FOCUS ON

COMPLETE BOTTLING LINES FOR EDIBLE OIL

MAY 2013

PET PACKAGING NEWS OF THE WORLD

SIPAMAGAZINE

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PUBLISHED BY:
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31029 Vittorio Veneto - Italy
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www.sipa.it

THANKS FOR CONTRIBUTIONS TO:

Logoplaste
CBC
Lightweight Containers
Little Green Beverages
Danone
Zhongfu Group

PUBLISHED ON:
May 2013

CREDITS:
IStockfoto, Shutterstock, 123RF

Concept, Design, Layout:
Sts Italiana

COVER:
www.veronikarichterova.com

SUMMARY

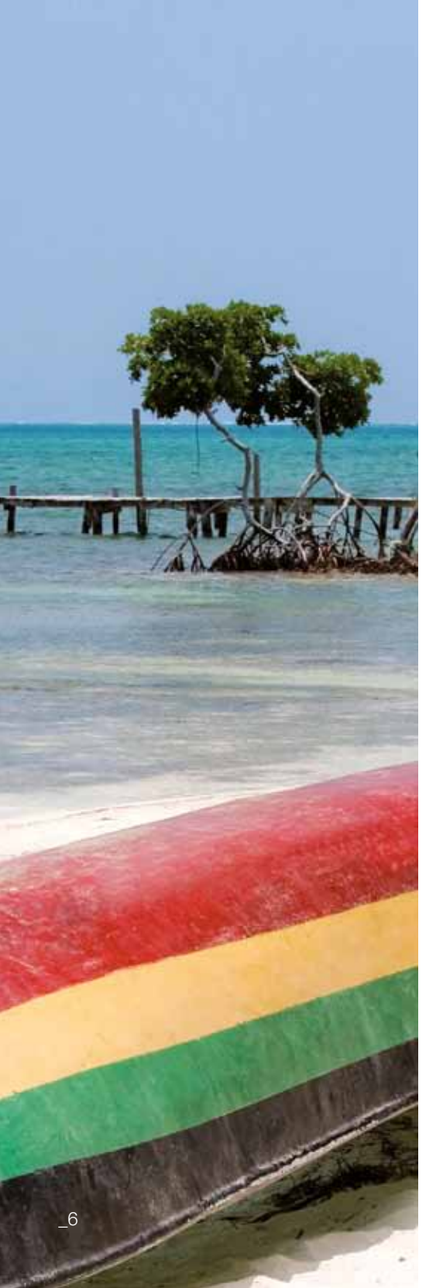
Athena and SIPA team.

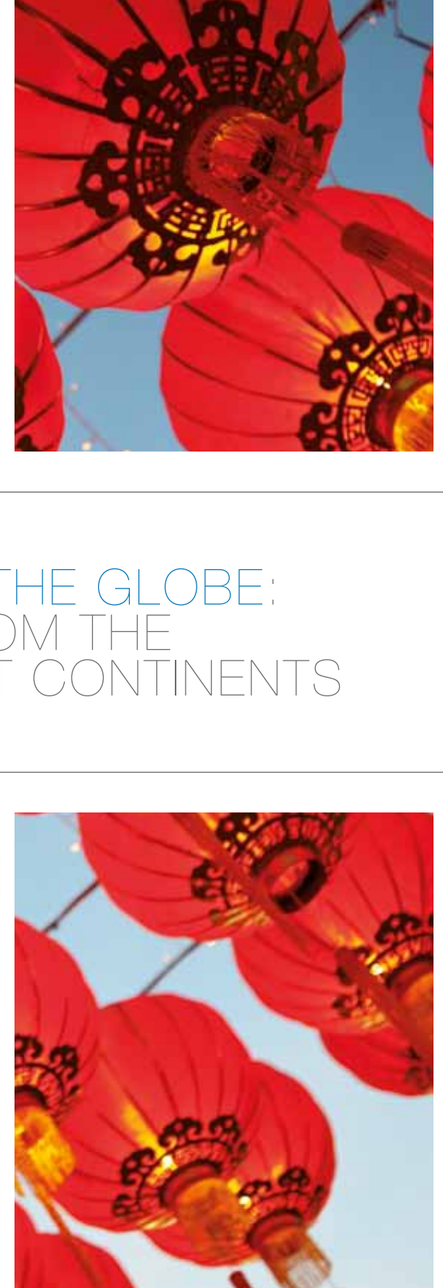
EDITORIAL

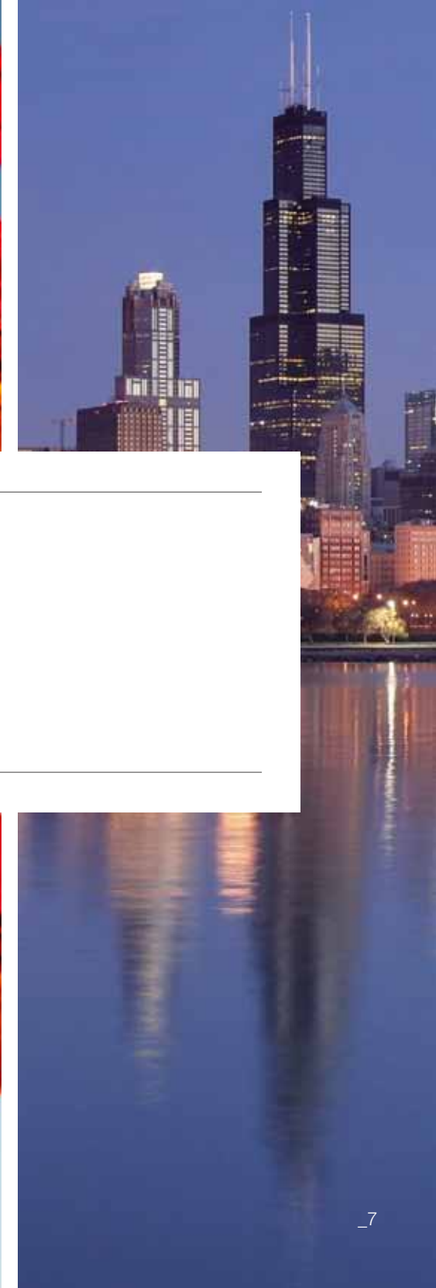
We live in interesting times, we all face numerous challenges. Many traditional markets are weak, forecasting market developments seems to have more to do with necromancy than economics. Uncertainty prevails. And even if, as the cliché goes, packaging is recession-proof - we always need to eat and drink – our industry still needs to innovate to compete. That is what SIPA does best. As articles in this magazine testify, SIPA continues to come up with new packaging solutions to make our customers' business better: lightweight bottle necks and bases; striking designs that stand out on supermarket shelves; equipment that is more energy-efficient and easier to operate. Equipment too that is easy to adapt to new production requirements and market trends: a beverage player can for example quickly and easily produce and fill bottles for hot fill applications and bottles for CSD on the same bottling line thanks to adaptable blowing parts and filling valves, capable of handling both products. SIPA's new partnership with Athena Automation in the development of high-efficiency PET preform injection molding machines is another prime example of our innovative spirit. Athena Automation is headed by Robert Schad, one of the pioneers of PET preform production technologies. The new small and medium-sized machines, which perfectly complement our recently introduced large XFORM 500, will further increase sustainability at preform makers. We must also mention the latest manifestation of our SFR rotary stretch-blow molding machines, the EVO^3, the fastest, most versatile, and most cost-effective generation yet. Consider also SIPA's offering for companies bottling edible oils: working with top-ranking partners in weight filling technology, we have put ourselves at the leading edge in developments that reduce losses to a minimum and maximize the value of these important products. SIPA is also extending its Life Cycle Services, LCS. This very important part of our total customer support package can increase the overall effectiveness of our customers' operations, through such activities as improving the reliability and availability of equipment, analyzing productivity and part quality, improving performance, turning extraordinary maintenance into ordinary maintenance, and collaborating on future planning. The key factor in LCS is for us to understand and provide what the customer really wants. LCS is all - encompassing: lightweighting, format changing, packaging developments, auditing and training, revamping of existing assets, repairing, conversions, development of new products, remote service & technical support, data acquisition, maintenance management, line analysis, relocation and service contracts in general - all of these things should be a natural choice and not just an option for the customer. With LCS, we will strengthen our bond with our customers, increase our interactivity, and become true partners with them. What else can our customers, our partners, expect from SIPA in the near future? As I said at the beginning, you need to innovate to compete. Drinktec in Munich is just around the corner - September 16 to 20 - and SIPA is ready to unveil a revolutionary packaging production systems. Revolutions in technology - think tablets, car park assist, internet-connected homes - often appear to fulfil a need you never knew you had; but when you have them, you wonder how you ever managed without them.

