



Technical proposal



X6060 — Precision fiber cutter





● **About us**

Hangzhou Chaohan Intelligent Equipment Co., Ltd.

Founded in 2010 and headquartered in Hangzhou, China, we specialize in **designing and manufacturing premium CNC equipment** for global markets. Our comprehensive product range includes:

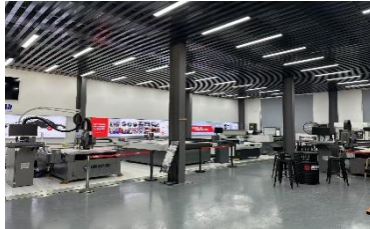
- **High-Speed Vision-Guided Router Series**
- **High-Precision Machining Centers**
- **Multi-Functional Intelligent Cutting Systems**
- **Fiber Laser Cutting Machines**
- **CO₂ Laser Cutting Solutions**

Manufacturing Excellence

Operating from an **5,000 m² facility** in Yuhang Liangzhu, our vertically integrated production features:

- Sheet Metal Fabrication Workshop
- Precision Assembly Center
- Dedicated R&D Departments for:
 - Software Development
 - Mechanical Engineering
 - Machine Tool Processing

Supported by **35+ skilled professionals**, we maintain an annual production capacity valued at **¥40 million** with streamlined manufacturing processes refined over a decade.



Industry Applications

Our solutions serve diverse sectors including:

- Advertising & Signage • Craft/Gift Production • Hardware & Mold Making • Architectural Modeling • Electronics Manufacturing • Leather Goods • Decorative Materials • Woodworking & Furniture.etc.

Collaboration Models

Beyond our core product lines, we offer:

Hangzhou Chaohan Intelligent Equipment Co., Ltd



- OEM/ODM Partnerships
- Integrated Online & Offline Support

● **Technical parameters (standard machine)**

No	Content	Parameter	
1	Working ares	600mm×600mm	
2	Max accelerate	1.5g	
3	X-axis	Rapid traverse speed	40/min
		Cutting area	600mm
		Cutting accuracy	±20μm
		Repeat position accuracy	±5μm
4	Y-axis	Rapid traverse speed	40/min
		Cutting area	600mm
		Cutting accuracy	±20μm
		Repeat position accuracy	±5μm
5	Z-axis	Cutting area	100mm
6	N.W.	About 1000kg	
7	Linear motor	ULMAC3, ULMAC4	
8	Encoder readhead	Resolution: 0.5μm	
9	Drive unit	For linear motors	
10	Z-axis ball screw module	EMP-KTS100-01E	
11	Precision linear guide	THK (Japan)	
12	Granite surface plate	1365mm×1250mm×150mm	

Vision Processing Positioning System (optional)

Content	QTY	Specification
Industrial camera	1 pcs	5 MP, 14 fps, with frame buffer, Gigabit Ethernet interface
Lens	1 pcs	2/3-inch, 2-megapixel grade, 50mm focal length
Light source	1 pcs	Blue coaxial light source
Light source controller	1 pcs	24V, 2-channel analog controller
Positioning system dongle	1 pcs	USB interface dongle



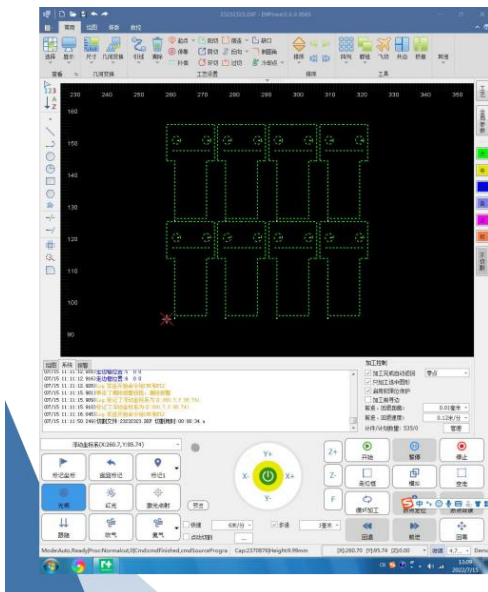
● Main Configurations

Item	Content	Note
Motion unit	Gantry-type dual-drive linear motor module, manufactured by Raytools. Positioning accuracy, repeatability, maximum speed, and acceleration are per Raytools' standard configuration.	Position accuracy: $<\pm 0.02\text{mm}$ Repeat position accuracy: $\leq\pm 0.005\text{mm}$ Max speed: 40m/min Max accelerate: 1.5g
Processing travel XYZ	600mm×600mm×100mm	Gantry span: 600mm
Cutting head	Standard: BT240S, BM110	Optional: BT220 manual focus cutting head
Fixture	Standard fixture	Standard
Machine enclosure	Standard painted enclosure, with fiber optic entry reserved on the housing (for external laser source)	/
Chiller	Not included	to be provided by customer
Laser source	Not included	to be provided by customer
Cutting assist gas	Not included	to be provided by customer
Dust extraction	Not included	to be provided by customer
Others	Per Raytools' standard configuration	/



Equipment Mainframe Features:

The mainframe offers excellent rigidity and high structural strength. The base utilizes Jinan Blue granite, while the beam is constructed from extruded aluminum profiles, ensuring excellent acceleration performance and effectively preventing structural deformation.



