

GTOFRP

河北广拓

目录 CONTENT

复合材料液压往复式拉挤生产线 07
Hydraulic Reciprocating Pultrusion Machine

复合材料履带式拉挤生产线 09
Pneumatic Caterpillar Type Pultrusion Machine

门窗拉挤生产线 09
Door & Window Profiles Pultrusion Production Line

风机叶片板材拉挤生产线 09
Wind Blade Laminate Pultrusion Production Line

伺服驱动(丝杠/液压)复合材料拉挤生产线 11
Servo Drive (Leading Screw/Hydraulic Type) Pultrusion Machine



复合材料拉挤缠绕管生产线 13
Composites Pulwinding Tube Production Line

复合材料拉挤编织缠绕管生产线 13
Composites Pulwinding-knitting Tube Production Line

碳纤维拉挤生产线 15
CFRP Pultrusion Machine

碳纤维架空导线芯拉挤生产线 15
CFRP Overhead Conductor Core Pultrusion Machine

碳纤维抽油杆拉挤生产线 15
CFRP Sucker Rod Pultrusion Production Line

纤维增强复合筋/锚杆生产线 17
FRP Rebar Making Machine

聚氨酯边框履带拉挤生产线 19
PU Photovoltaic Frame Caterpillar Type Pultrusion Production Line

聚氨酯边框伺服液压拉挤生产线 21
PU Photovoltaic Frame Hydraulic Type Pultrusion Production Line

高速搅拌机 23
Resin Mixer

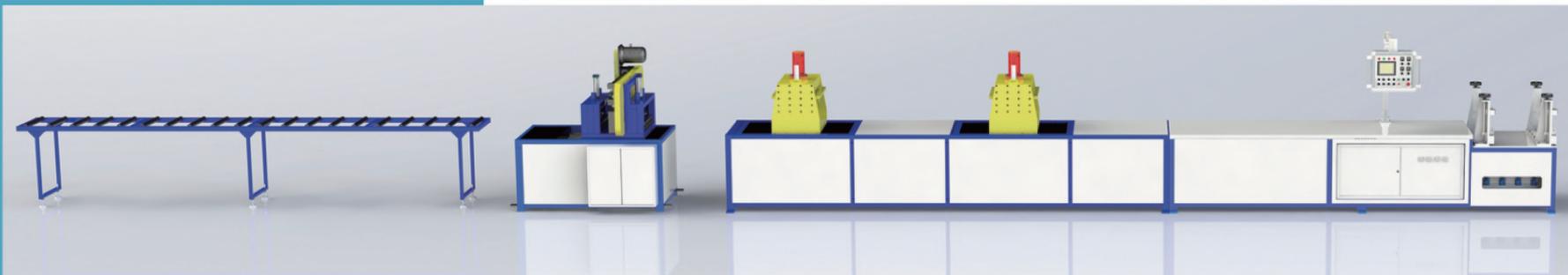
自动混料系统 23
Automatic Mixing System

切毡机 24
Mat Cutter

复合材料拉挤工艺解决方案 25
Composites Material Pultrusion Process Solutions

智能工厂解决方案 25
Smart Factory Solutions

拉挤模具 26
FRP Pultrusion Mould



■ 复合材料液压往复式拉挤生产线 Hydraulic Reciprocating Pultrusion Machine

设备特点

Equipment features

1. 针对大断面复合材料拉挤型材设计，牵引力强劲，运行平稳可靠;
2. 设定单机、双机、交替拉挤三种牵引方式，便于生产工艺调整;
3. 独立双液压系统，系统抗干扰能力强;
4. 配备冷却器，轻松实现24小时连续运转;
5. 主要电气、液压元器件采用国际知名品牌，灵敏度高、故障率低;
6. 交互式HMI触摸屏;
7. 可通过以太网接口实现远程控制;
8. 配备有故障预警功能;
9. 设备夹持空间、数据显示控制方式、除尘方式等可根据要求定制。



Characteristics:

1. The machine is designed according to the big section profile, with the features of strong traction force, smooth and reliable operation;
2. There are single, linkage and alternation pulling three pulling modes, which facilitate the production process adjustment;
3. The machine has separate double hydraulic systems. It has strong ability of anti-interference;
4. Equipped with the powerful force chiller, the machine can realize 24 hours revolutions easily;
5. The main electricity and hydraulic pressure components are imported, they have high sensitivity and low failure rate;
6. HMI touch screen control;
7. Ethernet connection for remote access and monitor;
8. The machine equips with pre-warning function of troubles;
9. Clamping envelope size, technical data display and control modes and dust collection mode are based on customers' requirements.



