

Press Release

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Romaco at interpack 2023

Sustainable – from powder to pallet

Romaco will take advantage of the upcoming exhibition to show its latest technologies for granulation, tableting and film coating as well as filling and packing solids, powders and liquids. The provider of system solutions will focus on the energy and cost efficient design of its newest innovations.

With its innovative one stop solutions for the pharmaceutical, nutraceutical, food, cosmetics and chemical industries, Romaco covers the entire process chain from powder processing to the finished pallet. The manufacturer's sustainable machine concepts impress with their excellent carbon footprint, which goes hand in hand with lower production costs. All systems can also be supplied in a carbon-neutral version, and they ship with an energy monitor for recording and documenting actual power consumption online.

The supplier's comprehensive portfolio of services will likewise be on show, including selected digital tools such as the service app, which concentrates detailed information in one place and offers numerous options for interaction. E-learning programs and the web-based BlisterMagic platform – freely available to users for designing blister packs and folding cartons – round off this broad array. Last but not least, Romaco's six laboratories for granulation, tableting, film coating, filling and packing allow customers to be supported in a targeted way. These knowledge centers serve as the first port of call for expert advice, product analyses, process optimization and development activities.

MicroRobot 50 microdosing machine from Romaco Macofar – smart performance for demanding products

The MicroRobot 50 microdosing machine is Romaco Macofar's ultra-flexible, high-tech solution for filling high-potency and cytostatic powders and liquids. This compact high-containment unit (up to level OEB 5) is less than four meters in length and features a robotic vial transfer system that ensures reliable processes

under isolation technology. Three anthropomorphic robots transport the vials to the dosing, stoppering and capping stations, avoiding the proliferation of particles which happens with different kinds of transport technologies. Since these smart systems are completely size parts-free, significantly shorter changeover times are realized. All product-contacted parts are extremely small and light, and hence very easy to remove and install. Thanks to a whole series of control systems and the flexibility ensured by the three independent robots, the waste rate for the high-priced medicines is almost zero. The filling technology is particularly suited for aseptic dosing of sticky, hygroscopic or challenging pharmaceutical powders in general. The oxygen content inside the vial can be reduced to below 3%, so that high quality processing is possible even with oxygen sensitive products. Sterile liquids can be filled as well by installing the relevant filling system. The MicroRobot 50 achieves a maximum total output of 3000 vials per hour, including one-hundred-percent in-process weight control with automatic filling volume adjustment where necessary. Due to the precision filling processes, the Romaco Macofar MicroRobot 50 allows a minimum dose rate of 20 mg or 0.5 ml.

Unity 600 blister line from Romaco Noack with up to 45% energy savings

Romaco Noack's new Unity 600 blister packaging line combines high efficiency with a sustainable system concept. This double-lane, high-speed line achieves a maximum output of 600 blisters and 350 cartons per minute and enables flexible processing of blister packs up to 145 mm long and 90 mm wide. Its innovative transfer system eliminates the need for conventional vacuum pumps, significantly improving the energy efficiency of the monobloc, which consists of a blister machine with rotary sealing and a continuous motion cartoner. The vacuum for transferring the blisters to the cartoner and for removing the cartons and leaflets is instead produced in a more climate-friendly Venturi process. Venturi pumps are comparatively small, need less maintenance and give off much less heat, so that the cooling requirements in the cleanroom are greatly reduced. The blisters are transferred to the cartoner by a carousel-shaped indexing wheel with a downstream stack transfer unit, which ensures that the cartoner is only supplied with complete blister stacks. As a new feature, any gaps are mapped in the software and compensated. Since good blisters are no longer held back, a manual blister top-up magazine can be dispensed with. Furthermore, this highly automated transfer solution allows seamless tracking and tracing of the blisters from the product feeding unit onward. Due to its very good line clearance and short

changeover times, Romaco Noack's flexible-format Unity 600 blister packaging line also scores with excellent OEE (overall equipment effectiveness).

