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上海辛帕智能科技股份有限公司
SHANGHAI SINPA INTELLIGENT TECHNOLOGY CO., LTD

公司介绍

Company Profile

Equipment for Wind Blade Manufacturing

Shanghai Sinpa Intelligent Technology Co., Ltd. features independent R&D capacity and specializes in proprietary intelligent wind power equipment covering R&D, design, manufacturing, sales and after-sales service. Certified with ISO standards and CE marks for core products, we are based in Pudong, Shanghai, with a manufacturing facility in Pinghu, Zhejiang. For almost 20 years, we have provided complete intelligent equipment solutions for wind blade production, also supplying the semiconductor sector.

Our self-developed resin mixing & infusion systems intelligently upgrade core blade manufacturing processes. Reliable quality, expert technology and full after-sales service make us well-received by partners worldwide.

风电叶片智能制造专用设备

上海辛帕智能科技股份有限公司是一家依托智能技术研发平台的风电叶片智能装备开发商，专注于具有自主知识产权的智能装备研发、设计、制造、销售与服务。公司为国家高新技术企业，已取得ISO体系认证，核心产品通过CE认证。企业总部坐落于上海市浦东新区，浙江平湖设有生产基地，深耕风电叶片智能装备领域近20年，产品涵盖风电叶片大部分关键工序。

公司产品同时服务风电、半导体两大行业。自研智能混胶、智能灌注设备可完成风电叶片核心工艺智能化改造；车载树脂混胶机、叶片自动灌注机、腹板工装等设备获评“上海市高新技术成果转化项目”。依托稳定的产品品质、专业技术能力与完善售后体系，企业获得全球客户与行业市场的高度认可。



