Installation manual
(Original instructions)

EN

Panasonic

N420973A - Rev.00 - 04/2025

Aquarea Vent

Series P-VEN**HE5

First of all, we would like to thank you for having chosen one of our units.

As you will realise, you have made a winning choice by purchasing a product that represents the state of the art in domestic air-conditioning technology.

Thanks to the product you have purchased and by following the suggestions in this manual, you will benefit from optimal environmental conditions with the lowest possible energy investment.

Panasonic Corporation

Compliance

This unit complies with European directives:

- Low Voltage Directive 2014/35/EU by transposition of the following technical standards: EN 60335-1:2012 + EN 60335-2-80:2003
- EMC Directive 2014/30/EU, by transposition of technical standards: EN 55014-1:2021 + EN 55014-2:2021 + EN IEC 61000-3-2:2019+A1:2021 + EN 61000-3-3:2013+A2:2021
- RoHS Directive 2011/65/EU by transposition of the following technical standards: EN IEC 63000:2018
- European ErP Ecodesign Regulation No. 1254/2014

Markings

CE UKCA

CONTENTS

1. GENERAL INFORMATION

1.1 About the manual

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

⚠ This instruction manual is an integral part of the appliance and must therefore be kept in a safe place and must ALWAYS accompany the appliance even if it is passed on to another owner or user, or transferred to another plant. If it is damaged or lost, download a copy from the website.

⚠ Read this manual carefully before proceeding with any operation and follow the instructions in the individual chapters.

⚠ Specific warnings are given in each chapter of the document and should be read before starting operations.

⚠ The manufacturer accepts no liability for damage to persons or property resulting from failure to observe the regulations contained in this booklet.

⚠ This document is confidential under the terms of the law and may not be reproduced or passed on to third parties without the express authorisation of the Manufactorer.

Editorial pictograms

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

Related to safety

⚠ **High risk warning (bold text)**

- The operation described above presents a risk of serious physical injury, fatality, major damage to the appliance and/or to the environment if not carried out in compliance with safety regulations.

⚠ Low risk warning (plain text)

- The operation described above presents a risk of minor physical injury or minor damage to the appliance and/or to the environment if not carried out in compliance with safety regulations.

⛔ Prohibition (normal text)

- Marks actions that are prohibited.

ⓘ **Important information (bold text)**

- This indicates important information that must be taken into account during the operations.

In the texts

Purpose of the actions

► Actions required

Expected responses following an action

- Lists

In the figures

1 The numbers indicate the individual components.

A Capital letters indicate a combination of components and dimensions.

❶ The white numbers in black marks indicate a series of actions to be carried out in sequence.

Ⓐ The black letter in white identifies an image when there are several images in the same figure.

Pictograms on the product

Symbols are used in some parts of the appliance:

Related to safety

Read the instruction manual

Read the instructions carefully before performing any operation on the appliance.

Instruction manual

Read the information available in the technical documentation of the appliance.

Attention electrical hazard

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

Recipients

User

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

Installer

Expert person qualified to position and connect (hydraulically, electrically, etc.) the unit to the plant; this person is responsible for handling and correct installation according to the instructions provided in this manual and the national standards currently in force.

Service

Expert and qualified person authorised directly by the Manufacturer to carry out all routine and supplementary maintenance operations, as well as every adjustment, check, repair and replacement of parts necessary during the life of the unit.

Organisation of the manual

The manual is divided into sections each dedicated to one or more target groups.

General information

It addresses all recipients.

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

Product introduction

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

Installation and Operation

It is addressed exclusively to the installer.
Contains specific warnings and all information necessary for positioning, mounting, connecting the device and operation.

Commissioning, maintenance and troubleshooting

They are addressed exclusively to the Authorised Service Centre.
It contains specific warnings and useful information for the most common commissioning and routine maintenance.

Technical information

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

1.2 General warnings

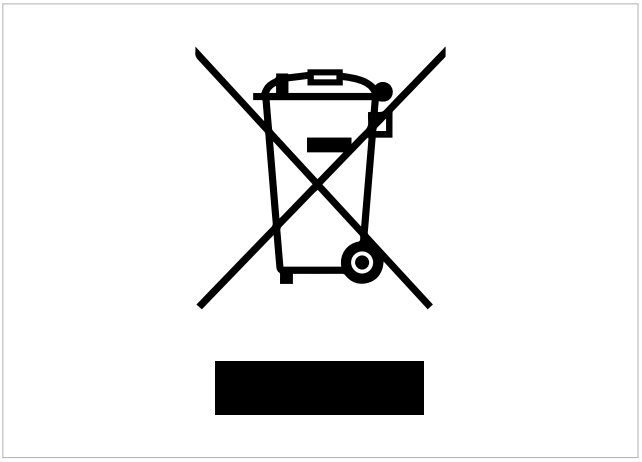
- ⚠ Specific warnings are given in each chapter of the document and should be read before starting operations.
- ⚠ All personnel involved must be aware of the operations and dangers that may arise when beginning all unit installation operations.
- ⚠ Installation performed outside the warnings provided in this manual and use of the appliance outside the prescribed temperature limits will invalidate the warranty.
- ⚠ Any contractual or extra-contractual liability for damage caused to persons, animals or property, due to installation, adjustment and maintenance errors or improper use is excluded. All uses not expressly indicated in this manual are not permitted.
- ⚠ The installation of the appliances must be carried out by a qualified company which, on completion of the work, will issue a declaration of compliance to the person in charge of the plant in accordance with the regulations in force and the instructions provided in the instruction booklet accompanying the appliance.
- ⚠ First start-up and repair or maintenance operations must be carried out by the Authorised Service Centre or by qualified personnel following the provisions of this manual.
- ⚠ Do not modify or tamper with the appliance as this can lead to dangerous situations.
- ⚠ Use suitable personal protective clothing and equipment during installation and/or maintenance operations. The Manufacturer is not liable for the non-observance of the current safety and accident prevention regulations.
- ⚠ In case of liquid or oil leaks, isolate the main power supply of the system and close any water valves. Promptly contact the Authorised Service Centre or professionally qualified personnel, and refrain from personally intervening on the equipment.
- ⚠ When replacing components, use only original spare parts.
- ⚠ The Manufacturer reserves the right to make changes to its models at any time to improve its product, without prejudice to the essential characteristics described in this manual. The Manufacturer is not obliged to add such modifications to machines previously manufactured, already delivered, or under construction.
- ⚠ The appliance can be used by children aged 8 years and above and by persons with reduced physical, sensory, or mental capabilities, or those lacking experience or necessary knowledge, provided they are under supervision or have been given instructions concerning the safe use of the appliance and understand the hazards involved. Children should not play with the appliance. Cleaning and maintenance intended to be carried out by the user should not be done by children without supervision.

1.3 Basic safety rules

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

- ⛔ It is forbidden to touch the appliance with wet or damp body parts.
- ⛔ It is forbidden to carry out any operation before disconnecting the appliance from the power supply by setting the plant master switch to "OFF".
- ⛔ It is forbidden to modify the safety or adjustment devices without the authorisation and instructions of the appliance manufacturer.
- ⛔ It is forbidden to pull, unplug or twist the electrical cables coming out of the appliance, even if it is disconnected from the mains supply.
- ⛔ It is forbidden to introduce objects and substances through the openings provided for the intake and delivery of air.
- ⛔ It is forbidden to open the access doors to the internal parts of the appliance without first setting the plant master switch to “OFF”.
- ⛔ It is forbidden to dispose of packaging material and leave it within reach of children as it can be a potential hazard.

1.4 Disposal



The symbol on the product or packaging indicates that the product should not be treated as normal household waste. Instead, it should be taken to an appropriate collection point for recycling of electrical, electronic, and battery equipment.
Proper disposal of this product avoids harm to humans and the environment and promotes the reuse of valuable raw materials.
For more detailed information about the recycling of this product, contact your local authority, your household waste disposal service, or the shop where you purchased the product.
Illegal disposal of the product by the user involves the application of the administrative sanctions provided for by the regulations in force.
This provision is only valid in the EU Member States.

⚠ Avoid disassembling the appliance yourself.

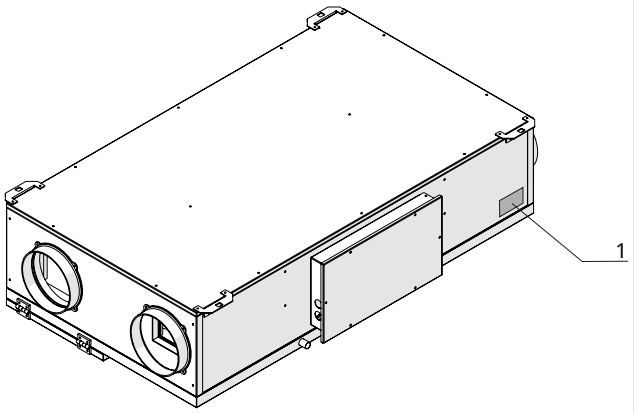
⚠ **Contact an Authorised Service Centre to disassemble the appliance.**

2. PRODUCT INTRODUCTION

2.1 Identification

The appliance can be identified by the rating plate:

1. Technical rating plate



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

⚠ Tampering with, removing or missing identification plates does not allow the product to be reliably identified by its serial number and therefore invalidates the warranty.

2.2 Destination of use

This appliance is a ventilation unit complete with heat recovery unit dedicated to changing air without wasting energy. The unit is particularly suitable for single family units, flats and in all cases where the nominal flow rates for air exchange do not exceed 500 m^3/h.

The unit is designed for installation inside buildings protected from the weather in a horizontal ceiling position with ducted air distribution.

2.3 Description of the appliance

Structure: self-supporting sheet metal frame, interior in high density EPS 30 kg/m^3 and polyethylene foam. Carpentry and internal plugging in thick galvanised sheet metal.

Heat exchanger: counter-current type. Sensible version in polypropylene, enthalpic version with breathable membranes.

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

Filters: EPM1 filter on fresh air and extract air with low pressure drop. Easily removable for routine maintenance.

Models: 4 sizes with different flow rates are available.

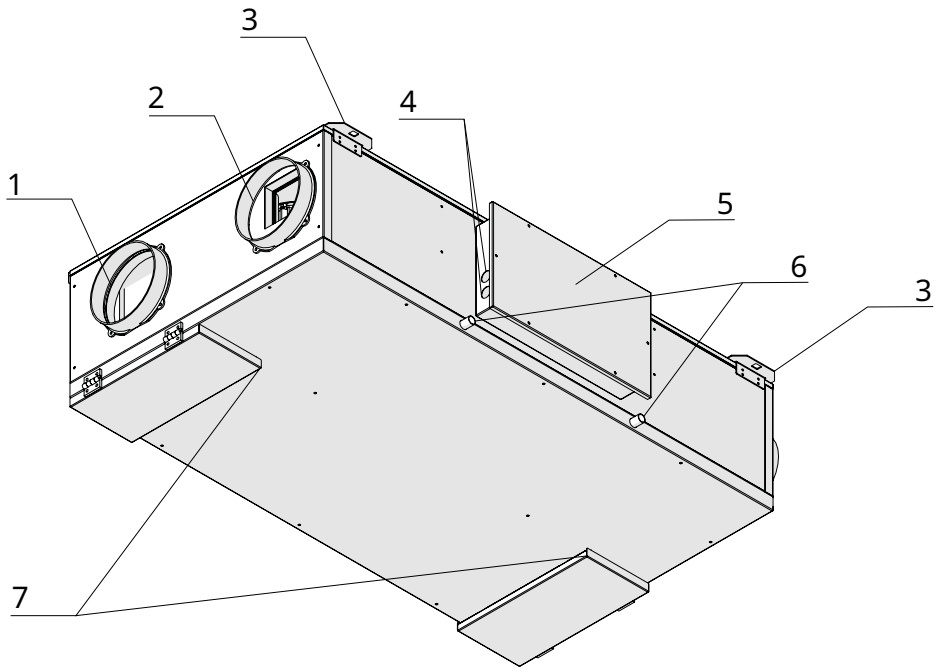
Configurations: the unit is configurable in air flows according to the position of the room side and the outdoor side.

- A factory configuration
- B configuration modifiable on site

2.4 List of external components

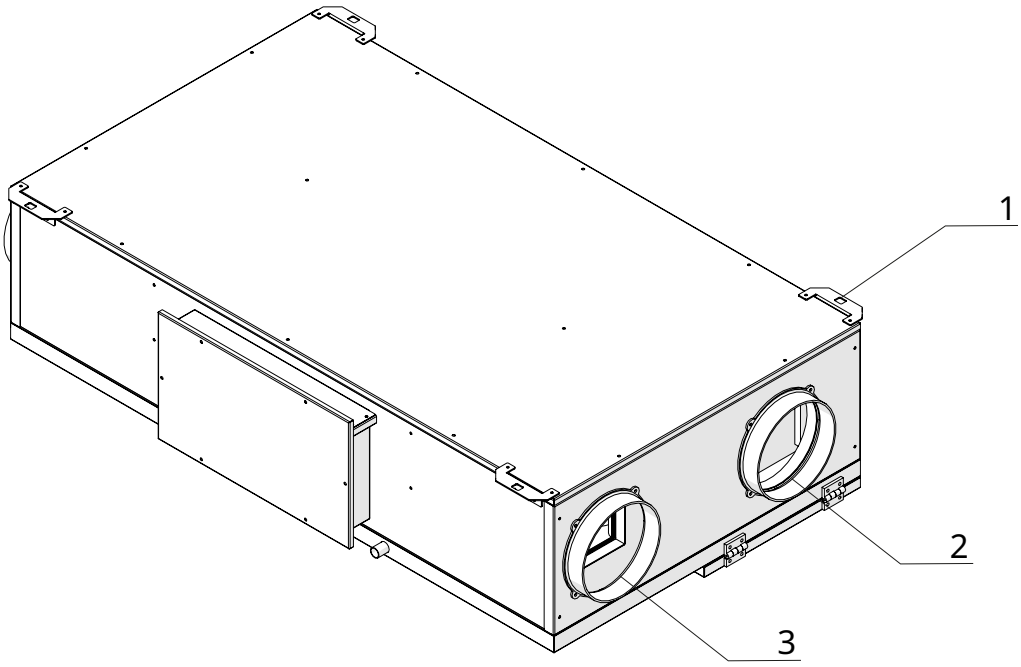
Configuration A

1.	Fresh air inlet	**5.**	Electrical panel
2.	Exhaust air	**6.**	Condensate drain
3.	Fixing bracket	**7.**	Filter access hatch
4.	Electrical connection passage		



Configuration A

1.	Fixing bracket	**3.**	Supply air
2.	Extract air		



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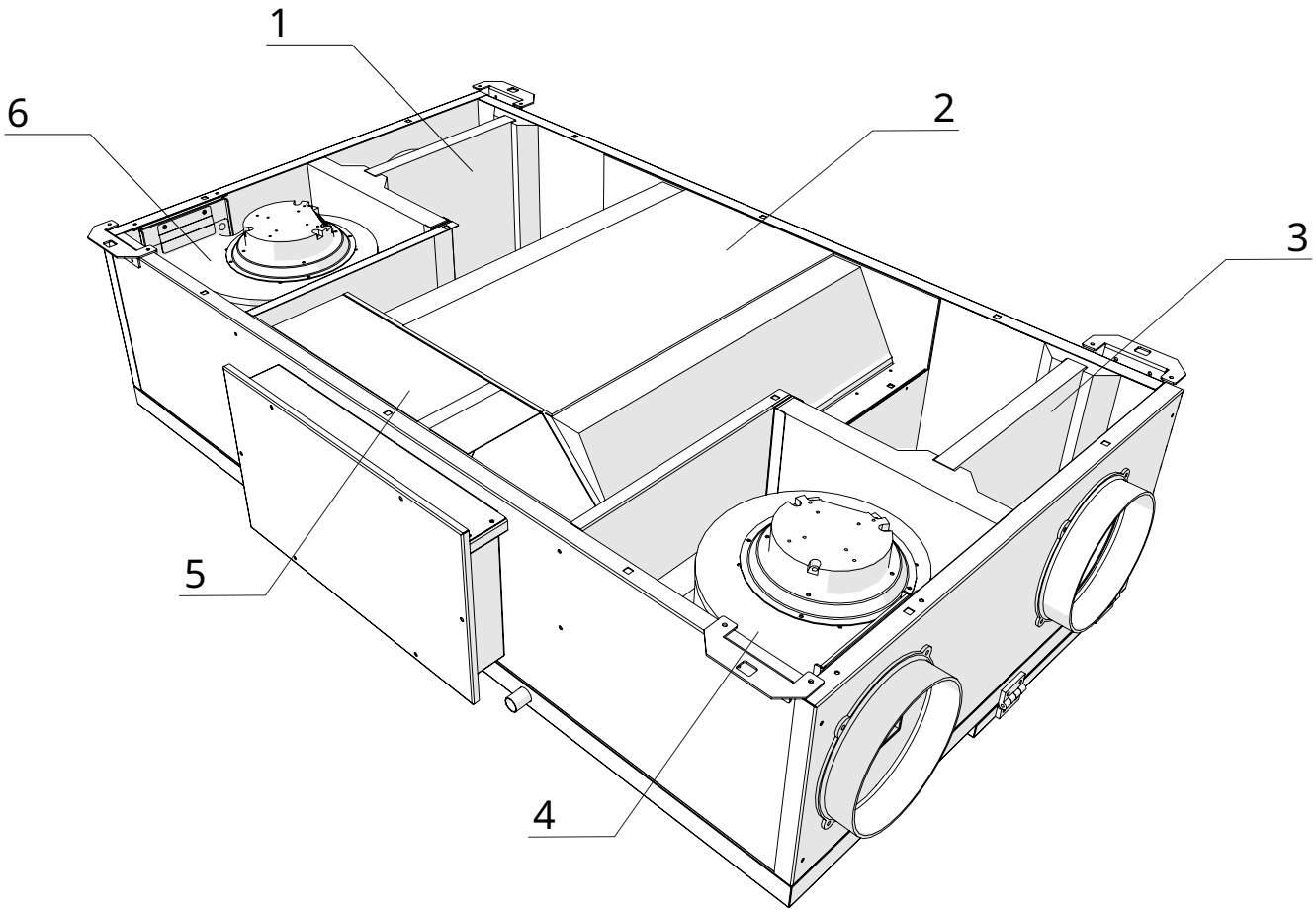
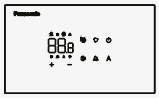
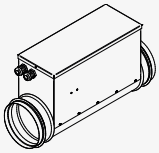
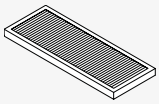
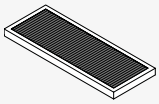
2.5 List of internal components

Configuration A

1.	Outdoor air filter	**4.**	Exhaust fan
2.	Heat exchanger	**5.**	Bypass
3.	Room side air intake filter	**6.**	Supply fan



2.6 Compatible accessories

Description		Code
Commands		
	LED electronic control panel with touch interface, wall mounted complete with thermostat and room temperature and relative humidity probe. Cable connection. White colour	PCZ-EEB749
	LED electronic control panel with touch interface, wall-mounted complete with thermostat and room temperature and relative humidity probe with integrated Wi-Fi module. Cable connection. White colour	PCZ-EFB749
Auxiliary electrical coils		
	Electric post-heating coil DN 125 mm 0.5 kW	PAW-VEN-HTR05
	Electric post-heating coil DN 160 mm 1.0 kW	PAW-VEN-HTR10
Spare filters		
	Kit 2 filters ePM1 80% fresh air supply and extraction for domo 20 H unit	PAW-VEN-FLT1
	Kit 2 filters ePM1 80% for domo 30 H unit	PAW-VEN-FLT2
	Kit 2 ePM1 80% filters for domo 40 H / 50 H unit	PAW-VEN-FLT3
Active carbon spare filters		
	Kit 1 filter Active carbon for 20 H unit	PAW-VEN-ACFLT1
	Kit 1 filter Active carbon for domo 30 H unit	PAW-VEN-ACFLT2
	Kit 1 filter Active carbon for domo 40 H /50 H unit	PAW-VEN-ACFLT3

3. INSTALLATION

3.1 Preliminary warnings

⚠ **For detailed information on the products, refer to chapter "Technical information"** *p. 45***.**

⚠ The installation must be carried out by the installer. There is a risk of water leakage, electric shock or fire if the installation is not performed correctly.

⚠ During installation, it is necessary to observe the precautions mentioned in this manual, and on the labels affixed to the inside of the appliances, as well as to take every precaution suggested by common sense and the safety regulations in force at the place of installation.

⚠ Using only the supplied installation-specific components is recommended. Use of alternative components could lead to water leakage, electric shock or fire.

⚠ Failure to apply the indicated rules may cause malfunctions of the appliance and relieves the Manufacturer from any warranty and from any damage caused to persons, animals or property.

3.2 Reception

Preliminary warnings

⚠ Upon receipt of the package check that it is not damaged, otherwise accept the goods with reservation, producing photographic evidence of any damage.

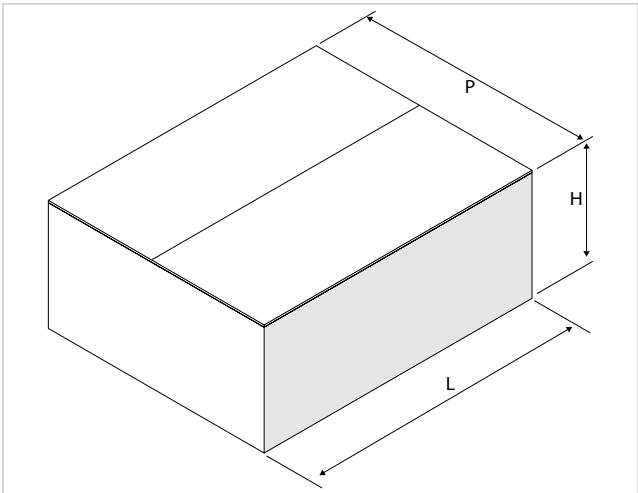
⚠ In the event of damage, notify the shipper by registered mail with return receipt within 3 days of receipt. Presenting photographic documentation, similar information should also be sent by email to the Manufacturer.

⚠ No reports of damage will be taken into account later than 3 days after delivery.

Package description

The packaging is made of suitable material and carried out by experienced personnel.
The units are all checked and tested and are delivered complete and in perfect condition.
The appliance is shipped in standard packaging consisting of a cardboard box and a set of polystyrene foam protectors, placed on a wooden pallet and secured with straps.

3.3 Dimensions and weights with packaging



Models	u.m.	15H	30H	35H	45H
Packaging dimensions (1)					
Width	mm	600	655	745	745
Length	mm	915	915	1270	1270
Height	mm	320	365	350	350
Weight	kg	27,0	33,0	42,0	42,0

1. Excluding pallet

3.4 Handling with packaging

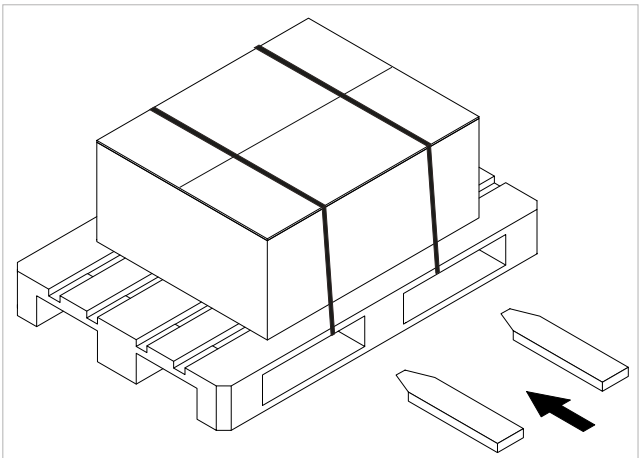
Preliminary warnings

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

Handling

With pallet:

► use a forklift



Without pallet:

► use a forklift

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

3.5 Storage

Preliminary warnings

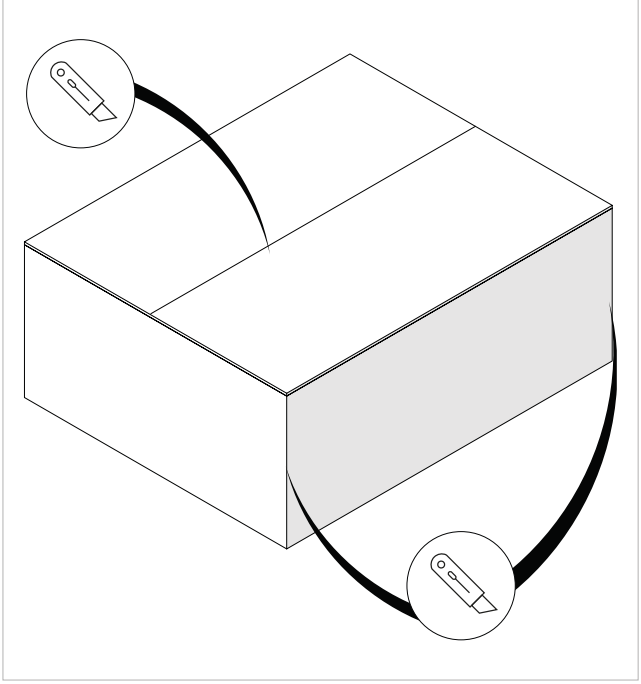
⚠ Stored in accordance with the applicable national regulations.
⚠ Store in a closed environment protected from the weather, off the ground by means of sleepers or pallets with temperatures not below 0 °C, up to a maximum of 40 °C.

3.6 Unpacking

Preliminary warnings

⚠ Check that the individual components are present.
⚠ Check that no components were damaged during transport.
⚠ Dispose of the packaging components following the applicable waste disposal regulations. Check for disposal arrangements with your local authority.
⚠ Handle with care.
⚠ The device must always be moved in a horizontal position.
⛔ The packing material (cardboard, staples, plastic bags, etc.) must not be dispersed or abandoned in the surrounding environment and must be kept out of reach of children due to risk of hazard.

Removing the packaging



To remove the packaging:

► use a cutter

► open the cardboard packaging

ⓘ To aid removal of the product, also cut the vertical edges.

► remove the accompanying components

► remove the polystyrene elements

► remove the appliance from the box

Accompanying material

They are included with the appliance, inside the packaging:

- Control panel user manual
- Installer manual
- Energy efficiency label
- Configuration B label

⚠ Check the presence of the individual components.

3.7 Handling without packaging

Preliminary warnings

⚠ The unit must be handled using non-slip gloves.

⚠ The unit may only be handled by qualified personnel adequately equipped and with equipment suitable for the weight and dimensions of the unit.

⚠ Before each handling operation, check the lifting capacity of the machinery used in accordance with the indications on the packaging.

⚠ When the load is lifted from the ground, stay clear of the immediate and surrounding area.

⚠ Check the information on the packaging for the amount of stackable packages.

⚠ In manual operations, the maximum weight per person required by current legislation must always be observed.

Movement methods

► use a fork lift, scaffolding or other suitable lifting system

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

3.8 Installation site

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

The appliance is intended to be installed indoors in a horizontal position fixed to the ceiling.

⚠ The installation position must be chosen close to a wall connected to the outside.

⚠ The appliance is declared IPX0 protected, therefore not suitable for installation outdoors or in rooms with the presence of water (swimming pool, etc.).

Preliminary warnings

⚠ Avoid installing the unit in the vicinity of:

- obstacles or barriers that cause recirculation of the exhaust air
- narrow places where the sound level of the appliance can be enhanced by reverberations or resonances
- environments with the presence of flammable or explosive gases
- very damp environments (laundries, greenhouses, bathrooms with high humidity, etc.) to prevent the formation of condensation on the external panels of the unit
- environments with the presence of flammable or explosive gases or flammable fluids
- solar radiation and proximity to heat sources

⚠ **Avoid installing the unit in the vicinity of the sea. Salty atmospheres cause corrosion and oxidation of the internal components, compromising the functioning of the unit.**

⚠ Avoid placing the unit within 1 metre of radio and video equipment.

