

MicroDefender

*Confined Environment Protection from
Pathogenic Microorganisms®*

THE COMPANY

Work in Progress Bio-Medicalis a Company whose object is the research, development and realization of innovative products and services with high technological value for the **HUMAN HEALTH**



A company certified



THE MICRODEFENDER SYSTEM

WORK IN PROGRESS BIO-MEDICAL has developed an innovative disinfection system, called Microdefender, built of some devices connected to a management platform able to record, check and track the results of any disinfection, disinfestation and deodorisation treatment, in real time. Each device is used depending on the type of environment to be treated and on the microbiological-qualitative goals that the customer wants to reach.

Once the data have been received, on the platform it is possible to visualize h24 reports, statistical graphs and a certificate, with legal value, summarizing the operations carried out.

With the **MICRODEFENDER** system, the staff dedicated to disinfection can count on innovative technologies, very simple to use, and on a platform able to process automatically all data received.

To know all the aspects of the system it will be sufficient to follow a short training course held by Work in Progress Bio-Medical and follow the update alerts viewable on the devices.



**7
YEARS
OF RESEARCH AND
EXPERIMENTATION**



**A SYSTEM
PATENTED
WORLDWIDE**




**ISO 9001
ISO 13485**
**BUREAU VERITAS
Certification**



ALL THE COMPONENTS OF THE MICRODEFENDER

SIA. ENVIRONMENTAL IDENTIFICATION SYSTEM

SIA is a tool positioned within every environment that allows to identify the area to be disinfected and deodorised in a unique and error-free manner. The system - installed only by Work In Progress Bio-Medical specialized technical personnel - works through an encrypted coding which contains all information relating to the architectural and volumetric characteristics of the environment.

Automatic calibration of each device.

Thanks to the SIA tag / Qrcode, the calibration of the devices takes place automatically with extreme precision, determining the quantity of product to be used and their operating time, information given to the operator thanks to the monitors present on each device.



DS AND DS 2.0 ATOMIZERS

DS and DS 2.0 are innovative technological devices used for the aerosolization of formulations that disinfest and disinfect the confined environments.

Both devices are able to aerosolize the product and spread it homogeneously on all the surfaces of the environment to be treated, through a dry fog, without leaving any residue or moisture.

The innovation of our devices consists of the traceability of all operations done, through the dedicated network platform.



These products are supplied in different sizes.

FORMULATIONS FOR DISINFECTION AND DISINFESTATION ACTIVITIES

DS and DS 2.0 use a disinfectant formulation able to eradicate bacteria, mycobacteria, viruses, fungi and spores as well as a formulation based on active substances acting against crawling and flying insects.



DS ATOMIZER

PURPOSE: atomizer of disinfectant chemical products

USE: Surfaces of confined environments and of medical devices

CLASSIFICATION: Class I medical device, non-sterile, in compliance with Rule 12 of Annex IX, Directive 93/42/CE and subsequent amendments and additions (transposed into Italian law by Legislative Decree 24 February 1997, No. 46 and its subsequent amendments and additions)

BD/RDM REGISTRATION ID: 1753242

INSULATION CLASS: class I

TECHNICAL CHARACTERISTICS: **Power:** 1000 Watt,
Voltage: 220-230 Volts, **Frequency:** 50 Hz, Fuse: 6,3 T

WEIGHT: 11 Kilos (empty)

DIMENSIONS: 325 W x 335 D x 417 H

OPERATING TEMPERATURE: from +5° up to +50°

COMMUNICATION SYSTEM: on-board computer with radio module

DISPLAY: LCD alphanumeric. 16x2

PARTICLES SIZE: <5µm

TREATABLE VOLUME: 5000 m³

APPLICATION TIME: 1m³/3sec

CANISTER CAPACITY: 5Lt

ENVIRONMENTAL IDENTIFICATION SYSTEM: Polycarbonate RFID



DS 2.0 ATOMIZER

PURPOSE: atomizer of disinfectant chemical products

USE: Surfaces of confined environments and of medical devices

CLASSIFICATION: Class I medical device, non-sterile, in compliance with Rule 12 of Annex IX, Directive 93/42/CE and subsequent amendments and additions (transposed into Italian law by Legislative Decree 24 February 1997, No. 46 and its subsequent amendments and additions)

