screws.

Follow these instructions carefully for commissioning:

PERICOLO
DANGER

Check that all the hydraulic, electric and aeraulic connections are correctly installed and that all the indications given on the labels and user manual are observed.

Check that the refrigerant circuit taps, if present, are open and that the hydraulic plant is cracked, by eliminating any residual air, charging it gradually and opening the cracking devices on the top side.
Give pressure to the system and verify that there are no water losses before the using of the unit.

All the operations to be carried out are outlined in the following paragraphs.

9.6.1 Switching on and calibration of the unit's air flow

Switch on the unit, after a few seconds, the display will come on and the unit will be ready to operate autonomously

AVVERTENZA
CAUTION

For the calibration, you need an anemometer for ducts (air flow hot wire measurer for use in ducts). The following lines will indicate where to measure to read the air flow.

It is now possible to proceed with the calibration.

The AER are small air handling units which recirculate the ambient air and exchange it with external air.
Every installation is different so it is essential to measure and correct the air flow of the machine based on actual operating conditions.
The units are programmed in the factory to offer a "fixed" pressure, but this will most likely not be suitable for the installation. It is therefore essential to correct the air flow rates in the various operating conditions:

- Recirculation only (phase 1)
- Renewal only (phase 2)
- Recirculation + renewal (phase 3)

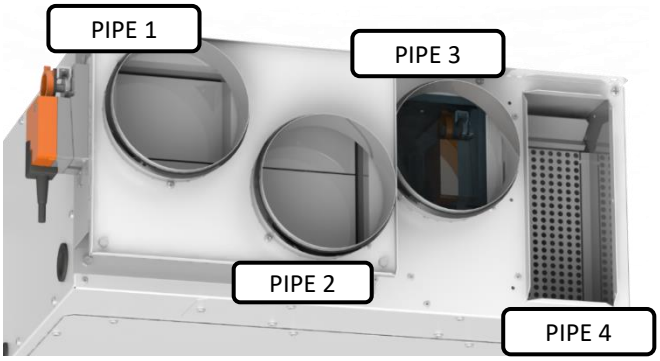
Otherwise, if the calibration is not carried out or will not be carried out correctly, the AER will have air flow rates which differ from those in the project, compromising the correct operation of the unit and decreasing the efficiency of heat recovery.

ATTENZIONE
WARNING

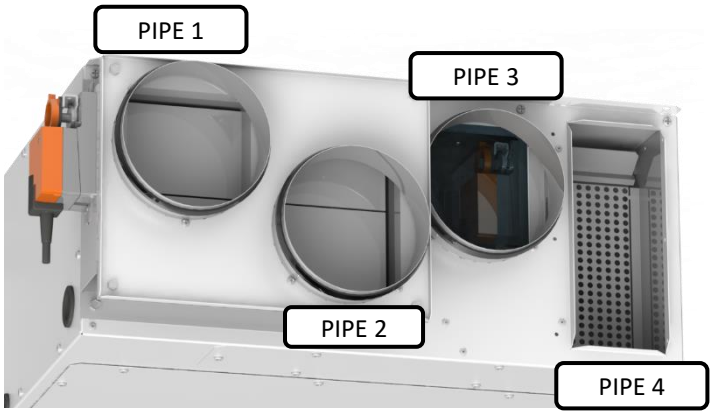
The unit non-calibrated or incorrectly calibrated by specialized personnel is excluded from the warranty.

The following images indicate the points in which the air flow rates should be measured.
Make reference to this page during all the calibration process.

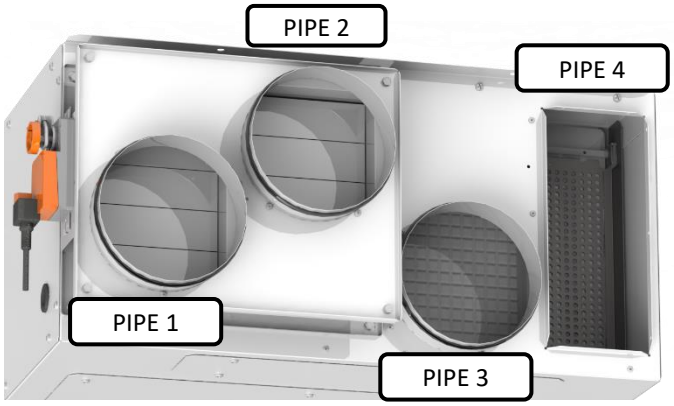
AER 024



AER 036



AER 058



PIPE 1 – EXHAUST AIR EXPULSION BY EXPULSION FAN	PIPE 2 – EXTERNAL AIR EXTRACTION BY SUPPLY FAN FOR RECOVERY
PIPE 3 – AMBIENT AIR EXTRACTION BY EXTRACTION FAN FOR EXPULSION (EXTRACTION FROM BATHROOMS AND KITCHEN)	PIPE 4 – AMBIENT AIR EXTRACTION FOR RECIRCULATION (EXTRACTION FROM BEDROOMS AND LIVING ROOM)

Usually the fan of an anemometer has a diameter of less than 20 millimetres. It will be necessary to make a hole on pipes 2, 3 and 4 to insert the anemometer. You will not need to make a hole on pipe 1.
To perform the calibration, you must access the specific menu. As anticipated, the calibration process is divided in 3 phases.
During each phase, you are required to modify one (or more) parameters to reach the desired air flows' values

During calibration, it will be necessary to move several times between the wall-mounted display, to change the values, and the air ducts to measure the flow rate; if the display and ducts are far apart, it is a good idea to detach the display from the wall and temporarily connect it to the machine; a 2-metre cable with a connector is supplied for this temporary connection.

In some installations, air pipes that are too long, narrow or bent may have been laid which cause high load losses and obstruct the air flows. In this case, when calibrating the unit, the fan speed will become too high and the noise generated will be too loud. It is advisable to check the unit noise level during calibration, a reduction in air flow of 10/15% is tolerable.

Read carefully all the following information before starting the calibration process. Then, start reading again and execute all the passages indicated.

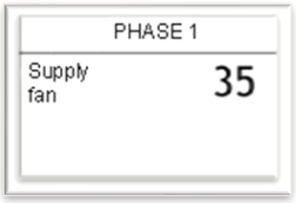
STARTING CALIBRATION

CALIBRATION - PHASE 1

Place on the display; enter the main screen by pressing EXIT (more times, if necessary) or pressing ON/OFF if the unit is turned off.

If for 30 seconds, on the installer menu, you do not press any keys, the program will automatically exit and you will display the main screen.
In this case, you will have to repeat the process, from phase 1.
During modification phase (highlighted parameters), the program will wait for the confirmation without exiting.

