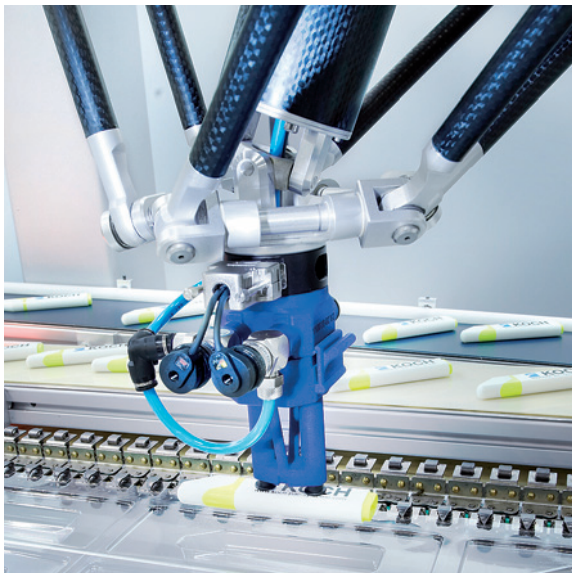
Packaging diversity at its best

KOCH packaging competence in the packaging of consumer and industrial, personal hygiene and cosmetic products





KOCH

Reliably meet changing demands: with transparent blister packaging

Attractive product presentation, secure protection



Cosmetic products for the sensitive eye area are hygienically protected in a blister pack prior to use

Reliability, cost efficiency and reproducibility are the main criteria governing all packaging processes. However, when it comes to the packaging of consumer products – whether lip balm, toothbrushes, colored pencils or multi-piece products in the personal hygiene or electronics sector – another criterion is of key importance: an appealing appearance. After all, emotion plays a part in every purchasing decision so the more favorable the presentation the more likely the product will be noticed and bought.



Disposable razors in a double blister (blister in blister) are visible from either side of the pack



Mascara protected in face seal blister to prevent drying out and contamination



Spark plugs in a face seal blister with a punched hanger hole

Packaging diversity at its best

Consumption and industry: batteries, spark plugs, lighters, light bulbs, cartridges, dowels, tools, glues, tubes, adhesive tape, DVDs, USB flash drives, ink cartridges, writing utensils such as fountain pens, ballpoint pens, marker pens, pencils and erasers, WC cleaning tablets and gel, air fresheners, dishwasher tablets, fertilizer sticks, coins, toys …

Cosmetics: lip balm, mascara, nail polish …

Personal hygiene: razors, razor blades, toothbrushes, nail files, manicure sets …



Tightly sealed blister packs guarantee the functionality of products susceptible to corrosion.

Transparent rigid blister packs offer obvious advantages. The contents are visible but protected, information can be integrated in a variety of ways, perforations allow easy opening, and hinged clamshell blisters form a reclosable box. The presentation of the product lends it quality corresponding to the brand.

Innovative technology, extensive experience

Cosmetics, personal hygiene, consumer and industrial as well as medical products are the four sectors we serve by applying our competence to the packaging of products in rigid blister packs. Our know-how covers packaging machines for small, medium-sized and large-volume batches for a broad range of product types, shapes and sizes. Our portfolio covers standard machines and complex customized machines as well as the KOCH packagingLine – a fully automated, highly flexible line for an integrated, end-to-end packaging process. Always based on innovative technology, always with a focus on cost-effective, forward-looking packaging, and always as individual as the product that you wish to package.



