

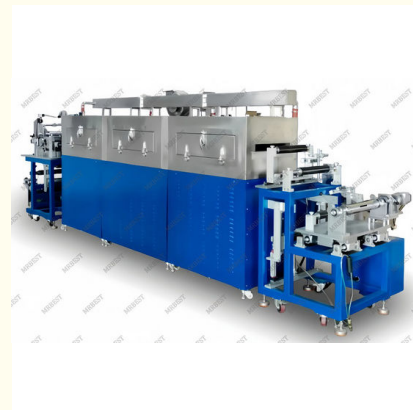
CE Certificated PLC Battery Coating Machine Roll To Roll Transfer Coating System

Our Product Introduction

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Basic Information

- Place of Origin: China
- Brand Name: MRBEST
- Certification: CE
- Model Number: MR-SY300-3J
- Minimum Order Quantity: 1 Set
- Price: Negotiable
- Packaging Details: Standard Export Wooden Packing
- Delivery Time: 7-20 working days
- Payment Terms: T/T, Western Union, MoneyGram
- Supply Ability: 500 sets per month



Product Specification

- Name: Roll To Roll Transfer Coating System With Drying Oven
- Coating Method: 3 Rollers Transfer Coating
- Roller Width: 330mm (280mm Effective)
- Heating Temperature: RT~150
- Drying Chamber Qty: 3 Sections (1m/section)
- Operating Substrate Thickness: Aluminum Foil(Al): 8-30um; Copper Foil(Cu): 8-30um
- Coating Speed: $\leq 2\text{m/min}$
- Suitable Slurry Viscosity: 2000-12000 Cps
- Highlight: **CE Battery Coating Machine, PLC Battery Coating Machine**

Product Description

Roll To Roll Transfer Coating System With Drying Oven For Battery Electrodes



Model:MR-SY300-3J

Transfer interval coating machine, the coating thickness is easy to adjust, more accuracy, easy to operate. it can do both continuous coating and interval coating.

Features

- *Substrate tension control, stable tape travel, equipped with deviation correction device;
- *Hot-air oven, upper and lower double-sided blowing, high-quality drying effect;
- *Three-roll transfer coating, with a wider coating window;
- *Comma squeegee measurement, with precision adjustment mechanism, to obtain high coating precision;
- *PLC control, touch screen operation, convenient and easy to use;
- *Optional solvent recovery processing device;

Technical Parameters and Main Configuration of Machine

Main Configuration

NO.	Name	Place of Origin
1	Air switch	Chint / Delixi (Domestic)
2	PLC	OMRON
3	Touch screen	Weinview
4	Modular	OMRON
5	Intermediate relay	Schneider
6	Servo motor	Mitsubishi
7	Planetary reducer	Feng Hua (Taiwan)
8	Circuit breaker	Delixi (Domestic)
9	AC contactor	Delixi (domestic)
10	Solid state relay	FOTEK (Taiwan)
11	Thermostat	Yatai (Domestic)
12	Automatic deviation correction	Ultrasonic
13	Full automatic tension	Variable frequency tension
14	Optical fiber electric eye	KEYENCE (Japan)
15	Push cylinder	Yadeke / Qilico
16	Deep groove ball bearing (Machine head)	NSK/NTN
17	Coating roller	Hard chromium plating
18	Back roller	Imported EPDM
19	Scraper	Hard chromium plating
20	Guide roller	Anodizing of aluminum alloy surface
21	Frequency converter	Yingweiteng
22	Fan	Xin fan

Technical Parameters

NO.	Project	Technical Parameter	Remarks
1	Apply	It is applicable to the coating process of positive and negative electrode of LiFePO_4 , LiCoO_2 , LiMn_2O_4 and other type batteries	
2	Operating substrate thickness	Aluminum foil(Al): 8-30um; Copper foil(Cu): 8-30um	
3	Design width of roll surface	330 mm	
4	Guaranteed coating width	100-300mm	
5	Coating Roller, Rubber Roller	$\Phi 120\text{mm}$	
6	Scraper Roller	$\Phi 80\text{mm}$	
7	Mechanical running speed	7m/min	
8	Coating speed	$\leq 2\text{m/min}$	It depends on the drying condition
9	Suitable slurry viscosity	2000-12000 cps	
10	Single side coating dry thickness range	20-200 μm	
11	Minimum intermittent length	$\geq 5\text{mm}$	Related to slurry characteristics
12	Minimum coating length of multiple sections	$\geq 20\text{mm}$	Related to slurry characteristics
13	Solvent properties	Oily solvent NMP(s.g=1.033,b.p=204)	
		Aqueous solvent H ₂ O/NMP(s.g=1.000,b.p=100)	
14	Suitable solid content	Positive S.C. 60% \pm 20%	
		Negative S.C. 50% \pm 10% (PVDF system) S.C. 50% \pm 5% (SBR system)	
15	Single side coating dry thickness error	Within $\pm 3\mu\text{m}$	
16	Coating method	Double layer front and back 3-stage unequal distance intermittent transfer coating / second side automatic tracking / continuous transfer coating	
17	Substrate running direction	Forward coating, substrate forward and reverse empty foil operation	
18	Overall dimensions	L8.5*W1.5*H2.3m	

