



## COATING LAMINATION PRODUCTION LINE



Coating Composite Technology Solution Supplier  
金纬自动化—涂布复合技术解决方案供应商

JWELL 金纬机械·金椒厂区

80年代初

金海螺第一代螺杆研制成功  
In the early 1980s, the first generation screw of JINHAILUO was successfully developed

1997

上海金纬机械  
Shanghai JWELL Machinery

2008

苏州金纬机械  
Suzhou JWELL Machinery

2012

常州金纬机械  
Changzhou JWELL Machinery

2018

贝克威尔（泰国）  
Bkwell (Thailand)

2019

浙江金纬智能装备  
Zhejiang JWELL Machinery

2020

金纬公司业绩突破50亿人民币  
Jwell's annual sales exceeded CNY 5 billion

2021

滁州金纬机械  
Chuzhou JWELL Machinery

2025

连续15年荣获中国塑料机械挤出行业排名首位  
Ranked first in China's plastic machinery extrusion industry for 15 consecutive years

We Know  
Extrusion

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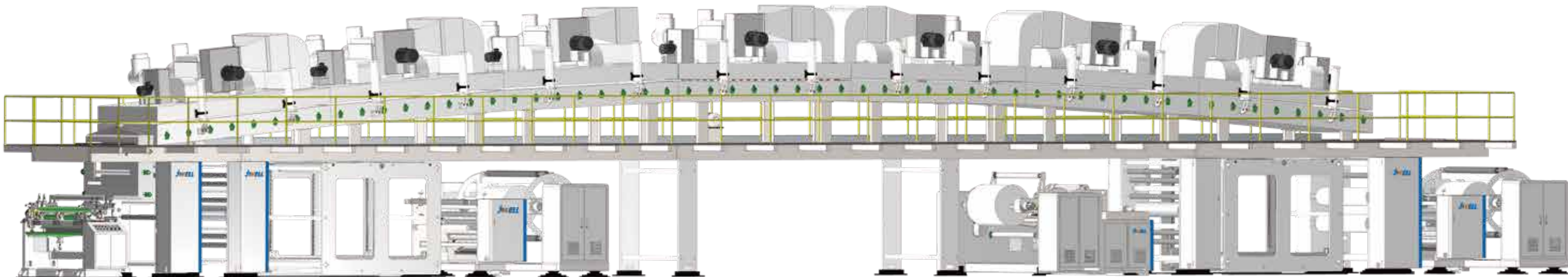
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3300mm光学薄膜涂布生产线

3300mm Optical Film Coating Production Line



应用领域 Application Fields

光学级保护膜、硬化膜、车衣膜、窗膜、离型膜、阻隔膜、偏光片、OCA胶、防爆膜等。  
Optical-grade protective films, hard-coated films, automotive paint protection films, window films, release liners, barrier films, polarizers, OCA adhesives, explosion-proof films etc.

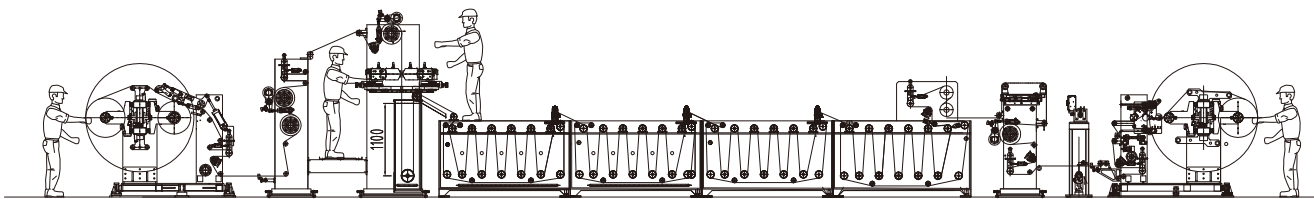


主要技术参数 Main technical parameters

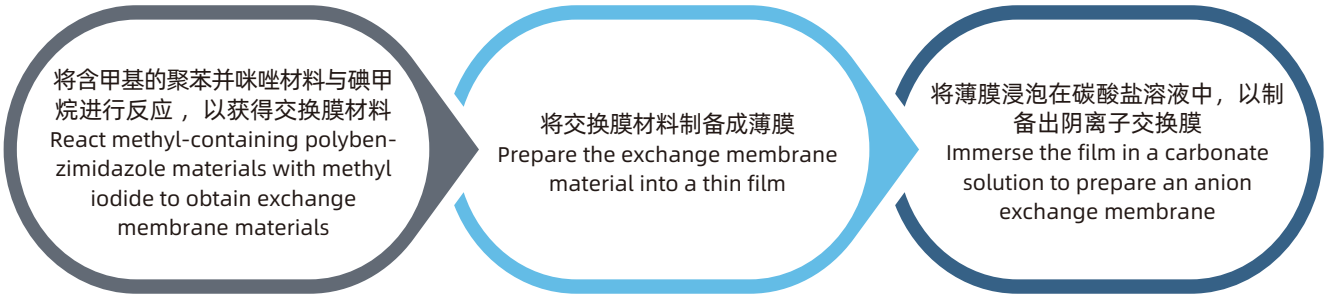
|                                                   |                         |                                                                                                                                                                                                                                                                          |
|---------------------------------------------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 基材种类 Substrate types                              |                         | BOPET、BOPP、CPP、PE、箔类、纸类等<br>BOPET, BOPP, CPP, PE, aluminum foil, paper, etc.                                                                                                                                                                                             |
| 基材宽度 Substrate width                              |                         | 300mm-3300mm                                                                                                                                                                                                                                                             |
| 工作速度 Working speed                                |                         | Max.150m/min（视材料工艺而定）<br>Up to 150m/min (depending on material and process)                                                                                                                                                                                              |
| 涂布方式 Coating methods                              |                         | 狭缝挤出涂布单元、逆向吻涂微凹涂布单元、逗号刮刀涂布单元、多辊式精密计量涂布单元，三辊式微凹转移涂布单元、凹版涂布单元等<br>Slot-die extrusion coating unit; reverse kiss gravure coating unit; comma scraper coating unit; multi-roll precision metering unit; three-roll gravure transfer coating unit; gravure roll coating unit. |
| 复合贴合方式 Laminating methods                         |                         | 两辊复合、三辊复合等<br>Two-roll laminating; three-roll laminating, etc                                                                                                                                                                                                            |
| 放 卷<br>Unwinding<br>Unit                          | A结构类型 Structure type    | 单工位、双工位 Single-station or double-station                                                                                                                                                                                                                                 |
|                                                   | B最大卷径 Max roll diameter | 600-1000mm                                                                                                                                                                                                                                                               |
|                                                   | C裁切方式 Cutting type      | 手动、飞刀、齿刀、热熔断 Manual cutting, flying blade, gear blade, hot melt cutting                                                                                                                                                                                                  |
|                                                   | D装夹形式 Clamping system   | 固定气动式锥顶、移动式开合臂锥顶、气涨轴<br>Pneumatic fixed cone, movable open-close arm cone, air shaft                                                                                                                                                                                     |
| 烘箱热源<br>Oven heating sources<br>available options |                         | 可选电加热、蒸汽加热、导热油加热、天然气加热、热风加热、光固化等<br>Electric heating, steam heating, thermal oil heating, natural gas heating, hot air heating, UV curing, etc.                                                                                                                          |
| 收 卷<br>Rewinding<br>Unit                          | A结构类型 Structure type    | 单工位、双工位 Single-station or double-station                                                                                                                                                                                                                                 |
|                                                   | B最大卷径 Max roll diameter | 600-1000mm                                                                                                                                                                                                                                                               |
|                                                   | C裁切方式 Cutting type      | 手动、飞刀、齿刀、热熔断 Manual cutting, flying blade, gear blade, hot melt cutting                                                                                                                                                                                                  |
|                                                   | D装夹形式 Clamping system   | 固定气动式锥顶、移动式开合臂锥顶、气涨轴<br>Pneumatic fixed cone, movable open-close arm cone, air shaft                                                                                                                                                                                     |