主要技术参数

Main Technical Parameters

设备型号 Max. Pulling force	LJ-Y-100	LJ-Y-200	LJ-Y-300	LJ-Y-400	LJ-Y-500	LJ-Y-800
最大牵引力 Max. Clamping force	100kN	200kN	300kN	400kN	500kN	800kN
最大夹持力 Max. Pulling force	100kN	200kN	300kN	400kN	500kN	800kN
牵引速度 Pulling speed	0.1-1.0m/min	0.1-1m/min	0.1-1m/min	0.1-0.7m/min	0.1-0.5m/min	0.1-0.36m/min
液压系统功率 Power of hydraulic system	2×4kW	2×5.5kW	2×7.5kW	2×5.5kW	2×5.5kW	2×7.5kW
夹持空间 Clamping envelope	600*400mm	800*300mm	800*300mm	800*300mm	1000*300mm	1500*400mm
液压 Hydraulic pressure	2-16mpa	2-16mpa	2-16mpa	2-16mpa	2-16mpa	2-16mpa
气压 Air pressure	0.4-0.6mpa	0.4-0.6mpa	0.4-0.6mpa	0.4-0.6mpa	0.4-0.6mpa	0.4-0.6mpa
控制方式 Control mode	PLC					



■ 复合材料履带式拉挤生产线
Pneumatic Caterpillar Type Pultrusion Machine

门窗拉挤生产线
Door & Window Profiles Pultrusion Production Line

风机叶片板材拉挤生产
Wind Blade Laminate Pultrusion Production Line

设备特点

Equipment features

- 1.主要电气元件采用国际知名品牌，运行稳定；
- 2.整体开合式牵引架，调整方便，有效保证牵引力与制品同向；
- 3.采用超高分子量聚乙烯链条导轨，耐磨、保护制品不受污染；
- 4.针对门窗型材，风机叶片板材专属的模架设计，生产过程中可实现三维调整
- 5.超长牵引夹持，更加有利于空腹薄壁型材的生产；
- 6.交互式HMI触摸屏；
- 7.可通过以太网接口实现远程控制；
- 8.针对不同制品要求，可提供设备定制服务。



