

INNOVATION NEVER ABSENCE · SERVICE WITHOUT DISTANCE

创新无极限 · 服务零距离



JINGGLASS



COMPANY PROFILE

公司简介

JINGGLASS, founded in 2003, is a high-tech enterprise focusing on the glass deep-processing equipment.

Jinglass provides solutions for the processing of flat and curved safety glass for domestic and international costumers in various fields. Including architectural facade, solar energy utilization, sanitary ware, household appliances and high-level home decoration.

The superior and abundant products have made Jinglass a trusted brand. Jinglass furnace is gradually becoming the preferred choice of glass manufacturers around the world.

杭州精工机械有限公司创立于2003年，是一家专注于玻璃深加工设备引领研发、集成制造和客户端安装培训服务的高新技术企业。

精工秉承实事求是、精益求精、完美交付的理念，为国内外建筑幕墙、太阳能利用、卫浴、家用电器和高端家装各领域用户的平、弯安全玻璃的生产、智能制造提供一体化解决方案。

优异与丰富的产品、全球化的销售与服务网络，使得精工成为全球玻璃深加工企业信赖的品牌。

PRODUCT SERIES

产品系列



Jinglass Classic Series Tempering Furnace
经典系列钢化机组

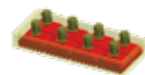
Solar Glass Horizontal Continuous Tempering Furnace
光伏行业连续式钢化机组

Vulcan Intelligent Tempering Furnace
Vulcan智能钢化机组

Glass Automation Processing Line
切磨钢自动化连线

Jinglass Classic Series Tempering Furnace

经典系列钢化机组



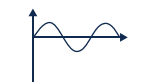
Matrix Mid-Infrared Forced Convection System
方阵式中红外强制对流系统

中红外加热技术，高端low-e更平更快



Precise Heating Control unit
集群可控硅触发控制器

智能温控单元，测温周期为0.2秒，控温精准快捷，电流更平稳，抗干扰能力更强



Smooth Current Flow
无级调功技术

精工无级调功技术配合诊断系统，报告加热断线。



Jinglass Standard Rivet Finish
陶瓷锚固技术

保温层采用独有陶瓷锚固技术，有效防止热量流失，提升炉体保温性能。



Modular Roller Seal
模块化辊道孔

辊道孔模块化制作，迷宫型密封，阻断炉温流失，可独立更换。



Conjoined Double Chamber (Jinglass Patent)
双室连体技术

精工专利，消除传统双室炉隐患，成品率高，品质好，产能大。



Convection Blower(Jinglass Patent)
精工专利对流风机

使用耐高温合金材料，多段式叶片设计，流量大且坚固，保温采用断桥技术，有效隔离炉内热量



Modular Quenching
模块化风栅结构

可独立调节每组风栅与玻璃间的距离，水平度历久弥新，保证钢化平整度。



Multiple Quenching Nozzle Design & Wind Mark Reducing
多重离散风眼设计

多平面错位排布风眼，有效减轻风斑。



Multiple Steel Plate To Guide Air Flow
多重导流板设计

采用组合型随动导风槽设计，保证炉温的均匀性，提高玻璃品质

Matrix Mid-Infrared Forced Convection Single Chamber Tempering Furnace 方阵式中红外强制对流钢化炉系列



Technical Characteristics

All convection furnace could process full series Low-E glass (Ez0.015) including single silver, double silver and triple silver Low-E glass. Distinctive Mid-Infrared Matrix convection system give even convection air in the whole heating process.

技术特点

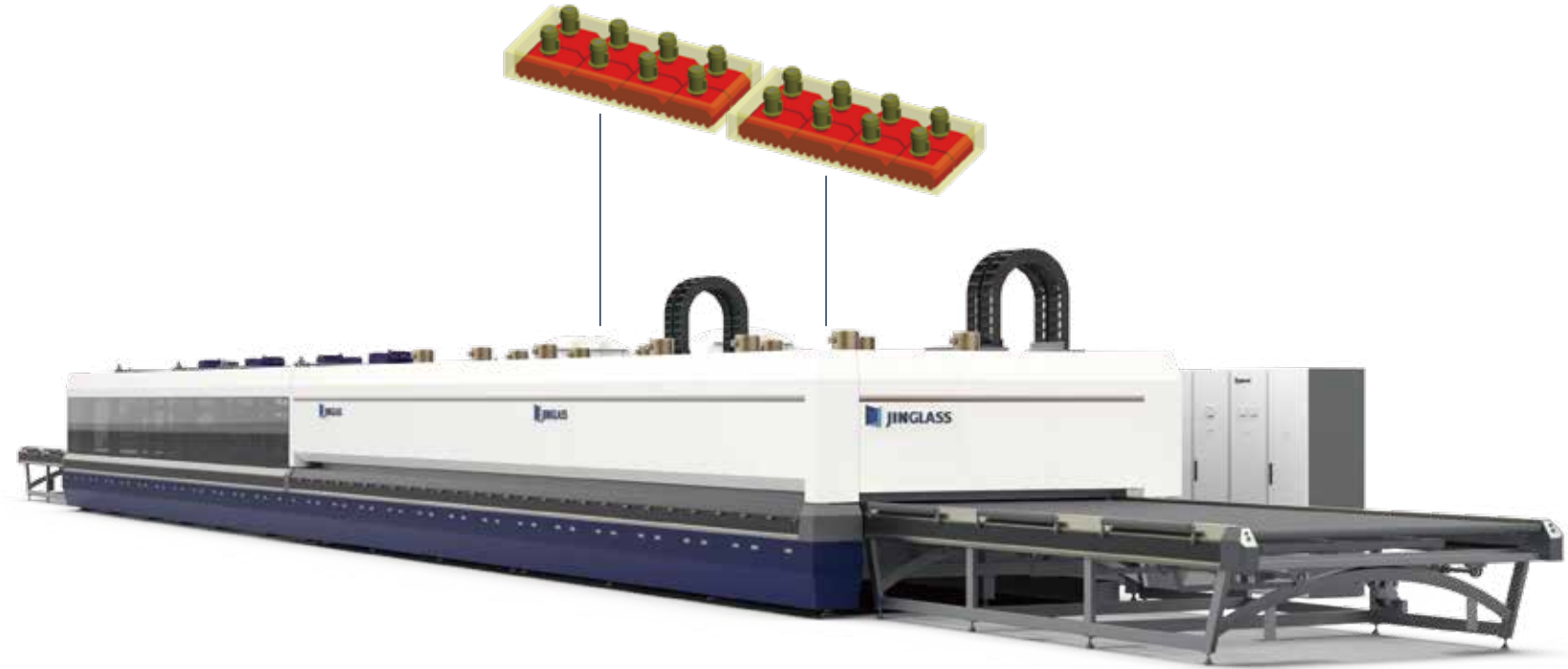
所有对流炉均适用与E≥0.015的单银、双银等全系列Low-E玻璃产品独特的方阵式中红外强制对流系统，提供持续均匀的对流加热

