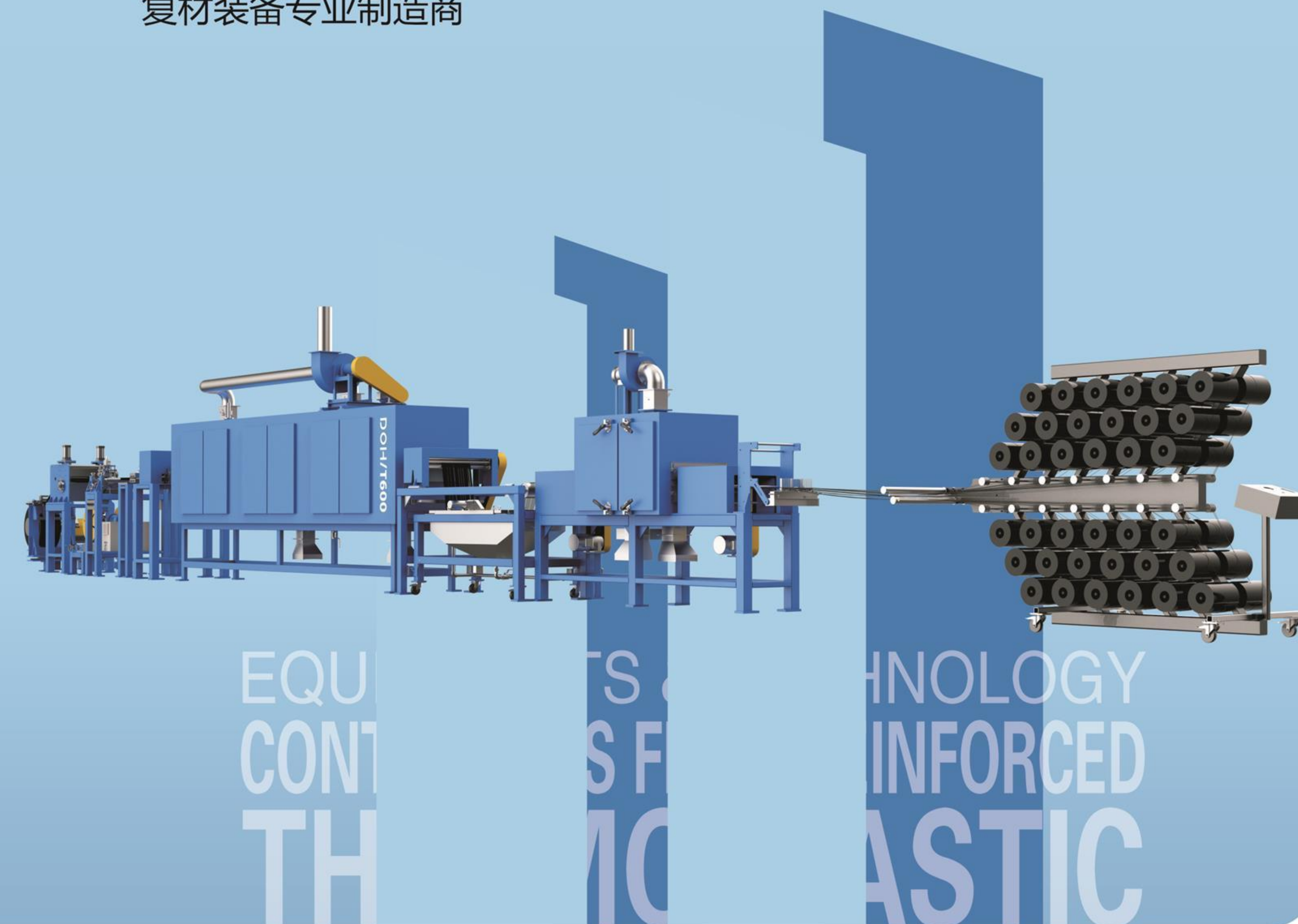


CFRTP

复材装备专业制造商

DOH[#] | 复材
装备



2022

DOH[#] CCM (Suzhou) Equipment Technology Co., Ltd.
东华希烯埃姆(苏州)装备技术有限公司

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※The company's sample is for reference only, please take the actual material prevail.
※本公司样本仅供参考，请以实物为准。

EQUIPMENTS & TECHNOLOGY CONTINUOUS FIBER REINFORCED THERMOPLASTIC

Professional Manufacturer For CFRTP Equipments

CFRTP复材装备专业制造商

DOH[#] CCM (Suzhou) Equipment Technology Co., Ltd. is a professional enterprise with independent intellectual property rights to provide unidirectional thermoplastic carbon fiber and fabric prepreg continuous production line processing and manufacturing capacity. The company has been committed to the research and development and processing of composite material equipment for many years, Can provide PI, PEI, PAEK, PEKK, PEEK, PPS, PC, PA, TPU and other thermoplastic carbon fiber prepreg production line molding equipment, Master CFRTP core processing technology and technical characteristics. We have provided complete sets of CFRTP composite lines for many large enterprises in the world, Infiltrate UD line and other auxiliary equipment, stable quality, excellent performance, The continuous production of 300mm, 600mm and 1000mm wide thermoplastic carbon fiber equipment and the continuous production line of PPS, PC and PA sheet layering are realized.

东华希烯埃姆（苏州）装备技术有限公司是一家拥有自主知识产权的专业提供热塑性碳纤维单向及织物预浸料连续生产线的加工制造能力的企业。公司多年来一直致力于复合材料装备的研发和加工制造，可提供PI、PEI、PAEK、PEKK、PEEK、PPS、PC、PA、TPU等热塑性碳纤维预浸料生产线成型设备的制造商，掌握CFRTP核心加工工艺和技术特性。已经为全球多家大型企业提供成套CFRTP复合线、浸渍UD线及其它辅助设备，质量稳定，性能优异，并实现宽幅300mm、600mm、1000mm热塑碳纤维设备连续性生产及PPS、PC、PA板材铺层连续性生产线。

The advantages of thermoplastic composites can be processed repeatedly and with the characteristics of high toughness
热塑性复合材料的优势可反复加工具有高韧性特点

Thermoset composite material 热固性复合材料

- ★Shaping slow 成型慢
- ★Material needs frozen storage 原料冷冻储存
- ★Poor Hot -wet resistance 湿热性差
- ★Hard for recycling 回收困难
- ★Hard for riveting 铆接复杂

Thermoplastic composite material 热塑性复合材料

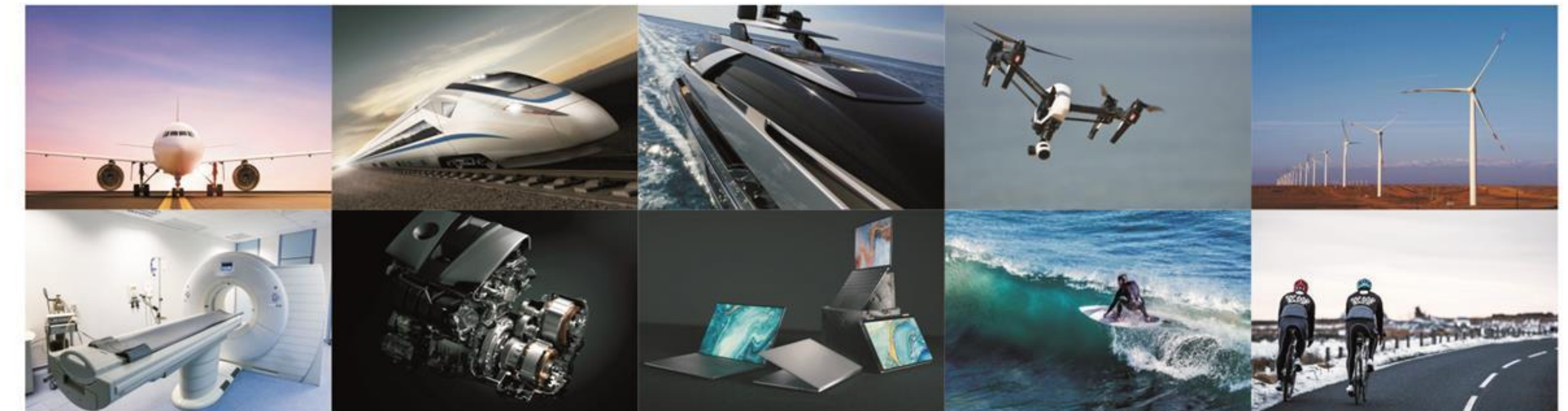
- ★Rapid processing 成型快
- ★Ambient temperature storage 原料常温无限储存
- ★Hot -wet resistance 耐湿热
- ★Recyclable 可回收
- ★Weldable 可焊接

Continuous Fiber Reinforced Thermoplastic CFRTP

连续纤维增强热塑性复合材料 CFRTP



Application of CFRTP materials



CFRTP 材料的应用

CFRTP is the use of continuous glass fiber, carbon fiber, aramid fiber, polypropylene fiber, polyester fiber and PEKK, PEEK, PPS, PC, PA, TPU plastic under the condition of fused completely infiltration fusion and make a new kind of composite materials. CFRTP material has high strength, high modulus, light weight, corrosion resistance and waterproof properties.

CFRTP是使用连续的玻璃纤维，碳纤维，芳纶纤维，丙纶，涤纶等纤维材料与PEKK、PEEK、PPS、PC、PA、TPU等塑料在熔融条件下完全浸润融合而制造的一种全新的复合材料。CFRTP材料具有高强度，高模量，重量轻，耐腐和防水等性能。

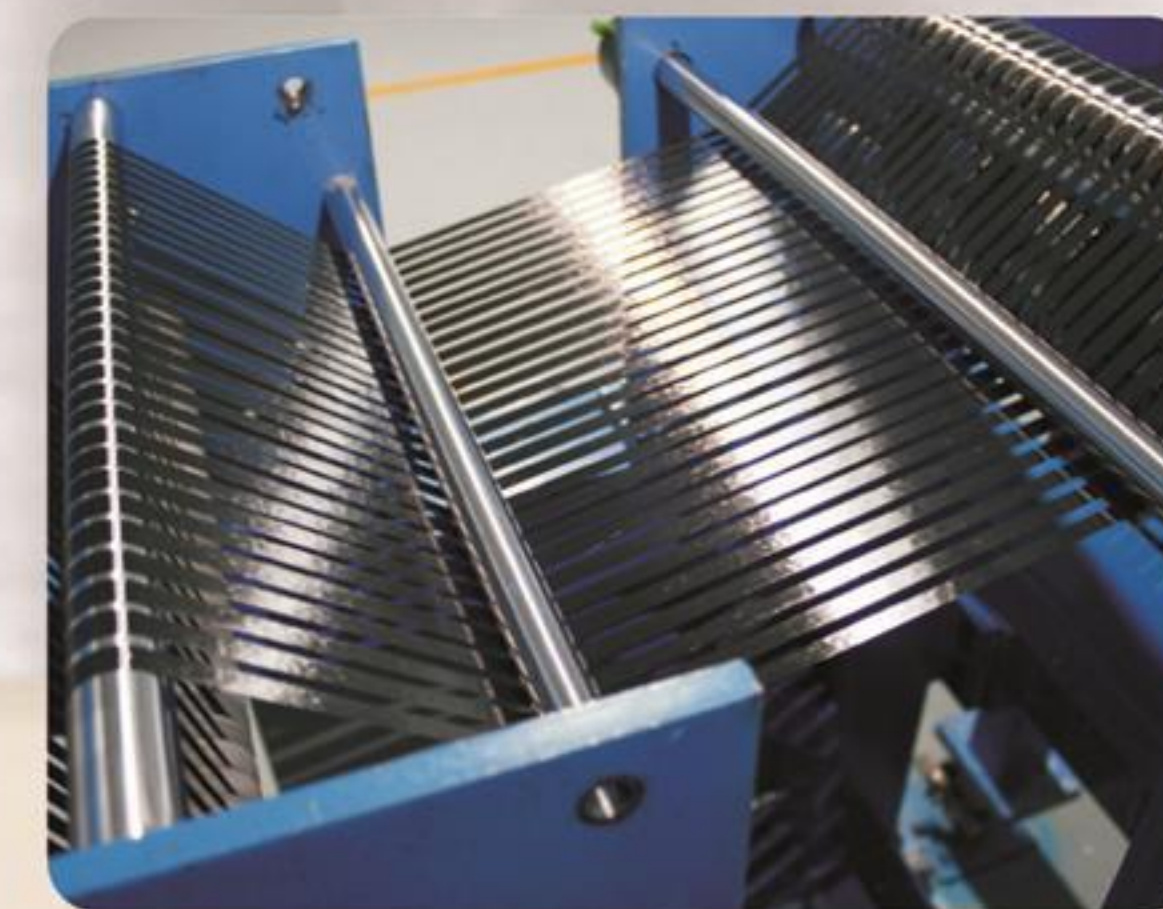
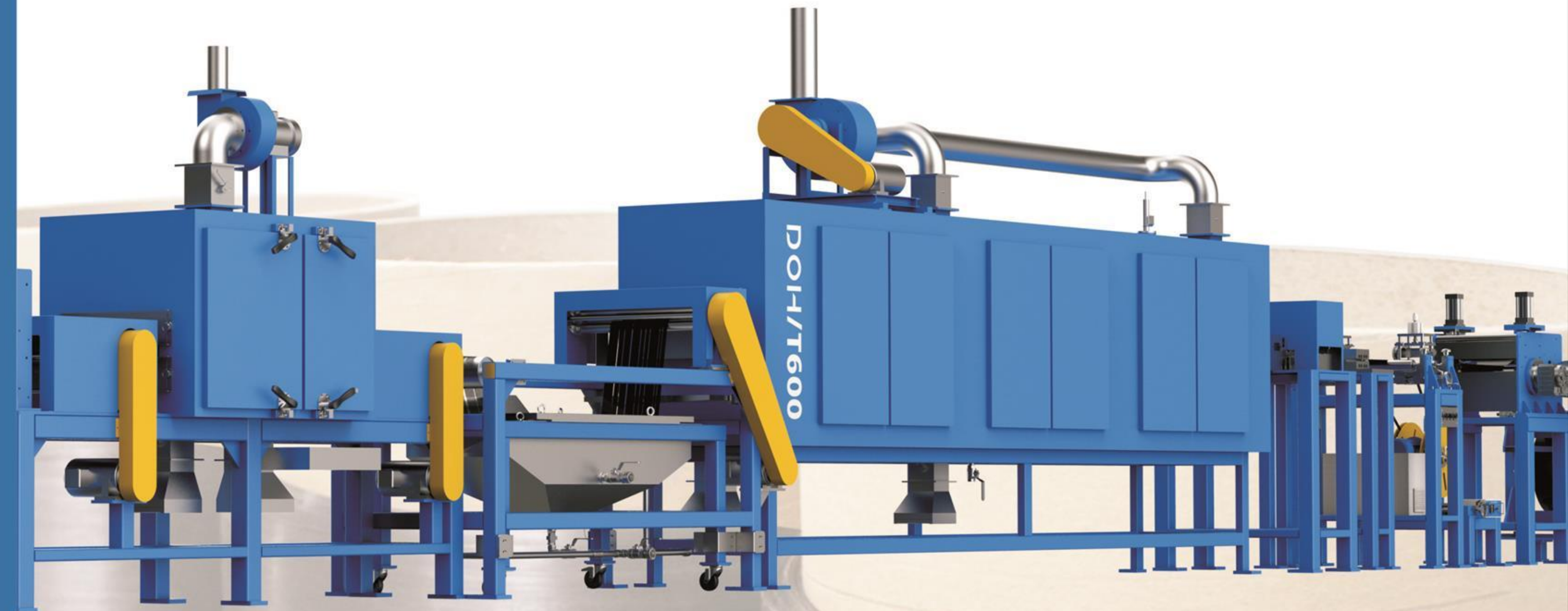
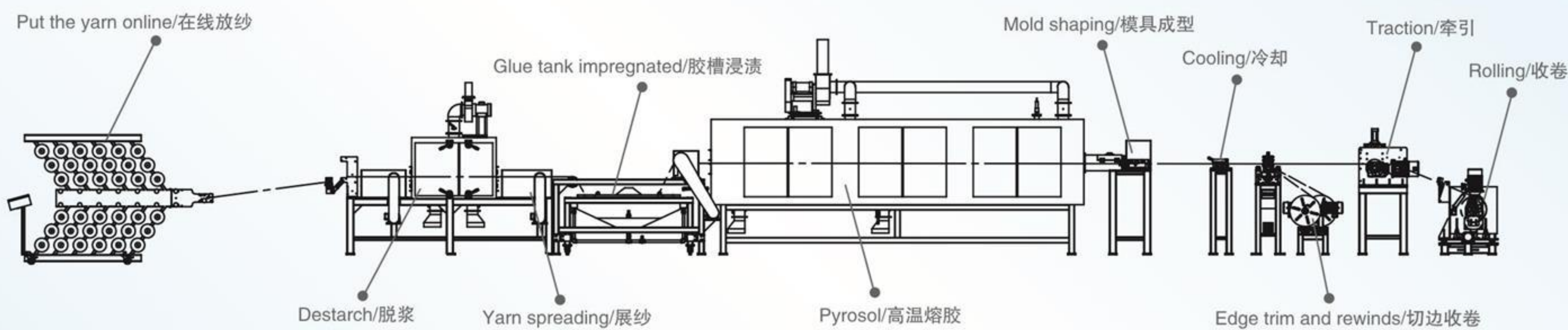


