



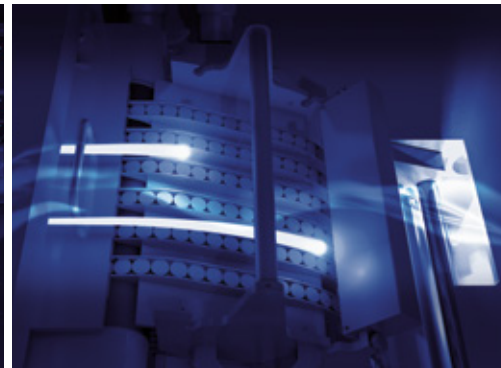
Strip Packaging Solutions



Beyond Technology

The new business model from Romaco sets valuable incentives for meeting customer requirements. For the design of innovative solutions, Romaco relies on its unique knowledge portfolio. With its diverse brands, Romaco focuses on important technological fields of competence. The single product lines offer the optimum

prerequisite for the development of comprehensive solutions. Romaco promises its customers professional project handling, fast delivery times and a reliable service. Through this, Romaco provides its customers with a considerable boost to their earning and financial power.



Creating Value – best price/performance ratio

Romaco wins over its customers by offering an outstanding price/performance ratio over the entire life cycle of its products. In this way, customers can systematically optimise their cash flow. With efficient production and service management, Romaco prepares its customers for future long-term commercial success.

Delivering Solutions – high application expertise

Romaco offers integrated solutions for the growing markets of pharmaceuticals, cosmetics, food and industrial applications. Here, the customer benefits from the synergetic effects that result from the close collaboration of all the Romaco brands. This internal technology transfer imparts a considerable development potential and is the basis for comprehensive solutions.

Exploiting Technologies – strong brands

Romaco is synonymous with European engineering on the highest level. With its seven brands, the company is widely recognised around the world. Continuity and progress are the keys to a strong positioning on the market. Romaco relies on the profound knowledge and the long-time experience of its employees.



»The Strip Packaging Solution from Romaco Siebler has allowed us to extend our production capacities significantly. Its robot plant concept offers decisive benefits.«

Helmut Jakolat, Production Technology Manager, HERMES ARZNEIMITTEL GmbH, Germany



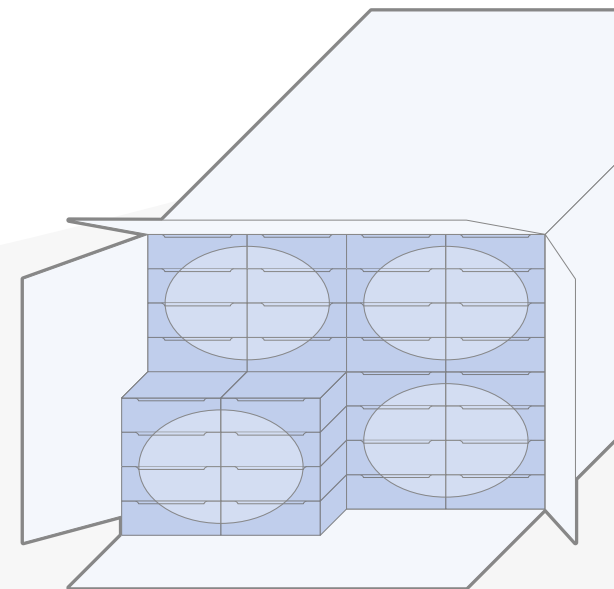
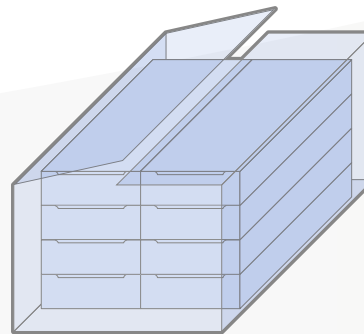
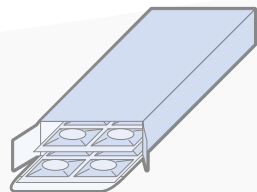
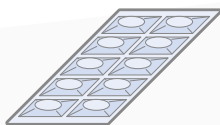
Delivering Solutions

All-in-One Solutions for Sealed Strips

Romaco is the first manufacturer worldwide to offer integrated solutions for manufacturing and packing tablets and effervescent products. Romaco Siebler strip packaging lines are configured according to each customer's individual product properties and batch sizes. The aim is to optimise the overall effectiveness of the equipment. A detailed analysis of the production requirements is vital – a step to which Romaco attaches great importance.

