

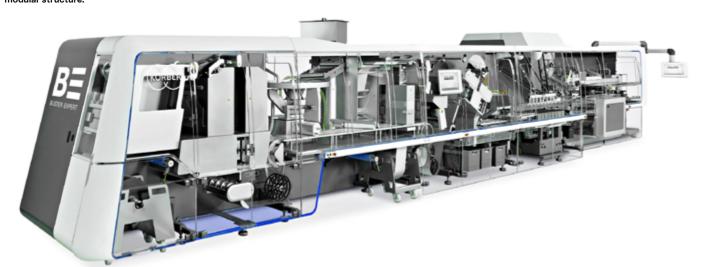
Processes in the pharmaceutical industry are subject to constant changes in requirements and regulations. As a result, pharmaceutical companies and contract packagers often need packaging solutions (blister machines) that can be flexible andadaptto current needs. . Körber has developed this solution with Blister Expert (BE) and thanks to its modular design BE offers the pharmaceutical industry precisely this flexibility. Flexibility is a key requirements in the pharmaceutical industry.

Medications and treatment types are always increasing and with the increase in volume comes an increase in corresponding laws and regulations. This growing complexity often leads to format changes and extensive machine refits, which can cost a lot of time and money. Körber's Blister Expertoffers an innovative solution that combines successful functional principles with a thoroughly modular design. It enables customers to combine the functions that are precisely adapted to their needs in a single machine and to expand these functions quickly and cost-efficiently at any time. Moreover, they can do so without compromising product quality.

## "Our concept is based on the idea that we need less constructing and more configuring."



Blister Expert can be adapted at any time, thanks to its flexible



#### A customized solution

The modular design of Blister Expert already demonstrates its strength during configuration: Customers no longer make a selection from a predefined machine portfolio. Instead, they use a modular system to put together an appropriate solution in line with their individual needs. They get help doing this from the experts at Körber, who analyze which modules best fulfill the customers' needs. For example, the standard version of Blister Expert is variably configurable for speeds of 200 to 800 blisters per minute (high speed). Thanks to their multi-track design, the blister modules also enable the speed of the entire line to be increased into the ultra-high-speed range of 1,200 or more blisters per minute.

"Our concept is based on the idea that we need less constructing and more configuring," says Ulf Leineke, Head of Development Blister Expert at the Körber Business Area Pharma. As soon as the configuration has been determined, the machine is put together from pre-assembled modules. This approach is much faster than the conventional process, in which an engineer hasto construct individual parts and assemblies.



#### Replacing modules, staying flexible

Blister Expert's modular structure enables it to be adjusted safely and quickly at any time, including during its use at the customer's factory. As a result, companies remain flexible and can increase the longevity of their machinery. "If, for example, a requirement changes after Blister Expert is put into operation, the existing module can be easily replaced with an optimized new variant at the customer's facility", says Stefan Kemner, System Integration & Portfolio Manager Blister Expert at the Körber Business Area Pharma. This principle also has a positive effect on the validation costs. In the case of a refit or an upgrade, a pharmaceutical manufacturer no longer needs to have the entire machine validated, only the new module. As a result, the facility can be put into operation again much faster after upgrades than systems that don't have a modular structure. This significantly reduces refit times. At the same time, it increases machine availability, because much less time is needed for conversion, cleaning and maintenance.

Körber has further improved the efficiency of its blister and cartoning machines with the Blister Expert (BE) platform. Compared to past models, Blister Expert saves up to 30 percent more energy at the sealing station and up to 70 percent more energy for air consumption. The BE high-speed configuration for Solida is also equipped with the proven automatic storage box for bottom foil material, which ensures that production doesn't have to be interrupted even when a reel is being exchanged. This saves companies up to 200 hours of work per year.

# 200 hours of work

can be saved by companies annually thanks to a quick reel exchange at full production speed

Packaging machines

Greater reliability during refit processes: The data glasses project the work steps into the user's field of vision.