## 质子交换膜(PEM)、阴离子交换膜(AEM)一溶液成膜生产线

Proton Exchange Membrane (PEM) and Anion Exchange Membrane (AEM)—Solution Casting Production Line



阴离子交换膜（AEM/SOEC）溶液成膜生产线  
Anion exchange membrane (AEM/SOEC)solution casting production line



**聚合物类型:**PSVE(全氟磺酸基乙烯基醚)单体与四氧乙烯共聚而成、聚醚砜(PES)等溶液类型:NMP、DMF。  
**Polymer type:** PSVE (perfluorinated sulfonic acid vinyl ether) monomer copolymerised with tetraethylene oxide, polyethersulfone (PES), etc. Solution type: NMP, DMF.

**溶液狭缝成膜工艺路线：**基材（支撑网布）放卷单元→牵引单元→双面狭缝流延单元①→定型恒温水槽→恒温清洗槽→常温清洗槽→除水牵引单元→纠偏单元（可带切废边功能）→CCD瑕疵检测（预留）→成膜收卷单元②。  
**Solution slit film forming process route:** base material (support mesh) unwinding unit → haul-off unit → double-sided slit casting unit ① → shaping constant temperature water tank → constant temperature washing tank → normal temperature washing tank → de-watering haul-off unit → guiding unit (can be equipped with the function of cutting waste edges) → CCD defect detection (reserved) → film winding unit ②.

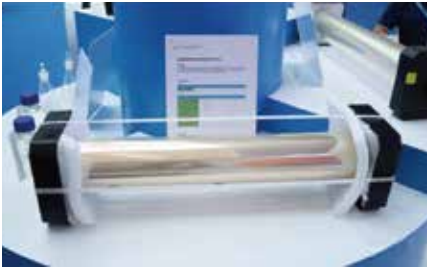
**说明 Description:**  
**狭缝流延的成膜溶液为：**反应釜输送的聚合物溶液。  
**The film forming solution for slit casting is:** polymer solution delivered from the reactor.  
**成膜收卷单元：**网布+成膜一同卷取。  
**Film-forming winding unit:** Mesh + film-forming are wound together.

**说明 Description**  
①狭缝流延的成膜溶液为：反应釜输送的聚合物溶液。  
②成膜收卷单元：底材+成膜一同卷取。  
③基材(PET)收卷单元：成膜后剥离下来的底材，可作为循环使用。  
① The film-forming solution for slot die casting is: the polymer solution conveyed from the reactor.  
② Film-forming winding unit: Substrate and film are wound together.  
③ Base material (PET) winding unit: The substrate peeled off after film formation may be recycled for reuse.



质子交换膜(PEM/ALK)溶液成膜生产线  
Proton Exchange Membrane (PEM/ALK) Solution Casting Production Line

**生产工艺路线 Production proces route**  
A.溶液狭缝流延法成膜工艺路线：基材（PET）放卷单元→牵引单元→狭缝流延单元①→热风干燥单元→冷却单元→成膜收卷单元②。  
B.成膜剥离工艺路线：双层成膜放卷单元→剥离单元→基材（PET）收卷单元③→成膜热风干燥单元→冷却单元→水槽清洗单元→除水牵引单元→成品收卷单元。  
C.催化剂涂布工艺路线：成品放卷单元→牵引单元尖→催化剂涂布单元→热风干燥单元→冷却单元→交换膜收卷单元。  
D.裁切卷取工艺路线：交换膜放卷单元→废边切割单元→路线1：分切收卷→路线2：单张裁切。  
A. Solution slit-die coating process route: base material (PET) unwinding unit→haul-off unit→slit casting unit①→Hot-air drying unit →Cooling unit→Film-forming and winding unit②  
B. Film peeling process route: Double-layer film unwinding unit → Peeling unit → Base material (PET) winding unit③ → Film hot-air drying unit → Cooling unit → Water tank cleaning unit → Water removal traction unit → Finished product winding unit.  
C. Catalyst coating process route: Finished product unwinding unit → Haul-off unit → Catalyst coating unit → Hot air drying unit → Cooling unit → Exchange membrane winding unit.  
D. Slitting and winding process route: Exchange film unwinding unit → Trimming unit → Route 1: Slitting and winding → Route 2: Single-sheet cutting.



### 主要技术参数 Main technical parameters

|                                  |                                                                                                                                                                            |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 基材种类 Substrate types             | PET（120μm-280μm）、网布（100μm-280μm）<br>PET (120μm-280μm), Mesh (100μm-280μm)                                                                                                  |
| 基材宽度 Substrate width             | 600-700mm-2500mm                                                                                                                                                           |
| 工作速度 Working speed               | 量产线工作速度：1.0-2.0m/min Working speed of mass production line: 1.0-2.0m/min<br>试验线工作速度：0.1m/min Test line working speed: 0.1m/min                                             |
| 流延方式 Casting method              | 精密狭缝挤出单元<br>Precision slit extrusion unit                                                                                                                                  |
| 干法成膜方式 Dry film formation method | 热风干燥烘箱长度≥60米。热源：电加热、蒸汽、导热油等<br>Hot air drying oven length ≥ 60 metres. Heat source: electric heating, steam, heat-conducting oil, etc.                                     |
| 湿法成膜方式 Wet film formation method | 凝固水槽成膜形式：整体SUS 316不锈钢材质制作。耐酸碱腐蚀性<br>Coagulation water tank film-forming form: the whole SUS 316 stainless steel material production. Acid and alkali corrosion resistance. |

注：幅宽越宽，对基材（PET或网布）的平整度要求也就越高。  
Note: The wider the width, the higher the flatness requirement of the base material (PET or mesh).



功能型涂层、胶带涂布生产线

Functional Coating /Tape Coating Production Line

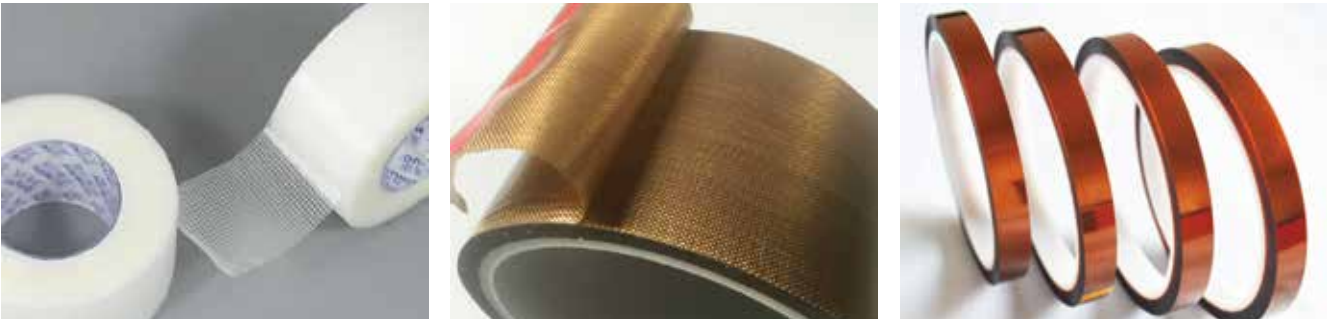


应用领域 Application Fields

双面胶带、单面胶带、光学胶带、聚氨酯类、压敏胶、热熔胶、冷封胶涂层等。  
This production line is widely applicable to the manufacturing and coating of: Double-sided adhesive tapes; Single-sided adhesive tapes; Optical tapes; Polyurethane-based materials; Pressure-sensitive adhesives (PSA); Hot-melt adhesives; Cold-seal coatings.

