

# OUR TECHNOLOGY YOUR SUCCESS



# **WELCOME** TO BEKUM

No other company in the world has characterised the developments on the market for blow moulders over the past few decades as much as Bekum. Our family run Company, formed in 1959, is the most experienced company in our industry. We have been able to do well for so long, and have grown to become one of the global market leaders due to our unique product range, our innovative, top-quality machine solutions, and first-rate global service. We are always one step ahead of the rest as evidenced by our introduction of the first "neck calibration" in the year Bekum was formed.

Since the beginning, we have developed numerous inventions and patents that now rank among the industry standards for blow moulding machines, and we have provided constant confirmation of our innovation and leadership. For example, almost all of the extrusion plastic bottles, which are automatically produced today, are produced using technology invented by Bekum. Our expertise from over 18,000 machines sold worldwide flows into all of our customer requests. Customised solutions are standard for us. Together with our customers, we have developed tailor-made solutions to meet their requirements, as well as entire production lines. We make the die heads for our co-extrusion machines and the essential key components using our own well-founded expertise in our own mechanical production.

Today, more than 350 highly-qualified employees work at three plants in Berlin, Traismauer/Austria, and Williamston MI/USA, to ensure our customers' satisfaction. In addition, our global sales and service network on every continent ensures customer proximity, high availability, and smooth production workflows. Well-known automotive, drink, cosmetic, medical, and chemical industry customers benefit from our services, and have been placing their trust in us and our competence for decades.

If you have any relevant blow moulding questions, or a concrete project to finalise, contact us! We look forward to hearing from you and working with your team.

# **OUR** SELF-IMAGE

# **OUR MOTIVATION**

Customer satisfaction is the basis of our business success. Our customers expect and receive quick feedback on their blow moulding challenges. Their requirements motivate us to continuously develop tailor-made machine and service solutions for all their blow moulding needs.

# **OUR MISSION**

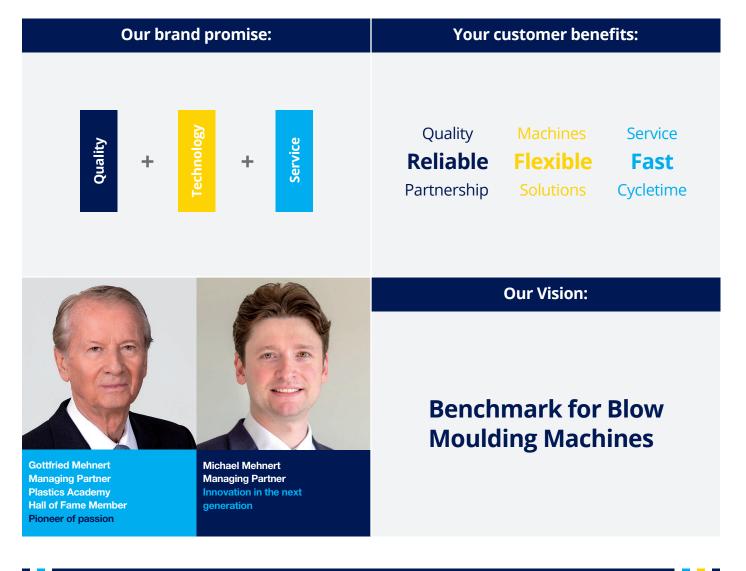
Our focus is quality. As a true pioneer in the industry, the Bekum name stands for the reliability and longevity of our machines. Our customers receive flexible machine solutions of the latest technology and highest quality, all supported by industry leading service.