Tablet Production

- Tableting solutions for the pharmaceutical, food and chemical markets
- Compression of up to five tablet layers with five different components for pharmaceutical applications
- Production of food supplements such as vitamin preparations
- Manufacture of chemical products, e.g. cleaning tablets



Packing in Sealed Strips

- Air, light and moisture-tight individual packs
- Primary packaging for tablets (including effervescent) and capsules
- Suitable for cutting and packing diagnostics
- Ability to process flat, stable containers such as BFS or pre-filled syringes

Sealed Strips in Cartons

- Wide choice of carton designs and materials
- Leaflets, booklets or medical devices can be inserted
- Glued or tuck-in closures together with a variety of tamper-evident features
- Inkjet, colour embossed, laser engraved, vignette or hot foil coding

Carton Bundles

- Final packaging solution for all folding carton types
- Stretch or shrink-wrapping as an alternative

Cartons in Shipping Cases

- Suitable for feeding and packing single or bundled folding cartons
- Adhesive tape or hot melt closure





Delivering Solutions

Integrated Strip Packaging Solutions

Tableting and Packing from a Single Source

Romaco unites the expertise of Kilian, Siebler and Promatic to provide integrated strip packaging lines. As a single-source supplier, we develop end-to-end concepts from tableting through primary and secondary packaging to final packaging. We help you manufacture strip packs more efficiently than ever before.

You can connect the tablet press to the heat-sealing machine either directly or off-line. What's more, the servo-driven transfer system assures the highest possible flexibility when the four-side sealed foil strips are transferred into the cartoner. Up to six FlexPicker robots enable the system to process as many as 900 strip packs a minute. Romaco's strip packaging solutions are very impressive, offering a combination of high speeds and premium technology.



Tableting Included

- Continuous production rather than offline operation ensures consistently high tablet quality
- Fewer start-up processes reduce tablet waste to a minimum
- Direct line integration effectively protects effervescent tablets from contaminants in the ambient air
- No need to store fragile effervescent tablets in a buffer container

Flexible-Format Solution

- FlexPicker robots work almost completely independently of specific formats: different pack sizes, layouts and stack heights are easy to set up and run
- FlexTrans FT servo-driven transfer station permits the most rapid format changes
- Contract packers and manufacturers of generics achieve significant performance improvements with this new flexibility

High Level of Automation

- Servo motors guarantee maximum precision and efficiency
- Bundled intelligence of up to six FlexPicker robots
- Central communication control at the interfaces between the various line components
- Camera systems monitor the entire production process from end to end

Quick and Easy Changes

- Highly reliable processes even when both the product and the format parts are changed
- Easy access reduces retooling and cleaning times to a minimum
- Complete format changes on the packaging machines in under 30 minutes
- Excellent OEE values thanks to high availability, strip pack quality and packaging output



Siebler – Synonymous with Performance and Precision

The strip packaging machines in the Romaco Siebler HM 1 series produce four-side sealed foil packs at very high speed. This extremely air, light and moisture-tight form of unit dose packaging is particularly ideal for packing pharmaceutical solids. Siebler machines manufacture strip packs in different sizes and layouts. The tablets are fed to the sealing station in up to sixteen lanes. After heat-sealing, the strips are perforated and cut to the required size.