Continuous CF Reinforced UD Prepreg Production Line (Thermoplastic & Wet Press)

连续性碳纤维增强单向预浸料生产线 (热塑&湿法)

Continuous carbon fiber reinforced high performance composite unidirectional tape is widely used in military, aerospace, high-end medical and civil auto parts, sports equipment, fishing tackle and other fields. Theory: Resin powder and other additives are prepared into suspension, The filament passes through the dip tank, In which the suspension is fully impregnated, Into the heating furnace to dry suspending agent. With this way's mechanical property has good impact resistance and damage resistance, At the same time, it has the characteristics of corrosion resistance and long life.

连续碳纤维增强高性能复合材料单向带广泛应用于军工、航空航天、高端医疗及民用汽车零部件、运动器材、钓具等领域。原理：将树脂粉末及其他添加剂配制成悬浮液，纤维长丝经过浸胶槽，在其中经悬浮液充分浸渍后，进入加热炉中烘干悬浮剂，同时使树脂熔融浸渍纤维得到预浸料。此方法所生产的连续纤维单向带的力学性能，具有良好的抗冲击性能和抗损伤性能，同时具有耐腐蚀、寿命长的特点。



DOH/T600 equipment advantages

- ① Special yarn spreading system, realize yarn bundle evenly spread distribution;
- ② The special yarn spreading system can realize the uniform distribution of yarn bundles
- ③ The highest temperature oven system at 650°C can realize the full melting of resin and improve efficiency;
- ④ Special formula suspensions are made for different high performance resins to achieve full and even impregnation;
- ⑤ Continuous production of reinforced thermoplastic carbon fiber products;
- ⑥ Temperature is controllable and adjustable;
- ⑦ Automatic rewinding correction;
- ⑧ Perfect mold design.

DOH/T600 设备优点

- ① 特殊的展纱系统,实现纱束均匀展开分布;
- ② 最高650°C高温烘箱系统实现对树脂充分熔融,提高效率;
- ③ 针对不同的高性能树脂,制作专用的配方悬浮液来实现浸渍充分、均匀;
- ④ 能够连续生产增强热塑性碳纤维产品;
- ⑤ 温度可控可调;
- ⑥ 收卷自动纠偏;
- ⑦ 完善的模具设计。

Technical parameters/技术参数

Resin matrix 树脂基体	PI/PEEK/PPS/PC/PA/TPU	The process temperature 工艺温度	MAX 450°C
Prepreg width 单向预浸带幅宽	300/600/1000mm	Linear velocity 线速度	1.0-5.0m/min
The thickness of the product 产品厚度	0.15-0.2mm	Fiber type 纤维型号	12K/24K
Fiber type 纤维类型	Glass fiber/Carbon fiber 玻璃纤维/碳纤维		

Continuous CF Reinforced Farbic Prepreg Production Line (Thermoplastic & Dry Press)

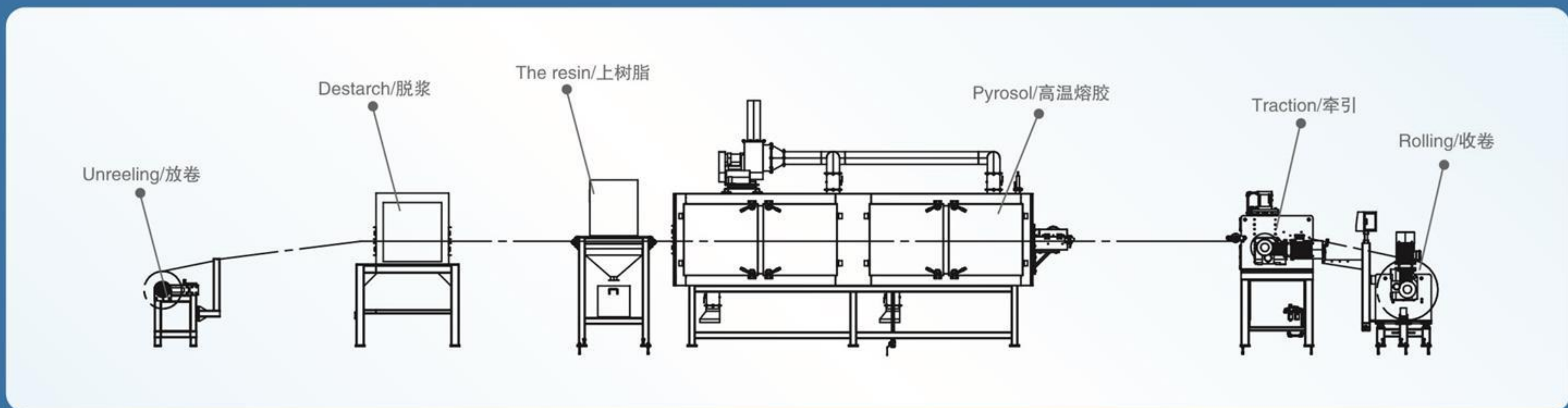
连续性碳纤维增强织物预浸料生产线（热塑&干法）

Continuous carbon fiber reinforced high performance composite unidirectional tape is widely used in military, aerospace, high-end medical and civil auto parts, sports equipment, fishing tackle and other fields.

In this method, thermoplastic resin powder is evenly distributed on unidirectional carbon Wovenby means of powder spraying device.Melting through oven heating,After cooling and flattening and roll forming.Suitable for compounding resin with different particle sizes and various fibers of different fabric forms ,Continuous production of carbon fiber reinforced thermoplastic prepreg ,It has excellent impact toughness and fatigue damage resistance,Short molding cycle,High production efficiency.

连续碳纤维增强高性能复合材料单向带广泛应用于军工、航空航天、高端医疗及民用汽车零部件、运动器材、钓具等领域。

该方法通过撒粉装置将热塑性树脂粉末均匀撒在单向碳布上，然后通过烘箱加热熔融，冷却压平后收卷成型。适用于将不同粒径大小的树脂和不同织物形式的各类纤维复合，能够连续生产碳纤维增强热塑性预浸料，具有优异的抗冲击韧性，耐疲劳损伤性能，成型周期短，生产效率高特点。

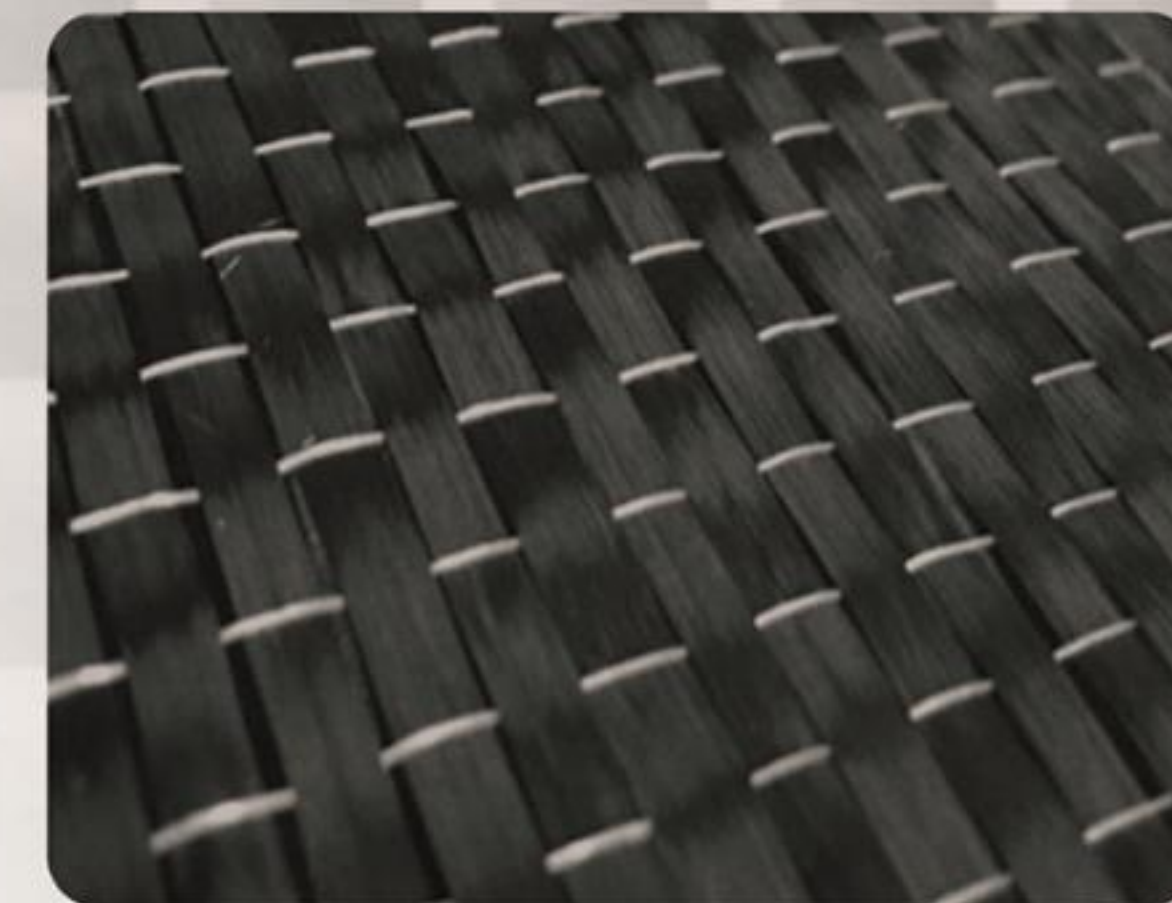
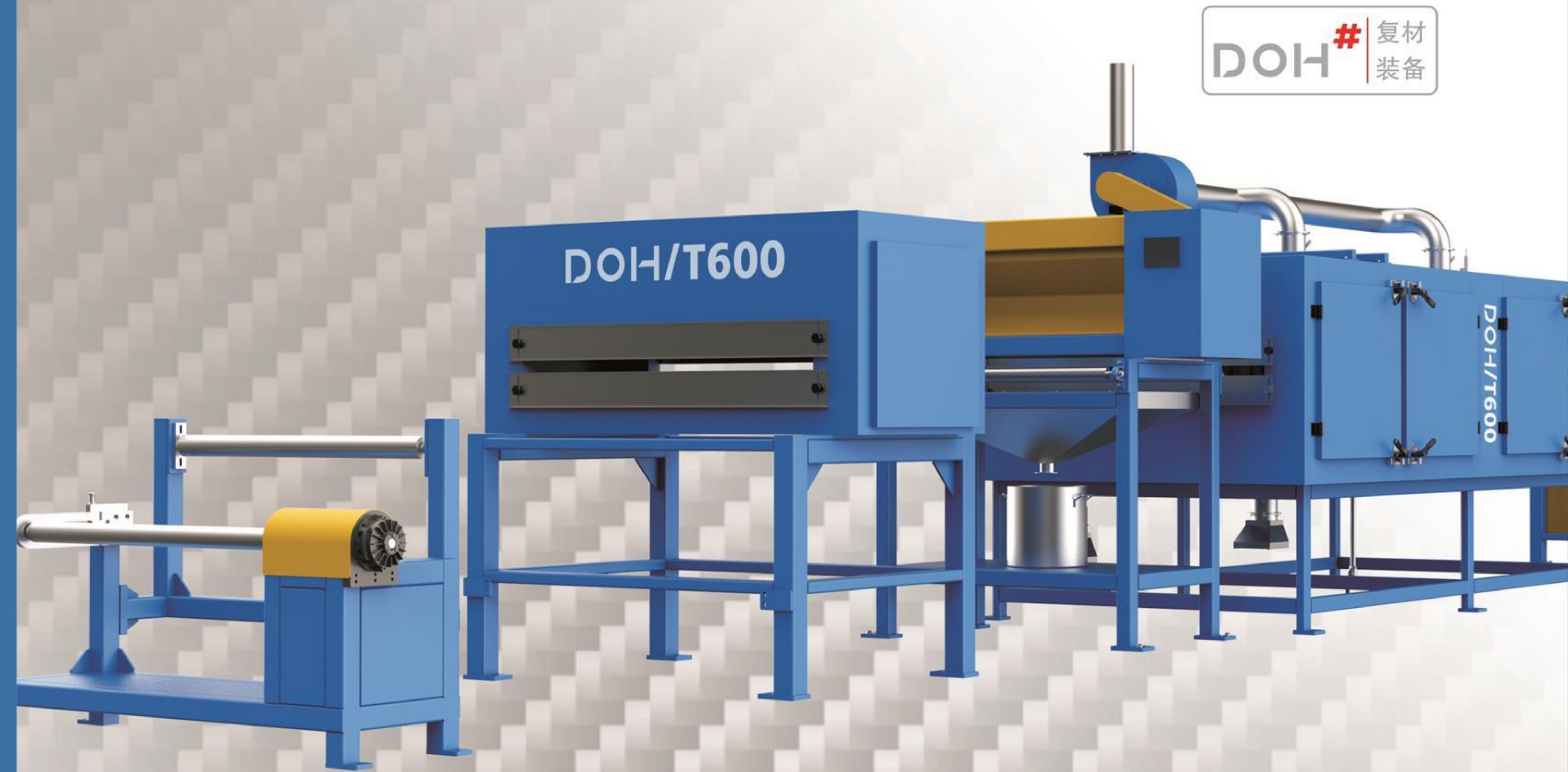


