

# SINCRO BLOC SERIES PROVIDES PROCESS POETRY IN MOTION.



There is a steely beauty in a machine running at a speed so high, everything is a blur. Only if you blink very fast, can you begin to make sense of what is actually happening. A SIPA XTRA rotary stretch-blow molding machine is one of those wonders, as it turns preforms into bottles as fast as 18 every second. Flying in front of you, one after the other. Where do they fly to? If you are lucky enough to have a SIPA Sincro Bloc system, they go straight into a filling and capping system that, almost unbelievably, works just as fast. Exactly as fast. Perfect synchronization, adding beauty on beauty. Sincro is now a name that SIPA applies to a series of integrated equipment combos. Not only bottle making and filling – now with linear as well as rotary bottle blowing – but also preform production (with the outstanding XTREME sequential extrusion-injection-compression molding system) and bottle stretch-blow molding – XTREME Sincro – and XTREME Sincro Cube, which puts preform making, bottle blowing, filling and capping, all together, totally synchronized, in one place.



Leading in  
Stretch-blowing  
and filling  
systems.

The linear Sincro Bloc integrated PET bottle stretch-blowing, filling and capping system is the latest addition to the range. Using SFL linear stretch-blow units, it was introduced in 2017 to complement SIPA's existing offering in rotary. Linear Sincro Blocs were introduced in response to calls, particularly from companies bottling water and also oil, for a compact system that could produce and fill bottles in all formats up to 12 liters in size. A Linear Sincro Bloc based on an SFL 6 can make and fill up to 11,000

small bottles every hour, while a system configured for larger formats can produce and fill up to 4,000 12-L containers in the same time (or 6,600 5-L containers). These systems can produce bottles with handles and wide-mouth jars. They can also work with all types of liquids, water, oil, CSDs, milk, hot-filled products, detergents and personal care products. If necessary, the same line can produce and fill hot-fill and CSD drinks. Numerous SIPA customers have taken advantage of this feature.







#### **Extremely clean machines**

Sincro Blocs – linear and rotary – are not only fast, they are also user-friendly, thanks to their relatively simple mechanical movements. This helps keep maintenance and initial investment costs down, leading to an advantageous Total Cost of Ownership (TCO). Simplicity also helps with cleanliness and hygiene. There is no need for rinsing between blowing and filling, no need for external conveying systems, and total protection from the outside environment, from the moment the preform enters the feed shoot until the filled and sealed bottle emerges, ready for wrapping. The high levels of cleanliness make it possible for customers to use them for CSDs that contain no artificial preservatives.

#### **A variety of mechanical and electronic fillers**

SIPA produces various types of fillers that can be coupled with the blow molders. These include the Stillfill Evo mechanical gravity filler for hot- and cold-filled non-carbonated drinks; the mechanical Isofill isobaric level filler for carbonated soft drinks and mineral waters; the Flextronic S and SE electronic volumetric fillers for various types of still liquids and hot-fill

products respectively; and the Flextronic W electronic weight filler for products with extra added value.

The Flextronic C electronic multi-product volumetric filling monobloc is suitable for filling CSDs, still and sparkling mineral waters, cold- and hot-fill juices. The configuration of the valve makes it suitable for processing products containing pulps and fibers. On top of all this, maintenance is once again very straightforward.

#### **Integration of compression and stretch-blow molding**

The XTREME Sincro brings together in a single bloc SIPA's ground-breaking preform compression molding system with a high-speed stretch-blow molding unit. It embodies numerous advantages for bottle producers, combining the flexibility of two-stage systems with the convenience of single-stage systems. When designing the Sincro XTREME, SIPA wanted to create a production plant that was compact, flexible and easy to operate, which had very low materials and energy consumption; which treated the PET as gently as possible to retain high purity, which provided perfect product handling without damaging the preforms in any way,





and which produced bottles with extraordinary performance, but which were lighter than anything available on the market. We believe we have achieved our objective.

#### **Lighter than ever**

With the XTREME injection-compression system, it is possible to produce preforms that are up to 10% lighter than even the lightest preform produced by conventional injection molding, without losing any key properties. More weight can be shaved off the body and base of the preform than ever before. Not so long ago, the maximum length-to-wall thickness ratio (L/t) of

an injection molded preform was little more than 45. With XTREME technology, a figure close to twice as high – 80 – is possible. Processors can now make a preform for a 500-mL bottle that weighs just six grams. The system is particularly well suited to production of preforms for bottles up to 1.5 L in volume, but can also be used for bottles up to 2.5 L. With its rotary configuration and its pneumatic actions, XTREME fits perfectly into a Sincro Bloc with any SIPA rotary stretch-blow system. In the Sincro XTREME, it is directly coupled to the next-generation rotary stretch-blow molding unit.

#### **Reduced energy consumption**

Several factors make the integrated system so highly energy efficient. First of all, XTREME uses lower temperatures than an injection molding system, reducing energy consumption of around 10% in that section alone. On top of this, the integration of the preform production and the bottle blowing operations has a further, massive, effect. Much like SIPA's existing ECS single-stage ISBM systems, there is no need on the Sincro XTREME to cool down the preforms immediately after they are molded, and the need to reheat them just before blowing is much

reduced. Conventional ovens with infrared heaters are replaced by small ovens that use highly efficient induction heating that is directed only at the areas of the preforms just below the neck.

#### **Fast mold change**

Just like the XTREME preform molding system, the blowmolders have a standard mold changeover system that is quick and easy to use. It is also much easier to convert from production of cold-fill to hot-fill containers too. This is because, while the heating circuit remains in the shell holder, the cooling circuit is now built



“Pure poetry in motion!”





into the cavity. Only a simple cavity change is required to switch from production of one type of container to another, while the shell holders remain in place.

**Bottle blowing**

SIPA's XTRA rotary stretch-blow molding units can produce standard containers at up to 2550 bottles/hour/ cavity – and complex custom containers such as heat-set containers for hot filling at up to 2000 bottles/hour/cavity. The direct transfer of preforms from the XTREME to the blowing wheel enables easy handling of light bottle necks at such high production rates as well.

**From pellet to filled bottle**

The XTREME Sincro Cube system is the ultimate in process integration. It combines preform production, bottle blowing, and filling and capping. It can be configured for all kinds of products: still and carbonated, cold-fill and hot-fill, with and without pulp, sensitive products (including CSDs without preservatives) and value products such as edible oil, milk and derivatives, premium clear juices, home and personal care products. This solution is compact, flexible and easy to operate – easy enough in fact to

allow it to be operated by fewer personnel than alternative systems configured for the same job. It is of course extremely energy-efficient. With the additional benefit of an elimination of preform handling, total overall costs are significantly lower, while the quality of the finished bottle is better.

**Multiple configurations**

The XTREME Sincro Cube system is available in four versions, with a preform production wheel holding 72 or 96 cavities, feeding a blowing unit holding 16, 20, or 24 molds, which in turn feeds a filling station with 60, 80, or 100 valves. Depending on the combination, maximum output is between 36,000 and 54,000 filled bottles per hour. All combinations are capable of producing filled bottles up to 3L in volume.



**XTREME SINCRO CUBE  
IS PREFORM PRODUCTION  
WITH XTREME, BLOWMOLDING  
AND FILLING, ALL-IN-ONE.**