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Prexima and Croma, integrated technologies for Continuous Manufacturing.

When it comes to technologies for solid oral form production, IMA Active has chosen to start its way towards Continuous Manufacturing with the tablet coating process because it comes between two continuous processes already managed by IMA machines: tablet pressing and packaging. CROMA, the new continuous coating equipment, is sized to work downstream of a PREXIMA 300, IMA Active's tablet press for medium production output.

Modular by design. Modularity is the hallmark of the project. CROMA can be fitted with up to four coating modules, that can be connected either in series for higher weight gain or in parallel for higher throughput. Each module can be adjusted to work with different process parameters and can perform different processes. In case of in-line configuration, CROMA has the same flexibility of a medium-speed tablet press.

Truly continuous. CROMA is designed to work in a truly continuous mode and connected in-line with a PREXIMA 300 tablet press. The product flows continuously throughout the modules, with no steps. The breakthrough of CROMA lies in the product movement: both the design of the drum and the position of the mixing baffles provide motion to the minimum unit of product, thus keeping its flowing under control. Start and stop procedures are optimized to maximize Overall Equipment Effectiveness.

Towards Pharma 4.0. CROMA is developed addressing the Industry 4.0 topic. Fitted with highly innovative technologies for process monitoring and control, CROMA delivers coated tablets with specific consistent properties. Real-time monitoring employs a combination of process parameter trends, measurements by PAT tools, and sources of process analytical data that can facilitate decision making and follow-up action.

The presentation highlights how CROMA and PREXIMA 300 are sized to work within a Continuous Manufacturing line, showing all the possible architectures of the system. An integrated control system is required to make the whole process work according to a Quality by Design approach.