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The future is Electric!

EBLOW 37 extends the electric EBLOW series



At this year's "K-show" (plastics trade fair), BEKUM is presenting the latest EBLOW 37 blow moulding machine for canisters, the newest addition to the electric EBLOW series, which has been around since 2007. Established technologies have been developed further and integrated in the EBLOW 37.

The goal of the new innovation was to take the experience from the manufacture of the EBLOW electric packaging machine series and combine it with the advantages of the proven BA 34.2 hydraulic canister machine, more than 200 of which have been sold.

By intelligently combining electric and hydraulic drive technology, BEKUM makes the most of the benefits of each technology, offering customers the ideal conditions for high-capacity production of blow moulded articles, especially canisters from 10 l to 35 l.

The benefits of the new development:

Increased Productivity

- Up to 15% increase in output, which yields production of up to 240 20 l lightweight canisters per hour.

High Energy Efficiency

- Up to 50% energy savings for automatic blow moulders compared to classic, hydraulic blow moulding machines
- No energy required to maintain the clamping pressure

Excellent Product Quality

- Perfect weld seams, even for sensitive and quick-setting materials such as PP, PC, PET, thanks to very fast and complete clamping pressure build-up and variable adjustment of the closing movement and speed on the operator screen

One-of-a-kind flexibility

- Large range of varying mould depths possible
- Fully automated adjustment to mould depths for reduced set-up times

Convenient and easy to use

- Convenient to set different mould depths thanks to fully automated calibration
- This means shorter times for changing moulds and no manual readjustment of the mould depths
- Low-noise
- Improved accessibility thanks to large safety gates
- Maintenance-free clamping unit
- Optimum corrosion protection thanks to nickel-plated platens
- Full capability via remote diagnostics

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The BEKUM technology

The machine movements of the clamping unit and the mould closing function are each driven by an electric toggle lever system. The closing pressure is built up servo-hydraulically. Hydraulic units are needed – in all electrical canister machines – for auxiliary functions such as the hydraulic moveable mould sections. BEKUM also uses hydraulics to ensure optimum build-up of the clamping pressure and to adjust the different mould depths.

Like the BA 34.2, the EBLOW 37 also has a mould width of 700 mm and ensures an optimum clamping force that is unmatched in this size of closing system. Through the use of a standard BEKUM top or bottom calibration, the production range can be expanded even

further. Many proven and process-safe options of the familiar BA 34.2 will, of course, continue to be available in the new EBLOW 37. BEKUM offers the EBLOW 37 with the latest generation of extrusion heads.

BEKUM Extrusion heads

Developing and producing our own extrusion heads is one of the core competencies of BEKUM. BEKUM's new spiral mandrel technology sets new standards and provides customers with improved process conditions for flexible production:

- Excellent processability of all blow mouldable materials
- Single and multi-layer design
- Optional transparent stripes can also be retrofitted

- Optional use of polycarbonate
- Cost-effective thanks to quick colour changes
- Optimum wall thickness distribution along the entire circumference of the parison

The advantages of this energy-efficient, flexible and high-capacity machine make the EBLOW 37 the new benchmark in its class.

j.schwarz@bekum.com

Editorial



Dear customers, partners and employees,

After growing up with BEKUM, we set course this summer for a change of generations, with me taking over responsibility for the BEKUM Group as the managing partner.

BEKUM was founded more than 55 years ago by my father. His inventions had a decisive impact on the extrusion blow moulding sector and are now used in almost all blow moulded products around the world. For this work, he has received numerous awards and accolades.

But it is not enough to simply reflect on a successful past;

changing times and markets require a company to progress continuously. Our common cause is to lead our medium-size family business and its more than 300 employees into a successful future.

Our production relocation to Traismauer was an important step in making BEKUM even more competitive. Other steps will follow as we continue to invest in the company and in innovations. I see it as my job to conserve the qualities of BEKUM while simultaneously bringing fresh momentum to the company.

