

2022

Drink

TECHNOLOGY



BEVERAGE INDUSTRY
MACHINES • PLANTS • TECHNOLOGY • PACKAGING



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DRINK TECHNOLOGY

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“KEEP AN EYE ON THE HEALTH FACTOR, THE TRENDING TOPIC OF THE BEVERAGE INDUSTRY”

Health, health, health. Conditioned by the pandemic, consumers appear to show a preference for all those products that are presented as healthy and good for the environment (in their perception, the two concepts coincide) and the beverage industry is no exception.

In the beverage and liquid foods industry the new trends for 2022 have a connective thread: health. Consumer choices are in fact all oriented towards personal wellness and, in line with the same philosophy, show a preference for “free-from” or “clean-label” products.

This turnaround in consumer patterns is also reflected in the beverage and liquid foods industry, where certain trends dominate the scene.

Watch the sugar content

Almost to the point of being demonized, refined sugar is not compatible with a healthy lifestyle and even consumers who are less concerned with their figures or diet are keen to reduce their sugar intake drastically. A Mintel survey has analysed the market launch of products containing sugar in the last 5 years and have surprisingly found that the countries most affected by the phenomenon include Great Britain (15%), closely followed by Germany (13%) and France (10%).

Europe is not as sweet as it used to be, and France and Germany alone hold 5% of world patents aimed at improving the taste of sweeteners and developing technologies that reduce the cost of processing alternative sugars. After all, a beverage needs to be at least slightly sweet.

Alcohol? No, thanks

Surprise, surprise. Following the publication of alarming data on how the pandemic has contributed to a rise in alcohol consumption, with surges in online sales in 2021, now we see an emerging trend for alcohol-free products, driven by a significant increase in NOLO (no and low alcohol)



by Elisa Crotti



drinks. This is endorsed by another British market survey indicating a rise of 32.5% in the consumption of these beverages during the first lockdown. Zero alcohol gin and aperitifs indicate a strong consumer propensity for healthy products.

This scenario is also confirmed for Italy. Last year the growth of no alcohol drinks reached the remarkable percentage of 6%.

This trend, which shows no sign of weakening, has prompted a forecast of +8% for each year leading up to 2025. In Italy, this phenomenon may have been accentuated by the various municipal and local provisions aimed at restricting the sale of alcohol in certain locations and at certain times of the evening, as a measure to curb social gatherings, particularly in town centres and city squares.

According to Wine Intelligence, non-alcoholic wines are sure to be a trend of the near future. In Spain, for example, the Health Department has decided to finance research in this particular branch of the business, while the European Union suggests regulating wine production. There is also talk of non-alcoholic or low alcohol wines.

The demand expressed by the market is a challenge for our companies. As all those who operate in our industry know only too well, it is not sufficient to eliminate alcohol in order to produce an alcohol-free beverage.

On this same topic, in June 2021 the European Commission presented a proposal to amend Regulation no. 1308/2013, governing the Pac. Article 193 mentions the terms "dealcoholized wine" (with alcoholic strength not exceeding 0.5% vol.) and "partially dealcoholized wine" (with alcoholic strength comprised between 0.5% and 9% vol.). This is just the start, and 43% of habitual consumers would be ready to gradually replace alcoholic products with others that are alcohol-free or low in alcohol on certain occasions. Of the latter, according to LWSR, fewer than one in five would avoid alcohol altogether.

Juices and smoothies in great demand

Let's remain in the ambit of health to consider two products that are perfectly aligned with this scenario: juices and smoothies. According to Statista studies, the global sales of "other juices, mixed juices and smoothies" will reach a value of 38 billion Euros in 2022. Furthermore, the forecasted annual growth rate of 4.41% will make





this figure shoot up to 45 billion in 2026, equivalent to a staggering quantity of 16 billion litres of beverages.

Along with traditional pear, peach and apricot juices, the trend of recent years is to present mixed fruit and veg juices in combination with spices such as ginger and turmeric. Increasingly advanced methods are also being studied to extract vitamins and proteins from the residual materials of traditional beverage production.

Innovation is more and more oriented towards the elimination or reduction of sugar content, as well as increasing the percentage of fresh fruit, to offer beverages that are more in line with the consumer demand for natural products. The spread of consumer behaviour models oriented towards a healthy lifestyle has given a fresh boost to the industry, which is increasingly intent on satisfying the demand for “wellness” expressed by those whose shopping basket contents are strongly influenced by the list of ingredients and the “naturalness” proffered by the various brands.

Therefore, that of reducing the quantity of sugar and increasing the percentage of fruit is going to be a mandatory strategy for companies operating in the industry.

Make way for technology

The technologies of the beverage and liquid foods industry, whose application is well consolidated compared to other industrial sectors, offer an enormous potential in the ambit of plant-based beverages, sugar content reduction, sugar substitutes and functional plant ingredients. Ours is an extremely inventive industry and research and development have many challenges to address, especially if we consider that, in some cases, relatively small product variations can lead to new creations, while in other cases, more important changes will be necessary, such as new production lines and systems.

Those who grasp these technological challenges, will be able to exploit a market of exceptional potential.

UNIFORM, PARTICLE BY PARTICLE.

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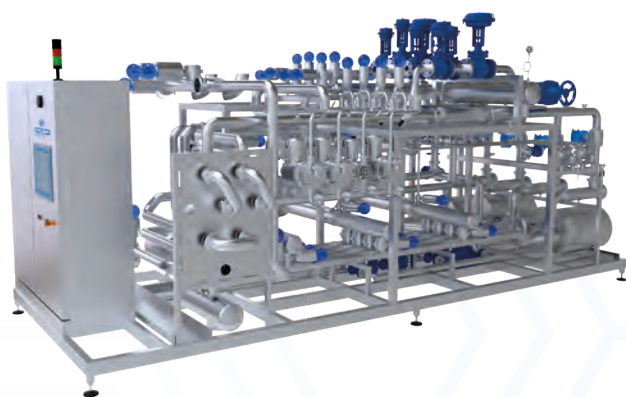
Mixing and Carbonating Units



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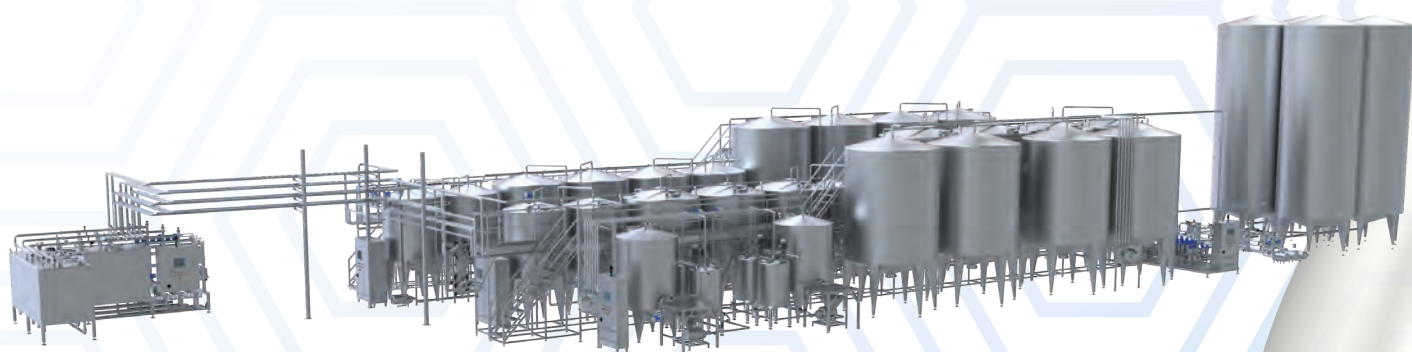
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Food Processing Plants



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Ideas, solutions and plants for the food and beverage industry

Passion, expertise and innovation are the keys to the success of SAP Italia. Since 1983, the company has been offering highly technological plants for the food industry.

Over the years, SAP Italia has developed a deep know-how in different fields of application and today it plays an important role in its sector as an international leader.

Thanks to constant research and various fruitful collaborations, the company is able to meet its costumers' specific needs and provide them with tailored high-tech solutions.

The wide range of SAP Italia services includes in-depth feasibility studies, comprehensive and detailed estimates, customized design according to specific requirements, software development, installation and testing, personnel training and preventive maintenance.

Furthermore, SAP Italia's customers can always count on the support of a team of experts.

What really makes SAP Italia different from its competitors, is its personalized approach to every single project, which is designed upon the specific needs of different customers. By modeling and adjusting its technology, SAP Italia can contribute to its customers' success and to maximizing the results of their investment.



UHT Sterilization Plants

M.F.T. INTRODUCES NEW AUTOMATIC FRUIT CUTTERS

Morrone Food Tech has recently developed two new models of AUTOMATIC FRUIT CUTTERS for VARIOUS TYPES OF FRUITS

Thanks to the large experience gained over the years in FRESH-CUT FRUIT and DEHYDRATED FRUIT processing lines, M.F.T. has recently implemented their very popular AUTOMATIC FRUIT CUTTERS with new integrated functions making them suitable for slicing several types of fruit.

The long experience of M.F.T. in the dehydrated fruit sector has resulted in the development of the AUTOMATIC RING SLICER mod.

MW-R which has now new application to the fresh-cut and preserves fruit sectors. The automatic ring-slicer has now been implemented



for CUTTING into RINGS and eventually coring APPLES, PEARS, PEACHES, NECTARINES, PERSIMMONS, KIWIS, ORANGES, LEMONS and PINEAPPLES with the possibility of producing smooth ring slices (down to 2mm-thickness) and crinkle-

cut apple slices. Particularly dedicated not only to the dehydrated fruit business but also to the fresh-cut business, the AUTOMATIC FRUIT WEDGER AND CHUNKER mod. MW is now available for coring and cutting not only APPLES but also

www.itfoodonline.com

communication for the
FOOD&BEVERAGE INDUSTRY:

magazines and website about production lines,
plants, technologies and packaging solutions
for the beverage industry



**MAGAZINES
AND MORE**



PEARS, PEACHES and NECTARINES into SEGMENTS, CHUNKS and STICKS. The same machine may also be used for slicing PERSIMMONS, ORANGES, LEMONS and TOMATOES. The new applications make this versatile piece of equipment today even more suitable to fresh-cut fruit production in small and large business thanks to its modularity. Both the MW and the MW-R model are compact solution including the washing, feeding and cutting sections and can be AUTOMATICALLY OPERATED which increases the safety and profitability of your business. 🏠

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www.mftitalia.com



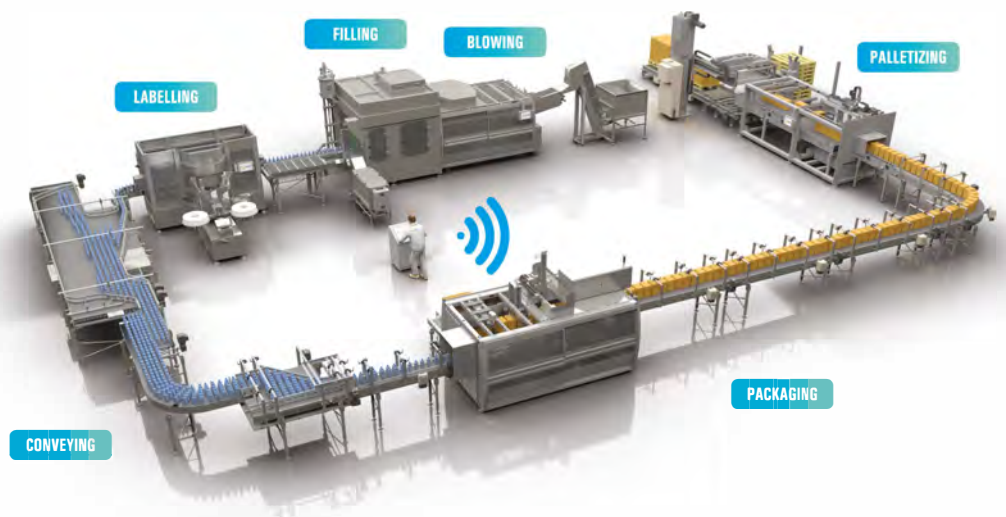
DESIGN WITH US YOUR CIRCULAR PACKAGING



**IMPROVING YOUR PRODUCTION
EFFICIENCY AND REDUCING
YOUR CARBON FOOTPRINT
IS EASY WITH SMI!**

Our bottling and packaging systems benefit from Industry 4.0 and IoT technologies, can process recyclable materials such as rPET and allows for considerable energy savings.

Find out our solutions for packing a wide range of containers up to 36,800 bottles/hour.



ISHKA SPRING WATER: ECO-SUSTAINABLE SOLUTIONS THAT LOOK TO THE FUTURE

In Ballyneety, County Limerick, the luscious green, rolling landscape of the beautiful Irish countryside is the backdrop to one of the most modern bottling plants of spring water in Europe: **ISHKA Irish Spring Water**. The company, founded in 1978 by Michael Sutton Sr. thanks to a brilliant family idea, is today a multimillion-euro company managed by Mike

and Denis Sutton, sons of the founder. Every hour the plant, consisting of four fully automated lines built in **partnership with SMI**, produces **over 40,000 bottles of spring water**, with the utmost attention paid to the care and preservation of the surrounding environment.

Growing together: a long-standing partnership
The **collaboration between ISHKA and SMI began**

about 15 years ago with the purchase of an SK300F shrinkwrapper, currently installed on production Line 1, dedicated to the packaging of 250ml, 500ml, 750ml, 1.5L and 2L bottles. In 2017, on the occasion of the opening of the SMI UK & Ireland branch based in Manchester (United Kingdom), the Sutton brothers turned to SMI for the expansion of their plants. In particular the new in-



vestment of several million euros in 2020, concerned the installation of a new bottling line to increase the production of the 5L format, which is in great market demand. A high-quality project, the implementation of which was entrusted to SMI; the latter provided a “turnkey” solution, which also involved a new bottle design discarding the traditional square shape and launching a new cylindrical bottle. An innovative choice that allowed the Irish company to reduce the amount of PET in each bottle, and to align the appearance of the 5 litre container with that of the other elegant ISHKA bottles of smaller capacity.

