JONIX
pure living

JONIX steel

USE AND MAINTENANCE MANUAL

AIR PURIFICATION DEVICE
WITH ADVANCED COLD PLASMA TECHNOLOGY

These instructions are translated from Italian (the original language).

TABLE OF CONTENTS

Thank you purchasing the JONIX steel device.

This manual contains information and what is deemed necessary for transporting, installing, using and maintaining the JONIX steel sanitation module.

Improper installation of the device and/or failure to comply with the instructions in this manual, may invalidate the warranty that the Manufacturer issues for its products.

The Manufacturer is not liable for any direct and/or indirect damage caused by incorrect installation or damage caused by the units installed by inexperienced and/or unauthorised staff. At the time of purchase, check that the device is intact and complete.

The Manufacturer declines any liability in case of personal injury or property damage resulting from any improper use of the device or from the failure to observe the use and safety instructions specified in this manual. In any such case, any warranty claim will be void.

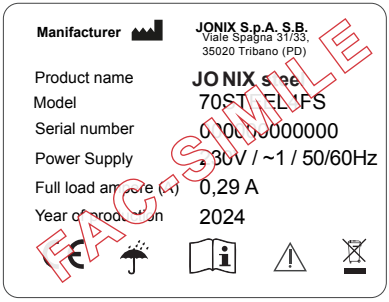
Any complaints must be submitted in writing within **8 days** of receiving the goods.

For more information, download of the manual or video tutorial, we invite you to visit www.jonixair.com.

1 - GENERAL INFORMATION

1.1 SERIAL NUMBER PLATE

The equipment described in this manual is provided with a plate containing the equipment and Manufacturer data:



The ionisation module for professional environments JONIX steel is in compliance with Directives 2006/42/CE, 2011/65/UE, 2014/30/UE, 2014/35/UE and subsequent amendments.

IMPORTANT WARNING

The JONIX steel device is designed and made to sanitise the air in environments that are incompatible with toxic and flammable gases. It is therefore strictly forbidden to use the device in environments where the air is mixed with and/or altered by other gaseous compounds and/or solid particles. Using the device for purposes other than those intended and that do not comply with those described in this manual, will immediately relieve the manufacturer and its distributors from any direct and/or indirect liability.

1.2 LIABILITY

Failure to comply with the instructions contained in this Use and Maintenance Manual releases JONIX S.p.A. from any liability. For any data not included or not deducible from the following pages it is recommended to consult JONIX S.p.A. directly.

JONIX S.p.A. Benefit Corporation
Viale Spagna 31/33
35020 Tribano - PD - Italy
http://www.jonixair.com

In particular, if the maintenance of the device is carried out in a manner that does not comply with the instructions provided, or in any case in such a way as to compromise its integrity or modify its characteristics, JONIX S.p.A. will be relieved of any responsibility regarding the safety of persons, property, animals and the faulty operation of the devices.

1.3 SYMBOLS

Please pay utmost attention to the following symbols and their meaning. They emphasise specific information, such as:

WARNING: It refers to integrations or suggestions concerning the proper use of the device.

HAZARD: It refers to dangerous situations that may result from the use of the device, in order to ensure personal safety.

FORBIDDEN: This symbol refers to operations that must be avoided under any circumstances, and hence forbidden.

HIGH VOLTAGE HAZARD!
Do not open or remove any doors or protections before disconnecting the voltage supply.

WARNING!
It is mandatory to use protective gloves.

WASTE FROM ELECTRICAL AND ELECTRONIC EQUIPMENT.
The crossed-out wheelie bin symbol on the equipment label indicates that the equipment is compliant with the Waste Electrical and Electronic Equipment (WEEE) Directive. Disposing of the equipment freely in the environment or illegally disposing of the equipment are punishable by law.

2 - WARNINGS AND GENERAL PROHIBITIONS

This instruction manual is an integral part of the device and therefore must be kept carefully and must ALWAYS accompany the device, even in the event that it is sold to another owner or user or transferred to another facility. In the event that it is damaged or lost contact JONIX S.p.A. for another copy or download the document from the QR code on the device.

Repairs and maintenance work must be carried out by JONIX S.p.A. authorised staff or by qualified staff according to the provisions set out by this manual. Do not alter or tamper with the device as it can lead to hazards and the manufacturer of the device shall not be liable for any damage caused.

After removing the packaging check that the contents are intact and complete. In the event of a noncompliance please contact the Company that sold you the device.

When installing, commissioning and operating this product, it is mandatory to observe the requirements and instructions specified in this manual.

JONIX S.p.A. **disclaims any liability for damage caused to people, animals or property due to installation, adjustment and maintenance errors or by improper use.**

Please note that the use of products that require electricity, involves the observance of some crucial safety rules such as:

This device is not intended for use by people (including children) with reduced physical, mental or sensory capabilities or without experience and knowledge, unless they are supervised or are given instructions to use the appliance by a person responsible for their safety. Take suitable precautions to prevent children from playing with the device.

Do not touch the device if you are barefoot and with parts of the body that are wet or damp.

Do not carry out any maintenance or cleaning operations without having first disconnected the device from the mains, by turning the main system switch to "OFF".

Do not alter the safety or adjustment devices without prior authorisation and instructions from the manufacturer of the device.

Do not pull, detach or twist the electrical wires coming out of the device, even when it is disconnected from the mains.

Do not stand, sit and/or rest any type of object on the device.

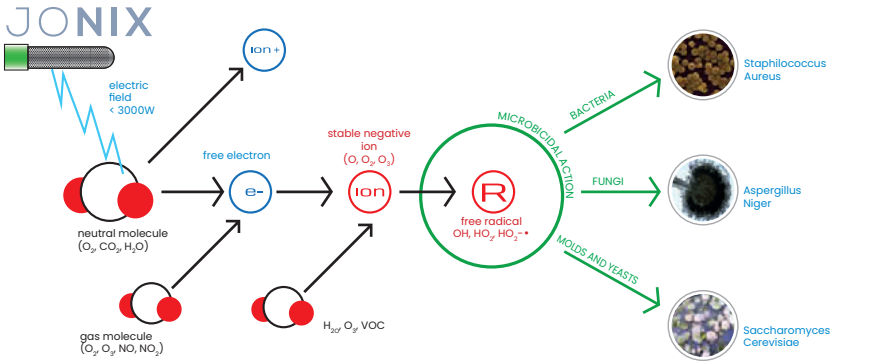
Do not spray or throw water or other liquids directly onto the device.

Do not open the panels for accessing the internal parts of the device without having first turned the system switch to "OFF".

Not dispose of or leave the packaging materials within reach of children because it can be potentially dangerous.

3 - THE OPERATING SYSTEM

This sanitization device, by exploiting the physical process of ionisation, promotes the controlled formation of particular ionic species (electrically charged species) in the air, through an electrostatic field that simulates the natural process that normally occurs through solar radiation, mechanically or by means of other physical phenomena.
The particular ionic species produced have proved to be particularly effective as sanitizing agents in the air and on surfaces, moreover are historically and scientifically proven to be beneficial in people, especially those with a negative electrical charge (arising from individual or small groups of molecules that receive an electron).



JONIX steel device:

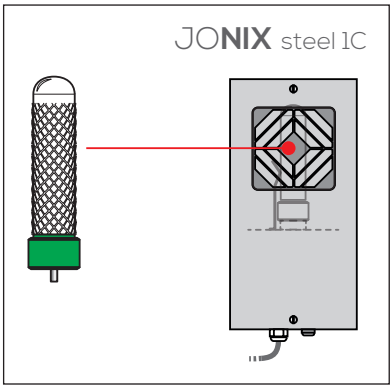
- **reduces and eliminates continuously the bacterial load in a given ambient air and on the surfaces of indoor areas;**
- **constantly decomposes Volatile Organic Compounds (VOC);**
- **eliminates odours;**
- **is compatible with environments that require on-going monitoring of air contamination.**

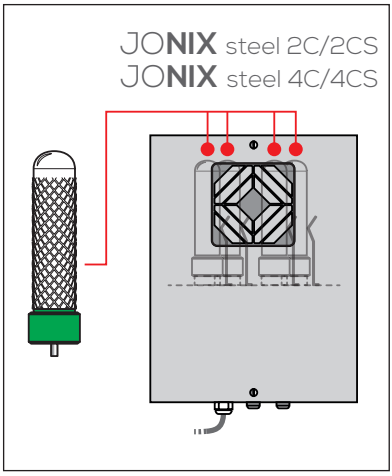
Use:

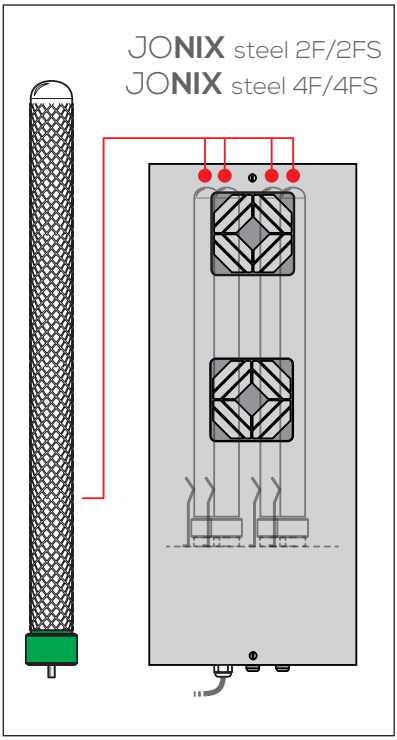
- **veterinary sector: waiting rooms, patients' rooms, infectious diseases ward, surgical rooms.**
- **food sector: cold storage cells, working areas, packaging areas, blast chilling cells.**

The device has a safety switch, positioned in such a way that when the protection cover (also accidental) is opened, the power supply to the ionizing units and the fan is removed.

JONIX steel sanitizing activity is compatible with human presence.

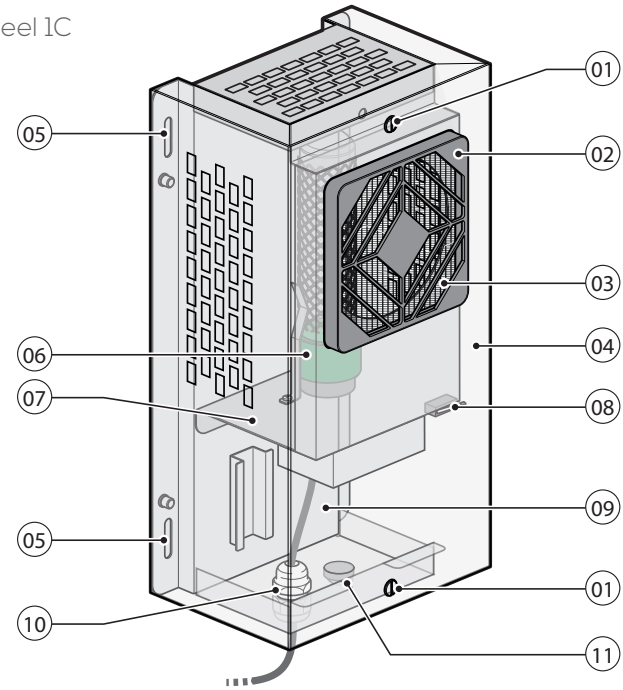






4 - TECHNICAL DATA

JONIX steel 1C



4.1 COMPONENT DESCRIPTION JONIX steel 1C

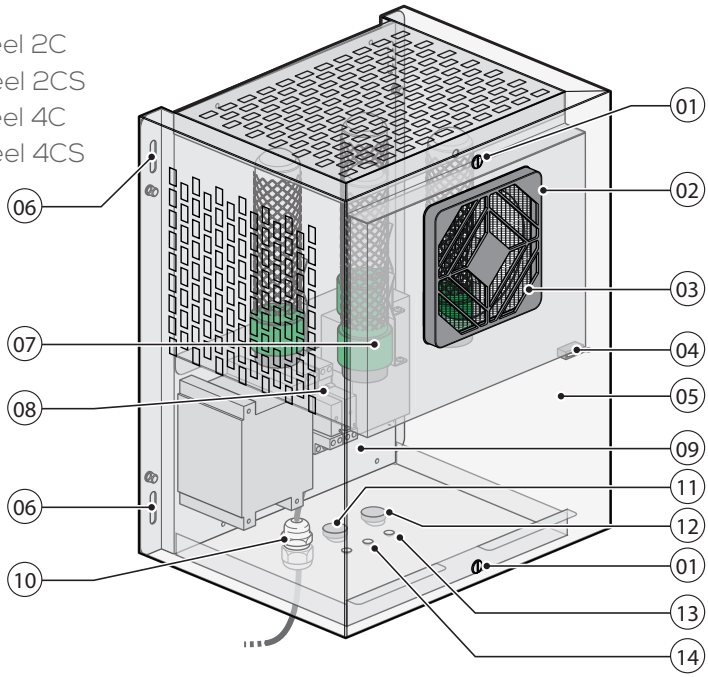
01 Cover fixing screw	07 Plate in AISI 304 stainless steel
02 Filter cover	08 Switch button
03 AISI 304 stainless steel filter	09 Electrical compartment
04 Cover in AISI 304 stainless steel	10 Power cable exit
05 Pre-punched slots wall plate	11 ON/OFF luminous switch
06 Ionising tube and earthing bracket	

4.1.1 Technical features JONIX steel 1C

Model	Dimensions (WxDxH) [mm]	Power Supply	Max power absorption [A]	Air flow rate [m^3/h]	Working limit temperature (max / min) [°C]	(*) Lp eq according to UNI-EN 3746 [dB(A)]	Weight [Kg]
steel 1C	190x150x375	230 V/1/50Hz	0,15	160	+55°/ -15°c	47	5

(*): Equivalent sound pressure values (Lp eq) at a distance of 1m according to UNI-EN 3746 (Determination of sound power levels and sound energy levels of noise sources by measuring sound pressure - Control method using an enveloping surface over a reflecting plane), obtained starting from the values of sound power (Lw) determined with the tests in a reverberation room.

