

CRISTANINI S.p.A.

Using steam for hospital desinfection





**Systems with saturated steam for
critical areas with evident
biological risk**

ASEPSIS: a problem of public health

A procedure aimed at preventing pathogenic micro-organisms from contaminating sterile substrata



THE REASONS:

If there is a place where **asepsis is important**, we can think of places where poor hygiene which entails microbial contamination, can cause the loss of human life.

It is well known that for a hospital patient, infection can cause a greater risk than a possible pathology. Therefore, **asepsis** becomes of fundamental importance in hospitals, where **service HAS TO BE more than excellent**.

Correct hygiene and disinfecting surfaces and materials in the different areas, are essential conditions to avoid infections and spreading them.

ASEPTIC TECHNIQUE

Keeping an area in an ASEPTIC condition.

This is a procedure developed by Dr. Ernest Von Bergmann (1896) which requires keeping in these conditions not only operating theatres but also the instruments, garments and parts of the body of surgeons that may come into direct contact with the patient.



➤ **Surgical asepsis:**

Complete sterilization and total absence of bacteria in an area.
This is of fundamental importance in operating theatres.

➤ **Medical asepsis:**

Protection of patients and hospital personnel from infections caused by the transfer of pathogenic micro-organisms from one person to another.



CURRENT DISINFECTION PROCEDURES

The methods for disinfecting currently used in industry and in hospitals prevalently include the use of **CHEMICAL DISINFECTANTS**. These have several limitations such as, since they are chemical products, they can also be **harmful for the health**, as well as requiring the compulsory use of **disinfectants that are efficient against every risk factor (bacteria, fungi, viruses, spores)** .

SATURATED STEAM

Steam refers to a physical state of matter. This is not limited only to the steam generated by water, but to the different types of steam existing in the world.

However, the term “**STEAM**” is most commonly used to refer to the **gaseous state of water** (aqueous steam).



SATURATED STEAM

Considering the aims of this application, we will speak about saturated steam and its applications in the health field.

It is widely used as a means of disinfecting for the following reasons:



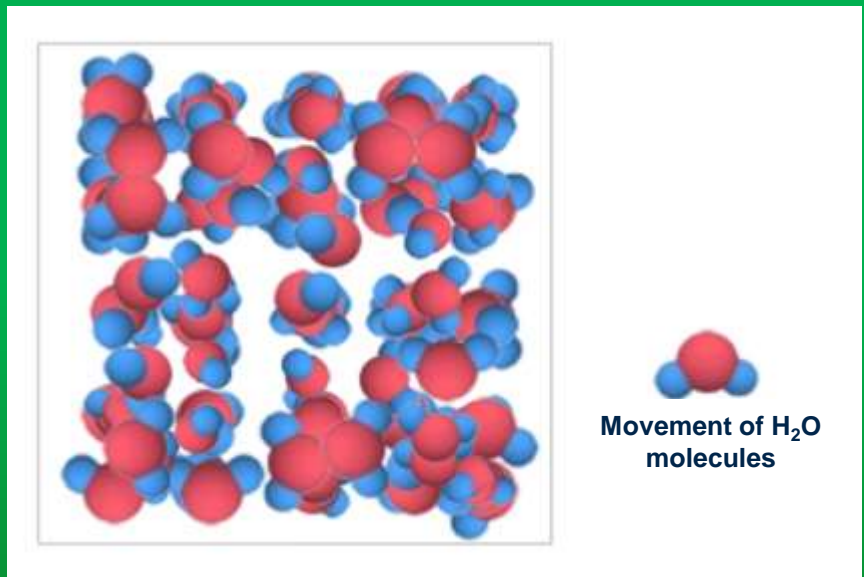
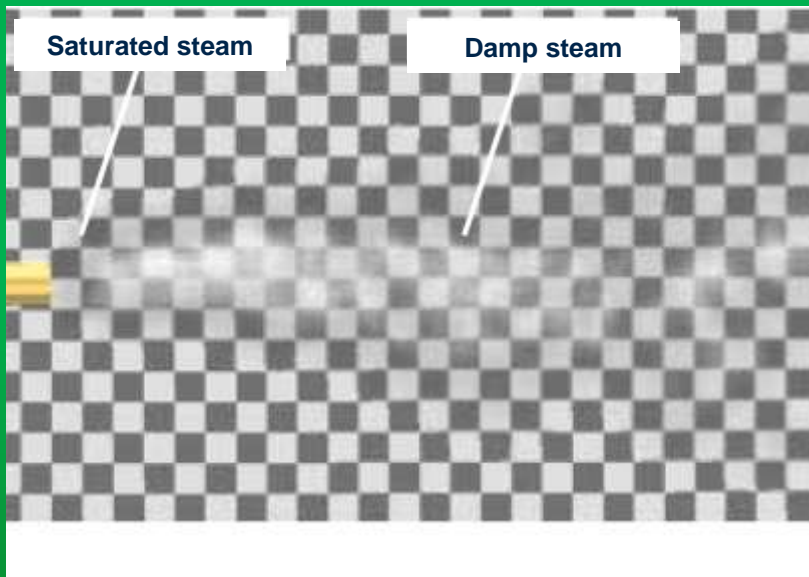
SATURATED STEAM

