Ji'nan ShengTai Painting Equipment Co.,Ltd.
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E-coating Line Spray pretreatment ST-EC-SP

Advantages of spray pre-treatment include:

1. High processing speed:

Through high-pressure spraying, the treatment liquid is atomized and quickly contacts the workpiece surface, enabling fast chemical reactions. Compared with immersion processes, spray pre-treatment significantly shortens processing time and improves overall productivity of the E coating line.

2. Strong mechanical cleaning action:

The impact force generated during spraying provides effective mechanical scrubbing, helping to remove oil, dust, rust, and other contaminants. Even stubborn deposits can be efficiently stripped away, resulting in a higher level of surface cleanliness and better preparation for Electrophoresis coating.

3. Continuous solution renewal:

The spray system continuously circulates fresh treatment liquid, ensuring the workpiece surface always contacts active chemicals. This prevents quality issues caused by local depletion or contamination of the solution and helps maintain stable, consistent

pre–treatment results.

4. Compact equipment layout:

Unlike dip tank systems that require large immersion tanks, spray pre–treatment equipment has a more compact structure. This reduces floor space requirements, lowers workshop construction costs, and improves space utilization—an important advantage for modern automated E coating lines.

5. Wide applicability:

For regularly shaped and relatively flat workpieces, spray pre–treatment provides uniform surface coverage and thorough treatment. Before Electrophoresis coating, it creates an ideal surface condition that enhances paint adhesion and coating durability.

6. Easy control and adjustment:

By adjusting spray pressure, treatment time, and chemical concentration, the process can be flexibly optimized to meet the requirements of different workpieces and diverse production needs.

In practical applications, the appropriate pre–treatment method should be selected based on workpiece characteristics and production requirements. As a professional supplier of complete E coating line solutions, ShengTai Painting Equipment provides advanced spray pre–treatment systems that seamlessly integrate with Electrophoresis coating processes, helping manufacturers achieve higher efficiency, stable quality, and long–term production reliability.

No	Process Section	Process Name	Method	Time(min)	Temperature	Medium/Equipment /Remarks
1	Loading & Unloading	Loading	Manual	—	RT	Manual operation
2	Pretreatment	Hot Water Washing	Spray	1	50–60°	Natural gas heating
3	Pretreatment	Pre–Degreasing	Spray	1	45–55°	Natural gas heating

4	Pretreatment	Main Degreasing	Spray	2	45–55°	Natural gas heating
5	Pretreatment	Water Rinse 1	Spray	0.8	RT	Tap water
6	Pretreatment	Water Rinse 2	Spray	0.8	RT	Tap water
7	Pretreatment	Ceramic Conversion Coating	Spray	2	RT	—
8	Pretreatment	Water Rinse 3	Spray	0.8	RT	Tap water
9	Pretreatment	Pure Water Rinse 1	Spray	0.8	RT	Pure water system
10	E–Coat System	Cathodic E–Coating	Immersion	3	25–35°	Chiller & heater unit
11	E–Coat System	UF0 Spray Rinse	Spray	0.1	RT	Return to E–coating tank
12	E–Coat System	UF1 Spray Rinse	Spray	0.8	RT	Overflow to E–coating tank
13	E–Coat System	UF2 Spray Rinse	Spray	0.8	RT	Overflow to UF1, fresh UF added
14	Post–Treatment	Pure Water Rinse 2	Spray	0.8	RT	—

15	Post–Treatment	Dripping	—	5.0	RT	—
16	Drying & Cooling	E–Coat Paint Curing Oven	Hot air circulation	25.0	170°–190°	Direct natural gas firing
17	Drying & Cooling	Coolling	—	25.0	RT	—
18	Loading & Unloading	Unloading	Manual	—	RT	Manual operation

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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