辛帕ISO9001认证
ISO 9001 Certification



叶片自动灌注机
Automatic Blade Infusion Machine



手糊树脂机CE认证
Epoxy Handle Mix Machine



双组份混胶机CE认证
Epoxy Glue Machine



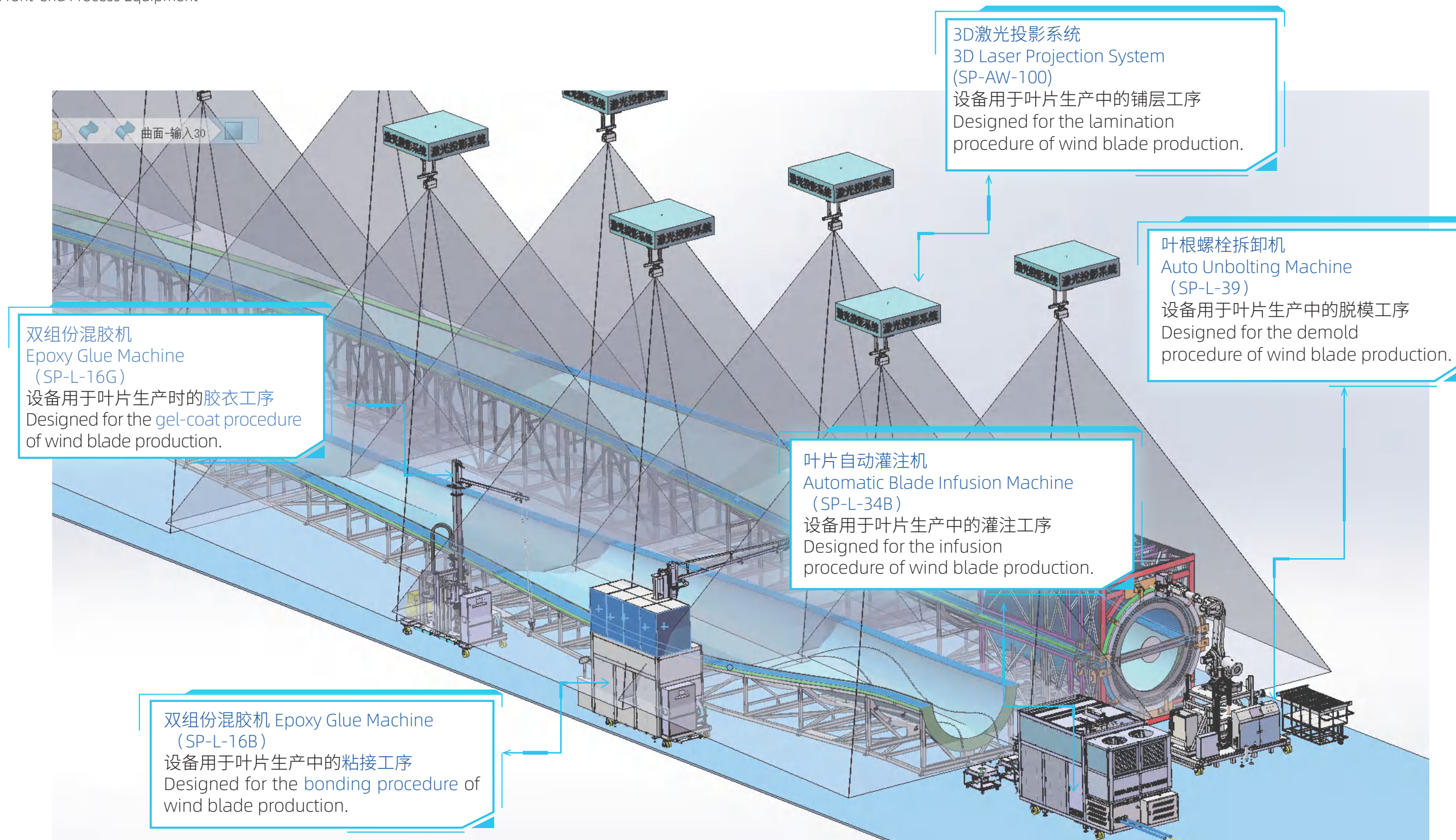
3D激光投影系统CE认证
3D Laser Projection System



腹板工装CE认证
Web Pressing Tooling

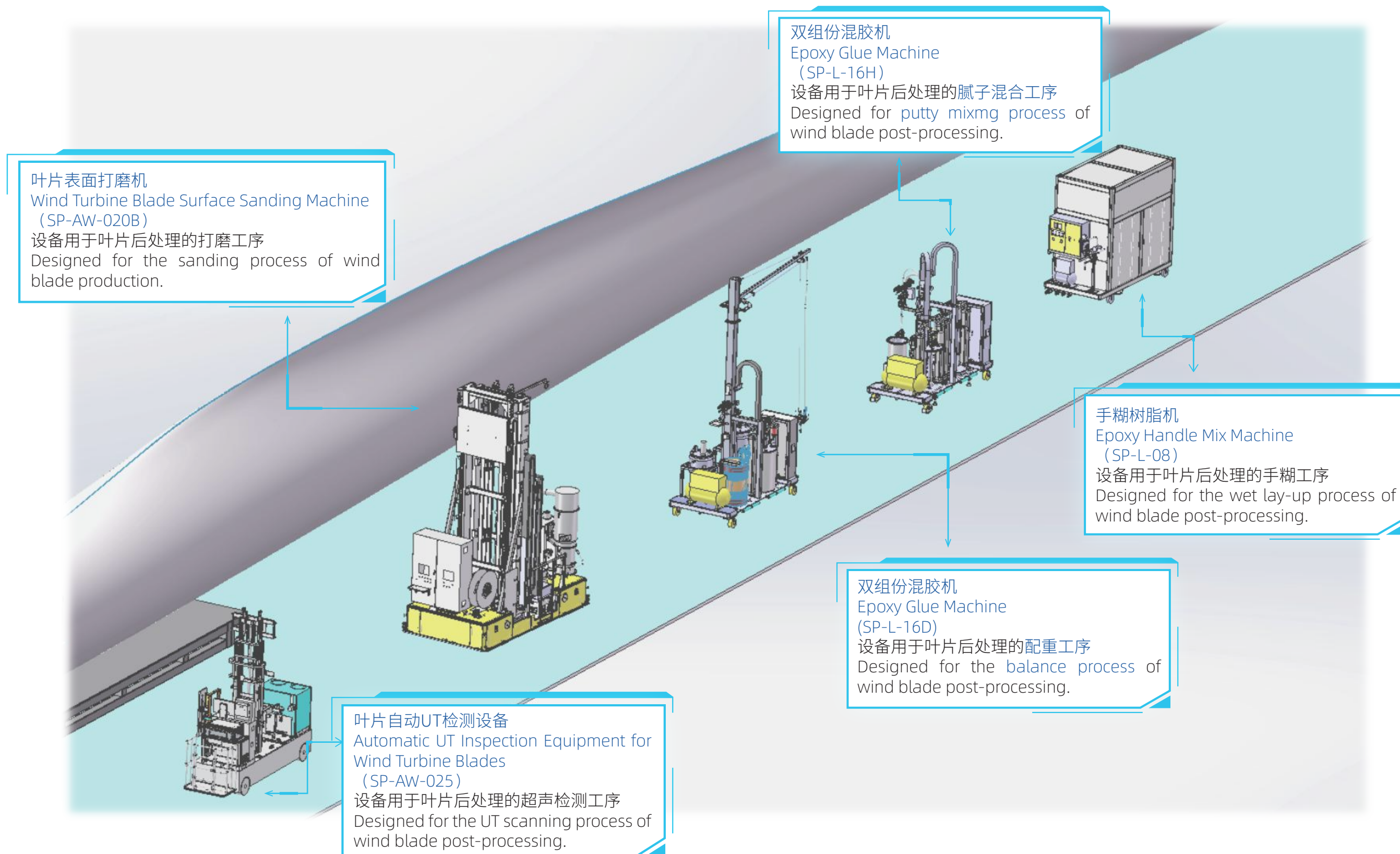
叶片前道装备

Blade Front-end Process Equipment



叶片后道装备

Blade Post-processing Equipment