DOH/T600 equipment advantages

- ①The thermoplastic resin powder is evenly distributed on Carbon Fiber Woven Cloth by imported powder spraying equipment with high precision;
- ②The special yarn spreading system can realize the uniform distribution of yarn bundles
The highest temperature oven system at 650°C can realize the full melting of resin and improve efficiency;
- ③Winding level, automatic deviation correction;
- ④Suitable for continuous production of different materials;
- ⑤Temperature is controllable and adjustable.

DOH/T600 设备优点

- ①通过高精度撒粉设备使热塑性树脂粉末均匀撒在织物碳布上；
- ②最高650°C高温烘箱系统实现对树脂充分熔融，提高效率；
- ③收卷平整、自动纠偏；
- ④适用不同材质的原料连续生产；
- ⑤温度可控可调。



Technical parameters/技术参数

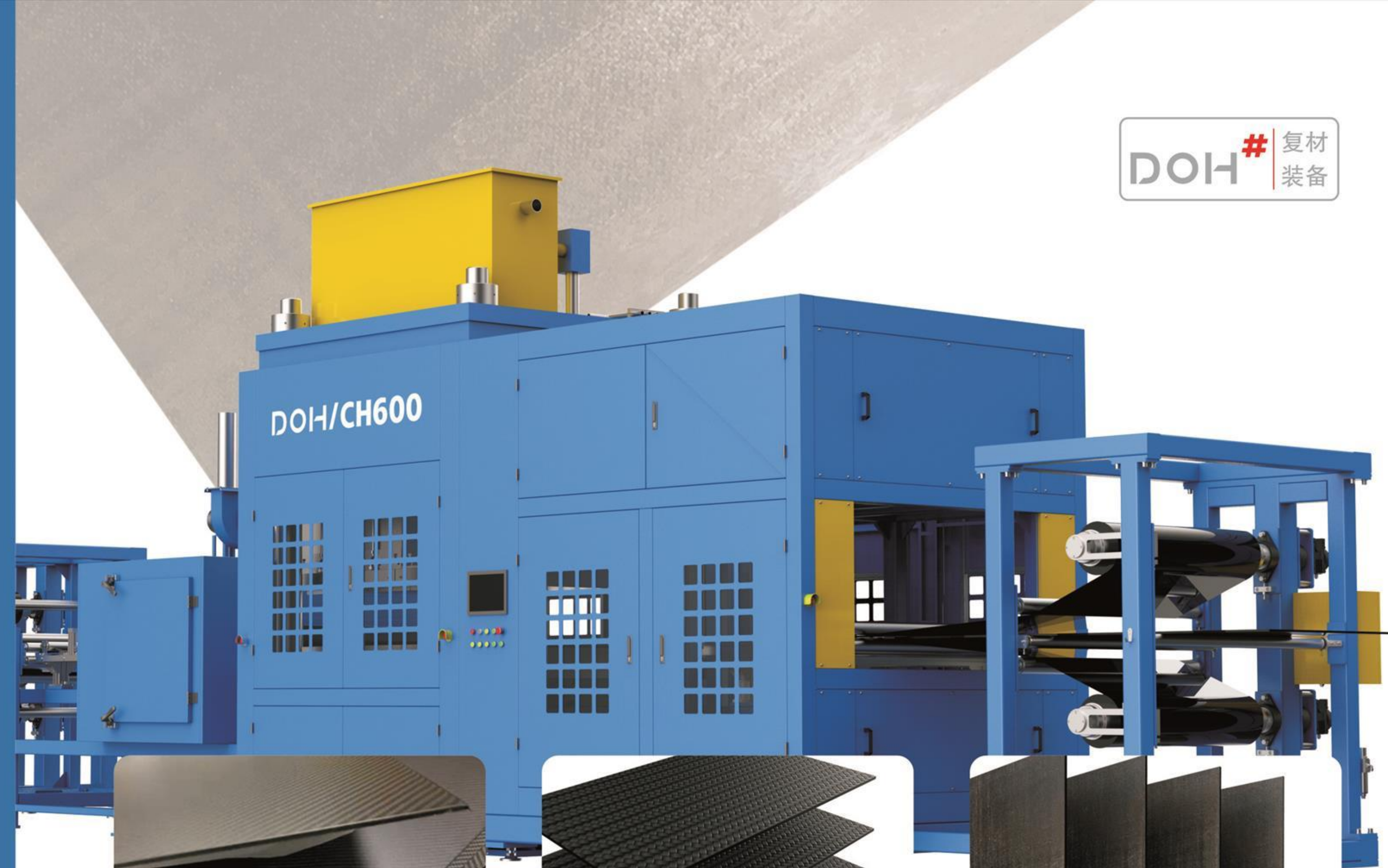
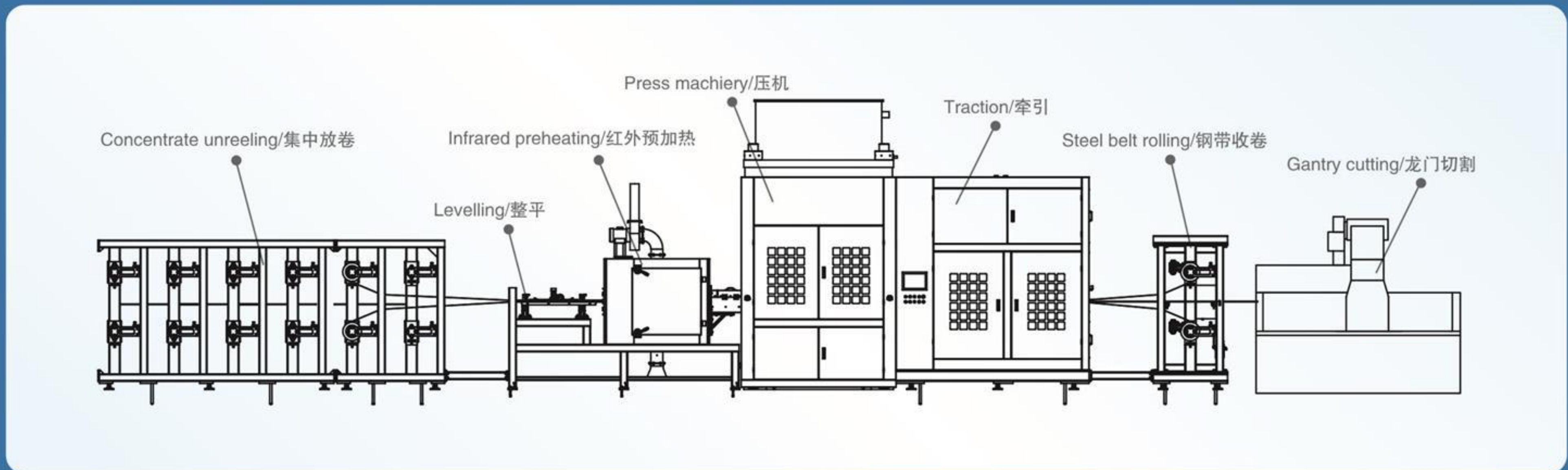
Resin matrix 树脂基体	PI/PEEK/PC/PA	The process temperature 工艺温度	MAX 450°C
Product width 产品宽度	300/600/1000mm	Linear velocity 线速度	1-10m/min
The thickness of the product 产品厚度	0.2-0.3mm	Fiber type 纤维型号	12K/24K
Fiber type 纤维类型	Carbon fiber woven cloth 碳纤维编织布		

Carbon Fiber Reinforced Laminate Production Line(High Tg)

碳纤维增强板材生产线（高温）

Carbon fiber thermoplastic panels are beautiful and high-end, It's five times stronger than steel, It also has excellent heat resistance. As a lot of high-end products shell and accessories are very practical, environmental and recycle, Thermoplastic sheet with a certain temperature conditions, Can soften or melt into any shape, The characteristic of invariable shape after cooling, This reduces the process and the manufacturing cycle of the product. CCM Equipment is an intermittent but continuous production process, The equipment is an intermittent but continuous production process used to fuse fibers (carbon fiber, glass fiber, etc.) with thermoplastic substrates (PI, PEI, PEKK, PEEK, PPS) Through this process, Can produce all kinds of high mechanical strength and light weight composite plate.

碳纤维热塑板美观高端，且强度是钢铁的五倍，同时具备出色的耐热性、耐磨损性、抗腐蚀性，作为很多高端产品外壳和配件都非常实用。碳纤维热塑板更环保，且可以重复利用，克服了一般热固性板材不可逆的操作，热塑性板材具有一定的温度条件下，能软化或熔融成任意形状，冷却后形状不变的特点，这减少了加工工艺及产品的制造周期。CCM设备是一种间歇但连续的生产工艺，用于将纤维（碳纤维、玻璃纤维等）与热塑性基体（PI、PEI、PEKK、PEEK、PPS）融合，通过这一工艺，可制造出各类高机械强度而重量轻的复合板材。



Technical parameters/技术参数

Resin matrix 树脂基体	PI/PEI/PEKK/PEEK/PPS	Heating area 加热区最高温度	MAX 450°C
Product width 产品宽度	300/600/1000mm	The cooling zone 冷却区最高温度	MAX 90°C
Laminate thickness 层压板厚度	1-15mm	Pressure equipment 设备压力	125T×4
Production speed 生产速度	30-60m/h	Fiber type 纤维型号	12K/24K
Fiber type 纤维类型	Glass fiber/Carbon fiber 玻璃纤维/碳纤维		

DOH/CH600 plate production line equipment advantages

- ①High voltage module;
- ②There are precompression modules in the hot area;
- ③Pressure is adjustable and controllable;
- ④Constant temperature design in high pressure area;
- ⑤With cooling module;
- ⑥Perfect mold design.