性能特点 Performance

- ◎可同时配置狭缝挤出涂布单元、多辊式精密计量涂布单元、逗号刮刀涂布单元以及多辊组精密计量涂布单元等涂布方式。
- ◎湿涂厚度最薄可满足微米级。
- ◎烘道结构设计为高效、低耗节能形式。
- ◎控制模式可选PLC+人机界面或PLC+工控系统。
- ◎全套闭环式张力控制系统。
- ◎The machine capable of integrating multiple coating technologies simultaneously, including slot-die extrusion units, multi-roll precision metering units, comma blade coating units, and multi-roll group metering systems.
- ◎Supports ultra-thin wet coating thickness, reaching micron-level precision.
- ◎Drying tunnel adopts a high-efficiency, low-energy design for optimized thermal performance.
- ◎Flexible control systems available: PLC with Human-Machine Interface (HMI) or PLC with Industrial PC (IPC) system.
- ◎Equipped with a comprehensive closed-loop tension control system.



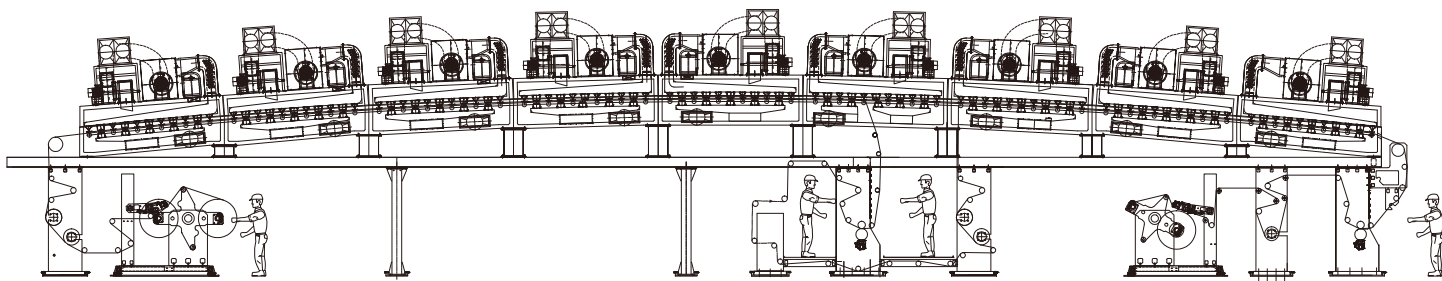
主要技术参数 Main technical parameters

|                           |                         |                                                                                                                                                 |
|---------------------------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 基材种类 Substrate types      |                         | BOPET、BOPP、无纺布、纤维布、纸类等<br>BOPET, BOPP, non-woven fabric, fiber cloth, paper and similar materials and so on                                     |
| 基材宽度 Substrate width      |                         | 300mm-2100mm                                                                                                                                    |
| 工作速度 Working speed        |                         | Max.80m/min（视材料工艺而定）<br>Up to 80m/min (depending on material and process)                                                                       |
| 涂布方式 Coating methods      |                         | 狭缝挤出涂布单元、逗号刮刀涂布单元、多辊式精密计量涂布单元等。<br>Slot-die extrusion; comma blade coating; Multi-roll precision metering coating.                              |
| 复合贴合方式 Laminating methods |                         | 两辊复合、三辊复合等<br>Two-roll laminating; three-roll laminating, etc                                                                                   |
| 放 卷<br>Unwinding<br>Unit  | A结构类型 Structure type    | 单工位、双工位 Single-station or double-station                                                                                                        |
|                           | B最大卷径 Max roll diameter | 600-1000mm                                                                                                                                      |
|                           | C裁切方式 Cutting type      | 手动、飞刀、齿刀 Manual, flying blade, toothed blade                                                                                                    |
|                           | D装夹形式 Clamping system   | 固定气动式锥顶、移动式开合臂锥顶、气胀轴<br>Pneumatic fixed cone, movable open-close arm cone, air shaft                                                            |
| 烘箱热源                      |                         | 可选电加热、蒸汽加热、导热油加热、天然气加热、热风加热、光固化等<br>Electric heating, steam heating, thermal oil heating, natural gas heating, hot air heating, UV curing, etc. |
| 收 卷<br>Rewinding<br>Unit  | A结构类型 Structure type    | 单工位、双工位(跟随机构) Single-station or dual-station (with following mechanism)                                                                         |
|                           | B最大卷径 Max roll diameter | 600-1000mm                                                                                                                                      |
|                           | C裁切方式 Cutting type      | 手动、飞刀、齿刀 Manual, flying blade, toothed blade                                                                                                    |
|                           | D装夹形式 Clamping system   | 固定气动式锥顶、移动式开合臂锥顶、气胀轴<br>Pneumatic fixed cone, movable open-close arm cone, air shaft                                                            |



功能性包装涂布生产线

Functional Packaging Coating Production Line



应用领域 Application Fields

高阻隔膜类产品：运用于：高温蒸煮袋食品包装，常温阻隔食品包装、即食膨化食品包装，即食油性食品包装，阻隔静电电子产品包装、阻氧、光、湿包装制品等产品结构，代替铝箔的高阻隔产品。

Application: high-temperature retort pouch food packaging; ambient-temperature barrier food packaging; ready-to-eat puffed food packaging; ready-to-eat oily food packaging; anti-static barrier packaging for electronic products; packaging requiring oxygen, light, and moisture barrier performance. These high-barrier films serve as advanced alternatives to traditional aluminum foil structures.

性能特点 Performance

- ◎可同时配置微凹逆向涂布单元、网线辊直接涂布单元、以及多辊组精密计量涂布单元等涂布方式，可满足90%左右的阻隔膜涂布生产工艺路线。
- ◎湿涂厚度最薄可满足微米级，涂布精度均匀性可达到5%以内，视涂布工艺而定。
- ◎烘道结构设计为高效、低耗节能设计。
- ◎全套闭环张力控制系统。
- ◎Supports multiple coating methods including reverse gravure coating, anilox roll direct coating, and multi-roll precision metering coating units, covering approximately 90% of the process routes used in high-barrier film production.
- ◎Achieves micron-level wet coating thickness, with coating uniformity deviation within 5%, depending on the specific coating process.
- ◎The drying tunnel is engineered for high efficiency and energy saving, ensuring optimal thermal performance.
- ◎Integrated fully closed-loop tension control system for stable and precise material handling throughout the production line.



