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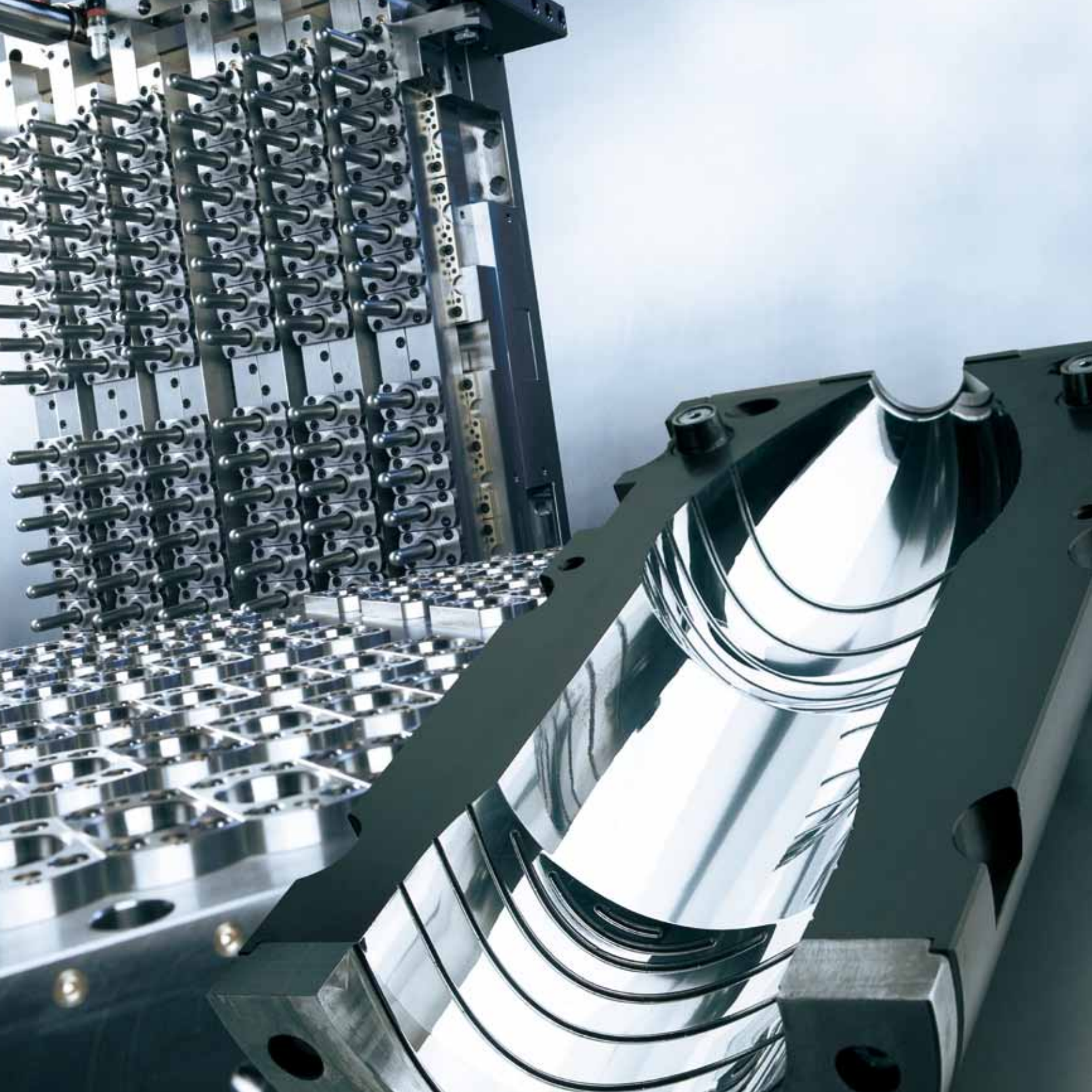
FOCUS ON
INTERPACK
MAY 2011

SIPA

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PET PACKAGING NEWS OF THE WORLD

SIPAMAGAZINE



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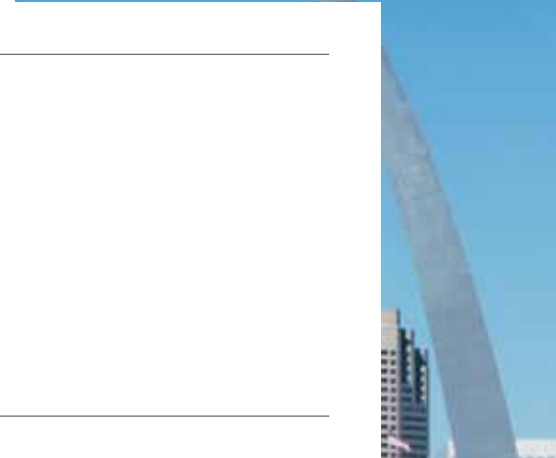
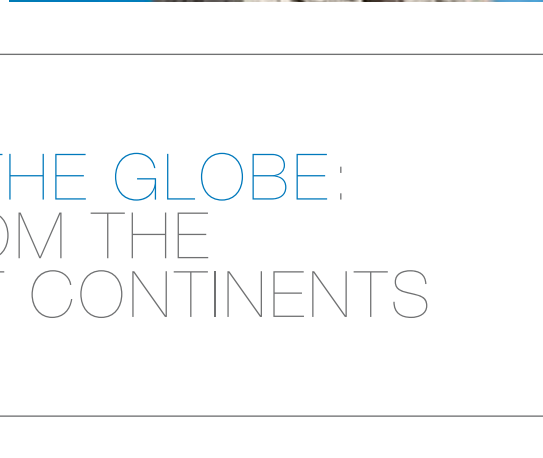
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HOT-FILL FOR COLD TEA - SIPA HELPS URC IN IMPORTANT LIGHTWEIGHTING EXERCISE

Sipa and major Asian food and beverage producer URC have together developed what are believed to be among the lightest hot-fill bottles in the world. The bottles are used for a market-leading brand of green tea-based drink. Hot-fill technology is popular for numerous reasons: in particular, it means fewer preservatives have to be used in the food or beverage while avoiding the costs of aseptic filling. There are two designs for the new hot-fill bottles: the smaller, 230-mL bottle weighs just 12.5 g – that's 2.5g less than URC's previous design; the larger, 1.5-L hot-fill bottle, at 48.5g, weighs close to 4g less than its predecessor. In both cases, dedicated preforms were designed in order to reach optimum mechanical performance. And both incorporate the "HotLight



28" short neck finish completely designed by Sipu.

The "HotLight 28" is shorter than standard hot-fill neck finishes and is the main reason why the bottle is so light. HotLight 28 weighs just 3.8g and represents a real revolution in hot-fill thread finishes. This 28-mm neck is the evolution of a traditional neck that is usually adopted for CSD. Despite its ultralow weight, it in no way compromises the bottle seal. It also allows the production of hot-fill and CSD containers on the same machine without any personalization change.

"Sipa has always been our partner for new designs and upgrading existing designs," says David



J. Lim, URC Vice-President Operation, Logistics & R&D. “Other existing bottle shapes are now on the line for light weighting.”

URC, headquartered in Pasig City in the Philippines, is a leader in the food sector in various countries. It has seen the beverage market grow in leaps and bounds ever since it produced the first locally manufactured coffee blend, Blend 45, in the 1960s. Recent years have seen the rapid rise of the ready-to-drink tea category, through the launch of URC’s flagship product, C2 Cool & Clean, the first locally-manufactured green tea-based beverage, sold in PET bottles. In a short period, C2 grabbed important shares of the market for hot-filled products in the Philippines, Vietnam and Indonesia.

Sipa and URC collaborated from the start of the C2 project, which dates back to 2004, working together to choose the most suitable technology, the most appropriate process and most competitive packaging in order to obtain high performance and highly flexible lines. In particular, the packaging has been studied to give an economic advantage thanks to a container weight reduction program.

“Sipa has a very professional and

experienced technical team,” says Lim. “New installations and format changes are successfully and quickly completed.

With the technical support of the Sipa team, we were able to permanently reduce the weight of our bottles and yet we can still keep the needed bottle strength.”

URC now has a total of 16 Sipa bottle production and filling lines installed in the Philippines and Vietnam. The lines are mainly composed of ECS FX 20/80 integrated bottle production systems feeding various types of filling systems. The six most recently installed lines feature Stillfill R/hr machines for hot fill applications (four in all), one Isotronic filling machine for CSDs and hot fill, and one Unitronic Ultra Clean for hot fill.