Eco-sustainable solutions that look to the future

Plastic bottle caps represent 10% of plastic waste found on beaches and the Euro-

pean directive 2019/904 on single-use plastics, includes a provision to regulate their recycling along with the rest of the bottle; for this reason the caps of PET bottles must now remain attached to the containers (tethered cap).

Driven by the goal of drastically reducing plastic pollution, and anticipating by three years the coming into force of the EU rules, ISHKA Irish Spring Water started to successfully introduce this type of cap in September 2021, becoming the first, bottled water company in Ireland to implement the directive.

SMI solutions for the 5L production line

SMI developed the image of the new bottle starting from ISHKA speci-

fications and designed an extremely efficient production line for this particular 5 litre container, which has allowed ISHKA to increase plant capacity by over 50%. The expansion project of the Irish company, made it necessary to upgrade the existing line, this involved replacing the old linear blow moulder with a modern integrated SMI ECOBLOC® system, consisting of a 3-cavity rotary blow moulder, an electronic filler and a capper.

Main advantages:

This system upgrade permitted the installation of a **faster and more efficient stretch-blow moulding and fillin system**, while at the same time maintaining a compact footprint,



thanks to the fact that no conveyor belts are necessary between the blow moulder and the filler. The new project also posed a challenge in secondary packaging, as ISHKA required shrink film pack formats in 2x1 and 3x1 and a large (4x5) tray format to make a half pallet pack. SMI was able to satisfy customer requests without any problems thanks to the **versatility of the SK502T ERGON shrinkwrapper**, a twin lane machine, suitable for secondary packaging in trays with and without film, equipped with an optional system to also produce packs in film only. The SK502T ERGON shrinkwrapper is used to create a format consisting of a half-pallet display tray without shrink film. The packaging system groups 20 bottles in a 4x5 pattern, then forms a tray around the bottles, starting from a flat blank; Subsequently, the package thus created, is palletised and sent to supermarkets, ready for display. This secondary packaging solution offers a great economic advantage to ISHKA: instead of the traditional packaging solution, which used two separate machines (one for wrapping in film and one for creating “maxi” trays),

SMI proposed a solution consisting of a single automatic packaging machine, capable of performing both processes and, at the same time, **occupying less space inside the production line**. The 2x1 and 3x1 pack sizes in film only, are made by the same packaging system, which, after the format change which takes about 1 hour, is able to quickly switch from the production of large sizes in tray only, to small formats in shrink film. The packs in film only, can be equipped with an external handle to make them more manageable and easier to carry. The palletising system requested by ISHKA also had to have the same flexibility as the rest of the line and for these reasons SMI designed the end-of-line in such a way, as to be able to manage both the small 2x1 and 3x1 multiple packs and the half-pallet tray format, which are automatically placed on a standard UK pallet for warehouse storage.

SMI solutions for complete end of line in PET at 16.000 bph

In 2018, ISHKA expanded the production of small, format bottles in PET by

installing another 16,000 bph production line for 250ml and 500ml formats at the Ballyneety plant. Thanks to the validity of the partnership with SMI, the Irish company relied on the “made in Italy” technology for their new plant, focusing on a **“turnkey” solution for end-of-line packaging, from the existing labelling machine up to the new palletising system**. By combining a **CSK42F ERGON twin lane shrink wrapper** and an **LSK30F ERGON shrinkwrapper to re-pack in film on y**, SMI provided ISHKA with the ideal solution to easily create “pack-in-pack” packages for large distribution. An example is represented by the 3x2, 500ml bottle in film only, which is formed initially in twin lane on the CSK42F ERGON packaging machine and then grouped into 4 packs, on the second packer the LSK30, from which the “pack-in-pack” is ready to be palletised and efficiently distributed to the network of supermarkets, hypermarkets and stores served by the Irish company. The **SMI APS 1550 ERGON palletising system** offers a flexible quick-

change solution to create a wide range of PET bottle packs in both 250ml and 500ml. The machine manages half pallets, euro-pallets and UK pallets and has an optional system that automatically loads the half pallets, on standard pallets for storage in the warehouse.

Where it all began...

The beginning of the partnership between ISHKA and SMI began with Line 1 of the Ballyneety plant, the 16,000 bph PET line, currently dedicated to the production of 250ml, 500ml, 750ml, 1.5L and 2L bottles, inside which the SK300F shrinkwrapper has been in operation since 2009.

Thanks to the satisfactory results obtained with this machine, in 2017 the Irish company decided to invest in a new SMI SR 8 rotary stretch-blow moulder, to increase the production ca-

capacity of ISHKA's first line, which has been in operation for many years.


The installation was a huge challenge for the technical teams of SMI and ISHKA, because the new blow molding system had to be placed within the existing production line, minimizing the downtime of the water bottling and packaging activity. The careful planning of the entire operation, the close collaboration between the two companies and the timely execution of the various steps, made it possible to successfully complete the upgrade of the plant, further consolidating the relationship of trust between ISHKA and the local branch of the SMI Group.

About SMI Group

The SMI Group is today one of the world's largest producers of bottling plants and packaging machines and

is composed of the parent company SMIGROUP, the subsidiary companies SMI (the first and largest business in the Group), SMIPACK, SMIMEC, SMITEC, ENOBERG, SMIENERGIA, SMILAB, SARCO.RE and of a network of branches, providing support for sales, after sales service and spare parts supply.

SMI designs and manufactures bottling plants and packaging machines with an innovative design, equipped with IoT technology, providing thousands of customers from more than 130 countries with smart solutions, able to meet their requirements in terms of competitiveness, production efficiency, operational flexibility, energy saving, easy management and monitoring of the whole production process. The latest developments and the continuous investments in Research & Development have led to the production of even more compact, economic and eco-friendly machines, able to meet production requirements up to 36,800 bottles/hour.

For more information on SMI, visit the website. 
www.smigroup.it



REALITY ACTIVE IN PROJECT AND PRODUCTION OF BOTTLING PLANT MACHINERY

In the beverage industry, the automatic washing of recycled bottles has now reached a high level of specialization. In this context, works AKOMAG, company located in Soragna (PR), able to offer a varied production, which includes bottle washing machine, rinsing machine, sterilizers for glass or PET bottles, crate washer and accessories to complement. Very large is the choice of the washer, the potential of which obvi-

ously varies in base at the model, and the ranges it is from 100 to 60.000 bph.

The modular structure of all installations allows to gradually increase the functions and the level of sophistication, including special washing sections and sanitizing, automatic control of process parameters, security systems, energy recovery, reduction of discharges and automatic sanitization of the parties most important from the point of view of hygiene.

Start the washing

At low production capacity, the range offer GENESI, available in very small dimensions in order to be inserted in any operating environment. Designed under the indication of the producers with low production capacities, the series has a simple but functional washing cycle, which lowers operating costs (water, energy, detergent) without negatively affecting cleaning bottles to recycle, the complete removal of the labels and their total evacuation outside. The particular ease of use and maintenance, increases productivity and reduces downtime.

The modularity of the GENESI series allows at the customer to "build a machine to measure", adapting it from time to time to different types of use (water, wine, oil, beer, soft drinks).

Constructed in accordance with the Machinery Direc-



SIRA

AKOMAG

tive (CE), is equipped with all the accessories needed for the proper functioning: a heat exchanger built with stainless steel tubes arranged geometrically to prevent the deposit of mud or various precipitation that would compromise the performance or, alternatively, a combustion chamber built with direct burner operation. Safety guards and dust cover to protect the unloading of bottles; grouped grease; saving valve for the water network and automatic control of the presence of water in the last rinsing station; electronic speed control; electronic security on the main gearbox that

stop the machine in case of overload; spray pumps with casing and impeller made in stainless steel AISI 316 and protective filters; valves for emptying the waste water and spray tanks; control panel adjustable, made in stainless steel; IP55 electrical plant; gauges and thermometers in visual range of the operator; setting and control of all the machine by "touch-screen". This are the main amenities that characterize the series. The GENESI machine is also arranged for the introduction of detergent and liquid additives in the bath and in the detergent tank, disinfectants and other products in the spraying

tanks. Internal spraying (made with self-cleaning rotating nozzles) and external high pressure spraying are easily removable for routine cleaning and maintenance. The loading and unloading of bottles is completely automatic, and perfectly synchronized with the movement of the main chain.

Dry cycle

To streamline the washing cycle, the company has realized the HYDRA series, a series of fully automatic machines which comprise a first station for emptying the bottles followed by pre-washing spraying and first pre-maceration bath. This configuration



helps to reduce the pollution of the detergent bath and reduce fuel consumption. The triple station for labels extracting ensures their complete detachment from used bottles, while the rotating filter displaced over the entire width of the machine ensures the evacuation outside.

The bottle washing is complete with indoor and outdoor spraying, which occurs with high-pressure cleaner distributed with rotating nozzles self-cleaning and self-centering. To complete rinsing, however, ensure the phase abatement alkalinity followed by spraying with external and internal water network.

Built according to the Machinery Directive (CE) also, the series has a different predispositions that increase safety, including: sensors for slowing down and eventually stopping the machine in case of failure or obstruction of bottles on conveyor; detergent introduction and liquid additives in the bath and other products in spray tanks; the automatic loading and unloading of the bottles is perfectly synchronized with the movement of the main chain; the economizer valve for the water network and the automatic control of the presence of water on the last rinsing station. Other amenities are im-

portant, as: automatic resetting of the chutes for loading and unloading bottles from the control panel; grouped grease; electronic variable speed with remote control (inverter); setting and control of all the machine by "touch-screen"; self-centering and self-cleaning rotating spray at high pressure; external spraying easily removable for cleaning and maintenance; valves for emptying baths and spraying tanks; control panel made in stainless steel; IP55 electrical plant; gauges and thermometers in visual range of the operator. At the bottles unloading are arranged safety guards and dust protec-



HYDRA

Con riscaldamento diretto
With direct heating
Avec chauffage direct

AKOMAG

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.... THE BOTTLE WASHER



AKOMAG S.r.l.

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tion. The electronic safety on every gearbox allows at the machine to stop in case of overload. The heat exchanger and pumps are always made in stainless steel. Very high productivity and automation in the wash meet in the HP model in the same series. Despite the sophistication, just an operator to remotely manage the entire wash cycle, verifying operation via control systems. The tubes of external washing are constructed so as to reduce maintenance to a minimum. But in case it will be necessary, the dismantling and cleaning are very simple. The regulation of the temperature in the tanks is automated through

a modulating proportional pneumatic system, which offers a guarantee of accuracy and safety of operation. The main motor, oversized, ensures a long lasting efficiency by minimizing the mechanical wear. The electronic variable frequency allows to manage the main engines installed in HYDRA HP series via remote control. The automatic press for the collection of labels evacuated from the detergent bath is full of a recovery system of the detergent solution that accumulates in the pressing phase.

AKOMAG has dedicated several years to the creation of bottle washing ma-

chines and the high quality standard achieved by all its production, advanced technology and timely after-sales service, has allowed at this company to come in several primary and manufacturing with the certainty of having created a safe machinery and Quality for Various needs.

This undertaking was given by all its facilities, from design to engineering, from the search for the most innovative materials to the constant testing of the products in the works.

With this AKOMAG mission, every day thought to be better and invest in quality, with the knowledge to do a good job. 🏭



TAURUS L

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*refreshing taste
of technology*



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WS, PROCESS EQUIPMENT FOR THE BEVERAGE INDUSTRY

W

S is a Company, founded in 2005, working as process equipment supplier for the beverage industry.

During these years WS has achieved a very good reputation in the beverage industry field, managing to cooperate with the major global players, such as Coca Cola, Pepsi Cola, Nestlé Waters and Orangina-Schweppes, and with private investors installing new production facilities, quite often green fields, in emerging Countries.

WS has met new standards for product quality, energy saving and maximum plant output while complying with the strictest criteria for hygiene and safety.

All the devices are entirely conceived and designed to guarantee the best requirements in terms of microbiological, physical-chemical

and organoleptic properties; the entire production process and software development are managed internally, as well as installations and commissionings which are carried out with WS's own resources.

WS' products for beverage industry are:

- water purification plants (mechanical filtration, microfiltration, reverse osmosis, UV disinfection, sterilisation) designed according to the Customer's exigencies and the chemical analysis;
- sugar dissolving systems (single batch, double batch and continuous up to 35.000 l/h);
- semiautomatic and auto-

- matic syrup rooms;
- premix units;
- flash pasteurising units;
- ozone generators;
- carbonating equipments (water, wine, beer, soft drinks);
- in line syrup blending systems and ingredients mixing systems;
- steam sterilisable microfiltering systems (juices, beer, wine);
- mineralising equipments;
- equipment for preparation



Continuous sugar dissolver



Water ultrafiltering system

of non-chemical bottles rinsing and disinfecting solutions (such as ozone) and chemical solutions preparing devices (peracetic acid, hydrogen peroxide, chlorine, etc.); equipments for the preparation of sterile water; manual and automatic **CIP systems**.

Thanks to its skill and process expertise, today WS is widely present worldwide even with turnkey solutions including ancillary equipment (cooling equipment, boilers, etc.).

WS' philosophy is to manufacture high quality and reliable equipment, equipped only with top brand components: **ALFA LAVAL**,

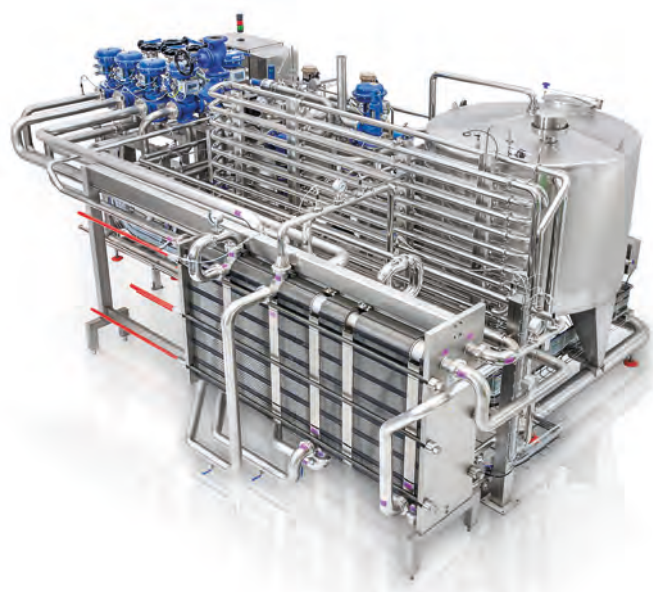
ENDRESS+HAUSER, PALL, ANTON PAAR, SIEMENS, FESTO, SPIRAX SARCO are the typical components our Customers will find on Their plants.