The camera in the data glasses enables the user to also share his or her field of vision with other people such as service experts.

# 30%

greater efficiency is possible during refit processes through the use of Blister Expert's augmented reality application.

### Pharma 4.0: More efficient format switches and faster service

Blister Expert combines flexibility with cutting-edge technology in order to improve format switches and line clearance. This is done by means of an augmented reality application, which inserts graphics and information via Hololens data glasses into the machine operators' field of vision. The application shows all of the steps that need to be taken. It does so directly at the machine and takes employees through the process step by step. This increases the efficiency of refit processes by as much as 30 percent while at the same time reducing the fault rate. An especially clever feature is that the data glasses incorporate a camera that photographs all of the work steps and automatically inserts them into the digital documentation for purposes of quality assurance. As a result, employees no longer have to compare the steps against check lists on paper.

The augmented reality application also makes fast assistance possible if there are technical problems or machine breakdowns. The data glasses' Internet access enables plant employees to quickly contact the service experts at Körber. The images from the integrated camera provide the expert in question with a direct impression of the problem with the affected machine and enables them to provide immediate assistance.

In addition, a remote access feature enables the expert to access the machine controls in order to eliminate faults in the program. These remote maintenance options are technically mature and have repeatedly proven themselves at customer's factories in the past.

#### Modular machines for a secure future

Thanks to its modular design, Blister Expert offers a smart alternative to conventional mono-block machines. The latter are generally geared exclusively to a specific application and can only be adapted to changed conditions with great effort — if at all. By contrast, the Blister Expert platform provides pharmaceutical companies and contract manufacturers with a high degree of planning security and flexibility so that they can also fulfill future requirements quickly and in conformity with the GMP.

#### Körber - delivering the difference in pharma

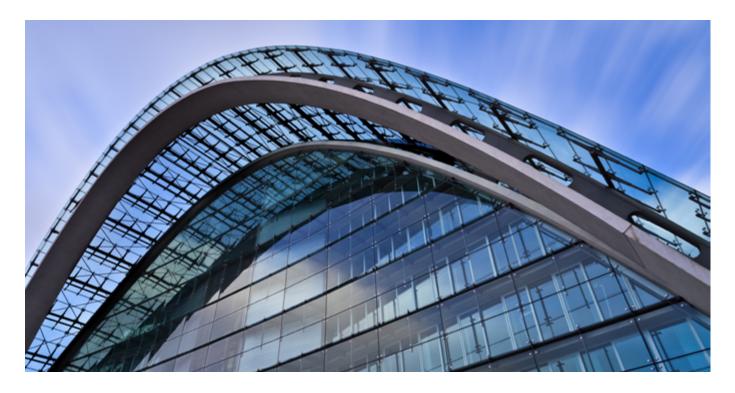


Any questions? Get in contact with us. We'll be happy to advise you about our solutions and services: info@koerber-pharma.com.

Packaging machines

## We have you covered, always and everywhere

With local pharma software experts around the world we support you wherever your business is located.



#### About Körber

Körber is an international technology group with around 10,000 employees and more than 100 locations worldwide. At the Körber Business Area Pharma we are delivering the difference along the pharma value chain with our unique portfolio of integrated solutions. Spanning in-depth expertise in consulting, inspection, handling, packaging machines and materials, track & trace and software, we always have the right solutions to unlock the potential of our customer's productivity. With our profound understanding of pharma processes and regulation challenges, Körber is the right partner for leveraging all potentials of global pharma and biotech productions.

#### Delivering the difference in pharma

At Körber Pharma, we deliver the difference along the entire pharmaceutical value chain by offering a unique portfolio of integrated solutions. Based on in-depth experience spanning consulting, inspection, transport systems, packaging machines and materials, track and trace and software, we understand the challenges in pharmaceutical processes and regulation that our customers face day to day, from the beginning to the end of their production. For them, we deliver the difference to unlock the potential of global pharmaceutical and biotech manufacturing.