RONCHI

PACKAGING MACHINERY

the Brochure

OUR HISTORY

THE BEGINNING

In the late '40s, Mr. Mario Ronchi was a co-founder of a company for the manufacturing of semi-automatic filling lines for food products in glass bottles. In 1966, he decided to further develop his own activity, and founded the RONCHI MARIO Officine Meccaniche.
Mr. Ronchi's earliest vision was to focus on developing his structure to meet the needs of a rapidly expanding global market.
It was then necessary to introduce machinery suitable to satisfy the most sophisticated requirements of the international customers, such as reliability, precision of work, sanitation and safety.
He gave the maximum attention to the technological development, and he created a sales and service network capable of supporting the major world markets in a very effective and immediate way.

RESEARCH AND DEVELOPMENT

The research and technical development have always been followed with particular care and attention by the company RONCHI MARIO.
This resulted in the introduction in the early 1990's of filling machines of a new technology, equipped with electronically controlled devices for the measurement of the flow. These flowmeters allow maximum working precision and high flexibility in handling a large variety of products.

THE EVOLUTION

The Company RONCHI MARIO focused its activity on the production of packaging equipment for liquid chemical, cosmetic and food products, which registered a considerable development by the end of the '70s, with the increased demand for plastic containers.
At the same time, the natural market trend and the new regulations in force, impacted the marketing of pre-packaged goods in small and medium volumes.
To satisfy the market demand, RONCHI MARIO introduced a new volumetric filling line capable of guaranteeing the volume of product delivered into the container, as specified on the label.
The volumetric machines, sold as individual fillers or in monobloc with capping units, went side by side with other equipment, for the automatization of the whole production cycle.
A new bottle Unscrambler and a new bottle Orientor were developed to implement the offer of equipment available from Ronchi.

THE SUCCESS

Due to the great success achieved over all the major world markets, in 1983 RONCHI MARIO was awarded the prestigious gold medal and special prize by the Chamber of Commerce of Milan as one of the largest and most successful exporters of Italian-made equipment.
The leading market position achieved today by Ronchi is also due to the effort and cooperation of Mr. Ronchi's sons, Cesare and Gianmario.
Today, Mr. Cesare Ronchi is the Managing Director of the Company: he is responsible for all technical and commercial activities, while Mr. Gianmario Ronchi is in charge of the Company administration.
At present, RONCHI MARIO SpA builts approx. 85 machines per year, sold all over the world.
RONCHI MARIO SpA embodies the typical Italian genius and working capacity, which are respected, admired, and trusted all over the world.

SPECIFIC SOLUTIONS FOR SOLVING ANY REQUIREMENT

THE FACTORY

The considerable increase of sale volumes, has determined the necessity for Ronchi of operating in a most appropriate production plant, allowing to increase the production capability and to project the right image of a company that has become a leader in the field of filling machines for the chemical, cosmetic, and food sectors.
On the occasion of the 30th anniversary of its founding, the Company has inaugurated the new and very modern plant of Gessate, built over an area of 20,000 m^2, 12,000 of which fully covered.
A dedicated, suitably equipped testing department permits Ronchi to duplicate the real situations in which the machines must operate.
This allows selecting the most ideal solutions for the handling of a specific product.
Once the manufacturing is completed, each machine is transferred to the new acceptance department, thus allowing Ronchi customers to completely test, prior delivery, their machines and lines with all bottle and cap formats, and even with the final product.

THE PRODUCTION

Thanks to the experience of more than 40 years activity in the major markets, RONCHI MARIO SpA has acquired a unique know-how and technology level.
Often Ronchi's Customers need to customize their containers according to the very different marketing demands.
RONCHI MARIO SpA is specialized in finding the specific solutions for solving any requirement.
Fillers - Cappers - Unscramblers - Orientors are Ronchi's principal products.
All made in a very reasonable time and always with the maximum spirit of co-operation.

RONCHI
PACKAGING MACHINERY

BOTTLE HANDLING SYSTEMS

RONCHI bottle handling systems are in use around the world by the leading cosmetic, personal care, household, pharmaceutical products and food industries.

