360° FROM PELLET TO PALLET EXPERTIZE

SINCRO BLOC

Integrated
Blowing / Filling / Capping System

SIPA

Sincro Bloc

Integrated Blowing / Filling Capping System

Sincro Bloc combines the highest output today in the market with the maximum container quality keeping reduced footprint, simplicity and hygiene.

Sincro Bloc is a compact integrated system for high speed blowing/filling/capping. The system guarantees high quality standard and output ranging from 14,000 to 52,800 bottles/hour.

Advantages

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

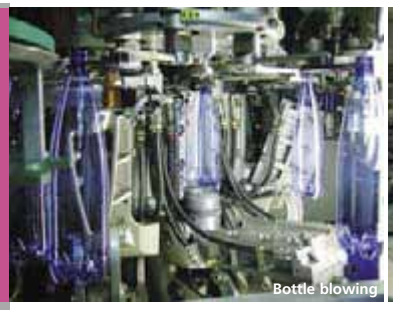
Efficiency: the blow moulding machine and the filler are electronically coupled and special transferring systems are foreseen to reduce the stumblings.
The integrated design of the system ensure an high efficiency of the overall platform.

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

Hygiene: a preform treatment system, the short connection between blowing and filling, the over-pressured environment are guaranty 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.

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.


Bottle blowing

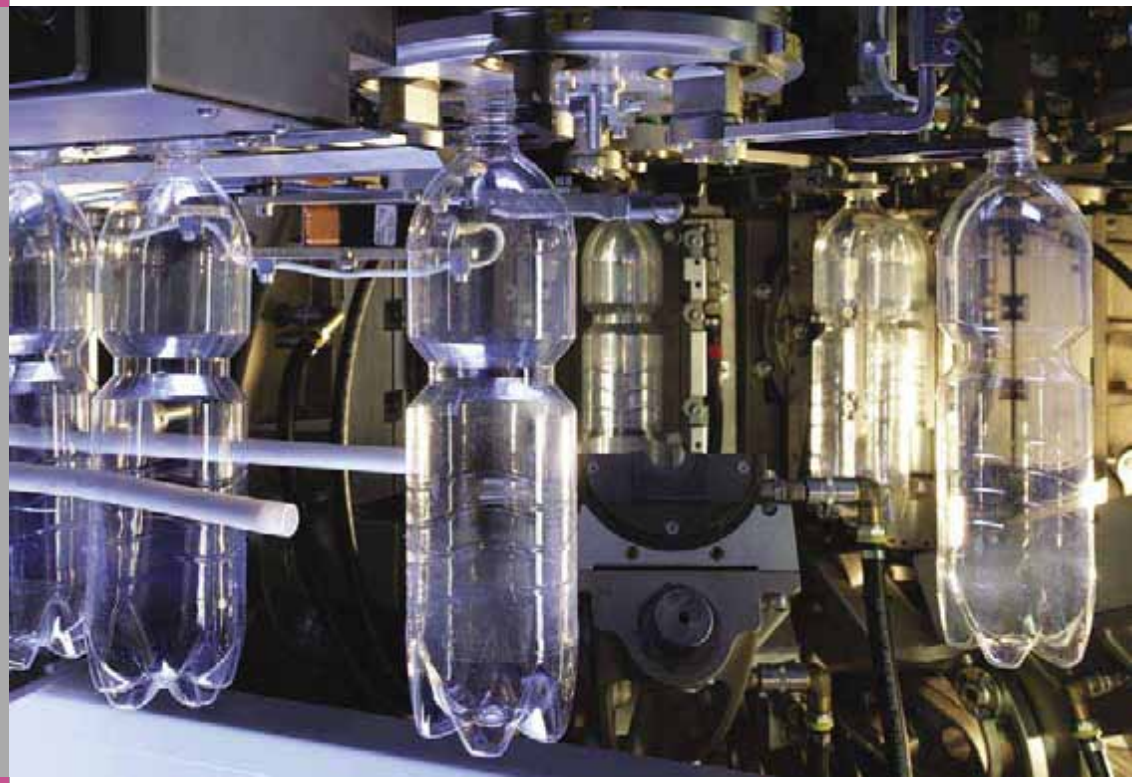

Bottle transfer


Filling/Capping machine

Bottle Blowing

All SIPA rotary blowmolders, SFR range, can be coupled with filling monoblocs obtaining a wide range of applications and productivity.