Technical Specification 技术参数

Model 型号	Thickness 加工厚度 (mm)	Loading Area 最大装载面积 (mm)	Type of offline Low-E glass 可加工离线Low-E的品种	Heating 加热功率 (KW)	Quenching 钢化功率 (KW)
JGF - F - UD - 96168	5-19 (4mm可选)	2500*4200	单银, 双银, 三银 single, double, and triple silver Low-E E≥0.015	720	160
JGF - F - UD - 96200		2500*5000		850	220
JGF - F - UD - 96240		2500*6000		1050	250
JGF - F - UD - 96280		2500*7000		1250	220*2
JGF - F - UD - 96315		2500*8000		1400	220*2
JGF - F - UD - 108168		2700*4200		800	160
JGF - F - UD - 108200		2700*5000		950	220
JGF - F - UD - 108240		2700*6000		1100	250
JGF - F - UD - 108280		2700*7000		1300	220*2
JGF - F - UD - 108315		2700*8000		1500	220*2
JGF - F - UD - 124168	6-19 (5mm可选)	3000*4200		900	220
JGF - F - UD - 124200		3000*5000		1100	250
JGF - F - UD - 124240		3000*6000		1400	220*2
JGF - F - UD - 124280		3000*7000		1500	220*2
JGF - F - UD - 124315		3000*8000		1700	220*2
JGF - F - UD - 130168		3300*4200		1000	220
JGF - F - UD - 130200		3300*5000		1100	250
JGF - F - UD - 130240		3300*6000		1500	220*2
JGF - F - UD - 130280		3300*7000		1600	220*2
JGF - F - UD - 130315		3300*8000		1700	250*2
JGF - F - UD - 144315	8-22 (7mm可选)	3600*8000	2000	250*3	
JGF - F - UD - 144400		3600*10000	2500	250*3	

以上参数仅供参考，最终参数以合同为准
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Mid-Infrared Forced Convection Conjoined Double Chamber Furnace 方阵式中红外强制对流连体双室炉系列



Technical Characteristics

All convection furnace could process full series Low-E glass($E \geq 0.015$), including single silver, double silver and triple silver Low-E glass.
With more efficient conjoined air box, so as to low down the requirement on power system(2700mmx5000mm furnace can temper 2700mmx10000mm when it is conjoined mode)

技术特点

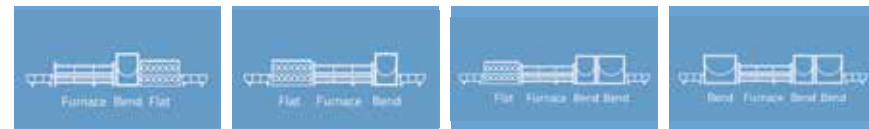
所有对流炉均适用于 $E \geq 0.015$ 的单银，双银以及三银等全系列Low-E玻璃产品钢化。
双加热室具备连体功能，在连体模式下可加工超大尺寸玻璃。(2700x5000mm双室炉在连体模式下可加工单片版面2700x10000mm)

Technical Specification 技术参数

Model 型号	Thickness 加工厚度 (mm)	Loading Area 最大装载面积 (mm)	Type of offline Low-E glass 可加工离线Low-E的品种	Heating 加热功率 (KW)	Quenching 钢化功率 (KW)	cooling 冷却功率 (KW)
JGF - DF - UD - 96168	5-19 (4mm可选)	2500*4200	单银，双银，三银 single, double, and triple silver Low-E $E \geq 0.015$	720*2	160	37
JGF - DF - UD - 96200		2500*5000		850*2	220	55
JGF - DF - UD - 96240		2500*6000		1050*2	250	55
JGF - DF - UD - 96280		2500*7000		1250*2	220*2	55
JGF - DF - UD - 96315		2500*8000		1400*2	220*2	55*2
JGF - DF - UD - 108168		2700*4200		800*2	160	37
JGF - DF - UD - 108200		2700*5000		950*2	220	55
JGF - DF - UD - 108240		2700*6000		1100*2	250	55
JGF - DF - UD - 108280		2700*7000		1300*2	220*2	55
JGF - DF - UD - 108315		2700*8000		1500*2	220*2	55*2
JGF - DF - UD - 124168	6-19 (5mm可选)	3000*4200		900*2	220	55
JGF - DF - UD - 124200		3000*5000		1100*2	250	55
JGF - DF - UD - 124240		3000*6000		1400*2	220*2	55*2
JGF - DF - UD - 124280		3000*7000		1500*2	220*2	55*2
JGF - DF - UD - 124315		3000*8000		1700*2	220*2	55*2
JGF - DF - UD - 130168		3300*4200		1000*2	220	55
JGF - DF - UD - 130200		3300*5000		1100*2	250	55
JGF - DF - UD - 130240		3300*6000		1500*2	220*2	55*2
JGF - DF - UD - 130280		3300*7000		1600*2	220*2	55*2
JGF - DF - UD - 130315		3300*8000		1700*2	250*2	55*2
JGF - DF - UD - 144315	8-22 (7mm可选)	3600*8000	2000*2	250*3	110*2	
JGF - DF - UD - 144400		3600*10000	2500*2	250*3	110*2	