1. Pressure and temperature can be established with precision and **regulated** in such a way as to be able to choose the type of steam suitable for the specific disinfecting.
2. **It is fast** to obtain because it requires only a change into the state of water, improving its quality and productivity.

SATURATED STEAM

3. **High coefficient of transfer of heat.**
The small area required for heat exchange in the boiler allows **reducing the costs of the equipment.**
4. **Safe and inexpensive** because it comes from water.

SATURATED STEAM



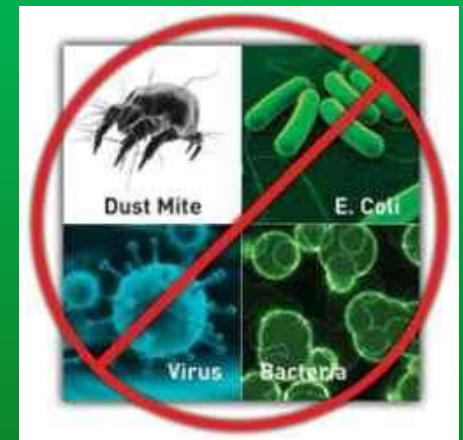
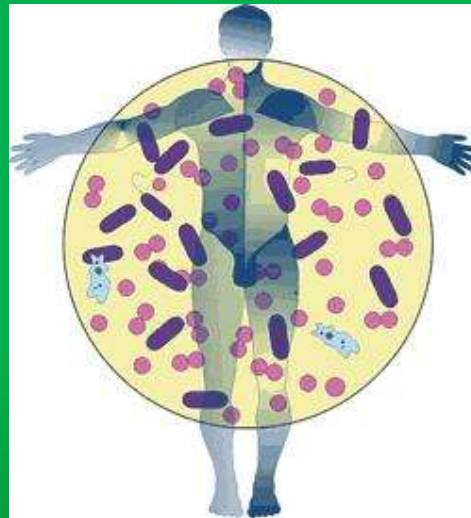
TYES OF STEAM AND RELATIVE APPLICATIONS

Bodies such as ISPESL (Higher Institute for the Prevention and Safety at Work) recognize the fundamental role of **STEAM** as a necessary instrument for reconditioning reusable medical devices (MD). Regulations have been created on the procedures for the use of steam for the sterilization of MD (UNI EN 285/2008, UNI EN ISO 17665-1:2007...).

AMBULANCES AND HOSPITALS



FROM A DUST MITE ... TO TBC



HOSPITAL DISINFECTION AND HYGIENE

This is the control of the development and reproduction of micro-organisms in high risk environments.

It is currently carried out adopting EXPENSIVE, POLLUTING and HARMFUL methods such as UV rays and chemical products.