The ECS integrated system helps save weight in another way too. Its use of induction heating in the preform conditioning station – a Sipa exclusive – provides unparallel temperature control at all points of the preform and thus enables the wall thickness profile to be fully optimized.

“The Sipa ECS gives us a lot of energy and PET resin savings,” says Lim. “Since the experience with our existing machines is

very good, we decided to continue the partnership with Sipa.”

URC – Universal Robina Corporation – traces its roots back to 1954 when John Gokongwei founded what was then called Universal Corn Products (UCP) to make glucose and cornstarch. He started making own-brand products in the 1960s – first coffee, then chocolates, then poultry products, then snacks – and has never looked back since. URC now participates in numerous strategic segments in the beverage market, with ready-to-drink teas and coffee, juices, bottled waters, energy drinks and other products.

The corporation as a whole now has annual sales of close to two billion dollars, with production operations in China and numerous South-East Asian countries, including Thailand, Malaysia, Indonesia, Singapore and Vietnam. It has groups dedicated to branded consumer foods, to commodity foods (flour and sugar) and to agro-industrial products. It also has a Packaging Division, making biaxially oriented polypropylene (BOPP) films.

SINCRO TRIBLOC
HELPS AJEGROUP
OUT OF A TIGHT CORNER
FOR WATER LAUNCH



South American drinks giant Ajegroup is one of a growing number of companies using Sipa's innovative Sincro Tribloc fully integrated system for blow moulding, labelling, filling and capping PET bottles.

Ajegroup installed the very compact, highly efficient unit at its Ajecol subsidiary in Bogotá, Colombia, last year, for the production of Agua Cielo PET bottles for mineral water. The Sincro-TriBloc provided the company with a fault-free local launch of its "Agua Cielo" non-sparkling mineral water. The 0.5 and 1.5-L bottles come out of the machine at rates of up to 24,000 bottles per hour.

Even before the new installation, Ajegroup was a good customer of Sipa. It has several SFR blow-moulding machines installed at its plants in Brazil, Colombia, Ecua-

dor, Guatemala, Mexico, Peru and Thailand. Furthermore, 3 complete bottling lines are active in Peru, Brazil and Ecuador.

A key reason why Aje chose the Sincro TriBloc was because of its small footprint, since space at the Bogotá plant was at a premium.

The Sincro TriBloc provides significant savings in space, and also in investment and running costs and in energy consumption. Because it does away with several costly elements found in traditional lines, the Sincro TriBloc's space requirement is down by a massive 55% compared with a standard line. A detailed description of Sincro TriBloc system and its advantages is published in our Focus on Interpack Exhibition on page 28.

Ajegroup was founded by the Anaños family in Ayacucho, Peru in 1988 and is now headquartered in Madrid, Spain. Dedicated to the production, distribution and sale of alcoholic and non-alcoholic drinks, it is now present in over 20 countries on three continents and has some 12,000 employees. It is best known for its Big Cola and KR brands and has also had major success with other flavoured drinks and mineral water. Its portfolio now also

includes juices, nectars, energy drinks, dairy products, tea and beer. In all, it sells something like three billion litres of beverages every year around the world.

Ajegroup is present in over 20 countries on three continents.

Put another way, the company sells close to 50 million bottles a day, or 34,722 bottles every minute, according to its most recent calculations! It continues to grow, thanks to expansion into new markets, such as Brazil, India, Indonesia and Vietnam, and also by positioning its brand in strategic locations. It is an advertising partner for FC Barcelona – probably the best football club in the world today – and also for football associations in England: F.A.Cup (the older cup in the world), F.A. England and in Asian markets.

This year, the company expects to grow 20% in local markets and 40% in Asia, even without adding any new capacity - Carlos Anaños, the company's Vice President for Administration and Finance, says 2011 is "a year of consolidation and strengthening." But he is aiming high for the future. He wants Ajegroup to be one of the top 20 brand owners in the world by 2020.



AUTOMATIC PRODUCTION OF HANDLED PET BOTTLES AT JRD – THANKS TO SIPA



One of the Middle East's leading independent packaging producers is using Sipa technology to crack one of the hardest nuts in the business – how to make a PET bottle with a handle, cost-effectively.

JRD International operates in the Jebel Ali Free Zone in Dubai. It is unique in the region for the range of advanced technologies it uses to produce a wide range of packaging products for food and drinks. These span in-mould labelled thinwall containers, through multilayer coextruded sheet and thermoformed containers, to all sorts of injection-stretch blow moulded bottles.

Sagar Verma is JRD's Business Head. He says the company strives to stick out from the crowd with an astute mix of advanced tech-

nology and highly competitive pricing. The strategy has clearly worked: JRD is the largest producer and supplier of PET bottles in the United Arab Emirates.

ISBM technology has a host of advantages that enable the production of very high quality bottles with very advantageous economics. But those advantages normally stop short of production of handled containers. There have been several attempts to remedy that situation. JRD reckons it has one of the best.

JRD and SIPA have developed an automated solution for handles insertion.

Up until now, virtually all PET bottles with handles found on the market have had the handles incorporated in a separate manual process. But JRD, together with

Sipa, has developed an automated solution. Most of JRD's ISBM production is on single-stage systems. "But for our highlight we have, together with Sipa, devised a worldwide first in the shape of a two-stage solution," he says. It is already in commercial use for the production of 1.8-Litre bottles for cooking oil.

JRD makes its own preforms on a Sipa system. These go into storage for 24 hours and are then automatically fed to a Sipa reheat blow moulding system. During the blow moulding process, two edges are pressed mechanically into the bottle in the blow mould. After the leakage check, the bottles move to a new station for automatic handle fixing. Here, the handles are loaded in the correct position via a hopper, compressed and snapped into place on the edges. The finished bottles are then sent to an automatic packing station. "Nowhere does a human come into contact with the preform or the bottle," says Verma. Result: very high quality with contained production costs. Incidentally, JRD makes the handles too, as well as the bottle caps! Nor is the operation maintenance-intensive. As with any new pro-

cess, there were teething troubles at the beginning, "but I would like to say a big 'thank you' to and express my appreciation of the team from Sipa," Verma says. "They were always on hand and, when they needed to, they worked round the clock.

An innovation solidly backed by excellent technical support.

"I have been buying machines from a very wide range of manufacturers for 20 years and there are technical problems with every machine, but the service provided by Sipa is up with the best I have experienced."

JRD's Managing Director Anupam Lunavat says on the company's web site that his vision "is to see JRD International achieving South East Asian leadership in plastic processing by 2012 and global command by 2015." No lack of ambition there! "We are constantly expanding," says Verma. "Double figure growth rates in the higher range during the course of the year are normal." And the company has continued to invest, even through the recent global crisis. Another Sipa installation is on its way.





MAJOR RUSSIAN
HARVESTER RELIES ON SIPA
FOR **SUNFLOWER OIL LAUNCH**



One of Russia's leading producers of margarine and vegetable spreads chose Sipa when it decided to enter the vegetable oil market recently. Sipa supplied Atkarsky Mez with an entire high-output PET bottling plant when the Russian company made its move into sunflower oil production and selling. Atkarsky Mez is part of the Solnechnye Produkty ("Sun Products") group, one of the top three oil and fat businesses in Russia today. Solnechnye Produkty is also the country's second largest sunflower processor, handling 13% of Russia's total harvest. Atkarsky Mez, which is based in the Saratov region of Russia, some 400 km north of Volgograd and 750 km south-east of Moscow, can handle up to 3,000 tonnes of sunflower seeds every day.

FROM PACKAGING DEVELOPMENT TO COMPLETE BOTTLING PLANT
Atkarsky Mez was able to take advantage of Sipa's 25 years of experience in the development of packaging systems and the design of complete bottling plants. It relied on Sipa, not only to supply the entire plant – from the production of preforms to bottle blowing up to the bottling by weight filling, and including two sets of blow moulds for different bottle sizes – but also to develop the packaging itself. Sipa developed a container with a simple design and high technical performance, especially in terms of its inherent stability and resistance to palletising.

ONE OF THE FIRST EDIBLE OIL LINE WITH CAPACITY OF 36,000 B/H
With its capacity of 36,000 bottles per hour, the plant is one of the



first in Russia to guarantee such a high productivity. Atkarsky Mez appointed Sipa for the design and supply of the whole plant because of the flexibility which the company was able to offer.