Multiple-part, brand-name toy in blister with specially formed inlay

Modular machine technology: the reliable basis for every application

Forming, filling, sealing – and more



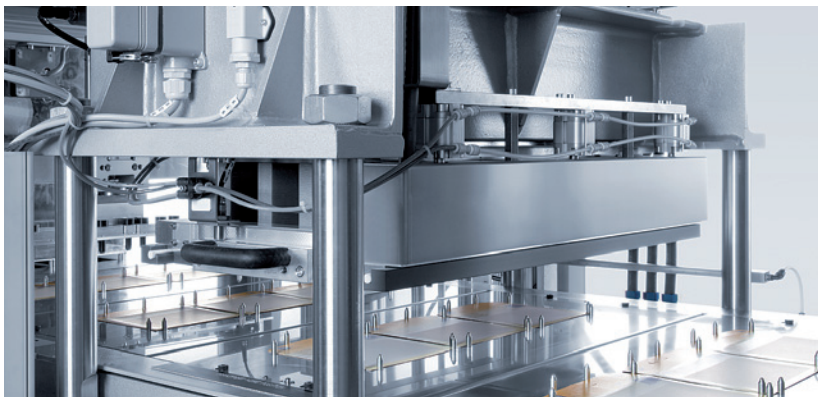
Blister machine KBS-PL offers perfected technology for highly efficient packaging – for blisters made of PVC, PET or other rigid forming materials

Technical data KBS-PL

- **Forming area:** 250 x 500 mm
- **Forming depth:** 67 mm
- **Sealing format:** 238 x 580 mm
- **Output [cycles/min.]:** 20, depending on forming material, blister shape/size and sealing duration
- **IPC control technology:** according to IEC 61131-3

Flexibility is the guiding principle for our blister machines. Every machine comprises a basic module as well as additional components with which we configure the packaging machine suited to your needs. Incorporating forming material and card feeding, robot handling systems as well as inspection and marking systems, we integrate precisely those modules required to provide you with a highly efficient packaging process.

Key benefits of all KOCH blister machines are the large format area and the modular machine concept. These factors allow the fully automated blister packaging of products that previously necessitated cost- and labor-intensive manual handling.



Thermal sealing station of the Blister machine KBS-PL



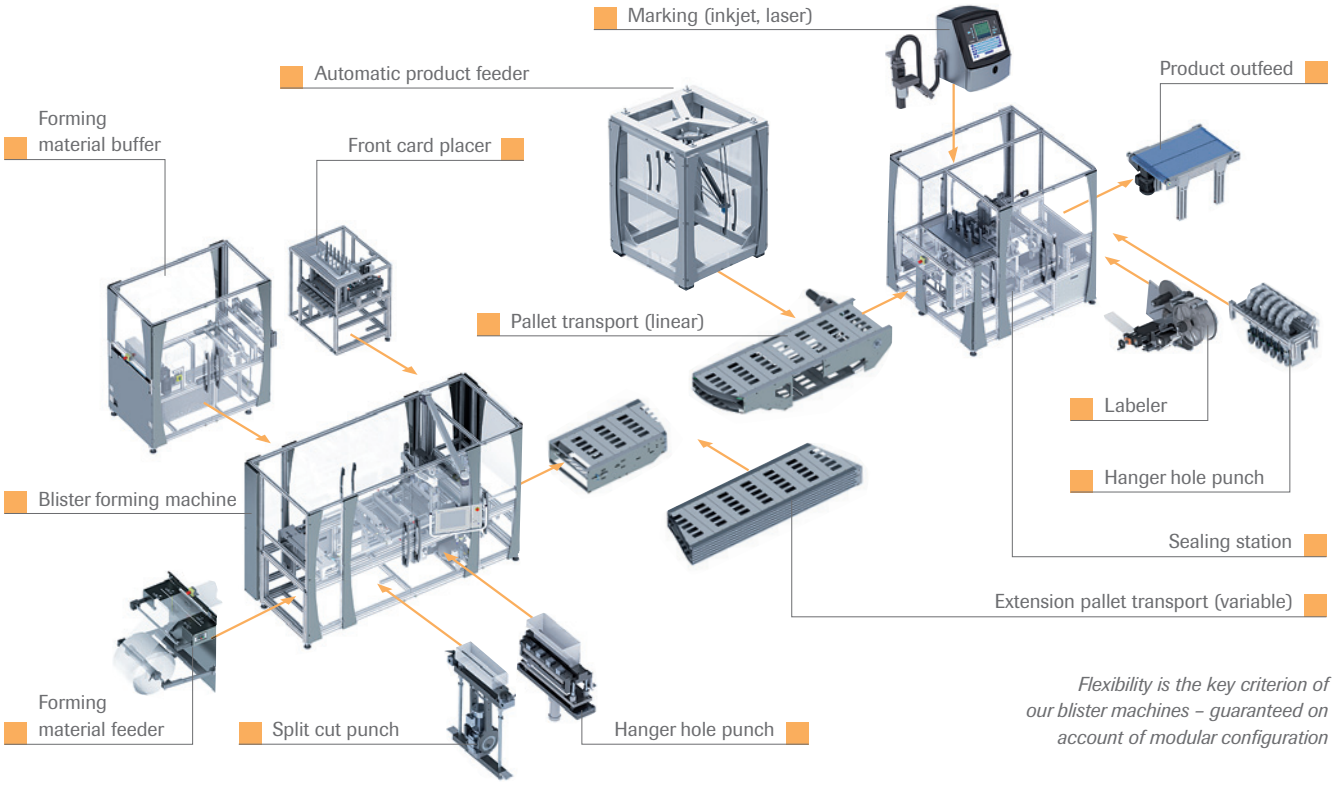
Air freshener with several products in a face seal blister

