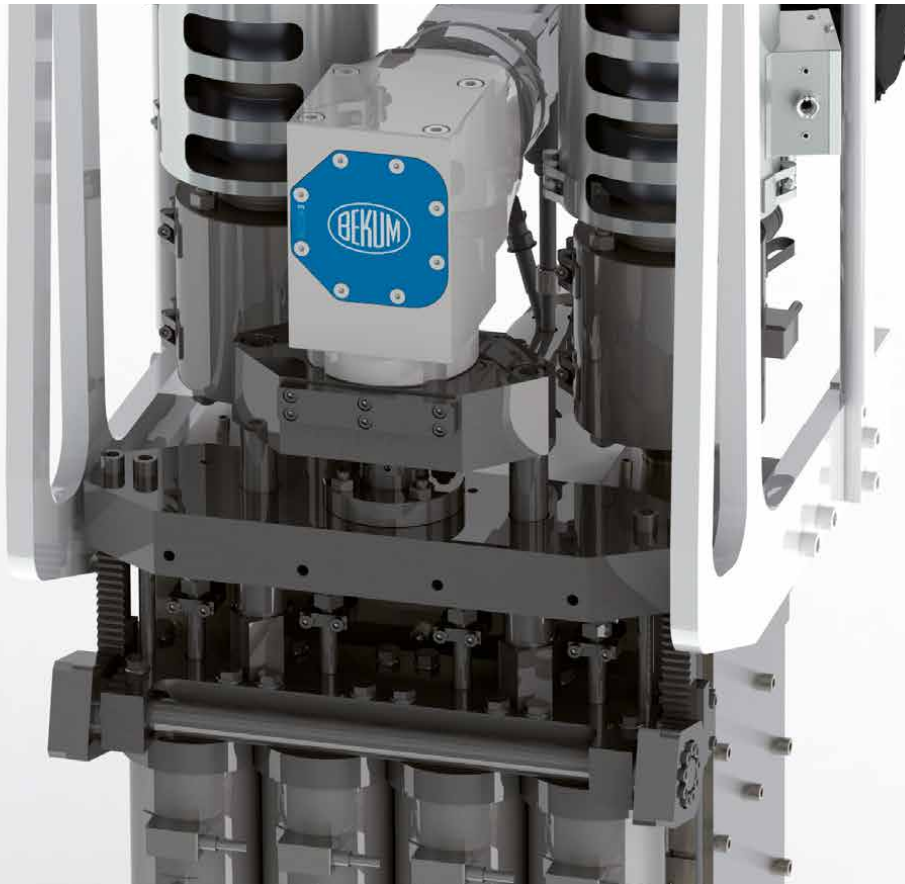


2023/2024

bekumnews

Latest Information for Customers, Partners and Employees



More Efficiency, More Performance

Take Your Production to a New Level!
The Economical Way to Save Material Costs.

SAVE MATERIAL AND BOOST EFFICIENCY

3-Layer System with Our
Vertical Extruders

NEW SMALL BLOWING MACHINE SERIES EBLOW 208D

Successful Market
Introduction

e-TWIN-TOGGLE

Full Electric Clamping
Drive Sets New
Standards





A Glimpse into the Future: Our Vision for 2024

Dear Customers and Esteemed Partners,

We are delighted to present exciting news and perspectives from the world of the Bekum Group in this issue of our in-house magazine. It is our great pleasure to share the positive developments of our company and provide you with insights into our plans for the years to come.

The current state of our company is highly promising. Thanks to your trust and cooperation, we have continually strengthened and expanded our position in the indus-

try. Our unwavering commitment to quality and innovation has allowed us to serve an increasing number of customers from various industrial sectors and establish new partnerships.

For the year 2024, we have a clear vision in mind. We plan to focus even more on consumer, pharmaceutical, and industrial packaging projects to better meet the needs of our customers. This expansion reflects our determination to adapt our technologies and products to evolving requirements.