Main features distinguishing our machines are represented by:

- Sturdy mechanical construction, completely manufactured in stainless steel, suitable to absorb the common "stress" typical of these contexts (deformed bottles, foreign bodies coming from packages etc. etc.)
- All of the part surfaces that are in direct contact with the bottles are manufactured with mirror-polished stainless steel to avoid any damage to bottles
- Highly flexible and capable of handling a diversified range of sizes and bottles profiles
- Positive and stable control of the bottles that are exiting from the unscrambler onto the bottle discharge conveyor by means of a pitch-to-pitch exit star-wheel
- Simplified tool-less bottle format change-over operation featuring robust quick-release features
- Recognized major brand electrical and electronic components are used to provide the utmost in reliability and availability for replacement to the worldwide marketplace
- All motors have variable speed controlled by Variable Frequency Drives
- All of the motor speed settings, machine feature selections and timing settings are accessible through the operator's HMI panel

Our bottle feeding systems can be supplied in different sizes and configurations to suit the widest variety of requirements.

ADDITIONAL OFFERED BOTTLE FEEDING SYSTEMS:

- **Bottle elevators with small to large capacity bulk hoppers**
- **Vacuum assisted bottle transport conveyors**
- **De-puckers to remove bottles from pucks**
- **Lane combiner systems for pucks delivered from multiple directions**

ROTOMATIC

Single bowl bottle unscrambler that is available in diameters ranging from 1.200 to 3.000 mm.
The bowl diameter is determined by the BPM output rates and the bottle dimensions.

BI-ROTOMATIC

Dual bowl bottle unscrambler that is designed for high operating speed requirements (up to 600 BPM) consisting of two bowls fitted onto a single base-frame. The BI-ROTOMATIC configuration offers many advantages: high BPM rates with reduced rotating speed; positive and stable exiting bottle control, mechanically timed pitch-to-pitch by means of a dual discharge star-wheel system, that combines the bottles exiting out of each unscrambling bowl into one lane of the discharge conveyor.

ROTOMATIC-PT

The PT series bottle unscramblers are offered for applications where, due to their irregular shape and instability, the bottles must necessarily be conveyed in pucks.
A cam actuated rotary turret is combined to form a monoblock style bottle unscrambler. The bottles exiting the unscrambler are then transferred by a pitch-to-pitch star-wheel into the rotary turret. The bottles are then gripped and lifted to clear the puck elevation. The bottle pucks are delivered under the gripping heads, the gripped bottles are then lowered by the grip spindle cam and positively inserted into the pucks. Pucks can be of the open "Goal Post" style to allow the application of the labels with the bottles remaining in the pucks.
In case of asymmetrical bottles, a bottle orientation feature utilizing a machine vision system can be added to orient the bottles before inserting them into the pucks.

Empty puck feeding is controlled by a motorized servo-driven dual scroll system, which releases the puck only if the bottle is present. This feature does not require a puck recirculation conveyor system: only an infeed conveyor for the delivery of the empty pucks.
The PT series is also available in the "BI-ROTOMATIC-PT" version for speeds up to 500 BPM.

ROTOMATIC-SP

Similar in design to the PT series bottle unscrambler, the SP series loads the bottles into the pucks by means of gravity. The bottles must be symmetrical in shape and the pucks must be designed to accept bottles that are delivered by gravity.
The ROTOMATIC-SP is also available in a BI-ROTOMATIC-SP version that is capable of operation at speeds of up to 500 BPM.

ROTOTECH

The ROTOTECH is a combination between the traditional feeding system and a ROTOBOT style rotary turret for the orientation of asymmetrical bottles.
Bottles exiting the unscrambler are then positively transferred to the orienting turret by means of a pitch-to-pitch star-wheel. A machine vision or a suitable sensor system detects the position of the bottles and then directs the turret spindle to rotate the bottle to correct orientation. Rotation is achieved by means of pneumatic actuators or servomotors, according to the type of orientation to be performed and the required BPM output rate.
The ROTOTECH is also available in a BI-ROTOTECH version for speeds up to 600 BPM.

ROTOBOT

The ROTOBOT is the stand-alone version of our rotary style bottle orienting systems.
This machine can be designed in versions from 8 to 24 heads, for operating speeds of up to 600 BPM.
Rotation is achieved by means of pneumatic actuators or servomotors, according to the type of orientation to be performed and the required BPM output rate.