Point by point – an investment with added value

- Very high cycle rate
- Clear-cut, robust machine design
- Proven technology with high machine availability in multi-shift operation
- State-of-the-art IBC control technology with user-friendly operator guidance via touchscreen
- Remote maintenance via Internet or modem
- Easy servicing due to modular configuration and accessible machine design

Proven technology for consistently high performance

A classic example of the modular concept of all our blister machines is the KBS-PL for the cost-efficient forming and sealing of large batches of the same or similar products in stand-up blisters or blister packs with a standard hanger hole. The blister machine processes all common types of rigid forming material, has a large format area and a pallet transport onto which the products are placed either manually or by a robot handling system. The operator-friendly, clear-cut design allows full control of the production process at all times. Furthermore, the fully automated inline concept allows a wide selection of integration and extension options.



Flexibility is the key criterion of our blister machines – guaranteed on account of modular configuration

KOCH packagingLine: the trade name for integrated, end-to-end packaging processes

High level of automation, perfect synchronization, maximum flexibility



Forming



Sealing



Grouping



Product handling (filling)



End-of-line packaging

Standardization as far as possible and customization as required was the objective when developing the KOCH packagingLine. The outcome is a highly automated packaging line that efficiently meets performance and flexibility requirements. The outstanding concept enables the line to package small as well as large-format products ranging from a single coin cell to multi-part toys. The combined, universal packaging of different shaped packs is also possible. This optimizes storage and logistics processes and makes handling easier for the retail or intermediary trade.

Four elements form the basis of every KOCH packagingLine – a blister machine, a product feeder, a blister grouping module and an end-of-line packaging machine. These are developed and built by in-house specialists, which ensures optimally coordinated performance and perfect synchronization. Depending on the customer's requirements, these can be supplemented by other components such as marking, inspection and handling systems. An end-to-end control concept means that the entire line can be operated by just one person. Fast and straightforward format changeovers ensure maximum uptime.

Line competence

- Packaging with optimum protection and an appealing design
- Product handling concept according to individual specifications – with seamless integration into the production process
- Space-saving grouping and further processing of the finished blisters
- Feeding, erecting, filling and closing of cartons
- End-of-line packaging in display trays suitable for transport or on pallets: user-friendly and flexible





5 Cartoning



Guaranteed process quality – from a single source

However, a KOCH packagingLine is more than a coherent sequence of machines and components. In every case, the most cost-efficient packaging line is the tangible result of a process to which we apply our extensive know-how at all stages: from concept and feasibility studies to assistance in development of the pack design and the integration of aggregates or machines from other manufacturers.

