

**Omnia
Technologies**
Enabling Evolution

BROCHURE

Beverage technologies



WHO WE ARE

A leading platform for the processing automation and bottling technologies for the wine, spirits, beer, beverage, dairy, food, and pharma industries.

WHAT WE DO

We provide to our customers:

1. **End-to-end integrated solutions**, from process to final packaging. We are a single partner providing customers turnkey solutions and sustainable automation lines.
2. **Tailor-made solutions**, with a high degree of machinery customization, designed around a set of industrialized based modules.
3. **Technical Support**, we are committed to support our customers through the dedicated Service team, located all over the world.



From **processing** to final **packaging**



Water treatment
Water preparation to specifications

Raw material reception
Storage of granular sugar and various ingredients

Raw material treatment
Powder dissolving, emptying of liquid ingredient drums

Mixing of ingredients
Dosage of recipe ingredients

Finished drink preparation
Mixing of ingredients

Pasteurization
Heat treatment for conferring microbiological stability



The Group has developed an **integrated offering** for the entire process, from reception to packaging.



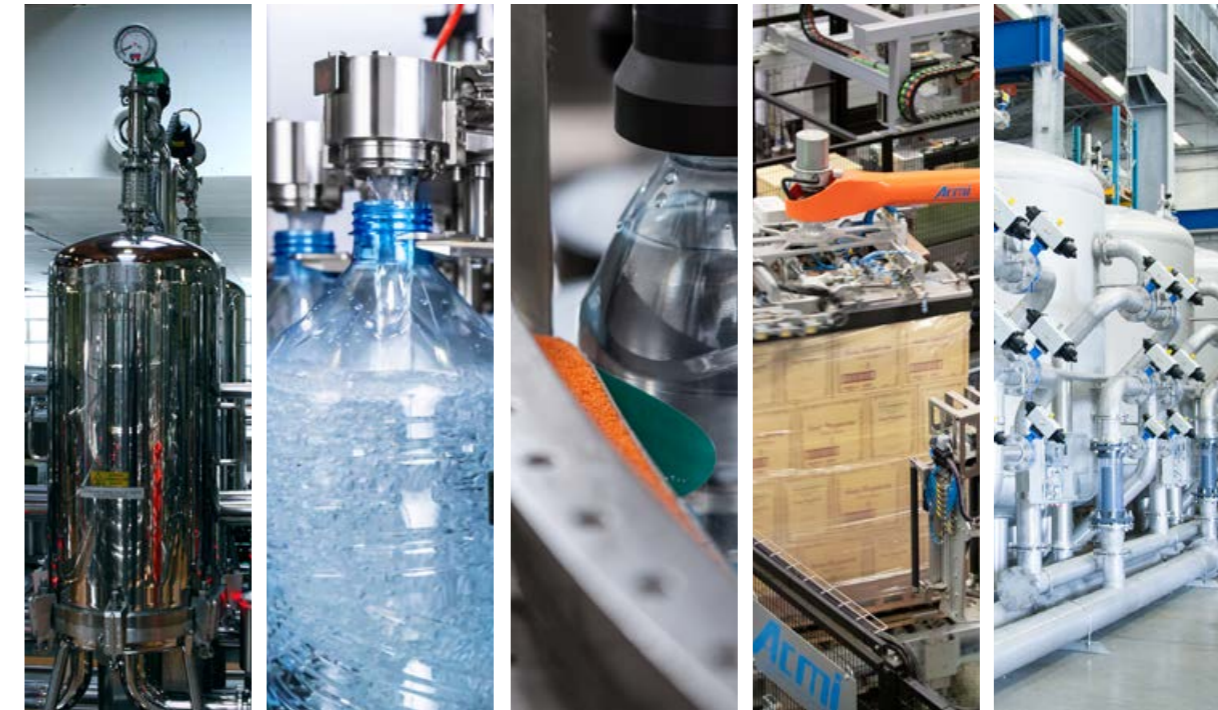
Pre-bottling
Product filtration and CIP plant for the bottling

Bottling
Bottle rinsing, filling and capping

Labelling
Adding front / rear / top labels to the bottles once capped

End-of-line
Case packer, carton forming and palletizer

Waste water treatment
Water treatment plants for recovery and use



THE GROUP'S PRESENCE IN THE WORLD



A global company with a strong sales and after-sales presence. Close to those who produce, anywhere in the world.