QuickSeal

- Specimen seals are individually adapted to ensure premium sealing quality
- Reproducible sealing parameters
- Multiple heaters per sealing tool
- Seal temperature detected by integrated temperature sensors

Efficient Product Feeding

- Feeding system connected to the upstream tablet press either directly or via buffer bin
- Servo-controlled separation for high feed rates and precise product positioning
- Dust and breakage elimination system

Proven Design

- cGMP design with surface finish according to pharmaceutical regulations
- Balcony structure throughout for optimal accessibility
- Strict separation of drive and function modules, e.g. format parts
- Compact machine with an exceptionally small footprint
- Suitable for foils with random printing or print marks
- Print mark registration possible on both sides

Ergonomic Format Sets

- Heat-seal system with thin-walled, detachable format sets
- Modular sealing station mounted on quick-change bars
- Quick-release foil reel holders
- Only a very small number of format sets required per product

*Exploiting Technologies
Romaco Siebler HM 1 Series*

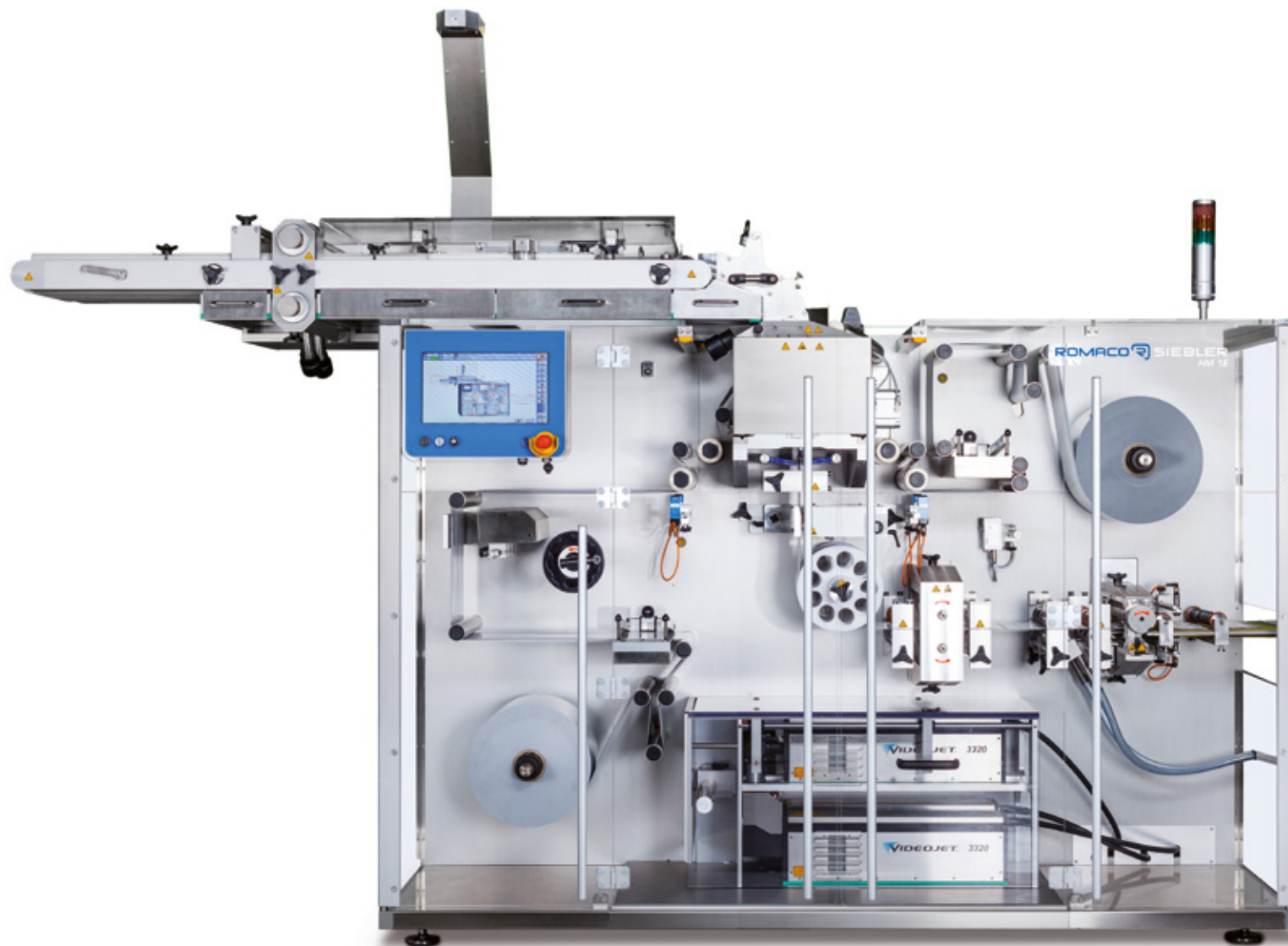


Sealing



Perforation





Gentle Handling of Effervescent Tablets

The strip packaging machines in the Romaco Siebler HM 1E series meet all the most stringent requirements for processing effervescent tablets. Extreme care is necessary when handling fragile products. Water-soluble dosage forms are common with particular types of pharmaceuticals, food supplements and healthcare products. The HM 1E series combines all the benefits of Romaco Siebler's proven strip packaging machines.

Reliable Product Feeding

- Direct connection to the upstream tablet press
- Either vertical or horizontal feeding
- Horizontal vibrator efficiently eliminates breakage before the feed conveyor
- Laminar waterfall feeder prevents broken tablets from becoming dislodged in the feeding channels