DOH/CH600 板材生产线设备优点

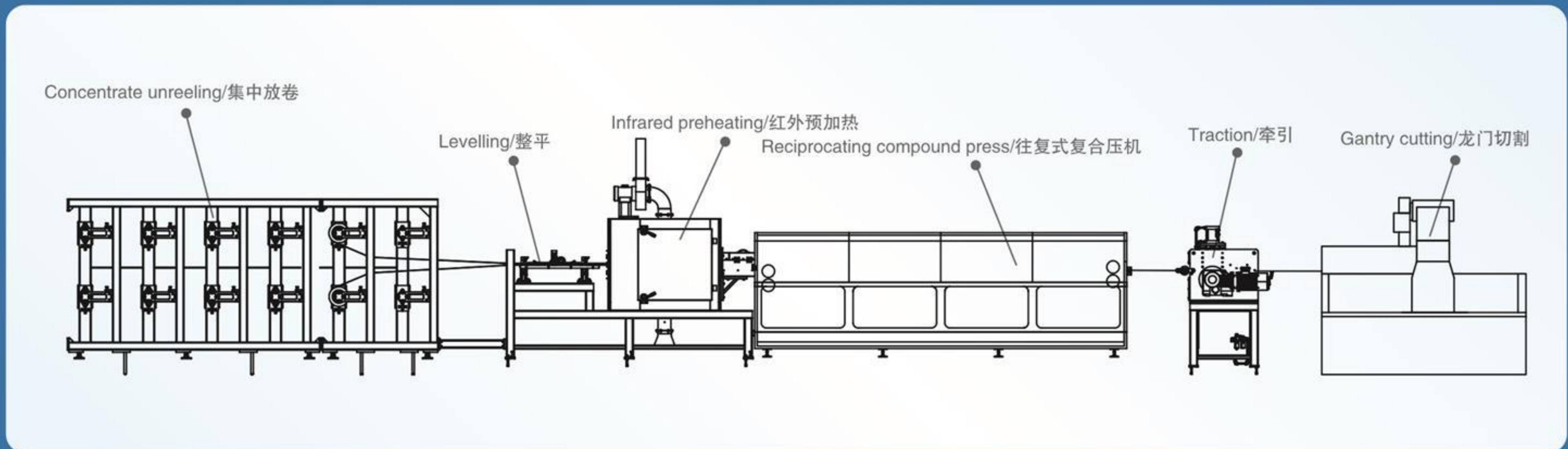
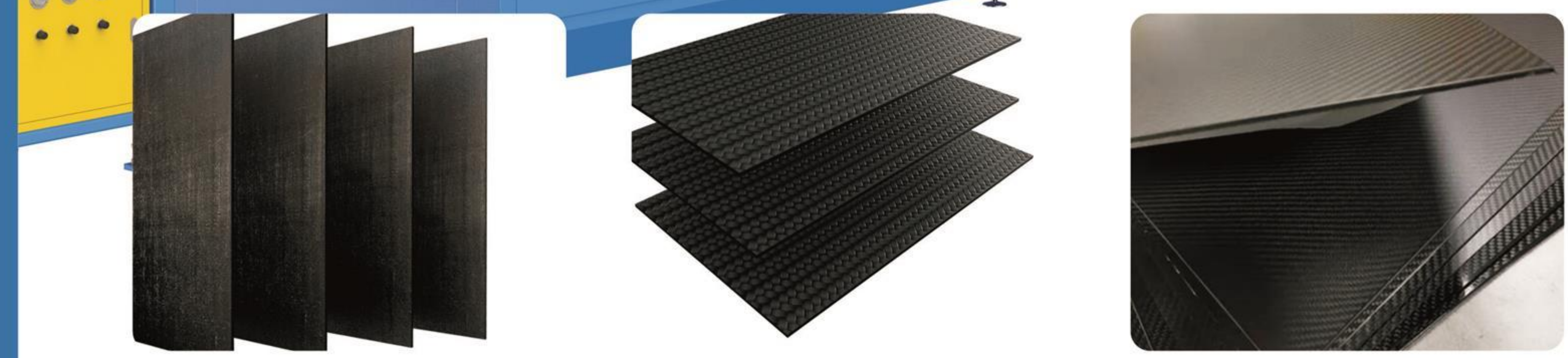
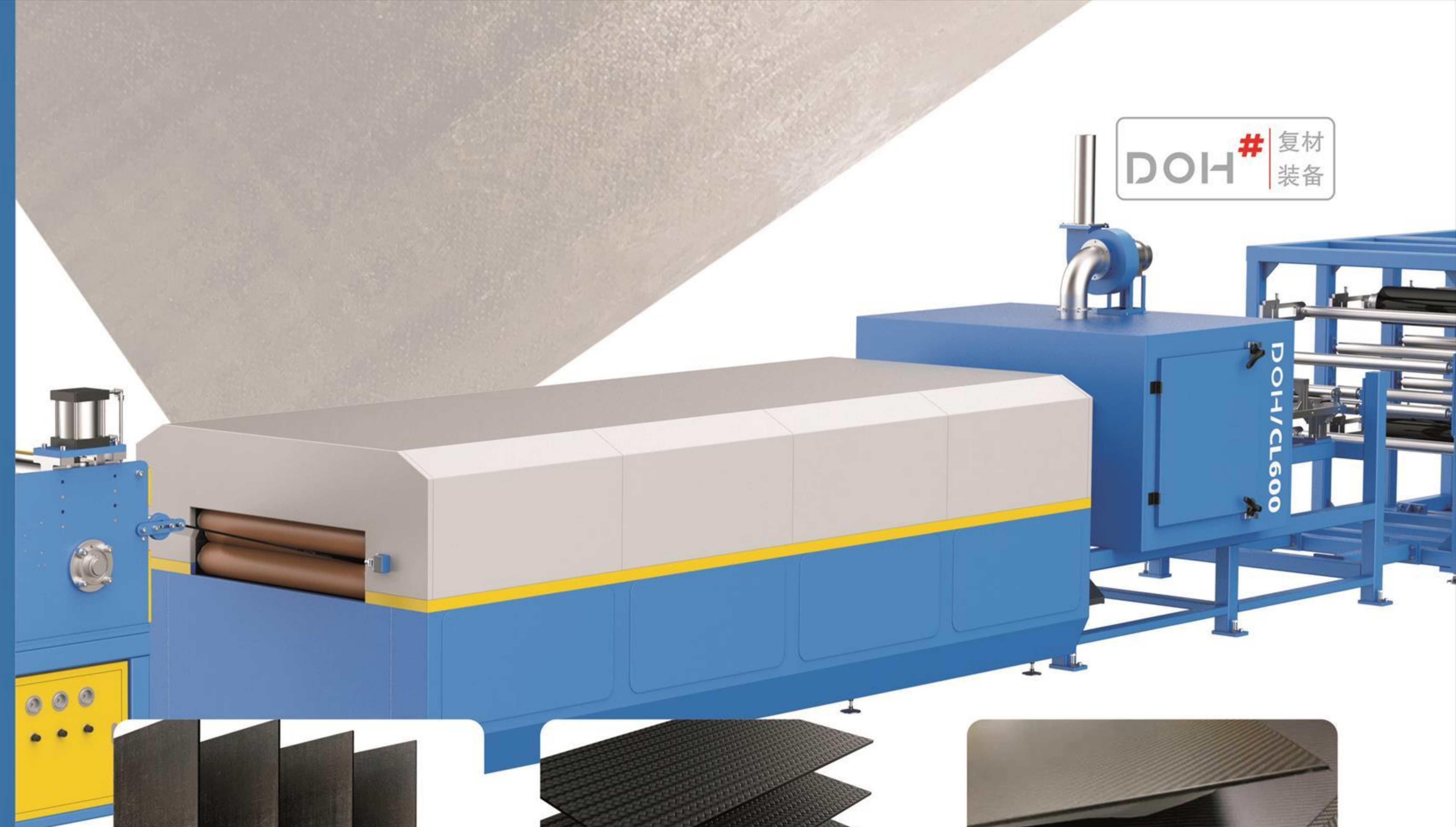
- ①具有高压模块；
- ②热区有预压模块；
- ③压力可调可控；
- ④高压区的恒温设计；
- ⑤具有冷却模块；
- ⑥完善的模具设计。

Carbon Fiber Reinforced Laminate Production Line(Low Tg)

碳纤维增强板材生产线（低温）

Carbon fiber thermoplastic panels are beautiful and high-end, It's five times stronger than steel, It also has excellent heat resistance. As a lot of high-end products shell and accessories are very practical, environmental and recycle, Thermoplastic sheet with a certain temperature conditions, Can soften or melt into any shape, The characteristic of invariable shape after cooling, This reduces the process and the manufacturing cycle of the product. CCM Equipment is an intermittent but continuous production process, The equipment is an intermittent but continuous production process used to fuse fibers (carbon fiber, glass fiber, etc.) with thermoplastic substrates (PC, PA, TPU) Through this process, Can produce all kinds of high mechanical strength and light weight composite plate.

碳纤维热塑板美观高端，且强度是钢铁的五倍，同时具备出色的耐热性、耐磨损性、抗腐蚀性，作为很多高端产品外壳和配件都非常实用。碳纤维热塑板更环保，且可以重复利用，克服了一般热固性板材不可逆的操作，热塑性板材具有一定的温度条件下，能软化或熔融成任意形状，冷却后形状不变的特点，这减少了加工工艺及产品的制造周期。CCM设备是一种间歇但连续的生产工艺，用于将纤维（碳纤维、玻璃纤维等）与热塑性基体（PC、PA、TPU）融合，通过这一工艺，可制造出各类高机械强度而重量轻的复合板材。



DOH/CL600 plate production line equipment advantages

- ① High voltage module;
- ② There are precompression modules in the hot area;
- ③ Pressure is adjustable and controllable;
- ④ Constant temperature design in high pressure area;
- ⑤ With cooling module;
- ⑥ Perfect mold design.

DOH/CL600 板材生产线设备优点

- ① 具有高压模块；
- ② 热区有预压模块；
- ③ 压力可调可控；
- ④ 高压区的恒温设计；
- ⑤ 具有冷却模块；
- ⑥ 完善的模具设计。

Technical parameters/技术参数

Resin matrix 树脂基体	PC/PA/TPU	Heating area 加热区最高温度	MAX 250°C
Product width 产品宽度	300/600/1000mm	The cooling zone 冷却区最高温度	MAX 90°C
Laminate thickness 层压板厚度	1-15mm	Pressure equipment 设备压力	125T×4
Production speed 生产速度	MAX 60m/h	Fiber type 纤维型号	12K/24K
Fiber type 纤维类型	Glass fiber/Carbon fiber 玻璃纤维/碳纤维		

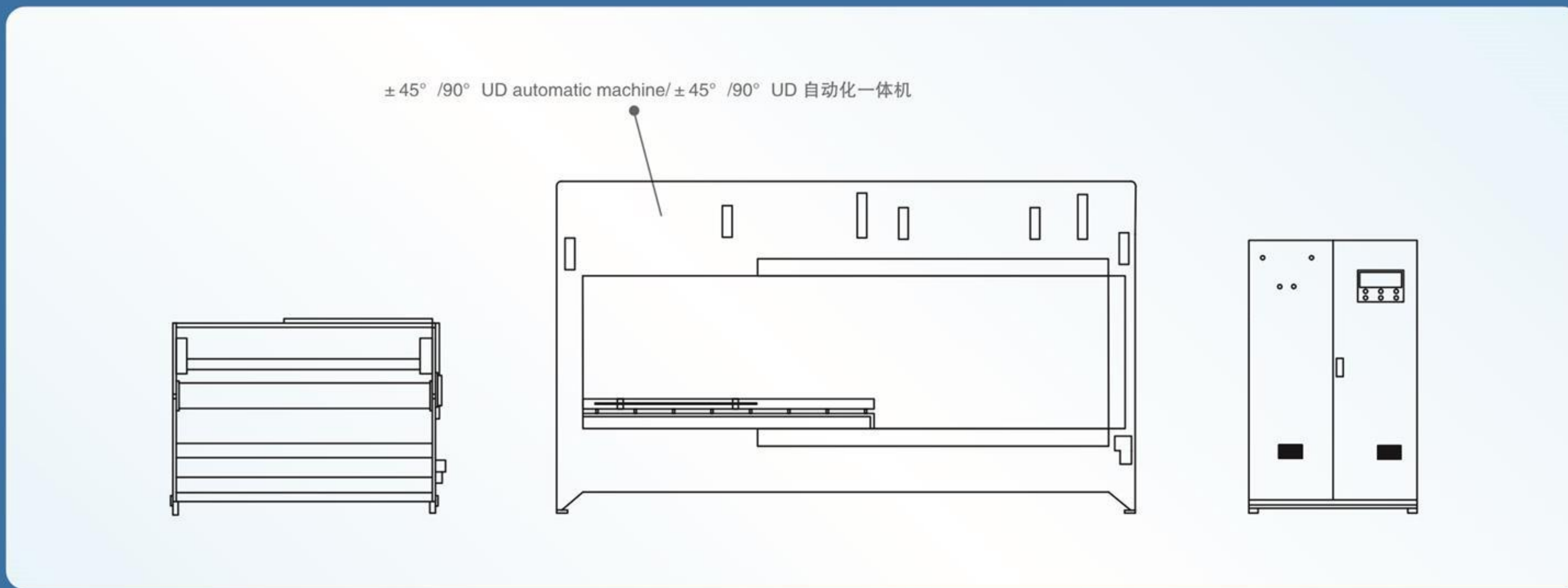
±45°/90°UD Automatic Machine

±45°/90°UD 自动化一体机

±45°/90°UD Automatic Slitting & Welding & Rewinding Machine
±45°/90°UD 自动化分切焊接收卷一体机

It is mainly used for laying welding between carbon fiber thermoplastic unidirectional cloth 0° and + 45°、- 45°、90° materials. The equipment is equipped with unwinding machine、adsorption welding laying platform、heating oven、molding machine、tractor、winding machine and so on.

主要用于碳纤维热塑性单向布0°与+45°、-45°、90°材料间的铺层焊接，设备配备放卷机、吸附式焊接铺层平台、加热烘箱、模压机、牵引机、收卷机等。



±45°/90°UD automatic machine equipment advantages

- ①The process forming temperature can be adjusted in real time;
- ②Suitable for 0°and + 45°、- 45°、90° carbon fiber layer welding;
- ③Self-developed gripping device;
- ④Pressure is adjustable and controllable;
- ⑤Unwinding automatic deviation correction;
- ⑥Perfect welding device.

