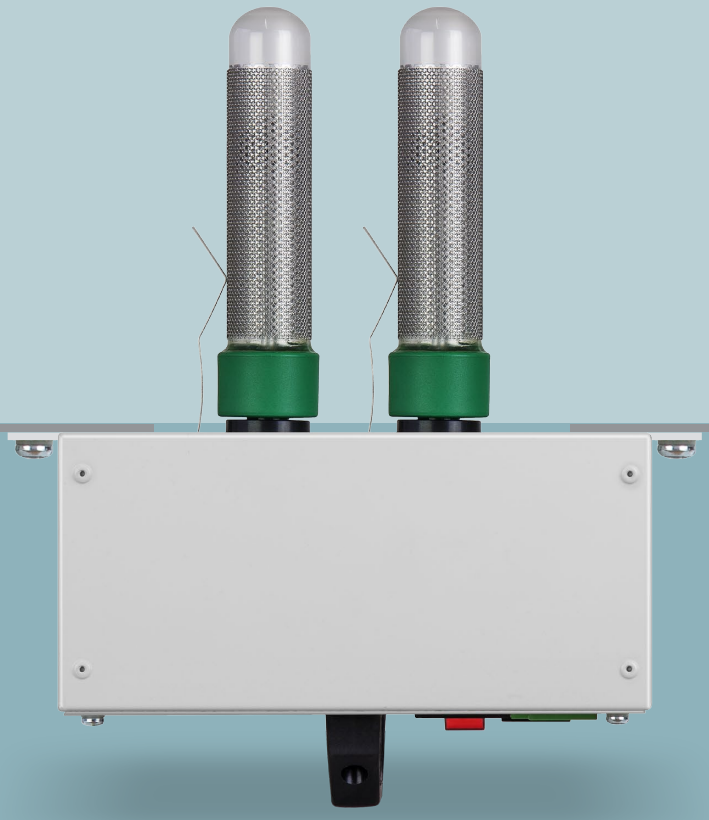
JONIX inside Technology

JONIX
pure living

JONIX steel NON THERMAL PLASMA TECHNOLOGY

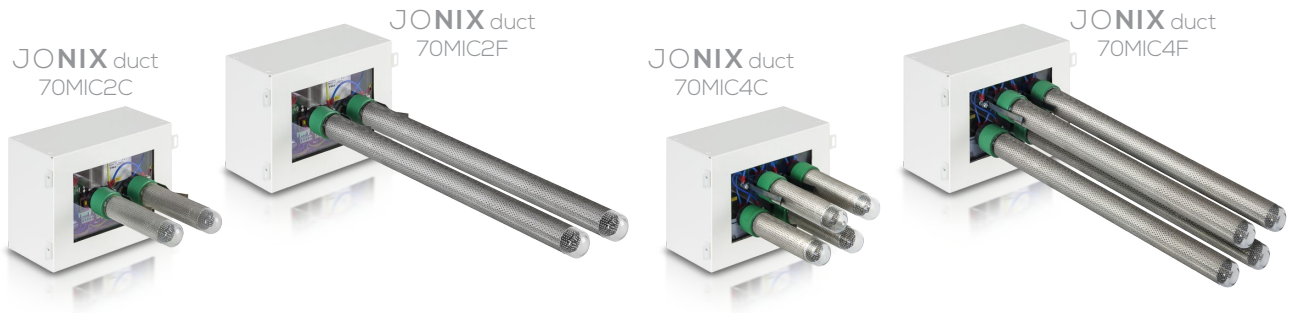
SANITIZATION AND DECONTAMINATION OF AERAULIC DUCTS



MADE IN ITALY

SANITITAZION AND DECONTAMINATION OF AERAULIC DUCTS

Bacterial and chemical pollutants develop inside air distribution systems and are transported by the airflow to the rooms.
JO**NIX** duct with cold plasma technology eliminates bacteria, viruses, moulds, chemical pollutants, VOC and odours ensuring bacterial decontamination of the ducts' internal surfaces as well as of the air that flows through.
The devices are easy to install thanks to the connections supplied as standard.