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Matrix Mid-Infrared Forced Convection Glass Flat and Bending Furnace 方阵式中红外平弯钢化炉系列



Technical Characteristics

Precision CNC processed components guarantee the bending accuracy
Stable and reliable mechanical bending structure could also temper high quality flat glass

技术特点

采用精密数控机床加工部件，确保成弧精度
稳定的机械结构，弯风栅制作钢化玻璃质量也上乘



Suitable For

Furniture, shower glasses, electrical appliance, architectural curve glass, automotive side window and etc.

适用范围

家私，卫浴，电器，建筑弯钢化玻璃，汽车侧窗等

Technical Specification 技术参数

Model 型号	Flat thickness 平钢化玻璃厚度 (mm)	Flat max loading size 平钢化最大装载面积 (mm)	Bend thickness 弯钢化玻璃厚度 (mm)	Bend max straight 弯钢化直边最大长度 (mm)	Optional type of conventional arc length (not fully listed) 可选的常规弧长类型 (非常规弧长未在此处列出)						
					A	B	C	D	E	F	G
JGF - FB - 4896	3.2-19	1250*2500	4-12	1250	Arc=600 R ≥350	Arc=800 R ≥400	Arc=1000 R ≥500	Arc=1200 R ≥600	Arc=1500 R ≥750	Arc=2000 R ≥1000	Arc=2500 R ≥1200
JGF - FB - 48124		1250*3000		1550	Arc=600 R ≥ 350	Arc=800 R ≥400	Arc=1000 R ≥500	Arc=1200 R ≥600	Arc=1500 R ≥750	Arc=2000 R ≥1000	Arc=2500 R ≥1200
JGF - FB - 60124		1550*3000		1800	Arc=600 R ≥350	Arc=800 R ≥400	Arc=1000 R ≥500	Arc=1200 R ≥600	Arc=1500 R ≥750	Arc=2000 R ≥1000	Arc=2500 R ≥1200
JGF - FB - 60144		1550*3660		2000	Arc=600 R ≥ 350	Arc=800 R ≥ 400	Arc=1000 R ≥500	Arc=1200 R ≥600	Arc=1500 R ≥750	Arc=2000 R ≥1000	Arc=2500 R ≥1200
JGF - FB - 70144		1800*3660		2200	Arc=800 R ≥400	Arc=1000 R ≥500	Arc=1200 R ≥600	Arc=1500 R ≥750	Arc=2000 R ≥1000	Arc=2500 R ≥1200	
JGF - FB - 70168		1800*4200		2500			Arc=1000 R ≥500	Arc=1200 R ≥600	Arc=1500 R ≥750	Arc=2000 R ≥1000	Arc=2500 R ≥1200
JGF - FB - 80124	4-19	2000*3000	5-12	2000	Arc=600 R ≥ 350	Arc=800 R ≥ 400	Arc=1000 R ≥500	Arc=1200 R ≥600	Arc=1500 R ≥750	Arc=2000 R ≥1000	Arc=2500 R ≥1200
JGF - FB - 80144		2000*3660		2700				Arc=1200 R ≥600	Arc=1500 R ≥750	Arc=2000 R ≥1000	Arc=2500 R ≥1200
JGF - FB - 80168		2000*4200		3000					Arc=1000 R ≥750	Arc=1000 R ≥1000	Arc=1000 R ≥1200
JGF - FB - 84144		2200*3660		3500							
JGF - FB - 84168		2200*4200		3500*6000							
JGF - FB - 96144		2500*3660		3500*9000							
JGF - FB - 96168	2500*4200	3500*6000									
JGF - FB - 96200	2500*5000	3500*9000									
JGF - FB - 96240	2500*6000	3500*9000									
JGF - FB - 96280	2500*7000	3500*9000									
JGF - FB - 108240	2700*6000	3500*9000									
JGF - FB - 124200	3000*5000	3500*9000									
JGF - FB - 124240	3000*6000	3500*9000									
JGF - FB - 124360	3000*9000	3500*9000									
JGF - FB - 138240	3500*6000	3500*9000									
JGF - FB - 138360	3500*9000	3500*9000									

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Longitudinal Concave/Convex Bending Furnace 纵向正反软轴弯钢化炉系列



解决了传统纵向弯钢弧边炸口、波形大等问题，有效弱化了平行于玻璃直边的明显风斑。

Solves the problems of curve side defect and big waveness, from which the traditional longitudinal bending glass are always suffered. Effectively weakening the wind mark parallel to the straight edge of the glass.

Model 型号	C96	C108	C124	C130	C138
Arc 弧长	2500	2700	3000	3300	3500
Length 直角边长	Customization Options 可定制直边长	3660	4200	5000	6000
		7000	9000	12000	18000

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JINGLASS WIND MARK REDUCING 精工专利 弯美无斑

Jinglass patent nozel design reduce the wind mark which is common by traditional longitudinal bending,and give much better bending curve.