BD/RDM REGISTRATION ID: 1848761

INSULATION CLASS: class I

TECHNICAL CHARACTERISTICS: **Power:** 1000 Watt,
Voltage: 220-230 Volts, **Frequency:** 50 Hz, Fuse: 6,3 T

WEIGHT: 13 Kilos (empty)

DIMENSIONS: 442 W x 444 D x 444 H

OPERATING TEMPERATURE: from +5° up to +50°

COMMUNICATION SYSTEM: GPRS/GPS

DISPLAY: LCD BLUE 20x4

KEYBOARD: 4x4

SENSORS: PIR, Temperature, Moisture

PARTICLES DIMENSIONS: <5µm

TREATABLE VOLUME: 5000 m³

APPLICATION TIME: 1m³/3sec

CANISTER CAPACITY: 1Lt – 5Lt

ENVIRONMENTAL IDENTIFICATION SYSTEM: Polycarbonate Qrcode



CERTIFICATION, TRACEABILITY, SCHEDULING

MICRODEFENDER can provide information about the disinfection and deodorization activities carried out in the treated environment. Intelligent devices connected to an advanced management platform able to monitor, track and certify every activity, without any possibility of error.
MORE SIMPLE, EFFECTIVE, CHEAP, SAFE AND SECURE.



EFFECTIVENESS OF THE TREATMENTS AND RESULTS

The disinfection treatment by aerosolisation is done through the use of the DS or DS 2.0 atomizers, devices registered with the Ministry of Health as **MEDICAL DEVICES**.

Laboratory tests have shown that treatment is more effective in any environment than any other method used until now

Disinfection activities prevent and/or eradicate the formation or presence of pathogens harmful to human health, thus improving the microbiological conditions of the treated environment

The process is carried out by saturation of the environment and therefore ensures, with the generation of a very thin and homogeneous aerosolization, a 360-degree action on any environmental surface and equipment / devices present in the environment.

The device is able to disinfect any type of confined environment in a few minutes

We can therefore talk about a **NEW BREAKTHROUGH** in the field of **DISINFECTION**