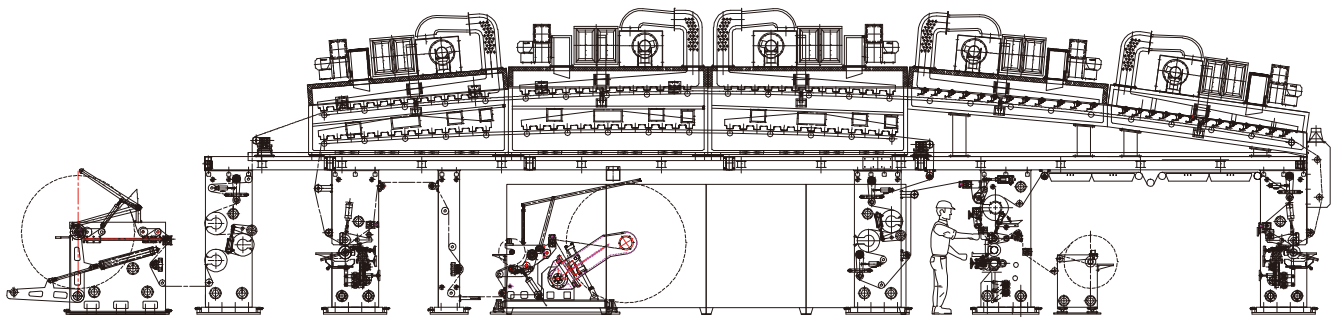
主要技术参数 Main technical parameters

|                           |                         |                                                                                                                                                           |
|---------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 基材种类 Substrate types      |                         | BOPET、BOPP、CPP、PE、MDOPE、镀铝膜等。<br>BOPET, BOPP, CPP, PE,MDOPE,aluminum-coated film, etc.                                                                    |
| 基材宽度 Substrate width      |                         | 800mm-2700mm                                                                                                                                              |
| 工作速度 Working speed        |                         | Max.400m/min（视材料工艺而定）<br>Up to 400m/min (depending on material and process)                                                                               |
| 涂布方式 Coating methods      |                         | 逆向微凹涂布单元、顺向凹版涂布单元、三辊式微凹转移涂布单元等。<br>Coating methods: reverse gravure coating unit; forward gravure coating unit; three-roll gravure transfer coating unit. |
| 复合贴合方式 Laminating methods |                         | 两辊冷却、三辊复合等<br>Laminating Methods: two-roll laminating; three-roll laminating, etc.                                                                        |
| 放 卷<br>Unwinding<br>Unit  | A结构类型 Structure type    | 双工位 Double-station                                                                                                                                        |
|                           | B最大卷径 Max roll diameter | 800-1200mm                                                                                                                                                |
|                           | C裁切方式 Cutting type      | 飞刀、齿刀 Flying blade, gear blade                                                                                                                            |
|                           | D装夹形式 Clamping system   | 固定气动式锥顶、移动式开合臂锥顶、气涨轴<br>Pneumatic fixed cone, movable open-close arm cone, air shaft                                                                      |
| 烘箱热源                      |                         | 可选电加热、蒸汽加热、导热油加热、天然气加热、热风加热等<br>Electric heating, steam heating, heat transfer oil heating, natural gas heating, hot air heating, etc.                    |
| 收 卷<br>Rewinding<br>Unit  | A结构类型 Structure type    | 双工位(跟随机构) Dual-station (with following mechanism)                                                                                                         |
|                           | B最大卷径 Max roll diameter | 800-1200mm                                                                                                                                                |
|                           | C裁切方式 Cutting type      | 飞刀、齿刀 Flying blade, gear blade                                                                                                                            |
|                           | D装夹形式 Clamping system   | 固定气动式锥顶、移动式开合臂锥顶、气涨轴<br>Pneumatic fixed cone, movable open-close arm cone, air shaft                                                                      |



多功能涂布复合生产线

Multi-functional Coating and Laminating Production Line



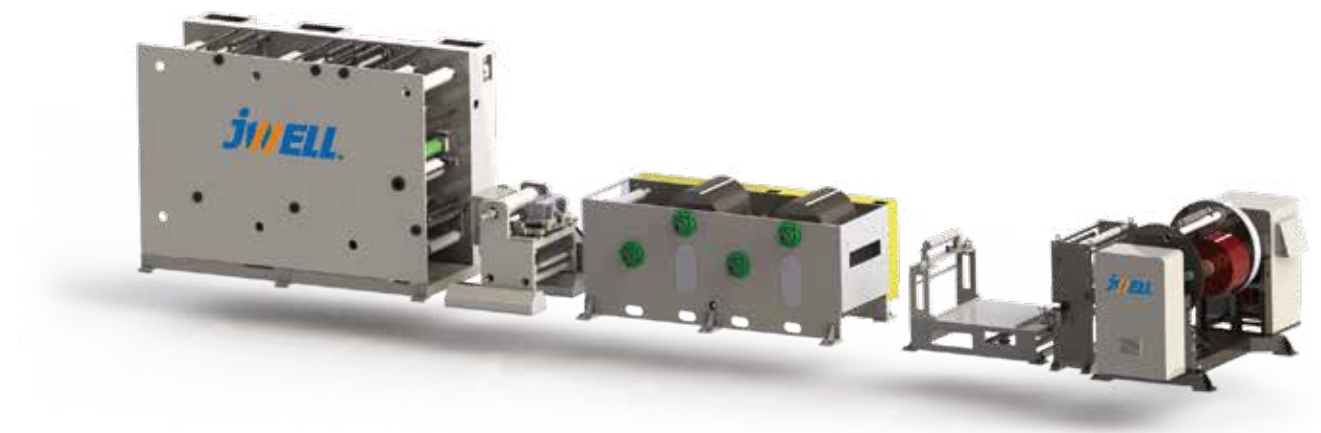
性能特点 Performance

- ◎可同时配置狭缝挤出涂布单元、微凹逆向涂布单元、网线辊直接涂布单元、网线辊三辊转移涂布单元以及多辊组精密计量涂布单元等涂布方式。
- ◎湿涂厚度最薄可满足微米级。
- ◎烘道结构设计为高效、低耗节能设计。
- ◎可配置储膜平台，实现零速接料功能，同时也能实现放卷剥离功能。
- ◎全套闭环张力控制系统，浮动式闭环张力控制。

应用领域 Application Fields

运用于：双层或多层涂布、印刷、复合产品。  
**生产工艺类型：**纸+塑、纸+箔、塑+箔、塑+塑、纤维+塑等材料的干/湿复合工艺或单类基材反复多层涂布工艺。同时可进行涂布、印刷、底涂+面涂、正涂+背涂、印刷+涂布+复合或转移剥离后表面印刷等多种完整生产工艺流程。  
**产品类型：**牛皮纸类、阻隔内衬包装类、复合食品包装类、无纺布制品类、纸制容器类等多种工艺制品。  
**适用溶剂类型：**溶剂型浆料、无溶剂型浆料等。

Applicable to: Double-layer or multi-layer coating, printing, and lamination products.  
**Production Process Types:** Dry/wet lamination processes for combinations such as paper + plastic, paper + foil, plastic + foil, plastic + plastic, fiber + plastic, etc. Repetitive multi-layer coating processes on single-type substrates; Capable of integrating multiple complete production processes including coating, printing, primer + top coat, front + back coating, printing + coating + lamination, and transfer-release followed by surface printing.  
**Product Types:** Kraft paper products; Barrier liner packaging; Composite food packaging; Nonwoven fabric products; Paper-based containers; And other specialty laminated products.  
**Compatible Solvent Types:** Solvent-based slurries, Solvent-free slurries, etc.



