



menikini[®]
dry steam technology



DRY STEAM CLEANING
FOOD
INDUSTRY

Dry steam cleaning in food industry

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Preface

Understanding the risks of poor management of cleaning activities in the food industry and presenting all the advantages that steam can bring to the sector are the main themes that we mean to disclose in the following work.

However, it is also recommended to read our first E-book "**Top 10 Benefits** of steam cleaning, or how to use new green technologies", for information on what dry steam is and how to make the best of it.



**Top 10 Benefits
of dry steam cleaning**

Why

The use of saturated dry steam respects the environment, reducing:

- up to 95% water consumption and related waste management
- up to 90% the use of chemical detergents (soda, citric and peracetic)
- the exposure of operators to substances harmful to health

What does it do

- sanitizes and cleans with the removal of food residues, incrustations, fats and the elimination of odours
- effective against viruses and bacteria, instantly kills pathogenic germs, including Listeria, E-coli and Salmonella, parasites and molds

What does it clean

- workbenches, sinks and steel and/or chromed surfaces, Teflon, tiles,
- floors, walls, ceilings and windows
- machinery and equipment, slicers, shredders, mixers, scales, dosers, dryers,
- chains, belts, rollers, gaskets, ventilation ducts, filters and air intakes, electrical panels
- refrigerators, freezers, refrigeration systems and cold rooms
- ovens, burners, fryers and braziers



Production, conservation and food packaging



**Pasta factories, dairies,
butchers and
slaughterhouses,
chocolate factories,
ice cream salons**

Sanitization activities in the food processing sector are a key element in ensuring the protection of the public from pathogens that can enter the food chain and cause serious illness.

In a context in which companies are always looking for the best way to satisfy the hygienic-sanitary requirements required in environments with a high contamination risk, steam cleaning is becoming increasingly important.



With increasingly stringent and responsible food safety regulations that struggle to meet food safety standards, often employing short-handed labor to maintain competitive prices, investing in more effective cleaning and sanitizing technologies and in compliance with the company's food safety program, steam cleaning is the only way forward.

It's no longer about cleaning in the fastest mode; it's about doing it in the most efficient way, establishing the best practices to achieve conditions where bacteria and other pathogens will be unable to multiply.

Wrapping, packaging and canning



In the food processing and packaging industry it is essential to preserve the integrity, edibility and shelf life of the packaged product.

Food packaging is a delicate process and within the same plant different processes can be found, with types of goods and foods coming from disparate suppliers.

Paying particular attention to disinfecting systems and machinery between one activity and another to minimize the risks of cross-contamination is now a priority.

The use of dry steam, thanks to the reduced water content, allows for rapid and residue-free sanitization of environments and equipment, drastically reducing the formation of mold and the proliferation of bacteria, as well as significantly reducing the use of chemical products.

