

YCLASER PRODUCT CATALOG

Precision Laser Manufacturer



Wuhan Yu Chang Laser Technology Co., Ltd.

Tel: +86 18602711568

Whatsapp: +86 18602711568

E-mail: wxr888@yclaser.com.cn / yclaser8@gmail.com

Website: www.whyc-laser.com

Address: 1st Floor, Block B, Changzui Science and Technology Park
(Phoenix Park), No.18, Gaoxin 6th Road, Jiangxia District, Wuhan.430223



CONTENTS

- Company introduction -----P2-P6
- Product overview ----- P7-P30
 - Ceramic Laser Cutting Machine
 - Ceramics Integrated Laser Processing Machine -----P7-P8
 - Small Format Ceramic Laser Cutting Machine -----P9-P10
 - High Power Ceramic Laser Cutting Machine -----P11-P12
 - Automatic Ceramic Laser Cutting Machine -----P13-P14
 - High Precision Metal Laser Cutting Machine
 - High Precision Laser Drilling Machine -----P15-P16
 - PCB Substrate Precision Laser Cutting Machine -----P17-P18
 - Silicon Steel Sheet Precision Laser Cutting Machine -----P19-P20
 - Glass Laser Cutting Machine
 - Glass Laser Drilling Machine -----P21-P22
 - Single Worktable Glass Laser Cutting Machine -----P23-P24
 - Dual Worktable Sapphire Laser Cutting Machine -----P25-P26
 - Ultra Precision Laser Cutting Machine
 - High Precision Laser Cutting Machine -----P27-P28
 - PCB Substrate Precision Laser Cutting Machine -----P29-P30
- Frequently Asked Questions -----P31-P32

ABOUT US

YCLASER focuses on the research and development of high-precision laser equipment, and also provides multi-material, high-precision, small batch/large-scale laser processing services.

Wuhan Yuchang Laser Technology Co., Ltd., established in 2017 and located in Wuhan East Lake High-tech Development Zone (China's Optics Valley), is a high-tech enterprise engaged in R&D, manufacturing, and sales.

Headquartered in the national-level Optoelectronic Valley Science and Technology Innovation Park, the company maintains long-term university-enterprise partnerships with Huazhong University of Science and Technology and Wuhan Textile University.

YClaser focuses on the R&D and production of high-precision laser cutting machines and ultra-high-precision micro-nano processing equipment for hard and brittle materials. These products are widely applied in semiconductor chips, solar photovoltaics, new energy vehicles, advanced ceramics, aerospace, medical devices and other fields. We also provide laser processing services.

**5+**

Product Lines

9+

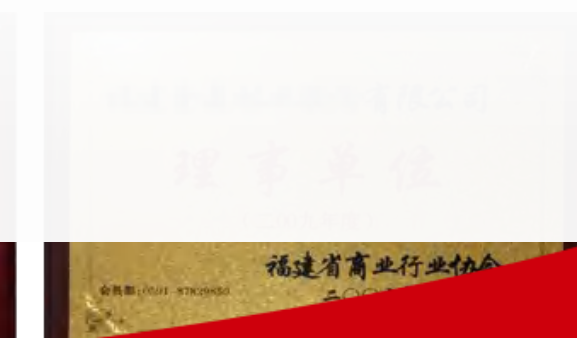
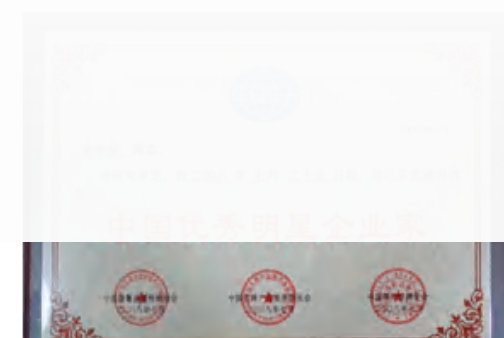
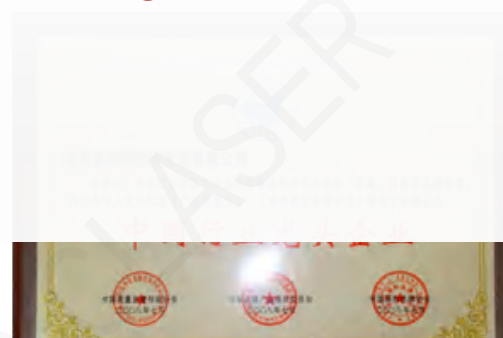
Years of Growth

50+

Patents & Certifications

500+

Strategic Partners



- 10+ Years of Professional Manufacturing Experience -

Precision Solutions For Laser Cutting

Company introduction

YCLASER Key Features

With YCLASER, partner with a team that has the experience and drive to help you become a market leader.



