

User's manual
(original instructions)

EN

Panasonic[®]

N421142A - Rev.02 - 11/2024

Aquarea Loop

P-CWSL series**

First of all, we would like to thank you for having chosen a device of our production.

We are sure you will be happy with it because it represents the state of the art in the technology of home air conditioning.

By following the suggestions contained in this manual, the product you have purchased will provide trouble free operation, giving you optimum room temperatures with minimum energy costs.

Panasonic Corporation

Conformity

Refer to the Installation Manual of the paired unit.

Markings




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1. CODING


1.1 Coding accessories


	Accessory description	Code
Wall-mounted control panels		
Control panels		
	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


2. GENERAL INFORMATION


2.1 About the manual

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

 This instruction manual forms an integral part of the device and therefore must be carefully preserved and must ALWAYS travel with it, even if you transfer the device to another owner or relocate it to other premises. If the manual gets 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.

 The Manufacturer accepts no liability for damages to persons or property caused by failure to follow the instructions in this manual.

 This document is restricted in use to the terms of the law and may not be copied or transferred to third parties without the express authorisation of the Manufacturer.

2.1.1 Editorial pictograms

The pictograms in the next chapter provide the necessary information for correct and safe use of the machine in a rapid and unmistakable way.

Related to security

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 (plain text)

- Refers to prohibited actions.

Important information (bold text)

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

In the texts

- ▶ procedures
- lists


In the control panels


- ▶ actions required
- Expected responses following an action.*

In the figures

1 The numbers indicate the individual components.

A The capital letters indicate component assemblies.

 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.

2.1.2 Pictograms on the product

Symbols are used in some parts of the appliance:

Related to security



Read instruction manual

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



Instruction manual

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



Caution: electrical danger

- The concerned personnel is informed to the presence of electricity and the risk of suffering an electric shock.

Related to refrigerant R290



Caution: low flammability material

- R290 refrigerant gas is flammable and odourless. Avoid proximity to ignition sources in continuous operation (open flames, gas appliances, electric stoves, burning cigarettes, etc.).



Instructions for the Authorised Service Centre

- The Authorised Service Centre must read the instructions carefully before performing any work on the appliance.

2.1.3 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.

Authorised Service Centre

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

2.1.4 Manual organisation

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

Coding

It addresses all recipients.

It contains the list of products and/or accessories referred to in the manual.

General information

It addresses all recipients.

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

Control panels

It addresses all recipients.

It contains section by control mode and information on the use of the main functions.

Maintenance and Troubleshooting

It addresses all recipients.

It contains specific warnings and useful information for regular maintenance work.

Technical information

It addresses all recipients.

It contains detailed technical information about the appliance.

2.2 General warnings

- ⚠ This instruction is an integral part of the booklet of the appliance.
- ⚠ 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.
- ⚠ All repair or maintenance interventions must be performed by an Authorised Service Centre or by professionally qualified personnel as foreseen in this booklet. Do not modify or intervene on the appliance as this could create dangerous situations and the Manufacturer will not be responsible for any damage caused.
- ⚠ Objects or structural obstacles (furniture, curtains, plants, leaves, blinds, etc.) must not obstruct the normal air flow both from the internal and from the external grilles.

- ⚠ Do not put any containers on top of the appliance, especially if they contain liquids, as this could cause a short circuit or cause damage to the appliance and/or be exposed to danger of electrocution.
- ⚠ Do not lean on the appliance.
- ⚠ In the event of water leaks, turn off the appliance and disconnect the electric power supply. Call an Authorised Service Centre.
- ⚠ In case of replacement of parts, use only original parts.
- ⚠ The unit can be used by children over the age of 8, and by people with reduced physical, sensory or mental capabilities, or with no experience or necessary knowledge, as long as they are monitored or after they have received instructions on the safe use of the unit and have understood the dangers involved. Children must not play with the appliance. The cleaning and maintenance that must be performed by the user should not be carried out by children without supervision.

2.3 Disposal



The symbol on the product or packaging indicates that the product must not be treated as normal household waste, but must be taken to the appropriate collection point for

recycling of used electrical and electronic equipment and batteries.

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 valid in the EU Member States.

3. TOUCHPAD

⚠ If the unit with touchpad is combined with an wall control (Code PCZ-EEB749 - PCZ-EFB749) functions can only be modified using the wall control.

⚠ The on-board display works in display-only mode.

3.1 Interface

3.1.1 Description

⚠ The solution with touch pad is recommended for the prevalent use in cooling.

