

Press Release

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Romaco Macofar MicroRobot 50 microdosing machine Avant-garde filling technology

The MicroRobot 50 microdosing machine is Romaco Macofar's innovative high-tech solution for filling cytostatic powders into vials. Three anthropomorphic robots ensure reliable processes protected by an isolator.

Romaco Macofar's MicroRobot 50 is a robotic microdosing machine that is specially designed for filling potent and cytostatic medicines, for example for treating cancer and auto-immune diseases. The technology is particularly suited for dosing sticky or hygroscopic pharmaceutical powders with irregular shapes. It can also be used to fill sterile liquids. For high containment applications up to level OEB 5, the Macofar MicroRobot 50 can be supplied with isolator technology. Alternatively, it can be configured with cRABS or oRABS for non-cytotoxic products.

During the production process, three anthropomorphic robots transport the vials under an isolator to the dosing, stoppering and capping stations. Since the robots work independently of specific formats, the product change times are significantly shorter. The servo-driven transfer system generally reduces the concentration of particles in critical areas and with it the risk of contamination. Furthermore, thanks to the clearly structured system concept, the MicroRobot 50 is readily accessible and easy to clean. The robotic grippers can be equipped with cleaning guns in order to validate the cleaning processes.

The Macofar MicroRobot 50 achieves a maximum total output of 50 vials per minute including one-hundred-percent in-process weight control, in other words each vial is individually weighed both before and after filling. If necessary, the filling volume is adjusted automatically. Numerous control systems ensure a reliable process and a very low waste rate with these high-priced medicines. If a stopper is missing, for example, the filled vial is fed back to the station in question, where the process is repeated, rather than simply removed. The same applies to missing

caps. The remaining quantity of the batch has been reduced to a minimum in the dosing station, so that product loss is virtually zero.

This ultra-compact machine is less than four metres long and was designed with ergonomic principles in mind. All product contact parts are extremely small and lightweight. The use of components which are easy to remove and install was likewise a development priority. Access to the machine is via glove ports and RTP systems. The isolator features a built-in VHP generator for bio decontamination.

The MicroRobot 50 unites the powder expertise of Romaco Macofar with Truking isolator technology. This robotic microdosing machine represents the first joint development project by the two pharmaceutical machinery specialists from Italy and China. Feedback so far has been altogether positive: orders for the MicroRobot 50 have already been received from two Asian pharmaceutical producers.

The MicroRobot 50 microdosing machine from Romaco Macofar can be seen (via live stream) at the Romaco S.r.l. facility in Bologna/Italy.

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

Romaco Group

Romaco is a leading international supplier of processing and packaging equipment specialising in engineering technologies for pharmaceutical solids. The group provides individual machines and turnkey solutions for manufacturing and packing powders, granulates, pellets, tablets, capsules, syringes and medical devices. Romaco also serves the food and chemical industries.

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

Romaco operates from four European business sites, with a broad portfolio comprised of six 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) offers compression

solutions for tableting while Innojet (Steinen, Germany) is an innovation leader for granulation and coating.

More than 650 highly skilled and committed Romaco employees are dedicated to the development of future product technologies and to the continuous implementation of internal improvement processes. Romaco's multi-brand system solutions are sold worldwide through six Sales & Service Centres and a dense network of local agent organisations. 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. Romaco Macofar MicroRobot 50 microdosing machine
MicroRobot-50_Macofar_Romaco.jpg



2. Romaco – a sustainability enabler
Sustainability-Enabler_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