Adhering to the tenet of "service as the foundation, quality for survival, technology for development," YClaser aligns with the national Industry 4.0 and "Made in China 2035" strategies, striving to develop cutting-edge intelligent manufacturing equipment.

Our Partner & Certificates

With an extensive global sales and service network, we are dedicated to providing our customers with professional, friendly, and attentive service.



Company introduction

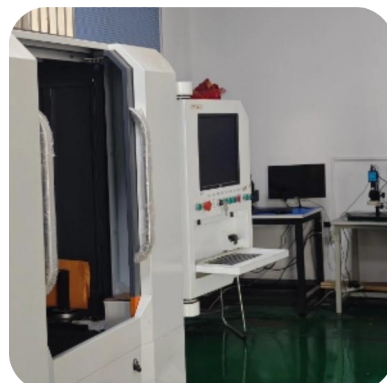
Why Choose YCLASER ?

Adhering to a customer-centric service philosophy, YClaser provides your company with comprehensive pre-sales and after-sales services, encompassing free sample processing, technical consultation, equipment installation, commissioning, training, and maintenance.



10+ Years of Industry Expertise

Core team with over a decade of experience in laser processing and equipment R&D. Tailored solutions for specialized processing needs.

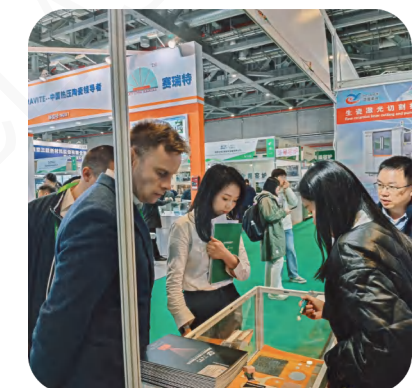


Our Exhibitions and Clients

We cooperate deeply with top universities including Tsinghua, Huazhong University of Science and Technology



We attend international exhibitions on a regular basis, and maintain long-term strategic partnerships with global clients worldwide.



Product overview

➤ YC-TC01 Ceramics Integrated Laser Processing Machine

■ Equipment description

YC-TC01 adopts world-class semiconductor fiber laser with superior beam quality, compact footprint and high electro-optic efficiency, enabling maintenance-free operation and low operational expense.

Built on marble precision platform and split closed XY structure, the machine boasts exceptional rigidity, anti-vibration performance and stable high-speed running.

The YCTC-01 mainly used for laser cutting and drilling of Al₂O₃, ZrO₂, SiC, Si₃N₄, AlN and other advanced ceramics. With CCD vision positioning system, it can also be used for cutting and scribing of metallized ceramics and chip substrate.

Fitted with imported maglev linear motors, 0.1μm high-precision grating rulers and full closed-loop bus CNC system, YCTC-01 achieves rapid responsiveness, ultrahigh machining precision and low maintenance cost.



■ Application

Widely applied in

Industrial products: various industrial ceramic accessories and molds.

PCB industry: ceramic circuit board cutting, drilling and scribing.

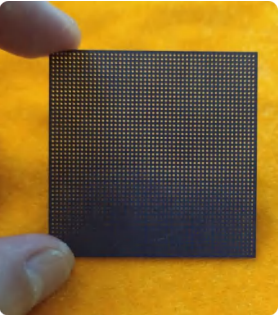
3C industry: various ceramic substrates, mobile phone ceramic backboard, middle frame, wearing digital products, etc.

New energy industry: ceramic devices such as solar photovoltaic equipment, automotive sensors, hydrogen fuel cells, etc.

➤ Technical Parameters

NO.	Item	Parameter
1	Laser wavelength	1060-1080nm
2	Laser output power	150W(optional)
3	Max.cutting range	300*300mm
4	Cutting thickness	0.2-2mm(Depending on material)
5	Precision of repeated positioning of X/Y axis	±3um
6	Processing speed	0-2500mm/min
7	Maximum distance speed	60m/min
8	Maximum acceleration	1.0G
9	Worktable precision	≦ 0.015mm
10	Transmission mode	linear motor +0.1um grating ruler
11	Whole machine power (no fan)	≦ 6KW
12	Total weight of the whole machine	About 1700KG
13	External dimension(length*width*height)	1400*1500*1800mm(For reference)