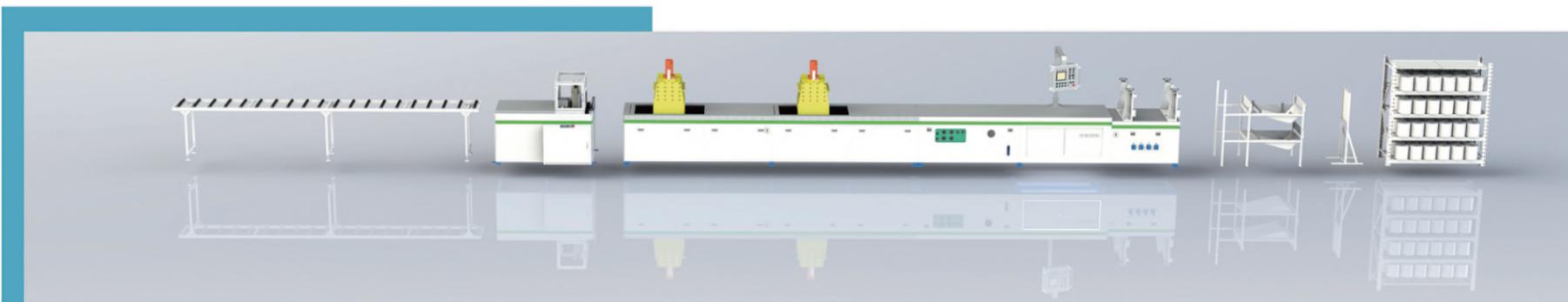
主要技术参数

Main Technical Parameters

设备型号 Machine model	LJ-L-60	LJ-L-100	LJ-L-150	LJ-L-200
最大牵引力 Max. Pulling force	60kN	100kN	150kN	200kN
最大夹持力 Max. Clamping force	60kN	100kN	200kN	200kN
牵引速度 Pulling speed	0.1-1.5m/min	0.1-1.0m/min	0.1-1.0m/min	0.1-1.0m/min
牵引机功率(伺服) Power of puller	1.8kW	2.9kW	4.4kW	4.4kW
牵引胶块长度 Length of clamping gripper	215mm	350mm	350mm	350mm
牵引夹持长度 Clamping length	2000mm/4000mm	2200mm	3000mm	3000/6000mm
牵引方式 Pulling mode	平开履带式 Casement Caterpillar Type			

Characteristics:

- 1.The machine adopts qualified electrical and pneumatical components from domestic and aboard with feature of stable operation;
- 2.The whole open-shut model traction frame can effectively assure the traction force and the products with the same direction and it is convenience to adjust;
- 3.The chain guide rail is UHMWPE, and the rail had strong wearability, it can prevent the products from polluting;
- 4.Special die support design for window profiles and wind blade laminate, it can be three-dimensional adjusted during the production process
- 5.Super-long pulling & clamping. It is more suitable for the production of hollow profile with thin-wall;
- 6.HMI touch screen control;
- 7.Ethernet connection for remote access and monitor;
- 8.Customer-made machinery for special specifications.



■ 伺服驱动（丝杠/液压）复合材料拉挤生产线 Servo Drive (Leading Screw/Hydraulic Type) Pultrusion Machine

设备特点

Equipment features

- 1.设备运行稳定，效率高，噪音低，操控智能化；
- 2.交互式HMI触摸屏；
- 3.可通过以太网接口实现远程控制；
- 4.夹持系统采用直线导轨升降压紧机构；
- 5.主要电气元件采用国际知名品牌。

Characteristics:

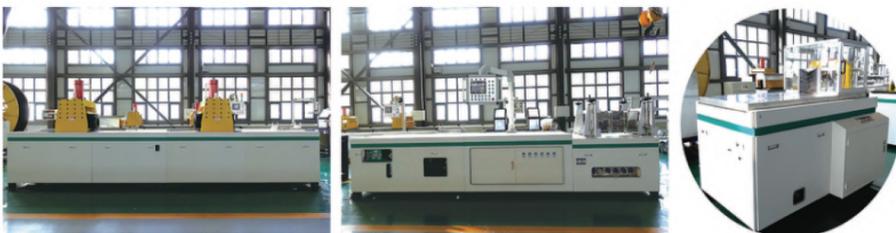
- 1.The machine has the advantages of stable operation, high efficiency, low noise and intelligent control;
- 2.HMI touch screen control;
- 3.Ethernet connection for remote access and monitor;
- 4.Clamping system adopts linear rail lifting and clamping structure;
- 5.Main electrical components on the machine are famous brands from domestic and abroad.

