SRT RINSING-FILLING-CLOSING MONOBLOC

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TECNOLOGIA "DOC" PER L'IMBOTTIGLIAMENTO

SRT RINSING-FILLING-CLOSING MONOBLOC

The SRT monoblocs, are designed and manufactured by FIMER for customised applications, solving the most demanding packaging problems for a diverse variety of productions, from wine to ketchup, from glass to PET, from natural corks to metal lugs, while offering four main benefits: compactness, synchronization, flexibility and cost-effectiveness.

***Compactness** means that overall dimensions are smaller, since the monobloc integrates multiple functions into one piece of equipment, thus freeing up valuable workspace. Moreover, thanks to turret-to-turret direct conveyance, the exposure of both containers and product to air and potential pollutants is significantly decreased.*

***Synchronization** is ensured by a single motor, driving all three turrets by means of gears.The machine is perfectly timed and allows the user to adjust the speed of rinsing, filling and closing with one simple operation.*

*The exclusive construction based upon customer specifications allows for the highest degree of **flexibility.** For each SRT monobloc, individual bottling requirements are carefully assessed, in order to target the solution that will grant maximum production efficiency, ease of installation, use and maintenance.*

*In terms of **cost-effectiveness**, FIMER's tailor-made SRT models have an additional advantage over mass-produced monoblocs: by correctly combining the turrets, the exact output requested can be reached for the container, closure and product in use.*
Also, when compared to solutions with free-standing machines providing the same functions, the monobloc has the best cost-benefit ratio, both at the time of purchase and relatively to consumptions, maintenance and management of the various container sizes at hand.

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All SRT models are made of AISI 304, steel alloys and food-grade plastic materials, which make cleaning, sterilization and maintenance easier and quicker and ensure longer service life.

The bottles are handled by infeed scrolls, starwheels and counterstarwheels (all equipped with safety microswitches), ensuring a steady flow of containers inside the machine and out of it.

SRTT ALTO VUOTO

SRTT

SRT VOLUMETRICA

FILLING TURRETS

GRAVITY/LOW VACUUM FILLERS

Gravity and/or low vacuum fillers are ideal for still, thin products, such as non-carbonated water, wine, spirits (vodka, whisky, brandy, etc.), clear fruit juices, vinegar, milk, chemicals and food products in general. The product inflow is automatically adjusted by a stainless steel throttle solenoid with modulating motorization to avoid hammering. In the case of gravity filling, each filling valve, which is directly connected to the product tank, opens when the bottle rim presses against its special airtight seal as controlled by the mechanical bottle-lifting cylinders with spring thrust and cam-operated return. The product, coming from the tank, flows through the four holes on the tip of the filling valve and down the container walls. Simultaneously, the air leaves the bottle via the upper hole and goes up into the tank, or, in the case that the filler is equipped with separate air return, is evacuated externally. This hole allows for an exact levelling of the product in the containers without resorting to additional levelling devices. The filling level can be adjusted by means of the appropriate shims on standard filling valves. With the use of a special filling valve in combination with a particular machine construction, low vacuum fillers can be designed to allow millimeter-by-millimeter level regulation controlled directly from the machine control board (max. ± 10 mm). When low vacuum filling is adopted, the special pump pulls vacuum in the tank, so that, as soon as the filling valve opens, the low vacuum condition is transferred to the container through the air return hole. As a result, should a container have a leak, or a chipped mouth, it will not be filled, thus avoiding spilling on the machine bed. All types of filling valves are designed to prevent any exchange of the gases contained in the tank and the ambient air. Filling valves are easy to disassemble and are equipped with a device to keep them open for sanitation purposes.

HIGH VACUUM FILLERS

High vacuum fillers are used for dense, viscous fluids (edible oils, syrups, etc.) in containers made of hard materials. Unlike gravity and low vacuum fillers, here filling begins by creating vacuum in the bottle, so that the product is sucked into it very quickly. Once the right level is achieved, any excess product is collected in a small tank, located on top of the main tank. The product then passes into an intermediate tank before going back into the main product tank. The level of vacuum can be adjusted based on the product's thickness and on the desired output within the speed limits individual machines can reach.

VOLUMETRIC FILLERS

Volumetric (or piston) fillers can guarantee that the container is filled with only an exact quantity of product (with a maximum tolerance of ± 1.5 cc on 1-litre containers), regardless of the product's thickness and of the differences in actual capacity between containers of the same type and size. Therefore, piston fillers are the correct choice for applications where accuracy in metering the actual contents of the containers is relevant, or where it is necessary to fill very dense products in either hard or soft containers. Although the construction of the bottle carrousel is rather similar to that of the other FIMER fillers, the filling system, consisting of two steps, is totally different. During suction, the product passes from the tank to the metering chamber through a three-way valve, which measures the product, thanks to its piston-based operating principle, according to a pre-set quantity. To empty the chamber, the three-way valve activates a pneumatic valve controlling the piston: the product is pressed out of the cylinder and into the container. It is possible to adjust the filling speed in the top portion of the container, where the neck must be filled more slowly to prevent the formation of foam or sprinkles. As an alternative to plexiglass, the metering chambers can be made of stainless steel.