An exciting innovation we take great pride in is the establishment of a new technical center in Traismauer. Here, we will incorporate the new small blow moulding machine EBLOW 408D as a laboratory machine, representing not only a milestone in blow moulding technology for us but also opening the door to new possibilities in the packaging industry. This technical center will serve as a space for research and development, prototype testing, and training to fully harness the potential of our technology.

We also want to mention that we are already planning an event, the

Bekum Extrusion Blow Moulding Days, in February 2024. This event will provide us with the opportunity to meet you in person, showcase our latest developments, and discuss industry trends. We look forward to welcoming you to our facility in Traismauer, Austria, and introducing our latest innovations.

Our growth strategy is evident not only in new technologies and products but also in expanding our presence. With the acquisition of LFT Pultrusion, we aim to broaden our expertise and tap into new markets for long-fiber-reinforced plastics. Especially lightweight solutions for vehicles and buildings offer exciting prospects for the future.

We are grateful for your ongoing support and the trust you have placed in Bekum. The upcoming years promise exciting challenges and opportunities, and we look forward to overcoming them together with you.

Warm regards,

Michael Mehnert
Geschäftsführer Gesellschafter

2024 **BLOW MOULDING DAYS**
20. – 21. February



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New faces at Bekum

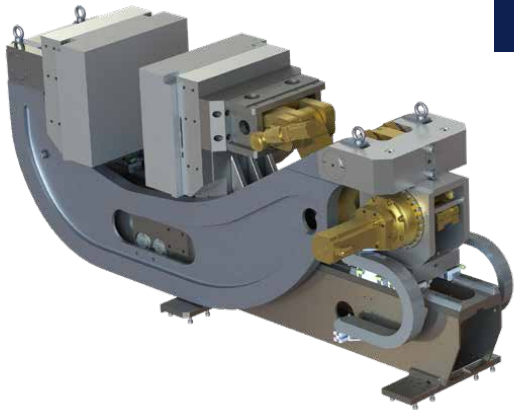
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Successful market introduction of the new small packaging machine series

EBLOW 208D – EBLOW 408D

The EBLOW 408D stole the spotlight at last year's K-Show in Düsseldorf. With compact dimensions, high equipment flexibility, a wide product range, high output performance, and product quality, it revolutionizes production perspectives for the smallest items, such as those in the medical technology field, all the way up to one-liter capacity containers.

Equipped with highly efficient Bekum spiral distributor heads and powerful, energy-saving extruders from the HiPEX series, these fully electric extrusion blow moulding machines by Bekum achieve energy efficiency values of class 10 according to EUROMAP 46.1.

Deployment in the pharmaceutical industry

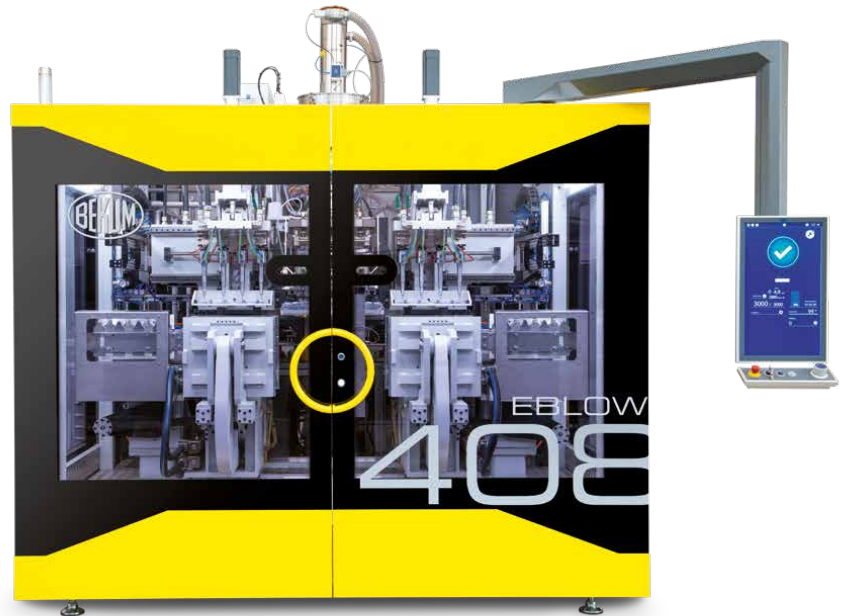
The new machine concept piqued the interest of many customers. During the K-Show 2022, the exhibition machine was sold to Röchling Medical Solutions SE in Neuhaus (Germany) and has been in use in the pharmaceutical industry since April 2023.

