Ji'nan ShengTai Painting Equipment Co.,Ltd.
Address: East of the intersection of Dongwaihuan Road and Wenhua Road in Wenden, Diaozhen Street, Zhangqiu District, Jinan City,Shandong Province
Email: sales@stpowdercoating.com WhatsApp:+8615854139190

Electrophoretic Coating Tank ST-EC-CT

The electrophoresis tank, also known as the electrophoretic deposition tank, is one of the most critical pieces of equipment in an E coating line. It is used to store the electrophoretic paint bath, where coated workpieces undergo the E Coating process to achieve uniform paint deposition.

The electrophoresis tank consists of a main tank and auxiliary tanks.
The tank solution overflows from the main tank into the auxiliary tank through overflow ports, which helps eliminate bubbles generated during the E Coating process and ensures stable coating quality. The circulation and agitation system of the electrophoresis tank is composed of circulation magnetic pumps, circulation pipelines, stainless steel filters, Venturi nozzles, and other components. The circulation nozzles spray the tank solution to create continuous agitation, maintaining uniform paint concentration in the tank and preventing sedimentation or agglomeration of the coating materials.

The Importance of the Electrophoresis Tank in an E Coating Line The electrophoresis tank plays a decisive role in the E Coating process, mainly reflected in the following aspects:

Providing a Stable Electric Field Environment
The electrophoresis tank is the core vessel for generating the electric field. By connecting to a power supply, it provides directional electric force for charged particles (such as coating particles) to migrate toward the workpiece surface. The strength and direction of the electric field are controlled by electrode arrangement and power parameters, ensuring precise deposition during the E Coating process.

Containing the Electrophoretic Medium and Solution
The tank holds the electrophoretic paint solution and related media, which provide both physical support and a stable chemical environment for particle migration. Proper control of pH value and ionic strength ensures coating stability and prevents degradation, enabling consistent and high-quality coating results throughout the E coating line.
Ensuring Process Stability

The size, shape, and material of the electrophoresis tank directly affect process stability. A well–designed tank structure minimizes dead zones, sedimentation, and bubble formation, while ensuring uniform circulation and stable temperature. This stability improves coating uniformity, deposition efficiency, and overall reliability of the E Coating process.

Enabling Workpiece Coating and Paint Recovery

In an E coating line, the electrophoresis tank is where workpieces complete electrophoretic deposition, ensuring even coating coverage on complex surfaces. In combination with circulation and filtration systems, the tank supports paint purification, recovery, and replenishment, significantly reducing paint loss and operating costs.

Ensuring Safety and Operational Convenience

Electrophoresis tanks are typically equipped with safety features such as overcurrent protection and leakage alarms to prevent electrical failures or chemical spills. Transparent materials or inspection windows allow real–time monitoring of the E Coating process, enabling operators to adjust parameters or address abnormalities promptly.

Conclusion In summary, the electrophoresis tank is the core carrier of the E Coating process. Its performance and structural design directly determine coating quality, production efficiency, and process reliability, making it an indispensable key component for both industrial–scale E coating lines and advanced surface finishing applications.

Advantages of ShengTai Electrophoresis Tanks

- ShengTai electrophoresis tanks are fabricated from standard A–grade PP panels using precision welding. They offer excellent toughness, strong acid and alkali resistance, and smooth surfaces. Seamless PP welding ensures durability, resistance to deformation, prevention of weld separation, and complete leak–proof performance. The tanks can withstand temperatures up to 80 °C.
- The tank structure is designed according to standard mechanical principles based on tank size, with reinforced square tubing and anti–corrosion tank cladding, effectively

eliminating potential safety risks.

- Each tank is precisely designed according to workpiece dimensions, maximizing space utilization and significantly reducing production and operating costs. With a premium design philosophy, ShengTai electrophoresis tanks achieve performance levels comparable to similar international products.

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.

Website: https://www.stpowdercoating.com

Address: East of the intersection of Dongwaihuan Road and Wenhua Road in Wenden Village, Diaozhen Street, Zhangqiu District, Jinan, ShanDong, China, 250000
WhatsApp: +86–15854139190
WeChat/Telegram: +86–15098917702
Email: sales@stpowdercoating.com