SIPA rotary blowmolders represent today the cutting edge in blowing technology thanks to high performance in terms of output (2,200 bottles/hour/cavity), flexibility and reliability.



SFR: features and advantages

Preform transport system
- Simple chain in special plastic material (SIPA patent). No maintenance cost and time.
- No rotation of chain around its axis and no movement up and down to collect the preform.
- Dry operation (no grease).
- Pitch = 45 mm: better efficiency of heating, shorter oven and possibility to blow up to 43 mm neck finish bottles.
- Extremely quick tool-free spindle changeover when handling different preform necks.

Heating Oven
- Heating process less sensitive to frequent starts & stops of filling lines or enviroment temperature variations.
- Quick process set-up.
- Modular oven completely made in aluminum.
- Low thermal inertia: heat process consistency and quick cold start-up.
- Laminar ventilation: better process stability (SIPA patent).
- Low oven temperature: lower consumption.
- Very effective neck cooling.

Bottle Blowing
- Crocodile blowing mold opening (typical of all SIPA rotary blowmolders).
- Reduced pitch between two molds.
- Relevant space saving (20% to 30%) for the blowing wheel compared to equivalent machines: preforms & bottles centrifugal forces are very low.
- This means that grippers don't have to tight strongly the necks in order to keep preforms & bottles in straight position: this is a big advantage specially in case of light-weight necks which get hotter and could deform.
- Simplified transfer wheels with small diameters and lower peripheral speeds.
- Easier to maintain - accessibility of key elements.
- Quick mold changeover.
- Effective cooling system for bottle neck and alluminium mold base.

Touch screen operator interface (HMI)
- During the production process, the operator runs the system from a touch screen control panel.
- The user friendly interface with icons and reduced text allows for an easy system management and operators learning.
- The control panel features: 3D animations, videos for major maintenance operations, wiring diagrams and machine manuals.

Energy and compressed air savings
- With ARS Plus, an exclusive SIPA patented system for the recovery of compressed air, air recovered is used as primary air and part of high pressure air (blowing air) is used as service air for machine.
- Compressed air total savings up to 50%.
- Possibility of reducing the size of the compressor up to 45%.

The SFR blowmolder combines high outputs with maximum container flexibility. The same machine, in fact, with a simple conversion, can produce standard and hot fill containers. The system allows for very light neck finishes handling and neck diameters up to 43 mm.

Connection

between filler and blow molding machine

Transfer module

The blowmolder and filler are electronically synchronized and physically connected by a transfer module.
The latter is composed of transfer starwheels which transport the bottles by the neck to the filling monoblock.
This solution offers the following main advantages:
- Extreme reliability: no hitches.
- Great flexibility: it can handle bottles of all shapes, even those without a neck ring.

Bottles are easily transferred from the blowing machine by means of a special "flexible" gripper first star-wheel to avoid bottles jam: the starwheel was designed with flexible pockets, which adjust any misalignment in the release of the blown bottles.
Again in this area, the bottle release is controlled in the event of a filler stop.

In order to keep bottle hygiene, the transfer module is surrounded by guards and, fitted with an overpressure system, the separation between the dry zone air (blowmolder) and wet zone air (filler) is assured.

Optional elements

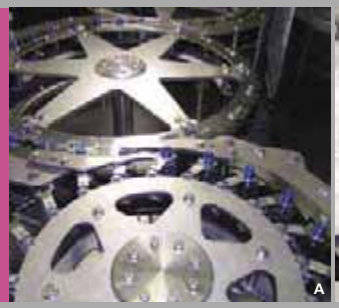
To satisfy particular production needs, the module can be completed with a number of additional solutions, including:

Quick changeover

The starwheels can be equipped with a precise and rapid size change which works with different diameter necks without the need for any tools: e.g. 28 - 38 mm. The same philosophy is applied in the event of body guides replacement.