Our trade fair booth at this year's K2016 will present the company in this light. For example, we will be displaying the BA 90 from 1958, one of the first extrusion blow moulding machines with our then-newly developed ring-neck calibration. The BA 90 represents the history, tradition and continuity of our company.

Next to it, we will be presenting an innovative step into the future: the EBLOW 37. Here, we

are consciously striking out on a new path with our electrical clamping system, because we are convinced of the benefits in terms of handling, energy efficiency and, above all, the advantages for processing of different plastics.

I very much hope you visit us at our stand in Hall 14 C03 so that we can explain the advantages of the EBLOW 37 to you in greater detail, and through fascinating customer conversations and projects prove our effectiveness at meeting new challenges.

Yours

Michael Mehnert
Managing Partner

Market Success

Volkswagen Relies on BEKUM in New Production

Joint opening of the new production hall for fuel tanks

New BEKUM Co-Ex blow-moulding machines are in full production

Wolfsburg, 13/09/2016

In its most recent expansion of fuel tank production, Volkswagen is relying on technology from BEKUM. A new, state-of-the-art, 1,500 m² production hall in Wolfsburg has been created to manufacture fuel tanks. Together, Volkswagen and BEKUM opened the new component production hall to house the two Co-Ex blow moulding machines delivered by BEKUM to produce top-quality fuel tanks using the latest technology. The machines – one single-station system and one double-station system – are fitted with combined robotic “In Mould Deflashing” and insertion technology, and post-cooling, weighing and leak testing stations, meeting all the latest requirements for tank production. In addition, cycle times have been significantly reduced in comparison to the existing machines.

The production hall opening was also the occasion for launching full production. Volkswagen will now be supply-



Volkswagen: Mr. Draheim, Mr. Hoinza, Mr. Jahn,
BEKUM: Mr. Kandt, Mr. Schwarz (from left to right)

ing plastic fuel tanks produced using BEKUM Co-Ex blow moulding machines to the plants at Wolfsburg and Zwickau for the Golf, Golf Sportsvan and Golf Variant models.

“With the successful and on-time delivery of the two new 6-layer extrusion blow moulding machines, BEKUM’s technologies contribute to the success of Volkswagen”, advised Johannes Schwarz, Managing Director of BEKUM Maschinenfabrik Traismauer GesmbH.

j.schwarz@bekum.com

Photos: Volkswagen



BEKUM Co-Ex-Blow Moulding machines in the new production hall

Research and Development

Extrusion Heads with Spiral Mandrels

Success starts in the extrusion head!

The extrusion head sets the conditions for the quality of the parison and, later, the end product. **Whether a single or a multi-layer application, spiral mandrel extrusion heads from BEKUM turn every parison into an outstanding product.** The heads, with their sturdy and non-wearing design, use new, rheologically optimised spiral mandrels. These are designed for long service life and production, and they guarantee increased material throughputs. Short, gentle and even flow paths ensure uniform melt homogeneity and temperature. This results in very flexible process capabilities. Many blow mouldable plastics, such as HDPE and PP in single and multi-layer designs, including those with transparent stripes and po-

lycarbonate, can be processed with excellent results.

One major advantage of the spiral mandrel extrusion heads is the uniform wall thickness distribution around the entire 360° circumference of the product. The reproducible production results improve the product quality and



BEKUM Spiral Mandrel

reduce the product weight, as thin areas and weld seams do not have to be compensated for with greater use of material.

The improved heat balance prevents temperature-dependent impact on the die position. This results in a straight parison flow, which reduces the die setting times and adjustment work when starting up production and minimises the use of material.

Lengthy material and colour changing times are a thing of the past. With the new spiral mandrel extrusion heads from BEKUM, changing the colour takes just 15 minutes.

Contact our experts!

w.lehmann@bekum.de

Reduced Material Costs Thanks to Calcium Carbonate (Chalk)

As a filler in the middle layer

Using tried-and-tested BEKUM Co-Ex technology, we helped our customer to significantly reduce material costs. In terms of a total weight of just 900 g for a 20 l edible oil canister. 24% of the HDPE was replaced by calcium carbonate a much lower priced raw material. The cost difference between HDPE and CaCO₃ in this specific case was about 1,000 USD/day.