精工专利的弯美无斑设计，结构上使用了交叉排列无缝连接的风嘴，消除了传统结构上的风嘴间隙，保证了强化风压与风量的全方位均匀度，有效的弱化了钢化成品的条状风斑问题，且提供了最佳的钢化平整度。

JGF-F IR Tempering Furnace

传统辐射单室炉



Suitable For

Various sizes of glass for architectural facade, door & window, furniture household appliance and solar modules.

Thinnest glass thickness: 2.5mm.

适用范围:

建筑、家电、家具、电器、太阳能电磁板玻璃等高品质玻璃产品。
最薄可加工2.5mm薄板玻璃。

Technical Specification 技术参数

Model 型号	Thickness 玻璃厚度 (mm)	Loading Area 最大装载面积 (mm)	Min Size 最小规格 (mm)	Heating 加热功率 (KW)	Quenching 钢化功率 (KW)
JGF - F - 4896	3-19 (2.5mm可选)	1250*2500	150*250	230	220*2
JGF - F - 48124		1250*3000		240	220*2
JGF - F - 60124		1550*3000		280	250*2
JGF - F - 60144		1550*3660		340	250*2
JGF - F - 70144		1800*3660		390	280*2
JGF - F - 70168		1800*4200		460	280*2
JGF - F - 80124	4-19	2000*3000	150*250	360	132
JGF - F - 80144		2000*3660		430	132
JGF - F - 80168		2000*4200		520	132
JGF - F - 84144		2200*3660		480	160
JGF - F - 84168		2200*4200		580	160
JGF - F - 96144		5-19		2500*3660	300*300
JGF - F - 96168	2500*4200		650	160	
JGF - F - 96200	2500*5000		750	220	
JGF - F - 96240	2500*6000		900	250	
JGF - F - 96280	2500*7000		1000	160*2	
JGF - F - 108240	2700*6000		1000	250	
JGF - F - 124200	3000*5000		1050	250	
JGF - F - 124240	3000*6000		1250	160*2	
JGF - F - 124360	3000*9000		1700	160*2	
JGF - F - 130200	3300*5000		990	160*2	
JGF - F - 130240	3300*6000		1200	160*2	
JGF - F - 138240	3500*6000		1300	160*2	
JGF - F - 138360	3500*9000	1800	160*2		

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Convection Continuous Flat Glass Tempering Furnace 全对流连续炉系列



Suitable For
Various sizes of glass for vehicles, furniture, domestic appliances and solar modules.

适用范围
适用于民用车辆、家具、家电玻璃等各类高要求玻璃的钢化加工。

Technical Specification 技术参数

Model 型号	Thickness 玻璃厚度 (mm)	Loading Area 最大装载面积 (mm)	Customization options 可根据产能定制加热炉长
JGF - CF- 40	2.5 - 4	1050*2000	24000-60000
JGF - CF- 48	3.2 - 6	1250*2000	
JGF - CF- 60	3.2 - 6	1650*2000	
JGF - CF- 70	4 - 8	1800*3660	

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Low-e Glass Tempering Furnace Low-e 膜面钢化测试炉



Suitable For
Low-E glass film tempering test
Instrument glass and small flat glass tempering

适用范围
离线Low-E膜层钢化后变色效果测试
仪表等小规格平板玻璃产品的钢化



Technical Specification 技术参数

Model 型号	Thickness 玻璃厚度 (mm)	Max Size 最大尺寸	Heating 加热功率 (KW)	Quenching 钢化功率 (KW)
JGF - F MINI - 1000	4 -12	600*1000	75	37
JGF - F MINI - 1400	4 -12	600*1400	85	75