THE GROUP'S NUMBERS

39

PRODUCTIVE UNITS

24

COMMERCIAL & SERVICE OFFICES

90

COUNTRIES

30.000

INSTALLATIONS

+400

R&D & ENGINEERS

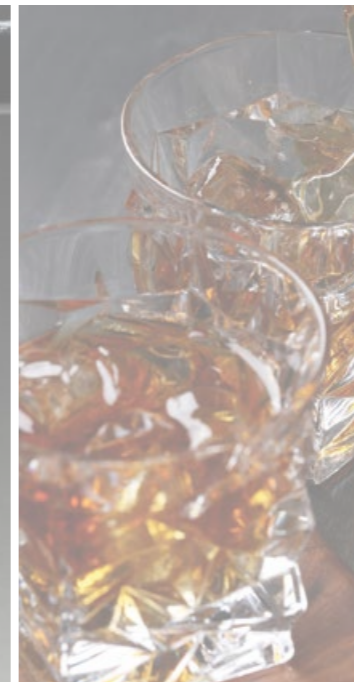
+2.500

PEOPLE

THE GROUP'S APPLICATIONS



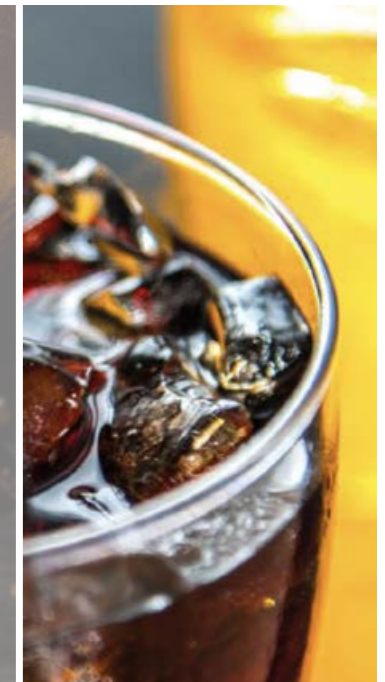
Wine



Spirits



Beer



Beverages & water treatment



Primary processing



Dairy & plant based beverages



Fats, gelatines, cocoa butter



Pharmaceutical

TOWARDS THE FUTURE

Our vision and values to enable evolution

Our Vision

Inspired by our Italian heritage and our vocation for sustainability, we serve as technology leaders in the food, beverage and pharma industry, always at service of our customers, people and communities.

Our Values

01. Technology Innovation

With more than 400 engineers and technical specialists, we design and develop the most advanced and sustainable automation technologies.

02. Sustainability Respect

Our purpose is to integrate sustainability into every aspect, contributing to the achievement of the global goals of the 2030 Agenda. The strategic plan is based on 4 basic pillars - Corporate, People, Impacts Reduction and Innovation - that expand into 20 macro goals, currently implemented by 90 initiatives.

03. Service Accessibility

We are committed to providing and supporting our customers with 420 people in the service team mobilized around the world.

We are committed to being active promoters of a sustainable growth model, starting by valuing people, territory and the communities of which we are a part, and promoting the development of our partners and clients.



Scan the qrcode, discover our
[Sustainability Report 2023](#).

70

PATENTS

20

ESG MACRO TARGETS

420

PEOPLE IN THE
SERVICE TEAM

01. Digitalization of the beverage

All Omnia Technologies solutions can be integrated with the new software for complete management of production flows: from fruit receiving to final packaging under the terms of Industry 4.0 and 5.0



02. **Some of our sustainable products**

In production



New ceramic membrane for beverage filtering

Low room temperature **dealcoholation unit** with vegetative water recovery



System to reuse water multiple times in washing cycles

Low Emissions Distillery, which uses MVR (Mechanical Vapor Recompression) for completely green and sustainable production



Plastic wrapped labels without any glue between the label and the bottles

Smart corking, allowing single cap monitoring and predictive maintenance

Active Innovation Strategy with ~400 Engineering and Research FTEs

30+%

reduction of **energy consumption**

75%

of **water savings**



target of **100% energy from renewable sources** by 2030



achieve **zero waste** by 2030

03. **Our Service offer**

• **Technical Support**

We are committed to supporting our customers with 420 people in the service team mobilized around the world.

• **Spare parts**

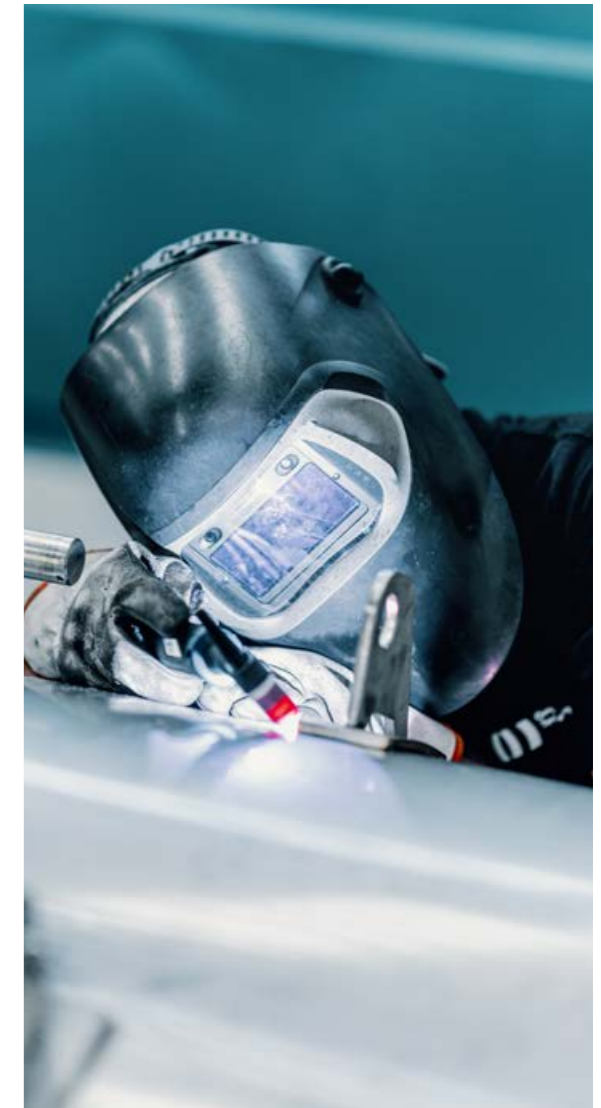
We offer a wide range of original spare parts and a team dedicated to repair services.

