SuperCut Glass Cutting&Splitting Control System

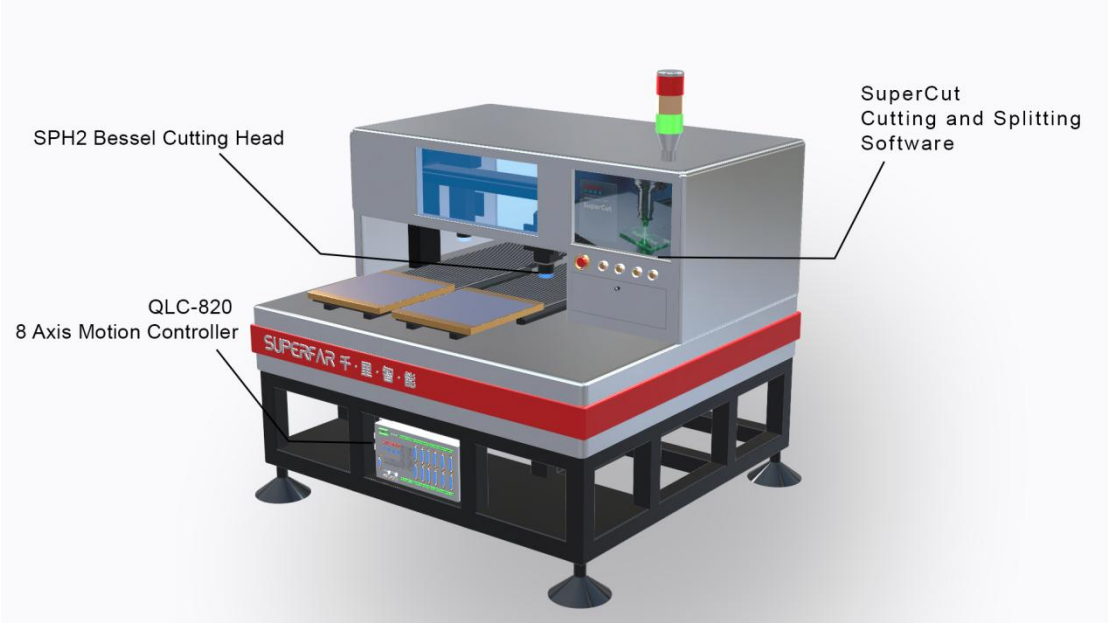
SUPERFAR
千·里·智·能

System Overview

SuperFar Intelligent self-developed SuperCut Laser Glass Cutting and Splitting System seamlessly integrates three core technologies: **high-precision motion control**, **PSO dynamic real-time adjustment**, and **dual-platform intelligent coordination**. This enables fully automated operations from cutting localization to precision splitting. The technological maturity has been proven through mass adoption in cutting-edge sectors including LCD panel manufacturing, photovoltaic cell processing, and automotive glass fabrication.

