

USER'S GUIDE

CLIMASTAR
silicium technology



SILICIUM HYBRID INVERTER

We would first of all like to thank you for having chosen one of our products and congratulate you on your choice of air conditioning unit. 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 air conditioning unit that you have purchased will operate without problems giving you optimum room temperatures with minimum energy costs.

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1. GENERAL

1.1. General Warnings



Please, read carefully this guide before installing the device.



These instructions are an integral part of the booklet of the device on which the kit will be installed. Refer to the booklet for general warnings and fundamental safety rules.



This manual is dedicated exclusively for the qualified, authorized installation technician who must be adequately trained and possess all the necessary psychophysical requirements requested by law.

All the operations must be performed with care and good workmanship in compliance with the safety at work regulations in force.



After unpacking, make sure that all the components are present. If not, contact the agent who sold the appliance to you



It is forbidden to modify the safety or adjustment devices or adjust without authorization and indications of the manufacturer.



It is forbidden to dispose of, or leave in the reach of children, the packaging materials which could become a source of danger



All repair or maintenance interventions must be performed by the technical service department 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

2. USER INSTRUCTIONS

2.1. Electronic control panel with modulation speed

This control makes the room temperature adjustment completely autonomous (with adjustable offset via keyboard) through 4 speeds by means of a probe located in the lower side of the device ensuring antifreeze safety even set to stand-by.

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

 After 20 seconds from the last action the panel brightness will be reduced to increase the comfort during night use and on the display will appear the room temperature. Press any key to restore maximum brightness.

- The 10 kΩ water temperature probe located in the device battery can manage the minimum in heating (30 °C) and Maximum in cooling (20 °C) functions.



2.2. Display

Display also shows status and eventual alarms through 8 specific symbols:

| | |
|---|---------------------------|
| A | Automatic operation |
|  | Silent operation |
|  | Maximum ventilation speed |
|  | Night function |
|  | Heating on |

| | |
|---|---|
|  | Cooling on |
|  | Alarm indication (light on). |
|  | Panel off indication |
|  | Indication enabled resistance (flashing lights) |
|  | Indication active resistance (light on) |

2.3. Key function

Several functions are set with the 8 backlit keys:

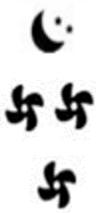
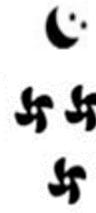
| | | | |
|---|--|---|--|
| + | Temp + allows to increase set temperature |  | Night function : ventilation speed is limited to a very contained value, and the set temperature is automatically changed. |
| - | Temp - allows to decrease set temperature |  | Max: allows to set the maximum ventilation speed. |
|  | Heating / Cooling : allows to switch operation mode between heating and cooling. |  | ON/Stand-By: Allows to activate the device or to put it in standby. |
| Auto | Makes ventilation speed adjustment completely automatic between a minimum and maximum value. |  | Silent : allows to limit the ventilation speed to a more contained maximum value |

2.4. General switch on

- To manage the device through the control panel, the device cord and plug must be connected to a mains socket.
- Please be sure that the general switch of the mains supply line is in ON position.
- Switch on the device with the main switch.

2.5. Activation

- To activate the device:

| KEY | OPERATION | DISPLAY |
|--|--|--|
|  | Press ON standby. | The display lights up |
| Auto  | Select one of the 4 operation modes by pressing the relative key | Auto  |

2.6. Heating / cooling operation mode.

| KEY | OPERATION | DISPLAY |
|---|--|---|
|  | Keep Heating / Cooling pressed down for about 2 seconds to switch the operation mode between heating and cooling, shown through the 2 active heating or active cooling symbols which appear. |   |
|  | When heating, the symbol is switched on when the set point is higher than the environment temperature; they are both switched off when the set point is lower. |  |
|  | When cooling, the symbol is switched on when the set point is lower than the environment temperature; they are both switched off when the set point is higher. |  |

If one of the 2 symbols flashes, it means that the water temperature (hot or cold) is not satisfactory, and the fan will remain stop until the water reaches the minimum requested temperature.