The display on the appliance allows you to:

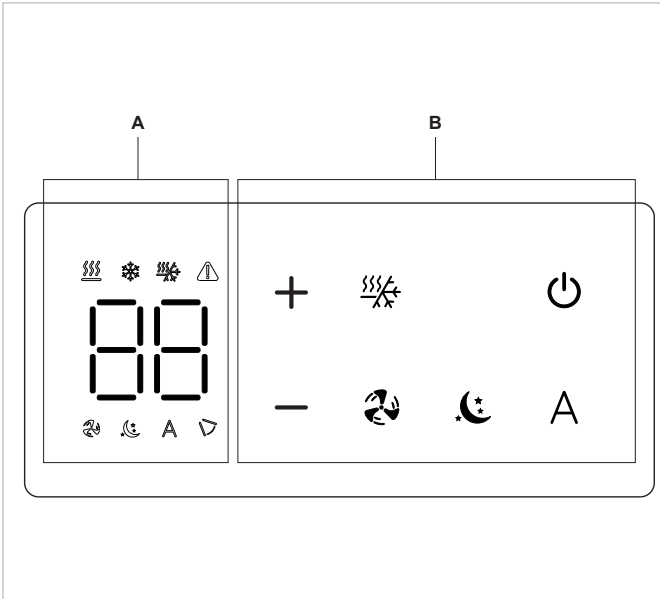
- show the operating status

- show any alarms
- select the various functions

⚠ For the touchpad with Wi-Fi connection, Aquarea Home App is available.

3.1.2 Touchpad

Keys and functions related.



A	Display area
B	Keys area
88.8	Setpoint
+	Up key
—	Down key
🌀	This can be used to select the operating mode (Heating, Cooling or Auto-changeover)
🌀	This can be used to select the power level (L1, L2, L3, L4)
🔌	This can be used to switch the unit on or off and enter the menu
🌙	Enables the Night function
A	Enables the Automatic function
⚠	Alarm signals

3.2 Main functions

3.2.1 General start-up

To be able to operate the appliance using the touch display:

- ▶ insert the power plug of the unit into the power socket of the system
- ▶ or switch on the main switch provided on the power supply line

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

To activate the touchpad

- ▶ press and hold 🔌 for 2 seconds
The device turns on.


The setpoint is shown on the display.

⚠ The control panel has its own memory, therefore no settings will be lost in case of shut-down or power outage (except ventilation). The button in question is used to switch the appliance on and off for short periods.

⚠ If you plan to keep the device out of service for a prolonged time, remember to deactivate it by disconnecting the power or removing the power plug.

3.2.2 Put in stand-by the control


To put in stand-by the control

- ▶ press  for 2 seconds
The device turns off.

⚠ The control panel has its own memory, therefore no settings will be lost in case of shut-down or power outage.


⚠ If you plan to keep the device out of service for a prolonged time, remember to deactivate it by disconnecting the power or removing the power plug.

To re-activate the control

- ▶ press  for 2 seconds
The device turns on.

3.2.3 Set room temperature

To set the setpoint



- ▶ operate the  keys to decrease or increase the desired value
The displayed value changes.

⚠ The temperature setting range is from 16 °C to 31 °C, with a resolution of 1 °C.

⚠ Do not set a temperature that is too low or too high. It is harmful to health and is an unnecessary waste of energy.



3.2.4 Heating operation

To select the Heating operation



- ▶ press  for about 2 seconds
*The symbol  in the display area indicates that the heating function is activated.
The device heats the room.*

3.2.5 Cooling operation

To select the Cooling operation

- ▶ press  for about 2 seconds
*The lighted  symbol in the display area indicates that the Cooling function is activated.
The device dehumidifies and cools the room.*



3.2.6 Automatic change of heating/cooling operation mode

- ▶ press  until the  symbol appears on the display
- ▶ the symbol of the active operation mode appears
- ▶ the device independently decides the correct mode of operation

⚠ Changing from one operation mode to the other involves a waiting time of 40 minutes.


3.3 Basic menu

To access the basic menu

- ▶ press  for 10 seconds
Appears .

3.2.7 Power level selection

To adjust the power level


- ▶ press  in sequence
*L1 minimum power level.
L2 average power level.
L3 maximum power level.
L4 booster power level (max. 90 minutes).*

⚠ Each power level corresponds to a matched ventilation speed.

3.2.8 Functioning in automatic mode

⚠ The power output level and ventilation speed are adjusted independently according to the temperature difference between the set temperature and the temperature detected in the room.

To select functioning in automatic mode

- ▶ press 
The  symbol on the display indicates that the device is operating in automatic mode.

⚠ The automatic adjustment acts starting from the set power level:



If set to L3, the system will modulate between L3 and L1.

If set to L2, the system will modulate between L2 and L1.

If set to L1, the system will not modulate.

3.2.9 Functions in night mode

To select the Night function





- ▶ press 
The symbol  on the display indicates that the fan is operating in minimum mode.

⚠ This mode of operation maximizes the quietness of the appliance, saving electricity and regulating nighttime well-being.

⚠ In this mode the fan is set to minimum speed.