- ◎Supports a wide range of coating methods, including: Slot-die extrusion coating unit; Reverse gravure coating unit; Anilox roll direct coating unit; Three-roll transfer coating with anilox roll; Multi-roll precision metering coating unit. These configurations meet the requirements of various high-precision coating processes.
- ◎Capable of achieving micron-level wet coating thickness, ensuring high coating precision.
- ◎The drying tunnel is designed for high efficiency and energy savings, optimizing thermal performance and reducing energy consumption.
- ◎Can be equipped with a film accumulation platform to enable zero-speed splicing and unwinding with peeling functionality, ensuring continuous operation.
- ◎Integrated full closed-loop tension control system, featuring floating closed-loop tension regulation for stable and accurate web handling.

主要技术参数 Main technical parameters

|                           |                         |                                                                                                                                                                                   |
|---------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 基材种类 Substrate types      |                         | 铝箔、BOPET、BOPP、CPP、纸、无纺布等。<br>Aluminum foil,BOPET,BOPP,CPP,Paper,non-woven fabric,etc.                                                                                             |
| 基材宽度 Substrate width      |                         | 800mm-2100mm                                                                                                                                                                      |
| 工作速度 Working speed        |                         | Max.200m/min（视材料工艺而定）<br>Up to 200m/min (depending on material and process)                                                                                                       |
| 涂布方式 Coating methods      |                         | 狭缝挤出涂布单元、逆向微凹涂布单元、顺向凹版涂布单元、三辊式凹版转移涂布单元等。<br>Slot-die extrusion coating unit;reverse gravure coating unit; forward gravure coating unit; three-roll gravure transfer coating unit. |
| 复合贴合方式 Laminating methods |                         | 两辊复合、三辊复合、两辊双面冷却等<br>Two-roll laminating; three-roll laminating, two-roller double-sided cooling,etc.                                                                             |
| 放 卷<br>Unwinding<br>Unit  | A结构类型 Structure type    | 单工位、双工位 Single-station or double-station                                                                                                                                          |
|                           | B最大卷径 Max roll diameter | 800-1800mm                                                                                                                                                                        |
|                           | C裁切方式 Cutting type      | 手动、飞刀、齿刀 Manual cutting, flying blade, gear blade                                                                                                                                 |
|                           | D装夹形式 Clamping system   | 固定气动式锥顶、移动式开合臂锥顶、气胀轴<br>Pneumatic fixed cone, movable open-close arm cone, air shaft                                                                                              |
| 烘箱热源                      |                         | 可选电加热、蒸汽加热、导热油加热、天然气加热、热风加热等<br>Electric heating, steam heating, heat transfer oil heating, natural gas heating, hot air heating, etc.                                            |
| 收 卷<br>Rewinding<br>Unit  | A结构类型 Structure type    | 单工位、双工位 Single-station or Double-station                                                                                                                                          |
|                           | B最大卷径 Max roll diameter | 800-1800mm                                                                                                                                                                        |
|                           | C裁切方式 Cutting type      | 手动、飞刀、齿刀 Manual cutting, flying blade, gear blade                                                                                                                                 |
|                           | D装夹形式 Clamping system   | 固定气动式锥顶、移动式开合臂锥顶、气胀轴<br>Pneumatic fixed cone, movable open-close arm cone, air shaft                                                                                              |

转移离型涂布复合生产线

Transfer Release Coating & Laminating Line



应用领域 Application Fields

使用于：离型膜产品、特殊型包装材料产品、光固化UV材料产品、数码皮革类产品、装饰材料热转印类产品制品等。  
Used for the production of: release film products; specialty packaging materials; UV-curable coating products; digital leather materials; heat transfer decorative materials, etc.

性能特点 Performance

- ◎可配置微凹逆向涂布单元或凹版直接涂布单元等涂布方式，可配套互换小车机构或多涂布、印刷单元形式。
- ◎配置烘箱设计为高效、低耗节能设计。
- ◎全套张力闭环张力控制。
- ◎Equipped with micro-gravure reverse coating unit or direct gravure coating unit, compatible with interchangeable trolley mechanism and multi-station coating/printing configurations.
- ◎Drying oven is designed for high efficiency and energy-saving performance.
- ◎Full closed-loop tension control system ensures stable tension during high-speed operation.



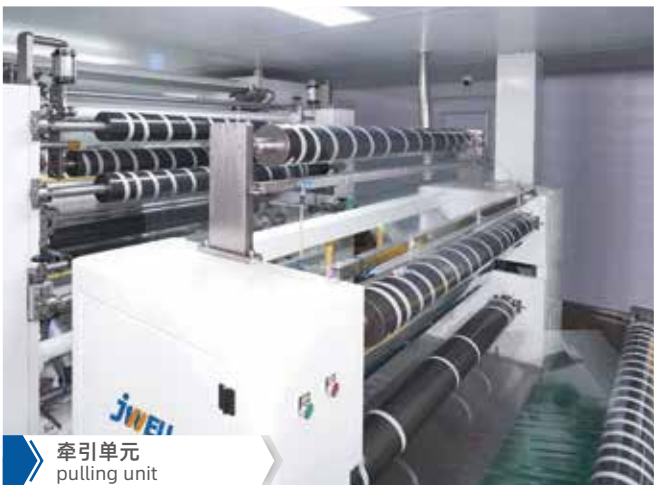
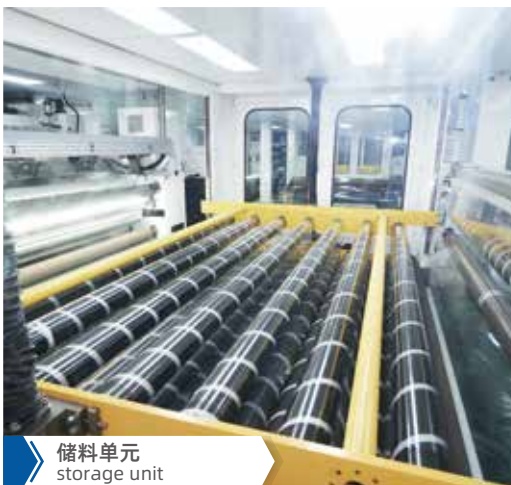
主要技术参数 Main technical parameters

|                                                   |                         |                                                                                                                                        |
|---------------------------------------------------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| 基材种类 Substrate types                              |                         | BOPET、BOPP、PE、纸张、无纺布等<br>BOPET、BOPP、PE、Paper, non-woven fabric etc.                                                                    |
| 基材宽度 Substrate width                              |                         | 800mm-2100mm                                                                                                                           |
| 工作速度 Working speed                                |                         | Max.80m/min（视材料工艺而定）<br>Up to 80m/min (depending on material and process)                                                              |
| 涂布方式 Coating methods                              |                         | 逆向微凹涂布单元、顺向凹版涂布单元等<br>Reverse gravure coating unit; forward gravure coating unit                                                       |
| 复合贴合方式 Laminating methods                         |                         | 两辊冷却、三辊复合等<br>Two-roll laminating; three-roll laminating, etc                                                                          |
| 放 卷<br>Unwinding<br>Unit                          | A结构类型 Structure type    | 单工位、双工位 Single-station or double-station                                                                                               |
|                                                   | B最大卷径 Max roll diameter | 800mm                                                                                                                                  |
|                                                   | C裁切方式 Cutting type      | 手动、飞刀、齿刀 Manual,flying blade, gear blade                                                                                               |
|                                                   | D装夹形式 Clamping system   | 固定气动式锥顶、移动式开合臂锥顶、气涨轴<br>Pneumatic fixed cone, movable open-close arm cone, air shaft                                                   |
| 烘箱热源<br>Oven heating sources<br>available options |                         | 可选电加热、蒸汽加热、导热油加热、天然气加热、热风加热等<br>Electric heating, steam heating, Heat transfer oil heating, natural gas heating, hot air heating, etc. |
| 收 卷<br>Rewinding<br>Unit                          | A结构类型 Structure type    | 单工位、双工位（跟随机构） Single-station or dual-station (with follower mechanism)                                                                 |
|                                                   | B最大卷径 Max roll diameter | 800mm                                                                                                                                  |
|                                                   | C裁切方式 Cutting type      | 手动、飞刀、齿刀 Manual, flying blade, gear blade                                                                                              |
|                                                   | D装夹形式 Clamping system   | 固定气动式锥顶、移动式开合臂锥顶、气涨轴<br>Pneumatic fixed cone, movable open-close arm cone, air shaft                                                   |



