GEARMAX PRO

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POWER
YOUR NEXT MOVE!

QLTEK®

HM SERIES

H-BEAM CUTTING MACHINE

Note:The appearance of the pictures in this solution is for reference only, and the actual equipment shall prevail.

QLTEK®

Ultra-Large Format | **Split-Type** | **Double-Station** | **Bevel Cutting** | **Intelligentization**

Factory

QLTEK®

400,000
400,000+m² Production Area

1,500
1,500+ Employees

8,000
8,000+ alta potencia

Quality Control

At QLTEK, quality isn't a goal,it's a comprehensive system.

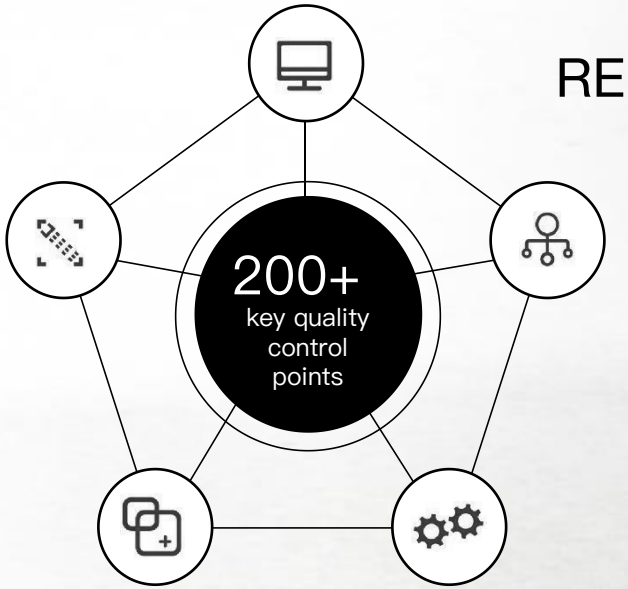
Thanks to our QSB (Quality System Benchmarking) end-to-end process management system and 5200 Grid quality control, we guarantee excellence at every stage of manufacturing.

SYSTEM

Operating and programming software.

REINFORCED STRUCTURE

Bed, beams and base.



OPTICAL MODULE

Laser and cutting head.

DRIVE UNIT

Guide rails, racks and gears.

Each module is designed to deliver precision, reliability, and optimal performance in demanding industrial environments.

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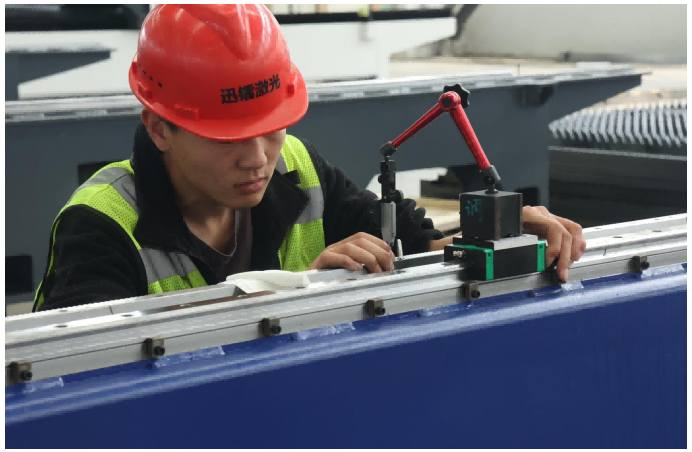
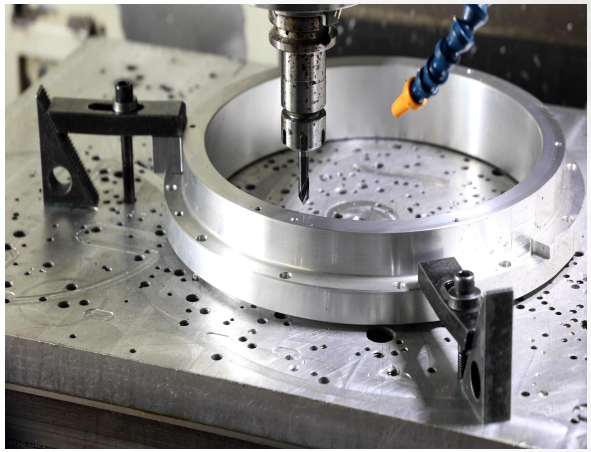
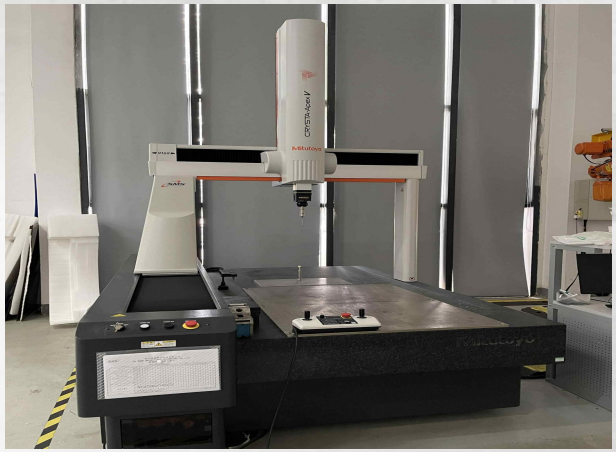
Quality Control







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Technical Parameter

HM SERIES	HM26025
Work range of profile	H-beam maximum: Web plate 1500mm (4.92') * Wing plate 600mm(1.97') H-shaped steel minimum: Web plate 200mm(0.66') * Wing plate 200mm(0.66')
Maximum length	12000mm(39.37')
X-axis travel	3100mm(10.17')
Y-axis travel	27000mm(88.58')
Z-axis travel	1250mm(4.10')
B-axis travel (rotation axis)	±90°
C-axis travel (rotation axis)	±90°
X-axis maximum idle speed	60m/min(≈196.9ft/min)
Y-axis maximum idle speed	60m/min(≈196.9ft/min)
Z-axis maximum idle speed	40m/min(≈131.2ft/min)
X/Y/Z axis re-positioning accuracy	±0.05mm
Maximum mass of a single H-steel	6000kg
Machine weight	20.8 tonelada
Power	12000W

Configuration List

No.	Item	Brand / Specification	Remarks
1	Laser cutting machine	HM series	QLTEK
2	Laser cutting head	QUICK	China
3	X、Y、W high-precision reducer	MOTOREDUCER	China
4	high-precision helical rack	SOTER	China
5	Linear guide rail	ROUST	China
6	Fiber laser	RAYCUS	China
7	Servo motors	INOVANCE	China
8	CNC control system	QUICK	China
9	Nesting software	QUICK	China
10	Proporational valve	SMC	Japon
11	Water chiller	TONGFEI	China
12	Camera	QLTEK Customization	China
13	Main low-voltage electrical components	SCHNEIDER	France

Note:The above table is standard configuration, for reference only.