The choice of providing only state-of-the-art solutions has brought us to be appointed as officially authorized integrator by **ALFA LAVAL**.

Between main technical references, WS can list the supply of two fruit juice tubular flash pasteurizers for aseptic filling to **ORANGINA-SCHWEPES** in France; furthermore, it's significant to point out that WS is included in **NESTLÉ WATERS'**

authorized suppliers list for water purification systems: recently an important contract for the supply of a top-technology water treatment plant in the far East has been finalized.

Amongst last supplies (early 2016), WS also boasts a complete line for soft drinks production in Las Vegas – USA (Coca Cola co-packer): from water treatment to hot fill pasteurizer, through sugar syrup preparation and ingredients mixing, also including CIP equipment. WS consider Customer Service one of the greatest keys to success: entire business, marketing, sales and profits depend on Custom-



Flash pasteurizer

ers' satisfaction so the after sales team is constantly trained to perform the simplest solution in the shortest possible time to support the Customer's business.

“BLENDSYSTEM M” PREMIX UNIT

The growing market's confidence gained by process plants manufactured by WS, allowed a continuous development of blending technology for carbonated soft drinks (CSD) production to such an extent that We reached a very high level of specialisation in manufacturing mass controlled blending systems, named :

BLENDSYSTEM M.

The BLENDSYSTEM M is an equipment for prepar-

ing beverages, completely pre-assembled on a skid for an easy and quick shipment and installation, conceived mostly for the production of carbonated soft drinks (CSD), but also carbonated mineral water (CMW)

and still water (charged with nitrogen in order to increase the mechanical resistance of the bottle). The required quantity of ingredients (water, syrup, and CO₂) is carefully measured and dosed in an electronically controlled continuous process.

The whole system, realized to guarantee the highest qualitative standards and a qualitatively constant production, also running in conditions of considerable format change, is completely preassembled on stainless steel circular-section skid for an easy and efficacious cleaning. It usually includes the following subsystems: inlet water deaeration: a vacuum pump removes incondensable gases; the pump is conceived to maintain the dissolved oxygen

level below 1 ppm values; carbon dioxide dosing (or nitrogen in case of still mineral water production): a modulating valve and a mass flow rate transmitter inject carbon dioxide in quantity that is proportional to water quantity loaded to the deaeration tank; the water flow rate is usually measured by a magnetic flow rate transmitter, which may be replaced with a mass flow rate transmitter in case water presents a very low electrical conductivity level. A special gas injecting and mixing system - specifically developed by WS - performs a careful mixing with the water to be treated and, hence, best results in terms of product perlage; the carbon dioxide contents is maintained constant in the product receiving tank by a supervising software, which checks possible fluctuations in feeding water temperature and product buffer temperature; the effective dissolved carbon dioxide contents in the product is checked using a carbometric unit, installed in by-pass on the filling machine feeding line; syrup dosing and mixing: at first syrup is stored in a small buffer tank, whose


atmosphere is modified and enriched with carbon dioxide, in order to avoid oxidation occurrence. Syrup injection is made by a sanitary design modulating valve and a mass flow rate transmitter in a quantity which is proportional to the water amount fed from the deaeration tank; furthermore using the mass flow rate transmitter, it is possible to check constantly the effective density of the inlet syrup and therefore to compensate immediately for the dosing and to stabilize the sugary concentration in the end product within established bounds (usually $\pm 0,05$ °Bx). A specific refractometer installed in by-pass on the filling machine feeding line, allows the constant check

of the product and, if necessary, its adjustment; similarly the instruments minimize waste of both syrup and product during transitory phases of production, such as start and stop. Furthermore, customized solutions for product cooling are available, depending on the environmental conditions of the system installation.

The supervising software loaded on the mass premix unit - BLENDSYSTEM M - is conceived to guarantee the best results in terms of dosing, offering at the same time an easy control by a friendly user interface; this software enables on one hand to set the main production parameters and visualize their state graphically and on the other hand to

set the statistics parameters (ca, cp e cpk) connected to that kind of production.

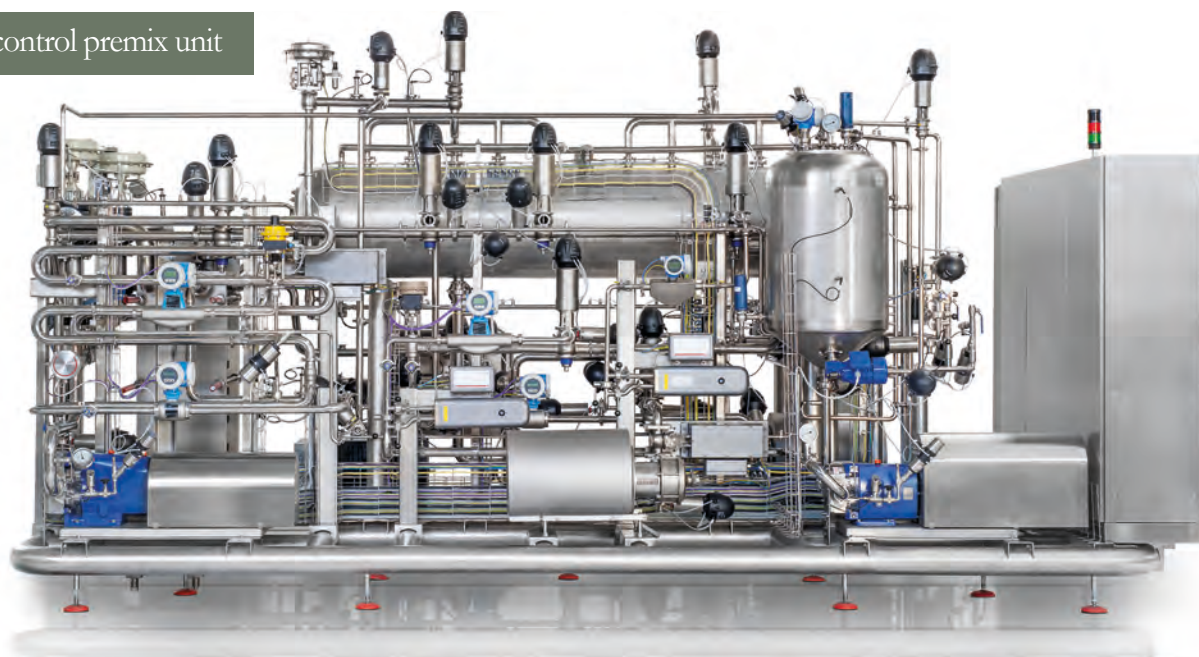
Using a more advanced version of this software, associated with specific instruments, it is also possible to control automatically saccharose inversion, so that the need of intervention by laboratory technicians is reduced.

The equipment is equipped with field buses (MPI, PROFIBUS or ETHER-NET) for a complete integration in the bottling line and the control of production, cleaning and sanitizing processes. 

www.watersystems.it



Mass control premix unit



GAMPACK GROUP: INNOVATION AND FLEXIBILITY IN SECONDARY PACKAGING

Technological innovation and productivity are, today more than ever, linked to the operational flexibility of the machines, which must be able to follow the

demands of a market that the pandemic has changed in its assets. Covid-19 has accelerated the entire packaging ecosystem and the main companies have pushed to achieve the settled targets in terms of materials and volumes.

Agrodoubs, an historic French Company in dairy sector, in this perspective of optimization and rationalization of the production process, has invested in a complete end-of-line system, from packaging to palletizing and wrapping;



After evaluating numerous proposals, Agrodoubs relied on Gampack Group, which developed for them a system capable of managing the flow of products in an automatic and flexible manner.

The project aim was to optimize the complete process in one only palletizing island: shrink packs coming from a first line, American boxes arriving from a second line and finally wrap around products conveyed from a third line.

“We have found in Gampack Group a reliable and concrete partner capable to develop and implement solutions and applications in order to obtain maximum operational flexibility, in a flowing synergy of processes, people and objectives” says M. Arnaud Lavergne (CEO) Agrodoubs.

Innovation and flexibility are key words in GAMPACK Group’s mission. The Group, Italian leader in secondary packaging and end-of-line solutions, is the result of the strategic partnership between Gampack and FuturaPack, historic companies located in the heart of the Emilian Packag-

ing Valley. Gampack stands out internationally in the secondary packaging sector with traditional automated high-speed machines, while FuturaPack is a leader in the design and construction of end-of-line robotic systems.

This winning combination enables mutual business experience and extraordinary technological expertise to be drawn together, to provide final customers in various market sectors with a comprehensive, wide-ranging service, from tailor - made idea’s development, to a finished turnkey solution.

The GAMPACK Group is the ideal technological partner in the design and

development of highly - innovative packaging solutions, on both the Italian and the international market. The Group’s strengths is being able to be a one-stop shop specialist in automation for different market sectors such as the food & beverage, cosmetics, pharmaceutical industries and many more.

The Group’s philosophy looks to the future with an ethical conscience, therefore the GAMPACK Group welcomes eco sustainable challenges, and operates to safeguard the environment by adopting the principles set out by the European energy transition agenda. 🏠

gampackgroup.com



TURNKEY SOLUTIONS FOR BOTTLING AND PACKAGING BY BBM



BM Packaging is an Italian excellence company operating both nationally and internationally. The **company specialises in the supply of turnkey water and beverage bottling plants.** Our aim is to offer the same excellence to large multinational firms and

local ones. **The customised, flexible and quick service** is the main reason why customers have chosen us for over 10 years, identifying BBM as the ideal partner for every project.

BBM Packaging, turnkey solutions for bottling and packaging, is today the byword for:

- **Used equipment excellence**, thanks to a careful selection and an

overhauling and updating process, to offer machines at competitive prices on the market.

Customers can also visit the 7500 m2 production plant to see and inspect the models and follow the revamping at every stage, until the FAT on the actual products;

- **Technical assistance**, with more than 50 highly-skilled technicians with over 20 years of

experience and competence in the sector to form a team that is able to support the customer throughout the life of the machine and on the different models by the main international manufacturers.

- **Spare parts**, whether it is normal usage wear or an emergency, BBM Packaging is a valid option for the supply of spare parts. Thanks to

the wide range of available items, the fast delivery and the competitive prices;

- **Much more**, the know-how is included in the BBM Packaging offer, following every customer through every step of the project, from upgrading to revamping and changes in the models of the main leading manufacturers. As a matter of fact, we offer

pre-sale analysis and the evaluation of the possible solutions, up to the realisation and the final delivery of the complete project, to guarantee a unique contractor for the whole process.

The high-quality of the BBM packaging offer is also proved by a **steady growth of the company over the years**, in terms of volumes, services and



personnel, establishing itself as a reliable choice for the customer's investment. Below some further details about our core activities which have pushed BBM to today results, with the turnover increasing by 45% in 2018.

USED MACHINE RECONDITIONING

The work on a used ma-

chine withdrawn from a previous owner, to bring it back to original conditions, is one of our key strengths and that is why we are always training ourselves on different kind of bottling or packaging machine.

The reconditioning work in BBM is carefully monitored by project supervisors, no detail is left behind, and the machine

undergoes several steps to be reborn:

- **Inspection**, as it enters our factory we fill in a report about what to do in case of reconditioning and possible upgrades;
- **Disassembling**, to explore any spot of the machine and to decide whether it is fully operating or needs refurbishing or replacing;



- **Cleaning and fixing;**
- **Re-Assembling**, putting the machine back together, a work that requires the max amount of experience to be effective;
- **Testing**, the benchmark, we start the machine and we evaluate the success rate of our previous work.

It is not easy to determine the amount of work needed to go through the above phases, but BBM has developed enough experience to give customers a quite **precise schedule for their project**. Because a timely servicing is important, above all, for us.

AFTERMARKET: SPARE PARTS, SERVICING AND ASSISTANCE BY BBM

Besides the sale of bottling lines and machines and their upgrading, BBM is appreciated for its after-market services. We offer a wide range of spare parts thanks to our well-stocked warehouse.

On the machines of a bottling and packaging line, we can run a complete check-up, giving customers a snapshot of the state of

the machine. So, you will always know if it is working at full operation and reliably.

To best serve our customers we have three different maintenance plans, with the following goals:

- Keeping the efficiency of the machine and the line;
- Anticipating eventual faults, no matter the brand, as they are complex machines;
- Providing a detailed report with maintenance schedule and a list of spare parts, with different priorities.

We can cover **blow molding machines, shrink-wrappers, filling machines, handle applicators, conveyor belts, air conveyors and palletizers** by the leading manufacturers in the beverage market.

Our customers can full customize their plan, starting from three packages: Essential; Business; Premium.

MUCH MORE: UP-GRADING SERVICES ON BOTTLING MACHINES

Working in the sector of

second-hand machinery, we have developed **upgrading services**, allowing our customers to convert their machines to match or getting closer to the performances of new generation ones.

For example, we offer several upgrades for shrink-wrapping machines, maximizing their efficiency.

REFERENCES: THE ACTUAL WORK ON BOTTLING AND PACKAGING LINES

Among the companies we work with, there are brands such as **Coca Cola, Acque Minerali d'Italia, Nestlé Waters and Pepsi**, but BBM does not work within the beverage sector only, it also collaborates with major firms in another sectors, for example in the milk industry.

Surely, **Latteria Soresina** is one of the main Italian players on the market with a growing turnover and gathering other quality Italian brands.

Latteria Soresina represents also one of the many cases of customers satisfied by the pro-

fessionalism of BBM services, as they already entrusted us for the production line of Peschiera Borromeo (MI).