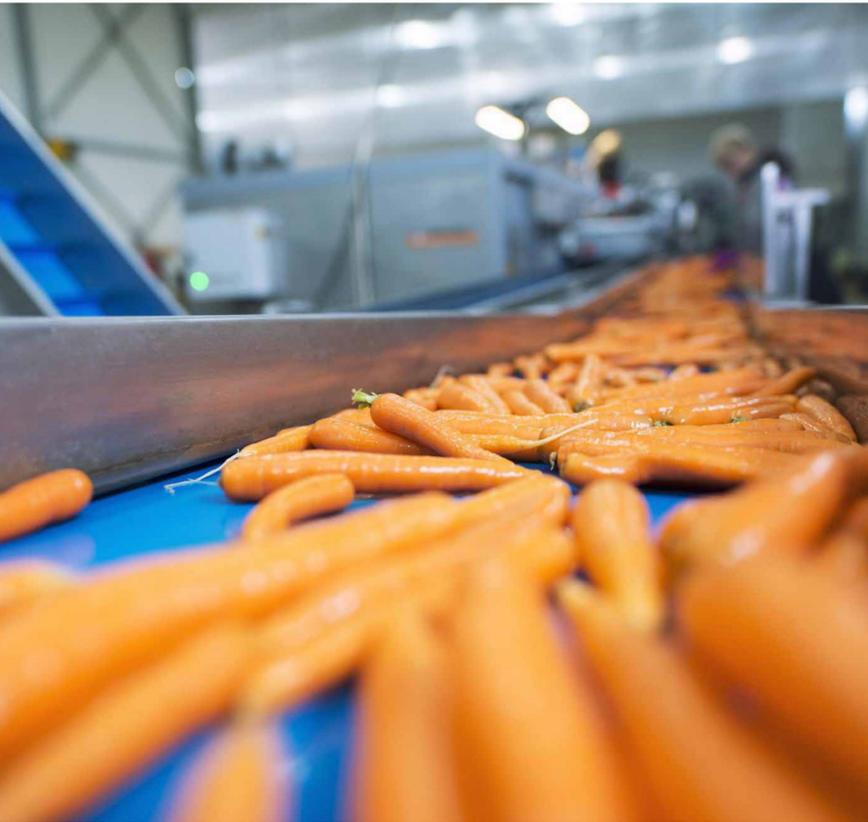
Steam applied to the production process



The word “**Process**” identifies fixed steam generators installed on a production line. Designed for complex cleaning cycles, they allow a supply of dry steam at constant pressure during prolonged use, even 24 hours a day.

Compared to mobile generators, they offer greater ease of use and can be managed automatically by the customer’s production line, even if positioned at a distance from the place of use.

Based on the customer’s needs, it is also possible to equip them with an integrated vacuum extraction system, they are certainly the optimal choice for companies characterized by uninterrupted production cycles.



The way of cleanliness

Conveyor belts in the food industry

The mechanization of processes has brought advantages in terms of production efficiency but the traditional cleaning of conveyor belts is a difficult and time-consuming process, which involves a considerable use of chemicals and water, as well as many hours of work.

In dry environments, it is sometimes necessary to completely remove the belt to proceed with washing it in a designated area. Alternatively, scraping, brushing, scrubbing, vacuuming and compressed air techniques are used, methods that are often slow, laborious and potentially dangerous for workers.



As a result, dry steam sanitization is increasingly being used as the most effective method in water-sensitive environments. It is able to eliminate grease, oil and all kinds of residues and dirt, instantly killing mold, bacteria, listeria and other microorganisms. The dry steam evaporates quickly, leaving surfaces clean and dry.

Menikini steam generators, with the combination of high temperature steam and the power of their pressure, act effectively on sticky residues and encrustations that are forming along the belts during their regular use.

Storage areas, full of shelves that are difficult to reach and cold rooms, environments with a high concentration of humidity, need constant attention to avoid the formation of mold and bacteria inside them. The wide range of accessories that can be applied to our units allow thorough cleaning of all components, equipment and areas of the factory, simplifying the companies cleaning processes.



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Tekno Steam



Menikini has developed “Tekno Steam”, an automatic cleaning system specific for conveyor belts, even during their normal operation. The steam delivered directly onto the belt also penetrates the microporosities of the surface, cleaning it deeply.

The integrated vacuum suction chamber eliminates dirt, leaving the belt dry, clean and sanitized.

It is a compact system, supplied in various sizes, for plastic and vinyl tapes and respects all current regulations regarding HACCP and environmental impact.

Powered by a steam generator, it can be easily mounted on both, the top and bottom sides of the belt.

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New food trends create new challenges



Market tastes are evolving and food companies have to deal with with new consumer food trends.

Consumers' desire for low-sugar products with more natural ingredients, such as honey and dried fruit, means stickier processes that make cleaning lines and equipment more complex.

Dry steam cleaning, capable of removing residues without introducing humidity, guarantees hygienic conditions in agreement with the required standards and without the need to interrupt production.



Allergens

Exposure to legal actions and recalls in the event of even minimal contamination pushes manufacturers to be increasingly aware of the risks from food allergens such as dairy products, soy, eggs, tree nuts and peanuts.

Paying the utmost attention to cleaning, especially in the case of product changes on packaging lines where allergic substances are used, becomes a fundamental action.

Cleaning manually, with compressed air, with pressure washing or using vacuum cleaners involves the dispersion of allergens, mold and microorganisms in the air. To avoid potential contamination, the ideal solution for cleaning machinery and belts is the combination of dry steam and suction, which avoids the migration of particles, leaving surfaces clean, dry and sanitized in a single pass.

