

Annex to the contract 合同附件

High Speed Coating Machine for Garments Sequin Model

TB-1500 (Single Unwind and Rewind, Electric Heating)

TB-1500 珠片高速涂布机（单放单收、电加热）

1. Application 用途



pic only for reference

This machine is suitable for various Coating task of PET Sheet etc roll material, with well-adapted gravure ANILOX roller direct quantify coating head system, coating weight 1-8g/m², suitable viscosity range: coating No.4 cup 15-25S.

本机器适用于 PET 片材等卷筒状材料的各种涂布作业，适应性强的凹版网线辊直接定量涂布头系统，涂布量 1-8g/m²，适应涂料粘度范围：涂 4 号杯 15-25S。



2. Characteristic 特点

1). Whole machine control system adopts advanced industrial PLC Programmable Logic Controller, engineering level AC Inverter closed-loop vector drive executing high precision speed and tension control, it has been forming advanced control system with high automation degree, stable performance and high control precision, linked up international standard, and reached international advanced technological level.

整机控制系统采用先进的工业可编程序控制器,工程级交流变频闭环矢量驱动执行高精度速度、张力控制,形成与国际标准相衔接的自动化程度高、性能稳定、控制精度高的先进控制系统,达到国际先进技术水平。

2). Unwind brake control adopts YASKAWA SERVO MOTOR with automatic constant tension unwind function.

放卷制动控制采用日本安川伺服电机,具有自动恒张力放卷功能。

3). There are 4 segments tension control of whole machine. That is Unwind – Roll input, Roll input – Coating, Coating – Traction Cooling, Traction Cooling – Rewind. Speed synchronous of system and tension control adopts YASKAWA High level AC Frequency closed-loop vector control system

全机共4段张力控制,即:放卷-进卷、进卷-涂布、涂布-牵引冷却、牵引冷却-收卷,系统的速度同步及张力控制配置日本安川高端交流变频闭环矢量控制系统。

4). High precision ANILOX roller Coating and crosswise FRICTIONING system device guaranteed the reliability of high speed, high quality continuous production
高精度凹版网纹辊涂布及横向刮胶系统装置,确保了高速、高质量连续生产的可靠性。

5). High precision Traction device adopts special treatment of dual layer internal thread cooling recycle structure that significantly improved cooling effective and guaranteed high-speed continuous production and Cooling to finalize the design demand, that improved products quality.

高精度牵引装置采用特殊处理的双层内螺纹冷却循环结构,显著提高冷却效果,保障高速连续生产产品冷却定型需要,提高产品质量。

6). It has dynamic condition technological process display, fault automatic alarm, easy to operate, safety and reliable.

具有动态工艺流程显示,故障自动报警,易操作,安全可靠。

7). Coating rubber roller with automatic reset function when machine stop.

涂布胶辊具有停机自动复位功能。



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8). **Drying Oven divided into 6 segments**, electric heating, hot air impact drying method, each segments automatic detecting constant temperature control, volume of air-inlet and air-outlet can be adjustable according to technology demand.

干燥箱分 6 段，电加热，热风冲击干燥式，各段分别自动检测恒温控制，进、排风量可根据工艺需要灵活调整。

9). All synchronous belt drive of Drying Oven inner guiding roller run-in synchronism, gas cap oven and film connecting operation platform is convenient for operator to produce and for some daily maintenances speediness proceed.

烘箱内导辊全部同步带传动主动同步运转，气顶烘箱及穿膜操作平台方便操作员生产及日常维护的快速进行。

10). Cooling Part adopts AC Inverter Vector Driver, high-precision speed encoder detecting feedback automatic speed control type, provided high-precision whole machine constant line speed control.

冷却部配置交流变频矢量驱动器，高精度的速度编码器检测反馈自动速度控制方式，提供高精度的整机恒线速度控制。

11). Rewind Part adopts YASKAWA SERVO MOTOR, MITSUBISHI Press load cell detection feedback automatic tension control, provided high precision winding up dedicated tension control of taper function. Rewind bracket adopts SERVO tracking system, film path is short, tension is stable.

收卷部采用日本安川伺服电机，三菱压力传感器检测反馈自动张力控制方式，提供高精度的带锥度功能的卷曲专用张力控制。收卷料架配置了伺服跟踪系统，走膜路线短，张力稳定。

12). Machine has tension keep function when machine stop

具有停机张力保持功能。

13). Unwind and Drying Oven exit adopt Ultrasonic automatic web guiding system to control edge position guaranteed material running stable and winding end-face neatness.