⚠ Do not install above heat sources.
⚠ Ensure that:

- the installation site of the unit must be chosen with the utmost care to guarantee adequate protection from shocks and consequent damage
- the supporting surface is capable of supporting the weight of the appliance
- the supporting surface does not affect load-bearing building elements, piping, or power lines
- the functionality of load-bearing elements is not compromised
- there are no obstacles to the free circulation of air through the holes (plants, leaves...)
- the appliance must be installed in a position where it can be easily serviced
- the safety distances between the units and other appliances or structures are scrupulously respected so that the air entering and leaving the fans is free to circulate

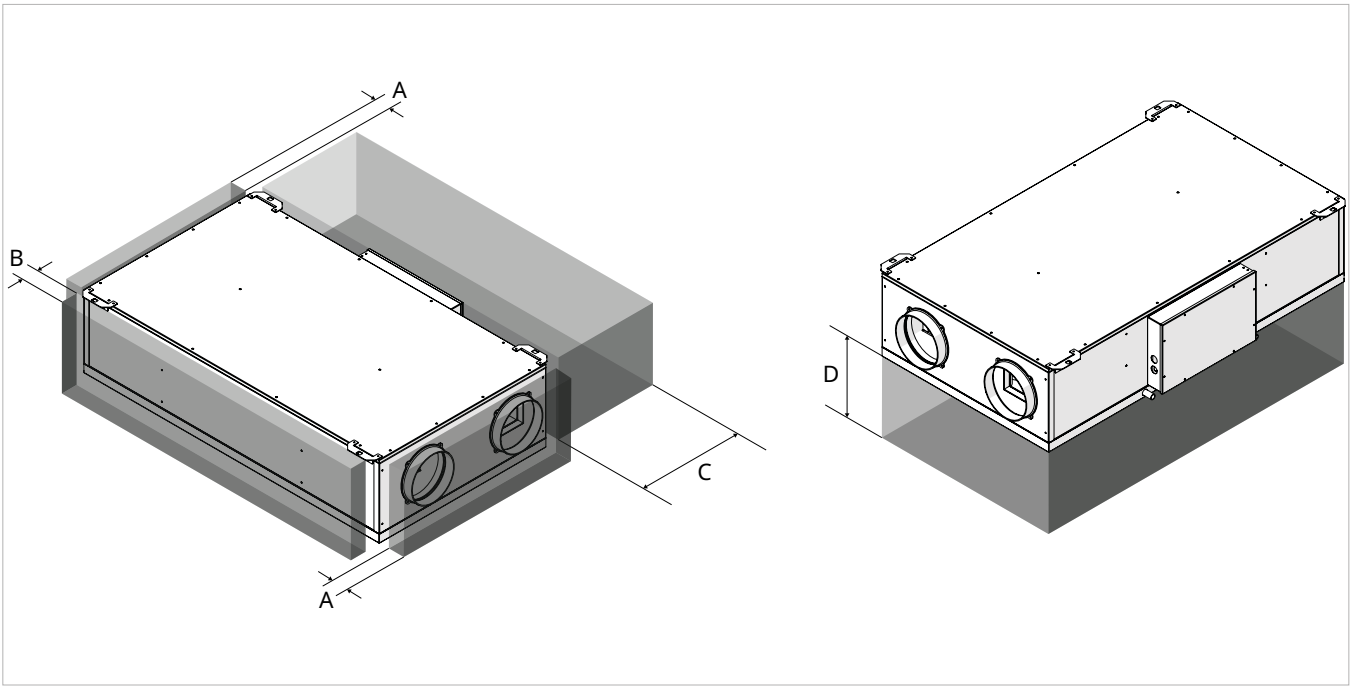
⚠ If the unit is installed incompletely or on an unsuitable surface, it could cause damage to persons or property if it becomes detached.
⚠ The appliance must not be in a position where the air flow is aimed directly at a person.
⚠ Provide the following:

- a drain nearby for the outflow of condensation
- a compliant power supply nearby

3.9 Minimum installation distances

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

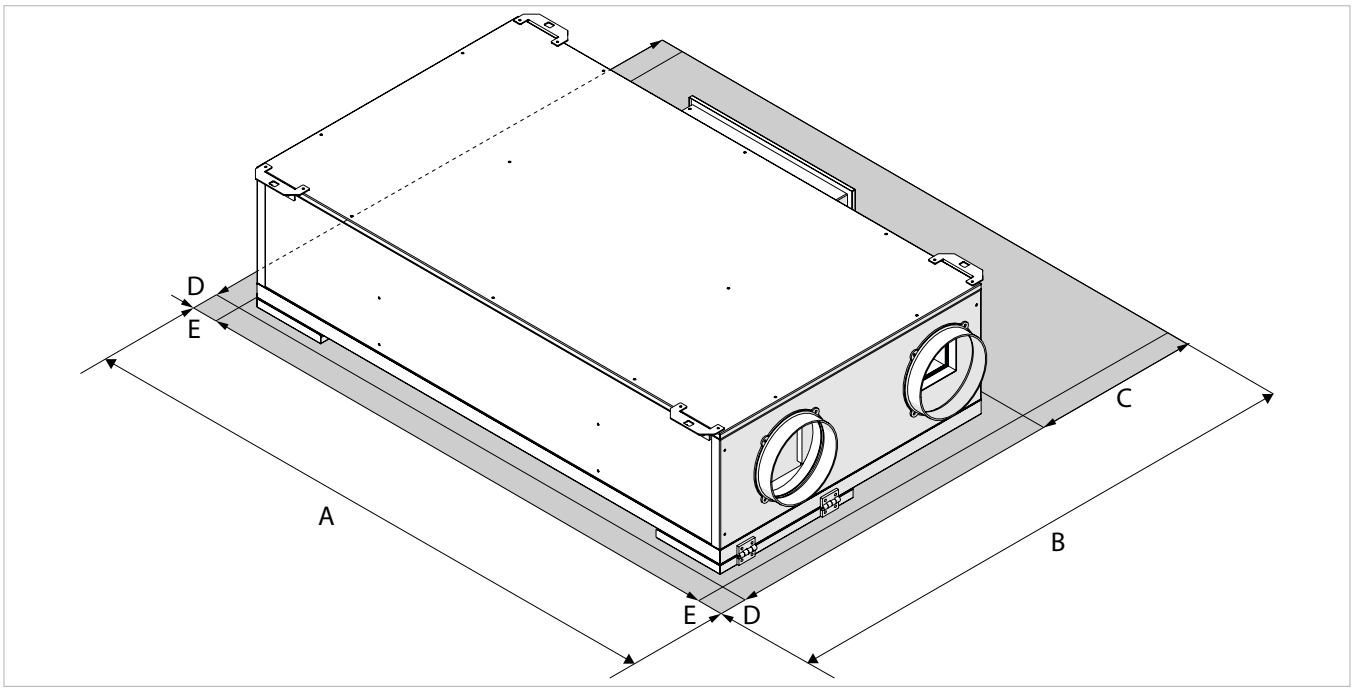
⚠ Make sure that there is sufficient space to allow the panels to be removed for routine and supplementary maintenance operations.



Models	u.m.	15H	30H	35H	45H
Minimum distances					
A	mm	30	30	30	30
B	mm	30	30	30	250
C	mm	300	300	300	300
D	mm	200	250	250	250

Hatch dimensions

⚠ For installation in a ceiling, it is mandatory to create an access hatch for the inspection and maintenance of the device.



Models	u.m.	15H	30H	35H	45H
Hatch dimensions					
A	mm	925	921	1280	1280
B	mm	873	976	1066	1066
C	mm	300	300	300	300
D	mm	30	30	30	30
E	mm	30	30	30	30

3.10 Positioning

Preliminary warnings

The unit must be installed to a secure structure above the unit.

⚠ Check that:

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

Drilling the outside wall

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

To drill the holes:

► mark the position of the hole

► use a drill

► drill a guide hole

► use a core drill

► make a hole through the wall

► maintain a downward slope towards the outside

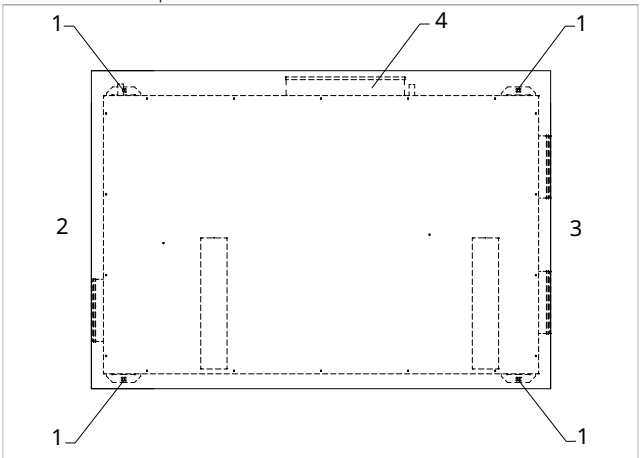
⚠ To avoid the release of large amounts of dust and debris into the room, you are advised to couple the core drill with a vacuum system.

⚠ Proceed with caution near the outside wall to avoid breaking the plaster around the hole.

⚠ Take precautions so that the removed material does not hit people and objects below.

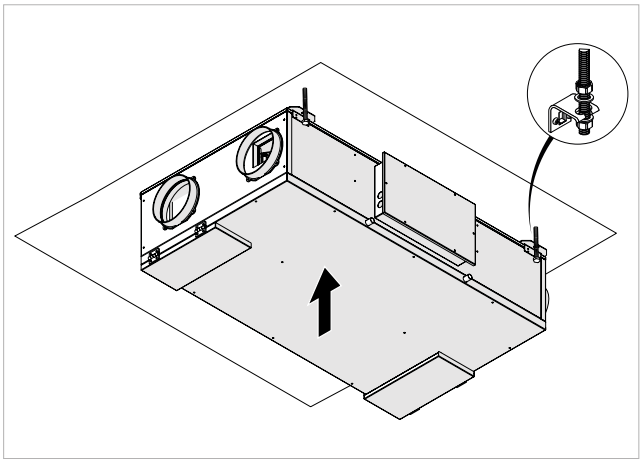
Positioning the unit

1.	Holes for installation of support fixings Ø 8 mm
2.	Front side of unit
3.	Rear side of unit
4.	Electrical panel

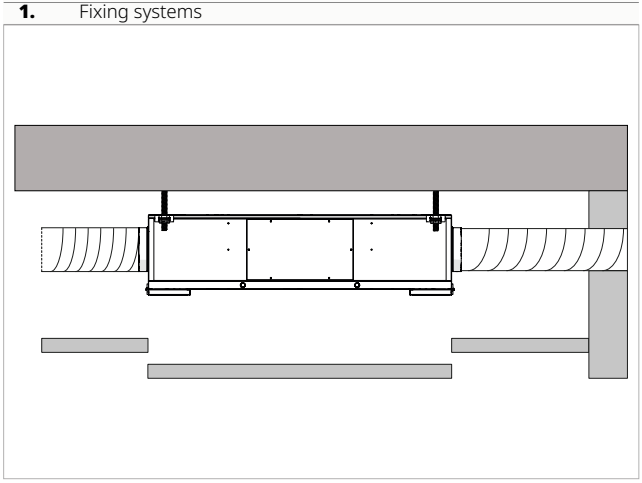


⚠ Check the correct orientation of the unit.

► mark the position of the fixing holes



1.	Fixing systems



► use fixing systems appropriate for the type of supporting surface and the weight of the unit

► secure the unit to the fixing system

⚠ Check the horizontal alignment of the installation using a bubble level.

3.11 Condensate drain connection

Preliminary warnings

⚠ This appliance is equipped with trays for collecting the condensate that is produced during operation. Condensate must be routed to a suitable place for drainage.

⚠ The appliance is equipped with two condensate drainage connections. One of the two must be used depending on the chosen configuration.

⚠ If the drainage line runs into a container (tank or other) it must be ensured that the container itself is hermetically sealed and most importantly it must be ensured that the drainage pipe is not immersed in water.

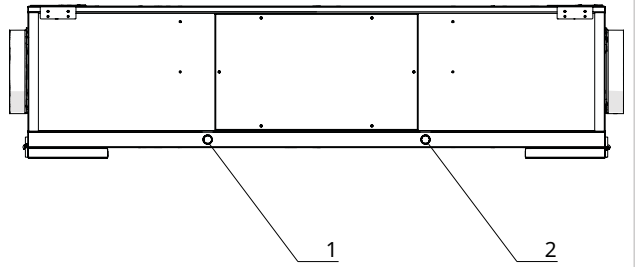
⚠ The hole for the condensate pipe must always have an downwards slope.

⚠ When connecting the condensate drain, take care not to crush the rubber pipe.

Attachment position

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

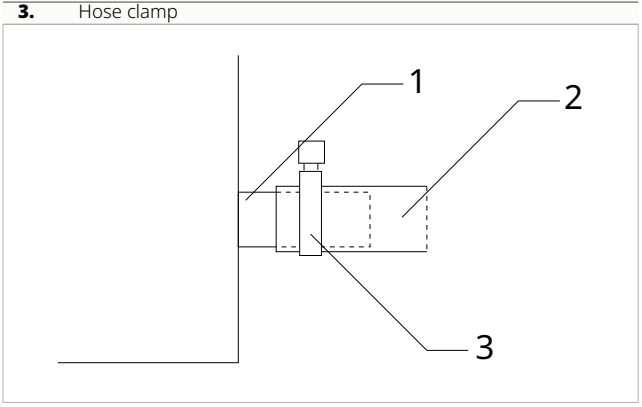
1.	Configuration A condensate drain connection
2.	Configuration B condensate drain connection



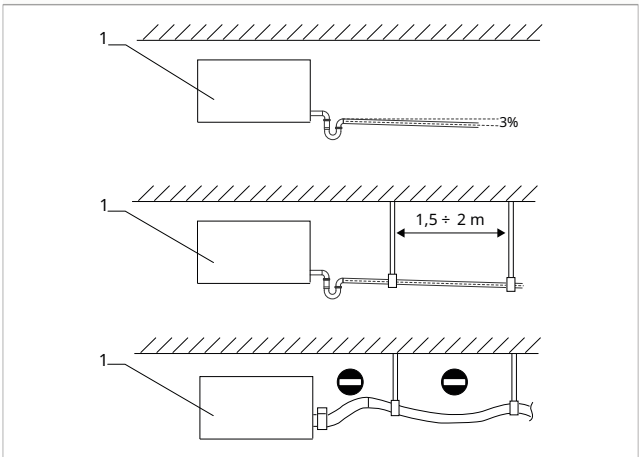
⚠ The unused connection must be plugged.

Connections

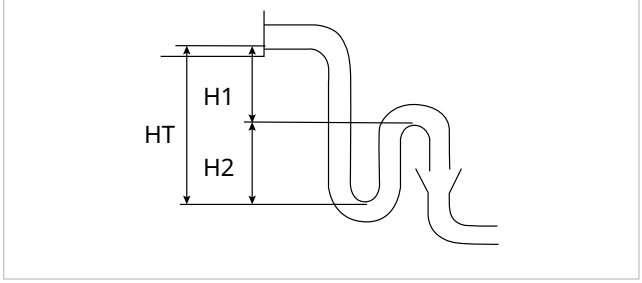
1.	Condensate drain connection
2.	Condensate drain pipe
3.	Hose clamp



1.	Unit



HT	60 mm
H1	30 mm
H2	30 mm



Depending on the chosen configuration:

- ► connect the drainage pipe to the connection provided on the unit
- ► install a siphon on the condensate drainage pipe near the unit
- ► direct the condensate drain pipe to a suitable place for draining
- ► maintain a minimum slope of 3% towards the drain location
- ► insulate junction points

⚠ **It is mandatory to install an adequate siphon on the condensate drainage pipe to prevent the negative pressure generated by the fans from obstructing the proper flow of condensate, which could lead to spillage inside the premises.**

⚠ The drainage system must include a suitable siphon to prevent unwanted air from entering the vacuum system. The siphon also prevents the entry of odours or insects.

⚠ The siphon must be fitted with a plug at the bottom or must in any case permit quick dismantling for cleaning.

⚠ Use plastic drainage pipes.

⚠ Avoid metal pipes.

⚠ Make sure all joints are sealed to prevent leakage of water.

⚠ Condensate drain pipes must be insulated for both indoor and outdoor sections to avoid condensation on the surface and/or frosting problems. The insulation must be inserted all the way to the condensate drain pipe connection on the unit.

3.12 Aeraulic connections

Preliminary warnings

⚠ The sizing of ducting and supply and extract grilles must be carried out by a professionally qualified person.

⚠ To prevent the transmission of any vibrations of the machine into the room, an anti-vibration joint should be placed between the fan outlets and the ducts.

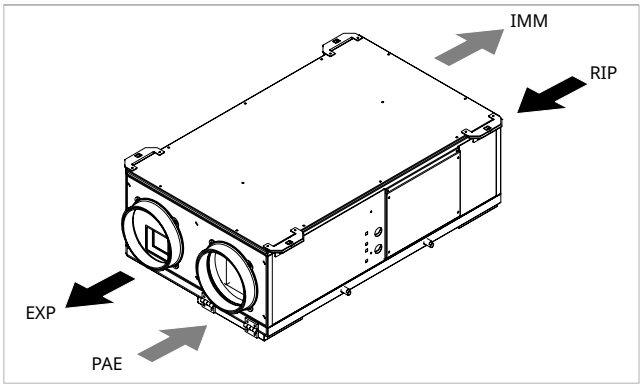
⚠ The connecting pipes must be of a suitable diameter and supported so that their weight does not put strain on the appliance.

Airflow configurations

- A factory configuration
- B configuration modifiable on site

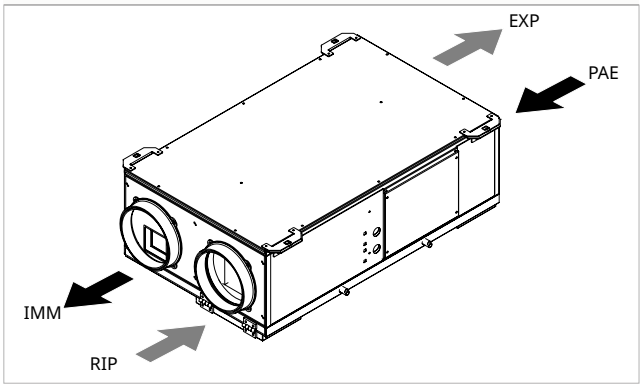
Model 15 - 30 Configuration A

RIP: Extract air
IMM: Supply air
EXP: Exhaust air
PAE: Fresh air inlet



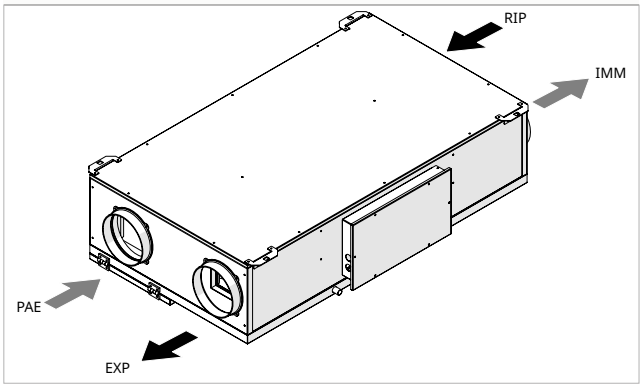
Model 15 - 30 Configuration B

RIP: Extract air
IMM: Supply air
EXP: Exhaust air
PAE: Fresh air inlet



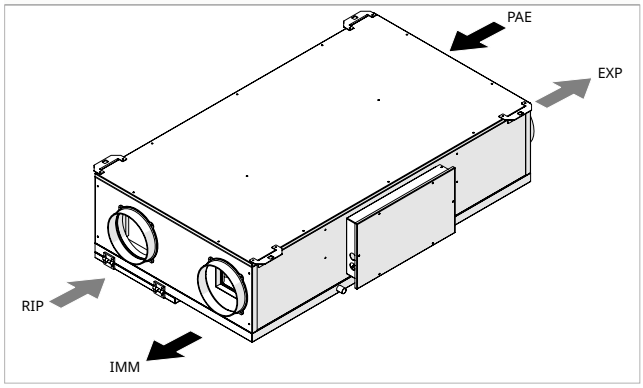
Model 35 - 45 Configuration A

RIP: Extract air
IMM: Supply air
EXP: Exhaust air
PAE: Fresh air inlet



Model 35 - 45 Configuration B

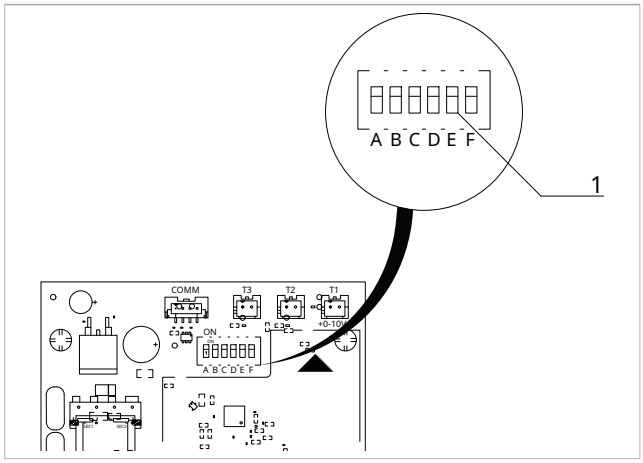
RIP: Extract air
IMM: Supply air
EXP: Exhaust air
PAE: Fresh air inlet



Changing the airflow configuration from A to B

To modify the configuration, switch microswitch E from Off to On. The unit will automatically reverse the fan outputs, the probe properties, and the respective anti-freeze and bypass control logics.

1. Microswitch E



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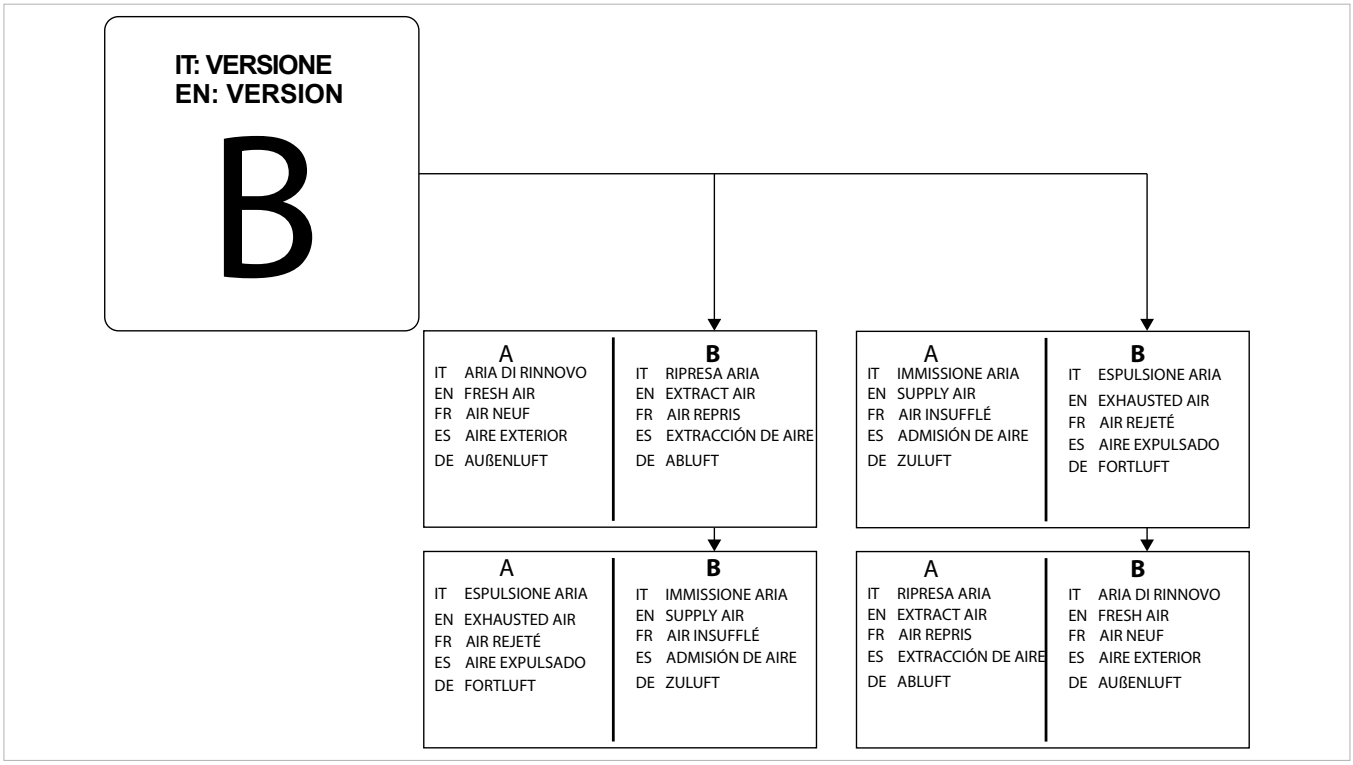
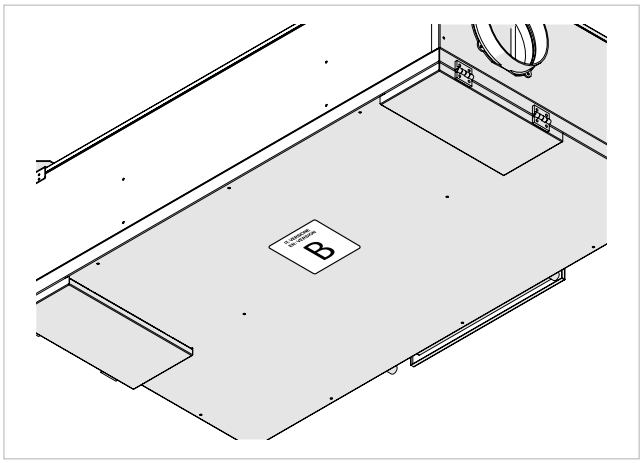
Configuration B label



To indicate that the machine configuration has been changed, the supplied label must be applied. The presence of the label indicates that you must refer to column B in the airflow labels.

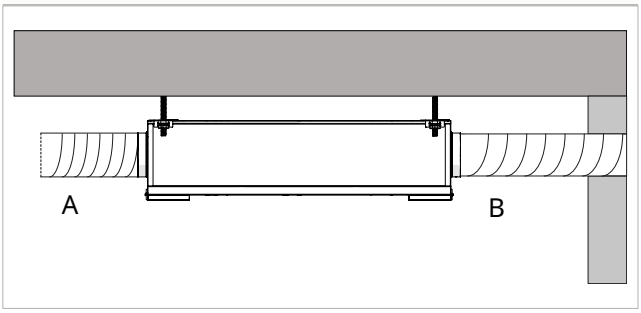
Label application:



► apply the label to the lower panel

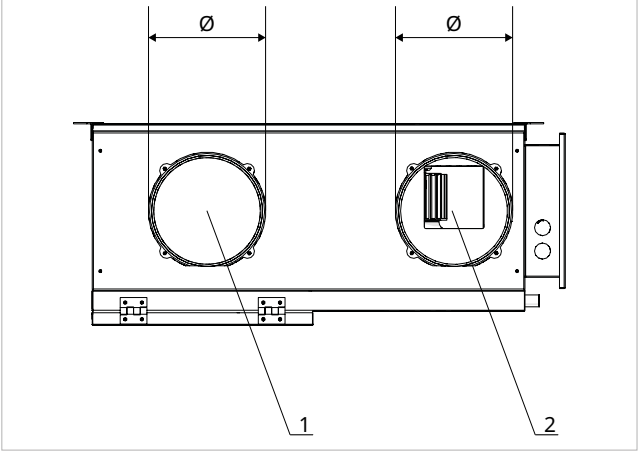
Connections

A Airflow connections towards the room
B Airflow connections towards the outside



Outdoor side

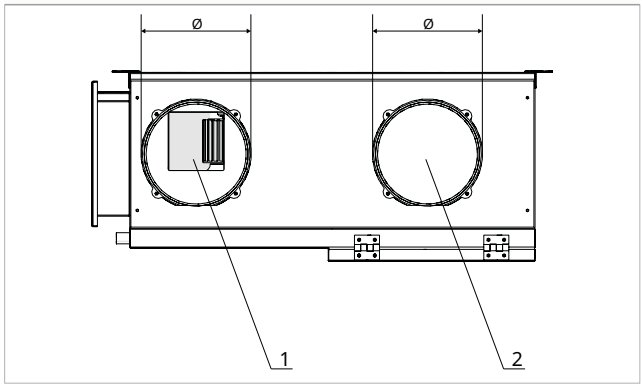
1. Outdoor air
2. Expulsion



Models	u.m.	15H	30H	35H	45H
Supply air connection Ø	mm	160	160	160	160

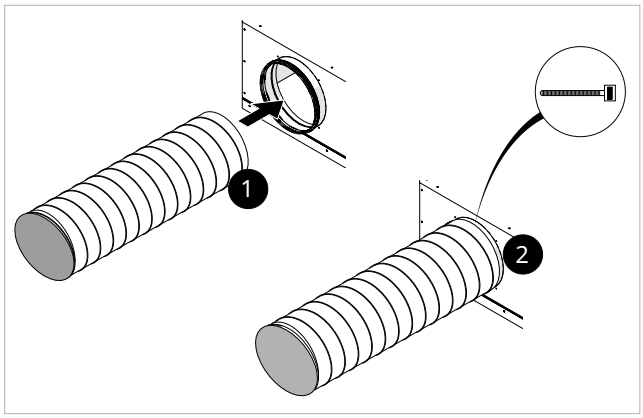
Room side

1. Supply
2. Room side air intake



Models	u.m.	15H	30H	35H	45H
Supply air connection Ø	mm	160	160	160	160

Circular connections



► position the ducts on the connections provided on the appliance

► use a metal clamp or duct fixing collar

► fix the ducts on the attachments

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

3.13 Electrical connections

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

Preliminary warnings

⚠ All operations of an electrical nature must be carried out by suitably qualified personnel having the necessary legal knowledge and informed about the risks related to such operations.