List of accessories and Gas use for reference

Catagoryes	Name	Qty/Pcs
Kits de accesories	Protective lens	≥10
	Nozzles	≥10
	ceramic ring	≥1
	Tool Box	1 set
	Fiber Protective Glass	1 set
	glasses scarf	1 set
	RFC Cable	1
	Bottom protection seal	1
	ceramic body	1
	Isopropanol	1
	Lens Cleaning Tissue	1 set
	Laser dimming photo paper	1
	Dust-free cotton swab	1
	Dust-free cloth	1

GAS	Gas pressure	Consumption(L/H)
Nitrogen (can cut stainless steel, aluminum, brass.)	1.4~1.8MPA	120-240 L/H
Oxygen (can cut carbon steel and copper)	0.5MPA~0.8MPA	30-80 L/H
Compressed air (more economical, can cut carbon steel, stainless steel, aluminum, and brass)	1.6MPA	120-240 L/H

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Typical customer

Customer-centric, practical, customer problem solving, customer value maximization

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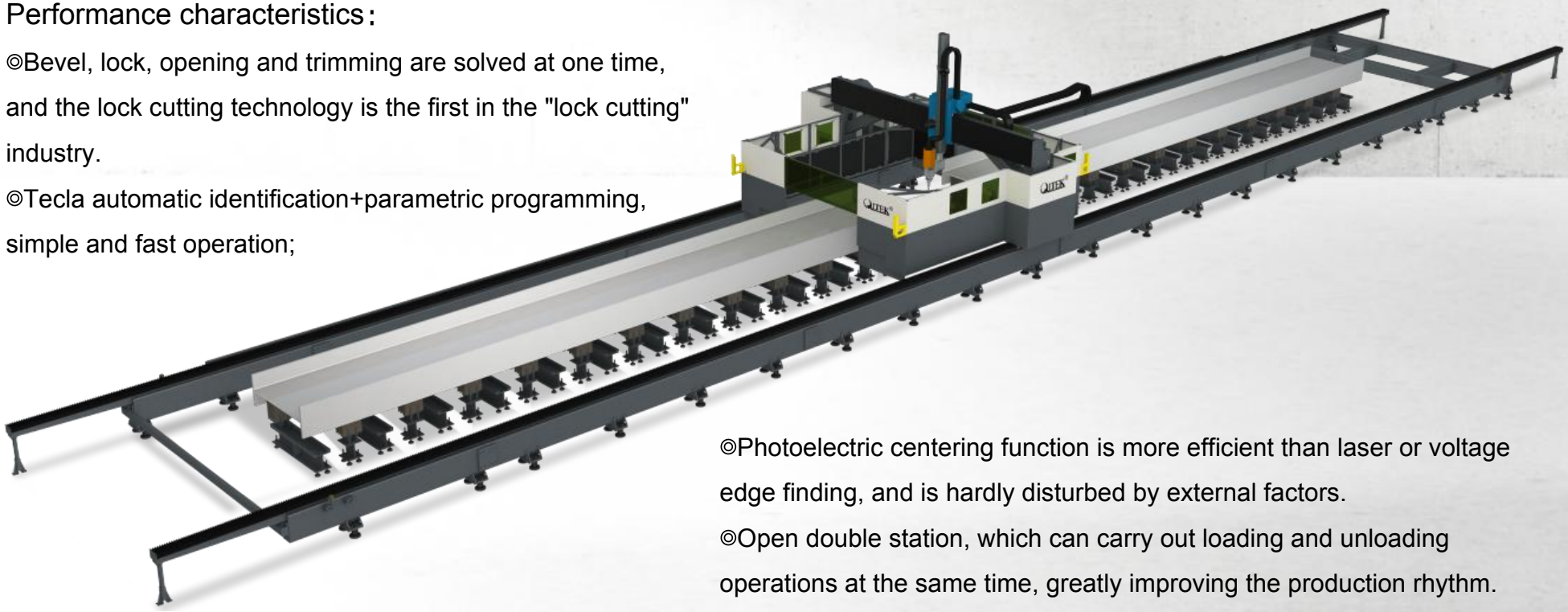
H-Beam Cutting Machine

Performance characteristics：

◎Bevel, lock, opening and trimming are solved at one time, and the lock cutting technology is the first in the "lock cutting" industry.