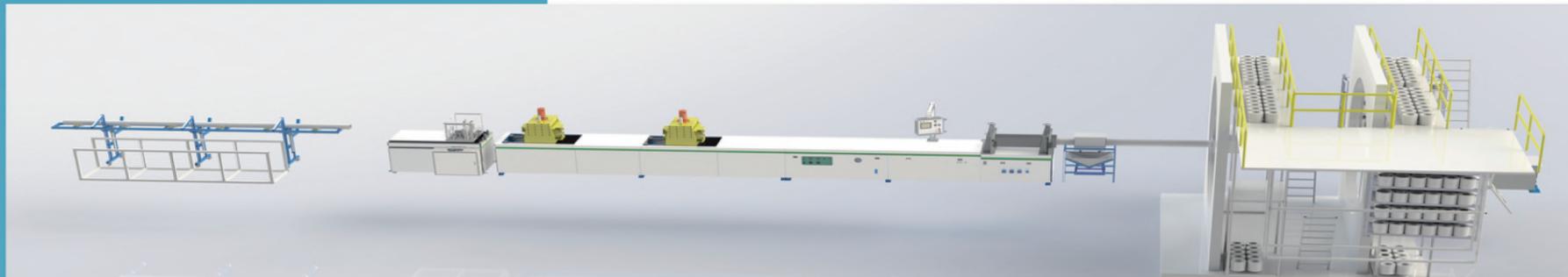


主要技术参数

Main Technical Parameters

设备型号 Model	12T伺服驱动丝杠拉挤生产线 120kN Servo Drive Leading Screw Pultrusion Machine	20T伺服液压拉挤生产线 20T Servo Hydraulic Pultrusion Production Line	30T伺服液压拉挤生产线 30T Servo Hydraulic Pultrusion Production Line	50T伺服液压拉挤生产线 50T Servo Hydraulic Pultrusion Production Line
驱动方式 Driving mode	伺服丝杠传动 Servo leading screw transmission	伺服液压 Servo Hydraulic	伺服液压 Servo Hydraulic	伺服液压 Servo Hydraulic
最大牵引力 Pulling force	120kN	200kN	300kN	500kN
驱动功率 Power	7.5kW×2	7.5kW×2	11kW×2	8kW×2
夹持方式 Clamping mode	液压Hydraulic Type	液压Hydraulic Type	液压Hydraulic Type	液压Hydraulic Type
最大夹持空间 Max. Clamping envelope	700×250mm	800×300mm	800×300mm	1050×300mm
牵引速度 Pulling speed	0.1-1.2m/min	0.1-1.2m/min	0.1-1.0m/min	0.1-0.5m/min
牵引操作方式 Pulling operation method	手动、自动 Manual/Auto, adjustable	手动、自动 Manual/Auto, adjustable	手动、自动 Manual/Auto, adjustable	手动、自动 Manual/Auto, adjustable
模具安装长度 Clamping length of die table	900mm/1200mm	900mm/1200mm	900/1200mm	900mm/1200mm





■ 复合材料拉挤缠绕管生产线

Composites Pulwinding Tube Production Line

■ 复合材料拉挤缠绕编织管生产线

Composites Pulwinding-knitting Tube Production Line

设备特点

Equipment features

- 1) 拉挤技术与缠绕技术的完美结合，拉缠管材环向强度高，生产效率高，无边角废料；
- 2) 根据制品压力等级不同，可选择4层或7层拉缠形式；
- 3) 通过调整缠绕程序，可调整缠绕角度，适合不同压力等级的管材生产
- 4) 控制系统通过牵引速度与缠绕速度联动，实现拉挤与缠绕的同步运行
- 5) 主要电控元器件采用国际知名品牌，灵敏度高，可靠性强



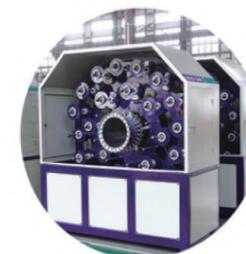
Characteristics:

1. Perfect combination of pultrusion and winding technology and winding technology can overcome low strength of pultrusion pro file and short comings of low production efficiency and high waste of winding pipe.
2. According to the different pressure grades, the clients can choose 4-layers or 7-layers pullwinding modes.
3. The winding angles can be adjusted by winding program, thus to produce pipes with different pressure.
4. The control system realizes the synchronization running of pultrusion and winding process through the linkage of pulling speed and winding speed.
5. The main electrical components are imported with high sensitivity and strong reliability.