⚠ All connections must be made in accordance with the relevant regulations in force in the country of installation.

⚠ Before carrying out any work, make sure that the power supply is switched off.

⚠ The unit should only be powered after the plumbing and electrical work has been completed.

⚠ References:

- for electrical connections please refer to the wiring diagrams in this manual, especially for the part concerning the power terminal board

⚠ Check that:

- the main supply characteristics are adequate for the power consumption of the appliance, also taking into account any other machinery in parallel operation
- the power supply voltage and frequency correspond to those specified on the nameplate of the appliance
- the cables are suitable for installation in accordance with the IEC standards in force

- the power supply is adequately protected against overloads and/or short circuits
- the disconnection device is positioned in an easily accessible place to enable intervention in the event of an emergency

⚠ It is mandatory:

- to connect the appliance to an effective grounding system
- for units with three-phase power supply, check the correct phase connection
- provide an all-pole switch with a contact opening distance of at least 3 mm that allows complete disconnection under overvoltage category III conditions
- Install a ground fault circuit interrupter (GFCI). Failure to install this device could result in electric shock

⚠ Ensure that a connection to earth is made. Do not ground the appliance to distribution pipes, surge arresters or the ground of telephony systems. If not performed correctly, grounding can cause an electric shock. Momentary high voltage surges caused by lightning or other causes could damage the heat pump.

⚠ Use a dedicated power supply circuit. Never use a power supply to which another appliance is also connected due to risk of overheating, electric shock or fire.

⚠ For the electrical connection, use a cable of sufficient length to cover the entire distance without any connection. Do not use extension cables. Do not apply other loads on the power supply.

⚠ After connecting the interconnection and power supply cables, ensure that the cables are arranged so that they do not exert excessive forces on the covers or electrical panels. Install the covers on the cables. Incomplete connections of the covers can lead to overheating of the terminals, electric shock or fire.

⚠ Any replacement of the power cable must only be carried out by qualified personnel and in accordance with current national regulations.

⚠ The manufacturer is not liable for any damage caused by the lack of earthing or failure to comply with the specifications in the respective diagrams.

⚠ The appliance is equipped with a noise filter as required by current regulations. Use selective residual current circuit breakers to compensate for the micro leakage to earth of this device.

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

Power line dimensioning

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

⚠ Maximum power is reached only in exceptional cases. Therefore, the indicated trip current is suggested to guarantee a balance between machine absorption and incidence in the general system.

⚠ The indicated minimum cable cross-section area must be verified according to the actual conditions of the installation: length of the cable, characteristics of the electrical supply, etc.

⚠ For units equipped with electrical heating elements, the draw values of the units must be added to those of the heating elements shown in the following tables.

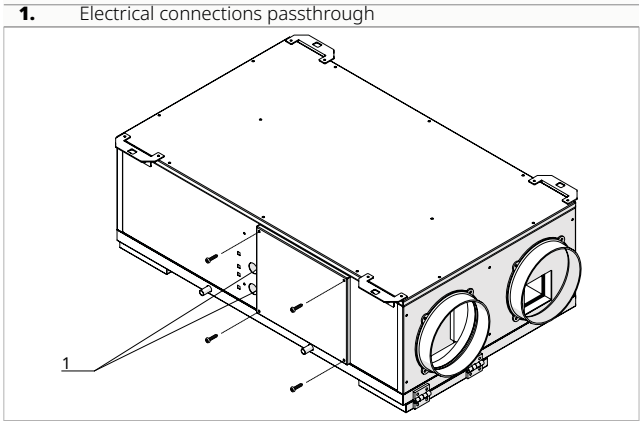
Access to the electrical panel

⚠ Access to the electrical panel is only permitted to qualified personnel.

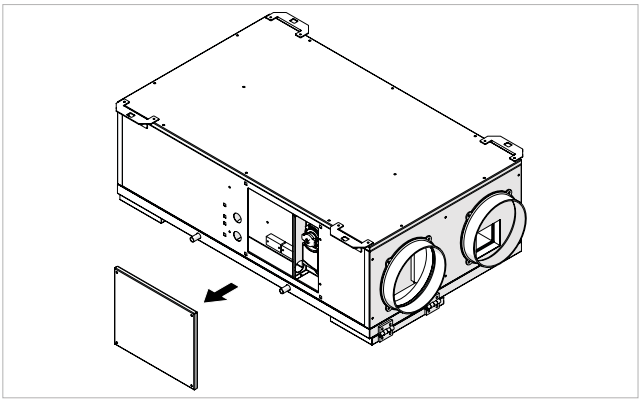
⚠ Before carrying out any work, ensure that the power supply is switched off.

Model 15 - 30

1. Electrical connections passthrough

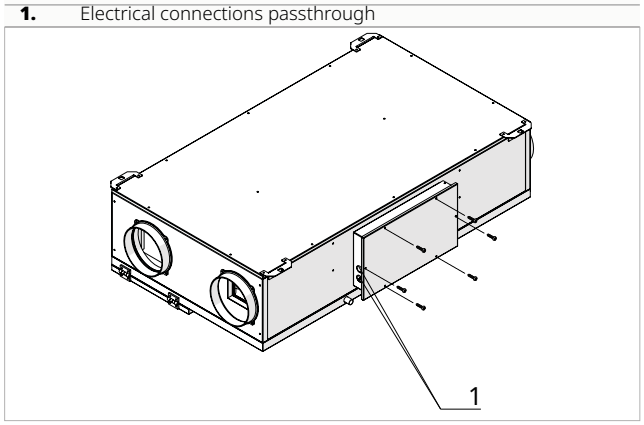


Model 15 - 30

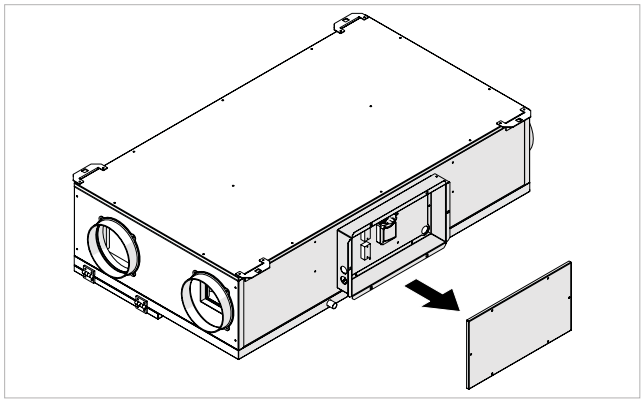


Model 35 - 45

1. Electrical connections passthrough



Model 35 - 45



To access the connections:

► undo the fixing screws

► remove the electrical panel closing panel

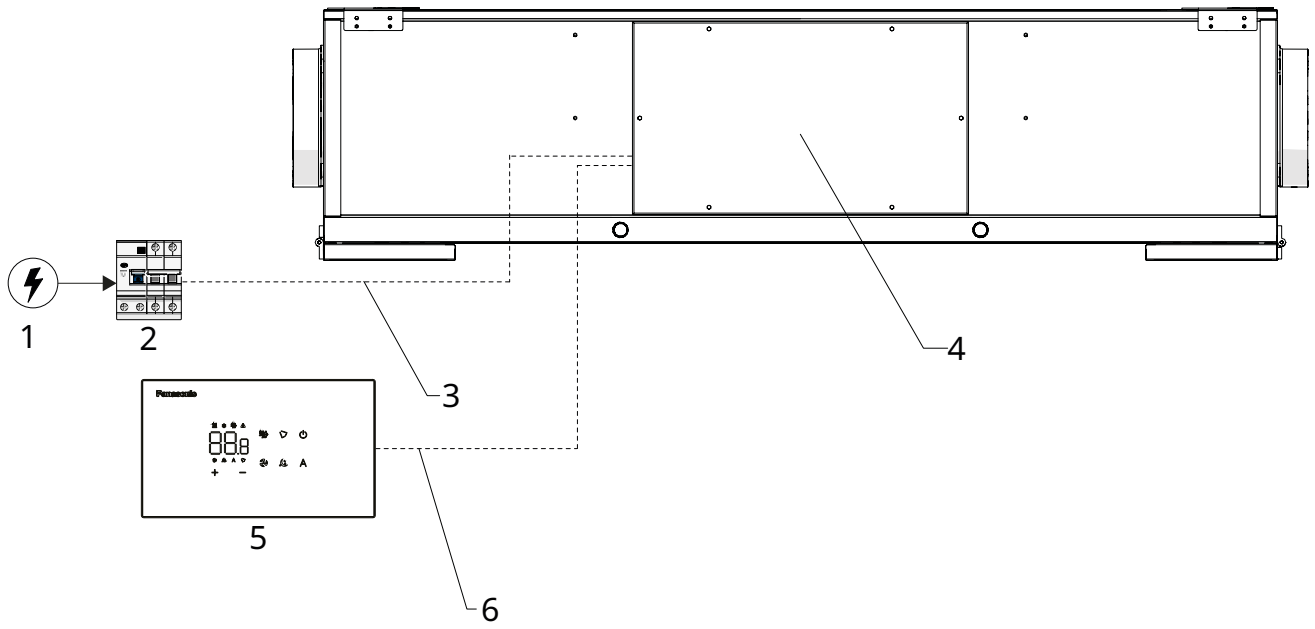
Connections

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

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

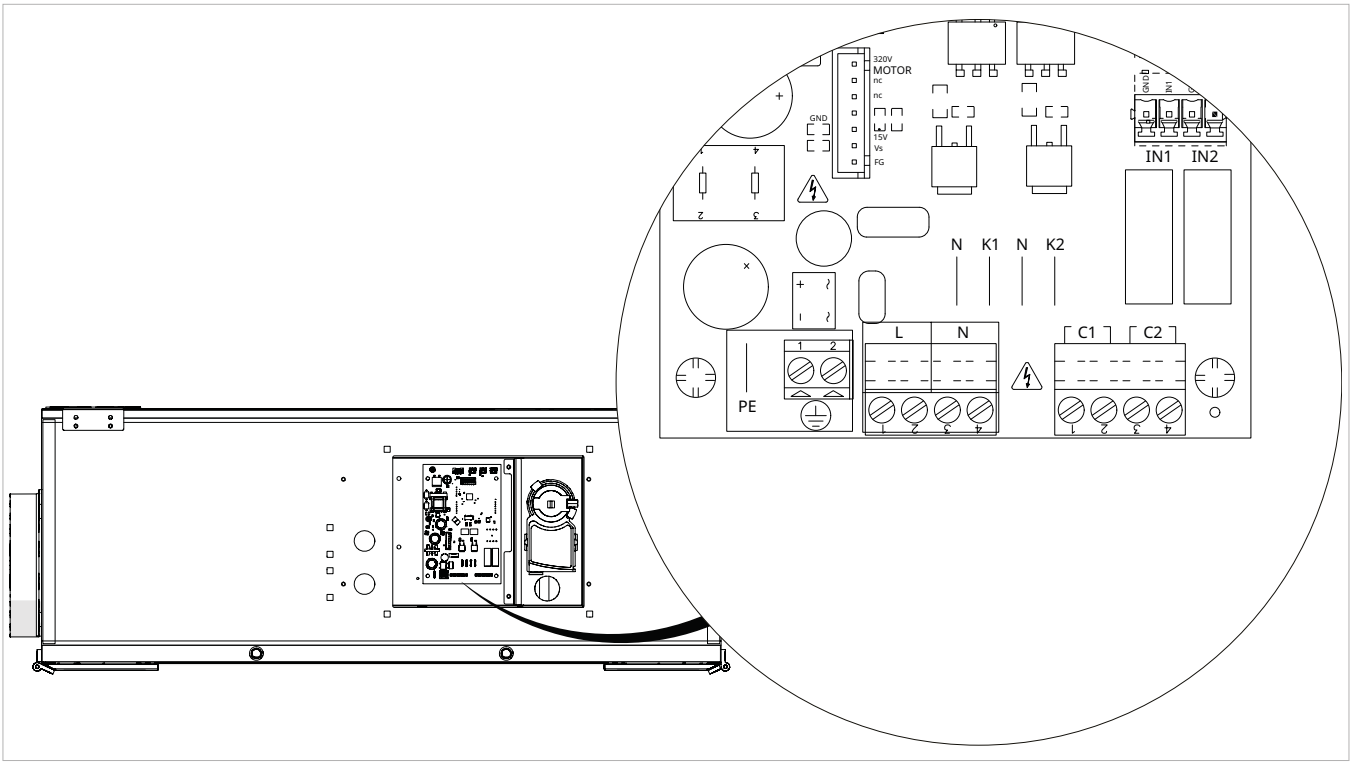
Connection diagram

1.	230/1/50 power supply	**4.**	Unit
2.	Isolator	**5.**	Remote control
3.	Power cable	**6.**	Wired controller communication cable



On-board electrical panel

Connection terminal board

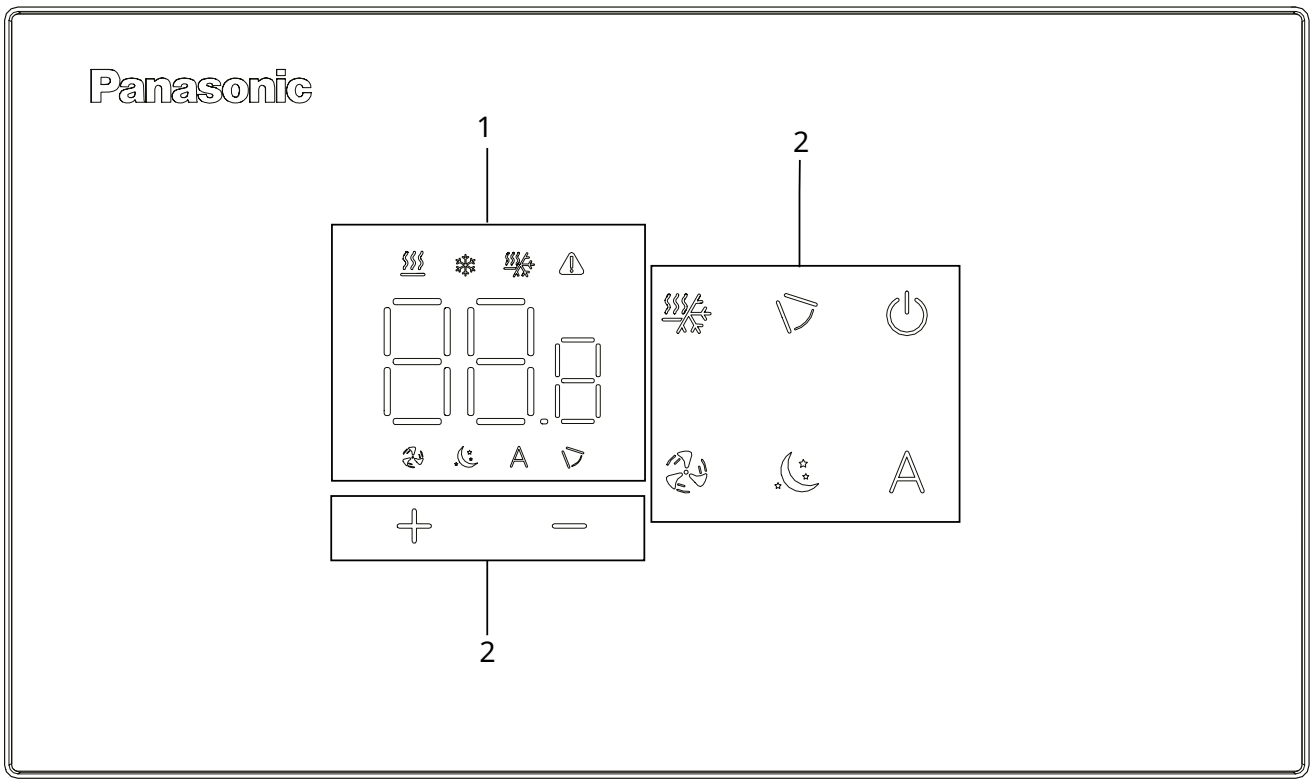


4. WALL CONTROL COMMAND CODE PCZ-EEB749

4.1 Interface

1. Display area

2. Keypad area



4.2 Installation

Description

the wall control panel is an electronic LED thermostat with touch interface, with the ability to control multiple appliances equipped with the same electronic board. It features a temperature and humidity sensor.

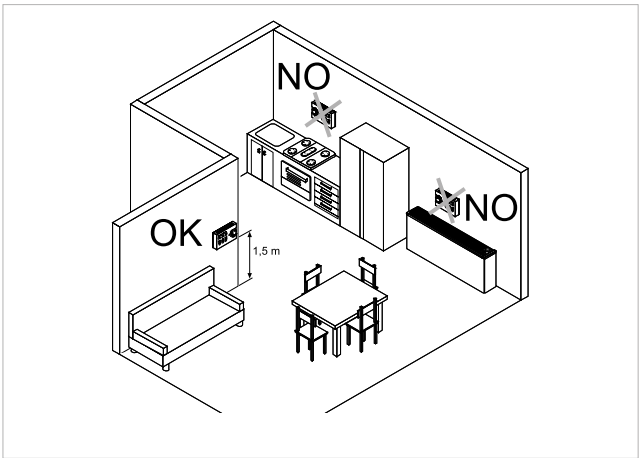
Mounting

⚠ The wall control panel must be installed inside an electrical box.

⚠ Before proceeding with the installation of the wall control command, the wall must be prepared to accommodate the electrical box.

⚠ Make sure that:

- the wall supports the weight of the appliance
- the section of wall does not contain pipes or electrical lines
- the functionality of load-bearing elements is not compromised



The wall control must be installed:

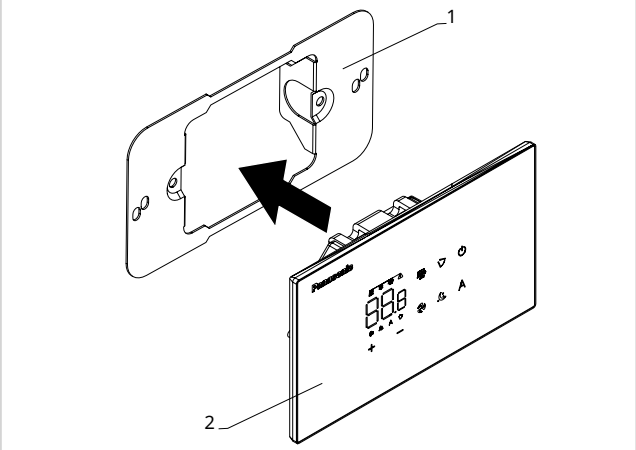
- on the outside walls
- at a height of approx. 1.5 m above the floor

⚠ If the control is located in an area used by people with reduced physical capabilities, refer to local regulations.

- away from doors and windows
- away from heat sources such as radiators, fan coils, cookers, direct sunlight

⚠ The wall control is supplied already assembled in the package.

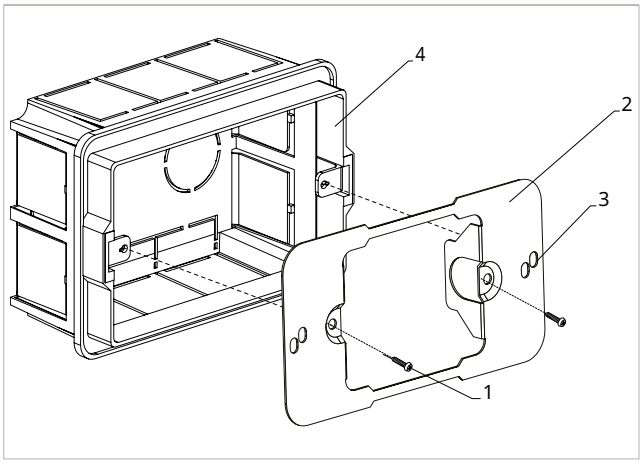
1.	Control base
2.	Wall control command



Before mounting on the wall:

► Separate the control base from the control panel

1.	Fixing screws
2.	Control base
3.	Holes for fixing to the electrical box
4.	Electrical box



For wall mounting of the control panel:

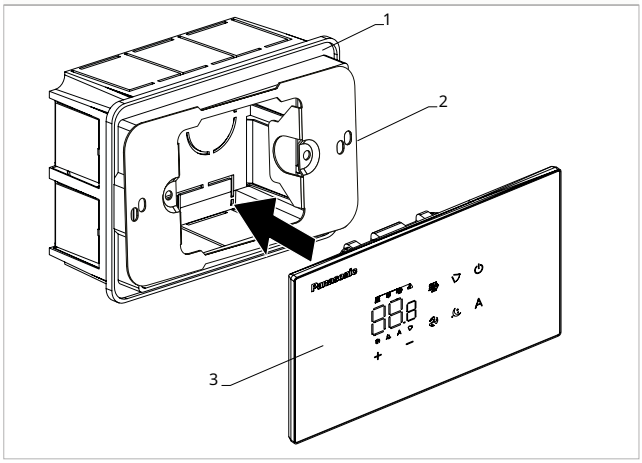
► secure the control base to the electrical box with screws

► Make the connections

⚠ Before making the connections, check that the terminal block of the command is on the right side.

⚠ Several holes are present on the base of the control. The holes used depend on the model of the electrical box.

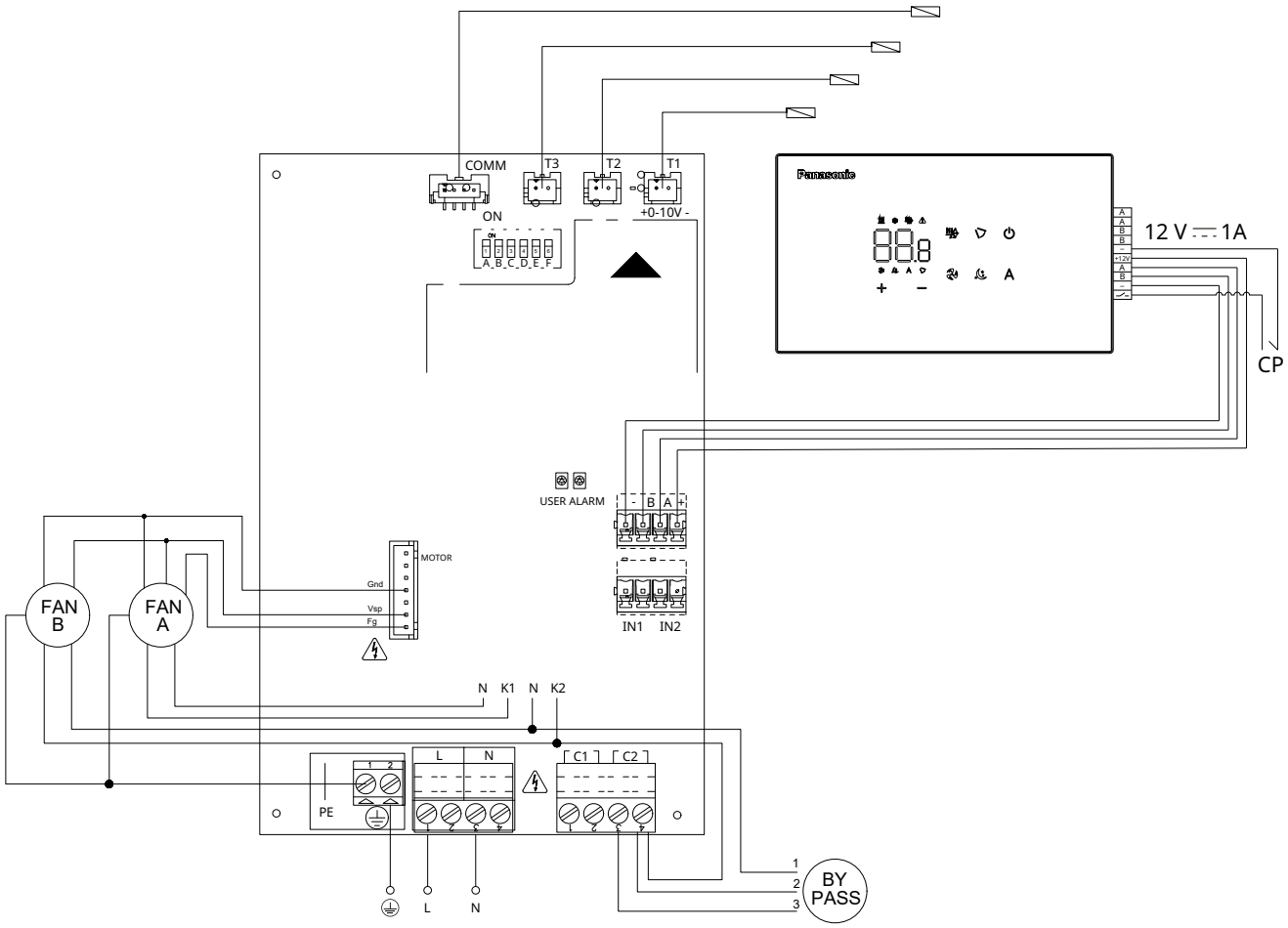
1.	Electrical box
2.	Control base
3.	Wall control command



► close the control panel

⚠ Be careful not to crush the wires when closing the control.

