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Front page picture:
NETSTAL

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Excitement is mounting in the run-up to the K 2022, the world's leading trade fair for the plastics industry. As always, Arburg has adopted a clear message for its trade fair appearance in Düsseldorf: "There is only a Plan A". "Plan A" conveys that the machine manufacturer is committed to making its contribution and presenting solutions for the important global issues of sustainability, the circular economy and carbon reduction. Combined with extensive digitalisation, Arburg is perfectly positioned to provide high-end technology for greater sustainability.

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When it comes to recycling plastics, aspirations and reality often diverge. This is because pure polymer is only available in limited quantities. Therefore, as many sources as possible must be used to achieve the necessary volume of recyclate. With Direct Compounding Injection Molding (DCIM), KraussMaffei is demonstrating at K 2022 how a new material can be compounded from three recyclates of different viscosities. And the DCIM direct compounder with its single-screw extruder plays a central role.

Jomar Corporation, the leading global manufacturer of injection blow molding (IBM) machinery, has significantly upgraded its popular 85-S machine and will be exhibiting it in Dusseldorf at the 2022 K Show, October 19-26, 2022. The new 85-S GEN II will be featured by Jomar at its stand. It boasts servo hydraulics, clamp digital controls, variable frequency drive, and the latest machine controller and color HMI. "We looked at everything on the 85-S and made significant, measurable improvements" notes Carlos Castro, President of Jomar.

Robert Dous, Managing Director ZAHORANSKY Automation &Molds and Chief Sales Officer ZAHORANSKY GROUP: "The future of manufacturing consists of lean production with integrated processes, as well as reduced interfaces with high availability and quality. We offer our customers complete turnkey production facilities with our one-stop-shopping approach. All injection molding, automation, and assembly processes are integrated there. We will be presenting solutions for this at the K Trade Fair."

This new gravimetric feeder line is a dependable, high-performance and efficient solution for feeding pellets and other free-flowing bulk materials in plastics applications, offering a good price/ performance ratio as well as short lead times. The ProRate PLUS single screw feeders can be installed as individual units or in groupings of up to six feeders around a single process intake, depending upon the recipe. Its unique design enables very compact, space-saving configuration so that up to six feeders can be grouped together.

ENGEL extends its series of linear robots for K 2022 with the new viper 4. What is currently the smallest viper model sees the Austrian injection moulding machine manufacturer and automation expert explore a new approach. The use of low-voltage drive technology significantly boosts the energy efficiency. Now available in eight sizes – for nominal load-bearing capacities between 3 and 120 kg, — the robots can be ideally adapted to the given task.

ENGEL creating high-end visible parts from recycled material at the K 2022

To be able to move forward with the circular economy, it is essential to use pretreated plastic waste in a far wider range of applications. Visible components with premium surfaces have posed a particularly great challenge here thus far. To achieve premium surfaces directly from the mould surface using injection moulding without secondary operations, a high proportion of virgin material is usually required, if recycled material can be added at all.

At the K show 2022, ENGEL is collaborating with technology firm Roctool (Le Bourget du Lac, France) to demonstrate that there is a different approach from now on. Unique electronic boxes in black are being produced on an e-mac 465/160 injection moulding machine. They are made from rABS sourced from post-consumer recycled plastics. The surface is high-gloss. The cavity is laser engraved to create innovative patterns on the top side of the box, and there are fixtures for installing fans and connectors on the side surfaces. The part is also ultra-thin – 1.2 mm – in order to save material. Conventional moulding would require thicker wall sections.

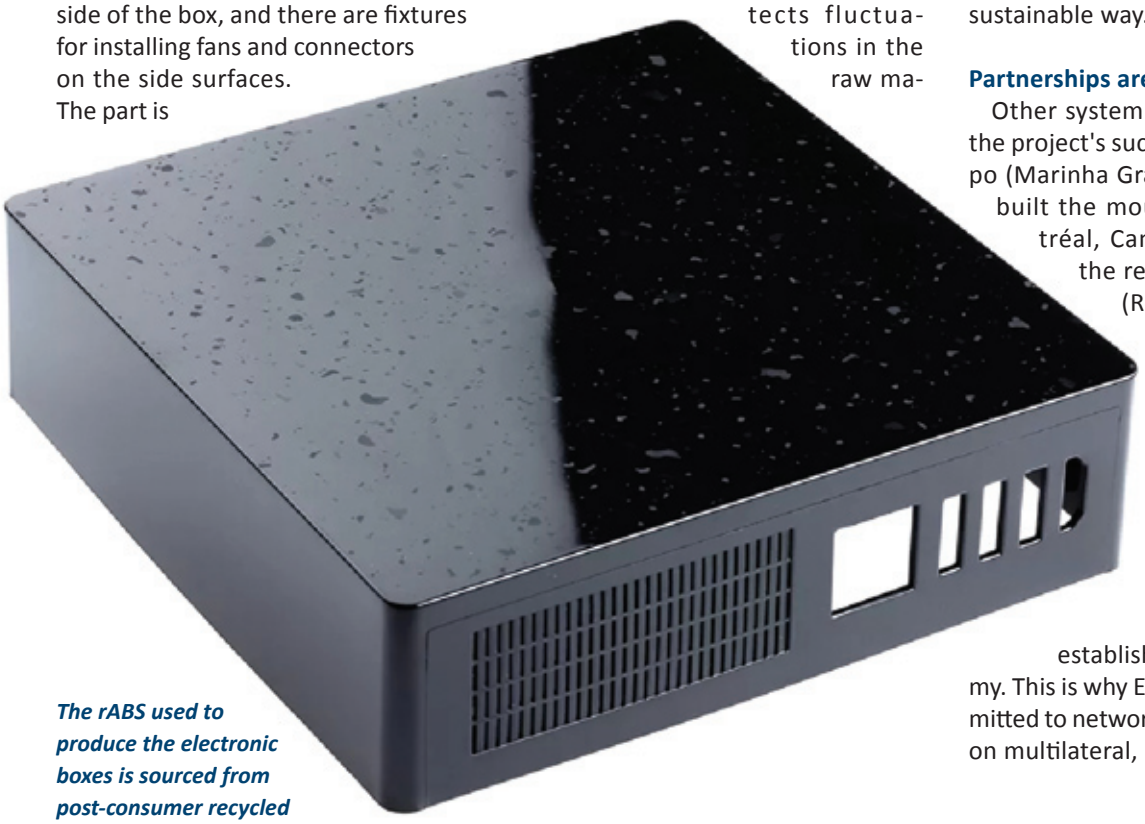
Smart assistants compensate for fluctuations

The key to the premium surface quality of this recycled component is the interaction between forward-looking machine and mould technologies.

The all-electric ENGEL e-mac injection moulding machine relies on mould temperature control, based on Roctool induction technology, to enable outstanding moulding precision and the highest surface quality. The latest energy-efficient, compact air-cooled Roctool generators are being used at the K show.

The smart assistance systems from ENGEL's inject 4.0 portfolio used in the e-mac machine make a further contribution to high quality in the processing of recycled materials. The smart assistance systems include iQ weight control, which detects fluctuations in the raw material and automatically adjusts the injection profile, the switchover point and the holding pressure to reflect the current conditions in the same cycle. In general, recycled materials are subject to greater batch fluctuations than virgin material, iQ weight control has a particularly positive impact in terms of achieving consistently high product quality in this application. At the same time, iQ melt control improves the homogeneity of the molten plastics by automatically adjusting the plasticising time to the optimum value for the application.

The application presented at the K show demonstrates the huge potential for the circular economy. The proportion of virgin material can be significantly reduced, to zero in the best case. Already today, many manufacturers are taking back end-of-life equipment for recycling and returning it to production. Thanks to this combination of Roctool technology and ENGEL smart digital assistance, even demanding housing parts with a super thin, complicated geometry can now be produced from post-consumer recycled material in a cost effective and sustainable way.



The rABS used to produce the electronic boxes is sourced from post-consumer recycled plastic (picture: ENGEL)

Partnerships are the key to success

Other system partners involved in the project's success include Moldetipo (Marinha Grande, Portugal), who built the mould, Lavergne (Montréal, Canada), who provides the recycled plastic, INCOE (Rödermark, Germany) for the hot runner systems and Standex Engraving Mold-Tech (Treviso, Italy) for the tool laser texture design.

Close collaboration along the value chain is essential for establishing a circular economy. This is why ENGEL is strongly committed to networking these companies on multilateral, horizontal platforms.

ENGEL
www.engelglobal.com

Picture: Meusburger

Meusburger presents product range at K 2022

At this year's K trade fair in Düsseldorf from 19 to 26 October, Meusburger will focus on its standardised mould bases. The standard parts manufacturer will also present its range for injection moulders and both the standardised and the customised solutions for hot runner systems. A special highlight of the company's stand will be the ENGEL injection moulding machine, where visitors can watch a bread box being produced.

Benefit from Meusburger's range for injection moulders

At this year's K trade fair, the Meusburger stand will feature its extensive range for injection moulders. Two things are essential for reliable and smooth operation: the use of high-quality moulds and the fast delivery of replacement parts. Meusburger offers a wide range of over 96,000 items of high quality and functionality. In addition, all items are immediately available from stock. This saves customers time and money when purchasing and operating.

Highly standardised and customised solutions for hot runner systems

Meusburger will also be presenting the hot runner systems range at K 2022. The standard parts manufacturer has over 55 years of experience with complicated applications and their requirements, including physical properties, materials, functional integration, surface quality and complicated designs. Meusburger offers both standardised hot runner systems and also customised solutions. From the engineering and design phase to commissioning through to maintenance, Meusburger customers are supported throughout the entire process and receive feedback within 24 hours in every phase of the project. At this year's K trade fair, visitors can find out about the extensive hot runner range.

Meusburger
www.meusburger.com

Looking forward to meeting you at K 2022!

Allow yourself to be inspired by the fully operational interactive injection moulding cell demonstrating many of the latest mould connection techniques and innovative automation solutions to increase your productivity available from Stäubli including:

- Mono and multi connections
- Quick mold clamping
- Mold transfer/loading systems
- Robot arm tool changers
- Automated parts handling
- 4 and 6 axis industrial robots

Stäubli 's experienced engineering teams at the show will be pleased to discuss how the company can support you to increase the productivity and the OEE at every stage of the journey.

Stäubli
www.staubli.com

Picture: Stäubli

Maximum efficiency in the cleanroom: All-electric PX 200-1400 produces caps for insulin pens live at K

The all-electric PX 200-1400 in Medical design (all pictures: KraussMaffei)

Purity and quality are the keywords for production of sensitive products in medical technology. However, efficiency and cost-efficiency are also increasingly critical. At K 2022 in Düsseldorf, KraussMaffei is demonstrating how both can work, using an all-electric PX 200-1400 in cleanroom design as an example. Caps for insulin pens are manufactured with maximum precision under cleanroom conditions, in short cycle times and with minimum use of resources such as energy and materials.

"Our medical technology customers are in a highly competitive market and face the challenge of increasing their productivity and minimizing costs per produced part," says Xiaojun Cui, Executive Vice-President New Machines Business at KraussMaffei. The all-electric PX series in a Medical design is ideal because it combines precision and performance with maximum efficiency and cost-efficiency. The modular concept with integrated hydraulic unit enables solutions customized to meet customer requirements.

Medical design in cleanrooms

The PX 200-1400 with a clamping force of 2,000 kN at the KraussMaffei trade show booth features a high-gloss machine paint finish. This ensures maximum purity and easy surface cleaning. The automatic central lubrication of the knee lever joints using certified oils and lubricants is in a closed circuit. This, in turn, minimizes maintenance expenses while keeping the production environment impeccably clean. At the same time, it enables cleanroom- and GMP-compliant production.

Short cycle times and lower article costs

The all-electric PX with Performance equipment package ensures short cycle times. The process gets a speed boost from a plasticizing unit drive with increased drive power. This ensures faster plasticizing and thus high throughput. The high-performance screw with special design for throughput-intensive applications also permits high melt quality with short cycle times. Additionally, the boost in injection speed enables fast and accurate filling of the 96 cavities

An electric ejector drive with greatly increased performance permits clean demolding at the highest speed. All cavities are always the same, shot after shot. At the KraussMaffei trade show booth, each shot yields 96 caps for polypropylene in a cycle time of 6 seconds and a shot weight of 105 g.

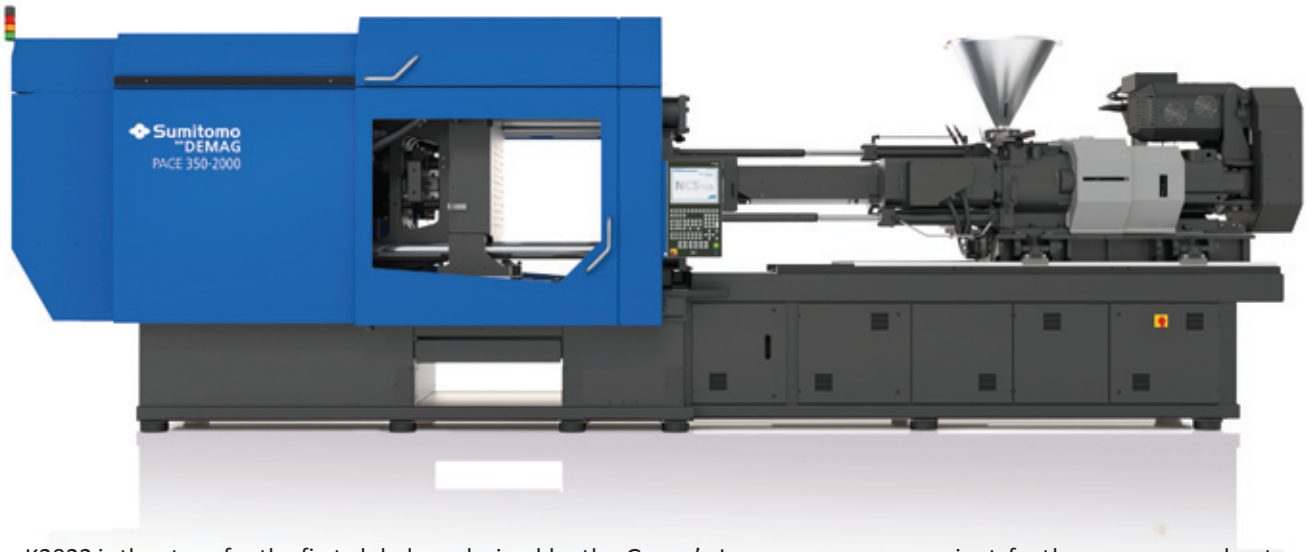
PX 200: Part of the circular economy circuit live at K

The PX 200 is part of a complete circular economy circuit at the KraussMaffei trade show booth. After being shredded, the manufactured insulin pen caps serve as the basis for an upcycling process with a ZE 28 BluePower twin-screw extruder. Here, a variety of additives, such as bonding agent and liquid dye, are added, blended and homogenized. The recompound this yields reaches the next injection molding machine, the new powerMolding 1300-11900 with a clamping force of 13,000 kN. This machine turns it into an automotive front-end carrier made of 100 percent recycled material. The complete material cycle also integrates many new digital solutions with which maximum savings can be achieved for both energy consumption and the CO_2 footprint.

KraussMaffei
www.kraussmaffei.com

At K, the PX 200-1400 produces caps for insulin pens with maximum efficiency and cost-efficiency

Energy-saving PAC-E packaging machine debuts at K 2022



PAC-E, the new all-electric high-speed machine for the packaging market (picture: Sumitomo (SHI) Demag)

K2022 is the stage for the first global presentation of the very latest all-electric innovation from Sumitomo (SHI) Demag - PAC-E. Engineered specifically for manufacturers of beverage closures and thinwalled packaging applications, the new all-electric, high-speed injection moulding machine builds upon the success of the El-Exis SP – renowned worldwide for being the best and fastest packaging machine on the market. The addition of PAC-E sets another new industry benchmark for energy consumption and cleanliness, exclaimsArnaud Nomblot, Director Business Development Packaging.

At the international trade fair in Düsseldorf, the company will initially demonstratethe new machine's capabilities and sustainability credentials on a 350 ton clamp force PAC-E model. Three additionalclamp force variants - 420, 250 and 300 tons – will subsequently follow in this order confirms Nomblot.

"PAC-E is a global development project that combines all ourcompany know-how from Germany and Japan," Nomblot reveals. The toggle levers, plates, tie bars and plasticising elements, includingthe screws and cylinders, were developed in Germany, while the electric drives and the newly developed injection unit with excellent injection performance were derived by the Group's Japanese parent company.

Two critical innovations differentiate PAC-Efrom the existing hybrid-packaging series. Notably, the solely electric-driven axesdeliver up to 50 percent in energy savings. Converting a 30 cents(€) per kW/h saving in electricity consumption, this can save manufacturers approximately €70,000/USD 71,285 per annum when measured against a high-speed hybrid packaging machine. Additionally, the lubrication of the toggle lever no longer causes cleanliness issues; being a completely closed circuit design it is leak free. Oil is instead extracted, filtered and recycled. This eliminates the need to clean the toggle lever, which has the added benefit of reducing oil consumption for customers.

Smaller footprint in every sense

Not only is the reduced energy consumption of PAC-E less resource intensive, the machine's dimensions are more compact. Meeting calls from customers for space-saving machines. The Director of Business Development Packaging affirms that although the PAC-E packaging machine is shorter and narrower, it maintains the excellent performance of the existing hybrid seriescombined withsignificant energy efficiency and greater cleanliness. Protecting packaging manufacturers against further resource shortages and uncertainties, as well as volatile energy prices.

With its injection capacity of 550 mm/s, PAC-E can also be used for thin-wall and food packaging with IML, confirms Nomblot. "This machine will enable processors to produce even thinner and lighter packaging items, resulting in a significant reduction in raw materials, waste and shipping costs."

To demonstrate the capabilities of PAC-E, the company's K 2022 showcase will use a 72-cavity mould supplied by Z-Moulds to manufacture 2,100 26/22 still waterbeverage caps every minute. The HDPE copolymer Eltex HD5211EA-B issupplied by Ineos Olefins & Polymers Europe, with Polar Bear introducing its advanced cavity cooling and tool dehumidification system. For optimal quality control, 100 percent of all the beverage caps pass through the Intravis camera inspection system.

Market launch of PAC-E commences in mid-2023 starting with the 350 ton. The company plans to roll out the remaining clamp force sizes in succession.