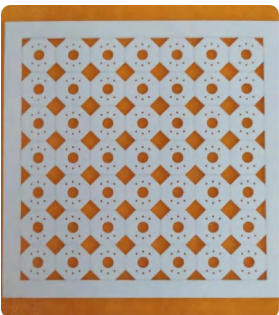
■ Cutting sample display



Si₃N₄ drilling micropores



Ceramic suction cups



Ceramic thick film circuit



Ceramic gears

Product overview

➤ YC-TCSF Small Format Ceramic Laser Cutting Machine

■ Equipment description

YC-TCSF integrates top-tier global semiconductor fiber laser featuring excellent beam quality, compact dimension, high electro-optic conversion efficiency, maintenance-free service, low energy consumption and running cost.

Built with marble precision platform and integrated closed gantry dual-drive structure, the equipment delivers outstanding rigidity, vibration resistance and stable high-speed operation.

Outfitted with imported maglev linear motors, 0.5μm high-precision grating scales and full closed-loop bus CNC system, it realizes rapid dynamic response, superior machining accuracy and minimal maintenance.



Equipped with CCD visual positioning, YC-TCSF specializes in laser cutting & drilling of advanced ceramics including Al₂O₃, ZrO₂, AlN and Si₃N₄, as well as cutting and scribing for metallized ceramics and chip substrates.

■ Application

Widely applied in

Industrial products: various industrial ceramic accessories and molds.

PCB industry: ceramic circuit board cutting, drilling and scribing.

3C industry: various ceramic substrates, mobile phone ceramic backboard, middle frame, wearing digital products, etc.

New energy industry: ceramic devices such as solar photovoltaic equipment, automotive sensors, hydrogen fuel cells, etc.

➤ Technical Parameters

NO.	Item	Parameter
1	Laser Wavelength	1060-1080nm
2	Laser Power	150W-300W(optional)
3	Cutting Width	≤300*300mm
4	Cutting Thickness	0.2-5mm (Depending on material)
5	X/Y Axis Repeatability	±5um
6	Processing Speed	0-2000mm/min
7	Maximum Travel Speed	50m/min
8	Processing accuracy	±0.01-0.02mm
9	Worktable precision	≤0.015mm
10	Transmission Method	linear motor +0.5um grating ruler
11	Total Machine Power (excluding fan)	≤5KW
12	Total Machine Weight	About 1200KG
13	External Dimensions (L*W*H)	1050*1300*1850mm(For reference)

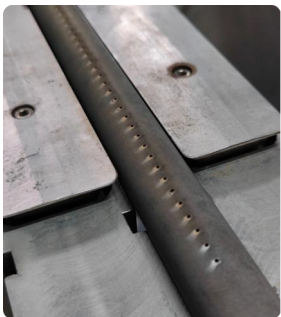
■ Cutting sample display



Si₃N₄ drilling micropores



Si₃N₄ cutting



SiC drilling holes



5mm Shaped Alumina

Product overview

YC-TCHP High Power Ceramic Laser Cutting Machine

Equipment description

YC-TCHP is equipped with world-leading semiconductor fiber laser featuring fine beam quality, compact footprint, high electro-optic efficiency, maintenance-free running, low power and operational costs.

Constructed on a marble precision base and integral closed gantry frame, the machine provides superb structural rigidity, vibration resistance and consistent high-speed performance.

Fitted with imported maglev linear motors, 0.5μm high-precision grating scales and full closed-loop bus CNC system, it ensures fast response, ultra-precise processing and low maintenance.



Supported by CCD visual positioning, YC-TCHP focuses on laser cutting & drilling of advanced precision ceramics such as Al₂O₃, ZrO₂, AlN and Si₃N₄, alongside cutting and scribing for metallized ceramics and chip substrates.

Application

Widely applied in

Industrial products: various industrial ceramic accessories and molds.

PCB industry: ceramic circuit board cutting, drilling and scribing.

3C industry: various ceramic substrates, mobile phone ceramic backboard, middle frame, wearing digital products, etc.

New energy industry: ceramic devices such as solar photovoltaic equipment, automotive sensors, hydrogen fuel cells, etc.