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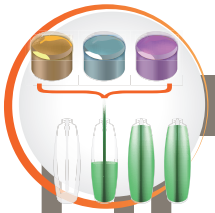
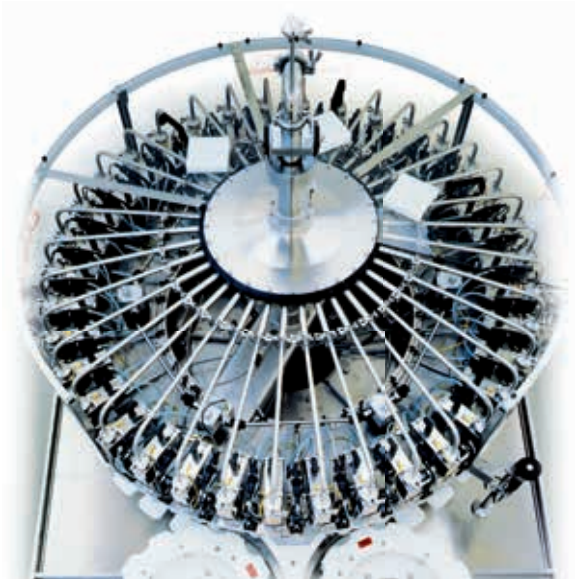


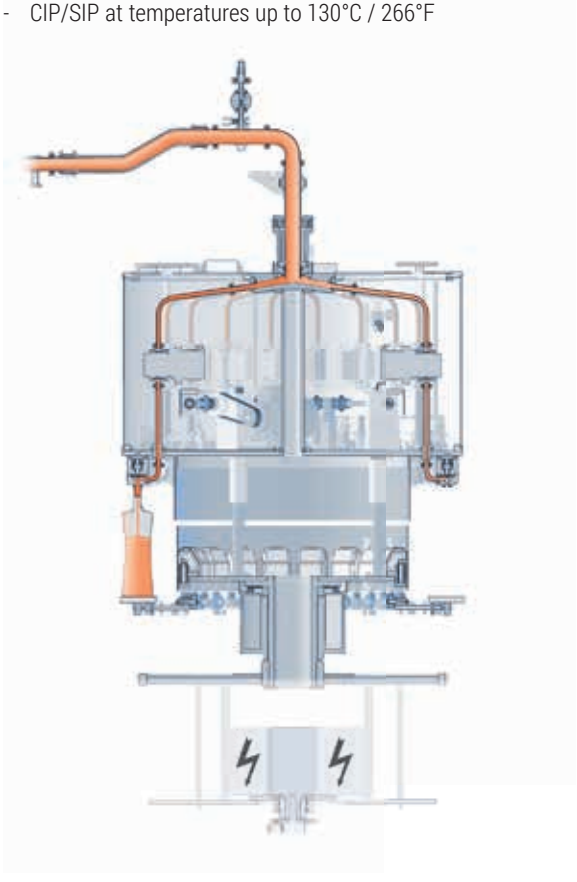
FILLING MACHINES

EXACTA fillers symbolize the most innovative and modern features offered to the filling industry for liquid or high-viscous products; they represent the most ideal solutions for all those filling applications where flexibility, ease of use, rapid change-over and automated cleaning/washing operations are considered to be of paramount importance (personal care products; pharmaceutical products, food, liquid detergents).

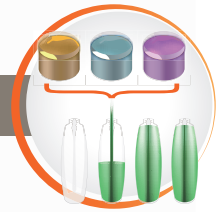


Filling technology of the EXACTA Fillers is based on the adoption of flow-meters which can be either of the inductive magnetic type (Volumetric Filling) or of the mass-type (Weight/ Mass Filling).
Both technologies have in common some main features which can be summarized as follows:

- High filling accuracy: σ = 0,2%
- No moving parts inside the measurement devices, that equates to no maintenance
- Measurement flow meter technology, that is not sensitive to electrical EMI or RFI interference or mechanical disturbance
- CIP/SIP at temperatures up to 130°C / 266°F



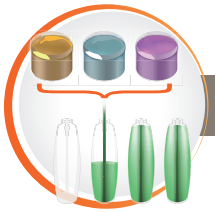
VOLUMETRIC FILLING - WEIGHT/MASS FILLING



Main features distinguishing our EXACTA Fillers are represented by:

- Mechanical structure thoroughly manufactured in 304 stainless steel
- Parts in direct contact with the product fabricated of 316/L stainless steel
- No bulk product tank installed on board the machine: it has been replaced by a simple delivery manifold that equates to a reduced volume of product inside the filler (12 litres on average)
- Possibility of feeding the machine with product coming directly from the storing reservoirs, even if these are placed far away from the filler (over 300 meters)
- Closed circuit product feeding system aimed at eliminating any possibility of contamination of the product due to air or other atmospheric agents
- Machine supplied with software and hardware package for the control of the product feeding pump (P.I.D.)
- Efficient wash (CIP) and sterilization (SIP) achieved rapidly, without the need for a spray ball or without having to disassemble any components
- Wash-up and sterilizing operations fully automatically processed and programmable from the operator's panel; the washing solution is recovered on a removable tray or through a closed circuit system
- Every risk of product spillage during the filling process is eliminated as the nozzles enter the bottle neck for few millimetres
- Bottle format change-over operations are extremely simple and fast, since there is no need to use gripping system to hold the bottle itself
- Control systems ensure the correct filling of every bottle, any out-of-tolerance filled bottle is rejected onto a parallel discharge conveyor
- Flow-meters and, in general, all dosing operations are controlled and managed by a standard PLC installed aboard the machine
- All motors are variable speed, controlled by inverters and are programmable from the operator's HMI panel

The range of the EXACTA rotary fillers is available in models from 8 to 60 filling valves, to accommodate the most varied production requirements with speeds up to 600 BPM.
All EXACTA Fillers can be supplied in the "large pitch" version, i.e. suitable to handle large size containers (up to 10 Litres).
All EXACTA Fillers can be supplied in Monoblock versions, combining one or more capping stations.



EXACTA/R

Magnetic flow meter technology (Volumetric Measuring) filler. Volumetric flow meters are suitable to handle all products having a minimum level of electrical conductivity of 5 µS/cm (microSiemens per centimeter).
The filler can be supplied in sanitary version: parts in direct contact with the product, as well as orbital welding and Tri-Clamp connections, are electro-polished.
The pharmaceutical products version of EXACTA/R can be provided with FDA Certification for the liquid contact path into the manifold including the filling valves (the sole components that have moving parts in direct contact with the product).

EXACTA/RM

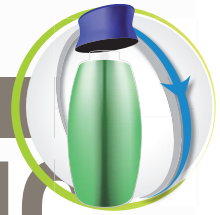
Mass flow meter technology (Mass Measuring) filler. Mass flow-meters are particularly suitable when handling liquid products without electrical conductivity, such as oils, lotions, creams etc.
The RM Filler can be supplied with a heating system for temperature control of the product delivery path.

EXACTA/RC

The RC series of the EXACTA fillers are designed and built to handle corrosive products. The machine is entirely manufactured in "Noble" metal: depending on the type of product being filled, Titanium, Hastelloy, Duplex or Super-Duplex are utilized. This series of fillers also includes positive ventilation and vapour extraction systems.
Special bottle handling features are offered to handle inclined neck bottles that are typically used for the Toilet Cleaner products.

EXACTA/XP

The XP series of EXACTA fillers are designed and built for the Hazardous Duty filling applications. Explosion proof versions of this machine are suitable to handle all those products classified as potentially hazardous.
Protection degree and definition of the "dangerous areas" can vary according to the type of product to be filled and the level of protection requested.
The machine can be supplied and certified in full compliance with both ATEX European Standards and NEC U.S. Standards.



CAPPING SYSTEMS

SIRIO capping systems cover a very wide range of applications for varied typologies of closures adopted in the industries of the personal care, detergent, pharmaceutical and food products.

Main features distinguishing our SIRIO Cappers are represented by:

- Mechanical structure thoroughly manufactured in 304 stainless steel
- Rotary turrets equipped with 4 to 30 capping heads to reach speeds up to 600 BPM.
- Possibility to integrate multiple capping turrets onto a single base-frame in monoblock configuration for the application of different types of closures onto the same container
- SIRIO cappers can be manufactured in versions suitable for corrosive products through the use of special metal - alloys: depending on the type of product, Titanium, Hastelloy, Duplex or Super-Duplex are utilized
- SIRIO cappers can be supplied for use in Hazardous Duty area capping applications. The "Explosion Proof" version is suitable to handle all those products classified as potentially hazardous.

  Protection degree and definition of the "dangerous areas" can vary according to the type of product to be capped and the level of protection requested.
  The machine can be supplied and certified in full compliance with both ATEX European Standards and NEC U.S. Standards
- A "Large Pitch" version is available, suitable to handle large size containers
- All of the components necessary for the bottle and cap format change-over operations are fitted with quick unlock devices: no tool is necessary to replace them
- Appropriate and accurate control systems ensure the perfect positioning of the cap onto the bottles; in case of unseated or missing cap, the bottle is rejected and deviated onto a parallel conveyor
- The whole range of SIRIO Cappers can be supplied both as a stand-alone machine or combined and connected in monoblock to our EXACTA Fillers.
- Cap feeding to the machine is achieved through cap sorter of the rotary mechanical type
- The connection between cap sorter and capping machine is done through horizontal air-cushion cap tracks or on motorized conveyors.
  The adaptation of the guides to the various cap sizes can be controlled through a centralized adjusting device
- Cap bulk supply elevators with various sized hoppers are available, to ensure long feeding autonomy