1. Simultaneously press on the three keys UP, OK and DOWN on the side.
2. The screen on the left will appear. This screen requests the password.
3. Enter 0099 and press OK to confirm.



You are in the calibration menu (see the image on the left): the calibration phase is shown at the top while the parameters to be changed are shown below the line (one or more values).

1. Press OK, and you will see a countdown, necessary to the unit to pass in the modification mode.
   When the countdown has finished, the previous screen will be shown again and the parameter to modify will be highlighted.
2. Place the anemometer in recirculation pipe 4 (refer to the previous pages), the air flow measured should correspond to the one in the table.
3. If the anemometer indicates a different air flow, modify the speed of the fan with the UP and DOWN keys until you obtain the desired air flow.

Model	Maximum air flow (m³/h)
024	500
036	800
058	1000

Write the set value in the table at the end of the paragraph.
By pressing EXIT, you confirm the value and return to the calibration menu.

CALIBRATION - PHASE 2

Press the DOWN key to proceed with calibration phase 2; in this phase, the unit will be calibrated in exchange mode only.
The supply and extraction fan speeds will be modified in this phase.

The screen will show 2 parameters (each of which indicates the corresponding fan rotation speed in % terms).

1. Press OK, and you will see a countdown, necessary to the unit to pass in the modification mode. When the countdown has finished, the previous screen will be shown again and the parameter to modify will be highlighted.
2. Place the anemometer in pipe 2; the air flow measured should correspond to the one indicated in the table.
3. If the anemometer indicates a different flow rate, change the percentage value (the supply fan speed is changed as a result) by pressing the UP and DOWN keys until the desired air flow is achieved.
4. Press OK to move to the second parameter, which is the extraction fan.
5. Place the anemometer in pipe 3; the air flow measured should correspond to the one indicated in the table.
6. If the anemometer indicates a different flow rate, change the percentage value (the extraction fan speed is changed as a result) by pressing the UP and DOWN keys until the desired air flow is achieved.

Model	Maximum air flow (m³/h)
024	130
036	208
058	260

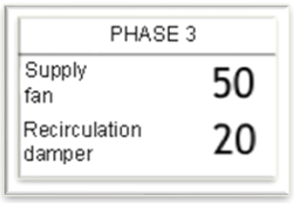
Write the set values in the table at the end of the paragraph.
By pressing EXIT, you confirm the value and return to the calibration menu.

ATTENZIONE WARNING

Attention: during the calibration phase 2 it is extremely important that the air flow rates of pipe 2 and of pipe 3 are coincident, otherwise the air flows are not balanced. This leads to a unit malfunction and poor heat recovery efficiency.

CALIBRATION - PHASE 3

Press the DOWN key to proceed with calibration phase 3; in this phase, the unit will be calibrated in exchange and recirculation mode.
The supply fan speed and the internal recirculation damper opening will be modified in this phase.



The screen will display 2 parameters, the first indicates the supply fan speed (in %) and the second, the how far the recirculation damper is open, as a percentage.

1. Press OK, and you will see a countdown, necessary to the unit to pass in the modification mode. When the countdown has finished, the previous screen will be shown again and the parameter to modify will be highlighted.
2. Place the anemometer in pipe 2; the air flow measured should correspond to the one indicated in the table.
3. Place the anemometer in pipe 4; the air flow measured should correspond to the one indicated in the table.
4. If the anemometer indicates a different flow rate, modify both the values shown on the display with the UP and DOWN keys. Press OK to change the value.
   The sum of the flow rates is increased by increasing the supply fan percentage of pipe 2 and pipe 4. By increasing the percentage of the opening of the recirculation damper, you reduce the flow on pipe 2 and increase it on pipe 4. By decreasing the % opening of the recirculation damper, you increase the flow on pipe 2 and reduce it on pipe 4.

Model	Maximum supply air flow (m^3/h)
024	500
036	800
058	1000

Model	Maximum recirculation air flow (m^3/h)
024	370
036	592
058	740

Model	Maximum exchange air flow (m^3/h)
024	130
036	208
058	260

AVVERTENZA CAUTION

ATTENTION: the damper moves slowly; once the opening has been modified, wait a few seconds for correct positioning.

ATTENZIONE WARNING

ATTENTION: the percentage of the exchange flow MUST be 26% of the total and the percentage of the recirculation flow MUST be the remaining 74% of the total

At the end of phase 3 of the calibration, two equal air flow values must be obtained for both pipe 2 and inlet 4. The correct air flow values are shown in the table.

Write the set values in the table at the end of the paragraph.
By pressing EXIT, you confirm the value and return to the calibration menu; press for some times EXIT to return to the main screen.

CALIBRATION DONE

If the calibration display has been moved during the calibration, now you need to replace it in its original place.

The unit has been calibrated and now it is ready to function.
If necessary, it is possible to modify some values, described here below, for the setting of configurable parameters, exits and other functions.

9.6.2 Table of calibration values and parameters

	UPPER VALUE	LOWER VALUE
PHASE 1		
PHASE 2		
PHASE 3		

ATTENZIONE WARNING

After the calibration has been completed and the table (shown above) has been filled in, send this page to the manufacturer via fax or email to validate the warranty. If not, the warranty will be void.

9.6.3 Installer parameter configuration

To enter the installer menu:

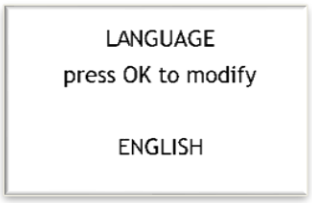
- Place on the main screen (press EXIT if necessary)
- Keep pressed for 3 seconds UP, OK and DOWN
- Enter 0010 as the password and press OK to confirm

If no key is pressed in the installer's menu for 30 seconds, you automatically exit and the main screen is displayed. In this case, you will have to start again the process, from the beginning.

USE OF KEYS

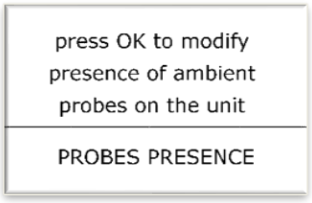
- *With UP and DOWN, you scroll from one screen to another (some screens are not always displayed)*
- *press EXIT to exit and return to the main screen*
- *press OK to execute the function indicated on the screen*

Some screens may be not always present

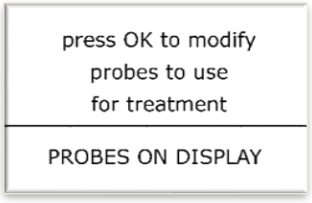


Changing the language setting.