Technical Parameters

NO.	Item	Parameter
1	Laser Wavelength	1060-1080nm
2	Laser Power	450-1000W(optional)
3	Cutting Width	600*600mm
4	Cutting Thickness	0.2-15mm(Depending on material)
5	X/Y Axis Repeatability	±5um
6	Processing Speed	0-3000mm/min
7	Maximum Travel Speed	60m/min
8	Maximum Acceleration	1.2G
9	Table Accuracy	≤ 0.015mm
10	Transmission Method	Imported linear motor +0.5um grating ruler
11	Total Machine Power (excluding fan)	≤ 7KW
12	Total Machine Weight	About 1800KG
13	External Dimensions (L*W*H)	1800*1470*1890mm(For reference)

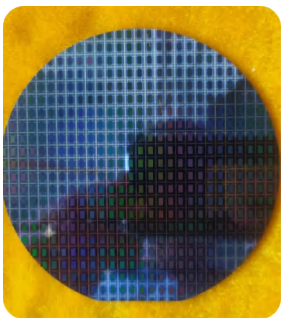
Cutting sample display



8-11mm Si₃N₄ cutting



Piezoelectric Ceramic



Wafer scribing



PCD cutting

Product overview

YC-TCAT Automatic Ceramic Laser Cutting Machine

Equipment description

YC-TCAT is configured with world-class semiconductor fiber laser delivering superior beam quality, compact size, high electro-optic efficiency, maintenance-free operation, low power and running costs.

Built on marble precision platform and closed XY cross modular structure, the machine features high rigidity, excellent vibration resistance and stable high-speed operation.

Equipped with imported maglev linear motors, 0.1μm high-precision grating scales and full closed-loop bus CNC system, it achieves rapid response, ultrahigh machining accuracy and reduced maintenance.

Targeted for laser cutting, drilling and scribing of alumina, zirconia, AlN, Si N and other high-end precision ceramics, YC-TCAT integrates CCD vision positioning plus bilateral auto loading/unloading to support unattended 24-hour continuous production, also available for processing metallized ceramics and ceramic substrates.

Application

Widely applied in

Industrial products: various industrial ceramic accessories and molds.

PCB industry: ceramic circuit board cutting, drilling and scribing.

3C industry: various ceramic substrates, mobile phone ceramic backboard, middle frame, wearing digital products, etc.

New energy industry: ceramic devices such as solar photovoltaic equipment, automotive sensors, hydrogen fuel cells, etc.



Technical Parameters

NO.	Item	Parameter
1	Laser Wavelength	1060-1080nm
2	Laser Power	150W(customize)
3	Cutting Width	220*220mm
4	Cutting Thickness	0.2-2mm(Depending on material)
5	X/Y Axis Repeatability	±3um
6	Processing Speed	0-3000mm/min
7	Maximum Travel Speed	60m/min
8	Maximum Acceleration	1.0G
9	Table Accuracy	≤0.015mm
10	Transmission Method	linear motor +0.1um grating ruler
11	Total Machine Power (excluding fan)	≤6KW
12	Total Machine Weight	About 2000KG
13	External Dimensions (L*W*H)	1750*1405*1920mm(For reference)

Cutting sample display



1mm Al₂O₃ cutting



AlN scribing



ZrO₂ cutting



2.3mm Al₂O₃ cutting

Product overview

➤ YC-GJMD High Precision Laser Drilling Machine

■ Equipment description

YC-GJMD is equipped with world-class fiber laser featuring superior beam quality, compact footprint and high electro-optic efficiency, enabling maintenance-free operation, low power consumption and affordable running cost.

Built with marble precision base and integrated closed gantry frame, the machine delivers outstanding structural rigidity, anti-vibration property and stable high-speed running performance.

Fitted with imported maglev linear motors, 0.5μm high-precision grating scales and full closed-loop bus CNC system, it realizes rapid response, ultra-precise machining and minimal maintenance.



Primarily applied to high-speed precision cutting of stainless steel, carbon steel, tungsten steel, aluminum, titanium alloy, copper and other metals, YC-GJMD also excels in micro-hole drilling for medical, military and aerospace components. Its minimum machinable hole diameter ranges from 0.01 mm to 0.02 mm, attaining leading domestic technical standards.

■ Application

Widely applied in

3C industry products:all kinds of portable electronic products transparent hole and LED luminous hole micro processing.

Atomization sheet: micro hole processing of humidifier, atomizer and other products.

Mechanical filter:metal filter screen with micropore.

Military products: micro hole processing of aeroengine turbine blade film cooling hole, shell silencing device and other military products.otovoltaic equipment, automotive sensors, hydrogen fuel cells, etc.