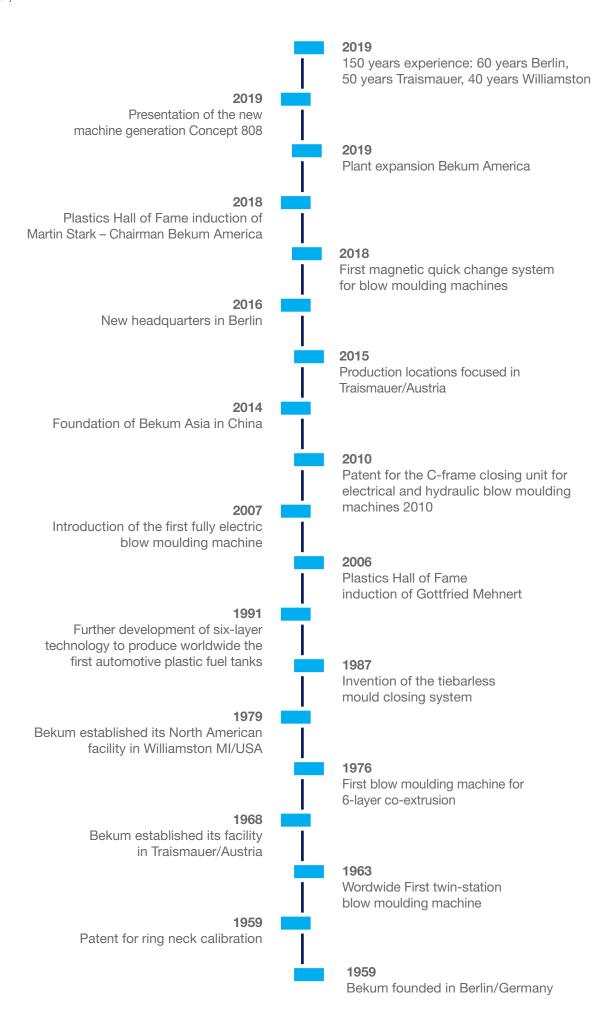
# **OUR VISION**

The Bekum promise of quality, technology and service provides our customers a decisive competitive advantage in the marketplace. This unique selling point makes Bekum the Industry's benchmark for blow moulding machinery.

# **OUR VALUES**

Respect and appreciation are important to us. This applies in everyday dealings with each other as well as in dealing with our customers and partners. Our goal is to create satisfaction with: our delivery times, our communications, our services and our products. Because satisfaction is the key to profitable and sustainable growth.





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# THREE LOCATIONS ONE GOAL

## **BERLIN / GERMANY**

Since 1959, Berlin is the world headquarters of Bekum and remains the guiding business center of the company today. In our new building complex, development and design of automatic high-performance packaging machines under 20 L in capacity occurs, as well as extruders and extrusion heads. Also located in Berlin are our worldwide sales and service units.





# **TRAISMAUER / AUSTRIA**

At the Traismauer site, since 1968, in addition to in-house mechanical engineering, we have been developing, constructing, manufacturing, distributing and servicing Bekum high-performance blow moulding machines for canisters and drums over 20 L capacity, as well as high-capacity large blow moulding machines for technical parts, 3D tank filler pipes and plastic fuel tanks for the automotive industry. In 2015, we expanded and modernized the production and office space to more than 16,000 m<sup>2</sup> and also consolidated the production of electric and hydraulic packaging machines in this plant. In our application and process center, various machines for prototype samplings up to 4-layers are offered.

## WILLIAMSTON / USA

Our activities in North America have been managed since 1979 by our Williamston, Michigan facility. This successful company has its own production and assembly facilities, as well as a technology center for product development and prototyping sampling for up to 6-layer containers. Our experienced employees focus on the production of high-quality blow moulding machines, as well as providing industry leading customer service. In total, we have approximately 130 employees in Williamston, with production and office space of 11,500 m<sup>2</sup>. Bekum America is expanding with a new production hall to enabling us to meet the ever-growing demands of our customers, reduce lead times and introduce more efficient assembly processes.



# **OPTIMISED FUNCTIONS** MINIMUM UNIT COSTS

# **FOOD & BEVERAGE**

The market for small format drinking bottles of between 50 and 1,500 ml has been enjoying above-average sales growth for several years, including milk-based drinks, fruit juice and functional drinks. In order to do justice to this trend, we have developed high-output solutions and "Tandem Blow" technology, which allows low-cost production at premium quality for extremely large quantities. In addition, we have decades of experience in "sterile blow" moulding for plastic packaging, which meets strict statutory requirements for filling sensitive products such as milk.