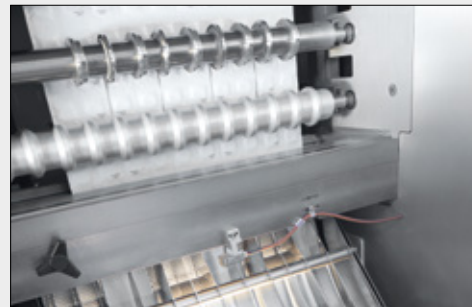
Stress-Free Product Handling Reducing Waste to a Minimum

- Infeed conveyor with anti-jam belts permits a continuous, stress-free product flow to the feed station
- Servo-driven rotary indexing unit ensures reliable feed processes
- Controlled movement of the tablets ensures that individual effervescent products are only dropped from a very small height

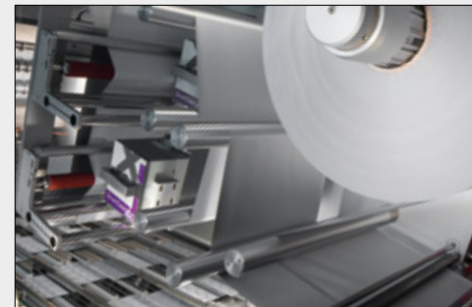
*Exploiting Technologies
Romaco Siebler HM 1E Series*



Feeding



Perforation



Coding





Customised Feeding, Cutting and Packaging Solutions

Strip packaging machines in the Romaco Siebler HM 2 series were specifically designed for handling diagnostics and flat, stable products. The series is available in several different configurations and suitable for a wide range of customer applications. Special feeding solutions and bespoke cutting systems are the hallmarks of this technology. Complex products such as test strips, BFS containers or pre-filled syringes can be processed fully automatically using the Siebler HM 2. Romaco Siebler's heat-sealing concepts result in tailor-made solutions for numerous pharmaceutical and medical devices.

The HM 2 series combines all the benefits of Romaco Siebler's proven strip packaging machines.

Cutting Diagnostic Strips

- Suitable for sheet or reel materials
- Laser, rotary or guillotine cutter
- Special cutting solutions prevent sharp edges and minimise the risk of injuries
- Any test strip down to 4 mm width can be handled
- Maximum cutting speed: 1500 strips a minute

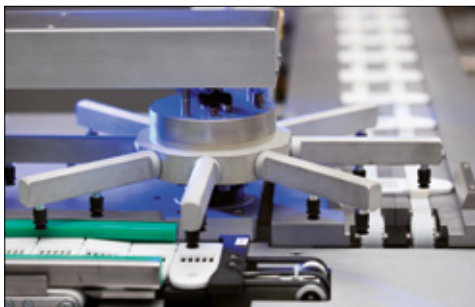
Packing Diagnostic Strips

- Strips transferred by a vacuum-assisted overhead conveyor
- Deionisation reduces static
- Individual packing in moisture-resistant, four-side sealed foil strips
- Bulk filling into plastic containers as an alternative
- Optional insertion of desiccant sachets