4.3 Connection diagram

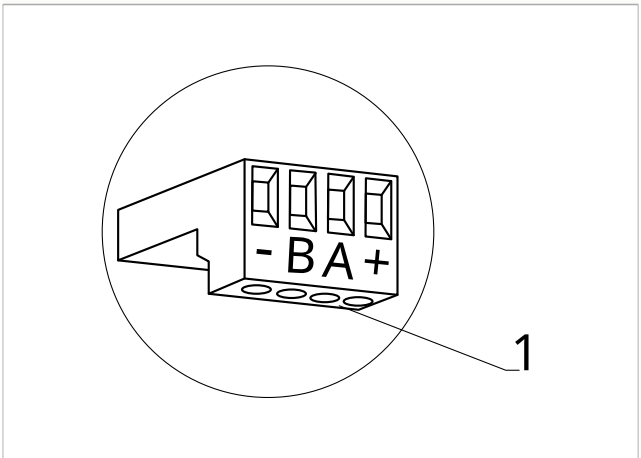


Panasonic

4.4 Connections

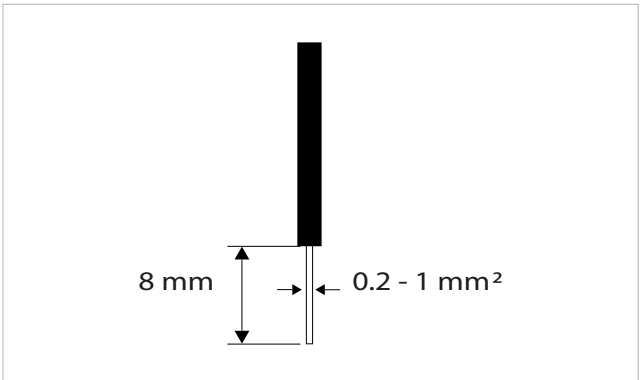
Preliminary warnings

1. Terminals



The terminals accept:

- rigid or flexible cables with a cross-section from 0.2 to 1 mm²
- rigid or flexible cables with a cross-section of 0.5 mm² if connecting two conductors in the same terminal
- rigid or flexible cables with a maximum cross-section of 0.75 mm² if equipped with a plastic collar ferrule



To connect the cables:

► strip 8 mm

► in the case of a rigid cable, insert it easily

► in the case of a flexible cable, use needle-nose pliers to assist

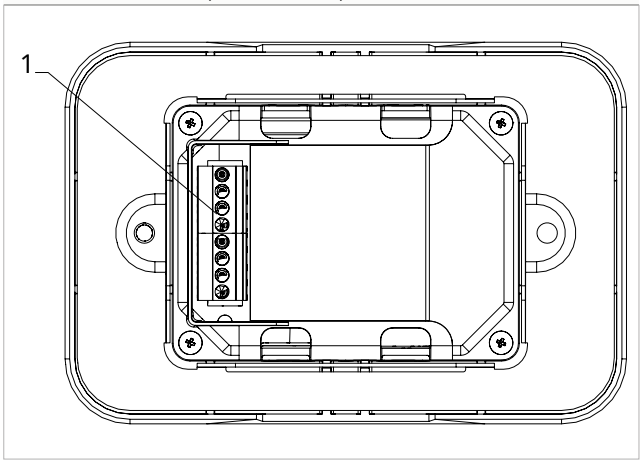
► push the cables in completely

► verify correct attachment by pulling them slightly

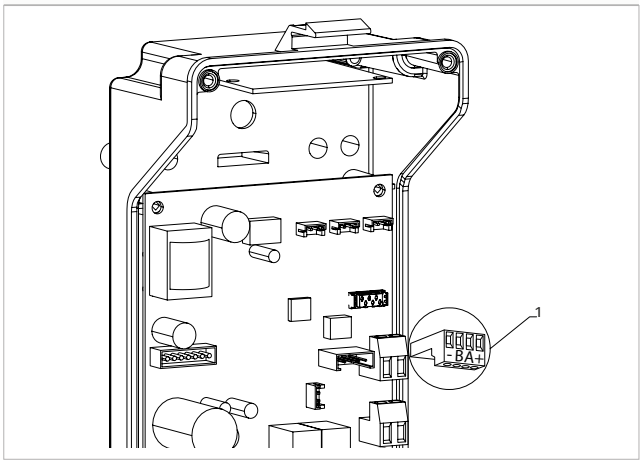
Remote control

⚠ The wall control panel must be ordered separately.
Position of the terminal blocks:

1. Terminal block (Panel rear view)



1. Terminals



To make connections between the wall control panel and the board:

► connect the power cables to the + - terminals

► connect the ModBus serial connection cables to terminals A and B

CP presence contact

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

- window open contact
- remote on/off
- remote season change

Operation

The contact is normally open. (NO)

► when the CP contact, connected to a clean, non-live contact, is closed, the device goes into stand-by
CP is displayed on the screen.

► when a button is pressed, the symbol ⚠ flashes on the display

⛔ It is forbidden to connect the CP input in parallel with other electronic boards. Use separate contacts.

RS485 serial connection

The wall remote control can be connected via an RS485 line.
The appliance must be equipped with an electronic board suitable for remote control.
For the connection:

► follow the connection diagram

► connect following the A and B indications

⚠ Use a shielded two-core cable suitable for serial RS485 connection with a minimum cross-section of 0.35 mm².
⚠ Keep the bipolar cable at least 50 mm away from the power supply cables.
⚠ Route in such a way as to minimise the length of deviations.
⚠ Terminate the line with a 120 Ω resistor.
⛔ Star connections are prohibited.

4.5 Functions

Basic menu

To access the basic menu
- ► From display off, hold the button ⏻ for 10 seconds
  The device turns on and appears
- ► Hold until the indication appears
- ► Release the button ⏻
  The symbol appears

To navigate within the menu
- ► Use the icons

To select menu items and confirm changes
- ► Press the icon ⏻
  Confirming the change moves to the next item.

To exit the menu
- ► press the icon ⏻ for 10 seconds
- ► or wait 30 seconds for automatic shutdown

⚠ After a period of 30 seconds from the last action, the display turns off and the changes made are automatically saved.

Menu items

ot: AIR sensor offset (air sensor adjustment)

ur: Value read by the U.R. sensor

ut: RH sensor offset

uS: Humidity setpoint

uI: Humidity hysteresis

Aq: IAQ enabling

AI: Value read by IAQ sensor

AS: IAQ setpoint

Hi: IAQ proportional band

CF: Scale

ub: Buzzer volume

uu: Not used

uP: Not used

Set AIR sensor offset

To set the air sensor adjustment
- ► select
- ► Press ⏻ to change settings
- ► Increase or decrease the value with the icons
- ► Press ⏻ to confirm
  By default it is set to -2.5.
  The setting range is from a minimum of -12.0 °C to a maximum of 12.0 °C.

Set RH sensor offset

⚠ Only change after finding actual deviations compared to a real measurement made with professional equipment.

To set the RH sensor adjustment
- ► select
- ► Press ⏻ to change settings
- ► Increase or decrease the value with the icons
- ► Press ⏻ to confirm
  By default it is set to -2.
  The setting range goes from a minimum of -9 °C to a maximum of 9 °C.

Set humidity setpoint

To set the humidity setpoint
- ► select
- ► Press ⏻ to change settings
- ► Increase or decrease the value with the icons
- ► Press ⏻ to confirm
  By default it is set to 50%.
  The setting range varies from 20.0% to 90.0%.

Set humidity hysteresis

To set the humidity hysteresis
- ► select
- ► Press ⏻ to change settings
- ► Increase or decrease the value with the icons
- ► Press ⏻ to confirm
- ► By default it is set to 5.
  The setting range is from a minimum of 1 to a maximum of 30.

Enable and select IAQ

To set the IAQ parameter detection mode

- ► select
- ► Press to change settings
- ► press to navigate within the menu
- ► Press to confirm

By default it is set to

select to use the sensors built into the control panel to detect temperature, humidity, and IAQ.

select to use the remote sensor to detect temperature, humidity, and IAQ.

select to disable IAQ parameter reading; in this case, the T1 sensor on the electronic board is used as the room temperature reference.

Set the IAQ setpoint

To set the IAQ setpoint

- ► select
- ► Press to change settings
- ► Increase or decrease the value with the icons
- ► Press to confirm

By default it is set to 3.0.

The setting range goes from a minimum of 0.0 to a maximum of 5.0.

Set the IAQ proportional band

To set the IAQ proportional band

- ► select
- ► Press to change settings
- ► Increase or decrease the value with the icons
- ► Press to confirm

By default it is set to 1.0.

The setting range goes from a minimum of 0.0 to a maximum of 5.0.

Scale

To change the temperature unit

- ► select
- ► Press to change settings
- ► Select °C or °F
- ► Press to confirm

By default, the temperature unit is °C.

Adjust volume

To change the control volume

- ► select
- ► Press to change settings
- ► Increase or decrease the value with the icons
- ► Press to confirm

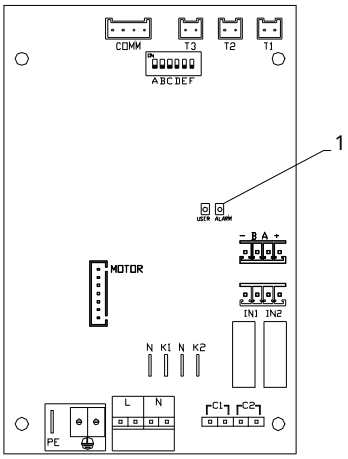
By default, the volume is set to 5.

⚠ The volume changes after confirming the modification.

Error indication

The onboard card is equipped with LEDs which allow you to understand the operating status.

1. LED



⚠ With the flashing LED, errors are indicated.

⚠ With the LED on, it indicates that there are no errors.

LED indications

- ► Flashing LED
  Errors reported for display.
- ► LED off
  Wall controller off
- ► LED on
  Wall controller on and no alarms present.
- ► LED 2 flashes / pause
  Alarm: Internal fan motor failure or disconnected.
- ► LED 3 flashes / pause
  T2 temperature sensor alarm: water sensor disconnected or faulty.
- ► LED 6 flashes / pause
  Alarm: Communication error with wall control panel.

Display alarms on the wall control panel

⚠ In case of an alarm, the appliance still maintains some active functions.

⚠ To indicate alarms on the control panel for wall control, the fixed symbol is displayed.

⚠ **To access the settings menu, you first need to access the basic menu. See paragraph "Basic menu"** *p. 28***.**

To view errors on the wall control panel

- ► access the basic menu
- ► press
  appears
- ► press
  appears
- ► press to access the menu

Subsequently, the number assigned to the fan coil appears and then the error is displayed.

Displayed alarms

- ► E2 Internal fan motor fault or disconnected
  No device operation can be activated.
- ► E3 H2/T2 water temperature sensor disconnected or faulty
  No device operation can be activated.

- ► E6 Unsuitable water temperature with automatic season function setting
  The fan coil performs heating and cooling functions incorrectly. No operation of the device is possible.
- ► E8 Communication error
  Communication error between the wall control panel and the fan coil.
- ► h2o Unsuitable water temperature
  In heating mode, the water temperature is below 30 °C.
  In cooling mode, the water temperature is above 20 °C.

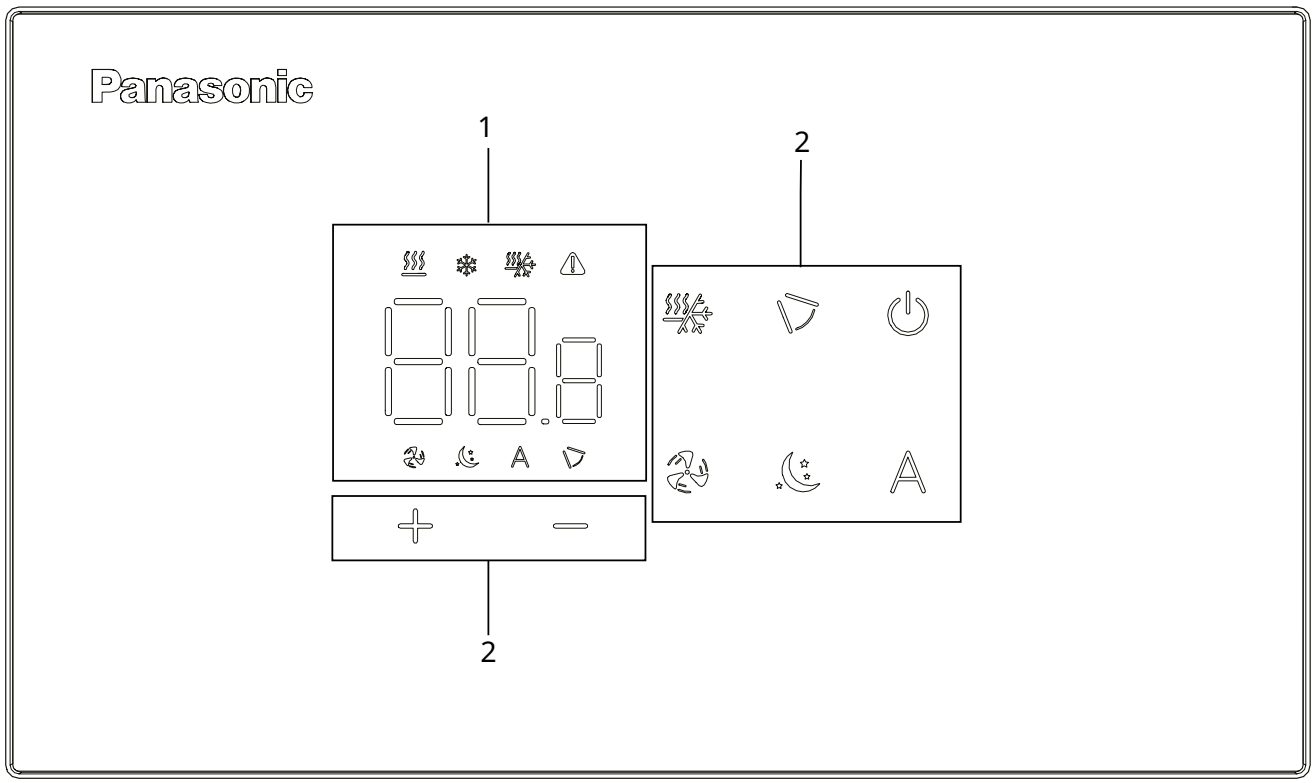
⚠ The E8 error is displayed without performing the error viewing procedure on the wall control panel.

5. WALL CONTROL COMMAND CODE PCZ-EFB749

5.1 Interface

1. Display area

2. Keypad area



5.2 Installation

Description

the wall control panel is an electronic LED thermostat with touch interface, with the ability to control multiple appliances equipped with the same electronic board. It features a temperature and humidity sensor.

⚠ This control panel can be managed remotely through the Aquarea Home App.

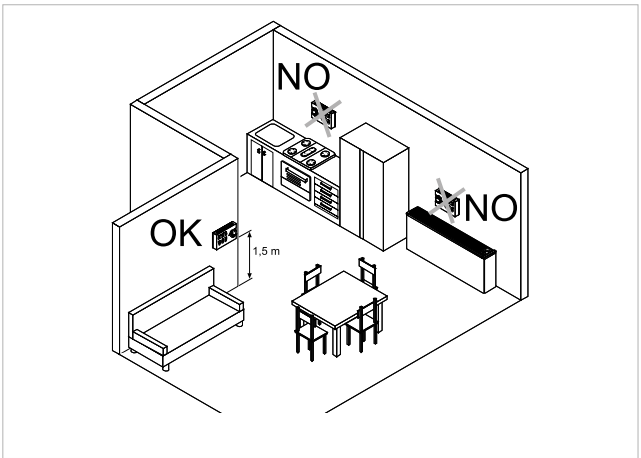
Mounting

⚠ The wall control panel must be installed inside an electrical box.

⚠ Before proceeding with the installation of the wall control command, the wall must be prepared to accommodate the electrical box.

⚠ Make sure that:

- the wall supports the weight of the appliance
- the section of wall does not contain pipes or electrical lines
- the functionality of load-bearing elements is not compromised



The wall control must be installed:

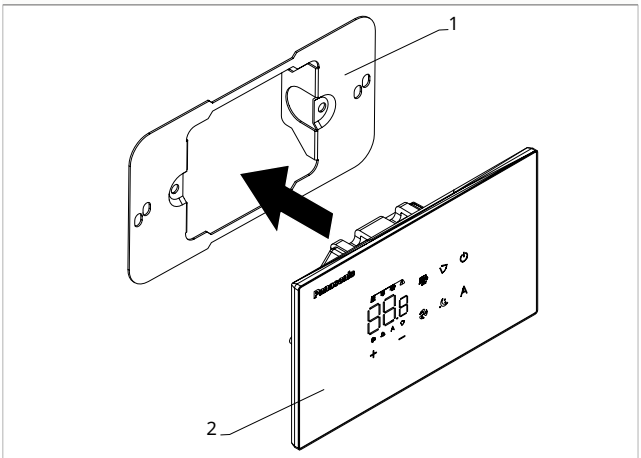
- on the outside walls
- at a height of approx. 1.5 m above the floor

⚠ If the control is located in an area used by people with reduced physical capabilities, refer to local regulations.

- away from doors and windows
- away from heat sources such as radiators, fan coils, cookers, direct sunlight

⚠ The wall control is supplied already assembled in the package.

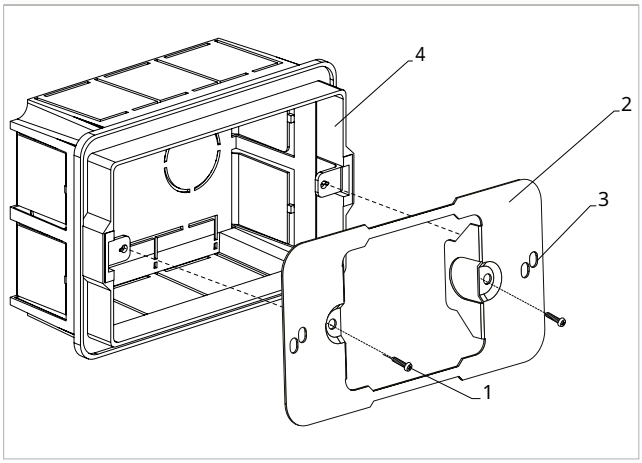
1.	Control base
2.	Wall control command



Before mounting on the wall:

► Separate the control base from the control panel

1.	Fixing screws
2.	Control base
3.	Holes for fixing to the electrical box
4.	Electrical box



For wall mounting of the control panel:

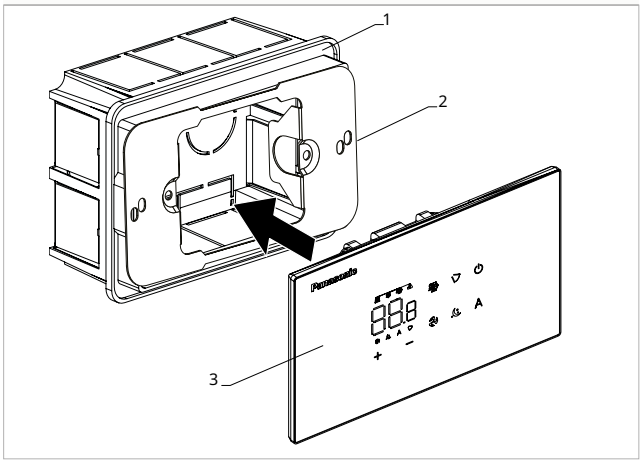
► secure the control base to the electrical box with screws

► Make the connections

⚠ Before making the connections, check that the terminal block of the command is on the right side.

⚠ Several holes are present on the base of the control. The holes used depend on the model of the electrical box.

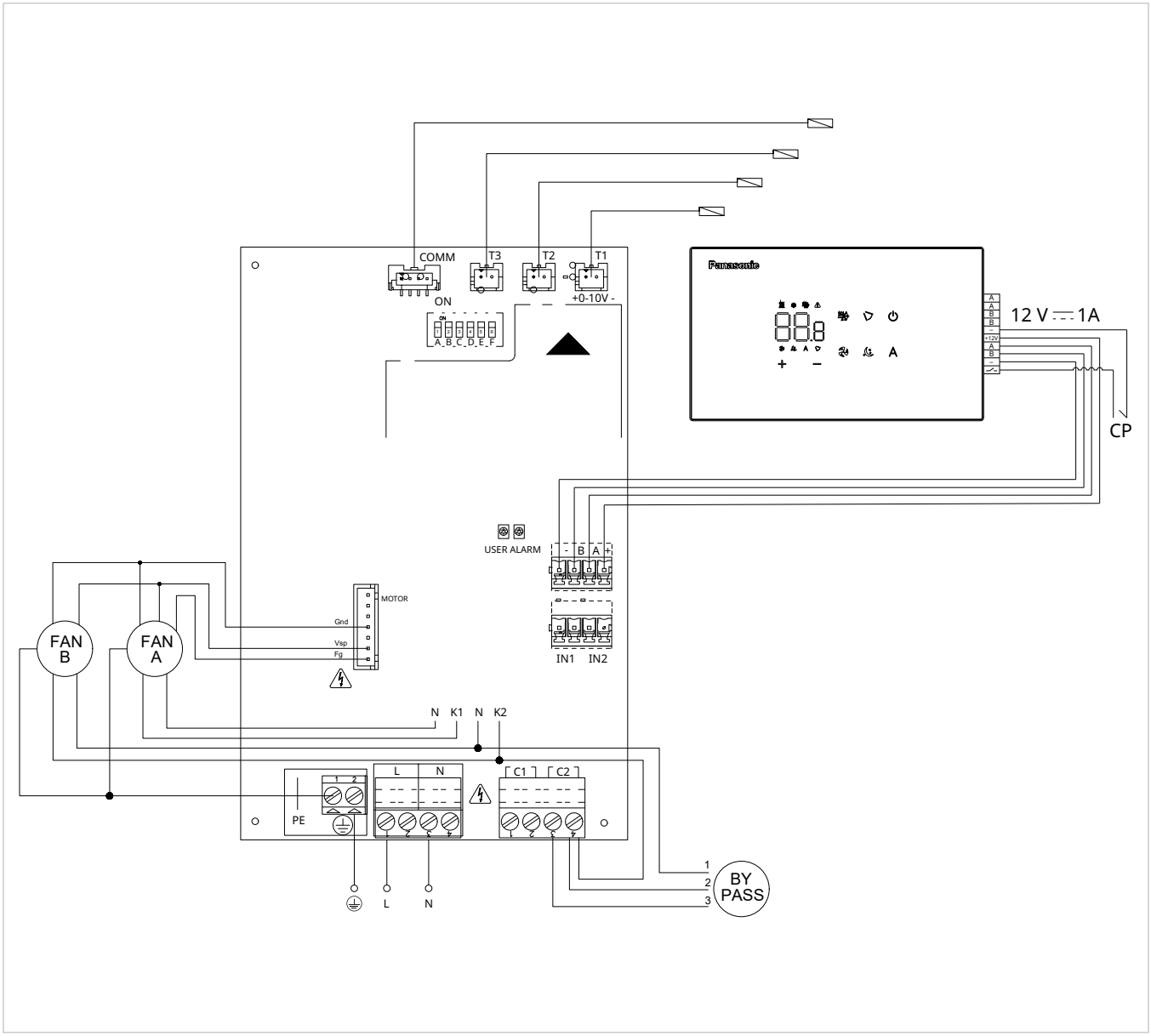
1.	Electrical box
2.	Control base
3.	Wall control command



► close the control panel

⚠ Be careful not to crush the wires when closing the control.

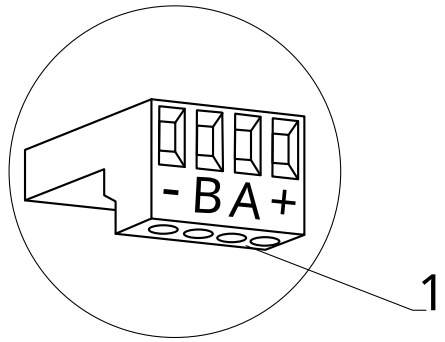
5.3 Connection diagram



5.4 Connections

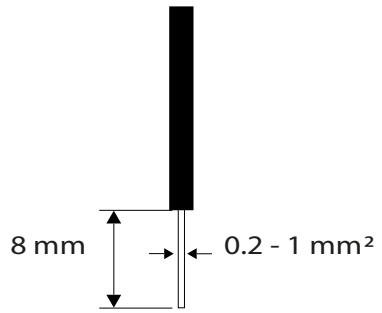
Preliminary warnings

1. Terminals



The terminals accept:

- rigid or flexible cables with a cross-section from 0.2 to 1 mm²
- rigid or flexible cables with a cross-section of 0.5 mm² if connecting two conductors in the same terminal
- rigid or flexible cables with a maximum cross-section of 0.75 mm² if equipped with a plastic collar ferrule



To connect the cables:

► strip 8 mm

► in the case of a rigid cable, insert it easily

► in the case of a flexible cable, use needle-nose pliers to assist

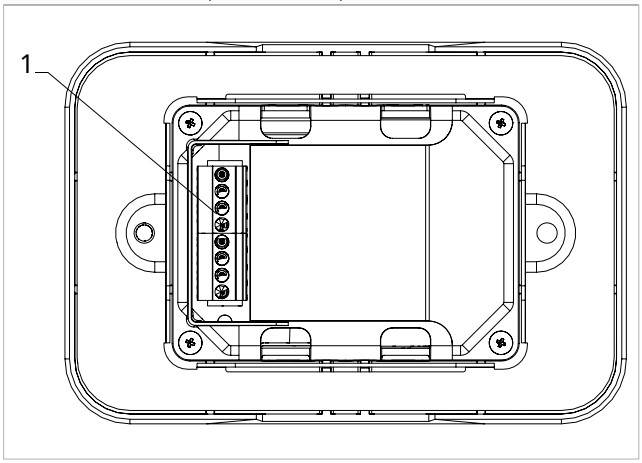
► push the cables in completely

► verify correct attachment by pulling them slightly

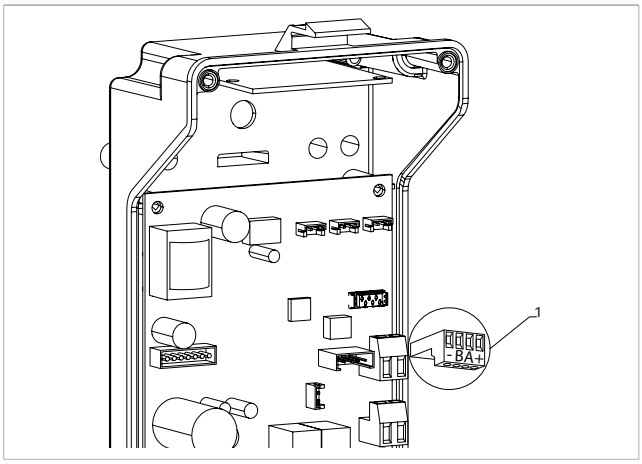
Remote control

⚠ The wall control panel must be ordered separately.
Position of the terminal blocks:

1. Terminal block (Panel rear view)



1. Terminals



To make connections between the wall control panel and the board:

► connect the power cables to the + - terminals

► connect the ModBus serial connection cables to terminals A and B

CP presence contact

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

- window open contact
- remote on/off
- remote season change

Operation

The contact is normally open. (NO)

► when the CP contact, connected to a clean, non-live contact, is closed, the device goes into stand-by
CP is displayed on the screen.

► when a button is pressed, the symbol ⚠ flashes on the display

⛔ It is forbidden to connect the CP input in parallel with other electronic boards. Use separate contacts.

RS485 serial connection

The wall remote control can be connected via an RS485 line.
The appliance must be equipped with an electronic board suitable for remote control.
For the connection:

► follow the connection diagram

► connect following the A and B indications

⚠ Use a shielded two-core cable suitable for serial RS485 connection with a minimum cross-section of 0.35 mm².
⚠ Keep the bipolar cable at least 50 mm away from the power supply cables.
⚠ Route in such a way as to minimise the length of deviations.
⚠ Terminate the line with a 120 Ω resistor.
⛔ Star connections are prohibited.

5.5 Functions

Basic menu

To access the basic menu
- ► From display off, hold the button ⏻ for 10 seconds
  The device turns on and appears
- ► Hold until the indication appears
- ► Release the button ⏻
  The symbol appears

To navigate within the menu
- ► Use the icons

To select menu items and confirm changes
- ► Press the icon ⏻
  Confirming the change moves to the next item.

To exit the menu
- ► press the icon ⏻ for 10 seconds
- ► or wait 30 seconds for automatic shutdown

⚠ After a period of 30 seconds from the last action, the display turns off and the changes made are automatically saved.

Menu items

ot: AIR sensor offset (air sensor adjustment)

ur: Value read by the U.R. sensor

ut: RH sensor offset

uS: Humidity setpoint

uI: Humidity hysteresis

Aq: IAQ enabling

AI: Value read by IAQ sensor

AS: IAQ setpoint

Hi: IAQ proportional band

CF: Scale

ub: Buzzer volume

uu: Reset Wi-Fi

up: Wi-Fi activation

Set AIR sensor offset

To set the air sensor adjustment
- ► select
- ► Press ⏻ to change settings
- ► Increase or decrease the value with the icons
- ► Press ⏻ to confirm
  By default it is set to -2.5.
  The setting range is from a minimum of -12.0 °C to a maximum of 12.0 °C.

