Integration of Modcos and Driaconti-T

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COATING GOES CONTI

Continuous tablet coating is now part of the Modcos continuous production line — Following the introduction of the continuous Glatt Modcos system, Glatt is working together with partner Driam to close a gap in the production process by incorporating continuous tablet coating. Like Modcos, the continuous Driaconti-T system enables complete traceability of every tablet as well as precise and reproducible setting of the retention time in the process.

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Continuous production has without a doubt become firmly established within the field of pharmaceutical production. Previously, however, the continuous process used to end with tablet pressing. The dosing, mixing, granulation, and pressing stages would all take place automatically. The tablet cores were then put in interim storage and, once the relaxation time had elapsed, were given the appropriate coating in batches. The batches would then be placed in blister packs in another continuous process. But things have changed—the tablet coating stage is now a continuous process as well. Klaus

N. Möller, Head of Sales & Service at Glatt in Binzen, Germany, says: "Over time, we have seen growing demand for continuous tablet coating to be integrated into production." Now that continuous processes have been introduced for wet granulation, fluid bed drying and granulation, as well as direct compaction, the company is seeking to close one of the last gaps in continuous production using Modcos—and that's the gap between tablet pressing and the blister pack machine. The technicians in Binzen have therefore upgraded their Modcos system and integrated a continuous coating system into the production process.

How to Find the Right Technology Partner?

Finding a suitable technology partner was admittedly no mean feat, as continuous coating processes are still few and far between and many of them are full of flaws. Möller explains that this is partly due to the fact that the systems are still in their early stages. One problem is the fact that rejects are produced during startup and shutdown which need to be disposed of—something pharmacists hate. The retention time for the tablets in the process can vary significantly. Backmixing during the process means that the tablet cores can inadvertently spend too much or too little time in the pan and are therefore coated unevenly. This can lead to unwanted variances in the required release profiles, particularly in the case of functional coatings. As Möller states: "We were specifically looking for a strategic partner that could help us to integrate a continuous coating process into the Modcos process chain." And, crucially, Glatt needed a partner whose system would resolve the issues mentioned above.

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KLAUS N. MÖLLER
GLATT

Source: Glatt

The Binzen team hit the jackpot in Eriskirch on Lake Constance, the location of system manufacturer Driam. The company has been working with all kinds of coating processes since 1951 and is now able to call itself a market leader in the development of special coaters with perforated and unperforated pans for the pharmaceutical and food industries. Several years ago, Driam drew on its experiences in the food-coating process to develop the Driaconti-T pharma, which has since become a firm fixture of pharmaceutical production.

Its star attraction is the fact that it can produce scheduled, continuous film coatings for tablets. The machine is designed as a single pass, perforated rotating drum. Partition walls divide the system into separate process chambers that each relate to one step in the film-coating process. These chambers divide each batch into mini batches. The mini batches are transferred from sector to sector via flaps that are activated at the same time in the partition walls—this turns the cylindrical pan into a spiral shape for one revolution and moves each mini batch into the next chamber simultaneously. The retention time in the individual sectors depends on the type of inserts used, the process structure, and the coating thickness, and can be configured as required. The tablets are sprayed and dried simultaneously while they are moving along the entire length of the pan. Different spray solutions can be assigned to the various chambers, and multiple layers of coating film can be applied in one go.

"Our machine combines all the advantages of continuous manufacturing and batch production with a whole host of options for changing the recipes," explains Dr. Matthias Kruse, Sales Director at Driam. The fact that the tablets are divided into mini batches and moved from chamber to chamber in a controlled manner eliminates the problem of backmixing. This means that, like the Modcos system, the Driaconti-T pharma coater enables complete traceability. By providing full control over the movement of the tablets and the process in the individual chambers, the system ensures that the tablets are coated evenly. Furthermore, no rejects are produced during startup and shutdown. "We have learned that, thanks to the chamber concept, the coater is extremely flexible with regard to recipes and it enables a wide range of throughput rates." Kruse sees Driam's partnership with Glatt as a real win-win situation, with Glatt expanding its range of best-in-class continuous technology and customers benefiting from the extensive expertise of both companies. A global sales and service network means that customers will never be far away from their nearest representative.

Source: Paul Ehrenreich Blickpunkt Fotodesign

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DR. MATTHIAS KRUSE
DRIAM

PROCESS-Tip

- Glatt will be at **CPhI Worldwide + P-MEC** 2019 in 05.11. – 07.11.2019 in Frankfurt, Germany.