Food Technology

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JONIX
pure living

JONIX steel NON THERMAL PLASMA TECHNOLOGY

DEVICES FOR INDOOR AIR AND SURFACES SANITIZATION IN FOOD PROCESS AND STORAGE

JONIX

Tested against Covid-19
by the University of Padua
Bacteria, Moulds,
VOCs and Viruses

up to
-99,9% *

jonixair.com



*) We must remind you that the reductions in bacteria-moulds-VOC-viruses may vary from those indicated based on the characteristics of the environment and its use (size, presence density, ventilation, basic hygienic conditions). The virucidal activity was tested using the SARS – CoV-2 (Covid-19) strain. All experiments were conducted in a Biosafety Level 3 Laboratory (BSL3). The use of Jonix devices DOES NOT exclude compliance with the provisions for the prevention and containment of the pandemic.

Effectiveness tested on:

covid-19 V.O.C. odours bacteria mould virus

TECHNOLOGY

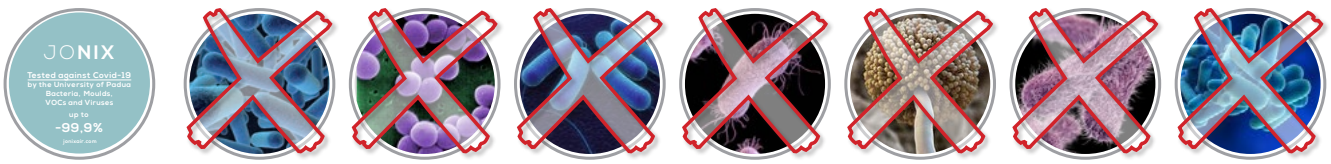
JO**NIX** uses the advanced oxidation process to decontaminate air induced by a NON-THERMIC PLASMA JO**NIX** steel air sanitization devices with NTP (Non-Thermal Plasma) are used to sanitize and decontaminate both air and surfaces.

NTP TECHNOLOGY (NON THERMAL-PLASMA)

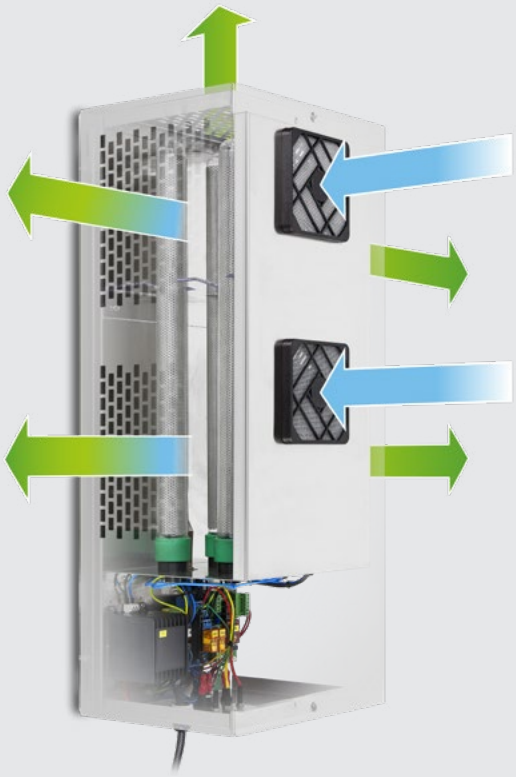
With the word plasma we mean a blend of ionized gases composed by a large quantity of energized particles, such as ions and electrons, free radicals, ROS, molecules as well as neutral atoms. The ionization of an atom occurs when an electron acquires enough energy to overcome the attractive forces of 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.

EFFICIENCY

The bio acid and neutralization activity of polluting substances can be measured after few hours from the activation of the device. The continuous functioning of the device blocks the spreading of bio hazardous agents generated on a continuous basis during production.
The oxidation of microorganisms 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.
JO**NIX** steel removes chemical and organic odors , reactive particles break chemical bonds of odorous substances which then decompose.



JO**NIX** steel is a unit of sanitization, with a cold plasma technology for purifying and decontaminating the air. Ideal for environments for producing, packaging, preserving where it is necessary to constantly eliminate microbial contamination of air and surfaces. It can be easily installed on a wall or placed on a horizontal plane. The device is designed to allow uniform propagation of the purified air thanks to the front ventilation system of intake and to the openings to the sides. They guarantee the optimal air outlet. Compact and silent, the JO**NIX** steel unit eliminates quickly all kinds of bacteria and chemical contaminants. JO**NIX** steel is simple and essential. Consistent with an integrated management of the facilities, control and functions of the device can be managed remotely.



JO**NIX** steel: **Maximum value for your produce, minimum cost for your business.**

Efficiency and Safety for your Cold Room Jonix Steel ensures continuous sanitization of air and surfaces, creating the ideal environment for fresh produce storage.

Extend Shelf-Life: Stops bacteria to keep products fresh for longer.

Total Protection: Eliminates mold, protecting stock and reducing cleaning costs/time.

Safe Workspace: Drastically reduces mold spores and bacteria for a healthier staff environment.