◎Tecla automatic identification+parametric programming, simple and fast operation;



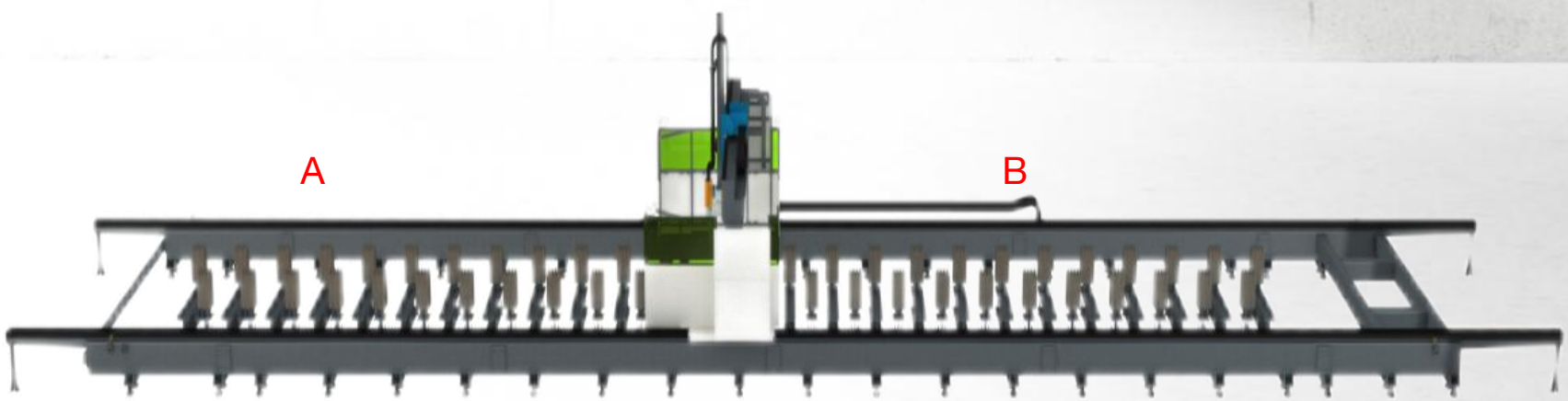
◎Photoelectric centering function is more efficient than laser or voltage edge finding, and is hardly disturbed by external factors.

◎Open double station, which can carry out loading and unloading operations at the same time, greatly improving the production rhythm.

◎The lathe bed adopts the ground rail structure, and the cutting area adopts the double-station position, thus realizing efficient processing without stopping.

Note: Safety light curtain is an optional item.

Laser Cutting Process of HM Double-Station Profile



Two 12m H-beams can be loaded in areas A and B at the same time. After loading in area A, the cantilever beam moves to area A for processing, and loading and unloading can be performed in area B, so as to realize efficient processing without stopping.

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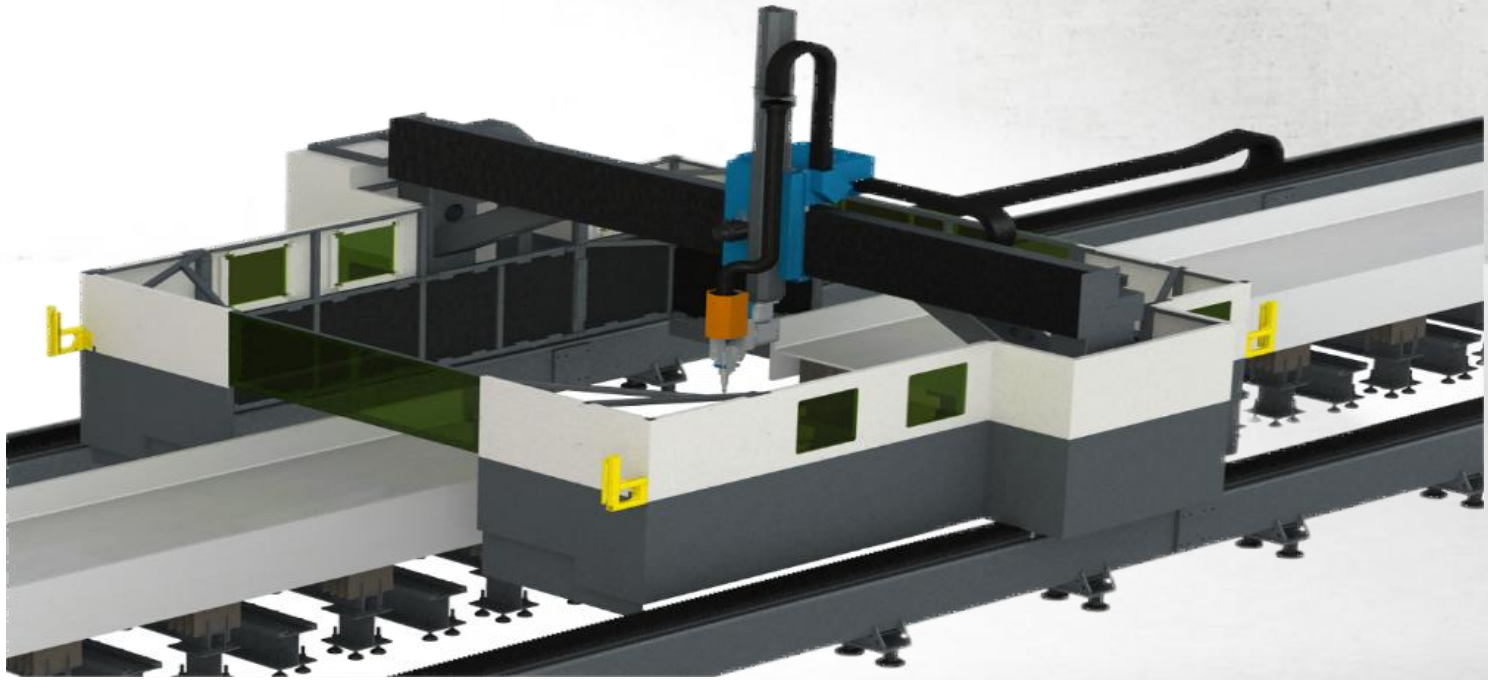
Plate Cutting Function (Optional)

©Dual-station design

©Compatible with plate flat cutting and bevel cutting; corresponding systems, nesting software and cutting workbenches need to be optionally equipped.