In 2023, Röchling invested in two more EBLOW 208D machines from the 8-series with automatic leak testing. The first of the two machines has already been delivered.

Another manufacturer of high-quality hygienic healthcare packaging based in the Netherlands also relies on Bekum's new EBLOW 408D. The machine is integrated into the entire fully automated product production process.

Seamless integration

Bekum achieved a successful market introduction not only in Europe but also in the USA. A



Key advantages of the EBLOW series:

- Compact, fully electric small blow moulding systems of Bekum quality
- Economical production for consumer packaging, cosmetics, and pharmaceuticals
- Proven C-frame clamping unit and quick mould change
- Small footprint and high accessibility
- Highly efficient electric drives and precision from the first shot
- Homogeneous melt and process-stable high-performance extruders HiPEX 36D with reduced energy consumption (-20%)
- Spiral distributor heads in mono and 3-layer for PCR and fast color changes
- Intuitive BC 8.0 control
- Exceeds energy efficiency class 10 according to EUROMAP 46.1 (0.26 kWh/kg) * depending on production configuration (demonstration value from the K2022 trade show)

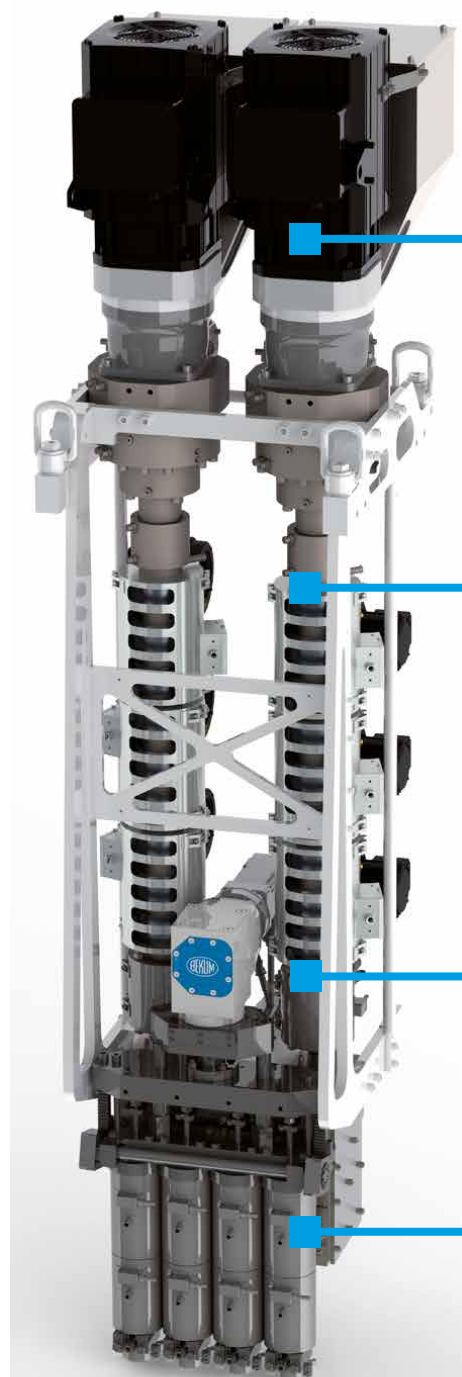
long-standing Bekum customer purchased two EBLOW 408D machines. The usability of the existing blow moulds, which were previously produced on hydraulic Bekum machines of the H-155 type in America, was essential. This way, the customer can retain their prior investments and simultaneously

benefit from the potential of a fully electric machine.