Cutting and Packing Flat, Stable Products

- Bulk feeding with vibrating bowl and selective separation
- In-line processing with an integrated cutting system as an alternative
- Individual packing in four-side sealed soft aluminium foil strips
- Moisture-tight sealed strips ideal for packing into plastic containers that are permeable to water
- Ideal packaging form for high-quality pharmaceutical liquids such as injections or ophthalmics
- Four-side sealing extends the minimum shelf life of the products

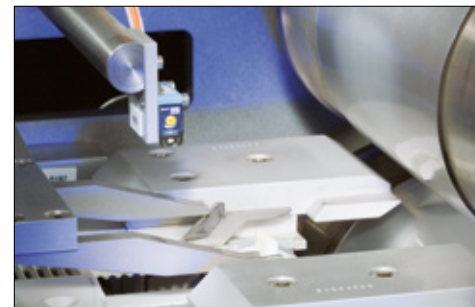
*Exploiting Technologies
Romaco Siebler HM 2 Series*



Feeding



Product detection



Positioning





Stacking with FixTrans

Romaco Siebler develops transfer solutions for strips with an identical width under the FixTrans label. The individually configurable unit stacks the sealed strips and passes them to the cartoner. FixTrans is particularly suited for large batches and blockbuster products. It can be adapted to different strip lengths and stack heights at any time. It is an impressive system offering high transfer speeds and reliable, cost-efficient operation.

User friendly

- Selective sampling possible
- Lifiable overhead conveyor provides optimal access



Stacking

Robotic Transfer with FlexTrans

The robotic transfer units in the Romaco Siebler FlexTrans series enable the strips to be conveyed directly to the cartoner irrespective of the format. Up to six FlexPickers transfer and stack the strip packs at very high speed. The servo-driven grippers work almost independently of specific formats. Product and packaging changes can thus be completed quickly and easily. The FlexTrans systems offer maximum flexibility whenever different pack sizes, strip layouts and stack heights are involved.