Safety Protection



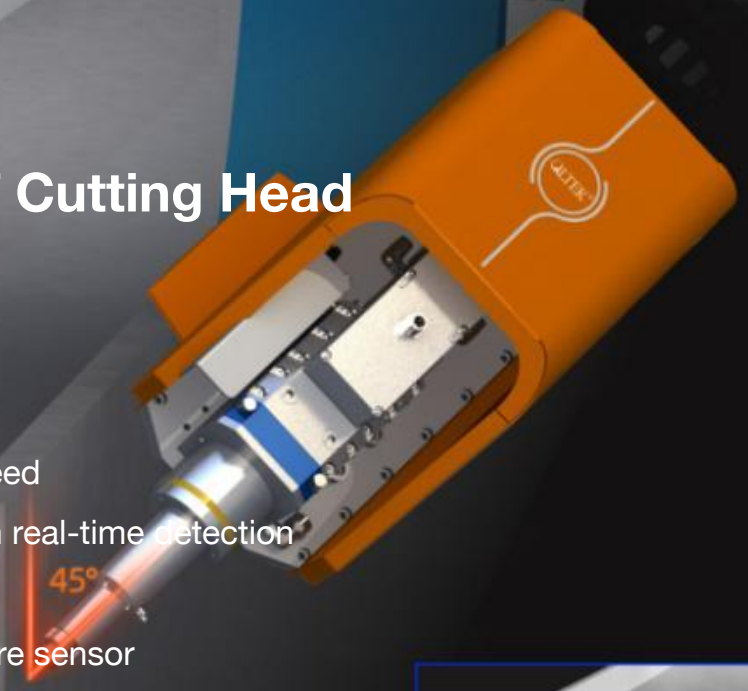
©The equipment has an opposite grating, and obstacles prevent the light path equipment from giving an alarm immediately when the equipment moves, and the cutting part is protected by a sheet metal cover.

©The software supports motor torque overrun alarm, and the minimum overrun range can be set at 5%.

©Both sides of the beam are equipped with laser protective covers and laser protective glasses.

©All gear meshing parts have protective covers, and the moving parts, electricity and gas of the equipment have warning signs.

Capacitive Sensing of Cutting Head



◎Built-in Capacitive Amplifier

◎Faster collimation and focusing speed

◎Pneumatic closed-loop control with real-time detection of cutting gas pressure

◎Standard-equipped lens temperature sensor

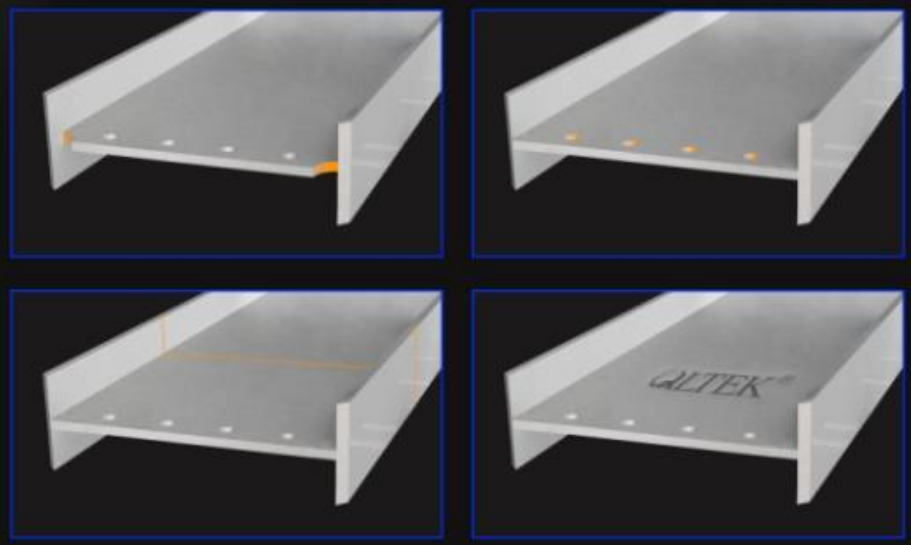
◎Stray light detection

◎Mechanical anti-collision design

◎Built-in piercing detection sensor

◎Dual optical protection

◎Patented water-cooling structure



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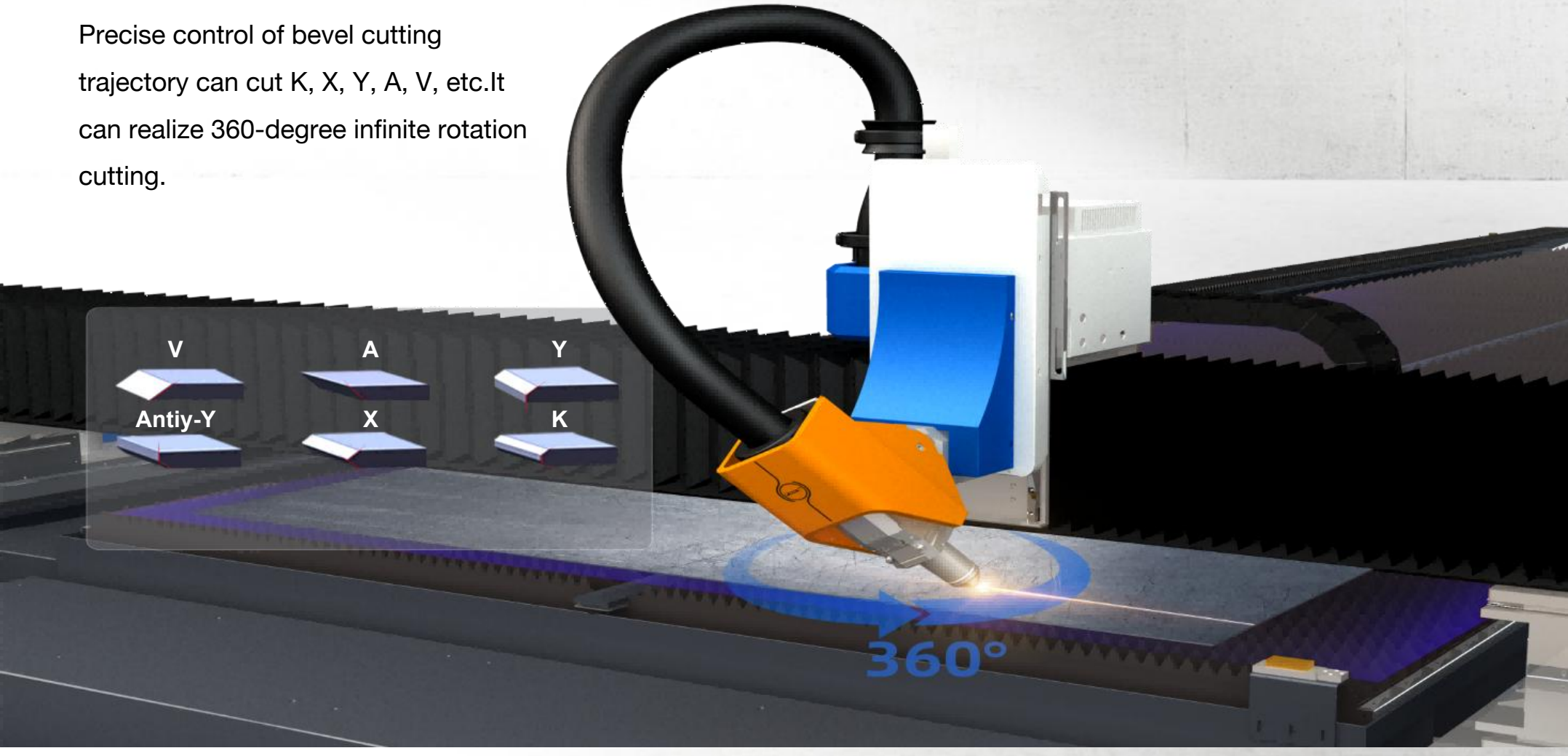
Bevel Cutting