Sosnin Grigoriy Ivanovich, General Director of Solnechnye Produkty, says the two companies built up a good relationship during the project, “based on mutual trust. Sipa has shown itself to be reliable, open and efficient. We are very satisfied with the collaboration.”

The Sipa plant consists of a Sipa PPS injection system with 72 cavities for production of the preforms, a Sipa SFR Rotary Blowmoulder for blowing the bottles, and a fill-by-weight system specifically designed for the needs of oil producers.

The company benefitted from one of the largest investment projects in the region, when its oil extraction plant was completely renovated. The two-year development turned the plant into one of the most modern and technologically advanced enterprises for the production of bottled oil in Russia. Atkarsky Mez has two brands of sunflower oil, Yarko and Rossiyanka, and also produces sunflower oil under private labels for many Russian retailers.



PREFORM PRODUCER
PLASCO HEADS TO THE TOP —
WITH SIPA'S PREFORM
INJECTION MACHINES



Independent PET preform maker Plasco has in just a few years made an important name for itself, not only in its local Italian market but also across Europe. Sipa, which has supplied seven of its PPS preform injection moulding systems to Plasco's main operation in Anagni, not far from Rome, is proud to be associated with the company. Plasco started up in 1995. It is now the reference point for production of preforms with standard and special necks in Italy and one of the top preform makers in Europe. With a total premise area covering 50,000 m², it now produces more than 3,500 million preforms per year. During 2009 and 2010 – among the more difficult months for business in recent history – it actually increased its sales by around 20 percent. It is also active in production in Serbia and Greece, in collaboration with local preform producers. The company has risen to its preeminent position thanks in no small part to its consistent use of top technology. This gives it the ability to make more than 80 different types of preform, with 12 different types of necks – standard and hot-fill – with highly competitive costs. It is European leader

in the production of preforms with 38-mm necks, used for the production of bottles for milk and juices. For this type of preform alone, it has a production capacity of over 1.8 billion preforms a year. Plasco supplies many of Italy's leading producers of mineral water, carbonated soft drinks and vegetable oils, as well as milk and juices.

THE ANAGNI PLANT HAS SEVEN PREFORM INJECTION PRESSES FROM SIPA

The Anagni plant has four different models from the Sipa PPS series. There are three PPS 48 units (which have 48-cavity moulds), one PPS 56, two PPS 72s and one of Sipa's largest preform machines, the PPS 96. All these machines were delivered with vertical clamping units, which produce high quality preforms at the highest operating rates.

Very short cycle times are possible thanks to the reduction of the dry cycle, which is lower than many other preform machines currently on the market. A special mechanism for the press opening and closing further quickens the process, contributing to the overall reduction of cycle time. Special software synchronizes the move-



ment of the press with that of the handling/cooling robot, making it possible to further reduce the time of the robot in extracting the preforms. In this way the mould cycle is reduced while maintaining low stress in the mechanical parts of the machine. The PPS press, thanks to newly developed technological solutions, has considerably reduced energy consumption. However, since consumption of the machine itself contributes only to 50% of the total energy consumption for the system, Sipa has developed personalized solutions for customers in order to further optimize consumption of auxiliaries, thus reaching an overall energy saving of 14% compared to other systems.





SONOCO TEAMS UP WITH SIPA TO SLASH WEIGHT OF SALAD DRESSING BOTTLE



American packaging giant Sonoco has partnered with Sipa in the development of a two-stage PET bottle blow moulding operation making a new salad dressing bottle significantly lighter than its predecessor. Last October, it took delivery of two PPS 300 preform production machines and three SFL 6 linear blow moulding machines dedicated to the project. At the same time, Sipa also delivered two single-step systems - an ECS HS 12 and an ECS FX 20. The injection moulding and re-heat blow moulding machines will be used to produce a 16-oz (0.47-L) lightweight oval container, at a rate of 7,500 bottles/h.

A 20% WEIGHT REDUCTION
The installation of the equipment

came at the end of a year-long development project, during which Sipa and Sonoco worked together to cut the weight of the salad dressing bottle from an original 39g down to just 30g - that's a reduction of over twenty percent! The development project involved carrying out a finite element analysis (FEA) of the new design in order to verify its technical performance, followed by Unit Cavity Development to produce physical prototypes of the container. Further studies were then carried out to optimize its mechanical properties. "We then worked closely with Sonoco throughout production start up to optimize the process," says Marco Bottecchia, SIPA North America Managing Director.

"The main point was to optimize the design of the preform to obtain the best possible balance of performance and weight in the final container," says Bottecchia. The same concept was also developed for two other containers, with volumes of 8oz and 24oz.

A FLEXIBLE BLOWING PLATFORM FOR MULTIPLE TYPES OF PACKAGING

Sipa's SFL linear blow moulding machine provides great flexibility in the production of a wide range of different types of containers. The platform can produce standard and personalized bottles for standard filling, for hot filling, oval containers with oriented neck finish and multilayer bottles, lightweight bottles, small

containers for the pharmaceutical industry as well as large containers up to 30 litres at high production rates.

The machine's fully electrical operation, the non-lubricated oven chain, the blow clamp equipped with self-lubricating graphite bearings and the electrical stretching are all elements which contribute towards keeping the inside of the machine clean. This results in limited maintenance requirements, energy savings and a high quality of the containers.

The SFL range has a compact layout and a small overall dimension. Its size make the SFL suitable even for installation in very small rooms. All models of the range may be shipped complete in a single container and they may be easily positioned on site by means of a crane or a forklift truck. This enables quick positioning and start up.

The PPS range includes three models: two high-speed hydraulic injection systems - the PPS 96 and the PPS 72 - and a toggle press, the PPS 300. Each model displays characteristics that suit even the most specific production needs: from heavy preform production, to standard or light preforms.

PPS machines are also extremely versatile in terms of their productivity: there are variants suited for medium-low productivity as well as for particular applications, such as for the production of heavy and long preforms (up to 450g in weight and 272mm in length), with neck diameters up to 65mm or machines with a higher number of cavities for higher output.

PPS injection systems can process a variety of materials for a wide range of applications: preforms in virgin PET resin as well as recycled PET and polypropylene (PP), light and special preforms for hot-fill containers, heavy preforms and wide neck preforms for jars or for containers up to 20 litres.

