



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

Robotic Painting Line ST-PR5250

I. Application Descriptions and Scheme

1. Zero Operation Barrier Ordinary workers can operate the system after just 5 minutes of training—no need to hire highly paid professional engineers. Labor costs can be reduced by up to 50%.
2. Lower Costs Equipment investment is 30% lower than traditional six-axis robots, and the labor cost savings within one year can fully offset the initial equipment investment.
3. High Efficiency & Flexibility Supports non-standard customization and adapts to complex curved workpieces in industries such as automotive, 3C electronics, and sanitary ceramics. Spraying efficiency can be increased by up to 3 times.
4. Cloud-Based Intelligent Management A remote programming platform supports offline simulation and debugging, real-time equipment monitoring, and industry-leading fault warning response speeds.

Application Scenarios

1. Automotive Manufacturing

Car body painting and headlight sealing applications, accurately replicating manual spraying paths to solve coverage challenges on complex curved surfaces.

2. Sanitary Ceramics

High-gloss spraying for irregular products such as toilets and wash basins. With over 70% market adoption, it replaces manual operations in hazardous environments.

3. Furniture & Wood Finishing

Spraying for cabinets, wooden doors, and panel furniture. Multi-angle coverage is achieved through flipping mechanisms, improving efficiency by 50%.

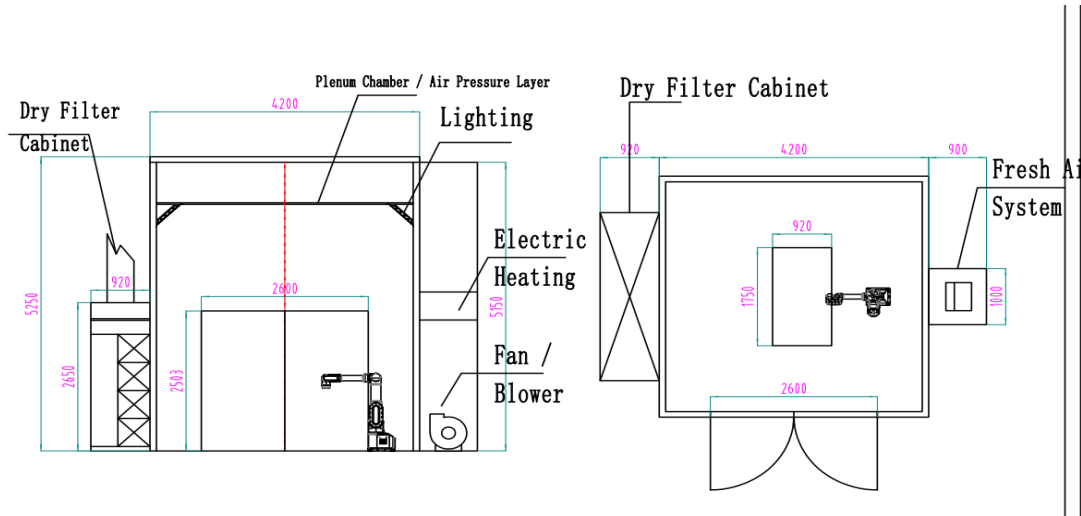
4. 3C Electronics

Flexible production for mobile phone housings and home appliance panels, supporting fast program switching for small-batch orders.

- Description



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



II. Parameters

No.	Equipment Name	Electricity (kW)	Water (t/day)	Compressed Air (m ³ /min)
1	Spray Booth	3		
2	Spraying Robot	8		
3	Spray Booth Air Supply Unit	185.2		
4	Spraying System			8
5	Paint Supply System			8
6	Control System			
7	Total (subject to detailed design)	196.2		16



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



Detailed Item List

No.	Equipment Name	Model	Qty	Manufacturer	Notes
1	Spray Booth		1 set	Shengtai	Dry type
	Booth Body		1 set		5.2m x 4.2m x 5.2m
	Spraying Robot	Kawasaki KF264	1 set		



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

	Air Supply/Exhaust		1 set		
	Electric Door		1 set		
	Combustible Gas Alarm System		1 set		
	Gas Concentration Sensors		4 sets		
	Booth Lighting		1 set		
	Heating Unit		1 set		
	Temperature Control System		1 set		
2	Paint Supply & Spraying System		1 set	GRACO	
	High-Pressure Spraying Pump		1 set		
	Automatic Air-Mix Spray Gun		1 unit		
	Two-Component Auto Ratio System		1 set		
	Paint Supply Drum	40L	1 unit		
	Agitator	DSV	1 unit		
	Filter		1 set		



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

	High-Pressure Color Change Valve		1 set		
	High-Pressure Pressure Regulator		1 set		
	Piping Accessories		1 set		
3	Control System		1 set	Siemens	
	Code Input System		1 set		
	Computer Operating System		1 set		
	PLC System		1 set	Siemens	
	Data Transmission System		1 set		
4	Auxiliary Facilities		1 set	YL	
	Paint Mixing Room		1 set		

III. System Operation Description

- The complete spraying line is equipped with a conveyor line, spraying robot, spraying system, paint supply system, booth bodies, air supply/exhaust systems, and exhaust gas treatment system.
- The booth floor is a grating structure. The walls are assembled in sections with square tube welded frame construction. Wall panels are 100mm fire-retardant composite insulated boards, with inner and outer layers of color-coated steel plate ($\geq 0.6\text{mm}$) or hot-dip galvanized steel sheet, and the interior filled with flame-resistant rock wool insulation (density 100 kg/m^3). The booth steel structure must undergo stress analysis to meet production safety requirements.



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

- Explosion-proof glass observation windows are installed above 1 meter on the spray booth walls.
- The spray booth is a dry-type booth with temperature regulation capability to maintain consistent temperatures across seasons. Equipped with an air supply unit using top-inlet and bottom-exhaust airflow. Explosion-proof lighting fixtures are used, with illuminance no less than 750 Lux, uniformly distributed.
- Combustible gas concentration alarms are installed in the spray booth and drying oven.
- A centralized paint supply system with dedicated paint mixing room is provided.
- The paint supply system uses Graco spraying pumps, pressure regulators, spray guns, and other imported equipment to ensure spraying quality and reliable operation.
- Electrical components use imported or domestically renowned brands. PLC is Siemens brand. All switches and buttons must have Chinese labels; all wiring must be numbered. Electrical equipment inside the spray booth must be explosion-proof and certified. Non-explosion-proof electrical components must be treated for explosion isolation.
- The equipment is equipped with audible and visual safety warnings. Electrical, mechanical, and other components have moisture-proof, high-temperature-resistant, and dust-proof measures. Cables and water pipes are protected against high-temperature aging. Electrical protection rating no less than IP54. Motor insulation class no less than Class F.
- The control system manages and monitors all equipment on the coating line, triggers alarms during faults, and provides production information (process data, output data, etc.) for intelligent digital management.
- The computer operating system is interlocked with the conveyor line, booth air supply/exhaust signals, spray booth and oven electric door signals, and other auxiliary equipment. The operating status of auxiliary equipment is displayed on the HMI interface.
- The entire system communicates via fieldbus, equipped with a monitoring system supporting interlock control, real-time monitoring, and fault alarm functions. A reserved MES communication interface is provided.



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

IV. Contact us

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@stp powdercoating.com



SHENGTAI