

# SINCRO BLOC

INTEGRATED  
BLOWING / FILLING / CAPPING  
SYSTEM





# COMPACT SOLUTIONS, **UNLIMITED** PERFORMANCE

**SINCRO BLOC** is a compact integrated blowing/filling/capping system. **A complete and versatile range** to meet the most varied requirements in terms of both productivity and products to process, available in two versions.

In both solutions, **stretch-blowing and filling units are electronically synchronized and connected together with a bottle transfer unit**, the ideal solution for operations where **reduced square footage** is the primary requirement.

## SINCRO BLOC R

**SINCRO BLOC R** for high-speed rotary blowing/filling/capping, which guarantees high-quality standard and **output up to 65,000 bottles/hour**.



## SINCRO BLOC L

**SINCRO BLOC L** for medium-speed linear blowing/filling/capping, able to produce **up to 12,000 bottles/hour up to 20L.** It combines all the advantages of a Sincro connection with the versatility of the SFL range.

**A complete and versatile range** to meet the most varied requirements in terms of both productivity (monoblocs with up to 180 valves) and products to process: still and carbonated water, soft drinks, milk and dairy products, beer, sport and energy drinks, tea and juice.

Thanks to its direct connection between bottle blowing and filling, SINCRO BLOC is the perfect solution in case of **lightweighting necks and bottles**. The lack of air conveyors, in fact, eliminates any potential risk of bottle jams or damage.



# SINCRO BLOC COMPETITIVE ADVANTAGES

SINCRO BLOC range combines the highest output with the maximum container quality keeping reduced footprint, simplicity and hygiene. A single system that holds the state-of-the-art technology available today on the market in terms of preform treatment, blowing, bottle movement, filling, capping and automation.

## Costs reduction

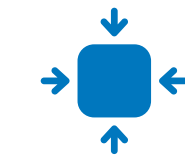
- Reduced operators number.
- Reduced consumption.
- No air conveyors: less energy consumption and no filter costs.
- No rinser: less water and energy consumption.
- Elimination of maintenance costs and change over times for the air conveyors.

## Efficiency

The blow moulding machine and the filler are electronically coupled and special transferring systems are foreseen to reduce the stumblings. The integrated design of the system ensure an high efficiency of the overall platform.

## Lightweight

Sincro Bloc is the most suitable solution for the treatment of extreme lightweight bottles.



COMPACTNESS



COST  
REDUCTION



COST  
EFFECTIVE



EFFICIENCY



FLEXIBILITY



HYGIENE

## Hygiene

A preform treatment system, the short connection between blowing and filling, the over-pressured environment are guarantee of high hygiene level.

## Extreme operating flexibility

It can handle a wide range of bottles, necks and caps sizes (both flat and sport). Several technical innovations installed allow for a short change-over times: one of the fastest available today on the market!

## Space saving and ergonomics

Sincro Bloc is the ideal solution for operations where reduced square footage is the primary requirement thanks to its extreme compactness and small overall dimensions. Only one operator controls the whole system.

## Cost effective investment

All these features and advantages make Sincro Bloc one of the best solutions both in terms of capex and as a guarantee of general TCO reduction.

# WIDE APPLICATION RANGE

The innovative features of Sipa blowers and fillers combined with the "hygiene" concept of Sincro Bloc, make this solution perfectly suitable for all kinds of products: still and carbonated, cold fill and hot fill, with and without pulp, sensitive products (including C.S.D. without preservatives) and those which require weight filling.



Mineral water



Carbonated Beverages



Juice, tea, isotonic



Edible Oil



Milk & Dairy products



Alcoholic Beverages



Food products



Non-food products

# BOTTLE BLOWING

## ROTARY BLOW MOULDING MACHINE

**XTRA** is the rotary **blow molding machine** for PET containers designed by SIPA to achieve **top performance** levels with the highest energy saving at the best possible speed in the market.

A concentrate of technology, but most important of benefits: the **highest bhc output** in the industry, the **widest active process angle**, energy saving across the board, extreme user-friendliness, plus a totally open system. This perfect combination of performance, speed, quality levels and saving leads to a reduction in **Total Cost of Ownership**.

XTRA is the development of PET blow moulders in every respect.