This is what we want to show you. We are sure your time with us will be most interesting.

Enrico Gribaudo
General Manager







AROUND THE GLOBE:
NEWS FROM THE DIFFERENT CONTINENTS

LOGOPLASTE FILLS HOLES IN THE WALLS WITH SIPA MACHINES

Logoplaste

If you are a bottling company and you see a hole in your wall, there is a very good chance that Logoplaste is on the other side of it. The Portuguese company has been pioneering the practice of locating dedicated rigid plastics package molding operations right next to the packaging customer for over 35 years.

The packages may not always pass literally through a hole in the wall, but the speed of delivery makes it feel as if they did. The Logoplaste operation is integrated not only with the customer's building but also with its infrastructure. It has numerous partners, especially in Europe and Brazil.

Now it is building up its presence in North America. One of the world's largest producers of spirits, wines and beer is among the

latest major companies to benefit from the symbiotic system.

Since 2007, this drinks company has invested heavily at a plant near Chicago where it makes various vodka and gin brands, as well as flavoured beers. This is one of the largest combined spirit and malt beverage facilities in the world. It produces more than 12 million cases of spirits a year.

THE VERSATILITY OF SIPA SFL IN PLAINFIELD, ILLINOIS

Complementing that investment was one by Logoplaste.

Together with its drinks company partner, it has established Logoplaste Plainfield LLC, a PET bottle production unit built within the bottling plant.

Between 2010 and 2011, SIPA installed six SFL 6/6 linear blow molding units there. All are connected to a sophisticated palletising unit.

Full pallets are then transferred from the blowing operation to the filling lines.

The SFL 6/6 machines produce bottles in a wide range of sizes, from 0.2 to 1.75 liters in volume, in oval and round shapes and with various neck heights. In total, there are more than 20 different formats, based on several different preform designs.

According to Logoplaste, the on-site PET production facility is the first of its kind for the spirits industry. It produces enough PET bottles to meet the vast majority of bottling needs at the partner's site.

DIFFERENT SHAPES AND SIZES, ONE MACHINE

"Logoplaste likes our machines particularly for their versatility", says Denis Marcon SIPA North America Director.

"They can make lots of different shapes and sizes, and changeover from one to another is simple and fast." He also highlights the ease of process setting through modular ovens, electrical brushless preform stretching, monobloc blowing valves with independent seals and fast response times.

Such was the success of the new installation that Logoplaste took another three SIPA SFL 6/6 units when it opened a second client dedicated facility in the Midwest, earlier this year, intended to supply other customers.

The drinks company for its part says the on-site resource is helping it reduce its carbon footprint, since no longer has to truck bottles into the facility.

And it says it can react much more quickly to fluctuations in production forecasts.

AROUND THE GLOBE - USA

CBC: A CENTRAL AMERICAN CHAMPION CHOOSES SIPA

Central America's leading soft drinks supplier has a taste for SIPA. CBC, which until a few weeks ago was called Cabcorp (short for Central American Beverage Corporation), is headquartered in Guatemala City, the capital of Guatemala. It has been in the business for almost 130 years (it was founded in 1885 by Don Enrique Castillo Córdova, and it is still a family-owned business), and for the last 70 years it has been bottling drinks for PepsiCo. CBC oper-

ates in seven Central American countries. It employs over 7,000 people across Guatemala, El Salvador, Honduras, Nicaragua, Puerto Rico, Jamaica and Trinidad and Tobago. Sales last year amounted to some $1.2 billion.

SINCRO-BLOC, A SINGLE CHOICE FOR THREE PLANTS: GUATEMALA, JAMAICA, ECUADOR

And its business continues to grow. This is why the company has been investing in new capacity in recent months.

It has installed complete lines from SIPA at three of its plants, for bottling a wide range of Pepsi brands. All three lines use SIPA's Sincro-Bloc integrated bottle blowing/filling/capping systems, and comprise equipment all the way through to palletization.

CBC wanted to take advantage of the compact layout of the Sincro so that it could optimize the use of available installation space. At its plant in Cuyotemango, Guatemala, CBC has a 12-cavity SFR 12 EVO rotary blow molder coupled with an ISOTRONIC 90/126 volumetric isobaric filling monobloc.

The line also features a MASS-BLEND mass flowmeter blender for CSD product preparation, a CIP sterilizing unit, labeling and shrink-wrapping stations, and a Genius palletizer.

This line produces, fills and packs bottles ranging in size from 0.6 to 3.0 L, operating at a rate of up to 22,000 bottles per hour.

In Kingston, Jamaica, CBC has a very similar line, only the bottles are blown on a 20-cavity SFR 20 EVO machine that enables the line to operate rather faster: up to 36,000 20-oz bottles per hour. In Ecuador, meanwhile, SIPA has been busy installing a new line for bottling water at CBC's plant in Machachi.

Once again, it starts with an SFR 20 EVO blow molder, and the filling unit is an ISO-FILL mechanical isobaric filling monoblock.

CBC: A MULTINATIONAL COMPANY IN CONSTANT EVOLUTION

CBC is the most diversified beverage company in Central America.

It has operations in four countries: two soft-drink plants and a brewery with AmBev in Guatemala, a soft-drink plant in Honduras and one in Nicaragua, and a bottling plant for juices and functional beverages, LivSmart, in El Salvador.

LivSmart is now also one of the most important logistics companies in Central America, exporting nutritional drinks to over 20 countries around the world.

It is one of the fastest growing companies in the region. Since 2009, CBC has been the major stake holder in a strategic joint venture with PepsiAmericas that combines the entities' Central American and Caribbean bottling operations, excluding the Bahamas. The company's new corporate identity and image is a mark of its continuing success.

It now has a new logo made up of a ring of 'C's to symbolize competitivity, conviction, culture, courage and commitment to contribute to a better world.

Company president Carlos Enrique Mata says the new image "reflects the progress, the modernisation and the development of a multinational company in constant evolution."

He says he wanted a new image to "faithfully reflect our DNA, focused always on dreaming big and innovating."

SIPA HELPS LIGHTWEIGHT CONTAINERS DEVELOP THE CONTAINER-IN-CONTAINER KEYKEG

We probably all know how to get a ship in a bottle, it's all to do with collapsing masts and nifty fingers. But how do you get a PET bottle inside another one that is almost the same size? Dutch company Lightweight Containers has the answer, and it involves laser cutting and ultrasonic weldings well as some critical help in the blow molding and container design department from SIPA.

Now why should anybody want to put a PET bottle inside another one in the first place, you are asking.

The answer is the Cylindrical KeyKeg20, also called the KeyKeg Slimline which is taking the packaging of beer and wine (as well as soft drinks) into a new and exciting realm.

SIPA AND LIGHTWEIGHT CONTAINERS PARTNERSHIP

Lightweight Containers produces them on a fully automated production line in Den Helder, the Netherlands. The line is based around two SIPA SFL2/2 linear stretch-blow molding units, one for the inner bottle, and one for the outer. It has a capacity of 400 KeyKegs per hour.

SIPA's SFL is the most versatile PET stretch-blow molding machine on the market: it can be used to produce all sorts of containers, whether they be standard ones for water and soft drinks, or hotfillable bottles and jars, in all manner of shapes and neck sizes, through to giant bottles for water coolers and even very special kegs. SIPA has not only supplied Lightweight Containers with the

stretch-blow molding equipment, but also collaborated in research, prototyping and development of the containers.