Bakeries, pastry shops and industrial ovens



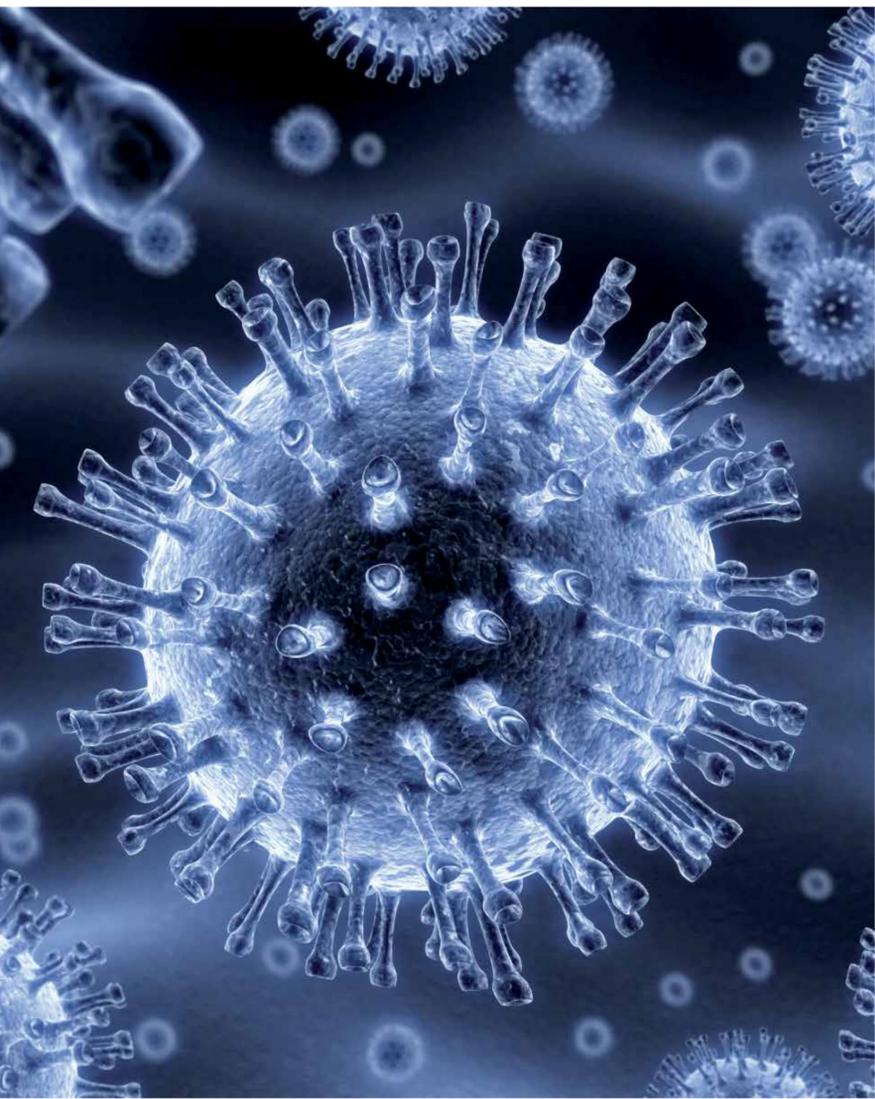
In commercial bakeries, there is a constant need to remove flour, mold, oil and grease residue from mixers, rollers, slicers, ovens, conveyor belts, racks, floors and walls.

Traditional cleaning methods, which use caustic chemicals and large quantities of hot water, can lead to excessive humidity, which is unwanted in the baking industry. Dry steam cleaning is faster, more efficient and penetrates hard-to-clean areas of equipment and systems, including sensitive electronics, scales and sensors.



Gluten free

Regardless of whether celiac disease is diagnosed or not, more and more consumers are seeking gluten-free foods. Alternative flours create thinner and stickier doughs than standard gluten formulations and leave more processing residues. Only with steam cleaning we can guarantee surfaces free of processing residues, allowing optimal working conditions



Sanitization is a necessity

Although washing with soap and water is preferred to eliminate pathogens, correct hygiene for food processing plants should include a sanitization phase.