Changing the unit of measurement of the temperature.
default: Celsius



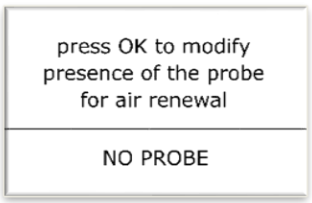
Ambient probe presence setting (temperature and humidity) inside the unit
The ambient probes on the display are always present



Setting for the probes to be used for treatment:

- probes on display
- probes on unit

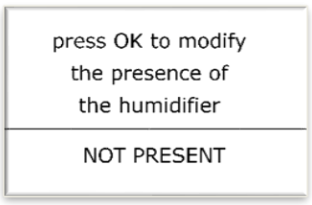
default: from probes on display



Air exchange probe reading setting:

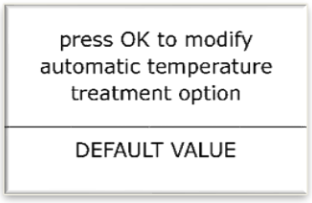
- no probe
- CO2 probe

default: no probe



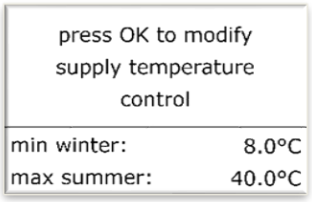
Setting the presence of the humidifier:
- not present
- ON-OFF
- modulating

the on-off humidifier output replaces and therefore disables the ability to set a configurable output, it is a clean contact
The 0-10 Volt modulating humidifier output replaces and therefore disables the modulating water valve output
default: not present



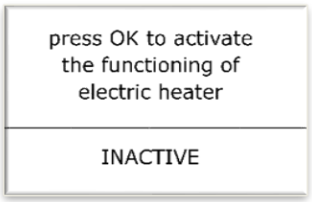
Treatment management setting (dehumidification, cooling and heating) in automatic mode:
- default value (cannot be modified)
- from manual mode
- from time-bands

default: default value



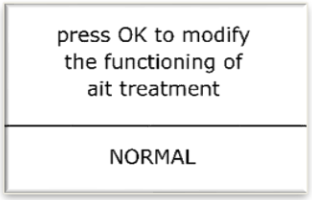
Supply temperature control setting (prevents the intake of air that is too cold in winter and too hot in summer):
- winter minimum
- summer maximum

default: values shown on the screen



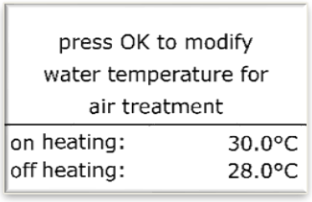
Heating element on/off setting:
- inactive
- active

default: inactive

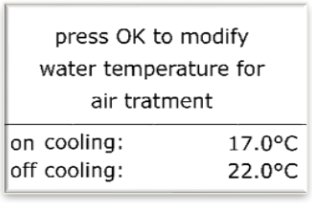


Treatment management setting:
- normal
- boost
- only electric

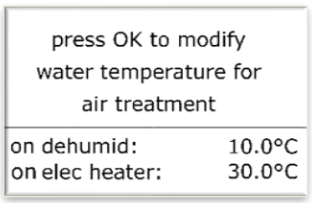
default: normal



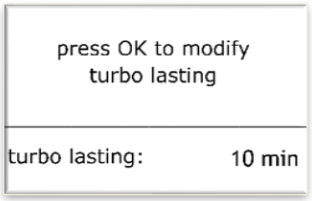
Setting to change the water temperature for heating treatment.
When the water temperature is higher than the on heating parameter, the heating treatment will be switched on; it will then be inhibited when the water temperature is lower than the off heating parameter.
default: on heating 30.0°C; off heating 28.0°C



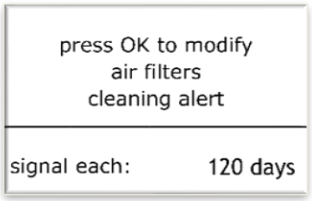
Setting to change the water temperature for cooling treatment.
When the water temperature is lower than the on cooling parameter, the cooling treatment will be switched on; it will then be inhibited when the water temperature is greater than the off cooling parameter.
default: on cooling 17.0°C; off cooling 22.0°C



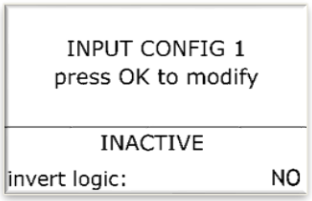
Setting to change the water temperature for dehumidification treatment or for heating treatment with the resistance (if present).
When the water temperature is lower than the on dehumidification parameter, the dehumidification treatment will be switched on.
When the water temperature is lower than the resistance parameter, the resistance, if present, will be switched on to support the heating treatment.
default: on dehumidify 10.0°C; on resistance 30.0°C



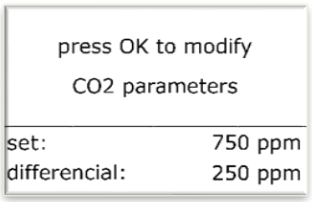
Changing the turbo function duration, i.e. for how long maximum exchange is active.
default: 10 minutes



Changing the filter cleaning message.
A reminder to clean the filters will be indicated on the main screen. It is possible to choose from 3 to 6 months for the reminder.
default: 120 days

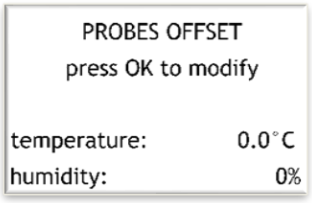


Setting of the 4 configurable controls, there are 4 digital inputs which can be configured to perform different functions. For the electrical wiring and other information, refer to the dedicated paragraph in the previous pages.
Every control can be set as: remote on/off, summer/winter changeover, enable exchange, force exchange, enable treatment, boost mode on, temperature request, extractor hood mode on.
For each drive set it is possible to invert the logic.
It is not possible to set 2 configurable drives with the same information.
ATTENTION: the configurable controls modify the operation of the unit, do not improvise.
default: all 4 controls not active and with logic inversion set to no

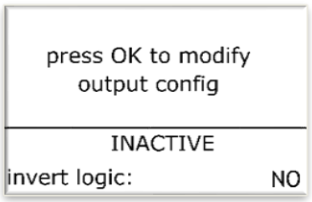


Setting of the adjustment parameters of the air renewal via CO2 probe (IF PRESENT)
With the presence of CO2 probe and unit set in automatic mode, the air renewal is managed automatically according to a ramp with the values set in this screen.
- 500 or less ppm of ambient CO2 → air renewal will be at 1
- Between 500 and 1000 ppm of ambient CO2 → air renewal will be from 2 to 4
- 1000 or more ppm of ambient CO2 → air renewal will be at 5

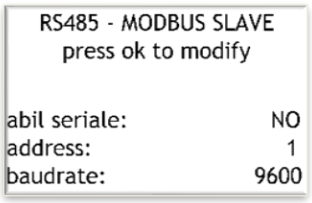
default: set 750 ppm and differential 250 ppm