Precise control of bevel cutting trajectory can cut K, X, Y, A, V, etc.It can realize 360-degree infinite rotation cutting.



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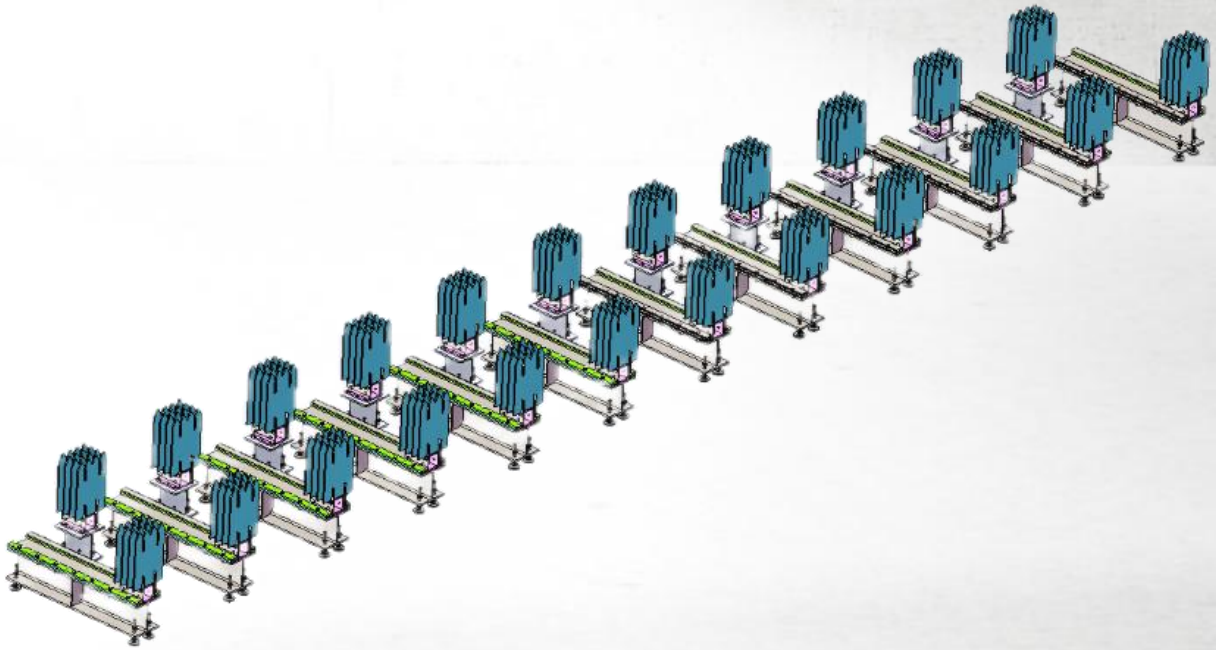
Self-Adaptive Combined Support Foot

Double spherical gasket design reduces the impact and vibration of operation, making high-speed operation more stable.

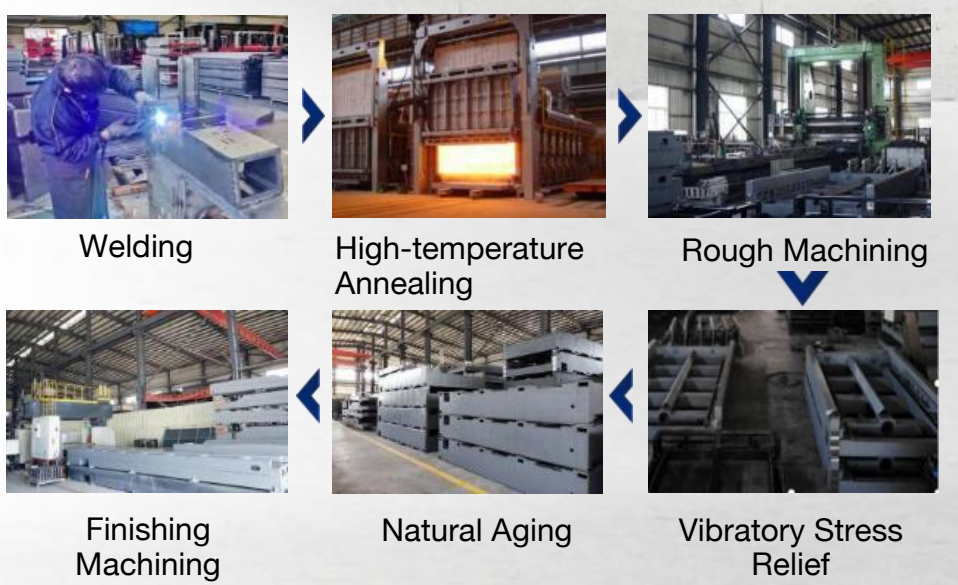
Worktable Structure (Optional)



The slidable bottom structure is adaptable to H-beams, I-beams, channel steels and angle steels of different sizes.