As your partner, we assume responsibility for the entire project and offer you a turnkey service from a single source. Included are documentation, validation and all support services that guarantee the smooth operation of your KOCH packagingLine: for maximum long-term productivity for every application.

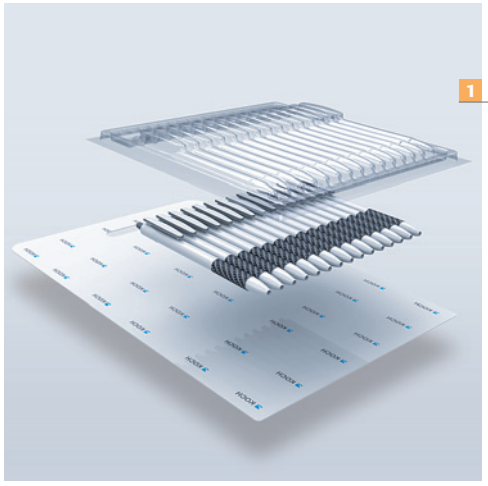
YouTube

Visit the YouTube channel of KOCH Pac-Systeme – and see innovative packaging technology in action: **www.youtube.com/kochpacsysteme**

Variations on a theme: the right blister for every product

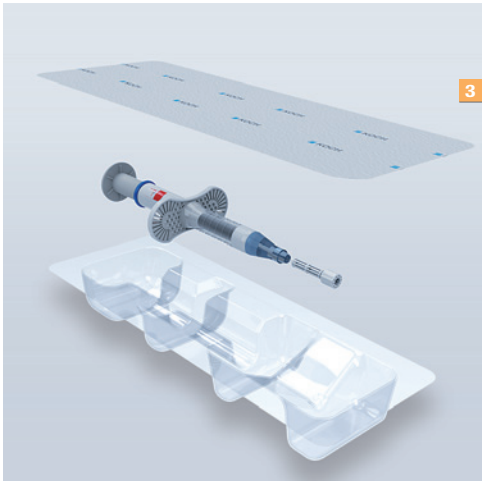
Straightforward to complex blister packaging

As well as ensuring an attractive product presentation, easy handling and maximum waste material recycling, a product pack must fulfill certain functions. The blister should protect the product against soiling or drying out, withstand impact and pressure, and provide a barrier against water vapor and foreign aromas. Especially in the case of sensitive cosmetic articles, it must be completely tight and guarantee a hygienic environment prior to opening. Furthermore, the production form and costs must match the product – simple and low-priced solutions for mass goods and more sophisticated forms of packaging and machine technology for products of higher value. On the basis of these criteria, we work out an appropriate packaging concept together with the customer. Suitable forming materials and card qualities are selected, material consumption is optimized and, if required, attention is paid to the possibility of separate recycling of the different packaging materials.

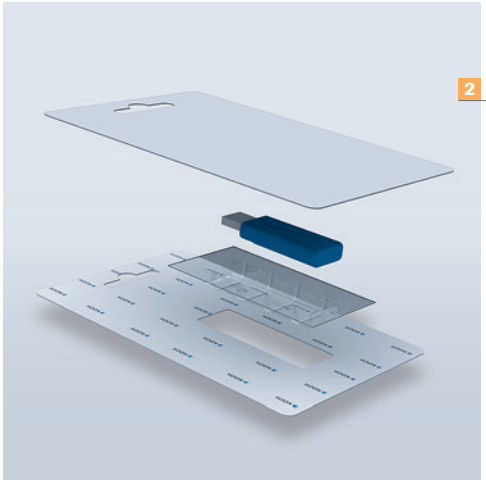


1 Face seal blister

- *Reasonably priced production form, e.g. for low-priced mass products*
- *Rectangular blister smaller than the backing card*
- *Sealing of the blister to the ready-made card*
- *Semi-automated option just with sealing of the preformed blister*