IGL integrated granulation line from Romaco Innojet – sustainability through optimized processes

The granulation lines in the Romaco Innojet IGL series are used to manufacture good quality granules for tableting. The line concept consists of a high shear mixer and a fluid bed dryer with integrated wet and dry mills and a downstream batch hopper. The bottom driven, high shear mixer proves extremely homogeneous granulation, even with products with a very small proportion of active pharmaceutical ingredients (API). Its very short processing times are due in part to the impactor blade's higher top speed of approximately 10 m/s. The small distance between the impactor blade and the bowl base reduces product losses to a minimum, resulting in a higher yield from the mixer coupled with shorter cleaning times. The conical upper part of the bowl design enables working at capacities from 25 to 80 percent, providing maximum batch size flexibility. In addition, the linear bowl geometry also makes it easier to scale-up. Several spray nozzle tips offer very fine droplet distribution as well as uniform application of the binding liquid. Spray liquid consumption is consequently reduced and the quality of the wet granules improved. The transfer of wet granules into the fluid bed processor is carried out by gravimetric unloading and can be assisted by a process air supply. Due to the precisely controlled product movement of the ORBITER® booster air distribution plate, drying times are significantly shorter with the VENTILUS® fluid bed multi-processor. A centrally controlled WIP system permits GMP-compliant cleaning of all line components. Overall, Romaco Innojet's IGL granulation lines process filling volumes from 1 to 1500 liters.

KTP 720X double-sided rotary press from Romaco Kilian – optimized for high output

For the first time, Romaco Kilian's KTP 720X double-sided rotary press is now also available with a segment turret for up to 30% more performance. The new configuration with five segments and up to 115 punch stations paves the way for a maximum output of up to 1,380,000 tablets per hour. Not only that, but the segment turret significantly reduces retooling and cleaning times. The individual segments have product-specific punch holes and are easy to remove for cleaning; the time-consuming removal of the dies has been dispensed with. Thanks to the hermetic separation between the compaction and service areas, no tablet dust gets into the

machine area during production, so that far less effort is necessary for cleaning. The number of product-contacted parts has been systematically reduced at the same time. Patented punch bellows protect the tablets reliably from contamination with lubricants. The high-speed press can be used to manufacture both mono-layer and bi-layer tablets, whereby the temperature in the compaction area is kept at a constant level below 30°C. This is achieved, for example, through low-friction pressure rollers, pins and bearings as well as efficient cooling of the V-ring seals and drives. The technology is consequently ideal for processing temperature sensitive medications such as Metformin or Ibuprofen. All in all, the double-sided rotary press convinces with its excellent TCO (total cost of ownership) and OEE (overall equipment effectiveness).

KTP 1X R&D tablet press from Romaco Kilian – access to research data worldwide at any time

The KTP 1X is the newest generation of Romaco Kilian's R&D tablet presses for laboratory use. This single-stroke press was designed as an all-in-one instrument for research and development activities. It is suitable for pressing mono-layer, bi-layer and triple-layer tablets as well as tab-in-tab formats. It achieves a maximum output of 1800 tablets per hour and compression forces of up to 80 kN depending on the model. This versatile R&D press enables the various tableting parameters, such as compression force or the possible tableting speed, to be automatically determined. The smart measurement system evaluates huge amounts of data in next to no time for this purpose. The KTP 1X is moreover capable of simulating any standard rotary press, making it much easier to conduct scale-up trials. In addition to the production of clinical samples, the technology also allows detailed troubleshooting and hence supports process optimization. Thanks to the machine's very good rigidity, the punch position in particular can now be measured more precisely. This high measuring accuracy goes hand in hand with extremely low product consumption – so that the KTP 1X is not only very accurate but also cost-efficient and sustainable. Only a few test series are required to obtain meaningful results because compression studies are highly automated. With its very small compaction area, the tablet press has a small footprint and is quick and easy to clean – for even bigger time and energy savings. What's more, the machine ships with a data module that gives users access to raw measurement data worldwide at any time, even when the machine is not in operation.

