



Industrial Machines

High performance Blow Moulding
Machines



INDUSTRIAL
PACKAGING



DRUMS & IBC's



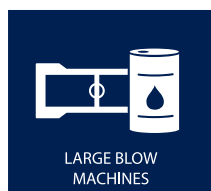
AUTOMOTIVE



TECHNICAL
PARTS

REDESIGNED BLOW MOLDING LINES FOR INDUSTRIAL APPLICATIONS

FOR HOLLOW CONTAINERS UP TO 1,000 L AND TECHNICAL PARTS



New machine concept for canisters, IBCs, drums, water tanks and a wide range of technical parts

The newly designed XBLOW series includes machine sizes 50, 100, 200 and 300, which are available as single-station machines. The centerpiece is the new patent-pending clamping unit with diagonally arranged tie-bars and a two-stage hybrid-electric clamping drive for clamping forces of 500 – 3.000 kN. The use of servo hydraulics has significantly reduced energy requirements. The use of blow moulds of different thicknesses has been taken into account in the design, and the operator can conveniently and easily adjust very large variable mould thicknesses that are not possible with other electric clamping drives of large blow moulding systems, via the new Bekum Control 8.0 machine control system on the HMI. This system does not need to be mechanically adjusted. While the clamping unit is centrally located under the platform, continuous heads require a laterally offset position. Modern and quiet speed-controlled hydraulic units reduce energy consumption and reduce the noise level to 71 dB(A).

Other features

- Continuous and discontinuous extrusion (accumulator head)
- View stripe extrusion heads can be used
- Mono-layer, tri- and co-extrusion with regrind material and Calcium Carbonate filler
- Interface for process robots for loading and unloading
- Good accessibility for process adjustment and maintenance
- Modern control system for excellent process repeatability
- Compact design with small foot-print requirements

Convincing advantages of the new XBLOW series:

- Machine concept is scalable, modular and flexible
- Unique two-stage clamping concept up to 3,000 kN, fast, energy-efficient, and with unparalleled mould thickness variance. (patented)
- Clamping force is adjustable on the HMI
- Minimized energy demand (high efficiency)
- Easy mould change with quick-change platens
- Rapid stroke movement electrically and hydraulically is possible. Hydraulic mould functions and accumulator heads driven by variable-speed hydraulic power unit
- Optimum parison lengths can be set for different mold sizes with vertical parison transfer
- Can be equipped with bottom calibration, blowing and spreading pins, as well as horizontal and vertical parison transfer devices
- Complete production solutions including moulds, robots, post-processing or post-cooling stations and material handling from a single source, i.e. for 220L ring drums
- The platform is designed for one extruder as standard, but can be extended to three extruders for Tri-Ex production (PCR processing).





Bekum Control 8.0

- New machine control Bekum Control 8.0 allows intuitive operation of the machine
- Industry 4.0 ready and intelligent data analysis
- Clear and up-to-date information overview in a customizable dashboard
- Visualization of throughput values and energy consumption
- Display of electricity, water and air consumption as well as the pressure values of all connected services
- Large portrait-oriented 24" full-HD touch-screen control unit
- Fewer switching elements on the control panel
- Mobile hand operating device for comfortable set-up operation



XBLOW 100

THE NEW ELECTRIC CANISTER BLOWING SYSTEM

HIGHER OUTPUT. MORE FLEXIBILITY.

MORE CONTROL. MORE VALUE!



INDUSTRIAL
MACHINES

Fully electric canister blow-moulding machine

The EBLow 38 is an all-electric canister blow molding system from the modular system of the

8-series. Even their predecessors were among the world's most reliable industrial packaging machines for canisters, small drums, in-liners and water containers. With a new, even more energy-efficient drive technology, Bekum offers its customers the optimal conditions for the high-performance production of industrial blown products. In particular, the diverse and reliable production possibilities in mono-layer, Tri-Ex and co-extrusion with recycled materials and fillers such as Calcium Carbonate characterize these machines.

