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Press release

Coperion and Coperion K-Tron at the Battery Show Europe 2021

Efficient Solutions for Continuous Battery Material Manufacturing

Stuttgart, November 2021 – At this year's Battery Show Europe (30 November – 2 December, Messe Stuttgart/Germany), Coperion and Coperion K-Tron will present efficient solutions for all aspects of continuous battery materials manufacturing at their booth 4-445 in hall 4. These solutions encompass the entire manufacturing process — from containment-secure bulk material handling to dustproof and highly accurate feeding through to extrusion of battery masses, or battery separator film manufacturing and solid-state electrolytes for solid-state batteries. The manufacturing process can be optimized using continuous extrusion. The Coperion ZSK twin screw extruder, together with high-accuracy Coperion K-Tron feeders, offers high reliability, long uptimes, and numerous characteristics that ensure high, reproducible end product quality. Moreover, greater material efficiency, as well as more cost-efficient and climate-friendly battery cell production, is achieved using continuous production as compared to conventional batch processing. Together with renowned partners from industry and research, Coperion is working together to shape the future of e-mobility.

Continuous Extrusion of Battery Masses to Increase Production Efficiency

When manufacturing battery masses, slurry homogeneity is of vital importance. The ZSK twin screw extruder is ideally suited for this manufacturing as it provides targeted dispersive mixing, thus breaking up solid agglomerates. The mixing and homogenization that follow produce a very homogeneous mass as a result. The ZSK extruder's interlocking, intermeshing twin screws generate a constantly high conveying efficiency and thus optimal self-cleaning in the process section, reducing the remaining material in the extruder and thus assuring more material-efficient

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production. Moreover, the twin screw extruder's modular construction enables the implementation of application-specific requirements: The process section is modularly constructed and can be individually, flexibly configured as needed. With regard to climate friendliness, continuous extrusion is persuasive as well: Solvent use can be reduced or replaced with non-toxic alternatives. Even energy use decreases thanks to shorter drying times so that production can be more environmentally friendly.

Containment-Secure Bulk Material Handling of Toxic Raw Materials

Coperion K-Tron's high-accuracy loss-in-weight feeders are exceptionally suited for highly precise, reliable feeding of even the most difficult flowing ingredients used in the manufacturing of electrode compounds and separator films. The K3-PH feeder series stands out with its modern sealing design that is optimally attuned to the high demands of battery applications. The Coperion K-Tron twin screw feeders are suited for use with numerous bulk materials, including abrasive, corrosive, and toxic products. Thanks to the latest weighing and control technologies, they achieve very high feeding accuracy. Optimal end product quality is thus achieved, and efficient use of expensive raw materials is ensured.

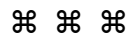
Along with feeding and extrusion, Coperion also realizes containment-secure solutions for pneumatic conveying of the necessary ingredients to manufacture battery materials. From supplying and storing partially toxic raw material in silos, sacks or containers, to feeding through to extrusion, Coperion offers a complete solution in which each step is synchronized with every other one.

Due to the often abrasive and partially corrosive properties of the raw materials being processed, Coperion makes its systems' product-contacting parts from material compounds with especially high wear and corrosion resistance, avoiding end product contamination from detached metal particles, over the long term, even when processing heavy-wearing raw materials. The result: optimal end product quality.

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About Coperion

Coperion is the international market and technology leader in compounding and extrusion systems, feeding and weighing technology, bulk materials handling systems and services. Coperion designs, develops, manufactures and maintains systems, machines and components for the plastics, chemicals, pharmaceutical, food and minerals industries. Within its two divisions – Polymer and Strategic Markets / Aftermarket Sales and Service – Coperion has 2,500 employees and nearly 30 sales and service companies worldwide. Coperion K-Tron is a brand of Coperion. For more information visit www.coperion.com or email info@coperion.com.



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<https://www.coperion.com/en/news-media/newsroom/>

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Continuous extrusion of battery masses using the ZSK twin screw extruder offers numerous advantages and enables increased production efficiency.

Photo: Coperion, Stuttgart Germany

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The Coperion K-Tron K3 feeder is ideally suited for precise, dust-proof raw material feeding into the process.

Photo: Coperion K-Tron, Niederlenz, Switzerland