放卷及烘箱出口采用超声波自动纠偏系统进行边位控制，确保材料运行稳定，卷取端面平整。

14). Unwind device and Rewind device adopt single station, quick air-shaft loading material

放卷装置及收卷装置采用单工位，快速气涨轴装料。



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15). Passive idler roller made of harden aluminum alloy tubular product (surface 700degree, ZHONGSHAN)

被动导辊使用硬质铝合金管材（表面 700 度，中山祥泰）。

16). Low voltage electrical components all adopt import famous brand products.

低压电气元件全部进口名牌器件。

17). Pneumatic components and main motion air cylinder is constitute of import famous brand parts.

气动元件及主要动作气缸全部由进口名牌配件组成。

3.Summarize and Function 概述与功能

1). High Speed Coating Machine for Garments Sequin Model TB-1500 is the elaborately manufactured product we referring to our longest experiences and technology. Whole machine structure is reasonable, high- working accuracy. It is adapt to high-speed production, meanwhile, there are some complete functions in the whole machine control system, high-automation degree. PLC Programmable Controller, AC Variable Frequency Driver electric components all adopt the first-class high quality products of abroad, guaranteed the quality stabilization of equipment. Compared with the similarity products of abroad, and machine performance has achieved the advanced level.

TB-1500 珠片高速涂布机是参照国外先进经验及技术而精心设计的设备。整机结构设计合理，加工精度高，能适应高速生产，同时整机控制系统功能齐全，自动化程度高。可编程控制器、交流变频驱动器等电控元气件均采用国外一流优质产品，保证了设备质量的稳定性，性能达到国外同类产品先进水平。

2). This machine is the dedicated coating machine for coating processing PET sheet etc material. It is widely suitable for producing garments sequin, transfer metalize film, laser decorate film, alumite aluminum film and other special function coating

本机是 PET 片材等材料进行涂布加工的专用涂布机，它广泛用于生产服装珠片、转移镀膜、镭射装璜膜、电化铝膜及其它特殊功能性涂布。

4. Main Technical Parameters 主要技术参数

1). Effective width: 1500 mm

有效宽度: 1500mm

Idler roller width: 1600mm

导辊宽度: 1600mm



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2). Suitable substrate material: PET sheet film 0.012-0.200mm

适应基材: PET 片材 0.012-0.200mm

3). Maximum machine speed: 最高 150m/min

最高机械速度: 150m/min

4). Run speed: 最高 130m /min

最高工作速度: 130m/min

5). Maximum Unwind Diameter: ϕ 800mm

最大放卷直径: ϕ 800mm

6). Maximum Rewind diameter: ϕ 800mm

最大收卷直径: ϕ 800mm

7). Heat method: electric heating, hot air impact drying method.

加热形式: 电加热,热风冲击干燥式

8). Maximum drying temperature: 120°C

最高烘干温度: 180°C

9). Rolling core diameter: 3inches, 6inches

卷芯直径: 3"、6"

10). Power Supply: 380V \pm 10%, 50HZ, 3 Phase 5 Lines

供电电源: 380V \pm 10%, 50HZ, 三相五线

11). Whole machine power: about 350kw

整机功率: 约 350kw

12). Air-Source: 0.8MPa, 0.3m³/min. Drying Compressed air

气源: 0.8MPa, 0.3m³/min 干燥压缩空气

13). External Dimension: 163800mm x4000mm x4200mm

外型尺寸: 长 163800mm \times 宽 4000mm \times 高 4200mm



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5. Detailed Specification 详细规格

1). This machine divided in to Substrate Unwind, Coating, Drying, Cooling, Rewind Devices. It is comprised of mechanical drive, tension control, pneumatic action, electric control by mechanical drive.

本机分为基材放卷、涂布、烘干、冷却、收卷机构，通过机械传动，张力控制，气动动作、电气控制等组成。

5.1. Unwind Device 放卷装置



pic only for reference

1). Unwind with entirety guiding institution: 1unit

放卷带整体纠偏机构: 1套

2). Drive mechanism: 1unit

传动机构:1套

3). SERVO MOTOR 7.5KW (YASKAWA): 1set

伺服电机 7.5KW (日本安川): 1台

4). SERVO MOTOR Controller (YASKAWA): 1set

伺服电机控制器 (日本安川): 1台

5). Pressure load cell LX-050TD ((YASKAWA): 4pieces

压力传感器 LX-050TD (日本三菱): 4个



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6). Ultrasonic automatic web guiding system (E+L): 1set