That is why we have been contacted again for the same site in the province of Milan in 2018, to work on the increasing of productivity projects, through the installation of a new **line dedicated to the production of UHT milk bottles.**

The project has been very engaging as the customer presented us the need of a line that may eventually be combined with the one already installed and guarantee a backup for the production line of the fresh milk bottles: this market has different production demands and stricter deadlines.

The final aim was to have the **fresh milk line always working.**

Of course, the first step was to visit the production site to evaluate the scope of the project, then we prepared the design of the new line to be approved by the management of the company, finally we implemented the best machines in the

project and we started the operations.

BBM Packaging, next to the design, has also supplied the majority of machines of the new line, among them:

- **one blow moulder**, overhauled and guaranteed, which works with the 38 mm neck typical of milk bottles. Also on the blow-moulding system we took care of the manufacturing of a series of new moulds, customised for the Latteria Soresina bottles.
- **one shrink-wrapping machine**, working with film, also overhauled and guaranteed.
- one labeller.
- the air conveying system between the various machines.

All the machines are used ones, overhauled to be as new and guaranteed by BBM.

Particularly interesting, it has been an **upgrade on the blow moulder**, as a matter of fact, Latteria Soresina asked us to modify the machine to work with lower weight performs, in order to reduce the plastic material,

paying attention and respect to the environment, something that has always characterised the two companies.

The new line of Peschiera Borromeo, whose installation ended with the commissioning, by BBM, in January 2019, meeting delivery deadlines, **produces the 1 litre bottle format**, cylinder shaped, and it is able to work with two different packaging configuration with film, **3x2 and 4x2** (respectively working up to 40 packages per minute with the first one and up to 30 packages per minute for the second one), and it can produce about **12.000 bottles per hour.**

In the end, BBM packaging Solutions has met the needs of Latteria Soresina and, thanks to **its great experience in offering line design and overhauling and installation services on used machines.** 🏭

www.bbmpackaging.com



MOSAIC - THE SAFETY CONTROLLER THAT MAKES THE DIFFERENCE

Quick setup, total integration of all safety functions and strict compliance with machine regulations: in addition to these traditional strong points, the Mosaic Safety Controller also allows to build and upgrade installations easily.

Today the design and implementation of a safety system for an automated line must also allow for future expansion or adjustment of the project, which may affect single machines as much as entire parts of the system.

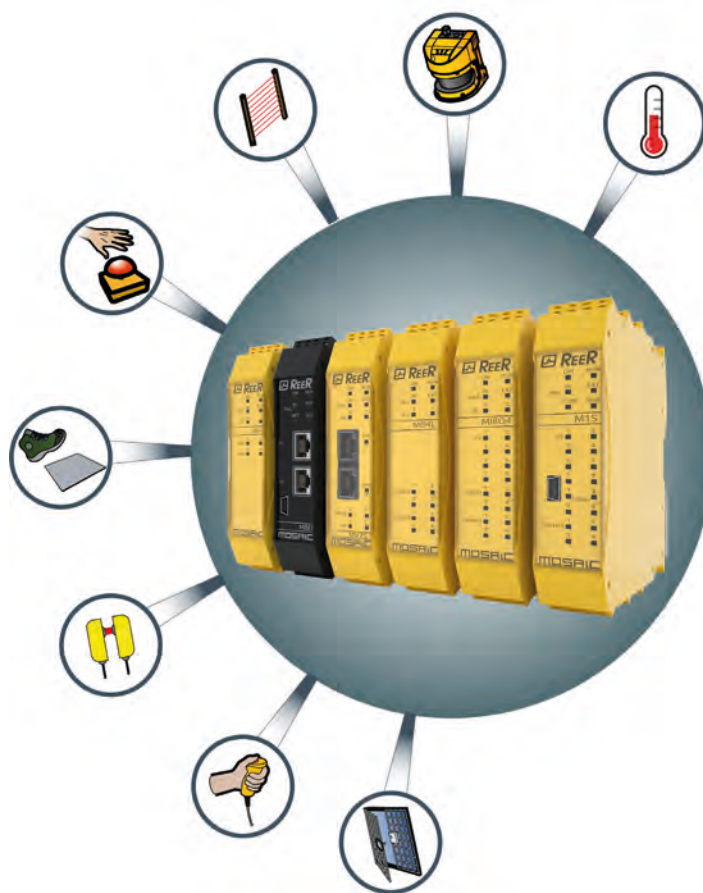
The Mosaic solution developed by ReeR responds to this request: it is modular, configurable and capable of managing all system's safety functions.

Furthermore, it enables designing safety systems with the knowledge that they can be expanded, integrated, or adjusted at a later time.

Mosaic can manage safety sensors and signals such as

Light curtains, photocells, laser scanners, emergency stops, elec-

tromechanical switches, guard-lock safety door switches, magnetic switches, RFID switches, safety mats and edges, two-hands controls,



hand grip switches, encoders and proximities for safety speed control, analogue sensors (i.e. loading cells, pressure switches, temperature measurement, flow and level measurement, etc.).

Advantages

- Reducing the number of devices and wiring and, therefore, the overall size of the project
- Speeding-up the control panel construction
- Allowing a tamper-proof system configuration
- Easy configuration through a graphic interface
- No more laborious wiring needed as with traditional solutions
- A lower number of electromechanical components also means a better Performance Level and, therefore, a higher Safety Level
- The project report provides the actual values of PFH, DCavg and MTTFd according to EN 13849-1 and EN 62061

Depending on the machine complexity, the system can be composed by a single Master Unit in stand-alone configuration (8 digital inputs, 2 inputs for Start/Restart interlock and EDM, 2 pairs OSSD safety outputs, 2 status outputs, 4 test outputs) or, by the Master Unit and up to 14 expansion modules, reaching its maximum capabilities with:

- 128 digital inputs
- 32 Fieldbus inputs
- 32 Safety outputs
- 48 Status outputs
- 128 MSD operators
- 48 Timers
- 8 Muting operators
- 8 Safety guard lock operators
- 32 Probes

The MB communication expansion units allow Mosaic to interface with the most common industrial fieldbuses. The MCT interfaces allow the use of just one cable for the de-centralization of the expansion modules, making it a suitable solution for linking multiple ma-

chines along a production line.

SPEED AND MOTION EXPANSION UNITS

The MV expansion modules have been developed for motion control (axis speed), enabling safety speed monitoring (up to PL e) for zero speed control, maximum speed, speed range and direction (rotation/translation).

The Mosaic modules integrate incremental encoder inputs (frequency up to 500 KHz) and proximity switches and offer the possibility of configuring up to 8 speed thresholds for each logic output (axis). Each module controls two logic outputs that can be configured through MSD and is thus capable of controlling up to two free axes. A few applications example.

Zero Speed Control:

Mosaic verifies that the dangerous device is at a standstill; this en-

ables unlocking gates or movable guards so that operators can safely access the dangerous areas.

Maximum Speed

Control: the system verifies that the safety speed set (maintenance speed) is not exceeded. This enables to safely perform maintenance operations and system adjustments.

ANALOGUE INPUTS EXPANSION UNITS

The new MA modules

allows the connection of analogue sensors such as load cells, pressure switches, temperature measurements, etc.

With 2 (MA2) or 4 (MA4) independent isolated analogue channels (500 V).

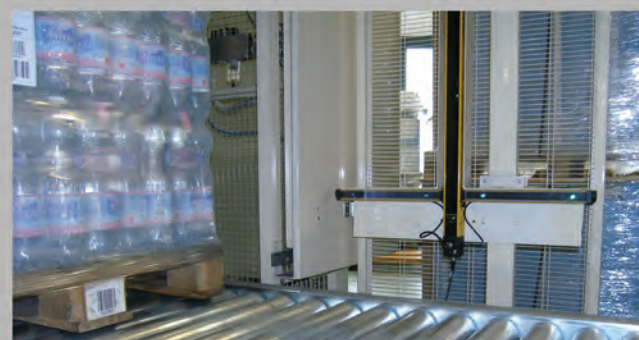
Individual channels can be paired-up to allow sensor reading redundancy.

INTUITIVE SETUP

Mosaic Safety Designer is a free-of-charge software for system con-

figuration. Its drag & drop graphic interface is simple and intuitive. Three functions prove to be particularly useful among the designers:

- 1) **validation**, allowing checking the design phase,
- 2) **monitor function**, allowing for testing during installation, and
- 3) **simulation function**, allowing simulating the system functionality during design.



In addition, the **Project Report** provides the actual PFH, DCavg and MTTFd values necessary for calculating safety function performance level.

Example of application

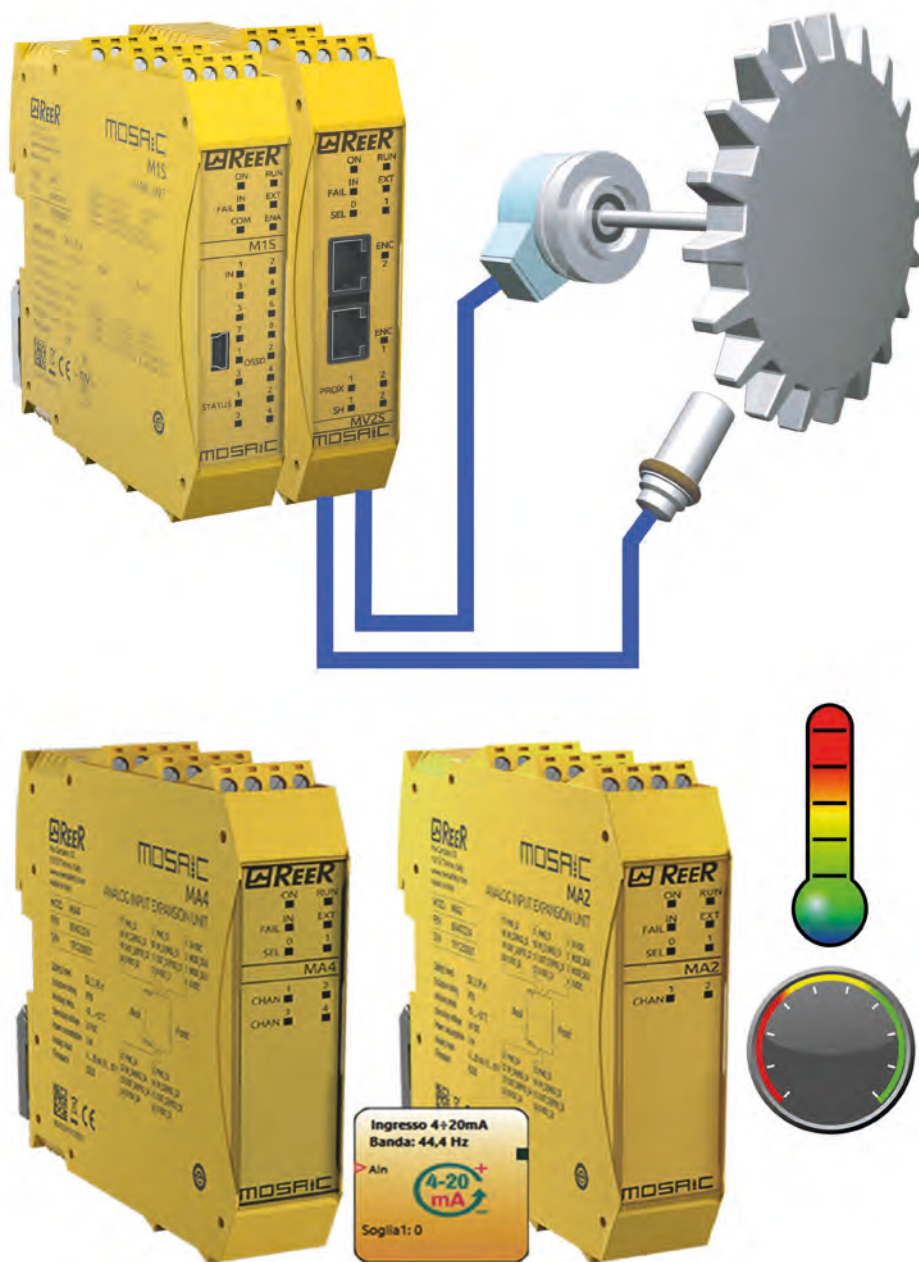
Protecting palletizing systems of irregular goods (materials not easily stackable): the presence of seams, la-

bels and protrusions, contributes to the irregular geometric shape of the pallet, causing false signals from the sensors. To solve the problem and achieve high reliability of operation of the plant while ensuring all safety requirements, the light curtains and muting sensors used are managed by the Mosaic Safety Controller.

This solution, in addition to ensuring the functionality preventing undesirable stops due to false signals, allows you to easily adapt the system to the safety features of the system in accordance with the IEC TS 62046 and other existing regulations. All timings of the system and management of muting functions are configurable by the Mosaic Safety Controller, allowing maximum versatility of the plant. 🏢

www.reer.it

REER



SENSORS, SAFETY AND RFID SYSTEMS FROM THE SPECIALISTS

Contrinex is a leading manufacturer of inductive and photoelectric sensors as well as safety and RFID systems. The Swiss innovation company has a broad product range and is now represented in over 60 countries worldwide. In the field of miniature sensors, full-metal components, sensors with long switching distances and solutions for demanding environmental conditions, the company is a world market leader.

Contrinex is a trendsetter in innovation and is constantly setting new standards in the field of sensors. An example of this is the standard equipment of sensors and new RFID read/write modules with an IO-Link interface. This



New TRU-C23 photoelectric sensor uses UV light for the reliable detection of transparent objects (source: Contrinex)

interface is an important prerequisite for the networking of processes (Industry 4.0), since it enables sensors to be integrated into the entire communication system via IO-Link. Reading and analyzing relevant process data is not the

only advantage. It is also possible to set sensor response behavior and influence the output on- or off-delay. Users also have the option of remotely configuring the sensor via IO-Link, saving lengthy changeover time, espe-

cially in hard-to-reach installations.

Devices can be used either as binary sensors or as sensors with a data interface.