Constant developments in die and process technology have also made us a market leader for "multi-layer" and "co-extrusion" technology. This extends the shelf life for the contents by up to 12 months and also ensures precise wall thicknesses for all layers. These ultra-functional layers also rule out diffusion. At the same time, minimum wall thicknesses allows significant savings of materials, light weighting, with the utmost in transport security.



With the "Concept 808" concept machine, we are heralding the future of the extrusion blow moulding machine

## THE ADVANTAGES OF OUR HIGH-PERFORMANCE BLOW MOULDING MACHINES:

- Patented C-frame clamping unit guarantees optimised clamping force distribution and high mould platen parallelism
- Magnetic Quick change for mould and pin
- Reduced material consumption while optimising the layer thickness distribution and use of recycled material
- Reproducible article quality
- Next-generation intuitive control technology Bekum Control 8.0 with Industry 4.0 applications
- Bekum extruder, extrusion head and mould technology
- Project planning and responsibility from the bottle design to stable production
- Optionally available as electric and hydraulic machines for the economic production
- Complete blow moulding series with mould width from 350 mm to 1,060 mm and electric closing drives up to 500 kN
- Tandem Blow two bottles are produced from a single parison, which yields a 100 percent increase in productivity

## **PRODUCTION EXAMPLES:**



3 litre container with handle made of highly transparent PET on a xBLOW 607D



1,5 litre milk bottle made of 3-layer HDPE and recycled materials, blow moulded in a sterile process



PET bottles can be made in any design with or without handle.

# SAFE. ECONOMICAL. INDIVIDUAL.



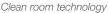
## PHARMACEUTICAL PACKAGING

Bekum is the right Company to contact for pharmaceutical packaging with sterile production under clean-room conditions. Our special machine concept for "sterile" blow moulding meets pharmaceutical industry quality requirements. It includes individual, tailor-made machine solutions for hygienic packaging, and our "sterile" blow moulding machines have an excellent reputation around the world, thanks to their high productivity and easy maintenance. Of course, we also meet the requirements for material certificates and process documentation - so that you are always on the safe side.

# PERFORMANCE CHARACTERISTICS FOR THE PRODUCTION OF HIGH QUALITY PHARMACEUTICALS PACKAGING:

- Fully-electric blow moulding machines for use in clean rooms
- Machines designed to cGMP (FDA)
- Validation and certification of suppliers as well as end to-end documentation of the production chain
- Extensive recording of production data including a camera system to monitor product quality for 100 percent quality control
- Freely-definable sample-taking during production with a switch-point system
- Extensive training for operating personnel
- Start-up management and production support to assure stable processes







Medical infusion container with integrated hanging clip



Cosmetic products are technically demanding in terms of optic, function and safety.

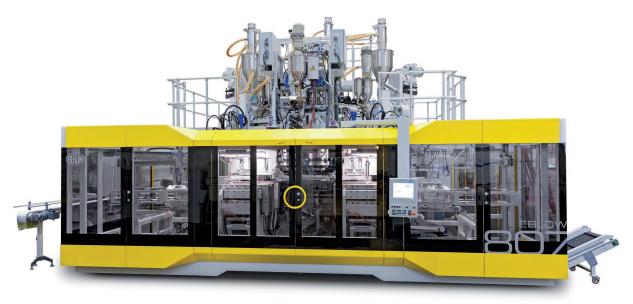
Handle bottles made of HDPE and recycled materials

## COSMETICS

In addition to the functional packaging requirements, cosmetic products also have particular requirements for their look and feel. Our experts are happy to provide you with in-depth advice when developing individual bottle designs which can still be produced economically. Our co-extrusion concept allows the contents to be protected, and also allows smooth surfaces to be produced on the outside of the bottle - which allows optimum brand presentation.

# CHEMICAL

From household cleaners to agricultural chemicals - correct packaging is a key component of a successful and safe product. Our co-extrusion concept provides unbreakable, multi-layer packaging for filling chemicals. Optimised barrier layers also allow us to ensure the essential packaging resistance for chemical contents.