THE TREATMENT WITH H₂O₂

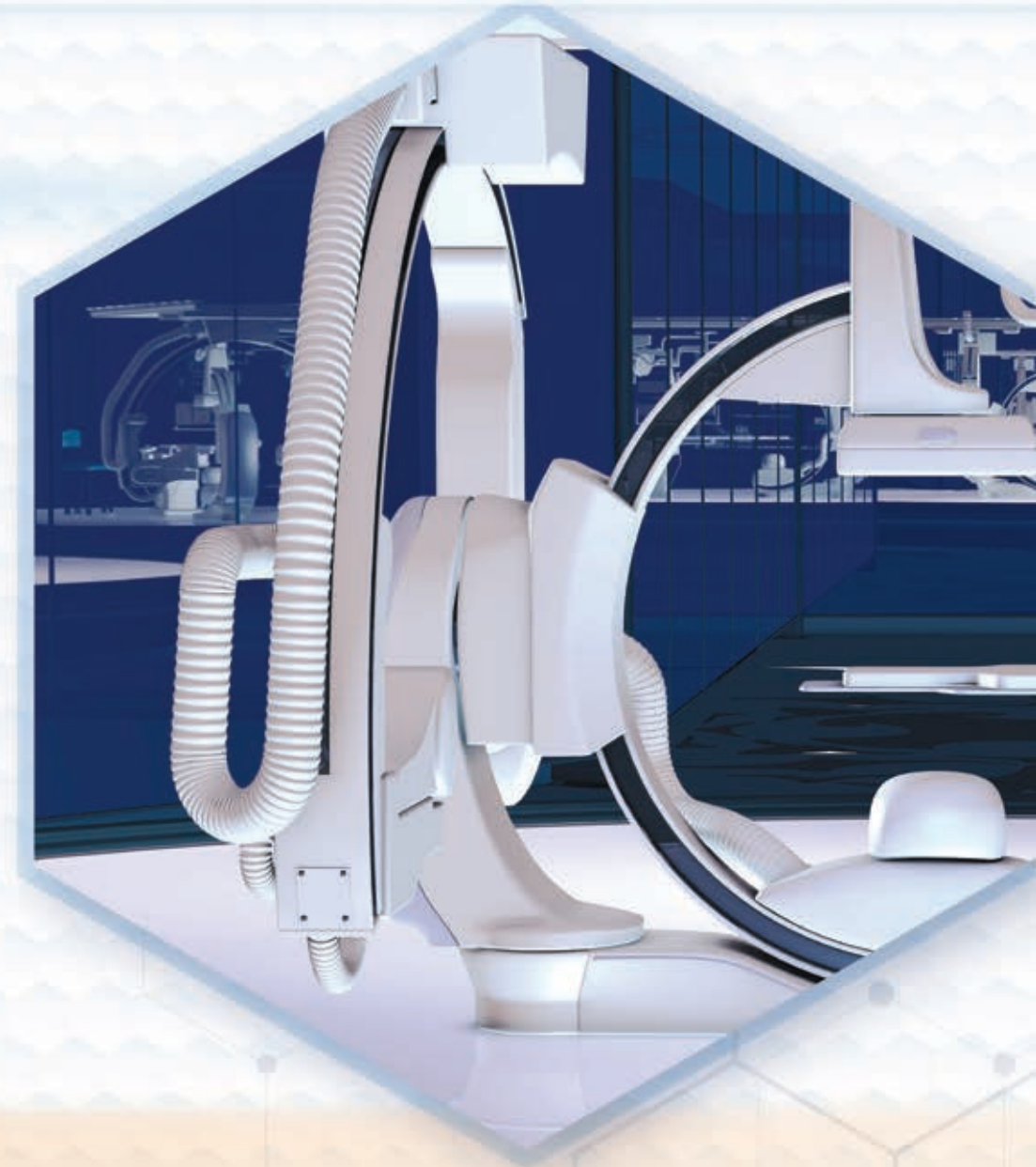
WHY USE HYDROGEN PEROXIDE?

Hydrogen peroxide has many uses, from a common disinfectant with a low concentration to a propellant for rockets with higher concentrations (about 90%).

Due to its excellent antimicrobial efficacy against bacteria, fungi, viruses and spores - documented in the international scientific literature - it has found wide application in the healthcare sector.

A further area of application concerns the food sector where aerosolisation is a valid option for the disinfection of surfaces in contact with food and also has a greater antimicrobial power than the use of the liquid formulation, as reported in **“The Use of Hydrogen Peroxide for Disinfection and Sterilization Applications”**, Mc. Donnell (2014), which demonstrates its effectiveness against spores well known for their resistance to classical disinfection treatments.

The use of this disinfection methodology has proved to be effective for a correct prevention strategy, while maintaining the properties of the products.



HOW THE DISINFECTION PROCESS WORKS



The disinfectant
formulation
WPH2O2S
is aerosolized

Millions of micro
particles
composed of
hydrogen peroxide
molecules are
evenly distributed
in the
environment

Hydrogen
peroxide acts
directly on all
surfaces of confined
environments and
on the surfaces
of the medical
devices

**BACTERIA, FUNGI,
VIRUSES AND
SPORES IN THE AIR
AND ON SURFACES
ARE ERADICATED**

After disinfection,
there is no
harmful residue
in the air and
after a short period
of time it is
possible to enter
the room again

PERFORMANCE INDICATORS

THE DISINFECTANT IS SPRAYED
AT ROOM TEMPERATURE:
NO RISK OF OXIDATION
OR CORROSION

DISINFECTS ENVIRONMENTS BY
DEACTIVATING NOT ONLY VIRUSES,
BACTERIA AND MOULDS BUT ALSO
MOST SPORES AND BIOFILMS

DEVICE EQUIPPED WITH A
CONTROL SYSTEM TO PROTECT
AND SAFEGUARD THE OPERATOR

REACHES THE MOST INACCESSIBLE POINTS
THANKS TO THE PARTICULAR MODE
OF DIFFUSION AND CONSEQUENT
SATURATION OF THE ENVIRONMENT