THE KEYKEG SLIMLINE SOLUTION

The Cylindrical KeyKeg 20/ Slimline is an innovative one-way keg that can be used in bars and at home to dispense beer or wine with ease, and without affecting the original properties of the drink in any way. It works in a similar way to the familiar bag-in-box principle, only here gas pressure is applied between the Inner bag and the box to expel the contents, and the box is in fact a twin-walled PET cylinder, incorporating what Lightweight Containers has dubbed Double Wall™ technology. This technology, which took Lightweight Containers two years to optimize, owes its spectacular qualities to the Strength by Separation (SBS) principle, in which the container's two walls work together dynamically, giving the KeyKeg 20 resistance to high internal pressures while hardly deforming at all. The KeyKeg 20 holds 20 liters of drink and has numerous advantages over other types of keg. It is light, the original version weighs just 1.05 kg, and extremely resistant to external as well as internal influences. It can withstand very high temperatures during transport in hot climates, and moisture has no effect on it. Being especially resistant to damage from outside, this KeyKeg is very safe to use.

The KeyKeg20 is also easy to handle, and easy to stack on pallets. 80 empty KeyKeg 20 Slimline units fit on one pallet. Its regular shape and low weight mean that 65% less transport is needed for the cylindrical KeyKeg compared to steel and other kegs.

The KeyKeg Slimline is fully recyclable. Plus, more than half of the KeyKeg's shell is made from recycled PET, while the grip is 100% recycled PP. Lightweight Containers has a history of developing innovative PET containers. The Cylindrical KeyKeg 20 follows an earlier, spherical keg (the Baseline series), that also houses a flexible multi-layered inner high-barrier bag that meets the most stringent European and American food-safety standards. Jan Veenendaal, CEO of Lightweight Containers, says: 'The current spherical KeyKeg Baseline is already a quality leader in this market. The fact that we've decided to introduce a new generation of KeyKegs has everything to do with our vision for the future. We think in terms of the total supply chain. We are only happy if the bar keeper, distributor and beverage producer are happy too.

Hundreds of companies in the total supply chain in 45 countries have asked us a lot and taught us a lot. The result is the KeyKeg 20 Slimline which will be followed soon by a 30 liter Slimline version.

SIPA HELPS LITTLE GREEN BEVERAGES REFRESHHH SOUTHERN AFRICA

Little Green Beverages has big plans for the future. This South African company was established in 2005 to supply a range of high quality flavoured carbonated drinks across southern Africa. It already has plants in Johannesburg, East London and Bloemfontein, and has plans for three more plants over the next five years. Drinks come in some 16 original flavours, and go by the name of Refresh-hh - and that's not our keyboard sticking! Little Green Beverages uses 0.33L,1.25 L and 2 L bottles. "Bringing consumers and customers quality is one thing, bringing them variety is another, and Little Green Beverages does both", says company Director Vimal Gowan. Market reaction has been good, so the company has decided to invest in further growth.

GROWING FASTER WITH SIPA

Last July, Little Green Beverages took another step up in quality when it replaced some old lines based on Indian equipment with a single integrated line from SIPA. Running at 8,000 bottles per hour, the line starts with an SFR 6 EVO rotary blow molder and includes a mixing unit, CIP, Isofill isobaric filling monobloc, labelling unit, shrink wrapper, conveyor systems Genius PTF palletizer, and finally a stretch wrapping system.

From left to right: Mr. Lance Sheppard, Director of Little Green Beveargres, Mr. Giovanni De Rosa, SIPA South Africa General Manager and Mr. Vimal Gowan, Managing Director of Little Green Beverages.

The new line has already proved so successful that the company has ordered two more, bigger lines from SIPA. This February, SIPA installed a line based on an SFR 8 EVO Sincro-Bloc with a 70 filling valves, Isofill filler that brings a nominal capacity of 12,000 two-liter bottles/hr, and this will be complemented in July with a line based on an SFR 16 EVO Sincro-Bloc featuring 140 filling valves, Isofill filler with almost double the output.

IMPROVING TECHNOLOGY RESPECTING THE ENVIRONMENT

Gowan says the company decided to move to European equipment for its new bottling lines because it tends to be more technologically advanced than the equipment it had been using until then.

"It's greener, and more cost-effective", he says, adding that SIPA in particular provides very good value for money.

"We are a relatively young company, but we have a lot of experience", says Gowan: "Our plant in Johannesburg already has accreditation to HACCP (Hazard Analysis Critical Control Point), and HACCP is currently being implemented in East London and Bloemfontein too.

We invest significantly in research and development, and we use only quality local and international ingredients in each of our products".

"With HACCP accreditation, our customers are assured of a product that complies with strict international standards and compliance with regards to quality, health and safety, and process controls in a manufacturing environment".

SIPA SATISFIES DANONE IN UKRAINE

Dairy products, mineral water and nutrition giant Danone is investing once again in SIPA technology to make PET bottles for milk products at one of its operations in Ukraine.

Having taken an SFL 6 linear stretch-blow molding unit for its plant in Kremenchug in 2006, the company has now come back to SIPA for an SFL 4 unit that is being installed during the first quarter. The two units make 0.3 and 0.9-L bottles, operating at speeds up to 7,200 bottles per hour.

THE KREMEZ PLANT

The full name of the Ukraine operation is Kremenchug Gormolokozavod, which for obvious reasons is usually shortened to Kremez. It was originally part of Unimilk, Russia's second largest manufacturer of dairy products and baby food with operations in several CIS countries. Unimilk merged with Danone in 2010.

Danone now has several operations in Ukraine, all operating with state-of-the-art equipment.

It says the Ukrainian fresh dairy market offers promising scope for development, with average annual growth in recent years being well above European levels.

The operation was the first company in Ukraine to bottle milk in PET bottles when it started production in 2004.

In 2005, it began producing glazed cheese curds, and then a year later it turned to SIPA for the launch of a new high performance line for filling dairy

products in PET. The success of the SFL 6 line has now led to the installation of the new SFL 4.
Kremez plant currently has an output of 50,000 tonnes/yr of dairy products, and employs 330 people.

CO-OPERATION WITH SIPA

Danone Ukraine says it likes the SIPA equipment because it is easy to operate and very reliable.
"You don't need any special knowledge in electronics to operate it," Oleg Zaichenko-Technical Manager of the Kremenchug Gormolokozavod says, "SFL lines are highly automated, all operations can be handled by a trained operator. Service requirement is also very modest, and all the modules

are easily accessible during maintenance." SIPA's ability to supply a complete packaging solution was also appreciated by the company. Because of its unrivalled expertise in all available preform/bottle manufacturing and filling technologies, SIPA can propose a manufacturing scenario that best fits the customer's requirements, taking into account bottle cost, energy consumption, and variations in demand.