COUNTERPRESSURE FILLERS

The acronym "RI" identifies FIMER's COUNTERPRESSURE FILLERS. These machines meet the needs of bottlers of carbonated products, from sparkling wine to beer and from mineral water to soft drinks.
Since the heart of a counterpressure filler is the valve, FIMER has developed dedicated versions to respond to specific requirements.
"S" valves: for degassing only, suitable for every kind of product.
"SL" valves: for degassing and levelling, for any product, where more accurate levels are required
"PS" valves: for pre-evacuation and degassing, for products with potential oxigen pick-up that need to be protected in an inert environment.
"DPS" valves: for double pre-evacuation and degassing, to enhance the effect of the "PS" solution.

RINSING TURRETS

Cleaning new or pre-washed bottles is indispensable in guaranteeing hygiene and sterility. FIMER's rinsing turrets can be engineered to rinse with water, sanitizing solutions, wine or air the internal walls of any type of container without wetting the external surface, in order prevent labelling problems. Rinsers are available in two versions.

HELICAL-GUIDE RINSERS

The grippers slide onto the fixed helical guide, allowing radial bottle overturning. The bottles are perfectly centered on the spraying nozzle, which injects water or detergent solution for a pre-set time. When spraying ends, the dripping cycle begins, prior to the bottle being placed in its inital upright position. The rinsing fluid is collected in a tray to avoid spilling it onto the machine table. To the same effect, a "no bottle-no spray" device has been included in the construction of the machine. Treatment times are set at the time of manufacturing with the customer's needs in mind. Helical-guide rinsers can be equipped with double rinse and/or mobile nozzle, penetrating in the bottle to perform the injection.

DEAERATION UNIT

(OPTION)
Deaeration is suitable for products, for which oxidization is a risk (e.g. wine). The unit performs two separate operations. First, it pulls the air out of the container by means of a high vacuum pump; then it injects inert gas (nitrogen or CO_2).
During filling, the inert gas is released into the filler's product tank, therefore reducing the potential for product oxidization.

CLOSING TURRETS

The automatic turrets pictured below represent the most common types of closures. These, however, do not include all existing closing turrets to be mounted on SRT monoblocs, available both in single-head and in multi-head versions.

1 • Single-head turret for natural straight corks, with hopper, chute and compression jaws made of hardened RAE stainless steel. The jaws can be easily disassembled so as to facilitate maintenance and sterilization.

2 *• Single-head turret for RO, ROPP and non-refillable aluminum screw caps (with or without pourer inside). The caps are fed by a vibratory or centrifugal sorter via a chute which dispenses them using a pick-off system. The caps are then threaded by the threader head.*

3 • Single-head turret for mushroom corks, T-shaped corks or press-on non-refillable plastic closures, suitable for pick-off dispensing. Vibratory sorter, stainless steel feeder chute and (depending on the version) lateral support blocks or centering device. The press-fitting head is controlled by a spring.

4 *• Single-head turret suitable to apply metal crown corks by permanent deformation. Mechanical hopper, front chute, closing head with insertion cone.*

5 •Double-closure automatic turret for corks/aluminum screw caps, suitable for outputs up to 2,500 bottles per hour. Few simple operations are required to set up the monobloc to apply one of the two closure types available.

6 *• Multi-head corker turret.*

7 • Multi-head capper turret for aluminum screw caps.

8 *• Multi-head capper turret for continuous thread caps. With pick-off dispenser or pick and place wheel (shown here).*


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SOME OPTIONS...

- Rinsing fluid recycling system
- Water filtration on rinser turrets
- Air filtration for air cleaners
- Deaeration unit (see picture and description)
- Filler feeder pump
- Mirror-polished filler tank
- Annular tank for fillers with 24 or more valves
- Millimetric regulation of filling level
- Separate air and wine return for levelling fillers
- Neck supports for soft containers on gravity fillers
- Dummy bottles for filler cleaning
- Stainless steel metering chambers for piston fillers
- Central greasing for bottle-lifting cylinders on fillers
- Vacuum corking with flat-headed straight corks
- Inert gas injection before corking
- Sterilization of cork compression jaws
- Pick and place for continuos thread plastic closures
- Twin infeed scrolls for light plastic bottles
- Total monobloc guarding (with roof)
- AISI 316 applications for aggressive products

Data presented in this brochure are purely indicative and are not binding for FIMER s.n.c. The manufacturer reserves the right to view product, container and closure samples on a case to case basis.


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