3.2.10 Set the key lock

To set-up the key locking


- ▶ press simultaneously  until 
Appears .
- ▶ when the button are pressed, the following appears 

⚠ All settings are inhibited by the user.


⚠ Repeat the sequence to unlock the control.

⚠ The control panel stores the last menu item used. The last position used appears at the next access.


To move within the menu or change values

- ▶ use 


To select a menu item and to confirm the changes made

- ▶ press 

The menu item is selected and the settings are accessed.


Changes are confirmed when the symbol  appears.


To exit menu items without saving

- ▶ press 

You exit the selected menu item.

To exit the basic menu

- ▶ press once 

Appears --.
- ▶ press  again

You exit the basic menu.

⚠ After a period of 30 seconds from the last action, the display exits the menu.

3.3.1 Menu items

Ub: Buzzer volume

uP: Provisioning Wi-Fi / BT

ur: Wi-Fi reset

oH: Temperature offset in Heating

oC: Temperature offset in Cooling

CF: Scale


3.3.2 Buzzer volume**To change the volume**

- ▶ select 

The volume setting range is from 00 (min) to 03 (max).

⚠ The volume changes after change is confirmed.

3.3.3 Pairing**To make the pairing**

- ▶ select 
- ▶ select St to enable pairing

ru appears when the pairing procedure is in progress.


YS appears when the pairing procedure has been completed.

By default the device is set to NO.

⚠ The device remains visible on Aquarea Home App for the first 15 minutes after the device is switched on.

⚠ The function is only available for on-board control with Wi-Fi connection.


3.3.4 Wi-Fi reset**To reset the Wi-Fi**

- ▶ select 
- ▶ select NO to disable Wi-Fi
- ▶ select cr to reset the credentials

By default the device is set to NO.


⚠ The function is only available for on-board control with Wi-Fi connection.

3.3.5 Temperature offset in Heating**To set the temperature offset in Heating**

- ▶ select 

The temperature offset setting range in Heating is from -9 °C (minimum) to 9 °C (maximum).

3.3.6 Temperature offset in Cooling**To set the temperature offset in Cooling**

- ▶ select 

The temperature offset setting range in Heating is from -9 °C (minimum) to 9 °C (maximum).

3.3.7 Scale**To change the temperature unit of measure**

- ▶ select 
- ▶ select °C or °F

By default the temperature unit of measure is °C.

3.4 Warnings**3.4.1 Troubleshooting**

For the user it is important to distinguish any malfunction or performance levels that differ from the system's standard operating values (see technical specifications). The most common problems can be easily solved by the user by performing certain simple tasks (see the Troubleshooting paragraph), while some system alarms require that you contact an Authorised Service Centre.



⚠ Please keep in mind that any attempt by unauthorised staff to repair the device automatically voids any form of warranty.

3.4.2 Visualisation of alarms on display

⚠ In the event of an alarm, the device still maintains active functions.

⚠ Alarms are indicated on the touchpad by the fixed ⚠ symbol and the alarm code.

Code	Alarm description
Er01	Ambient temperature sensor disconnected or faulty
Er02	Air exchanger temperature error

Code	Alarm description
Er03	Water temperature sensor error at plate heat exchanger outlet
Er04	Plate heat exchanger temperature sensor error
Er05	Faulty internal fan motor
Er06	Source fluid temperature error at plate heat exchanger inlet
Er07	Driver communication error
Er08	Compressor discharge sensor error
Er09	Communication error with remote thermostat
Er10	Condensate level in the bowl too high
CP	CP contact activation
Er12	Driver error
CE	Communication error between main circuit board and display
Er14	No water flow in the plate heat exchanger (loop)
Er16	No refrigerant / 4-way valve malfunction
Er17	Driver parameter error
Er18	Plate heat exchanger fluid flow error
Er21	Inverted plate heat exchanger fluid flow
Er22	Incorrect supply voltage
bL	Key lock
  *	Water inlet temperature > 55 °C or < 6 °C
* flashing	

4. WALL-MOUNTED CONTROL PCZ-EEB749 / PCZ-EFB749

4.1 Interface

4.1.1 Description

LED electronic control panels with touch interface for wall installation allow:

- room temperature control
- management of the main functions of the device
- temperature and humidity measurement
- fan speed regulation

They are fitted with:

- internal memory with data saving even in case of shut-down or power outage

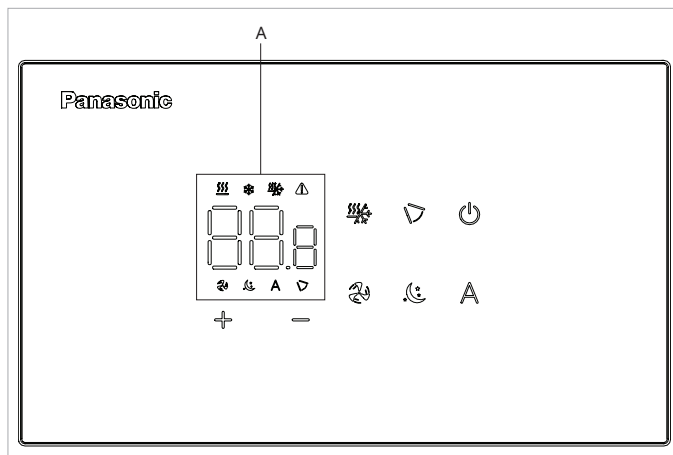
⚠ After 20 seconds after the last action the panel brightness is reduced, only the room temperature is seen on the display.