Possibility to modify the reading of the temperature and humidity probes.
default: 0.0 °C and 0 %



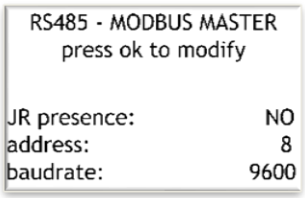
Setting of configurable output.
The output can be inactive, it can be set as a *generic alarm* or as a humidifier or ionizer output.
For each drive set it is possible to invert the logic.
For the electrical wiring and other information, refer to the dedicated paragraph in the previous pages.
default: output not active



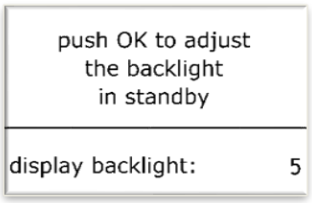
Parameter setting for Modbus communication on RS485 serial
The screen is always present. The possible configurations are as follows:

- NO: serial not enabled
- SLAVE: the unit is controlled by serial
- SL-SEASON: possibility to set ONLY the season from serial while the unit is managed from the display

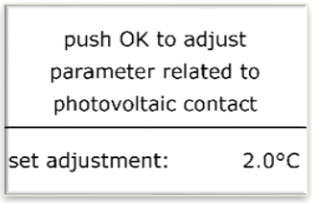
More information on request.
default: serial not enabled, address 1 and baudrate 9600



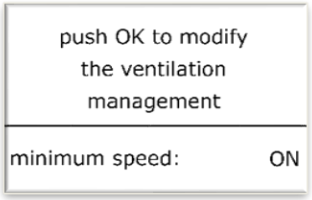
Presence setting of remote JR device on secondary RS485 serial port (secondary).
The unit will be the master towards the device.
Address and baud rate are fixed values that cannot be changed.
For the connection to the serial port, see the paragraph “Electrical connections”.
For the configuration of the JR device, refer to the respective installation manual.
default: JR not present



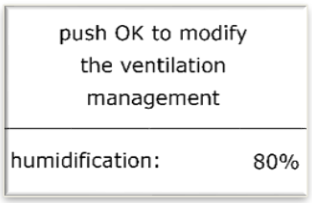
Changing the backlighting when the display is in standby.
default: 5



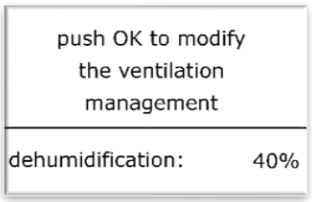
Setting for the management of the photovoltaic contact.
Increase or decrease the set point by 2°C depending on the season, based on the availability of energy from the photovoltaic system.
default: 2°C



Setting for ventilation management.
When there are no requests treatment, it is possible to activate minimum ventilation.
default: minimum ventilation ON



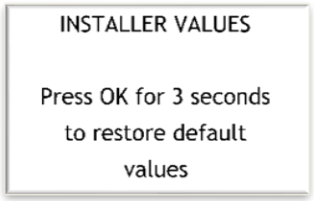
Setting for ventilation management.
It is possible to change the ventilation speed in humidification.
default: humidification 80%



Setting for ventilation management.
It is possible to change the ventilation speed in dehumidification.
default: dehumidification 40%

Viewing the unit alarm history.
In the alarm history are kept in memory all the alarms, with the indication of the alarm's number and day, month and year of the signal.

Resetting the calibration default values.
If, during the calibration, the values' modification is wrong, or if you change the ducts or other parts of the implant, it may be useful to restore the calibration values and start it again.

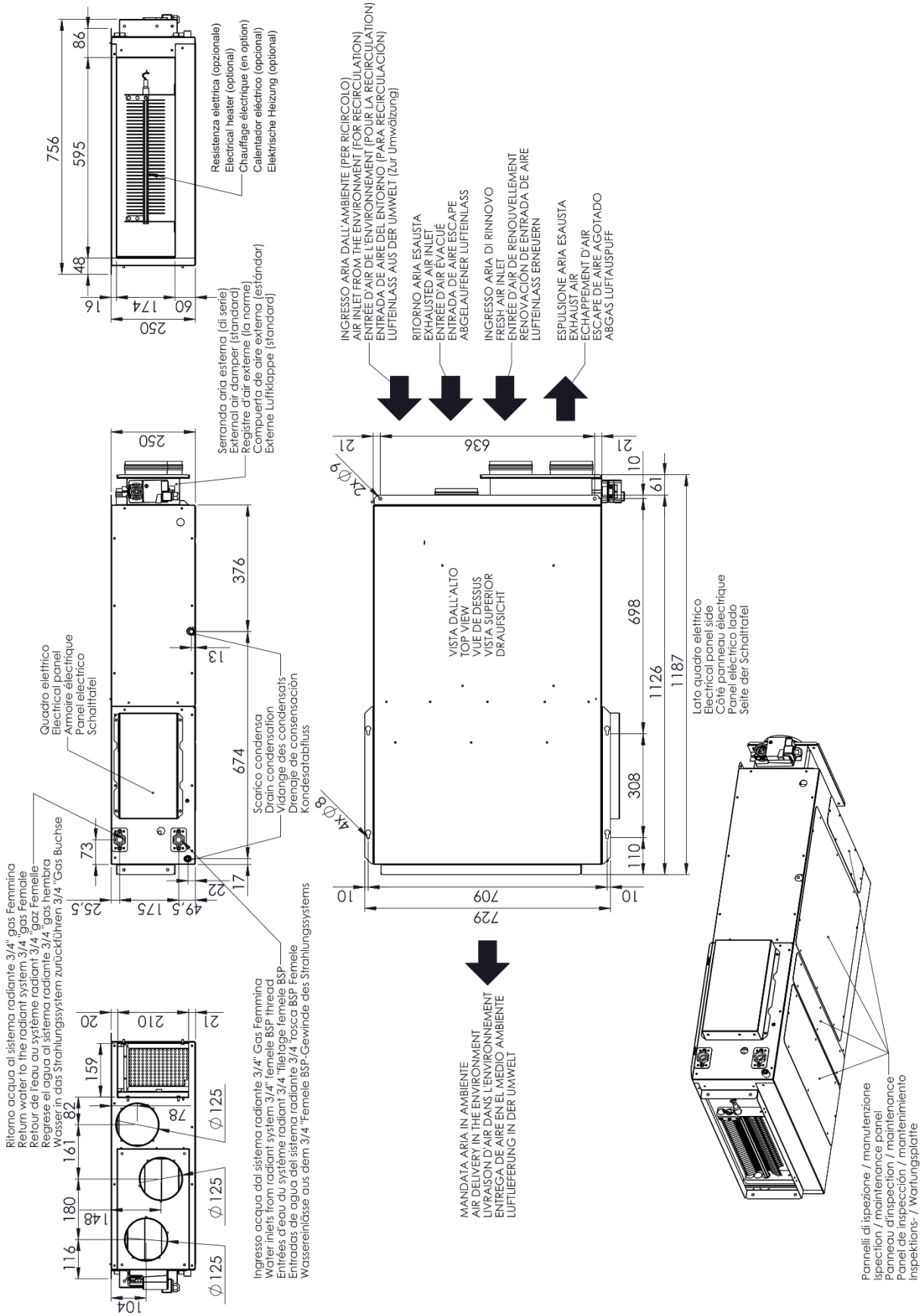


Reset of all the installer and user parameters.
If some of the installer or user menu parameters are changed by mistake, all the parameters can be reset and the unit returned to the factory settings.

