RUSSELL FINEX

Global Sieving & Filtration Specialists

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Russell Finex provides innovative screening equipment for a leading, global powder coatings manufacturer based in China

Russell Vibrasonic® Deblinding System and Finex Separator™ improves the screening efficiency of powder coatings

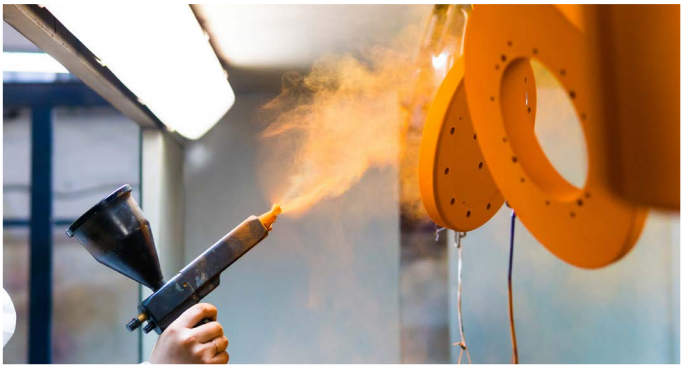
After years of adjustment, the Chinese industrial coatings industry now looks to be expanding. Increasingly strict environmental protection policies and the enhancement of national environmental protection awareness has meant that there is now an increased market demand for environmentally friendly and energy-saving coatings.

However, because of strict environmental requirements, coatings manufacturers are facing increased raw material, labor, and processing efficiency costs. The coatings production process is one that needs to be optimized to meet the increasing demand in this industry to maintain profitability and growth.

Each of these factors – the rapid expansion of the industry, the increasing demand for the environmentally friendly coatings, and the need for the powder coatings production process to be optimized – meant that an efficient and innovative manufacturing solution was required by one leading coatings company to solve these issues.

What is involved in the powder coatings process?

The powder coatings process involves several steps, taking the raw materials through various stages to form a 'plastic' mix. This is then cooled and broken down into plastic chips before being micronized and passed through a cyclone classifier to separate the large and fine particles. Finally, the fine powder is screened to remove extraneous contaminants and oversize powder caused by material that has polymerized during the upstream processes. Screening the powders at this stage ensures that only powder of the correct particle size is passed through to the filling line.



However, one major problem faced by powder coatings screening is mesh blinding. The super fine powder can block the mesh screen and reduce its efficiency, an issue faced by traditional separators. Some manufacturers add nylon tapping balls or discs to increase the powder screening efficiency. However, these systems can damage the mesh and contaminate the powder coatings as they wear, compromising the quality of the final quality.

With the recent changes in the market, the batch size of powder coatings is decreasing, which leads to an increased need to stop the sieving machine and change the mesh. It takes a lot of time to clean the equipment, resulting in a sharp increase in production downtime, cost, and loss of good product.

Providing an innovative solution to solve powder coatings problems

To combat this prevalent issue of mesh blinding and to decrease production downtime spent cleaning the mesh between batches, the Finex Separator™ and Russell Vibrasonic® Deblinding System were acquired and used in this global coatings manufacturer's Chinese production plants. The installation of these innovative machines before the filling line improved its production efficiencies, where traditionally, rotary screens and "off-line" vibrating screens were used, producing limited results in terms of throughput and product yield.

"Our plant has used Russell Finex vibratory screening equipment for a long time. As one of the most powerful vibrating screens on the market, the Finex Separator is our best choice for different batches of powder coatings."

Plant Manager - leading coatings company

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Also, by transmitting an ultrasonic frequency onto the mesh screen surface, the Russell Vibrasonic® Deblinding System breaks down surface tension preventing mesh blockages caused by the powder. This not only improves screening efficiency, but also protects the consistency and quality of the end product. This ultrasonic screener helps reduce downtime, loss of fine powder, and the cost of replacing the screen, which greatly improves production efficiency.

"This industrial grading sieve not only has a large capacity and is convenient and flexible to use, but is easy to operate when screening different batches of powder coatings and cleaning for color changes can be done without any tools."

Production Manager - leading coatings company

The Finex Separator™ is designed for accurate grading, scalping or sizing of wet and dry materials up to five fractions in one operation. It benefits from major advances in separation technology providing large improvements in sieving accuracy, capacity, noise levels and upgradeability compared with traditional spring suspension separators. Without any tools, it is easy to disassemble and clean, and can be easily moved.

Combined with the Russell Vibrasonic® Deblinding System, the screening particle size can be down to 20 microns. To help Chinese powder coatings manufacturers survive in this growing competitive industry, Russell Finex's professional screening equipment and innovative technology not only ensures product quality, but improves production capacity and reduces costs to ensure the maximum profits of manufacturers.

About Russell Finex

Established in 1934, Russell Finex has enjoyed 85 steady years of successful growth to become an international group. As a worldwide leader in fine mesh separation technology, designing and manufacturing vibratory sieves, separators, ultrasonic mesh deblinding systems and liquid filters for use throughout the processing industries, our equipment is engineered for a global market and is supplied to over 140 countries.

We have companies in the UK, USA, Belgium, India and China, as well as a far-reaching network of experienced agents and distributors across the world.

Contact Russell Finex today to find out how its range of sieves, separators, and filtration equipment can best meet your requirements.

Figure 1. The Finex Separator™ installed at this leading coatings company's plant in China.

Advantages of the Finex Separator™:

- **Increases capacity -** Ultrasonic vibrating screens can improve sieving capacities by up to 10 times
- **Reduces production downtime -** Prevents screen overload and requires a lower frequency of mesh cleaning
- **Lowers running costs -** Reduces mesh damage and the need for repairs and replacement mesh

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