Zero Contamination: Continuous surface disinfection for 24/7 product safety.

TECHNICAL FEATURES

MODEL Designed to be suitable for all environments and to be installed in small spaces, given the different fixing solutions.	**steel 1C**	**steel 2C**	**steel 4C**	**steel 2F**	**steel 4F**
Code	70STEEL1C	70STEEL2C	70STEEL4C	70STEEL2F	70STEEL4F
Plasma generators	1 x 175 mm type	2 x 175 mm type	4 x 175 mm type	2 x 520 mm type	4 x 520 mm type
Size	190 L x 150 P x 375 H mm	310 L x 260 P x 400 H mm	310 L x 260 P x 400 H mm	310 L x 260 P x 750 H mm	310 L x 260 P x 750 H mm
Weight	5 kg	9 kg	10 kg	14 kg	15 kg
Sound pressure Lp. Leq.	47 dB (A)	50 dB (A)	50 dB (A)	50 dB (A)	50 dB (A)
Type of power supply	230 V / 1~ / 50 Hz	230 V / 1~ / 50 Hz	230 V / 1~ / 50 Hz	230 V / 1~ / 50 Hz	230 V / 1~ / 50 Hz
Consumption	33 W	36 W	37 W	65 W	67 W
Ventilation type	1 axial fan	1 axial fan	1 axial fan	2 x axial fan	2 x axial fan
Filter	Dust-proof SAE 304 stainless steel	Dust-proof SAE 304 stainless steel	Dust-proof SAE 304 stainless steel	Dust-proof SAE 304 stainless steel	Dust-proof SAE 304 stainless steel
Colour	AISI 304 stainless steel	AISI 304 stainless steel	AISI 304 stainless steel	AISI 304 stainless steel	AISI 304 stainless steel

APPLICATION SECTORS AND OPERATING CYCLES

This device can be used in food processing, packaging and preservation environments inside positive and negative cold rooms.
The device functioning can be operated on a continuous basis or in cycles based on specific needs.

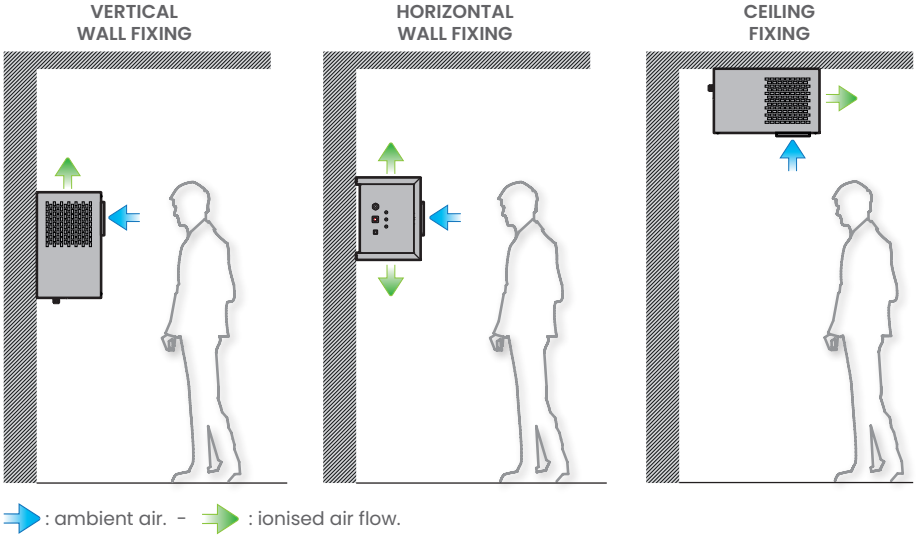
ECOLOGICAL PLANNING

Ecological=no chemical products
JO**NIX** steel uses no chemical products and produces no residual substances.

It can be used inside the cold rooms.

GREAT ADAPTABILITY AND DIFFERENT INSTALLATION SOLUTIONS

JO**NIX** steel devices – thanks to their adaptability and to their space-saving designs - can be easily fixed on a **wall** (horizontally or vertically) or on a **ceiling**.







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

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.

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





MINI COLD ROOMS - positive temperature

Legend:

ALWAYS ON		
T1	1 HOUR ON	1 HOUR OFF
T2	1 HOUR ON	2 HOUR OFF
T3	1 HOUR ON	3 HOUR OFF

	Category / Product	2.5 m³	3.0 m³	4.0 m³	5.0 m³	6.0 m³	7.0 m³	8.0 m³	9.0 m³	10.0 m³	11.0 m³	12.0 m³
		STEEL										
Meat	Beef / pork / lamb meat	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C
	Ground meat	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C
	Poultry (chicken, turkey, rabbit)	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C
	Offal	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C
	Fresh sausages / uncooked cured meats	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C
Fish	Fresh fish	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C
	Shellfish and crustaceans	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C
	Fresh smoked fish	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C
Dairy products	Fresh pasteurized milk	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C
		(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)
	Yogurt	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C
		(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)
	Fresh cheeses (ricotta, mozzarella)	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C
		(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)
	Fresh cream	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C
		(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)
Eggs	Whole eggs	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C
	Pasteurized egg products	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C
		(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)
Vegetable	Leafy vegetables (lettuce, spinach)	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C
		(T2)	(T2)	(T2)	(T2)	(T2)	(T2)	(T2)	(T2)	(T2)	(T2)	(T2)
	Vegetables (peppers, carrots, zucchini)	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C
		(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)
Fruit	Delicate fruits (strawberries, grapes, berries)	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C
		(T2)	(T2)	(T2)	(T2)	(T2)	(T2)	(T2)	(T2)	(T2)	(T2)	(T2)
	Resistant fruits (apples, pears, citrus)	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C
		(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)
Others	Fresh pasta (non-pasteurized)	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C
		(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)
	Ready-to-eat fresh meals	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C
		(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)
	Fresh sauces (pesto, ready sauces)	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C
		(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)	(T1)
	Frozen products (all types)	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C	1C

COMMERCIAL COLD ROOMS - positive temperature

Legend:

ALWAYS ON		
T1	1 HOUR ON	1 HOUR OFF
T2	1 HOUR ON	2 HOUR OFF
T3	1 HOUR ON	3 HOUR OFF

	Category / Product	6.0 m³	10.0 m³	12.0 m³	15.0 m³	18.0 m³	20.0 m³	25.0 m³	30.0 m³	35.0 m³	40.0 m³	45.0 m³	50.0 m³	60.0 m³
		STEEL												
Meat	Beef / pork / lamb meat	1C	1C	1C	1C	1C	1C	1C	1C	2C (T1)	2C (T1)	2C	2C	2C
	Ground meat	1C	1C	1C	1C	1C	1C	1C	1C	2C (T1)	2C (T1)	2C	2C	2C
	Poultry (chicken, turkey, rabbit)	1C	1C	1C	1C	1C	1C	1C	1C	2C (T1)	2C (T1)	2C	2C	2C
	Offal	1C	1C	1C	1C	1C	1C	1C	1C	2C (T1)	2C (T1)	2C	2C	2C
	Fresh sausages / uncooked cured meats	1C	1C	1C	1C	1C	1C	1C	1C	2C (T1)	2C (T1)	2C	2C	2C
Fish	Fresh fish	1C	1C	1C	1C	1C	1C	1C	1C	2C (T1)	2C (T1)	2C	2C	2C
	Shellfish and crustaceans	1C	1C	1C	1C	1C	1C	1C	1C	2C (T1)	2C (T1)	2C	2C	2C
	Fresh smoked fish	1C	1C	1C	1C	1C	1C	1C	1C	2C (T1)	2C (T1)	2C	2C	2C
Dairy products	Fresh pasteurized milk	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C	1C	2C (T2)	2C (T2)	2C (T1)	2C (T1)	2C
	Yogurt	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C	1C	2C (T2)	2C (T2)	2C (T1)	2C (T1)	2C
	Fresh cheeses (ricotta, mozzarella)	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C	1C	2C (T2)	2C (T2)	2C (T1)	2C (T1)	2C
	Fresh cream	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C	1C	2C (T2)	2C (T2)	2C (T1)	2C (T1)	2C
Eggs	Whole eggs	1C	1C	1C	1C	1C	1C	1C	1C	2C (T1)	2C (T1)	2C	2C	2C
	Pasteurized egg products	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C	1C	2C (T2)	2C (T2)	2C (T1)	2C (T1)	2C
Vegetable	Leafy vegetables (lettuce, spinach)	1C (T2)	1C (T2)	1C (T2)	1C (T2)	1C (T2)	1C (T2)	1C (T1)	1C (T1)	2C (T3)	2C (T3)	2C (T2)	2C (T2)	2C (T1)
	Vegetables (peppers, carrots, zucchini)	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C	1C	2C (T2)	2C (T2)	2C (T1)	2C (T1)	2C
Fruit	Delicate fruits (strawberries, grapes, berries)	1C (T2)	1C (T2)	1C (T2)	1C (T2)	1C (T2)	1C (T2)	1C (T1)	1C (T1)	2C (T3)	2C (T3)	2C (T2)	2C (T2)	2C (T1)
	Resistant fruits (apples, pears, citrus)	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C	1C	2C (T2)	2C (T2)	2C (T1)	2C (T1)	2C
Others	Fresh pasta (non-pasteurized)	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C	1C	2C (T2)	2C (T2)	2C (T1)	2C (T1)	2C
	Ready-to-eat fresh meals	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C	1C	2C (T2)	2C (T2)	2C (T1)	2C (T1)	2C
	Fresh sauces (pesto, ready sauces)	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C (T1)	1C	1C	2C (T2)	2C (T2)	2C (T1)	2C (T1)	2C
	Frozen products (all types)	1C	1C	1C	1C	1C	1C	1C	1C	2C	2C	2C	2C	2C


covid-19


V.O.C.


odours


bacteria


mould


virus

jonixair.com

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