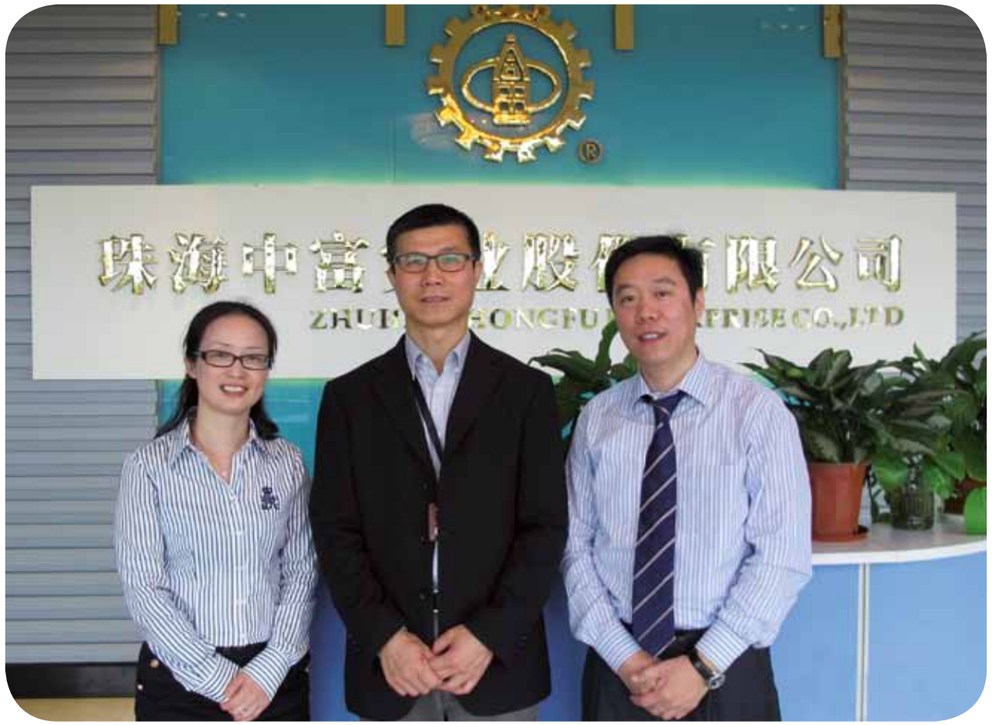
LOCAL SUPPORTIVE SERVICE

According to Nataliia Doroshenko, who looks after the Ukraine region for SIPA, Danone also benefits from the availability of service from SIPA's Ukraine service center, staffed by a group of highly skilled technicians.
"This support is important both for after-sales service and for supplying spare parts at a local level", she says.
SIPA has the best performance/price ratio for linear blow molding systems in the CIS countries Nataliia Doroshenko says.
Today, Danone is the world's leading producer of fresh milk products. It is also Number One in medical nutrition products, and the second largest supplier of bottled mineral water.
It is present in some 150 countries, and employs close to 87,000 people.

SIPA PROVIDE A BEST MACHINE SOLUTION FOR ZHUHAI ZHONGFU

Beverage packaging pioneer Zhuhai Zhongfu is a star performer in China. Founded 31 years ago in Zhuhai, Guangdong Province, it was the first company in China to make PET bottles for the domestic beverage industry, and remains one of the largest PET bottle makers in the country. It now has fewer than 85 plants across China, producing some 10 billion PET bottles for soft drinks and water, as well as all the preforms to make them. It hardly needs to be said that it has close ties with world brands in the drinks business.

That's why SIPA is very happy to have Zhuhai Zhongfu as an important customer.



Ms. Li Dongmei (Director of supply chain ZF group) Mr. Simon Wang (CEO of ZF group) and Thomas Zhu from SIPA.

A GOOD PARTNERSHIP

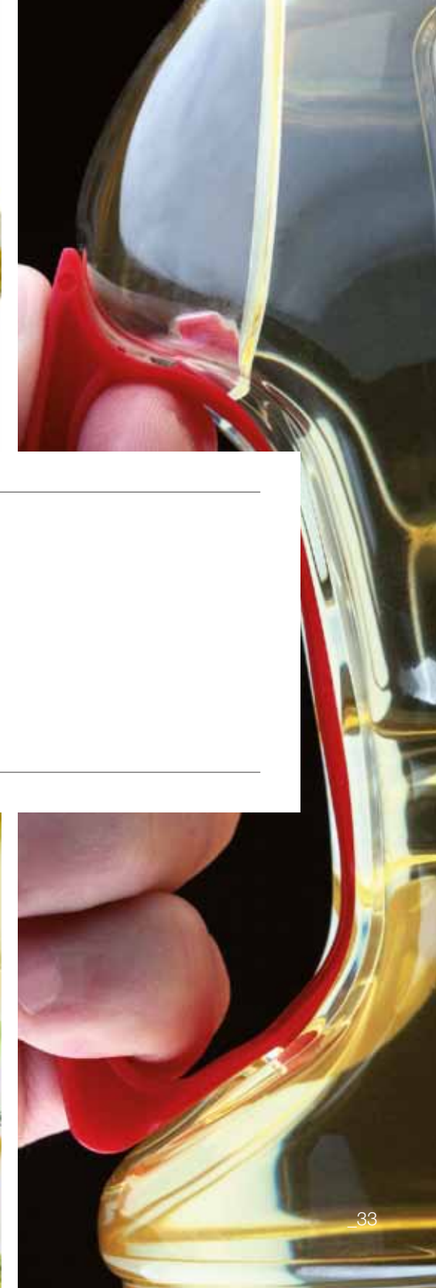
Since 2010, SIPA has supplied Zhuhai Zhongfu with a PPS 48/12 preform production system, an SFL 2/2 linear stretch-blow molding line, two SFR 24 EVO rotary stretch-blow molding units, one for hot-fill, one for carbonated soft drinks - all of these complete with all the necessary molds. Zhuhai Zhongfu has also taken nine sets of hot halves from SIPA, and some 250 blow mold cavities.

SIPA is particularly proud of the SFR 24 EVO CSD it supplied in 2011. The line is used for making bottles for a Coca-Cola's plant in Lanzhou, North-West China. The line is able to produce a range of bottle sizes including 0.5, 0.6, 1.25 and 2.0 L, has an output of 40,000 bottles per hour.

INCREASING OUTPUT WITH SIPA ROTARY BLOWMOLDER SFR

The SFR 24 EVO is a very versatile piece of equipment. Should Zhuhai Zhongfu choose, it can easily switch from production of standard bottles to hot-fill types. The SFR 24 EVO is also very well suited to production of the latest very lightweight bottles. And with electricity consumption being so critical in China, Zhuhai Zhongfu will appreciate the SFR 24 EVO's small appetite for energy. Low footprint and economic maintenance costs are further factors working in its favour! Mr. Simon Wang (General Manager of ZF group) at Zhuhai Zhongfu says his company choses SIPA for several reasons, not least among them being the company's ability to supply and install complete lines, as well as the fact that SIPA has production of equipment and molds in China, as well as local sales and good service support "There is already a good cooperation between SIPA and ZF now so I hope and believe that SIPA and ZF will have more in the future" Mr. Simon Wang says.

From left to right is: Mr. Song Fujun (ZF Production Manager) Mr.Yun Wenli (ZF Plant Manager) Mr. Dinevio Lorenzon, SIPA, Thomas Zhu, SIPA and Mr. Kong Deshan(Technical director of ZF Group)



FOCUS ON
COMPLETE BOTTLING LINES FOR EDIBLE OIL

SIPA HAS DESIGNS ON EDIBLE OIL BOTTLING LINES

Some big names in the edible oil business around the world have turned to SIPA for complete filling lines for PET bottles.
SIPA partners with top suppliers of individual sections of the line that it does not make itself, to supply turnkey systems around the world. It cooperates with the best names in weight filling stations, labeling and bundling equipment, to match its bottle production systems and provide and install complete lines that meet the exact requirements of the customer. SIPA has strength in depth in plant engineering. Customers can consult with its experts to obtain optimum solutions that save them money and space while delivering the quality they need to be strong in the market. The evidence of these unique strengths speaks for itself: SIPA has installed over 100 lines for edible oil all around the world.

FAST AND FLEXIBLE CHOICES IN BLOW MOLDING

Customers choosing SIPA for their blowing equipment are almost spoilt for choice, depending on whether they favor very high outputs or they are looking for greater versatility to produce containers in diverse shapes and sizes. SIPA recommends its SFR rotary equipment for high speed production and for lightweight products.


金龙鱼
ARAWANA BRAND


Pure
Wesson
Vegetable Oil


金龙鱼
ARAWANA BRAND


AFIA


19
18
17
16
15

SFRs are good for containers up to three liters and an output of up to 50,000 units per hour.
For larger formats, for oval bottles and for containers with handles, linear SFL equipment provides the best solution, yielding outputs of up to 9,000 units per hour.
With an SFL, the user is ideally placed to follow market developments, needing only to make a modest investment in molds rather than a complete new machine to equip themselves for the latest trend.

A UNIQUE EXPERTISE IN PREFORM DESIGN & MANUFACTURING

SIPA is also the only company in the market that is capable, not only of configuring complete lines for blowing and filling edible oil bottles, but also of designing the preforms and provide the systems to produce them. It can create special preform designs, for lightweight bottles, bottles with special necks, large bottles, and more. The new XFORM 150 line of preform machines can produce any type of preform desired. SIPA has also been making important progress in filling, capping and labeling solutions. Customers get the optimal solution for their particular application, thanks to SIPA's cooperation with partners who are leaders in their own specific fields. Weight filling equipment provides an excellent example.