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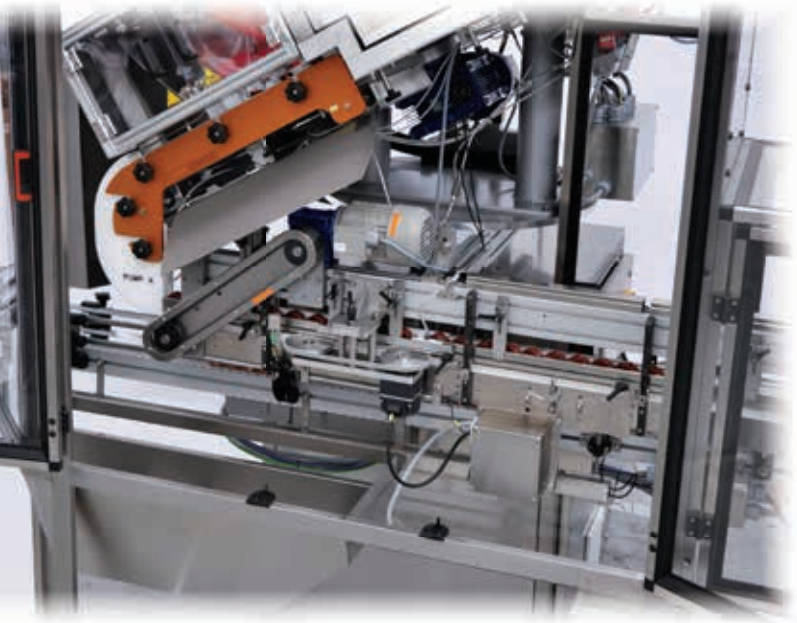

SIRIO/M

It is suitable for the application of plastic press-on or screw-on caps.
In case of screw-on caps, the head rotation is achieved through a variable speed motor, independent from the main turret drive.
Torque control is accomplished through magnetic hysteresis clutches.
Positive grip type chuck closure pick up system ensures the perfect control and positioning of the cap onto the bottle.

SIRIO/S

This is certainly the most versatile and flexible version of our capping systems: every capping head is equipped with a brushless servo motor.
For screw-on caps, it is possible to set the head rotating speed and the desired torque value directly from the operator's HMI panel.
Each capping head can be adjusted independently. Each of the parameters can be adjusted while the machine is working.
At the end of each capping operation, a value of the applied torque is displayed on the operator's HMI panel.
It is possible to switch from the screw-on application to the press-on application on the operator's HMI panel.
A machine vision system is offered for flip-top press-on caps that need to be oriented.
Positive grip type or vacuum chuck closure pick up system ensures the perfect control and positioning of the cap onto the bottle.

SIRIO/P

SIRIO/P series is offered to handle pumps, whether of the spray, dispenser or trigger style.
Also in this case, the Capping Machines can be supplied in the "Mechanical" version or in the "Electronic" version, whereas the rotation of the screw-on systems and the relevant torque control can be performed through magnetic hysteresis clutches or through servomotors.
A dip-tube centring system for guiding the dip-tube into the bottle neck is included in the SIRIO/P version.
To further simplify the format change-over operations, all models of the SIRIO/P series can be provided with a system for the rise and descent of the capping heads and dip-tube centring device, all controlled by servomotors (electronic cam).
This system ensures rapid pump and bottle format change over and the utmost flexibility for handling different formats of pumps and with dip-tubes having different lengths, without the need of replacing important mechanical components of the machine.

ONE PARTNER - ONE SOLUTION

PACKAGING SOLUTIONS

We can study and realize integrated solutions, and test the whole line with the Customer before shipment inside our 20.000 m^2 modern plant.
As manufacturers of Bottle Unscramblers, Bottle Orienters, Puck Inserters, Filling Machines, Capping machines, Depuckers, we are the single **partner** for customized **solutions** suitable to satisfy any requirement of the packaging industry operators.
A capillary network of sales and technical assistance all over the world ensures prompt and timely service, by providing full support for the Ronchi Customers in every country.
Ronchi: A Guarantee of Competence and Reliability for Integrated Packaging Solutions.

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