3



2 Trapped blister

- *Optically upscaled option with a hidden sealing edge*
- *Technically more complex than alternative 1 due to the card – blister – card principle*
- *Increased material consumption on account of the second card*
- *Rectangular blister smaller than the cards*
- *Collation of the backing card, loosely inserted blister, product and punched front card*
- *Sealing of the two cards*
- *No joining of the cards and the blister forming material so separate recycling is possible*



4 Blister to blister (double blister)

- *Transparent product presentation, optically attractive from either side*
- *Forming of two identical or differing blister halves for the front and back*
- *Filling of one blister half*
- *Sealing of the two halves*
- *Cutting and/or punching of the blister*
- *Technically more complex than alternatives 1 to 3*

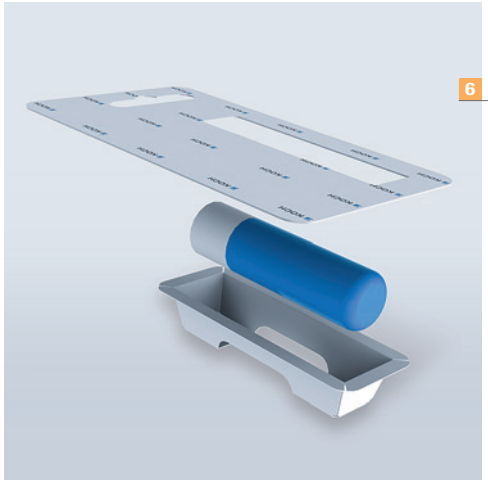
Blister with lid material from roll

- *Different lid forming materials can be used*
- *Forming and filling of the blister*
- *Sealing of the blister with a film lid*
- *Cutting or punching of the blister*
- *Optional use of the same material for the blister and lid for easier recycling*
- *Completely tight packs possible, e.g. for medical products*
- *Technically more complex than alternatives 1 and 2*



5 Clamshell

- *Versatile packaging form comprising two joined, hinged blister halves*
- *Attractive product presentation*
- *Optional alternative as a reclosable box*
- *Cutting or punching of the open halves*
- *Filling of the preformed blister halves*
- *Closing of the clamshell*
- *Sophisticated packaging, machine costs comparable to alternative 4*



6 Cardboard mono-material pack

- *Only cardboard packaging material, with or without a window in the front cover*
- *Limited design options as restricted to rectangular forms*
- *Suitable for sturdy, tightly closed products for daily use*
- *Forming of the cardboard cover out of prepared blanks cut smaller than the ready-made backing card*
- *Product placement and sealing of the cardboard cover to the backing card*
- *Most reasonably priced alternative with low-end machine technology without a forming machine but additionally including a carton blank placer*
- *Additional costs due to the higher price of cardboard cover blanks compared to blister forming material*

Everything that is needed: for an optimized packaging process

Automated feeding, inspection, marking

In addition to our machines that form, fill and seal as well as for grouping, cartoning and end-of-line packaging, our portfolio includes additional components which help to make your packaging process more efficient and reliable. These include the automated, hygienic pick-and-place robot, inspection systems for product control and verification of information relevant to validation, and highly flexible marking machines. The latter are fitted with the appropriate printing system depending on the specifications and the materials to be marked.



Highly productive and variable: KOCH robot handling system

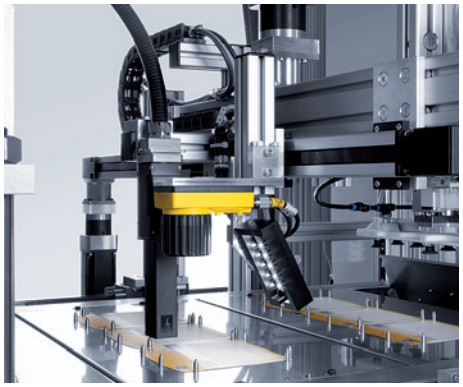
The Delta Robot KRH-D picks up pre-packaged or loose products without any manual assistance and places them safely and accurately at high speed in the preformed blisters. Use can be made of a single, lightweight carbon-fiber reinforced plastic robot, or several KRH-D robots can be operated and integrated into the KOCH machine control system. Tool-free format changeovers are quick and easy, and operation is via the standard, intuitive KOCH user interface.