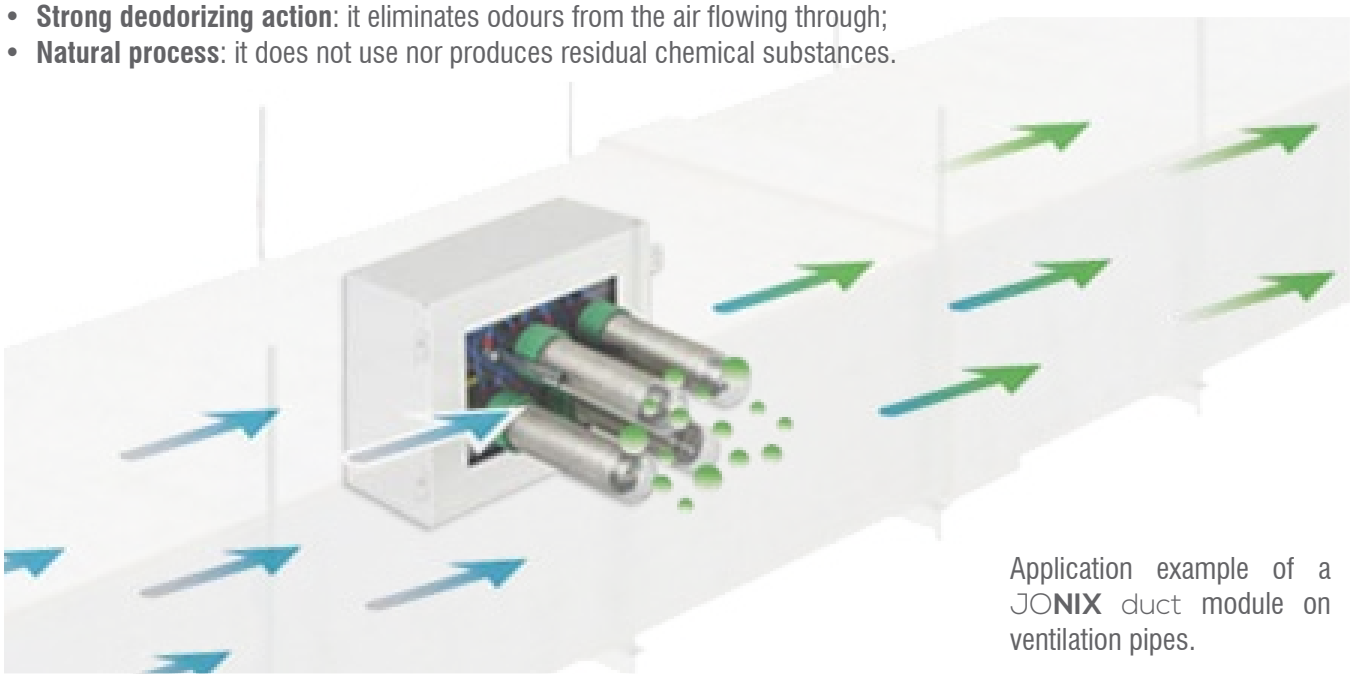
There are four different models, that is four versions of increasing power level, which can be assembled to form a unit consisting of one version only; it is also possible to create a unit consisting of a combination of different versions to match the volume of the air to be treated.

NTP TECHNOLOGY
(NON THERMAL-PLASMA)

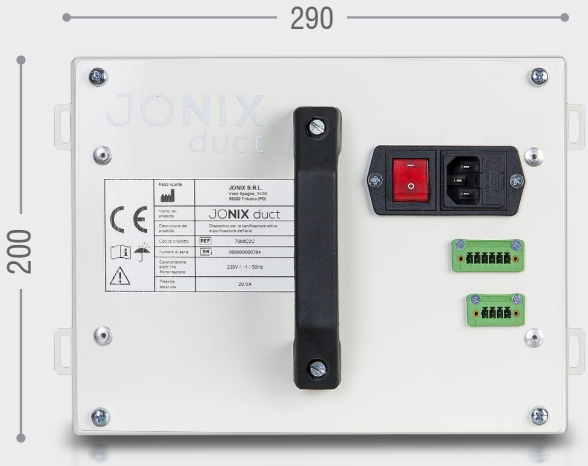
With the word plasma we mean a blend of ionized gases composed by a large quantity of energized particles, such as ions and electrons, free radicals, ROS, molecules as well as neutral atoms. The ionization of an atom occurs when an electron acquires enough energy to overcome the attractive forces of the atom nucleus. When this result is obtained with processes generating a plasma in which the temperature of the ions and neutral atoms is significantly lower than the temperature of electrons, we are talking about cold plasma and Non-Thermal Plasma (NTP).
The cold plasma is emitting light with wavelengths in both the visible part and the spectrum ultraviolet part. Beside the emission of UV radiations, an important feature of the low-temperature plasma is the presence of strongly reactive high-energy electrons, that generate a number of chemical and physical processes such as oxidation, over-energizing of atoms and molecules, the production of free radicals and other reactive particles. A plasma can be artificially generated supplying a gas with a sufficiently high energy, that means giving a gas energy so as to reorganize the electronic structure of the species (atoms, molecules) and produce over-energized species and ions. One of the most common ways of artificially creating and maintaining a plasma is through a gas electric discharge. **NTP** JO**NIX** technology makes use of the so called non-thermic discharges with a dielectric barrier method. The potentialities of ionization and the density of charged species generated from the plasma with electrical barrier discharge (DBD) are higher compared to the ones present in the non-thermic plasma generated by other systems.