Sumitomo (SHI) Demag
www.sumitomo-shi-demag.eu

Henkel and Prodways collaborate to bring Loctite resins to ProMaker LD machines

Henkel has recently announced a collaboration with a new ecosystem partner, Prodways. Based in France, Prodways is a manufacturer of DLP 3D printing technologies, known for their patented DLP MOVINGLight® (MovingLight) technology. With this new collaboration, users can access Loctite's high-performance 3D printing resins on the Prodways' industrial platform to further enable the production of ultra-precise parts.

The Prodways ProMaker LD machines, supported by MovingLight technology, offer large production platforms (300x445mm) for high throughput with very high resolution, as fine as 40 microns per pixel everywhere on the platform. By adding Loctite high-performance resins to the ProMaker LD 3D Printers, industrial applications can be achieved with exceptional accuracy and productivity.

"I am very proud of this new collaboration that reinforces Prodways offers and help fast forward the innovations of our customers in the industrial manufacturing, automotive or consumer goods industries." explains Alban D'Halluin, CEO at Prodways Printers.

"This partnership offers a real opportunity for our customers to move beyond prototyping to volume production in additive manufacturing. The build size and precision of the Prodways machines along with Loctite industrial resins enables the production of truly functional parts for a much wider range of applications," adds Sam Bail, Director of Partnership for 3D Printing at Henkel.

Ultra-precise parts printed with Loctite IND 475 and Loctite 3843 on Prodway´s ProMaker LD 3D printer (all pictures source: Henkel)

You can find solutions from both companies on display at FormNext 2022, from November 15th to 18th in Frankfurt, Germany. Prodways will be exhibiting the ProMaker LD20 3D Printer and printed parts in their booth. Henkel LOCTITE 3D Printing will also be showcasing their industrial materials solutions at Formnext.

Part samples in Loctite IND 475 and Loctite 3843 printed with Prodway´s ProMaker LD 3D printer

About Prodways

Prodways Group is a specialist in industrial and professional 3D printing with a unique positioning as an integrated European player. The Group has developed right across the 3D printing value chain (software, machines, materials, parts & services) with a high value added technological industrial solution. Prodways Group offers a wide range of 3D printing systems and premium composite, hybrid and powder materials (SYSTEMS division). The company also manufactures and markets parts on demand, prototypes and small production run 3D printed items in plastic and metal (PRODUCTS division).

Henkel
www.henkel.com

NatureWorks selects Pelletron's pneumatic conveying and dust removal systems

Pelletron is responsible for designing and supplying the pneumatic transfer systems from pelletizing to storage and packaging. The pneumatic conveying method applied is Pelletron's positive pressure Strandphase® technology, the most gentle and efficient system for PLA pellet handling. However, even the most gentle conveying process creates some fine dust, so NatureWorks will utilize Pelletron's patented DeDuster® equipment in critical locations of their process to keep the pellets clean, with fine dust content less than 50 parts per million.

In addition to standard equipment drawings, the design scope for Pelletron includes detailed process and instrumentation diagrams ("P&IDs") and 3D modeling of the pipe routing throughout the NatureWorks plant.

All critical components such as rotary valves and diverter valves are equipped with instrumentation like speed switches, pressure transmitters, and level and position switches for constant feedback to the control system resulting in efficient operation and minimal downtime.

The selected rotary valves, Pelletron's GRM medium pressure model, have patented anti-shear features built into the housing to minimize pellet cutting. The valves also feature expanded rotor tips to reduce leakage through the valves, increasing the system's efficiency.

The diverter valves for the Thailand plant are Pelletron's PDV model, equipped with positive, self-adjusting seals at each port. PDV valves are engineered for zero leakage and are suitable for handling powders and pellets. The valve's end stops are built into the housing instead of the actuator so the actuator can be replaced without removing the valve from the conveying pipe, a significant time-saver for maintenance.

Fines content is a consideration for buyers of PLA resin, so Pelletron applied their low profile, high-performance XP Series DeDuster® after pelletizing and again just before packaging. The DeDuster® systems will remove fine dust in addition to coarse dust and streamers if present.

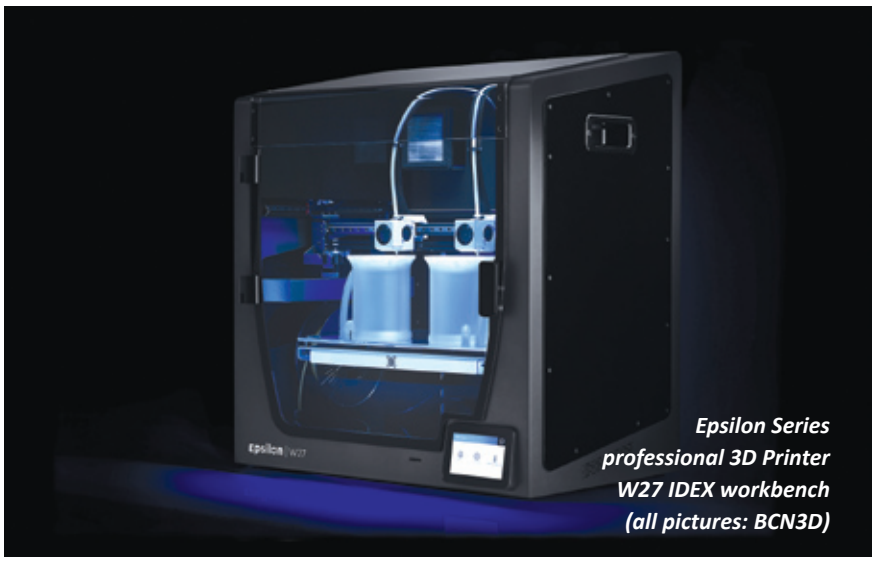
The new, fully integrated plant located in the Nahkhon Sawan Biocomplex in Thailand will produce 75,000 metric tons of polymer per year. It is the second Ingeo PLA manufacturing location in the world. Its first was built in Blair, Nebraska, in 2002 and expanded in 2013 to produce 150,000 metric tons per year.

The expanded global production of Ingeo biopolymers will support growth in markets that demand sustainable, low carbon materials with high-performance attributes, including 3D printing, hygiene products, compostable coffee capsules, tea bags, flexible packaging, and food utensils.

Pelletron
www.pelletroncorp.com

BCN3D announces new partnership with GPA in Latin America and the Caribbean region

In an effort to provide the best local Additive Manufacturing experience, BCN3D, a leading manufacturer of 3D printing solutions based in Barcelona, and GPA have announced a partnership agreement.



Epsilon Series professional 3D Printer W27 IDEX workbench (all pictures: BCN3D)

GPA has one great passion: its customers! For more than 50 years, GPA has provided the best solutions to its customer's needs, supporting them in their growth and in their successes. GPA believes that in a few years there will not be a single industry that doesn't require a 3D printing solution; it will have a presence to a greater or lesser extent in all sectors of life.

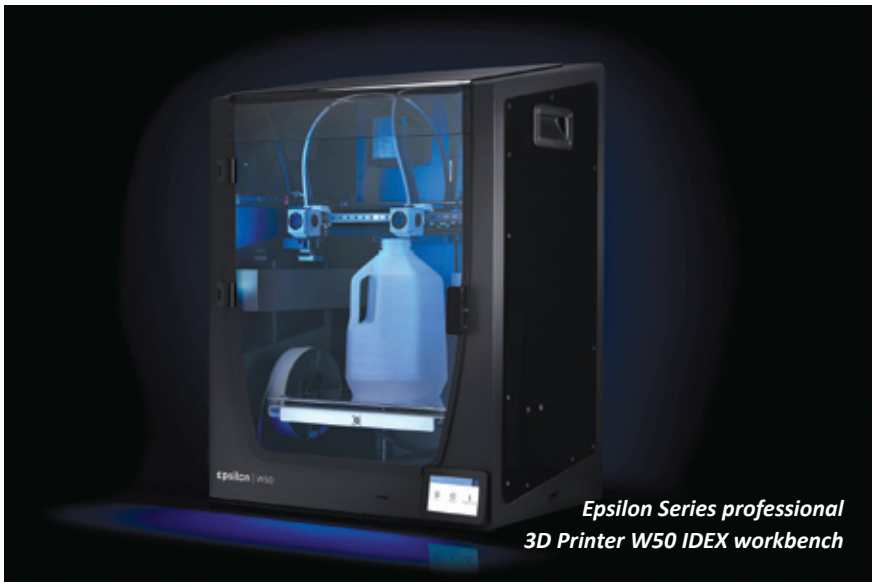
"3D printing is a growing technology, necessary for the development of our clients. PBS and GPA will be accompanying them in these new challenges hand in hand with the best: BCN3D!" – Vynnie Mila, GPA Comercial Manager and PBS Regional Manager.

GPA's reasons for partnering with BCN3D

The pandemic showed GPA how important it is to be able to have local alternatives for the production of spare parts and pieces, bringing to the table the need for the 3D printing market in a professional manner. By always listening to the market, the GPA portfolio grows parallel to its needs and 3D printing has become a must.

After analyzing different brands, GPA we decided on BCN3D because it had an excellent ROI, very clear advantages in terms of productivity over the competition, and an excellent team behind all its incredible technology.

"BCN3D's commitment to both customers and innovation was perfectly aligned with our company's vision. We chose BCN3D because, without a doubt, it is the best option for our clients and our market." – Vynnie Mila, GPA Comercial Manager and PBS Regional Manager



Epsilon Series professional 3D Printer W50 IDEX workbench

GPA emphasized that 3D printing is the axis of the fourth industrial revolution and that the main forecasts suggest that the trend is for the 3D printing market to triple. In turn, this means we will see a strong integration of 3D printing in production lines and more materials, all at lower costs and a higher speed with smarter, easier-to-use printers.

About GPA

GPA was founded in 2007 and quickly became the largest master distributor of Xerox products focused on the portfolio of Xerox printers and MFPs for authorized Xerox resellers in Latin America and the Caribbean region.

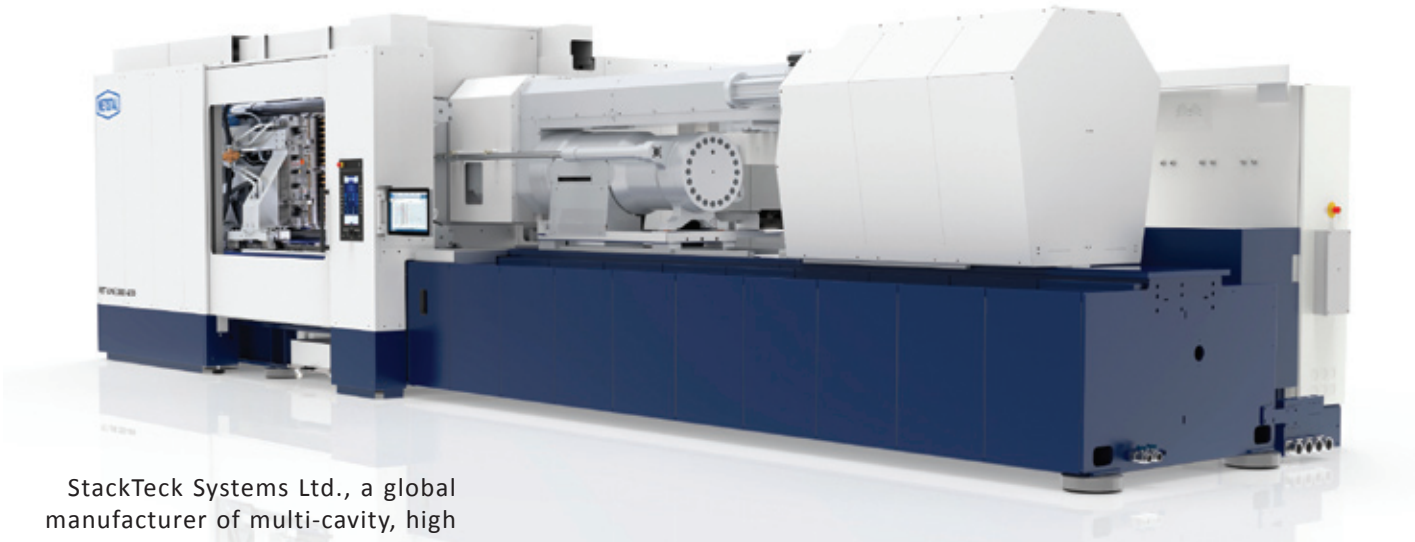
Today it is the number one west side distributor and second worldwide distributor for Xerox, and its portfolio has expanded in recent years to include all growth market segments in the region, including packaging, flexography, labels, and 3D printing.

About BCN3D

BCN3D is one of the leading developers and manufacturers of 3D printing solutions in the world with an installed base in more than 60 countries. Its main clients include Nissan, BMW, NASA, Camper, Louis Vuitton, and the Massachusetts Institute of Technology (MIT).

BCN3D
www.bcn3d.com

StackTeck teams up with NETSTAL for PET preforms

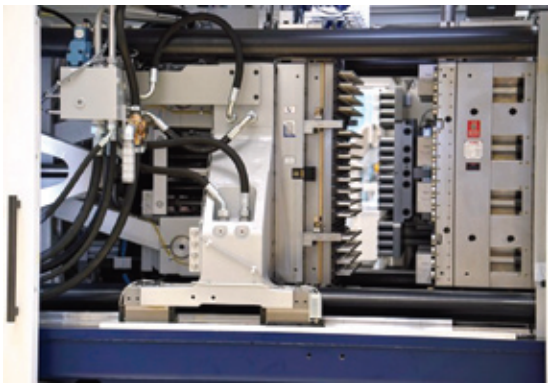


NETSTAL PET-LINE
(picture source: NETSTAL)

StackTeck Systems Ltd., a global manufacturer of multi-cavity, high volume production molds, has ordered a NETSTAL PET-LINE 4000 system for PET preform mold qualifications. It will be installed in Q1 of 2023 at their headquarters located in Canada. The system will be capable of qualifying molds with side entry multi-position take-off plates, as well as PiCOOL™ blow pin plates. StackTeck's mold qualification TeckCenter is being prepared with a dedicated bay, including all services and drying capabilities required for any production preform mold that would run in the system at an optimized cycle time.

Rick Unterlander, General Manager PET commented, "The StackTeck team has taken on many challenges in recent years, from high cavitation 144 cavity molds, to rPET and overmolding systems, while introducing new advances to increase productivity and part quality. By adding a full-scale production machine and automation to our mold qualification capability supplied by NETSTAL, we will be in a tremendous position to support customers with PET molds. Our TeckCenter is well equipped with an automated vision inspection system to handle large numbers of plastic samples needed for PET projects."

StackTeck 96 cavity PET preform mold in NETSTAL PET-LINE 4000 system (picture source: StackTeck)



It isn't the first time the two companies have worked together. According to Vince Travaglini, StackTeck's President & CEO, "We have worked closely with NETSTAL on many projects in the packaging and medical sectors for years now. This is a great step forward for us, now we join forces with a PET industry leader who we already know very well. We've used NETSTAL test machines for over 20 years, and when this PET-LINE 4000 system arrives nearly half of our test machines will be from NETSTAL."

Doug Haberman, President of NETSTAL Inc. also commented: "We are very excited that our long-term relationship with StackTeck has evolved to now allow us to pursue the PET preform market together. The PET-LINE 4000 system operating in StackTeck's TeckCenter will fully demonstrate compelling output advantages of our combined solutions."

StackTeck and its parent company were well positioned to enter the PET industry in 2009. Utilizing unique hot runner technology for PET preform molds, StackTeck achieved rapid growth and earned the trust of their local customers. Today, StackTeck is a globally recognized company, offering complete PET preform mold packages up to 144 cavities, mold conversions and replacement components, mold repair and refurbishing services, and also integrate complete preform molding cells in cooperation with their industry partners.

StackTeck PET preform molds take advantage of innovative ISO hot runner technologies that reduce pressure drop, improve cavity to cavity balance, significantly reduce color changeover time, and generate lower AA levels than conventional designs, while virtually eliminating PET dust. The molds also utilize KoolTrack™ conformal cooling to improve productivity, and a patented post mold cooling technology called PiCOOL™ that speeds up cycle times and reduces piece part costs.

StackTeck
www.stackteck.com

Fu Chun Shin's new plant in Ningbo Hangzhou Bay scheduled to be completed by year end

Fu Chun Shin Machinery Manufacture Co., Ltd. (FCS) believes that the market for new energy vehicles in China is promising and has invested NTD 1.2 billion to construct a new plant in Ningbo Hangzhou Bay, China. The plant is scheduled to be completed by the end of 2022. It plans to integrate the resources of the new plant and the existing plants in Dongguan and Ningbo and improve the overall arrangement for the enlargement and intelligent manufacturing of plastic Injection molding machines. Currently, the orders for auto parts have been arranged till the second quarter of 2022. The new plant is expected to be gradually put into production from the first quarter of 2023.

FCS decided to set up the fourth production base for injection molding machines in Ningbo Hangzhou Bay New Area in 2019 and began the construction in 2020. The base covers an area of 66,690 square meters, with a gross floor area of 61,000 square meters. It is planned to be a production base with an annual output of 2,000 special injection machines. It will mainly produce large two-platen injection molding machines with a clamping force of more than 500 tons, large two-color injection molding machines, and large horizontal opposite injection molding machines. The annual output value is estimated to be RMB 600 million. FCS has been highly recognized and trusted by customers in the auto parts industry, sports equipment, staple merchandise, and 3C electronics for many years. Specifically, the revenue for the auto part industry accounts for an increasingly high percentage, which occupied 60% in the first half of 2022.

The market scale for new energy vehicles in China keeps growing. As a result, the main customers of FCS, including Tesla, BYD, Stanley, Yingli, TYC, SAIC Motor, and Guangzhou Automobile, had invested more to expand production, leading to the increasing sales of FCS multi-component injection molding machines. The combined revenue of FCS in the first seven months was NTD 2.703 billion, with a year-on-year increase of 10.02%. The gross profit rate for multi-component injection molding machines is higher than that of general machines for the high technical difficulty and complexity. Consequently, the gross profit rate of FCS in the first half year was 26.29%, up by 2.21% from the same period of last year. Its profit after tax for the first half year was NTD 96.14 million, with a basic profit of NTD 0.65 per share. The profit earned in the first half of the year has exceeded 80% of that the whole profit earned last year.