EXTREMELY EASY TO USE.
"NO TOUCH" DEVICE

ABSOLUTELY DRY FOG.
NO RESIDUAL MOISTURE

THE ADVANTAGES OF THE MICRODEFENDER SYSTEM

Microbicidal efficacy against all biological risk factors such as BACTERIA, FUNGI VIRUSES AND SPORES

Microdefender system on rent

Reduced use of disinfectants and labour

Cost of disinfection treatments calculated on consumption per cubic metre

Control and monitoring of the treatment through the use of a dedicated platform

Specialized assistance

Automatic supply of the chemical product according to consumption

Issue of the certificate of treatment completed



FIELDS OF APPLICATION - HEALTHCARE

Hepatitis Virus, Influenza Virus, Salmonella, Aspergillus, Candida spp, MRSA, Legionella, Pseudomonas, Proteus. There are many pathogens that can put the health of patients and operators, in health and hospital facilities, at risk.

For this reason, the disinfection activity is identified as a safety measure for the protection of biological risk pursuant to Legislative Decree 81/08.

With the **MICRODEFENDER** system this activity can be programmed and traced with higher precision and scientificity through a series of aerosolization activities, permitting to reach a highly effective prevention action against pathogenic microorganisms, especially in the critical areas (operating theatres, intensive therapy units, resuscitation rooms).

**A GUARANTEE
FOR THE
HEALTH
DIRECTOR**



FIELDS OF APPLICATION - FOOD COMPANIES

In the food sector it is important to keep critical points under control: these are stages where a risk to human health can be identified, prevented, reduced or eliminated.

An important activity in support of the application of the HACCP protocol is represented by disinfection by aerosolization, which can be carried out at all stages of the food chain and aims to keep critical points under control, eliminating biological hazards from microorganisms that could be transmitted through the consumption of food.



FIELDS OF APPLICATION - SCHOOLS

Educational structures are attended not only by children, teenagers and teachers, but unfortunately also by many pathogenic microorganisms that can cause epidemics and exanthematic diseases such as rubella, measles and chickenpox. Although a school may seem clean at first sight, it does not mean it is “decontaminated”.

With the **MICRODEFENDER** system it is possible to do the disinfection by aerosolization that acts by environmental saturation and is able to decontaminate objects and surfaces, prevent microbial contaminations and protect the health of pupils and school staff, as regulated by Legislative Decree 81/08.

**RESPONSIBILITY
OF THE INSTITUTIONS
AND PREVENTION
OF EPIDEMICS**

FIELDS OF APPLICATIONS - ACCOMMODATION AND WELLNESS FACILITIES

The first quality criteria for choosing a hotel, a farmhouse, a hostel, a B&B are hygiene and cleanliness. Sometimes, “visible” cleaning is not enough to eradicate microorganisms that are harmful to the health of customers and operators.

In these facilities, in fact, the risk of infection caused by moulds, fungi and bacteria (e.g. *Staphylococcus aureus*) is high. In order to eradicate “unwanted guests” such as pathogenic microorganisms, it is essential to plan cyclical disinfection measures.

These treatments allow, in a short time of contact, the decontamination of the air and of all the surfaces present in the environments listed above.



WHERE HYGIENE MAKES THE DIFFERENCE

With the **MICRODEFENDER** system it is possible to program cyclical disinfection interventions for aerosolisation that allow to decontaminate the air and all the surfaces most at risk. For restaurants and hotel kitchens, the treatment supports the HACCP protocol and is particularly useful for avoiding the cross- contamination.

In wellness centres, in gyms where we go to take care of our health, there are some areas such as showers, saunas and locker rooms, where pathogens such as fungi, bacteria and viruses find their ideal habitat to proliferate.

Approximate sanitization of surfaces causes the proliferation of these pathogens.

FIELDS OF APPLICATION - TRANSPORT

Airplanes, trains, buses. Every day hundreds of people and even pets use a mean of transport.