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Best Materials & Process

High Level Technical Team

Reliability of long-term

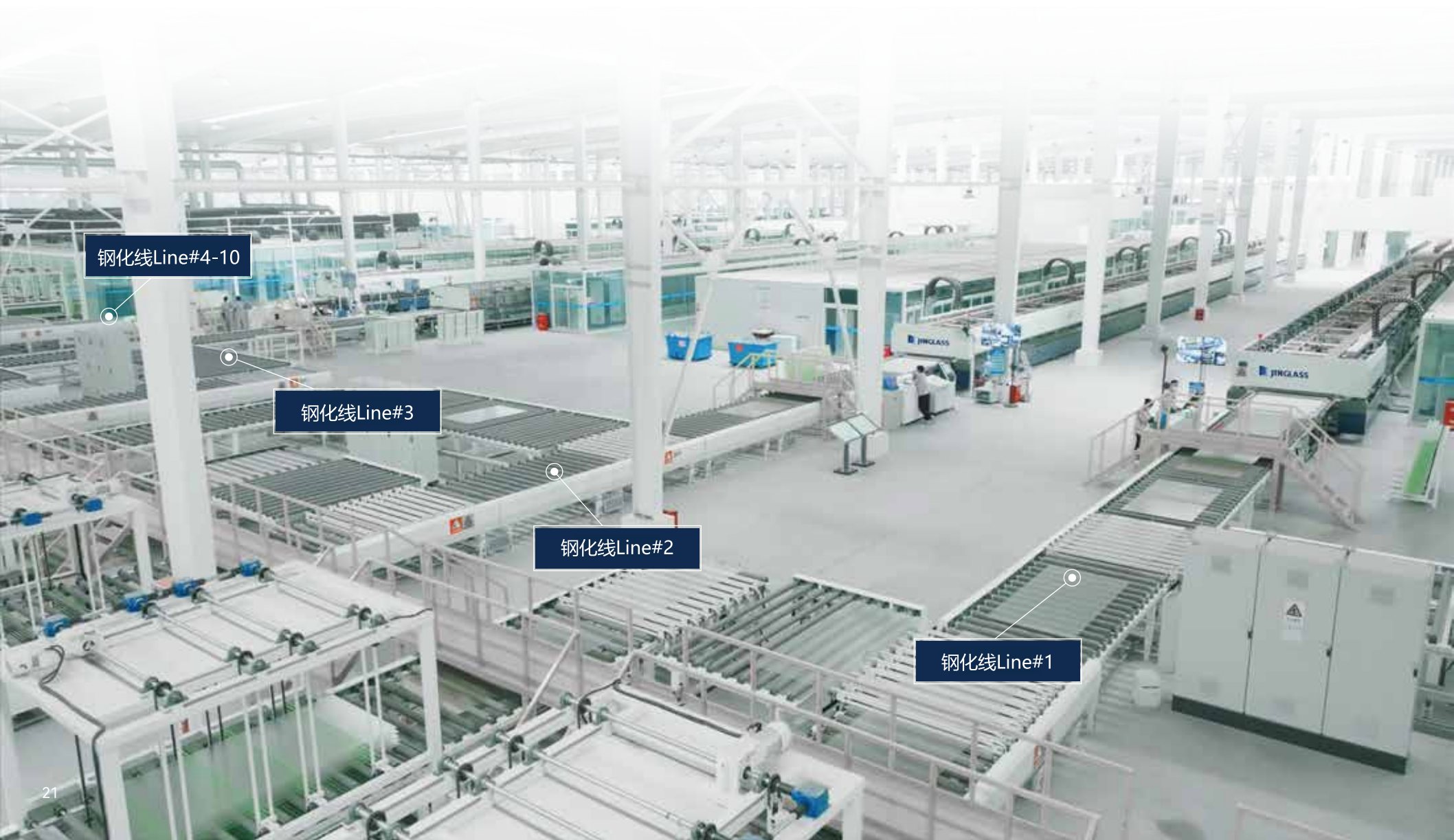
专注的施工结合诚实的用料

在精工的员工中代代相传

确保了交付给客户的每一台钢化炉长期稳定的运行



Professional Solar Glass Service Provider
专业的光伏玻璃深加工提供商



OUR CUSTOMERS

我们的客户



Solar Glass Horizontal Continuous Tempering Furnace 光伏行业连续式玻璃钢化机组



Technical Characteristics:

1. Adopting Mid-Infrared Minus Pressure Forced Convection system in Heating Chamber.
2. Adopting the Symmetrical Quenching part with high pressure.

光伏连续炉主要技术特点:

- 1、高温段采用中红外负压强制对流系统
- 2、高压段采用对称式风栅

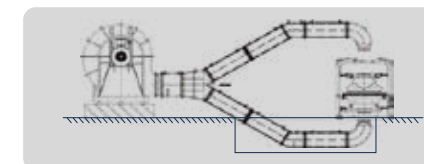
Technical Specification 技术参数 *The max capacity is based on continuous production with maximum glass size of 1128*2272*2.0.
最大尺寸连续生产玻璃规格为: 1128×2272×2.0

Main models 主要型号	Thickness 可加工玻璃厚度 (mm)	Loading Area 最大装载面积 (mm)	Max Capacity 最大尺寸连续生产 (m ² /h)	Transformer Capacity 变压器容量 (KV-A)
JGF-CF-5096-60M-2.5T	1.6~4.0	1400×2500	2224	3150×2
JGF-CF-5096-54M-2.5T	1.6~4.0	1400×2500	1992	3150×2
JGF-CF-5096-48M-2.5T	1.6~4.0	1400×2500	1760	2500×2
JGF-CF-5096-42M-2.5T	1.6~4.0	1400×2500	1528	3150
JGF-CF-5096-36M-2.5T	1.6~4.0	1400×2500	1296	2500
1100mm/1200mm width can be customized.		接受最大宽度为1100或1200mm炉型的定制需求		

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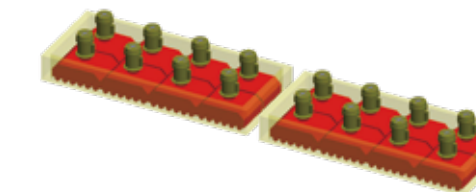
Technical Introduction

主要技术简介



Scientific structure with Y-sized air duct, which ensures the air blowing more even. Efficient blower saves more energy.