Within just a few months of the 8-series market introduction, six small blow moulding machines were already sold, and more short-term customer investments are in the pipeline.

Space-saving and retrofittable tri-extrusion units

More than just extrusion: Bekum's response to market demands



High-efficiency drive

Maximize productivity with our high-efficiency extruder drive – for faster production and lower energy consumption

New screws

For outstanding melt quality: Our innovative screw designs ensure even melt distribution and the highest product quality

Wall thickness adjustment

Proven hydraulic and electric distribution

Spiral distributor

With good all-around distribution for PCR inner layers

Need a multi-layer head for your application?

Contact:

Oliver Griesing,
E-Mail: o.griesing@bekum.com

Meeting the market demand for efficient and space-saving extrusion units for multi-layer applications, such as 3-layer heads for processing PCR and regrind, Bekum has recently expanded its

extrusion portfolio for (small) packaging machines. Newly developed multi-layer heads will be fed by new Bekum extruders.

New vertical extruders of the E-series

The extruders of the E-series are designed with a focus on **low energy consumption**, **high melt quality**, and **high pressure stability**. The newly developed barrel extruders with **30D long barrel tubes** complement the extrusion portfolio in various sizes ranging from 20 to 40 mm and can be operated both horizontally and vertically.

Tri-extrusion with spiral distributor

The 4-way extrusion head 4BKW40-3/100VS, in combination with Bekum E-series extruders when **operated vertically**, offers a **space-saving solution**, for example, for small packaging machines of the EBLow 208D/S, 308S/D, and 408D/S types. **The melt distribution and the spiral distributor were designed using the latest CFD simulation software** to reduce color change times and improve hose quality. This allows Bekum to implement 3-layer applications in the smallest of spaces, with the option to retrofit a Bekum layer stripe extruder.

Plug & Play retrofit on all EBM machines

The compact head size in conjunction with Bekum's standalone BC 8.0 control featuring intuitive HMI and defined interfaces allows for a **plug-and-play retrofit of the head** on all EBM machines.

Pioneering work for the industry: The new EBLOW 408D in the technical center

On the path to the future of blow moulding technology

Bekum has elevated extrusion blow technology to a new level with the introduction of its new series of compact packaging machines, setting a benchmark in the realm of high-quality fully electric extrusion blow moulding machines. Although we are delighted by the extremely positive market feedback and our esteemed customers, our dedicated development team is not resting on its laurels.

Innovation center in action

To fully harness the potential of this innovative machine series, Bekum has decided to deploy the EBLOW 408D as a technical center machine to carry out comprehensive optimizations and stress tests on the machine and its essential

components. This machine will be installed in a specially adapted area of an existing hall, which will be designed as the new technical center.