So the customer does not have to decide before buying, how any sensor will ultimately be used.

UV light sensors facilitate the control of transparent objects

A major innovation is the photoelectric sensor TRU-C23, which Contrinex launched on the market in 2017.

This sensor is ideal for controlling the presence of transparent objects - a task that pushes conventional optical sensors to their limits.

The TRU-C23 uses polarized UV light and a reflex operating principle. Since even transparent materials such as plastic or glass readily absorb UV light, the threshold at which the sensor switches can be set very easily. This makes commissioning much easier. The housing, measuring just 30 x 20 x 10 mm, is com-



Photoelectric miniature sensors with Ecolab approval, ideal for use in the food industry (source: Contrinex)

patible with the entire C23 series as well as comparable devices. Like all C23 sensors (diffuse, reflex, background suppression and through-beam types) the TRU-C23 includes an IO-Link interface at no extra cost, is Ecolab tested and approved, rated to IP67 and reliably withstands common industrial cleaning processes.

Typical applications for the TRU-C23 are packaging systems and filling systems for glass or plastic bottles.

Extremely robust: full-metal sensors

With their robust stainless-steel housing and IP68/IP69K protection rating, the full-metal sensors of the Full Inox family are virtually indestructible. They withstand corrosion and salt water as well as pressures up to 80 bar. Operating distances are particularly long, with factor 1 on steel and aluminum. Thanks to the integrated ASIC, Contrinex can manufacture Full Inox sensors with diameters as small as 4 mm - making them

the smallest inductive sensors with IO-Link in the world.

For applications in which sensors are exposed to aggressive chemicals, dirt particles or high temperatures, **Full Inox Washdown** sensors are ideal. These sensors in food-grade stainless steel V4A are Ecolab-certified for continuous use under harsh conditions with stringent hygiene standards. This makes them ideal for position and presence monitoring in the production of food, beverages and pharmaceuticals.

Metal drilling or grinding processes present a difficult challenge for inductive sensors. The presence of metal debris can cause false switching, especially when the sensing face is covered with a mixture of lubricant and metal chips. To avoid the need for frequent cleaning, Contrinex now offers a **chip-immune series of Full Inox** inductive sensors in M12, M18



Chips of iron, aluminum, stainless steel, brass, copper or titanium: no problem for chip-immune inductive sensors (source: Contrinex)

or M30 housings. Even when covered with chips of iron, aluminum, stainless steel, brass,

copper or titanium, they will reliably detect targets made of these metals. In practice, the use

of these new inductive sensors can save time, money and even help protect the environment through the elimination of washing cycles.

Inductive sensors for welding-cell use must meet special electrical requirements.

Contrinex **Full Inox Weld-Immune** sensors, with resistance to medium frequency (up to 15 kA) and 50 Hz magnetic fields (up to 40 mT), more than fit the bill. In addition, they withstand direct contact with weld spatter and are easily cleaned, ensuring minimal down-time.

RFID tags for high temperature applications

Contrinex's high- and low-frequency RFID systems both feature tags for high temperature use. For harsh high-temperature environments up to 180°C, the low-frequency system includes embeddable, salt-water-resistant, full-metal transponders in food-grade stainless steel V4A. For applications with even higher process temperatures, as found in the steel industry or paint shops, Contrinex offers HF-RFID tags that can withstand temperatures up to

250°C. These tags cope easily even with temperature cycles of more than 1000 fluctuations between 25 and 250°C.

Safety covered

The high-performance safety portfolio comprises Type 4 and Type 2 light curtains in both slim and standard housing types.

In addition, magnetic and RFID-coded safety sensors are also available for precise position sensing of protective hoods, doors and flaps.

These sensors (type 4 according to ISO 14119) are immune to mutual interference and highly resistant to unauthorized manipulation on site. In the RFID-coded version, up to 30 sensors can be connected in series with just one relay or controller. 🏠

www.contrinex.com



RFID tags for operating temperatures up to 250°C:
(Source: Contrinex)

CONTRINEX

ADVANCED TECHNOLOGIES SPA: SOFTWARE SOLUTIONS FOR COMPUTER VISION TASKS

Advanced Technologies SpA was founded in 1998 as distributor of technologies for computer vision. Since the beginning the company focus has been to select suppliers able to offer innovative and reliable solutions for computer vision industry.

Today, after 20 successful years of activity in the Italian market, Advanced Technologies is not just a component distributor but a solution provider. In fact, during the years the company gained a solid knowledge of markets and customers, which makes possible to offer every time the most suitable solution for the application.

One of the characteristics that differentiate Advanced Technologies is the internal R&D department composed by

people of extraordinary experience which supports customers and develops software solutions for computer vision tasks. Our technical team is constantly at customers' disposal for performing feasibility studies, pre sales analysis and post sales support.

Machine vision is a key technology in industrial automation that enables in-line products inspection and guidance of robotics systems. In the food and beverage industry quality and traceability

of products is driving the need to integrate vision system in manufacturing and packaging lines in order to ensure 100% inspection of products. When a beverage products is ready to be sold it must comply with many requirements and specifications, not respecting those requirements can lead to serious damages for companies in terms of reputation and in terms of legal issues. In addition to this, inspecting products in all the production stages





SVS-VISTEK



GigE
VISION

makes possible to further process only the good items discarding the bad one as soon as the defects arises, saving costs from processing a product that will be rejected later. Machine vision technologies can be used to inspect containers, final products and packaging. Some of the specific tasks that can be performed by a vision system are bottles inspection tasks in order to detect defects such as deformations or holes before the filling stage, check the filling level, inspection for detecting the presence of foreign objects, cap presence or absence, sealing inspection, label inspection,

code reading. Advanced Technologies, as a distributor for the Italian market, can provide support in choosing the best technologies for such applications thanks to a broad product portfolio of industrial cameras, lenses, lights, computers and imaging libraries. Basler ace cameras, distributed by Advanced technologies, are extraordinarily well-suited to the various applications found in the food industry thanks to their high dynamic range, high frame rates, excellent price/performance ratio, small form factor that allows for installation even in tight spaces and

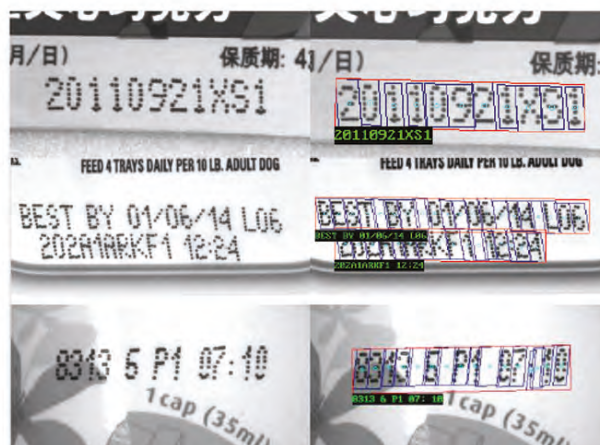
the possibility of having a single-cable solution via GigE with PoE, Camera Link with PoCL, USB 3.0 cuts costs and allows for simple cabling. Advanced Technologies also distributes SVS Vistek cameras, SVS Vistek is specialized in high resolution camera that can detect also the smallest defect, the 10GigE and GigE cameras of the HR series ensures a reliable, cost-effective transmission of the image data over a distance of more than 100 m with standard network technology. The clean design according to well established standards like GigE Vision, 10 GigE

Vision and GenICam ensure rapid integration into the final application.

In the food industry, cleanliness is paramount and frequent cleaning is the standard procedure. SVS Vistek offers camera with Industrial protection class up to IP67 (black-line). Cameras complying with defined standards of protection are resistant to dust, detergents and water jets.

Regarding imaging software Matrox Imaging Library (MIL) is a comprehensive collection of software tools for developing machine vision and image analysis applications. MIL includes tools for every step in the process, from application feasibility to prototyping, through to development and ultimately deployment. OCR tools are among the most interesting MIL tools for bottling plant and beverage industry.

A key aspect of food and beverage production involves the mandatory marking and verification of manufacturing and expiration dates and lot



SureDotOCR



codes on the product packages. These codes are integral to identifying exactly where and when the product originated, and demand cost-effective systems that can report clear and reliable results to prevent packaging errors. Matrox String Reader module offers tremendous flexibility in terms of the code it can read.

Matrox SureDotOCR™ is another Matrox software tool specifically designed for the unique challenge of reading dot-matrix text. Its use is straightforward, requiring the user to specify dot size, number of charac-

ters in a potential text string, and dimensions—but not the location—of the text region.

SureDotOCR includes a set of pre-defined fonts but also accepts custom fonts for more precise matching. Capable of reading multiple lines of text, SureDotOCR can even read each line of text in different fonts. OCR tools are also available in Matrox Design Assistant, an integrated development environment (IDE) that allows developers to design a graphical web-based operator interface for the application. 

adv-tech.it

“ IS IT POSSIBLE TO SAVE WATER? YES, THANKS TO THE NEW TECHNOLOGIES ”

A resource that has never been quite so scarce as it is this year, water is the primary ingredient of the beverages and liquid food industry. Its correct management, aimed at reducing the water footprint, will be an essential concern of future company decisions

Water is a fundamental ingredient in the production of beverages and liquid foods, as well as an essential element of all production process. In fact, it is also vital for cleaning and sterilizing production equipment and systems, and an irreplaceable resource in HVAC systems.

resource has therefore become impellent: in fact, we talk of a responsible use of water when referring to it as a product or as an element in industrial processes.

This is even more true if we consider that the beverages and liquid food industry is far from being a virtuous example of water management:



by Elisa Crotti

Besides, more and more attention is being focused worldwide on the management of wastewater before its disposal, while the restrictions on water pollution are becoming increasingly draconian.

It goes without saying that the beverages and liquid foods industry is implementing strict water management policies, with the intent to reduce its consumption as a raw material in production processes, to limit its use and facilitate its reutilization, thanks to the application of the most avant-garde technologies.

An inevitable change of direction

We have all experienced the serious issues caused by water shortages last summer. A more careful and accurate management of this





according to eminent representatives of our industry, we could reduce our footprint drastically, by as much as 60%, if we just adopted a series of simple measures.

Seen as water represents 30% of the average utility costs of food and beverage processing firms, the economic impact could be just as significant as the impact on our sustainability goals.

An “economic” use of water

In which phases of the production process is it possible to achieve a significant saving of water? In reality, there are many of them and they can all make a great difference.

For instance, let's consider product changes. These are frequent and involve a rinsing or cleansing phase between one type of production and another. A considerable amount of water is used in such cases. Or, to quote another example, the contamination of containers or production lines: producers schedule cleaning activities based on the highest level of contamination, perfectly aware that, in practice, this scenario is often disregarded. Finally, water reutilization also deserves

a mention: in most cases, the water used in production must be disposed of, and is therefore “wasted”, rather than reutilized.

In fact, there are numerous solutions for reducing water consumption and they regard the afore-mentioned situations, as well as others that arise during production.

Water management software

Once again, technology comes to our aid. For the purpose of optimising water usage, software solutions are available for assessing consumption 24 hours a day/ 365 days a year. Consumption peaks are highlighted and may be analysed with precision. This enables production managers and their teams to define realistic sustainability goals and improve production efficiency, while also identifying possible areas and measures for improvement.

With regard to systems for the treatment of wastewater, there are various possible approaches, depending on the quality of the water and its intended use. Water treatment phases in the beverages and liquid foods industry are widely known: biological, biophysical



and membrane processes are essential elements for consideration in the case of organic residue, muds, micro-organisms or non-biodegradable substances.

All such activities are recommendable because the reduction of water or wastewater treatments enables a further improvement in economic and environmental terms.

Cleaning with the aid of “smart helpers”

Adaptive solutions are currently being studied and developed for the cleaning phase of the production process.

Thanks to highly sensitive sensors, it is possible to detect the level of contamination in the containers and calculate the most appropriate cleaning time. This technology is based on Machine Learning, or automatic learning, and on the evaluation of cleaning tools and the time required to complete the process efficiently, according to the contamination models previously acquired.

The system combines sensors and high precision UV LED elements, highly efficient 360° mini-video cameras of robust construction and temperature-resistant, which can inspect any position in the tank.

By working in a context of ongoing self-optimization, the system enables optimal and calibrated performances before going on to redefine consumption levels in a particularly costly phase of the process.

A final and very important aspect concerns the reutilization of water, an ambit in which companies are investing considerable resources and thanks to which it will be possible to reduce their water footprint.

In view of this new vision, it is important for society to accept the use of recycled water with yet more conviction and for the public to understand the strong link between cost and value of water. There is a great need for enhanced awareness and specifically targeted institutional intervention.



Tubi in PTFE per l'Industria Alimentare e Farmaceutica.

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- Alta Igienicità
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Since 1951.

FROM MAKRO LABELLING, THE M.A.I.A. AND A.L.I.C.E. MACHINE VISION SYSTEMS

The evolution of the design capabilities of the Goito-based company includes two new machine vision systems guaranteeing performance, less production waste and top quality finished products. While on one hand, faster bottling lines ensure production schedules can be met, on the other, they make it very difficult – if not impossible – for the line operator to accurately check every individual bottle. Only automatic quality control and bottle orientation systems can guarantee the precise characteristics of each finished product, preventing defective bottles from reaching the market. This is no news to Makro Labelling, one of the leading industrial labeller manufacturers,

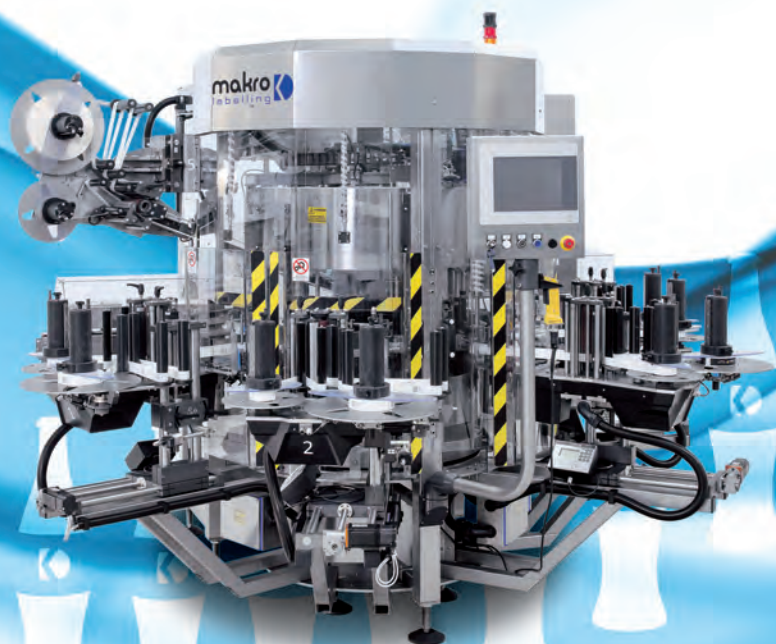


always committed to taking account of, or anticipating, the market's requests, developing products, systems and patents able to guarantee

performance, lower costs, less production waste and top quality packaging. The choice for advanced technological skills, production process



MODULARITÀ, FLESSIBILITÀ, PRATICITÀ



L'etichettatura nei settori beverage, food, detergenza e industria farmaceutica è da sempre la nostra passione e la nostra prima attività.

