TELSONIC
ULTRASONICS

Homogenous powder for battery production

Ultrasonic screens for battery powder with technology from Telsonic

PLASTIC WELDING | METAL WELDING | CUTTING | CLEANING | SCREENING


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The shift towards e-mobility is presenting an enormous challenge for battery production too. And so production processes in the future not only need to be significantly more cost-effective, they also need to be much faster. With reliable process technology for ultrasonic screening, the SONOCREEN® Plus system from Swiss ultrasonics pioneer Telsonic ensures homogeneous powder consistency and a consistent powder quality, thereby meeting essential requirements for the production of battery electrodes. Battery production, then, is on the right course from the very beginning.

"With ultrasonic screening, our long-standing expertise comes into play right from the start of battery production, reports Rolf Frei, Screen Sales at Telsonic AG. Using reliable process technologies for ultrasonic screening, supported by long-standing experience in this sector, the Swiss company is setting the benchmark in the market here, as clients are confirming. The method ensures homogenous powder consistency and consistent powder quality – important prerequisites for the production of battery electrodes. The SONOSCREEN® Plus resonance screening system ensures, through screens excited by ultrasonics, consistent and homogenous results with the carbon for the anode and the lithium metal oxide for the cathode.

Powder needs to be consistent

When an electrode foil is manufactured, a paste is generated from active material, soot, binder, solvent and additives. This paste is applied to a copper substrate foil for the anode and to an aluminium foil for the cathode. The coating can then be applied continuously or discontinuously, and also as a pattern. A homogenous powder consistency is crucial to paste production each and every time. This is the only way of guaranteeing the most homogenous distribution of the components onto the foil for electrode production.


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01 The SONOSCREEN® Plus system from Telsonic uses reliable process technology for ultrasonic screening to ensure homogeneous powder consistency and a consistent powder quality.

02 Homogenous powder without oversized, undersized or out-sized particles is crucial to electrode production.

03 With the SONOSCREEN® Plus system from Telsonic, screens with precisely defined mesh sizes ensure a uniform particle size each and every time.

With the SONOSCREEN® Plus system from Telsonic, double decker screens – as they are known – use precisely defined mesh sizes to fraction the battery powder to ensure the particle size is always uniform. Oversized and undersized particles are reliably separated and this drastically reduces the amount of incorrectly sized particles. All this is done with alternating frequencies at an unbelievable speed.

Controlled and efficient screening

At the start of the screening process, SONOSCREEN® Plus scans the screen system according to the three optimum resonance points. This is a gentle material screening process with low cleaning effort and and ensures optimised energy efficiency. Since conditions change continually during screening as a function of the weight or temperature of the material being screened, Sonoscreen® Plus monitors these optimal operating points in alternation and automatically adjusts the screening system. Optimising the movement of the fabric in this way boosts throughput during screening tremendously. “Multi-fold increases over conventional screen cleaning systems are not uncommon”, says Frei, describing his clients’ experiences.

Because the screen fabric is continuously cleaned by the ultrasonic excitation at the same time, the mesh openings are not clogged by so-called clogging particles. The desired homogenous powder, which manufacturers need for battery production, is therefore generated continuously and quickly.

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