Set RH sensor offset

⚠ Only change after finding actual deviations compared to a real measurement made with professional equipment.

To set the RH sensor adjustment
- ► select
- ► Press ⏻ to change settings
- ► Increase or decrease the value with the icons
- ► Press ⏻ to confirm
  By default it is set to -2.
  The setting range goes from a minimum of -9 °C to a maximum of 9 °C.

Set humidity setpoint

To set the humidity setpoint

- ► select
- ► Press to change settings
- ► Increase or decrease the value with the icons
- ► Press to confirm
  By default it is set to 50%.
  The setting range varies from 20.0% to 90.0%.

Set humidity hysteresis

To set the humidity hysteresis

- ► select
- ► Press to change settings
- ► Increase or decrease the value with the icons
- ► Press to confirm
- ► By default it is set to 5.
  The setting range is from a minimum of 1 to a maximum of 30.

Enable and select IAQ

To set the IAQ parameter detection mode

- ► select
- ► Press to change settings
- ► press to navigate within the menu
- ► Press to confirm
  By default it is set to
  select to use the sensors built into the control panel to detect temperature, humidity, and IAQ.
  select to use the remote sensor to detect temperature, humidity, and IAQ.
  select to disable IAQ parameter reading; in this case, the T1 sensor on the electronic board is used as the room temperature reference.

Set the IAQ setpoint

To set the IAQ setpoint

- ► select
- ► Press to change settings
- ► Increase or decrease the value with the icons
- ► Press to confirm
  By default it is set to 3.0.
  The setting range goes from a minimum of 0.0 to a maximum of 5.0.

Set the IAQ proportional band

To set the IAQ proportional band

- ► select
- ► Press to change settings
- ► Increase or decrease the value with the icons
- ► Press to confirm
  By default it is set to 1.0.
  The setting range goes from a minimum of 0.0 to a maximum of 5.0.

Scale

To change the temperature unit

- ► select
- ► Press to change settings
- ► Select °C or °F
- ► Press to confirm
  By default, the temperature unit is °C.

Adjust volume

To change the control volume

- ► select
- ► Press to change settings
- ► Increase or decrease the value with the icons
- ► Press to confirm
  By default, the volume is set to 5.

⚠ The volume changes after confirming the modification.

Reset Wi-Fi

To reset Wi-Fi credentials and restore the device to its original configuration

- ► select
- ► Press to change settings
- ► use the icons and sequentially
  Appears
- ► press
  appears to reset Wi-Fi credentials.
- ► Press to confirm
  The credentials have been reset.

Activate Wi-Fi

To activate Wi-Fi

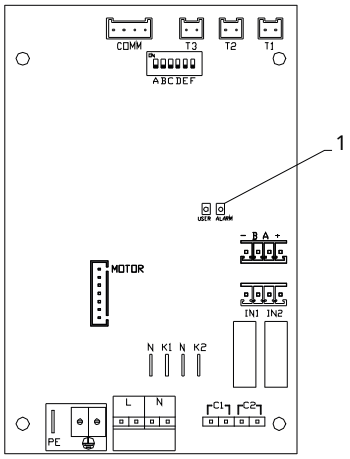
- ► select
- ► Press to change settings
- ► use the icons and sequentially
  Appears
- ► press
  appears to enable Wi-Fi pairing.
- ► Press to confirm

⚠ The device remains visible on the App for the first 15 minutes after turning on the appliance.

Error indication

The onboard card is equipped with LEDs which allow you to understand the operating status.

1. LED



⚠ With the flashing LED, errors are indicated.
⚠ With the LED on, it indicates that there are no errors.

Panasonic

LED indications

- ► Flashing LED
  Errors reported for display.
- ► LED off
  Wall controller off
- ► LED on
  Wall controller on and no alarms present.
- ► LED 2 flashes / pause
  Alarm: Internal fan motor failure or disconnected.
- ► LED 3 flashes / pause
  T2 temperature sensor alarm: water sensor disconnected or faulty.
- ► LED 6 flashes / pause
  Alarm: Communication error with wall control panel.

Display alarms on the wall control panel

⚠ In case of an alarm, the appliance still maintains some active functions.

⚠ To indicate alarms on the control panel for wall control, the fixed symbol ⚠ is displayed.

⚠ **To access the settings menu, you first need to access the basic menu. See paragraph "Basic menu"** *p. 35***.**

To view errors on the wall control panel

- ► access the basic menu
- ► press A
  appears
- ► press +
  appears
- ► press ⏻ to access the menu
  Subsequently, the number assigned to the fan coil appears and then the error is displayed.

Displayed alarms

- ► E2 Internal fan motor fault or disconnected
  No device operation can be activated.
- ► E3 H2/T2 water temperature sensor disconnected or faulty
  No device operation can be activated.
- ► E6 Unsuitable water temperature with automatic season function setting
  The fan coil performs heating and cooling functions incorrectly. No operation of the device is possible.
- ► E8 Communication error
  Communication error between the wall control panel and the fan coil.
- ► h2o Unsuitable water temperature
  In heating mode, the water temperature is below 30 °C.
  In cooling mode, the water temperature is above 20 °C.

⚠ The E8 error is displayed without performing the error viewing procedure on the wall control panel.

6. START-UP

6.1 Preliminary warnings

⚠ **This section is dedicated to the Authorised Service Centre. The specifications of the Authorised Service Centre are described in chapter "Recipients"** *p. 4*.

⚠ **Initial commissioning must be carried out by the Authorised Service Centre.**

⚠ **For detailed information on accessories, please refer to the relevant instruction sheets.**

See chapter "Compatible accessories" *p. 10*

⚠ The customer must be present when the appliance is tested and informed of the contents of the manual and procedures. After commissioning, the manual and the warranty certificate must be handed over to the customer.

⚠ Before start-up, all works (electrical, hydraulic and airflow connections) must have been completed.

6.2 First start-up

Preliminary Checks

Before commissioning, check that:

Operational checks

- all safety conditions have been met
- the unit has been properly secured to the supporting surface or wall
- the minimum technical spaces have been observed

Airflows

- the airflow connections have been made according to the instructions in the manual
- all airflow connections are correctly secured
- the ducting is correctly supported
- the ducting does not have any bottlenecks
- the ducting is thermally insulated

Electrical checks

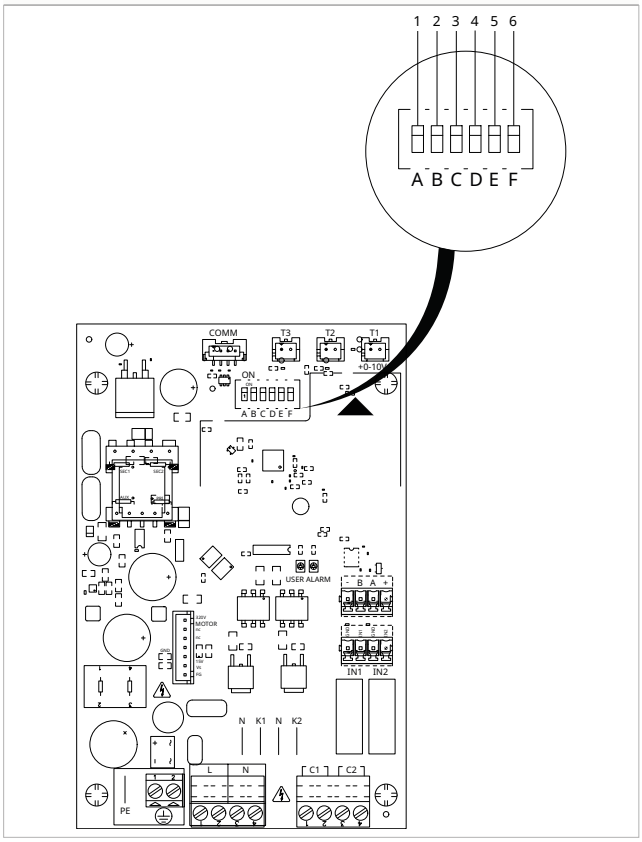
- the cross-section of the power supply cables is adequate for the absorption of the appliance and the length of the connection made
- grounding is correctly performed
- the electrical connections have been established correctly
- all control wires are connected and that all electrical connections are secure

Settings

Microswitches

There are microswitches on the board for the various operating configurations of the unit. It is essential to set the microswitches correctly; the table shows the various operating modes.

1.	Microswitch A
2.	Microswitch B
3.	Microswitch C
4.	Microswitch D
5.	Microswitch E
6.	Microswitch F



Panasonic

MICROSWITCH FUNCTIONS		
Microswitch A	ON	OFF
	Preheating coil activation contact CHILLER	Postheating coil activation contact CHILLER
Microswitch B	ON	OFF
	Enabling of unit with modulating coil control	Disabling of unit with modulating coil control
Microswitches C - D	ON OFF	OFF ON
	Room humidity control	Room air quality control
	ON ON	OFF OFF
	Humidity and room air quality control active. The maximum value of the two calculated values is used	Moisture and ambient air quality controls deactivated
Microswitch E	ON	OFF
	Configuration B	Configuration A (standard)
Microswitch F	ON	OFF
	RTU	ASCII (standard)

⚠ Microswitch A Management of pre-heating and post-heating batteries. Verify the connections.
⚠ Microswitch B The unit model is set to OFF by default. Do not change the setting to prevent the unit from malfunctioning.
⚠ Microswitches C - D The combination of these microswitches decides the operation of the humidity and air quality sensors.
⚠ Microswitch E The unit model is factory-set to OFF. If set to ON, please verify the connections and the application of label B.
⚠ Microswitch F The unit model is factory-set to OFF. If set to ON, the control panel will cease to respond.
ⓘ **In case of installation of the electric heating battery accessory, refer to the section "Accessories"** *p. 67* **for the setting of the microswitches.**

Start-up

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

To activate the appliance:

► please refer to the user manual

Checks with the machine switched on

After starting up, check that

Operational checks:

- verify the different modes of operation
- verify that the appliance stops and then restarts
- switch the appliance off and on again and check that it restarts correctly
- the appliance operates within the recommended operating conditions (see technical specifications table)
- check that the air flow rates are correct
- verify that the unit's configuration complies with the site requirements

Hydraulic Checks

- check for proper condensate drainage

Electrical Checks

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

6.3 Plant delivery

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

- the basic functional characteristics of the appliance
- the instructions for use
- the routine maintenance

6.4 Switching off for extended periods

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

► deactivating the device

► isolate the power supply

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

7. MAINTENANCE

7.1 Routine maintenance

Annual operations

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

Electrical circuit
Check:

- electrical supply voltage
- the electrical absorption
- tightening connections
- that there is no damage or excessive wear to electrical cables
- that the gaskets and sealing materials have not deteriorated to such an extent that they are no longer suitable for the purpose of preventing the development of flammable atmospheres inside
- the correct fixing of cable glands
- safety devices

Mechanical checks
Check:

- tightening of the screws, fans and electrical box, of the unit's external panelling
- the state of the structure

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

Hydraulic controls
Check:

- the regular drainage of condensate
- cleaning the condensate collection trays
- cleaning the exhaust ducts

Airflow controls
Check:

- the regular flow of air
- cleaning of any intake grilles
- cleaning the ducting

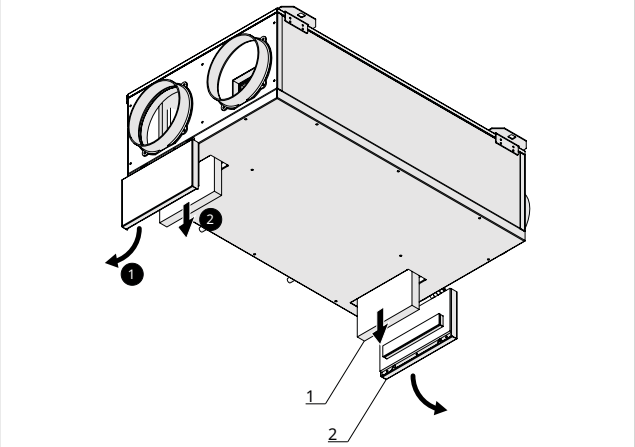
Cleaning

- cleaning of aesthetic cover
- cleaning or filter replacement
- cleaning the heat exchanger

Cleaning or filter replacement

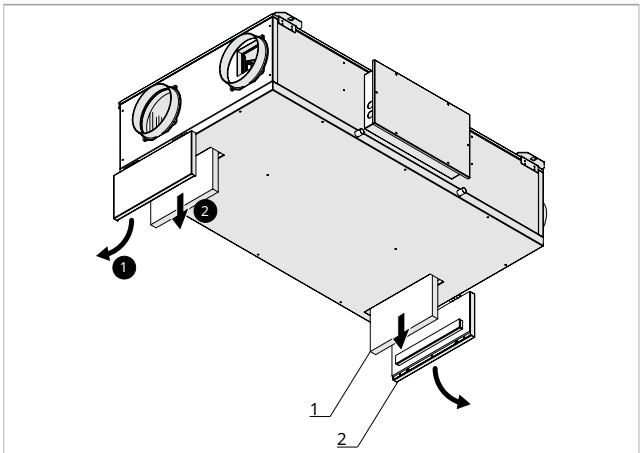
Model 15 - 30

1. Filter
2. Filter access hatch



Model 35 - 45

1. Filter
2. Filter access hatch



To remove:

► isolate the power supply to the unit

► open the filter access hatch

► take out the filter

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

To reposition:

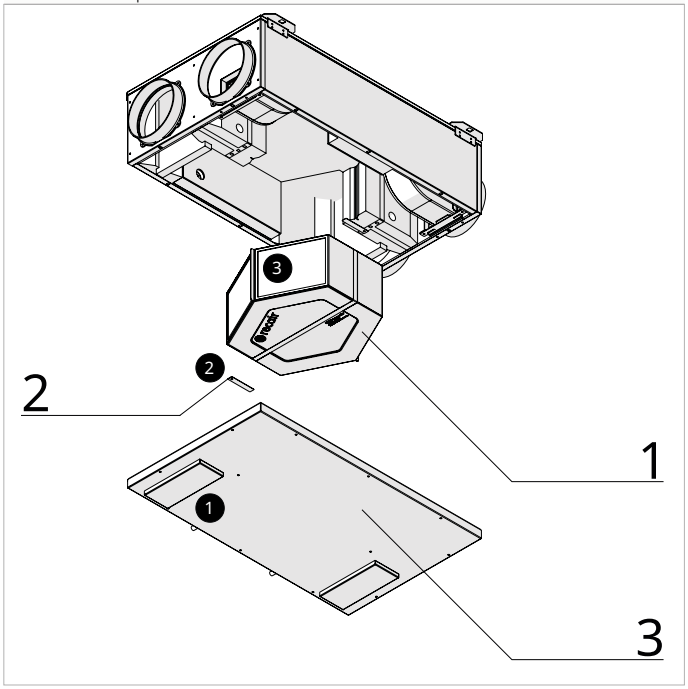
► perform in reverse order

Cleaning the heat exchanger

Cleaning the heat exchanger

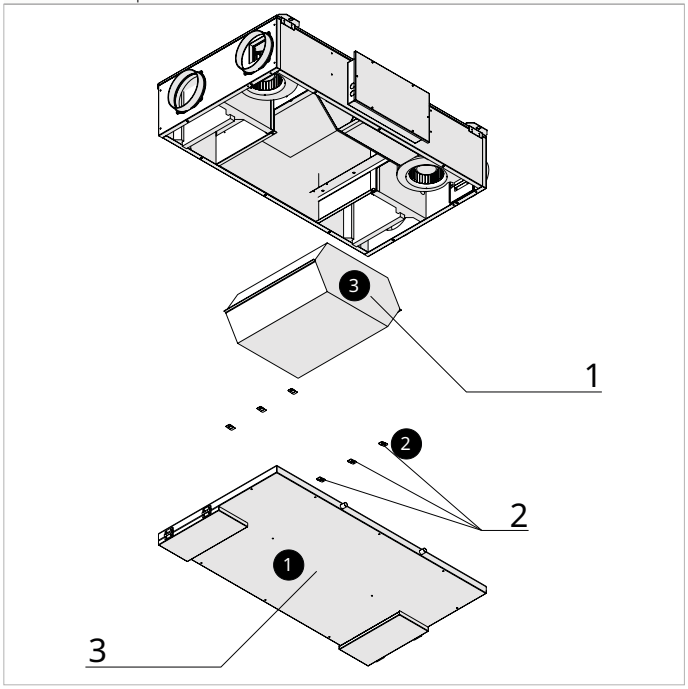
Model 15 - 30

1.	Heat exchanger
2.	Pack retainer
3.	Lower panel



Model 35 - 45

1.	Heat exchanger
2.	Fixing bracket
3.	Lower panel



► isolate the power supply to the unit

► disconnect the condensate drain pipe

► remove the lower panel of the unit by releasing the fixing hooks and removing the screws

► remove the fixing brackets present only in models 40 - 50

► extract the heat exchanger

► gently proceed with cleaning using a vacuum cleaner or a low-pressure compressor

► reposition the heat exchanger

► reposition the lower panel by locking it with the fixing hooks and inserting the screws

⚠ Never touch the fins of the heat exchanger, handle only the closed sides.

ⓘ **There is a special clamp/green strap for removing the heat exchanger.**

ⓘ **To prevent dirt from entering the heat exchanger, clean in the opposite direction to the air flow.**

8. FAULTS AND REMEDIES

8.1 Preliminary warnings

If one of the following faults is found:

- ventilation does not activate
- the appliance makes excessive noise
- there is dew formation on the front panel

Follow the instructions below:

► immediately isolate the power supply

► contact an Authorised Service Centre or professionally qualified personnel

⚠ The intervention must be carried out by a qualified installer or an Authorised Service Centre.

⛔ Personal intervention is prohibited.

8.2 Troubleshooting table

DESCRIPTION OF FAULT	CAUSE	REMEDY
The fans are not active	The power supply is not switched on	Check the fan power supply
	The fan speed regulation device does not work	Check fan speed regulation device
	Incorrect electrical connections	Check electrical connections.
	Fans in thermal protection	Check that the fan has not overheated and switched to thermal protection
Insufficient air flow or pressure	Clogged filters	Clean filters
	Insufficient rotation speed	Increase rotation speed
	Ducting or exchanger clogged	Clean ducting or heat exchanger
Insufficient heat exchanger efficiency	Exchanger fins clogged	Clean exchanger surfaces
Excessive vibration and noise	Incorrect installation of the unit	Check unit brackets and fastenings
	Incorrect ducting installation	Check brackets and duct fixings
	Fan impeller imbalance	Check fan impeller condition
Water leaks from unit	Clogged condensate drain	Clean condensate drain
	Siphon not installed correctly	Check the correct installation of the siphon
Difficult start-up	Supply voltage too low	Check that the supply voltage is not below 10% of the rated voltage

8.3 Alarm table and card flashes

DESCRIPTION OF ALARM	CAUSE	REMEDY	CARD FLASHES
Recovery ambient probe / External air alarm - T1	Sensor breakage or failure to read	Check probe connection or replace sensor	1 flash - off 3 seconds
Fan alarm	Fan connector faulty or feedback signal absent	Check the connection of the fan connector to the board	2 flashes - off 3 seconds
		Replace fan control cable Filters alarm counter reached Replace filters and reset	
Filters alarm	counter reached	Replace filters and reset	
Expulsion / intake probe alarm - T2	Sensor breakage or failure to read	Check probe connection or replace sensor	3 flashes - off 3 seconds
Outdoor air / extracted air probe alarm - T3	Sensor breakage or failure to read	Check probe connection or replace sensor	5 flashes - off 3 seconds
Remote display connection alarm	Remote display connection error	Check electrical connections.	LED off
		Check that A and B are not reversed	
		Check the correct insertion of the display connection board on the main board	
Remote display communication alarm	No communication between display and board for at least 300 seconds	Check the filter status and press and hold the On - Off button to reset the signalling	6 flashes - off 3 seconds
		Check that A and B are not reversed	
		Check the correct insertion of the display connection board on the main board	

9. TECHNICAL INFORMATION

9.1 Technical data

Models	u.m.	15H	30H	35H	45H
VMC airflow performance					
Air flow (nominal/maximum)	m^3/h	109 / 155	210 / 300	238 / 340	319 / 455
Static pressure (nominal/maximum)	Pa	50 / 100	50 / 100	50 / 100	50 / 100
Heat recovery performance (A 7; A 20) (1)					
Sensible recovery efficiency	%	86,0	85,0	89,0	88,0
Room side fan					
Type		Centrifugal - directly coupled electronic motor			
Number	No.	1	1	1	1
Outdoor side fan					
Type		Centrifugal - directly coupled electronic motor			
Number	No.	1	1	1	1
Heat exchanger					
Type		Countercurrent plates - polypropylene material			
Number	No.	1	1	1	1
Fresh air filter					
Type		Pleated flat filter			
Number	No.	1	1	1	1
Efficiency		ePM1 80%	ePM1 70%	ePM1 70%	ePM1 70%
Extract air filter					
Type		Pleated flat filter			
Number	No.	1	1	1	1
Efficiency		ePM1 80%	ePM1 70%	ePM1 70%	ePM1 70%
Room side sound levels (UNI EN 3741; 3744) (2)					
Sound power transmitted to the Lw structure	dB (A)	49,0	50,0	52,0	56,0
Sound power radiated in the Lw channel	dB (A)	56,0	58,0	60,0	65,0
Average sound pressure at 1 m Lp	dB(A)	42,0	44,0	46,0	49,0
Average sound pressure at 3 m Lp	dB(A)	35,0	37,0	39,0	43,0
Electrical characteristics					
Power supply	V / ph / Hz	230 / 1 / 50			
Maximum total absorbed power	W	110,00	180,00	350,00	420,00
Maximum total absorbed current	A	0,70	1,60	1,60	2,50
Protection rating	IP	X2			

1. Efficiency according to UNI EN 13141-7 Outdoor temperature 7 °C - Outdoor humidity 72 % - Indoor temperature 20 °C - Indoor humidity 28 %.
2. Data refers to the UNI EN 3741 and UNI EN 3744 standards

Models	u.m.	15H	30H	35H	45H
Product dimensions					
Width	mm	487	590	709	709
Length	mm	793	789	1147	1147
Height	mm	258	304	289	289
Weight	kg	26,0	31,0	39,0	40,0
Connections					
Condensate drain connection	mm	12	12	18	18
Room side air connection	mm	160	160	160	160
Outdoor side air connection	mm	160	160	160	160

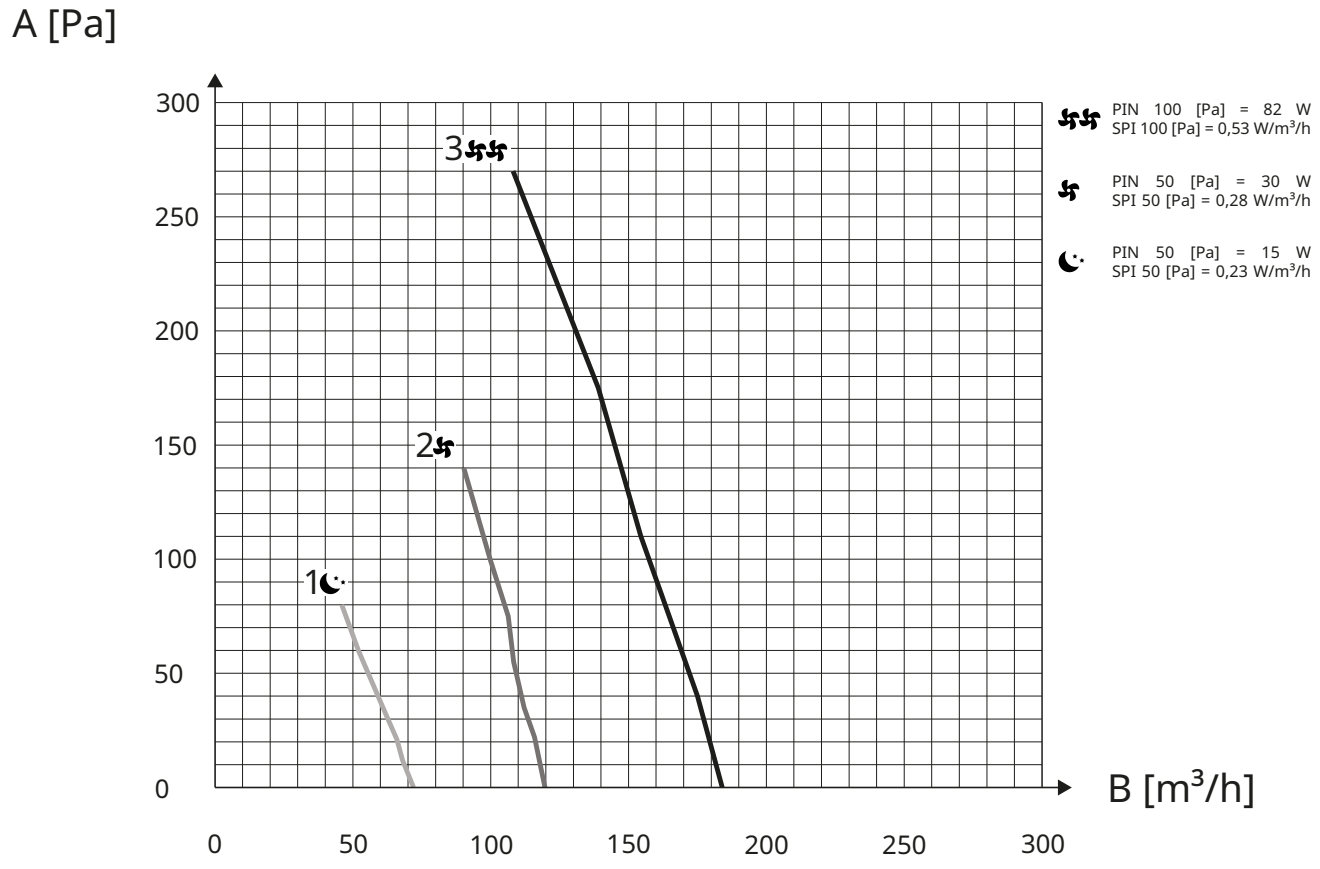
1. Efficiency according to UNI EN 13141-7 Outdoor temperature 7 °C - Outdoor humidity 72 % - Indoor temperature 20 °C - Indoor humidity 28 %.
2. Data refers to the UNI EN 3741 and UNI EN 3744 standards