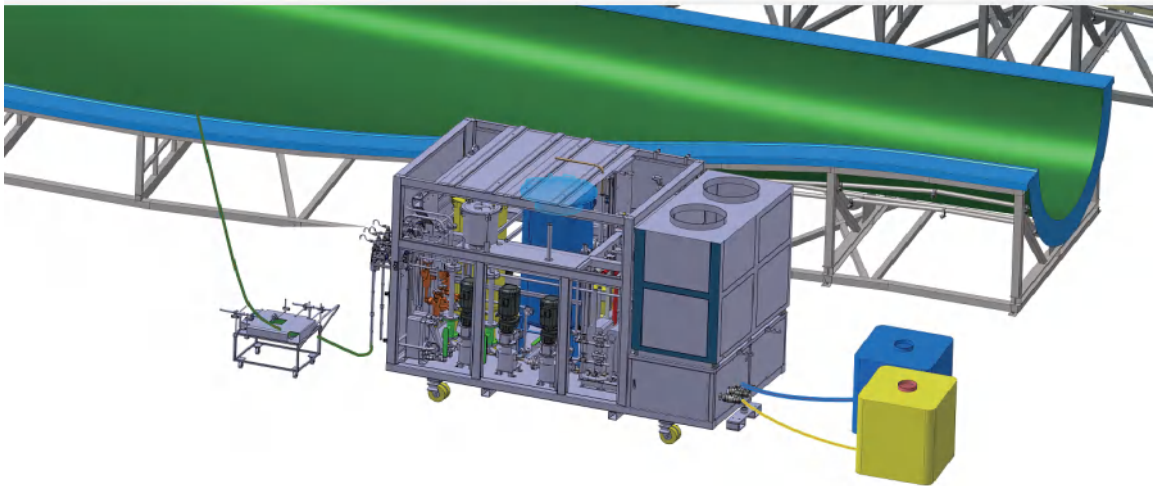


叶片自动灌注机
Automatic Blade Infusion Machine

SP-L-34B

设备应用于风电叶片灌注，适用于环氧树脂(聚氨酯)、固化剂等材料的脱泡、配比、混合及定量输出，自研软件，适时监测真空、温度、比例、流量等各参数，关键点位自带报警停机保护。

Used for wind blade infusion, the unit degasses, proportions, mixes and meters epoxy/polyurethane and curing agent. Our proprietary software monitors vacuum, temperature, ratio and flow in real time, with alarms and emergency stops at critical points.



