Revolutionizing the experience of medical consumables and devices

Discover **Medical IML** by ARBURG, Beck, Intravis, KEBO and MCC

In the rapidly evolving medical industry, reliability and flexibility of medical parts production are essential. Five established partners in the IML industry - ARBURG, Beck, Intravis, KEBO and MCC - have together developed a high-end IML application customized for the medical industry.
The Medical IML system is a game-changing solution providing a safe, efficient and reliable way to produce medical parts. Using medical-grade materials and special labels, advanced automation and a quality control system, it's a cutting-edge process that offers numerous advantages like traceability, risk reduction, clean production process, and many more.

Key Features

Performance

- State-of-the-art injection molding machine
- Low cycle time
- Demanding processes
- Safe consumer use
- Perfectly straight parts

Efficiency

- Cost reduction
- Efficient production cycles
- Hygiene risk reduction
- Track & Tracing
- Maintenance-friendly

Sustainable

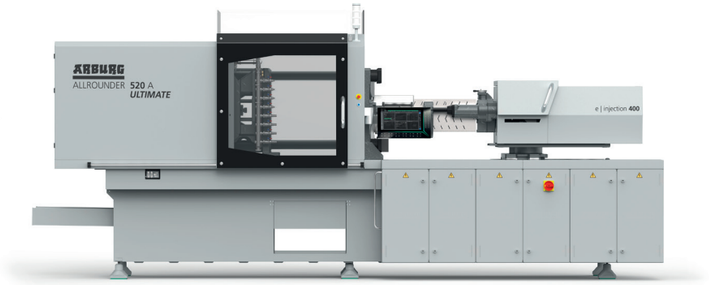
- Mono-material solution
- Efficient recycling
- Potential to reduce wall-thickness
  = material saving

Quality assurance

- Vision inspection for excellent part quality
- Process-relevant data at an early stage
- Avoidance of contaminations
- Perfect label positioning
- Detection of label print-to-cut

High-performance injection molding machine: precision and efficiency for top notch quality

The ARBURG's full-electric Allrounder 520 A is a high-performance injection molding machine that is specially designed for high-speed and demanding processes such as thin-wall applications. Special attention was paid to low CO2 footprint, energy efficiency and a compact production cell.



Technical features:

- 1,500 kN clamping force
- Injection unit size 400
- Distance between tie bars 520 mm x 520 mm
- The high precision guidance of the movable platen with precision guide elements
- Electromechanical servo drives enable precise and reproducible mold positioning
- High-quality clean-room design

An extended plasticizing cylinder with barrier screw in highly wear-resistant design ensures optimum homogeneity and plasticizing performance. Graphical sequence programming with direct plausibility check is carried out via the intuitively operable GESTICA control system.

Meeting the highest requirements

Products for medical use must meet two main criteria: they must be error-free and must not pose any risk to the user or the patient. This can only be achieved through precision and repeatability.

The BECK label adjustment head, which measures each individual label and compensates for its manufacturing tolerances, ensures maximum precision. The technology is unique in the field of IML. BECK has integrated this unique technology into a medical system for the first time. In combination with the innovative vision system from Intravis, the system constantly monitors the quality and recognizes deviations and trends. This ensures the possibility of early intervention and can significantly reduce the reject rate.

Perfect interaction between hot runner & mold

Relying on well-proven IML design concepts and thanks to optimally laid out hot runner systems, KEBOS's high-performance IML mold achieves the maximum productivity.

