

# FLEXIBILITY IN FILLING: A SINGLE SYSTEM FOR GLASS AND PET BOTTLES

SIPA's Isotronic G filling monobloc is the perfect solution for companies handling a mix of bottle types. Not only can it fill single-use and refillable (RefPET) PET bottles, but it also works with glass bottles. To make things even better, it can handle bottles using screw tops and crown tops. Naturally, it can fill with all sorts of still and carbonated drinks.

This isobaric electro-pneumatic level filler has numerous innovative design features to guarantee significant advantages in terms of performance and operating flexibility. It is available in versions with between 20 and 100 valves, with output rates of up to 50,000 bottles per hour.



## HIGHLY CAPABLE, VERY VERSATILE

The Isotronic G has a stainless steel central tank and uses filling valves with mobile filling and vent tubes and centering cups that work without requiring any movement in the vertical position of the bottle. This provides the user with advantages in low maintenance as well as in other characteristics such as the automatic use of dummy (false) bottles used for valve washing. The valves are simple in construction, reliable, and easily sanitized.

## ANY SHAPE, ANY SIZE

A particularly important feature for companies operating with a variety of bottle types (shape, volume, neck size, material) is the low downtime during changeover. Filling level adjustment is made centrally, with no need to replace vent tubes. If the line is running with glass bottles, handling is done through the base; on the other hand, neck handling is used for PET bottles, with no need for monobloc height adjustment if there is a change in neck size. The neck changeover from glass to PET requires no tools and can be carried out very quickly. Centering cup replacement is also fast and simple. Any changes to operating parameters are made via a user-friendly touchscreen HMI, with a menu-based interface.

## SPECIAL FEATURES

Other notable features include flexible liquid product deflection using a swirling device without format change; automatically engaged dummy bottles; extremely low foam production (thanks to sniffling with the vent tube raised inside the valve); a separate air return circuit; valve protection solutions against accidental bottle burst; and low maintenance, thanks in part to the absence of a pneumatic lifting cylinder. As an option, CIP (Cleaning In Place) can be integrated within the carbo/mixer.

## SWIRL

The deflection of the product on the walls of the bottle is performed through a helix system inside the valve – this is the swirl device. This creates a homogeneous film of product that is deflected inside the container without turbulence or foam. By not having the deflector on the vent tube there is no need for any adaptation or replacement when there is a change in bottle type.

**This obviously helps minimizing down time during format change.**

## HYGIENE

The sanitation phase on the Isotronic G is very simple and fully automatic. By means of a control on the operator panel, the machine prepares itself for the electro-pneumatic control of all the on-off valves. The sanitation cycle is carried out in such a way that the solution passes over all the internal areas of the filler with forced flow.

## AUTOMATIC DUMMY BOTTLES

The mobile filling tube, an important feature of the filling valve, makes it possible to engage and disengage dummy bottles with a simple pneumatic control, avoiding any contact between operator and machine. In the rest position, dummy bottles are protected by a special cover that prevents them from being hit by any glass fragments if a glass bottle bursts.

## LOW FOAMING, LOW MAINTENANCE

The pressurization of the bottle takes place through a dedicated circuit that is free of liquid particles (“dry” pressurization), guaranteeing reduced foaming when filling bottles with carbonated drinks. Inside the valve, the product circuit is isolated from the outside “control” circuit through a membrane. There are no sliding gaskets. The air returning from the bottle never comes into contact with the product inside the tank. The absence of a pneumatic lifting cylinder reduces maintenance cost and time. Cleanliness is also improved, since no lubrication of moving parts is needed.

**Bottle handling is easier too, with bottles moving on a single flat plane.**



## MOBILE VENT TUBE

The mobile vent tube has numerous advantages. For instance, the filling level in the bottle can be adjusted, even during production, without having to replace the vent tubes, significantly shortening the time and cost of format changeover. The vent tube is protected during the pressurization phase, as pressurization is done with it inside the valve, and so protected from glass fragments in the unlikely case of a bottle bursting. Product losses are lower because the decompression phase (snifting) occurs with the vent tube back inside the valves, reducing foaming to a minimum.

## BOTTLE BURST PROTECTION

There are more features to reduced damage if a bottle bursts during filling. For example, after the pressurization phase, the bottle presence is controlled by a sensor that detects the roller position; bottles and filling valves are protected by separators against the glass fragments in the event of a burst; and the swirling device inside the valve is always protected against any glass fragments. The only gasket in contact with the bottle is the one in the centering cup, and if a bottle bursts, it can be washed by high pressure water.

## MULTIPLE CONFIGURATION OPTIONS

The Isotronic G filling monobloc can be customized to meet any production need. A careful study of plant engineering, ergonomic design, a simple but comprehensive operator interface, and a fully automatic configuration of process flows, make any solution easy to use and manage. For water fillers it is possible to integrate the CIP unit on the external product tank of the filler or on the Carbo.

**This brings several advantages, including a reduced footprint; reduced energy consumption; Capex reduction; elimination of the need for a boiler in the plant that requires a specific user license; and finally, a machine suitable for multiple applications.**



## MORE THAN A FILLER

SIPA fillers can be coupled in Sincro Blocs with SIPA rotary and linear stretch-blow molding units, for integrated blowing-filling-capping lines. The monobloc can be also completed with the addition of mechanical and electronic rinsers, equipped with various types of treatment according to the different applications. SIPA offers a wide choice of capping systems, for plastic caps, aluminium crown and ROPP (Roll On Pilfer-Proof) caps, and other types, as well as cap decontamination.

## ENVIRONMENTAL CONTROL

To guarantee the maximum hygiene of bottles, several solutions can be integrated in order to keep under control the filling environment, and meet the most stringent

requirements. The SIPA entry level is ISO class 7, but this can be increased up to ISO class 5 if the customer requires it. Features that can be added include overpressure sterile air cabins with contamination control equipped with HEPA filters, and protection of the filling area with a mini-enclosure (isolator technology) for sensitive product handling.

**This solution ensures a drastic reduction of the area to be controlled, allowing extremely effective sanitizing at reduced cost.**