超声波自动纠偏系统 (E+L) : 1 套

7). 3inches air-shaft (DONGTAI): 1piece

3"气涨轴 (宁波东泰) :1 支

6inches nylon expand sleeve (made in SUNNY): 2sets

6"尼龙涨套 (自制) : 2 套

8). Carbon fiber static elimination brush (SHANDONG): 1set

碳纤维静电刷 (山东) : 1 套

9). Anti-explosion spotlight: 1set

防爆照明灯: 1 套

10). Aluminum idler roller $\phi 100*1600$ (ZHONGSHAN): real matching

铝导辊 $\phi 100*1600$ (中山祥泰) : 实配

11). Alarm bell device: 1set

警铃装置 : 1 套

12). Roll in device (including traction roller, rubber roller, air cylinder and so on):

1set

进卷装置 (含牵引辊、橡胶辊、气缸等) :1 套

13). AC Frequency vector MOTOR 5.5KW (JIE BRAND): 1set

交流变频矢量电机 5.5KW (杰牌) :1 台

14). AC Frequency converter 5.5KW (YASKAWA): 1set

交流变频器 5.5KW (日本安川) : 1 台

15). Meter-count display device: 1set

计米显示装置 : 1 套



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5.2. Coating Device 涂布装置



匀胶部分
Gluing part

胶槽升降部分
Glue slot lift part

网纹辊涂头
Anilox roller coater

胶盘升降手轮
Glue disk lift hand wheel

pic only for reference

1). AC Frequency Vector MOTOR 5.5KW (JIE BRAND): 1set
交流变频矢量电机 5.5KW (杰牌):1 台

2). AC Frequency Converter 5.5KW (YASKAWA): 1set
交流变频器 5.5KW (日本安川):1 台

3). Stainless steel material barrel: 1set
不锈钢料桶:1 套

4). Pneumatic diaphragm pump: 1set
气动隔膜泵: 1 套

5).Open-type DOCTOR Blade organization: 1set
敞开式刮刀机构: 1 套

6). DOCTOR Blade clutch air-cylinder (AIRTAC): 1set
刮刀离合气缸 (亚德客): 1 台



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7). Steel ANILOX Roller $\phi 212 \times 1600$ (specific line number provided by user):
1piece

钢质网纹辊 $\phi 212 \times 1600$ (具体线数用户提供) : 1 支

8). Rubber press roller: 1piece

橡胶压辊: 1 支

9). Press roller clutch air-cylinder: 2sets

压辊离合气缸: 2 台

10). Flat roller device: 1set

抹平辊装置: 1 套

11). Lift up adjust roller: 1set

升降调节辊: 1 套

12). Aluminum roller $\phi 100 \times 1600$ (ZHONGSHAN): Real matching

铝导辊 $\phi 100 \times 1600$ (中山祥泰) : 实配

5.3. 烘干装置



多孔板喷嘴
Multi-hole plate nozzle

窄缝喷嘴
narrow slit nozzle

特点: 烘箱共4段, 第一、二烘箱为多孔板结构, 热效能是普通结构的2倍。

第三、四烘箱为窄缝喷嘴结构。吹切效果好。有效去除VOC残留。

Features: drying oven is 4 sections, the first and second dry oven is multi-hole plate structure, thermal efficiency is twice than normal structure. The third and fourth dry oven is narrow slit nozzle structure. Blow and cut effective is good. Wipe off VOC vestigial

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- 1). Drying Oven open-type air-cylinder (AIRTACK OF TAIWAN): 6Sets
烘箱开启气缸（台湾亚德客）：6套



烘箱预留防爆口,安全可靠
Dry oven has reserved anti-explosion proof,
safety and reliable

pic only for reference

- 2). Drying oven idler roller: 36pieces
烘箱导辊: 36支
- 3). Rhombus seat globe bearing (DONGGUAN): 72sets
带菱形座球面轴承（东莞）:72套
- 4). Temperature automatic controller (JAPAN): 6sets
温度自动控制仪（日本）:6套
- 5). Electric heater (made by SUNNY): 6sets
电加热器（自制）:6套
- 6). Air inlet draught fan 2.2KW: 6sets
进风机 2.2KW: 6台
- 7). Exhaust fan2.2KW: 6Sets
排风机 2.2KW : 6台
- 8). AC Frequency Vector MOTOR 5.5KW (JIE BRAND): 1set
交流变频矢量电机 5.5KW（杰牌）:1台



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9). AC Frequency converter 5.5KW (YASKAWA): 1set

交流变频器 5.5KW (日本安川): 1 台

10). Ultrasonic automatic web guiding system (E+L): 1set

超声波自动纠偏系统 (E+L): 1 套

Detection head adjust device: 1set

检测头调节装置: 1 套

11). Insurance stay bar (by manual): 6sets

保险撑杆 (手动): 6 套

12). Hinge: 12sets

铰链: 12 套

13). Air pressure switch Dry burning-resistant protection device (draught fan stalling alarm): 6sets