WEIGHT FILLING IS THE WAY TO GO

Weight filling technology is considered the most reliable, clean and efficient for the filling of edible oil. This type of filling is particularly appreciated for the fact that it avoids overfills: by measuring the weight directly in the container (net weight), the weight filling system takes into account the changes in pressure, temperature or nature of the oil, and adapts to intrinsic changes

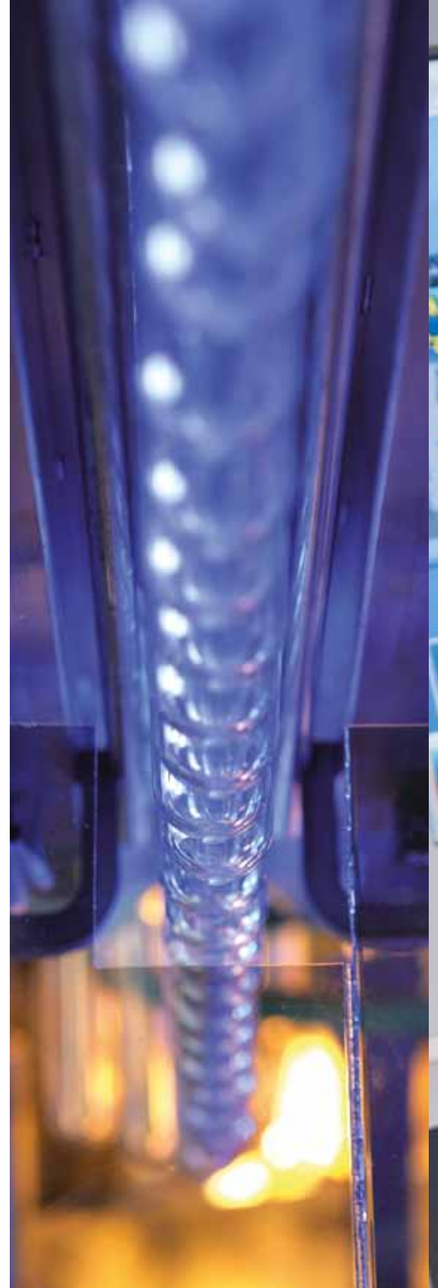
of the product during production cycle SIPA has cooperated with one top supplier of weight filling systems for oils, Serac, to develop the Synchro-Bloc Edible Oil monobloc. This incorporates technology to synchronize a rotary PET stretch-blow molding unit with a rotary weight filling unit, both running at high speed.

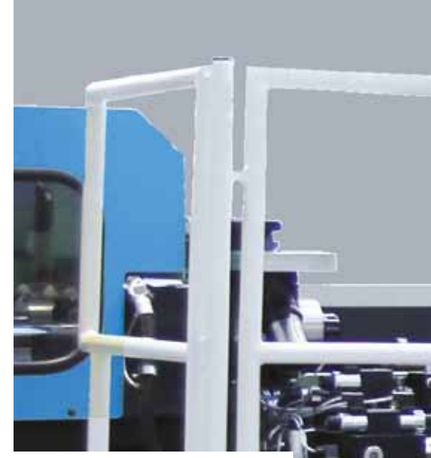
SMALLER, CLEANER, MORE ECONOMIC - UNIT INTEGRATION FITS THE BILL

By integrating production of the containers with filling, capping and further downstream operations into one line, edible oil producers can save on investments in bottle conveyor and storage systems, and ensure a higher level of product cleanliness as well as a low footprint on the factory floor. In addition, integration of the blowing and filling operations makes it possible to use lighter bottles. One of these monoblocs is already in operation in Spain at international food company Cargill, filling 22,000 one-liter cooking oil bottles every hour.

SIPA'S EXPERTISE IN BOTTLE DESIGN IS THE ICING ON THE CAKE

It's not just the top-line equipment it supplies that makes SIPA special in this sector. One of the keys to its success is the design service that complements the comprehensive hardware line-up. SIPA has designed numerous innovative bottles for such companies as the Savola Group based in Saudi Arabia, JRD International in the United Arab Emirates, and Yihai Kerry Group in China.
As we explained in an earlier edition of SIPA Magazine, JRD and SIPA together developed an automated solution for attaching injection molded handles to 1.8-liter bottles for cooking oil. Yihai Kerry too is an important user of SIPA technology for automatically inserting handles into containers sized 1.8 and 2.5 liter.
Over the years, SIPA has developed numerous innovative design solutions for oil containers, not only standard types, but also designs incorporating handles, or with integrated grips, with off-center necks that make it easier to pour the oil, and stackable containers that make the best use of space on the pallet to improve transport and warehousing logistics. Lightweight oil containers are also a specialty of the company. In fact, in this particular market segment, SIPA stands out as having developed the lightest containers available, anywhere.





TECHNICAL WINDOW ON SIPA PRODUCT PORTFOLIO: LATEST DEVELOPMENTS

SIPA PARTNERS WITH ATHENA AUTOMATION TO LAUNCH GROUND-BREAKING HIGH-EFFICIENCY PET PREFORM MOLDING MACHINES

ATHENA for SIPA

SIPA has formalized a collaboration agreement with one of the most famous figures in the global PET equipment industry, on the creation of a ground-breaking new product line for making PET preforms, aimed at players looking for low to medium outputs and high sustainability. The agreement with Athena Automation, founded by Robert Schad, follows an initial period of cooperation between the two companies, during which they have been fine tuning the system.

The new machine range debuts during the first half of this year. Athena Automation has for the last three years been developing and validating a new technology for the PET market at its facility in Vaughan, not far from Toronto, Canada. The new production platform raises the bar in terms of production reliability.

Features that make the Athena machine stand out are fast cycles, improved accuracy, increased uptime, the smallest footprint on the market for machines with horizontal clamps, power consumption on a par with all-electric machines, low noise, and design simplicity.

TECHNOLOGICAL PARTNERSHIP

The collaboration between Athena and SIPA is far-reaching and includes the joint development of machine elements, screw geometries and unloading and post-mold cooling techniques.

SIPA is managing the sales, service and integration of all Athena PET preform machines on an exclusive worldwide basis, with Athena's support.

This arrangement strengthens SIPA's base and rounds up its product line from low cavitations, multiple mold change applications to high volume production of beverage preforms.

"We expect the agreement will enhance the natural synergy between SIPA and Athena, resulting in a new benchmark for the PET market", says SIPA general manager Enrico Gribaudo.

The new machines can handle a wide range of mold sizes, starting with as few as two cavities and finishing with as many as 96.

There will initially be one model, with a clamp force of 150 tons.

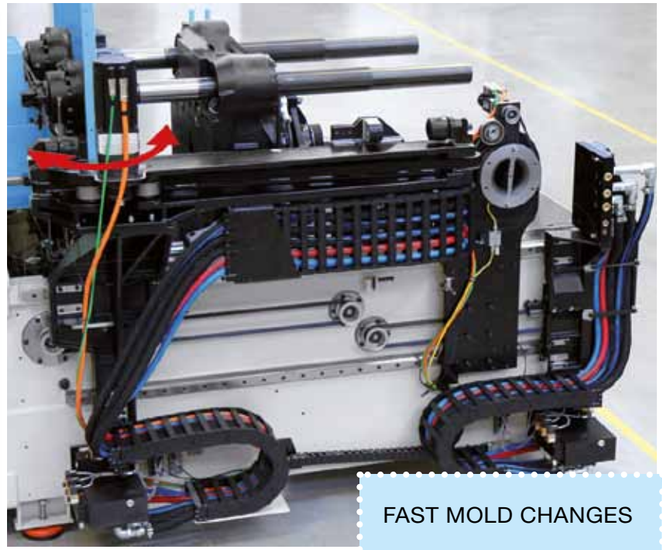
A 300 ton model will follow next year. They will be an ideal complement for SIPA's recently introduced XFORM 500 injection molding system, which handles molds with upwards of 128 cavities. The XFORM 150 and XFORM 300 have a hybrid construction, with a hydraulic injection unit and an electrically operated two-platen clamp unit.
The injection units are single-stage types, with various screw diameters available. A two-stage (electrically driven extruder with a shooting pot) unit is being validated. The machines have dry cycle times in the range of high-speed toggle or hydraulic machines normally used for PET preform production.
They are among the shortest in their class, but have the largest daylights and tiebar distances. Energy consumption is equivalent to that of an all-electric machine. Oil change interval is five years. Time necessary for changing molds is targeted to be the shortest on the market.