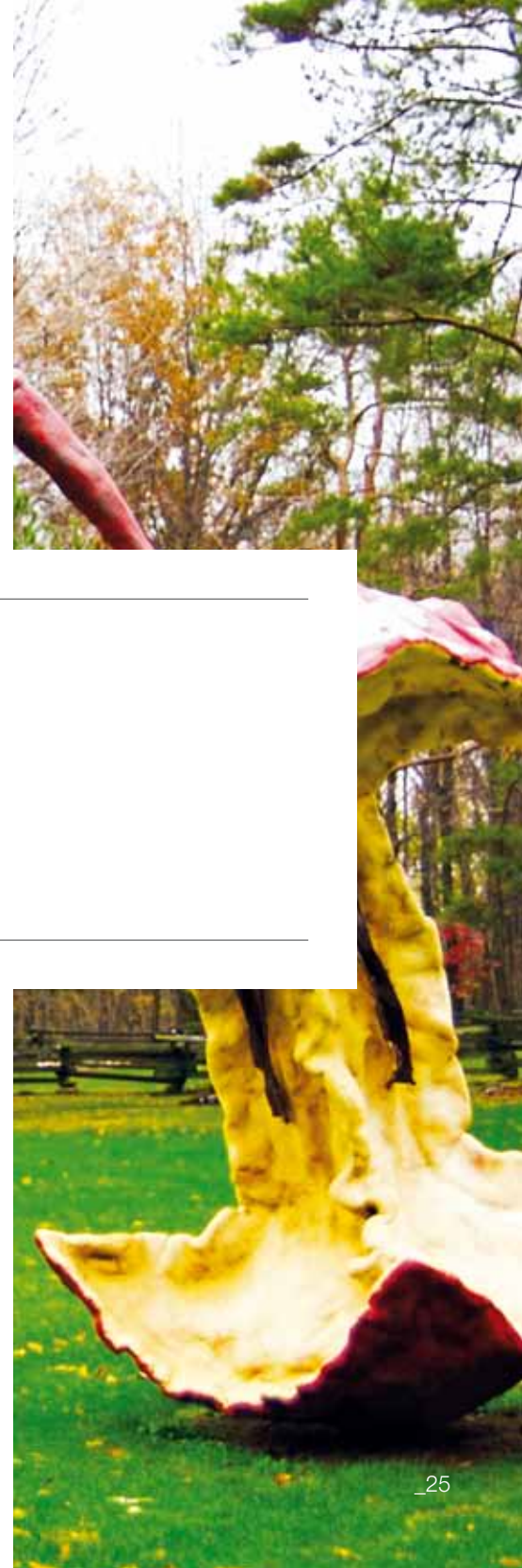
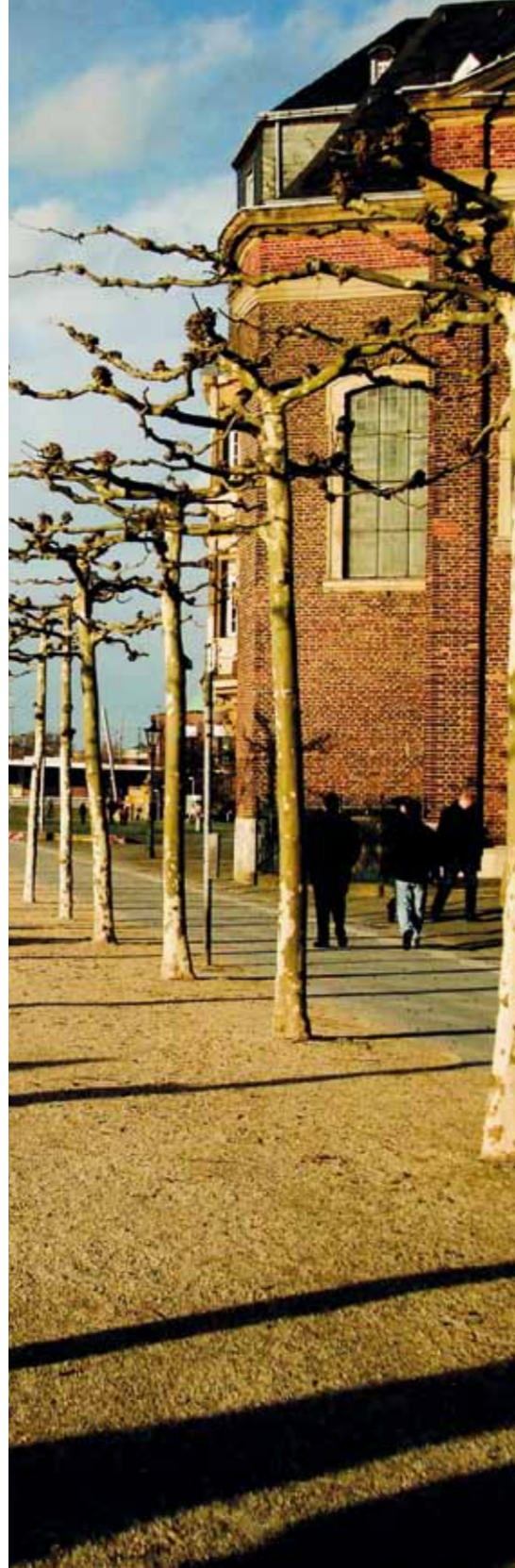
PPS INJECTION MACHINES: FLEXIBLE PRODUCTION AND MAINTENANCE REDUCTION

The core of the PPS machine, the injection mould, has a layered structure made up of the adaptor plate, the base plate, the hot runner system, the nozzle plate, the cavity plate and the cores plate. It features individual cooling circuits and self-lubricating bush-

ings and wear plates, allowing for a reduction in cost and time for maintenance. The production of high quality and clean preform is ensured by a special cooling robot. The robot configuration provides for long cooling time (preventing scratching and any possible ovalization of the neck) without interfering with the cycle time and hence with the productivity of the machine. The innovative preform take-out plate does not require cooled air jets or any further cooling devices inside the preform.

Sonoco is a multi-billion dollar global manufacturer of consumer and industrial packaging, as well as a provider of packaging services. It has been in business for more than 110 years. From its headquarters in Hartsville, South Carolina and in more than 300 operations in 35 countries, Sonoco produces packaging for a variety of industries and many of the world's most recognized brands, serving customers in 85 nations.





FOCUS ON
INTERPACK EXHIBITION.
THE PACKAGING INDUSTRY
MEETS IN DÜSSELDORF





INTERPACK 2011

Interpack is the most important trade fair in the world for the packaging industry and all its related processes. It is held in Düsseldorf, Germany, every three years, and this year's edition will take place from May 12 to 18. In 2008 it hosted 2,746 exhibitors and attracted a total of 171,071 visitors, 60% of whom were from outside of Germany. More than 2,700 exhibitors from over 60 different countries are expected to display their products at this year's edition, a trend that thus confirms the importance of the German event. Therefore, Düsseldorf's 174,000m² facility comprising 19 halls will be completely filled with all that's new in the field. Interpack 2011 will be showcasing packaging (with 10 dedicated halls) and processing solutions for the food

and drink industry, for confectionery and biscuit manufacturers, for the pharmaceutical and cosmetics industries and for manufacturers of non-food products, industrial goods and related services as well as packaging materials, packaging items and related production systems.

Alongside the exhibitors' showcase, the trade fair will host special theme areas displaying innovative solutions and stands with creative structures. Innovationparc Packaging is a special consumer-oriented exhibition whose theme is the Quality of Life, analyzed through five different perspectives: Meaning, Health, Identity, Simplicity and Aesthetics. Each of these dimensions is the subject of a thematic shop.

The Metal Packaging Plaza will host international solutions for metal packaging and the Save Food Exhibit will illustrate the FAO study on worldwide food losses.



COMPACT SIPA SYSTEM BLOWS,
LABELS, FILLS & CAPS PET BOTTLES.
SINCRO TRIBLOC PROVIDES MAJOR
GAINS IN PRODUCTION EFFICIENCY.

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PROCESSES AND PACKAGING
Düsseldorf, Germany
12 - 18 May 2011
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SIPA is coming to Interpack with a fully integrated, highly compact system that incorporates reheat blow moulding, labelling, filling and capping. The Sincro TriBloc provides significant savings, not only in space, but also in investment, running costs and energy. The innovative design of the Sincro TriBloc does away with several costly elements found in traditional lines. There is no need for a bottle rinser, since the bottle blow moulding and filling stations are connected directly together. Nor are there any belt conveyors between the filling and labelling stations, since the bottles are labelled immediately after they are blown, filled and capped.

55% REDUCTION OF SPACE
The entire system works in less

space, consuming less energy, with fewer operators and lower maintenance than other systems. Space requirement is down by a massive 55% compared with a standard line, operating costs are around 15% less, and total investment costs are cut through the elimination of intermediate buffer stations. Operation is centralized and logistics are smoother. The Sincro TriBloc also produces better bottles. In particular, the quality of the labelling is consistently high because no condensation is allowed to accumulate on the bottle surfaces before they are labelled. SIPA offers a range of Sincro TriBloc systems, including models with outputs starting at 12,000 bottles per hour, rising to 48,000 bottles per hour.

**CLASS-LEADING PIECES OF
INDIVIDUAL EQUIPMENT**

The system incorporates class-leading pieces of individual equipment. The SFR EVO preform blow moulding unit, for example, features a high performance oven with innovative ventilation for high process consistency, low working temperatures and fast start-up from cold. Incorporation of “crocodile” opening allows moulds to be fitted more closely together, and very low centrifugal forces on the preform and bottle wheels favour lightweight containers.

The bottle labelling station incorporates “Adhesleeve” technology from fellow Italian company P.E. Labelers SPA, considered to be a revolution in roll-fed labelling. This uses “pre-glued” roll-fed film, white or

transparent, thinner than the standard films processed on conventional roll-fed labellers. The “Adhesleeve” technology obviates two major problems that contributed to the ineffectiveness of roll-fed labellers: hot melt glue and label cut. It is a convenient and environmental-friendly solution as labels and (water-based) glue are 100% recyclable, along with the bottle and the cap, and problems with glue spray deposits and fumes are eliminated.

“ADHESLEEVE” TECHNOLOGY: ROLL-FED LABELLING REVOLUTION

Label cutting is also more efficient. This is because cutting and application operations are carried out on a single cylinder. On traditional roll-fed machines, the label is cut by the interaction of a rotary cutting blade and one or two fixed ones. The difficulties in the adjustment of the blades during their replacement, which can take between four and six hours, are well-known, as are the production stops due to imperfect label cutting.