Delta Robot KRH-D

- Full integration into KOCH packaging machines
- High-speed pick-and-place function
- Multi-axis systems
- Different sizes and scopes of work



Pick-and-place with maximum servo-regulated precision



Example of a printing and camera system that marks and subsequently verifies variable product data

Checked and verified: inspection modules

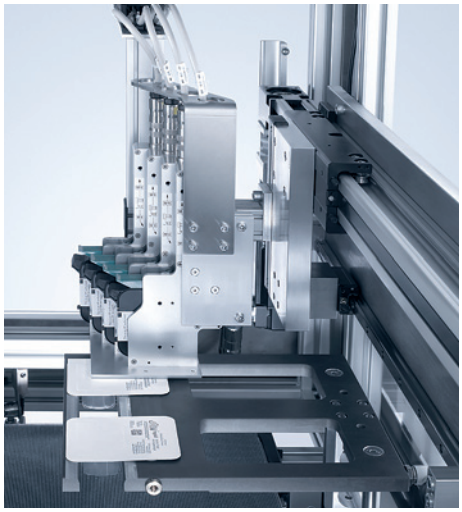
One hundred percent quality control during the ongoing process with maximum precision at high speeds: we provide a selection of contact-free camera inspection systems at all relevant stages of the packaging process. These include the monitoring of product presence or position during robot feeding, the verification of product data and print images during marking, or final inspection of the finished packs. The acquired data is transferred to the machine control system or to the next station of the process – for end-to-end reliability during packaging of the products.

Reliable monitoring

- Quality and integrity of the pack contents
- Positioning and printing of the label
- Presence and readability of variable product data (OCV, OCR) such as bar code, data matrix code, batch number, etc.
- Optical packaging quality
- Individual packaging specifications

Integrated as required

- Thermal inkjet printer
- Inkjet printer
- Thermal transfer printer
- Laser marking systems
- Labeler with/without printing system
- Drop-on-demand printing systems
- Braille marking systems



Thermal inkjet printer with four print heads for the printing of blister cards

Offline or inline: perfect quality marking

For the unique, clearly recognizable and seamless inline identification of cartons, card or film blanks, or blister cards in compliance with prevailing tracking and tracing legislation, we select the appropriate printing system and integrate it into the blister machine. Information relevant to validation is applied in the appropriate quality in the form of a batch number and a bar code or data matrix code incorporating manufacturing data of the packaging process as well as details of the product. Alternatively, the KOCH Print Machine KPM-200 offers an efficient offline solution which, if required, can be extended by a product positioning and grouping system at the product outfeed conveyor.

A broad range of services: professional support at all times

For smooth operation over the service life of a machine



Personal, professional support over the entire life cycle of a machine

Extensive competence in the supply of customized packaging machines and lines accumulated and strengthened in the course of over four decades is one side of the story. The other involves our Customer Support & Services division. This is responsible for all the components and services that guarantee smooth operation after installation of a machine.



Customized instruction and hands-on learning for your staff members either at KOCH's premises or directly at the machines and lines on site



Tools, format and spare parts supplied as required ensure guaranteed reliability





Preventive, proactive and reactive maintenance for maximum machine availability



Fast and competent assistance in the case of a machine malfunction: 24h service hotline and online support

- Customer Support & Services
- Format parts
- Maintenance and service
- Instruction and training
- Production support
- Machine upgrades
- Spare parts service
- Output optimization
- Validation
- Online support
- 24h service hotline

A key element in this context is personal advice and assistance from a support service team fully aware of of the significance of maximum productivity. We help you to achieve this through competent support in all areas. For instance, through the prompt supply of tools, format and spare parts in original quality with guaranteed maximum reliability; through employee training on packaging machines and lines; through the upgrade of existing lines and the optimization of the entire packaging process to increase productivity; or through the preparation of validation and qualification documents in compliance with current guidelines. Furthermore, if the worst comes to the worst, the 24h service hotline and the online service with remote error diagnosis and maintenance via the Internet or a modem ensure prompt assistance in the case of a machine malfunctions.