FLEXIBILITY AS TOP PRIORITY

As with the original XFORM 500, the new machines will accept legacy tooling, whether it be hot halves, cold halves, or complete molds, old and new generation. The post-mold cooling system for the new XFORM is integrated into the machine. This provides maximum maintenance friendliness and flexible tooling change.
Customers have numerous ancillary options available to them, including a dual preform cooling system. Mono cooling systems match conventional PET systems' performance. Duo system double the number of cooling tubes to further reduce preform output temperature by up to 15 °C, with considerable improvement in body and thread cooling compared to conventional PET systems.

MACHINE HIGHLIGHTS:

- ***Maximum cooling cycles for widest range of preforms***
  - *Efficient thread cooling*
  - *Extended cooling on wide mouth preforms*
- ***Faster system for heavier preforms***
- ***High performance at low energy consumption***
- ***X –axis robot motion assists part transfer***
- ***Accepts legacy molds***
- ***Low Maintenance***
  - *No servo valves*
  - *Central vacuum system*
  - *System simplicity*
  - *Easy access for service*
- ***Mold change time approximately one hour***
- ***Small footprint***
- ***Best-in-class mold protection***
- ***Noise level approximately 70 dBA***



Above: Machine can be shipped with robot and post-mold cooling components pre-assembled and aligned with platens to reduce setup time.

FAST MOLD CHANGES

The integrated robot provides maximum maintenance friendliness and flexible tooling change

Benefits of the robot sliding along base-mounted rails are:

- *One-hour mold changes*
- *Robot aligned with platens*
- *Post-mold cooling part transfer independent of clamp stroke (benefit for wide-mouth preforms)*
- *Swivels for assembled shipping*

SFR EVO³ TAKES SIPA'S ROTARY BLOW MOLDING EQUIPMENT TO THE NEXT LEVEL

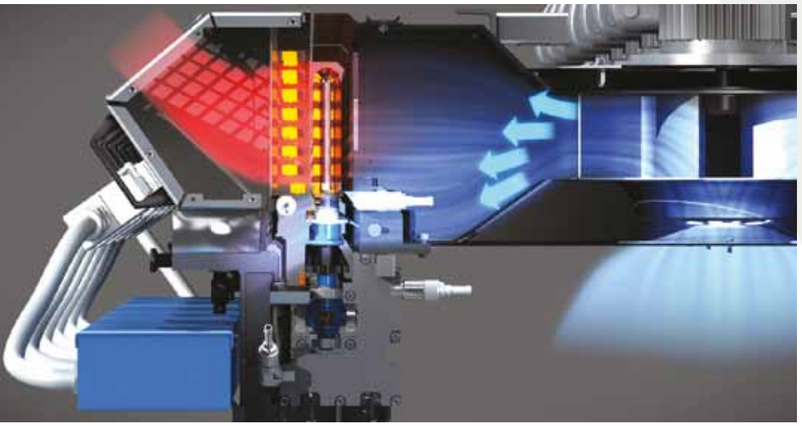
SIPA has an unrelenting determination to improve the performance and reliability of all its products. During this difficult economic period for industry, the company's approach has to be geared particularly towards improvements that bring savings and added value to customer's investments. It's with this aim in mind that SIPA has recently been working on its SFR rotary blow-molding system, considering how it might improve output rates, reduce total cost of ownership (TCO), and increase flexibility and efficiency. The result of its deliberations is the SFR EVO³. Just as planned, it is faster, more versatile, more efficient, and it costs less to run. The new model range is already available in versions with 6, 8, 12 and 16 cavities and larger units, with 20 and 24 cavities, will debut later this year.

MORE SPEED

Thanks to new designs in the clamp unit and in the cams, the SFR EVO³ has a maximum output rate of 2,250 bottles per hour per cavity, which puts it on the front line of the grid with the competition.

LOWER CONSUMPTIONS

A new blowing valve block is more compact than before, and has 35% less dead air volume.
Customers have the option of taking advantage of mechanical compensation: whereas with traditional pneumatic compensation, the total stroke is made with high pressure blowing air, on the new mechanical system, high pressure blowing air is used only on final fraction of a millimeter.
This leads to a massive reduction in air consumption, particularly with smaller bottles. "Green" ovens on the SFR EVO³ are big energy savers.
In fact, compared to earlier generations of oven, they reduce electrical consumption by up to 35%, thanks to the use of new lamps and special materials and coatings



for the reflectors, all while keeping process conditions stable.

GREATER FLEXIBILITY

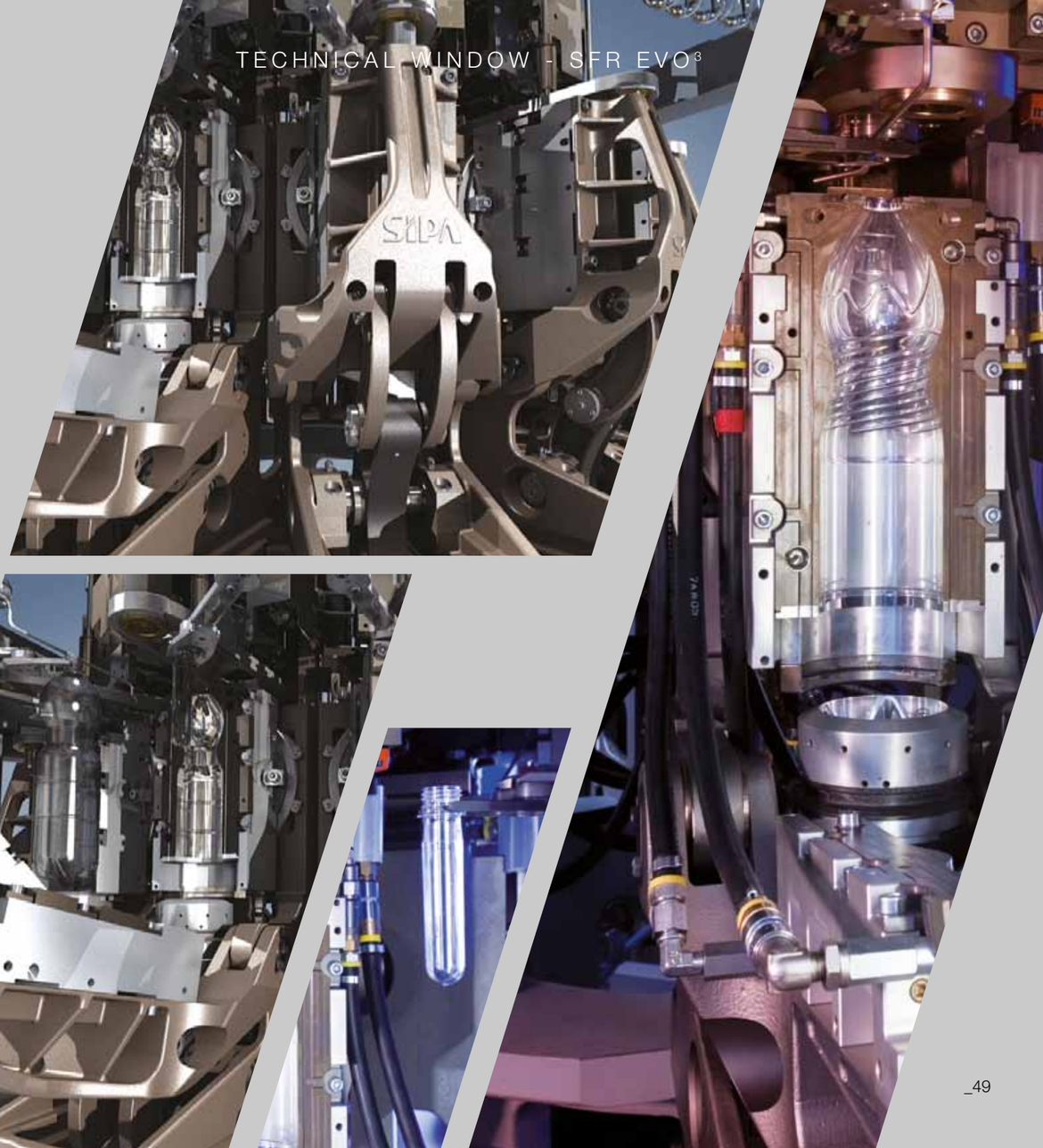
Also available for the SFR EVO³ is the electrical drive for the stretching rods. This brings much more versatility in fine tuning the process compared to pneumatic drives. Stretch rod timing, speed, acceleration and distance can all be controlled with ease and flexibility from the machine control (HMI). Electric drives are also perfect for SIPA's Sincro-Bloc integrated blowing and filling system, to match the blowing operation to different filler speeds. Electric drives mean there is no need for the stretch rod decelerator and the stretching cam, which among other things helps shorten product change-over times. The electric stretching system on the SFR EVO³ also has a 'smart' self-learning procedure to identify preform/bottle dimensions.