With the “Adhesleeve” system, those difficulties are eliminated. There is no need to adjust the cutting unit for different film thicknesses, cutting devices can be replaced inside ten



minutes at most - without the need for special tools - and the application cylinder does not require cleaning or maintenance. Total line utilization factor increases by between five and ten percent as a result.

Furthermore, the “Adhesleeve” technology is highly energy-efficient. No energy is expended on such elements as glue heating, a glue recirculating pump, a vacuum pump motor for the cutting drum or a fume suction hood. Adjustments and maintenance during operation are much reduced too. Depending on the type of label used (transparent, single white layer, full cover), “Adhesleeve” labels can actually cost less than standard labels.

EXTREME OPERATING FLEXIBILITY

Sincro TriBloc can be equipped with gravimetric, volumetric and isobaric filling systems, capable of handling still and carbonated soft drinks, juices and hot-filled products. These include Stillfill, Isofill, Isotronic and Unitronic units.

SIPA's Sincro TriBloc capping machine is extremely versatile, capable of handling a wide range of flat and sport caps, with quick and easy changeovers. This is fitted as standard with the latest Cap Stream grav-

itational feeding system that guarantees the highest efficiency and a complete emptying of the machines in the unlikely case of a cap jam. This is a very clean feeding system, working without compressed air.

Alternative feed systems can be supplied if required. All can be equipped with SIPA's “Cap-vision” monitoring and control system. This is capable of detecting and inspecting deformed caps, up-side down caps, security rings (and whether or not they are intact) and gaskets, as well as colour.

Transport between the different stations in the Sincro TribBloc is carried out by star-wheels.

These are very well suited to lightweight containers and are designed to avoid bottle jams. On request, special devices can be incorporated to reduce change-over times between different container shapes and neck sizes.

Every single unit in the Sincro TriBloc system can be decoupled from the bloc so that bottles and/or preforms can be evacuated if there is a micro-stop in the system, whether it be in the blowing station, the labelling station or the filling and capping station. SIPA can in addition configure systems with laminar flow cabins with HEPA (High Efficiency Particulate Air) filters providing clean room quality up to ISO 5.



END OF LINE SOLUTIONS: FAST & FLEXIBLE ACTIVE LAYER PREPARATION



SIPA Filling and Packaging Division has further expanded its range of palletizers, making it one of the most complete and avant-garde on the market today. This range has been enhanced with the state of the art of a gentle, precise and fast layer preparation even in case of extremely lightweight bottles. With Active Layer and Fastlayer systems we are able to cover all customer's requirements in term of productivity (medium/low and high speeds) and logistics (line and 90° infeed). The heart of the system is a patented gripping head allowing for contemporary handling of several packs at the same time.

These new solutions guarantee the following main results:

- Improvement of the transportation of some containers with its ex-

tremely delicate handling, in order to avoid any damage to the product.

- Reduction of the time required for size changes or adjustments for new products.
- Increase in performance with small footprint (to achieve the same productivity levels - conventional systems would in fact require much larger solutions).

LOW/MEDIUM SPEED: ACTIVE LAYER

Innovative row preparation system designed to optimize the medium and low output palletization plants. It is composed of a clamp type head (SIPA patent) installed on linear axes, suitable to up to six packs at the same time. This type of gripping guarantees a very fast, accurate and soft pack rotation: the elimination of hits is very important for the last

generation of lightened bottles.

The packs slide on a smooth modular chain conveyor avoiding any type of issues connected to the petaloid bottle base type. By eliminating the impact pack turning device, the row spacers and the rollers of the traditional solutions, this system allows the reduction of maintenance activities and avoids change-over time. In fact the system automatically settles itself by means of a simple selection of the size from the operator panel.

Active layer module can also be installed on existing plants in order to increase production output and save space in comparison to the traditional palletization solution.

HIGH SPEEDS: FASTLAYER

Fastlayer systems offer the same advantages of the Active Layer

and can be integrated upstream of any type of palletizer with fixed or mobile pallets. This application comprises 1 or 2 anthropomorphic robots mounted in parallel which move continuously and synchronously with the belt below.

The 6-axis robots in the Fanuc range, the best on the market today in terms of reliability and technology, are mounted above the transfer belt at a forward angle of 40°. This solution optimises the working area, achieving high performances while reducing the space required. Secondly, the patented pack gripping head adds two further robot-managed movement axes, meaning that several packs can be processed at a time. The packs arrive on the layer formation belt in single or double file and appropriately spaced. The robots work against the flow and orient and arrange the packs to prepare the layer, according to the selected palletization setting. With this compact, reliable and accurate layer arrangement we can match the requirements of the highest output plants. Furthermore, this application is perfectly suited to the needs of increasingly light bottles and product differentiation. This multiplies the number of formats to be managed.





WILLKOMMEN
IN DÜSSELDORF



Don't expect the kind of German city you see on postcards: Düsseldorf is the capital of North-Rhine Westphalia, the rich and industrious Ruhr region, and, as such, it represents a significant part of the economic driving force in Germany. The city was almost completely destroyed during WWII and its romantic tradition survives mostly in the Altstadt, the old city, and in its excellent, rich museums. Nonetheless, this city - renown for its industries, service industries and fairgrounds - has the enviable ability to attract lots of tourists who come mostly for shopping and for the so-called Rhenish, Düsseldorf's typical cheerful and pleasurable lifestyle. If you are ready for a night of care-free relaxation, nowhere is more suitable than the Altstadt, the old

city on the Eastern riverbank of the Rhine that hosts 260 Bierstube (beer houses) laid out in a row and is therefore considered the longest bar in the world. This long stretch of bars is interspersed with typical delicatessens and restaurants such as Füchschchen, a Kneipe (a sort of pub) open since 1848 in Ratinger Strasse (www.fuechschchen.de) where you can taste the genuine local cuisine and wash it down with a mug of Altbier, the local pride. If the presence of the river brings on a craving for fish, the right address is Berger Strasse at the Fischhaus (www.fischhaus-duesseldorf.de): the style is vaguely Parisian (a feature that would have pleased Napoleon, who considered Düsseldorf equal to Paris), you can order fish directly at the counter and, when spring blooms, you can enjoy a

brehtaking view of the Altstadt from the terrace. For the after-dinner, the hotspots are essentially Mauer in Ratingenmauer (www.mauer-club.de), a cocktail bar/club where the local youth gather, and Les Halles in Derendorf (Schirmerstrasse 54, www.les-halles.de) housed in what used to be a railway station before WWII.



The best shopping area is Königsallee (www.koenigsallee-duesseldorf.de), locally referred to simply as Kö: regarded as one of the most elegant chic streets in Europe, its shop-windows display all the top brands and so does the Galeria Kaufhof, the triumph of the department store in Germany. It is a very nice promenade not only if you wish to make extensive use of your credit card, but also if you like to stroll aimlessly, browse around and enjoy the view. The new attraction in town is Medienhafen (literally: media port, since most communication companies set their offices here). Once this was the fluvial port with moorings and chains for cargo boats, and now it is a sort of open-air museum of new architectural trends, with buildings designed by famous architects such as Steven Holl, David Chipperfield and Frank O. Gehry. Here you can even find two addresses that will make Italians feel at home: Savini, a direct projection of the renown restaurant in Milan (Stromstraße 47) and Poccino (www.poccino.com) the only place in town where you can have a proper cup of espresso coffee. Finally, if you want to plunge into contemporary design and artistic

trends you cannot miss the twin museums K21 Kunstsammlung im Ständehaus (in the southern part of Düsseldorf) and K20 Kunstsammlung in Grabbeplatz (www.kunstsammlung.de): they display works from the 1900s up to 80s, with exhibitions devoted to painting, sculpture and applied arts.

EUROPEAN SONG CONTEST 2011

Also known as Eurofestival, the music contest organized by the European Broadcasting Union since 1956 is the most watched non-sports event in the world. The 2011 edition will also see an Italian singer back onstage: Raphael Gualazzi, the winner of Sanremo Festival Youth category in 2011. This year's edition of the European Song Contest will take place in Düsseldorf from May 10 to May 14, alongside Interpack. The semifinal (May 10 & 12) and the final contest (May 14) will be held at the Esprit Arena, the stadium that hosts Fortuna Düsseldorf, the local football team, which stands on the bank of the Rhine and was built in 2004 to replace the glorious old Rheinstadion. INFO & TICKETS: <http://www.eurovision.tv/page/dusseldorf-2011>





TECHNICAL WINDOW
ON SIPA PRODUCT PORTFOLIO:
LATEST DEVELOPMENTS





TOTALLY NEW PRODUCT PREPARATION RANGE

A key element in bottling line management is product preparation.