THE TRADITIONAL METHODS ARE NO LONGER SUFFICIENT



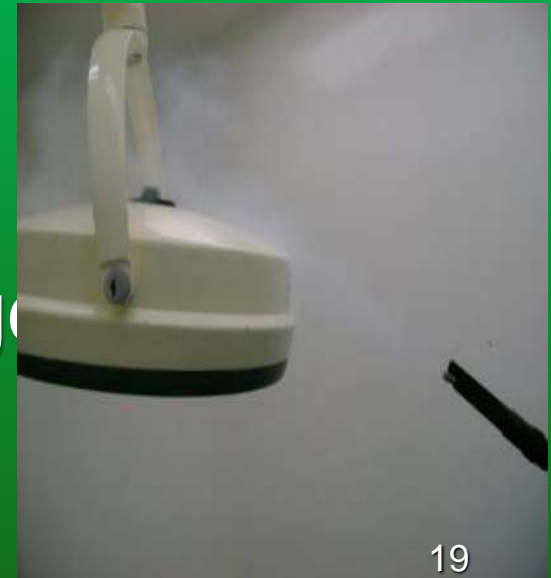
GHIBLI STEAM SYSTEMS

Using the **GHIBLI Steam Systems** in hospitals is important and fundamental, because they guarantee maximum safety of use in contaminated wards, operating theatres, rooms, emergency rooms, laboratories etc.



GHIBLI STEAM SYSTEMS

The power of steam produces a considerable **THERMIC SHOCK**, quickly increasing the temperature in the area treated and preventing the survival and development of viruses, bacteria, fungi, spores and allergens.



GHIBLI STEAM SYSTEMS

Disinfecting using the GHIBLI system does not leave any residue (no water deposits) and guarantees total microbial decontamination of the surfaces treated.

This method **IS EFFECTIVE AND OPTIMIZES** the disinfecting operations.

In addition, it has the advantage that it can be used in the various areas of hospitals.

GHIBLI STEAM SYSTEMS

The **VAPOR VACUUM** and **BIG VAPOR** systems, with their multi-functional thermodynamic characteristics, ensure a suitable disinfecting actions and at the same time complete breakdown of any greasy compound



BIG VAPOR



- **Cleans**
- **Disinfects**
- **Breaks down residues**

VAPOR VACUUM



ALL IN ONLY ONE MACHINE

The procedures that are used to disinfect are fundamental. Many do this type of work the wrong way because, instead of avoiding the spread of contamination, they foster it.



The **GHIBLI** steam systems avoid this problem as they are **effective, simple and safe** both for the operator and for the environment being disinfected.



Cleaning and disinfecting OPERATING THEATRES and HIGH RISK AREAS with the **Ghibli Vapor Vacuum system**



**WHEN IT IS A QUESTION OF HEALTH, EVERY
DETAIL IS IMPORTANT!**



GHIBLI, A COMMITMENT TO HEALTH...

Other important sectors that require meticulous cleaning are the **FOOD AND PHARMACEUTICAL INDUSTRIES**, where keeping a level of microbial decontamination tending to **ZERO** is indispensable.





THE FIRST PROFESSIONAL MACHINE THAT CLEANS IN DEPTH WITH THE POWER OF STEAM

1. Faster!
2. Cheaper!
3. Produces steam continuously!
4. Leaves the surface dry!
5. Safe!

BIG VAPOR



BIG VAPOR

The Ecological Machine with continuous steam

Beauty salons, doctors' surgeries, spas, gyms...

VAPOR VACUUM JUNIOR



1. **Unique of its kind**, it can be adapted to various situations...
2. Versatile, economical and effective ... **ALL IN ONE**



Ghibli

THE WORLD OF STEAM



Ghibli

THE WORLD OF STEAM

VAPOR VACUUM JUNIOR



BIG VAPOR



VAPOR VACUUM



TEQUENDAMA DOUBLE



A SYSTEM FOR
EVERY
REQUIREMENT...

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