技术参数 Parameter

产品型号 Type	SP-L-34B
外形尺寸 Dimension	4640x2080x2900mm
功率 Rated Power	≈80kW
液体粘度 Liquid Viscosity	50-5000cP
最大出胶流速 Maximum Output Rate	60 or 90kg/min (2 outlet)
混合比例及精度 Mixing Ratio and Accuracy	100 : (20-50) ± 1
上料方式 Material input mode	A齿轮泵上料 Gear Pump A Feeding B真空泵上料 Vacuum Pump B Feeding

SP-L-08

手糊树脂机
Epoxy Handle Mix Machine

设备主要用于叶片制造业现场手糊树脂的混制。具有传输计量准确、脉冲小、经久耐用、性能稳定等优势。

This equipment is designed for on-site hand layup resin mixing in blade manufacturing, featuring accurate metering, low pulsation, durability, and stable performance.



技术参数 Parameter

产品型号 Type	SP-L-08
外形尺寸 Dimension	3200x1400x2900mm
混合树脂的可操作时间 Pot Life of Mixed Resin	≥10 min
液体粘度 Liquid Viscosity	100-5000 cP
最大出胶流速 Maximum Output Rate	6 kg/min (1 outlet)
混合比例及精度 Mixing Ratio and Accuracy	100:(10-50):(10-50) ± 2
移动方式 Movement Method	手 推 Hand Push 电瓶车 Battery Car-LM

双组份混胶机
Epoxy Glue Machine

SP-L-16G

设备用于叶片生产时的胶衣工序，使用设备可以保证胶衣的充分且按比例均匀的混合，确保混合质量，整个过程可控、可追溯，降低劳动强度，提高生产效率。

Designed for wind blade gel-coat processing, the unit ensures proportional, thorough blending with controllable, traceable operations to cut labor intensity and boost productivity.



技术参数 Parameter

产品型号 Type	SP-L-16G
外形尺寸 Dimension	2976x1366x4500mm 高度可选 Adjustable height
液体粘度 Liquid Viscosity	5000-50000cP
功率 Rated Power	≈ 7.5kW
混合比例及精度 Mixing Ratio and Accuracy	100:(20-25)±2
出胶量 Output	3-5kg/min

SP-L-16B

双组份混胶机
Epoxy Glue Machine

设备用于叶片生产中的粘接工序，可以实现输送、配比和混合环氧胶粘剂。分双胶桶、三胶桶两款机型，三胶桶更贴合生产工况、提升作业效率。设备计量精准、混料均匀，安全耐用、通用性强。

Specified for wind blade bonding, the equipment conveys, proportions and mixes epoxy adhesives. It is available in dual-drum and triple-drum versions, with the triple-drum design optimizing working efficiency for production conditions. Highlights include precise metering, uniform mixing, high safety, durability and versatile application.

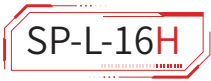


技术参数 Parameter

产品型号 Type	SP-L-16B
外形尺寸 Dimension	3290x1480x6000mm 高度可选 Adjustable height
液体粘度 Liquid Viscosity	5000-500000cP
功率 Rated Power	27KW
混合比例及精度 Mixing Ratio and Accuracy	100: (20-100) ±2
出胶量 Output	10-20 kg/min



双组份混胶机
Epoxy Glue Machine



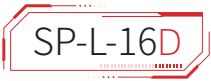
设备用于风电叶片后处理的腻子混合工序，该设备可实现腻子与固化剂充分、均匀混合，确保涂层前基材质量。

This equipment is used for the Putty mixing process in wind turbine blade post-processing. It thoroughly and evenly blends putty with curing agent to guarantee substrate quality prior to coating.