IMPROVED EFFICIENCY

The SFR EVO³ has a new standard mold changeover system that is quick and easy to use.
And a new optional feature that SIPA is currently perfecting should make mold changes even more efficient. Increased efficiency is also built into the molds themselves. The SFR EVO³ is much easier to convert from production of cold-fill to hot-fill containers because, while the heating circuit remains in the shell holder, the cooling circuit is now built into the cavity. So 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.

MAJOR ACHIEVEMENTS:

- **Speed: +12%**
- **Total air consumption: -25%**
- **Total energy consumption: -30%**
- **Flexibility: quicker mold changeover and set-up**



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

PUTTING PASTA IN PET

Packaging pasta in plastics wrappers and cardboard boxes seems to make a lot of sense. The plastics wrappers let you see the product and they weigh very little, while the boxes sit nicely on the supermarket shelf. The problems start at home. Nobody seems to finish a pack in one go, so the half-empty packs go in a cupboard or drawer, and when you take the pack out again, you can be guaranteed that the contents fall out all over the floor. So why not pack the pasta in a PET wide-mouth jar with a nice screw lid? SIPA not only asked the question, it also came up with the answer. Or answers, because its creative experts created designs for jars for various types of pasta, long pasta like spaghetti, and short pasta like shells. They show up the contents to maximum effect, they sit well on the supermarket shelf, and they sit well on the kitchen shelf too. The spaghetti jar has a neck almost as big as its body, so pouring out the contents could not be simpler. The jar for the shells has a very useful integral handle to make it easy to pick up. And just as important, the jars have reclosable lids on their very wide necks. So the pasta is very easy to get out when you want it, and if you don't use it all in one go, what remains stays put until you want to take it out - not when gravity feels like it. You may also want to give the jar a second life when all the pasta is gone too.

Buon appetito!

NIAGARA FALLS FOR SIPA IN DALLAS

Major North American bottled water supplier Niagara Waters recently became the proud owner of the first ever 144-cavity PET preform mold cold half built by SIPA. Niagara, which has ten operations across the continent and two more on the way (none of them in Niagara though!), has installed the mold at its plant in Dallas, Texas, where it is already producing excellent results. It's another demonstration of what SIPA is capable of in the high-cavitation market. With the XFORM, the company has produced a top-class injection molding machine that is capable of running large molds from any company that is capable of constructing them. Now, at Niagara, SIPA is demonstrating that it can make molds, not only for its own machines, but for the competition's too. The mold is running on a Husky Hypet unit. Niagara wanted a new mold for a new line of 0.5-liter hot-fill bottles. SIPA clinched the sale last August, and the mold was in the machine and running less than 11 weeks later. "Niagara was pleased with our prompt service and follow up", says Gladson Remos, Sales Manager Molds in North America, who followed the project. Like SIPA, Niagara takes great pride in its environmental credentials. Over the years, the two companies together have developed numerous lightweight bottles, including the Eco-Air, launched as part of Niagara's Eco-Air Go Green environmental program to reduce impact on the environment. When it was launched three years ago, the 500mL Eco-Air bottle and cap used 30% less material than the average of other 500mL bottled waters compared in a study across several metropolitan areas. Niagara was started by Andrew Peykoff Sr. in 1963, when he started bottling high quality, low cost water in five-gallon glass containers for home and office delivery.

Niagara soon became a household name in Southern California.

The company now supplies Niagara brand and private label bottled water to numerous leading American grocery retailers, coast to coast. Niagara manufactures preforms, bottles and caps, and has some of the most advanced high speed, automated water bottling lines in the world. It says it is the most vertically integrated bottling company in the industry, allowing it to improve quality, lower environmental impact, and pass along cost savings to its customers.

HOTLIGHT 28
SPARKING A REVOLUTION

Back in late 2010/early 2011, SIPA and one of its key customers developed some of the lightest hot-fill bottles in the world. The bottles are made and used by URC in the Philippines for a market-leading brand of green tea-based drink.
They have a very light 28-mm neck, which SIPA unsurprisingly calls the HotLight 28.

1.2 BILLION BOTTLES IN SOUTH EAST ASIA

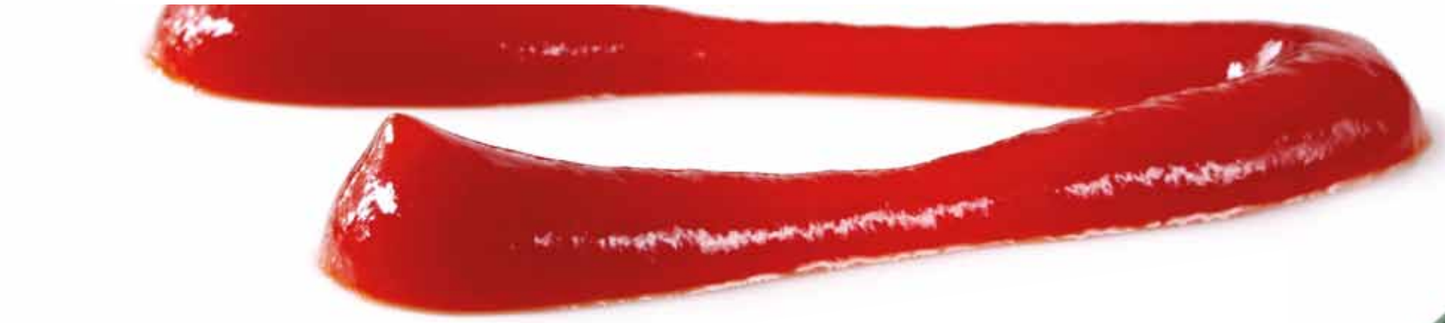
Two years on, and the HotLight 28 is, for want of a better word, hot in South East Asia.
SIPA customers are using it across the region. Last year, installed capacity for hot-fill bottles with HotLight 28 necks rose by a massive 1.2 billion bottles.

URC itself uses the neck on two sizes of bottle with 350 mL and 1.5 L capacity.
The HotLight 28 is shorter than standard hot-fill neck finishes, which is the main reason why the neck-and the bottles it sits on-can be so light.
The HotLight 28 weighs just 3.8 g, but despite its ultra-low weight there is no compromise on the seal. It really does represent a revolution in hot-fill thread finishes.
This 28-mm neck is the evolution of a traditional neck finish for hot fill weighing 5.2g. That's 37% more. Reflecting its heritage, the HotLight 28 allows the production of hot fill and CSD containers, with PCO1881, in the same blowmolding equipment through minimum changes only. The filling and capping is therefore performed in the same filling line without any personalization change. Hot-fill bottles and CSD bottles can be closed with the same cap!

VALIDATION FROM THE MOST IMPORTANT PLAYERS

The HotLight 28 has now been tested by several authoritative organizations: major international cap maker Bericap; PTI-Europe, a global leader in PET packaging design, development and engineering services; and Parma University, one of the oldest and most prestigious universities in the world.
All tests performed showed positive results relating to all major parameters: Secure Seal Test, Opening Performance, Hot Fill Test, Removal & Band Break Torque Test, Seal release angle, Microbial permeation.