# 涂布生产线各单元部件展示

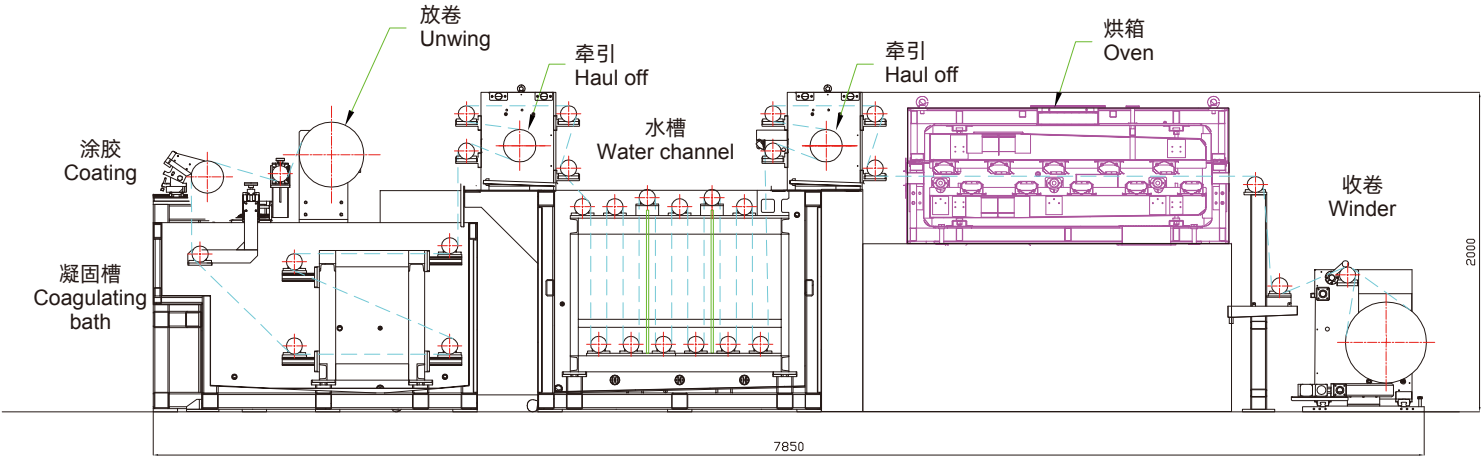
## Coating Production Line Unit Component Display





滤材涂布成膜生产线

Filter Material Coating and Film-forming Production Line

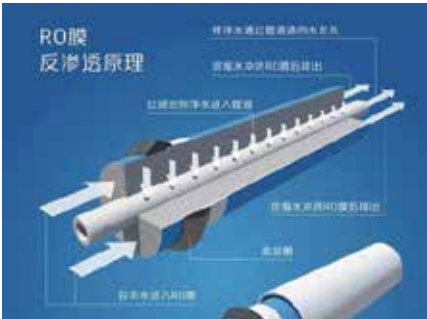


应用领域 Application Fields

微滤膜、超滤膜、纳滤膜、反渗透膜。  
Application Fields: micro-filtration membrane, ultrafiltration membrane, nanofiltration membrane, reverse osmosis membrane.

性能特点 Performance

- ◎配置高精密狭缝挤出涂布单元，具备微米级涂布间隙调节功能。
- ◎涂（铸）膜厚度偏差精度可以满足1%-2%。
- ◎水处理槽具备防腐蚀、防锈、恒温、溢流、自循环、易穿膜等设计。
- ◎可配置剥离收卷单元+成膜收卷单元。
- ◎全套闭环张力控制系统。
- ◎Equipped with a high-precision slot-die extrusion coating unit, featuring micron-level coating gap adjustment for exceptional accuracy.
- ◎Coating (casting) thickness deviation can be controlled within 1%-2%, ensuring high uniformity.
- ◎The water treatment tank is specially designed with anti-corrosion, anti-rust, constant temperature control, overflow protection, self-circulation, and easy web threading features.
- ◎Optional configuration includes a peel-off rewinding unit and a film-forming rewinding unit, enabling flexible production needs.
- ◎Integrated full closed-loop tension control system for stable and precise web management throughout the process.



主要技术参数 Main technical parameters

|                           |                         |                                                                                                                                       |
|---------------------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| 基材种类 Substrate types      |                         | BOPET、PE、无纺布等<br>Substrate Types: BOPET, PE, non-woven fabric, etc                                                                    |
| 基材宽度 Substrate width      |                         | 300mm-1600mm                                                                                                                          |
| 工作速度 Working speed        |                         | Max.15m/min（视材料工艺而定）<br>Up to 15m/min (depending on material and process)                                                             |
| 涂布方式 Coating methods      |                         | 狭缝挤出涂布单元、大辊浸涂单元、微凹涂布单元等<br>Slot-die extrusion coating unit;large roller dip coating unit;gravure coating unit,etc                     |
| 水处理槽 Water treatment tank |                         | 可根据用户工艺要求<br>According to the user's process requirements                                                                             |
| 放 卷<br>Unwinding<br>Unit  | A结构类型 Structure type    | 单工位、双工位 Single-station or double-station                                                                                              |
|                           | B最大卷径 Max roll diameter | 450-800mm                                                                                                                             |
|                           | C裁切方式 Cutting type      | 手动、齿刀、在线缝纫机 Manual cutting, gear blade, online sewing machine                                                                         |
|                           | D装夹形式 Clamping system   | 固定气动式锥顶、移动式开合臂锥顶、气胀轴<br>Pneumatic fixed cone, movable open-close arm cone, air shaft                                                  |
| 烘箱热源                      |                         | 可选电加热、蒸汽加热、导热油加热、天然气加热、热风加热等<br>Electric heating, steam heating, heat transfer oil heating, natural gas heating, hot air heating, etc |
| 收 卷<br>Rewinding<br>Unit  | A结构类型 Structure type    | 单工位、双工位 Single-station or double-station                                                                                              |
|                           | B最大卷径 Max roll diameter | 450-800mm                                                                                                                             |
|                           | C裁切方式 Cutting type      | 手动、齿刀、在线缝纫机 Manual cutting, gear blade, online sewing machine                                                                         |
|                           | D装夹形式 Clamping system   | 固定气动式锥顶、移动式开合臂锥顶、气胀轴<br>Pneumatic fixed cone, movable open-close arm cone, air shaft                                                  |



多功能涂布试验设备

Multi Functional Coating Platform



应用领域 Application Fields

可适应但不仅限于膜材、片材、板材、玻璃、塑性材料、箔型材料、纤维材料。  
例如钙钛矿涂布工艺，玻璃平板涂布工艺，平面封胶涂布工艺等。在其平整的表面上进行涂布工艺。  
Suitable for but not limited to films, sheets, plates, glass, plastic materials, foil-type materials, and fiber materials.  
Examples include:Perovskite coating processes, Glass panel coating processes, Flat surface encapsulation coating processes,etc. Applicable for coating processes on flat and even surfaces.