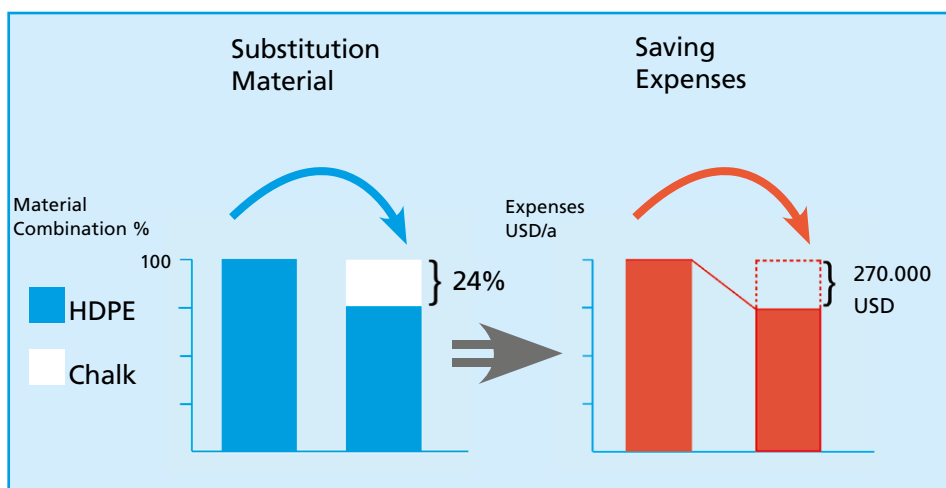
With a machine output of 210 canisters per hour (BEKUM BA 34.2 HS with external cooling chain) and 6.000 production hours a year, this results in a savings for our customer of more than 270.000 USD per year. The investment in upgrading from the single-layer to the three-layer design (Tri-Ex) paid off in a very short time.

Furthermore, it was possible to reduce the total proportion of masterbatch from 2% to 0.62% because it now only has to be used in the outer layer.

Besides calcium carbonate, it is of course also possible to use recycled materials (PCR = post-consumer recycled) as a filler in the middle layer. A combination of calcium carbonate and PCR is also possible, and has already been successfully used by BEKUM America in the production of 1 l round bottles. The savings for our customer in this case was also more than 200,000 USD a year.

To find out more about how to save material costs by using fillers, please contact us.

m.heusinger@bekum.de



Application example: Canister 20 L, 900g, 210 p/h, 6.000 h/a

BEKUM America

Crystal Clear Blow Moulded Glasses



Visitors to the BEKUM booth (Hall 14/ C03) at K' 2016 in Düsseldorf, Germany will enjoy BEKUM's first class hospitality, now served in a unique range of high-end, blow moulded plastic wine and beer glasses.

BEKUM has partnered with Govino to showcase their iconic, unbreakable wine and beer glasses during the K show. Blow moulded on BEKUM machinery, the glasses mimic fine glassware without the concern of breakage. This Govino glassware is used by fine hotels, restaurants, stadiums, resorts and wine and beer professionals around the world who love the patented, signature thumb notch, which is moulded right into the glass.

Please stop by the BEKUM booth at the show and discover the crystal clear glasses.

gcarr@bekumamerica.com



BEKUM America

High-Output Solutions for #1 Recyclable EPET Handleware

As a commitment to the continued advancement of #1 recyclable EPET packaging, BEKUM America Corp. (BAC) is engaged in extensive development trials to establish process parameters for high output, multiple-cavity processing of handled bottles in EPET.

BAC has firmly established mid-range output shuttle-machine solutions for Co-PET and EPET handleware bottle production, with approximately 40 blow moulding machine systems successfully installed. This is just the beginning, as we anticipate numerous quickly advancing product conversions to these #1 recyclable handleware packages.