TP R Optima tablet coater from Romaco Tecpharm – 10 to 100 percent batch variability, fully automatic without any mechanical adjustments

The TP R Optima tablet coater from Romaco Tecpharm genuinely processes any batch size from 10 to 100 percent in a single drum and achieves optimum coating results no matter how small the filling volume – fully automatically without any manual adjustments. Its wide range of applications is the outcome of the fully automated perforated coating pan with its GMP-compliant in-wall design. An extendable spray arm with movable spray nozzles ensures not only the correct spray distance but also the ideal spray angle. Both the batch volume and the tablet bed inclination, which varies according to the turning speed of the pan drum, are measured continuously using sonar technology. The patented spray system is thus capable of aligning the nozzle distance and angle automatically throughout the entire process. Furthermore, air exhaust flaps that can be opened steplessly allow exact adjustment of the air path inside the drum. This precise flow control provides loss-free application of the coating suspension and efficient drying of the tablet bed, ensuring shorter processing times, lower energy consumption and up to 50 percent savings in coating suspension. In short, the TP R Optima supports sustainable production of pharmaceuticals and nutraceuticals. Last but not least, Romaco Tecpharm's smart film coating technology includes a system for detecting and accurately identifying blocked spray nozzles.

On show at interpack in Dusseldorf (Germany) from May 4 to 10, 2023 (Hall 16, Booth D22).

For more information on Romaco, visit our website and social media channels: www.romaco.com – [Showroom](#) – [LinkedIn](#) – [YouTube](#)

Romaco Group

Romaco is a leading international supplier of processing and packaging equipment specializing in engineering technologies for pharmaceutical products. The Group provides individual machines, lines and turnkey solutions for manufacturing, filling and packing powders, granulates, pellets, tablets, capsules, syringes, liquids and medical devices. The company also serves the food and chemical industries. Through its various technologies, Romaco is committed to sustainable production and to systematically reducing CO₂ emissions.

The Romaco Group has its headquarters in Karlsruhe (Germany) and is part of the Truiking Group, a globally operating high-tech enterprise based in Changsha (China). Truiking's core competency is handling and filling pharmaceutical liquids.

Romaco operates from five European business sites, with a broad portfolio comprised of seven established product brands. Noack and Siebler (Karlsruhe, Germany) supply blister, heat-sealing and rigid tube filling machines. Macofar (Bologna, Italy) markets technologies for filling sterile and non-sterile powders and liquids. Promatic (also Bologna, Italy) specializes in cartoners, track & trace systems and case packers. Kilian (Cologne, Germany) is a leading manufacturer of tablet presses. Innojet (Steinen, Germany) is in the business of granulating and coating fine solid particles. Tecpharm (Barcelona, Spain) offers tablet coating technologies.

More than 850 highly skilled and committed Romaco employees are dedicated to the development of future product technologies and to the continuous implementation of internal improvement processes. The Romaco Group's multi-brand system solutions are sold worldwide through nine Sales & Service Centers and a dense network of local agent organizations. Over 12,000 installations delivered by Romaco are currently in use in more than 180 different countries.

For more information about the Romaco Group, visit www.romaco.com

The following pictures are enclosed with the press release:

1. MicroRobot 50 microdosing machine from Romaco Macofar
MicroRobot-50_Macofar_Romaco.jpg



2. Unity 600 blister packaging line from Romaco Noack
Unity-600_Noack_Romaco.jpg



3. IGL granulation line from Romaco Innojet
IGL_Innojet_Romaco.jpg



4. KTP 720X double-sided rotary press from Romaco Kilian
KTP-720X_Kilian_Romaco.jpg



5. KTP 1X R&D tablet press from Romaco Kilian
KTP-1X_Kilian_Romaco.jpg



6. TP R Optima tablet coater from Romaco Tecpharm
Optima_Tecpharm_Romaco.jpg



Company contact

Susanne Silva
Market Communications
Romaco Group
Am Heegwald 11
76227 Karlsruhe
Germany
T +49 (0)721 4804 0
E susanne.silva@romaco.com

Press contact

Micha L. Harris
Senior PR Consultant
Carta GmbH
Iggelheimer Str. 26
67346 Speyer
Germany
T +49 (0) 6232 100 111 20
E harris@carta.eu