Efficiency and adaptability in focus

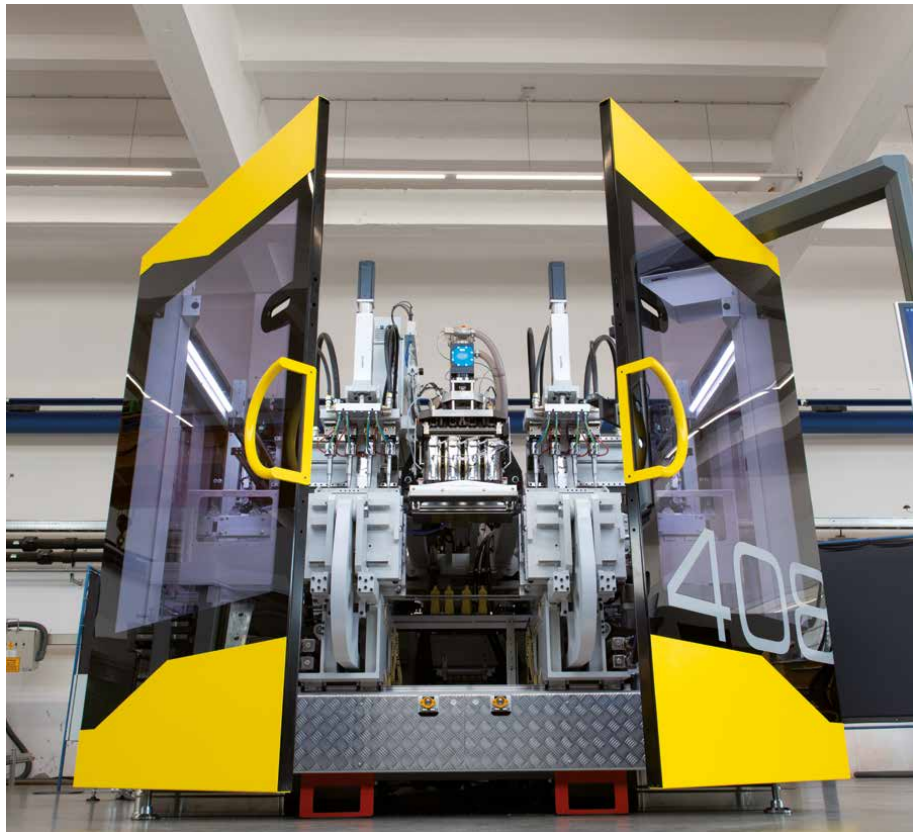
A particular focus of the technical center operation of the EBLOW 408D will be to further enhance the machine's efficiency with even less material and energy consumption and settings tailored to the product. We want to ensure that our machines work at maximum productivity and sustainability.

Furthermore, we have developed an extremely flexible machine concept that allows us to make custom

adjustments with minimal effort and special equipment, underscoring our commitment to driving continuous innovation.

Where ideas become reality

At Bekum, we take pride in pushing the boundaries of technology and consistently providing our customers with first-class solutions and a place for prototyping. Our technical center will be a central hub for research and development, where we will continue to advance the performance of our machines and meet our customers' needs. We look forward to shaping the future of blow moulding technology together with you.



e-Twin-Toggle

Setting New Standards with Fully Electric Clamping Unit

The exclusive drive system, e-Twin-Toggle, is used in the 8-series within the clamping force range of 200 kN to 500 kN. Clamping forces can be continuously regulated, and the mould opening can be positioned continuously.

Highest-level process stability

The fully automatic clamping force monitoring and control in automatic mode, along with continuous force measurement, reliably protects the mould tools during each clamping operation.

This adaptive adjustment ensures high process stability and consistent product quality. The gear is relieved during the impending clamping force. The unique joint bearings are designed for low-maintenance operation and an exceptionally long service life.