Tecnologie innovative, una rete internazionale di vendita e di assistenza post-vendita e flessibilità operativa sono i nostri punti di forza.

La soddisfazione di ogni esigenza di etichettatura da 1.500 a 50.000 b/h il nostro risultato, apprezzato da aziende di ogni dimensione.

Gli oltre ottocotocinquanta impianti presenti ormai in tutto il mondo la nostra conferma più grande.



rationalisation and the ability to anticipate the evolution of the market. “The machine vision system is the natural follow-through to the labelling process, as the procedure does not end when the label has been applied. It is necessary to check that the right label has been attached, positioned correctly and smoothed without defects. We at Makro Labelling therefore decided to create an in-house Vision Department and to invest heavily in developing two new vision systems: A.L.I.C.E. and M.A.I.A. We have recently launched them onto the market and they will guarantee perfect and complete integration with the machine automation and a flexible, intuitive, practical response to companies who know they need automatic systems”, says Simone Marcantoni, head of the Automation Department. Fruit of about 10,000 hours of software development, the two systems integrate with the labelling machines and



are also simple to manage for the line operator who can thus exploit the system to the full. In-house development and production of the two systems allows our

customers to interface with a single producer, able to guarantee rapid and direct technical assistance and above all to satisfy the market's diverse packaging needs,

once again confirming the concept of flexibility which has been a hallmark of Makro Labelling since the beginning.

A.L.I.C.E. - Advanced Label Inspection and Control Environment

A.L.I.C.E. is a quality control system able to assess the horizontal and vertical position and angle of the label, together with its alignment with respect to a reference point, whether the logo on the glass, a capsule or another label. The system also checks the label is correct and the overlap of a wrap-around label and can read barcodes, a data matrix or characters, or simply check for the label's presence.

M.A.I.A. - Makro Advanced In-line Analysis

M.A.I.A. on the other hand is Makro Labelling's bottle orientation system. It is based on use of Line Scan Camera technology

employing line scan cameras (also mounted on Makro Labelling's patented Follower system) able to take thousands of linear photographs (1x2048 pixels) which, pasted one after the other, produce a single image representing the full length of the bottle. When subsequently analysed, this indicates the position of the reference point to be used by the plate control system to position the bottle correctly and receive the first label in the right position. "A vision system must not be complex, otherwise the operator will not be able to use it easily, in practice limiting its use. We have seen production lines where the system has been turned off or bypassed because the operator is not able to manage

it and so decides to do without its assistance. Or the intervention of highly-trained but costly engineers is required in order to produce and obtain reliable checks. One of the reasons behind the success of Makro Labelling's machines and systems is precisely our ability to offer functional solutions which, although complex, are available to operators simply and intuitively, giving them hitherto unthinkable possibilities and flexibility.

A.L.I.C.E. and M.A.I.A. have once again been designed and oriented towards simplicity and user-friendliness, so the operator can master them completely, quickly and simply," says Simone Marcantoni. 🏠

www.makrolabelling.it

makro 
labelling

MODULA: THE 4.0 PRODUCT IN A SMART 4.0 FACTORY

At a time when the computerisation of businesses and the human-data interchange is more and more important, the solution is an automated factory and the Modula VLM represents a solid response to the 4.0 approach. Modula is a VLM based on the idea of tak-

ing back floor space and converting it into vertical space. To give you a concrete example, an 840 sqm warehouse becomes just 14 m² of floor space and a vertical distribution of 16 metres height, giving you a compact and lean factory which has its workers in mind.

So, the principle behind these VLMs is goods-

to-man and not man-to-goods, avoiding long journeys on foot for operators, human errors, incomplete picking lists and physical effort. Picking is actually automated, so operators avoid having to perform unnecessary moves to reach the products. Access to Modula VLMs is completely computerised via a graphic touch screen



user interface with colour display and intuitive icons that simplify the learning process for operators.

The uses for a Modula VLM are wide and varied. For example, they can be used as automatic dispensers that provide assembly areas with the materials needed on the production line.

Or they can be set up as a store, or used as a buffer for the production line or as a spare parts warehouse. Whatever the operator's "role", they no longer have to inspect shelving to find the materials they are looking for: it's the system itself that finds the materials, records stock levels and issues repeat orders whenever necessary. Here's another feature: the vertical shelving is modular and potentially infinitely expandable. The savings a business can make by adopting an intra-logistics system like this are huge and there are various VLM models with different specifications.

It starts with the minimal footprint of the Modula Slim which has a depth of less than 1.6 metres, and goes up to the Modula

OneTon with a tray and bay width of 4100 mm and a payload per tray of 990 kg!

Storage solutions also include an internal bay that constitutes the ideal solution for companies needing to minimise their use of floor space, whilst the external bay offers an excellent ergonomic workspace for operators having to pick heavy products.

VLMs can then be connected to anthropomorphic robots, lifting equipment, zero-weight cranes and other automation systems to create a

lean, compact factory able to communicate with other systems and automated devices.

While manual solutions could handle 40 order lines per day, now with Modula this can be 500.

VLMs transform the whole process: in the past, operators had to use a ladder to reach a component, hold on tight at a height of 3 metres, keep track of the event with picking slips and then record it all afterwards.

A simple operation like this would require 4 people, while today you need only half that number.



However, the most important revolution is that these VLMs are equipped with a Modula Cloud device that means you can receive incoming warning signals when any faults in the machine are detected, keeping the customer

informed in real time and providing adequate support for preventive maintenance activities. This exchange of information will be essential in the factory of the future. This is an added value that makes it possible to collect and

monitor, in the Cloud, all data associated with the VLMs in order to keep track of their operation at all times and provide a service whose goal is to consolidate the relationship between company and customer, resulting in benefits both for the Modula production process and also for the customer. The result is that the Modula system processes a large amount of data that can then be transmitted to help people use the systems, or intervene in real time in the event of improper use, or provide information well in advance of the next maintenance task.

Modula in the Beverage industry

If you are wondering how a business operating in the beverage sector can make use of the benefits of a Modula VLM, it will be made easier by relating the story of Vonpar Refrescos, one of the largest Coca Cola bottling companies in Brazil, with a production unit in Porto Alegre (RS) supplying the areas of Rio Grande do Sul (RS) and Santa Catarina (SC).

At its production site where it bottles all Coca



Cola products on a continuous production line running 24/7, changing equipment and dies on the bottle filling line is a routine activity within the production process. Traditionally, these equipment and dies, which are very heavy items, were stored on high, inconvenient and bulky shelving units spread right across the factory.

Operators had to load them manually on to trolleys to move them around and bring them to the machine, change them over and then bring the replaced items back to the shelves, wasting lots of time looking for and transporting the pieces and requiring lots of physical

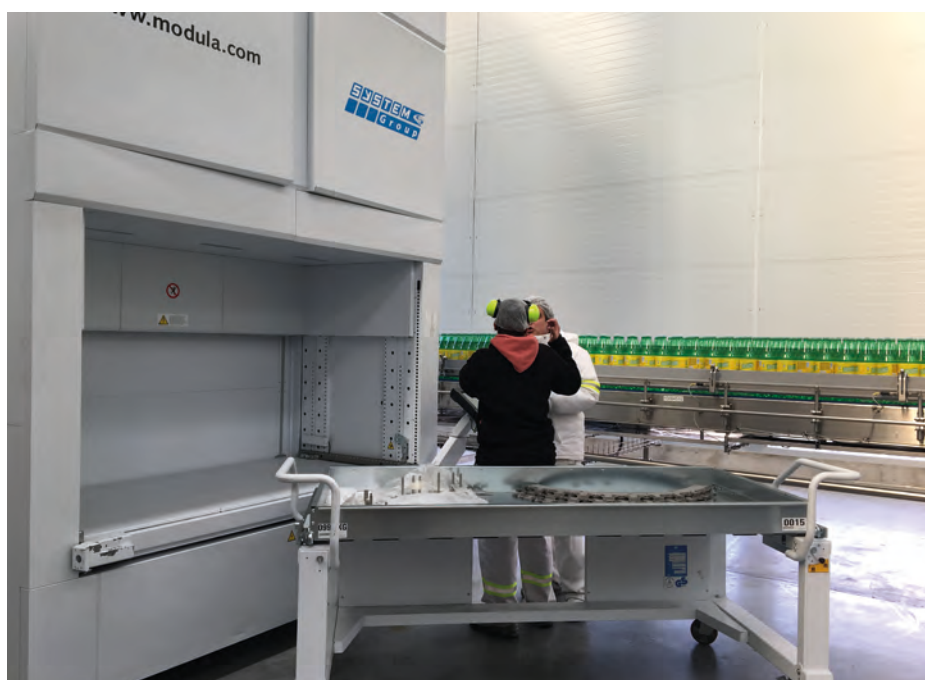
effort from the operators. With the installation of a Modula VLM Model ML50D at 9.5 m in height and with a payload of 500 kg per tray, fitted with the Trolley (tray extraction and transport device), the equipment and dies could now be stored much closer to the production line, reducing the time needed to locate and transport them. With the Trolley, the physical effort required of operators is reduced to zero and so is the possibility of picking errors. Each replacement set is mapped to a single tray and can be retrieved by calling that tray. This was not the only option chosen by Vonpar, as they also fitted their Modula system with an

Automatic Door to protect the stored equipment from dust and external contamination.

The possible applications don't stop here: many bottling plants have chosen Modula to store their labels, mapping them tray by tray and retrieving them just in time for production. Where before operators would have to go in search of the correct label and pack, now with one click they can manage the entire set of labels, keeping them safe from, amongst other things, dust, dirt and damage, and making it very easy to carry out an inventory.

Considering that access to traditional warehouses and shelving units was not controlled, with Modula however this can be done via a specific login and password or just using a company security badge or EKS. 🏠

www.modula.com



ZAMBELLI: DIFFERENT PRODUCTS, SAME HIGH QUALITY



Zambelli, since 1969, designs and manufactures cutting-edge technical

solutions for the packaging industry.

50 years of business, 2 generations at work and hundreds of customers worldwide

50 years have passed since Flavio Zambelli decided to

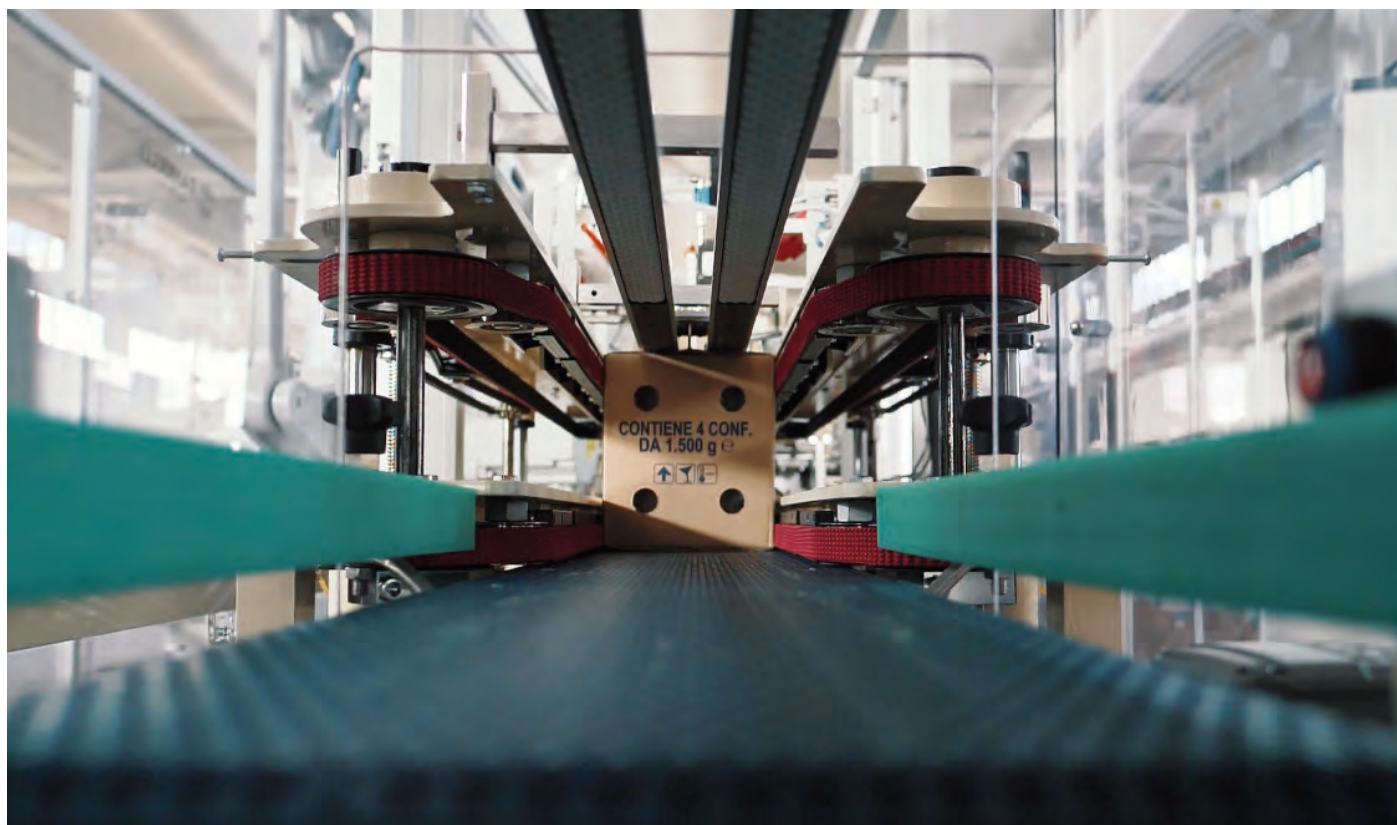
start his small business in Bologna downtown. Since then, thanks to his perseverance and the following generations, Zambelli continues to grow and proudly serve its customers all over the world.



