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Press Release

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

From One Single Source: Continuous Manufacturing Process for an Optimized Overall Process

Stuttgart, June 2022 – At this year's Battery Show Europe (28-30 June 2022, Stuttgart), Coperion and Coperion K-Tron will present their system solutions for continuous battery materials production at Booth 10, C31 in Hall 10. The scope of these solutions encompasses the entire battery mass manufacturing process, battery separator film manufacturing, and solidstate electrolytes for solid-state batteries. Coperion offers solutions for every process step that meets the required containment levels from bulk material handling to precise feeding and extrusion.

Coperion's primary focus is on continuous battery mass manufacturing. Here, Coperion delivers complete systems from one single source, with which the process can be optimized. Together with high-accuracy Coperion K-Tron feeders, the Coperion ZSK twin screw extruder provides a stable process, high as well as reproducible end product quality. With the machine's higher degree of automation, more cost-efficient battery cell production compared to conventional batch processes is possible.

Twin Screw Extruder for High Product Quality

The Coperion ZSK twin screw extruder is a high-capacity extruder that excels above all in its superior mixing performance for manufacturing homogeneous electrode masses. The ZSK offers further advantages that optimize the manufacturing process such as the extruder's interlocking, intermeshing twin screws that create a constantly high conveying efficiency and optimal self-cleaning process section. This reduces the remaining material in the extruder and



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allows more material to the production line. Furthermore, the process section's modular construction enables flexible and individual modification for various recipes and changes within the process, such as the reduction or substitution of toxic solvents.

Reliable Feeding for High Recipe Precision

For precise adherence to recipes and thus high product quality, using the proper feeder is an essential aspect of the overall process. Coperion K-Tron's loss-in-weight screw and liquid feeders are ideally suited for manufacturing electrode compounds and separator films, offering high accuracy, tremendous reliability, and flexibility — even when feeding ingredients with poor flow properties or even abrasive, corrosive or toxic ingredients used in manufacturing. These feeders stand out with their modern sealing design that is optimally attuned to the high demands of battery applications. 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.

Entire System Concepts

Coperion realizes entire installations for battery mass manufacturing from raw material handling and conveying to feeding and extrusion — all from one single source. In so doing, a containment concept for the entire system is developed, planned and implemented. At every step, from raw material to slurry handling, production takes place under correspondingly safe conditions. Among these, for example, are aspiration concepts or dust-tight component design. Many years of expertise in bulk solids technology, feeding and extrusion, as well as plant engineering (planning, manufacturing, assembly and commissioning), enable Coperion to deliver systems that are optimal, technically advanced, environmentally friendly and safetyfocused, even for hard-to-handle bulk materials. Containment, ATEX and cleanability requirements are always taken into account when planning the system's design.



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About Coperion

Coperion (<u>www.coperion.com</u>) is the global market and technology leader in compounding systems, feed systems, bulk goods systems, and services. Coperion develops, produces, and services plants, machinery, and components for the plastics, chemical, pharmaceutical, food, and minerals industries. Coperion employs 2,500 people worldwide in its two divisions: Polymer and Strategic Markets and Aftermarket Sales and Service, as well as its 30 sales and service companies. Coperion K-Tron is a Coperion brand.

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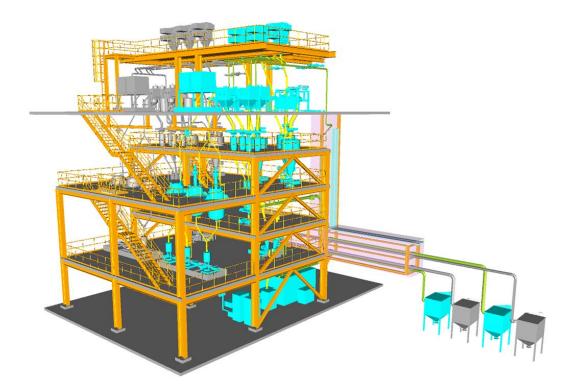
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Coperion offers entire installations for continuous battery mass manufacturing — from bulk material handling to feeding up to extrusion — all from one single source.

Photo: Coperion, Weingarten Germany