The goal is to expand this potential and establish firm process guidelines at elevated outputs with the newer generation EPET resins. This exercise will involve several EPET resin suppliers and will focus on achieving high output of various grades of their



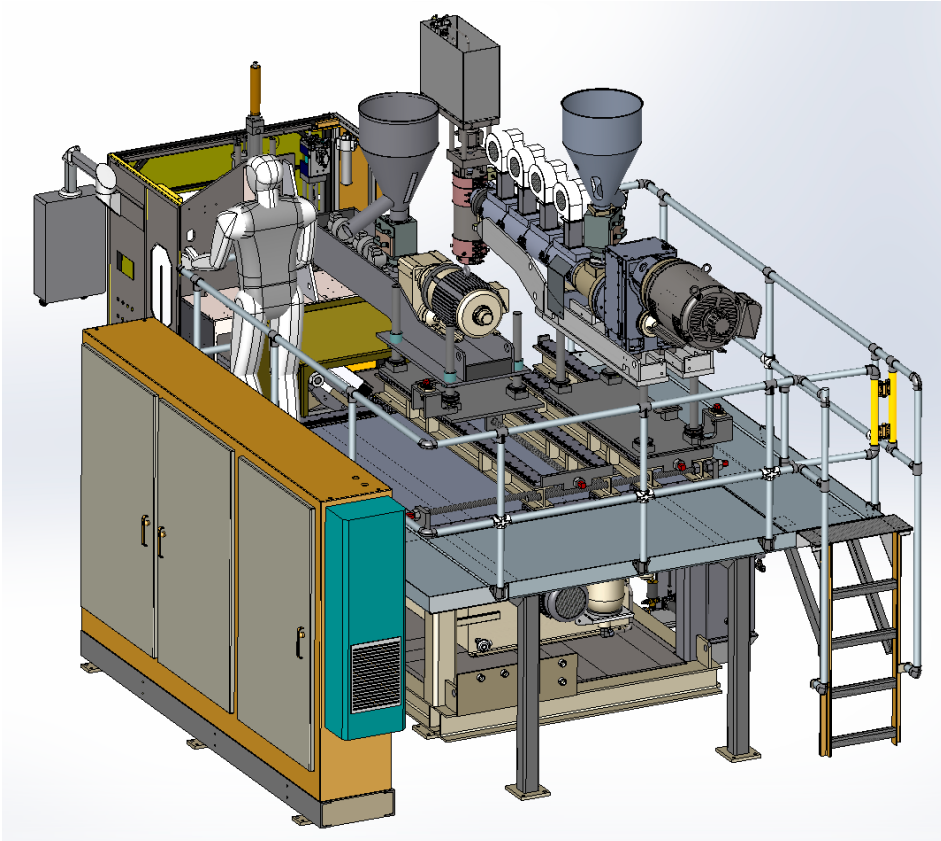
latest EPET resins, including process regrind introduction.

This extensive commitment by BAC includes the installation of a vast array of new equipment within our Williamston MI lab, including blow moulding machinery, a custom built – high output extrusion system with unique feed screw designs and a complete EPET resin drying / regrind reclaim system – all sized to effectively achieve these anticipated outputs.

The successful results of this testing will allow us to offer even higher output EPET handleware solutions - while maintaining the desired flexibility of double-shuttle blow moulding machine technology.

gcarr@bekumamerica.com

BEKUM America Installs Special "Combination" Medical Machine



H 121 S with mobile extrusion system

BEKUM America has recently installed a very special medical blow moulding machine, to produce a vast array of complex blow moulded medical products from a single system. This also includes the use of multiple grades of specialty resins including high temperature fluoropolymer based materials.

The machine features two custom built extrusion systems employed in combination with four independent extrusion heads and eight different feed screw variants. The machine also features two independent pneumatic circuits – blowing with traditional air + blowing with inert gases.

To produce the smaller products, one extrusion system is indexed forward for production while the other extruder remains behind. For the larger products, the smaller extrusion system is indexed to the rear for shut-down and change-over - and the larger extrusion system is advanced forward for production.