Full-Process High-Stability Bed

- ✓ The bed adopts a plate-welded structure. After annealing to eliminate internal stress, rough machining is performed, which effectively solves the stress generated by welding and processing, thus greatly improving the stability of the machine tool.
- ✓ Secondary vibration aging treatment and professional finite element analysis of mechanical structural components ensure the rationality and safety of the main machine design, resulting in higher rigidity.
- ✓ Structural design - professional analysis - laser cutting - welding - rough machining - tempering - sandblasting - finishing - painting - precision inspection, full process



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HM Model Beam Structure

Features：

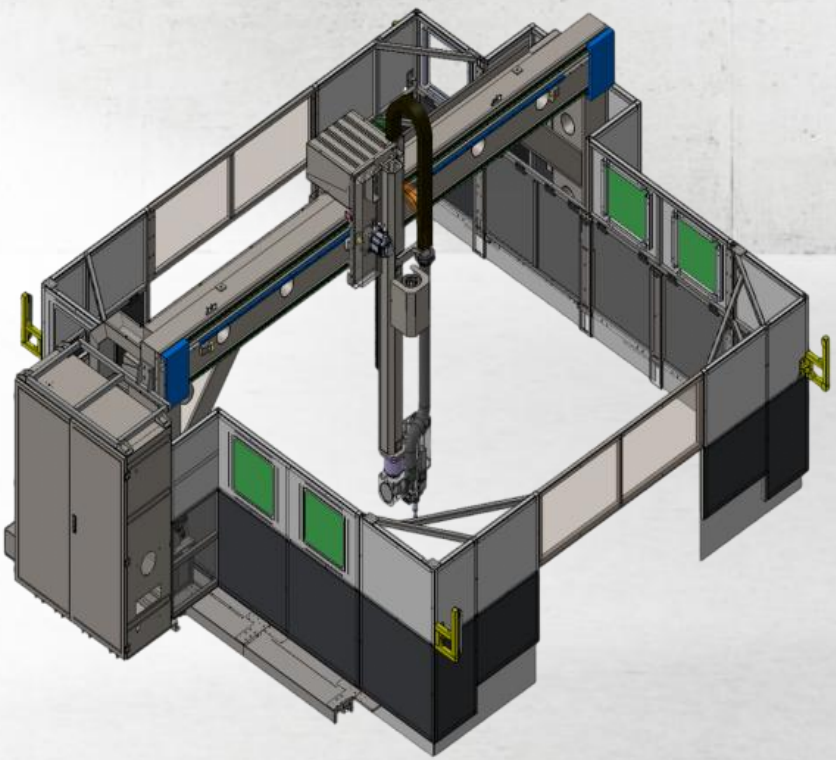
◎Machine bed: welded tube plates and spliced machine bed in sections (standard 6m section).

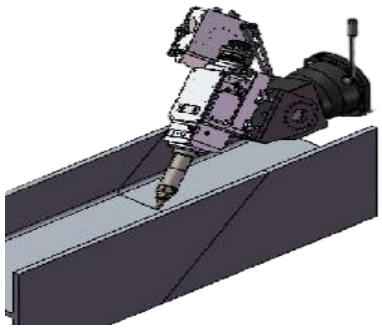
◎Electrical cabinet: the independent electrical cabinet is equipped with a counterweight at one side of the beam.

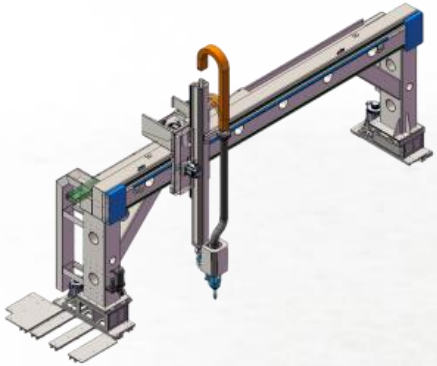
◎Thermal insulation and fire prevention: there are thermal insulation and fire prevention materials on the inner wall of the sheet metal cover in the cutting area.

◎Worktable: The standard structure can be adjusted manually.

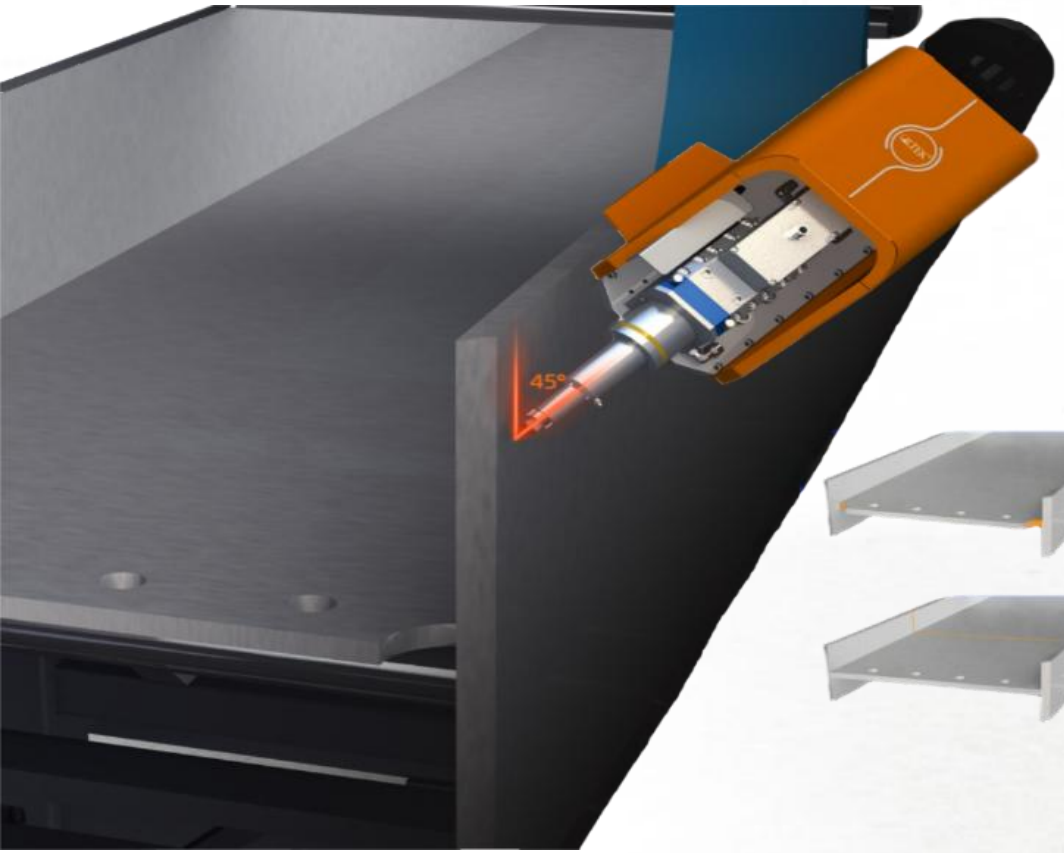
◎Optional 2-in-1 function, flat cutting and section steel cutting.