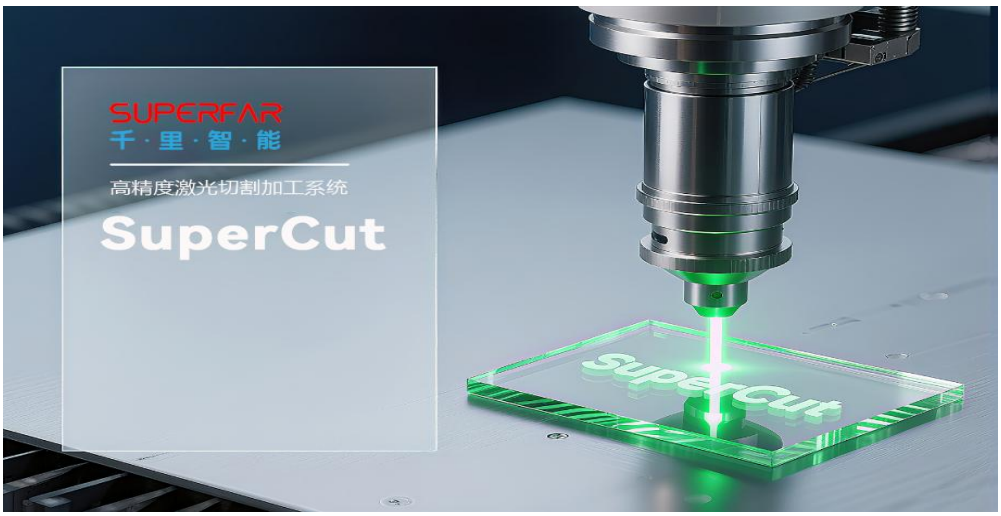
System Architecture

The SuperCut software, integrated with the QLC-820 8 Axis motion controller, enables concurrent operation of dual-platform glass cutting and splitting. **One platform performs cutting while the other simultaneously executes splitting**, ensuring seamless workflow synchronization.

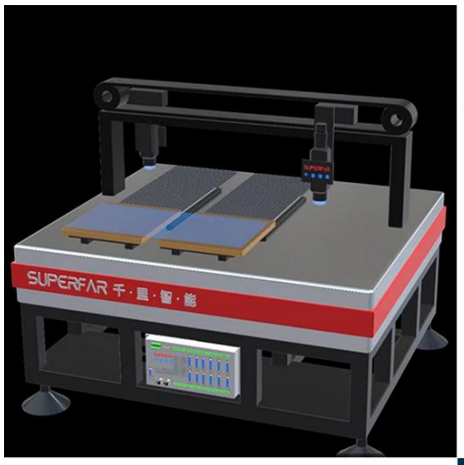


Software

SuperCut glass cutting and splitting



Technical Module	Innovation Design Highlights
Cutting&Splitting	Bessel cutting head with CO_2 laser Splitting
PSO Dynamic Control	Closed-loop pulse spacing control (±1μm precision)
Intelligent Flying Cutting	Array-path-optimized machining algorithm eliminating deceleration segments
Dual-Platform Coordination	Seamless splicing technology for extra-large processing area (1000×2000mm)
Thick Glass Processing	Adaptive multi-focal energy compensation technology
Curved Surface Machining	Z-axis real-time dynamic focusing replacing traditional 3D modeling
Visual Positioning	Sub-pixel recognition (±3μm) with thermal deformation compensation