高压段对称式风栅: 科学对称结构, 风路通畅, 散热理想。风栅出风均匀, 做到玻璃均匀冷却的同时能有效降低风机使用功率。

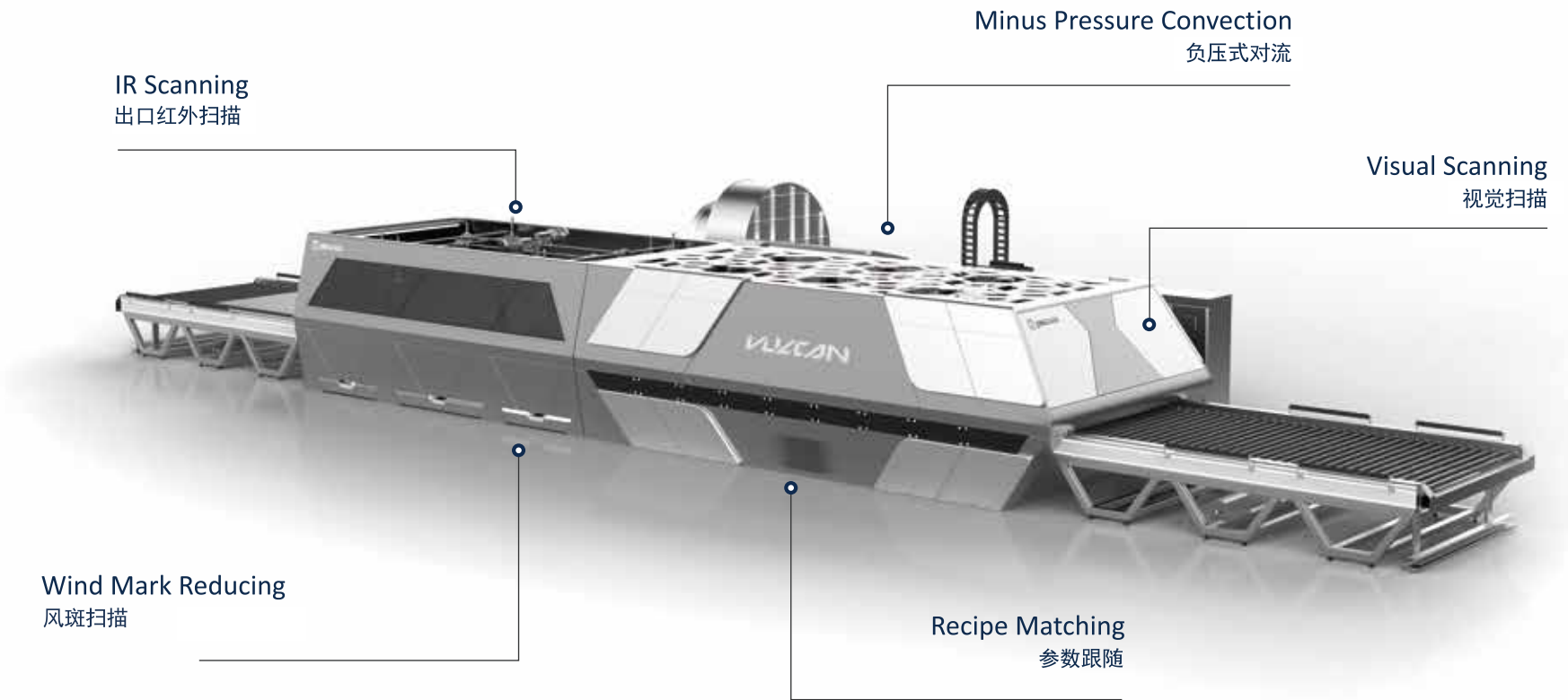


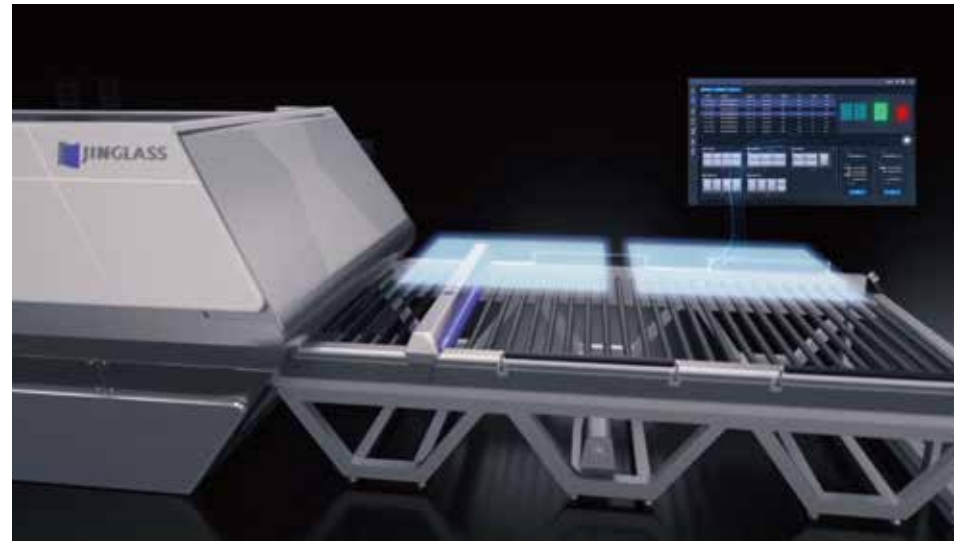
Mid-Infrared Minus Pressure Forced Convection system provides better heating effect with lower energy consumption. The surface stress difference between the inside and outside of the glass is minimised.
高温段中红外负压强制对流系提高了玻璃出炉前的受热均匀度, 应力差小, 降低能耗。

Vulcan Intelligent Tempering Furnace Vulcan智能钢化机组

Making glass quality the heart of smart factory
引领以品质为核心的智能工厂

VULCAN



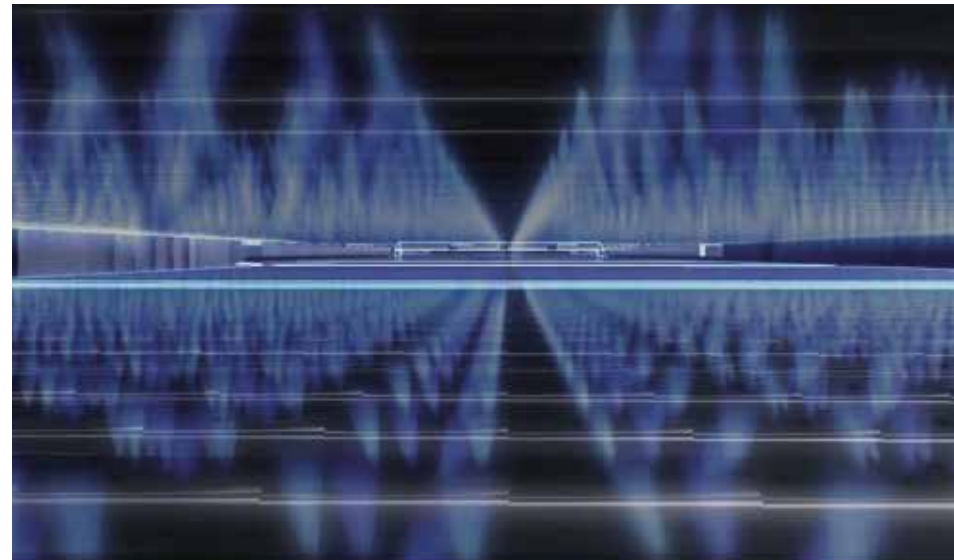


Visual Scanning

视觉扫描

The glass information is recorded by advanced visual scanning technology and adjusted to the optimum temper parameters in conjunction with the iTemper software program.