⚠ The maximum brightness is restored to the pressure of any key.

⚠ For wall control coding PCZ-EFB749, the Aquarea Home App is available.

4.1.2 Display

Status and active alarms on display.



A Display area

88.8 This indicates the setpoint (after 20 seconds it indicates the measured temperature)

⚠ Alarm signalling or function inhibited

⏏ Function not available

⚙ Fixed power adjustment

🔥 Heating / Cooling / Auto-changeover

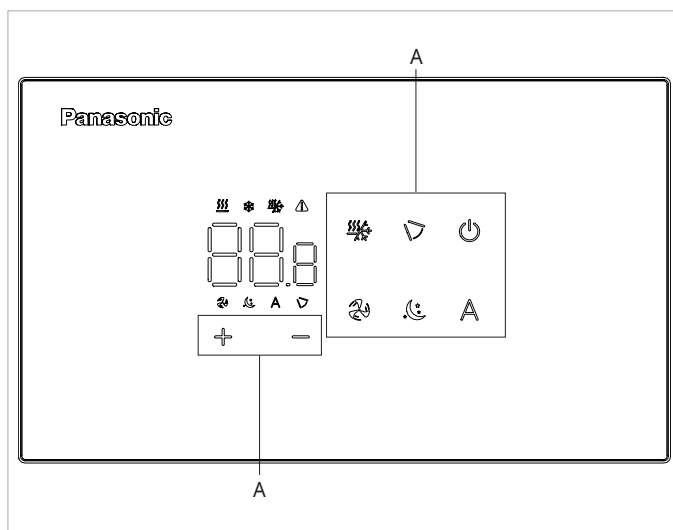
❄ Cooling operating mode active

🔥 Heating operating mode active

A Automatic function active

🌙 Night function active

4.1.3 Keys functions



A Keys area

⬆ Up key

⬇ Down key

⏻ This can be used to switch the unit on or off

⏏ Function not available

⚙ This can be used to select the power level (L1, L2, L3, L4)

🔥 This can be used to select the operating mode (Cooling or Heating) or Autochangeover

A Enables the Automatic function

🌙 Enables the Night function




4.2 Main functions

4.2.1 General start-up

Before the activation:



- ⚠ Make sure that the remote control is connected to the mains.
- ⚠ In case of a master switch on the power supply line, switch on the system by operating the switch.

To switch on the control

- ▶ press and hold  for 3 seconds
The display shows .
- ▶ release 
The display lights up.

4.2.2 Put on stand-by



To put on stand-by

- ▶ press and hold  for 3 seconds
oF appear.
- ▶ release 
The display turns off.

- ⚠ In stand-by mode, the control guarantees antifreeze protection.
- ⚠ In case of temperature <5 °C, the hot water solenoid valve outputs and boiler consent are activated automatically.

4.2.3 Set room temperature



To set-up the temperature

- ▶ operate the   keys to decrease or increase the desired value
The value changes.

- ⚠ The temperature setting range is from 16 °C to 28 °C, with a resolution of 0.5 °C.
- ⚠ Out of range values from 5 °C and 40 °C are allowed, except in automatic mode. These value should be set only for short periods of time.
- ⚠ Setting temperatures too low or too high is detrimental to health and an unnecessary waste of energy.



4.2.4 Heating operation

To select the Heating operation



- ▶ press  for about 2 seconds
The symbol  on indicates the Heating function enable

4.2.5 Cooling Operation

To select the Cooling operation

- ▶ press  for about 2 seconds
The symbol  on indicate the Cooling function enable.



4.2.6 Automatic changeover of heating/cooling operation mode


- ▶ press  until the  symbol appears on the display
*The symbol of the active operating mode appears.
The appliance decides the correct operating mode autonomously.*

- ⚠ Changing from one operation mode to the other involves a waiting time of 40 minutes.

4.2.7 Select the power output level

To adjust the power level



- ▶ press  in sequence
*L1 minimum power level.
L2 average power level.
L3 maximum power level.
L4 booster power level (max. 90 minutes).
When the  symbol is pressed, the letters L1/L2/L3/L4 appear for a few seconds, indicating which ventilation power level the device is at*

- ⚠ Each power level corresponds to a matched ventilation speed.
- ⚠ When the wall control is connected to the appliance, the on-board display shows the ventilation power level via the symbol .