KOCH Pac-Systeme: your reliable partner beyond today, anywhere in the world

Medium-sized company geared to international business

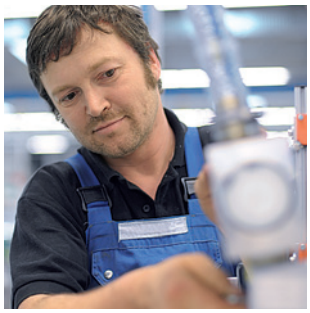
Pacesetter of the packaging industry has been the declared corporate objective of the company KOCH ever since it was established in 1969. Today, the name KOCH Pac-Systeme is synonymous with forward-looking, customized packaging solutions for customers worldwide. Our packaging solutions benefit from and reflect the factors that distinguish us a medium-sized company: a high level of flexibility in response to different requirements, as well as streamlined channels wtih direct personal contact. Another vitally important factor is the outstanding commitment of the people employed by us who work in your interests. Over 220 qualified members of staff with extensive in-house training skills play a significant role in promoting maximum packaging quality and efficiency.



The KOCH headquarters in Pfalzgrafenweiler stand for forward-looking, customized packaging technology



Great importance is attached to close customer contact during all stages of a project – in the interest of the best possible packaging solution



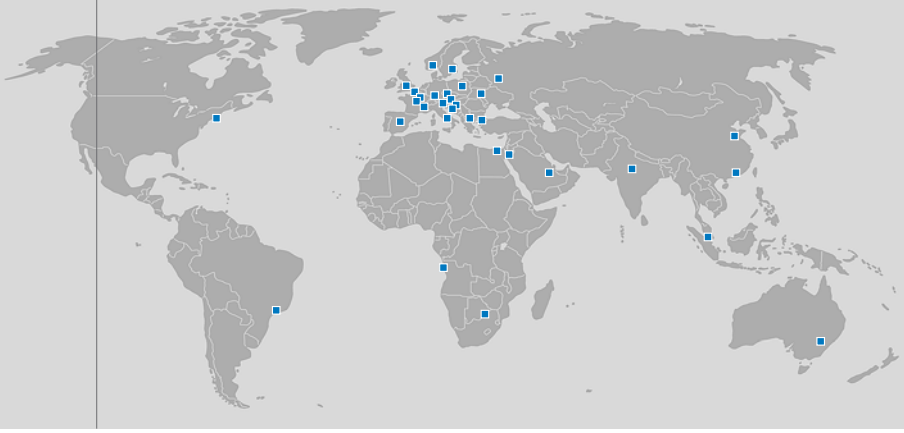
For latest information on locations and contact persons please visit us at www.koch-pac-systeme.com/en/contacts-worldwide

In-house training programs qualify junior employees for jobs in all areas of the company



Global presence

- Headquarters and manufacturing facilities in Pfalzgrafenweiler, Germany
- Sales offices in France, the USA and China as well as international sales partners
- Incorporation into the international support service network of Uhlmann Pac-Systeme GmbH & Co. KG



Our understanding of customer support is characteristic of a medium-sized company: a personal contact partner is not far away. In addition to our headquarters in Pfalzgrafenweiler and sales offices in France, China and the USA, we are represented worldwide by international sales partners. Furthermore, on the basis of our partnership with Uhlmann Pac-Systeme, we are integrated into the support service network of the pharmaceutical packaging specialists.





The ideal basis for excellent quality: state-of-the-art manufacturing structures and well-qualified employees

■ Packaging Competence and Automation

Concept and design: Volker Laucher, Grafik Design . 04/2013 . e 1,000 . We reserve the right to make alterations in line with technical development.

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