The canister line up to 30 L

- High-performance production of canisters
- Available as single- and double-station blow moulding machine
- For continuous and discontinuous material extrusion
- Excellent process repeatability of production
- Modern Industry 4.0-capable BC 8.0 control system
- A well-coordinated and high-performance extrusion system
- HiPEX 36D extruder and extrusion heads with spiral sleeves
- Easy processing of blow moldable standard materials such as HDPE and PP as well as sensitive and quick-drying materials such as PP, PC, PET
- Output quantity increased with optional external cooling tunnel and punching station





The advantages of the electric EBLOW 38 at a glance:

High energy efficiency

- No energy required to maintain the closing pressure
- Variable adjustment of closing movement and speed on the control panel

Unique flexibility

- Wide range of different mold stack heights possible
- Fully automatic adjustment to mold stack heights for minimal set-up times

Increased production

- Production of up to 240 pcs./h for 20 L with specially designed Bekum lightweight canisters possible

Convenient ease of operation

- Fully automatic calibration run of different mold stack heights
- This reduces mold change time and eliminates manual adjustment of the mold stack heights
- Low-noise machine with maintenance-free clamping unit
- Improved accessibility through large safety gates

Excellent product quality

- Perfect weld seam formation
- Single and double view stripe optional
- Correction station for neck and bottom
- Test station with leak and handle drop test as well as scale with feedback for automatic weight adjustment optional

High flexibility

- Top and bottom calibration for the production of internal and external threads
- Minimal maintenance requirements using automatic central lubrication system
- Designed for easy access and quick production changeover



FEATURES THAT MAKE THE DIFFERENCE

HiPEx - High Performance Extruder 36D

- Energy savings of 20 %
- Very good melt homogeneity
- Low-shear processing of plastics

Article Take-Out Systems

- Small footprint
- Vertical parison transfer
- Optionally with a commercially standard industrial robot

Bekum Control 8.0

- Industry 4.0 capable
- Intuitive user interface
- Remote maintenance via a secure router

New hybrid-toggle locking drive

- No energy consumption in locked position
- Long service life
- Permanently monitored closing force
- Fast and precise force transfer
- patented clamping system





Bekum extrusion heads

- Long service life and high operational reliability
- Reduced material and color change times
- Reduced adjustment effort
- Wall thickness control is either electromechanical or hydraulic
- Continuous and discontinuous (accu head) extrusion

Mould Change

- Easy mould change with quick-change plates
- Protective enclosure can be opened wide

Highest energy efficiency

- Energy-saving drives
- Use of Ultra Premium extrusion drives (IE5)

XBLOW in a new design

- New machine concept for canisters, IBCs, drums, water tank reservoir

EXTRUSION SYSTEM ACCORDING TO YOUR NEEDS

FROM ONE SOURCE. COORDINATED.

REPRODUCIBLE PRODUCT QUALITY.

Bekum is the technology leader in extrusion blow moulding. For this reason, it is important to have the core extrusion competencies for mono-, bi- and co-ex blow moulding heads and extruders in-house. Bekum develops, designs, manufactures and assembles the core components independently. Thus, with the blow moulding machine, we have a direct influence on the rheological design and production quality of these components. Standard and special materials can be consistently processed and when it comes to extrusion blow moulding of PET, Bekum is the leading supplier to well-known packaging manufacturers.

Using resource-saving processes and technologies, Bekum machines can achieve material savings and process recycled plastics to produce sustainable packaging and containers, contributing to the circular economy.



HIPEX 36D
EXTRUDER

HiPEX - High Performance Extruder

The name HiPEX 36 conceals a completely redeveloped more powerful extruder generation.

The main focus lay in the efficiency of the system as a whole. The new HiPEX generation of extruders for the future machine series are characterized by their exceptional process stability, their high maximum throughput capacities and their excellent melt homogeneity. When designing extruders, Bekum places particular emphasis on a high degree of energy efficiency, as extruders are the main energy consumer of blow moulding machines. Thanks to the installation of extruder screw lengths of 36D in combination with improved mixing zones, the screw consistently supplies homogeneous material and better colour mix.