4.2.8 Functioning in automatic mode

- ⚠ The power output level and ventilation speed are adjusted independently according to the temperature difference between the set temperature and the temperature detected in the room.



To select functioning in automatic mode

- ▶ press 
The  symbol on the display indicates that the device is operating in automatic mode.

- ⚠ If automatic adjustment is on, the level and power are automatically selected based on the distance and time to the setpoint.

4.2.9 Functions in night mode




To select the Night function

- ▶ press 
The symbol  on the display indicates that the fan is operating in minimum mode.

- ⚠ This mode of operation maximizes the quietness of the appliance, saving electricity and regulating nighttime well-being.
- ⚠ In this mode the fan is set to minimum speed.

4.2.10 Set the key lock

To set-up the key locking




- ▶ press  and  at the same time for about 3 seconds
Appears .

Pressing any key on the display shows .

- ⚠ All settings are inhibited by the user.
- ⚠ Repeat the sequence to unlock the control.

4.3 Basic menu

To access the basic menu

- ▶ with the display switched on press and hold until the symbol  appears
- ▶ release 
The symbol  appears

To navigate in the menu

- ▶ use the icons  

To select a menu item and to confirm the changes made



- ▶ press the icon 
Confirming the change takes you to the next item.

To exit the menu

- ▶ wait 30 seconds

- ⚠ After a period of 30 seconds from the last action, the display exits the menu.

To switch off the control

- ▶ press and hold  for 3 seconds
of appear.
- ▶ release 
The display turns off.

4.3.1 Menu items

ot: AIR probe offset (air probe setting)

ur: Value read by the R.H. sensor

ut: Probe Offset PT4

uS: Humidity setpoint

uI: Humidity hysteresis

CF: Scale

ub: Buzzer volume






uu: Wi-Fi reset

up: Wi-Fi pairing

- ⚠ Menu items uu and up are visible only on the command with Wi-Fi.

4.3.2 Set AIR probe offset






To set the air probe offset

- ▶ select 
- ▶ press  to change settings
- ▶ increase or decrease the value with the icons  
- ▶ press  to confirm
By default it is set to -2,5°C.
The setting range is from a minimum of -12.0 °C to a maximum of 12.0 °C.

4.3.3 Set probe offset RH






- ⚠ Modify only after real deviations from an actual measurement has been established with professional equipment.

To set the RH probe offset

- ▶ select 
- ▶ press  to change settings
- ▶ increase or decrease the value with the icons  
- ▶ press  to confirm
By default it is set to -2.






4.3.4 Set the 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 is from 20.0% to 90.0%.




4.3.5 Setting the 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 1 (min) to 30 (max).






4.3.6 Scale

To change the temperature unit of measure

- ▶ select 
 - ▶ press  to change settings
 - ▶ select °C or °F
 - ▶ press  to confirm
- By default the temperature unit of measure is ° C.*

4.3.7 Adjusting the volume











To change the volume

- ▶ select 
 - ▶ press  to change settings
 - ▶ increase or decrease the value with the icons  
 - ▶ press  to confirm
- By default it is set to 1.
The volume setting range is from 00 (min) to 03 (max).*

⚠ The volume changes after confirming the modification.











4.3.8 Wi-Fi reset

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

- ▶ select 
 - ▶ press  to change settings
 - ▶ use the   icons in sequence
- Appears  .*
- ▶ press 
 -   appears to reset Wi-Fi credentials.*
 - ▶ press  to confirm
- Credentials have been reset.*

4.3.9 Activate Wi-Fi

To activate Wi-Fi

- ▶ select 
 - ▶ press  to change settings
 - ▶ use the   icons in sequence
- Appears  .*
- ▶ press 
 -   appears to enable Wi-Fi pairing.*
 - ▶ press  to confirm

⚠ The device remains visible on Aquarea Home App for the first 15 minutes after the device is switched on.

4.4 Warnings

⚠ If the control panel is connected to the wall, the machine control can no longer be used.

⚠ The on-board control remains active for alarm display only.

4.4.1 Long period shut-down

For seasonal shutdowns or for long periods:




- ▶ disable the device
- ▶ set the main system switch to "OFF"

⚠ The antifreeze function is not on.

4.4.2 In case of blockage

⚠ This procedure should only be carried out in the event that the control locks and no longer responds to commands.

In case of control blockage

- ▶ press simultaneously  and  for about 10 seconds
-  appears on the display accompanied by a beep.
The device has been reset.*

4.4.3 Alarm display on wall control panel

⚠ Alarm codes are shown on the on-board display. Refer to the "Visualisation of alarms on display" *p. 9* chapter for the complete list.

⚠ In the event of an alarm, the device still maintains active functions.