9.2 Performance curves

Size 15

Sensible version

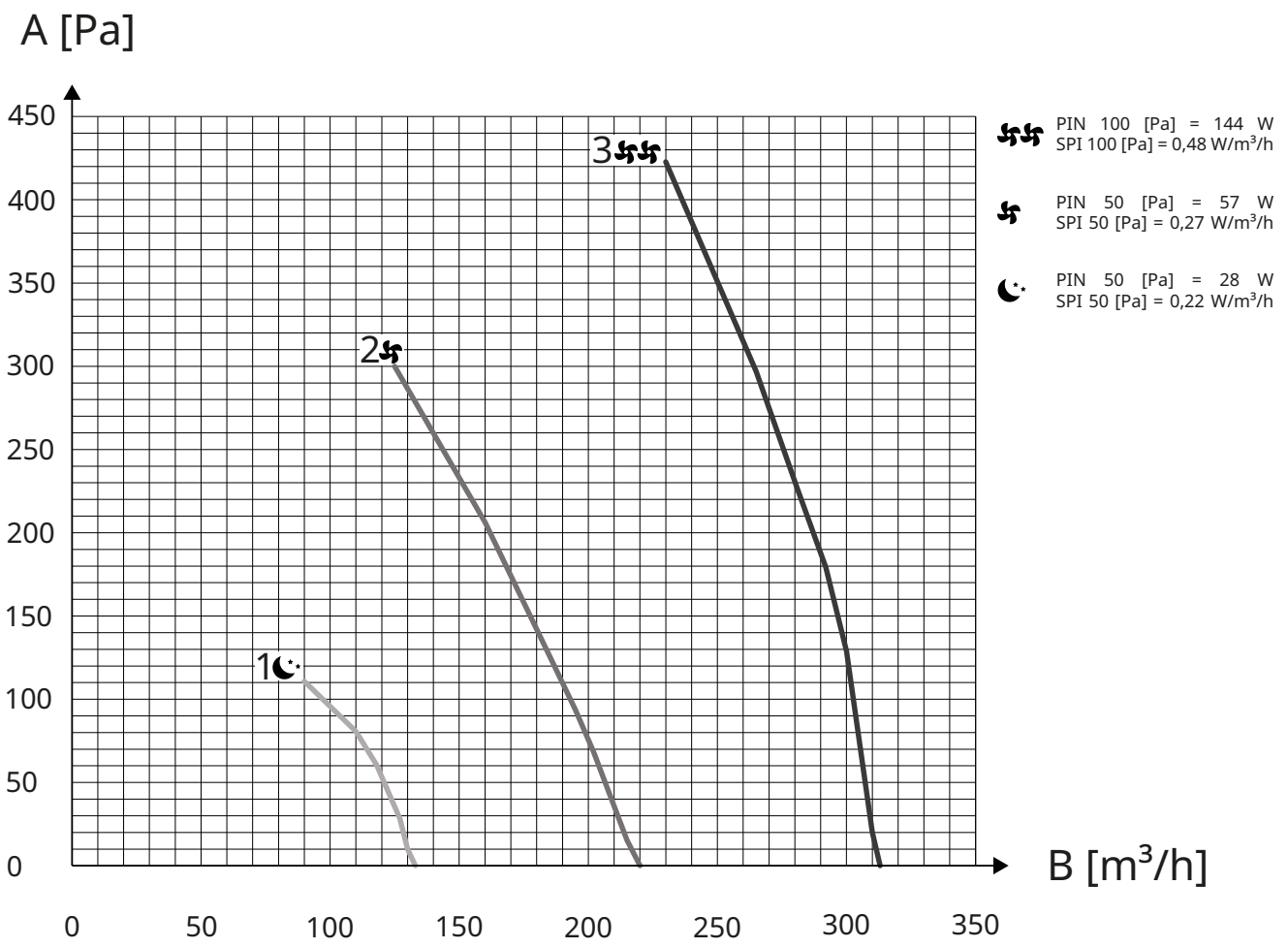
A	Available pressure		**3.**	Maximum ventilation speed	
B	Air flow		**PIN:**	Power input	W
1.	Minimum ventilation speed		**SPI:**	Specific power input	W/m³/h
2.	Rated ventilation speed				



Size 30

Sensible version

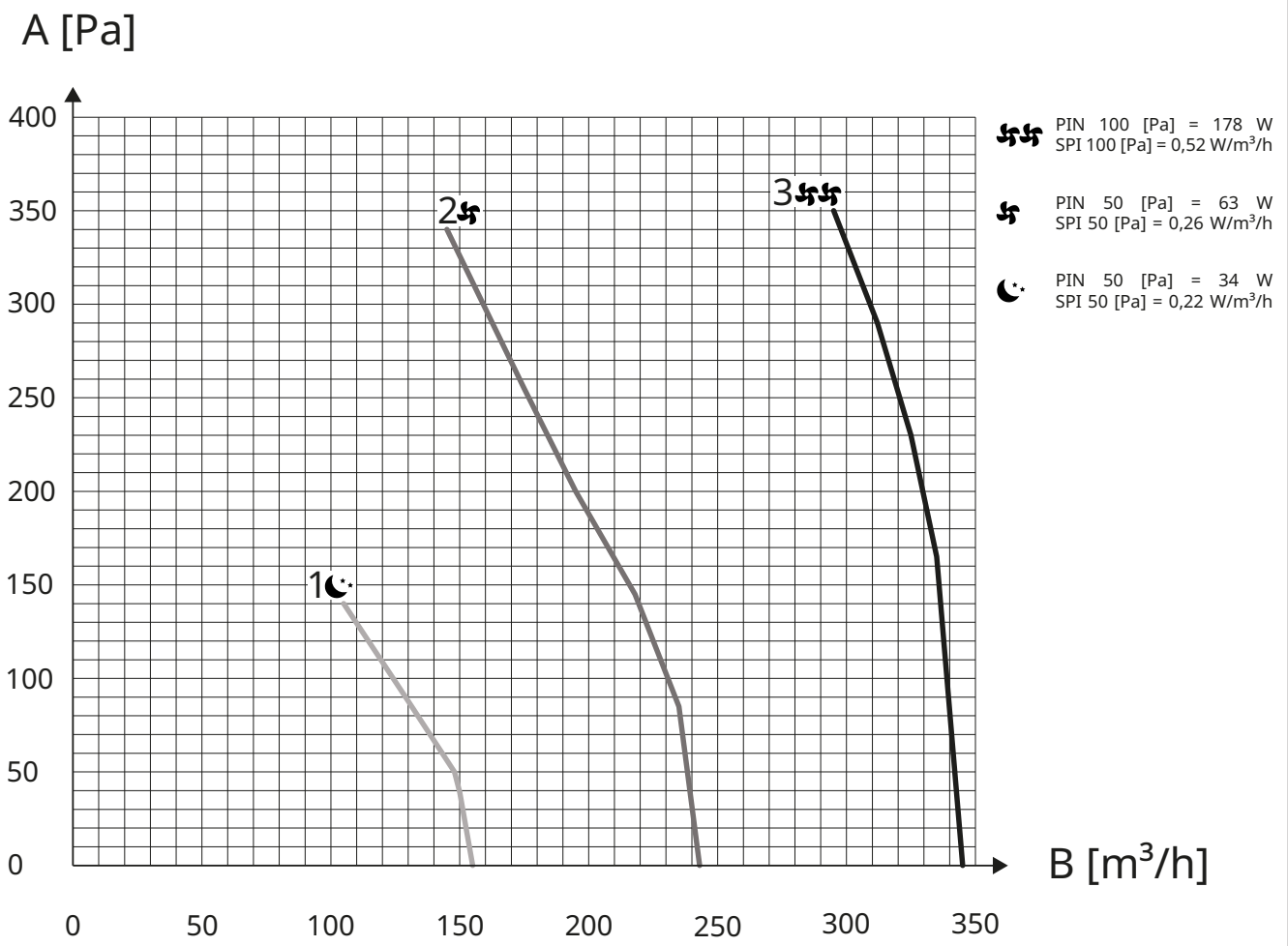
A	Available pressure		
B	Air flow		
1.	Minimum ventilation speed		
2.	Rated ventilation speed		
3.	Maximum ventilation speed		
PIN:	Power input	W	
SPI:	Specific power input	W/m³/h	



Size 35

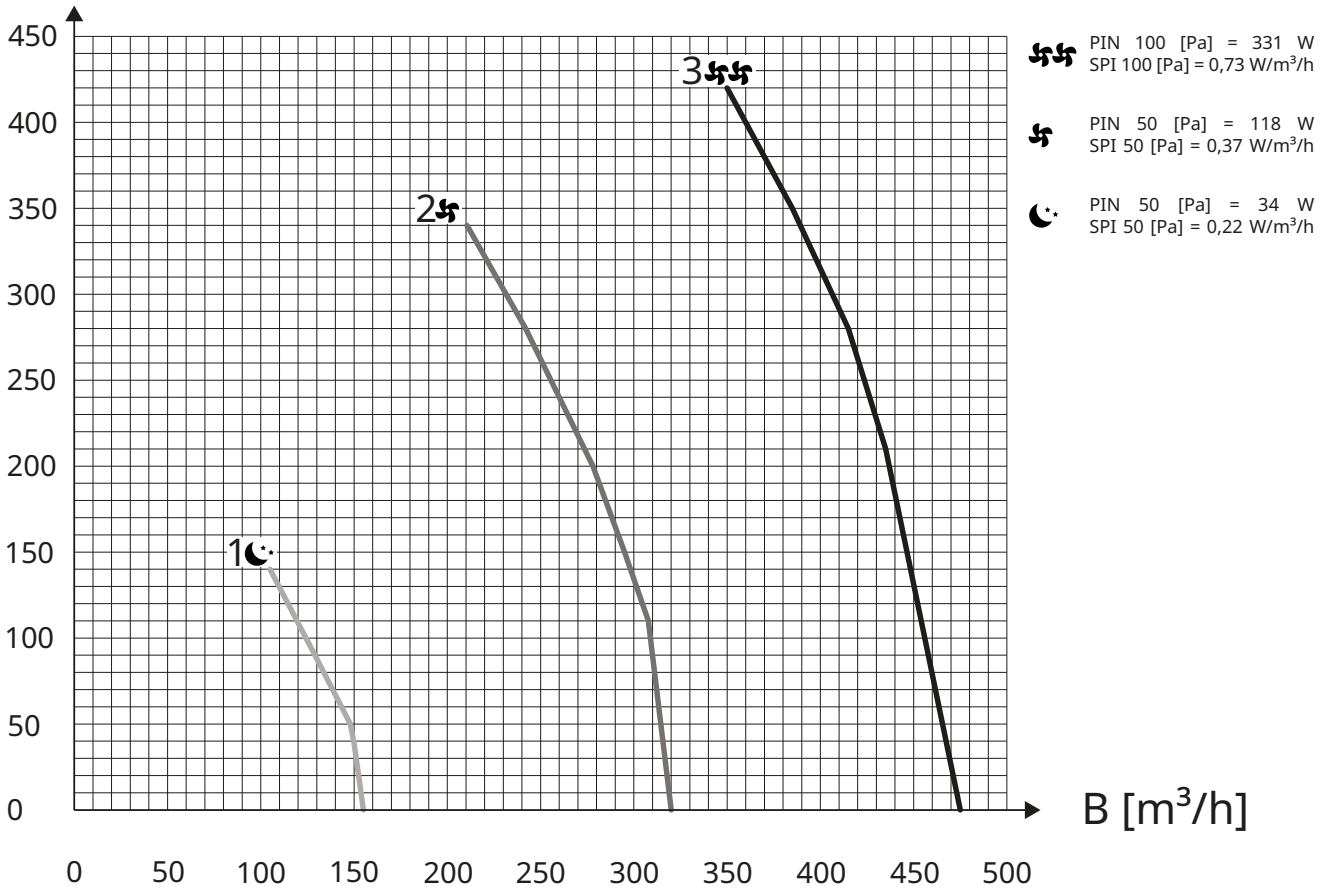
Sensible version

A	Available pressure
B	Air flow
1.	Minimum ventilation speed
2.	Rated ventilation speed
3.	Maximum ventilation speed
PIN:	Power input W
SPI:	Specific power input W/m³/h



Size 45

A	Available pressure		**3.**	Maximum ventilation speed	
B	Air flow		**PIN:**	Power input	W
1.	Minimum ventilation speed		**SPI:**	Specific power input	W/m³/h
2.	Rated ventilation speed				