JONIX steel 2C
JONIX steel 2CS
JONIX steel 4C
JONIX steel 4CS



4.2 COMPONENT DESCRIPTION JONIX steel 2C/4C/2CS/4CS

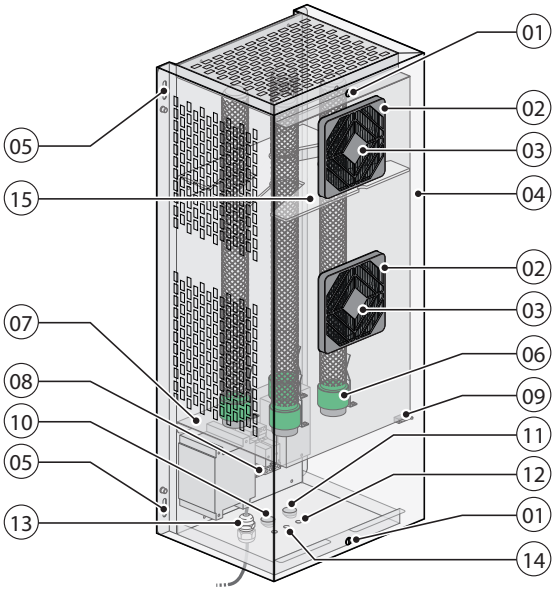
01	Cover fixing screw	08	Plate in AISI 304 stainless steel
02	Filter cover	09	Electrical compartment
03	AISI 304 stainless steel filter	10	Power cable exit
04	Switch button	11	ON/OFF luminous switch
05	Cover in AISI 304 stainless steel	12	Alarm reset button
06	Pre-punched slots wall plate	13	Led signal for malfunction
07	Ionising tube and earthing bracket steel 2C/2CS: n°2 - steel 4C/4CS: n°4	14	Led signal for maintenance need

4.2.1 Technical features JONIX steel 2C/4C/2CS/4CS

Model	Dimensions (WxDxH) [mm]	Power Supply	Max power absorption [A]	Air flow rate [m^3/h]	Working limit temperature (max / min) [°C]	(*) Lp eq according to UNI-EN 3746 [dB(A)]	Weight [Kg]
steel 2C/2CS steel 4C/4CS	310x260x400	230 V/1/50Hz	0,17	160	+55°/ -15°c	50	9

(*): Equivalent sound pressure values (Lp eq) at a distance of 1m according to UNI-EN 3746 (Determination of sound power levels and sound energy levels of noise sources by measuring sound pressure - Control method using an enveloping surface over a reflecting plane), obtained starting from the values of sound power (Lw) determined with the tests in a reverberation room.

JONIX steel 2F
JONIX steel 2FS
JONIX steel 4F
JONIX steel 4FS



4.3 COMPONENT DESCRIPTION JONIX steel 2F/4F/2FS/4FS

01	Cover fixing screw	08	Electrical compartment
02	Filter cover	09	Switch button
03	AISI 304 stainless steel filter	10	ON/OFF luminous switch
04	Cover in AISI 304 stainless steel	11	Alarm reset button
05	Pre-punched slots wall plate	12	Led signal for malfunction
06	Ionising tube and earthing bracket steel 2F/2FS: n°2 - steel 4F/4FS: n°4	13	Power cable exit
		14	Led signal for maintenance need
07	Plate in AISI 304 stainless steel	15	Condenser support plate

4.3.1 Technical features JONIX steel 2F/4F/2FS/4FS

Model	Dimensions (WxDxH) [mm]	Power Supply	Max power absorption [A]	Air flow rate [m³/h]	Working limit temperature (max / min) [°C]	(*) Lp eq according to UNI-EN 3746 [dB(A)]	Weight [Kg]
steel 2F/2FS	310x260x750	230 V/1/50Hz	0,30	300	+55°/ -15°c	50	14
steel 4F/4FS							15

(*): Equivalent sound pressure values (Lp eq) at a distance of 1m according to UNI-EN 3746 (Determination of sound power levels and sound energy levels of noise sources by measuring sound pressure - Control method using an enveloping surface over a reflecting plane), obtained starting from the values of sound power (Lw) determined with the tests in a reverberation room.

4.4 SPARE PARTS AVAILABLE ON ORDER

Code	Description	Notes
71KT000002	GENERATORS 175 SPARE PART KIT	N° 2 Ionising tubes (short)
71KT000003	N° 2 GENERATORS 520 SPARE PART KIT	N° 2 Ionising tubes (long)
JX40000011	PROTECTION FUSE	1 quick blow glass fuse 5x20 2,5A 'F'
JX40000070	FILTER COVER GRID SET	Filter + fixing grid 120x120 mm

5 - RECEPTION, TRANSPORT AND STORAGE

5.1 PACKAGING

The JONIX steel device, together with the accessories, is shipped in special protective packaging. The materials that were not installed for technical requirements are supplied packed with suitable packaging secured to the inside or outside of the device itself. The packaging contains:

- JONIX steel *.
- Operating and maintenance manual.
- Declaration of Conformity.
- Warranty conditions.

*): both in the JONIX steel 2C/4C/2F/4F and JONIX steel 2CS/4CS/ 2FS/4FS versions, the ionised tubes equipped are disassembled and packed in their boxes.

5.2 HANDLING AND TRANSPORT

To handle the device use appropriate means, depending on the weight, as required by Directive 89/391/EEC and subsequent amendments.

Please take great care while unloading and positioning the devices, to prevent damaging the casing or components. Avoid uncontrolled rotations.

The weight of every single device is given in this manual.

5.3 INSPECTION UPON RECEPTION

When you receive the device please check all its parts, in order to make sure that it has not been damaged during transport.
Any damage must be reported to the carrier, by filling in the relevant section on the delivery note and specifying the type of damage.

Any type of complaint must be sent in writing within eight days from receiving the goods.

5.4 STORAGE

In the event of extended storage keep the devices away from dust and sources of vibration and heat.

The Manufacturer disclaims any liability for damage due to incorrect unloading failure to protect the device from the elements.

5.5 HANDLING DEVICE IN OPERATING CONDITIONS

JONIX steel device is easy movable in various environments, because it is provided with reduced dimensions (see Chapter 4 "Technical Data").

6 - INSTALLATION AND COMMISSIONING

ATTENTION! Before carrying out any operation on the devices read ALL the instructions in this manual carefully.

Definitions:		
USER: Person, organisation or company who or which has purchased or rented the device and is going to use it for the intended purposes.	**USER/OPERATOR:** Individual who has been authorised by the user to operate the device.	**QUALIFIED STAFF:** Individuals who have completed a specific course and are therefore able to recognise the hazards arising from the use of this device and are able to prevent them.

6.1 SAFETY STANDARDS

The Manufacturer disclaims any liability for failure to comply with the safety and prevention standards as described below.
The Manufacturer also disclaims any liability for damage caused by improper use of sanitisers and/or alterations carried out without prior authorisation.

- The device must be installed in strict accordance with the instructions contained in this manual.
- Wear suitable accident prevention clothing when installing the device, such as: goggles, gloves, etc. as instructed in standard 686/89/EEC and subsequent amendments.
- While performing installation, operate in full safety, in a clean environment clear of obstructions.
- Comply with the laws in force in the country in which the device is installed, regarding the use and disposal of the packaging and products used for cleaning and servicing the device; you should also observe the recommendations given by the manufacturer of such products.
- **Before switching the device on check the integrity of the various components and of the electrical mains to which it is connected, making sure that it is fitted with a circuit breaker upstream of the power line as shown in this manual.**
- Never insert objects of any kind into the device, as coming into contact with live parts or electrical terminals may cause fires or electric shocks.

WARNING!
Mechanical machinery in motion and dangerous points of voltage inside the device. Risk of dragging and entrapment or electric shock.

- Do not service or clean the device without first unplugging it from the mains.

- Worn or damaged parts must only be repaired or replaced by qualified staff and by following the instructions given in this manual.
- The spare parts must be approved by the Manufacturer.
- In the event of decommissioning or disposing of the device, follow the anti-pollution regulations set out by the country in which the device is installed.
- In doing puncture in ceilings or walls be sure of not interfere with electric ropes, plumbing and whatever can be damaged.
- Do not pour water or any kind of liquids on the device.
- Place the device so that the power cable cannot be stepped on.
- Do not connect the device to power lines connected to any other electric utilities or devices.
- **Use the type of power supply shown on the label. If you are not sure about the type of power supply available, ask your local retailer or electricity provider for assistance.**
- Do not touch the inside of the device, unless specified otherwise in the instructions contained in this manual.
- Never force the components when assembling: although it is made with high strength materials, the parts of the device can be damaged if handled incorrectly.
- Do not try to perform maintenance work on the device, except where specified in this manual. Opening or removing the outer casing may expose you to dangerous live parts or may involve other risks. All maintenance work must be carried out by authorised staff, except where specified in this manual.
- Unplug the device from the mains and contact qualified staff for assistance in one of the following cases:
  - The device has come into contact with water or liquids of any kind.
  - The device has been exposed to the elements.
  - A malfunction persists despite all the installation and/or maintenance procedures have been performed properly.
- The device comes with slots and openings for ventilation; do not block or cover these slots.
- Make sure that you always leave enough space for adequate ventilation around the side slots of the device.

IMPORTANT: The installer and the user, when using the JONIX steel device, must take into account and solve all the other types of risk associated with the system. For example, risks arising from foreign bodies getting into the device or risks due to dangerous flammable or toxic gases at high temperature.

6.2 GETTING STARTED

- Check that the various components of the device are fully intact.
- Check that the documentation and any accessories for installation are contained in the package.

- Carry the device in its packaging as close as possible to the installation site.
- Do not rest weights or tools on the device, or place it on an unstable surface.

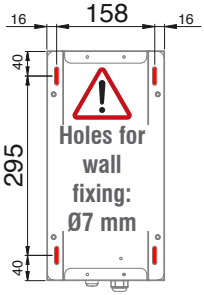
6.3 CHOOSING THE INSTALLATION SITE

- Do not put the device in places where there are flammable gases, acidic, aggressive and corrosive substances that can damage the various components beyond repair.
- Provide a minimum clearance, in order to install the device and carry out routine and special maintenance.

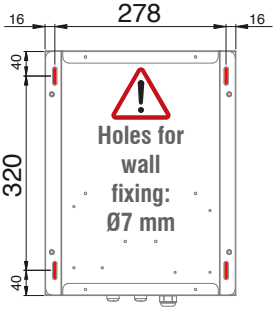
6.4 INSTALLATION OF THE DEVICE

JONIX steel device is designed to be directly installed on the wall through the pre-punched slots placed on the device plate (see image in chapter 4 of this manual).

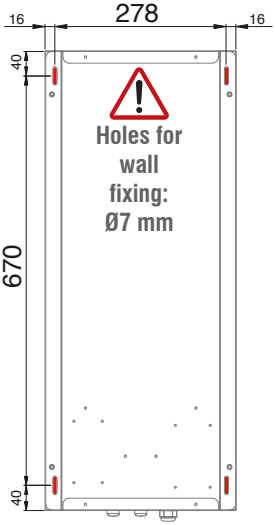
JONIX steel 1C



JONIX steel 2C/2CS
JONIX steel 4C/4CS



JONIX steel 2F/2FS
JONIX steel 4F/4FS



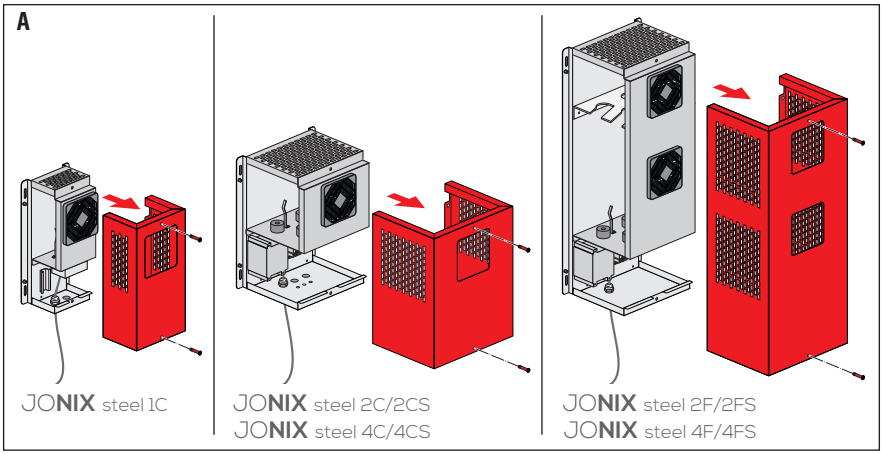
Before installation:

- **Check that under and above the device there is sufficient space in order to allow the air to flow.**
- **Make sure that the holes are aligned; in this respect, follow the quotas mentioned in the drawing to the side.**

Drill holes in the wall and insert the screw anchors into them. Screw the screws allowing them to project 8-10 mm from the wall. **Check that the device is stable before using it.**

The right plugs for installation must be chosen based on the weight of the appliance, shown in chap. " Technical data", and the type of wall it is installed on.