4.4.4 Touchpad control deactivation

⚠ If the control panel is connected to the wall, the machine control can no longer be used. The RF symbol appears when any button is pressed.

⚠ The on-board control remains active for alarm display only.

5. MAINTENANCE

Routine maintenance is essential to keep the device efficient, safe, and reliable over time.

5.1 Preliminary warnings

⚠ This unit contains fluorinated greenhouse gases covered by the Kyoto Protocol. Maintenance and disposal operations must be carried out by qualified personnel only.

Before each cleaning and maintenance intervention:

- ▶ isolate and lock off the main supply, posting a notice indicating that work is being carried out.
- ▶ wait for the components to cool down in order to avoid any burns

⊖ Carrying out any technical or cleaning work before disconnecting the unit from the power supply is forbidden.

⚠ Make sure that there is no voltage before operating.

⚠ After completing the maintenance work, the unit must be restored its original condition.

⚠ Handle refrigerant with care. Leaking refrigerant can cause freezing.

⚠ Warnings:

- Do not lean or sit on the terminal to avoid damaging the appliance.
- If water leaks from the appliance, switch off the terminal immediately and disconnect the power supply. Then call the nearest service centre.
- The device must not be installed in rooms where there are explosive gases or where there are conditions of humidity and temperature out of the limits defined in the installation manual.

5.1.1 Preliminary warnings for R290

⚠ The unit uses environmentally friendly R290 refrigerant gas, with a Global Warming Potential (GWP) = 3. Do not release R290 gas into the atmosphere.

⚠ R290 refrigerant gas is flammable and odourless.

⚠ Do not place flammable objects (spray cans) within 1 metre of the air outlet.

⚠ All precautions concerning the treatment of the refrigerant must be observed following the regulations in force.

⚠ Avoid proximity to sources of ignition in continuous operation (open flames, gas appliances, electric stoves, lighted cigarettes, etc.).

⚠ If refrigerant gas escapes, ventilate the room abundantly and leave. Call the Authorised Service Centre or professionally qualified personnel as soon as possible and do not intervene on the appliance yourself.

⊖ Smoking in the vicinity of the appliance is prohibited.

⊖ Using a mobile phone near the appliance is prohibited.

⊖ It is forbidden to use means to accelerate the defrosting process or for cleaning other than those recommended.

⚠ Perform the following checks:

- carry out safety checks to ensure that the risk of combustion is minimised
- avoid working in confined spaces
- delimit the area around the workspace
- ensure safe working conditions around the area by controlling flammable material

Leak detection

⊖ The use of combustion fluid detectors, e.g. a halide torch or other detection system using an open flame, is forbidden.

⚠ Follow the instructions below for leak detection:

- use electronic detectors to detect flammable refrigerants
- check that the detectors are properly calibrated before use
- calibration operations must be carried out in an area free from refrigerant
- make sure that the detector is not a potential source of combustion and that it is suitable for the refrigerant used
- all open flames must be removed if a leak is suspected
- in the event of a leak requiring brazing, it is mandatory to recover all the refrigerant from the system or isolate it (by means of shut-off valves) in a part of the system away from the leak

⚠ The use of silicone sealant may affect the effectiveness of some types of leak detectors.

5.2 Once-a-year 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.

5.2.1 Routine maintenance of the unit

Hydraulic circuit

Check:

- water circuit filling
- hydraulic circuit filter cleanness
- safety device control
- absence of air in the circuit
- that the water flow rate to the heat exchangers is always constant
- the glycol percentage, if any is present

Electric circuit

Check:

- electrical supply voltage
- electric draw
- tightness of connections
- that there is no damage or excessive wear on the electrical cables
- the seals and sealing materials have not deteriorated to such an extent that they are no longer suitable for preventing the development of flammable atmospheres inside
- correct fixing of the cable clamps
- safety devices

Mechanical checks

Check:

- the tightness of the screws, the compressors and the electrical box and the external panelling of the unit
- the conditions of the structure

⚠ Poor fastenings cause abnormal noises and vibrations.

⚠ Treat any rusty parts with paints suitable to eliminate or reduce the rust.

Cleaning

- clean the air heat exchanger coil
- clean the condensate drip tray
- clean cosmetic covering elements

⚠ Use brushes or tools that do not involve risks of perforating the exchangers or igniting flames to clean the exchangers.

Refrigeration checks

Make sure that:

- the marking on the equipment must remain visible and legible. Illegible markings and graphics must be corrected
- the thermodynamic values are within the nominal parameters

The company responsible for maintenance must keep a logbook in which the following information is recorded:

- the technician who performed the maintenance or repair,
- the dates and results of the checks,
- the quantity and type of fluorinated gas used,
- any quantities added or recovered during servicing, repair or final disposal.