Optimized processes with automatic adjustment

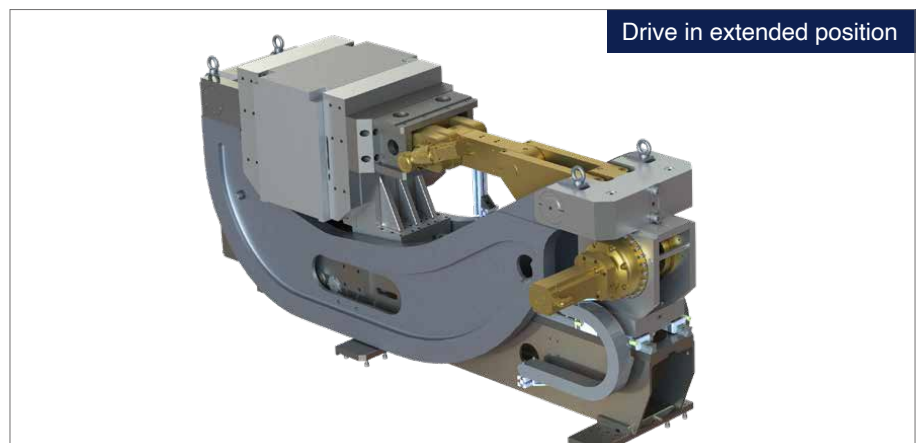
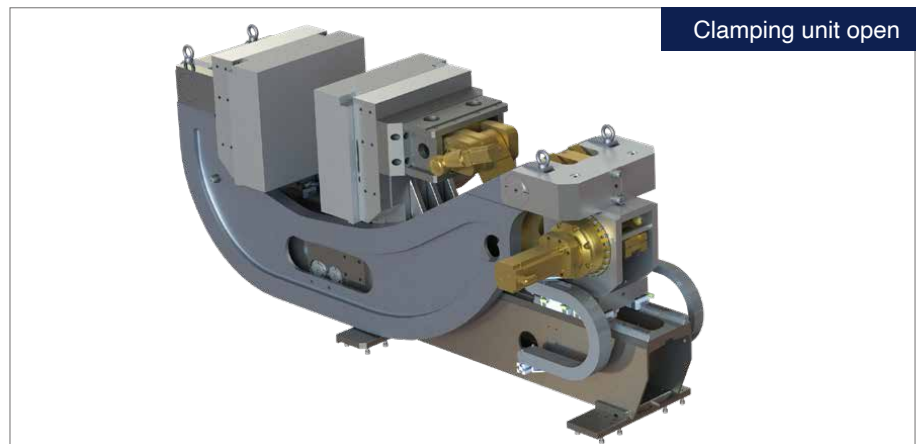
Different wall thicknesses are automatically detected during changeovers and are independently compensated by the drive within a deviation of ± 2 mm. Short mould opening and closing times reduce machine downtime. The motors comply with energy efficiency class 10 according to Euromap 46.1.

Rapid clamping force for demanding materials

With e-Twin-Toggle, a very short clamping force build-up time of under 100 ms is easily achievable. This is a process prerequisite for achieving a flawless formation of weld seams in technologically demanding materials such as PP, PC, and PET.

e-Twin-Toggle – production secure, low-wear, energy-efficient

- Continuously adjustable clamping force
- Energy-efficient through regenerative braking
- Fully automatic clamping force monitoring and control in automatic mode
- Force measurement via motor torque and strain gauges
- Protects components, i.e., against foreign objects in the mould during clamping
- Servo-motor clamping force adjustment after mould change
- Long service life through relief of the gear during impending clamping force
- Short mould opening and closing times
- Clamping force build-up time reduced to a minimum
- Wall thickness tolerance of ± 2 mm can be compensated
- Individual speed profiles possible, depending on material and mould
- Continuous positioning during opening
- Durable and low-wear
- Exclusively by Bekum



Expanding the series for industrial applications

XBLOW 200: Flexibility for demanding requirements

With the introduction of the innovative XBLOW 50 and 100, Bekum successfully positioned itself in the industrial large blow moulding machine sector. In this demanding industry, individual requirements, especially concerning mould dimensions and clamping force, significantly determine the machine's size.

Size for very large barrels, containers, and technical parts

The development of the XBLOW 200 is based on the proven scalable and modular XBLOW series concept. In terms of dimensions, the new machine has been significantly enlarged. The central clamping unit with two diagonal struts and a two-stage hybrid electric clamping drive is the core of this series. It offers a clamping force of 2,000 kN and can accommodate moulds up to 3,300 mm in length.

The force stroke can be flexibly adjusted by up to 300 mm to accommodate different wall thicknesses. Thanks to a slim rapid traverse cylinder, the hydraulic requirements are low, while a mould opening of 1,200 mm is achieved, allowing for the safe removal of bulky articles.