性能特点 Performance

- ◎适用于最大400mm宽×1000mm长的基板尺寸。
- ◎配置高精密狭缝挤出涂布单元，具备微米级或纳米级涂布精度，搭配高精密供给泵，可根据需求提供不同供给量。涂布厚度最薄可满足湿涂量500nm（纳米）。
- ◎整体不锈钢材质，洁净外观，满足整体洁净度达100级。
- ◎可按用户个性化定制设备。
- ◎Suitable for substrates with a maximum size of 400mm (width) × 1000mm (length).
- ◎Equipped with a high-precision slot-die coating unit, capable of micron or nano-level coating accuracy, paired with a high-precision supply pump to provide adjustable flow rates as required. The minimum achievable wet coating thickness is 500nm (nanometers).
- ◎Constructed with full stainless steel material, featuring a cleanroom-compatible design with an overall Class 100 cleanliness standard.
- ◎Customizable to meet user-specific requirements.



主要技术参数 Main technical parameters

|                             |                                                                                                                                                    |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 基材种类 Substrate types        | 膜材、片材、板材、玻璃、塑性材料、箔型材料、纤维材料等。<br>Film material, sheet material, plate material, glass, plastic material, foil-shaped material, fiber material, etc. |
| 基材宽度 Substrate width        | 400mm 宽×1000mm 长<br>400mm (width)*1000mm(length)                                                                                                   |
| 粘度范围 Viscosity range        | 30-20000 cps                                                                                                                                       |
| 涂布均匀性 Uniformity of coating | 1%-2%                                                                                                                                              |



TPU车衣薄膜生产线

TPU Invisible Car Clothing Production Line

**TPU隐形车衣**是一种高性能新型环保薄膜，被广泛应用于汽车美容保养行业，是透明漆面保护膜的一种俗称。具有超强的韧性，装贴后可使汽车漆面与空气隔绝，持久具有高光亮度，经过后续加工，车衣膜具有刮擦自修复性能，持久保护漆面。

本生产线采用特殊设计的专利流延复合成型技术，针对TPU脂肪族材料特殊的挤出螺杆设计，配备全自动上下离型膜放卷装置，膜片厚度在线自动调节控制，全自动化收卷系统等行业先进的成熟技术，实现生产线的自动化稳定运行。

**TPU invisible film** is a new type of high-performance environmental protection film, which is widely used in automobile decoration maintenance industry. It is a common name of transparent paint protection film. It has strong toughness. After mounting, it can insulate the automobile paint surface from the air, and has high brightness for a long time. After subsequent processing, the car coating film has scratch self-healing performance, and can protect the paint surface for a long time.

This production line adopts special design patent tape casting composite molding technology, special extrusion screw design for TPU aliphatic materials, equipped with automatic up and down release film unwinding device, on-line auto-automatic adjustment and control of film thickness, full-automatic winding system and other advanced mature technologies in the industry, so as to realize the automatic and stable operation of the production line.

主要技术参数 Main technical parameters

| 机型        | 制品宽度               | 制品厚度                   | 设计挤出产量         |
|-----------|--------------------|------------------------|----------------|
| Model     | Products width(mm) | Products thickness(mm) | Capacity(kg/h) |
| JWS 90/32 | 1600               | 0.1-0.2                | 150-200        |
| JWS120/32 | 1600               | 0.1-0.2                | 200-300        |
| JWS120/34 | 3300               | 0.1-0.3                | 250-300        |



单层或多层淋膜涂布复合生产线

Single-layer or Multi-layer Extrusion Coating and Laminating Line



金纬产品主要有牛奶、液体无菌包装材料挤出复合生产线；高档数码相纸挤出流涎复合生产线；牙膏片材挤出复合生产线；预涂膜、护卡膜挤出流涎复合生产线；糖果、食品高阻隔包装材料挤出复合生产线；医药高阻隔包装材料挤出复合生产线；方便面淋膜复合生产线；纸杯纸、纸餐盒淋膜机以及单面淋膜、双面淋膜、单层挤出、双层共挤、三层共挤生产线等高品质设备。

Jwell Products Include: Extrusion lamination production lines for milk and liquid aseptic packaging materials; Extrusion cast lamination production lines for high-end digital photo paper; Extrusion lamination production lines for toothpaste sheet materials; Extrusion cast lamination production lines for pre-coated films and card protection films; Extrusion lamination production lines for high-barrier packaging materials for candies and food; Extrusion lamination production lines for high-barrier pharmaceutical packaging materials; Lamination production lines for instant noodle packaging; Coating machines for paper cup and paper food container materials; Production lines for single-side coating, double-side coating, single-layer extrusion, double-layer co-extrusion, and triple-layer co-extrusion, etc.

应用领域 Application Fields

纸塑复合、铝塑复合、塑塑复合、纸铝塑复合。  
Paper-plastic composite, aluminum-plastic composite, plastic-plastic composite, paper-aluminum-plastic composite.



主要技术参数 Main technical parameters

|                               |                                                                                                      |
|-------------------------------|------------------------------------------------------------------------------------------------------|
| 基材种类 Substrate types          | BOPET、BOPP、BOPA、CPP、CPE、纸类、箔类。<br>BOPET, BOPP, BOPA, CPP, CPE, paper, foil type, etc.                |
| 涂复树脂类 Type of coating resin   | LDPE、LLDPE、PP、EVA、EAA、EMA、EMAA等<br>Type of coating resin: LDPE, LLDPE, PP, EVA, EAA, EMA, EMAA, etc. |
| 制品宽度 Products width           | 900-1500 mm                                                                                          |
| 挤出机规格 Extruder specifications | JW90/33 JW45/30 JW100/33 JW45/30 JW120/33 JW65/33                                                    |
| 辊筒直径 Roller diameter          | φ500-φ700                                                                                            |
| 工作速度 Working speed            | 120 m/min-220 m/min                                                                                  |



精密涂布单元

Precision Coating Unit

狭缝挤出涂布单元

Slot-die Extrusion Coating Unit



性能特点 Performance

- ◎ 密闭式定量供胶，均匀度可达到±1.5微米(1000mm范围内)。
- ◎ 配置精密微调机构：微调精度0.001mm。
- ◎ 配置模头快速进退机构：复位精度≤0.005mm。
- ◎ 涂布背辊各项精度均满足≤0.002mm。
- ◎ Enclosed quantitative adhesive supply system, ensuring coating uniformity within ±1.5 μm across a 1000 mm width.
- ◎ Equipped with a precision micro-adjustment mechanism with an adjustment accuracy of 0.001 mm.
- ◎ Integrated quick die head in/out mechanism, with a repositioning accuracy of ≤ 0.005 mm.
- ◎ The coating backing roller meets high-precision requirements, with all tolerances within ≤ 0.002 mm.