⚠ Filling the refrigeration circuit with a refrigerant other than the one indicated is forbidden. Using a different refrigerant gas can cause serious damage to the unit.

5.2.2 Cleaning the filters

Clean the air filter after a period of continuous use and according to the concentration of impurities in the air, or when you wish to start-up the appliance after a period of inactivity.

⚠ The filter is located in the bottom part of the appliance.

⚠ Wait for the components to cool down in order to avoid any burns.

⚠ Pay attention to the sharp edges.

To remove the filter:

- ▶ Push up the plastic tabs on the bottom of the filter
- ▶ Unhook the filter from its housing
- ▶ remove the filter by pulling it downwards

To reassemble the filter:

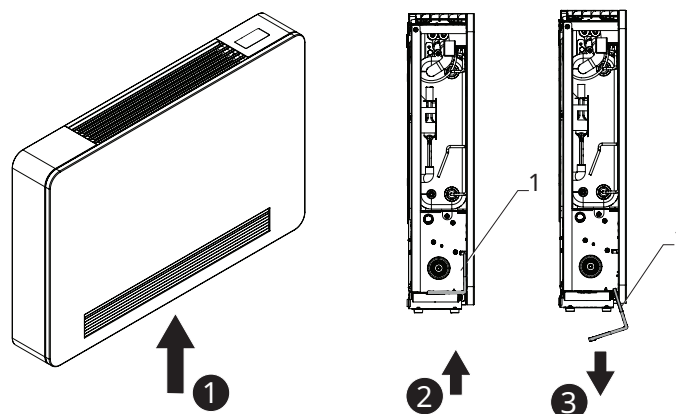
- ▶ proceed in reverse order

⚠ Check that the filter is fitted correctly.

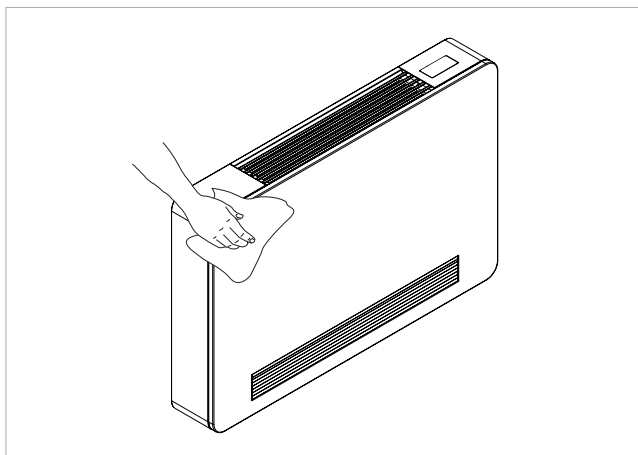
⊖ It is forbidden to use the device without its mesh filter.

⚠ Do not use detergents or solvents.

1. Filter



5.2.3 External cleaning



Clean the external surfaces with a soft damp cloth.

- ⚠ Disconnect the unit from the power supply before each cleaning and maintenance intervention by setting the main power supply switch to off.
- ⚠ Do not use abrasive sponges, or abrasive or corrosive detergents, as you might damage the painted surfaces.

5.3 Suggestions for energy saving

For a correct operation of the device and a greater energy saving:

- keep the filters clean
- keep the doors and windows of the locations fitted with air conditioning systems closed as much as possible
- during summer limit the entry of direct sun rays into the rooms to be air-conditioned by means of external screens (projections, curtains, shutters, etc.)

6. TROUBLESHOOTING

6.1 Troubleshooting table


In the even of a malfunction, please refer to the following table. If, after performing the suggested checks, the prob-

lem is not solved, please contact the Authorised Technical Assistance.

Anomalies	Possible causes	Remedies
The appliance doesn't switch on	No power supply	Check there is power supply (by turning a light on, for example).
		Check that the thermal-magnetic circuit breaker used exclusively to protect the appliance has not been tripped (if it has, reset it). If the problem repeats immediately, please call the Service Centre and avoid trying to make the appliance work.
The appliance does not cool/heat adequately.	The temperature set is too high or too low.	Check and, if necessary, adjust the temperature setting on the remote control
	The air filter is clogged	Check the air filter and clean it if necessary
	Check that there are no obstructions for air flow inside.	Remove anything that might block the air flow.
	The heating and cooling load has increased (for example, a door or a window has been left open or an appliance has been installed in the room which generates a lot of heat).	Try to reduce the heating and cooling load of the room following instructions below: Cover large windows exposed to sunlight with curtains or with external maskings (blinds, porches, reflecting films, etc.); The air conditioned room must remain closed for as long as possible; Avoid turning on halogen lamps or other high energy consumption appliances such as small ovens, steam irons, hot plates etc.).

6.2 Visualisation of alarms on display


⚠ In the event of an alarm, the device still maintains active functions.