缠绕机技术参数

Winding Machine Technical Specs

参数型号	Technical parameter	BLR-2-75	BLR-2-200	BLR-1-400
拉绕纱层数	No. of pulwinding fiberglass layers	2	2	1
缠绕头数目	No. of winding heads	2	2	1
缠绕转速r.p.m	Winding rotation speed	0-66	0-10	0-10
纱团直径mm	Roller diameter	270	270	270
纱团数目	No. of rollers	4*2	8*2	16/24
缠绕直径mm	Winding diameter	75	200	400
伺服电机功率	Motor power	1.8kW×2	2.9kW	2.9kW



编织机技术参数

Knitting Machine Technical Specs

型号	Model	130-128锭	130-180锭	130-220锭
拨盘尺寸	Impeller size	130mm	130mm	130mm
头数	Head number	2 (双盘)	2 (双盘)	2 (双盘)
锭数	Spindle number	256	360	440
纱管数量	Bobbin number	512	720	880
纱管尺寸	Bobbin size	Ø70*210mm	Ø70*210mm	Ø70*210mm
电机功率	Motor Power	1.5KW*4*2+1	1.5KW*6*2+1	1.5KW*4*2+1
最大转速	Max Speed of Impeller	160rpm	160rpm	160rpm
机器重量	Machine weight	2.5T (供参考)	3.5T (供参考)	5T (供参考)
编织范围	Weaving range	100-150mm	150-200mm	200-250mm
配置	Configuration	带8锭绕包机 伺服+PLC+触屏	带16锭绕包机 伺服+PLC+触屏	带16锭绕包机 伺服+PLC+触屏





■ 碳纤维拉挤生产线

CFRP Pultrusion Machine

碳纤维架空导线芯拉挤生产线

CFRP Overhead Conductor Core Pultrusion Machine

碳纤维抽油杆拉挤生产线

CFRP Sucker Rod Pultrusion Production Line

设备特点

Equipment features

1. 纱架张力可单个或联动调节，方便快捷；
2. 模具加热、后固化烘箱等加热区域均可连续调节，精度高；
3. 设备主要电气元件均采用国际知名品牌；
4. 交互式HMI触摸屏；
5. 可通过以太网接口实现远程控制。

Characteristics:

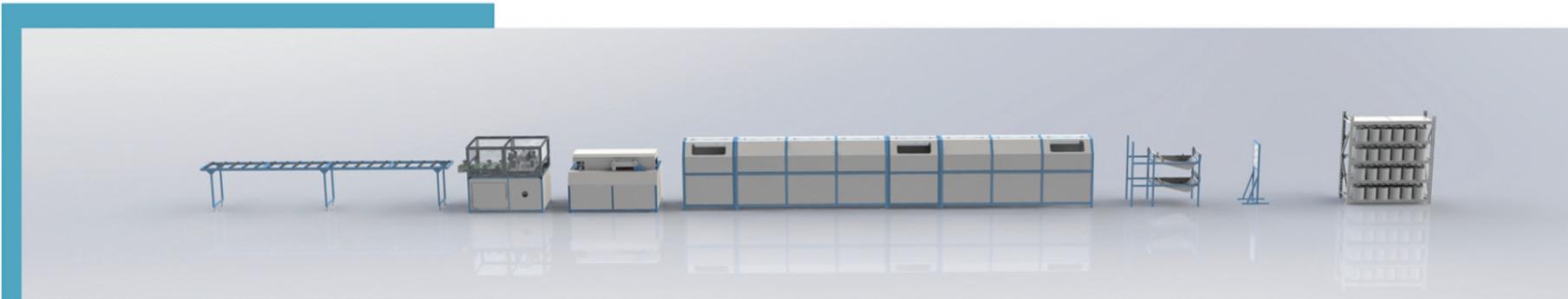
1. Roving creels can be quickly and conveniently adjusted by single or linkage method;
2. Die and posture oven heating zones can be adjusted continuously with high precision;
3. Main electrical components on the machine are famous brands from domestic and abroad;
4. HMI touch screen;
5. Ethernet connection for remote access and monitor.