The most significant features of JONIX duct are:

- **High efficiency**: reduction of bioburden and of volatile organic compounds up to 99% compared to the initial concentration;
- **Low power consumption**: from 20 to 40 VA;
- **Strong deodorizing action**: it eliminates odours from the air flowing through;
- **Natural process**: it does not use nor produces residual chemical substances.



Application example of a JONIX duct module on ventilation pipes.



CONTROL PANEL

JONIX duct is supplied fully cabled and only requires connection to a standard 230V/ ~1/ 50Hz socket.

JONIX duct

JONIX duct is a cold plasma technology device for sanitizing, decontaminating and purifying the internal surfaces of the distribution pipes and the air that flows through them.
Designed to be easily installed in all kinds of ductwork where it is necessary to prevent or eliminate the formation of bacterial colonies on the surfaces of the ducts or of airborne ones.
JONIX duct is simple and essential. Consistent with an integrated management of the facilities, control and functions of the device can be managed remotely.

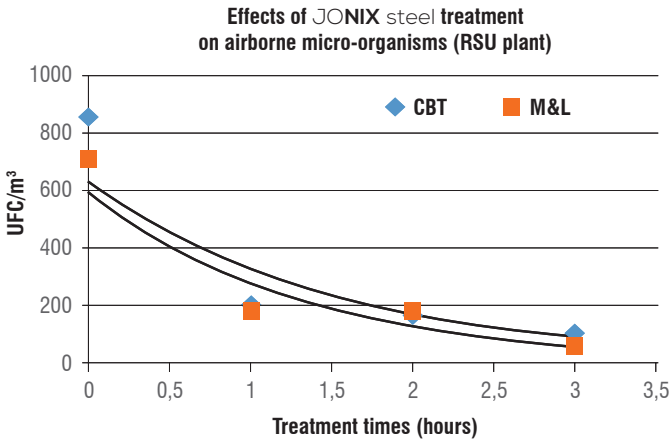
EVIRONMENTALLY FRIENDLY AND COMPATIBLE WITH HUMAN PRESENCE

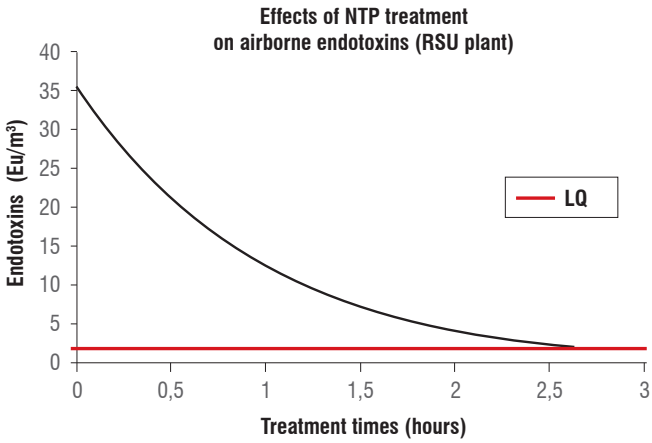
No chemical product is used and it has zero environmental impact. It continuously sanitizes both the air and the surfaces, no negative impact on materials. It eliminates the odours thereby improving indoor comfort. It guarantees the good quality of the air to the operators, in accordance with the regulations relating the safety of the workers.