• **Machinery upgrade**

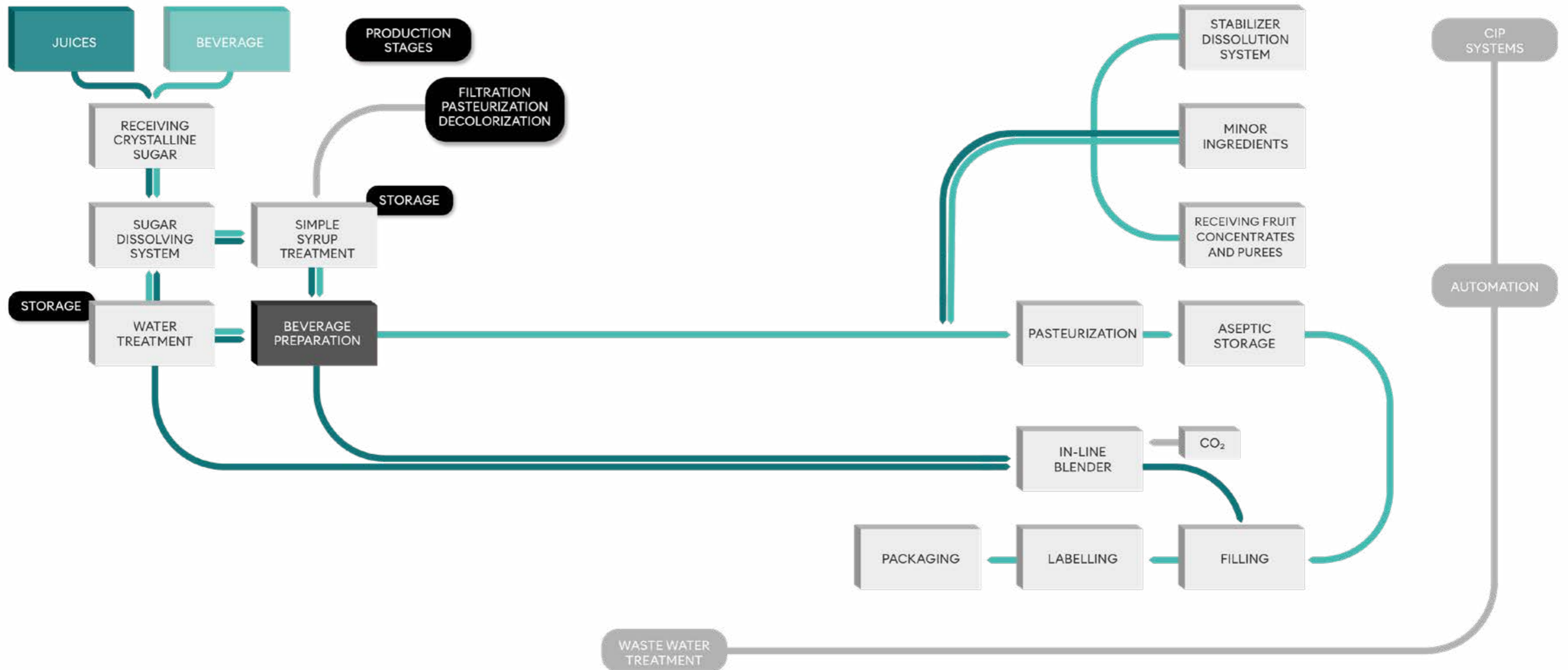
We know that technological progress is constantly evolving, and we want our customers to benefit from it.

• **Training**

We believe that knowledge is the key to success, which is why we offer tailored technical training courses.