Over the last year, SIPA's technical and R&D departments have dedicated a great deal of effort to renewing the saturators and mixers in the company's product preparation range, in order to make it more responsive to increasingly exigent demands from the market. To obtain higher quality standards, we re-designed the whole range with new working processes, putting together the best technical components available on the market today. A modular range offering extreme logistic flexibility. The modular range has been designed and mounted on a skid,

unique for its logistic flexibility. All applications have been optimized so that they can be shipped inside a standard container. This enables commissioning and start-up of the systems to be performed in a very short time.

Our range covers requirements from the whole product market, from sparkling water to water mixtures, all kinds of soft drinks and functional beverages.

The SIPA Product Preparation range is designed to guarantee high efficiency and hygienic standards, long service life, gentle product handling and to reduce oxygen levels in the final product.

All the machines are provided with horizontal tanks allowing for better deaeration, carbonation and dosing operations. A user-friendly

15" touch panel operator interface allows for simple control management.

The project features state of the art working principles in terms of degassing, carbonation and blending. In addition, the starting phase and product changeovers have been optimized, reducing any product loss (in the mixers). As a result, "bottle to bottle" periods are very short!

The whole range is also designed to avoid any logistic and interface problems, with easy accessibility to all components for simple and rapid maintenance.

THE RANGE

ACQUAMIX is a compact degassing and carbonation unit for the automatic production of sparkling water.

The system uses the latest technologies in the carbonation field; water deaeration is achieved in a high vacuum tank, while carbonation is obtained using in-line proportional dosing. The in-line CO₂ dosing system uses a mass flowmeter.

DRINKMIX is a compact and continuous mixing unit for the automatic production of carbonated and non-carbonated beverages: the

system uses the latest technologies in the mixing and carbonation field; water aeration is achieved in a high vacuum tank while mixing and the carbonation is obtained using in-line proportional dosing. The Syrup & Water and in-line CO₂ dosing systems are controlled by a mass flowmeter.

MASSBLEND is the most complete system in the mixing unit

range, featuring the same advantages and components of the Drinkmix, plus mass controls to enable it to reach even better results in terms of final product quality.

This application is fully automatic with fluids inlet and output control, allowing a retroactive automatic adjustment without any operator intervention.



SIPA QUICK MOULD CHANGEOVER: 50 SECONDS TO CHANGE A BLOWING MOULD

The new tool-free quick mould changeover system is our answer to flexibility requirements.

Sipa has launched its new patented quick blowmould changeover with the aim of improving the flexibility of its SFR rotary blowmoulding system by reducing the time required to skip from a format to another with a tangible decrease in machine downtime.

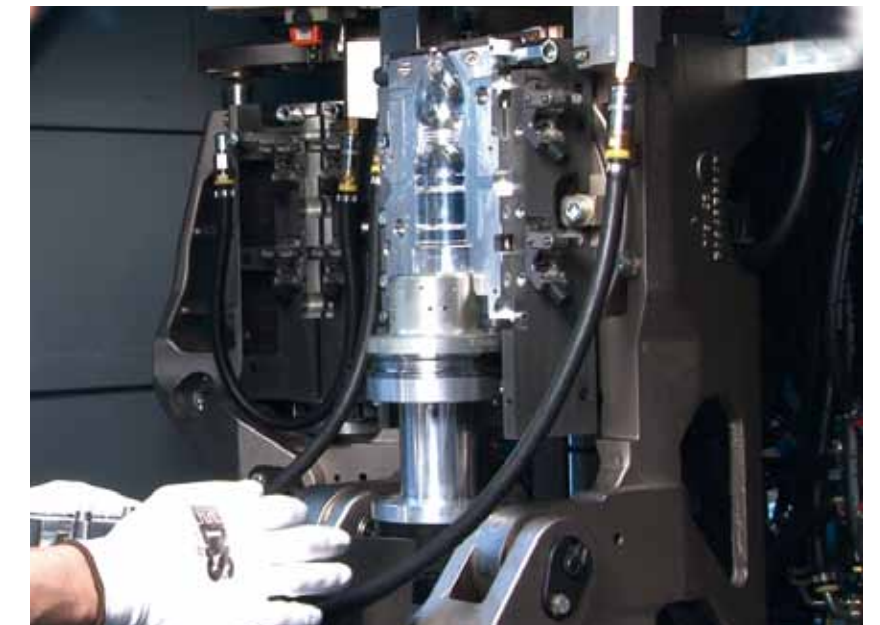
The system is today available as an option for all models of the range of SFR Evo from 6 to 24 blowing cavities. The required time to change a blowing mould is now 50 seconds with a reduction of 70% compared to the previous system.

This changeover is very simple, safe, really ergonomic and it is easily done by un-locking/locking the two shells and the mould base.

All tool-free operations can be performed by only one person.

As a main advantage for the customer, it brings a tangible improve-

ment in the availability of the stretch blow-moulding machine in order to be better adapted to faster product change-over times on the filler.



ISOTRONIC SC AND UNITRONIC SC: ONE PROJECT, MANY SOLUTIONS

Sipa's continuing mission to find new and better-performing products led to the development of a new series of volumetric filling valves: ISOTRONIC SC for carbonated products and UNITRONIC SC for still products. These valves, replacing versions already present in the range, show new aspects that are absolutely state-of-the-art. Our goal: to go beyond the standard quality normally requested for this type of application.

In the development of the new generation of valves, the aim was to achieve higher quality and levels of efficiency, while maintaining the key features of the previous generation - simplicity and flexibility, high performance, ease of use and maintenance, and extreme cleanliness inside the system.

Another main guideline of the

project was to develop extremely versatile valves capable of satisfying the need to increase the quantity of products coming off the same bottling line. In fact both valves can modulate the filling speed to better suit the characteristics of the individual liquid product, avoiding turbulence, foaming and absorption of air into the product.

The valves are characterized by high dosing precision, thanks to the use of magnetic flowmeters. The product deflection is provided by a swirling device.

An important feature in the design of the valves is their modularity. The valves can be equipped with additional elements allowing HOT-FILL applications with recirculation or with Ultra Clean.

Furthermore they are provided with features allowing the treat-

ment of different bottle and neck sizes with much reduced change-over times.

All valves are made in stainless steel 316L and are solid and compact. They have been designed so that there is a clear separation between the pneumatic parts and the parts in contact with the filling product, in order to avoid any problem with contamination.

Very simple machine management: each product/bottle size can be selected directly from the operator touch screen control panel.

Electronic and pneumatic components are enclosed in a special ring box located directly over the filling valve. The box is air-conditioned by a "vortex" system.

ISOTRONIC SC is the isobaric volumetric and electronic filling valve version, suitable for filling liquids with or without gas into PET bottles.

It is particularly suitable for filling liquids characterized by good conductivity, such as soft drinks, water and clear fruit juices. The bottles are held by the neck ring, no height adjustment of the machine is required and bottle sealing is guaranteed by a short stroke bottle lifter. Special release of the filling valve provided with an additional system to control the internal recirculation of a product or the flushing phase in case of beer filling.

UNITRONIC SC is the gravitational volumetric and electronic filling valve version, suitable for filling non carbonated conductive products like still water, juice, tea, energy drinks and milk in PET bottles. This solution is extremely clean: there is zero contact between the valve and the bottle. Thanks to this feature, this version is particularly suitable for ULTRA CLEAN solutions.

Extreme cleanliness is one of the key points of this project: valves are very simple, product chambers do not come into contact

with a single pneumatic part and, furthermore, in both versions we have studied a dummy bottle activation system that is extremely simple and automatic, thanks to an innovative sliding solution.

The sealing is guaranteed by a pneumatic rise of the bottle lifter. The dummy bottle has also been designed to keep the sanitification recovery circuit inside.



SIPA PET PREFORM MACHINES HANDLE HIGH LEVELS OF RECYCLATE

SIPA has developed a full range of solutions to produce preforms containing high levels of post-consumer recyclate in flake with its preform injection moulding equipment, from 96 down to 24 cavities. It is now possible to use as much as 50% recycled PET in bottles for mineral water sold in the European Union. In Italy, legislation came into force last August when the government issued an update to a Ministerial Decree covering packaging, containers and utensils intended to come into contact with foodstuffs. In North America, however, several companies already produce bottles using exclusively 100% of r-PET for their mineral water product. There are of course tight restrictions on the quality of recycled PET that can be used in new mineral water

bottles. In fact, the material must be sourced from containers that were themselves approved for food contact applications. SIPA PPS Preform Production Systems successfully produce preforms made with PET containing various levels of recyclate, all the way up to

100%. In the case of flake at addition rates of up to 50 percent, the only change necessary to the standard configuration is the addition of an auxiliary gravimetric dryer. This can be considered as a minimal additional investment for an existing production unit.