Advantages of the new high-performance extruder HiPEX 36D:

- Energy savings of 20 %
- Direct driven gear boxes and new IE5 extruder high efficiency motors
- Overall lengths of 36D in combination with improved mixing zones
- Increased output with consistently good melt quality and colour mixing
- Reduced temperatures lead to faster cooling times and productivity optimization
- Lowered pressure profile in the feeding zone reduces the wear creating a longer life
- The extruder screw and the feeding zone geometry are designed for many blow moulding plastics with high melt strength, low melt temperature and good homogeneity
- Improved processing of extrusion blow mouldable plastics, such as HDPE, LDPE, HMWPE, and PP as well PCR and regrind.

HiPEX 36D





SPIRAL MANDREL
EXTRUSION HEAD

Bekum extrusion heads

The Bekum extrusion heads for continuous and discontinuous extrusion are constantly undergoing further development. They

are a decisive factor for production success. Bekum's Mono, Tri-Ex and Co-Ex spiral mandrel extrusion heads offer short, less shearing gentle flow paths for homogeneous melt and temperature distribution. Its big advantage is the uniform wall thickness distribution over 360° around the article. The reproducible production results lead to improved quality and reduced weight, as no thin spots and weld seams have to be compensated for. The big advantage of this technology is the reduced material and colour change times. There is no temperature-related influence on the die position, which reduces the setting times and the adjustment effort when starting production and reduces material usage.

Properties and advantages of our spiral head:

- Very good melt and temperature homogeneity
- Uniform wall thickness distribution over the full circumference around the article

Advantages:

- Repeatable production results lead to an improved quality with potential article weight savings
- Exclusion of thin spots, weld seams and flow lines
- Straight parison drops at production rates
- Reduction of adjustment effort during start-up of production leading to lower material usage
- Reduction of die adjustment times



3-layer Tri-Ex-view-stripe-extrusion head



Short, smooth and uniform flow channels Advantages:

- Reduced color change times and material usage

Latest rheological design increases the possible material throughputs and range of applications

Advantages:

- Larger production window and increased application possibilities
- Reliable processing of extrusion blow-moldable plastics HDPE, PP, PC, HMWPE and PCR (Post-Consumer Recycled) and Regrind
- Long service life and high operation reliability

SERVICE - IN-PERSON & DIGITAL

INCREASES EFFICIENCY AND CREATES MORE OPERATIONAL RELIABILITY.

Whether in-person or digital customer service, maintenance, process optimization or retrofitting, Bekum takes care of your needs throughout the entire machine life cycle.



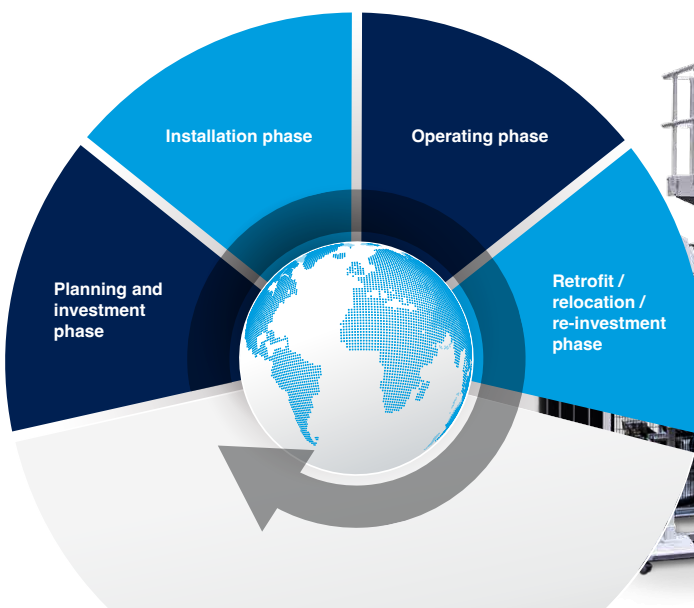
SERVICE

Customer service

Bekum's blow moulding machines are known worldwide for their reliability, and Bekum's service is equally dependable. The in-person and digital customer support ensures smooth production start-ups and maximum machine availability.