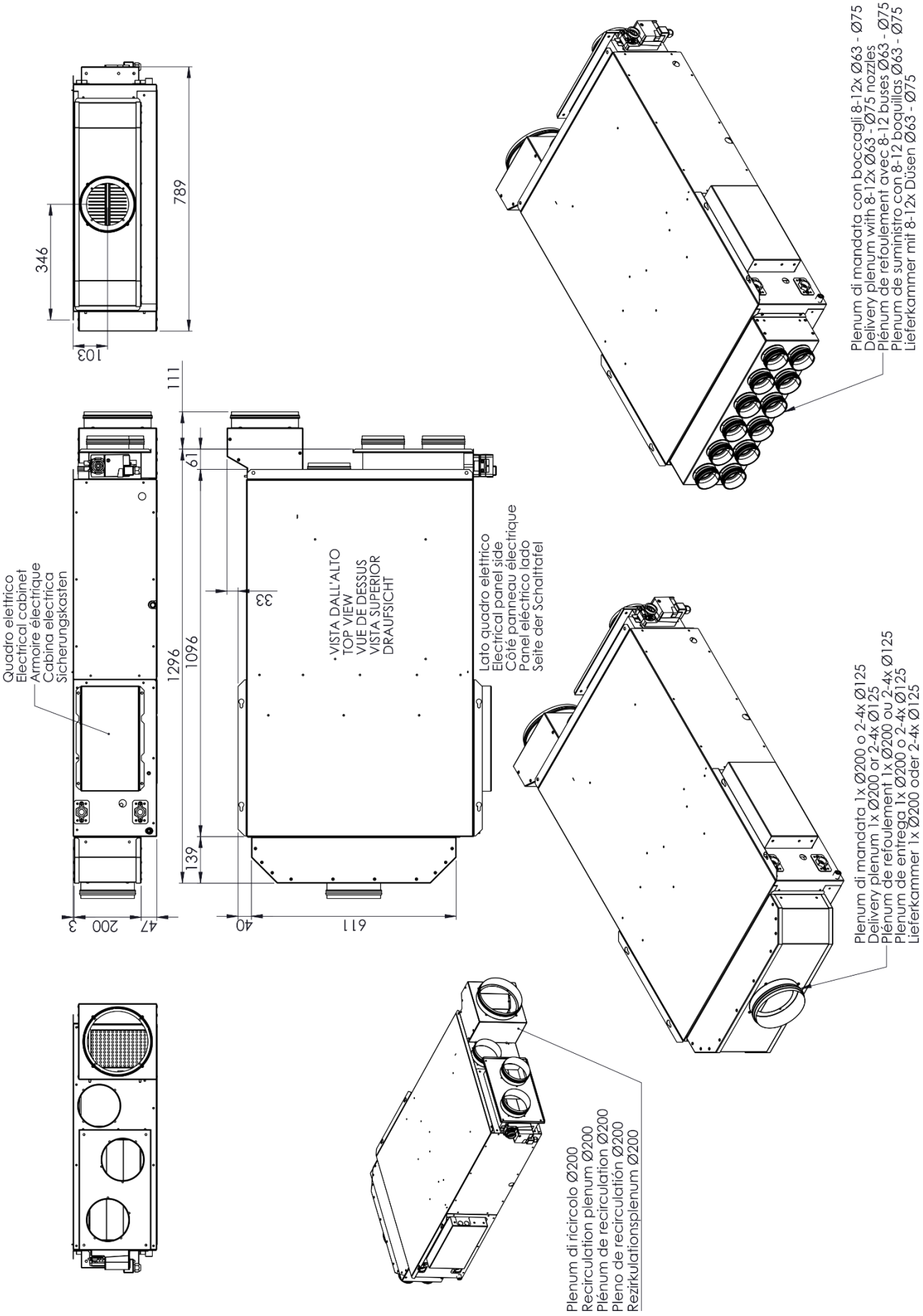
CAUTION! The reset function will delete all the user settings such as the desired temperature and humidity, the season set and all the installer parameters.
The calibration parameters and timer setting programming are NOT deleted.