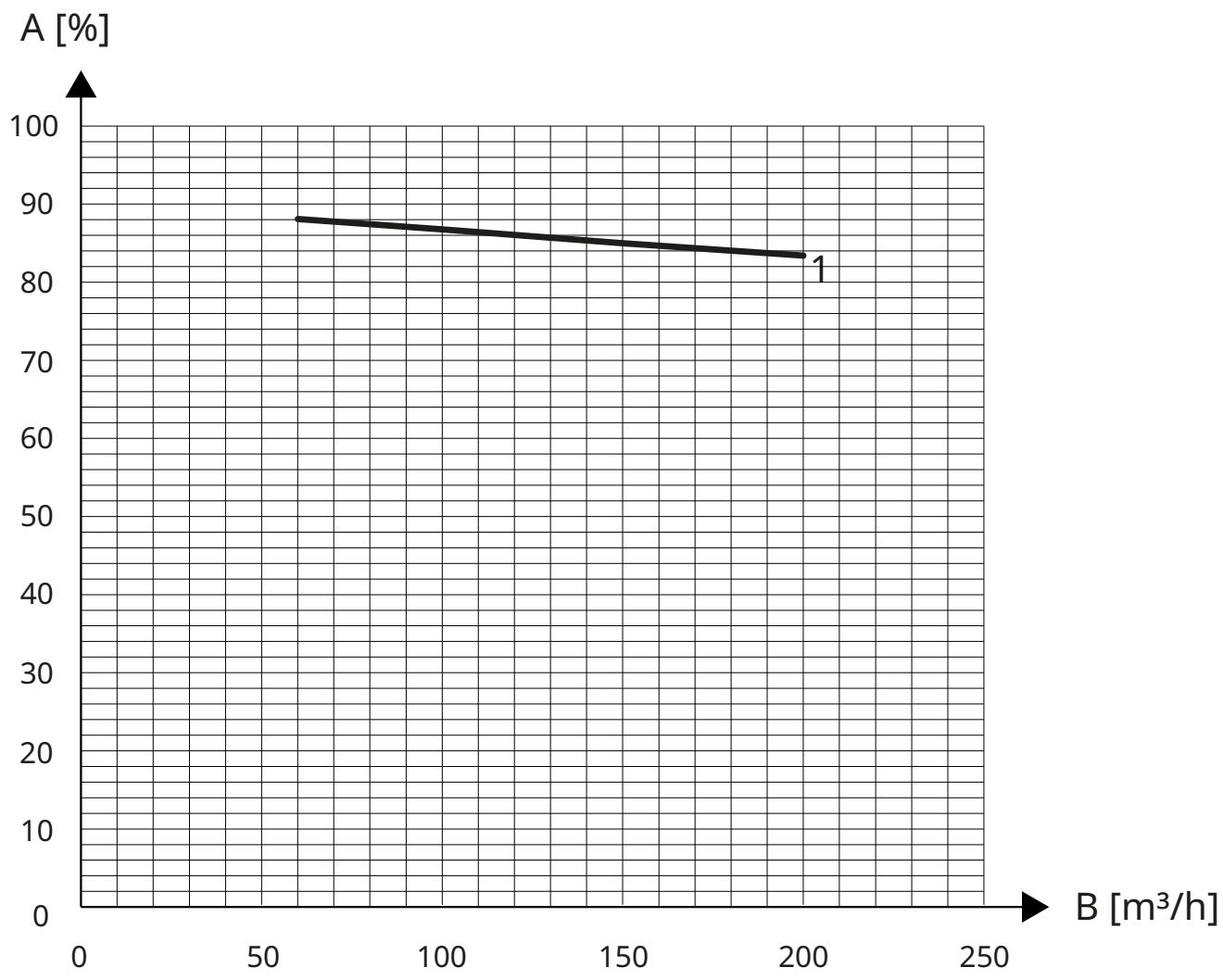
9.3 Heat recovery

Size 15

Sensible version winter heat recovery

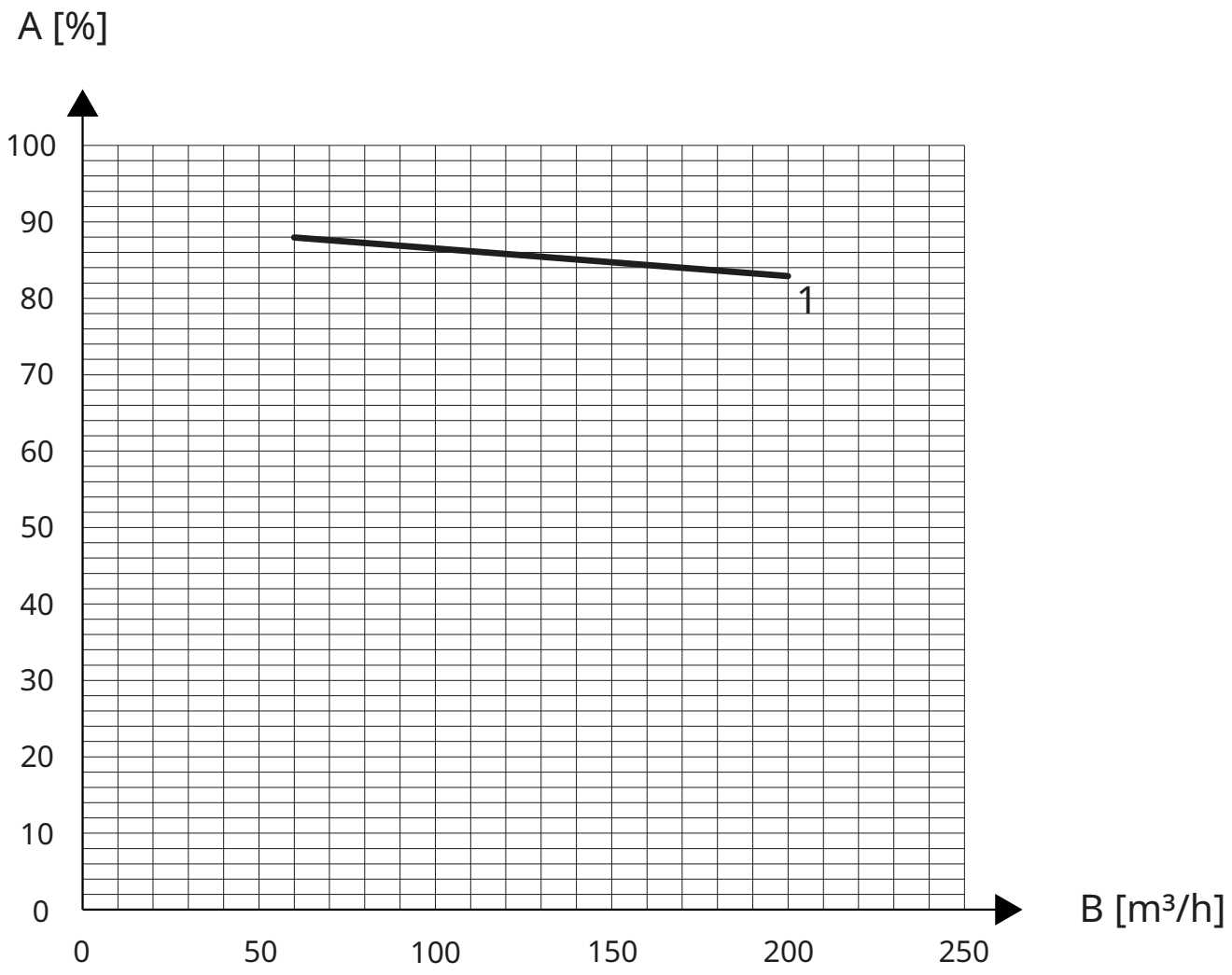
A	Heat recovery
B	Air flow

1.	Winter heat recovery



Sensible version summer heat recovery

A	Heat recovery	**1.**	Summer heat recovery
B	Air flow		

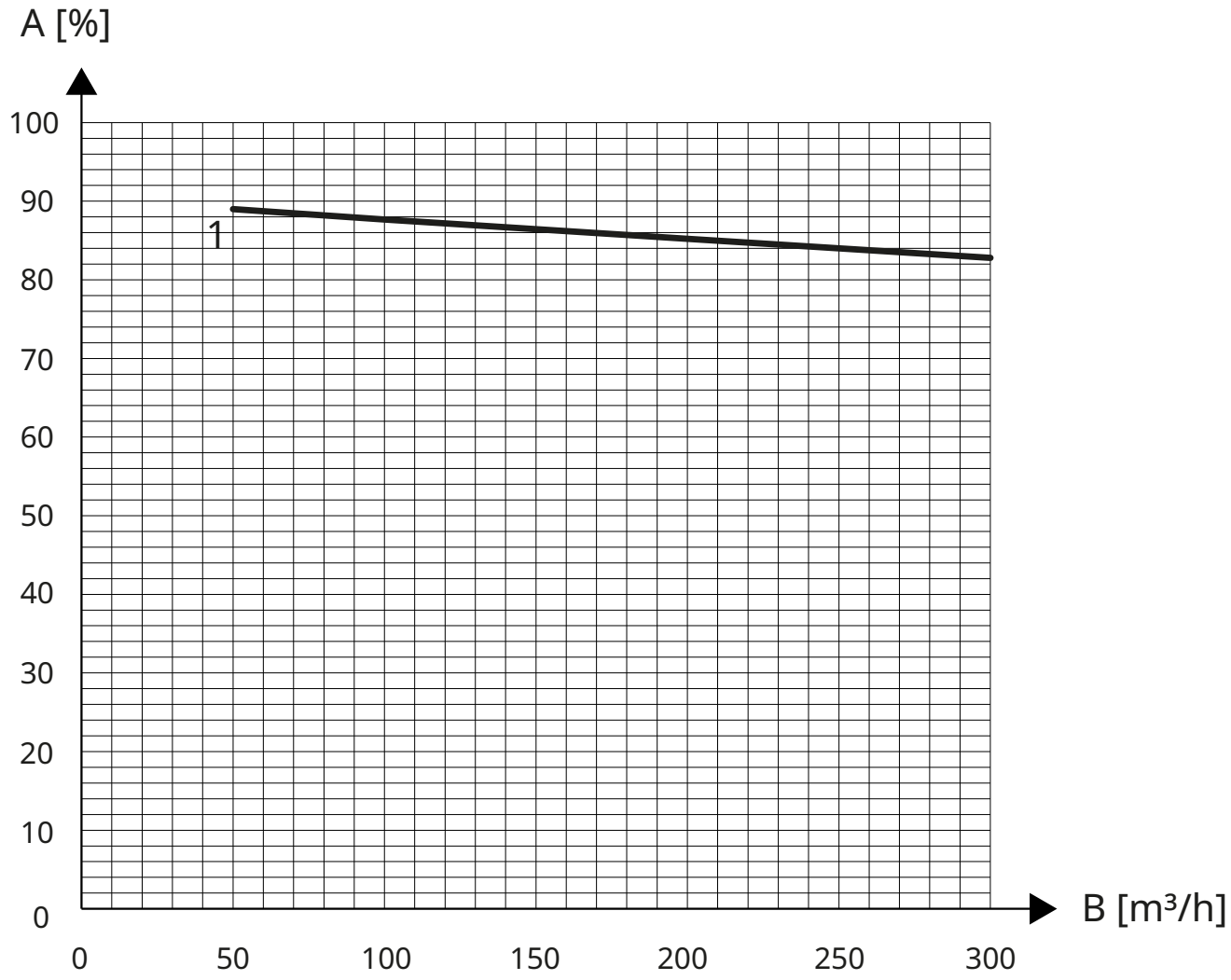


Size 30

Sensible version winter heat recovery

A	Heat recovery
B	Air flow

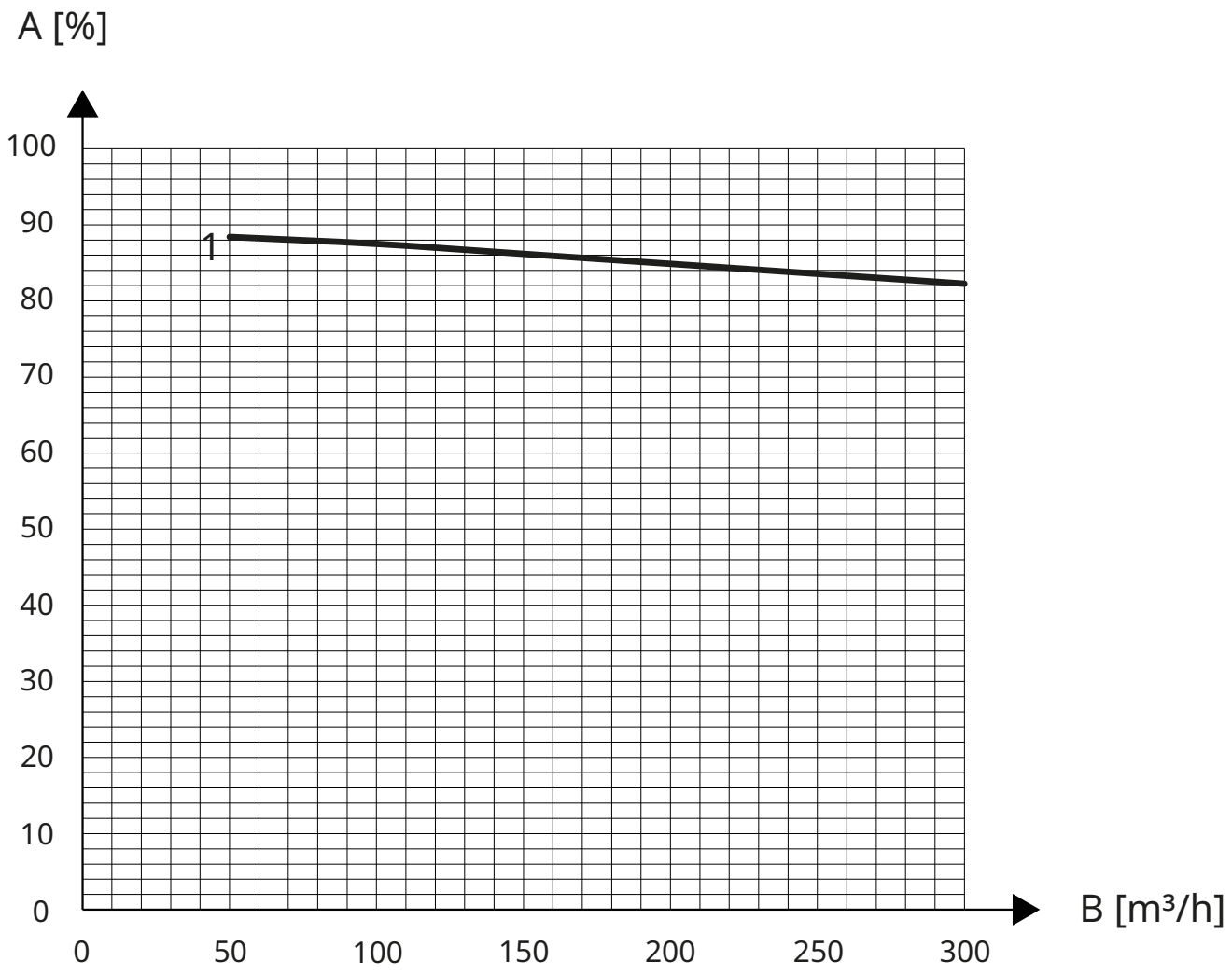
1.	Winter heat recovery



Sensible version summer heat recovery

A	Heat recovery
B	Air flow

1.	Summer heat recovery

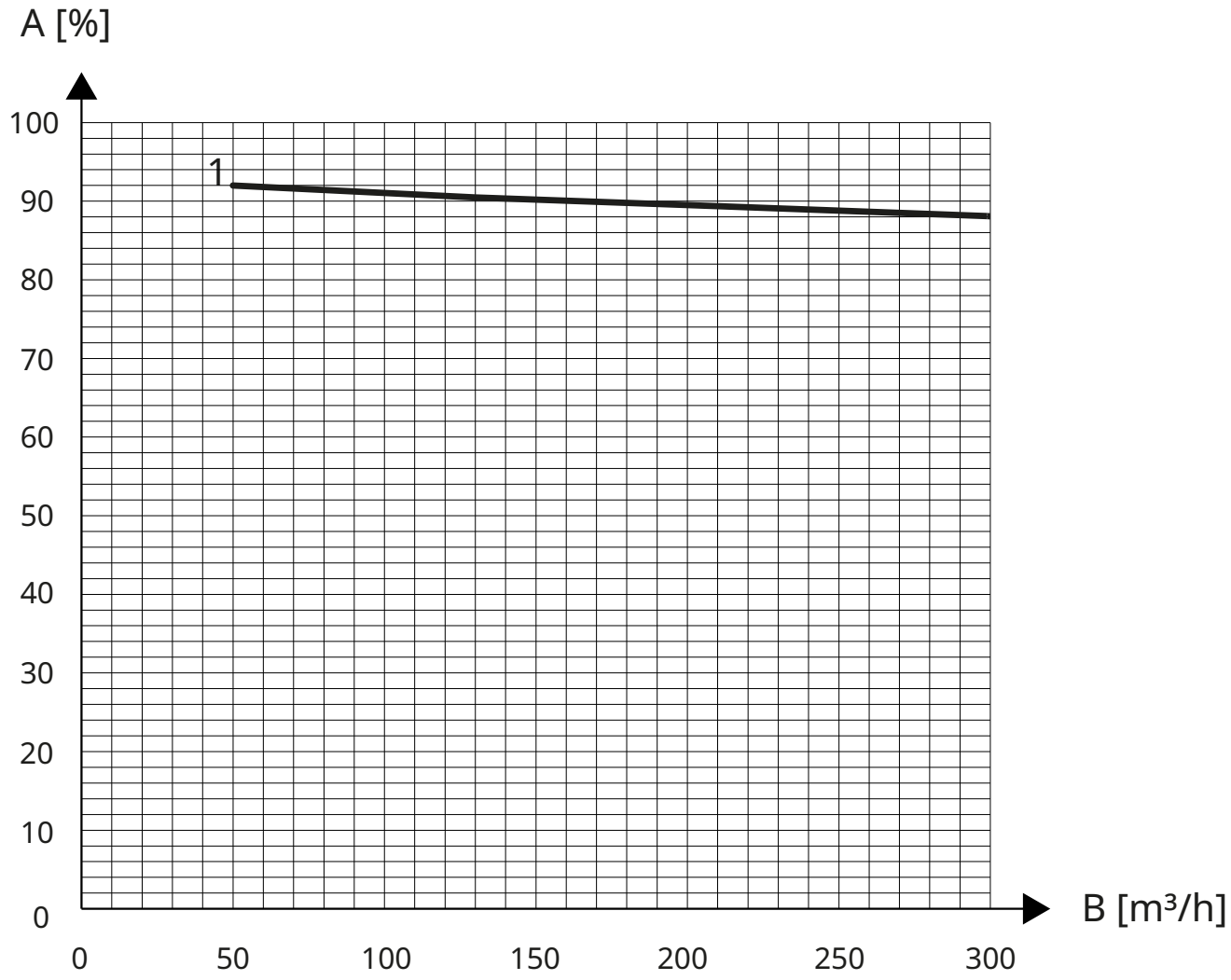


Size 35

Sensible version winter heat recovery

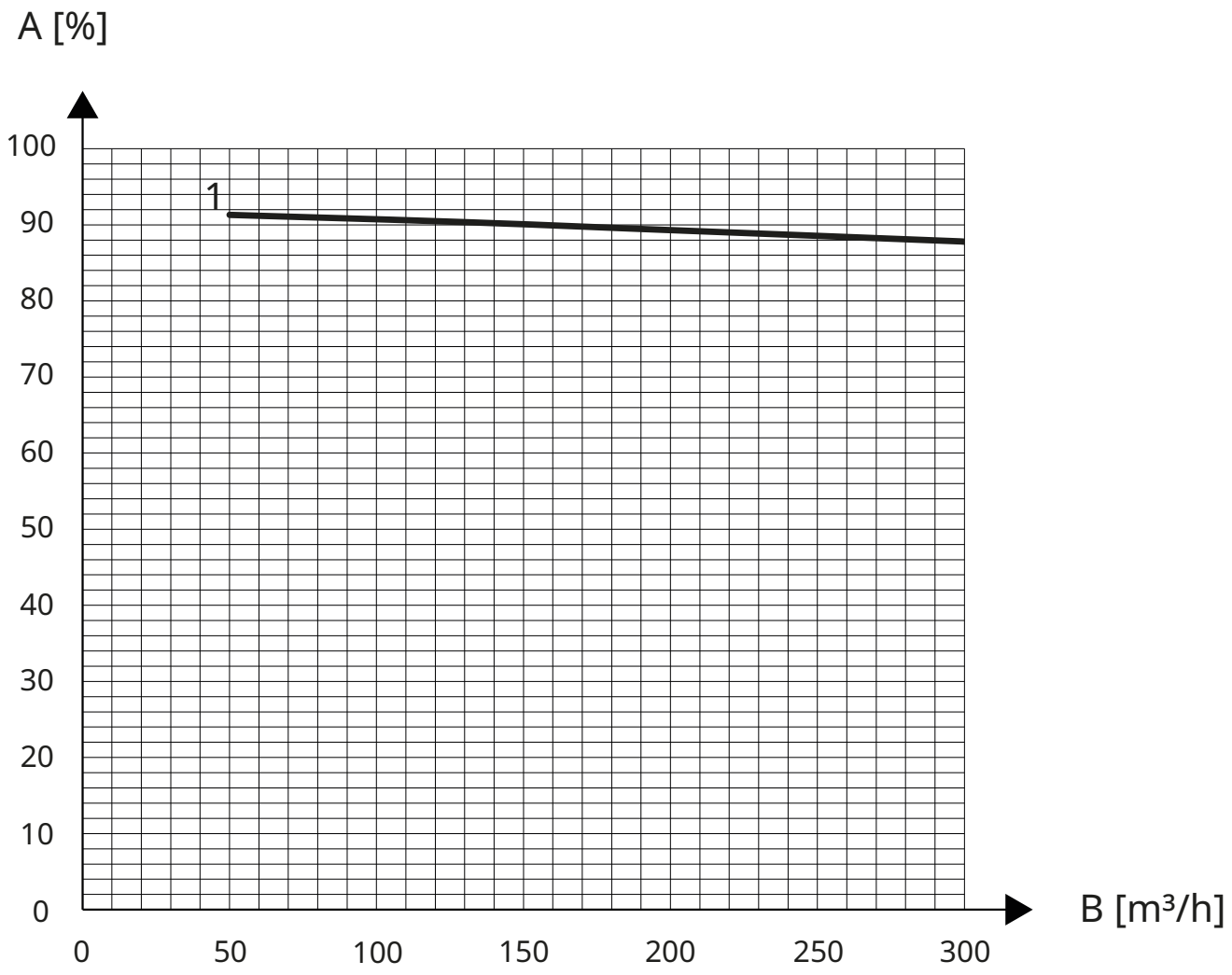
A	Heat recovery
B	Air flow

1.	Winter heat recovery



Sensible version summer heat recovery

A	Heat recovery	**1.**	Summer heat recovery
B	Air flow		

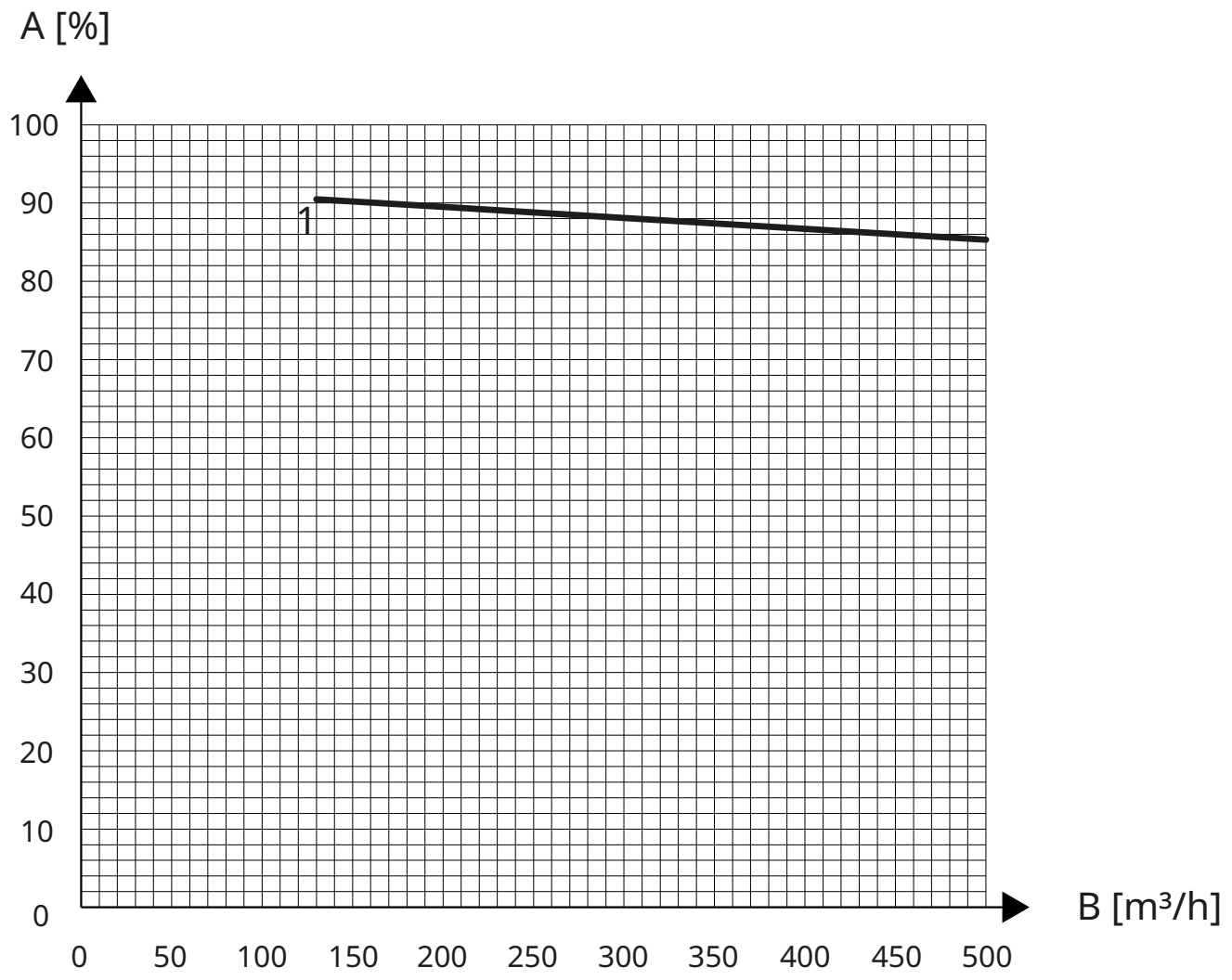


Size 45

Winter heat recovery

A	Heat recovery
B	Air flow

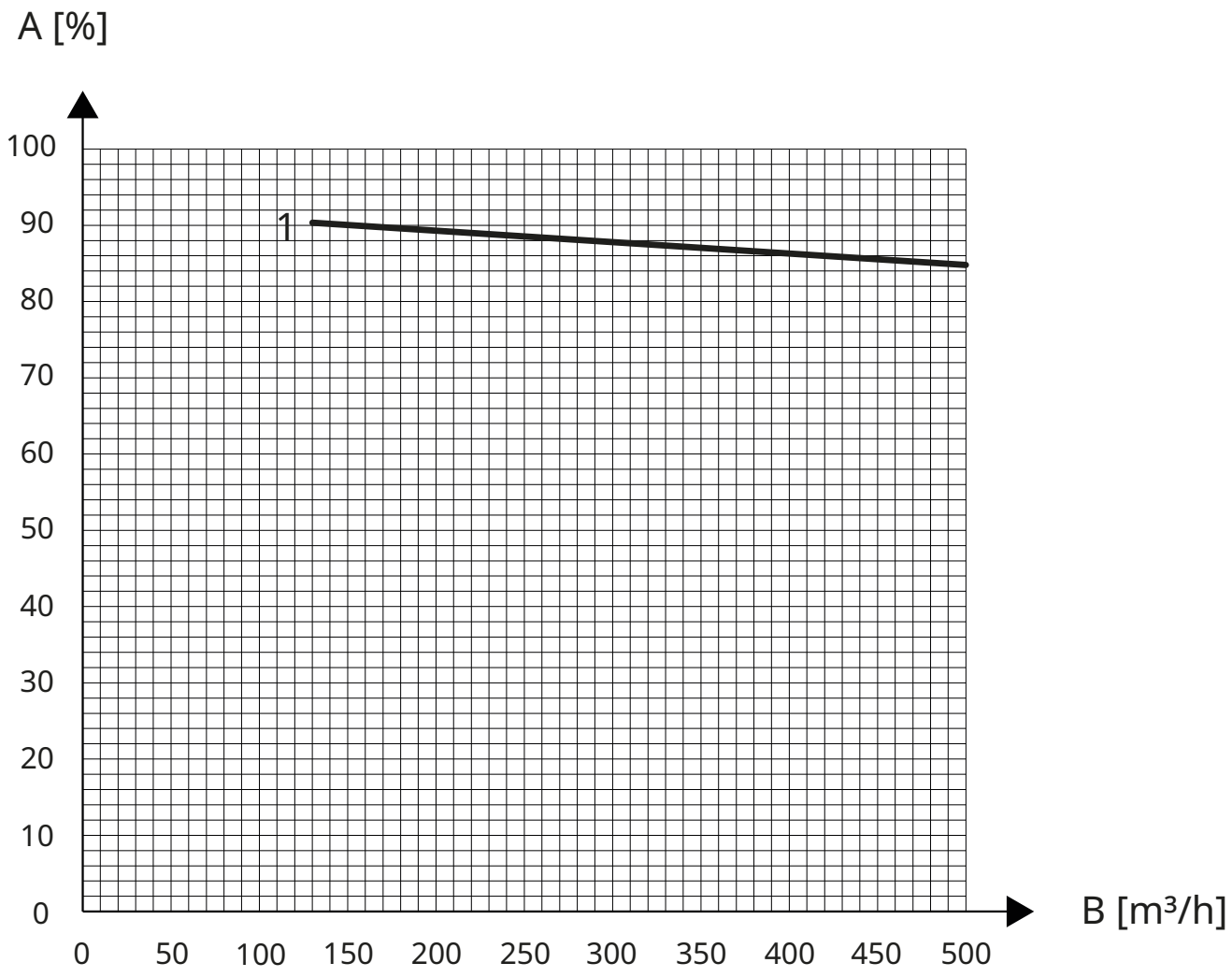
1.	Winter heat recovery



Summer heat recovery

A	Heat recovery
B	Air flow

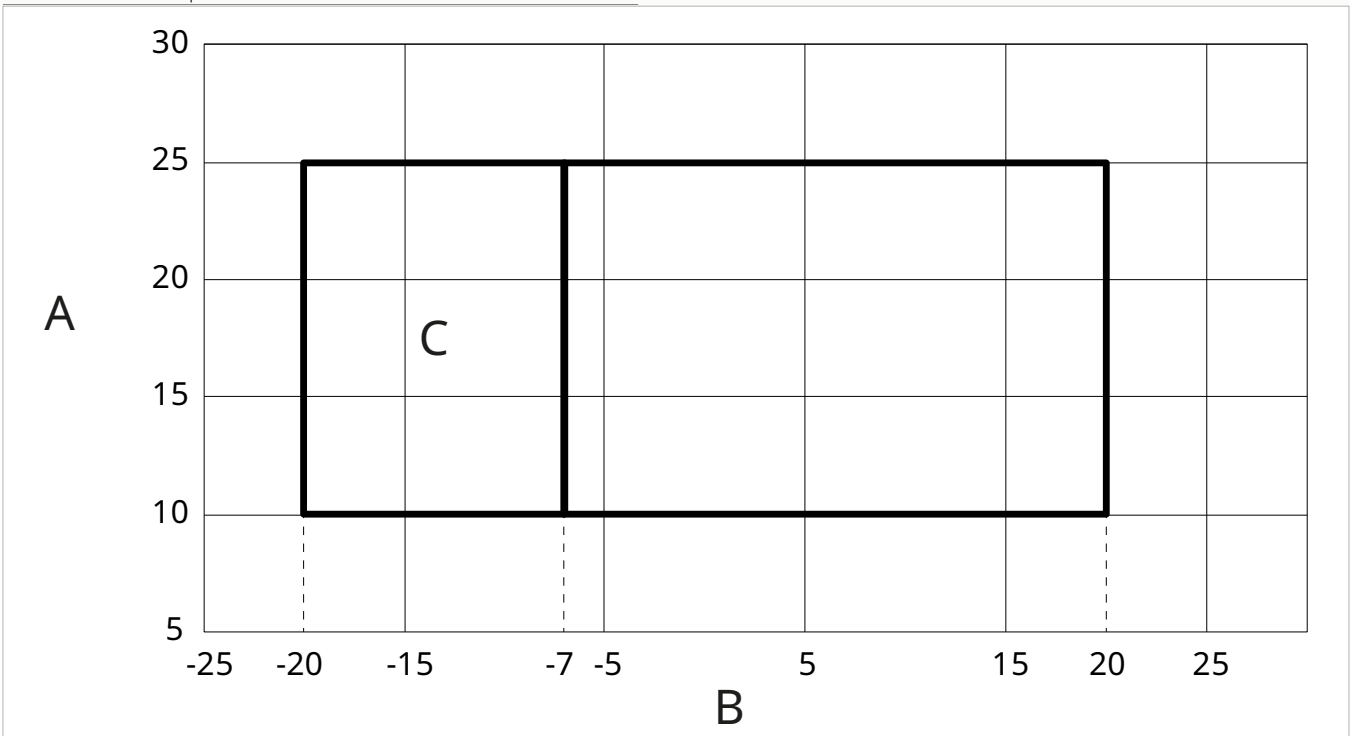
1.	Summer heat recovery



9.4 Operating limits

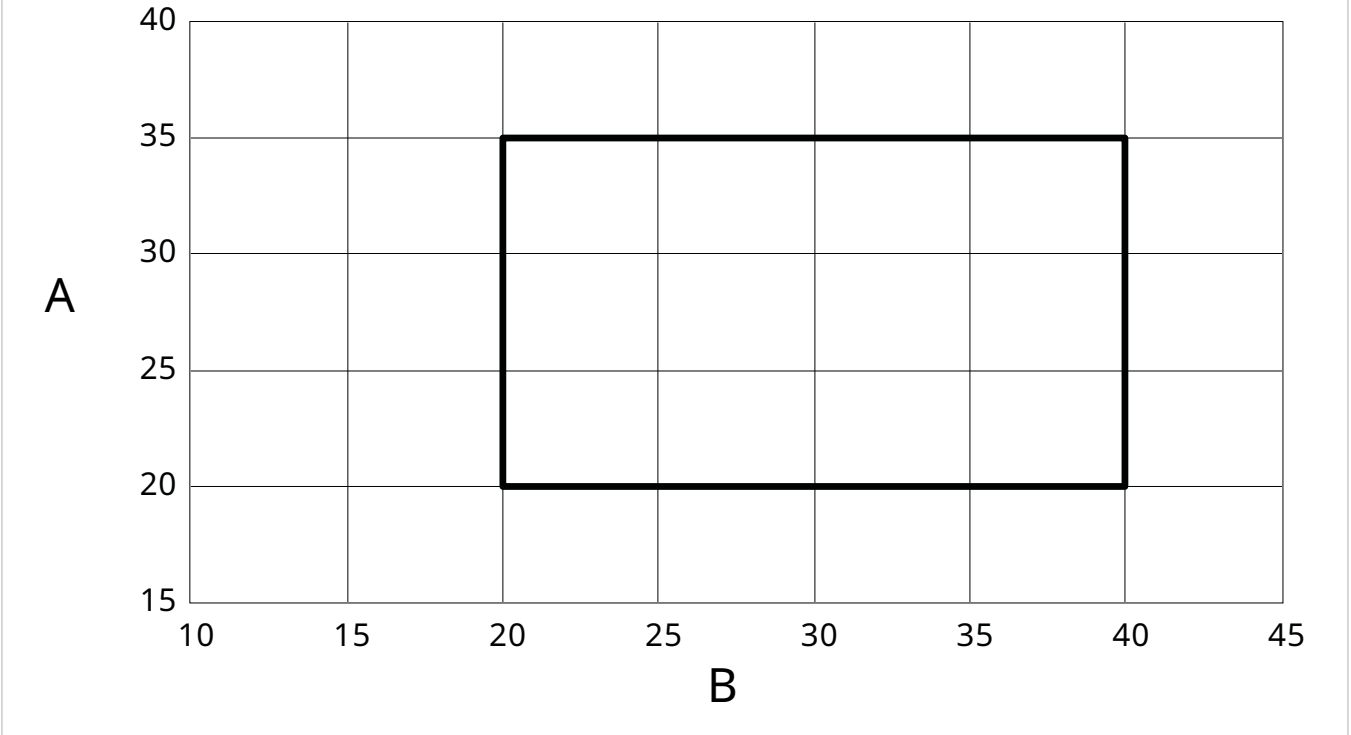
Sensible version winter operating limits

A Indoor temperature
B Outdoor temperature
C Preheating requirement zone



Sensible version summer operating limits

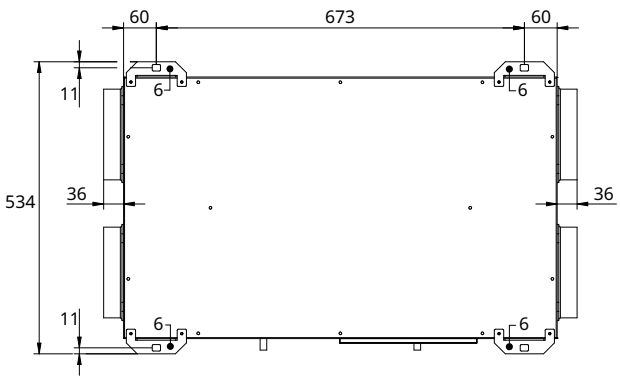
A Indoor temperature
B Outdoor temperature

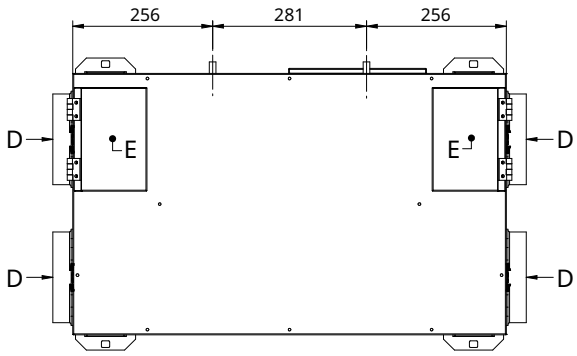


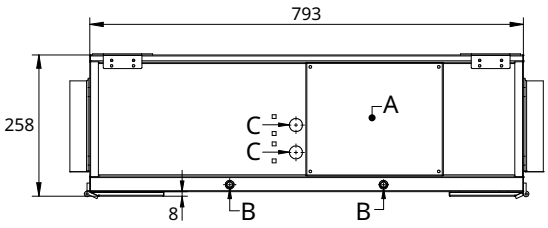
9.5 Dimensions

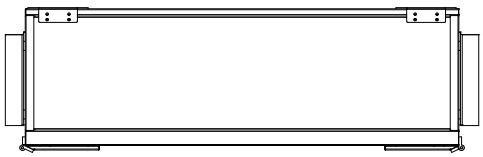
Size 15

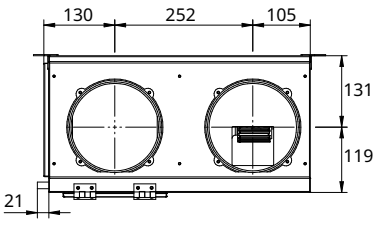
A	Electrical panel
B	Condensate drain
C	Power supply
D	Female aeraulic connection Ø 160
E	Filter port

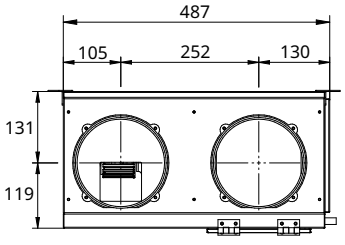








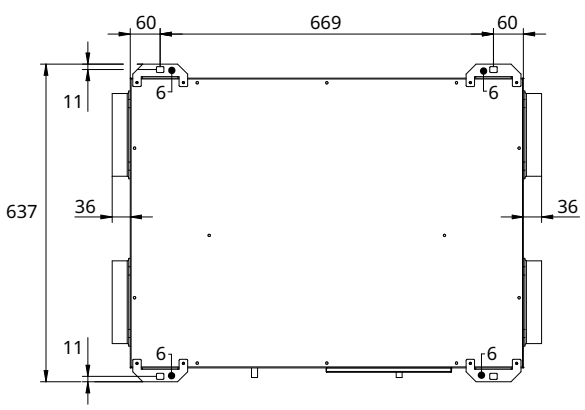


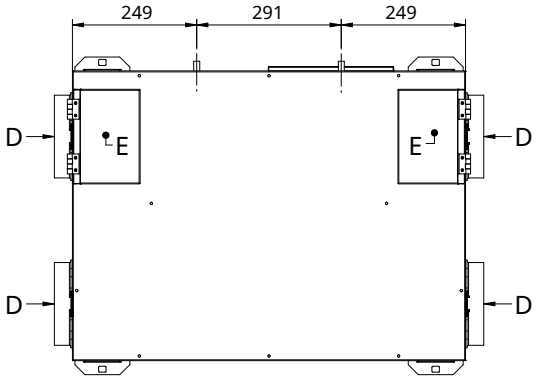


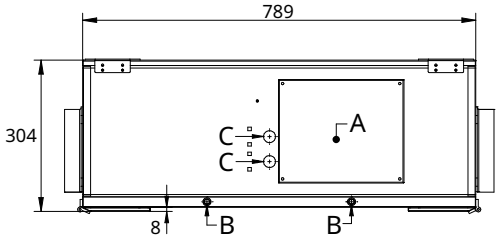
Panasonic

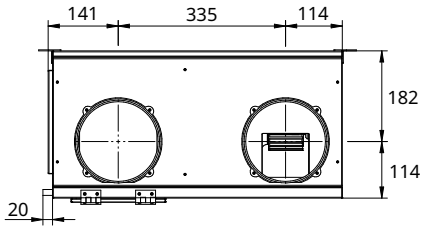
Size 30

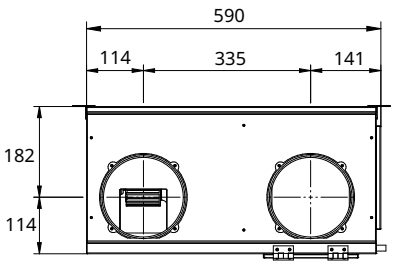
A	Electrical panel
B	Condensate drain
C	Power supply
D	Female aeraulic connection Ø 160
E	Filter port





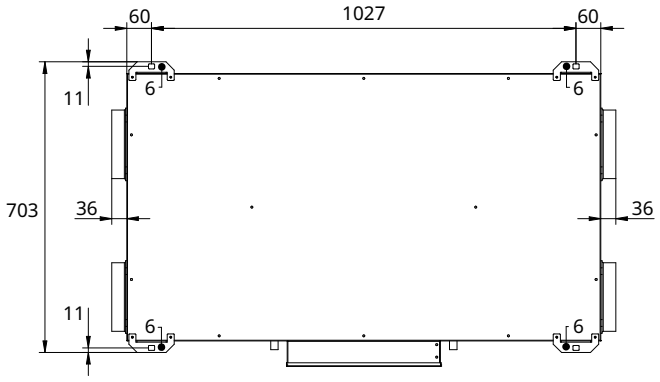


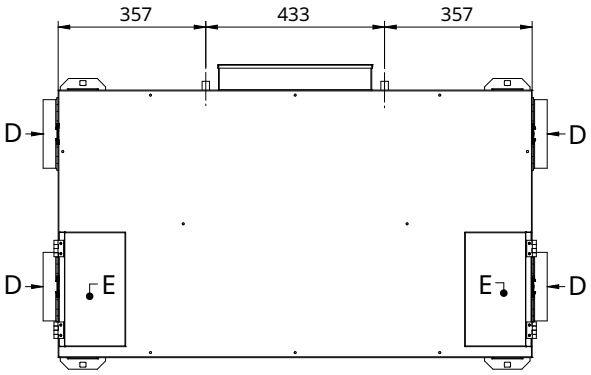


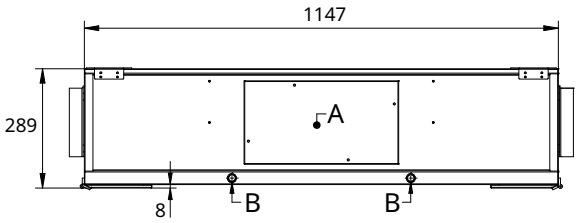


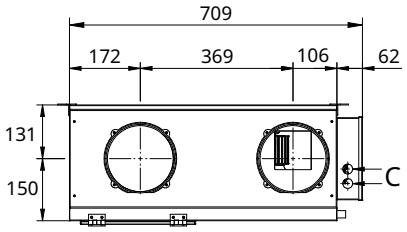
Size 35 - 45

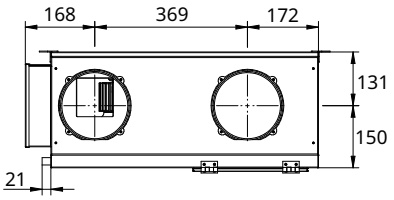
A	Electrical panel	**D**	Female aeraulic connection Ø 160
B	Condensate drain	**E**	Filter port
C	Power supply		