Bekum's personal service brings advantages:

- Free initial telephone consultation
- Service technician on-site
- Fast and individual spare parts supply
- Application optimization from the expert
- Machine optimization through individualised retrofits



Online support thanks to digital service from Bekum:

- Preventive and predictive maintenance solutions
- Augmented reality service via remote video support
- Digital spare parts catalogues
- Artificial Intelligence (AI) platform for even more production reliability

INDUSTRY 4.0 & ARTIFICIAL INTELLIGENCE

SELF-OPTIMIZING CONDITION MONITORING THROUGH HEALTH AND CONDITION MONITORING

Digital support systems provide effective and sustainable assistance for the productivity of machines and can optimize production processes. With their help, it is possible to increase the efficiency of production while simultaneously reducing costs.



INDUSTRY 4.0

Discover advantages – Industry 4.0

In the new 8-series, Bekum has added more standardized interfaces to display the data from the process sensors of the machines. This makes it possible to measure the energy consumption, the flow of cooling water and blow air and their temperatures, as well as the facility's temperature and humidity.

- Media measurements are clearly displayed
- Access to historic data for machine evaluation and predictive maintenance (trend analysis)
- Dashboard visualization of the ID 4.0-capable BC 8.0 machine control system
- The operator has an overview of all media consumptions

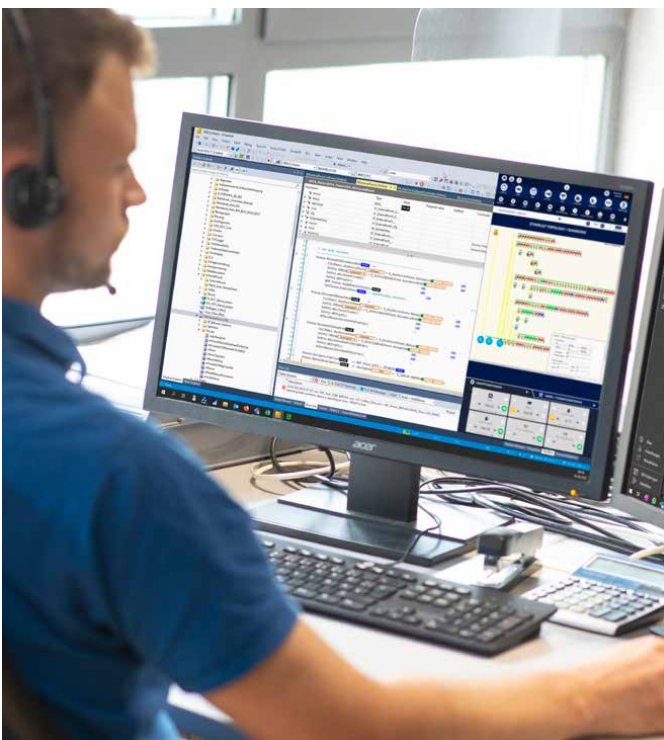


ARTIFICIAL
INTELLIGENCE

New AI platform for more production safety

During daily plant operations, unforeseen disturbances and fluctuations occur, for example in raw materials or process parameters. Often these changes are noticed when it is too late. Every second production cycle can lead to waste and expensive follow-up costs. With our new AI platform, this problem can be easily avoided. By automatically compiling all sensor data, evaluating and comparing with past data, changes in drives or heating elements, for example, can be identified in real time. At various levels of the data collection process, the machine's health conditions are summarized and displayed as graphs by Industrial Health Scoring. The operator simply sets the required thresholds for key operating parameters; with an alarm being immediately triggered if the values exceed or fall below the thresholds.

- Real time display
- Displays of individual data streams can be shown in dashboards to meet customer requirements
- Comparisons can be made between time periods, batches, the same machines or components
- Export of user-defined data sets are guaranteed
- Avoidance of production interruptions through predictive maintenance





Technical specification

Machine type	EBLOW 38	XBLOW 50	XBLOW 100	XBLOW 200	XBLOW 300
Mould width, max. (mm)	780	800	1.200	1.500	2.200
Mould length, max. (mm)	750	800	1.500	1.800	2.200
Mould thickness, max. (mm)	2 x 200 2 x 250	2 x 250 2 x 350	2 x 300 2 x 470	2 x 675 2 x 825	2 x 675 2 x 825
Carriage stroke (mm)	400	700	850	1.200	1.200
Closing force (kN)	400	500	1.000	2.000	3.000
Production examples, max. (L)	30 L	60 L	250 L	1.000 L	> 1.000 L

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