Software Functions



◎Truncation, cutting holes, opening welding holes, beveling, marking.

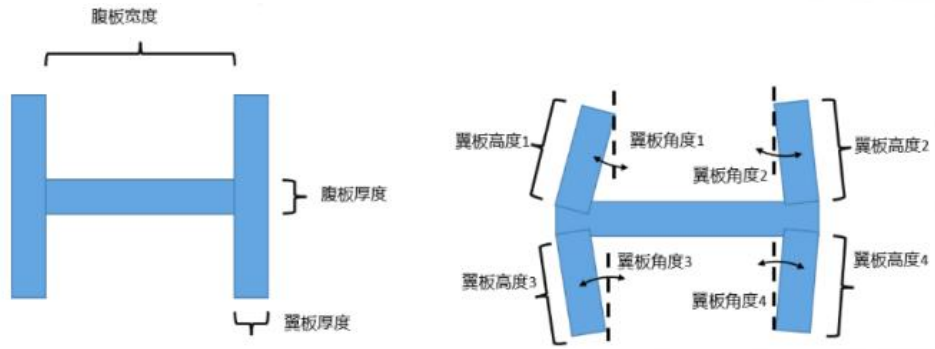
◎Equipped with fine hole cutting technology.

◎Support node cutting processes such as convex, oblique, and Z-joints.

◎Support direct import of 3D models such as TEKLA.

BCW Profile Scanner

Solve the deformation problem of H-shaped steel



Pain point analysis

◎The size of the section steel is uneven, which will cause many problems in the cutting process

◎The wrong size causes the cutting head to be damaged

◎Continuous cutting problems of the section steel, resulting in the inability to cut.

◎Bolt hole cutting dislocation, resulting in scrap parts, resulting in losses.

Traditional solutions: not really effective at avoiding risk

◎Directly import drawings, machining in accordance with the trajectory of drawings

◎The use of simple ranging sensors can only correct the local size, and can not solve the problem of the whole workpiece deformation

Contour scanning scheme

◎The profile is scanned before machining, and the data is transmitted to the machining system in real time.

◎Scanning trajectory real-time point cloud computing,real-time modeling, clear deformation area of steel, real-time compensation millisecond level data transmission,efficiency and accuracy coexist.

Dedicated Control System

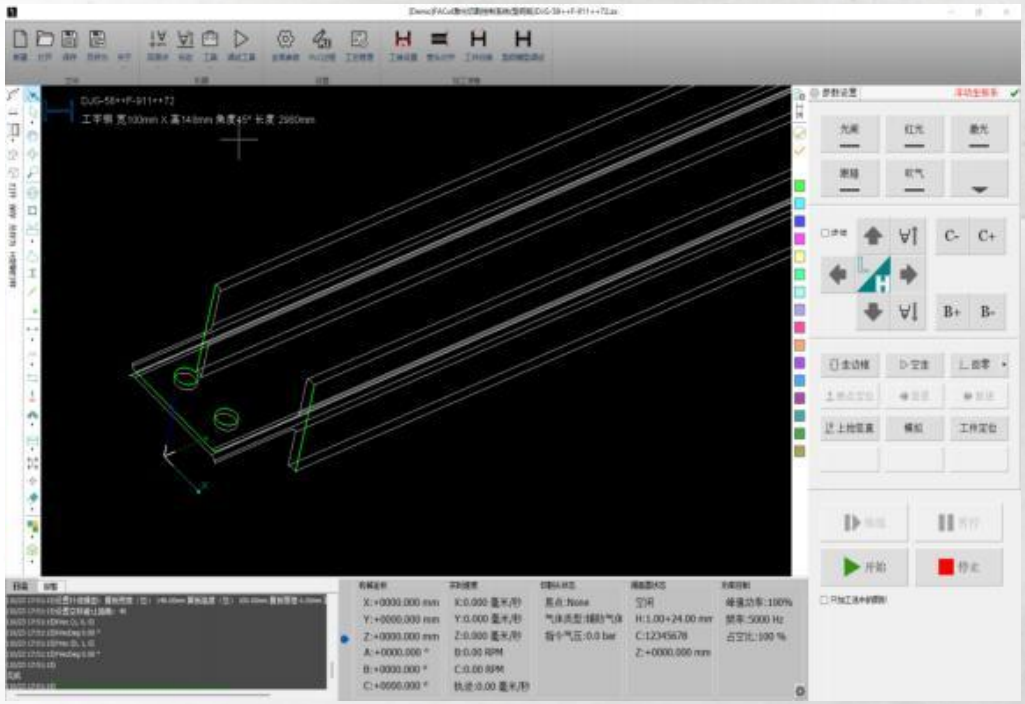
Standard drawing

◎The use of Tekla software straight out of the graphic drawing, after import can be like SolidWorks on the drawing editing, adjusting the position, adjusting the sort and other operations. Intuitive and easy to find.