通过先进视觉识别技术记录玻璃信息，与iTemper软件算法配合调整出最优参数。



Wind Mark Reducing

风斑扫描

Upgraded quenching structure allows the glass to receive a comprehensive air scanning from the beginning of quenching, weakening the effects of wind mark.

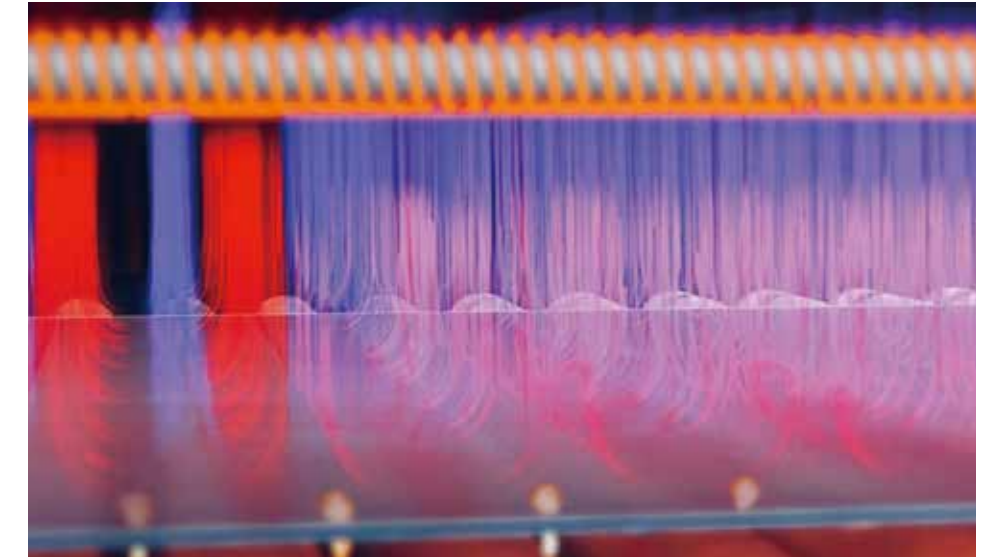
升级钢化风场，使得玻璃从钢化的最起始阶段，收到一次全面细密的风场扫描，削弱风斑和应力不均的影响。

Minus Pressure Convection

负压对流

The upgraded convection system uses the negative pressure to efficiently strip the cold air from the glass surface. The staggered jet structure heats the glass evenly and achieves truly efficient convection, thus guaranteeing a high quality of glass.

升级后的对流单元利用箱体中的负压空间高效剥离玻璃表面的冷气层，多角度分散式喷气结构可对玻璃表面均匀加热，实现真正的高效对流，有效解决玻璃表面质量和应力难以平衡的矛盾。

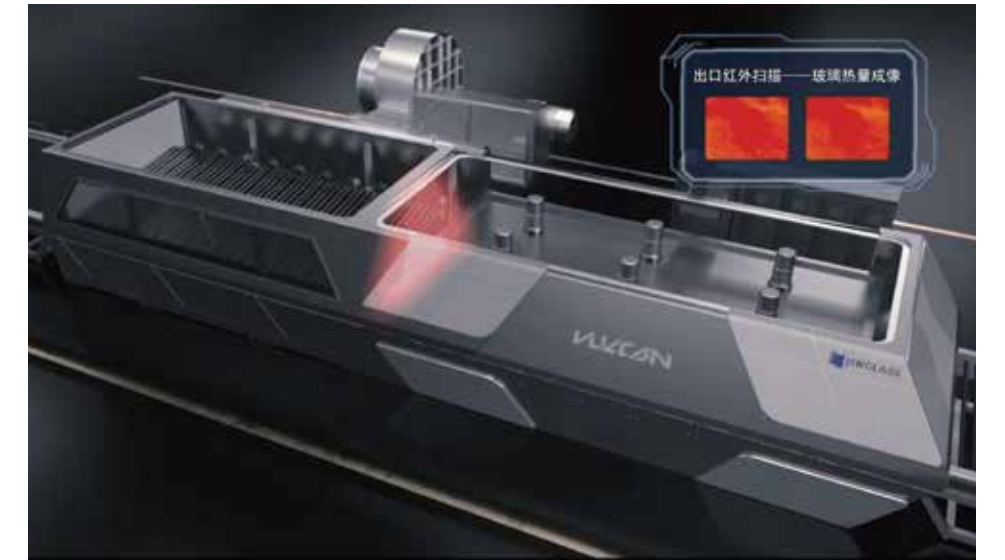


IR Scanning

红外扫描

When the glass comes out of the furnace, the temperature distribution will be accurately detected.