Format Flexibility

- Robotic transfer for short set-up times on the line
- Format flexible stacking



Pick & Place

Interface Management

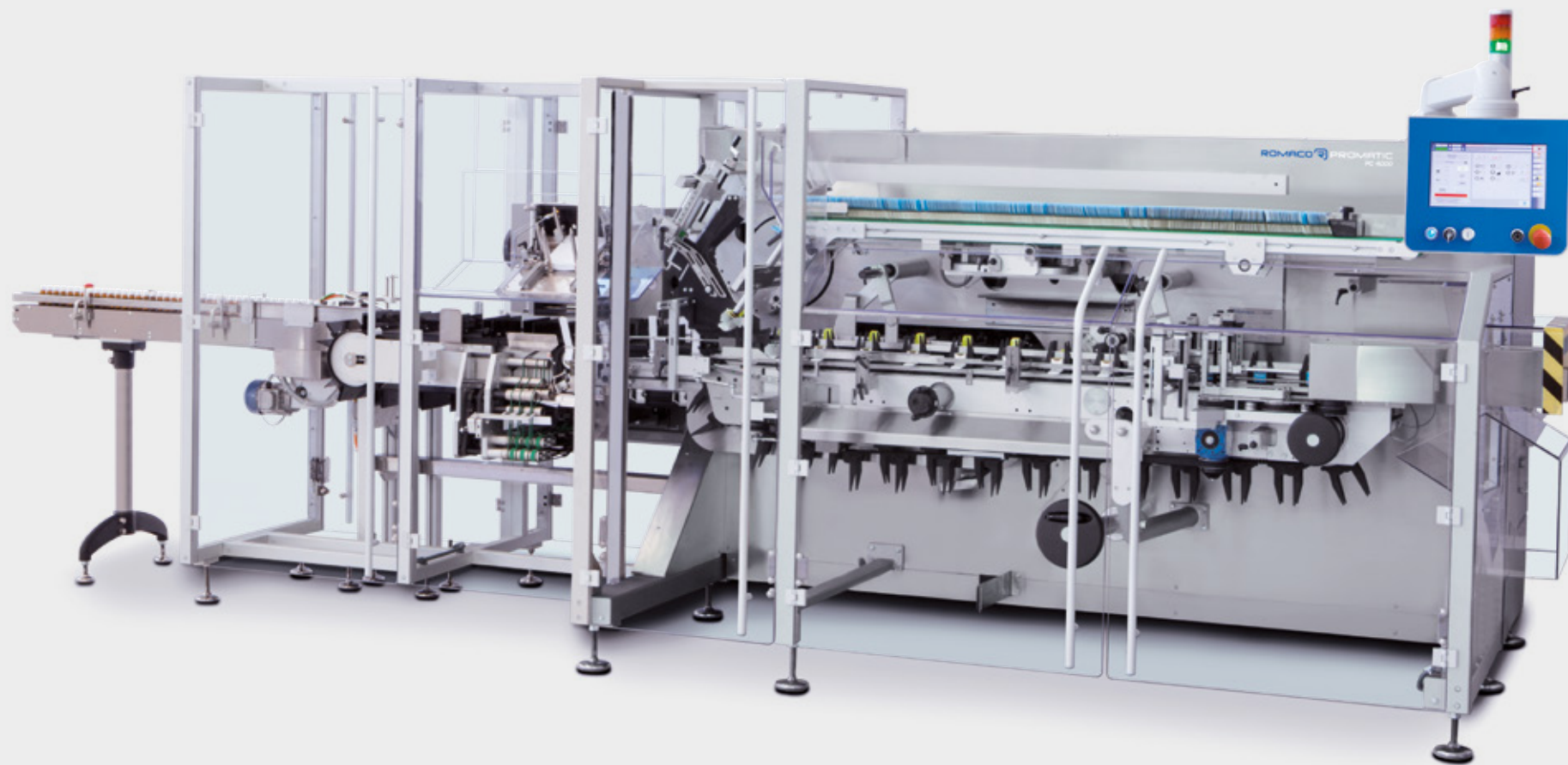
- FlexTrans aligns the processes of upstream and downstream systems
- FlexPickers control the transfer, ejection and temporary storage of the strips
- Integral buffers regulate the process
- No overflow of good packs – all quality approved strips are processed

Intelligent FlexPickers

- Vacuum grippers achieve up to 200 picks a minute
- Pick & place system enables format flexibility
- Selective ejection of single strips possible

*Exploiting Technologies
Romaco Siebler transfer solutions
FixTrans and FlexTrans*





Continuous Motion Cartoners

The continuous motion cartoners in the Romaco Promatic PC 4000 series are ideally suited for a wide range of applications. They are designed for both high speed operation and medium packaging speeds. These cartoning machines can be switched flexibly from continuous to intermittent motion – for processing high stacks, for instance. The PC 4000 cartoner series packs up to 420 folding cartons a minute in continuous mode.

Intermittent Motion Cartoners

With a maximum output of 150 folding cartons a minute, the Promatic PCI 915 intermittent motion cartoner represents the high performance class. The models in the Romaco Promatic P 91 series are available in a standard speed (P 91) or large packaging (P 91L) version.

cGMP Compliant Design

- Balcony architecture conforms to the highest pharmaceutical standards
- Optimal view of the process
- Cross-contamination is successfully avoided
- Very efficient line clearances

Ergonomic Design

- Easy access reduces retooling and cleaning times to a minimum
- Retractable carton magazine allows optimal access to all machine components and simplifies format changes
- Ergonomic working height for maximum operating convenience
- Low vibration and noise levels thanks to servo motors and belt drives

Technical Highlights

- Bespoke feed systems can be designed on request
- Positive carton opening system: servo-controlled carton pick-up protects the materials
- Reproducible, toolless format changes in under fifteen minutes
- Torque limiters for all drives
- Minimal costs for maintenance: toothed belts and pulleys instead of chains and mechanical gears

Exploiting Technologies
Romaco Promatic PC 4000 Series
Romaco Promatic P 91 Series
Romaco Promatic PCI 900 Series



Robot feeding system for single or multiple strips



Carton positive opening and product feeding into cartons



cGMP compliant balcony design





Carton Bundling Made Easy

The stretch banders in the Romaco Promatic SM 2000 series can be supplied with a pneumatic (PV) or a servo (EV) drive. Depending on the model, these banders achieve a maximum output of 50 bundles a minute. They are also available with an optional shrink wrapper. The folding cartons can be stacked either lying down or standing up on edge. A carton feed system can be configured on the front of the machine if necessary.