FCS has arranged the orders for auto parts until the second quarter of next year, with the multi-component injection molding machines accounting for the most. It is expected to create the production rate of plants in Taiwan, Dongguan, and Ningbo. The overall operations of this year maintain a growing tendency. Benefiting from the constant tide of technologies regarding lightweight, energy saving, and carbon reduction, and the intelligent manufacturing of all industries around the world, FCS will continue to enhance the R&D and quality assurance system of its operation headquarter in Taiwan. It will utilize the Group's flexible production and sales distribution, and the integration strategy of all production bases to take over more market shares of customized plastic injection molding equipment of intelligent integration.

Fu Chun Shin
www.fcs.com.tw

This construction started in September 2020 and the new plant will be officially put into production in January 2023 (picture: Fu Chun Shin)

Arburg France: Celebration to open new building

The Arburg subsidiary in France officially opened its new building on 14 September 2002 in Tremblay-en-France. High-profile representatives from Arburg headquarters, Renate Keinath, Managing Partner, and Gerhard Böhm, Managing Director Sales and Service, were present to celebrate the opening of the Arburg Technology Center (ATC) alongside the guests. During an Open House event held the next day, the visitors were able to see for themselves the many possibilities of the ATC. The programme included live demonstrations in the new showroom and expert presentations. In total, over 80 guests attended the two-day event.

From left: Pierre-Jean Leduc, President of Polyvia Formation, Gerhard Böhm, Arburg Managing Director Sales and Service, Renate Keinath, Arburg Managing Partner, Pascal Laborde, Managing Director Arburg France, and Steffen Eppler, Arburg Director Sales Europe, cutting the tape (photo: Arburg)

On behalf of the entire organisation, Renate Keinath thanked the customers for their trust in Arburg: "Our successful cooperation over the past decades confirms to us that by opening a subsidiary in France in 1985, we took the right path." The subsidiary in France is our oldest foreign location and is very important to Arburg. The concept of supporting customers on location has worked magnificently, and in the years that followed, we gradually rolled it out all over the world. "The great importance of the French market for Arburg is also reflected in the current investment in the new Arburg Technology Center," said Renate Keinath. "This is a significant milestone for us and for our presence in France."

Showroom as centrepiece

The new Arburg Technology Center in the industrial park in Tremblay-en-France in the Paris area has a floor space of over 1,500 square metres, and is thus around 40 percent larger than the previous location in Aulnay-sous-Bois. With an area of over 400 square metres, the showroom has space – depending on machine size – for up to four Allrounder injection moulding machines and for Freeformers. "We can show a representative cross-section of the Arburg portfolio here," explained Renate Keinath. The machines are available for tests with customer moulds, as well as for training purposes. There are two training rooms, measuring over 100 square metres, for the theory part of the courses. "The entire infrastructure of the ATC is state of the art and ensures that customers and employees alike will feel completely at ease in the new premises," said the Managing Partner.

> "With the new ATC, we have created excellent conditions for continuing to foster outstanding cooperation with customers and partners in the future," Gerhard Böhm, Arburg Managing Director Sales and Service

Successful partnership

In his speech, Gerhard Böhm reviewed the history of the subsidiary. The foundation stone for Arburg's international sales and service network was laid in 1985 with the foundation of the subsidiary in France. Today, the team in France comprises 26 employees, 15 of whom work in the Service division alone. As well as on-site service technician deployments, their tasks also include hotline support, the provision of spare parts, application technology advice and customer training. In addition, the subsidiary also supports customers in Morocco and Tunisia. "The Arburg France team handles these mammoth tasks with flying colours," said Gerhard Böhm. The successful German-French partnership is also demonstrated at the Technology Days, where up to 200 visitors traditionally travel from France, making it one of the largest groups from abroad.

Open House: Focus on digitalisation and sustainability

The programme of the Open House included a guided tour for visitors, and live demonstrations of the machines. Afterwards, experts gave presentations on topics such as digitalisation, arburgGREENworld, strategies on resource efficiency, and the circular economy. "The guests are impressed by the new building and the entire event," Pascal Laborde was happy to report. "The building represents our desire to develop further, to modernise our injection moulds, our processes and our actions, in order to react even better to the needs of our customers."

Arburg
www.arburg.com

Plastic moulding specialist moves to 24-hour operation

A boost in business has led to a North-East manufacturing specialist moving to a 24-hour operation to meet 'unprecedented demand' for its expertise.

Fairgrieve Compression Moulding, in Washington, Tyne & Wear, has more than 100 years' history in plastic moulding, supplying a wide range of industries from construction and mining to offshore and marine. The company was bought by UK manufacturing investor Daniel Beaumont last year, and led through a rapid transformationby general manager Barry Davidson, who joined soon after the business changed hands.

Mr Davidson admits business was slow when he joined 12 months ago, as the company was emerging from the Covid-19 pandemic and as the manufacturing sector was still adjusting to the impacts of Brexit. But he says Fairgrieve Compression Moulding is now reaping the rewards of a positive market – and one with a renewed commitment to buying British – leading to the business recruiting extra staff to work on the factory floor.

"Since the turn of the year we have been incredibly busy and seen unprecedented demand for our products. I think much of that is down to the manufacturing sector benefitting from more businesses being back at work, and more decision makers being on site and on the factory floors," he said. "We are also seeing a real commitment to buying British from our customers due to the long lead times on products from Europe, and the rising costs. One of our long-standing customers always previously asked us to source the raw materials abroad, but we've actually been able to find a UK supplier where the lead time is much shorter. I think the manufacturing industry is having to think British first now. That has to be a good thing."

With the business seeing a number of customers placing orders for the first time in a number of years, and a number of new clients secured this year, Mr Davidson said the decision to switch from a 9-5 operation to a 24 hour production facility was a necessity. "We've had to change the way we work, but again it has been another move which has increased our efficiency and productivity, and the staff have all supported it. We have a lot of employees who have been with us for a number of years, and they have really bought into what Daniel and myself want to achieve, and are delighted to see the business doing so well."

Barry Davidson, new General Manager (all photos: Fairgrieve)

Fairgrieve staff produce products on the factory floor

Owner delighted to be outperforming targets as more investment planned

Daniel Beaumont, owner of Fairgrieve Compression Moulding, said the company was performing more efficiently and ahead of targets set when he bought the business.

It follows a year of investment and change, in which Fairgrieves have been through a programme of continuous improvement, and placed a focus on research for clients and the development and launch of new products.

"The move to a 24-hour operation was not in the plans but it really was a move we had to take to meet demand," he said. "We've had an excellent first half of the year and we are ahead of expectations. Much of that is down to smarter ways of working we have introduced, and from reducing overheads and ensuring efficient systems are in place. We now have more investment planned into our factory for later in the year. It is pleasing because we have seen the morale of the team lifted. It is great for them to see us so busy, as in times of a cost-of-living crisis and pressures on business, it brings confidence and a feeling of job security."

Fairgrieve Compression Moulding
www.fairgrieves.co.uk

Markus Wolfram – new Head of Sales

of WITTMANN Technology in Vienna, the headquarters of the WITTMANN Group, as of August 1st 2022.

Markus Wolfram had started his professional career working for WITTMANN as a technician, and eventually had assumed the position of International Sales Manager for material handling systems. After having taken some insights into another branch of industry – the hot dip galvanizing sector – Markus has now returned to what interests him most: the plastics processing industry in its broadest sense – and hence his return to WITTMANN. In total, Markus has been with WITTMANN for 18 years. He will operate from the Vienna group headquarters and will report directly to the company management board.

Markus Wolfram states: "My new role within the company as Head of Sales allows me to get in touch with the most interesting innovations and products. In fact, that is always what I am on the look out for – and the exact same thing applies to WITTMANN and its customers. The comprehensive product range of WITTMANN Technology covers robots, advanced automation solutions, and auxiliaries such as temperature controllers, material dryers, blenders, up to complete centralized material handling systems."

Michael Wittmann, WITTMANN Technology President, expressed his great delight to have Markus Wolfram back on board as the new Head of Sales. He says: "Visit us at the K show in Düsseldorf, starting at October 19th. Meet your plastics processing equipment providers – and if you don't know him already, get to know Markus Wolfram."

WITTMANN Group
www.wittmann-group.com

Markus Wolfram
(photo: WITTMANN Group)

Flexicon expands QUICK SHIP programme

Popular models of Flexicon's BULK-OUT® Bulk Bag Dischargers and BLOCK-BUSTER® Bulk Bag Conditioners have been added to an expanded QUICK-SHIP programme that offers bulk handling equipment on a rush basis from stock throughout Europe.

Bulk Bag Dischargers are available as BFF models requiring forklift loading of bags, and BFC models with cantilevered I-beam, electric bag hoist and trolley. Both include FLOW-FLEXER™ flow promotion devices and can be paired with QUICK-SHIP models of flexible screw conveyors.

Bulk Bag Conditioners are equipped with opposing hydraulic rams and contoured conditioning plates, and a programmable scissor lift with turntable, for conditioning bags on all sides at all heights.

Popular models of Flexicon bulk handling equipment are now available for rush shipment from stock (picture: Flexicon)

The QUICK-SHIP programmecontinues to offer FLEXICON Flexible Screw Conveyors, with tubes and screws supplied in any length from 1.5 to 12 min diameters from 67 to 114 mm OD, with a stainless steel floor hopper, 45 or 90 degree discharge adapter, IP55 or IP65 geared drive units and IP65 control panels.

All equipment is constructed of carbon steel with stainless steel product contact surfaces, with the exception of polymer conveyor tubes.

The company also manufacture custom configurations of flexible screw conveyors, bulk bag dischargers, and bulk bag conditioners, as well as tubular cable conveyors, pneumatic conveying systems, bulk bag fillers,drum/box/container tippers, manual dumping stations,weigh batching and blending systems, and engineered plant-wide bulk handling systems with automated controls.

Flexicon
www.flexicon.co.uk

All pictures: NETSTAL

Fast, precise and well-connected: NETSTAL demonstrates injection molding technology at the highest level at K 2022

Under the motto "Global Excellence for Customer Success", NETSTAL will present itself to the industry with innovative solutions for high-performance injection molding. With outstanding application expertise, high-performance machine technology, innovative services and standardized OPC-UA integration, NETSTAL paves the way for its customers to maximum productivity and lowest unit costs.

Two high-performance production systems will catch the eyes of visitors at the NETSTAL booth from October 19 - 26. "The guiding theme of our appearance at K is "Global Excellence for Customer Success". This is because processors face the challenge of increasing their productivity and minimizing the cost per part produced in the face of tough competition. The shortest possible cycle times, maximum precision and high machine reliability are key factors. But the efficient use of resources is also relevant, such as the lowest possible energy consumption or thinner wall thicknesses. In these and other areas, we support customers around the world with our new organization," says Renzo Davatz, CEO of NETSTAL and member of the Executive Committee of KraussMaffei.

Powerful solutions for high-precision applications in medical technology

NETSTAL will produce pipette tips in 64 cavities on an all-electric ELION 1200. The system solution includes a precision mold from Otto Männer and a high-speed handling system from Micro Automation. An electrically conductive compound from Premix, which was specially developed to produce pipette tips for in-vitro diagnostics, will be processed. Customers benefit from the many years of expertise of all system partners and receive a turnkey and highly productive complete system. The clock generator is the energy-saving, medically equipped ELION injection molding machine, which achieves a particularly fast cycle time of around 5.3 seconds for this application. The machine is equipped with the innova-

All-electric ELION from NETSTAL delivers high performance with low energy consumption

tive 4-button SMART OPERATION control system. This option enables users to achieve additional productivity gains through automation, standardization and shortening of recurring process steps in shift operation. Equally interesting for medical technology customers is the regular calibration of injection molding machines in accordance with ISO 17025. NETSTAL has been an accredited calibration laboratory since the end of 2021. The new service includes the calibration of the machines at the customer's site. If required, also with comprehensive documentation for use in the audit.

Exhibition premiere of the accelerated ELIOS 4500

The further developed ELIOS 4500 celebrates its trade show premiere. Due to the switch to an all-electric mold closing, the dry cycle could be accelerated by 0.1 seconds. Users benefit not only from increased productivity, but also from optimized energy efficiency: in relation to the dry cycle, the average power consumption of the machine is reduced by 7kW. Another bonus point is provided by the 450mm shorter machine length. At the NETSTAL booth, the ELIOS 4500 will produce thin-walled 150ml IML yogurt cups from a certified renewable PP from SABIC. The material is based on tall oil, a waste product from paper production. It has identical processing properties to conventional polypropylene (PP) and can be returned to the resource cycle. One cup weighs just 6.5 grams. The 12-cavity mold, like the handling system, comes from IML Solutions. The cycle time will be around 5 seconds. The in-mold labels from Verstraete will feature digital watermarks from the Holy Grail 2.0 initiative. Codes invisible to the human eye will be printed on the entire surface of the labels. These contain machine-readable information about the contents, packaging material and origin. Different types of plastic are separated by type and sent for recycling.

Pipette tips like these will be produced at the NETSTAL booth

Perfectly linked via OPC-UA interface

As an OPC-UA Foundation Member, NETSTAL is pushing the development of the interface standard for plastics machinery. OPC-UA enables the standardized, manufacturer-independent, and efficient data exchange of machines, devices and other systems in the industrial environment. At the booth, NETSTAL will present the complete peripheral integration of a Manufacturing Execution System from bfa solutions, temperature control units from HB-Therm and Gammaflux hot runner control units. In addition, NETSTAL will participate in the OPC-UA Showcase of the VDMA. All NETSTAL machines exhibited at K, including those on partner stands, will be integrated into the umati demonstrator. Visitors to the trade fair can use their smartphones to scan QR codes attached to participating machines and systems and thus obtain information on the machine, status, the job in progress and process values in real time in the umati app. **smi**

NETSTAL
www.netstal.com/en

Arburg at the K 2022: "There is only a Plan A"

- *Plan A: Circular economy and technology working hand in hand*
- *Plan A: More sustainability through resource-efficient use of plastics*
- *Plan A: Digitalisation is the future of plastics processing*

An electric Allrounder 370 A with recyclate package to produce "Greenline" plugs from Fischer (all pictures: Arburg)

Excitement is mounting in the run-up to the K 2022, the world's leading trade fair for the plastics industry. As always, Arburg has adopted a clear message for its trade fair appearance in Duesseldorf: "There is only a Plan A". "Plan A" conveys that the machine manufacturer is committed to making its contribution and presenting solutions for the important global issues of sustainability, the circular economy and carbon reduction. Accordingly, with its trade fair stand and with the arburgGREENworld pavilion in the VDMA Circular Economy Forum, Arburg will showcase its pioneer role in resource conservation. Combined with extensive digitalisation, Arburg is perfectly positioned to provide high-end technology for greater sustainability.

"The issues of sustainability, resource conservation and livelihoods are an increasing concern for people – especially in connection with plastics," says Juliane Hehl, Managing Partner at Arburg and responsible for Marketing and Business Development. She adds, "One of the key questions is: how can we sustainably combine ecology, economy and social coexistence today and in the future?" Arburg has been focusing on this topic for a long time – not only in terms of its production, but also in terms of its own products. "As a machine manufacturer, we are responsible for consuming as few resources as possible when manufacturing our machines," explains Juliane Hehl. But it also means that customers can use Arburg machines to implement processes that save on resources and offer solutions for the circular economy. "It's a complex task as it involves looking at the entire value creation chain," the Managing Partner sums it up. At the end of the day, the goal is to sustainably reduce the carbon footprint in plastics processing and feed the recyclable plastics material back into the materials cycle.

Arburg has a plan: "Plan A"

"With 'Plan A', we want to show visitors of the K 2022: we have understood these contexts and, as a machine man-

ufacturer, we are making our contribution by tackling these issues on both a strategic and an operational level," says Dr Christoph Schumacher, Director Marketing. "Our message 'There is only a Plan A' communicates clearly that there can be no 'Plan B' when it comes to resource conservation, the circular economy and carbon reduction – following the motto of the sustainability movement 'There is no Planet B'." Of course, "Plan A" also corresponds with the focal points of K 2022, namely the circular economy, digitalisation and climate protection, which have become even more important global challenges since the last trade fair in 2019. "Our trade fair appearance underlines that we have a 'Plan A' when it comes to the perfect combination of sustainability, efficiency and cutting-edge technology", emphasises Dr Christoph Schumacher.

Around 2,300 square metres of "Arburg" in Duesseldorf

At K 2022, Arburg will illustrate how highly networked, digitalised manufacturing helps to conserve resources and increase production efficiency. It is all about the synergy between the circular economy and high-tech with the help of targeted digitalisation. The topic's importance for Arburg can also be expressed in figures: Arburg's presentation area has increased by a total of more than 800 to around 2,300 square metres: The Arburg stand now covers around 1,900 square metres, plus another 400 square metres for the arburgGREENworld pavilion in the VDMA Circular Economy Forum in the inner courtyard of the exhibition grounds.

Managing Partner Juliane Hehl is responsible for Marketing and Business Development

Sustainability thanks to digitalisation

How exactly can digitalisation deliver sustainability? For example, through targeted sorting and recycling of plastics. Tools include the R-Cycle initiative and marking technologies such as watermarks or QR codes that are applied to products during the manufacturing process. Or equipping the Gestica control system with various digital assistance systems to make it easier for customers to manage the problem of fluctuating material quality of recyclates. Arburg will tackle these issues both at its stand and the arburgGREENworld pavilion.

Circular Economy Pavilion: sustainability in theory and practice

The arburgGREENworld pavilion is all about concrete sustainability measures in production and products: in other words, about what Arburg does within its own company to conserve resources and what its products do for customers. "Greenline" plugs from Fischer, one of the market leaders for fastening systems, will be produced on an electric Allrounder 370 A with recyclate package and Multilift robotic system. The giveaway is a prime example of a successful circular economy in the field of post industrial recyclate (PIR). The sprue is deposited directly in a mill. It is then returned straight back into the process as regrind and reused. Arburg wants to "rock" the arburgGREENworld pavilion with a young, completely new team at the stand. The team, which includes many trainees, will also be a striking reminder: sustainability is a key component of our future; today's efforts are essential for future generations!

Dr Christoph Schumacher, Director Marketing

Technologies for more sustainability and production efficiency

The main stand will showcase corresponding Arburg technologies that enable sustainable, efficient manufacturing. Exhibits will include solutions with a small footprint, process control and networked peripherals, as well as completely new technologies, configurations with compact automation or the series production of mass-produced articles. A total of eight hydraulic, hybrid and electric Allrounders with a clamping force of between 350 and 6,500 kN and two Freeformers for industrial additive manufacturing will be on show at the trade fair stand. All injection moulding machines will be automated with robotic systems, in some cases integrated into complex turnkey systems and connected to the "arburgXworld" customer portal.