Bottle base cooling

In case of petaloid bottle base or special filling requirements of the product, 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 is fitted with a collection channel and water recirculation system.


A


B


C

"Lightweight" bottles

Sincro Bloc, thanks to its direct connection between bottle blowing and filling, is the perfect solution in case of lightweighting necks and bottles.

The lack of air conveyors, infact, eliminates any potential risk of bottle jams.

Filling

Sincro Bloc is extremely versatile in this process phase: the choice of filler, infact, simply depends on the type of product to be filled.
The complete range of fillers can be matched with the rotary blowmolder: isobaric fillers, gravity fillers and hot fillers, both mechanical level and electronic volumetric versions.

Here is a list of the filler model which can be used in the Sincro Bloc solution with relative valve section:

ISOFILL P
Mechanical isobaric filler for carbonated products.

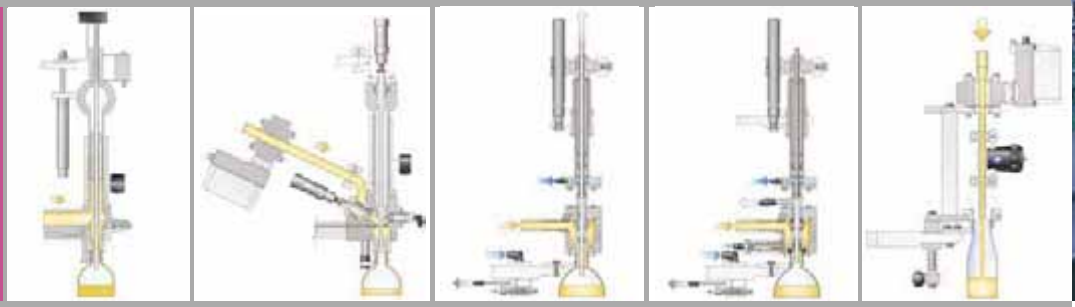
ISOTRONIC P
Volumetric isobaric filler for carbonated products.

STILLFILL S P
Gravity filler for still water.

STILLFILL HR P
Gravity filler with recirculation for hot filling.

UNITRONIC P
Volumetric gravity filler for sensitive non-carbonated products.

The filling/capping area, whatever the type of filler used, it is configured with laminar flow cabins. Depending on the level of hygiene required by the customer, the hygiene level can reach ISO class 5.



Isofill P | Isotronic P | Stillfill S P | Stillfill HR P | Unitronic P

The possibility to keep the bottle clean after blowing is an extremely important element. The transfer module and filler are pre-set for CIP/COP/SIP operations: a guarantee of the highest hygiene standards.

All fillers can also be equipped with an innovative quick-change system to handle bottles with different neck diameters.

Capping machine

The last element in the process is the capping machine, which, synchronized with the filler, closes the bottles prior to outfeed.
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. In the event of a cap blockage, a signal blocks the preform feed and a special buffer empties the whole system without wasting even one bottle.

Depending on the different operating conditions, we have designed three different solutions:

Twin Hopper

This system is composed of two cap hoppers and relative 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. During normal operations, at preset intervals the system passes from one hopper to the other to allow the caps stored inside to be replenished.

Dynamic Chute

This is a dynamic drum buffer, positioned between the hopper and the pick and place, and is composed of several vertical channels placed around the perimeter. The number of channels is set in order to hold a sufficient number of caps to guarantee an accumulation that allows the operator to clear the blockage and completely empty the system.
During normal operation the caps transit along the channel which at that moment is aligned with the descent channel. In the event of a blockage, the system starts to rotate, moving to the next channels and allowing the caps to be fed with no interruption.