# XTRA



### ADDED VALUES

- Flexibility: with a simple conversion, the same unit can produce standard and hot fill containers.
- Higher outputs: 2,800 bottle per hour per cavity.
- Reduced Total Cost of Ownership (TCO).
- Lower bottle cost through lightweight, without compromise on bottle performance.
- Electrically-driven stretching rods provide extra versatility in process fine-tuning and an easy control of timing, speed, acceleration and distance.
- Quick mold changeover system: very easy and fast.
- Simple, intuitive and fully renewed interface.
- Several solutions to control preform hygiene.
- Integration with volumetric electronic filler.

## LINEAR BLOW MOULDING MACHINE

**SINCRO BLOC L** brings together all the advantages of a sincro connection with the versatility of the **SFL linear blower range**.

SFL produces containers with the **maximum added value** and the **best possible TCO**. This top-of-the-range linear blow moulders is designed to operate **from 1 to 8 blowing cavities** and reaches a **maximum productivity of 2,000 bottles hour/cavity**, a figure higher than any other system on the market, **with the lowest ever energy consumption**.

This **innovative technology** allows the use of recycled materials such as **rPET and bio-base materials**. All this, without compromising the mechanical or aesthetic qualities of the container.

# SFL



### ADDED VALUES

- Flexible configuration.
- Fully electric machine (no oil).
- High standardization.
- Bottle up to 12 L and neck finish up to 48 mm.
- Extremely quick installation and start-up time. User friendly technology with full process control.
- Variable clamp stroke.
- Timing, speed, acceleration and distance all controlled with ease from the HMI.



# TRANSFER MODULE

## SINCRO BLOC R FULLY COVERED CONNECTION, TOTAL CLEANLINESS.

In SINCRO BLOC, the blow moulder and filler are electronically synchronized and physically connected by a transfer module. The latter is composed of **transfer starwheels with grippers** which transport the bottles by the neck to the filling monobloc.

In order to keep **bottle hygiene**, the transfer module is equipped with a stainless steel fully draining basement and surrounded by guards and, fitted with an **overpressure system with HEPA filters**, the separation between the dry zone air (blow moulder) and wet zone air (filler) is assured.

### OPTIONAL ELEMENTS

To satisfy particular production needs, the module can be completed with a number of additional solutions, including:

#### Quick changeover

The starwheels can be equipped with a rapid size changeover system which allows the handling of different diameter necks without the need for any tools: e.g. 28 - 38 mm.

#### Bottle base cooling

In case of filling of carbonated or pressurized products, a spray nozzle system can be installed to cool the bottom of the bottle. In order to reduce the costs of this application, the solution can optionally be fitted with a collection channel and water recirculation system.



### ADDED VALUES

- Extreme reliability: no hitches.
- Great flexibility: it can handle bottles of all shapes.
- Body guides are no longer necessary meaning a drastic reduction in changeover downtimes.
- Stainless steel fully draining basement.
- All the area is completely closed and over pressurized with HEPA filter and pre-set for CIP/COP/SIP operations.
- Intuitive and user-friendly HMI to easily operate the system.

## SINCRO BLOC L EXTREME SYNCHRONIZATION

The **SIPA's patented sincro connection** converts linear discharge of the blower to the feeding starwheel of the rotary filler.

Bottles are discharged from the SFL blower by the linear transfer unit equipped with spindles and **controlled by brushless motor** (standard machine), composed by the same number of grippers as the number of cavities of the blower. Two similar linear transfer units are positioned one in front of the other slide alternatively to pick up one batch of bottles and release them one by one to the first filler starwheel, while the other linear transfer picks up the new batch of bottles from the blower discharge area, **without changing the pitch**.

The SCA (Sincro Common Area) is fitted with an **overpressure system**, the separation between the dry zone air (blow moulder) and wet zone air (filler) is assured.



### ADDED VALUES

- Great flexibility: it can handle bottles of all shapes.
- Body guides are no longer necessary meaning a drastic reduction in changeover downtimes.
- High hygiene: fully covered area with overpressure system.
- The grippers of the internal transfer are designed to keep rotating in case of bottle jam on the wheel, avoiding tear.
- Intuitive and user-friendly HMI to easily operate the system.



# FILLING SOLUTIONS

## FLEXIBILITY, QUICK CHANGEOVER, MAXIMUM HYGIENE

**SINCRO BLOC** is **extremely versatile** in this process phase: the choice of filler, in fact, simply depends on the type of product to be filled. The complete range of fillers can be matched with the rotary blow moulder: isobaric fillers, gravity fillers and hot fillers, both mechanical level and electronic volumetric versions, including the weight filling solution. Also, all fillers can be equipped with an **innovative quick-change system** to handle bottles with different neck diameters.