Integrate self-developed CAD modules

◎The self-developed CAD module can cooperate with CAM control module at any time to optimize the effect of CAD graphics processing.

◎It can operate directly on a series of intuitive graphics such as drawing modification, compensation, lead, micro-connection and position adjustment in the processing software. The experience is consistent with CAD software.



Advantages of Intelligent Cutting Head

Advantage point：

◎Monitoring of the protective mirror temperature: Multiple groups of temperature sensors provide a guarantee for long-term stable operation.

◎Four groups of protective mirrors: Establish multiple protective barriers to improve the sealing grade of the core chamber.

◎Built-in amplifier: strong anti-interference ability, more stable capacitance

◎3D sensing head design: more conducive to channel steel and I-steel and other different types of pipe cutting.

Special cutting head for H-shaped steel

BCW Contour Scanner

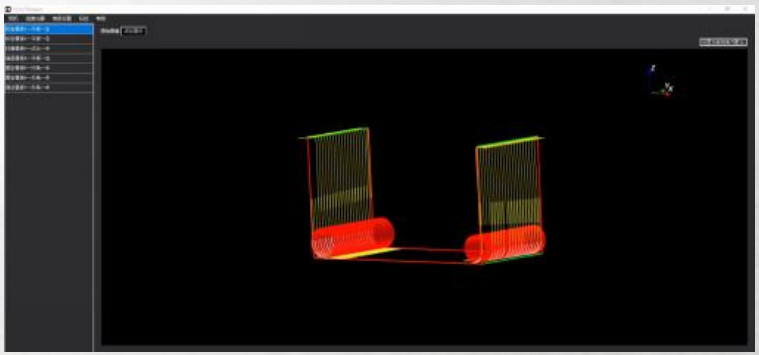
Advantages：

◎High-speed scanning of the contour deformation of the workpiece .

◎The profile is scanned before machining, and the data is transmitted to the machining system in real time.

◎Scan the track to complete real-time point cloud computing, real-time modeling, clear deformation area of steel, real-time compensation.

◎Millisecond data transmission, efficiency and accuracy coexist.

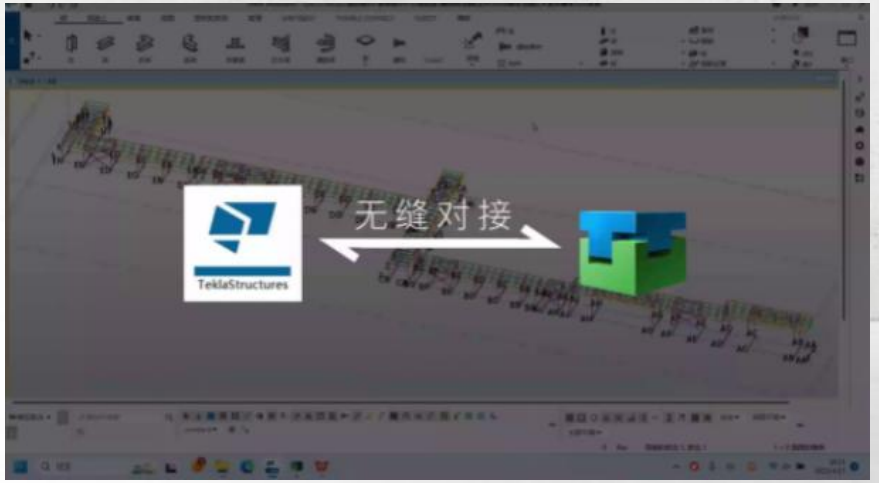


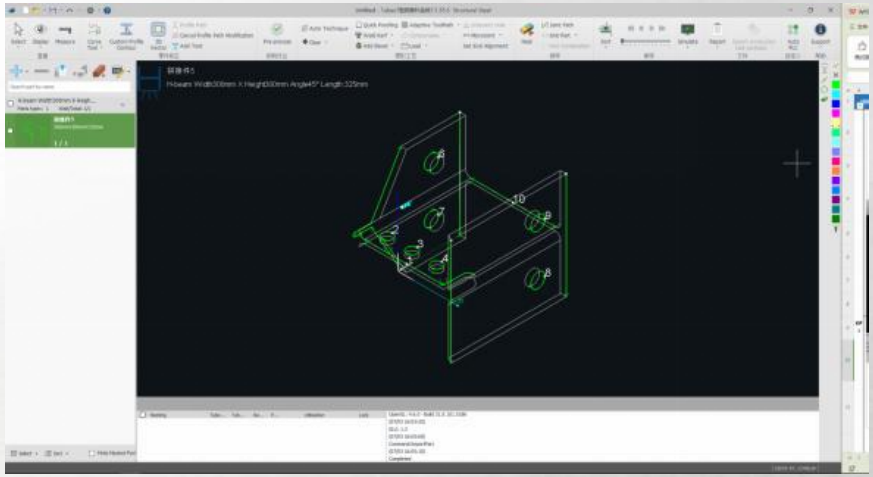
Specialized in Nesting Software

◎Configure TubesT steel plate layout software, support Tekla\SolidWorks and other software formats, support Tekla internal identification components, directly into nesting identification layout .

◎Support circular nesting to maximize utilization; Automatic addition of Z-joint/bevel/miter joint

◎Automatically identify the welding position and mark the welding mark, automatically identify the construction name and mark.





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Cutting the Sample

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Cutting Effect – One-Time Forming

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Industry Solutions

Construction machinery

Steel structure

Ship/offshore industry

Sheet metal industry

Sports equipment

Office furniture

Electric power electricity

Transportation

Automobile industry

Elevator garage

Special vehicle

Environmental protection equipment

Agricultural machinery

Decoration Engineering

Shelves props

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