AheadTechs Intelligent CNC System

The XC Series Laser Flat Cutting System is a motion control system specifically developed for flat sheet cutting applications. Comprising models such as the XC10000, XC2000, and XC3000, the series caters to cutting requirements across low, medium, and high power ranges. It offers comprehensive functionality, user-friendly operation, reliable performance, and straightforward installation.

● **AheadTechs AT Series Professional Laser Cutting Software**

The AT Series Professional Laser Cutting Software is a dedicated CNC software suite designed for industrial laser production applications. It features a smooth and user-friendly human-machine interface, extensive feature modules, and an independent process database. This combination enables it to be compatible with a wide range of mainstream laser cutting equipment in the industry.



ACX0038 Main Control Module

The ACX0038 Main Control Module serves as the core component for machine tool motion control. It incorporates motion control algorithms and laser-optimized control logic developed by AheadTechs, delivering excellent stability, strong interference resistance, and high-performance computing capabilities.

ACX0042 Professional laser industrial computer

No	Item	Specification
1	CPU	Intel I5 1.6GHz (quad-core)
2	RAM	8 GB
3	Chipset	Intel HM77
4	Storage	120G SSD
5	Network card	2×10/100/1000 gigabit ethernet
6	UART	4×RS232
7	Power supply	DC 12V-5A power supply
8	Display	Simultaneously supports HDMI and VGA interfaces
9	Operating system	Genuine Windows 7 (64-bit Ultimate)
10	Power consumption	120w± 10w
11	Operating temperature	-20°C-60°C
12	Protection rating	IP20
13	Dimensions	233mm×175mm×55mm
14	N.W.	1.3kg



Laser Control & Communication

The system supports multiple laser communication and control methods including **I/O, RS232, and TCP/IP**. It enables real-time monitoring of laser status, with immediate fault alarms and automatic shutdown to protect work quality and enhance operational safety. Key laser parameters such as power, frequency, and duty cycle can be set and controlled online.

EDS3000I/O module		
No	Item	Specification
1	24V current consumption	Typical value 1.7mA
2	Rated voltage	10-36VDC
3	Max. Input Current (Full/Light Load)	515/12mA
4	Communication type	Network cable (ethernet)
5	Temperature	0°C-80°C
6	Pressure	0.096MPa-0.106MPa
7	Protection rating	IP20
8	Mounting method	DIN rail mounting
9	N.W.	Single unit 120g

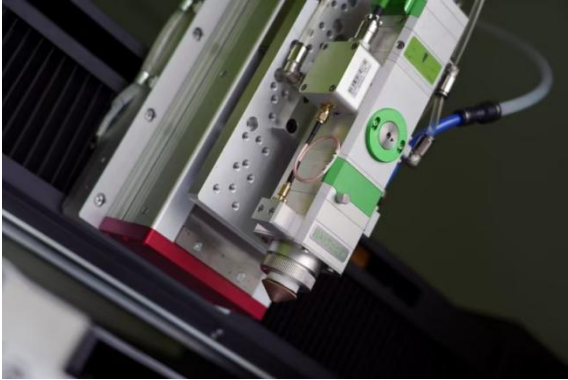


ACX0042 Professional Laser Industrial Computer

The ACX0042 is a professional, laser-dedicated industrial control computer. Its compact and robust design houses high-performance components, including a powerful CPU and ample solid-state storage. Featuring dust-resistant construction suitable for diverse industrial settings, it also supports wireless connectivity, enabling convenient remote monitoring and control.

ACX0038 Main Control Module

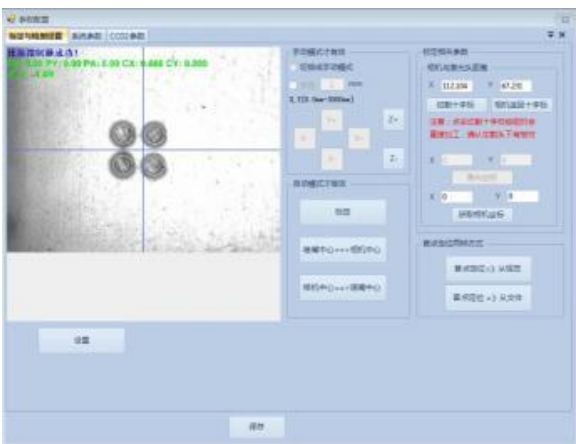
No	Item	Specification
1	Network card	2×10/100/1000Mbps Gigabit Network Card(RealTek)
2	USB	5×USB2.0, 1↑USB3.0
3	Storage	1×2.5HD, 1×MSATA
4	Network card	2×10/100/1000Mbps Gigabit Network Card
5	UART	4×RS232
6	Operating temperature	-20°C-60°C
7	Operating humidity	5%-95%
8	Display	Simultaneously supports HDMI and VGA interfaces
9	Power supply	Standard DC12V-5A
10	Dimension	126mm×135mm×44mm



