ROMACO
beyond technology

Powder Dosing 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.

*» Romaco Macofar supplies end-to-end,
 needs-driven solutions for powder dosing
 which offer excellent value for money. «*

Nicola Magriotis, Sales Director, Romaco S.r.l.
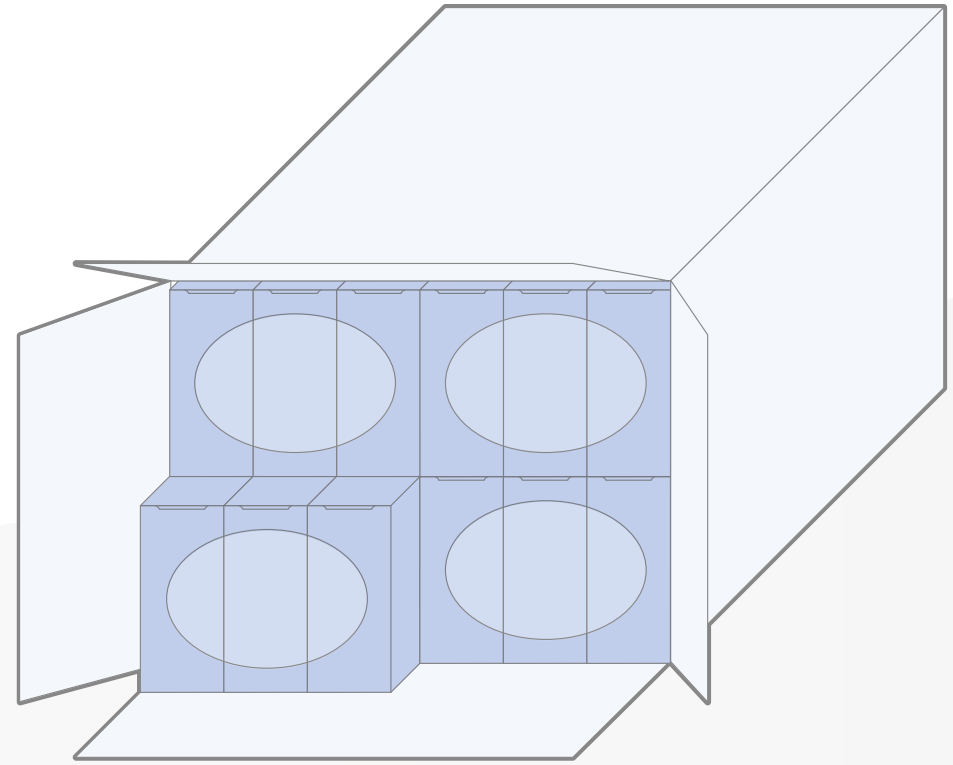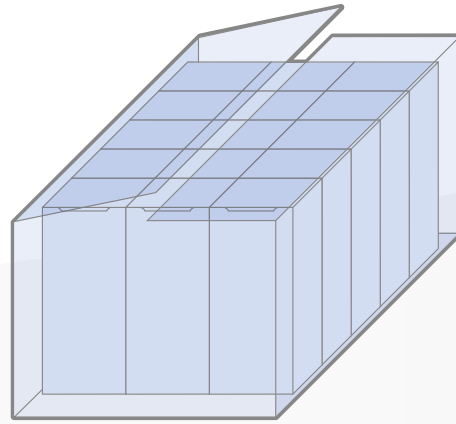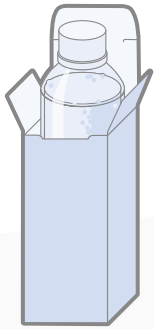
Delivering Solutions

**Powder Dosing – Needs-Driven Solutions
Based on Several Decades of Experience**

Romaco Macofar's reputation has been
built on over fourty years experience as
a supplier of macrodosing machines for
pharmaceutical powders. Most powders or
granules can be filled into glass or plastic
bottles, depending on the application and
the customer's individual specification.