Structure Introduction of Each Part

Integral Unwinding, Head Mechanism

NO.	Project	Technical Parameter	Remarks
1	Roller mounting structure	Rack installation mode	
2	Roller surface treatment	Surface oxidation of metal aluminum roller	
3	Tension control system	Closed loop automatic control, constant tension, tension range 0-50N	
4	Deviation correction method	Automatic EPC control, stroke 50mm	
5	Coiling mode	The material roll is fixed by 3-inch air expansion shaft	
		Unwinding single shaft support	
6	Substrate running direction	Forward and reverse	
7	Substrate running speed	5m/min	
8	Maximum unwinding diameter	$\Phi 280\text{mm}$	
9	Maximum bearing capacity of inflatable shaft	80Kg	
10	Number of unwinding inflatable shafts	Article 1	
11	Main drive motor	Servo motor	
12	Intermittent push	Servo drive	
13	Roller surface treatment	Surface oxidation of metal aluminum roller, circular runout $\leq 30\mu\text{m}$	
14	Scraper structure	Double sided comma scraper, diameter $\Phi 80\text{mm}$	
15	Scraper angle rotation control	Handle rotation	
16	Coating roller (Steel roller)	The surface is plated with hard chromium, with a diameter of $\Phi 120\text{mm}$	
17	Back roller (Rubber roller)	$\Phi 120\text{mm}$ in diameter, imported EPDM for surface bread	
18	Trough mixing	The rodless cylinder moves in a straight line and the speed is adjustable	

19	Intermittent height adjustment of scraper	Manual adjustment	
20	Stand alone head position	Installation and operation before drying channel	

Drying Channel

NO.	Project	Technical Parameter	Remarks
1	Oven structure	Double layer independent heating, arranged up and down	
2	Oven length	1m/ Section, total 3 sections, 3-stage temperature independent control	
3	Material	SUS304 stainless steel	
4	Driving mode of oven guide roller	Passive idler drive	
5	Temperature control	It is divided into protection control of normal working temperature control and overtemperature monitoring alarm. In case of overtemperature, audible and visual alarm will appear and the main heating power supply will be cut off; Each section is completely controlled independently.	
6	Heating way	Electric heating, hot air circulation structure	
7	Heating power of single section oven	6KW/1m	
8	Temperature in drying channel	Design Max 150 , temperature difference in single section oven ≤ 5	
9	Box surface temperature during operation	≤ 45	
10	Blowing mode	Upper and lower air blowing, and the upper and lower air volume are controlled respectively through valves; The upper and lower air chambers share the heating body	
11	Exhaust volume control of each section	Air volume of circulating fan 3000m ³ /h (single section) Exhaust air volume 4000m ³ /h	
12	Air nozzle structure	The blowing direction is 30° from the horizontal, and the air nozzle slot is slotted with a special die	
13	Heating control	Solid state relay	
14	Fan material	SUS304 stainless steel	
15	Solvent recovery system	Optional	

Winding Mechanism:

The function is the same as that of unwinding, with the following additions:

NO.	Project	Technical Parameter	Remarks
1	Tension	One set is installed in front of the traction roller, with closed-loop automatic control, constant tension, tension range of 0 ~ 50N, servo control.	
2	Installation structure	Square frame welding	
3	Number of windup inflatable shafts	Article 1	Single arm winding

Control System

NO.	Project	Technical Parameter	Remarks
1	Main control system	Touch screen, PLC, module, servo system	
2	Operation mode	Manual, automatic and emergency stop; The whole machine can be operated before and after.	
3	Setting range of coating and intermittent length	Coating length: 20.0-3200.0mm Intermittent length: 5.0-3200.0mm	
4	Alarm condition	In case of equipment failure, the touch screen will display the corresponding correction screen	
5	Counting function	Production quantity / length	
6	Head and tail thickness adjustment mode	The speed ratio of steel roller and rubber roller is controlled by program	

Dimensions and weight of Coating Equipment:

Dimension: L6000*W1200*H1800mm

Weight: about 2T

Machine Accuracy

Hardware Accuracy

NO.	Project	Technical Parameter	Remarks
1	Scraper	Circular jump $\leq 1.5\mu\text{m}$, Ra0 4, Straightness $\leq 1.5\mu\text{m}$	
2	Coating roller (Steel roller)	Circular runout $\leq 1.5\mu\text{m}$, Ra0 4, Straightness $\leq 1.5\mu\text{m}$	
3	Rubber roller	Circular runout $\leq 10\mu\text{m}$, straightness $\leq 10\mu\text{m}$	
4	Deviation correction	$\pm 0.5\text{mm}$	
5	Tool adjustment control repetition accuracy	$\pm 0.1\mu\text{m}$	
6	Temperature control accuracy	± 2	

Installation Environment Requirements

- 1) The ambient temperature of the machine head is 25~30°C, and the rest is 10~40°C;
- 2) The relative humidity of the machine head is $\text{RH} \leq 35\%$, the negative electrode $\text{RH} \leq 98\%$, and the rest $\leq 98\%$;

Supporting facilities

- 1) Power supply: 3-phase 380V, 50HZ, voltage fluctuation range: +8%~-8%; total power supply starting power 30KW;
- 2) Compressed air: after drying, filtering and stabilizing: the outlet pressure is more than 5.0kg/cm²;



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