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Dosing System for an E Coating Line ST-EC-DS

The material dosing system plays a critical role in the electrophoretic coating process of an E coating line, with its importance mainly reflected in the following aspects:

1. Ensuring Stable Bath Parameters

Key parameters of the electrophoretic bath—such as solid content, pigment-to-binder ratio, pH value, and conductivity—directly affect coating quality. The dosing system replenishes coating materials, solvents, and neutralizing agents in real time according to production consumption, ensuring that bath composition remains within process requirements. This prevents issues such as uneven film thickness, reduced adhesion, pinholes, and cratering caused by parameter fluctuations.

2. Improving Production Efficiency and Consistency

An automatic dosing system precisely controls both dosing volume and speed, significantly reducing human error. Compared with manual dosing, automated dosing ensures timely and uniform material replenishment, stabilizing the electrophoresis process. As a result, production efficiency is improved, coating quality remains consistent across batches, and the defect rate is reduced.

3. Extending Bath Service Life

A well-designed dosing strategy helps maintain the chemical balance of the bath, reducing impurity accumulation and resin degradation. By regularly replenishing fresh coating material and adjusting bath composition, bath aging can be delayed, extending its service life and reducing the frequency and cost of bath replacement.

4. Optimizing Resource Utilization and Cost Control

The dosing system accurately adds materials based on actual production demand, avoiding over-dosing and material waste. When used in conjunction with an ultrafiltration system, electrophoretic paint can be effectively recovered and reused, further reducing raw material consumption and achieving efficient resource utilization and lower operating costs.

5. Ensuring Safe Production and Environmental Compliance

An automatic dosing system minimizes direct operator contact with chemicals, reducing safety risks. In addition, precise dosing control helps reduce wastewater and sludge generation, meeting environmental protection requirements and supporting sustainable

manufacturing.

In summary, the dosing system is a key component for the stable operation of an E coating line, directly influencing coating quality and production efficiency. Its proper design, integration, and maintenance are essential. ShengTai Painting Equipment provides advanced E coating equipment solutions with reliable dosing systems, helping manufacturers achieve stable processes, high–quality coatings, and cost–effective, environmentally friendly production.

Please provide detailed information so that we can provide you with a more accurate solution:

1. What are the Maxminum and Minimum dimensions of your workpieces (L × W × H)?
2. What is the maximum weight of each workpiece? If available, please also provide product photos.
3. How many workpieces do you plan to coat per day (based on 8 or 16 working hours) or per month?

4. Which heating source do you prefer, such as electric power, diesel, fuel oil, or natural gas?
5. What are the dimensions of your workshop (L × W × H)? If possible, could you share a layout or drawing of the facility?
6. Prior to coating, do you require spray pre–treatment to prepare and clean the product surface?
7. What voltage and frequency standards are used in your country?

Please also share your WhatsApp or another instant messaging contact so we can communicate more efficiently.

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