Beverage production

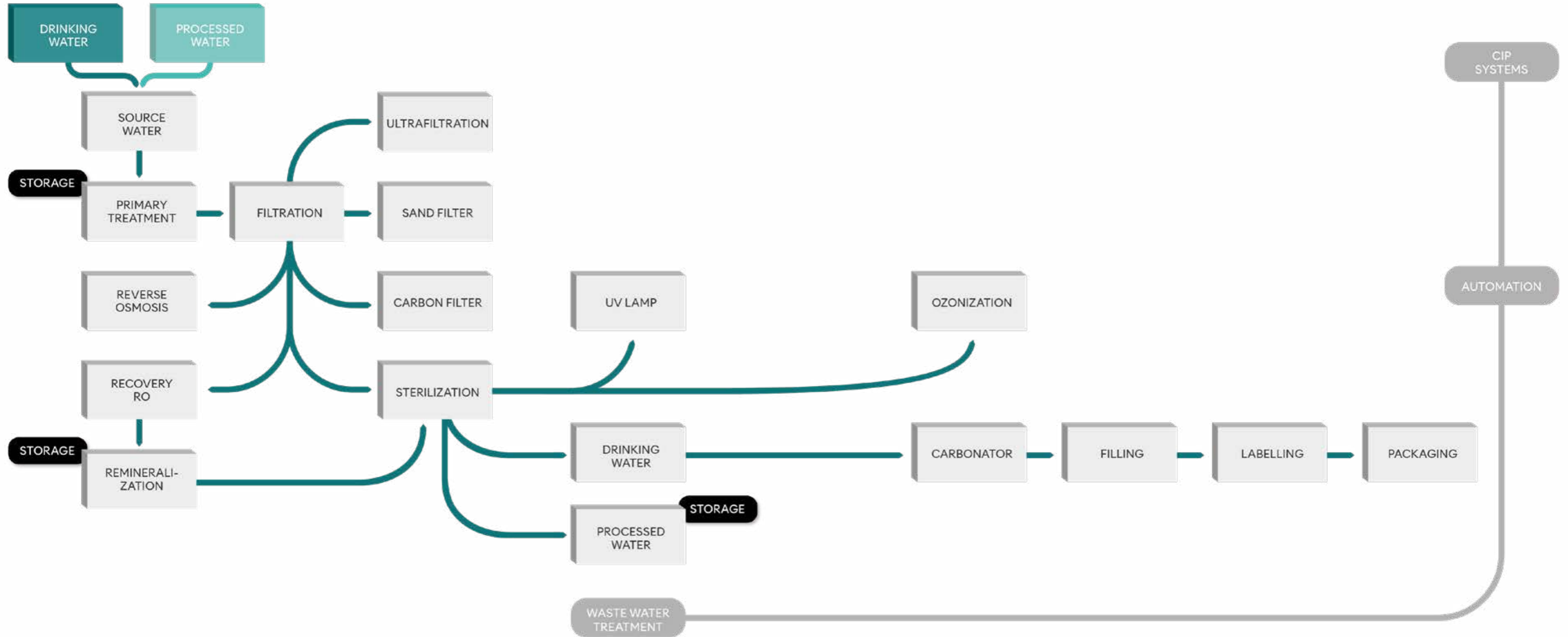


PROCESSING

BOTTLING & PACKAGING



Water Treatment

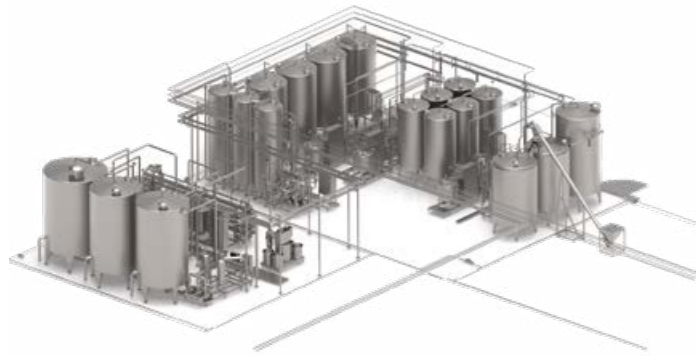


PROCESSING

BOTTLING & PACKAGING



SYRUP ROOMS



The syrup rooms are designed and constructed for the preparation of syrups for use in the production of the final beverage. They can be customized to suit a given client's requirements, in terms of both production capacity and type of process. They may be manual, semiautomatic or automatic. Every detail is studied to optimize production, power saving and the reduction of raw material scrap. The syrup rooms cover the complete cycle for the preparation of the product needed to deliver to the bottling stage, by combining several technologies: systems for dissolving and mixing, storage tanks, and piping. Made of stainless steel, these systems comply with all the hygienic and public health requirements for beverages and foodstuffs. They are equipped with top-quality components and guarantee the utmost reliability and absolute precision during the various processing stages.

CONTINUOUS SUGAR DISSOLVERS



The continuous sugar dissolving system is used to produce sugar syrup (simple syrup) with constant quality and concentration. The elevated degree of automation of our sugar dissolvers ensures both a continuous production process and the minimization of production costs. The continuous dissolver system can be personalized to the needs of individual clients regarding output and specific use. Hot and cold models are available that enable concentrations of up to 80°Bx, thus saving 50% of power compared to traditional plants. The HTST pasteurization system and the filtration system fitted on the unit complete the equipment thus offering a compact, efficient and reliable solution.