准确检测玻璃出炉温度分布，智能调整加热钢化方案



Vulcan Adaptive System

Vulcan的自适应系统



Automatic recognition of glass layout
自动识别玻璃排版



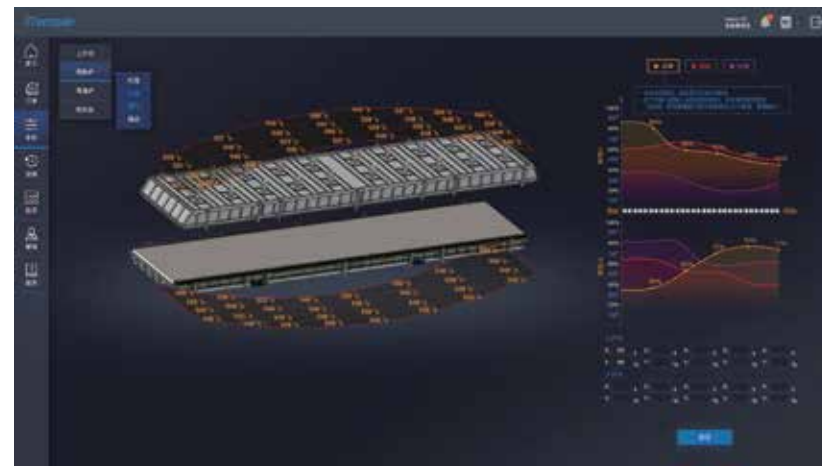
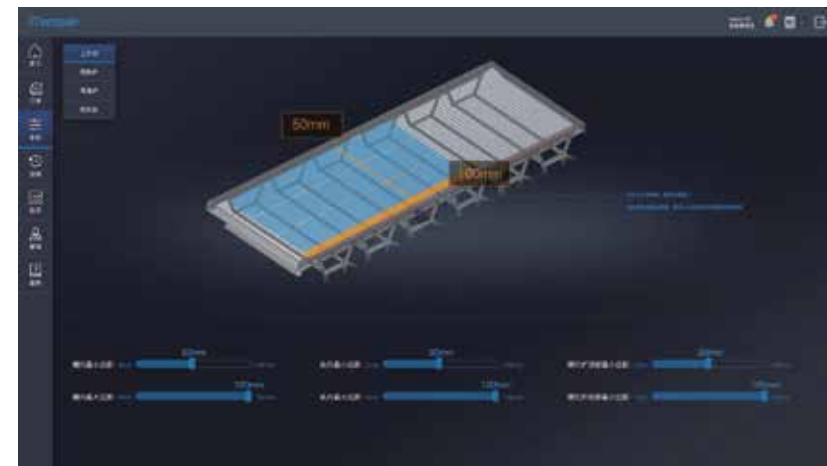
Complete traceability of production records
提供可追溯凭据和生产管理



Automatic matching of heating curve, convection curve and quenching parameters
自动匹配加热曲线、对流曲线、淬冷参数



Reducing manual errors by digital production processes
全盘数字化，杜绝人为干扰
大幅提高参数标准化和精确性，消除玻璃与班组切换的烦恼



The database and automatic production guarantee the stability and reliability of the smart factory, making it easier for managers to work.

智慧平台、线上数据库，云端无隙服务，Vulcan能够自动化生产，消除人为偏差，智能监测订单生产，完成生产管理和产品追溯，真正实现智能工厂。Vulcan确保了长时间生产运转的稳定性和可靠性，让管理者在轻松的氛围中享受工作的快乐





Intelligent software for Tempering
全自动钢化智能操作软件

Improve tempering finish steadily

Automatic Glass Layout Planning

Automatic Loading-Unloading

Automatic Tempering Data Setting

稳步提升钢化质量

自动排版

自动上下片

自动调取工艺参数

Glass Automation Processing Line 切磨钢自动化连线

Architectural Glass Processing Line: 1 Cutting 1 Edging 1 Tempering
幕墙订单加工工厂：1切1磨1钢



Glass Automation Processing Line 切磨钢自动化连线

Multi-size Glass & Specialized Glass Processing line: 1 Cutting 2 Edging 1 Tempering
小尺寸玻璃与专业玻璃加工工厂：1切2磨1钢



Glass Automation Processing Line 切磨钢自动化连线

Horizontal Sorting System 卧式立体仓储系统

High-level Domestic Glass & Architectural Glass Processing Line: 2 Cutting 2 Edging 1 Tempering
 高端家装与幕墙订单加工工厂：2切2磨1钢



Layout Planning
预排版入库

Horizontal Storage
卧式仓储库

Pre-Loading For Temper
钢化排版出库

Technical Characteristics:

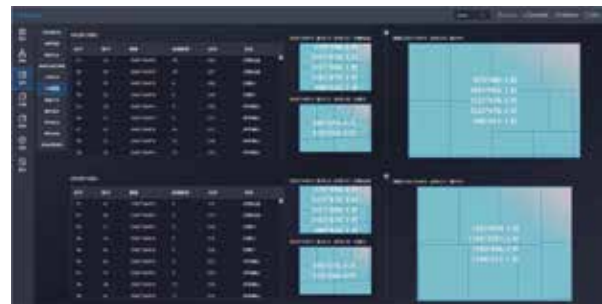
- Dual Optimized Glass Layout Planning
- Large Capacity Storage
- Glass Conveyor With Servomechanism

技术特点:

- 双重优化玻璃预排版
- 大容量卧式仓储
- 伺服升降出入库系统

Technical Introduction

技术特点



Optimisation of cutting orders
分配自如，支持单优化包分配给切割双磨边



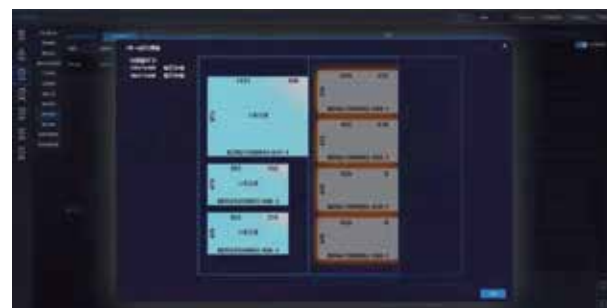
Monitoring of the whole line
整线监控，在线补单



Saving and retrieving historical parameters
参数调用，历史任意炉次可追溯



Multiple glass layout typesetting
智能排版，多种模式



Efficient loading format
批量出库，满足大型双室炉的高节拍需求



Detailed management statements
提供强大的管理报表与详尽的基础数据，



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