Food residues on worn parts of the equipment, defects and cracks lead to the risk of increased bacterial proliferation. But even outside their preferred habitats, they are able to survive for

a long time and migrate to new environments, via containers, clothing or skin contact.

With traditional cleaning methods, machinery must be dismantled at regular intervals and treated in a specially equipped area with a pressure washer drain, as well as requiring the use of chemicals and labor to deep clean nooks and crannies.

Steam can overcome these needs, reducing labor and line downtime costs and avoiding chemicals in many applications. By using the correct industrial steam cleaning equipment, machinery will be cleaner, both visibly and invisibly.

What are the problems facing food companies today?

Menikini is always attentive to the current needs of companies in the field of cleaning and sanitization. With a view to increasingly improving our offer and services, we carried out a survey in 2022 on a sample of 647 companies in the food sector, to understand which aspects of the cleaning process they consider most critical and how we can represent the solution to these problems.





A hidden solution

The research revealed, first of all, that almost half of the interviewees are not aware of steam as a cleaning and sanitizing technology.

This first result is already a first indication as to why their choice always falls on traditional methods, which for reasons of a different nature, lead to results that leave something to be desired.

It is of fundamental importance for us to have a basic understanding of the potential of steam and how to best exploit it for your business. From the publication of informative E-books to the organization of Academies on dry steam cleaning and sanitisation, Menikini is constantly active in ensuring adequate training of its public.

The heart of the matter



The issue that we were most interested in addressing was understanding which aspects can be intervened on to make the cleaning process as efficient as possible. Almost 40% of those interviewed said they wanted to reduce the use of chemical products and, as companies that deal with the various stages of food processing, this response is more than justified.

The need to eliminate any pathogenic agents from surfaces and equipment in contact with both ingredients and finished products, leads in many cases to an abuse of chemical detergents and is a very widespread practice, with the risk of moving from a danger of bacterial contamination to one of chemical agents.

The second problem that most concerns those who work in the sector is the consumption of water; in fact, the constant use of detergents and soaps con-

sequently requires numerous rinsing phases, with the use of considerable quantities of water.

Subsequently, but always important and current, are the concerns regarding energy consumption and prolonged cleaning process times.

It goes without saying that steam can be the complete solution to all these difficulties.

The temperatures reached by Menikini steam machines (from 160°C to 180°C) are high enough to guarantee the elimination of germs and bacteria, minimizing the need to use chemical substances and consequently, the water used for the rinse.

The use of this method also allows us to reduce the time dedicated to the cleaning process, going from the classic 5 phases (Rinse - Detergent - Rinse - Disinfectant - Rinse) to just 3 phases (Rinse - Detergent with Sanitiser - Rinse) and eliminating the need to stop production, dismantle machinery and move it in order to carry out complete hygiene.



Times and consumption are drastically reduced, obtaining ecological, economic and environmental advantages.

New technologies, new solutions



Conveyor belts are a technology now adopted by many companies, capable of optimizing production to levels never conceived before, but their cleaning is difficult and expensive.

Almost 70% of companies resort to manual cleaning, using detergents and disposable paper, a long and tiring process, which if not approached correctly could not lead to the desired results.

Only 2% of companies allow the use of steam to sanitize these systems, but even in these cases steam is the technology that best responds to the cleaning needs of the food industry.

- Suitable for different types of tape (smooth and mesh, of different materials)
- It penetrates the porosity of the fabric, managing to eliminate bacterial agents even deeper
- Reduced water consumption, does not require manual drying phases



Our priorities: renew and innovate

Innovation is the watchword of recent years. Being able to find new solutions to new (and old) problems in the hygiene field.

Companies in the food sector have renewed their production techniques over the years, but there is also a shared commitment to renewing the processes and cleaning phases.

Current environmental and social issues, to which we have all started to pay more and more attention, are leading companies to choose Menikini steam generators as their partners and allies for the sanitization of their business.



Innovative technology

Menikini generators are made with the best components and designed for industrial and commercial applications and equipped with a vast range of accessories, designed for specific uses.

- **AISI stainless steel boilers**
- **pressure from 6 to 10 bar**
- **temperature from 165 °C to 185 °C**
- **simple to use and maintain**





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