After powering the device, the board detects the H2 probe and the start-up will take place under normal conditions with minimum and maximum thresholds.

If water temperature does not reach a suitable value for the requested operation within 10 minutes, the command will be blocked and E5 alarm indicator symbol appears. Unlocking will be done automatically after 45 minutes, or manually by pressing any of the 8 keys.

The board can also operate without a H2 probe, if water temperature is not the adequate thresholds will be ignored

2.7. Stand by

| Key | Operation | Display |
|---|---|----------------|
|  | Press the ON stand-by for about 2 s: When the device is in "stand-by" status (no function) there are no light signals on the display. | From on to off |

When the control is in this operating mode, the frost protection mode is set up. If the room temperature drops below 5°C the solenoid valve output activates.

2.8. Temperature selection

| Key | Operation | Display |
|-------|--|---|
| + / - | Use these keys to set the desired room temperature value on the 3 digit display. |  |

The adjustment range goes from 16 to 28 °C, with 0.5°C accuracy. Temperature values from 5°C to 40°C are also possible but only for short periods of time, after that, temperature should be adjusted to the intermediate values.

2.9. Automatic function

Temperature has to be set as per previous information and then activate the Auto function.

| Key | Operation | Display |
|------|--|----------|
| Auto | Keep the AUTO key pressed. Activation of the function is indicated by the symbol appearing on the display. | A |

Fan speed and solenoid water valves will adjust automatically in a step by step process according to both real temperature and set temperature, all based on a PID algorithm.

2.10. Fan speed adjustment

| Key | Operation | Display |
|---|---|---|
|  | Keep any of the two keys pressed. Activation of the function is indicated by the symbol appearing on the display. |  |

By setting the maximum speed you will immediately reach the set temperature. After that you should select any of the other 3 operating modes (Auto, night, minimum) to increase the thermal and acoustic comfort. In "minimum", the number of rotations of the fan will be limited both in heating and in cooling

2.11. Night function

| Key | Operation | Display |
|---|--|---|
|  | Keep the Night operation key pressed. Activation of the function is indicated by the relative symbol appearing on the display. |  |

By selection this operation mode, the ventilation speed is limited to a very contained value. Set temperature will be modified too:

- It will decrease 1 °C after one-hour performance and another additional degree after 2 hours in heating function;
- It will increase 1 °C after one-hour performance and another additional degree after 2 hours in cooling function.

2.12. Key lock

| Key | Operation | Display |
|---|--|---------|
|  | Press both keys + and - at the same time for 3 seconds to activate the local lock up of all keys, the confirmation is represented by the text bL appearing on the display. | bL |
|  | The user will not be able to perform any adjustment and the text bL appears every time a key is pressed. Repeat the sequence to unlock the keys. | |

2.13. Decreasing minimum brightness

After 20 seconds from the last action the panel brightness will be reduced to increase the comfort during night use and on the display will appear only the room temperature.

If this level of brightness still bothers you, display can be completely turned off.

| Key | Operation | Display |
|---|--|---------|
|  | With the panel off press the + key for 5 seconds until the text 01 appears on the display. Use the - key to bring the value to 00 and wait 20 seconds to check for the correct setting. | 00.0 |

2.14. Deactivation. Stand-by mode.

| Key | Operation | Display |
|---|---|----------------|
|  | Press the ON stand-by for about 2 s: When the device is in "stand-by" status (no function) there are no light signals on the display. | From on to off |



Frost protection function is automatically set up in stand-by mode.

When you turn off the heating element, fan will still remain for 30 seconds.