Simplified mould installation and removal

Since moulds with the mentioned lengths can weigh up to 6 tons, special attention was paid to mould changes in the design of the XBLOW 200. While moulds of smaller sizes can still be (de)mounted with forklifts, the use of an overhead crane is suitable for large and heavy moulds. To ensure top access, the position of the extrusion head needs to be offset from the

Key benefits of the XBLOW series:

- Modular industrial blow moulding machine with flexible production solutions for very large barrels, containers, and technical parts
- Quick, energy-efficient, hybrid electric clamping concept
- Unique wall thickness variance (patent pending)
- Rapid traverse movement electric and hydraulic. Hydraulic mould functions and rotating heads driven by variable speed hydraulic units
- Can be equipped with bottom calibration, blowing and expanding mandrels, as well as horizontal and vertical tube feeders
- Intuitive Bekum Control 8.0 control
- Homogeneous melt and process-stable high-performance extruder HiPEX 36D with reduced energy consumption (-20%)

clamping unit. This is facilitated by a laterally movable platform structure that creates enough space for mould installation and removal. This allows for the simultaneous change of the mould and extrusion head tooling, significantly reducing setup

time during product changes.

The expansion of the series with the XBLOW 200 demonstrates that Bekum is further establishing its presence in the industrial applications industry.



Many new customers entering the extrusion blow moulding business

New customers rely on Bekum's quality and service

During the COVID-19 pandemic, the North American blow moulding industry experienced a strong surge in demand for plastic containers and new blow moulding machines, especially for medical and disinfection products. Many new customers who decided to enter the extrusion blow moulding business for the first time and invested in these growth opportunities are now benefiting from in-house, independent bottle production.

Growing interest from non-traditional blow moulding companies

Even after the pandemic, Bekum America is seeing an increasing number of first-time customers in the blow moulding field. This is mainly due to the challenges they faced with their bottle suppliers, including delivery delays, quality issues, and rising costs.

Among these non-traditional blow moulding companies purchasing extrusion blow moulding machines for the first time are injection moulders, stretch blow moulders, fillers, medical device suppliers, and plastic material producers.

They are using these machines to produce food and dairy packaging, personal care products, household cleaners, technical parts, raw material testing, and pharmaceuticals. The applications range from small 5 ml bottles to 20-liter containers, and installations are spread across the USA, Canada, and Mexico.

Customized solutions for all production phases

These new customers appreciate the two core competencies for which Bekum is known: high-quality machines and top-notch customer service. Thanks to our in-house machine manufacturing, we can

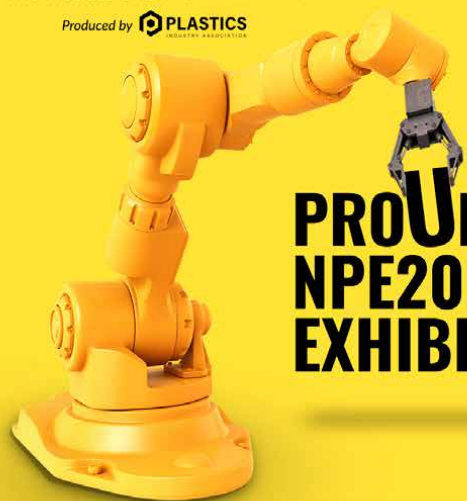
offer solutions made in the USA. We competently support our customers in all phases, especially when they are new to the extrusion blow moulding business. Our expansion in Michigan allows us to install complete turnkey production lines, train and qualify staff.

New companies appreciate long-term ROI

The North American blow moulding market has seen significant consolidation over the past two decades, marked by a trend toward short-term ROI requirements. It is encouraging to see our market growing with new companies that, like our traditional customers, recognize the advantages of high-quality Bekum machines. These advantages include a machine lifespan of over 30 years, high production efficiency, and excellent resale values, all contributing to the ultimate return on investment (ROI).

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Focus on productivity

Cooling performance improvements through fluid technology optimization in the 8-series

Bekum has placed great emphasis on optimizing fluid routing, maximizing media flows within the machine, and ensuring the perfect interaction between blow moulding machines and blow moulds during the development of the 8-series.