主要技术参数

Main Technical Parameters

机组中心高度/Central Height of machinery	1000mm
总功率/Total Power	≈15kW
适用气压/Operating air pressure	0.4-0.6MPa
耗气量/Air consumption	≈20L/min
纱锭数/No. of bobbins	120锭/架 (可定制) /120 bobbins/unit
张力调节/Tension regulation	分组控制和单个控制 Group control or individual control
定型模架安装长度/Length of the shaping platform	900mm
定型模架宽度/Width of the shaping platform	550mm
牵引速度/Traction speed	0.1-2.0m/min
牵引力/Traction force	60KN
收卷内径/Rolling inner diameter	Φ 1500-2240mm (选配)
收卷速度/Rolling speed	0.1-1.5m/min (选配)



■ 纤维增强复合筋/锚杆生产线
FRP Rebar Making Machine

机组可以自动完成分纱、浸渍、预成型、缠绕、加热固化、牵引、定长切断和收集堆放。机组主要用于生产各种规格的纤维增强复合筋、锚杆。



The machine can finish roving guiding, impregnation, preforming, winding, heating, pulling, fix-length cutting and products collection actions automatically. The machine produces fiberglass rebar with different sizes.



纤维增强单头锚杆生产线

FRP Rebar Machine

总功率/Total power	30kW	机组中心高度/Central height	1000mm
缠绕头数/No. of winding head	1	缠绕直径/Winding diameter	Max32mm
有效履带夹持长度/Clamping length	1300mm	牵引力/Traction force	Max40kN
履带夹持宽度/Clamping width	215mm	牵引速度/Traction speed	0.1-1.5m/min

纤维增强双头锚杆生产线

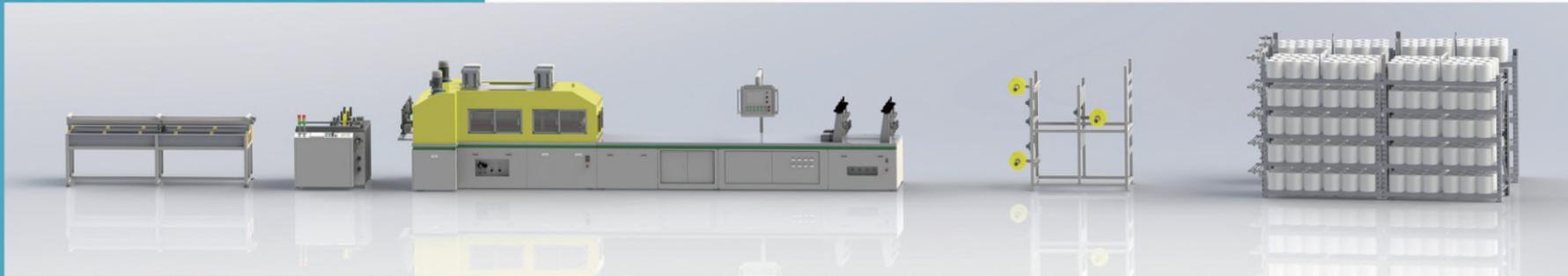
FRP Rebar Machine

总功率/Total power	30kW	机组中心高度/Central height	1000mm
缠绕头数/No. of winding head	2	缠绕直径/Winding diameter	Max40mm
有效履带夹持长度/Clamping length	1200mm	牵引力/Traction force	Max40kN
履带夹持宽度/Clamping width	500mm	牵引速度/Traction speed	0.1-1.0m/min

纤维增强复合筋拉挤生产线

FRP Rebar Machine

总功率/Total power	35kW	牵引力/Traction force	Max40kN
缠绕头数/No. of winding head	5	牵引速度/Traction speed	0.3-4.0m/min
有效履带夹持长度/Clamping length	1200mm	生产规格/Winding diameter	φ8 ~ 22mm
履带夹持宽度/Clamping width	500mm		



■ 聚氨酯边框履带拉挤生产线
PU Photovoltaic Frame Caterpillar Type
Pultrusion Production Line

产品特点

Equipment Characteristics

- 1.采用交互式HMI触摸屏控制，拉挤速度、温度、夹持力均在触摸屏显示并控制；
- 2.针对小断面、空腹型材设计，运行平稳可靠，节能效果显著；
- 3.一次可生产两支制品，两个完全独立系统；
- 4.整体开合式牵引架，调整方便，有效保证牵引力与制品同向；
- 5.主要电气元件采用国际知名品牌，灵敏度高，故障率低，两个系统相对独立。

Equipment Characteristics

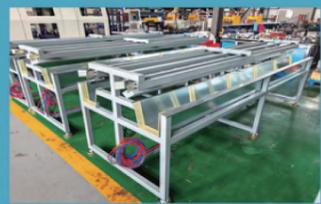
The equipment uses interactive HMI touch screen control. Pulling speed, temperature and clamping force are all displayed and controlled on the touch screen.