EFFICIENCY

The bio acid activity occurs for the oxidation process of the membrane cell. Reactive particles carrying electric charges, among which the most important ones are the oxygen reactive species (for example atomic oxygen and ozone), which concentrate on the membrane surface causing its destruction. The device is efficient on: gram + and – bacteria, yeast and mould, virus, bacterial endotoxines, VOC (volatile organic compound), odours.
On new pipelines, non-thermal plasma (NTP) prevents the formation of bacterial colonies on the internal surfaces as well as the spreading of contamination through the airflow.
On existing pipelines, in case of bacterial colonies that have already developed, the non-thermal plasma oxidizes the microorganisms thus making any pre-existing particulate deposits microbiologically inert.
The bio acid and neutralization activity of polluting substances can be measured after few hours from the activation of the device.

JONIX duct removes chemical and organic odors , reactive particles break chemical bonds of odorous substances which then decompose.





Listeria monocytogenes | Staphylococcus aureus | Escherichia coli | Pseudomonas | Aspergillus brasiliensis | Salmonella | Legionella

APPLICATION SECTORS AND OPERATING CYCLES

The devices can be installed in any type of ductwork: PAL, galvanized steel, steel; textile pipes require a plenum connection. The device functioning can be operated on a continuous basis or in cycles based on specific needs.

ECOLOGICAL PLANNING

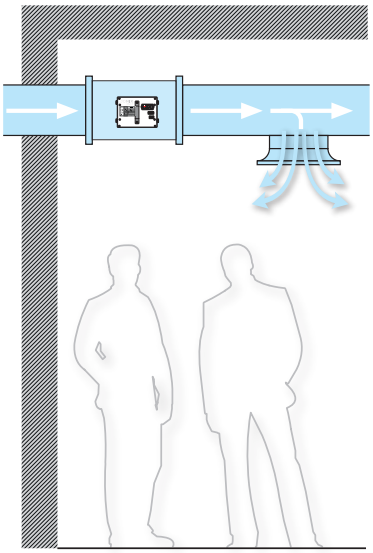
Ecological=no chemical products
JONIX duct uses no chemical products and produces no residual substances.

It can be used without interruptions, even when people are present, or activities are in progress.
Its continuous activity, besides purifying the air, generates a correct air ionization that ensures an environmental comfort for the reduction of stress from work, it encourages proper breathing. In order to protect and promote health in working environments.

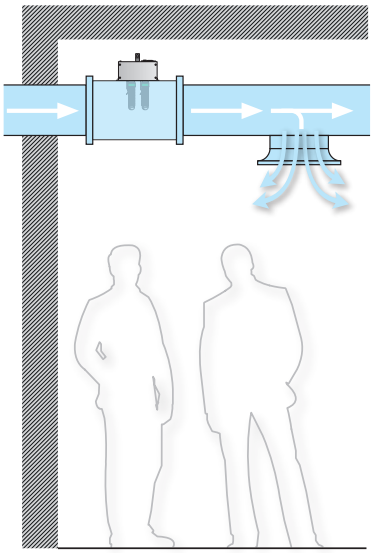
EASY TO INSTALL IN ANY DUCTWORK AND WITH ANY MATERIAL

JONIX duct devices – thanks to their adaptability and to their space-saving designs - can be easily fixed on either side of the duct. All you need is an opening on a wall (in horizontal or vertical position): the device can be fastened using the eyelets supplied as standard.