2.15. Heating element

| Key | Operation | Display |
|---|--|---|
|  | Keep the ON standby key pressed for about 2 seconds. The lack of any light indicators from the display indicates "standby" status (no function). | Display is OFF |
|  | Keep the Night operation key pressed. Activation of the function is indicated by the relative symbol appearing on the display. |  |
|  | Keep the key + pressed to activate the heating elements |  |
|  | Keep the key - pressed to disable the heating elements | Display is OFF |

2.16. Room temperature sensor adjustment

In some cases, detected values might not represent the real temperature due to the fact that the temperature sensor is located in the lower part of the device.

Use this function to adjust the measured value shown on the display within a range of +/- 10°C in 0.1°C steps.

Use this adjustment carefully and only after having found actual deviations from the room temperature using a reliable tool.

| Key | Operation | Display |
|---|--|---------|
|  | With the panel off hold the - key for 5 seconds to access the menu from which you can adjust (using the + and - keys) from -10 to +10 K in 0.1 K steps the offset of the AIR probe displayed on the screen. After 20 seconds from the last action performed the panel turns off and the setting is saved. | 00.0 |

2.17. Long term shut-down.

For seasonal shut-downs or holidays proceed as follows:

- Disable the device.
- Set the main system switch to OFF position.
-  - Frost protection mode will not be set up.
- When you turn off the heating element, fan will still remain for 30 seconds.

2.18. Error signals on display.

| Error | Display |
|---|---------|
| Failure on room temperature sensor | ⚠ E1 |
| Failure on fan motor, due to external particle or rotation sensor | ⚠ E2 |
| Failure on water temperature sensor (H2), check sensor has 10kΩ | ⚠ E3 |
| Failure in heating element (overheat). Automatic rearm < 35°C | ⚠ E4 |
| Failure in heating element, (H4) blocked or not connected. | ⚠ E5 |
| S1 grill microswitch activated due to filter cleaning | ⚠ Gr |

3. MAINTENANCE

Periodic maintenance is essential to keep Hybrid INV always efficient, and safe over time. These operations can be carried out every six months or annually by the Technical Assistance Service, who is technically qualified and prepared and has the necessary original spare parts.

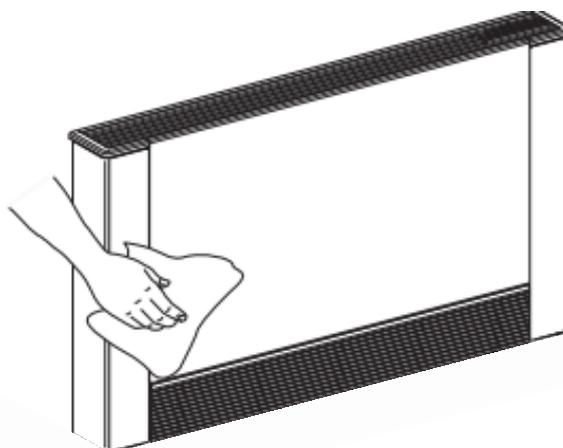
3.1. Cleaning the outside

-Before every cleaning and maintenance intervention, disconnect the appliance from the mains by switching off the master switch.

-Wait until the parts have cooled down to avoid the risk of burns.

-Do not use abrasive sponges or abrasive or corrosive detergents to avoid damaging the painted surfaces.