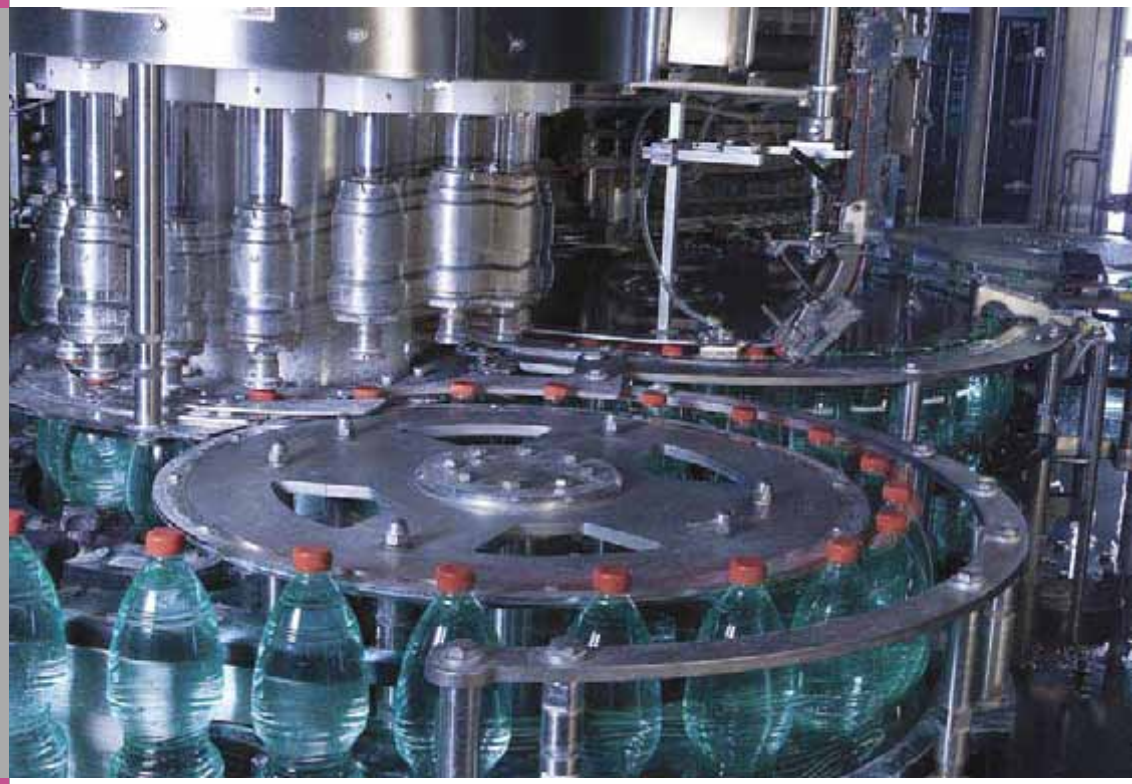
Capstream

This is a gravitational cap feeder, which incorporates both the cap lift and hopper functions of the capping machine.
During vertical lift, it makes sure that all caps are delivered oriented to the following descent to the pick and place. Oriented in this way, the caps are sent to the feed channel without the need for compressed air. The quantity of caps in the lift conveyor compartments, the great simplicity and efficiency of the descent solution, guarantees the quantity of caps required to assure the optimum operation of the Sincro Bloc.


Twin Hopper


Dynamic Chute


Capstream



The above systems can be completed with solutions to integrate the quality selection capacity or to increase the cleanliness of the caps. In the first case, an optical control tool (Capvision) is required, a video camera which selects the caps according to different parameters (color, deformation, ovalization, presence of safety ring etc.).

As far as the cap cleaning systems along the descent channel are concerned, different elements can be positioned such as the UV lamp system, dust suction and washing tunnels using disinfectants.