Dual-Platform Coordination

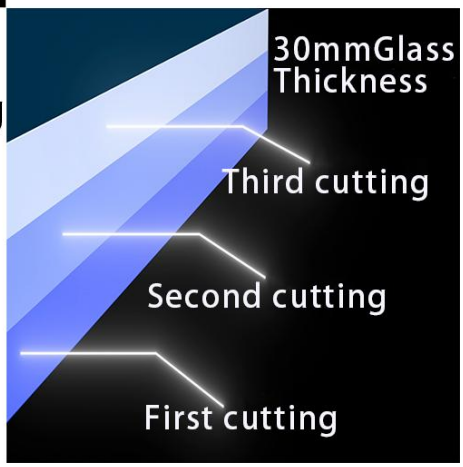
Coordinated motion of Dual Y-Axis

Larger processing area

Thick glass Processing

Multi-focal energy compensation

one time processing



PSO Function

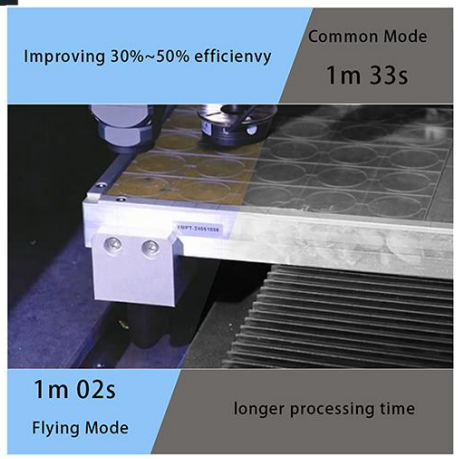
Closed-loop pulse spacing control

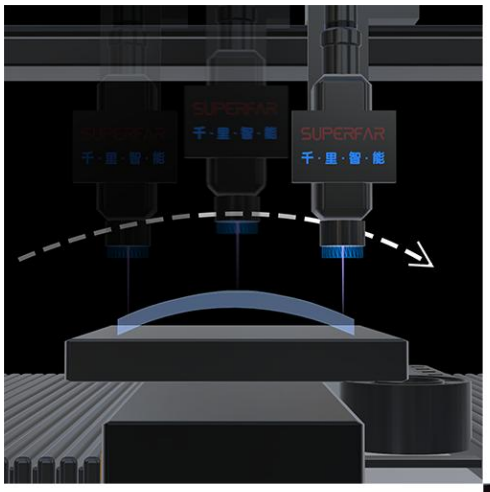
Improving processing quality

Intelligent Fly cutting

Improve processing efficiency

Mitigate machining vibration





Curved Surface Machining

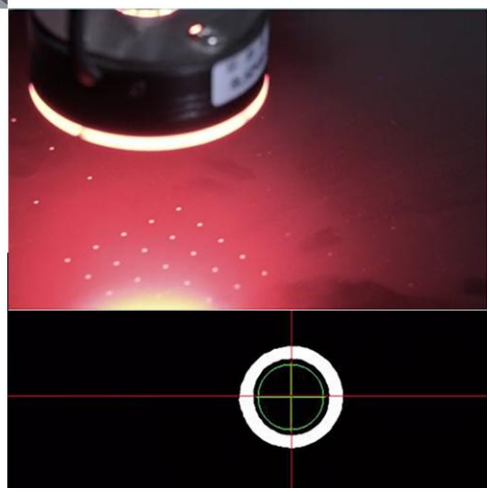
Z-axis real-time dynamic focusing

Cost-saving process simplification

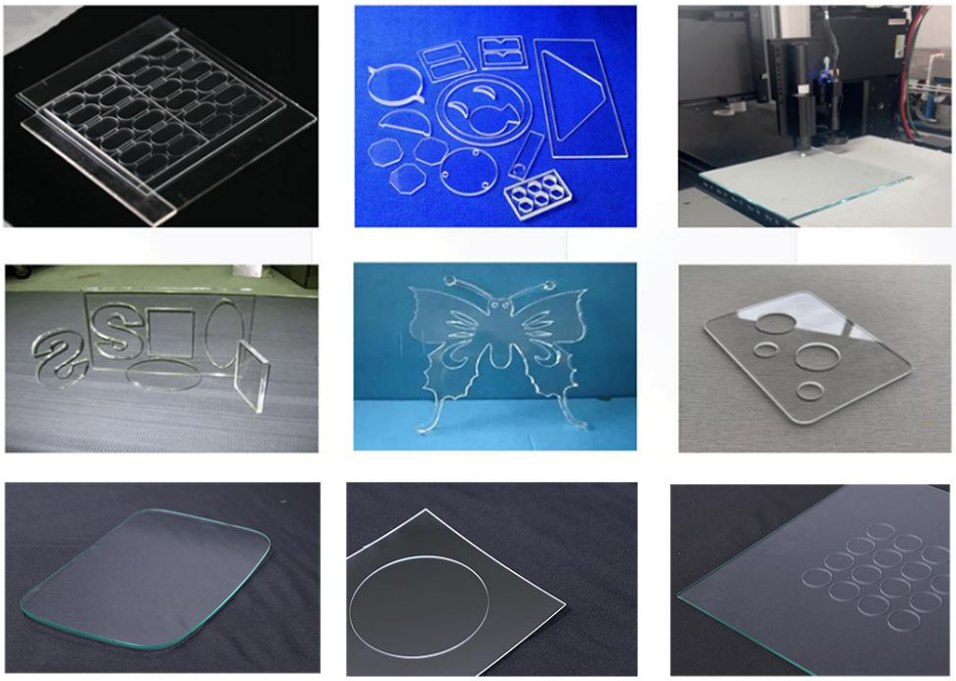
Visual Positioning

Dynamic cutting path compensation

Fiducial mark-based contour machining

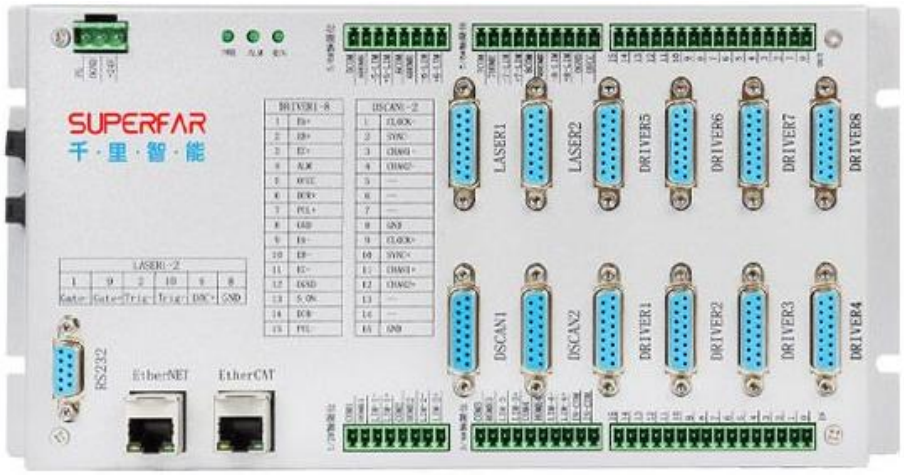


Applications



Hardware

8/12 Axis motion controller（QLC-820/1220）



Category	Description
Control Features	- Supports 8/12-axis analog signals, pulse direction, and EtherCAT bus control - Direct drive for drives and IO modules - Compatible with stepper/servo/linear motors - Improved S-curve acceleration/deceleration algorithm and look-ahead control for optimized machine stability - High-precision interpolation algorithm design with superior small-circle machining capabilities
Computational Performance	- QLC-820/1220 platform equipped with high-performance digital processing unit - Ultra-short servo cycle engineered for high-speed, high-precision motion control scenarios
Communication Capabilities	EtherNET 1000M Ethernet communication without driver dependencies - Independent operating system resistant to industrial PC failure interference
EtherCAT Interface	- Simplified wiring, exceptional scalability, and robust anti-interference performance
Data Storage	- Large-capacity memory architecture supporting high-speed data throughput applications

Expansion Functions	- Gantry dual-drive, position comparison, and trigger functions - PSO for precise laser energy control - Integrated online debugging/analysis software with compact, easy-install design
Application	Diverse glass cutting and splitting(e.g., smartphone screens, LCD displays, automotive glass)

About Us

Shenzhen SuperFar Intelligent Control Technology Co., Ltd

Step by step, the miles are gained; Floor by floor, the view's obtained.