主要技术参数 Main technical parameters

|                                                 |                                                                    |
|-------------------------------------------------|--------------------------------------------------------------------|
| 最大涂胶宽度 Maximum gluing width                     | 3450 mm                                                            |
| 模具宽度范围 Mold width range                         | 400 mm-3500 mm                                                     |
| 胶水粘度范围 Glue viscosity range                     | 30000 cps以下（含30000 cps）<br>Below 30000cps (containing 30000 cps)   |
| 涂布液固含量<br>Solid content of the coating solution | 1%-100%                                                            |
| 涂布湿涂量<br>Coating wet coating amount             | 10 μm-225 μm（单层狭缝模头）<br>10 μm-225 μm (single-layer slit mold head) |
| 工作速度 Working speed                              | Max.150 m/min                                                      |

精密微凹逆向吻涂涂布单元

Precision Micro-Depression Reverse coater Coating Unit



性能特点 Performance

- ◎ 网线辊采用快速更换固定方式。
- ◎ 适应不同工艺段的生产速度，同时具备不同溶剂的浆料种类。
- ◎ 逆向吻涂结构，具备小涂布量、薄涂布厚度的精密涂布要求。
- ◎ 开放式刮刀采用快速更换结构，使操作、保养、维护更加轻便，快捷。
- ◎ The anilox roller adopts a quick-change mounting system for efficient replacement.
- ◎ Designed to accommodate varying production speeds across different process sections and support multiple slurry types with different solvent systems.
- ◎ Features a reverse kiss coating structure, enabling low coating volume and ultra-thin, high-precision coating performance.
- ◎ The open-type doctor blade is equipped with a quick-release mechanism, ensuring easier operation, cleaning, and maintenance.

主要技术参数 Main technical parameters

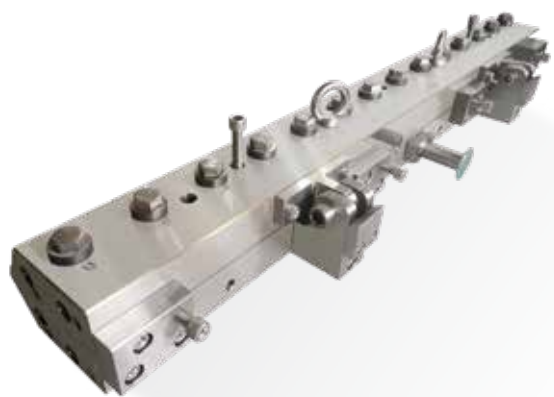
|                                                             |                                                              |
|-------------------------------------------------------------|--------------------------------------------------------------|
| 最大涂胶宽度 Maximum gluing width                                 | 3450 mm                                                      |
| 微凹网线辊直径范围<br>Diameter range of the concave wire mesh roller | ø60 mm, ø80 mm, ø100 mm                                      |
| 胶水粘度范围 Glue viscosity range                                 | 1000 cps以下（含1000 cps）<br>Below 1000 cps(containing 1000 cps) |
| 涂布液固含量<br>Solid content of the coating solution             | ≤35%                                                         |
| 涂布湿涂量<br>Coating wet coating amount                         | 0.1 μm-30 μm                                                 |
| 工作速度 Working speed                                          | Max.150 m/min                                                |

## 涂布模头

### Coating Die Head

#### 固定模唇涂布模头

#### Fixed Lip Coating Die Head



- ◎结构简单，成本较低，通用性强
- ◎定制化的型腔结构，可适配不同特性的涂布液
- ◎模唇开口通过更换不同厚度的垫片进行调节，搭配高精度的模唇，涂布均匀性好
- ◎快速开合模体结构，方便清洗和保养

- ◎Simple structure, low cost, and more universality;
- ◎Customized cavity structure, suitable for different coating fluids with different characteristics;
- ◎The opening of the die lip is adjusted by replacing gaskets with different thicknesses, combined with high-precision die lips, resulting in good uniformity of coating;
- ◎Quick opening and closing of the die structure, convenient for cleaning and maintenance.

#### 表面处理（DLC涂层处理）

#### Surface Treatment (DLC Coating Treatment)

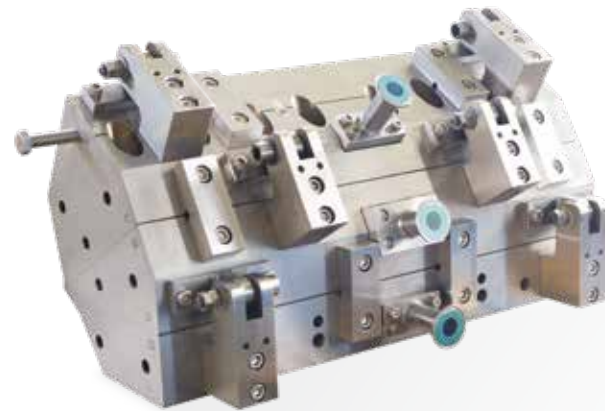
- ◎超强的耐磨性能，维氏硬度可达HV2000-2300
- ◎极好的润滑性，摩擦系数0.06-0.1，防止粘着磨损
- ◎可根据模头大小调配成膜厚度，单边1-10um厚，厚度误差小
- ◎具备优秀的防腐蚀性能

- ◎Super wear resistance, Vickers hardness can reach HV2000-2300;
- ◎Excellent lubricity, friction coefficient of 0.06-0.1, preventing adhesive wear;
- ◎The film thickness can be adjusted according to the size of the die head, with a thickness of 1-10um on one side and low tolerance;
- ◎Excellent anti-corrosion performance.



#### 三层复合涂布模头

#### Three Layers Composite Coating Die Head



- ◎三个独立的型腔设计，可同时进行三层涂布
- ◎快速开合模体结构，每一层都能快速打开清理流道
- ◎模唇精度高，涂布均匀性好

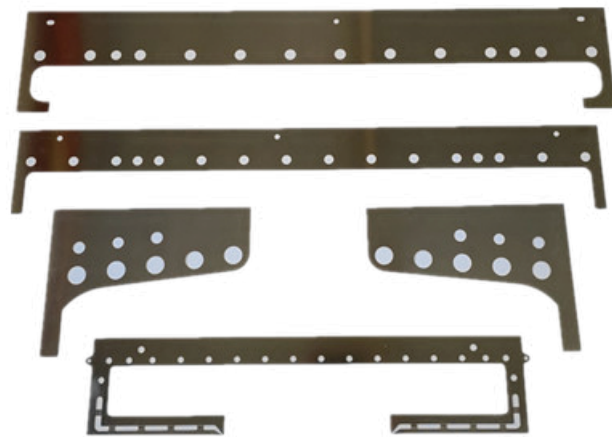
- ◎Three independent cavity designs that can be coated in three layers simultaneously;
- ◎Quickly open and close the die structure, allowing each layer to quickly open and clean the flow channel;
- ◎High accuracy die lip and good coating uniformity.

#### 模头垫片

#### Die Head Pad

- ◎采用进口的垫片，垫片厚薄误差小，精度高
- ◎垫片材质可选择：SUS 304、316L
- ◎可根据涂布厚度选择不同厚度的垫片
- ◎改变U型垫片的开口大小可调整涂布宽度

- ◎Adopting imported pad, low tolerance and the high precision;
- ◎The pad material can be selected: SUS304, 316L;
- ◎Different thicknesses of pad can be selected based on the coating thickness;
- ◎Changing the opening size of the U-shaped pad can adjust the coating width.





企业风采：品质管理 技术研发 国际交流 客户服务 员工培训

Quality Control Technology Research International Communication Customer Service Staff Training