Visitors will be able to see for themselves the potentials of the Gestica control system and its assistants, such as the "aXw Control FillAssist". The Varimos plug-in from Simcon will be shown for the first time, which displays the effects of changes to machine parameters based on AI.

Another real eye-catcher will be the production of a high-quality tool case in Arburg design on a hybrid

"There is only a Plan A" is the motto of Arburg at K 2022 in Duesseldorf, the world's no. 1 trade fair for plastics and rubber

Allrounder 1120 H with a clamping force of 6,500 kN.

No less than three exhibits are equipped with the Arburg recyclate package: an electric Allrounder 470 A produces PP handles from post-consumer recyclate (PCR), while a hydraulic Allrounder 270 S compact uses glass-fibre-reinforced PPS recyclate to make tweezers. The exhibit also has secure 5G mobile connectivity – a pilot project by Arburg and Telekom.

Another networked, compact turnkey system is based on an Allrounder 375 V with a six-axis robot and Arburg Turnkey Control Module (ATCM) and produces a bicycle tool from recycled PA66/6 (GF50).

A further "smart" exhibit is a hybrid packaging Allrounder 630 H in a cleanroom design that produces around 18,000 transparent PET blood tubes per hour: the injection moulding machine communicates with the mould, hot runner controller, material dryer and automation via the Gestica control system and OPC UA. The "Moldlife Sense" computer system is integrated into the 32x tool provided by Arburg's partner Hack and enables monitoring across the complete life cycle.

With an electric Allrounder 720 A, Arburg will present an alternative to deepdrawing. Its new size 1300 injection unit enables high injection volume flows thanks to precise AMKmotion servo motors. The exhibit manufactures thin-walled, round IML cups.

An Allrounder More 1600 manufactures Luer lock connectors for medical technology. The application will be the first to show handling with a Yaskawa robot, which can be directly programmed via the Gestica control system.

A definite highlight in terms of mould technology will be the Allrounder Cube 1800 with a 8+8+8-cavity cube mould with new CITI technology of Arburg's partner Foboha. The three-component cube mould produces a functional component from PP, TPE and POM. A six-axis robot simultaneously fills the mould, cools it and removes the parts.

Arburg family: everything under one roof

Apart from Arburg's own products, products from two sister companies will also be on show: two 3D printers from innnovatiQ as well as the components from AMKmotion for the Allrounder powertrain. After all, the powertrain is the hallmark of a state-of-the-art injection moulding machine. Thanks to the acquisition of AMKmotion, Arburg now has complete control over the development and production of the entire powertrain, including servo motors and servo inverters – which makes the company unique, at least in Europe.

Arburg prominently represented at the exhibitions

An impressive total of 15 further systems will be represented at stands of various Arburg partner companies, distributed across the entire exhibition. In addition, as in 2019, Arburg will act as a sponsor to ensure that free WLAN access is available to all visitors at the exhibition centre.

About Arburg

German family-owned company Arburg is one of the world's leading manufacturers of plastic processing machines. Its product portfolio encompasses Allrounder injection moulding machines with clamping forces of between 125 and 6,500 kN, the Freeformer for industrial additive manufacturing and robotic systems, customer and industry-specific turnkey solutions and further peripheral equipment.

Arburg is a pioneer in the plastics industry when it comes to production efficiency, digitalisation, and sustainability. The "arburgXworld" program comprises all digital products and services and is also the name of the customer portal. The company's strategies regarding the efficient use of resources and circular economy, as well as all related aspects and activities, are outlined in the "arburgGREENworld" program.

Arburg's central aim is for customers to be able to produce their plastic products, from one-off parts to large-volume batches, in optimum quality at minimum unit costs. The target groups include, for example, the automotive and packaging industries, communication and entertainment electronics, medical technology and the white goods sector. ***smi***

Arburg
www.arburg.com

Premiere at the K 2022: The new BOY XS E

At the K 2022 in Düsseldorf, the German machine manufacturer BOY will present its new injection moulding machine to the specialist audience for the first time.

BOY XS E with QR-Code for the video clip (picture: BOY)

BOY will present the enhancement of its successful compact machine with a clamping force of 100 kN. Thus the new BOY XS E is the successor of the globally successful BOY XS, which has been used for a continuous industrial operation in many industries since 2009.

The main difference between the BOY XS E and its predecessor model is the servo-motor pump drive. The efficient drive concept of the E-series from BOY thus covers its entire clamping force range from 100 kN to a maximum of 1,250 kN. "In addition to the energy benefits provided by the drive technology of the E-series, the servo drive of the new BOY XS E also scores with its high dynamics and an extremely smooth running," reports Martin Kaiser, Head of Technology at BOY. According to his statements, the modified BOY injection moulding machine offers a more ergonomic and service-friendly design as well as a significantly improved accessibility. Amongst others an extractable drawer has been integrated into the front side of the machine frame for service and cleaning purposes.

The BOY XS E is available with two different clamping platen configurations; in the standard-design for conventional mould sizes up to 160 mm (diagonally up to 205 mm clear space between the tie bars) as well as with a special 75 x 75 mm mould holder for micro moulds from many well-known standard manufacturers. The specialist for injection moulding machines with clamping forces of up to 1,250 kN will present both designs of the BOY XS E at its booth. Another advantage of the BOY XS E in terms of application technology is the 25 mm height-adjustable injection unit, which enables decentralised injection.

At the K 2022, the BOY XS E will be presented with a new screen visualisation. The ALPHA 6 appears in 16:9 screen format and is equipped with additional functions, such as an individually adjustable (Widget-) library as well as a modified presentation of the symbols on the user interface. With this new visualisation, users of previous BOY machine controls wont't have any problems in getting around with it, as the basic concept has been rmaintained. For example, previous data sets from the previous Procan ALPHA 4 are compatible for the transfer into the new ALPHA 6.

The equipment of the BOY XS E is supplemented by a cooling water distribution system with digital flow measurement, which will be offered as standard for all BOY injection moulding machines in the future. The cooling water distribution system developed by BOY can be optionally expanded and can be equipped with a temperature recording. This data can also be recorded into the process data collection of the control system. Optionally a socket distribution (triple) can be integrated.

The space-saving integration of sprue and removal pickers under the protective housing is just as much a part of the variety of equipment as well as the rear removal handling with parts transport planned for K 2022. At the BOY booth one of the two BOY XS E will produce an egg cup made of NAS 30. The egg cups will be removed from the mould via removal handling and placed on a conveyor belt. The second BOY XS E with microform- plate design (mould holder 75 x 75 mm) will produce a mounting bolt made of PP.

After 13 years of BOY XS, the medium-sized machine manufacturer developed the successor model just at the right time. The BOY XS E meets the increased demands for high efficiency, energy-saving machines and a sustainable and resource-saving design. ***smi***

BOY
www.dr-boy.de

WITTMANN BATTENFELD at the K 2022 show

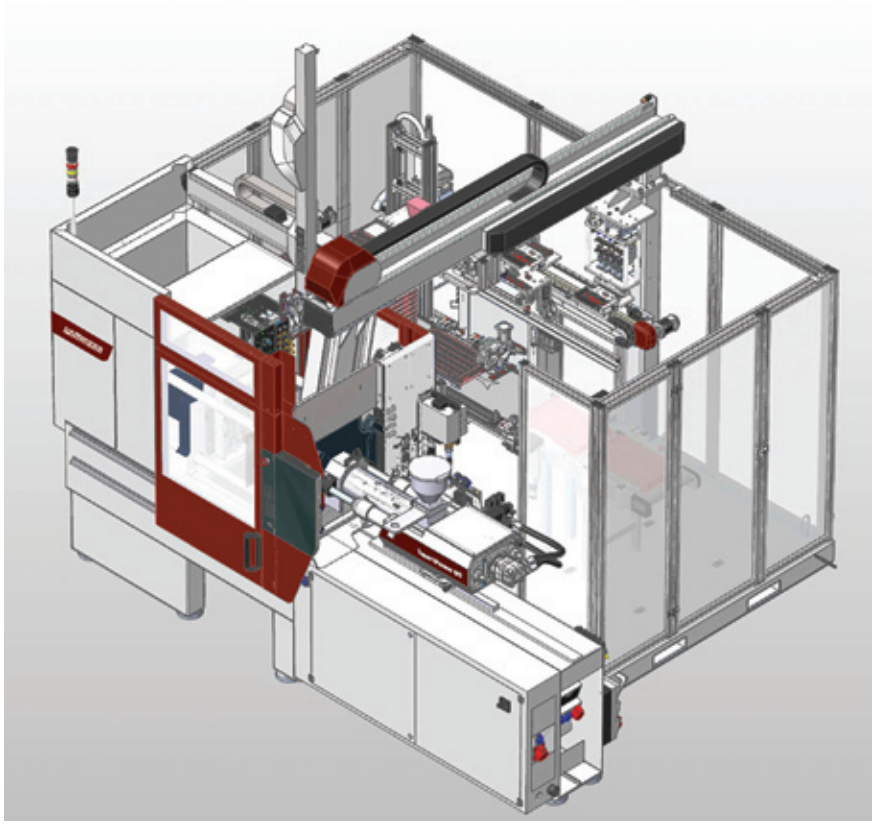
Circular economy, digitization and climate protection – the hot topics of this year's K fair are also the hot topics of the WITTMANN Group's machinery presentation. With applications shown at the WITTMANN BATTENFELD booth, at the VDMA Circular Economy Forum, in the outdoor area, and more equipment presented at the booth of WITTMANN Technology as well as several booths of other exhibitors, WITTMANN BATTENFELD will give visitors to the K fair insights into its extensive range of ultra-modern, resource-saving technologies.

Under the motto of "It's all WITTMANN", WITTMANN BATTENFELD will present its machinery and equipment at this year's K fair for the first time in the new WITTMANN design, thus demonstrating even more clearly than before the WITTMANN Group's competence as a single-source supplier of complete injection molding systems, which includes not only the machine but also automation and auxiliary equipment with the option of Wittmann 4.0 integration. It's all WITTMANN also means latest application technology targeting highest quality standards and functionality combined with the smallest possible CO2 footprint.

Energy-efficient and eco-friendly production with multi-component technology

WITTMANN BATTENFELD can draw on many years of experience in multi-component technology. At this year's K fair, the company will demonstrate its expertise in this area by the production of a reusable 3-component coffee-to-go cup. This application will also show the advantages and quality improvement achieved by a combination of processes. In addition to multi-component technology, Cellmould structured foam technology will be used to reduce the material input.

In this application, a cup with a lid made of Bornewables™ from Borealis is manufactured on a servo-hydraulic SmartPower 400/750H/210S/525L Combimould with a rotary unit and a mold supplied by HAIDLMAIR, Austria. The Bornewables™ material made of renewable raw materials (i.e., non-petroleum-based feedstock) enables Borealis to meet the quality and sustainability standards required by WITTMANN. The material is food- and dishwasher-safe as well as ISCC PLUS-certified (International Sustainability & Carbon Certification). The feedstock for making Borealis Bornewables™ originates from bio-mass, waste and residual substances of the second generation, which are not in competition with the human food chain. Product



SmartPlus 90 with automation cell

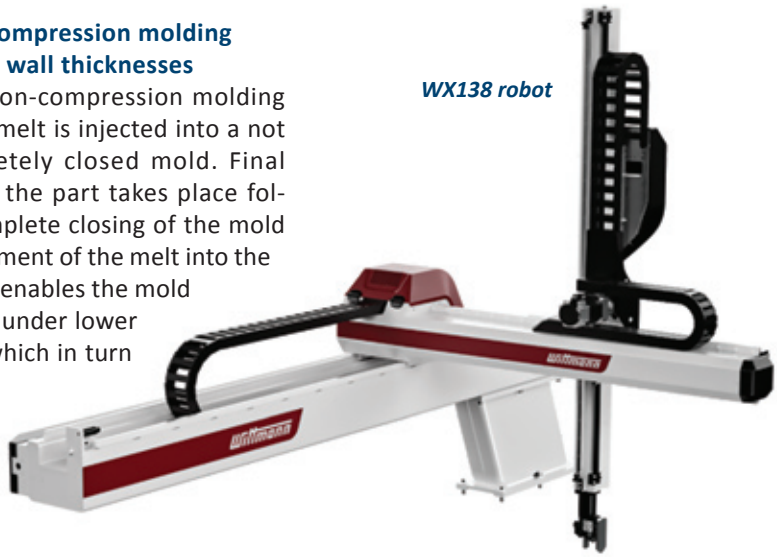
safety and performance features are on a par with those of modern polyolefins, with a simultaneous significant reduction of the CO2 footprint. The mold from HAIDLMAIR is laid out optimally for processing Bornewables™ material. A special feature of this mold is the use of hybrid elements in the mold plate to optimize cooling. These hybrid elements are manufactured by HAIDLMAIR directly on a laser tech machine in one production step from a combination of conventionally processed tool steel with 3D-printed yellow bronze.

The cup produced in clear optic in the first cavity is over-molded in the second cavity with a shell and provided with an additional insulating effect by foaming the melt with Cellmould technology. The shell consists of a Bornewables™ PP blend with adequate surface attributes for a firm grip. The lid for the cup is injection-molded in an adjacent cavity. It consists of the same material as the main body, but can be individually colored thanks to the special mold technology. The choice of materials was made to suit the cup's function and give it a clear optical appearance. So, the entire cup is not only produced from Bornewables™, but can also be both re-used and 100% recycled in line with the principle of circular economy. The parts are removed and deposited on a conveyor belt by a WX142 robot, then passed on to a flow wrapping machine and packaged. The packaging material used in this instance also comes from the Bornewables™ product family from Borealis.

Injection-compression molding for thinner wall thicknesses

In injection-compression molding (ICM), the melt is injected into a not yet completely closed mold. Final forming of the part takes place following complete closing of the mold by displacement of the melt into the cavity. This enables the mold to be filled under lower pressure, which in turn leads to a reduction of warpage inside the part. Injection-compression molding allows processing of an extended range of materials with particularly high efficiency in material and energy input. Moreover, it offers innovative approaches to solutions where conventional processes have reached their limits. This process enables the production of extremely thin, precisely reproducible wall thicknesses and accurate reproduction of surface structures.

WITTMANN BATTENFELD will demonstrate this technology on a high-speed EcoPower Xpress 160/1100+. With a 4-cavity mold supplied by GLAROFORM, Switzerland, a 230 ml cup made of polypropylene from SABIC, the Netherlands, with a wall thickness of 0.28 mm will be produced within a short cycle time. Thanks to the highly dynamic drive technology of the high-speed EcoPower Xpress, especially the short injection times required for the ICM process can be realized. The machine is equipped with a 4-fold IML system supplied by BECK Automation, Switzerland. This system stands out by its high speed and compact design. One of its special functions is automatic positioning of all four labels. Regardless of its position inside the magazine, every label is invariably placed into exactly the same position on the IML core. This reduces both reject rates and operating effort, since manual adjustment of the label magazines is no longer necessary. Quality inspection of the cups decorated with



WX138 robot

SmartPower 120/350 LIM with Nexus X200 metering unit

IML labels supplied by Verstraete, Belgium, will be carried out by a vision system with 10 cameras integrated in the production line, which comes from INTRAVIS, Germany.

Saving resources and reducing weight with alternative materials plus ultra-modern equipment and process technology

With a MacroPower1100/12800 fitted with an energy-saving, speed-controlled servo motor and a constant displacement pump, WITTMANN BATTENFELD will produce an indoor panel which stands out by its light weight, using a single-cavity mold supplied by FRIMO, Germany. Here, WITTMANN BATTENFELD relies on using natural and recycled materials. The door panel consists of an extremely light mat made of natural fibers, onto which a map pocket made of polypropylene regrind from Borealis is over-molded. To achieve further savings in material input and weight, the patented Cellmould structured foam technology developed by WITTMANN BATTENFELD is used. The reduction in material input thus realized benefits the environment in more than one way. Firstly, valuable resources are saved, and secondly, the parts are lighter, which reduces the car's fuel consumption and/or extends the battery range in electric vehicles. In this application, the pre-cut natural fiber mats are picked up from a buffer stack and inserted into an IR heating station by a WX152 robot from WITTMANN. Next, the heated mats are placed into the mold on the fixed mold half by a combination gripper (removal and insert gripper), formed, cut to size and over-molded. Prior to insertion of the next natural fiber mat, the finished part and the trimmings are removed from the fixed mold half and subsequently transported to the storage position.

The MacroPower is equipped with the newly developed WITMANN CMS Lite condition monitoring system. This system continuously checks the state of health of the servo-hydraulic axes, from which the condition of the pump and axis valves can be derived.

New SmartPlus with high-tech automation and digitization

At this year's K fair, WITTMANN BATTENFELD will present an outstanding demonstration of its digitization and automation expertise by manufacturing a spirit level on a machine from the new SmartPlus series with the new B8X control system. Special features of the servo-hydraulic SmartPlus are high levels of cost and energy efficiency and repeatability. By using proven technologies combined with carefully selected options, it has become possible to offer an excellent price/performance ratio for these machines.

On a SmartPlus 90/350 equipped with the CMS Lite conditioning monitoring system and an automation cell designed and manufactured by WITTMANN BATTENFELD Germany, a spirit level made of ABS is produced with a 1+1-cavity mold supplied by SOLA, Austria. As a first production step, the top and bottom parts of the spirit level housing are injection molded. The top part is then deposited and printed at a laser station. Simultaneously, the bottom part placed on a tray is fitted with vials from SOLA. Next, the top part is pressed onto the bottom part by a pre-set force. The finished parts are then transported to a testing station, where the positioning of the vials is checked by a vision system. After quality inspection, the finished spirit levels are removed and deposited on a conveyor belt by a WX138 robot from WITTMANN.

Standard and micro liquid silicone processing

Silicone processing is one of WITTMANN BATTENFELD's core competencies and will be demonstrated at this year's K trade fair on two exhibits.

With a servo-hydraulic SmartPower 120/350 LIM, four different closing caps for beverage cans and bottles will be produced from liquid silicone in a single injection-molding process, using a 4-cavity mold from Nexus, Austria. The open design of the SmartPower's injection unit enables easy integration of the LSR metering unit. Die Nexus X200 metering unit comes with a new Servomix dosing system and is connected with the machine's B8 control system via Euromap 82.3 OPC-UA integration. In the mold, latest cold-runner technology with FLOWSET needle shut-off regulation is used. The parts are removed by a WITTMANN W918 robot and packaged by a flow wrapping machine.