SIMPLE SYRUP PROCESSING



Pasteurization, filtration, active carbon or ionic exchange resin decolorization.
Simple syrup processing
 Pasteurization, filtration, active carbon or ionic exchange resin decolorization.
Decolorization unit
 The sugar decolorization process is a necessary step in producing clear, clean, mineral-free sugar syrup. Traditional active carbon with spent cake recovery (Vacuum Drum Filter) or ionic exchange processes are adopted. The system uses an anionic/cationic resin system together with filter banks to obtain specific products. Our system can be personalized to the needs of individual clients, and the clarification process can be structured in numerous steps.

SYRUP CLARIFICATION



Sugar syrup clarification is obtained through carbon treatment and subsequently product filtration with the utilization of filters or diatomaceous.
 Our complete solution is composed of:

- Heat exchanger,
- Activated Carbon preparation and dosing tank,
- Reaction tank,
- Kieselguhr filters for carbon removal.

Plants are available in continuous or discontinuous configuration, with different levels of automation and for capacities up to 35 m³/h and multiples.

D.E. PRESSURE PED TESTED FILTER



The filtration chamber is designed and manufactured according to European Directive PED to filter beer in presence of CO₂ and inject compressed gases into the filter during the processing phases. The filtering discs are flat and crushproof; they make it possible a high drainage flow in the filtration phase and during the pre-panel formation and a complete and accurate cleaning in the washing phase, even below the filtration cloth. The filtering elements are made up of a sheet in AISI 304 stainless steel provided with a series of projections obtained thanks to a drawing process on which the filtration cloth in AISI 316L lays with 65 micron meshes. The qualifying feature is the lacking of a drainage grid which is a potential source of pollution for the product. The available models have surfaces from 5 to 80 square meters.

PLATE AND SHEET FILTERS



Plate and sheet filters are composed of:

- Framework in steel, coated stainless steel, on 40 model wheels and fixed base in the 60-100 and 120 models
- Valves, control instruments and drip-collecting tray in stainless steel
- Plates in stainless steel for all models and optionally in plastic for the 40 and 60 models
- Filters are steam sterilizable and sanitary
- Manual screw-down closing system with optional supplement for manual hydraulic closing in the 40 and 60 models
- Hydraulic closing system with hydraulic unit in the 60-100 and 120 models

MICROFILTRATION



The microfiltration plants, from 10 to 500 hl/h, automatic or manual version, are made in AISI 316 Stainless Steel and they strictly observe the most rigid hygiene criteria.

- Equipped with valves and by pass, they permit the exclusion of each housing, in order to allow filtration while the other chamber is in the cleaning phase,
- 1 or 2-stage filtration lines for the water service for CIP and thermal sterilization,
- Functioning data acquisition: in case of anomalies the operator is alerted,
- The PLC, in the automatic versions, through touch screen, controls all the process phases and allows the interfacing with other devices inside the production site.

CROSSFLOW FILTERS



Crossflow filter is made in stainless steel AISI 304, designed for the filtration of liquids with high content of solids in suspension, completely automatic. It is the first rotary crossflow filter, supplied with the innovative calibrated back-wash system. Crossflow filter is a good alternative to the vacuum and pressfilter filtration, when there is filtration without adjuvants. This cross-flow filtration is actuated with a series of rotary discs that spin themselves into the product to be filtered. It is a self cleaning process and moreover discs are open and fully inspectable. The filtered product has then a high quality level and there is no oxygen absorption. Nominal flowrates are high (25-100 l/m²/h with lees) and the filtration cycles can be up to 72 hours without cleaning. The process has a very low energy requirement compared to the conventional cross flow techniques. Models are available from 1m² to 20m² and multiples.

ULTRAFILTRATION



Ultrafiltration plant is specially designed for producers of juices, in particular:

- Juices to be reduced in yellow color in order to obtain clear and long time stable products, with absorbance OD at 420nm > 0,4,
- Juices with TAB (Thermo Acidophilic Bacterium), a dangerous agent for juice oxidation, after filling into aseptic boxes and long time storing.

The ultrafiltration line can also be equipped with a crossflow rotary dynamic filter for the recovery of retentate coming out from the ultrafiltration plant in the event of no diafiltration process (so in refermentation) in order to reduce the environmental impact of wastes of the standard UF plants. Plants are available from 5 to 60 t/h with a cut off variable from 100,000 to 500,000 dalton.

MINOR INGREDIENT MANAGEMENT



Emptying, dissolution, and batching of powdered or liquid ingredients contained in drums or sacks.

