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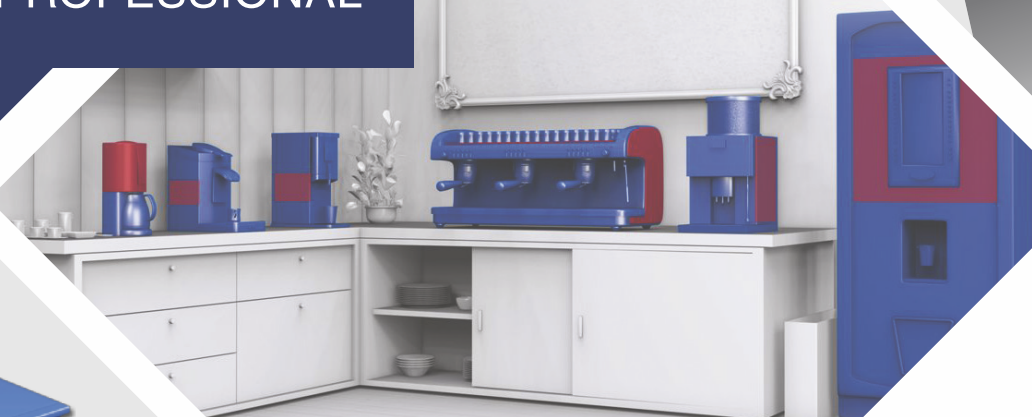
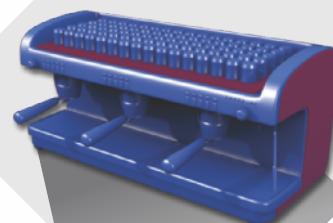
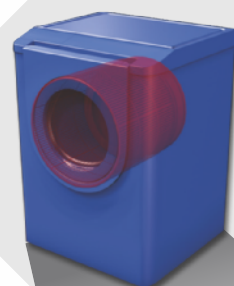
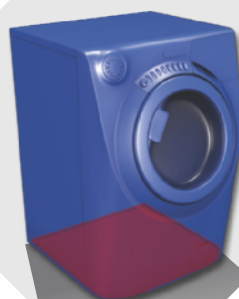
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ZOOM The performances of the domestic blast chillers • **TECHNOLOGIES** Beyond the conventional idea of induction hob • **FOOD TECH** Tools for food quality • **SMART HOME** Saving time and energy thanks to connectivity • **MARKET** The big appliances in The Netherlands



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MARCO OLDRATI

Tools for FOOD QUALITY

It is a refrain as ancient as the world: quality of vegetables, their freshness and their taste. A leitmotiv that today has more and more important technological and technical implications in the activities carried out in a professional kitchen, the one of either a restaurant or of a cooking centre.

V

egetable cleaning is a fundamental step to make them edible: the washing and the sanitizing of the product are necessary activities that must not damage its organoleptic qualities and – especially in express catering – must not affect the presentability of vegetables. But not only: we are speaking of a working phase that must be integrated into a HACCP logic, according to a key criterion of hygiene in catering, the “all ahead”. Therefore, it must also be conceived in integrated manner with other phases and functions. Vegetable cooking is then the focus of a very big effort in the name of which the manufacturers of appliances and equipment collaborate

with nutritionists and food technologists to obtain the best qualitative results, with the target of serving on the table healthy products and “robbed” as little as possible of their nutritional values by unsuitable cooking methods. A work field that today is intertwined in increasingly sophisticated manner with the matter of the materials used for the production of appliances, with the instances established by the new regulation concerning Materials and Objects in Contact with Foods, that system of devices, reg-



1. Preparation bench for small catering environments.

ulations and procedures that is travelling around the world with the acronym of MOCA and is issuing a challenge to the producers of components and machines in a context that, until today, had much simpler characteristics but that is opening new horizons of research and debate in industry.