EBLOW 807D proves an innovativ concept for high output

# **BEKUM'S MACHINES** OFFER ULTIMATE FLEXIBILITY

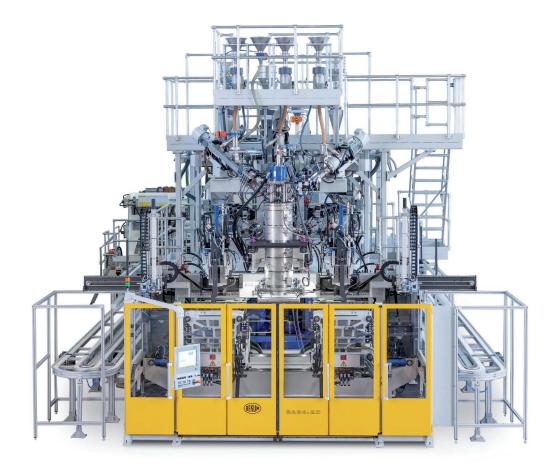


# **INDUSTRIAL PACKAGING**

Bekum's innovative blow moulding systems are characterised by their practically unlimited flexibility when moulding containers between 5 and 3,000 litres. Opportunities include the standard container shapes, as well as optional transparent visibility stripes or consumer friendly handles, such as the "anti-glug" function, which allows an optimum, constant flow when emptying the container. In addition, our blow moulding systems offer constant high outputs, excellent container quality, and reproducible wall thicknesses, with simultaneous perfect calibration of the container neck, even after thousands of

hours in production. The optional use of PCR material and a chalk layer as a replacement for plastic means that raw materials can be saved, and production quantities increased.

Perfectly synchronised regulation insures an optimum closing system, with precise welding and clamping force distribution. The rapid closing times, the short periods required to change over to other sizes, the low energy consumption and the possibility to expand the machines to cover an entire production line guarantee efficient and flexible production.



Double-station blow-moulding machine BA 34.2D for industrial packaging, canisters, liners and PC water bottles



EBLOW 37 – Electric blow moulding machine for canister production with external cooling chain and and punching unit

# THE COMPACT BEKUM BLOW MOULDING SYSTEM FOR ARTICLES OF UP TO 30 LITRES OFFERS:

- Special configuration for ultimate production security for 20 to 30 litre container production, using mono extrusion, tri-extrusion and co-extrusion for standard, dual and high-speed production
- Tried-and-trusted, long-lasting and flexible machine concept et al "top/bottom calibration"
- Available with energy-efficient electrical and classic hydraulic drive technology
- Excellent reproducibility in production, thanks to the use of state-of-the-art controls
- Optional with internal thread and cooling section
- Correction stations for necks and bases
- Testing station with leak testing and handle waste testing, as well as scales with feedback for automated weight adjustment as an option



New machine control Bekum Control 8.0

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# **INNOVATIVE SOLUTIONS** FOR YOUR SUCCESS

# AUTOMOTIVE

As a rule, the automotive sector makes the very highest demands of our products. They have to be highly reliable, long-lasting and ultra-precise, especially in continuous operation. In addition, the use of existing installation spaces means that an increasing number of technical parts will require greater freedom in their design. This freedom of design demands universal flexibility from the production equipment. Our high-performance large blow moulding systems allow us to meet these requirements. Bekum fulfills the automotive industry's requirements thanks to its high degree of effectiveness and services. We not only supply you with a machine, but if requested, we can also take over the end-to-end development of the product line, including all of the process settings. Our service and our machines have already convinced a large number of well-known automotive manufacturers as to Bekum's ability to meet all necessary requirements and specifications.

The wide variety of applications for plastics in the automotive industry knows practically no limits. Be it ventilation channels, windscreen washer reservoirs, or acoustic mats, there are hardly any blow moulding parts which cannot be produced using Bekum machines. In so doing, we travel down new paths, to develop innovative solutions, including the production of plastic fuel tanks.