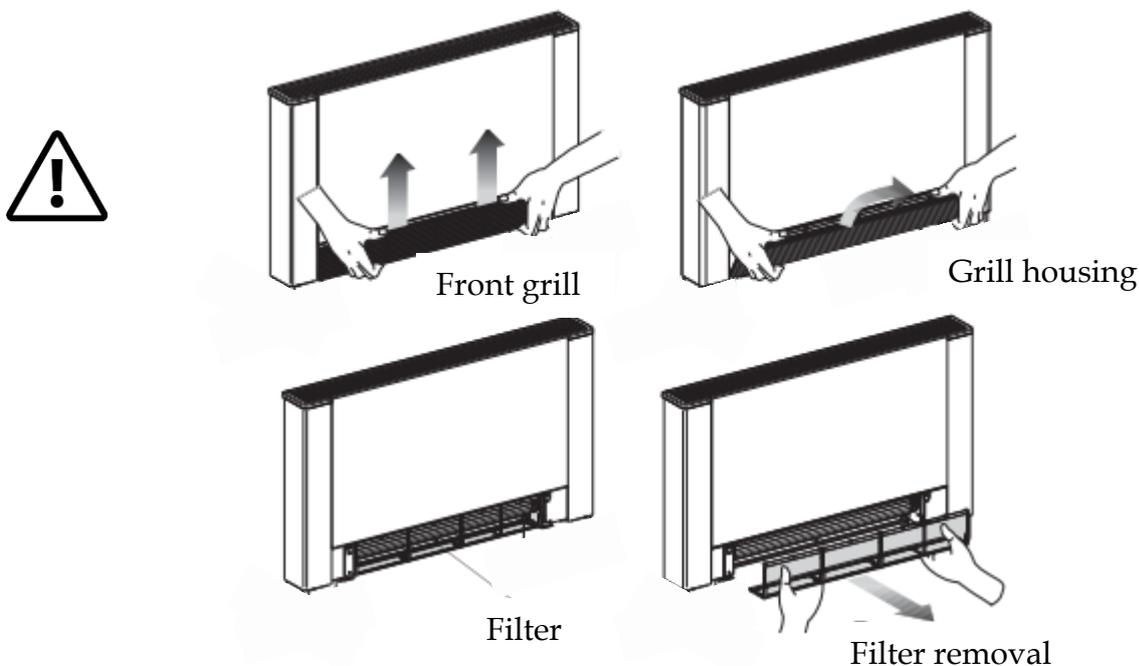
-When necessary, clean the outer surfaces of the Hybrid Inverter with a soft damp cloth.



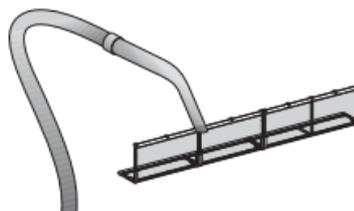
3.2.Cleaning the air suction filter

After a period of continuous operation and in consideration of the concentration of impurities in the air, or when re-starting the performance after a period of inactivity, proceed as described below:

- Extract the front grill by lifting it slightly and turn it until it comes right out of its sea
- Extract the filter, pulling it horizontally outwards.

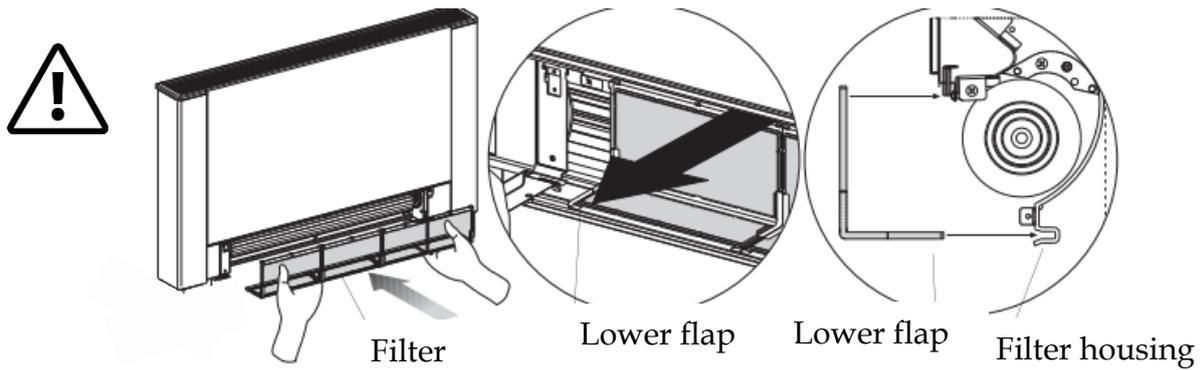


- Remove the dust from the filter using a vacuum cleaner



- Wash the filter with running water without using any detergents or solvents and then let it dry.