We analysed thoroughly these two topics discussing them with Nilma, especially with Mr Alberto Nobili, one of the three Managing Directors of this Italian company that, already in 1956, had achieved the world primacy with the introduction of an innovative technique for the washing of vegetables intended for communities and that nowadays is an outstanding reference reality on a global scale for the development of techniques and technologies that provide users with a more and more important state-of-the-art of instrumental quality at the service of food quality.

Rules and technologies of the efficient and efficacious washing

Let us start from washing and not only because Nilma has been, and still is, a pioneer in the field innovation but also because, either raw or cooked, vegetables always and necessarily undergo a preparation phase whose core is washing, and a set of

2. Vegetables, more and more protagonists in diet and in catering offer.

3. Nilma compact vegetable washer.

complementary activities in cutting and peeling. The vegetable washing is then a real challenge because its engineering called for the consideration and the attention to a consistent number of variables.

Washing vegetables is necessary but, in professional ambit, the look of vegetables must not be “ruined”. What technical devices does a vegetable washer exploit to be efficacious and “gentle” with the product?

Our experience taught us a lot concerning this. Our vegetable washer, first machine in the world ideated for washing vegetables in communities, consists of a double tank, with cylindrical shape, where vegetables rotate while immersed in water. The intensity of the water vortex can be adjusted from zero (still water) to a maximum given by the pump delivery. Therefore, it is easily guessable that there is always the possibil-

ity of adapting washing in the most suitable manner for any kind of vegetables or fruits, low washing intensities for leafy vegetables, such as salad and spinach, or medium-high for consistent vegetables, like carrots, courgettes and fennels. This adjustable vortex of always-clean water assures an accurate, homogeneous and hygienically safe washing.

Water is a more and more important, and also expensive, resource: what does this imply in the design of a vegetable washer?

The vegetable washer can be equipped with manual or automatic water level regulation. The drain opening regulation (zero/max.) determines the replacement and then the consumption of water. With the automatic regulator, the

machine maintains the level without any manual intervention. If vegetables are very dirty, we can proceed to the larger drain opening to have a more consistent water change.

Raw materials: AISI stainless steel as hygienic rule? What problems with new MOCA regulations?

Market standards on materials precede MOCA regulations, to the extent that, since 1956, our vegetable washers have been made fully of AISI 304 stainless steel and all non-metal components are certified for contact with foods. Nilma has always found solutions in compliance with food regulations.

The anti-bacterial sanitizing treatment: methods and criteria of result assessment.

The criterion of protecting the organoleptic product quality is once more fundamental, therefore we need bacteriological analyses that certify the washing efficacy: in the case of the vegetable washers produced by our manufacturing lines, it conforms to certified values that indicate a reduction by over 90% of

the bacterial charge in a washing cycle of three minutes, with the only use of drinking water coming from water network. A further increment of sanitizing results is achieved by providing vegetable washers with the automated disinfectant dispenser, device that succeeds in completing the safety options of an effective washing method.

Hygiene and cleaning: with what ergonomics and design criteria must you comply to have a clean machine?

An efficacious vegetable washing does not depend on the washing system only but also on the user-friendly cleaning of the machine after use, to avoid that the residues left in the tank create conditions for a possible contamination of vegetables in successive washings. For this reason, Nilma vegetable washers are equipped with automatic washing of the inner tank and are designed to allow an ergonomic access that facilitates cleaning operations, both overturning the washing tank, in the models provided with such device, and easily dismantling the tank itself without using any tool, as in the fixed-tank versions. In addition to the cleaning of the washing tank, the sanitizing of tubes and pump is neces-

sary, simply adding a non-foaming disinfectant liquid to a washing cycle of some minutes. Besides being certified according to European hygienic regulations, our products feature the United States NSF-mark, too.

Immersion, jet or centrifuge: different systems for different vegetables or simply a preference?