±45°/90°UD 自动化一体机设备优点

- ①工艺成型温度实时可调；
- ②适用0°与+45°、-45°、90°碳纤维材料的铺层焊接；
- ③自主研发的抓料装置；
- ④压力可调可控；
- ⑤放卷自动纠偏；
- ⑥完善的焊接装置。

Technical parameters/技术参数

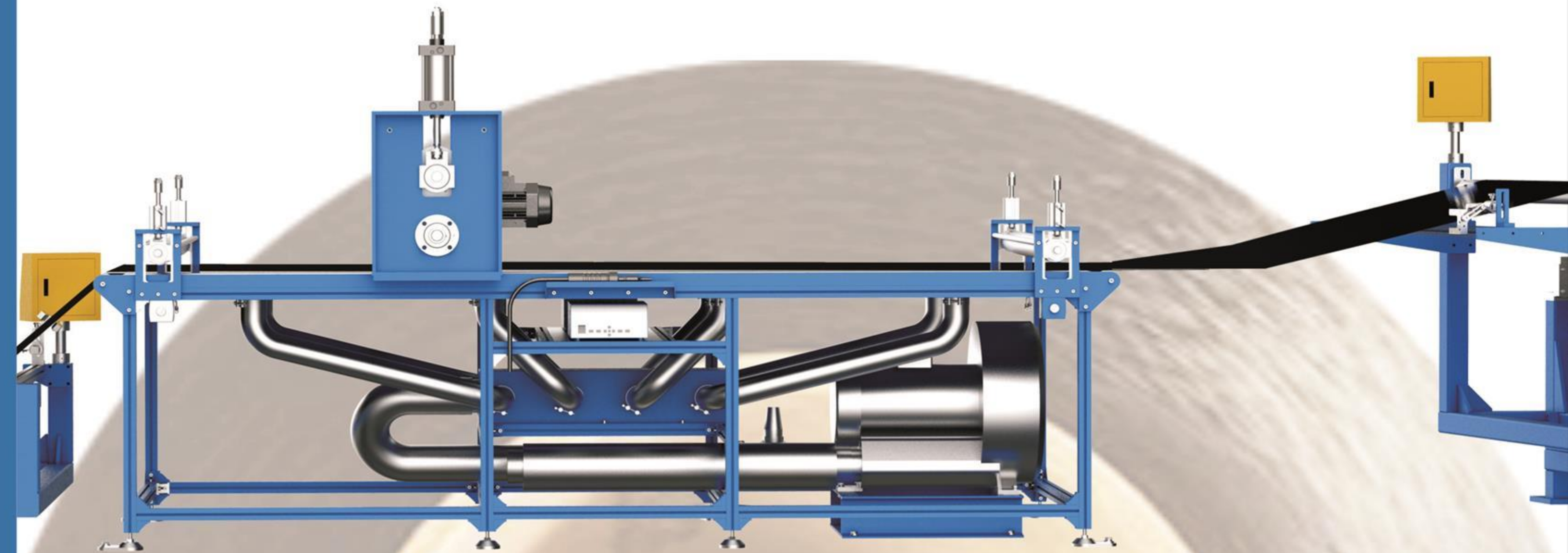
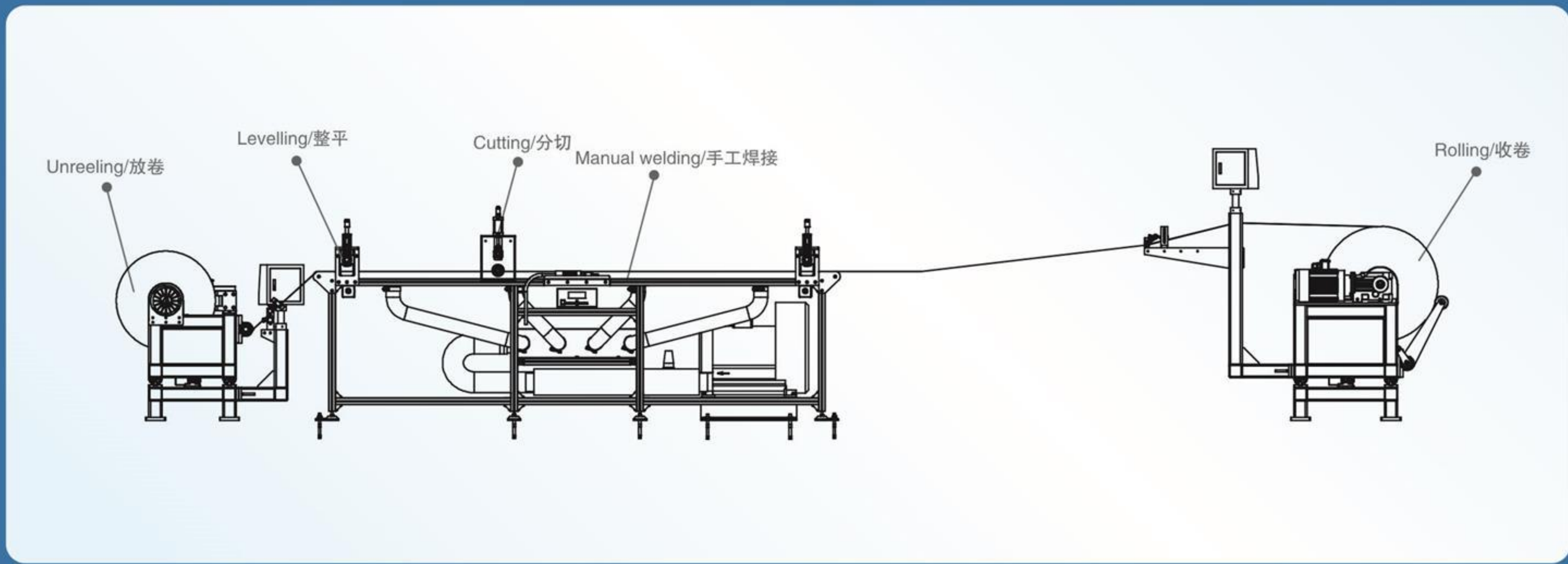
Resin matrix 树脂基体	PEEK/PPS/PC/PA	Molding temperature 模压温度	370°C
Product width 产品宽度	300/600/1000mm	Linear velocity 线速度	0-10m/min
Fiber type 纤维型号	12K/24K	Fiber type 纤维类型	Glass fiber/Carbon fiber 玻璃纤维/碳纤维
Overall dimensions(L×b×h) 外形尺寸	7500×4000×2100mm		

UD Semi-Automatic Machine

UD 半自动化一体机

UD Semi-Automatic Slitting & Welding & Rewinding Machine
UD 半自动化分切焊接收卷一体机

It is mainly used for laying welding between carbon fiber thermoplastic unidirectional cloth materials. The equipment is equipped with unwinding machine, adsorption welding laying platform, winding machine and so on. 主要用于碳纤维热塑性单向布材料间的铺层焊接，设备配备放卷机、吸附式焊接铺层平台、收卷机等。



UD semi-automatic machine equipment advantages

- ①The process forming temperature can be adjusted in real time;
- ②Suitable for carbon fiber layer welding;
- ③Independent research and development of adsorption device;
- ④Pressure is adjustable and controllable;
- ⑤Automatic rewinding correction;
- ⑥Perfect welding device.

UD 半自动化一体机设备优点

- ①工艺成型温度实时可调；
- ②适用碳纤维材料的铺层焊接；
- ③自主研发的吸附装置；
- ④压力可调可控；
- ⑤收卷自动纠偏；
- ⑥完善的焊接装置。

Technical parameters/技术参数

Resin matrix 树脂基体	PEEK/PPS/PC/PA	Molding temperature 模压温度	420°C
Product width 产品宽度	300/600/1000mm	Linear velocity 线速度	0-5m/min
Fiber type 纤维型号	12K/24K	Fiber type 纤维类型	Glass fiber/Carbon fiber 玻璃纤维/碳纤维

Reciprocating Compound Press

往复式复合压机

Operating principle: The resin or film is difficult to melt by means of continuous high temperature and high pressure and the core material paste fusion molding.

Product use: Laptop computer shell, car collision board, tailcar board, all kinds of decorative board.

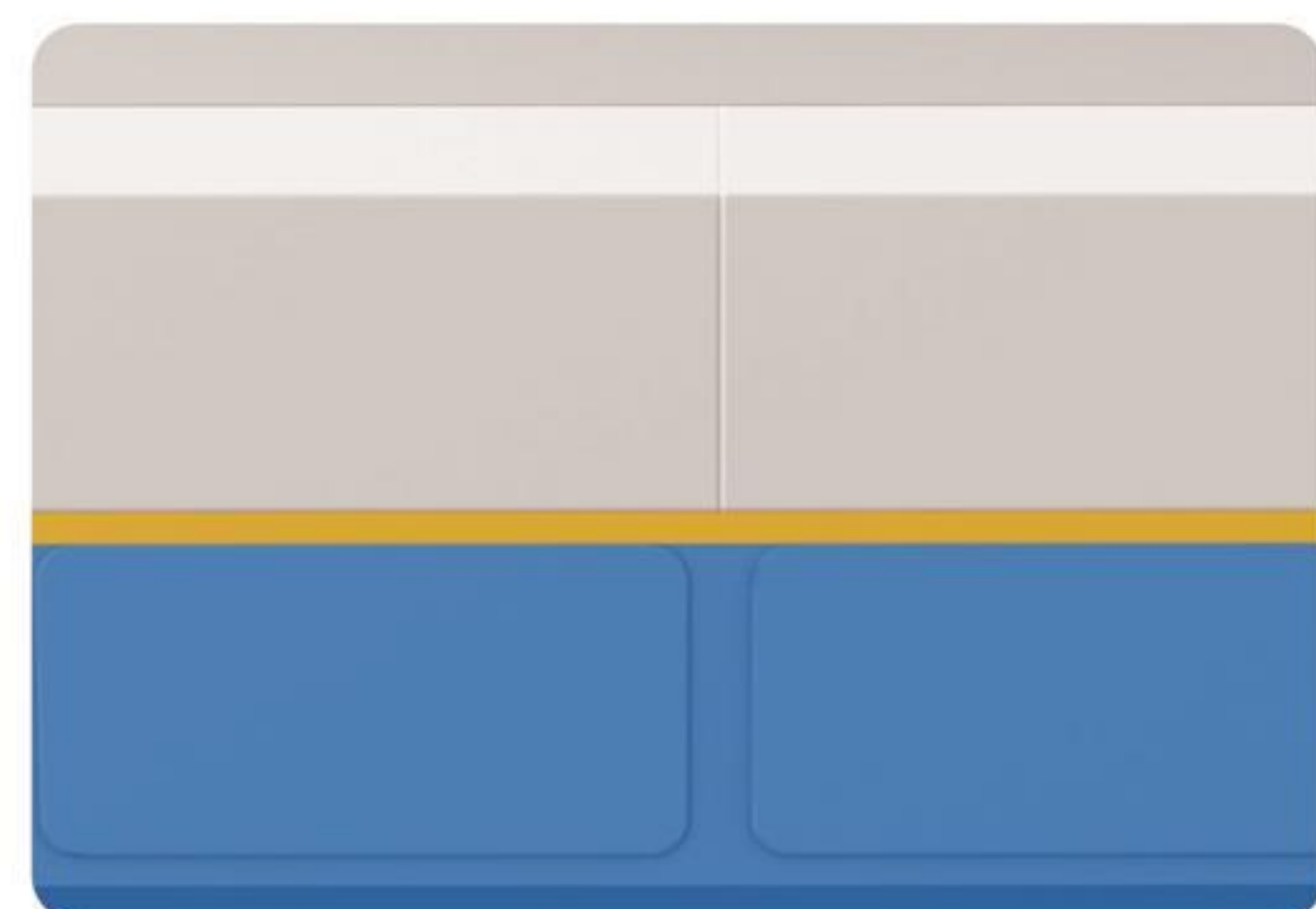
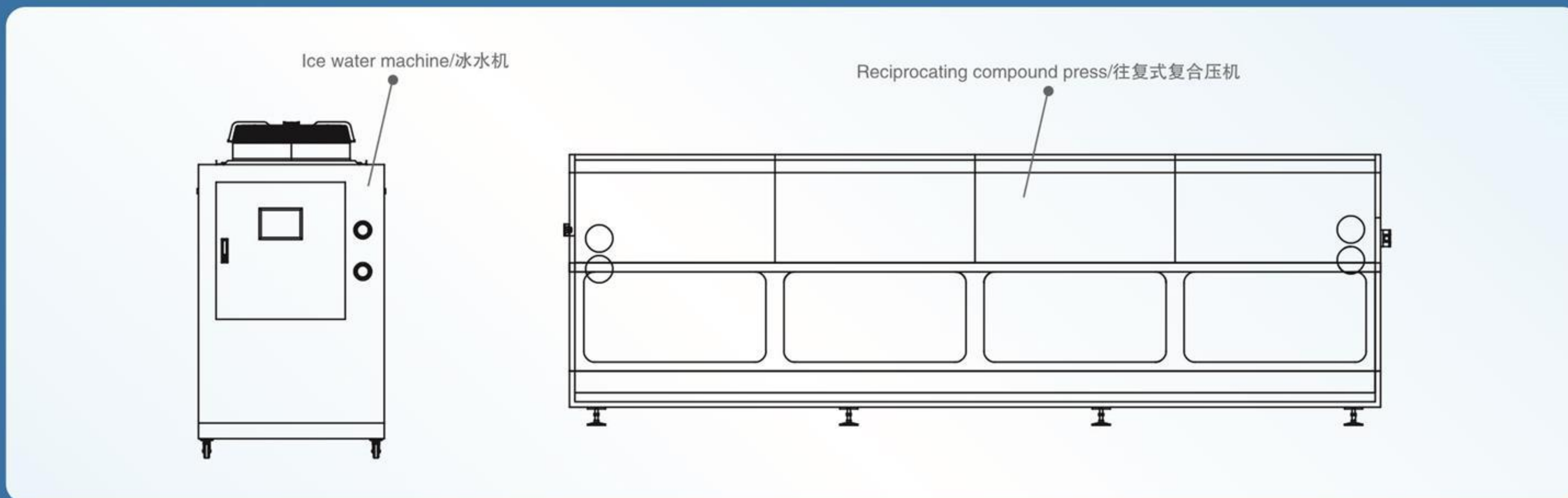
Advantages of equipment:

- ① high pressure module
- ② prepressing module in hot zone
- ③ adjustable and controllable roller pressure in high pressure zone
- ④ Constant temperature design in high pressure area

工作原理：难融化的树脂或薄膜通过连续多次高温高压的方式与芯材贴合并熔融成型。

产品用途：笔记本电脑外壳，汽车防撞板，尾厢板，各类装饰板等。

设备优势：①具有高压模块 ②热区有预压模块 ③高压区多区轧辊压力可调可控 ④高压区的恒温设计



Technical parameters/技术参数

Roller pressure 压辊压力	0-0.9mpa	The process temperature 工艺温度	0-300°C
Clearance between 间隙	0-110mm	Linear velocity 线速度	0-15m/min
Overall dimensions(L×b×h) 外形尺寸	Reciprocating compound press/往复式复合压机 4500×2000×1400mm	Overall dimensions(L×b×h) 外形尺寸	Ice water machine/冰水机 950×1500×1400mm
Width 幅宽	600mm/1000mm/1250mm/1500mm/2000mm/2500mm/3200mm		

Grinding Miller

磨粉机

Mill equipment is made up of Precooling warehouse、feeder、pulverizer、high pressure positive blower、High efficiency cyclone separator、electric box and so on,The whole process is made of stainless steel.