Fig. A: Unscrew the fixing screw and remove the frontal cover from the device.



In JONIX steel 2C / 4C / 2F / 4F versions it is necessary to unpack the ionised tubes from their boxes and to screw them in their allocated seat according to the following procedure:

Gently screw the ionising tube holding on to the base (**green part**). If the operation is difficult to perform, pull slightly the earthing bracket so that it does not make contact with the surface of the tube.

ATTENTION: do not overtighten the screw after reaching its end stop.

Check that the earthing spring is in contact with the outer mesh once the ionising tubes have been screwed back into place. Otherwise contact the manufacturer.

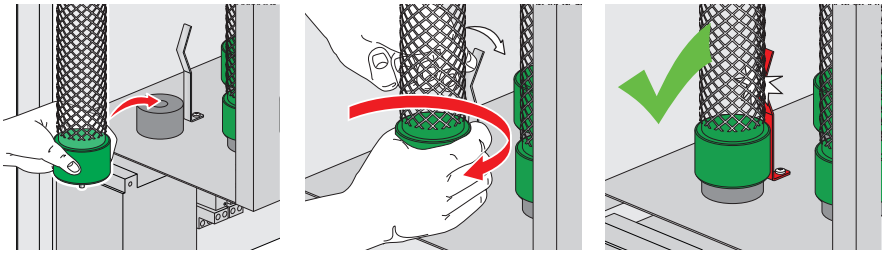
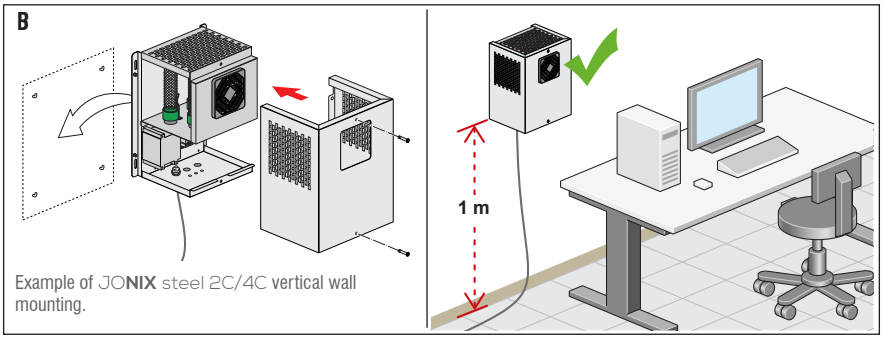


Fig. B: Lift up the device and fix it to the wall with the support of the slots placed on the posterior plate. Finally proceed remounting the anterior panel fixing it with the appropriate locking screws. **The installation height must be at least 1 meter from the ground.**

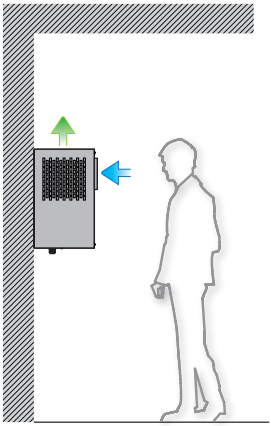


Example of JONIX steel 2C/4C vertical wall mounting.

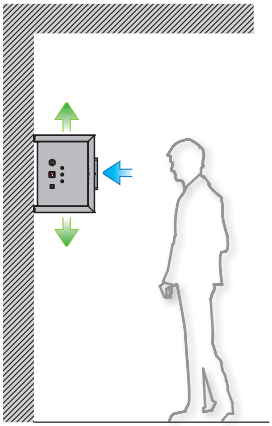
6.4.1 Type of fixing

There are different types of mounting of JONIX steel devices, in particular:

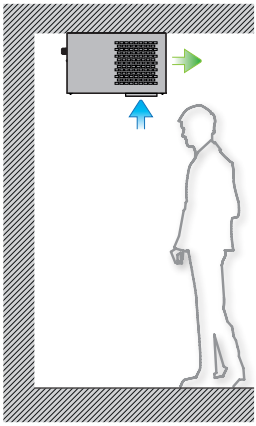
: ambient air. - : ionised air flow.



VERTICAL WALL FIXING
It is the most used fastening system, ideal for every kind of environment.



HORIZONTAL WALL FIXING
It can be used as an alternative to the vertical fixing, optimizing the space available.



CEILING FIXING
It can be used in rooms where there is no space in the walls and the ceiling can be easily reached (for example inside cold storage cells).

6.5 ELECTRICAL CONNECTIONS

ATTENTION! BEFORE STARTING ANY OPERATION, MAKE SURE THAT THE MAIN POWER SUPPLY IS DISCONNECTED!

- The electrical connections must be carried out following the instructions provided in this manual.
- **Make sure that voltage and frequency of the electric line correspond to those provided on the name plate.**

WARNING!
Using power supply that does not meet the requirements requested by the device could resolve in damaging the device or part of it.

- The electrical mains of the JONIX steel device must be used for the device only, there must be no other devices powered by the same power line. Do not use adapters, power strips and/ or extension cords.
- Make the connection with cables with a suitable cross-section and in compliance with local standards.
- **The installer must see to it to assemble the device as close to the power disconnector as possible, according to standards in force and as far as necessary to protect the electrical parts.**

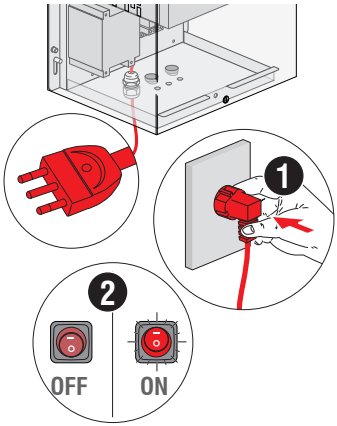
Any deficiency or non-conformity with the parameters of the power supply to which the device is connected might cause damage to the device itself.

6.6 ELECTRICAL CONNECTIONS

JONIX steel device is delivered from the factory equipped with power cable of adequate section (the cable is 2 m long and is provided with the plug). The type of power supply suitable for the module is **230V/ ~1/ 50Hz**.

Before making any connections, make sure the mains voltage complies with what is shown on the label.

1) Once the characteristics of the system have been verified, connect the device to the power mains.
2) The voltage in the device is indicated by an ON/OFF luminous switch that will illuminate once turned ON.

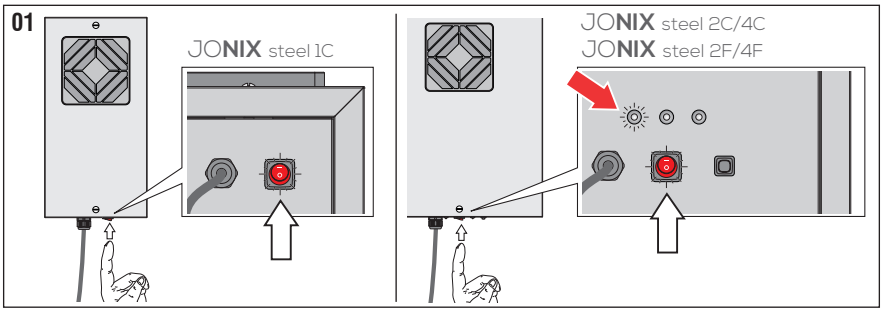


6.7 USING THE DEVICES

6.7.1 Standard devices (JONIX steel 1C/2C/4C/2F/4F)

Fig. 01: In order to turn on the device act on the switch 0/I, turning it to I. The button will illuminate, a slight noise coming from the ionising tube will be heard and the air flow generated by the fan will be perceived.

In JONIX steel 2C/4C/2F/4F versions under normal operating conditions, the LED turns green.



The table below offers a generic overview of the times needed to reach and maintain the maximum sanitisation level, depending on the size of the relevant room.

Model	Room volume (m^3)	Time needed for sanitation	Recommended daily operating time *
70STEEL1C	15	30 min	3 h
70STEEL1C	30	1 h	3 h
70STEEL1C	45	2 h	4 h
70STEEL1C	60	6 h	8 h
70STEEL1C	75	12 h	12 h
70STEEL1C	90	24 h	24 h
70STEEL1C	105	24 h	24 h
70STEEL2C	200	24 h	24 h
70STEEL4C	500	24 h	24 h
70STEEL2F	1000	24 h	24 h
70STEEL4F	2000	24 h	24 h

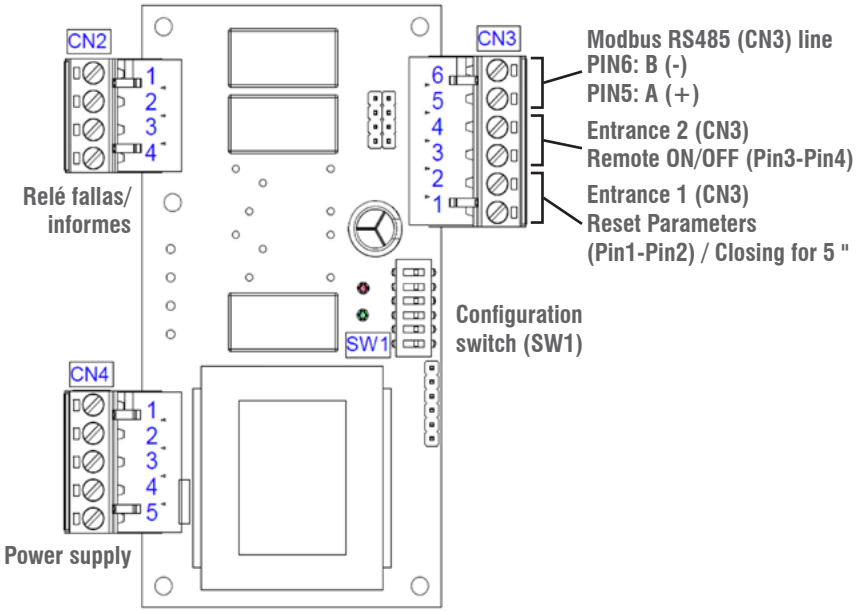
* The recommended daily operating times may be changed in case of specific needs.
We recommend avoiding extending the operating hours beyond the values indicated in this table.

6.7.2 Devices with Remote management card (JONIX steel 2CS/4CS/2FS/4FS)

In the devices with remote management card (JONIX steel 2CS/4CS/2FS/4FS), the power supply of the equipment, as in the standard version, takes place by acting on switch 0/I (bringing it to position I), however the activation of the ionization and ventilation depends on the internal management form.
The activation command can be performed in 2 modes:

- **Stand-alone** (default): the ignition/shutdown command takes place by closing/opening the entrance IN2 (CN3: Pin3-4);
- **Modbus RS485 remote connection** (4800N81): the device is used as a "slave" module to be connected to a serial line RS485 with Modbus protocol in which there is a master's degree that manages all the various functions. In this mode, more devices can be managed by the Master.

Reading/modification of the device parameters, can take place from a master's module at any time; while the method of command of the device can only be of a type; Therefore, one mode excludes the other (or stand-alone; or Modbus).



JONIX steel 2CS/4CS/2FS/4FS devices are supplied with card configured in stand-alone mode and wire bridge in the default entrance in entrance so that by giving nutrition and lighting the main switch can immediately be activated.

For personalized configurations contact JONIX S.p.A. directly.