The presented medical part has special requirements the industry is looking for:

- perfect straightness
- highest stability RCF
- excellent gate quality
- top surface quality
- perfect wall thickness distribution
- minimum wall thickness (optimized min. part weight)

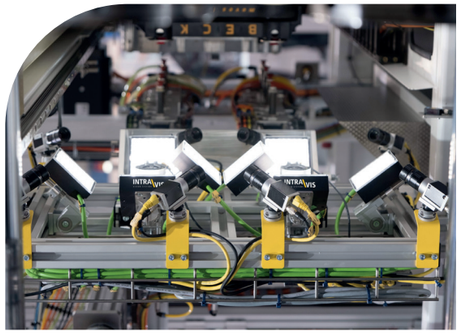
KEBO's 8-cavity tube mold is running with the following benefits:

- exceptional stiff cores / minimal core shift
- special cooling concept
- low cycle time
- easy access for maintenance
- perfect balancing
- uniform introduction of the melt
- single centering of the cavities
- optimized preload
- perfect venting

Maximizing production efficiency

INTRAVIS' inspection system, the IMLWatcher, uses four cameras and a special lighting technique to detect not only typical label defects, but to inspect the sealing surface and thread diameter as well. The system is equipped with the company's in-house developed light fields which ensure a uniform brightness level and a flawless vision inspection. The IMLWatcher is fully integrated into the robot handling of Beck Automation. Moreover, there is no need for an additional control cabinet since all components of the Intravis system are installed in Beck's cabinet. This ensures huge space savings in the production hall.

The vision system is connected to the IntraVisualizer: a data analytics software that collects and analyzes the quality data of INTRAVIS systems in one place. It provides comprehensive insights into production quality and efficiency. Furthermore, the software detects production trends and, thus, minimizes the amount of faulty products produced.



Advanced IML label solutions

The safe use of products and the exclusion of incorrect manipulation are of elementary importance in medical technology. This includes all products in pharmaceuticals, medical and laboratory diagnostics for various forms of application and administration. MCC's IML process produces a finished part in a single-stage process, thus reducing (end-to-end) manufacturing costs. Unlike many current manufacturing processes, IML guarantees a safe product.

The latest generation of mold labels offers innovative features including temperature indicators and additional functions such as serialization with unique coding. In addition, IML is a great solution for product traceability because the unique coding on the label ensures efficient production cycles and safe consumer use. It's a fool-proof, clean way of ensuring medical device traceability.

There is great interest in the new technology on the part of the industry, as additional functions can be integrated into the plastic part. These „add-on functions" are interesting for the pharmaceutical and medical industry because they open up new potential benefits and markets. The global medical market is changing: new consumer segments are emerging.
And when it comes to new products, creativity and experience count. Combining their specific areas of expertise, these 5 well-known industry players are ready to revolutionize the game.

ARBURG

German family-owned company ARBURG is one of the world's leading manufacturers of plastic processing machines. Its product portfolio encompasses ALLROUNDER injection molding 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.

BECK AUTOMATION

Beck Automation is a preferred & highly rated partner in the plastics industry and as a Swiss technology enterprise, it is one of the Top 3 IML (In Mold Labelling) automation specialists in the world.
Beck Automation develops innovative automation solutions for the plastics processing industry and integrates this into our customers manufacturing, to ensure high quality and high efficiency in their production processes.

KEBO
Injection Mould Technology

For over 40 years, KEBO AG has been consistently and enthusiastically responding to the needs of demanding, international customers.
Innovation, tradition with our own hot runner and mold technology as well as personal customer support guarantee optimal solutions for complex challenges in the medical and pharmaceutical sectors. KEBO AG has been developing and building IML mold solutions since 1984.

INTRAVIS
VISION SYSTEMS

INTRAVIS GmbH is a market leader for vision systems used for quality inspection in the plastic packaging industry. Global players and local companies from the pharmaceutical & medical, food & beverage, cosmetics, and household & industrial chemicals industries use Intravis' turnkey systems to achieve the full potential in their production. With its headquarter and production facility in Aachen, Germany, the owner-managed company has more than 30 years of experience in quality control, with more than 230 employees.

MCC
Premium Label Solutions

We are MCC Verstraete and MCC Korsini. Together, we count for more than 55 years of experience in printing labels for injection molding, blow molding and thermoforming. Our in-depth understanding of materials, innovation and sustainability has made us the world market leader, producing over 80 million in mold labels every single day for numerous segments within the packaging industry.