These are environments where the risk of infection is very high and even a trivial sneeze or cough can contaminate in a few seconds the carriage of a train, the cabin of an airplane or the cockpit of a bus, spreading a wide variety of micro-organisms that can transmit infectious diseases such as the classic seasonal flu.

With the **MICRODEFENDER** system, disinfection by aerosolization becomes a simple and methodical solution able to reduce the microbial load as well as the risk of infections.

Prevention measures according to Legislative Decree 81/08.

TRAVEL AND TRANSPORT IN HEALTHY ENVIRONMENTS



FIELDS OF APPLICATION - OFFICES AND PUBLIC ENVIRONMENTS

The range of biocontaminants present in the confined environment is extremely wide: bacteria, viruses, fungi, arthropods, pollens, etc. The sources can be humans, systems characterized by the presence of water (air conditioners, humidifiers, vaporizers, etc.), building materials, coatings, furniture, plants. The latter are potential reservoirs that concentrate and spread fungi, bacteria, mites and pollen.

Infectious diseases can be sustained by pathogens (flu, measles, exanthematous diseases, meningitis, etc.) or by opportunistic microorganisms that find their natural habitat in the environment and that are spread by contamination of particular structures and equipment (a typical example of opportunistic bacteria is *Legionella pneumophila*).

The **MICRODEFENDER** system is able to eradicate the microbial charge, reducing at minimum the risk of allergic and/or infectious onset.



**HEALTHY
ENVIRONMENTS
IN EVERYDAY
LIFE**

OUR MAIN CUSTOMERS



The **Istituto Mario Negri**, one of the most important research centres in the world, after testing the effectiveness of our disinfection system, has decided to use it to ensure that the activities carried out in its laboratories take place in the absolute absence of contaminating factors.



The **Columbus Clinic Center in Milan** represents the excellence of healthcare facilities in Italy.



The **Azienda Socio Territoriale in Monza, San Gerardo Hospital**, is considered a health facility of national importance and a centre of high specialization.



IOM, Istituto Oncologico del Mediterraneo, deals with the development and application of biological therapies in oncology.

OUR MAIN CUSTOMERS



The **I Greco Ospedali Riuniti di Cosenza**, with its three structures is an excellence in private healthcare sector in Calabria.



The **Barbara Fanny Facchera Foundation onlus** deals with the treatment of patients suffering from lung diseases and, thanks to Microdefender technology, can offer apartments and facilities protected and sanitized and with high acterial abatement, allowing to reduce the period of hospitalization.



The **Casa di Cura Villa Maria in Avellino**, is a top company in private healthcare sector in Campania.



Casa di Cura "San Michele" Maddaloni (CE)

The **Casa di Cura San Michele in Maddaloni**, one of the flagships of private healthcare in Campania.



The **Casa di Cura Villa dei Fiori**, 100 beds, various hospitalisation specialities, eight centres of excellence and an offer of top-quality health services.

OUR MAIN CUSTOMERS



Misericordia
Genova Centro
Confraternita di Misericordia - Genova



Latteria di Soligo - Soligo (TV)



Casa della Salute - Busalla e Albenga (GE)



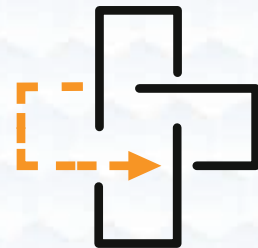
Centro Medici Insieme - Villadossola (VB)

ITALIAN RED CROSS

- ARONA (NO)
- BORDIGHERA (IM)
- BORGOSIESA (VC)
- BRIANZA EMERGENZA (MB)
- CAVAGLIÀ (BI)
- DOMODOSSOLA (VB)
- NOVI LIGURE (AL)
- RIVOLI (TO)
- STRESA (VB)
- VALLI DI LANZO (TO)
- VIGNOLE BORBERA (AL)



Croce Rossa Italiana



WORK *in* PROGRESS
Bio-Medical®

WORK IN PROGRESS BIO-MEDICAL SRL

Via Rossino 5 – 20871 Vimercate (MB) - ITALY

Phone +39 039 6080590

info@wpbiomed.it

www.microdefender.it