The device, as described, has a Modbus RS485 Slave Modbus form; Below is an extract of management variables:

N°	VARIABLE DEFINITION	UNITY	NOTES	LECTURE (R) / SCRIPTURE (W)
0	Firmware code	-	2	R
1	Firmware version	-	1	R
2	Modbus destination	-	1 (Default)	R/W
11	Count hours maintenance	Hours	Hours	R
12	Threshold 1 count hours alarm maintenance (Default 7.000 hours)	Hours	If **0** the control is not active	R/W
13	Alarm count hours maintenance	-	**0**: not active **1**: active	R/W
14	Count hours replacement	Hours	Hours	R
15	Threshold count hours alarm replacement (Default 14.000 hours)	Hours	If **0** the control is not active	R/W
16	Alarm count hours replacement	-	**0**: not active **1**: active	R/W
17	Pilotage rating Modbus On/Off	-	**0**: not enabled **1**: enabled	R/W
21	IN2 enabling for generators activation	-	**0**: not enabled **1**: enabled	R/W
22	IN1 state	-	**0**: contact open **1**: contact closed	R
23	IN2 state	-	**0**: contact open **1**: contact closed	R
24	Current state of generators	-	**0**: off **1**: on	R
25	Percentage count hours maintenance	-	Count hours / active threshold	R
26	Percentage count hours replacement	-	Count hours / active threshold	R
27	Reset count hours maintenance	-	Write 1 to reset count hours	R/W
28	Reset count hours replacement	-	Write 1 to reset count hours	R/W

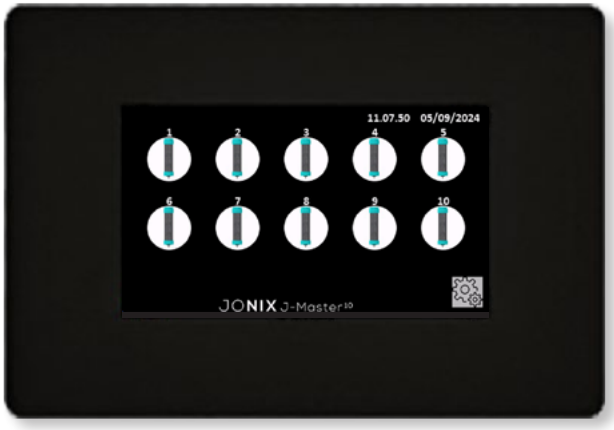
The setting for reading/writing the variables (Holding Register) for the Master device is as follows:

CONFIGURATION	
Baud Rate	**4800**
World Lenght	**8**
Parity	**None**
Stop Bits	**1**

When a system is made with multiple devices, connected to each other by a serial line and managed using an RS485 Modbus master, you must exclude the end -of -line resistance on all cards with the exception of the last. To do this, you need to place the SW1-6 switch on off (excluding the line termination device). Subsequently, different addresses must be assigned for each equipment. **In the serial there can be no more devices with the same address.**

6.8 REMOTE CONTROLLER J-MASTER10

As indicated in paragraph 6.7.2 JONIX steel (2CS/4CS/2FS/4FS) devices with remote management card can be controlled by any Master RS485 module with Modbus protocol.
JONIX S.p.A., for remote management, has created **J-Master10**; A master's module consisting of 4.3 "touch screen display (to be placed on the wall) with special dedicated software. This display allows you to view the operating status of the device, the usury of the generators and to manage the activation/shutdown of a maximum of 10 devices. The software has the possibility of being displayed/used, as well as locally, also in remote mode, on a local network, via a PC with a special VNC display program.



For personalized configurations contact JONIX S.p.A. directly.

7 - MAINTENANCE

7.1 WARNINGS

BEFORE CARRYING OUT ANY MAINTENANCE OPERATION MAKE SURE THAT THE DEVICE IS NOT AND CANNOT ACCIDENTALLY BE POWERED ELECTRICALLY.
YOU MUST THEREFORE UNPLUG THE DEVICE BEFORE CARRYING OUT ANY MAINTENANCE.

- It is the duty of the user to perform all the maintenance operations on the device listed below.
- If you experience a malfunction, unplug the device from the mains and contact qualified staff (retailer, the Manufacturer).
- Only trained and qualified personnel can perform maintenance operations.

Use work gloves to protect your hands when performing maintenance.

The frequency of the operations to be performed to ensure proper maintenance of the device JONIX steel depends mainly on the quality of the treated air.

Air can be especially harmful for condensers when it contains polluting or aggressive substances such as:
- Industrial flue gas
- Sale
- Chemical smoke
- Heavy powders

By coming into contact with the inside or outer surfaces of the device by means of the air flow or by direct exposure, these substances can lead to a structural and functional failure of the device and of its performance as time passes and without proper, systematic maintenance.

7.2 ROUTINE MAINTENANCE

The JONIX steel device requires a small amount of maintenance consisting in regularly cleaning of cold plasma generators and of the retina filter to protect the fan.
The JONIX steel device signals the need for maintenance of the generators, by means of the indicator light placed near the power supply cable, every 7000 hours of operation.

In JONIX steel 2C/4C/2F/4F versions, both standard and with remote management card, clean the ionising tubes every time the specific LED lights up (yellow blinking light); while version 1C requires the cleaning of the ionizing tube every 6 months.

7.2.1 Cleaning the Ionising Tubes JONIX steel 1C

Fig. 02: Switch the device off by turning the luminous On/Off switch to **0**.

Remove the plug connected to the mains.

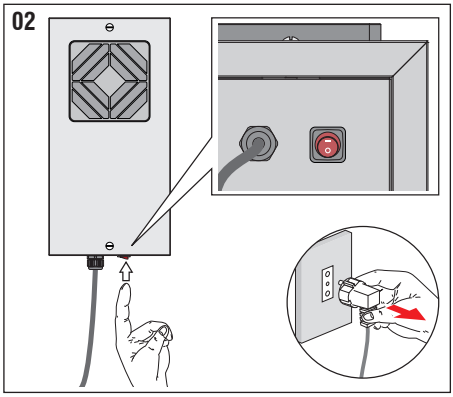


Fig. 03: Unscrew the fixing screw and remove the frontal cover from the device.

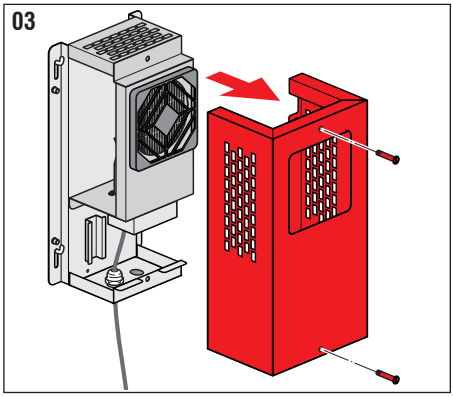


Fig. 04: Gently unscrew the ionising tubes, **using the green plastic base**.

If the operation is difficult to perform, pull slightly the earthing bracket so that it does not make contact with the surface of the tube.

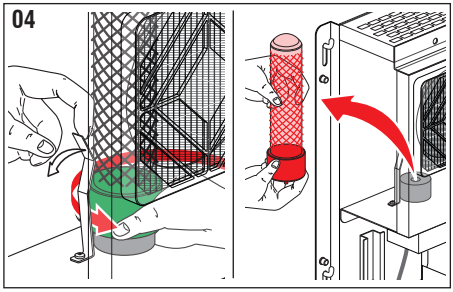
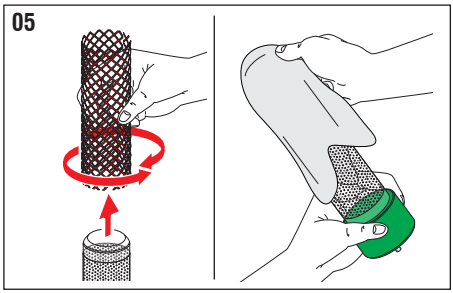


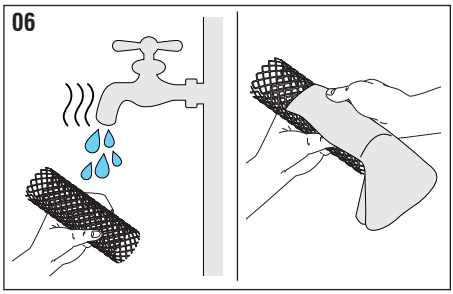
Fig. 05: Pull off the outer mesh from the tube if you have not already done so in the previous point. If this is difficult to do, turn the mesh around the glass while pulling to remove it.
Clean the glass using a damp cloth.



Do not use liquid cleaners or sprays, soap or the like.

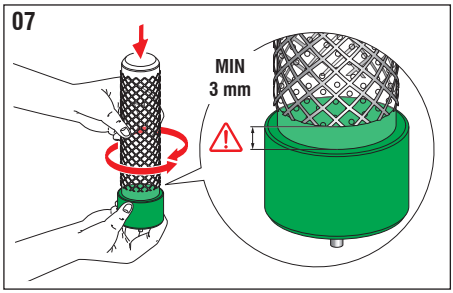
Check that the tube is in good conditions: there must not be any cracks or other damage; otherwise it must be replaced. As soon as you notice a whitish layer on the perforated metal plate inside the glass it means that the ionising tube needs replacing. **The tubes must usually be replaced within 18 months of use.**

Fig. 06: Wash the mesh under running hot water and dry it thoroughly with a cloth.



Do not put back the mesh on the ionising tube if it is even partially wet.

Fig. 07: Put the outer metal mesh back on the glass tube so that it fully overlaps the internal plate.



In any case ensure a minimum distance of at least 3 mm from the base of the tube.

Fig. 08: Gently screw the ionising tube holding on to the base (green part).
If the operation is difficult to perform, pull slightly the earthing bracket so that it does not make contact with the surface of the tube.

ATTENTION: do not overtighten the screw after reaching its end stop.

Check that the earthing spring is in contact with the outer mesh once the ionising tubes have been screwed back into place. Otherwise contact the manufacturer.

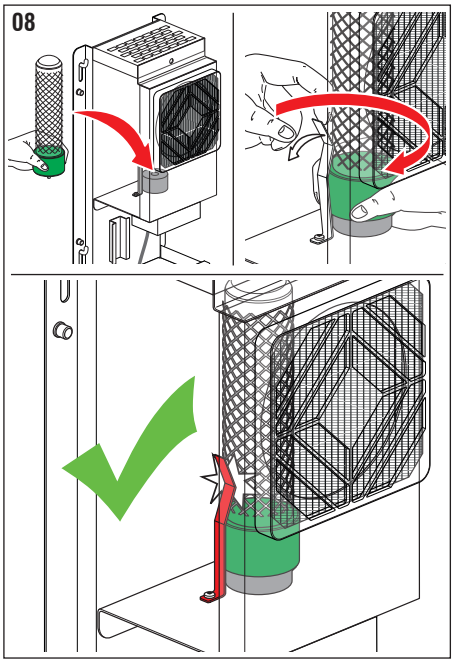


Fig. 09: Replace the cover and rescrew with the appropriate screws.

Clean the outside of the device with a damp cloth, using specific products for the cleaning of stainless steel.

Do not use liquid cleaners or sprays, soap or the like.

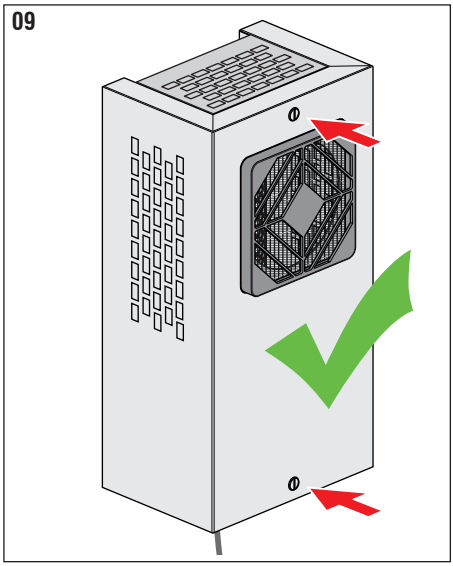
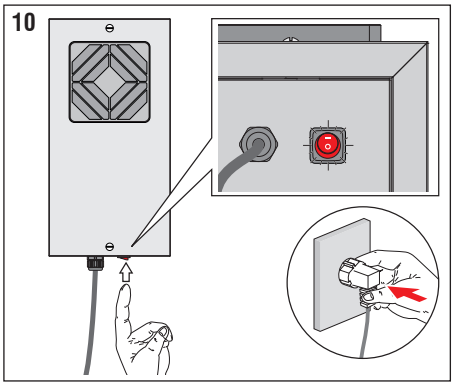


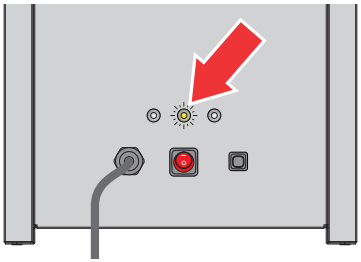
Fig. 10: Reconnect the power plug. In order to turn on the device act on the switch **0/I**, turning it to **I**. The button will illuminate, a slight noise coming from the ionising tube will be heard and the air flow generated by the fan will be perceived.



It should be remembered that failure to clean the ionising tubes when indicated by the device leads to a drop in system performance.