Zambelli core values

Behind every machine supplied and every service rendered, there are people.

Working hard, sharing the joy of a successful project, this is what gives us the strength to grow and always



move forward.

Zambelli is a large family which includes relatives, colleagues and, above all, customers.

Zambelli business approach

- Market research & target identification
- Development of ideas & design
- Collaboration with customer to adapt to its specific needs
- Prototyping & test
- Manufacturing, installation & training
- Continuous exchange of information
- Planned maintenance, service & spares

Who we are and what we do?

We are #MarketOriented, because we are constantly reaching out to new horizons.

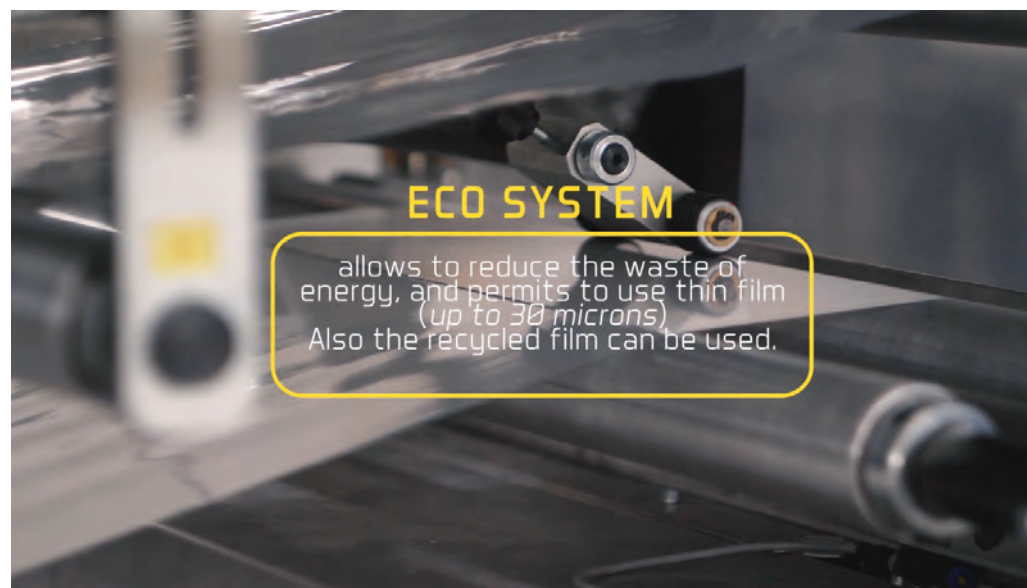
Starting from our core industry, Food & Beverage, over the years we have developed packaging machines also for pet food, baby food, home care & personal care, Industrial goods as bearings and consumables for the welding industry and many more.

50 years of perseverance and success, an ongoing

story for Zambelli and its friends.

We design #PowerfulSolutions, because thanks to our experience we design and manufacture packaging machines that fit the needs of our customer: if the requirement is to package products with LDPE (Low Density Polyethylene), Zambelli makes avail-

able its best Shrinkwrappers suitable for film only, flat pad + film, tray + film. If the request is for cardboard packaging of various sizes, Zambelli Cartoners and Case Packers – Wrap Around or preglued RSC – are the best solutions; if it's not enough, Zambelli provides Robotic System tailored to any application that requires specific han-



dling and Combi machines made by the combination of Shrinkwrappers and Case Packers.

Our solutions are versatile and customized, every project is different but our commitment remains the same.

We are #CustomerOriented, because for us most important is to find the best solution for customers needs.

Our attention is always focused on their production process and its needs. For this reason, to fully satisfy our customer, we are willing to provide various types of services pre and after sales:

- Design
- Installation
- Technical Documentation
- Service & Spare
- Upgrades
- Training for technicians & operator

What we can do for you and your project?

Three easy steps:

Meet up – contact us for a first meeting.

Talk & Plan – let's talk about your ideas and how we could develop them together.

Design & Collab – now the fun part: let's design! We work together to make everything perfect according to your needs. 🏠

Contact us:

- zambelli@zambelli.it
- (+39) 051 66 61 782
- Via Ferrara, 35/41
San Pietro in Casale,
Bologna (IT)

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MODULAR CM

Fully ergonomic and modular rotary labeling machine, with a quick and easy reconfigurable layout.



Compact and robust labeling solution, available in four sizes from small to medium, up to six labeling stations.

The new solution to meet the needs of the Wine, Spirits, Oil, Beer, Food & Dairy sectors.

Solution with pressure sensitive and cold glue labeling stations, reciprocally interchangeable and replaceable in a few steps.

Modular CM is a machine that provides the highest standards of safety for the operators.

It has up/down protections that, when raised, instantly stop the machine.

TMG IMPIANTI, PACKING AND PALLETIZING SOLUTIONS

I

established in the 1976, TMG has been successful on several global markets, thanks

to a continuous research and a professional experience that allowed to gain a qualified technological know-how, to apply in the end of line systems all over the world.

The direct contact with the customer is a chance of constant innovation of our packing machineries range, resulting progressively suitable for any needs and different applications. The products range comprises carton erector, carton packer, carton sealer, palletisers, depalletisers and robot. These machines are often combined together to supply complete turn-key solutions of automated packing systems end-of-line. In the latest years, TMG has realized many palletizing and packaging systems of different products, especially in Beverage sector, in which it has satisfied many international customer's needs.



Nowadays TMG produces around 200 palletisers per year and has installed almost 7000 palletising systems all over the world since 40 years. Production range: Palletisers - Carton erectors - Case Packers and unpackers - Tape and Glue sealers - Robots - Stretch wrappers - Conveyors and transports - Pallet handling systems.

Market sectors: TMG Impianti is specialized in handling bottles and containers, both glass and plastic (like PVC and PET) for the food sector, beverage (wine, juices, beer etc.), chemical

and home and care industry (shampoo, detergents, washing powders) and special applications like mineral oil and edible oil. Another important industry where TMG Impianti is present is the "big bags and sacks". The company is one of European leading company in the sacks - big bags palletisation with several applications around the world in this industry. 🏠

www.tmgimpianti.com





**GREAT FLEXIBILITY,
HIGH PROFESSIONALISM**



Tunnel pasteurizers for any type of drink requiring pasteurization. Heat treatment, sous-vide cooking of cereals, legumes, sauces, continuous cooking or batch cooking.

EQUIPMENT FOR REFRIGERATION, STORAGE AND TRANSPORTATION OF FRESH AND FROZEN FOOD

For over 50 years, Zanotti Spa has been designing and manufacturing equipment for the refrigeration, storage and transportation of fresh and frozen food. Founded in 1962 as a family-run business with the conception of the new and revolutionary “uniblock” system, a complete cooling system that is autonomous and ready to be used for small needs, the management changes made in 2002 led the Zanotti company towards international grounds and turned it into a managing structure that was better prepared to face competitors worldwide. Over time, Zanotti has improved its series, which are now the most complete offers available on the market. Zanotti can meet the food cooling needs of the entire cold chain, thus, of the preservation of raw materials, of their processing, storage and distribution to supermarkets, specific shops or restaurants. The units designed for refrigerated transportation com-



plete the series and ensure foods are handled safely. The products developed by Zanotti cover the needs of small to medium-sized cooling necessities, as well as the needs of logistic and storage centers: monoblocks, multi-compressor stations, condensing units and cooling systems for food, but also for the aging of cold meats and cheeses, to refine wines or to dry grains in silos. The diesel unit completes the cooling chain with its split battery system or others, which were specifically designed for the short, medium to long distance transportation of food. The industrial division designs and implements equipment for ice tracks, like the new ones of Courmayeur and the Arena of Minsk, which is the

biggest one in Europe. Recently, the company acquired a new contract to make a track, with Olympic features, in the new ice stadium of Kazakhstan. The works will soon begin. The installation will be implemented with the latest free-cooling technologies that use the cold from outdoors at certain times of the year. Recently, Zanotti was chosen by a major airline of the United Arab Emirates to make a system for their new catering center for a value of 21 millions of dollars; in the international airport to increase the production of 260,000 meals a day that will be distributed on board of the new Boeing fleet. It's one of the biggest and most modern structures of this kind world-

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wide and, therefore, it requires highly reliable systems, top notch final touches and strict hygienic conditions with regards to the equipment.

As a result of this important contract, Zanotti recently won the tender for the supply of a similar installation; which should be implemented in the new airport of Muscat, in the Sultanates of Oman.

Other successes ensure the reliability of the Zanotti installations, implemented worldwide, such as the one of the Kabardino-Balkaria Republic to design and provide an installation to preserve apples in a controlled atmosphere for long periods, up to 7 months. Here, Zanotti has crushed the German competitors by presenting projects with advanced technologies that use intermediate non-toxic fluids from a nutritional viewpoint. Nationally speaking, Zanotti has completed works with a leading Italian cheese manufacturer by implementing an aging system of the highest level thanks to the latest technologies; maximum energy savings with low operating costs, maximum reliability to reduce maintenance and to ensure the continuity of operations through centralized management and with a supervision system. Today,

Zanotti Spa is an International Group with production plants in Spain, England and it counts on a strong network of certified suppliers who provide expertise and assistance worldwide. The quality of the Zanotti products is the primary concern of the production unit. Actually, the products have been ISO 9001 certified in Italy, they have received the EC marking in Europe, the Gost in Russia and the UL in the US for several years now. These markings and certifications are based on the local standards of quality. The attention devoted to customers and the flexibility of the products are essential characteristics for Zanotti: investing in research and development to better meet customer demand by providing more convenient solutions in terms of energy savings and reliability of use is a priority. The know-how Zanotti acquired over 50 years also concerns the environmental aspects involved since the products are developed to provide low energy consumptions and reduced noise levels; as to meet the current technological trends that aim to contain greenhouse gas emissions. This is how the BESTCOP® technology was created. It is applied on the

motorized condensing units that are manufactured by Zanotti to improve the efficiency and energy consumption levels of the cooling equipment. This basically can be translated into energy savings (from 15 to 20% depending on the different environmental conditions).

The technological research is at the base of the investments Zanotti allocates every year to better meet the needs of the customers' requirements by taking their work needs and the greenhouse gas emission standards into consideration. Innovation, energy savings, quality and competence are the key words that best describe the works implemented by Zanotti up to today and they also represent a promise for the future.

Recently Zanotti is joining the Daikin Group. This special event symbolizes the 3rd phase of evolution of Zanotti and can now be truly considered to be one of the largest, if not THE largest refrigeration Company in the world today, with certainly the most diverse product range imaginable. Zanotti is still the head office for the refrigeration field, but is now stronger with a great partner like Daikin. 🏠

FRUIT PROCESSING MACHINERY FOR 20 YEARS, PND HAS BEEN TAKING ITALIAN INNOVATION TO THE WORLD

Now in the year of its twentieth anniversary, PND, Italian leader company in manufacturing of fruit processing machinery in the world, continues to invest in quality and innovation and to present its tailor-made solutions for food companies at the main trade fairs worldwide.

After formally kicking off its 20th anniversary year at Fruit Logistica in Berlin, where it gathered together its dedicated sales agents from all over the world, the PND will continue to exhibit at other trade fairs throughout 2021 on all 5 continents.

These events will provide an opportunity to personally evaluate the advanced solutions for Fresh-Cut

(fruit ready-to-eat) companies, as well as for the canned, frozen and dehydrated food industries, but also to present its new machinery. The latest addition to the PND family is the **pineapple cylinder machine mod. PINCYL8**. It is a highly versatile machine able to perform different cuts for pineapple processing: cylinders, fingers, chunks



and rings. With its innovative design and compact shape, it is an ideal partner for this processing. Born 6 months ago, 3 units have been already sold in Europe.

Alongside it we find the other 18 machines in our catalogue which can process a large range of fruit, such as: apples, pears, pineapples, kiwis, peaches, oranges, lemons, followed by melons, pineapples, mangoes and strawberries.

Some updates are on the machine mod. **PL6M, a semi-automatic peeler** with six processing heads, initially dedicated to peeling **mango: nowadays it is also able to peel kiwi.**

The advantages of the machine PL6M are enor-

mous: adjusting of peel thickness, managing of production speed and fruit rotation through an inverter, adding to the possibility of **different sizes fruits processing without any adjustment and with fast maintenance.** Now they are available for mango and kiwi.

When choosing one of the **18 semi-automatic machines, manual or automatic ones** in the PND catalogue, you are choosing a standard machine that can be tailored to your needs.

Three years ago market asked for a machine able to process strawberries. PND replied to this request introducing in the market the *strawberry decalyx machine mod. DF12.*



This machine, only 36 months after its launch, is already present with 66 units on five continents.

Companies based in the United States, Mexico, Spain, South Korea and Egypt have chosen the features of the PND *strawberry destalking machine.*

Indeed, this machine makes it possible to work with considerable fruit



volumes with great quality, reducing waste to a minimum.

Other de-calyx machines usually create product waste of about 30%. With the PND de-calyx machine, however, **this waste is reduced to only 10-12%.**

This means a **large amount of product is recovered**, especially if one takes into account the fact that the models built and marketed by PND can respectively process 300 strawberries per minute (Mod. DF12) and 600 strawberries per minute (Mod. DF24).