The equipment is designed for small and hollow cross-section profiles. The operation is stable and reliable, and it has remarkable energy saving effect.

The equipment produces two pieces of profiles at a time, with two completely independent systems.

The integral open&close pulling frame can effectively assure the pulling force and profiles in the same direction and it is easy to adjust.

The main electrical and pneumatical components are international famous brands, with advantages of high sensitivity and low failure rate, and the two systems are relatively independent.



设备主要技术参数

Main Technical Parameters

模具安装宽度 Mold Mounting Width	160mm	模具安装长度 Mold Mounting Length	900mm
温控区 Temperature Zones	8个	速度、温度、压力控制 Speed, Temperature, Pressure Control	液晶屏 Touch Screen
注胶机 Injection Machine	两套完全独立注胶系统，恒压恒流量两种注胶方式 Two completely independent injection system with constant pressure and constant flow two resin injection methods		
最大牵引力 Max. Pulling Force	50kN×2	单履带最大加持空间 Max. Clamping Envelope for Single Caterpillar Puller	105×100mm
最大夹持力 Max. Clamping Force	50kN×2	功率 Power	1.1kW×4
拉挤速度 Pulling Speed	0.2-1.2m/min，两个履带速度完全独立控制 0.2-1.2m/min, the speed of two caterpillar pullers are independent.		
传动机构 Transmission System	电机直连减速机，上下两台电机分别带动牵引机运动。 The motor is directly connected to the reducer, and the upper and lower motors drive the puller respectively.		
张紧滑块 Slide Guide	超高分子聚乙烯 HDPE	切割锯钻头 Cutting Saw Heads	2个
翻板机 Flipping Machine	2个	主要电器元件 Main Electrical Components	欧姆龙 Omron





■ 聚氨酯边框伺服液压拉挤生产线
 PU Photovoltaic Frame Hydraulic Type
 Pultrusion Production Line

产品特点

Equipment Characteristics

- 1.采用交互式HMI触摸屏控制，拉挤速度、温度、夹持力均在触摸屏显示并控制；
- 2.液压缸密封件采用进口件，泵组动力输出稳定；
- 3.一次可生产两支制品，两个系统相对独立；
- 4.主要电气、液压元器件采用国际知名品牌，灵敏度高，故障率低，两个系统相对独立。



Equipment Characteristics

The equipment uses interactive HMI touch screen control. Pulling speed, temperature and clamping force are all displayed and controlled on the touch screen.

The hydraulic cylinder seals are imported and the power output of pump group is stable.

The equipment produces two pieces of profiles at a time, and the two systems are reactively independent.

The main electrical, pneumatical and hydraulic components are international famous brands, with advantages of high sensitivity and low failure rate, and the two systems are relatively independent.



设备主要技术参数

Main Technical Parameters

模具安装宽度 Mold Mounting Width	130mm	模具安装长度 Mold Mounting Length	900mm
温控区 Temperature Zones	8个	速度、温度、压力控制 Speed, Temperature, Pressure Control	液晶屏 Touch Screen
注胶机 Injection Machine	两套完全独立注胶系统，恒压恒流量两种注胶方式 Two completely independent injection system with constant pressure and constant flow two resin injection methods		
最大牵引力 Max. Pulling Force	100kN	最大牵引往复行程 Max. Pulling Reciprocating Stroke	800mm
最大夹持力 Max. Clamping Force	70kN×2，一个牵引龙门上两个独立压紧油缸，可单独或同时工作 70kN×2, two independent clamping cylinders on one pulling head, which can operate independently or simultaneously		
拉挤速度 Pulling Speed	0.2-1.2m/min	液压系统功率 Hydraulic System Power	4.4kW×2+3.3kW
夹持宽度 Clamping Width	220mm×2	上下夹持台板长度 Length of Upper& Lower Clamping Platen	900mm
切割锯锯头 Cutting Saw Heads	2个	主要电器元件 Main Electrical Components	欧姆龙 Omron