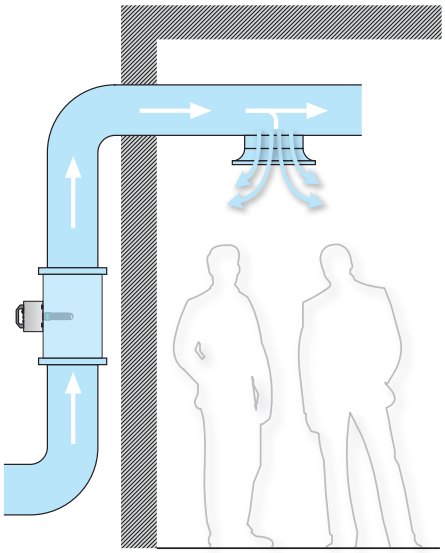
APPLICATION ON TOP AIR CONDUCTOR



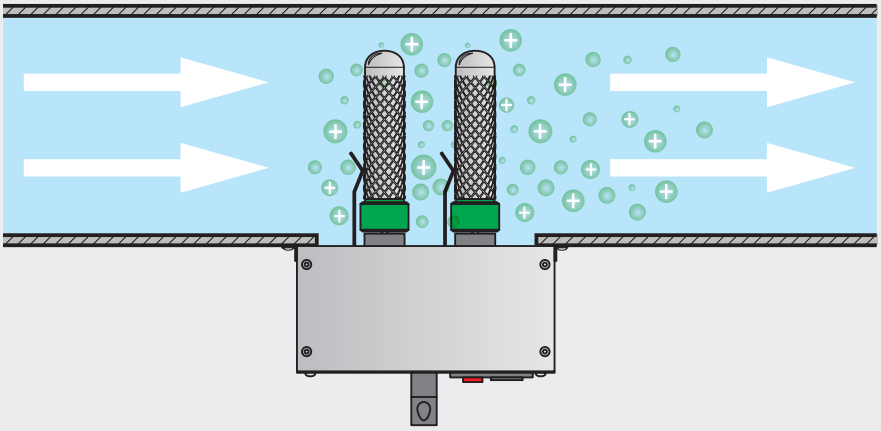
APPLICATION ON LOWER AIR CONDUCTOR



APPLICATION ON VERTICAL AIR CONDUCTOR



Fastening example of the JONIX duct module on ventilation pipes.



TECHNICAL FEATURES

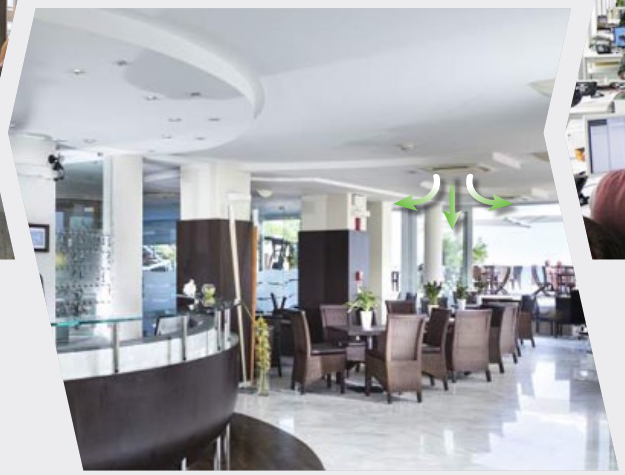
Model*	JONIX duct 70MIC2C	JONIX duct 70MIC4C	JONIX duct 70MIC2F	JONIX duct 70MIC4F
Plasma generators	2 x type 175	4 x type 175	2 x type 520	4 x type 520
Generators replacement	Every 14000 hours			
Generators maintenance	Every 4000 hours			
Built-in control electronics	The status of the device can be remotely displayed			
Air flow (m^3/h)	500	1000	2000	4000
Dimensions (mm)	290 x 350 x 200	290 x 350 x 200	290 x 700 x 200	290 x 700 x 200
Weight (kg)	4	5	5	6
Power supply	230 V / ~1 / 50 Hz			
Full load ampere (VA)	20	20	20	40

*: The different models can be assembled to form a unit consisting of one version only; it is also possible to create a unit consisting of a combination of different versions to match the volume of the air to be treated.

MADE IN ITALY
Designed and created by expert technicians specialized on air purification.

Shopping centers

Offices



Hotel

Hallmark for health and living comfort
in confined spaces
(UNI EN 16000- UNI EN14 412).