The machine is between zero and minus 196 degrees,adjustable,The parameters are displayed,To achieve embrittlement of materials at low temperature,Adopt the most advanced pre-cooling device in China,Precooling while feeding,Uniform feeding (adjustable by frequency conversion),Using the high speed relative motion between the movable disk and the fixed disk, The impact of pulverized powder through the teeth,cut,Friction and collision between materials and other comprehensive effects to achieve the purpose of crushing materials.

This machine boots high efficiency separator,simple in structure,Smooth operation,low noise,Good crushing effect. The crushed material is discharged directly from the crushing chamber. Meet the required requirements.

Used in biology、beef bone、pig bone、turtle、plastic、nylon particles、chemical industry、food、carrageenan、essence、high fat、high protein oil materials, etc., widely used.

磨粉机设备由预冷仓、送料机、粉碎机、高压风机、高效旋风分离器、电柜等组成，整套设备由不锈钢制作而成。

本机在零度到零下196度之间，可调控，有参数显示，使物料在低温下实现脆化，采用国内最先进的预冷装置，边进料边预冷，进料均匀（可变频调节），利用高速运转的活动齿盘和固定齿盘间的高速相对运动，使被粉碎粉物经齿的冲击，剪切，磨擦及物料彼此间的碰撞等综合作用来达到粉碎物料目的。

本机使用高效分离器，结构简单，运转平稳，噪音低，粉碎效果好。粉碎后的物料直接从粉碎室排出。达到所需要的要求。

使用于生物、牛骨、猪骨、甲鱼、塑料，尼龙颗粒，化工，食品、卡拉胶、香精、高脂肪、高蛋白油性物料等，用途极为广泛。



Technical parameters/技术参数

Model 型号	DM-250 DM-450	Feed particle size 进料粒度	< 10mm
Grinding fineness 粉碎细度	10-1000mesh 10-1000目	Equipment weight 设备重量	1200kg 3000kg
Spindle speed 主轴转速	7500r/min 4600r/min	The total power 总功率	26KW 68KW
Production capacity 生产能力	10-150kg/h 100-1000kg/h	Overall dimensions(L×b×h) 外形尺寸	1600×1050×1100mm 4400×2100×3300mm

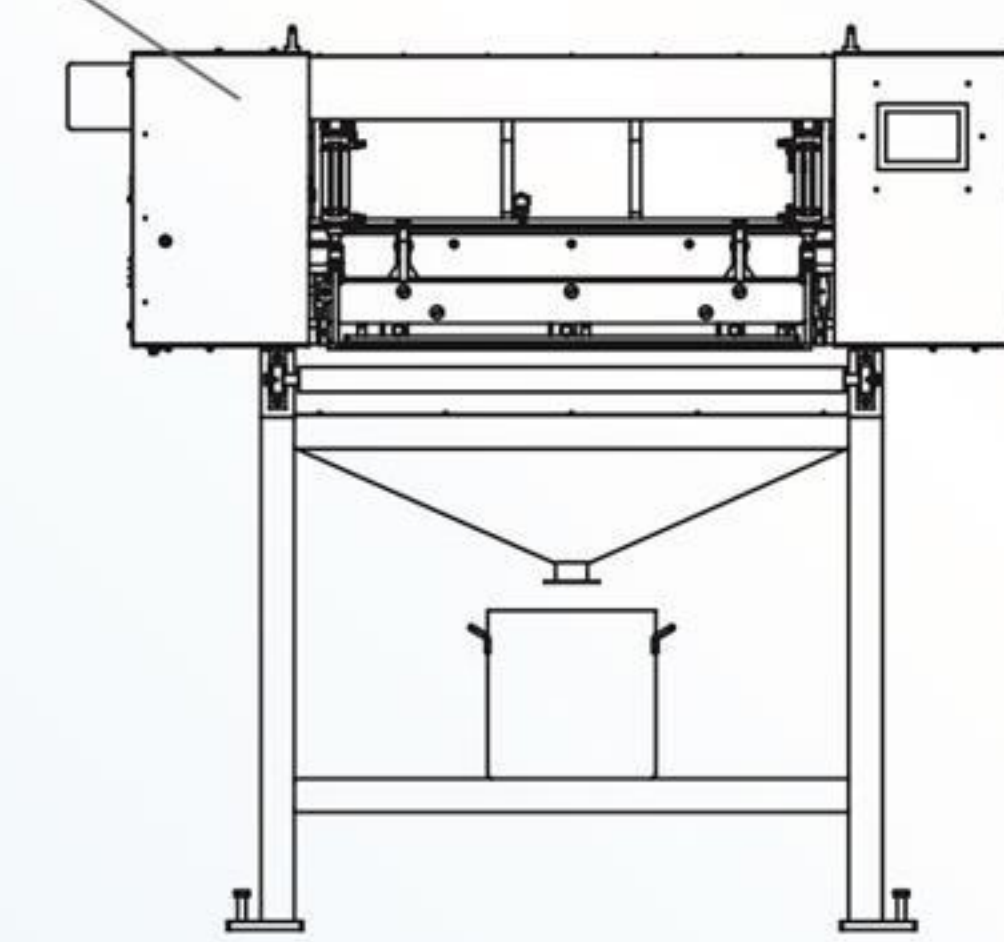
Scattering Machine

撒粉机

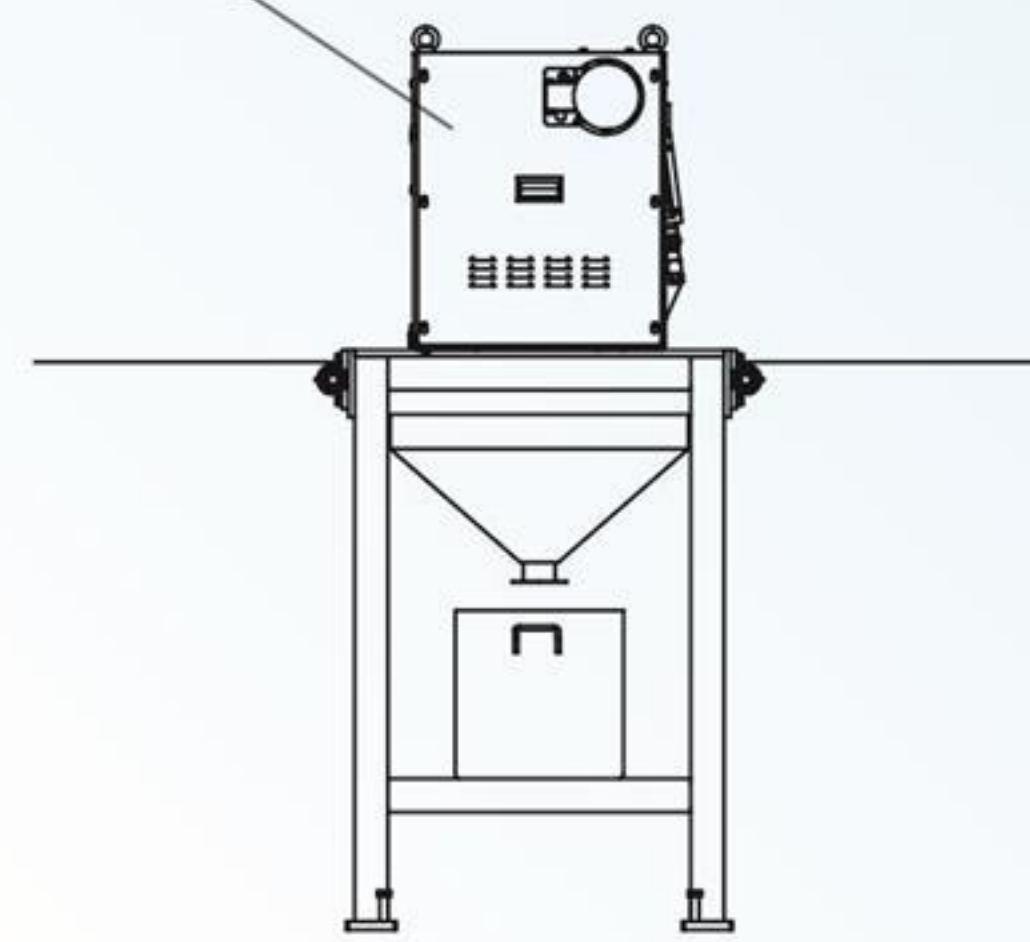
Apply a powder or granular product to any kind of running substrate fabric using a powder coating process, Spread the dry powder over a horizontal substrate surface, For coating and compounding of textiles or similar substrates.

采用撒粉涂层工艺将粉末或颗粒状的产品作用于任何种类的运行的基材织物上，将干燥的粉料撒播在水平的基材表面。通过该系统可以适用于任何数量的热熔胶粘合剂，以便对纺织品或类似基材进行涂层和复合处理。

Scattering machine/撒粉机



Scattering machine/撒粉机



Technical parameters/技术参数

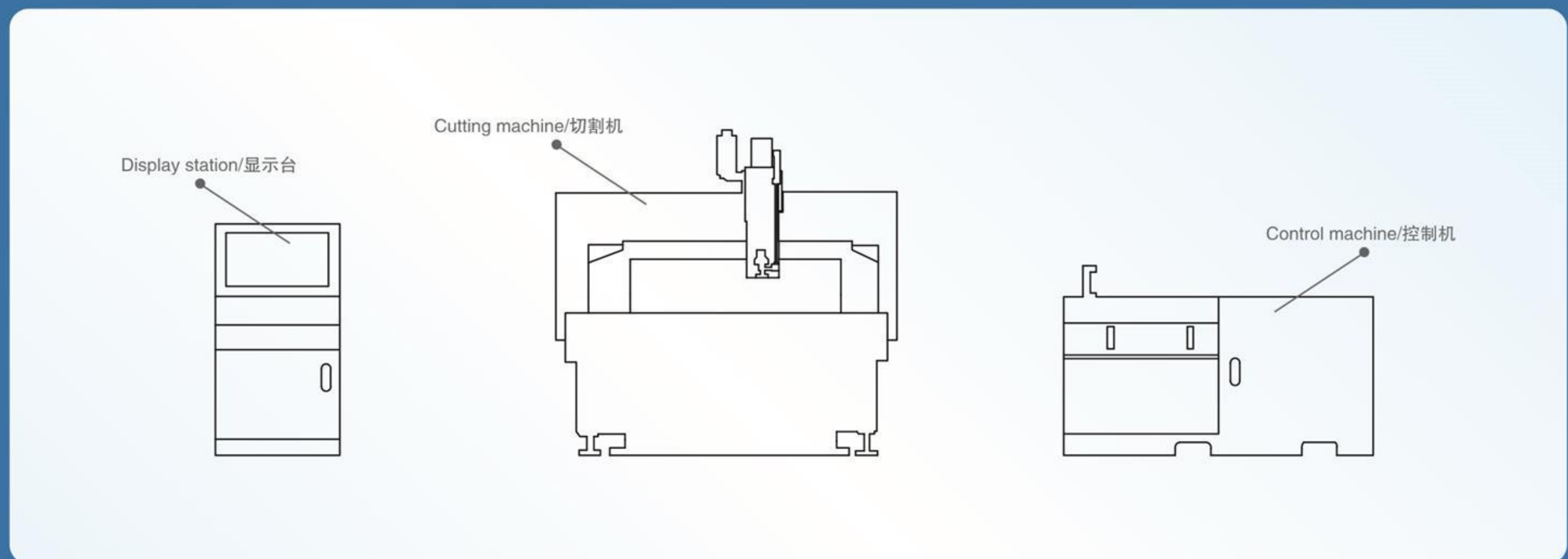
Coating material 涂层材料	PEEK/PC/PA/TPU	Production speed 生产速度	5m/min
Product width 产品宽度	MAX 1000mm	Amount of powder 撒粉量	50-70g/m ²
Voltage 工作电压	380V 50HZ	Driving side 驱动侧	Direction of substrate operation (Left side) 基材运行方向 (左侧)
Compressed air 压缩空气	6 bar	Work side 操作侧	Direction of substrate operation (Right side) 基材运行方向 (右侧)
Material 基材	Carbon fiber woven fabric or suitable carbon fiber fabric 碳纤维编织布或合适的碳纤维织物		