技术参数 Parameter

产品型号 Type	SP-L-16H
外形尺寸 Dimension	3000x1620x3600mm
液体粘度 Liquid Viscosity	主剂Base Resin10000-300000cP 固化剂Curing Agent 200-8000cP
功率 Rated Power	≈ 12kW
混合比例及精度 Mixing Ratio and Accuracy	100:(20-25)±2
出胶量 Output	3-5kg/min



双组份混胶机
Epoxy Glue Machine

设备用于叶片后处理的配重工序。设备保证胶液的充分且按比例均匀的混合，确保混合的固化质量。

For blade post-processing balance procedure, this equipment ensures full, proportional and uniform mixing of adhesive to secure curing quality.



技术参数 Parameter

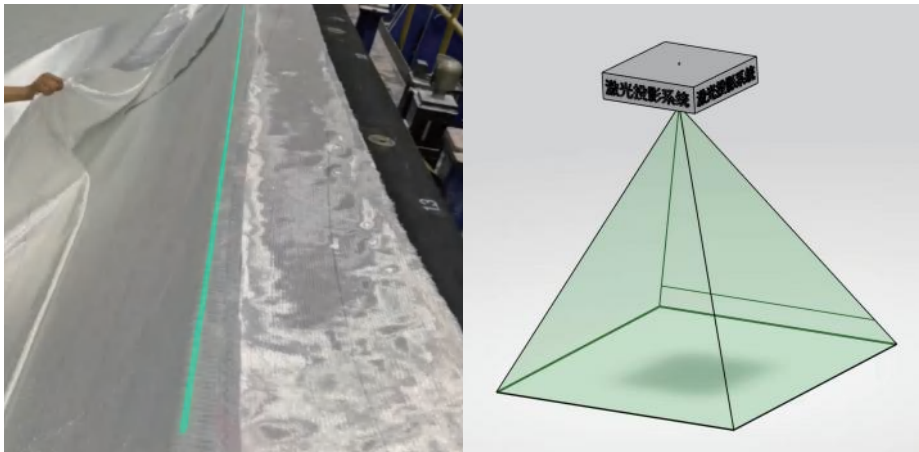
产品型号 Type	SP-L-16D
外形尺寸 Dimension	3000x1500x4500mm 高度可选 Adjustable height
液体粘度 Liquid Viscosity	B≤5000cP , A≤25000cP
功率 Rated Power	≤7kW
混合比例及精度 Mixing Ratio and Accuracy	100:(5-10)±1
出胶量 Output	4-7kg/min

3D激光投影系统
3D Laser Projection System

SP-AW-100

设备用于叶片铺层、粘接等需要定位的工序。使用激光投影设备，可减少工序中繁杂、低精度的人工测量、反复调整等工作。

This system is used for blade layup, bonding, and other positioning-critical processes. By utilizing laser projection technology, it eliminates the need for tedious, low-precision manual measurements and repeated adjustments.



技术参数 Parameter

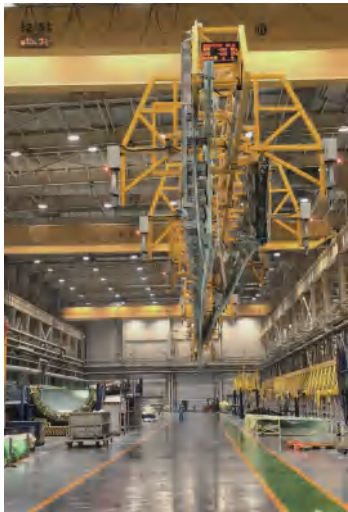
产品型号 Type	SP-AW-100
适用最大弦长为5米的叶片 Max applicable blade chord length: 5 m	chordwise $\geq$ 5m
激光辅助铺层系统的有效高度Effective Height of Laser-Assisted Layup System	8~20m, Projection angle: 40° ~ 60°
定位精度 Precision	$\pm 2\text{mm}$
正投影轮廓线宽度控制 Line width	3mm
执行安全等级 Execute Security Level	30mw, 3B