FILLING PRODUCT	Non-carbonated mineral water	Carbonated mineral water	Carbonated beverages	Clear juice	Juice with fibers or pulps	Isotonic and sport drink	Tea	Hot filled products	Milk and dairy products	Alcoholic beverages	Edible oil	Detergents
Stillfill S	X			X	X	X	X		X	X		
Stillfill HR	X			X	X	X	X	X		X		
Isofill	X	X	X	X		X	X					
Flextronic C	X	X	X	X	X	X	X	X	X			
Flextronic S	X			X			X		X			
Flextronic SC				X	X	X	X	X				
Flextronic SE	X			X	X	X	X	X	X			
Flextronic W	X			X					X		X	X
Bigfill	X										X	





# FILLING SOLUTIONS



## ADDED VALUES

- Modular solutions, with the possibility to fill several products in the same filling line.
- Innovative and quick-change-over system.
- Perfectly fitting with electronic volumetric fillers.
- Intuitive and user-friendly HMI.
- Best in class hygiene standards allow to handle sensitive products.
- Xfill configuration for Flextronic range: the carbonating or mixing unit tank will be used as a buffer tank for the filler.

## MAXIMUM HYGIENE FILLING ENVIRONMENT UNDER CONTROL

To guarantee the **maximum hygiene of bottles after blowing**, several solutions can be integrated in order to keep under control the filling environment:

- **Overpressure sterile air cabins with contamination control** equipped with HEPA filters. Our standard starts with ISO class 7 but according to the hygiene level required by the customer, this level can be increased up to ISO class 5.
- The transfer module and filler are pre-set for CIP/COP/SIP operations.
- Solutions for the **contamination reduction of preforms and caps**.
- **Filling area protected by 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 actions with reduced cost.





# CAP HANDLING SOLUTIONS



## DIFFERENT OPTIONS FOR DIFFERENT OPERATING CONDITIONS

The management and correct feed of caps in the pick and place area is one of the most sensitive phases in the whole process in terms of risk of blockage on the descent channel. Since **the whole process is fully synchronized**, we have designed several solutions to avoid stoppages on the SINCRO BLOC caused by cap feed problems. Both **automatic backup and buffering solutions** are available: with the second option, in the event of a cap blockage, a signal blocks the preform feed and a special buffer empties the whole system without any bottle wastage.

Depending on the **different operating conditions**, we can provide **different solutions**.

### SINGLE OR TWIN HOPPER

The Twin Hopper is composed of **two cap hoppers** and relevant descent channel to the pick and place. In the event of a blockage on the first, the system passes automatically to the second, allowing the operator to **remove the blockage without stopping the capping operations** until the machine is empty.

When using a single type of cap the **single hopper solution** is available. This features reverse-rotation of the hopper and two exit channels: a jam in one of these channels automatically activates reverse-rotation of the hopper and the cap sorting on the other channel, **allowing the cap feeding without interruption**.



### FLAT BUFFER

This is a **dynamic buffer**, positioned between the hopper and the pick and place, and is composed of a horizontal rotating disk where is hold a sufficient number of oriented caps to guarantee an accumulation that allows the operator to clear the blockage.

In case of blockage **the system automatically stops the preform feeding**, and the accumulation guarantee a number of controlled caps suitable to completely empty the system and avoid any preform/bottle waste.



### ADDED VALUES

- Modular backup and buffering solutions to guarantee an extremely high reliability of the system, reducing down-times and waste of material.
- Full range of cap cleaning solutions.
- Some cap feeding solutions can be fitted with a cap quality check device, which selects the caps according to different parameters.

### CAP STREAM

It is a gravitational cap feeding and buffer system designed to guarantee **the highest efficiency of the SINCRO BLOC versions**, according to the most advanced state-of-the-art, being also a cap buffer **able to feed the capper without interruption**. The caps arrive already oriented to the top of the feeder and descent by simple gravity to the cap chutes, **without compressed air** (clean feeding). Completely **manufactured in SS Aisi 304** it could be arranged to handle different caps with an easy change-over.



### CAPS CLEANING TREATMENTS

According to each specific scope of supply and operational requirements we can supply **different cleaning solutions** that can be easily combined and installed on the cap feeding chute:

- Dedusting with **ionized air blowing and aspiration**
- Low pressure **UV lamps**
- One or two **washing tunnels**
- **Pulsed light** decontamination





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