- Remount the filter on the cooler-radiator, paying particular attention to introduce the lower flap in its housing.



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

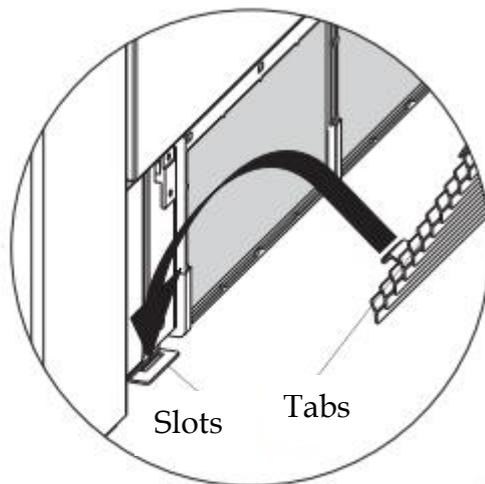


The device is fitted with a safety switch that prevents the fan from starting if the mobile panel is incorrectly positioned or missing. (⚠ Gr on display).



After filter cleaning check if the panel is properly mounted.

To finish insert the two tabs in the appropriate slots, turn them and hook them giving them a slight hit on the top.



Recommendations:

- Always keep the filters clean;
- Keep the doors and windows in the rooms fitted with air conditioning systems closed as much as possible.
- During summer limit as much as possible the entry of direct sun rays in the rooms fitted with air conditioning systems (use curtains, blinds, etc.)

4. TROUBLESHOOTING



In case of water leaks or anomalous functioning immediately cut off the power supply and close the water taps.



Should one of the following anomalies occur, contact an authorized service center or an authorized qualified person, but do not intervene personally:

- The ventilation does not activate even if there is hot or cold water in the hydraulic circuit.
- The appliance is leaking water in heating mode.
- The appliance is leaking water in cooling mode.
- The appliance makes an excessive noise.
- There is dew on the front panel.

Table of anomalies and remedies

The interventions must be carried out by a qualified installer or by a specialized service center.

| Effect | Cause | Remedy |
|--|---|---|
| A delayed activation of the ventilation respect to the new temperature or function settings. | The circuit valve needs some time to open and as a result the hot or cold water takes time to circulate in the appliance. | Wait for 2 or 3 minutes to open the circuit valve. |
| The appliance does not activate the ventilation. | No hot or cold water in the system. | Check that the water boiler or cooler are functioning correctly. |
| The ventilation does not activate even if there is hot or cold water in the hydraulic circuit. | The hydraulic valve remains closed. | Dismount the valve body and check if the water circulation is restored. |
| | | Check the working efficiency of the valve by powering it separately with 230V. If it activates the problem could be the electronic control. |
| | The fan motor is blocked or burnt out. | Check the windings of the motor and the free rotation of the fan. |
| | The micro-switch that stops the ventilation when the filter grill is opened does not close correctly. | Check that by closing the grill the micro-switch contact is activated. |
| | The electrical connections are not correct. | Check the electrical connections. |

| Effect | Cause | Remedy |
|---|--|--|
| The appliance leaks water during the heating function. | Leaks in the hydraulic connections of the system. | Check the leak and fully tighten the connections. |
| There are formations of dew on the front panel. | Leaks in the valve unit. | Check the state of the gaskets. |
| There are drops of water on the air outlet grill. | In situations of high humidity (>60%) condensation could form, especially at the minimum ventilation speeds. | As soon as the humidity starts falling the phenomenon disappears. In any case the presence of a few drops of water in the appliance does not indicate a malfunction. |
| The appliance leaks water only during the cooling function. | The condensation bowl is blocked. | Slowly pour a bottle of water in the low part of the battery to check the drainage; if necessary, clean the bowl and/or increase the inclination of the drainage pipe. |
| | The condensation discharge does not need an inclination for correct drainage. | |
| | The connection pipes and the valve unit are not insulated well. | Check the insulation of the pipes. |
| The appliance makes a strange noise. | The fan touches the structure. | Check the clogging of filters and clean them if necessary |
| | The fan is unbalanced. | The unbalancing causes excessive vibrations of the machine; replace the fan. |
| | Check the clogging of filters and clean them if necessary | Clean the filters |