SuperFar located in Shenzhen, has a core competitive technical team dedicated to the development and sales of high-end motion controllers, mirror systems, servo drives, robot control systems, and customized software systems.

After years of dedicated research and development and customer use, continuous testing and improvement, the independently developed high-end motion

controller and supporting control software have won full recognition and affirmation from customers with stable performance, fast speed, high precision, strong functionality, and convenient use, greatly enhancing the competitiveness of customer equipment in terms of performance price ratio. SuperFar has steadily moved towards becoming the first high-tech company in China to develop high-end multi-dimensional motion controllers.

SuperFar's series of products are widely used in industrial control fields such as laser processing equipment (marking, cutting, welding, drilling, surface modification, 3D printing, etc.), electronic industry application equipment (processing, testing), production automation equipment, CNC machine tools, printing machinery, special machine tools, robots, packaging machinery, clothing processing machinery, etc.

SuperFar continues to invest in research and development, and new series of products will be continuously introduced to the market to enhance customer competitiveness and work together with customers to create brilliance.

Certificate

Customer

Exhibition

After sale service

1. 7*24 hours online support

2. Professional after sales team support and guide

3. Powerful R&D team capable of ODM/OEM service and secondary development requirements

FAQ

A: Can the software support secondary development?

Q: We provide SDK packages to facilitate customer secondary development.

A: What is the product warranty period?

Q: Boards come with a one-year warranty, including free repair services.

A: Can you provide on-site installation and debugging?

Q: Our dedicated after-sales team assists with on-site installation and debugging.

A: What are the main applications of this cutting system?

Q: The QLCut glass cutting and cleaving integrated system is primarily used for cutting and cleaving various types of glass, such as in electronics, automotive, and optical industries

Contact us

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