Innovative Special Solutions for Quicker Production Changeovers

The large range and high variability of products on the market mean that frequent production changeovers are now a necessity. Long set-up times reduce flexibility and impair competitiveness. In addition to tooling changes, a production changeover sometimes also involves replacing center distance related components, such as the extrusion heads. To minimise set-up times for our customers and make production changeover more convenient and efficient, our blow moulding machines are fitted with an adjustable extruder supports and head suspensions that are designed for multiple extrusion heads. This is, of course, in addition to the tried-and-tested standard quick-connect systems for tooling (blow mould, blow pins, etc.).

The focus here is on universality. This means that it is possible to use many different extrusion heads with different WDS drives on a single blow moulding machine. The suspension for the extrusion head is designed according to the machine's expected scope of production. The extruder support is moved by an electric motor to the exact position necessary for production. This means that those responsible for production do not have to spend time manually moving the extruder backwards or forwards using a threaded spindle – thus making production changes almost child's play.

sales@bekum.de

A truly unique machine for a very challenging environment - a BEKUM specialty. Contact us to discuss your most demanding blow moulding equipment needs.

cjwalls@bekumamerica.com

Personalities

BEKUM America Corporation

Martin Stark, BAC's long serving President, functions as BAC's Chairman, Steven D. London President & Chief Operating Officer

Steve London is a graduate of Ferris State University with a B.S. degree in Electrical Engineering Technology and has also received an M.B.A. from the University of Michigan.

He joined BEKUM America Corporation in 1986, and has served in numerous capacities including Manager of Electrical Engineering, Director of Engineering, Vice President of Manufacturing Operations, Executive Vice President and Chief Operating Officer. **Steve was promoted to President and Chief Operating Officer in January 2016, reporting to Martin Stark, BAC's long time Chairman.**

During Steve's tenure as Executive Vice President, BAC has continued to grow and solidify its stature as the leading



blow moulding machine manufacturer in North America.

In addition to his outstanding efforts at BAC, Steve has also been heavily involved in various industry related areas outside the Company. He has served on the Ferris State University Electrical/Electronics Technology Advisory Board and currently serves on the Society of Plastics Industry (SPI)

National Board of Directors, as well as the SPI Equipment Council Executive Committee (EC Squared). He acts as Chairman of the SPI Equipment Statistics for Blow Moulding and is the Vice Chair for SPI Operations Committee for the National Plastics Exhibition 2018. Mr. London is also a Board member of the Mid-Michigan Business Travel Coalition.

Steve has had an extremely successful career at BEKUM and was quickly recognized by BEKUM's upper management to be a top performer with strong leadership necessary to bring BEKUM into the 21st century, giving fresh outlook and new ideas.

Through dedication, perseverance and strong leadership, Steve has been instrumental in the continuing success Bekum America enjoys today in the blow moulding plastics industry

slondon@bekumamerica.com

BEKUM Berlin appoints new Technical Director

Dr. Wilfried Lehmann will take over this role with immediate effect.

Dr. Wilfried Lehmann is known to BEKUM customers already, as he previously held this position from 1998 to 2002. With this foundation, he will be able to draw on his practical experience in blow moulding technology. Dr. Lehmann looks back on many years of international management experience in the plastic and machine tool industry, including at Ferromatik Milacron and Kampf Schneid- und Wickeltechnik.

In his role as Technical Director, he aims to focus specifically on stan-



dardisation and modularisation for all blow moulding system series at BEKUM. Here, potential synergies

from the packaging sector and automotive industry will be more closely linked. For Dr. Lehmann, the sustainable development of process and rheological expertise is on the agenda, with the aim of ensuring lasting customer satisfaction.

Dr. Lehmann: "Our customers should be so satisfied with our machines that they keep recommending BEKUM to others with complete conviction. With respect to blow moulding machines for packaging, automotive and technical parts, the high uptime, process reliability, and high production output of our machines and equipment form the best basis for the BEKUM brand to win over the market."

w.lehmann@bekum.de

Careers at BEKUM – Together for the Success of Our Customers

Are you ready to make a career move? BEKUM, as a globally active company offers you a variety of attractive positions.