# BEKUM'S LARGE BLOW MOULDING MACHINES OFFER THE FOLLOWING ADVANTAGES IN THIS REGARD:

- 6-layer spiral flow distributor to save materials and increase productivity thanks to shorter purging and cleaning periods
- Perfect wall thicknesses and EVOH barrier distribution
- Tried-and-trusted closing systems with 4 locking cylinders for optimum distribution of the clamping force and precise welding
- State-of-the-art touch-screen control for constant quality assurance and process control
- Integration of robots, automatically handling and article post processing, as well as article testing systems



Co-extruded saddle tank with 6 layers



7-layer filler neck produced in a three-dimensional process for a plastic fuel tank

# THE VERY LATEST 3D BLOW MOULDING CONCEPT FOR THE WASTE FREE PRODUCTION ALL OF 3D TANK FILLER TUBES IS ALSO AN INNOVATION "CREATED BY BEKUM". THIS OFFERS:

- Minimum non-productive machine time for the highest productivity
- 7-layer spiral flow distributor for optimised distribution of wall thickness and EVOH processing < 500g/h</li>
- The same processes in the first and second station for highly precise repetition
- The greatest flexibility when producing different articles on each clamping unit



# OUR KNOW-HOW FOR YOU

# **EXTRUSION HEADS**

Our in-house extrusion technologies are a core competency of our business. Therefore, we design, construct, manufacture and assemble our components ourselves and retain direct influence on the rheological design of our blow moulding machines. Our new spiral mandrel extrusion heads offer reduced shear with short uniform flow channels and consistent melt temperature. This results in a uniform wall thickness distribution over the entire hollow body. Consequently, the article quality is better and the weight less. Our spiral mandrel heads reduce material and color change times as well as the start-up time of the extrusion system.

# **CO-EXTRUSION UP TO SEVEN LAYERS**

Co-extrusion combines multiple layers of differing plastics. For example, low-cost commodity plastics such as polyethylene or polypropylene can be combined with high-performance barrier materials such as polyamides or ethylene-vinyl alcohol copolymer (EVOH). The latter are certified as a safety layer for toxic solvents and chemical products. Six- and seven-layer Co-extrusion structures are ideal for technical parts such as fuel tanks and filler pipes: they have excellent and durable barrier layers, are weather-resistant and retain their shape even at high temperatures.

## PERIPHERY

We know the production processes around our machines and offer tailor-made solutions, such as high-speed cooling systems. Naturally, you can also obtain our systems with automatic, closed loop weigh scales, leak detectors, camera systems, laser barcode labeling and automation - for example robot handling. From the solitary machine to the complete production line - we have solutions for all your production needs.



Spiral mandrel extrusion head for reproducible production qualities



Robots in action

# SERVICE THAT EARNS ITS NAME

## **CUSTOMER SERVICE**

In addition to our industry leading blow moulding machines, Bekum's professional customer service is a highly convincing part of our Company, guaranteeing competent and smooth production workflows, as well as maximum machine availability after "going live". Our experienced, highly qualified, and regularly trained employees in Bekum's plants in Germany, Austria and the USA, as well as the Bekum branch in China 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 assure that there is always sufficient availability of parts and accessories which can be delivered in very short periods.



A Bekum retrofitting/modernisation with the addition of new control and drive technology, makes it possible to considerably improve the performance and precision of even older Bekum machines. To ensure that even older models can benefit from the improved performance capability of modern control systems, Bekum offers current control solutions. Modern control systems have a considerable effect on the productivity, quality, safety, and handling of machines. A simultaneous general overhauling of a machine offers tried and tested production sequences and associated competitive advantages.



Preventive Maintenance



Available for you

# OUR PROFESSIONAL CUSTOMER SERVICE DEPARTMENT IS HAPPY TO PROVIDE AT ALL TIMES:

- Free initial advice by phone for faster troubleshooting and debugging
- Fault analysis using a secure VPN data connection
- Service hotline for spare parts
- Sales of Original replacement part service/refitting
- Retrofit, maintenance, modernisation and optimisation of Bekum machines and production lines
- Bekum telephone service to immediate troubleshoot technical defects
- Installation, relocation assembly and start-up of Bekum machines and production lines
- Theoretical and hands-on training, education and seminars



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