The second LSR application to be presented at the K is production of a membrane for a high-quality micro loudspeaker made of thermoplastics and liquid silicone, manufactured on a MicroPower15/10H/10H Combimould with a single-cavity mold supplied by Starlim Spritzguss GmbH, Austria. The choice of a single-cavity mold serves to demonstrate the high precision of the mold in combination with the machine, which is specially designed for the production of micro parts. It is often necessary to build costly multi-cavity molds already at the prototyping stage for the sole purpose of reaching the necessary minimum throughput of the machine. The MicroPower is equipped with a 2-step screw-and-plunger thermoplastic aggregate and a 2-step screw-and-plunger LSR aggregate. The LSR metering pump supplied by EMT Dosiertechnik, Germany, is a 1-liter cartridge system developed for extremely small metering volumes. Smooth, continuous emptying of the cartridges ensures highest precision together with consistent quality. Another advantage is the blending section reduced to a minimum, with the special benefit of rapid cleaning and minimal material loss with every material changeover.

MicroPower15
(all pictures: WITTMANN Group)

Saving resources with light-weight technology

In addition to its exhibits of machinery and equipment, WITTMANN BATTENFELD will also present its latest developments in Airmould internal gas pressure technology. The items to be showcased are the new Airmould 4.0 pressure control module and the new manual operating unit for this technology. At an Airmould / Cellmould Center, expert engineers from the company will be on site to advise visitors concerning the use of Airmould technology and Cellmould structured foam technology. Both of these technologies enable significant reductions of material input in the production of plastic parts, with a simultaneous positive effect on part weights and production costs.

IMD / IML technology for decorated and functionalized surfaces

At its booth in hall 12, WITTMANN will present a manufacturing line to make decorated and functionalized surfaces. This is a joint project of the companies WITTMANN BATTENFELD, LEONHARD KURZ, a producer of functional films and film feeding equipment, and SYNTECH PLASTICS, a supplier of IMD technology. The equipment is laid out flexibly to accommodate IMD with a feeding unit, IMD with film pre-heating, IMD Vario with pre-heating and thermoforming, as well as insert molding. It includes a SmartPower 300 machine, a W846 robot with a fixed demolding axis and specially developed gripper technology, together with WITTMANN auxiliary components, IMD components from KURZ, and hardening and cleaning technology supplied by Baier. The SmartPower 300 is specially equipped with the EXPERT-Coining package, which permits parallel mold movements during the injection process. On this line a close-to-series production, fully functional conceptual component for an automotive headliner will be manufactured. ***smi***

WITTMANN Group
www.wittmann-group.com/en_us

Jomar to bring new IntelliDrive 85-S GEN II injection blow molding machine to K Show 2022

Jomar's new IntelliDrive 85-S GEN II injection blow molding machine

Latest IBM model features significant processing improvements making it ideal for today's sustainable packaging and high production requirements.

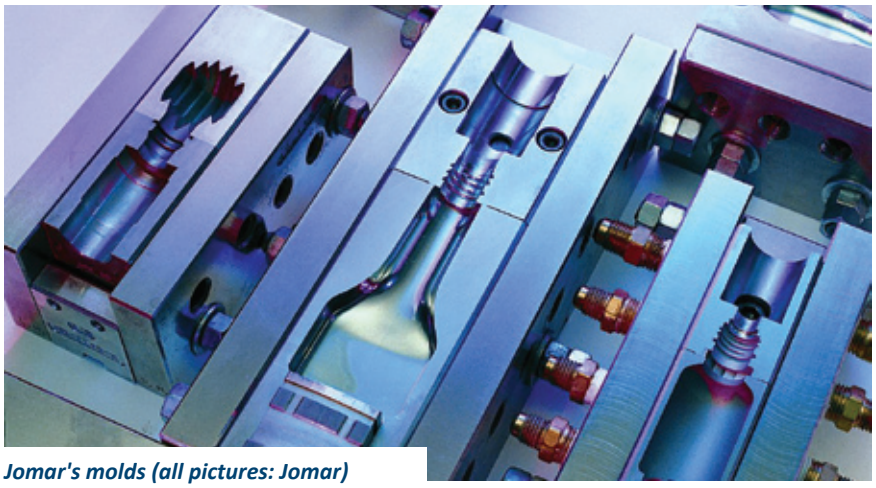
Jomar Corporation, the leading global manufacturer of injection blow molding (IBM) machinery, has significantly upgraded its popular 85-S machine and will be exhibiting it in Dusseldorf at the 2022 K Show, October 19-26, 2022. The new 85-S GEN II will be featured by Jomar at its stand. It boasts servo hydraulics, clamp digital controls, variable frequency drive, and the latest machine controller and color HMI.

"We looked at everything on the 85-S and made significant, measurable improvements" notes Carlos Castro, President of Jomar,. "This includes preform clamp tonnage. To get more production capacity, we went from 72 to 76 US tons and increased trigger bar length from 25.75 to 26.7 inches. Existing customers with 85-S machines can obtain a transfer head to run all their existing tooling."

According to Ron Gabriele, Jomar's Sales and Marketing Manager, "The improvements in production capability should please customers. Improved dry cycle times of 1.8 seconds are 30% faster than the closest competing machine. The 85-S GEN II also consumes up to 40% less energy, requires up to 50% less cooling water, and needs up to 40% less hydraulic oil."

The IntelliDrive 85-S GEN II integrates an extremely precise open/close digital system that prolongs cylinder life. It also reduces the closing impact of the press on tooling, extending mold life.

"If you are looking for the best IBM machine for your increased production needs, the 85-S GEN II is it" says Castro. "What's more, Jomar backs it with tooling and turnkey capability plus superior support - training, spares, and service."



Jomar's molds (all pictures: Jomar)

About Jomar

Jomar is the world's leading manufacturer of injection blow molding machinery for the pharmaceutical, health care, personal care, beauty, food, beverage and household products markets. Some of the world's most recognized brands such as Gerber's, Crayola, Merck, P&G Unilever, Avon, Gerresheimer Group and Goya have chosen Jomar to handle their packaging needs. More than half of the injection blow mold machines in use throughout the world today were built by Jomar. smi

Jomar
www.jomarcorp.com

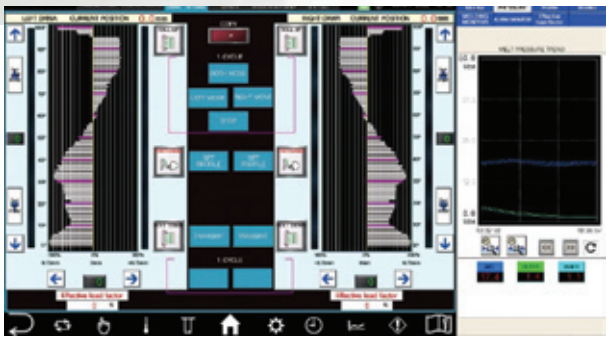
TAHARA Machinery Ltd. is exhibiting the latest fully electric extrusion blow molding machine

TAHARA, Japanese No.1 blow molding machine maker, is going to exhibit a new lineup of fully electric blow molding machine for global market at K2022.Tahara is a subsidiary of Japan Steel Works (JSW), and now has over 80% market share in Japanese extrusion blow molding machine market.

2022 Dusseldorf, Germany
Hall 13 Booth A61

All pictures: TAHARA

This new machine is to produce 3 layers 20L jerrycan with handle. One of the must-see from this machine is re-pelletized marine plastic waste is used in the middle layer. Though re-pelletized resin is used in the middle layer, appearance and inside of the product are clean and unscented because of using virgin pellet in the outer and inner layer. TAHARA's precisely calculated Co-ex head with accumulated experience realizes uniform layer thickness of each layer. The Co-ex head is made in TAHARA's factory from designing to assembling, so



TAHARA can make Co-ex head at any layer construction ratio.

TAHARA is going to launch a new effort to improve usability. By adapting 22inch screen colorful touch panel, even inexperienced operator can operate visually. Also by keeping connecting the machine to internet, TAHARA mechanic can see real-time machine's conditions like electric load current, alarm history, temperature of each unit and program remotely to advise how to solve the problem when the customer requests.

Remarkable new spec is DRWA collaborating with JSW. Two motors attached right and left side of the head drive to push and pull the ring inside head, thus you can change and eccentric wall thickness of parison from the touch panel with your finger as you like even during operation according to the product shape.

TAHARA will show new values in addition to the traditional technology like "Made in Japan" quality, durable construction, precise operability and energy conservation of fully electric machine, which reduce defects and increase your production. Please check the actual machine at K2022. *smi*

TAHARA
www.tahara-mc.com/en

ZAHORANSKY AG streamlines production of toothbrushes and medical products

At this year's K Trade Fair, ZAHORANSKY will clearly demonstrate its technological leadership with highly automated and fully integrated facilities in the medical technology sector.

The PRIMA Z Syringe is the first production line with 16-cavity mold in the market (all photos: ZAHORANSKY)

Robert Dous, Managing Director ZAHORANSKY Automation & Molds and Chief Sales Officer ZAHORANSKY GROUP: "The future of manufacturing consists of lean production with integrated processes, as well as reduced interfaces with high availability and quality. We offer our customers complete turnkey production facilities with our one-stop-shopping approach. All injection molding, automation, and assembly processes are integrated there. We will be presenting solutions for this at the K Trade Fair."

One focus at the booth will be on modern processes such as integrated Injection Stretch Blow Molding (ISBM). Thanks to the transfer handling integrated into the injection molding tool, ISBM makes it possible to produce vials on a standard injection molding machine – the special injection blowing machines that would otherwise be required are no longer necessary. The featured exhibit is also equipped with the new Z.LODOS tray loader. The special feature: The tray change time is "0", meaning there is no system downtime required for the fully automatic tray change. This results in a significantly leaner production process in the manufacture of medical products, as well as easier compliance with cleanroom specifications. Another focus of the trade fair presentation is the expanded range of hybrid components, especially in the medical technology sector. In this area, plastic is used as a proven substitute for glass in pre-filled disposable syringes as drug dispensers, among other things. These products can be manufactured in one step using ZAHORANSKY's highly automated large-scale facilities, reducing manufacturing steps and thus costs.

ZAHORANSKY will show not only a selection of exhibits from hybrid component manufacturing, but also complete installations. The PRIMA Z Syringe, for example, is the first production line on the market featuring a 16-cavity mold for manufacturing syringes as primary pharmaceutical packaging for liquid medicines. These parenteral syringes, as they are known, are produced in a modern plastic injection molding process with overmolded cannulas. Compared to glass syringes, the plastic staked-needle syringes can be fed directly to be filled with the respective drug. With production systems such as the VITRO Z models, ZAHORANSKY can meet the growing global demand for in-vitro diagnostic products (IVD), such as

pipette tips, cuvettes, laboratory consumables, and blood sampling tubes. Here, too, plastic is used universally as a substitute for glass. This enables these products to be manufactured in a short time, with high quality, short start-up times, and little waste.

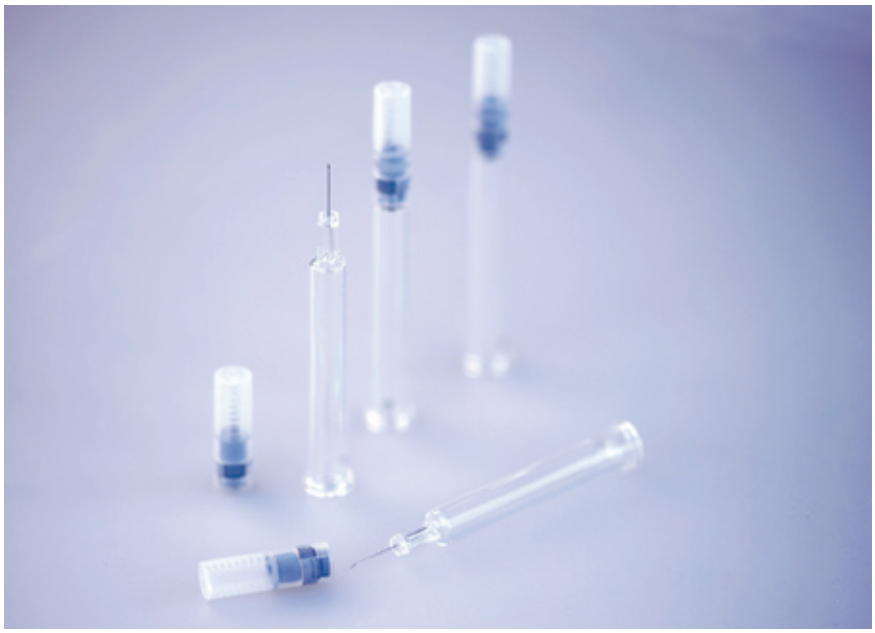
O.K. status ensured throughout

The risk of malfunctions and defective parts is minimized in all facilities through continuous quality and process controls. Depending on the product and requirements, this can be guaranteed by 100% camera inspections, integrated X-ray modules, and leak tests. Even at maximum production utilization, such as the daily manufacture of 600,000 corona virus vials at the US company SiO_2, the O.K. status of parts and components is ensured at all times.

Manufacturing 4.0

By using the digital twin, ZAHORANSKY can simulate the manufacturing and assembly of a variety of products – such as pre-filled syringes, various drug dispensers, and electric toothbrushes – in advance and calculate their cost-effectiveness. This reduces the time to market as the digital processes can be optimized in advance and then quickly transferred to the actual machines. The decoupling of functional units also increases the Overall Equipment Effectiveness (OEE).

Continuous quality and process control ensures the OK status of parts and components at all times



Staked-needle-syringes with the glass substitute plastic and overmolded cannulas

Plastic in medical technology: the ideal glass replacement material

Plastic is the ideal alternative to glass, particularly in medical products such as pre-filled syringes, due to its material properties and advantages in processing and handling. In the manufacture of these hybrid components, such as pre-filled syringes with pre-filled medication, instead of risky bonding processes with drying and cleaning times, tried-and-tested processes are used where the needles are overmolded in a process-safe manner. This also makes it possible to manufacture inhalers and interdental brushes, as well as to overmold electronic components. This one-step production approach reduces not only the total number of production steps but the costs as well.

Background information

The name ZAHORANSKY has stood for reliability, precision, and sophisticated technology since 1902. Anton Zahoransky laid the foundation for this with his small workshop in Todtnau, where he manufactured the first devices and machines for the automation of brush production.

Based on the experience and expertise gained since then, ZAHORANSKY is today a full-range supplier and technology partner for companies in the brush industry, medical technology, and other sectors. With injection molds, engineering, and automation technology, as well as packaging equipment, ZAHORANSKY provides comprehensive solutions for individual requirements. Approximately 900 employees, including 70 trainees, in ten locations in Germany, Spain, China, India, Japan, Brazil, and the United States work toward this goal every day. ***smi***

ZAHORANSKY
www.zahoransky.com

SMARTcap: Clear the stage for an innovative production cell for food & beverage can lids

At K 2022 in Düsseldorf, Elmet is presenting a production cell that combines many of the company's technological flagships

All pictures: Elmet

Together with its project partners, Upper Austrian company Elmet has developed an innovative production cell. The system manufactures four different covers for beverage and food cans, which have been dubbed as "SMARTcaps". SMARTcap is a collaborative project by Elmet, Sumitomo (SHI) Demag, Shin-Etsu, and Mettler Toledo. In the form of Elmet's SMARTshot E and SMARTmix TOP 7000 Pro systems, two of the company's technological flagships are used in the production cell. The system will be presented for the first time at K 2022 at the exhibition booth of Elmet's partner Sumitomo. The leading business platform for the plastics and rubber industry takes place in Düsseldorf from October 19 to 26, 2022.

In the 26 years since it was founded, Elmet has become a global player in the development and production of high-quality equipment for manufacturing silicone parts. Partners from all over the world utilize the know-how from Upper Austria for developing innovative systems. Most recently, Elmet has collaborated with three project partners to develop a production cell that manufactures four different lids for beverage and food cans. The accuracy of the injection process is ensured and documented by a weighing cell. A laser marks the finished SMARTcaps to ensure optimal traceability.

Leading Elmet technology twice over

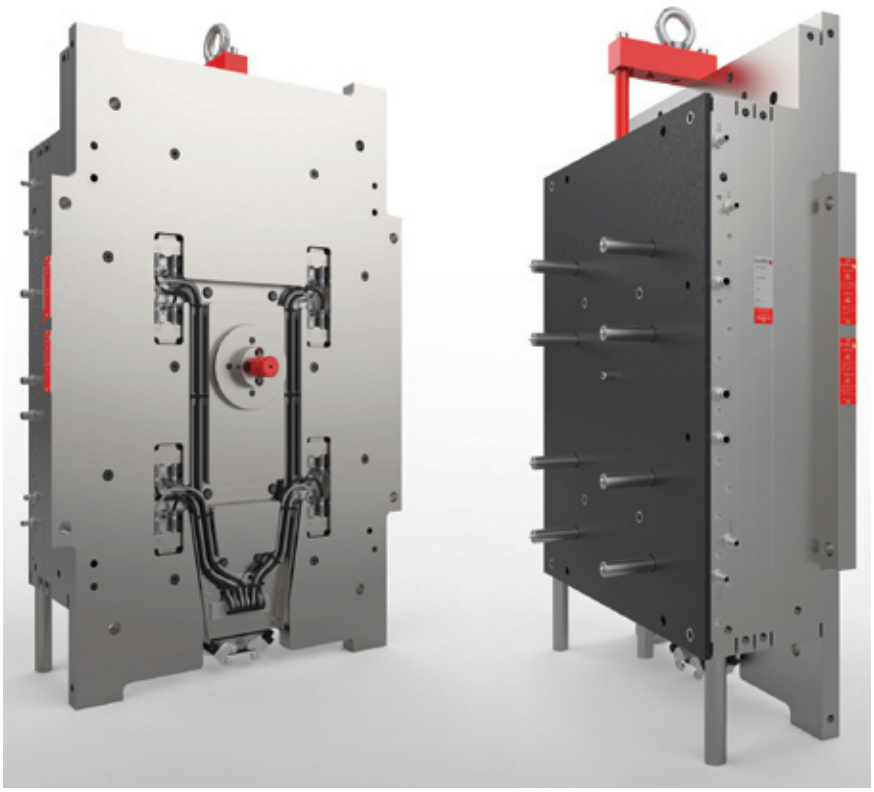
Lids for food & beverage cans are manufactured by an Elmet injection mold, featuring an all-electric SMARTshot E valve-gate cold-runner system. Its technological high-end counterpart in material provision is the Elmet SMARTmix Top 7000 Pro dosing system, responsible for precise and reliable dosing of material to the Elmet injection mold. A Sumitomo linear handling device removes the parts from the mold and transfers them to the weighing cell made by Mettler Toledo. Every single part is weighed there. The result is stored in a database and also displayed graphically to demonstrate the process accuracy of the system. After the weighing process, the silicone parts are marked by laser to ensure highest possible traceability. After lasering, the parts are placed on a conveyor belt.