Due to the full compatibility of Romaco
Macofar and Promatic equipment, powder
dosing systems can be combined very
efficiently with Romaco's comprehensive
portfolio of secondary and tertiary packaging
solutions. Romaco is optimally equipped to
provide end-to-end, needs-driven solutions
for powder processing.

Filling into Bottles

- Suitable for cylindrical glass or
  plastic bottles
- Non-free-flowing powders, dry syrups and
  similar substances dosed using a vacuum/
  pressure system
- Designed to handle containers 30 to
  60 mm in diameter and 50 to 170 mm
  in height
- For dosing volumes from a minimum of
  6 cc to a maximum of 95 cc
- Closure with almost any type of cap
  including CRC (child resistant closures)

PROMATIC

Bottles in Folding 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 or vignette

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 and bundled cartons
- Adhesive tape or hot melt closure

Dosing and Cartoning – In-line Synchronised Manufacturing at High Speeds

Based on a vacuum/pressure system, Romaco Macofar powder dosing machines process non-free-flowing powders, dry syrups and similar substances flexibly and efficiently. The fully automatic Macofar MT 6 and F4/PC models can be supplied in several different versions, depending on the product and the application.

Their compact design saves space and money on the production floor. The full compatibility of the various Romaco brands is a significant advantage to providing complete solutions. In combination with Romaco Promatic secondary and tertiary packaging solutions, which are optionally installable downstream, your Romaco Macofar macrodosing machine can be expanded into a complete production line.

Flexible Machine Configurations

- Several different models for different speed requirements
- Modular architecture permits customised solutions
- Flexible handling of numerous container sizes and dosing volumes
- Compact design saves space and money on the production floor
- High level of automation assures absolutely reliable processes and optimal overall equipment effectiveness

Continuous Process and Vacuum/ Pressure System

- Minimal product loss
- No mechanical movements and hence no contamination of the powder by metal particles
- No significant dispersion when the powder slug is ejected via the funnels
- No product heating thanks to absence of mechanical movements
- No risk of powder contamination from lubricants
- No shear forces on the powder

Wide Range of Closure Systems

- A wide variety of closure systems, e.g. pilfer-proof, screw or press-on caps, child resistant
- Adjustable capping torque
- Glass partition wall separating the closing station from the filling station

Automatic Powder Dosing Solutions for High Product Quality

The Romaco Macofar MT 6 and F4/PC master the challenge of dosing and filling non-free-flowing powders, dry syrups and similar substances efficiently and precisely. The powders are dosed by this range of fully automatic machines using a vacuum/pressure system. The products are filled into stable cylindrical glass or plastic containers. Closure is possible with a wide variety of caps, including CRC (child resistant closures), depending on the customer's requirements. The machine can optionally be equipped to enable a dosing cup to be fitted to the closed bottles.

The MT 6 achieves a maximum mechanical output of 5000 bottles an hour. With its maximum hourly output of 8000 containers, the Romaco Macofar F4/PC is ideal for high speed dosing of orally administered antibiotic powders.

Efficient Filling, Minimal Product Loss

- Bottles fed via a motorized belt
- Infeed screw and starwheel for transferring the bottles to the dosing carousel
- Exit starwheels from the dosing carousel to the closing area
- Vacuum circuit for forming and retaining the powder slug inside the dosing ports
- Sterile compressed air circuit for ejecting the powder slug into the bottles and cleaning the filtration material of the pistons
- Powder de-dusting circuit for removing any residual product from the pistons and ports prior to refilling
- Closure and bottle transport controlled by a starwheel
- Closures fed by means of a vibrating bowl and feeding chutes
- Bottles exit via a motorized belt