Ultra High Pressure Water Cutting Machine

超高压水切割机

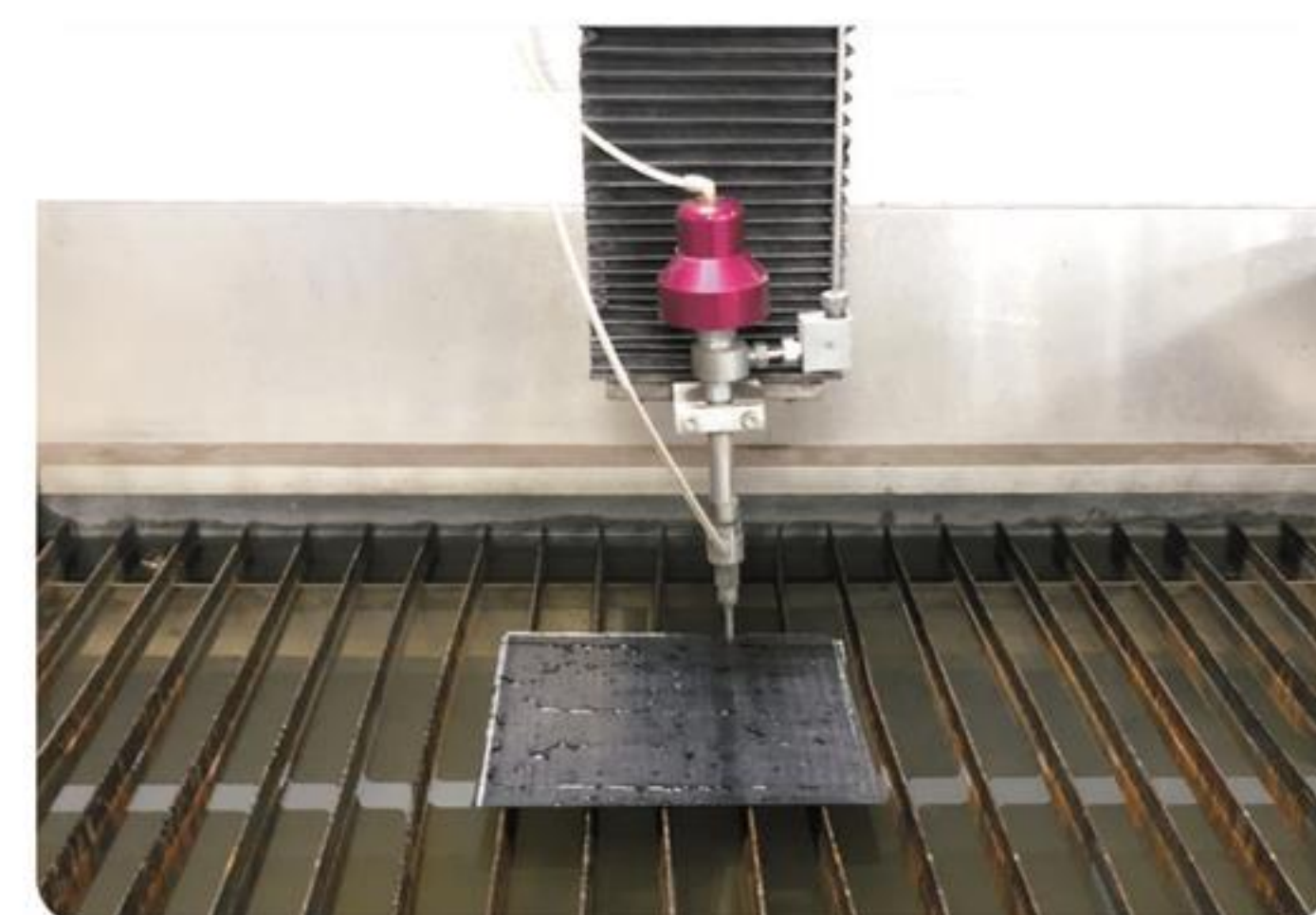
Energy saving patent technology, Actual electricity consumption is 5-10 KWH per hour, Compared with the hydraulic supercharger high pressure pump, the same pressure, cutting efficiency increased 20%, No hydraulic transmission link, Simple maintenance; Low energy consumption, large flow, high pressure.

节能专利技术，每小时实际耗电5-10度；与液压增压器式高压泵比较，同等压力，切割效率提升20%；无液压传动环节，维修简单；低能耗，大流量，高压力。



Technical parameters/技术参数

Model 型号	DU-2015L	Working power supply 工作电源	380V 50Hz
Constant working stress 持续工作压力	200-300MPa	Min water flow 供水流量	≥15.1L/min
Maximum water flow 最大水流量	4L/min	Pressure of supply water 供水压力	≥0.1MPa
Maximum output pressure 最高输出压力	400MPa/4000bar	Motor power 电机功率	18.5KW/25HP
Maximum gem nozzle aperture 最大宝石喷嘴孔径	Φ0.35mm		



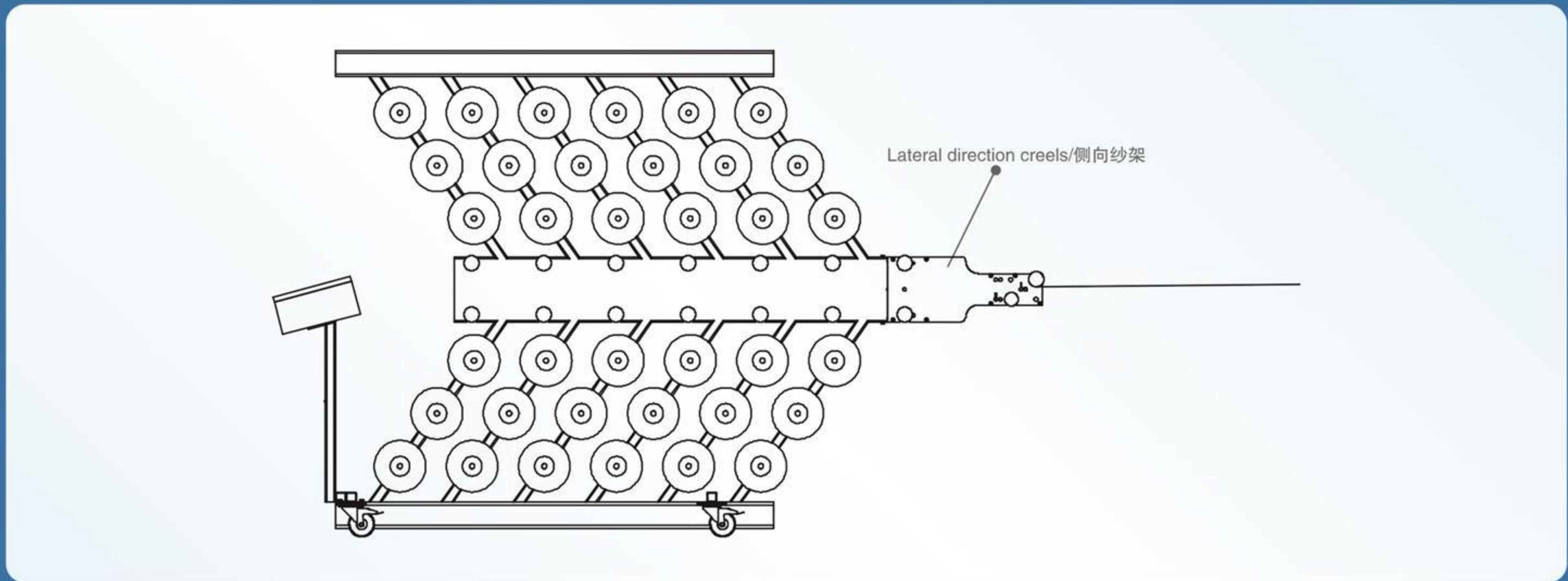
Lateral Direction Creels

侧向纱架

Lateral Direction Unwinding Creel With 72 Spindles/侧向放卷纱架72锭

The yarn holder is used to keep the tow separate, Equipped with fiber distribution directional comb and driven guide roller, Correct the wandering, The runtime structure is accurate, No cross or contact between strands, Supports different fiber reels, Including enough space between the fibers, And in the tangential unwinding, Provide constant and equal counter tension to each reel, Designed for horizontal winding station.

纱架用于保持丝束分离, 配有纤维分配定向梳和张力的控制, 纠正跑偏, 运行时结构准确, 无交叉或丝束间的接触。支持不同的纤维卷轴, 包括纤维间足够的间隔, 且在切线放卷时, 向各卷轴提供恒定和相等的反张力, 设计为卧式络筒站。气动张力控制, 张力可调, 每个气动张力装置控制2团纱, 配有气体压力调节器和油阻尼气体压力显示表, 精确施放交叉卷绕碳纤维丝束卷筒骨架装有可转动及锁定的脚轮, 纱架可移动。



Technical parameters/技术参数

Spindle number 锭位数量	72 (6X6 arrangement mode) 72个 (6X6排列方式)	Casting speed 施放速度	0-10m/min
Winding size 络筒尺寸	Φ150×76×280mm	Tension control range 张力控制范围	100-300g
Compressed air 压缩空气	6 bar	Fiber type 纤维型号	12K/24K
Production fiber type 纤维类型	Glass fiber/Carbon fiber 玻璃纤维/碳纤维		



Horizontal Direction Creels

平向纱架

Horizontal Direction Unwinding Creel With 24 Spindles/平向放卷纱架24锭

Pneumatic Control/气动控制 (I)

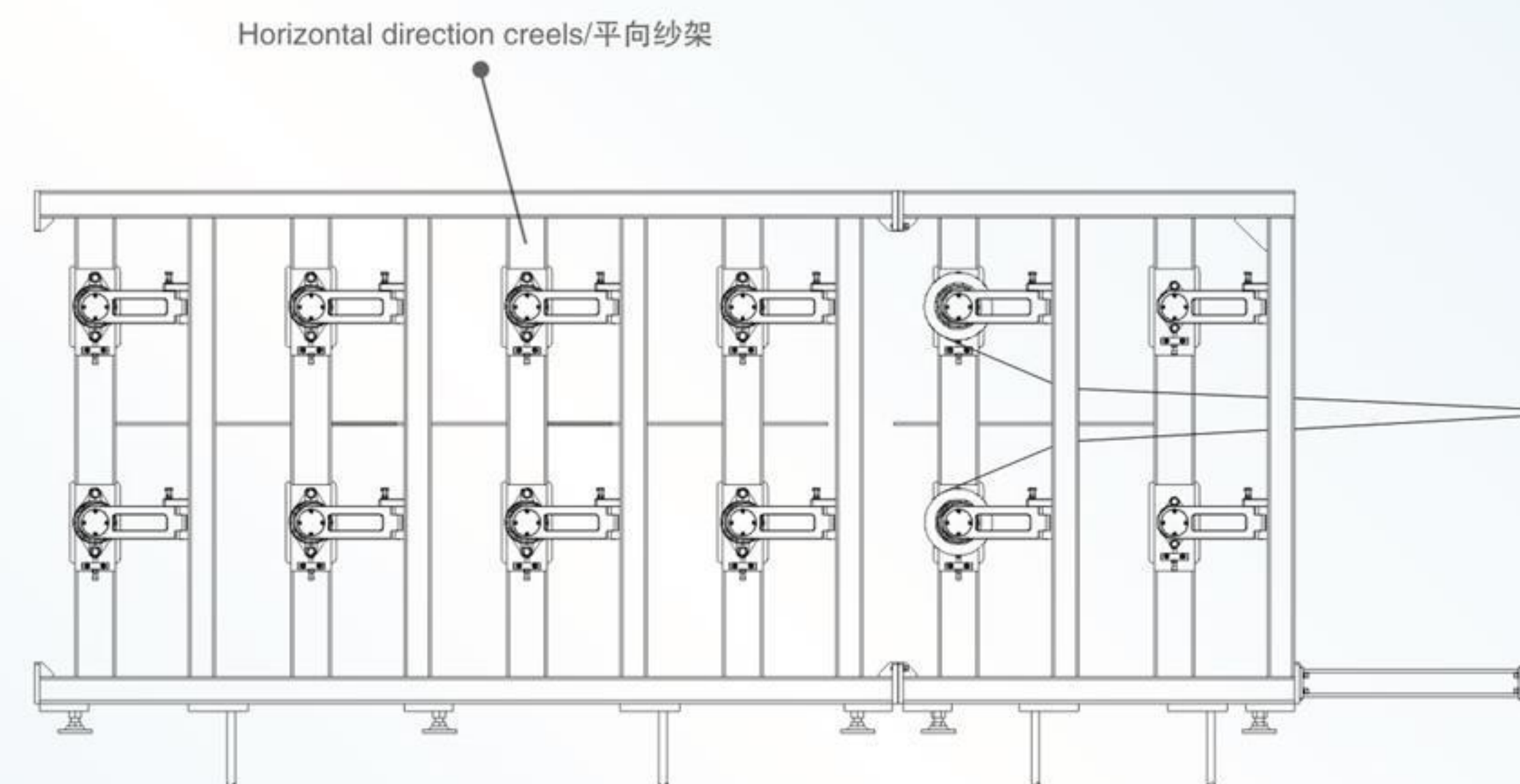
Used for sheet unwinding.Supports different fiber reels,Including adequate spacing between fibers,And in the tangential unwinding,Provide constant and equal counter tension to each reel,Pneumatic tension control,Tension can be adjusted,Accurate roll release.

用于片材的放卷。支持不同的纤维卷轴，包括纤维间足够的间隔，且在切线放卷时，向各卷轴提供恒定和相等的反张力。气动张力控制，张力可调，配有气体压力调节器和油阻尼气体压力显示表，精确施放卷材。

Electric Control/电动控制 (II)

Used for sheet unwinding.Supports different fiber reels,Including adequate spacing between fibers,And in the tangential unwinding,Provide constant and equal counter tension to each reel,Servo tension control, tension adjustable, equipped with servo control motor, precise casting coil.