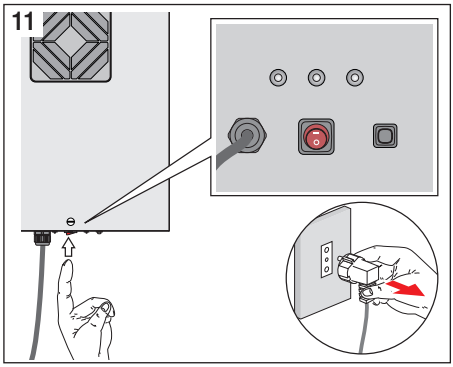
7.2.2 Cleaning the Ionising Tubes JONIX steel 2C / 2CS / 4C / 4CS

In JONIX steel 2C/2CS/4C/4CS versions, clean the ionising tubes every time the specific LED lights up (**yellow blinking light**).



The versions with remote 2CS/4CS management card in addition to visual reporting, also send the reporting to the Master RS485 management controller (such as **J-MASTER**[10]).

Fig. 11: Switch the device off by turning the luminous On/Off switch to **0**.



Remove the plug connected to the mains.

Fig. 12: Unscrew the fixing screw and remove the frontal cover from the device.

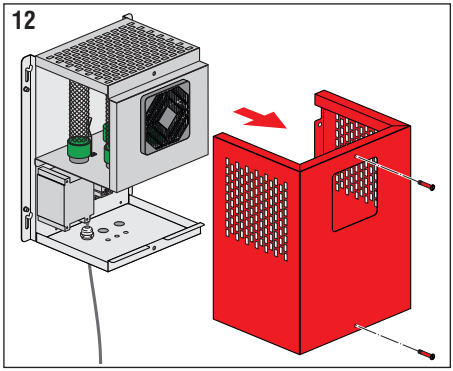
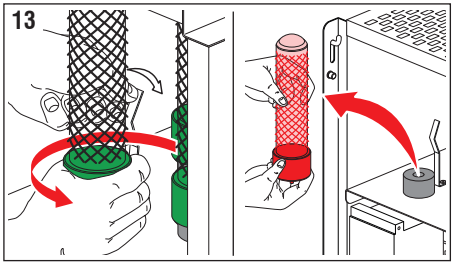


Fig. 13: Gently unscrew the ionising tubes, **using the green plastic base**.

If the operation is difficult to perform, pull slightly the earthing bracket so that it does not make contact with the surface of the tube.



To clean the tube follow the operations described from figure 5 to figure 7.

Fig. 14: Gently screw the ionising tube holding on to the base (green part).
If the operation is difficult to perform, pull slightly the earthing bracket so that it does not make contact with the surface of the tube.

ATTENTION: do not overtighten the screw after reaching its end stop.

Check that the earthing spring is in contact with the outer mesh once the ionising tubes have been screwed back into place. Otherwise contact the manufacturer.

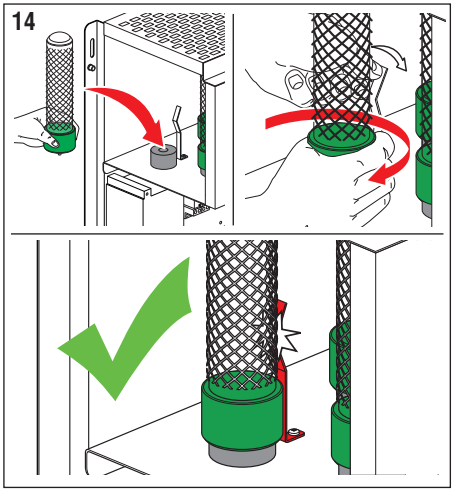
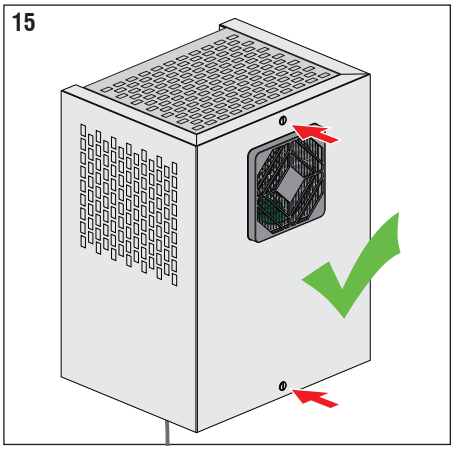


Fig. 15: Replace the cover and rescrew with the appropriate screws.



Clean the outside of the device with a damp cloth, using specific products for the cleaning of stainless steel.

Do not use liquid cleaners or sprays, soap or the like.

Fig. 16: Reconnect the power plug.
In order to turn on the device act on the switch **0/I**, turning it to **I**.

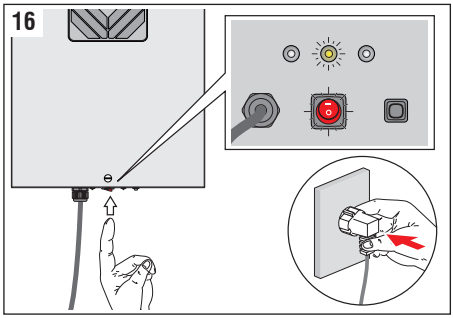
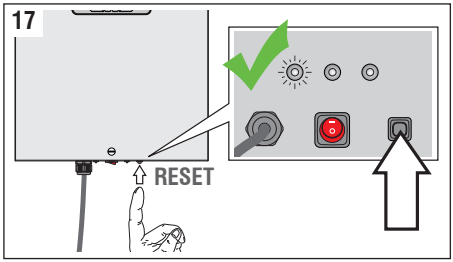


Fig. 17: Hold down the reset button until the LED that signals the need for maintenance (**yellow indicator**) turns off and the LED that signals the proper functioning turns on (**green indicator**).
Monitor the functioning of the device, a slight noise coming from the ionising tube has to be heard and the air flow generated by the fan will be perceived.

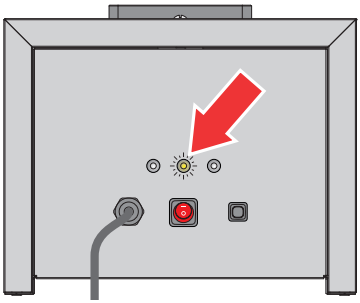


In the JONIX steel 2CS/4CS versions, the reset, as well as via key, can also be performed by the Master RS485 Modbus controller (type J-Master[10]).

It should be remembered that failure to clean the ionising tubes when indicated by the device leads to a drop in system performance.

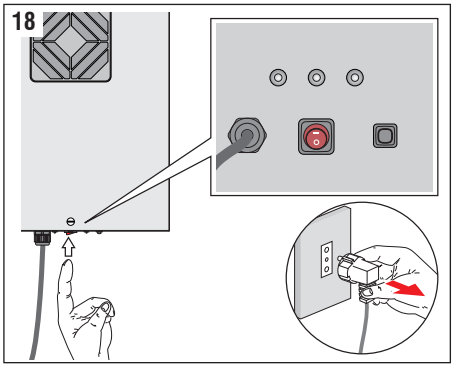
7.2.3 Cleaning the Ionising Tubes JONIX steel 2F / 2FS / 4F / 4FS

In JONIX steel 2F/2FS/4F/4FS versions, clean the ionising tubes every time the specific LED lights up (**yellow blinking light**).



The versions with remote 2FS/4FS management card in addition to visual reporting, also send the reporting to the Master RS485 management controller (such as **J-MASTER**[10]).

Fig. 18: Switch the device off by turning the luminous On/Off switch to **0**.



Remove the plug connected to the mains.

Fig. 19: Unscrew the fixing screw and remove the frontal cover from the device.

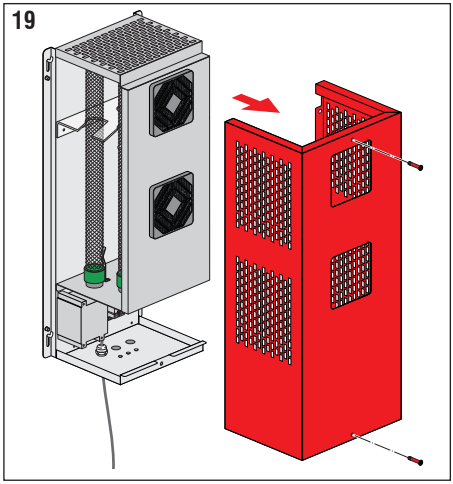
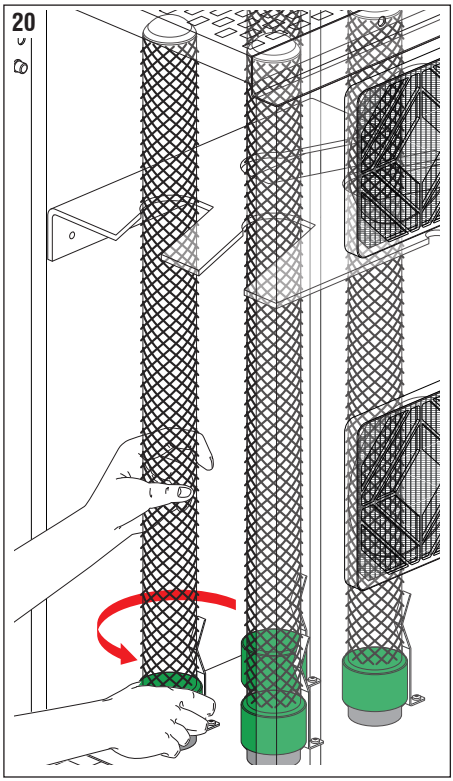
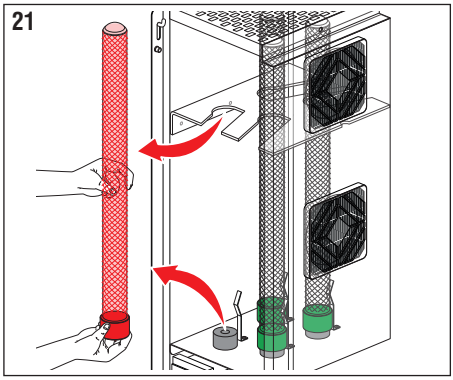


Fig. 20: Gently unscrew the ionising tubes, **using the green plastic base**.



It is recommended to hold on to the tube (at about half its height) with the other hand in order to facilitate the operation.

Fig. 21: Remove the tube following the profile in the condenser support plate.

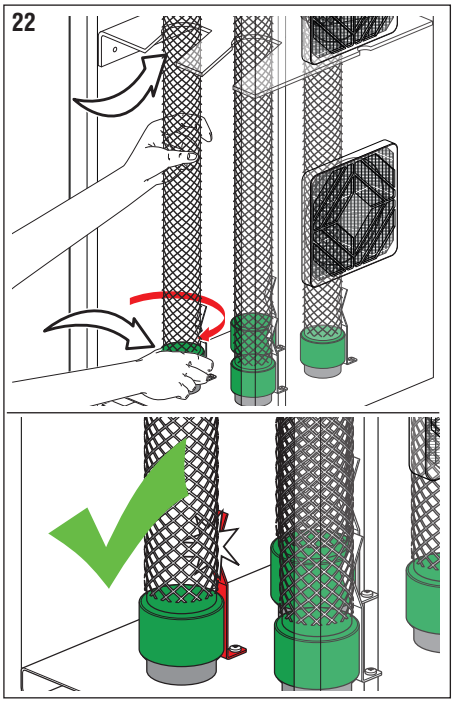


If the operation is difficult to perform, pull slightly the earthing bracket so that it does not make contact with the surface of the tube.

To clean the tube follow the operations described from figure 5 to figure 7.

Fig. 22: Gently screw the ionising tube holding on to the base (green part), holding it in vertical position with the other hand and inserting it in the shaped profile of the condenser support plate.
If the operation is difficult to perform, pull slightly the earthing bracket so that it does not make contact with the surface of the tube.

ATTENTION: do not overtighten the screw after reaching its end stop.



Check that the earthing spring is in contact with the outer mesh once the ionising tubes have been screwed back into place. Otherwise contact the manufacturer.

Fig. 23: Replace the cover and rescrew with the appropriate screws.

Clean the outside of the device with a damp cloth, using specific products for the cleaning of stainless steel.

Do not use liquid cleaners or sprays, soap or the like.

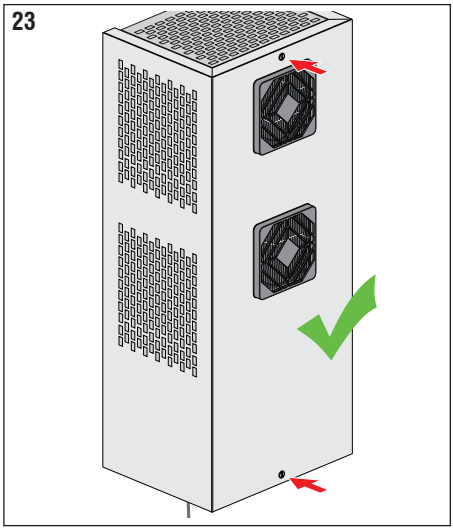


Fig. 24: Reconnect the power plug.
In order to turn on the device act on the switch **0/I**, turning it to **I**.