The interaction provides the magic

The new system is not only innovative in terms of the perfect symbiosis of technology-leading Elmet elements. The magic of this innovation unfolds in the interaction between the high-tech contributions from the four partner companies. The combination of high-precision dosing (Elmet SMARTmix Top 7000 Pro), the all-electric injection-molding machine (Sumitomo IntElect), and the electric valve-gate cold runner (Elmet SMARTshot E) enables a previously unachievable level of accuracy in the reproduction of part weights. The special four-cavity injection mold from Elmet injects four different can lids made of liquid silicone (LSR) from partner company Shin-Etsu. The silicone lids produced serve as coverings for customary beverage cans that have been in use for decades, such as those for soft drinks, energy drinks and various alcoholic beverages. A separate cavity also produces covers for customary food cans made of sheet steel, which protect the contents from insects, for example, and keep the opened cans fresh in the refrigerator.

Elmet SMARTmix TOP 7000 Pro

The dosing system is a new development from the Austrian company. Development work focused on reducing the unit's footprint to 1,150 x 790 millimeters. This makes the system the smallest liquid-silicone dosing system for 200-liter container units on the market. Compared to its predecessor, the SMARTmix TOP 5000 P, the SMARTmix TOP 7000 Pro features a completely new pump system, which now only contains approximately one third of the liquid silicone in the system, making it much easier to clean. This characteristic is very important, particularly for use in the medical and pharmaceutical fields, where the pump unit is dismantled and cleaned each time the material changes, in order to prevent mixing of different types of liquid silicone. Apart from the new pump unit, an optimized follower plate geometry also helps reduce the amount of residual material. The new system boasts a material utilization level of up to 99.6%. Drums are changed fully automatically to increase



ease of use and keep the amount of training to a minimum. Use of special seals made of FDA-compliant materials also predestines the SMARTmix TOP 7000 Pro for medical applications.

Teamwork at the global player

Not only know-how from Elmet can be found in the sophisticated system. "Only when combined with the all-electric injection-molding machine from Sumitomo, the weighing system from Mettler Toledo, and the liquid silicone (LSR) from Shin-Etsu does the unique system become a total work of art that we are all really proud of," says a delighted Harald Wallner, CEO at Elmet. The system can be seen for the first time at the Sumitomo booth at K 2022 in Düsseldorf.

Elmet SMARTshot E with SMARTcontrol

The all-electric Elmet SMARTshot E valve-gate cold-runner system guarantees precise filling of every single cavity in a reliable process. Settings for the cold runner are entered on an 18.5" display of the external SMARTcontrol unit. Thanks to servomotors, it allows needle adjustments in increments of two thousandths of a millimeter. Needle regulation is carried out in real time and monitored continuously by the system. The innovative arrangement of the mini servomotors enables nozzle spacings of 44 millimeters. Pneumatic components, on the other hand, are a thing of the past. This saves energy and facilitates ingenious cable management with industrial plug connections, which allows cleaning work to be performed on the cold runner without any qualified electrical personnel.

Corporate data

Molds. Dosing technology. Part production. Jobs. Elmet inspires with smart silicone solutions. This is Elmet's guiding principle. The innovative company was founded in 1996. A powerful, dedicated team with a wealth of experience in moldmaking, dosing technology, and liquid-silicone injection molding has since developed into an internationally successful systems builder. Today Elmet is a global player in designing and manufacturing high-quality equipment for the production of silicone parts. *smi*

Elmet
www.elmet.com

KW Container achieves molding of paint cans in one step

The new injection mold design features improvement of the core collapsing mechanism, allowing for the first ever one-piece paint can molded using StackTeck's collapsing core technology including all water-cooled components.

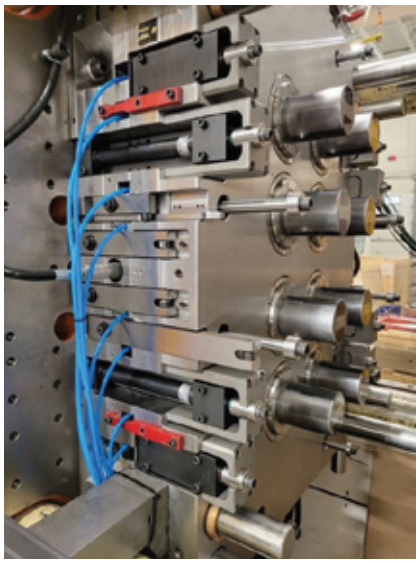
StackTeck Systems Ltd., a global manufacturer of high volume injection molds, has successfully delivered a new series of plastic can molds for KW Container with the use of a revised and improved 5 piece collapsing core technology. The new design features improvement of the core collapsing mechanism, allowing for the first ever one-piece paint can molded using StackTeck's collapsing core technology including all water-cooled components.

Darren Scholl, COO of KW Container, stated: "This single piece can replaces a 2-piece design which had many manufacturing steps. The new approach simplifies production to a single step of molding, cutting down several steps in the way we used to produce these cans. By molding it all in one piece, we are producing a better part with reduced costs in floor space, energy, and there is a carbon footprint reduction. Because the process of bonding two parts has been eliminated, the overall production yield has improved as well."

An added benefit of this new approach is that the plastic cans can be molded in one step in one injection machine, instead of having to be molded in 2 separate parts in 2 different machines.

David Bacon, General Manager KW Containers commented: "We are using this technology to produce cans in sizes of 0.5 Liter, 1 Liter, and 1 Quart round cans. We are very pleased to have found a more sustainable option to produce our cans that use recycled PP material supplied by our sister company, KW Plastics. StackTeck has impressed us with the advanced cooling in these molds, which allows us to maintain a fast cycle time."

The 5-piece collapsing core is a technology that StackTeck offers to customers looking for plastic part design freedom in certain applications that require large undercuts with dramatic thin-walling capability and cycle time improvements, as compared to single piece core mold designs. Jordan Robertson, VP Business Development and Marketing commented, "StackTeck has been delighted to work with KW as a leader in the industry. The wide range of sustainable benefits associated with this new method of manufacturing is a natural complement to their environmentally friendly approach offering an entire product line made from recycled materials."



1×8 – 5 piece collapsing core mold (picture: StackTeck)

Three sizes of plastic paint cans molded with recycled PP (picture: KW Container)

About StackTeck Systems Limited

StackTeck, with over five decades of mold building innovation, is a leading source of high productivity tooling solutions for the injection molding industry. StackTeck supplies a wide range of injection molds and IML automation used to produce plastic parts in applications such as caps, closures, medical, PET preforms, and thinwall packaging; as well as complete system integrations including IML. StackTeck has dedicated R&D, testing and part sampling facilities, in addition to plastic part design, prototyping, engineering, and manufacturing capabilities. StackTeck Systems Ltd. is located 8 km north of Toronto's Pearson International Airport. **smi**

StackTeck
www.stackteck.com

Industry's first system to facilitate the closed-loop conversion of washed flake to preform

Husky takes the lead on enabling the circularity of PET with the development of its HyPET®HPP5e Recycled Melt to PreformTM (RMTP) system.

Husky Technologies™, a pioneering technology provider enabling the delivery of essential needs to the global community, today announced the introduction of its revolutionary HyPET®HPP5e Recycled Melt to Preform™ (RMTP) system. With one system already running in the field and the second soon to be delivered, this development marks the successful integration of a preform injection molding system with melt decontamination unit – enabling the direct conversion of washed flake to preform.

"With today's circular economy driving new package design and more efficient production, we are dedicated to working closely with our customers to ensure their products meet specific regional requirements, particularly around recycling and enabling recycled content in packaging," said Robert Domodossola, Husky's President of Rigid Packaging. "We are truly excited about the possibilities that our new RMTP™ system presents. Its introduction further strengthens our commitment to sustainable PET packaging that is produced with an increasingly lower carbon footprint."

Next step in sustainable, closed-loop packaging

Husky's RMTP™ technology is offered as a module of the company's proven HyPET®HPP5e high performance system designed to support the closed-loop conversion of washed flake to preform by accepting food approved grade melt from an upstream provider. By eliminating the drying and melting steps associated with traditional rPET preform manufacturing, this solution facilitates the effective production of packaging made from 100 percent rPET material, further supporting the circularity of PET.

By streamlining the process to bypass inhouse rPET pellet production and go directly from washed flake to preform, the new system enables producers to achieve 30 percent energy savings, helping to further lower production costs. In addition, the system is equipped with Husky's Advantage+Elite™ real-time proactive, predictive, transparent monitoring solution as a standard feature. Using the industry's best processing analytics and service expertise, Advantage+Elite™ connectivity reduces the variability risk associated with running higher levels of post-consumer-resin (PCR), thereby accelerating the shift to manufacture more circular, sustainable packaging with greater stability and assurance.

Investing in the production of sustainable packaging that supports the circular economy has long been a top priority for Husky and the new RMTP™ system is the company's most recent development enabling this initiative. With more systems in the field running rPET than any other supplier, Husky offers a suite of proven solutions, including system, tooling, auxiliaries and services, specifically engineered to help producers run higher percentages of rPET with confidence. *smi*

Husky
www.husky.co

Picture: Husky

Trexel brings its MuCell® technology to markets beyond traditional automotive applications

Trexel engineering and innovation changes the game in blow molding. Offers 20% weight reductions without compromising impact strength and product performance. No significant investment in machine or die head modifications. Rapid implementation. No royalties or license fees.

A leader in providing light-weighting solutions to plastic injection molders and automotive blow molders, has recently extended its license and royalty free Trexel MuCell® foaming solution to blow molded components across other industries. Trexel has long been active in automotive blow molding applications currently targeting HVAC ducts in electric vehicles to reduce weight, improve insulation, and extend battery life. Now, as a result of breakthrough innovations, Trexel has added a range of packaging solutions in cosmetics, detergent, and other household products. Trexel is well placed to service these markets due to its current worldwide support and infrastructure.

What makes this expansion possible is a recent Trexel innovation which permits significant light-weighting of packages while meeting impact strength requirements of the packages. This Trexel innovation means that the technology can be applied to larger bottles and those with more complex geometry including handles. Until the discovery of this invention, any package which was sensitive to significant impact loss could not pass the necessary tests for commercialization. This is no longer the case.

B-Series SCF Delivery System for Blow Molding Applications reduces production cost while increasing environmental sustainability (all pictures: Trexel)

The process and equipment are simple and inexpensive to implement. It requires the royalty/license free purchase of a CE rated specially designed SCF system from Trexel which can be added to an existing blow molding machine without changing the screw and barrel. It is also utilizing the same style of die tool as used in solid production. This results in a system that can be used for foaming or solid as needed with a fast implementation time.

Besides significant weight savings (up to 20% in most cases), there are several highly desirable attributes of foamed versus solid blow molded parts. Critically, physically foaming with Trexel's MuCell process addresses today's needs for new processes to enhance recyclability, reduce resin consumption and offset the added cost of materials such as PCR/PIR which molders must begin to adopt to meet emerging regional and national regulations that are likely to be in effect by 2025. This alone is driving interest in light weighting, provided that mechanical properties can be met. Trexel is currently working with several major brand owners to incorporate physical foaming technology to reduce product weight, energy costs and lower resin consumption while maintaining required product function requirements.

Compared to products made with chemical foaming agents (CFA), the

microcellular material structure gained through physical foaming with Trexel's MuCell process has the potential for larger density reductions by utilizing more uniform cell morphology with reduced cell size. The nature of these improvements enhances mechanical properties. This allows larger bottles with more complex shapes to be made. Trexel's MuCell foamed parts can also be recycled and incorporated with ease back into the regular polymer stream. Parts made with the MuCell process are not hindered by waxes and stearates that often cause mold build-up and other problems.

How the system works:

The Trexel MuCell B-Series SCF (Supercritical fluid) delivery system is a state-of-the-art CE marked dosing unit designed specifically for blow molding applications. A self-adjusting feature of the SCF system assures consistency and precise dosing shot to shot.

It is designed to convert industrial grade nitrogen into supercritical fluid. The supercritical fluid (N^2) ensures that there is the solubility of a liquid and diffusivity of a gas. This maximizes the efficiency and promotes the low amounts of N^2 in the parison which allow for the largest processing window and best efficiency.

The SCF system precisely meters the supercritical fluid using Trexel's proprietary protocols. It takes some basic outputs from the blow molding machine and provides a metered dose each shot thus to keep the expansion rate accurate shot to shot. The system will learn the behavior of the blow molding machine and make required corrections in a matter of shots. There is an onboard statistical process control and monitoring system which reports back the results of the learning sequence as the shots are performed.

The B-Series SCF delivery system is available in two different configurations and two sizes depending on the size of the parison and the accumulator head.

- B-120 or B-320- For continuous screw rotation, Accumulator head and extrusion blow-molding.
- B-100 or B-300- For intermittent screw rotation, Accumulator head blow molding.

Example bottle with 50% PCR in the core layer made with the MuCell process. The bottle has significant light-weighting of the package while meeting impact strength and topload requirements

"We are excited about the interest we have received so far. Trexel's know-how, our specialized gas delivery system, and our proprietary process package combine to deliver results which were not previously attainable to these markets," said David Bernstein, Interim CEO of Trexel, Inc. "We are bringing an efficient sustainability solution to markets that are eagerly searching for ways to reduce their environmental impact."

About Trexel, Inc.

Trexel, Inc., headquartered in Wilmington, MA, has led the development of the MuCell® microcellular foaming injection molding technology and has pioneered many plastic processing solutions. The MuCell® technology provides unique design flexibility and cost savings opportunities by allowing plastic part design with material wall thickness optimized for functionality and not for the injection molding process. The combination of density reduction and design for functionality often results in material and weight savings of more than 20%. The numerous cost and processing advantages have led to rapid global deployment of the MuCell® process in automotive, consumer electronics, medical, packaging and consumer goods applications. Process deployment as well as equipment is supported by teams of highly qualified engineers through Trexel subsidiaries in North America, Europe, and Asia.

Trexel extended its product offering with the TecoCell® system. TecoCell is a unique chemical foaming and nucleating agent technology that provides uniform microcellular structure to molded parts.

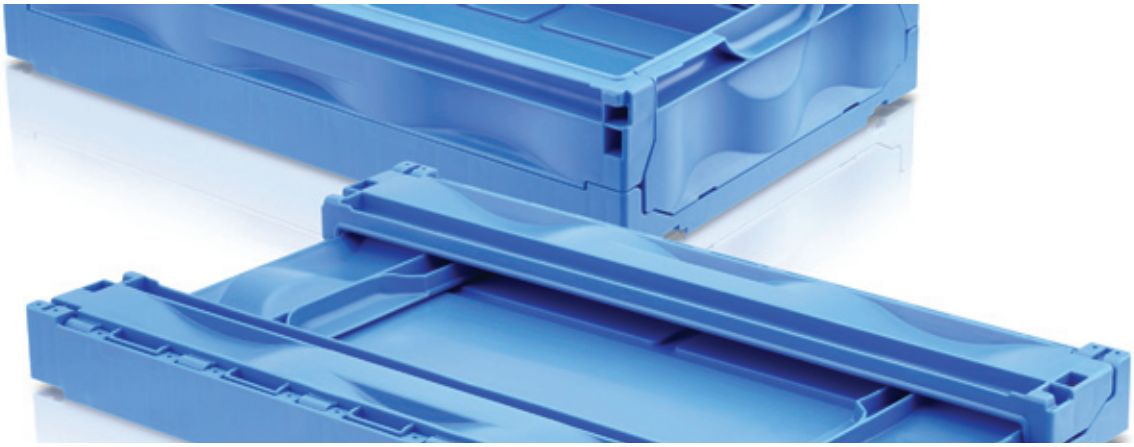
® MuCell is a registered trademark of Trexel, Inc

® TecoCell is a registered trademark of Trexel, Inc.

smi

Trexel
www.trexel.com

Live at K 2022: Reusable crates made with three recyclates



At K 2022, a GX 1100-4300 DCIM produces returnable crates from three different recyclates (all pictures: KraussMaffei)

When it comes to recycling plastics, aspirations and reality often diverge. This is because pure polymer is only available in limited quantities. Therefore, as many sources as possible must be used to achieve the necessary volume of recyclate. With Direct Compounding Injection Molding (DCIM), KraussMaffei is demonstrating at K 2022 how a new material can be compounded from three recyclates of different viscosities.

FFP2 masks are everywhere. What should be done with the scrap created during production? It should be recycled, of course. The staple fiber fleece made of polypropylene is as liquid as water (melt volume rate MVR 800-1000), entirely different from shredded gummy scraps of HDPE from the production of blow-molded parts from the toy industry (MVR < 1). If you also add HDPE from injection molding production with a consistency similar to honey (MVR 5-15), you have the three components that are being combined into one new material at K 2022.

KraussMaffei is focusing its trade show presence on circular economy - and the DCIM direct compounder with its single-screw extruder plays a central role. It is suitable for shot weights from 50 to 2000 grams and thereby complements the IMC system (Injection Molding Compounder, with twin-screw extruder), which has been tried-and-tested for 20 years and is economically attractive for shot weights of 1500 grams or more.

Saving costs with DCIM

The current costs of polymers result in material dealers no longer being able to purchase enough recycled materials to cover their demand. So it´s necessary to take action yourself. The DCIM process (Direct Compounding Injection Molding) makes this easy by blending, modifying with additives, reinforcing or filling and feeding the material directly into the injection molding process.

"The DCIM process saves costs for external compounding (on average, about 0.6 €/kg) and gives the processor maximum control over the materials used."

Franz-Xaver Keilbach, Global Product Owner Circular Economy / Recycling

Injection molding and compounding in a single heating process

For DCIM, a single-screw extruder is installed in a piggyback position directly over the injection unit of a standard hydraulic machine (usually from the GX series). Both produce in intermittent operation, which means that the extruder stops when the injection volume for the next cycle has been reached.