10 DIMENSIONAL DRAWINGS

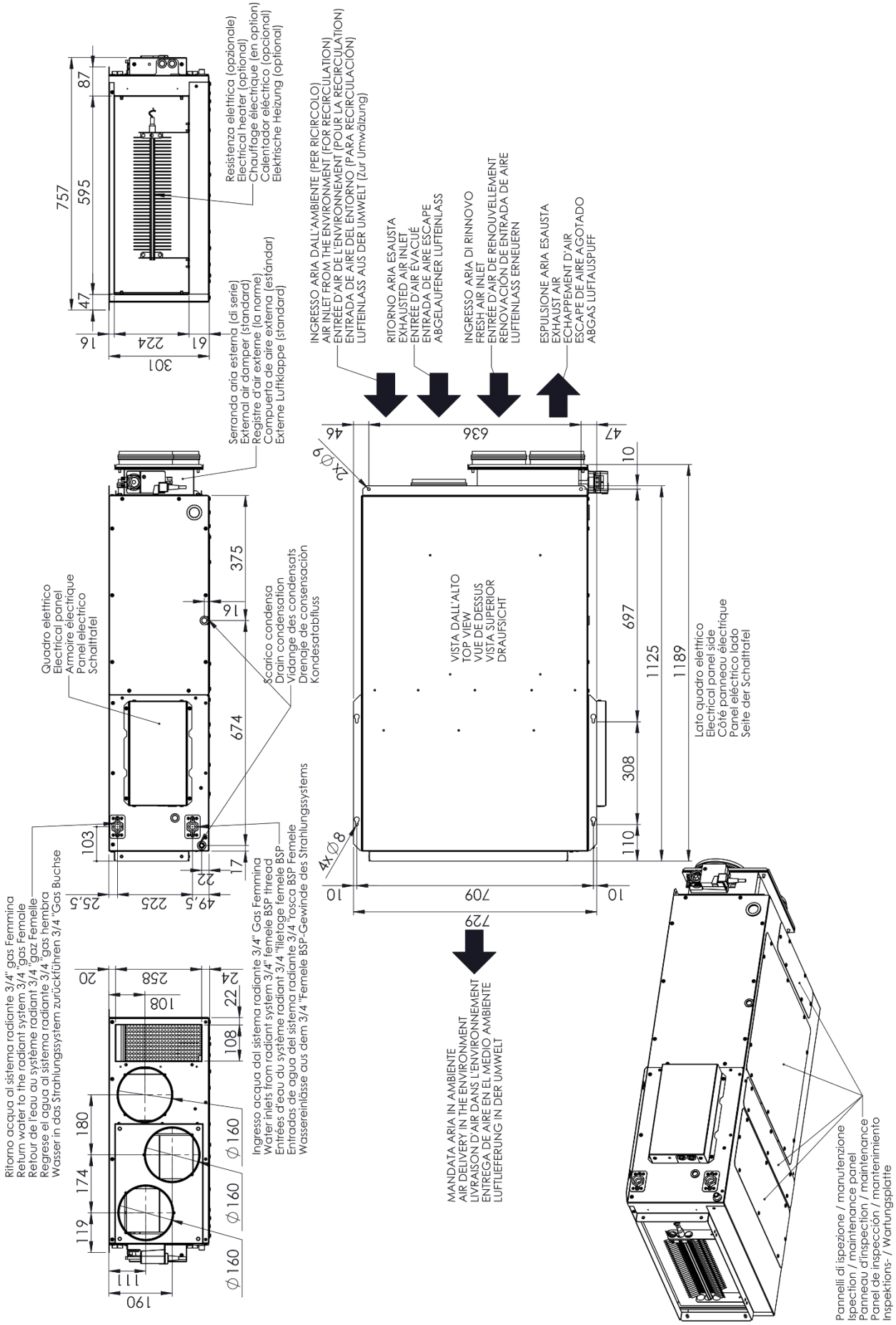
10.1 AER 024



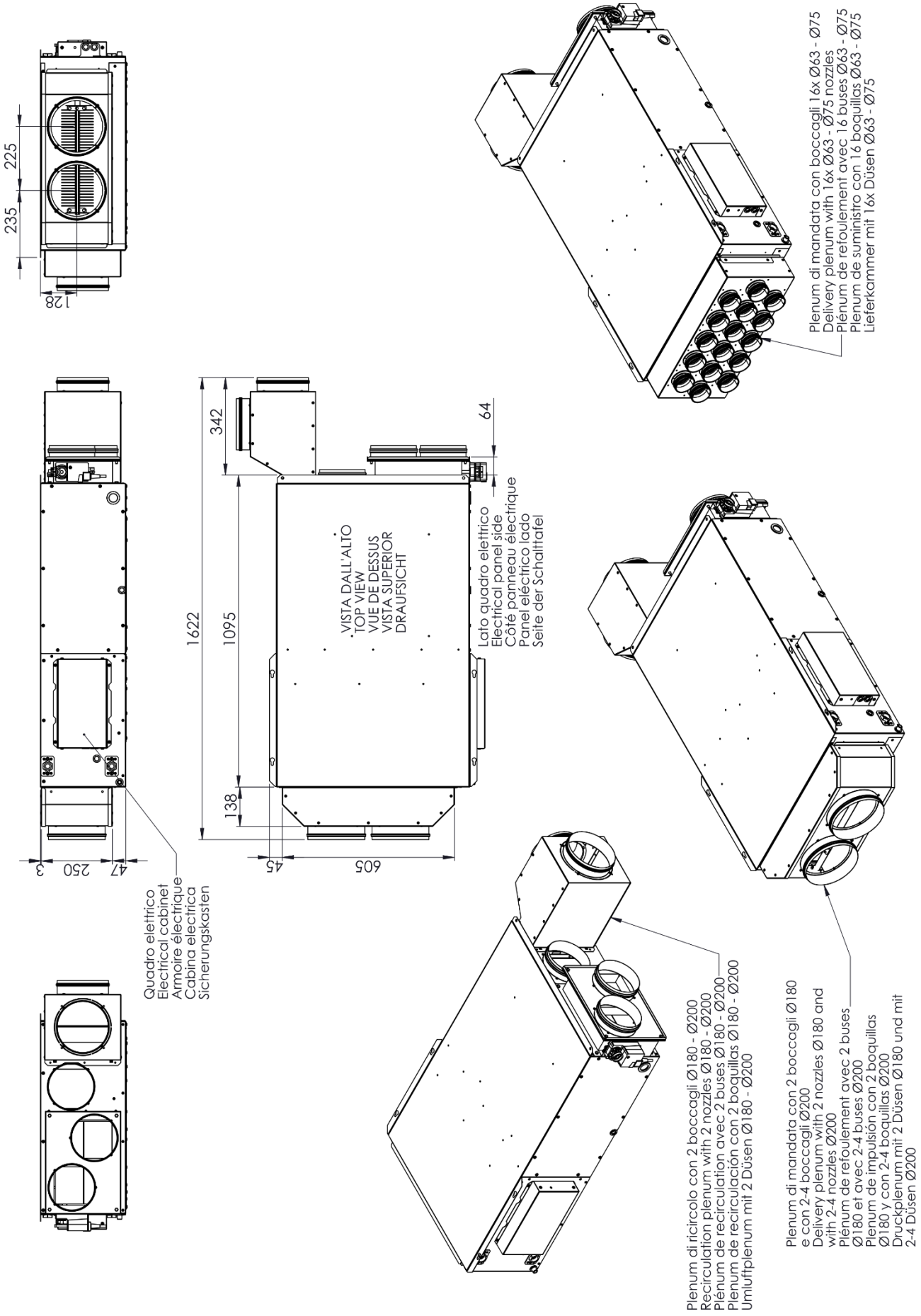
10.1.1 Supply and recirculation plenum AER 024