STABILIZER DISSOLUTION SYSTEM



This is the standard unit for the blending of powders and liquids designed to dissolve, emulsify, and homogenize the pectin or CMC, for example, added manually by the powder injection unit. The power boost function can be automated on request. The combination of a high-efficiency in-line blender (high cutting effect) with a mixer controlled by inverter ensures a homogeneous blend of constant quality.

AROMA-BATCH BLENDER



The aroma dosing station consists of one or more preparation tanks, depending on the system's needs, and can be equipped with various levels of automation.

In order to enhance the powder dissolution, the aroma station can be provided with a heat exchanger to heat up the process water. Moreover, through special powder dosing systems developed over the years, it is possible to prepare even the most problematic compounds such as CMC thickeners and xanthan gum.

The dosing station can also be equipped with an unloading system for fruit concentrate bins, consisting of a mono pump and a suction system that is directly inserted into the container.

FRUIT CONCENTRATE DUMPING & HANDLING



Systems for the extraction of the concentrates packed aseptically or frozen can be provided with dedicated pumps suitable for any specific need. Manual systems with diaphragm or displacement pumps, automatic systems with shutters for containers of from 25 to 1,000 kg. Ice crusher/ chopper and defreeze options available.

FLASH PASTEURIZER FOR CARBONATED BEVERAGE



Flash pasteurizers are designed to preserve the characteristics of the liquids, through the inactivation of existing microorganisms and enzymes naturally present in the product or added during its processing. Omnia Technologies Flash Pasteurization plants assure maximum security and minimum alterations of products according to HTST principle (high temperature short time) and they guarantee:

- High thermal exchange coefficient,
- Low dirtying rate,
- Easy and speedy cleaning and maintenance,
- Enlargement or transformation possibility.

They can be of various types and, in particular, plate flash pasteurizers are in stainless steel AISI 316 or titanium, available in various sizes and models, including the free-flow type.

FLASH PASTEURIZER FOR BEVERAGES



Pasteurization equipment for beverage industry
Tube or plate-type beverage industry pasteurizers, deaerators, homogenizers for hot, cold, aseptic or ultra-clean filling, hot or cold deaerators.

Pasteurization unit
The pasteurizers used for fruit juices can also be used for a wider range of beverages. Available with plate or tube-type heat exchangers as required by the viscosity of the product to be processed and its fiber content, these pasteurizers are built in stainless steel and can be fully- or semi-automatic. All versions are equipped with instrumentation for the display and print-out of every necessary parameter to ensure perfect pasteurization. Easy to install, designed for C.I.P. washing, the construction of these pasteurizers guarantees the highest levels of hygiene. Flowrates can also be personalized to client request.

UHT STERILIZATION PLANTS



The new series of UHT plants were conceived for obtaining the highest level of reliability, flexibility and safety, the main strengths of Steril-R are:

- Very high level of automation keeping an user-friendly interface which identifies all SAP Italia products
- Gentle heat treatment, in order to preserve the product quality
- Long production autonomies
- Possibility to sterilize product containing pulp and particles thanks to the tubular heat exchanger designed for the scope
- High performance heat recovery system
- Direct or indirect steam injection system
- The heat exchanger can be provided in plates or tubular depending on the type of product to be treated .

TUNNEL PASTEURIZER / HEATER / RECOOLER



The monoblock structures for the smallest systems and the modular configuration designed for the largest installations, can be proposed with different thermal cycles: Pasteurization Tunnel, Cooling Tunnel, Heating Tunnel. The self-bearing structure, which contains the process basins and the distribution piping, is realized in stainless steel, single deck or multy deck for the largest surfaces.

- The ceilings can be easily removed for the maintenance operations,
- The inclined basins, together with the rectangular manhole covers and the removable double pre-filters installed to protect the pumps, facilitate the emptying and cleaning operations of the basins themselves and of the circulating pumps,
- Transport belt in high-resistant synthetic material; at request in stainless steel or of "Walking Beam".

DEAERATION PLANTS



These machines are meant to obtain a high-quality carbonation. The main final products are a lot, from water to soft drinks. Regarding water carbonation: also a deaeration process is required (single or double stage). The deaeration plant is a process module designed for the production of deaerated high-quality water for soft drink manufacturers. Deaerators are used for mixing and carbonating soft drinks and other beverages. The added value of deaerated water, if any, can be utilized for other purposes such as flushing of lines, filter pre-coating etc.

WATER DEAERATION SYSTEM



All beverages are extremely sensitive to dissolved oxygen because of the way it can significantly alter taste and color. Eliminating oxygen from the beverage with a deaeration system is therefore a fundamental step in satisfying the requisites of beverage quality and conservation.

Because we know that using optimally de-aerated water is very important in beverage production, we can propose the most appropriate deaeration systems for the limit values and type of beverage to be produced with single stage or double stage vacuum de-aeration.