用于片材的放卷。支持不同的纤维卷轴，包括纤维间足够的间隔，且在切线放卷时，向各卷轴提供恒定和相等的反张力。伺服张力控制，张力可调，配有伺服控制电机，精确施放卷材。



Technical parameters/技术参数

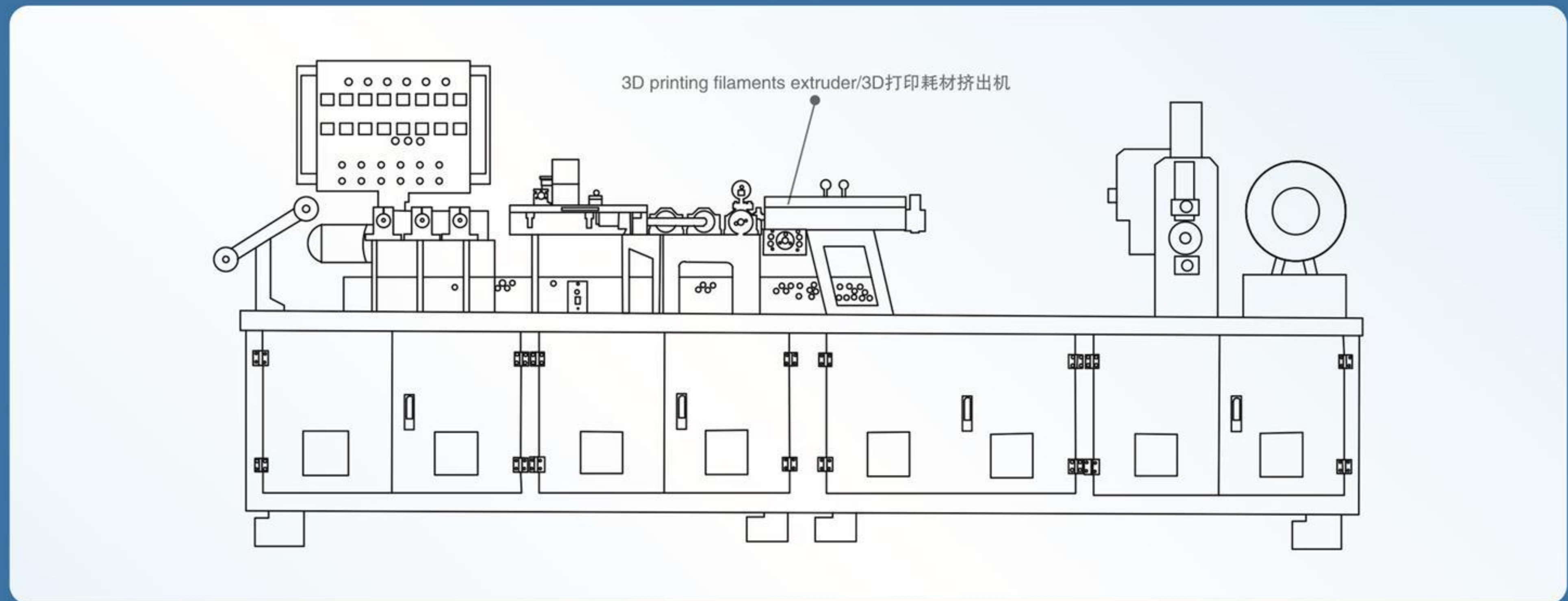
Air swell shaft size 气胀轴尺寸	6"	Casting speed 施放速度	0-10m/min
Compressed air 压缩空气	6 bar	Fiber type 纤维型号	12K/24K
Production fiber type 纤维类型	Glass fiber/Carbon fiber 玻璃纤维/碳纤维		

3D Printing Filaments Extruder

3D打印耗材挤出机

After rewinding through the rewinding device, the continuous fiber (carbon fiber or glass fiber) get pre-tensioning and pre-dispersion via rollers first, Then preheated by an infrared radiation device, into a immersion mold; Thermoplastic resin (PLA, PA, PU, PPS, PEEK, etc.) after melting and plasticizing pulled into the mold (heating temperature can reach more than 400°C), The unfolded fiber beam is simultaneously introduced into the mold, With the infiltration process of fiber beam by resin matrix under the action of wavy flow channel, Then through a mouth molding, The filaments cooled and shaped. The formed filaments can be as continuous fiber used for 3D printing. The diameter can be designed and controlled according to the fiber thickness, in order to get different types of filaments products.

连续纤维束（碳纤维或玻纤）经放卷后，先经过预张紧辊进行预张紧和预分散，然后通过红外辐射装置预热、展开、进入到浸渍模具中；热塑性树脂（PLA、PA、PU、PPS、PEEK等均可）高温熔融塑化后，挤压到浸润模具（加热温度可达400°C以上），纤维束同时引入到丝材浸润模具内，在波浪形流道的作用下完成树脂基体对纤维束的浸润过程，然后经过定型口模成型，定型的丝材为可用于3D打印的连续纤维预浸丝或其他用途，丝材直径可以根据纤维粗细任意设计与控制，以获得不同的线径的打印丝材产品。



Technical parameters/技术参数

Center height 中心高	1000mm	Screw diameter 螺杆直径	21.7mm
Screw L/D ratio 长径比(L/D)	40:1	Screw speed 螺杆转速	15~150r/min
Voltage 电源	380V/50Hz	Motor power 主电机功率	0.75KW
Power 总功率	~40W	Weight 重量	~50kg
Dimension 尺寸规格	4000×850×1800mm		

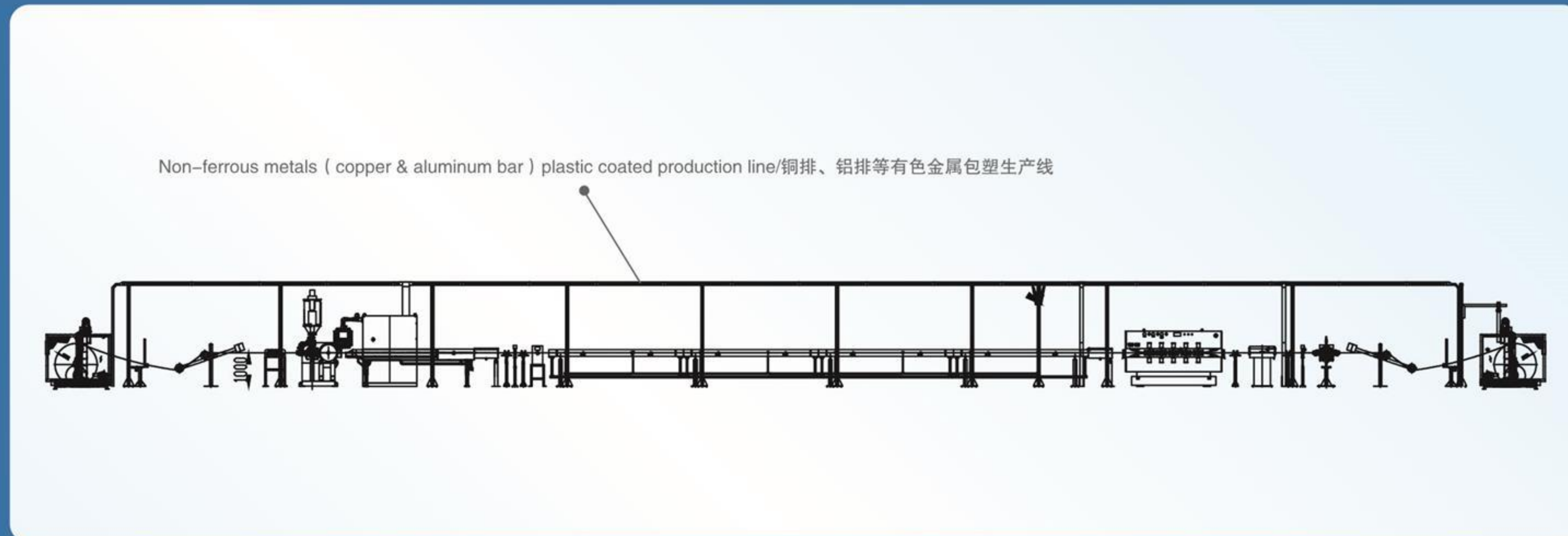


Non-Ferrous Metals(Copper & Aluminum Bar) Plastic Coated Production Line

铜排、铝排等有色金属包塑生产线

This line is suitable for production of nylon material Coating for copper or aluminium busbar with solid color extrusion. It can be used for cable in the production of inner and outer sheath. The whole system has complete and reasonable equipments configuration. And the main part adopts from famous brands, Providing good appearance and easy operation.

本生产线适用于尼龙材料包覆铜排、铝排等有色金属的单色挤出，适用于线缆外保护套和线芯增强，亦可用于内保护层的生产。整套系统设备配置齐全合理。主要部件采用知名品牌，外形美观，操作方便。



Equipment advantages

- ①Continuous cladding;
- ②Laser peeling;
- ③Automatic bending;
- ④Low labor cost;
- ⑤5m-10m/min.

设备优点

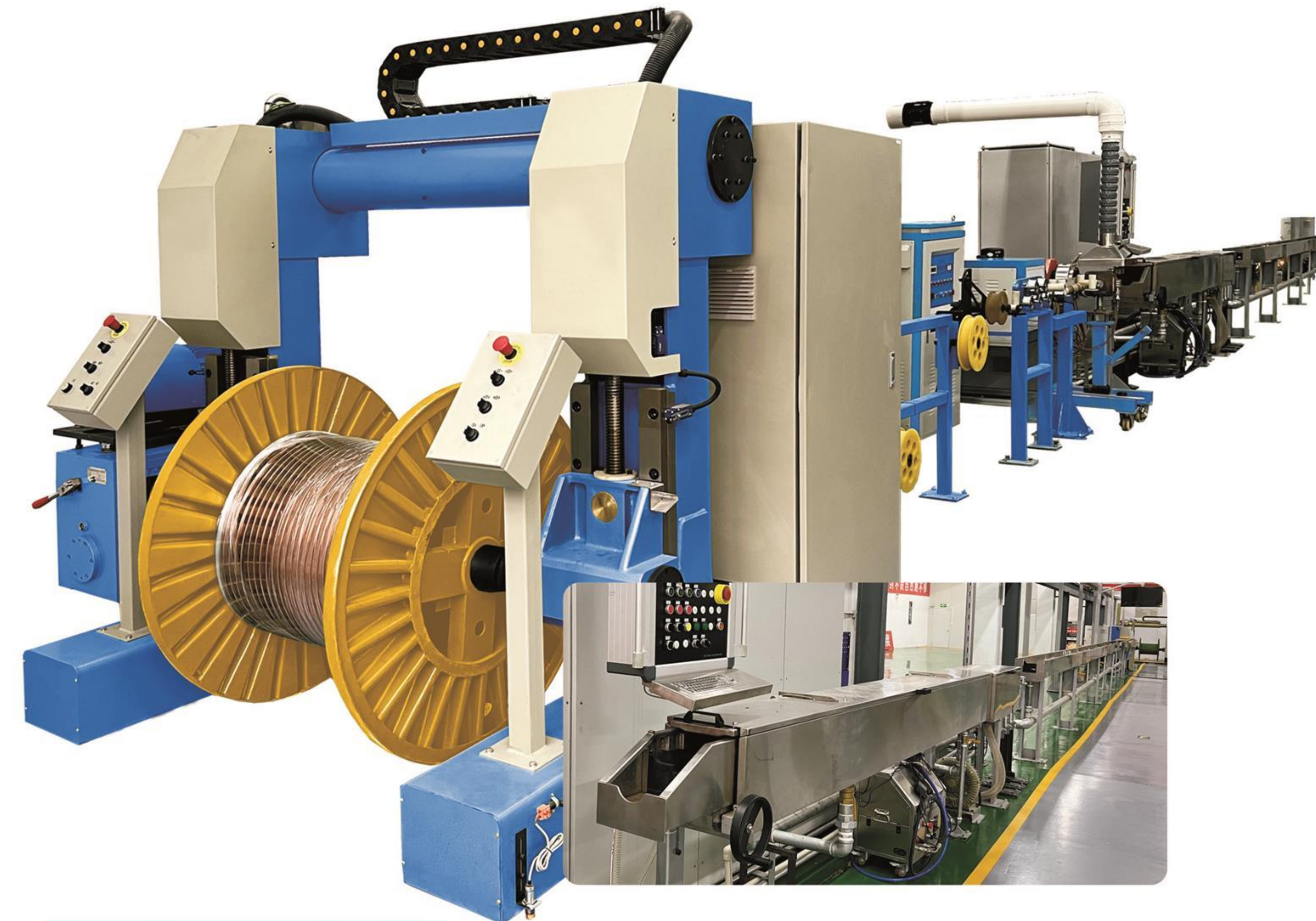
- ①连续包覆生产；
- ②激光去皮；
- ③自动折弯；
- ④人工成本低；
- ⑤每分钟生产5-10米。

Equipment faults

- ①Manual stamping required;
- ②Manual impregnation required;
- ③Manual Peeling required;
- ④High cost, longtime occupied.

设备缺点

- ①需要人工冲压；
- ②需要人工浸塑；
- ③需要人工去皮；
- ④成本高、耗时长。



Technical parameters/技术参数

Apply a conductor 适用导体	20-210mm ²	Apply to wire diameter 适用线径	2.5*8-7*30mm (Copper strip铜带)
Linear velocity 线速度	MAX 50m/min	Maximum pressure 最大压力	750bar
Temperature control 温度控制	±3°C	The total power 总功率	152KW
Equipment weight 设备重量	4200kg	Overall dimensions(L×b×h) 外形尺寸	46000×6000×3000mm