Quick Product Changes

- Tool-less adjustment to the required format in less than 5 minutes
- A complete set of format parts consists of just 3 pieces
- Automatic quick-release system speeds up film changes

Balcony Structure

- Optimal access to all parts
- Short times for retooling, cleaning and maintenance

cGMP Compliance

- Clear structure conforms to high cGMP standards
- Self-cleaning heat-sealing bar prevents accumulation of foil residues

Technical Highlights

- Motorised film handling system at the top and bottom
- Dynamic stacking unit permits higher production speeds
- Sealing station cooled by an air gun

*Exploiting Technologies
Romaco Promatic SM 2000 Series*



Motorised film handling



Strain release during foil unwinding



Stacking unit and hot sealing bar





Ideal Solution for a Wide Range of Final Packaging Applications

The Romaco Promatic PAK 320 case packer is a fully automatic final packaging solution. This side-loading machine fills up to 8 shipping cases a minute at maximum speed. Either hot melt or adhesive tape closure is possible. The clear design of the case packer enables critical operations to be checked optimally, so that machine downtime is reduced to a minimum.

The Romaco Promatic PAK 100 is a semi-automatic case packer that is absolutely affordable. This machine can be used to group, stack and insert folding cartons. The only manual steps are case erection and feeding. Thanks to the simple, compact design, the machine is also extremely easy to operate.

Special Features of the Promatic PAK 320

Ergonomic Design

- Servo-controlled case handling with positive opening system
- Vacuum produced by Venturi nozzles
- Vibration-free and silent operation
- Format changes in under 20 minutes
- Modular design with cGMP compliant balcony structure

Quality Control

- Easy integration of quality control systems
- Track & Trace: all systems required for seamless tracking implemented by Romaco
- Folding cartons identified layer by layer

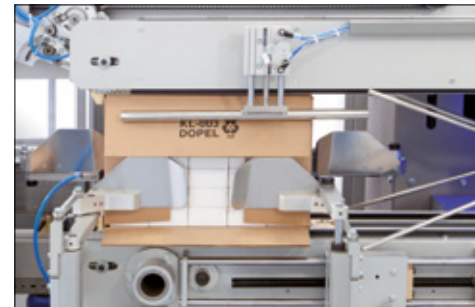
Exploiting Technologies
Romaco Promatic PAK 320
Romaco Promatic PAK 100



Carton feeding



Automatic case erection



Carton flap closure





New design - new level of performance

The „iF design award“-winning tablet presses of the KTP series from Romaco Kilian are versatile high speed tablet presses for the pharmaceutical industry.

In the latest model series of the KTP, Kilian has applied its extensive know-how to many different product features and behaviours. This is combined with current customer requirements for efficiency, product optimisation and in-line quality data acquisition.

The series is characterised by high equipment availability, hygienic design and a fast and easy format change. The KTP series is available in the following configurations:

- Mono-layer
- Bi-layer
- Mono- + bi-layer
- Core (Tab-in-Tab)
- TRF – tamper-resistant formulation
- For Bad-flowing materials



Die table slide-out system

Cool - fast - clean

The Romaco Kilian KTP Series is based on an advanced and thoroughly convincing design principle cool - fast - clean.

Cool

stands for the reliable cooling of the process area to below 30°C. This makes the technology ideal for processing temperature sensitive medications such as Ibuprofen. Special compression rollers, bolts and bearings ensure low mechanical friction. The efficient cooling of the torque drive and V-ring seal (for the die table) prevents the formation of heat.

Fast

denotes the optimised change-over, cleaning and start-up times of the rotary press and the nominal high speed.