For the trade show application, the three materials are additionally mixed with the masterbatch, stabilizer additive and micaceous iron oxide as fillers. The last of these results in a cooling time reduced by up to ten percent. Turning the six individual components into a homogeneous melt is achieved by the special screw of the extruder. It has an optimized design and an extraordinarily length. The ratio of length to diameter is usually about 17-23 L/D (standard injection molding machines), but for DCIM it is an impressive 30 L/D.

Production in one heat saves valuable energy

In view of the current energy problem, it is also of particular interest that all production is accomplished in a single heating process, so the compounded melt goes directly from the extruder into the plasticizing

unit of the injection molding machine without interruption and without heat loss. This one-step process conserves energy, reduces the CO_2 footprint and is gentle on the material since degradation of the polymer is reduced.

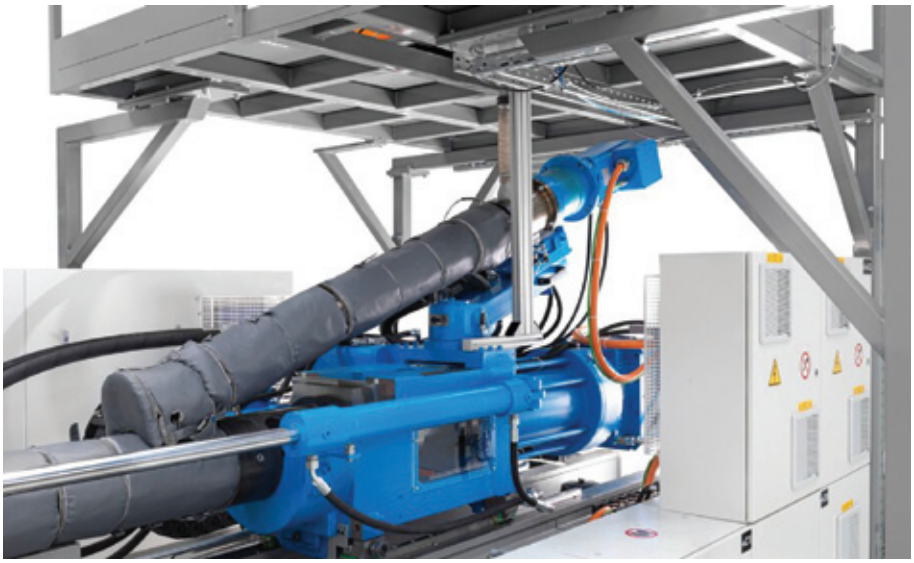
Sustainable transport crates made of three different recycled materials

At the trade show booth, the new polyolefin plastic created in this way is turned into practical five-piece collapsible crates, like the kind used for transporting fresh fish. The cycle time of the GX 1100-4300 DCIM is about 35 seconds, so it is perfect for DCIM because, starting from about 20 seconds, the additional material processing has no impact on cycle time.

Most of the technical parts that come into question for direct compounding are above this limit. At K, an LRX 350 linear robot removes the five individual parts from the mold (SCS moldmaking) and transfers them to an automation system from Campetella, which takes over the insertion, clipping and stacking of the crates.

Taking responsibility for the materials and controlling the formulations

No doubt the cost benefits of direct compounding (about 30 to 50 percent) are in the foreground for the price-driven packaging and logistics industry, but for manufacturers of technical parts another motive can come into play: product stewardship. Companies — such as manufacturers in the area of safety-related components - that are in a dispute and have to prove that the articles they delivered were absolutely OK might also want to have control over the materials and not rely on an external compounder. Then in case of new projects or modified mechanical requirements, they will also be able to develop their own new formulations and propose them to the customer.



The DCIM process from KraussMaffei uses a single-screw extruder

Economically attractive, particularly for part weights from 50 to 2000 g

Since the concept is based on a standard machine, the additional costs for DCIM equipment are low and pay for themselves in a short time. If no compound is needed at the moment, the machine can also be used in standard injection molding mode without any elaborate conversion work. This gives the user maximum flexibility, and they are equipped for further developments within the circular economy.

Production in one heat: DCIM technology from KraussMaffei saves valuable cycle time and reduces material costs by up to 50 percent

KraussMaffei – Pioneering Plastics

KraussMaffei is among the world's leading manufacturers of machinery and systems for the production and processing of plastics and rubber. Its brand stands for cutting-edge technologies – for more than 180 years. Its range of services covers all areas of injection molding machinery, extrusion technology and reaction process machinery. This gives KraussMaffei a unique selling point in the industry. With the high innovative power of its standardized and individual product, process, digital and service solutions, KraussMaffei can guarantee customers sustained additional value over the entire value-adding chain. The range of products and services allows the company to serve customers in many sectors including the automotive, packaging, medical and construction industries, as well as manufacturers of electrical and electronic products and household appliances. ***smi***

KraussMaffei
www.kraussmaffei.com

Proven, successful technology and a new feeder line: Coperion and Coperion K-Tron at Powtech 2022

At this year's Powtech (27- 29 September 2022, Nuremberg, Germany), Coperion and Coperion K-Tron were presenting versatile bulk material handling and feeding solutions.

The proven WZK two-way diverter valve has been impressing users for over 60 years with its reliability, serviceability and versatility in use (all pictures: Coperion)

For industries from chemical and plastics to food and pharmaceutical as well as recycling and battery compound manufacturing, Coperion and Coperion K-Tron provide a variety of innovative technologies to fit the specific needs of countless applications.

At this year's booth, Coperion was presenting the proven WZK two-way diverter valve that has impressed users for over 60 years with its reliability, serviceability, and versatility for use in a wide variety of applications. Furthermore, Coperion K-Tron was introducing the new ProRate PLUS line of feeders as well as the high-precision K3-V100 vibratory loss-in-weight feeder and the K3 pharma feeder with the P10 sanitary vacuum sequencing receiver. In the open area between Halls 4, 4A and 3A, Coperion provided another opportunity for attendees to get to know their broad spectrum of rotary and diverter valves by visiting the Coperion Show Van. They could also experience the advantages in safe and economical bulk material handling equipment Coperion has to offer.

60 Years of WZK Two-Way Diverter Valve: Often Copied, Never Equaled

As a highlight at Powtech, Coperion was presenting the proven WZK two-way diverter valve. Thousands of these valves have been used over decades and still to this day, impresses users with its compact and serviceable construction that is suited for a wide variety of applications. It is designed for an operating pressure of up to +5 barg and can be used both for dilute or dense phase conveying lines as well as for gravity pipes. Its aluminum housing with stainless-steel pipe inserts keeps its weight low, making installation easy. To ensure straightforward operation, the diverter valve offers quick access to its internal parts, an advantage not only for maintenance tasks, but also for making cleaning easy.

The gentle deflection angle (+/-35°) and more even cross section provide gentle product conveying. Moreover, the WZK is equipped with pressure-assisted seals, assuring that the diverter is sealed from one channel to the other as well as to the outside. With its one-of-a-kind construction, the seal adjusts to the conveying pressure with no need for additional utility air. Furthermore, it is suited for use in ATEX zones.

New Efficient Solution for Simple Feeding Applications: ProRate PLUS Feeder Line

Coperion K-Tron was introducing a representative of the new ProRate PLUS feeder line at the show. This new gravimetric feeder line is a dependable, high-performance and efficient solution for feeding pellets and other free-flowing bulk materials in plastics applications, offering a good price-performance ratio as well as short lead times. The ProRate PLUS single screw feeders can be installed as individual units or in groupings of up to six feeders around a single process intake, depending upon the recipe. Its unique design enables very compact, space-saving configuration so that up to six feeders can be grouped together within a radius of 1.5 meters around one extruder intake. The three feeder models — PLUS-S, PLUS-M and PLUS L — cover a broad spectrum of feeder performance. Depending upon the material, the

The new ProRate PLUS gravimetric feeder line is a reliable, high-output and efficient solution for simple feeding applications in the plastics industry

ProRate PLUS feeder can achieve rates of 3.3 to up to 4800 dm^3/h. This line of feeders distinguishes itself with simple assembly and easy access for cleaning and servicing purposes.

Broad Product Portfolio for Appropriate Feeding Solutions

Along with the ProRate PLUS line, Coperion K-Tron was showing two more representatives from their broad product portfolio. The extremely precise K3-CL-SFS-V100 vibratory loss-in-weight feeder with a one-of-a-kind, patent-pending drive system and an advanced control unit achieves a level of precision that is 35% higher on average than that of conventional models. Vi-bratory feeders are ideal for gentle handling of a variety of materials, including brittle, abrasive materials, products with irregular forms and glass fibers.

For the ever-increasing demands of continuous processes in the pharmaceutical industry, Coperi-on K-Tron was showing its K3-PH-ML-D4-QT20 pharma feeder with the P10 vacuum sequencing sanitary receiver. Thanks to the trapezoid scale shape and significantly smaller footprint, the K3 pharma loss-in-weight feeder line is optimized for multi-feeder clusters around a process inlet. Furthermore, the modular construction simplifies and accelerates cleaning and servicing. The twin screw feeders are available in two sizes, QT20 and QT35. The P-Series vacuum sequencing con-veyors and central receivers are intended for a broad palette of bulk materials and fulfill the strict hygienic requirements of the food and pharmaceutical industries. ***smi***

Coperion
www.coperion.com

New Emerson compact controllers increase ROI for machine builders

CPE 200 series controllers offer open communications through OPC UA Secure and other common industrial protocols to enable flexible connectivity to a wide variety of devices over high-speed 1GB Ethernet (photo: Emerson)

PACSystems RSTi-EP CPE200 family saves money and time with built-in security, open protocols and high performance out of the box.

Emerson, a global software, technology and engineering leader, today announced the release of its PACSystems™ RSTi-EP CPE 200 programmable automation controllers (PAC). This new family of compact PACs helps original equipment manufacturers (OEM) successfully meet customer requirements by minimizing the need for specialized software engineering talent. CPE 200 controllers will deliver large programmable logic controller (PLC) capability in a small, cost-effective, IIoT-ready form factor so machine manufacturers do not need to sacrifice performance for price.

To stay competitive, today's OEM machine builders must provide equipment that is ready to support analytics and give end users competitive advantage through increased efficiency, speed and quality. However, as builders develop innovative solutions for material handling, life sciences and more, they can struggle to program and deliver machine control systems on time and within budget with the performance, security and flexible connectivity customers require. The CPE 200 series solves these problems with security-by-design, open programming and open communications built in to simplify connectivity to external analytics software platforms while reducing cost and complexity for OEMs and end users.

"Gaining competitive edge in today's marketplace means having the flexibility to connect to the wide array of equipment end users employ as part of their proprietary processes, and supporting secure, open connectivity to allow easy access to on-premises and cloud-hosted analytics platforms," said Jeff Householder, president of Emerson's machine automation solutions business. "The CPE 200 series controllers take advantage of Emerson's cybersecure-by-design architecture, common programming capabilities, and IIoT readiness to provide options currently missing in legacy compact PLCs."

The controllers offer open communications through native, pre-licensed support for OPC UA Secure and other common industrial protocols for flexible connectivity over high-speed Gigabit Ethernet. IEC 61131 programming languages and C, the world's most popular and easiest-to-use programming language, help engineers write and run the high-performance algorithms that enable proprietary production strategies and advanced automation technologies.

About Emerson

Emerson (NYSE: EMR), headquartered in St. Louis, Missouri (USA), is a global technology and software company providing innovative solutions for customers in industrial, commercial and residential markets. A leader in industrial automation, Emerson helps process, hybrid and discrete manufacturers optimize operations, protect personnel, reduce emissions and achieve their sustainability goals through its Automation Solutions and AspenTech businesses. Emerson's Commercial & Residential Solutions business helps ensure human comfort and health, protect food quality and safety, advance energy efficiency and create sustainable infrastructure. **smi**

Emerson
www.emerson.com

Saves energy and space

ENGEL extends its series of linear robots for K 2022 with the new viper 4. What is currently the smallest viper model sees the Austrian injection moulding machine manufacturer and automation expert explore a new approach. The use of low-voltage drive technology significantly boosts the energy efficiency.

Now available in eight sizes – for nominal load-bearing capacities between 3 and 120 kg, the ENGEL linear robots can be ideally adapted to the given automation task in injection moulding operation. The new viper 4 is primarily used for picking and placing small moulded parts. It is designed for manipulation weights of 3 kilograms downstream of the swivel axis and for use on injection moulding machines with a clamping force of up to 2200 kN. In simple part picking and placing tasks, the viper 4 achieves a dry cycle time of 5.5 seconds, with a picking time of less than 1 second.

Energy saver switch for vacuum

The special thing about the new viper 4 is its extremely low energy consumption. In a standard cycle of 6 seconds with full strokes and the maximum possible dynamics, the energy consumption is 200 Wh. This means that the small robot only consumes the same amount of energy as a legacy CAD desktop workplace. The viper 4 relies on 48-V drive technology to do this and only needs a 230-V AC single-phase power supply.

For the first time, all vacuum circuits feature an energy-saving function as standard. The vacuum is controlled by a flow program to reflect requirements. Depending on the application, this reduces the energy required for the vacuum circuits by up to 80 percent. Further benefits consist of reduced air filter contamination and far quieter robot operation. ENGEL is setting a new trend in linear robots here. In future, all ENGEL viper models will be equipped with energy-saving vacuum technology as a standard feature.

Extremely compact integration capability

The viper 4 impresses with its compact size, especially in combination with tie-barless injection moulding machines. A version of the viper 4 with a shortened Y-stroke is available for horizontal part removal on ENGEL victory or ENGEL e-motion TL injection moulding machines, for example. It is then located far lower down on the injection moulding machine and can handle more than 30 percent additional weight. At the same time it achieves even shorter dry cycle times and a longer service life. Horizontal part removal keeps the lower edges of the crane runway very low, enabling efficient automation even in tight spaces.

Like the larger models, the new viper 4 features the iQ motion control smart assistance system and can be fully integrated into the ENGEL injection moulding machine's CC300 control unit. It is also available as a stand-alone solution.

The new viper 4 sees ENGEL supplement the lower end of its linear robot series while at the same time substantially improving energy efficiency in automation (photo: ENGEL)

This innovation is another building block towards establishing a neutral energy footprint in plastics processing

ENGEL AUSTRIA GmbH

ENGEL is one of the global leaders in the manufacture of plastics processing machines. Today, the ENGEL Group offers a full range of technology modules for plastics processing as a single source supplier: injection moulding machines for thermoplastics and elastomers together with automation, with individual components also being competitive and successful in the market. With nine production plants in Europe, North America and Asia (China and Korea), and subsidiaries and representatives in more than 85 countries, ENGEL offers its customers the excellent global support they need to compete and succeed with new technologies and leading-edge production systems. **smi**

ENGEL
www.engelglobal.com

Maguire introduces new feeder line providing complete application flexibility with 4 new choices of gravimetric feeders

New available options allow processers much more flexibility and increased performance for all types of molding&extrusion processes. These options can all be retrofittable in the field with current Maguire feeder equipment.

MGF+ (all picture: Maguire)

With over 30 years of experience in gravimetric blending and dosing technology, Maguire is pleased to introduce a new feeder line that can be configured in any optimal way to accommodate various processing requirements. The new feeder models allow for up to 4 different size auger feeders, all located on one mounting frame, using a single common touch screen control. In addition, the company is introducing a Volumetric Feeder (MVF) option. These new feeder models provide ultimate flexibility for injection molding, extrusion, blow bolding and extrusion control applications.

Maguire MGF+ 100L

Since 1980, Maguire feeders have helped processors save tens of thousands of dollars per year thru accurate dispensing of color and additives. The standard MGF line provides robust hardware, integrated with industry leading software, to provide consistent control and accuracy that is intelligent and easy to use. This standard Maguire Gravimetric Feeder (offered in 3 auger sizes: 3/8", ½" and 1") have historically included an analog or touch-screen control, along with different mounting frame options and high temp configurations. The series offer unique twin load cell technology with a dosing accuracy of ± 0.2%.

New Maguire Gravimetric Feeding (MGF+) Choices

These new available options allow processers much more flexibility and increased performance for all types of molding&extrusion processes. These options can all be retrofittable in the field with current Maguire feeder equipment.

The new **Maguire MGF+** line incorporates the standard gravimetric feeder options and includes up to (4) different size auger feeders on one mounting frame all using a common touch screen control. This allows the flexibility to dispense multiple additives/materials within one frame and one controller. The center hopper dispenses the virgin material. For each

MGF+ 100B

The new Maguire Gravimetric Feeding (MGF+) choices are ideal for any type of molding and extrusion process, allowing much more flexibility and increased performance.

unique feeder the dispensed material is measured precisely and accurately to maintain the correct desired percentage – all controlled by one touch screen controller.

The new **Maguire MGF+ 100L** incorporates up to (4) different size auger feeders, and includes a virgin hopper that is on a pair of load cells so that the material within this hopper is also being weighed and controlled (by the same controller). All materials are 100% weighed and the additive components are ratioed to the primary component, regardless of changing throughput. This option is ideally used for extrusion applications.

The Maguire **MGF+ 100X** takes the process control one step further by including an extrusion control package, where the extruder drive control is managed with the same touch screen controller as the hopper and the feeders. This model used exclusively for extrusion applications streamlines the entire process and includes the center loss-in-weight (LIW) hopper along with up to four auger feeders. The LIW controller monitors the actual throughput of the line. The target throughput is set on the controller and when the operator switches to automatic mode, the controller will adjust the extruder drive to maintain target weight per hour and/or weight per length.

The **MGF+ 100B** is ideally used in injection molding applications. This model has no center hopper so that all materials must run through the feeders. This model includes a material collection bin with a level sensor that maintains material level by activating the dispense of the materials on demand.

Processors can also now choose from Maguire's latest, most economical version of their volumetric feeder, the MVF. The **MVF** is designed for simple volumetric dosing of color concentrate and/or additive material. It utilizes a simple (digital push button) setpoint control and a stepper motor to provide consistent letdown ratio without any use of load cells. Conversion kits are available for upgrade to full gravimetric capability.

"With over 40 years of experience in gravimetric and volumetric feeding, our customers have confidence in our equipment's reliability and repeatability. As a pioneer in this field, we offer consistent technology and software developments in our robust designs and unrivaled performance. These new options provide economical choices and unmatched flexibility to meet the demands processors are seeing today," said Frank Kavanagh, Vice President of Sales & Marketing.