⚠ A flashing  symbol and alarm code are displayed on the touchpad to indicate alarms.

Code	Alarm description	Solution
Er01	Ambient temperature sensor disconnected or faulty	If the alarm does not automatically reset, disconnect and reconnect the power supply. If the alarm does not reset, contact the Authorised Service Centre.
Er02	Air heat exchanger temperature sensor error	If the alarm does not automatically reset, disconnect and reconnect the power supply. If the alarm does not reset, contact the Authorised Service Centre.
Er03	Water temperature sensor error at plate heat exchanger outlet	If the alarm does not automatically reset, disconnect and reconnect the power supply. If the alarm does not reset, contact the Authorised Service Centre.
Er04	Plate heat exchanger temperature sensor error	If the alarm does not automatically reset, disconnect and reconnect the power supply. If the alarm does not reset, contact the Authorised Service Centre.
Er05	Faulty internal fan motor	Check that the filter is fitted correctly. Disconnect and restore power to the appliance. If the malfunction persists, contact the Authorised Service Centre.
Er06	Water temperature sensor error at plate heat exchanger inlet	If the alarm does not automatically reset, disconnect and reconnect the power supply. If the alarm does not reset, contact the Authorised Service Centre.
Er07	Driver communication error	Disconnect and restore power to the appliance. If the malfunction persists, contact the Authorised Service Centre.
Er08	Compressor discharge sensor error	If the alarm does not automatically reset, disconnect and reconnect the power supply. If the alarm does not reset, contact the Authorised Service Centre.
Er09	Communication error with remote thermostat	Check that thermostat is switched on and that the set functions are activated on the appliance. Otherwise, contact the Authorised Service Centre.
Er10	Condensate level in the bowl too high	The condensate drain is not functioning properly, contact the Authorised Service Centre.
CP	CP contact activation	Open contact. The appliance only switches on when the contact is closed, check the terminal connection.
Er12	Driver error	Disconnect and restore power to the appliance. If the malfunction persists, contact the Authorised Service Centre.
CE	Communication error between main circuit board and display	You cannot see the function on the display, please contact the Authorised Service Centre.
Er14	No water flow in the plate heat exchanger (loop)	Check hydraulic pressure and correct circulation. If the malfunction persists, contact the Authorised Service Centre.
Er16	No refrigerant / 4-way valve malfunction	Disconnect and restore power to the appliance. If the malfunction persists, contact the Authorised Service Centre.
Er17	Driver parameter error	Disconnect and restore power to the appliance. If the malfunction persists, contact the Authorised Service Centre.
Er18	Plate heat exchanger fluid flow error	Disconnect and restore power to the appliance. If the malfunction persists, contact the Authorised Service Centre.
Er21	Inverted plate heat exchanger fluid flow	Operation of the appliance is still guaranteed. Contact the installer and reverse the pipes.
Er22	Incorrect supply voltage	Disconnect and restore power to the appliance. If the malfunction persists, contact the Authorised Service Centre.
BL	Key lock	To unlock the display, press simultaneously  for 3 seconds.
	Water inlet temperature > 55 °C or < 6 °C	Check for proper water circulation in the appliance, the opening of any zone valves and the operation (and consistent hot/cold setting) of the heat pump.
* flashing		

6.3 Troubleshooting

For the user it is important to distinguish any malfunction or performance levels that differ from the system's standard operating values (see technical specifications). The most common problems can be easily solved by the user by performing certain simple tasks (see the Troubleshooting paragraph), while some system alarms require that you contact an Authorised Service Centre.

 Please keep in mind that any attempt by unauthorised staff to repair the device automatically voids any form of warranty.


6.3.1 Functional aspects not to be interpreted as faults


- The compressor restarts 3 minutes after the last stop. This delay protects the compressor from too frequent activations.
- During Heating operation, air output may be delayed a few minutes after compressor activation. This delay prevents the possible delivery of cold air by allowing the unit to run at capacity and deliver warm air into the room.


6.3.2 Open CP contact


If the CP contact is not closed, the device does not start and the CP alarm appears on the display.

6.4 Use of the appliance

 Objects or structural obstacles (furniture, curtains, plants, leaves, blinds, etc.) must not obstruct the normal air flow both from the internal and from the external grids.

 In the event of water leaks, turn off the appliance and disconnect the electric power supply. Call the nearest service centre.

 The appliance must not be installed in rooms where explosive gases develop or where there are humidity and temperature conditions that exceed the maximum levels reported on the installation manual.

 Clean the air filter regularly as described in the specific paragraph.

7. TECHNICAL INFORMATION

7.1 Operating limits

Limits of operation of the control

	u.d.m.	Heating	Cooling
Minimum room relative humidity	%	15	15
Maximum room relative humidity	%	80	80
Minimum room air temperature	°C	-10	-10
Maximum room air temperature	°C	50	50

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