CARBONATION UNITS



Inline CO2 batching and blending with weight and magnetic systems, inline measurement and feedback. The carbonation units is a complete system for the preparation of carbonated drinks. The gas is dosed and portioned by electronic instruments that check and guarantee precision. The carbonated water or beverage is injected into a pressurized container that was previously saturated with carbon dioxide. Equipped with a solid structure and high-quality components, the inline carbonation system enables the highest process control and final result with the possibility to select varying degrees of carbonation. Simple use is guaranteed by PLC with touchscreen, while the high precision of carbon dioxide batching is controlled by a weight measurement system.

PREMIX



In-line batching and blending of ingredients and CO2 with weight and magnetic systems, in-line measurement and feedback. The PREMIX system is used to prepare carbonated drinks works by blending the final syrup with deaerated water and then proceeding to carbonation. Equipped with a solid structure and high-quality components, the system enables the highest process control and final result, with the possibility to select varying degrees of carbonation. Process phases are as follows: water de-aeration, batching/blending of water/syrup, carbonation, transfer to storage tank. Simple use is guaranteed by PLC with touchscreen, while the high precision of water/syrup batching is controlled by the electronic blending unit with double flowmeter.

MIXER-PASTO-CARBO



Mixer-pasto-carbo is an hybrid machine that allows the mixing of two or more components, the pasteurization of the mixed beverage and the dosing of CO2 to obtain the final product. It is widely used in applications where it is needed to produce different types of product. The advantage consists in executing all the operations in line, and to manage them separately with the same machine. The user can make the machine work in the following configurations (and many more):

- Premix to produce Carbonated Soft Drinks,
- Mixer-Pasto to produce Tea,
- Deaerator-Carbonator to produce mineral water,
- Pasteurizer to produce juices or nectars,
- High Gravity for beer and/or juice.

The Mixer-pasto-carbo are built on skid, with a compact configuration, and are all equipped with PLC for working recipes selection.

AUTOMATIC CIP SYSTEMS



CIP (cleaning in place) systems are used to clean productive units for foods and beverages such as fruit juices, dairy products, and pharmaceutical products, and any company premises where elevated standards of hygiene and cleanliness are required. Available in manual or automatic versions, CIP systems permit the preparation of washing solutions and the complete automatic management of the washing cycles of the various devices. Automatic versions are equipped with PLC containing dedicated software and touchscreens for user-friendly use. Recipes can be memorized and numerous parameters can be chosen (type of washing, temperature, washing and rinsing times, acid/basic solution concentrations, etc.) while guaranteeing the absolute precision of specifications required. Heating can be electric, by steam with alkaline solution or with external exchanger. It can be composed by 1, 2, 3, 4 or 5 tanks, and volume can go from 10 to 200 hl.

DESULPHURATION



L'anidride solforosa viene rimossa tramite una corrente di vapore, emesso dal succo stesso. Da qui la necessità di soluzioni costose e meccanicamente inaffidabili riciclo del vapore ottenuto dallo strippaggio, adottato da altri metodi sono superflui. Ciò avviene in una colonna a piastre, in cui il succo deve essere trattato entra in contatto, in controcorrente, con il vapore in aumento. Il vapore, ricco di anidride solforosa, viene fatto gorgogliare in un reagente sostanza, contenuta in un serbatoio, allo scopo di neutralizzare l'anidride solforosa.

CONCENTRATION



The equipment is designed to produce big quantities of product with low costs production and energy consumption. Any model is equipped with thermal recovery to cool the concentrate and preheat the incoming juice.

UHT STERILIZATION



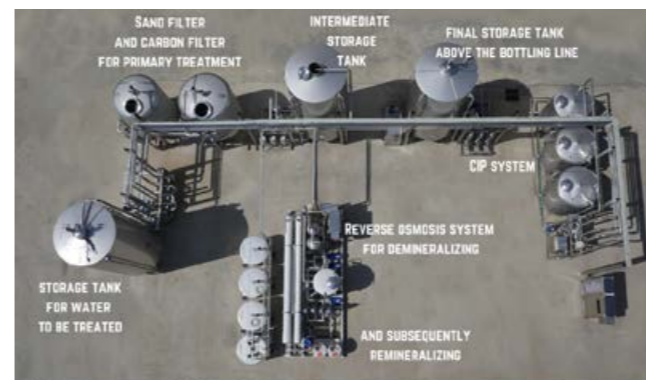
Sterilizers are designed to obtain the highest level of reliability, flexibility and safety. Its configuration allows the product quality preservation, thanks to a gentle heat treatment, together with long production autonomy. Products with pulps and particles can be sterilized too.

ASEPTIC FILLING



Aseptic fillers are combined with different equipment, such as tubular or plate sterilizers and tanks. They can have one or two heads, provided or not with aseptic buffer tanks, can manage different drums (bags or pallets). Usually installed between an aseptic pasteurizer and an aseptic filling machine, an aseptic tank creates the product buffer required for the continuous feeding of the filling machine that ensures conditions of sterility for the product.