9.6 Ecodesign classification

Models	u.m.	**15H**
ECODESIGN ErP data (1)		
Supplier's name		PANASONIC
Model identifier		Aquarea Vent 15H
Cold specific energy consumption SEC	kWh/ (m^2□a)	-76,61
Average specific energy consumption SEC	kWh/ (m^2□a)	-38,63
Warm specific energy consumption SEC	kWh/ (m^2□a)	-14,24
SEC class		A
Declared typology		RVU - Bidirectional
Type of drive		Variable speed
Type of heat recovery		Recuperative
Thermal efficiency	%	86,4
Maximum flow rate	m^3/h	155
Power input	W	110
LWA sound power level	dB(A)	49
Reference flow rate	m^3/s	0,0301
Reference pressure	Pa	50
SPI Specific power input	W/m^3/h	0,276
CTRL control factor		0,85
Internal maximum leakage	%	2,2
External maximum leakage	%	1,8
Position and description of visual filter warning		Sybolized message on unit display and control panel and the instruction manual
Internet address for disassembly instructions		www.aircon.panasonic.eu
Cold annual electricity consumption AEC	kWh/year	832,25
Average annual electricity consumption AEC	kWh/year	295,25
Warm annual electricity consumption AEC	kWh/year	250,25
Cold annual heating saved AHS	kWh/year	8868,32
Average annual heating saved AHS	kWh/year	4533,30
Warm annual heating saved AHS	kWh/year	2049,90

1. Product fiche for RVU per EU Regulation No. 1254/2014

Models	u.m.	**30H**
ECODESIGN ErP data (1)		
Supplier's name		PANASONIC
Model identifier		Aquarea Vent 30H
Cold specific energy consumption SEC	kWh/ (m^2a)	-75,95
Average specific energy consumption SEC	kWh/ (m^2a)	-38,35
Warm specific energy consumption SEC	kWh/ (m^2a)	-14,18
SEC class		A
Declared typology		RVU - Bidirectional
Type of drive		Variable speed
Type of heat recovery		Recuperative
Thermal efficiency	%	85,0
Maximum flow rate	m^3/h	300
Power input	W	140
LWA sound power level	dB(A)	50
Reference flow rate	m^3/s	0,0583
Reference pressure	Pa	50
SPI Specific power input	W/m^3/h	0,271
CTRL control factor		0,85
Internal maximum leakage	%	1,9
External maximum leakage	%	1,5
Position and description of visual filter warning		Sybolized message on unit display and control panel and the instruction manual
Internet address for disassembly instructions		www.aircon.panasonic.eu
Cold annual electricity consumption AEC	kWh/year	827,66
Average annual electricity consumption AEC	kWh/year	290,66
Warm annual electricity consumption AEC	kWh/year	245,66
Cold annual heating saved AHS	kWh/year	8790,99
Average annual heating saved AHS	kWh/year	4493,77
Warm annual heating saved AHS	kWh/year	2032,02

1. Product fiche for RVU per EU Regulation No. 1254/2014

Models	u.m.	**35H**
ECODESIGN ErP data (1)		
Supplier's name		PANASONIC
Model identifier		Aquarea Vent 35H
Cold specific energy consumption SEC	kWh/ (m^2□a)	-78,18
Average specific energy consumption SEC	kWh/ (m^2□a)	-39,56
Warm specific energy consumption SEC	kWh/ (m^2□a)	-14,81
SEC class		A
Declared typology		RVU - Bidirectional
Type of drive		Variable speed
Type of heat recovery		Recuperative
Thermal efficiency	%	88,9
Maximum flow rate	m^3/h	340
Power input	W	350
LWA sound power level	dB(A)	52
Reference flow rate	m^3/s	0,6610
Reference pressure	Pa	50
SPI Specific power input	W/m^3/h	0,265
CTRL control factor		0,85
Internal maximum leakage	%	1,9
External maximum leakage	%	1,4
Position and description of visual filter warning		Sybolized message on unit display and control panel and the instruction manual
Internet address for disassembly instructions		www.aircon.panasonic.eu
Cold annual electricity consumption AEC	kWh/year	821,57
Average annual electricity consumption AEC	kWh/year	284,57
Warm annual electricity consumption AEC	kWh/year	239,57
Cold annual heating saved AHS	kWh/year	8998,62
Average annual heating saved AHS	kWh/year	4599,90
Warm annual heating saved AHS	kWh/year	2080,01
1. Product fiche for RVU per EU Regulation No. 1254/2014		

Models	u.m.	**45H**
ECODESIGN ErP data (1)		
Supplier's name		PANASONIC
Model identifier		Aquarea Vent 45H
Cold specific energy consumption SEC	kWh/ (m^2□a)	-74,28
Average specific energy consumption SEC	kWh/ (m^2□a)	-35,95
Warm specific energy consumption SEC	kWh/ (m^2□a)	-11,36
SEC class		A
Declared typology		RVU - Bidirectional
Type of drive		Variable speed
Type of heat recovery		Recuperative
Thermal efficiency	%	87,8
Maximum flow rate	m^3/h	455
Power input	W	420
LWA sound power level	dB(A)	56
Reference flow rate	m^3/s	0,0797
Reference pressure	Pa	50
SPI Specific power input	W/m^3/h	0,411
CTRL control factor		0,85
Internal maximum leakage	%	1,4
External maximum leakage	%	1,0
Position and description of visual filter warning		Sybolized message on unit display and control panel and the instruction manual
Internet address for disassembly instructions		www.aircon.panasonic.eu
Cold annual electricity consumption AEC	kWh/year	954,11
Average annual electricity consumption AEC	kWh/year	417,11
Warm annual electricity consumption AEC	kWh/year	372,11
Cold annual heating saved AHS	kWh/year	8940,36
Average annual heating saved AHS	kWh/year	4570,12
Warm annual heating saved AHS	kWh/year	2066,55

1. Product fiche for RVU per EU Regulation No. 1254/2014

10. ACCESSORIES

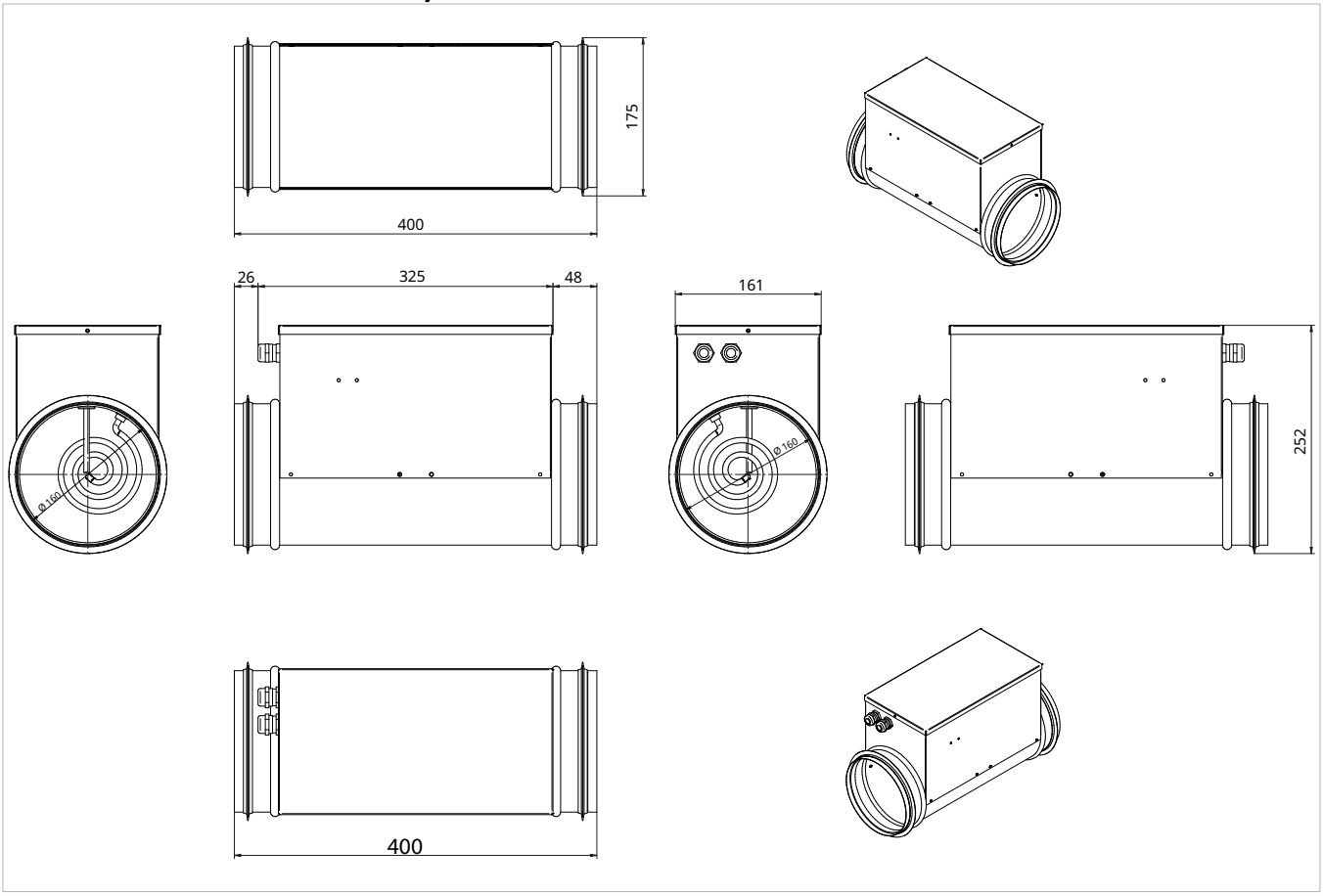
10.1 Electrical resistance

Description

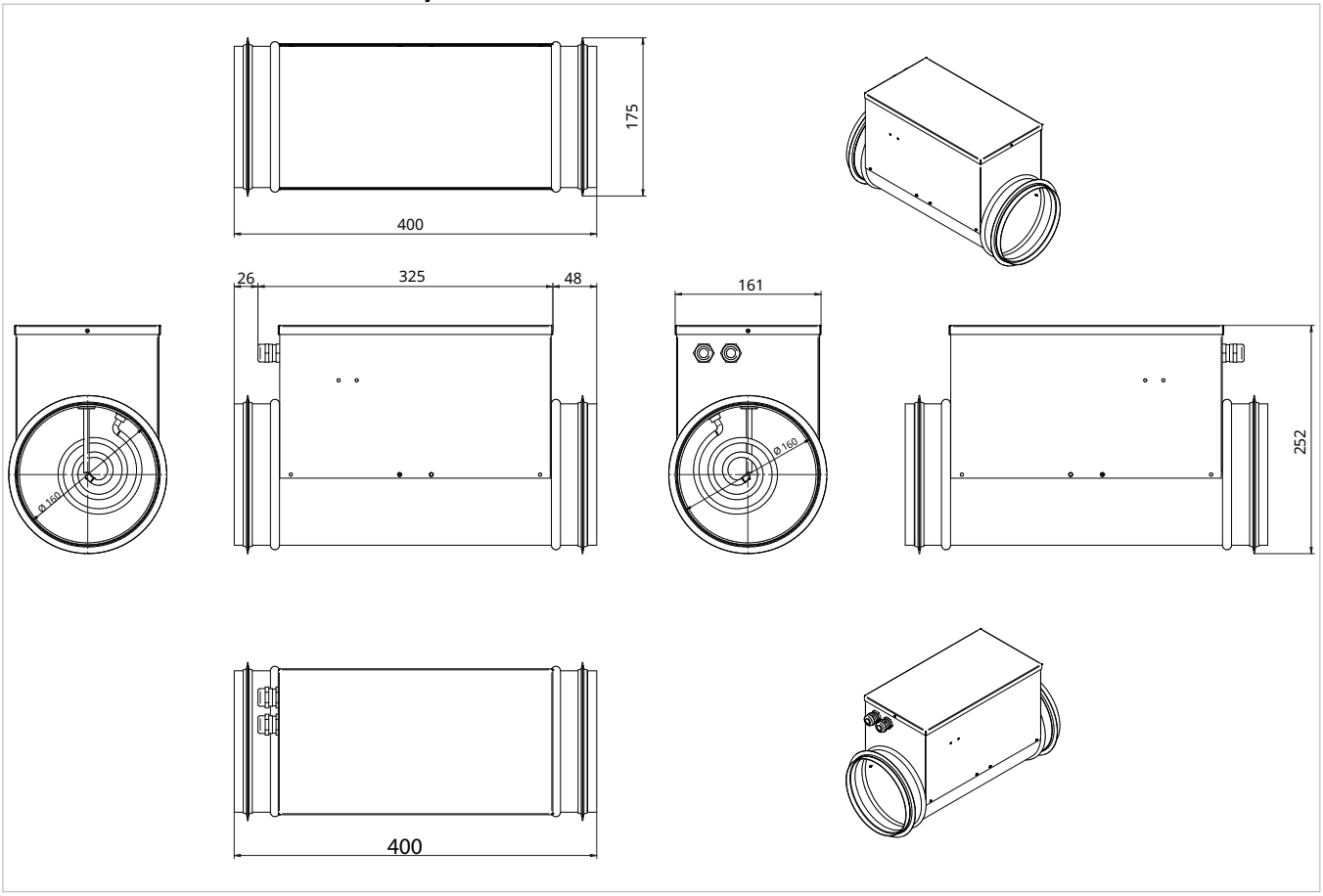
The electric air heater accessory heats the air in the ventilation ducts. It can be installed for pre-heating the unit in cold climates and for post-heating to increase the outlet air temperature and heat the rooms. It is a flexible solution to improve thermal comfort in ventilation systems.
It is available in two capacities: 0.5 kW and 1.0 kW.

Dimensions

Electrical duct heater 0.5 kW, DN 160 mm

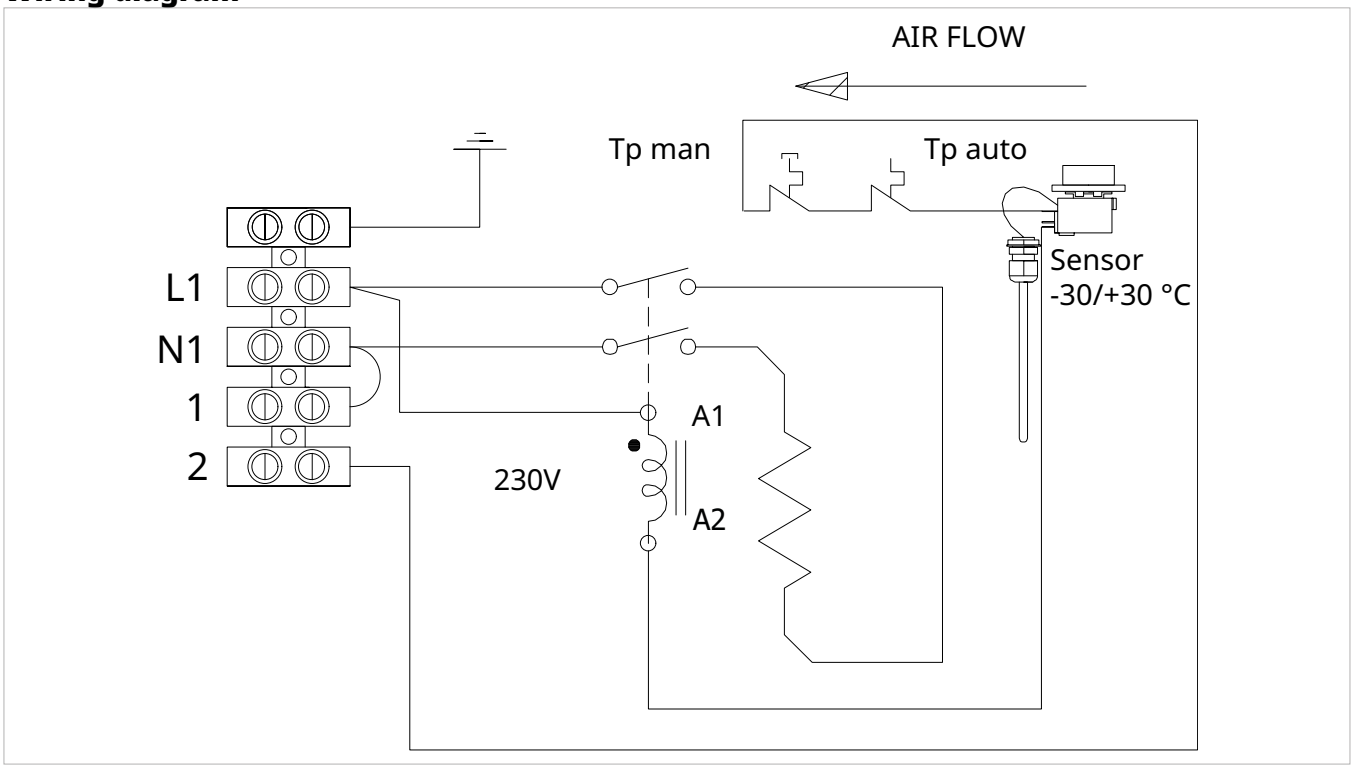


Electrical duct heater 1.0 kW, DN 160 mm

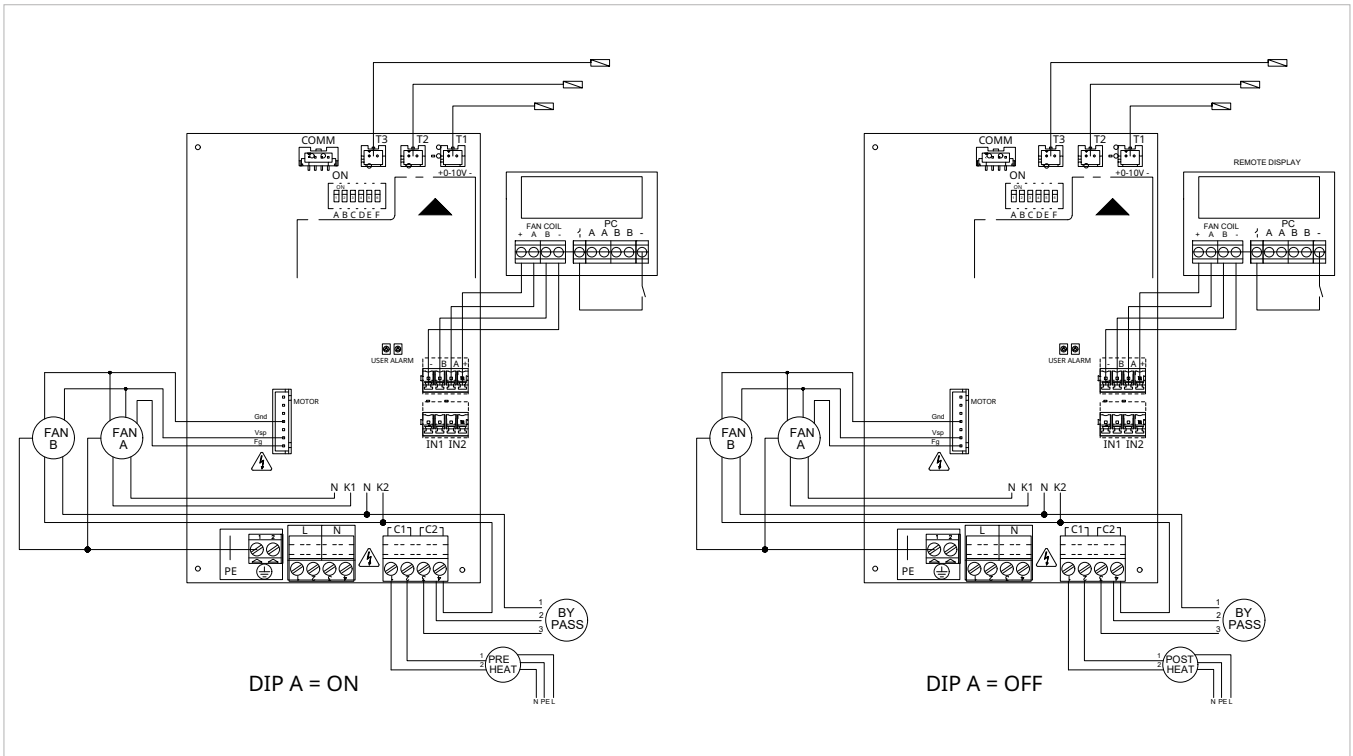


Wiring diagram

Wiring diagram

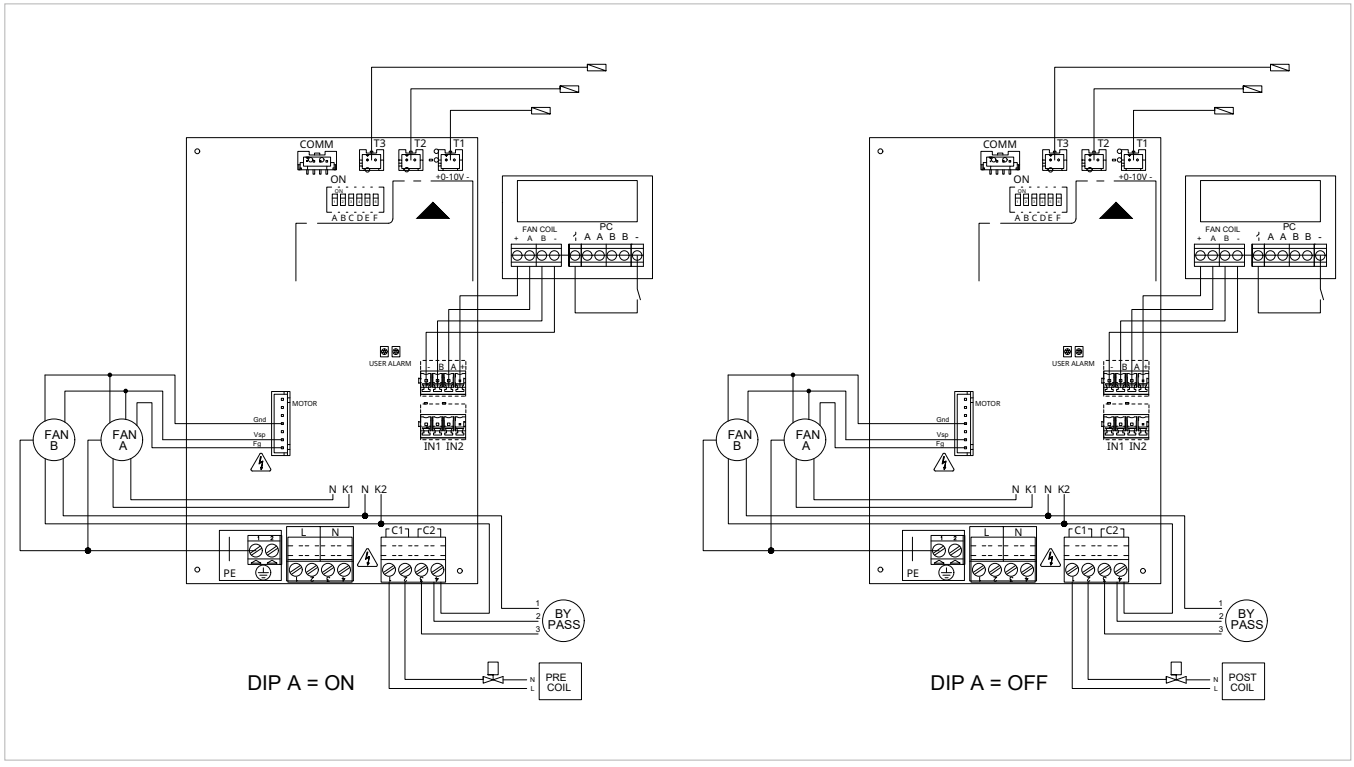


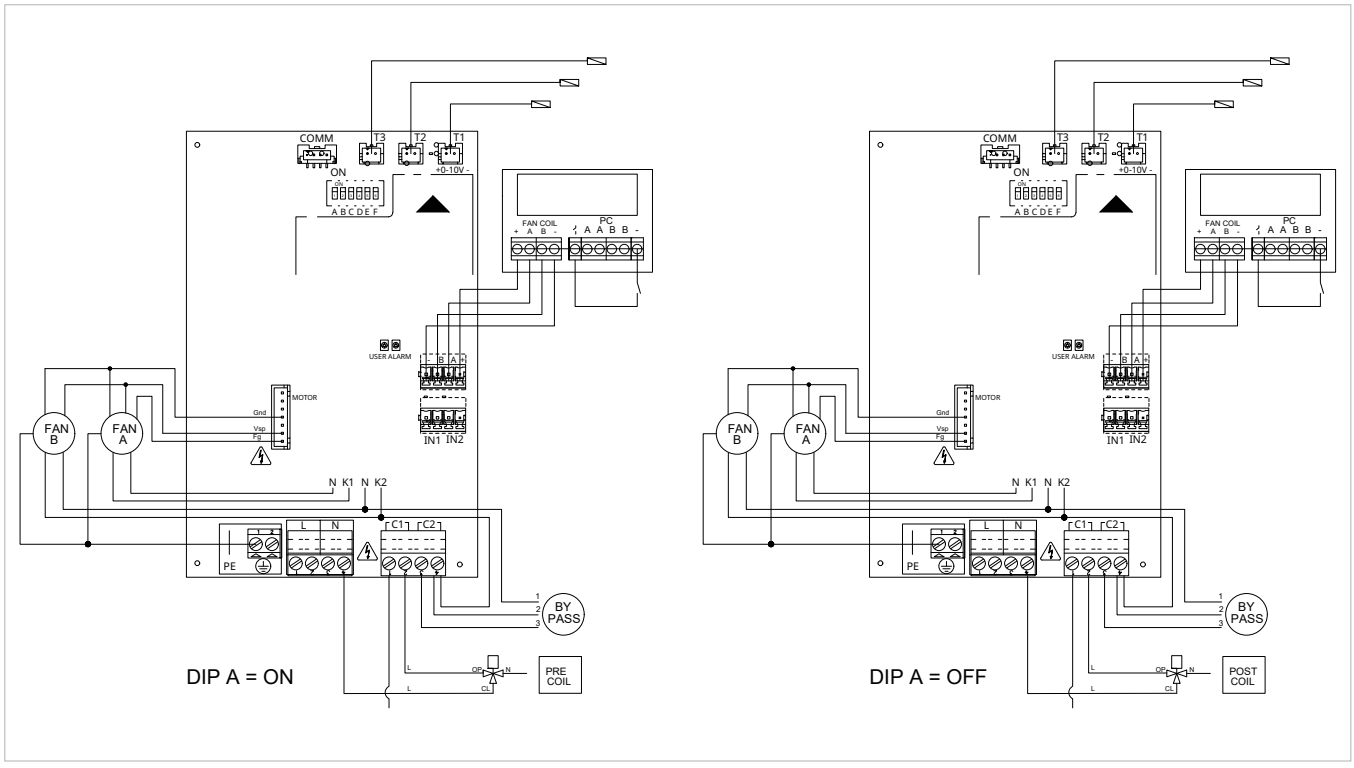
Connections to be made by the customer		
L - N -PE	Unit power supply	230 / 1 / 50
1 - 2	Resistance On - Off contact	Voltage contact
		Contact closed (active resistance)



11. VALVES FOR WATER COILS

11.1 Wiring diagram





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