Technical Highlights

- Compact design with a small footprint
- Mechanical output: 5000 (MT 6) or 8000 (F4/PC) bottles per hour depending on the stability of the containers, the properties of the powder and the closures required
- Dosing volumes from 6 to 95 cc
- Compressed air: 6 bar
- Compressed air consumption: 70 Nl/min
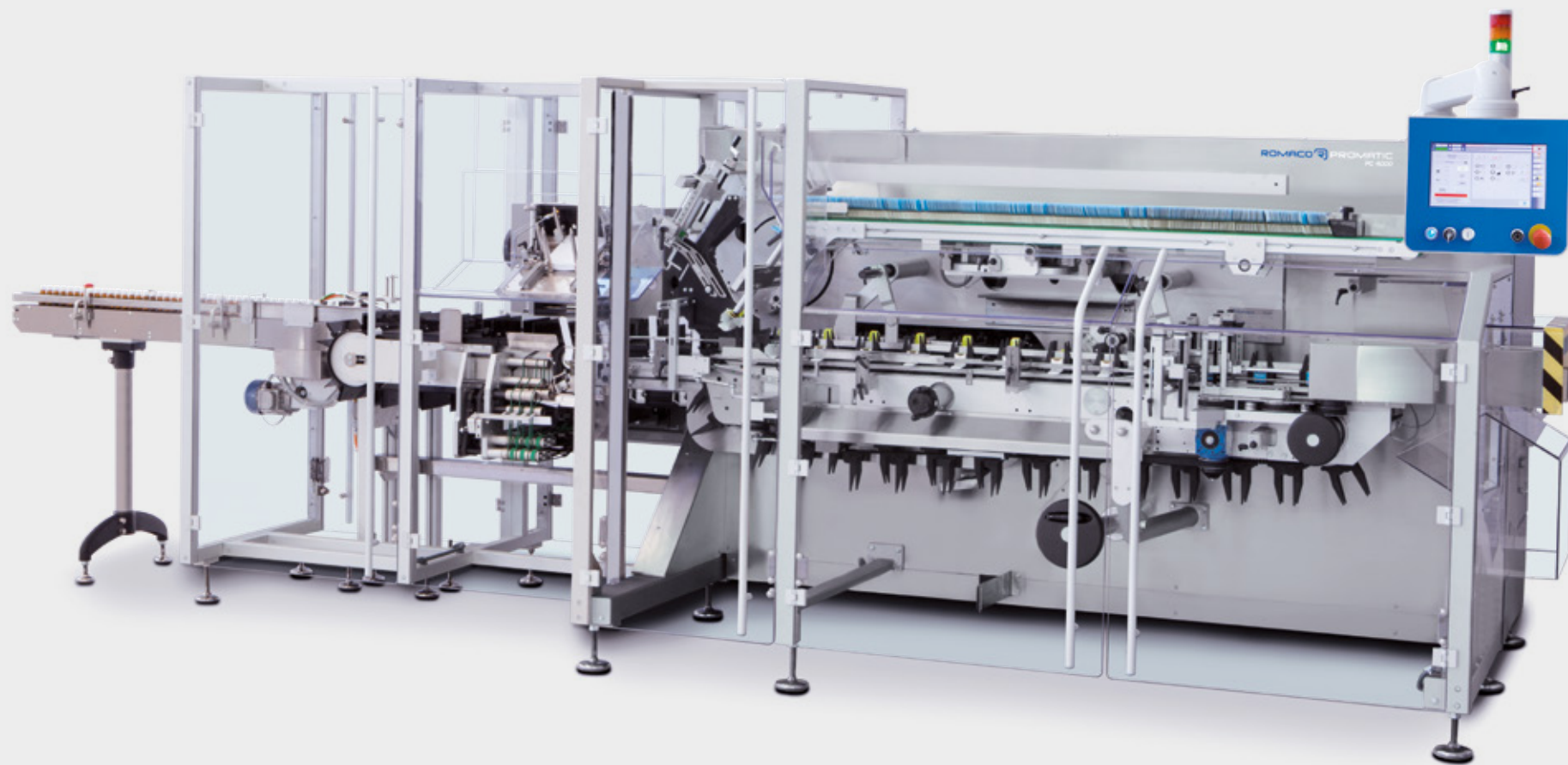
Powder filling station

Closing station

Dosing cap application

The Perfect Solution to any Challenge

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 also for medium packaging speeds. These cartoners can be switched flexibly between continuous and intermittent motion. The PC 4000 cartoner series packs up to 420 folding cartons a minute in continuous mode.