Variation in preform colour depending on level of recyclate, from 0 to 70%.

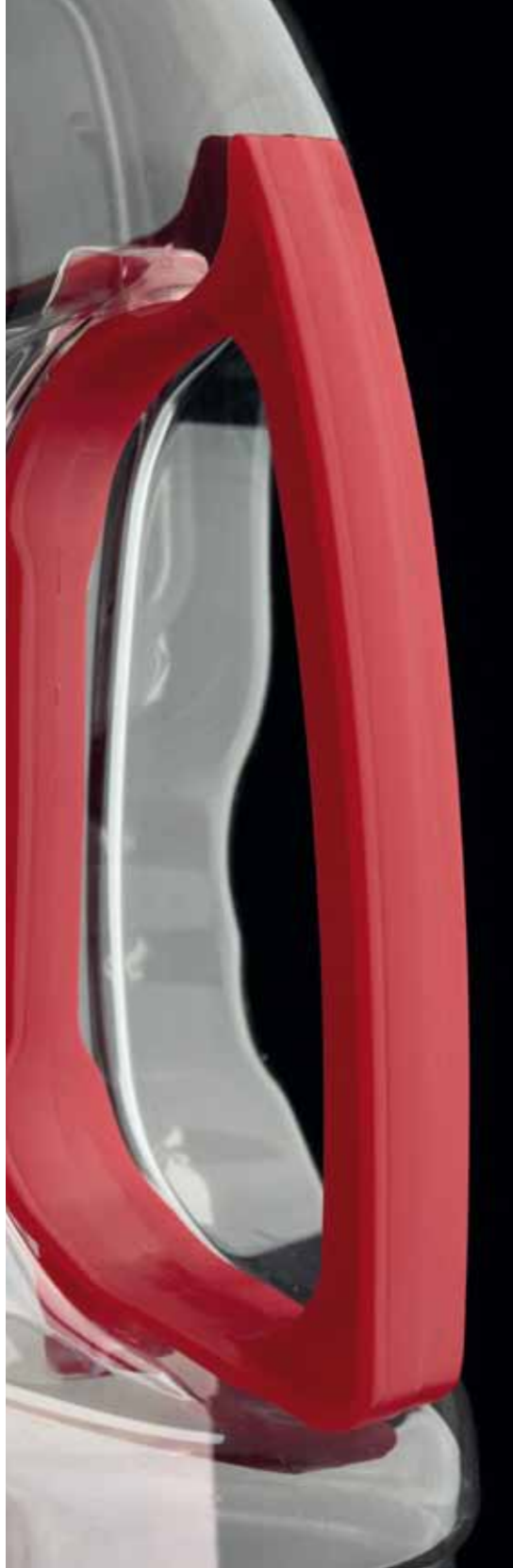
In the case of a content higher than 50%, and up to 100%, an upgrade to the plastification unit and filtration system is required. As an example of the quality of preform it is possible to obtain using recyclate processed on SIPA equipment, we present the results of production on a PPS 72, equipped with 72-cavity injection moulds, fitted with a high-output 140-mm plasticating extruder with an output of 1,200kg/h coupled to a 6,000-g injection pot. This is a standard configuration in SIPA's range. In all cases up to a ratio of 40:60 (virgin:recyclate), no significant problems are observed regarding the productivity of the standard equipment, nor with the quality of the preforms. Processing temperature used is 280°C, which we set for the extruder, the injection pot, the hot runners and nozzles. Dimensional controls are made on the bodies of the preforms and also on the necks, as well as measuring preform weight at the various levels of flake and the levels of acetaldehyde within the preforms. As far as the dimensions are concerned, no significant difference between preforms made with 100% virgin PET and those con-

taining recycled PET are observed, all the way through to addition levels of 50%. Acetaldehyde levels are actually seen to fall with increasing levels of recycled PET.

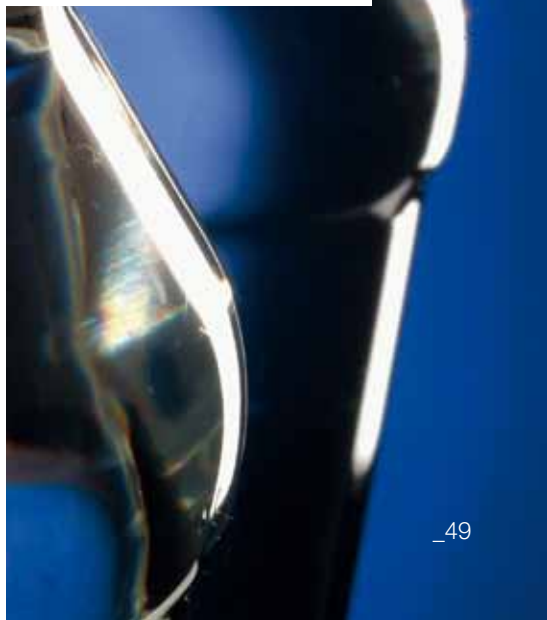
It should be pointed out that the visual quality of the preforms in terms of colour, presence of impurities and burnt specks depends entirely on the quality of the flakes used.



SIPA PPS preform machine detail



PETWORK: CONCEPT,
DESIGN, ENGINEERING.
WHAT'S NEW IN
PACKAGING WORLD



PACKAGING DESIGN - FROM THE SHELF TO THE SHELF

Someone says that “a SIMPLE concept is HARD to forget”. That’s why our work requires a talent for translating ideas (the concept side) and a talent for illustrating the concept (the design side). It’s a synergy that meshes thoughts and pictures in order to communicate messages. For all the wonderful computer tools and software available to us, we still start every project with some serious thought and consideration about which information design solution will best communicate the client’s message. And we need to start from the understanding of the competitive landscape where the bottle will live as well as the understanding of the production environment where the bottle will take life: *from the shelf back to the shelf.*

Packaging incorporates functionality and is a carrier of identity. The bottle is today’s most powerful branding opportunity: packaging is crucial for the final purchase decision of the consumer. Only the bottle can visually and tangibly deliver the product and the brand to the consumer in the shop. That’s why the shelf is our starting point: the Marketing Brief with clearly stated, agreed-upon objectives guides us through the design process down to the best packaging solution.

From the starting point - the Marketing Brief - we move forward to the Ideation phase where we explore several opportunities to identify the best and most viable one. Then follows the overview of the creative direction, research and testing activity.

An example is the concept of a bottle supposed to have strong impact or become a memorable souvenir of **London 2012 Olympic Games**. The feeling and suggestion that stand behind a packaging in relation to sport and Olympic games could be various: from the grip of a special bottle handling, to a shape that recalls the Olympic torch, the 5 circles as icon of the games or maybe the sporty dressing with a label that totally covers the bottle. Some suggestions to show how SIPA can translate ideas into design concept up to engineered and industrialized containers.





SIPA **bottless** RANGE - EXTREME PET BOTTLES LIGHT-WEIGHT

SIPA underlines its strong environmental conscience investing in solutions and products with high levels of sustainability.

One of the most evident eco-sustainable solutions is the reduction of bottle weight. Compared to traditional materials such as glass and metal, the use of plastics has brought about a large reduction in packaging weight. Less resin in the bottle is of course a reduction of raw material usage, the packaging might be blown at lower pressure thus requiring less energy and results in transportation cost savings.

Container weight however is a crucial factor in bottle handling and it greatly influences both logistic aspects and consumer habits. That is why it is important to have a solid expertise in bottle design and engineering for creating an extremely

light weighted bottle that can be handled in industrial lines and is stiff enough to be accepted by the consumer.

The containers produced by SIPA are the result of the highest level of skills acquired in avant-garde technological solutions. Our Bottless Range is composed of the lowest bottle weights developed. In-depth studies into thickness, weight distri-

bution, optimisation of the stretching ratio, the design and the bottle neck are required. Some examples: 500mL flat mineral water bottles at 6 grams; 1,000mL flat mineral water bottles at 13.5 grams. SIPA offers its experience to the customer for bottle lightweighting studies in the field of mineral water, carbonated soft drinks, juices, edible oil, food and non-food applications.