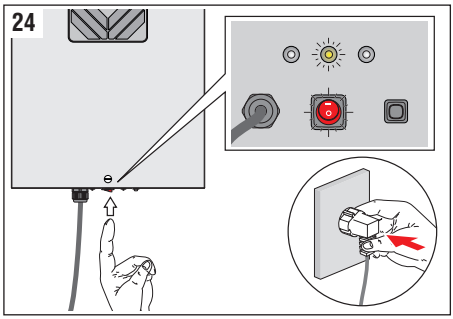
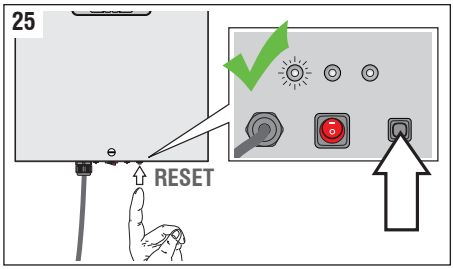


Fig. 25: Hold down the reset button until the LED that signals the need for maintenance (**yellow indicator**) turns off and the LED that signals the proper functioning turns on (**white indicator**).
Monitor the functioning of the device, a slight noise coming from the ionising tube has to be heard and the air flow generated by the fan will be perceived.



In the JONIX steel 2CS/4CS versions, the reset, as well as via key, can also be performed by the Master RS485 Modbus controller (type J-Master[10]).

It should be remembered that failure to clean the ionising tubes when indicated by the device leads to a drop in system performance.

7.2.4 Cleaning the filter

Clean the filter, located in the anterior part of the device, during every tube maintenance operation.
However, we suggest checking periodically the filter status and quickly removing any dust residues and any other residues that may block the air flow.

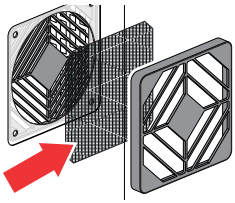


Fig. 26: Remove the filter cover by pressing the sides and pulling towards you.

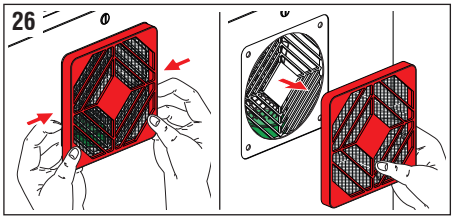


Fig. 27: Wash the mesh filter under running water and dry it with a cloth.

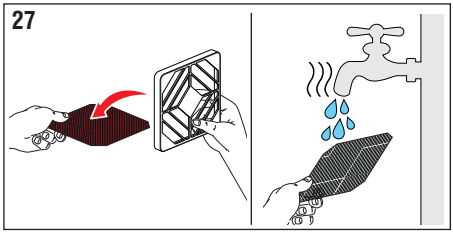


Fig. 28: Using a damp cloth, wipe the plastic filter cover and the finger guard grille fitted at the bottom of the device.

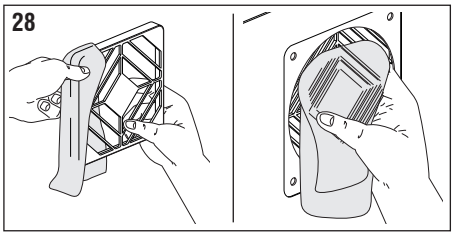


Fig. 29: Put the filter back into the filter cover.

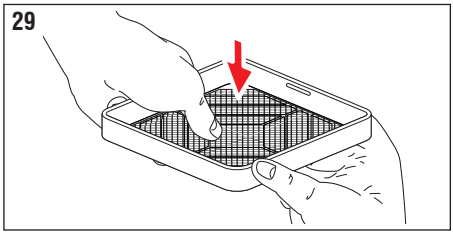
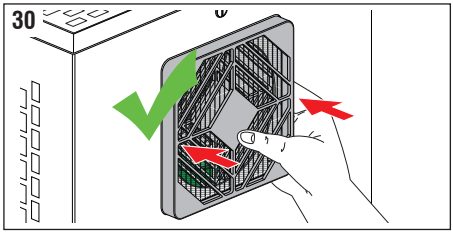


Fig. 30: Reassemble the filter cover with the snap fastening. Press it onto the bottom of the device until the parts are locked in place.



7.2.5 External cleaning of the equipment

Clean the outside of the device with a damp cloth.

Do not use liquid cleaners or sprays, soap or the like.

7.3 SPECIAL MAINTENANCE

The only part that is subject to wear is the ionising tube, whose performance drops over time. Components must be replaced when signs of wear appear, indicated by oxide on the internal mesh of the ionising tube, which will make it turn white, and by the glass looking dull.
The JONIX steel 2C/4C/2F/4F devices, are designed to indicate, through a special LED, the need to replace the ionising tubes approximately every 14000 hours of operation.

In JONIX steel 2C/4C/2F/4F versions, both standard and with remote management card, substitute the ionising tubes every time the specific LED lights up (permanent yellow light); while in the version 1C the substitution of the tube should take place within 18 months of using.

7.3.1 Replacing the ionising tubes JONIX steel 1C

Fig. 31: Switch the device off by turning the luminous On/Off switch to **0**.

Remove the plug connected to the mains.

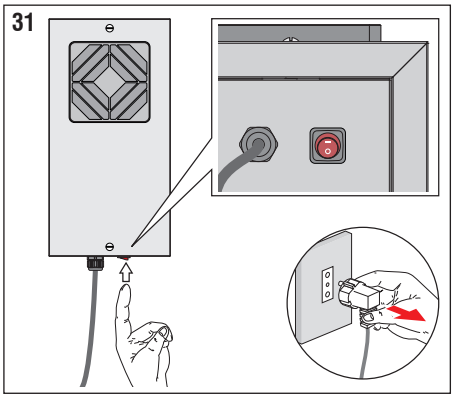


Fig. 32: Unscrew the fixing screw and remove the frontal cover from the device.

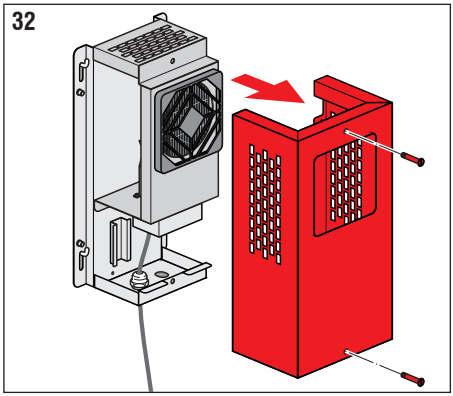
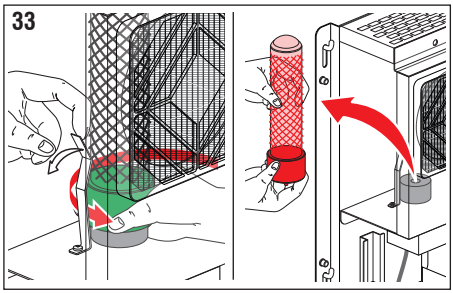


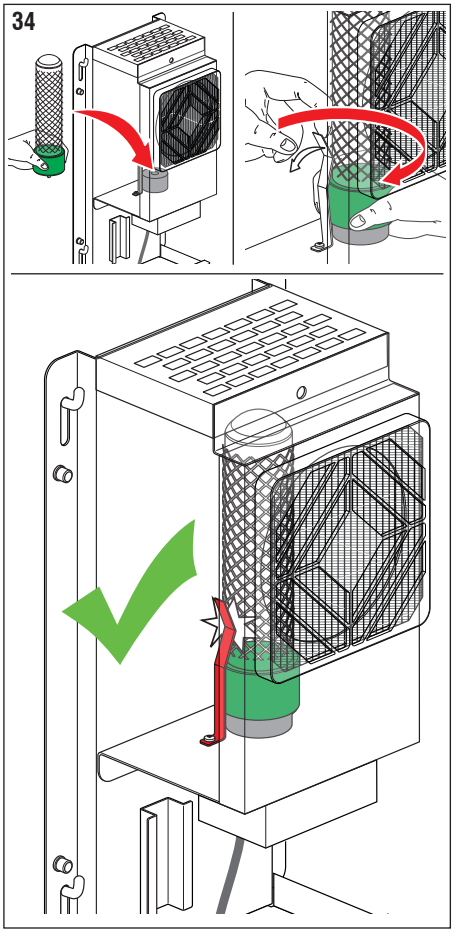
Fig. 33: Gently unscrew the ionising tubes, **using the green plastic base**.



If the operation is difficult to perform, pull slightly the earthing bracket so that it does not make contact with the surface of the tube.

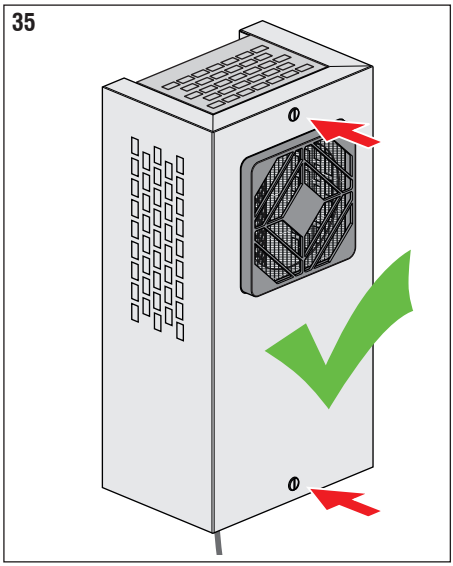
Fig. 34: Screw delicately the ionising tube holding on to the base (green part).
If the operation is difficult to perform, pull slightly the earthing bracket so that it does not make contact with the surface of the tube.

ATTENTION: do not overtighten the screw after reaching its end stop.



Check that the earthing spring is in contact with the outer mesh once the ionising tubes have been screwed back into place. Otherwise contact the manufacturer.

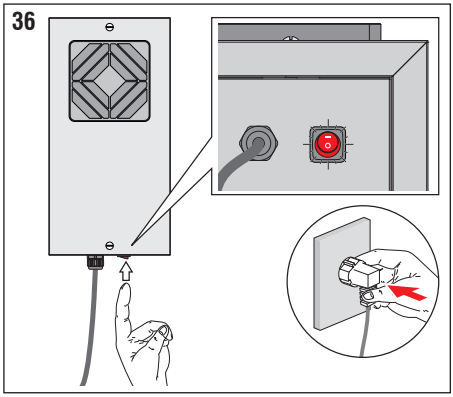
Fig. 35: Replace the cover and rescrew with the appropriate screws.



Clean the outside of the device with a damp cloth, using specific products for the cleaning of stainless steel.

Do not use liquid cleaners or sprays, soap or the like.

Fig. 36: Reconnect the power plug. In order to turn on the device act on the switch **0/I**, turning it to **I**. The button will illuminate, a slight noise coming from the ionising tube will be heard and the air flow generated by the fan will be perceived.



It should be remembered that failure to replace the ionising tubes when indicated by the device leads to a drop in system performance.

7.3.2 Replacing the ionising tubes JONIX steel 2C / 2CS / 4C / 4CS

In JONIX steel 2C/2CS/4C/4CS versions, replace the ionising tubes every time the specific LED lights up (**permanent yellow light**)).

The versions with remote 2CS/4CS management card in addition to visual reporting, also send the reporting to the Master RS485 management controller (such as **J-MASTER**[10]).

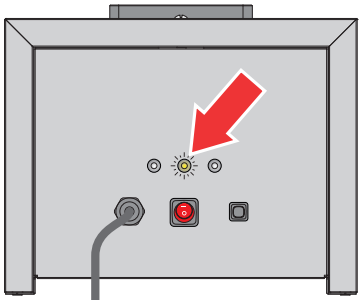


Fig. 37: Switch the device off by turning the luminous On/Off switch to **0**.

Remove the plug connected to the mains.

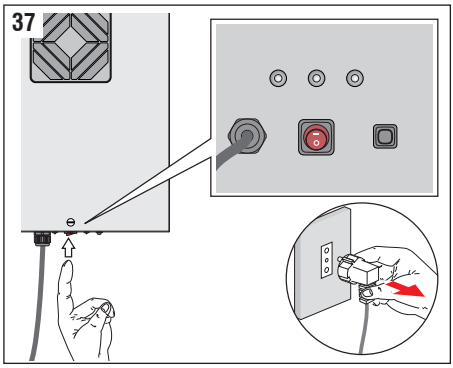


Fig. 38: Unscrew the fixing screw and remove the frontal cover from the device.