■ **高速搅拌机**

Resin Mixer

■ **自动混料系统**

Automatic Mixing System

■ **切毡机**

Mat Cutter



主要设备特点/Main characteristics

用于切割针织纤维毡、多轴向织物等纤维增强材料；

It is used to cut reinforcement materials such as knitted stitched mat, multiaxial fabric ;

刀架气动自锁；

Blade frame is pneumatical and automatic lock ;

采用锯条式切割方式，任意调整切割宽度，切割宽度数字显示。

With saw blade type cutting method, it can adjust cutting width arbitrarily. Cutting width is digital displaying.

高速搅拌机 Resin Mixer

树脂搅拌专用设备；

Special high-speed dispersing equipment of resin;

将树脂及填料进行高速的搅拌、溶解和分散；

Fully mix, dissolve and disperse resin and filler at high speed;

速度可任意调节，调速范围80-125转/分钟。

Rotation speed can adjust arbitrarily in the range of 80-125rpm.

自动混料系统 Automatic Mixing System

1.树脂配料全自动化，控制精准。

Resin dosing automation: precise control.

2.采用导热油加热，内筒体和衬套组合后内腔中空，减少热量的流失。
Heated with conduction oil, after combined with bushing, the inner cavity is hollow to reduce heat loss.

3.通过程序控制对加入罐体内的物料进行搅拌。
Mix the materials added to the tank by program control.

4.船锚式搅拌器，能最大面积的带动物料，使物料混合均匀。
Anchor type mixer can drive the materials in the largest area and make the materials uniformly mixed.

5.法兰对接，软连接方式，全密封的连接输送。
Flanged butt, soft connection, fully sealed transmission.

6.有专门的清洗排污口，上下筒分体设计，便于筒体的拆卸、维修、维护保养。
Special cleaning outlet, separate upper and lower tank design, easy to disassemble, repair and maintenance of the tank.



■ 复合材料拉挤工艺解决方案

Composites Material Pultrusion Process Solutions

专注复合材料拉挤装备20年，完全掌握了全树脂体系，各种增强材料的专用拉挤配方，并拥有完全自主知识产权。为客户提供稳定、可靠的复合材料拉挤方案。

Focus on composites materials pultrusion machinery over 20 years, we total master the pultrusion process and formula by various resin system and reinforcement materials. We also own independent intellectual property rights. Gold Lead will supply stable and reliable composite materials pultrusion solutions to customers.



■ 智能工厂解决方案

Smart Factory Solutions

物联网数据平台

IoT Data Platform

- 多信息终端服务
- Multiple Information Terminal Services
- 装备运行数据可视化 (参数显示、作业曲线、数据列表等列表等)
- Visualization of Equipment operation data (parameter display, operation curve, data list, etc.)
- 参数异常提醒
- Parameter exception reminder

产品切割、输送、码放

Profiles cutting, conveying, stacking

- 可实现在线45°切割、打孔
- Online 45° cutting and drilling can be achieved
- 成品自动转运、全自动码放
- Automatic transfer of finished profiles, fully automatic stacking

■ 拉挤模具

FRP Pultrusion Mould

主要参数/Main characteristics

采用Cr12Mov、40Cr、P20等专用模具钢，硬度高，韧性好；

The mould adopts Cr12Mov, 40Cr or P20 materials with the advantages of high rigidity and good toughness.

采用先进抛磨工艺，表面光洁度高；

Adopted advanced polishing technology, the surface finish is high.

国际先进模具设计理念结合多年拉挤经验精心设计，拉挤阻力小，配方适应性好。

It is carefully designed according to international advanced mold design idea unifies many years' pultrusion experience. It has the features of little pultrusion resistance and good formula compatibility.