Another feature that makes the PND *strawberry de-calyx machine* a winner is its ability to **work with all the various sizes of strawberry without needing to be pre-calibrated.** This feature makes it particularly popular in Mexico or wherever it is necessary to switch quickly from the field to processing.

Avoiding any settings, the PND strawberry de-calyx machine is able to process a wide range of product with a **diameter ranging between 18 and 55 millimetres**, a range that, in practice, includes all types of strawberries. It is a truly global machine, as

PND srl is also truly global, being based in Italy, but with representative offices located in several different countries.

A team consisting of 30 people, including administrative and sales staff, technicians and engineers, based at its headquarters in Scafati, in the province of Salerno, in the south of Italy, works alongside **agents and technical office all around the world.**

Indeed, the human element is one of the main resource of a company with mechanical and technical strengths such as these.



Despite the widespread presence of PND representatives on the various continents, when it comes to installing a new machine, **there is always an expert who travels from the main office** based in South Italy and follows the process through to completion.

This assumption of responsibility is a **guarantee for the customer**, which knows from the very first moment that it is going to be accompanied constantly from the design phase to the commissioning of the system.

This constant attention to the needs of its customers

is a **winning strategy** that allows continuous updating in the field and a swift response to customer needs means that **customised production lines** can be offered to them.

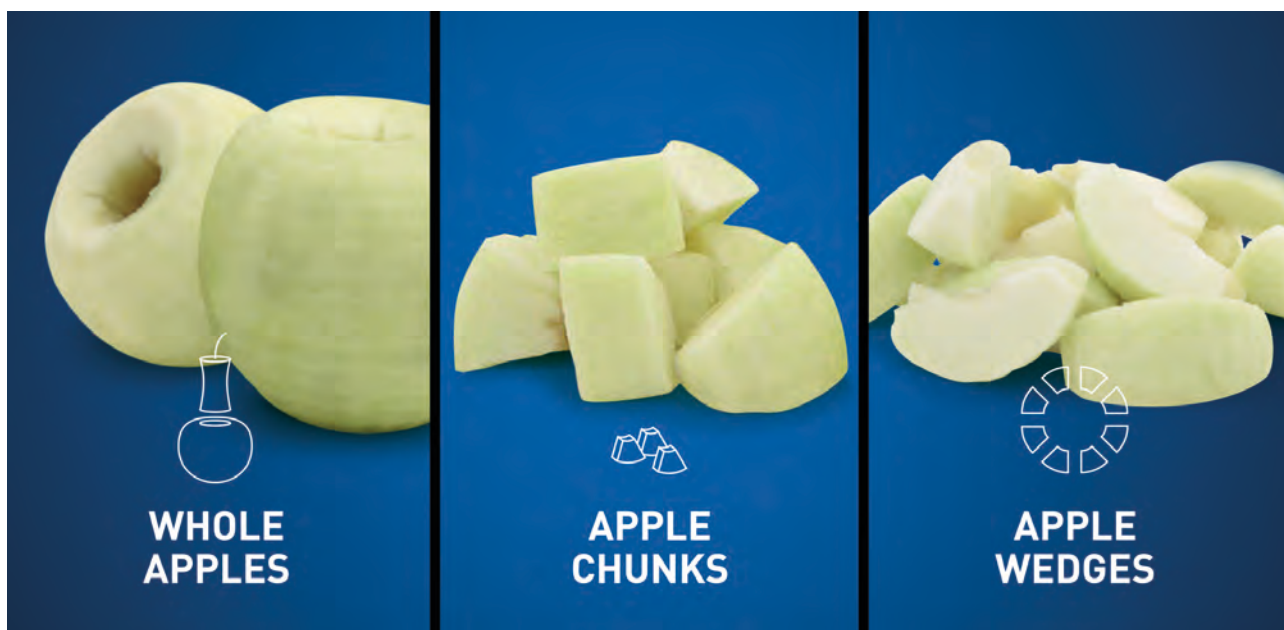
The opportunity to deal constantly with customers all around the world offers the technicians from PND the opportunity to tackle new challenges and properly understand the needs of their customers.

PND machines are industrial machines with manual and automatic feeding,

mostly mechanical, easy to understand and maintain. They are user-friendly machines that first make the technicians fall in love and then the operators!

Tenacity and innovation have led PND to become a company capable of operating on a global scale. With an export turnover of 95%, today it has a strong presence in Europe, South America, United States, Canada, Mexico, Australia, Africa and Asia. 🏠

www.pndsrl.it



HIPERBARIC CELEBRATES THE SALE OF ITS 50TH 525 HPP UNIT, THE MOST PRODUCTIVE HPP SYSTEM IN THE WORLD

Hiperbaric, the world leader in high pressure processing (HPP) equipment for the food and beverage industry, has announced the sale of its 50th Hiperbaric 525 HPP

unit, marking the 50th unit sold in less than 10 years and an annual growth rate of 20%.

High pressure processing is a non-thermal food processing method in which food and beverages, in their final packaging, undergo cold

water and high pressure to inactivate foodborne bacteria.

The process maintains freshness and nutrients without the need for preservatives. HPP extends shelf life, allowing companies to expand product



distribution and reduce food waste.

“We are excited to announce the sale of our 50th Hiperbaric 525 HPP unit,” said Andrés Hernando, CEO of Hiperbaric. “With increased consumer demand for fresh-tasting, preservative-free foods, HPP sales will continue to grow as the leading nonthermal food safety method for refrigerated foods.”

The Hiperbaric 525 is the largest and most productive HPP system in the world with a 525-liter (150-gallon) capacity and 380 mm (15-inch) diameter. Its throughput is more than 7,000 pounds per hour, making it ideal for large manufacturers and third-party service providers, also known as tollers.

HPP applications include meat products, juices and beverages, baby food, guacamole and avocado products, plant-based products, pet food, ready-to-eat meals, dairy and seafood products.

The Hiperbaric 525 comes with Hiperbaric’s 24/7 service and support program to keep



businesses running smoothly. This includes diagnostic services, installation and commissioning, on-site repairs, spare parts and remote monitoring.

Launched in 2013, the first Hiperbaric 525 machine was installed at Good Foods of Pleasant Prairie, Wisc., a company that started its food production with HPP. Recent equipment improvements include a 14% productivity increase for a 6,000 bar – 87,000 psi, three-minute cycle, by reducing total cycle time. Additionally, automation has improved speed and efficiency and reduced workplace injuries.

Currently, the machines are being used for tolling (36%); beverages (30%), meat (14%); fruit & vegetable products and dips (14%); and seafood (6%). Hiperbaric expects a more than 20% AGR (annual growth rate) in 2022 overall HPP equipment sales, thanks to customer demand.

The 50th unit has been acquired by Suzanna’s Kitchen of Duluth, Ga. Suzanna’s uses the Hiperbaric 525 to produce ready-to-eat meats, plant-based foods and other meal-kit components. The company owns now three Hiperbaric 525 units located in their state-of-the-art facilities.

Suzanna’s processes 56,000 pounds of food per day with a two-shift operation. Prior to HPP, the company used anti-microbials to kill foodborne pathogens.

Fountain said HPP has allowed his company to produce fully cooked food-safe products for the marketplace.

As the global leader in High Pressure Processing with more than 350 HPP units installed all around the world, the Spanish company is working on multiple benefits this technology can provide to the food and beverage

industry. Amongst the many companies that rely on HPP technology to process their product we can find well-known brand such as BRF, Calavo, Maple Leaf, The Soup Spoon, Evolution but we can also find HPP technology in disruptive local producers. The fact is the HPP technology can be found in a wide range of companies and especially Hiperbaric's HPP technology.

About Hiperbaric

Hiperbaric is the world's

leading supplier of high pressure processing (HPP) equipment for the food industry.

Since its inception in 1999, Hiperbaric has designed, developed, produced and marketed its high pressure processing equipment internationally.

The company is recognized for its reliability, customer support, teamwork and continuous effort in R&D. Hundreds of companies worldwide use Hiperbaric

equipment for the processing of juices and beverages, meat, fish and shellfish, fruits and vegetables, dairy and prepared dishes.

A highly versatile technology, HPP can be applied to a wide range of foods.

With world headquarters in Spain, the company also has an office in Miami to serve its North American market. 🏠

For more information, visit: www.hiperbaric.com



GLOBAL LEADER IN HIGH PRESSURE PROCESSING



50TH
HIPERBARIC 525
UNIT WORLDWIDE



HIPERBARIC 525

THE MOST PRODUCTIVE HPP EQUIPMENT IN THE WORLD



Extend shelf life
of beverages



Clean label: natural &
additive-free products



Sustainability for
the food industry

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mcTER

24/02/2022 

Exhibition on energy efficienc .

INTERSICOP

19-22/02/2022 

MADRID

Fair for bakery, pastry, ice cream, coffee.

SIGEP

12-16/03/2022 

RIMINI

Fair for bakery, pastry, ice cream, coffee.

BEER&FOOD ATTRACTION

27-30/03/2022 

RIMINI

Fair for beers, drinks, food and trends.

mcT ALIMENTARE

31/03/2022 

VERONA

Fair on technology for the food&bev industry.

FRUIT LOGISTICA

05-07/04/2022 

BERLIN

Fair for fruit and vegetables.

VINITALY

10-13/04/2022 

VERONA

International wine & spirits exhibition.

ANUGA FOODTEC

26-29/04/2022 

COLOGNE

Fair on food and beverage technology.

PROWEIN

15-17/05/2022 

DUSSELDORF

International wine & spirits exhibition.

COSMOPROF

28/04-02/05/2022 

BOLOGNA

Fair for the cosmetic production chain.

CIBUS

03-06/05/2022 

PARMA

Fair of food product.

MIDDLE EAST 2022/23

GULFOOD

13-17/02/2022 

DUBAI

Fair for food and hospitality.

GASTROPAN

03-05/04/2022 

ARAD

Fair for the bakery
and confectionery.

HOSPITALITY QATAR

21-23/06//2022 

DOHA

Fair of Hospitality
and HORECA.

DJAZAGRO

30/05-02/06/2022 

ALGERS

Fair for companies
of the agro-food sector.

IRAN FOOD BEV TEC

07-10/06/2022 

TEHRAN

Fair for food,
beverage&packaging
technology.

PROPAK ASIA

15-18/06/2022 

BANGKOK

Fair for packaging,
bakery, pastry.

ANUTEC

14-16/09/2022 

MUMBAI

Fair for the food&beverage industry.

PACPROCESS FOOD PEX

23-25/11/2022 

MUMBAI

Fair for product from packaging.

WOP DUBAI

22-24/11/2022 

DUBAI

Fair for for fruits and vegetables.

PROPAK VIETNAM

09-11/11/2022 

SAIGON

Fair for packaging, bakery, pastry.

GULFOOD MANUFACTURING

08-10/11/2022 

DUBAI

Fair for packaging and plants.

GULFHOST

08-10/11/2022 

DUBAI

Fair of hospitality.

GULFOOD

20-24/02/2023 

DUBAI

Fair for food and hospitality.

EXHIBITIONS 2022-2023

IPACK-IMA

03-06/05/2022 

MILAN

Exhibition for the packaging industry.

MACFRUT

04-06/05/2022 

RIMINI

Fair of machinery and equipment for the fruit and vegetable processing.

SPS/IPC DRIVES/ITALIA

24-26/05/2022 

PARMA

Fair for industrial automation sector.

HISPACK

24-27/05/2022 

BARCELONA

Technology fair for packaging.

MECSPE

09-11/06/2022 

BOLOGNA

Fair for the manufacturing industry.

FISPAL

21-24/06/2022 

SÃO PAULO

Fair for product from packaging.

LATINPACK

29-30/06/2022 

SANTIAGO CHILE

International packaging trade fair.

DRINKTEC

12-16/09/2022 

MONACO

Fair for the beverage, liquid food industry.

FACHPACK

27-29/09/2022 

NUREMBERG

International packaging trade fair.

POWTECH

27-29/-09/2022 

NUREMBERG

The trade fair for powder processing.

mcTER COGENERAZIONE

23/06- 26/10/2022 

MILAN

Exhibition for cogeneration.

SIAL

15-19/10/2022 

PARIS

Fair on food products.

SUDBACK

22-25/10/2022

STUTTGART

Fair for bakery and confectionery.

CIBUS TEC FORUM

25-26/10/2022 

PARMA

Fair for food & beverage technologies trends.

SAVE

26-27/10/2022 

VERONA

Fair for automation, instrumentation, sensors.

SIMEI

15-18/11/2022 

MILAN

Fair for vine-growing, wine-producing and bottling industry.

ALL4PACK

21-24/11/2022 

PARIS

Exhibition about packaging technology.

INTERPACK

04-10/05/2023 

DÜSSELDORF

Technology focused on packaging, bakery, pastry technology.

TUTTOFOOD

08-11/05/2023 

MILAN

Fair B2B show to food & beverage.

HOST

13-17/10/2023 

MILAN

Fair for bakery production and for the hospitality.

IBA

22-26/10/2023 

MONACO

Fair for the bakery and confectionery industry.

CIBUS TEC

24-27/10/2023 

PARMA

Fair for food & beverage technologies trends.

BRAU BEVIALE

14-16/11/2023 

NUREMBERG

Fair of production of beer and soft drinks.



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Companies



8

International
Pavilions



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Countries
Regions



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Trade Visitors

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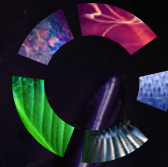
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Italy

ALTECH SRL

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20010 Bareggio - MI
Italy

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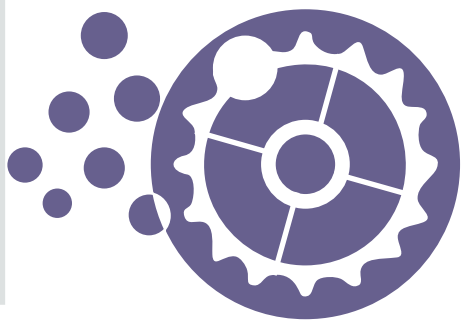
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