FORM AND FUNCTION COME TOGETHER IN NEW KETCHUP BOTTLE DESIGN



The humble ketchup bottle has gone through many transformations over the years.
The most famous one in the world can, some say, trace its design lineage back to ancient Greek vases of the fifth and sixth centuries B.C.
Plastic bottles for ketchup first started appearing on our tables 30 years ago. First they were multilayer extrusion-blow molded PP bottles with an EVOH barrier, then PET multilayer bottles, then HDPE.
Today, depending on where you shop and what brand you buy, you can probably find designs based on all three polymers, as well as glass.

A NEW PACKAGING FROM SIPA

Now, responding to calls from several of its converter customers, SIPA has developed a hot-fillable PET ketchup bottle.
It should prove a highly cost-competitive alternative to aseptic filling, which is the route currently favoured by at least one

PETWORK - SQUEEZABLE HOT FILL

leading ketchup producer, and it certainly has better looks than designs in HDPE.
Creating hot-fill bottles takes a lot of technical skill as well as artistry. The problem normally encountered with hot filling plastic bottles, particularly those with long necks sometimes used for ketchup, is that, when the contents cool, their volume reduces and creates a partial vacuum.
The bottle walls collapse, and the label becomes partly or completely unstuck. In the past, ketchup makers have tackled this problem with bottles incorporating panels that withstand the distorting effects caused by the changes in internal pressure. This type of design is very functional, but is not necessarily very attractive.

PACKAGING DESIGN AND TESTING

Fortunately, SIPA has strength in depth in design and in testing. Its experts carried out numerous computer simulation tests that provided accurate predictions of how different bottle designs behave after they have been hot-filled. It became clear that something radical needed to be done with the shape of the bottle to stop this vacuum effect from ruining the package.
SIPA's designers took an existing ketchup bottle design, shortened the neck and softened the angles around the bottle body to prevent the collapsing and provided an attractive appearance.
The result is the bottle you see here. It can be filled between 85 and 90°C, stays in shape afterwards, and prevents "label crinkling". It's a bottle that has form as well as function.
What's more, it can be produced on SIPA's SFR rotary stretch-blow molding equipment equipped with an oven intended for heat-set and oval containers.

INTERESTING FOR CONVERTERS

Several converters have already told SIPA that they are interested in switching from HDPE and from glass to the new PET design. One converter has in fact approved the design already and has carried out its own filling tests with positive results.
Making this type of bottle does require a special PET resin suitable for the heat setting process used for hot-fill containers.
The resin also needs to contain an oxygen scavenger to stop the ketchup oxidizing and discoloring over time.
With a suitable scavenger, the container can have a shelf life of at least 12 months. SIPA has already carried out successful tests using Amosorb, which is produced by ColorMatrix, a member of the PolyOne group.

PETWORK - SQUEEZABLE HOT FILL

THE ART OF GLASS

Venice is La Serenissima, the most serene. Only informally now, but from 697 to 1797, it actually operated as the Most Serene Republic of Venice.
Depending on how much time you have as a tourist getting lost in its labyrinth of canals, you may or may not appreciate how it got its name. Certainly, back in 1291 (or 1295, depending on which historian you believe), the burghers of Venice were not feeling so serene. They were actually quite worried for the future of their beautiful republic.
Not because of the water as they are now, but because of another element: fire.
The rulers of Venice were worried that the furnaces at the numerous local glassmakers, frequently the cause of localised fires, could burn the whole of their beautiful but fragile city, mostly made of wooden buildings, to the ground (or sea).
So the Most Serene Republic decreed that the foundries move to a group of nearby islands, where there was in fact already some glassmaking activity: Murano. Which is where they have remained, successful and largely free of destructive incident, to this day.

CENTURIES OF HIGH-QUALITY GLASSMAKING

Concentrating the glassworks in Murano served the Serenissima well, since the republic was jealous of the decorative glassmaking art that had long made it famous around the world.
Now, it could better control the activities, since the glassmakers were forced to live on the islands and could not leave Venice without a special permit. Many glassmakers did actually manage to flee abroad, taking their famous techniques with them. Nevertheless, Murano's glassmakers held a monopoly on high-quality glassmaking for centuries, developing or refining many technologies, including crystalline glass, enameled glass (smalto), glass with threads of gold (aventurine), multicolored glass (millefiori), milk glass (lattimo), and imitation gemstones made of glass.
The most important crisis that hit the industry was that of the fifteenth century, when production of Bohemian crystal began, possibly inspired by the same Murano glass. But Murano and Venice endured, especially since the time that glass has been used for the production of chandeliers, still one of the best-known artefacts of Murano.
They may have been captive, but Murano's glassmakers soon became prominent citizens.
Among non-nobles, for example, only they could marry the daughters of patricians.
The Republic in fact issued a decree, following the unrest that occurred in the Great Council of Murano, that only those who were born on the island or had purchased property there could call themselves citizens of Murano. And in 1602, the mayor Barbarigo, in a census of the islanders, called for the compilation of a "Golden Book."
The procedure for obtaining registration in this book was neither simple nor short, and in fact

could only take place with the consent of the Republic.
Whoever was not registered could neither carry out any work in glassware, nor could they benefit from any of the other privileges granted to citizens of Murano.

BEAUTY, ART AND TECHNOLOGY

Today, the artisans of Murano still employ centuries-old techniques, crafting everything from contemporary art glass and glass jewellery to chandeliers and wine stoppers. The "glass master" is assisted by two aides called the server and serventino. They support the long metal rod that the master blows through to give the desired shape to the glass.
The two assistants also in turn manipulate the glass with the tools at their disposal, among which the spatula and a set of pliers called the borsella are considered essential. The ancient art of Murano glass production has many claims to fame, but the technique that probably made the island's art unique is the blowing process that for centuries has made possible the creation of graceful and delicate objects such as cups, glasses, candlesticks and ornaments, all sought after as much today as they ever have been.
The technique and skills of the Murano glassmakers have remained virtually unchanged over the centuries, and even today you can walk around the islands (which are so close together that they are connected by short bridges), admire the craftsmen at work, and have them tell tales about a manufacturing process full of beauty, art and technology.

BLOWN GLASS

Anybody watching a PET preform being turned into a bottle can see where the process comes from. To make blown glass, the artisans blow the molten material into shape through a long cane, just as tradition dictates that, millennia ago, man familiarized himself with glass and all its amazing forms.
This ancient technique, in the hands of experienced and skilled great master craftsmen, creates small masterpieces, each one unique and absolutely unreproducible.
Watching the creation of a work of art from a simple glowing bubble is certainly an emotional experience, but even more incredible is the understanding of all the history and all the passion contained in that beautiful blown glass.

MURRINE

The words Murano and murrine may look similar, and they are indeed both connected with glass, but they have their own histories. The term "murrine" was coined in the modern era in 1878 by Abbot Vincenzo Zanetti, who contributed much to the revival of Murano glass after it had passed through a long period of crisis.
Zanetti adopted this term to define glass mosaic vases and bowls that the Romans made using sections of glass cane that had inside them, for their entire length, abstract designs or faces, flowers and animals, which are revealed when cut in cross-section.
The sections are fused together to form a surface, which is then shaped into the final object.
During the Middle Ages, the technique for the production of murrine glass disappeared, but the technique was taken up again towards the end of the nineteenth century at the Salviati glassworks, by Vincenzo Moretti.
The term murrine has remained since then, and is now used both to identify both the individual sections of the glass canes as well the object obtained from their composition.

SPECIAL - JUST AROUND SIPA

NEXT EVENTS 2013/2014

25-28 JUNE	**FISPAL TECNOLOGIA 2013** SAO PAULO, BRAZIL	*www.fispaltecnologia.com.br*
16-20 SET.	**DRINKTEC 2013** MUNICH, GERMANY	*www.drinktec.com*
16-23 OCT.	**K2013** DUESSELDORF, GERMANY	*www.k-online.de*
08-12 MAY	**INTERPACK 2014** DUESSELDORF, GERMANY	*www.interpack.com*

VISIT US AT DRINKTEC AND K2013

DRINKTEC MUNICH, GERMANY
SEPTEMBER 16-20 2013
HALL A5 STAND # 303

K 2013 DUESSELDORF, GERMANY
OCTOBER 16-23 2013
HALL 13 STAND # B 11

WORLD PREMIERE AT DRINKTEC: THE IMPOSSIBLE MADE POSSIBLE

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