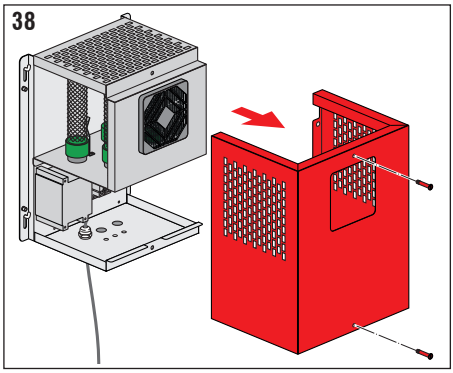
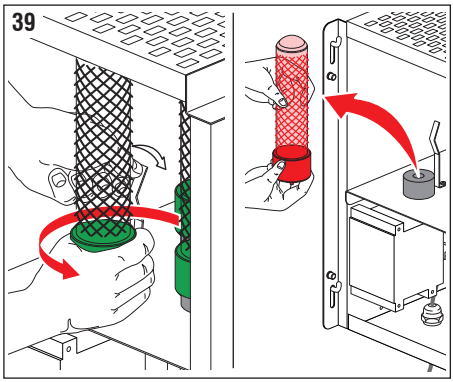


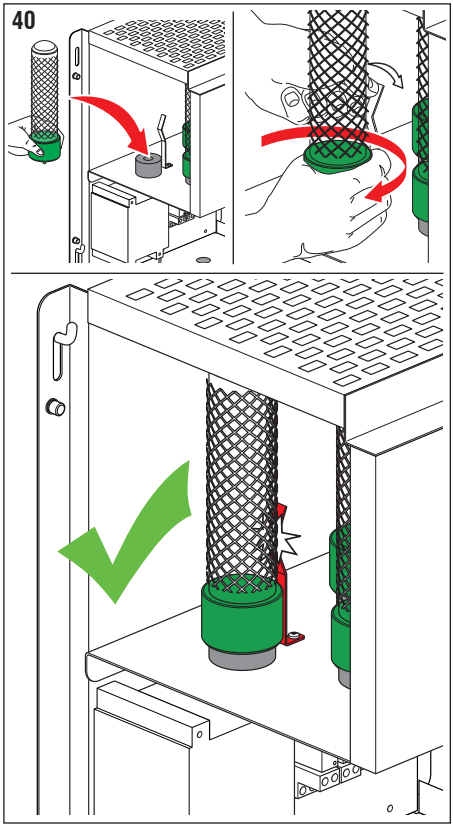
Fig. 39: Gently unscrew the ionising tubes, **using the green plastic base**.



If the operation is difficult to perform, pull slightly the earthing bracket so that it does not make contact with the surface of the tube.

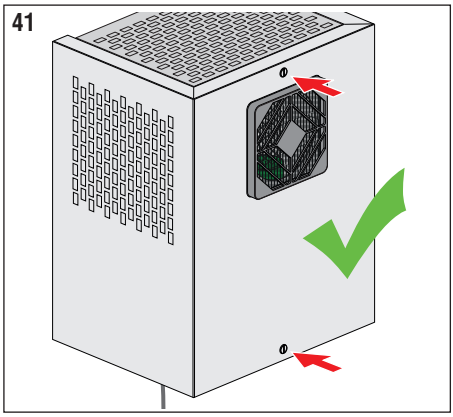
Fig. 40: Screw delicately the ionising tube holding on to the base (green part).
If the operation is difficult to perform, pull slightly the earthing bracket so that it does not make contact with the surface of the tube.

ATTENTION: do not overtighten the screw after reaching its end stop.



Check that the earthing spring is in contact with the outer mesh once the ionising tubes have been screwed back into place. Otherwise contact the manufacturer.

Fig. 41: Replace the cover and rescrew with the appropriate screws.



Clean the outside of the device with a damp cloth, using specific products for the cleaning of stainless steel.

Do not use liquid cleaners or sprays, soap or the like.

Fig. 42: Reconnect the power plug.
In order to turn on the device act on the switch **0/I**, turning it to **I**.

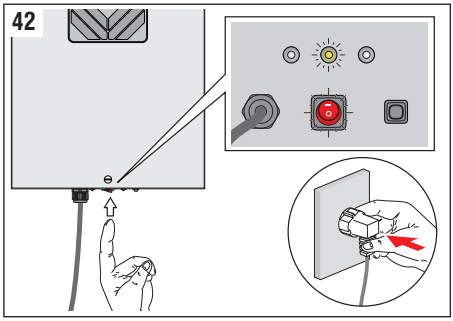
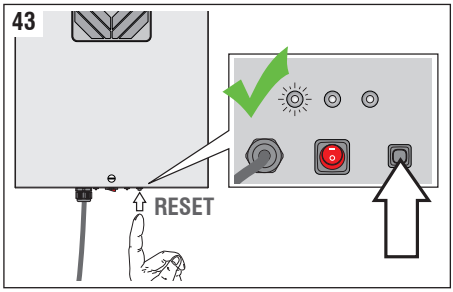


Fig. 43: Hold down the reset button until the LED that signals the need for maintenance (**yellow indicator**) turns off and the LED that signals the proper functioning turns on (**green indicator**).
Monitor the functioning of the device, a slight noise coming from the ionising tube has to be heard and the air flow generated by the fan will be perceived.



In the JONIX steel 2CS/4CS versions, the reset, as well as via key, can also be performed by the Master RS485 Modbus controller (type J-Master[10]).

It should be remembered that failure to replace the ionising tubes when indicated by the device leads to a drop in system performance.

7.3.3 Replacing the ionising tubes JONIX steel 2F / 2FS / 4F / 4FS

In JONIX steel 2F/2FS/4F/4FS versions, replace the ionising tubes every time the specific LED lights up (**permanent yellow light**)).

The versions with remote 2FS/4FS management card in addition to visual reporting, also send the reporting to the Master RS485 management controller (such as **J-MASTER**[10]).

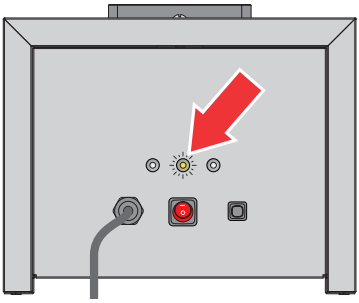


Fig. 44: Switch the device off by turning the luminous On/Off switch to **0**.

Remove the plug connected to the mains.

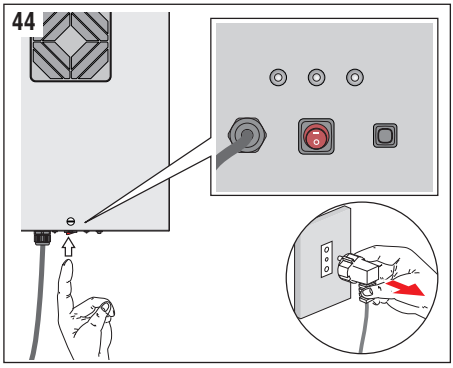


Fig. 45: Unscrew the fixing screw and remove the frontal cover from the device.

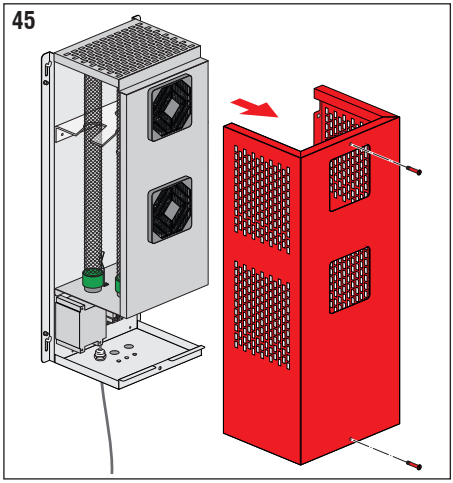
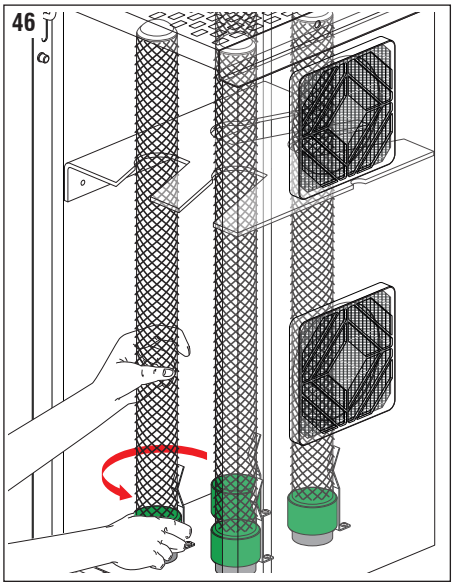
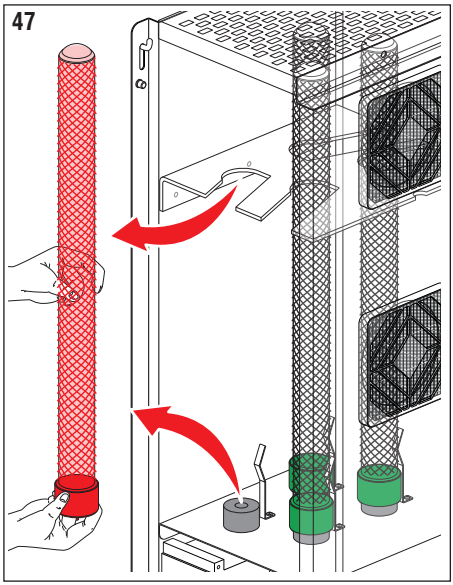


Fig. 46: Gently unscrew the ionising tubes, **using the green plastic base**.



It is recommended to hold on to the tube (at about half its height) with the other hand in order to facilitate the operation.

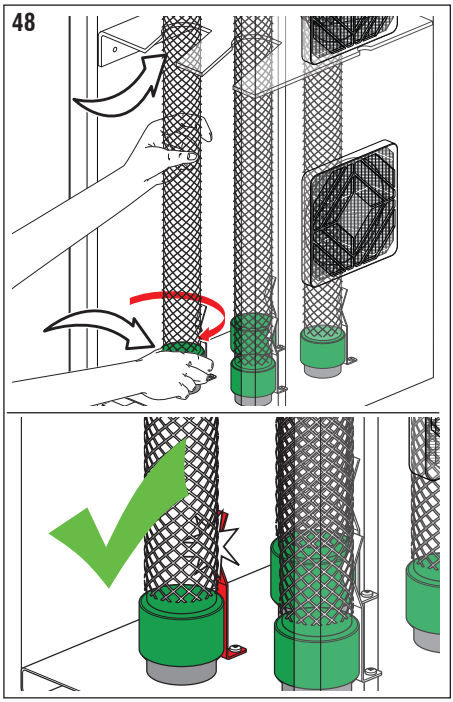
Fig. 47: Remove the tube following the profile in the condenser support plate.



If the operation is difficult to perform, pull slightly the earthing bracket so that it does not make contact with the surface of the tube.

Fig. 48: Gently screw the ionising tube holding on to the base (green part), holding it in vertical position with the other hand and inserting it in the shaped profile of the condenser support plate.
If the operation is difficult to perform, pull slightly the earthing bracket so that it does not make contact with the surface of the tube.

ATTENTION: do not overtighten the screw after reaching its end stop.



Check that the earthing spring is in contact with the outer mesh once the ionising tubes have been screwed back into place. Otherwise contact the manufacturer.

Fig. 49: Replace the cover and rescrew with the appropriate screws.

Clean the outside of the device with a damp cloth, using specific products for the cleaning of stainless steel.

Do not use liquid cleaners or sprays, soap or the like.

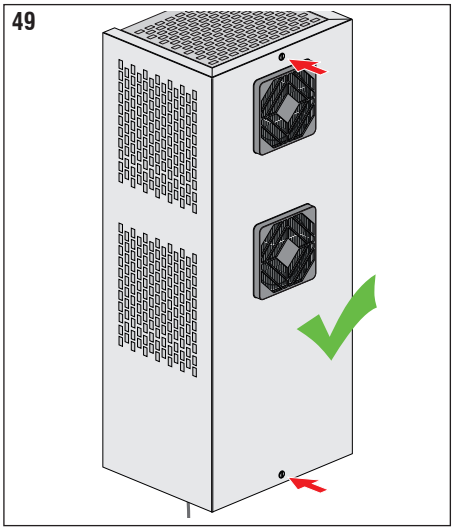


Fig. 50: Reconnect the power plug.
In order to turn on the device act on the switch **0/I**, turning it to **I**.

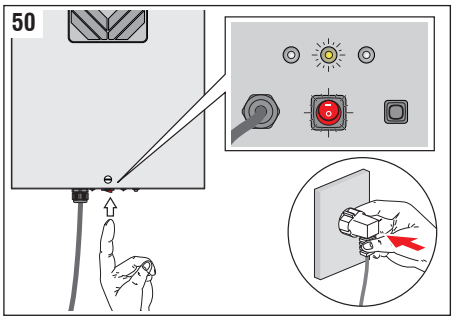
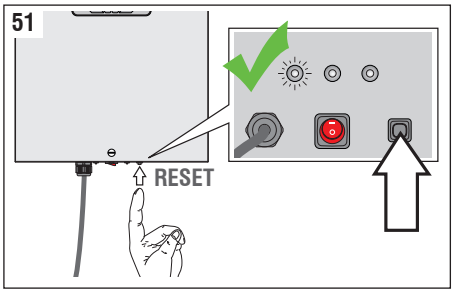


Fig. 51: Hold down the reset button until the LED that signals the need for maintenance (**yellow indicator**) turns off and the LED that signals the proper functioning turns on (**green indicator**).
Monitor the functioning of the device, a slight noise coming from the ionising tube has to be heard and the air flow generated by the fan will be perceived.