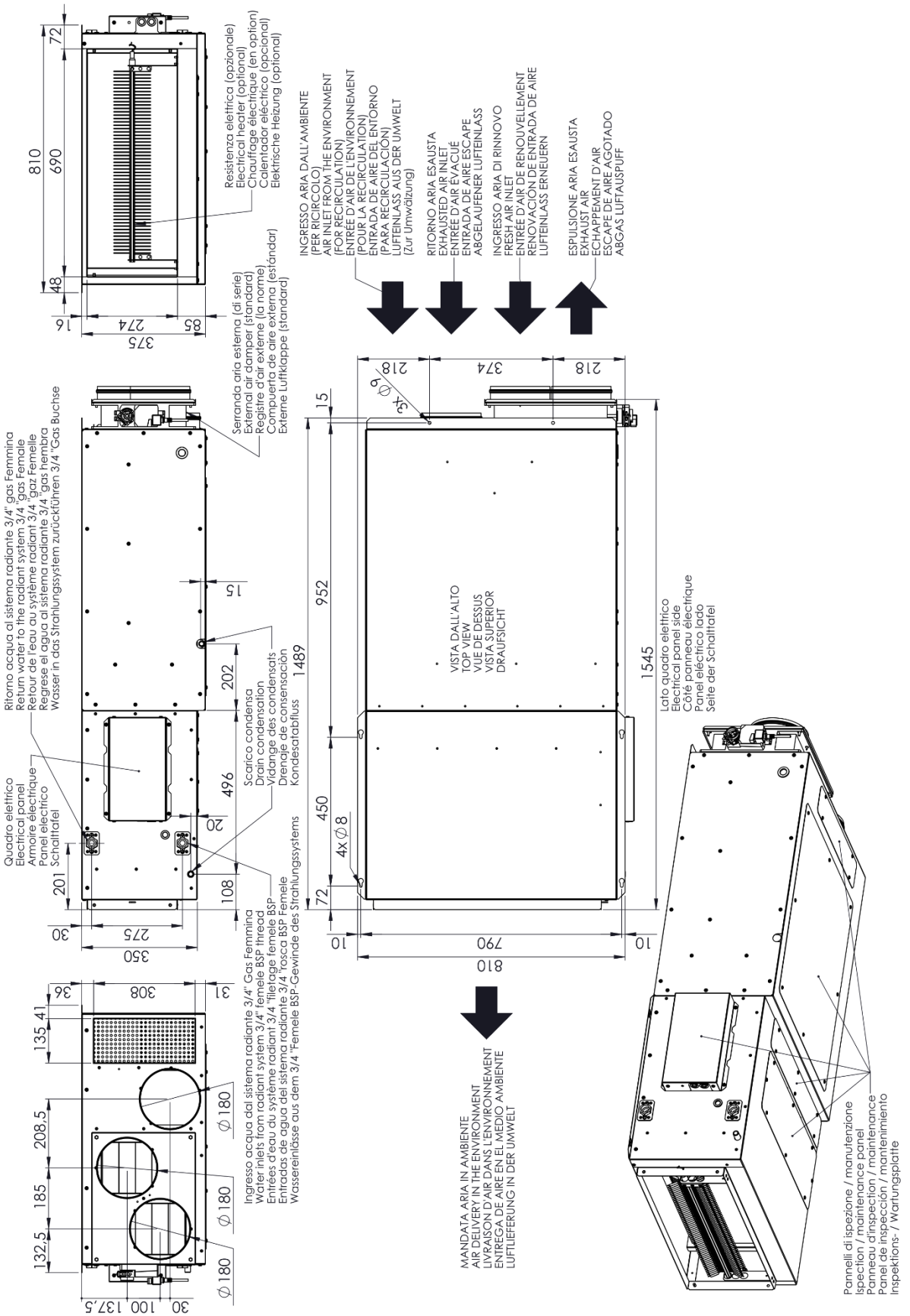
10.2 AER 036


Resistenza elettrica (opzionale)
Electrical heater (optional)
Chauffage électrique (en option)
Calentador eléctrico (opcional)
Elektrische Heizung (optional)
Serranda aria esterna (di serie)
External air damper (standard)
Registre d'air externe (la norme)
Compuerta de aire externa (estándar)
Externe Luftklappe (standard)
INGRESSO ARIA DALL'AMBIENTE (PER RICIRCOLO)
AIR INLET FROM THE ENVIRONMENT (FOR RECIRCULATION)
ENTRÉE D'AIR DE L'ENVIRONNEMENT (POUR LA RECIRCULATION)
ENTRADA DE AIRE DEL ENTORNO (PARA RECIRCULACIÓN)
LUFTEINLASS AUS DER UMWELT (Zur Umwälzung)
RITORNO ARIA ESAUSTA
EXHAUSTED AIR INLET
ENTRÉE D'AIR ÉVACUÉ
ENTRADA DE AIRE ESCAPE
ABGELAUFENER LUFTEINLASS
INGRESSO ARIA DI RINNOVO
FRESH AIR INLET
ENTRÉE D'AIR DE RENOUVELLEMENT
RENOVACIÓN DE ENTRADA DE AIRE
LUFTEINLASS ERNEUERN
ESPULSIONE ARIA ESAUSTA
EXHAUST AIR
ECHAPPEMENT D'AIR
ESCAPE DE AIRE AGOTADO
ABGAS LUFTAUSPUFF
VISTA DALL'ALTO
TOP VIEW
VUE DE DESSUS
VISTA SUPERIOR
DRAUFSICHT
Quadro elettrico
Electrical panel
Armoire électrique
Panel eléctrico
Schaltfafel
Scarico condensa
Drain condensation
Vidange des condensats
Drenaje de consensación
Kondesatabfluss
Lato quadro elettrico
Electrical panel side
Côté panneau électrique
Panel eléctrico lado
Seite der Schaltfafel
Ritorno acqua al sistema radiante 3/4" gas Femmina
Return water to the radiant system 3/4" gas Female
Retour de l'eau au système radiant 3/4" gaz Femelle
Regrese el agua al sistema radiante 3/4" gas hembra
Wasser in das Strahlungssystem zurückführen 3/4 "Gas Buchse
Ingresso acqua dal sistema radiante 3/4" Gas Femmina
Water inlets from radiant system 3/4" female BSP thread
Entrées d'eau du système radiant 3/4 "filetage femelle BSP
Entradas de agua del sistema radiante 3/4 "rosca BSP Femele
Wassereinlässe aus dem 3/4 "Femele BSP-Gewinde des Strahlungssystems
MANDATA ARIA IN AMBIENTE
AIR DELIVERY IN THE ENVIRONMENT
LIVRAISON D'AIR DANS L'ENVIRONNEMENT
ENTREGA DE AIRE EN EL MEDIO AMBIENTE
LUFTLIEFERUNG IN DER UMWELT
Pannelli di ispezione / manutenzione
Ispection / maintenance panel
Panneau d'inspection / maintenance
Panel de inspección / mantenimiento
Inspektions- / Wartungsplatte