3.6 g



-50%

neck finish

1.8 g





GETTING A HANDLE ON HOT-FILL

Sipa is now in a position to help customers wanting to use its standard blow moulding equipments and moulds to produce large hot-fill PET containers with handles. It has developed a technology that has important advantages over competitors.

This technology is ideal for hot-fillable containers up to three litres for such products as fruit juices, iced tea, lemonade, apple cider,

juice cocktails and blends.

Using a separately-moulded polypropylene handle that is automatically inserted into the container between the blowing and filling stages, it has already been proven on an industrial scale on lines bottling vegetable oils in handled containers.

A key advantage of Sipa's system over some others is that it works with standard bottle blowing machines. Sipa's SFL linear blow

moulding machine and its ECS integrated system are both suitable platforms. That means: no modifications needed to the machine and no line stoppages caused by handles falling into the blow moulds.

The PP handle typically weighs around nine grams. It needs to be designed for the specific bottle in mind, and Sipa can do that too as part of an overall bottle feasibility study.



GIVING THE CUSTOMER AN EDGE, HELPING THE ENVIRONMENT

Sipa has recently and successfully developed a new PET preform geometry that yields a product 2.5% lighter than before. This is a major achievement, both in terms of sustainability and economic advantage for the customer.

The preform has an optimized base design that is noticeably less angular than competing designs on the market while achieving the same weight reduction. It is a result of SIPA's extensive expertise in preform and bottle design as well as in injection and blowing processes. The weight reduction has been achieved without any loss in mechanical performance of the blown bottle. Visual appearance is actually improved, because there is less residual material in the area of the preform

injection point. This achievement has been verified in an application at one of our Chinese customers' plants, where blowing tests produced very good performance results.



PET HOT RUNNER SYSTEMS

No maintenance needed on SIPA Hot Runner Systems.

SIPA developed its first valve-gated PET hot runner in 1993. Since then, continuous design improvements have been added, making the SIPA hot runners systems probably the best in the market.

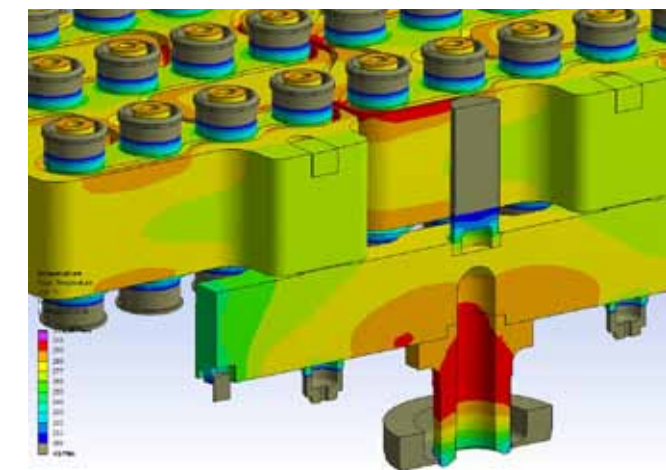
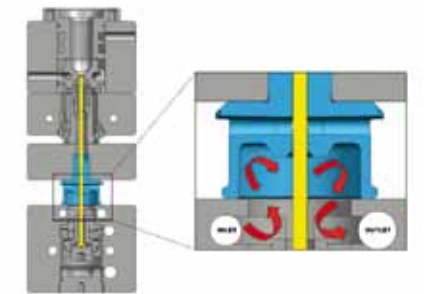
Engineering design starts with melt flow simulation, then Finite Element Analysis is used to perfectly calibrate the thermal profile of the system.

The heating technology is custom-built on our specifications by our sister company IRCA, while the use of titanium spacers isolate the hot part from the cooled plates to minimize energy consumption.

SIPA hot runner systems deliver:

- 5 million cycles without maintenance (achieved with our DustBuster technology);

- dual-piece melt bushing technology to minimize AA and IV drop;
- special surface treatment of melt channels to reduce melt shear rate;
- proprietary nozzle technology for achieving 5 million cycles;
- perfect thermal insulation of the piston area to drastically improve seal life.



LONGLIFE™; 8 MILLION CYCLES, 0 HEADACHES

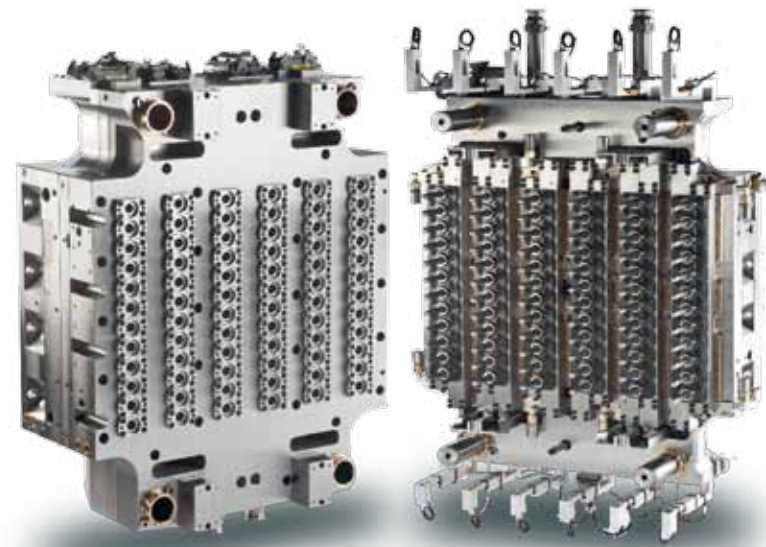
Everybody knows that the cost of investing into a new preform mould is not just the price of the mould itself but also how much money will cost operating it.

PMCI introduces LongLife™ in its range of preform moulds, a new design engineered to extend the mould life: this feature allows avoiding any refurbishment of the components for an operation of 8 million cycles (or 4 years, assuming a cycle time of 10s and 6,000 running hours/year), this converting into significant savings on refurbishment costs and production downtime.

This solution will be available as an option on all new SIPA moulds.

Sipa provides complete preform moulds for any PET machine (up to 96 cav.), cold half for existing hot half (up to 144 cav.), hot half for existing

cold half (up to 96 cav.); furthermore, it provides conversions of existing moulds (full or partial kits), moulds spare parts and refurbishment.



SIPA BLOW MOULDS: MAXIMIZING THE MATERIAL ADVANTAGE

SIPA's experience and expertise in PET bottle production extends throughout the entire process to include blow moulds as well as machines. And it's all about helping the customer make a better bottle, more cost effectively.

A better bottle features an innovative shape that is in tune with its contents, that stands out from the competition and that leaps off the store shelf. SIPA has in-house blow mould design capability to produce such a bottle.

A better bottle also helps the customer cut the costs of its packaging through reduced weight, lower energy consumption and optimized secondary packaging processes. SIPA blow moulds can make an important contribution there too. SIPA supplies blow moulds for the beverage, food and consumer goods

industry. They can be designed to fit most of the major brands of re-heat stretch-blow moulding machines. SIPA produces aluminium and stainless steel moulds for any application and any shape of container (round, oval, square, complex shaped), and with a wide variety of engravings and decorations.

Some examples:

- Moulds for linear blow moulders;
- Mono-block moulds for rotary blow moulders;
- Quick-change moulds (shell moulds) for rotary blow moulders;
- Quick-change conversion systems with mother mould and quick-change shell moulds;
- Interchangeability kit to make quick-change moulds compatible with different types of blow moulders.



NEXT EVENTS 2011

12-18 MAY	INTERPACK 2011 DÜSSELDORF, GERMANY	www.interpack.com
17-20 MAY	CHINAPLAS 2011 GUANGZHOU, CHINA	www.chinaplasonline.com
06-09 JUNE	IRAN FOOD + BEV TEC 2011 TEHRAN, IRAN	www.iran-foodbevtec.com
07-10 JUNE	FISPAL 2011 SAO PAULO, BRAZIL	www.fispal.com
21-24 JUNE	EXPO PACK 2011 MEXICO CITY, MEXICO	www.expopack.com.mx
26-28 SEPT.	PACK EXPO 2011 LAS VEGAS, USA	www.packexpo.com
06-08 NOV.	CHINA INTERNATIONAL BEVERAGE INDUSTRY EXHIBITION (CBST) 2011 SHANGHAI, CHINA	www.chinabeverage.org
09-11 NOV.	BRAU BEVIALE 2011 NURNBERG, GERMANY	www.brau-beviale.de/en