Validated product
biosafe.it

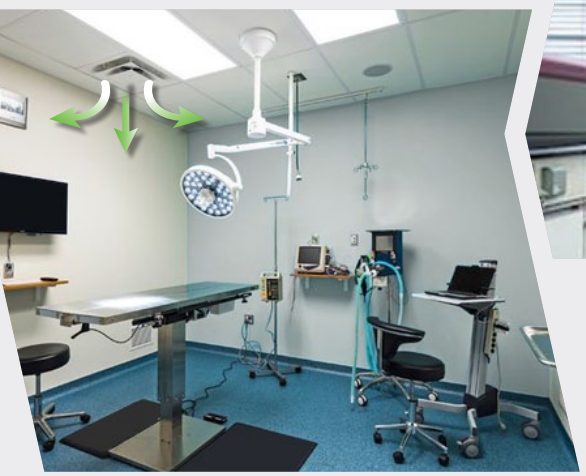
Reference standards
NATIONAL LAWS AND STANDARDS
Valid for the following categories: Civil, Industrial, and Healthcare sectors
Italian Legislative Decree 81/2008 Consolidated Law on Health and Safety in the Workplace of 10th April 2008 (published in the Ordinary Supplement No. 108 of the Offical Gazette No. 101 of 30th April 20081; Legislative Decree No. 81 was published on 9th April 2008) • Guidelines issued by the Italian Presidency of the Council of Ministers (Permanent Conference for relations between the State and the Regions), Center for disease control and prevention, General Directorate of Health prevention, Dept. II entitled: "Outline of guidelines for the prevention of indoor risk factors for allergies and asthma in schools" of 18th November 2010 • Guidelines issued by the Italian Presidency of the Council of Ministers (Permanent Conference for relations between the State and the Regions), entitled (Outline of Guidelines for the definition of technical protocols for predictive maintenance on air conditioning systems" of 5th October 2006. • Guidelines issued by the Italian Presidency of the Council of Ministers (Permanent Conference for relations between the State and the Regions), "Operating procedure for the appraisal and management of risks connected to the sanitation of air treatment systems" of 7th February 2013 • Guidelines for preventing and controlling legionellosis O. G. No. 103, of 5th May 2000 (Ministry of Health - Permanent Conference for relations between the State, the Regions and the Independent Provinces of Trento and Bolzano) • Guidelines indicating recommendations on legionellosis for managers of tourist and spa facilities of 13th January 2005 (Permanent Conference for relations between the State, the Regions and the independent provinces of Trento and Bolzano) • Guidelines for preventing and controlling legionellosis of 7th May 2015 (Ministry of Health - Permanent Conference for relations between the State, the Regions and the independent Provinces of Trento and Bolzano) • Guidelines issued by the Italian Presidency of the Council of Ministers (Permanent Conference for Relations between the State and the Regions) entitled "Guidelines for the protection and the promotion of health in confined environments and for the prevention and control of legionellosis" of 27th September 2001.

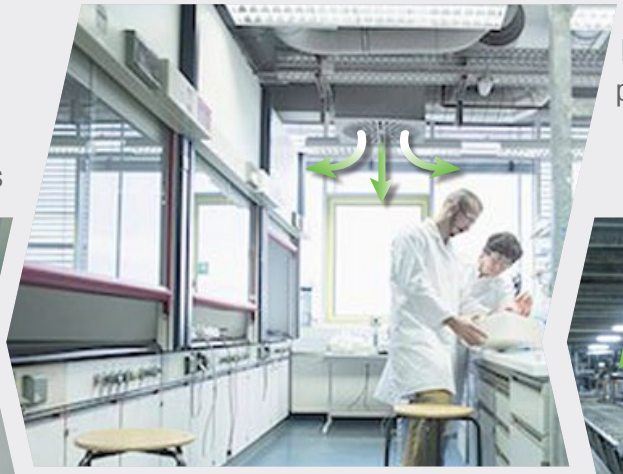
REGIONAL LAWS AND STANDARDS
Valid for the following categories: Civil, Industrial, and Healthcare sectors
Region: Liguria, Law No. 24 of 2nd July 2002 • Region: Puglia, Law No. 45 of 23rd December 2008 "Health provisions." • Region: Emilia Romagna -resolution of the Regional Council No. 1115 of 21st July 2008 "Regional guidelines for monitoring and controlling legionellosis". • Region: Molise – Law No. 15 of 13th July 2011 "Regulations for the prevention of the spreading of infectious diseases". • Guidelines for the prevention and control of legionellosis in Lombardy of 28/02/2005, Directorate-General for Health Decree No. 2907.

Valid for the following categories: Healthcare sector
Regional law of Lombardy No. 33 of 30th December 2009 - New Regional Consolidated laws on health and Implementing Decree No. 1751 dated 24/02/2009 of the Directorate-General for Health of Lombardy.

Pharmaceutical preparations

Veterinary surgeries





Food industry

JONIX
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JONIX srl
Registered office and Operational Headquarters:
Viale Spagna 31/33 35020 Tribano Padova
Research and Development headquarters:
Via Tegulaia 10/b 56121 Pisa

e-mail: info@jonixair.com
web: www.jonixair.com