5. GUARANTEE

CLIMASTAR guarantees that in the moment of its purchase the product is free of any defect in the materials and in the work force (limited guarantee). CLIMASTAR offers a commercial and voluntary guarantee; conditions included are similar to those of the legal guarantee, being CLIMASTAR responsible for the non-conformities arisen in the terms and conditions mentioned below. Moreover, CLIMASTAR offers a total warranty of 2 years in the spare parts.

- CLIMASTAR is responsible for the non-conformities arisen within the 6 months following the date of sale. If the non-conformity arises after those 6 months, the user shall prove that the non-conformity already existed when delivered. The user must inform CLIMASTAR of said non-conformity in a period inferior to two months.
- To obtain the service under the terms of this warranty it is important to detail the device's purchasing date because the warranty period starts with the purchase invoice of the system customer. However, in no case this warranty will be liable for defects that may arise after thirty-six months from the manufacture date.
- This warranty is strictly limited to the repairing in the factory of the manufacturing defect part or parts of the device, or to the complete replacement of the system when, in the opinion of the manufacturer, it is not possible or is uneconomical. This does not include any other type of expenditure as an installation, assembly, disassembly or transport.
- This warranty does not cover defects and / or malfunction caused by accidents, misuse, negligence, wears, breakage, an incorrect installation and poor electricity supply to the system. This warranty is also excluded if it is used with another purpose other than heating, for an alteration, modification, tampering or unauthorized repairing of the product, and by other different causes beyond the manufacturer's reach after the delivery of the product.
- The warranty does not cover the costs and expenses incurred to access the device or installation, such as in hidden locations, heights, non-practicable ceilings. Neither does it include the costs derived from removing or replacing any structural element to access the device or the installation.
- No heating system will be returned to CLIMASTAR without a previous codified and official MERCHANDISE RETURN AUTHORIZATION. CLIMASTAR assumes no liability for any equipment that is returned without the previously mentioned MERCHANDISE RETURN AUTHORIZATION.
- CLIMASTAR and/or its agents have the right to decide whether to replace the system or to repair the damaged components. None of these options will extend the original warranty period.
- Any reparation must be done by the Technical Service and authorized by the manufacturer and/ or any of its agents; any manipulation done by unauthorized personal will void this warranty. In case of substitution of the device the buyer must go to the selling center which will be in charge of receiving the system.
- RESPONSIBILITY LIMITATION: CLIMASTAR as a manufacturer is not responsible for any personal or material damage that directly or indirectly might result of a non-proper installation, from an improper handling or neither for the lack of technical qualified staff, nor for the installation costs which are expressly excluded from this warranty.
- None of the present conditions may be extended or modified without the express consent of CLIMASTAR.

CLIMASTAR

silicium technology

CLIMASTAR GLOBAL COMPANY S.L.

Carretera AS-266 OVIEDO-PORCEYO/ Km.7 Pruvia

33192 - Llanera (Asturias)- SPAIN

Tel: +34 985 66 80 80 / Fax: +34 985 264 751

www.climastar.es



CARDBOARD PACKAGING CAN BE RECYCLED



DO NOT PLACE THE ELECTRICAL ITEM IN
THE GENERAL WASTE (IT SHOULD BE TAKEN
TO A LOCAL RECYCLING CENTRE).