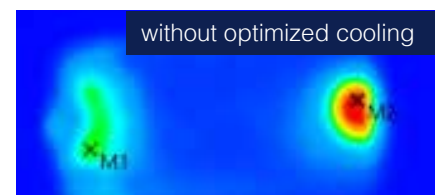
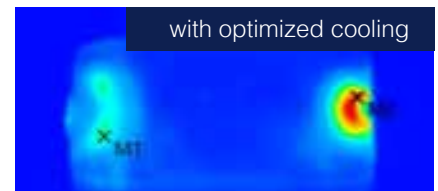
The blow moulding machine incorporates numerous cooling water and pneumatic lines, which have a significant impact on the process and the final product.

Through this optimization, shorter blow times, reduced cycle times, and increased machine output can be achieved, resulting in an improved ROI for machine investments. The blow moulding machine and the blow mould must be perfectly matched to achieve outstanding results.

Enhanced cooling for increased productivity

Fluid technology optimization has increased machine cooling performance during the blow moulding process by nearly 80%. This can lead to significant reductions in cycle times, depending on the product and application, representing a substantial boost in productivity. The images on the right demonstrate the impact of the newly developed cooling on a 12-liter canister produced on an EBLOW 508D machine, especially at the thick areas of the canister.

Higher flow rates of cooling media, especially compressed air, also mean increased costs for this medium. However, with an 80% increase in cooling performance, energy costs for compressed air have only increased by 10%.



The data shows that the new fluid technology optimization can significantly increase output at slightly higher costs per item. [All Bekum 8-series machines come standard with this optimization.](#) Extensive sensor packages for determining media consumption and costs are available as options.

Welcome aboard

New HR Business Partner focuses on professionalism and innovation



Christina Bichler, MA

"I am excited to work with all employees to drive forward and continually improve processes within the company!"

Christina Bichler, MA, began her position as HR Business Partner AT & DE in human resources at Bekum Europe in March 2023.

Ms. Bichler has several years of experience in an HR Business Partner role in an international corporate environment. Most recently, she ser-

ved as an HR Generalist at Wittur Austria GmbH, where she successfully applied her knowledge and experience. Her passion for the HR industry drives her to shape and digitize HR processes professionally. She will also bring new ideas and insights into areas such as personnel recruitment, marketing, and employee engagement.

We look forward to our collaboration and are confident that Christina Bichler will be a valuable addition to our HR team and the company.

Growth in Sales: Stefanie Georgi brings fresh perspective



Stefanie Georgi

"After a long period as a project manager, I am excited to join the Bekum family. I look forward to applying my past experience in the blow moulding industry and tackling new challenges in the sales team with Bekum."

We are pleased to welcome Stefanie Georgi, who joined our Bekum team in February 2023 as an Area Sales Manager at the Traismauer location. Ms. Georgi holds a master's degree

in mechanical and processing engineering. She brings many years of experience in various positions in the plastics industry in Germany and Switzerland. Before joining Bekum, Ms. Georgi worked for six years at Kautex Maschinenbau GmbH, where she was responsible for project management.

As an Area Sales Manager at Bekum, Ms. Georgi will be responsible for sales of small, packaging, and industrial blow moulding solutions in Germany, Spain, and Portugal.

Do you know our social channels?

YouTube, LinkedIn & more

Social networks serve as tools for research, information gathering, and networking. Bekum regularly provides updates on its social channels regarding current machinery, technology, and product topics, and offers insights into our family business's DNA.

Engagement and Follower Growth

The rapidly growing community affirms that the selected topics and content provide value to our followers. On LinkedIn, an engaged community with over 3,200 followers has been built. We appreciate the numerous likes, comments, and shares our posts receive.

We invite you to follow us on our social channels to receive the latest updates, insights, and success stories.



Bekum Extrusion Heads:
For Mono, Tri-Ex and Co-Ex Excellence!

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Revolutionizing Extrusion Blow Moulding:
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Bekum's Groundbreaking Achievement in Processing over 50% PET Regrind, with Remarkable Stability

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Customized Pharma Machines

Blow moulding in cleanroom quality. Successful SAT (Side Acceptance Test) of pharma project at Röchling Medical Solutions SE

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