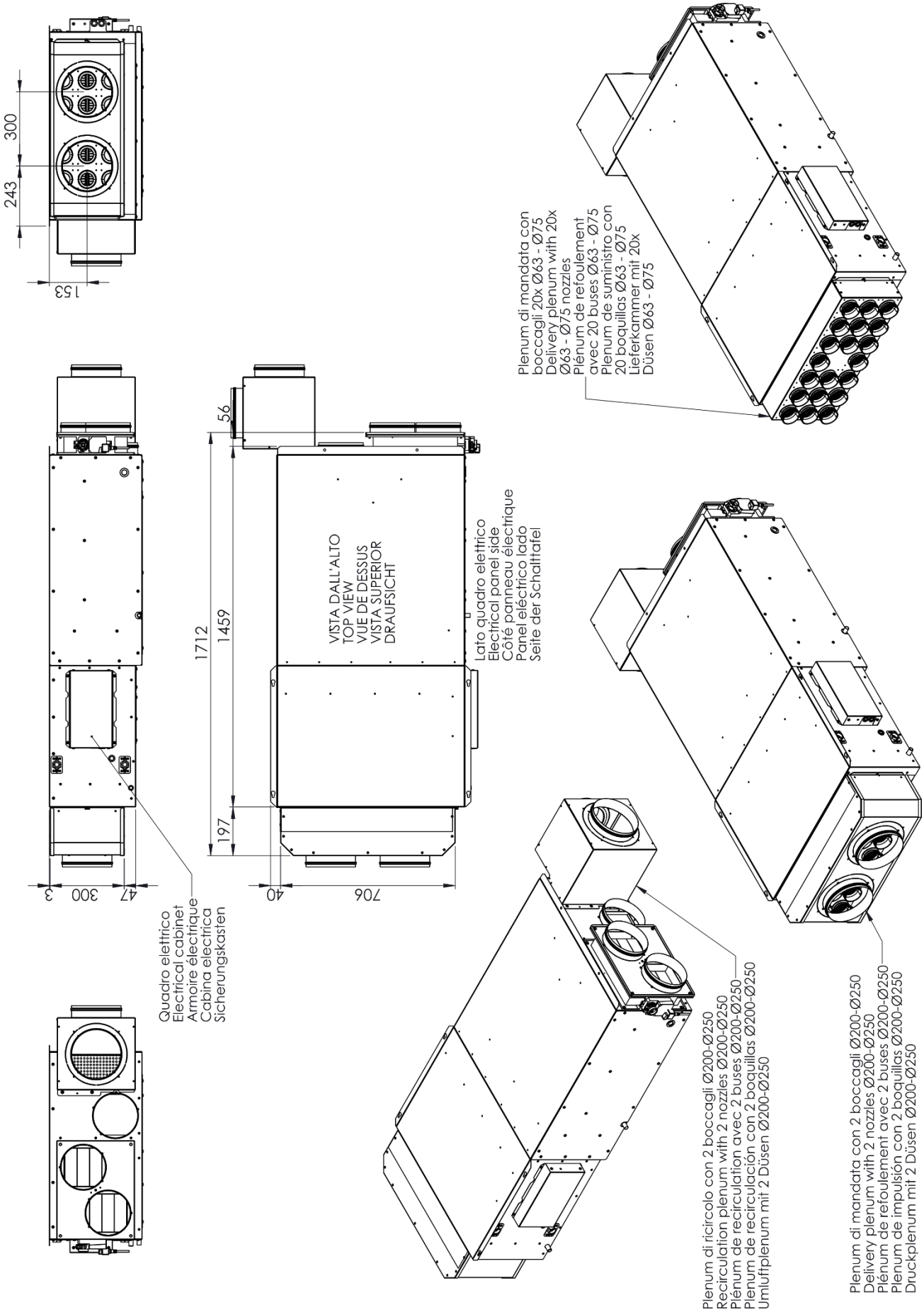
10.2.1 Supply and recirculation plenum AER 036



10.3 AER 058


Resistenza elettrica (opzionale)
Electrical heater (optional)
Chauffage électrique (en option)
Calentador eléctrico (opcional)
Elektrische Heizung (optional)
Serranda aria esterna (di serie)
External air damper (standard)
Registre d'air externe (lo normal)
Compuerta de aire externa (estándar)
Externe Luftklappe (standard)
INGRESSO ARIA DALL'AMBIENTE
(PER RICIRCOLO)
AIR INLET FROM THE ENVIRONMENT
(FOR RECIRCULATION)
ENTRÉE D'AIR DE L'ENVIRONNEMENT
(POUR LA RECIRCULATION)
ENTRADA DE AIRE DEL ENTORNO
(PARA RECIRCULACIÓN)
LUFTEINLASS AUS DER UMWELT
(Zur Umwälzung)
RITORNO ARIA ESAUSTA
EXHAUSTED AIR INLET
ENTRÉE D'AIR ÉVACUÉ
ENTRADA DE AIRE ESCAPE
ABGELAUFENER LUFTEINLASS
INGRESSO ARIA DI RINNOVO
FRESH AIR INLET
ENTRÉE D'AIR DE RENOUVELLEMENT
RENOVACIÓN DE ENTRADA DE AIRE
LUFTEINLASS ERNEUERN
ESPULSIONE ARIA ESAUSTA
EXHAUST AIR
ECHAPPEMENT D'AIR
ESCAPE DE AIRE AGOTADO
ABGAS LUFTAUSPUFF
Ritorno acqua al sistema radiante 3/4" gas Femmina
Return water to the radiant system 3/4 "gas Female
Retour de l'eau au système radiant 3/4 "gaz Femelle
Regrese el agua al sistema radiante 3/4 "gas hembra
Wasser in das Strahlungssystem zurückführen 3/4 "Gas Buchse
Quadro elettrico
Electrical panel
Armoire électrique
Panel eléctrico
Schaltfafel
Scarico condensa
Drain condensation
Vidange des condensats
Drenaje de consensación
Kondesatabfluss
Ingresso acqua dal sistema radiante 3/4" Gas Femmina
Water inlets from radiant system 3/4" femele BSP thread
Entrées d'eau du système radiant 3/4 "filetage femele BSP
Entradas de agua del sistema radiante 3/4 "rosca BSP Femele
Wassereinlässe aus dem 3/4 "Femele BSP-Gewinde des Strahlungssystems
VISTA DALL'ALTO
TOP VIEW
VUE DE DESSUS
VISTA SUPERIOR
DRAUFSICHT
Lato quadro elettrico
Electrical panel side
Côté panneau électrique
Panel eléctrico lado
Seite der Schaltfafel
MANDATA ARIA IN AMBIENTE
AIR DELIVERY IN THE ENVIRONMENT
LIVRAISON D'AIR DANS L'ENVIRONNEMENT
ENTREGA DE AIRE EN EL MEDIO AMBIENTE
LUFTLIEFERUNG IN DER UMWELT
Pannelli di ispezione / manutenzione
Ispection / maintenance panel
Panneau d'inspection / maintenance
Panel de inspección / mantenimiento
Inspektions- / Wartungsplatte

10.3.1 Supply and recirculation plenum AER 058



NOTES

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