All Maguire Gravimetric and Volumetric Feeders are backed by an industry leading 5-year Warranty.

MVF

About Maguire

Headquartered in Aston, Pennsylvania, USA, Maguire manufactures gravimetric blenders and feeders, volumetric feeders, ULTRA low energy dryers, conveying systems, extrusion control systems, loss in weight extrusion control, and related auxiliaries.

Founded in 1977, Maguire Products operates seven manufacturing facilities in Aston, with seven international subsidiaries that service an extensive network of distributors globally. *smi*

Maguire
www.maguire.com

Pelletron DeDuster® solves gel problem for rPET processor

XP-series DeDuster® — the standard for plastics manufacturers and compounders (picture: Pelletron)

DeDuster® systems use an electromagnetic flux field coil to disturb the fine dust that is stuck to the flake due to static electricity and counterflow air to separate dust and streamers from the flake. They can lower the dust content from over 2,000 ppm concentration of particles between 0-500 micron particle size to less than 200 ppm.

Gels were not on rPlanet Earth's radar when the vertically integrated rPET processor started up their 300,000+ square foot plant in 2018. Being an "advanced technology company" rPlanet initially focused its efforts on state-of-the-art automation to sort post-consumer materials and all of the other details that must be considered when starting up a new plant.

rPlanet Earth's operation in Vernon, California is special because they do not simply convert bottles to flake or pellets for resale like most rPET recyclers.

They convert the flake directly to extruded sheet to make thermoformed parts and injection mold bottle preforms under one roof making their carbon footprint very low.

While gels can be caused by a variety of factors, dust and other fine contaminates are often a primary cause. Recycled bottle flake is notoriously dusty because of the damage caused by grinding containers into a flake, decontamination and the numerous material handling and conveyance steps between the baled post-consumer bottles and the extrusion or injection molding machine.

After discovering that gels were creating quality issues, rPlanet Earth decided to do something about it and contacted Pelletron Corporation in Lancaster, Pennsylvania. Pelletron specializes in gentle pneumatic conveying and DeDuster® systems for the plastic processing and plastic production industries. They were already very familiar with rPlanet Earth's operation since they supplied all the material handling systems from the wash line to the extruder and injection molding machines. Their DeDuster® systems use an electromagnetic flux field coil to disturb the fine dust that is stuck to the flake due to static electricity and counterflow air to separate dust and streamers from the flake. Pelletron's DeDuster® systems can lower the dust content from over 2,000 ppm concentration of particles between 0-500 micron particle size to less than 200 ppm. Other dust removal systems on the market cannot achieve that level of separation in a package as compact as the DeDuster®.

rPlanet Earth purchased an XP45 DeDuster® for 2 mt/hr of rPET flake for each of their 3 Welex sheet extruders. The low stack-up height of the DeDuster® made it possible to fit the DeDuster® directly on the extruder's inlets below the loss-in-weight feeders. Pelletron supplied the equipment and controls while rPlanet handled the electrical and mechanical installation. The incidence of gels diminished after the DeDuster® systems were commissioned on the sheet extrusion lines. In a controlled study performed on one line, up to an average of 1.00 gels per 1 m of sheet (0.2-1.0 mm²) were counted when the DeDuster® was not running. That count made the sheet off spec for their most fussy customers. Simply turning on the DeDuster® system reduced the gel count to an average of 0.17 gels per 1 m of sheet for the same gel size range. That was on spec so the material could be sold at prime rate.

Pelletron's DeDuster® systems are available in capacities that range from 50 lb/hr (20 kg/hr) up to 330,000 lb/hr (150 mt/hr) and they offer free-of-charge testing to prove how well the DeDuster® can clean your material. Contact a Pelletron sales engineer to learn more. **smi**

Pelletron
www.pelletroncorp.com

AON3D debuts AON M2+ printer to fabricate high performance end-use parts

AON3D AON-M2 2020 Industrial 3D Printer (all pictures: AON3D)

The AON M2+ high temperature 3D printer enables new manufacturing opportunities through increased materials accessibility.

AON3D, a Canada based 3D printer manufacturer, today announced their new AON M2+ high temperature industrial 3D printer. Featuring the industry's largest sub-$100k actively heated build volume and open material ecosystem, AON3D makes full-scale and functional 3D printing accessible to businesses of all sizes. "End-use part properties define how businesses can benefit from 3D printing," said AON3D CEO Kevin Han. "The AON M2+ was designed by our team of material scientists to take full advantage of current and future economical thermoplastics, carbon fiber composites, and high-performance polymers like PEEK, PEKK, and ULTEM™."

AON3D manufactures 3D printers to counter the limited build volume, high price, or lack of material options that exemplifies most industrial 3D printer configurations. The AON M2+ offers high-end features and advanced material capabilities to the mid-market customer without sacrificing hardware quality. Dual independent extruders (500°C), a massive actively heated build chamber (450 x 450 x 640 mm), configurable process parameters, and ungated access to thousands of material options provide unlimited end-use printing opportunities. The AON M2+ can print materials that possess: higher strength to weight ratio than aluminum, chemical/hydrocarbon resistance, biocompatible/sterilizable properties, thermal resistance above 250°C, and more.

"Our goal is to unlock AM applications across value chains and beyond just prototyping," said AON3D Chief Product Officer Randeep Singh, "Materials and final part properties are leading those initiatives."

About AON3D

Founded in 2015, AON3D is a venture capital-backed, Montreal-based additive manufacturing hardware, software, and material company. Instead of locking down features, materials, and software, AON3D encourages innovation with a combination of future-proof hardware, configurable process parameters, and on-demand materials engineers, application engineers, AM knowledge, and support. The company's solutions drive innovation for hundreds of businesses in 25+ countries worldwide, ranging from small businesses to multinational Fortune 500 corporations. **smi**

AON3D
www.aon3d.com

“Quality Works”: LANXESS focuses on electromobility and sustainability at K 2022

All pictures: LANXESS

- *High-quality solutions for the plastics and rubber industry*
- *High-performance materials for lightweight design and electromobility*
- *Additives for plastics and rubber processing*
- *Sustainable system solutions for the polyurethane industry*
- *Colorants and pigments for plastics coloring*

LANXESS will be exhibiting at K 2022 in Duesseldorf, the world’s largest trade fair for plastics and rubber, under the motto “Quality Works”. From October 19 to 26, the specialty chemicals company will present material developments as well as new processes and technologies for the plastics industry at its 700-square-meter booth. In addition, sustainable products and system solutions for the rubber and polyurethane industries will be on display, as well as colorants and intermediates for the polymer sector.

LANXESS’ focus topics for this year’s trade fair are electromobility and sustainability. “We want to play an active role in the transformation of the economy and global value chains towards a more sustainable world,” says Dr. Hubert Fink, member of the LANXESS Board of Management. “With our materials, we support our customers in manufacturing more sustainable products that have a lower carbon footprint and conserve resources and the climate.”

High-performance plastics and system solutions

The High Performance Materials business unit focuses on sustainable material and lightweight solutions. Main areas are materials and component concepts for consistent lightweight construction in the future market of electromobility – for example, lightweight structural components based on the continuous fiber-reinforced composites of the Tepex brand in the field of batteries for passenger cars.

Furthermore, the business unit will present new Tepex composites based on recyclates or bio-based raw materials. One example here is Tepex dynalite Scopeblue 813, which has just been launched on the market and is produced from flax fibers and polylactic acid. Also on show will be a Tepex dynalite with a polyamide 6 matrix that is produced starting from “green” cyclohexane and therefore consists of well over 80 percent sustainable raw materials.

Another focus is on tailored solutions for the increased requirements in electric vehicles, for example in the powertrain or charging infrastructure. Here, plastic components are often exposed to higher temperatures and at the same time very strong electrical currents and voltages. Plastic connectors, for example, must remain electrically insulating under these conditions and must not allow creepage current to occur. LANXESS has developed a new halogen-free flame-retardant and hydrolysis-stabilized PBT (polybutylene terephthalate) compound for these high-voltage connectors.

Sustainable products for the polyurethane industry

The Urethane Systems business unit will present its extensive product range for the polyurethane industry. It is designed to increase sustainability along the entire value chain. The wide range extends from Low Free (LF) monomer technology and

innovative Adiprene Green brand prepolymers with a high bio-based content to novel hot-cast and cold-cure systems that can be processed with reduced energy input. The focus is also on water-borne coatings designed to meet the high demands of modern vehicle interiors.

In CASE applications (Coatings, Adhesives, Sealants, Elastomers), thermo plastic polyurethanes can be processed more efficiently by adding the modifier Modulast PUR. The use of polyols and isocyanates can be reduced, while the physical properties are maintained and often even improved. This not only significantly reduces overall raw material costs. The entire production process also becomes more efficient, benefiting from lower temperatures during processing and resulting in shorter cycle times.

Products for plastics coloring

LANXESS' Polymer Additives and Inorganic Pigments business units offer the plastics industry high-performance, sustainable colorants for direct coloration. The business units will present their product ranges for the energy-efficient production of colored plastic goods, which eliminate the need for subsequent coating and thus avoid reworking. This includes both universal products and specialties for particular requirements.

In electromobility, for example, the color orange is a mandatory safety feature for high-voltage plastic components. This is where Macrolex Orange HT comes into play. Its comprehensive properties meet the high safety and performance requirements for electric cars. These include excellent heat stability, improved sublimation resistance as well as high migration stability, color strength and light fastness.

Efficient flame retardants for polymers

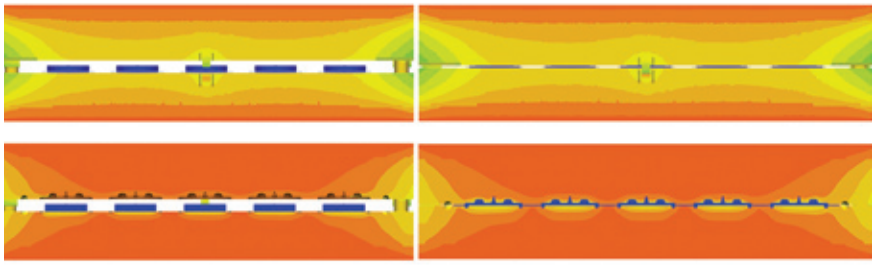
With brominated and phosphorus-based solutions, LANXESS' Polymer Additives business unit offers one of the most comprehensive ranges of organic flame retardants in the world. The polymeric and reactive flame retardants reduce the release of additives from polymers, thus contributing to environmental and health protection without compromising fire safety. Due to their high efficiency, brominated flame retardants are widely used in the construction and electronics industries. In addition to effective fire protection, phosphorus-based flame retardants offer other advantages such as good processability and high elasticity in PU and PVC systems.

Additives for rubber processing

A wide range of additives for the rubber processing industry will be presented by the Rhein Chemie business unit. These include predispersed chemicals, processing promoters and vulcanization and filler activators. In the spirit of advancing sustainability, the focus will be on not only rubber production but also the manufacture of high-quality, long-lasting rubber products designed for a whole range of applications such as tires, hoses, seals, profiles, and drive belts. The lifetime is an important indicator for the sustainable performance of rubber products. Additives such as Perkalink and Vulcuren from LANXESS allow tire manufacturers to develop and produce mixtures for tires designed to deliver ultra-high performance over their entire service life. ***smi***

LANXESS
www.lanxess.com

Compression Molding is completely transparent



The view of the mold when opening: left, when closing: right. Thermal influences in the mold seen from the outside: above, from the center: below (picture: SIGMA)

On K 2022, SIGMA Engineering presents the new version 6.0 of SIGMASOFT® Virtual Molding. Besides the reworked intuitive user interface one highlight is the introduction of simulative Compression Molding. It allows to zoom into the production processin every location, anytime and in any cycle. Examples include the thermal influence of the open mold, during preparation and while preforms are positioned – or to analyze plastification and curing of theelastomer in detail.

On K 2022 in Duesseldorf (October19-26 2022) SIGMA Engineering GmbH presents the evolution of SIGMASOFT®. The new version 6.0 has a completely fresh user interface and beside other new features now also contains the possibility to analyze the traditional Compression Molding ofelastomers.

Until now, simulative mold and process design were limited mainly to modern injection molding technology. SIGMASOFT® has already been utilizedsuccessfully by leading elastomers processors, and their desire to also simulate the older processes was voiced many times. The industrial significance of Compression and Transfer Molding remains high, as safety and precision parts are also manufactured using these processes. The use of high-qualitymaterials makes a better process understanding and in advance optimization through simulation even more desirable. The simulationalso allows for a secure evaluation of curing degree and process-cycle data. Issues such as the quantity, shape, weight, and position of the preforms can also be optimized easily. This allows to improve the quality of the molded parts while reducing the material usage - without cumbersome and costly series of trials. In SIGMASOFT®, all thermal influences on the component and in the mold, from the smallest screw to the energy loss of the mold over several cycles, can be viewed in detail during the simulation of compression molding.This makes thermal optimizations or improvements on cycle time easy.

"It sounds easy, but implementation was quitecomplex", explains SIGMA CTO Timo Gebauer: "The challenge is, that the cavity, or the room where we otherwise inject into, constantly changes during the closing of the mold. At the same time, the inserted preforms are already heating up, and are plasticizing and deforming. This development would not have passed the finish line without continuous advice and validation through our customers."

About SIGMA

Since 1998, SIGMA Engineering GmbH has been driving the development of the injection molding process with its simulation solution SIGMASOFT® Virtual Molding. This virtual injection molding machine enables the optimization and development of polymer components and molds as well as the mapping of the entire production process. The SIGMASOFT® Virtual Molding technology combines the parts 3D geometries with its tooling and temperature control system and integrates the parameters of the production process. This ensures a cost-efficient and resource-saving production as well as high-performance products - from the first shot.

SIGMASOFT® Virtual Molding integrates a multitude of process-specific models including 3D simulation technologies that have been developed and validated over decades and are being continuously optimized. The SIGMA Solution Service and Development team support customers specific goals with application solutions. The software company SIGMA offers application engineering, training, direct sales and support. A software straight from its developers and designers to be a solution service to polymer engineeringall over Europe.

SIGMA Engineering GmbH, headed by Managing Director Thomas Klein, has subsidiaries in the USA, Brazil, Singapore, China, India, Korea and Turkey. In addition, SIGMA supports its users worldwide in a variety of international companies and research institutions with its Virtual Molding technology. *smi*

SIGMA
www.sigmasoft.de

exhibitions calendar

K
19-26 October 2022
Düsseldorf, Germany
www.k-online.de

K is the world's largest trade fair for the plastics and rubber industry. It gathers the most important supplier of plastics and rubber machinery, raw and auxiliary materials and semi-finished products, technical parts and reinforced plastic products under one roof. It is an ideal platform to showcase products and innovations and to make business contacts.

Plastindia
01-05 February 2023
New Delhi, India
www.plastindia.org

Plastindia is an international plastics exhibition and conference where national and international exhibitors present their new products and technologies. It is an ideal meeting place for buyers and sellers, joint ventures etc. and also enhancement business prospects, strategic alliance and technology transfer.

PLASTEC WEST
7-9 February 2023
Anaheim, CA, USA
www.plastecwest.com

PLASTEC West is the largest annual plastics event in North America. It goes above and beyond plastics and polymers. Discover the latest biocompatible polymers and cutting-edge large-scale injection molding solutions, while uncovering technology solutions in medical design & manufacturing, 3D printing, and robotics.

Asiamold
01-03 March 2023
Guangzhou, China
www.asiamold-china.cn.messefrankfurt.com

Asiamold – Guangzhou International Mould & Die Exhibition is a leading trading platform for China's mould and die industry. The fair is dedicated to assisting industry players around the globe by offering an array of the latest mould making, 3D printing and die casting technologies and solutions to help participants to enhance their business results. The fair will once again be held concurrently with SPS – Industrial Automation Fair Guangzhou (SIAF).

Chinaplas
17-20 April 2023
Shenzhen, China
www.chinaplasonline.com

Chinaplas is the largest plastics and rubber trade fair in Asia and widely recognized by the industry as one of the most influential exhibitions in the world. The rapid development of science and technology has dramatically increased the range of applications of plastics and rubber in various manufacturing sectors, including automobile, electronics and electrical appliances, information technology and telecommunication, building and construction and others.

Moulding Expo
13-16 June 2023
Stuttgart, Germany
www.messe-stuttgart.de/moulding-expo

In 2023, Moulding Expo will be the most important European event for tool, pattern and mould making: The top exhibitors of the branch present the best the European tool construction, pattern and mould making industry and suppliers' technologies has to offer – at first hand, with passion, soul and enthusiasm. Look forward to an industry get-together which provides new business opportunities to your company.

PLAST
5-8 September 2023
Milan, Italy
https://www.plastonline.org/en/

Plast is an international trade exhibition for the plastics and rubber industry, where interested visitors can get a complete overview of the latest developments in the industry from raw materials to finished products, from machinery to services. Plast will coincide with the exhibitions Ipack-Ima, Grafitalia and Converflex that are dedicated to packaging, graphics and converting.

FAKUMA
17-21 October 2023
Friedrichshafen, Germany
www.fakuma-messe.de

Fakuma is a prominent meeting place for the industry, with international charisma. It holds second place in the overall ranking of international trade fairs for plastics. Fakuma offers a top-class, comprehensive range covering all aspects of injection moulding technology as well as extrusion and thermoforming, in which it holds a leading position. The range of provision at Fakuma is rounded off by forward-looking forums, workshops and special shows.

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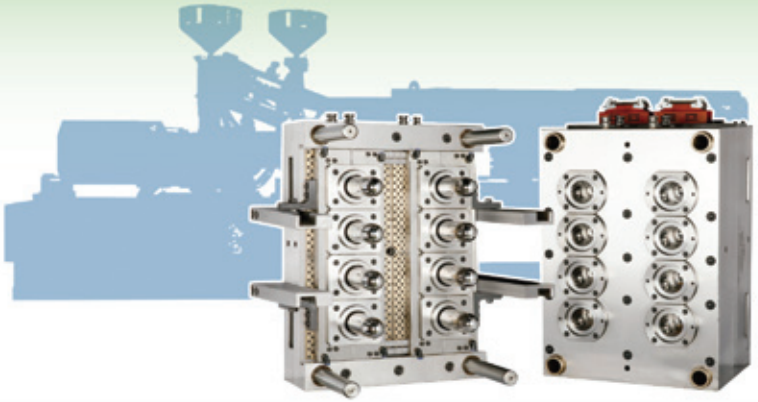

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