WATER TREATMENT



Gli impianti di trattamento per acqua di pozzo, di sorgente e municipale sono specificamente progettati per produrre acqua potabile di alta qualità, adatta non solo al consumo diretto ma anche come base per un'ampia gamma di bevande. Per ottenere questo risultato, l'acqua viene sottoposta a vari trattamenti su misura per la sua composizione originale e la purezza target o il profilo minerale richiesto per il prodotto finale. Ad esempio, la disinfezione è un passaggio fondamentale per garantire che l'acqua sia priva di patogeni; questo può essere ottenuto utilizzando il cloro, un disinfettante consolidato che lascia una protezione residua, oppure ozono, che è altamente efficace nel neutralizzare batteri e virus senza lasciare residui chimici. Oltre alla disinfezione, l'acqua viene solitamente filtrata attraverso diversi metodi: filtrazione, microfiltrazione/ultrafiltrazione, osmosi inversa, sterilizzazione UV.

WASTE WATER



Gli impianti di depurazione e recupero delle acque trattano le acque reflue per renderle riutilizzabili, rimuovendo gli inquinanti e recuperando risorse preziose. Questi impianti utilizzano processi che possono essere eseguiti in modalità batch o continua e includono trattamenti biologici sia aerobici che anaerobici. Queste strutture sono quindi essenziali per la sostenibile gestione delle risorse idriche, adattandosi a diverse esigenze operative. Adottando una combinazione di processi aerobici e anaerobici, in modalità batch o continua, è possibile massimizzare l'efficienza di purificazione e recuperare risorse energetiche come il biogas, contribuendo a ridurre l'impatto ambientale complessivo.

► Range: up to 81,000 bph

BOTTLING



Rinsers, or blowing machines, are the pre-filling stage where a perfect cleaning of the containers to be filled is guaranteed. They are completely automatic and their configuration depends on the container to be treated and the speed required. EFS isobaric filling machines are suitable for any type of beverage. They assure accuracy and great performance in each stage, that are managed automatically thanks to an articulated software. The capping stations in various capping machines are composed of a column housing capping heads, cap distributors, chutes with releasing heads, and closing heads. Each type of machine, whether for crown caps, press-on caps, or screw caps, has specific features such as conical heads for crown caps, press-on systems for press-on caps, and screw capping mechanisms for screw caps.

► Range: up to 81,000 bph

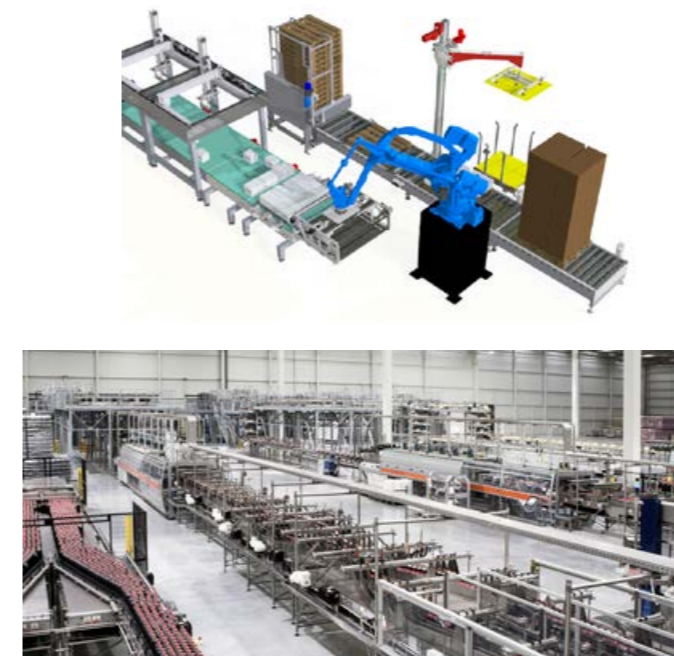
LABELLING



Labellers are designed to efficiently label bottles or other containers in beverage production lines. It operates by first detecting the presence of a bottle using sensors. Once a bottle is detected, the machine initiates its labelling process. They can be roll-fed, self-adhesive, pre-glued, cold-glue, hot melt and returnable.

► Range: up to 81,000 bph

PACKAGING



- High flexibility/high speed end-of-lines suitable for all type of products (PET bottles, RefPET, OWG/RGB glass, cans, large formats)
- Depalletisers and palletisers (traditional and robotic)
- Cartoning, crating and decrating machines
- Shrinkwrappers
- Handle applicators
- High speed trayformers (also for large format)
- Horizontal end load cartoning machines
- Bag-in-box
- Wrap-around
- Twisterbox layer formation systems
- Systems for multipack
- Complete repacking lines
- Multifunctional robots
- Rotating pallet stretch wrapper (also with kraft paper)
- Fixed pallet stretch wrapper
- Conveying systems (bottle, carton, crate, cluster and pallet conveyors; lifts and shuttles)

► Range: up to 81,000 bph (PET)
- up to 120,000 bph (cans)



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