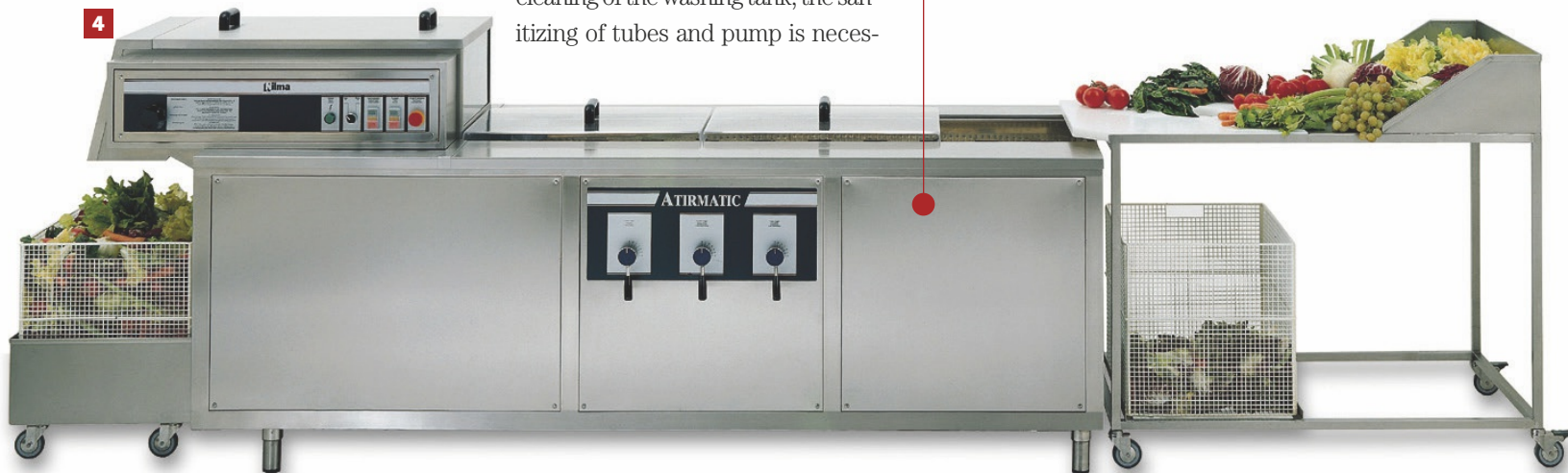
H.A.C.C.P. procedures clearly describe a washing process by immersion with turbulent water. Technology allows reproducing the system used in the home sink, automating it: a feature we have introduced in our vegetable washers.

The vegetable immersion in water is fundamental to dissolve impurities and soil deposited on their surface and the water turbulence is necessary to allow the detachment of impurities from vegetables.

Productivity, first: the operation speed is a must especially in collective catering but do new vegetable washers make “everything easy” or is skilful staff still necessary?

In the automation age, also the kitchen is a place where work times are

4. Atirmatic, a continuous-cycle very efficient and fast washing system.



measured in seconds and then our commitment to achieve fast and efficient washings, to save water and labour force, too.

A cycle of one of our vegetable washers takes just 3 minutes to obtain a hygienic washing, the cycle is fully automatic and allows the operator to carry out other activities during the washing.

If the vegetable washer is equipped with folding tank, also the product unloading operation becomes automatic and occurs in just 45 seconds. We are speaking of more and more necessary requisites for the user, who achieves a not negligible organizational benefit from these technical solutions.



5. Washing constitutes an important element in the food processing, to the extent of being "regulated" by HACCP.

Operational efficiency and saving: the vegetable washer is designed to make an ingredient of the menu edible, but can it consume the least possible water and electric energy, too?

Efficiency has always been, and it is even more today, one of our irre-

missible strong points: besides efficient washing, Nilma vegetable washers assure notable water and energy saving.

To wash one kilo of vegetables, in fact, they use just 4 watts of energy and less than one litre of water. Impossible results with other systems.

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