In the JONIX steel 2FS/4FS versions, the reset, as well as via key, can also be performed by the Master RS485 Modbus controller (type J-Master[10]).

It should be remembered that failure to replace the ionising tubes when indicated by the device leads to a drop in system performance.

8 - OPERATIONAL CHECK AND TROUBLESHOOTING

This section summarises the most common problems that may arise when using the unit. Before contacting customer services, carry out the checks listed below.

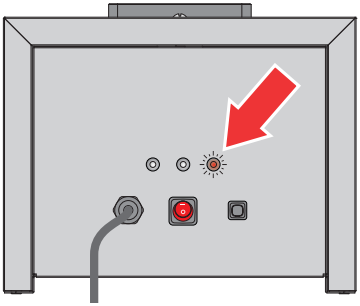
PROBLEM	POSSIBLE CAUSE	SOLUTION
The green LED indicating device operation is switched off.	The unit is not powered.	Check that the switch is in position “I”.
		Check that the plug is connected to the mains power socket.
		Verify the presence of electricity in the distribution network.
		Check that the power socket to which the device is connected works.
		Verify the status of the fuse inside the device (described in chap. 4 of this manual). In case it is burnt contact the manufacturer.
	Master Modbus RS485 module keeps the device on stand-by (S version only).	Check the programming of the Modbus concentrator.
No sizzling noise comes from inside the module.	The ionising tubes are faulty.	Follow the instructions in section “7.3 - Extraordinary Maintenance”.
	The ionising tubes and fan mesh filter need cleaning.	Follow the instructions in section “7.3 - Extraordinary Maintenance”.
JONIX steel 2C/2CS/4C/4CS/2F/2FS/4F/4FS: it is not heard any noise coming from inside the module and the LED indicating the need for maintenance of the device is turned on with blinking light (yellow indicator).	The ionising tubes and fan mesh filter need cleaning.	Follow the instructions in section “7.2 - Routine Maintenance”.
JONIX steel 2C/2CS/4C/4CS/2F/2FS/4F/4FS: it is not heard any noise coming from inside the module and the LED indicating the need for maintenance of the device is turned on with permanent light (yellow indicator).	The ionising tubes need replacing.	Follow the instructions in section “7.3 - Extraordinary Maintenance”.

PROBLEM	POSSIBLE CAUSE	SOLUTION
It is not heard any noise coming from inside the module and the LED indicating damage is turned on with permanent light (red indicator).	The ionising tubes are faulty.	Follow the instructions in section “7.3 - Extraordinary Maintenance”.
	The tube has to be replaced before time.	
	Malfunction of an electric component.	Consult specialized personnel.
	Configuration error parameters management card Remote Modbus.	Check that the 17 parameters (on/off modbus piloting) and 21 (in2 enabling for generators activation) DO NOT HAVE the same value.

8.1 LED SIGNAL FOR MALFUNCTION (JONIX steel 2C /2CS /2F /2FS/4C /4CS/4F/2FS)

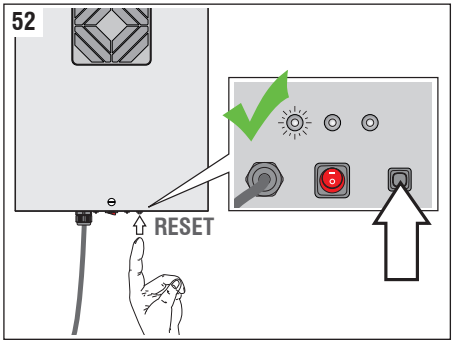
In the event that a device malfunction persists, unplug it from the mains and contact qualified staff.

JONIX steel 2C/2CS/2F/2FS/ 4C/4CS/4F/4FS versions are equipped with an indicator of malfunctioning in case of malfunctioning (**red indicator**).



Before contacting customer services, carry out the checks listed in the previous page.

Fig. 52: After the problem is solved, turn on the device, hold down the reset button until the LED that signals the malfunction turns off (**red indicator**) and the LED indicating the proper functioning of the device turns on (**green indicator**).
Monitor the functioning of the device, a slight noise coming from the ionising tube has to be heard and the air flow generated by the fan will be perceived.



In the event that you experience a malfunction other than those described above contact qualified staff (retailer, Manufacturer).

Unplug the device from the mains and contact qualified staff for assistance even in the event of one or several of the cases below:

- The power cable is damaged or worn.
- The plug is damaged or worn.
- Water or liquid has been poured onto the device.
- In the event that there is a malfunction despite all the installation procedures have been carried out properly.

9 - DISPOSAL

When JONIX steel devices are no longer used they must be disposed of in compliance with the regulations in force in the country of installation. The unit consists of the following materials:

- Stainless steel.
- Aluminium.
- Glass.
- Nylon.
- Plastic.
- Paper and Cardboard.
- Wood.

WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT MANAGEMENT

This product falls within the application scope of the Directive 2012/19/EU concerning the management of waste electrical and electronic equipment (WEEE). Equipment must not be disposed of with household waste as it is made of different materials that can be recycled at special facilities. Please inquire through your municipal authorities as to the location of the eco-friendly waste management sites where waste can be received for disposal and its subsequent recycling as recommended. Furthermore, please note that, when an equivalent appliance is purchased, the seller is expected to collect free of charge the old product to be disposed of. The product is not potentially dangerous for human health and the environment, as it does not contain any harmful substances according to the Directive 2011/65/EU (RoHS), but if disposed of freely in the environment, it might adversely affect the ecosystem.

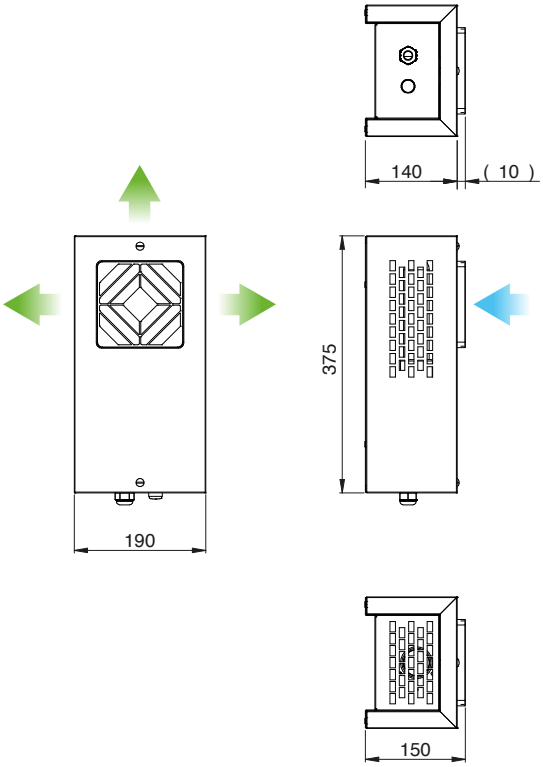
Read the instructions carefully before using the equipment for the first time. It is strongly recommended not to use the product for any purpose other than that for which it was designed, to prevent the risk electric shock if the product is used incorrectly.

ATTACHMENTS

OVERALL DIMENSIONS JONIX steel 1C

: ambient air.

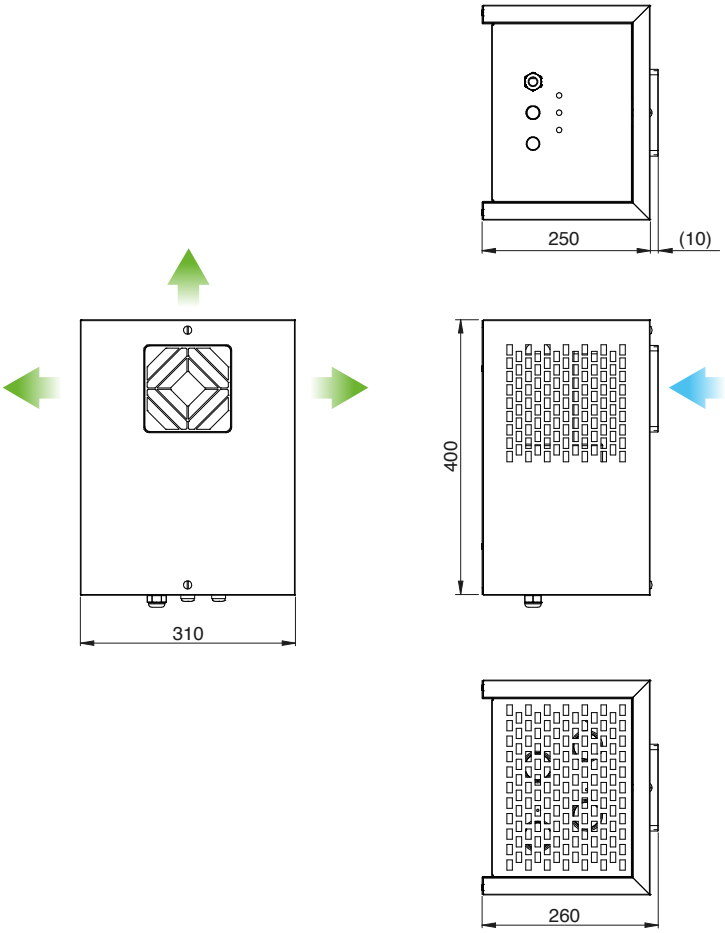
: ionised air flow.



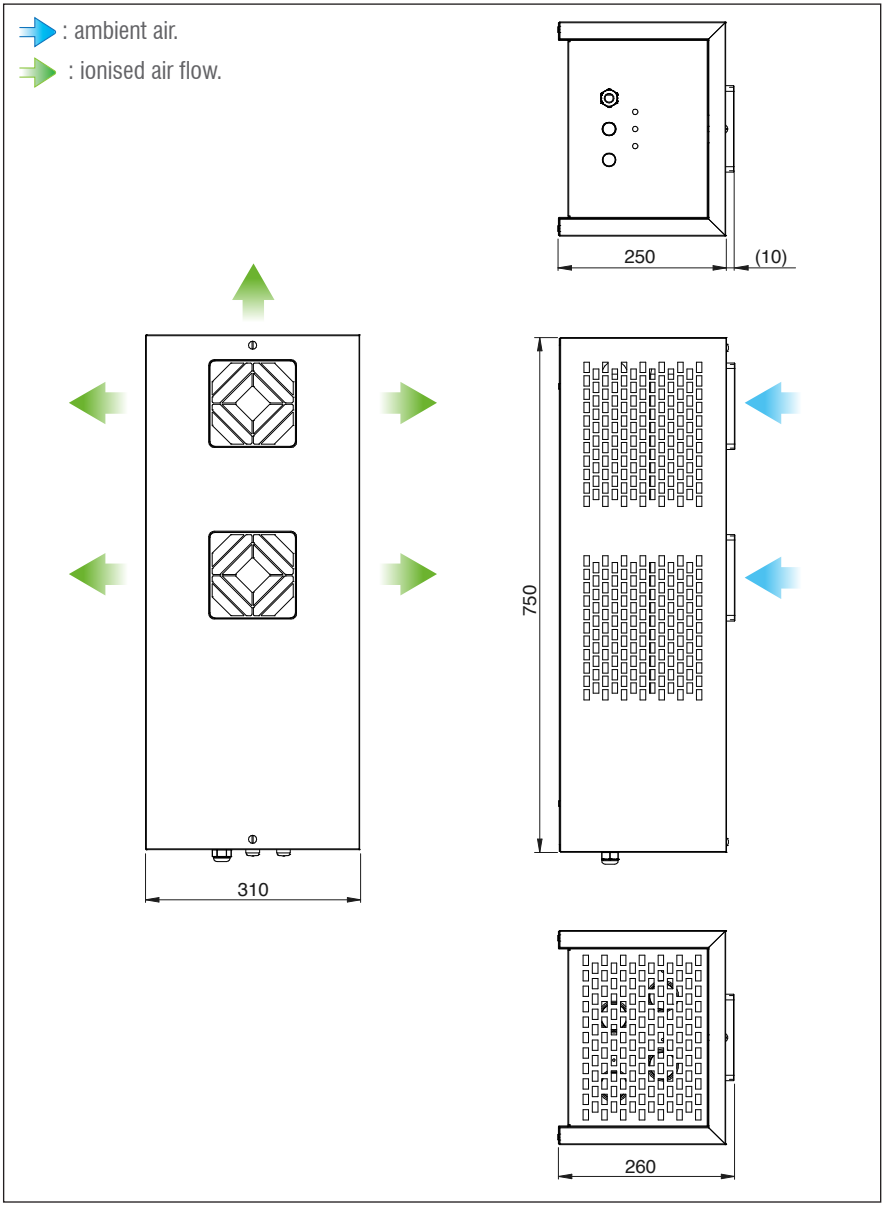
OVERALL DIMENSIONS JONIX steel 2C/2CS/4C/4CS

: ambient air.

: ionised air flow.



OVERALL DIMENSIONS JONIX steel 2F/2FS/4F/4FS



NOTES

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