Raytools Cutting Head

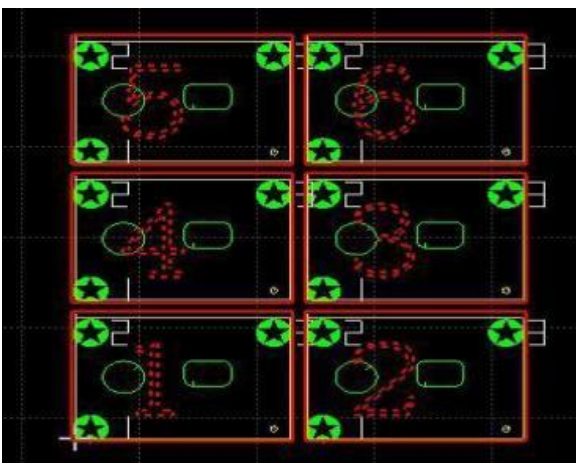
Featuring an optimized optical configuration and a smooth, efficient airflow design, the Raytools cutting head significantly enhances both cut quality and processing efficiency. Its automatic focus function minimizes manual intervention, with a focus range of -12 to +10 mm and a focus accuracy of 0.05 mm. Equipped with various fiber interfaces such as QBH and QD, it is compatible with a wide range of mainstream laser sources.

Vision Processing Positioning System (optional)



Visual Inspection System Operation

The system processes images via dedicated software which utilizes algorithmic tools for image analysis. A vision camera is employed to locate marks (registration marks). After sampling is completed, the system accurately locates the position of these marks.



After processing the graphics by group, you can set each current group to either processing or non-processing mode. Groups requiring machining are set to "process," while those not needed are set to "do not process." This effectively avoids accuracy errors caused by thermal deformation during cutting.



- 1 、 Supports recognition of multiple types of fiducial marks, including "circle," "cross," "L-shape," and "X-shape."
- 2 、 Offers flexible positioning modes: single-point positioning, two-point positioning with rotation, and three-point positioning with precise rotation.
- 3、 Enables batch processing with a grouping function, allowing multiple independent workpiece coordinate systems on the same sheet without interference.
- 4 、 Inherits standard laser cutting features from the planar machining system, such as lead-ins, compensation, and micro-joints.
- 5 、 Provides user-friendly camera configuration that integrates positioning and dynamic recognition capabilities.
- 6 、 Utilizes high-precision CNC machining methods.
- 7 、 Allows specific operations such as saving and importing models, with all marking information preserved.



● After-sales service

A. After-Sales Service Commitment

1. Quality Assurance

All products provided by our company are original factory packaging, compliant with the international ISO9001:2015 quality certification system. We will provide product technical documents (including installation manuals, product packing lists, Chinese user manuals, certificates of conformity, and warranty credentials, etc.).

2. Delivery and Installation Timeline

Upon receiving the letter of acceptance, our company will promptly deliver the goods to the user. Both the manufacturing and inspection of products are accompanied by quality records and testing data. For product performance testing, we conduct full-process and full-performance inspections. All products undergo a 72-hour fatigue test before leaving the factory and are only packed and shipped after being confirmed qualified. Upon arrival of the goods at your company, our technical personnel will immediately visit for installation and training.

3. Product Delivery Time

Depending on the model, delivery will be made within 25 days after contract signing.

4. Warranty Commitment

We provide a 12-month warranty for all products offered during the validity period of this supply agreement. Throughout the validity period, we offer full-day service on normal working days and lifelong technical support for all products.

5. Response Time

We will respond to customer needs within 24 hours.

6. Service System

As the equipment supplier, our company provides a guarantee system for the products offered in this tender: When equipment malfunctions occur, we will dispatch designated professional technicians to carry out on-site repairs or return repairs within the specified time, if necessary.

B. Product Price Commitment

1. Under equivalent competitive conditions

Our company sincerely offers the most favorable prices to you without compromising product technical performance or altering product components.

2. During the warranty period

The supplier will provide free repair and replacement of component damage caused by quality issues. For component damage beyond the warranty period, the supplier will only charge cost price for provided accessories. In cases of equipment damage caused by the buyer's human factors, the supplier will charge cost price for repairs or provided accessories.



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C. After-Sales Service Guarantee

Company Strength Assurance:

Guided by the philosophy of "sincere service with utmost dedication," our company commits to responding to customer needs within 24 hours. We resolve customer issues through telephone, fax, Internet remote service, on-site visits, and other means.