- Up to 1,020,000 tablets per hour for mono-layer
- Up to 510,000 tablets per hour for bi-layer
- Up to 140,000 tablets per hour for core tablets



HMI screen

The die-table, tablet chute and fill shoe can be swung in or out, so that fewer adjustments are required. Changing the product or format is simple as no special tools are required. Thanks to the ingenious design, cleaning work is restricted to a minimum.

Clean

refers to the optimised hygienic design, which improves product quality and ensures the process is more reliable. The hermetic separation of the compaction area and the machine compartment means tablet dust does not get into the bottom of the machine. The patented punch bellows protect the tablets from contamination with lubricants.



Hygienic design

*Exploiting Technologies
KTP 420X / 590X / 720X series
from Romaco Kilian*





Creating Value – Romaco generates added value for the customer across the entire life cycle of its solutions

- Romaco is interested in a long-term solution partnership with its customers
- Romaco is familiar with its customers' critical success factors throughout the different life cycle phases of our jointly developed solutions
- The range of services from Romaco is specifically designed for these phases and is delivered through the appropriate modular components
- Romaco optimises the internal processes so that the customer can benefit from more secure decisions within the time gained
- In April 2014 the new business unit Romaco Systems was founded within the Romaco Group: the aim of this unit is to integrate the offering of the Romaco Group into comprehensive solutions

We understand the business model of our customers and with a diverse portfolio we offer the best price/performance ratio for generating additional cash flow.

Benefit for the customer

Across the entire life cycle

- Minimal life cycle costs and low TCO guarantee fast amortisation of the financial investment
- The wide range of customer service products ensures sustainable value creation

In the investment phase (designing value)

- Professional consulting to increase decision-making security
- Short processing and delivery times give maximum scope for investment decision and thus optimum decision flexibility
- Customised solutions development for the optimum preparation of the implementation phases (ramp-up and production)
- Reliable and customer-orientated project management according to efficient milestone principles provides professional delivery

In the ramp-up phase (leveraging value)

- The production phase is reached more quickly due to shortening of ramp-up
- Transfer of expertise provides increased security to the customer in implementing production systems at the highest level
- Minimisation of ramp-up costs

In the production phase (harvesting value)

- Maintenance of the value stream due to quick customer service response times
- Best delivery times in service, format and spare parts
- Consulting on the optimisation of the OEE
- Continuous training of the customer team
- Extension of the life span

Creating Value

Creating Value describes our constant willingness to secure our customers' – and our own – financial success.



Competent partner throughout the operating lifespan

Installation & Commissioning

- Installation: project planning and execution
- Commissioning and initial briefing for operators
- Qualification support
- Ramp-up support with shortened start-up phase

Training

- Qualified training and seminars for machine operators and maintenance personnel
- FDA compliant training concepts with continuous performance reviews
- Training provided on the customer's site or at Romaco's
- OEE support: systematic optimisation of overall equipment effectiveness

Maintenance and Remote Assist

- Individual maintenance and Remote Assist contracts
- Remote Assist permits prompt and reliable diagnostics
- Real-time support thanks to customer service "at the push of a button"
- Virtual communication using smart glasses
- Telephone hotline in case of an emergency
- Team of service technicians on hand to carry out assignments worldwide

Retrofits and Upgrades

- General overhaul and modernisation projects help improve economic efficiency
- Individual solutions
- Active obsolescence management extends the service life
- Feature enhancements enable increased flexibility
- Plant relocation planning and execution

Spare Parts

- Spare parts packages tailored to each individual machine
- All spare parts available for a minimum of ten years
- Durable original parts that fit exactly
- Short response and delivery times
- Decentralised warehousing ensures local availability

Original Parts

- Format sets compatible with all machines in the same series
- High-precision parts that fit exactly
- Format centre: each part is rigorously tested by Romaco before it leaves the factory
- Machine parameters and qualification documentation included in the scope of supply





Romaco Pharmatechnik GmbH

Am Heegwald 11
76227 Karlsruhe
Germany

P +49 (0)721 4804 0
F +49 (0)721 4804 211
E siebler@romaco.com

www.romaco.com

 **INNOJET**
Herbert Hüttlin

 **KILIAN**

 **NOACK**

 **SIEBLER**

 **PROMATIC**

 **MACOFAR**

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