风压开关防干烧保护装置 (风机停转报警): 6 套

14). Drying oven inner is made of stainless steel plate

烘箱内胆采用不锈钢制作

5.4. 牵引冷却装置

1). AC Frequency Vector MOTOR 7.5KW (JIE BRAND): 2sets

交流变频矢量电机 7.5KW (杰牌): 2 台

2). AC Frequency Converter 7.5KW (YASKAWA): 2sets

交流变频器 7.5KW (日本安川): 2 台

3). Cooling roller $\phi 320 \times 1600$ mm: 2pieces

冷却辊 $\phi 320 \times 1600$ mm: 2 支

4). Rotated joint (SHANDONG): 2sets

旋转接头 (山东): 2 套

5). Rubber press roller: 1piece

橡胶压辊: 1 支

6). Pressure load cell LX-050TD (MITSUBISHI): 2pieces

压力传感器 LX-050TD (日本三菱) :2 个

7). Anti-explosion spotlight: 1piece

防爆照明灯 : 1 套

8). Aluminum idler roller $\phi 100*1600$ (ZHONGSHAN): real matching

铝导辊 $\phi 100*1600$ (中山祥泰) : 实配

5.5. 收卷装置



特点: 双工位收料, 坚固可靠

Features: double stations rewind, firm and reliable

reference

1). SERVO MOTOR 7.5KW (YASKAWA): 1set

伺服电机 7.5KW (日本安川) : 1 台

2). 伺服电机控制器 (日本安川) :1 台

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3).3inches air-shaft (DONGTAI): 1piece

3"气涨轴（宁波东泰）：1 支

6inches nylon expand sleeve (made in SUNNY): 2set

06"尼龙涨套（自制）：2 套

4). Pressure load cell LX-050TD (MITSUBISHI): 2pieces

压力传感器 LX-050TD（日本三菱）：2 个

5). Aluminum idler roller $\phi 100*1600$ (ZHONGSHAN): real match

铝导辊 $\phi 100*1600$ （中山祥泰）：实配

6). Carbon fiber static elimination brush (SHANDONG): 1set

碳纤维静电刷（山东）：1 套

7). Rewind electro-hydraulic SERVO System: 1set

收卷电液伺服系统：1 套

8). High pressure discharge type static elimination brush device: 1set

高压放电式静电消除装置：1 套

9). Meter-count display device: 1set

计米显示装置：1 套

10). Alarm bell device: 1set

警铃装置：1 套

6.操作控制装置

1). Electric Components Configurations: AC Variable Frequency Closed-loop Vector Driving System adopts YASKAWA series products, low-voltage control components adopts SCHNEIDER products.

电气元件配置：交流变频闭环矢量驱动系统用日本安川系列产品，低压控制元件用施耐德系列产品

2). Electric Components: AIRTAC TAIWAN

气动元件：台湾亚德客



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3). Control: SIEMENS HMI, SIEMENS PLC Programmable Controller and AC Variable Frequency Closed-loop Vector Driving constitutes tension automatic control system.

控制： 西门子人机界面、西门子可编程序控制器和交流变频闭环矢量驱动组成张力自动控制系统

4). Layout of electric cabinet: electric cabinet is equipped at driving side of whole machine, each parts operation side is equipped with control cabinet and operating pane

电控柜布置： 在整机动力侧中部设有主电控柜， 各部件操作侧设有控制箱及操作面板。

5). Front and back doors of Main electric cabinet can be open, convenient to maintenance, strong current parts installed in the back.

主电控柜前后门均可开启， 方便维护； 强电部分安装在后面。

7. Ancillary facility provided by Users 用户自行配套装置

1). 380V \pm 10%, 50Hz 3 Phase 5 Lines Power

380V \pm 10%, 50Hz 三相五线电源

2). 0.8MPa, 0.3m³/min Drying Compressed Air

0.8MPa, 0.3m³/min 干燥压缩空气

3). Cooling water recycle system

冷却水循环系统

4). Total exhaust fan and exhaust duct (on the occasion manufacturer provide specific parameters of exhaust fan)

总排风机和排风管道（届时制造商提供排风机的具体参数）

5). Basic Treatment

基础处理

6). Equipment and debugging raw material, accessory for installation

安装用的设备及调试用原材料、辅料

7). Not marked parts of this stipulation

本规定未注明的部分



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9. Submit data 提交资料

1). Process flow diagram and installation base diagram

工艺流程图及安装基础图

2). Coating roller drawing

涂布辊图纸

3). Rubber roller drawing

橡胶辊图纸

4). Air-shaft drawing

气涨轴图纸

5). Other necessary quick-wear part diagram.

其他必要的易损件图纸