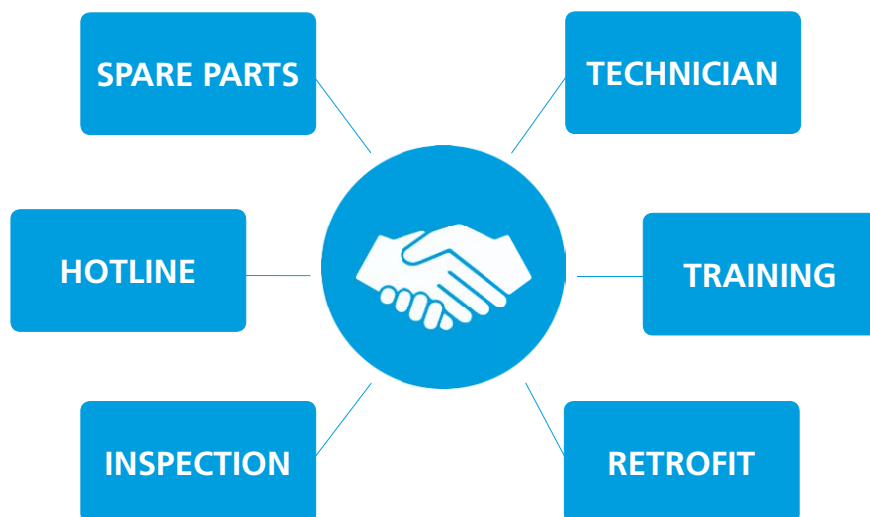
Apply now!



Service

Service that earns its name

In addition to our industry leading blow moulding machines, BEKUM's professional customer service is a great strength in our Company, guaranteeing competent and smooth production workflows, as well as maximum machine availability after "start-up".



Training

Excellent training is the basis of knowledge and skills around your blow moulding machine. With trained understanding and expertise, your staff is able to ensure an optimal production setting, servicing and maintenance of your investment.

Service that earns its name – BEKUM Service!

Talk with us!
We are here for you.

service@bekum.de

Hotline

A major part of the BEKUM service is the customer hotline for free of charge initial support and fault analysis. Very experienced employees on our service team guarantee immediate support by solving your issue by phone.

Spare Parts

Our experienced, highly qualified, and regularly trained employees in BEKUM's plants in Germany, Austria and the USA mean that we can guarantee top quality service at all times - all over the world in more than 100 countries. In addition, our logistics services assures that there is always sufficient availability of parts and accessories which can be delivered in very short periods.

Repair and Replacement Service

BEKUM supports the maintenance departments of its customers by their "Repair- and replacement service". Repair service includes identifying and fixing of mechanical and electrical defects and malfunctions on the

production machines. Our experience assures quick repairs and short down-times, as well as fast spare parts supply.

Maintenance and inspection service

Experienced maintenance and service teams ensure smooth execution of repair- and maintenance work according to your needs to ensure machine uptime. Scheduled inspections and observing maintenance cycles create production security and protect your investment in your production facility.

Retrofit

For used BEKUM machines, only the best is sourced, to improve productivity and profitability on an up-to-date level and continue to use best machine practices. A BEKUM retrofit of the newest control system and drive technology enhances older BEKUM machines for even more extraordinary performances and accuracy.

Publisher

BEKUM Maschinenfabriken GmbH

Kitzingstraße 15/19
12277 Berlin, Germany
Phone: +49 (0) 30 74 90 - 0
Fax: +49 (0) 30 74 90 - 2441
E-mail: sales@bekum.de
www.bekum.de

BEKUM Maschinenfabrik Traismauer GesmbH

Venusbergerstraße 40
3133 Traismauer, Austria
Phone: +43 (0) 27 83 4111 - 100
Fax +43 (0) 27 83 4111 - 109
E-mail: office@bekum.com
www.bekum.com

BEKUM America Corporation

1140 West Grand River - Williamston,
Michigan 48895 - 0567 USA
Phone: +1 (517) 655 - 4331
Fax: +1 (517) 655 - 4121
E-mail: sales@bekumamerica.com
www.bekumamerica.com