SINCRO BLOC

Integrated
Blowing / Filling / Capping System

SIPA S.p.A.
Via Caduti del Lavoro, 3
31029 Vittorio Veneto (TV) ITALY
Tel: +39 0438911511
Fax: +39 0438912273
E-mail: sipa@zoppas.com
Website: www.sipa.it

SIPA FILLING & PACKAGING DIVISION
Via Provinciale, 36
43038 Sala Baganza (PR) ITALY
Tel. +39 0521 548111
Fax +39 0521 548112
E-mail: sipaberchi@zoppas.com
Website: www.sipa.it

SIPA RUSSIA
Ul. Ordzhonikidze, 11 Str. 1/2
115419 Moscow - RUSSIA
Tel: +7 495 2324191
Fax: +7 495 2324190
E-mail: sipa_russia@co.ru

SIPA UKRAINE
Office 37, 9 Turovs'ka St., Kyiv
254655 Kiev - UKRAINE
Tel: +38 044 4636817
Fax: +38 044 4257275
E-mail: sipa.ukraine@zoppas.com

SIPA ENGINEERING S.r.l.
Str. Mangalia, 61
300186 Timisoara - ROMANIA
Tel: +40 356 434200
Fax: +40 356 434280
E-mail: sipa.romania@zoppas.com

SIPA TURKEY
SIPET
Kisikli Caddesi No: 2 A Blok Kat:3
34662 Altunizade - Uskudar - Istanbul
TURKEY
Tel: +90 216 4749780
Fax: +90 216 4749779
E-mail: sipet@sipet.com.tr

SIPA NORTH AMERICA
3800 Camp Creek Parkway
Building 2400, Suite 106
Atlanta, Georgia 30331 - U.S.A.
Tel: +1 404 3493966
Fax: +1 404 3493858
E-mail: sales@na.sipa.it

SIPA SUL AMERICA Ltda
Wt Empresarial Parque
Av. Gupê, 10.767 - Galpão 08 Bloco II
Jardim Belval
06422-120 Barueri - SP - BRAZIL
Tel: +55 11 47728300
Fax: +55 11 47728301
E-mail: sipa@sipa.com.br

SIPAMERICAN INDUSTRIES
ZOPPAS TOOLS & MACHINERY S.A. DE C.V.
Circuito Mexico 120
Parque Industrial Tres Naciones
San Luis Potosi S.L.P. CP 78395 - MEXICO
Tel: +52 444 8047400
Fax: +52 444 8047499
E-mail: sipamerican.industries@zoppas.com

SIPA ANDINA Ltda
Avenida El Dorado 68 C 61
Oficina 628, Piso 6
Bogota, COLOMBIA
Tel: +571 479 5252
Fax: +571 4763444
E-mail: sipa_andina@zoppas.com

SIPA JAPAN Ltd.
Komai Bldg. 2F, 3-2-9 Nihombashi Muromachi,
Chuo-ku, Tokyo 103-0022, JAPAN
Tel: +81 352554848
Fax: +81 352554849
E-mail: tanigaki@sipajapan.com

SIPA CHINA
19/F, unit 1905, Zhong Yu Plaza,
No. jia-6 Gongtibei Road,
Chaoyang District
100027 Beijing - CHINA
Tel: +86 10 65120447 - 48
Fax: +86 10 65120449
E-mail: sipachina@sipacina.com.cn

SIPA MACHINERY HANGZHOU
3 Road 14, Economic & Technology
Development Zone
310018 Hang Zhou, Zhejiang province - CHINA
Tel: +86 571 86913106
Fax: +86 571 86913548

SIPA THAILAND
Bangna Complex 947/150 4th Floor,
Moo 12 Bangna - Trad Road,
Bangna
Bangkok 10260 - THAILAND
Tel: +66 27695451
Fax: +66 27695452
E-mail: sipa.fareast@zoppas.com

SIPA INDIA
B 101, Mangalya
Off Marol Maroshi Road
Marol, Andheri (East)
Mumbai - INDIA 400 059
Tel: +91 22 29201785
Fax: +91 22 29201795
E-mail: sipa.india@zoppas.com

gruppo rem
C07_r0_10

SIPA

Zoppas Industries