The intermittent motion cartoners in the Romaco Promatic P 91 series are available in a standard or a high-speed version (P 91S). These compact machines boast a maximum output of 140 folding cartons a minute.
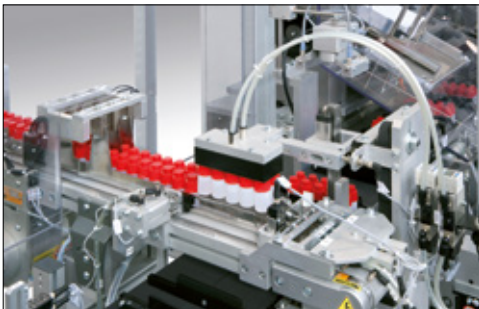
Ergonomic Design

- Strict balcony architecture with no supporting structure at the operator side
- cGMP compliant design meets even the most demanding standards in pharmaceutical production
- Easy access reduces retooling and cleaning times to a minimum
- Retractable carton magazine allows optimal access to all machine components and makes format changes easy
- Ergonomic working height for maximum operating convenience

Technical Highlights

- Positive carton opening system: servo-controlled carton pick-up protects the materials
- Torque limiters for all drives
- Modular design allows bespoke feed systems and the integration of numerous additional functions
- Reproducible and tool-less format changes in under 15 minutes
- No vacuum pumps: Venturi nozzles produce the vacuum for opening the cartons and folding the booklets
- Low vibration and noise levels thanks to servo motors and belt 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

Bottle feeding into bucket chain

Product feed into the open cartons

Carton Bundling Made Easy

The stretch banders in the Romaco Promatic SM 2000 series can be supplied with a mechanical (MV) 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 foil residues from accumulating

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

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 simple 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
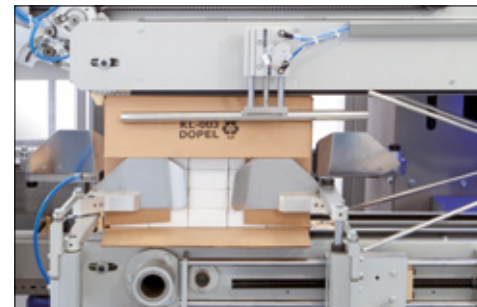- Folding cartons identified layer by layer

Carton feeding

Automatic case erection

Carton flap closure

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

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

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.

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

Comprehensive Range of Services from Initial Installation and Throughout the Operating Lifespan

Commissioning

- Installation: project planning and execution
- Commissioning and initial briefing of operators
- Process validation support
- Ramp-up support with shortened start-up phase

Maintenance

- Telephone advice available from Romaco experts
- Expert system guarantees coherent and efficient assistance
- Remote online support: prompt and reliable diagnostics using digital access
- On-site service: local emergency support provided where necessary
- Maintenance contracts: preventive maintenance reducing breakdowns to a minimum

Training

- Qualified training and seminars for machine operators and maintenance personnel
- FDA compliant training concepts with continuous performance reviews
- Provided on the customer's site or at the Romaco training centre

Production Optimisation

- Support for customers regarding the systematic optimisation of OEE values
- OEE audits on the customer's premises
- Detailed analyses of internal processes and downtime
- Combination of lean expertise and technical plant know-how

Retrofit, Expansion and Relocation

- Standard packages and customised solutions for machines in all series
- Special feed systems for complex products and specific layouts
- Plant relocation planning and execution

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

Remote Service

- Telephone support for real-time assistance
- Expert hot-line connection for quick troubleshooting and problem solving
- Remote connection for online diagnostics and machine parameters control
- Call-4-service function for immediate assistance
- Smart-Glass allows our experts to be with you on the machine in real time
- Parameters and software backups scheduled to safely store your setup parameters

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