SP-L-37

腹板工装
Web Pressing Tooling

腹板工装主要由吊装定位工装和组装修装两部分组成。在采用二次粘接工艺的叶片合模工序中，用来完成对腹板与壳体的准确、快速粘接。

The tooling mainly comprises lifting positioning tooling and assembly tooling. During the mold-closing procedure of blades produced by the secondary bonding process, it achieves accurate and rapid bonding between webs and blade shells.



技术参数 Parameter

产品型号 Type	SP-L-37
外形尺寸 Dimension	视叶型 Per airfoil
腹板轴向定位公差 Web span-wise positioning tolerance	$\pm 5\text{mm}$
腹板弦向定位公差 Web chord-wise positioning tolerance	$\pm 5\text{mm}$
腹板结构胶厚度 Web structural adhesive thickness	$6\pm 4\text{mm}$

叶片自动UT检测设备
Automatic UT Inspection Equipment for Wind Turbine Blades

SP-AW-025

设备用于叶片的无损探伤工序，使用相控阵超声探头对叶片的主梁、副梁、粘接区等进行无损探伤，检测叶片在成型过程中可能存在的缺陷。

Automatic UT Inspection Equipment for Wind Turbine Blades is used for NDT of wind turbine blades. Equipped with phased array ultrasonic probes, it inspects main spars, TE spars and bonded areas to detect potential defects arising from blade forming.



技术参数Parameter

产品型号 Type	SP-AW-025
外形尺寸 Dimension	3800x1800x2600mm
可检测高度 (探头组中心离地) Detectable Height (Height from ground to center of probe array)	1000-6000mm Customizable Height
探头宽度 Probe Width	830mm 可扩展 Expandable
检测效率 Efficiency	≤1.5hrs/200m
检测速度 Scanning Speed	50-100mm/s
扫查深度 Scanning Depth	120 mm

SP-AW-020B

叶片表面打磨机
Wind Turbine Blade Surface Sanding Machine

设备用于叶片后处理的打磨工序，以 AGV 作为移动主体，搭载水平、垂直运动机构，配套可实现一定角度摆动的定制旋转打磨头，自带吸尘装置，实现叶片外表面无尘自动打磨。

This equipment is for grinding operations in wind turbine blade post-processing. Based on an AGV mobile platform, it incorporates horizontal and vertical motion units and a custom rotary grinding head with adjustable swing angles. Integrated dust extraction enables dust-free automatic grinding of blade outer surfaces.



技术参数Parameter

产品型号 Type	SP-AW-020B
外形尺寸 Dimension	3900x2700x5500mm
最大可达高度 Maximum Reachable Height	7.9m
单次打磨宽度 Single-pass Grinding Width	0.8m/1m
打磨头旋转速度 Grinding Head Rotational Speed	100-375rpm
打磨效率 Grinding Efficiency	≥250m ² /h
叶片打磨程度 Blade Surface Grinding Finish	≈90%

叶根螺栓拆卸机 Auto Unbolting Machine

SP-L-39

设备用于叶片生产时的开模工序，拆除叶根螺栓，有效降低劳动强度，避免登高风险。

This equipment is used for the demold process during blade production to remove blade root bolts, effectively reducing labor intensity and eliminating the risk of working at height.



技术参数 Parameter

产品型号 Type	SP-L-39
外形尺寸 Dimension	2400X2100X3800mm
功率 Rated Power	5kW
拆螺栓节拍 Takt time	22-30s/bolt
适用叶根节圆直径 Bolt Circle Diameter	2.8-4m
移动方式 Movement Method	电动拖车辅助移动 Electric trailer-assisted movement

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