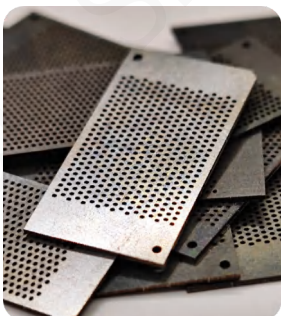
➤ Technical Parameters

NO.	Item	Parameter
1	Laser wavelength	1060-1080nm
2	Laser output power	150W(optional)
3	Max.cutting range	600*600mm
4	Precision of repeated positioning of X/Y axis	±5μm
5	Processing speed	0-500mm/s
6	Maximum acceleration	1.5G
7	CCD visual positioning accuracy	±5mm
8	Processing thickness:	≤1mm
9	Worktable precision	≤0.015mm
10	Transmission mode	Imported linear motor +0.5μm grating ruler
11	Whole machine power (no fan)	≤5KW
12	Total weight of the whole machine	About 1800KG
13	External dimension(length*width*height)	1800*1470*1890mm(For reference)

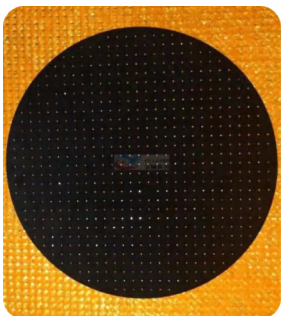
■ Drilling sample desplay



0.3mm tungsten sheet



Drilling holes
in 0.5mm stainless steel



Specialty Metal
Micro-hole Machining



Titanium Alloy Drilling

Product overview

➤ YC-GJMPCB PCB Substrate Precision Laser Cutting Machine

■ Equipment description

YC-GJMPCB is fitted with world-leading fiber laser featuring excellent beam quality, compact structure and high electro-optic efficiency, supporting maintenance-free operation with low power and operating costs.

Constructed on a marble precision platform and integrated closed gantry frame, the equipment boasts superior rigidity, vibration resistance and stable high-speed operation.

Outfitted with imported maglev linear motors, 0.5μm high-precision grating scales and full closed-loop bus CNC system, it delivers fast response, ultra-high machining accuracy and low maintenance requirements.

Designed for precision cutting of PCB substrates including copper, aluminum and ceramic substrates, YC-GJMPCB supports optional laser configurations to perform cutting and drilling on precision ceramics: alumina, zirconia, AlN and Si N .



■ Application

Widely applied in

PCB manufacturing industry: it is used in PCB circuit board industries such as various copper substrates, aluminum substrates, ceramic substrates, etc., especially suitable for cutting copper and aluminum metal reinforcing plates in FPC flexible circuit boards.

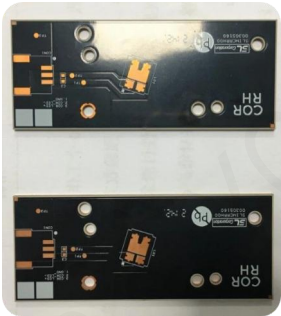
3C electronic products: small metal shell structural parts, especially suitable for 2D laser processing of digital product shell after stamping.

Precision micromachining of metal, ceramic and alloy sheets in other industries

➤ Technical Parameters

NO.	Item	Parameter
1	Laser Wavelength	1060-1080nm
2	Laser Output Power	1000W Customizable
3	Max Cutting Range	600×600mm
4	X/Y Axis Repeat Positioning Accuracy	±5μm
5	Processing Speed	0-500mm/s
6	Maximum Acceleration	1.2G
7	CCD Visual Positioning Accuracy	±5μm
8	Worktable Precision	≤0.015mm
9	Transmission Mode	Imported linear motor + 0.5μm grating ruler
10	Whole Machine Power (No Fan)	≤7KW
11	Total Machine Weight	About 1800KG
12	External Dimensions (L×W×H)	1800×1470×1890mm (For reference)

■ Cutting sample desplay



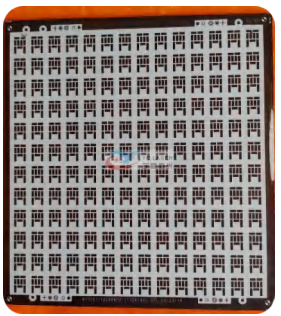
Copper substrates
cutting & drilling



PCB Copper &
aluminum substrate



FPC circuit board copper
aluminum reinforcing plate



Metallized
ceramic substrate

Product overview

➤ YC-GJM01 Silicon Steel Sheet Precision Laser Cutting Machine

■ Equipment description

YC-GJM01 is equipped with world-class fiber laser featuring superior beam quality, compact footprint and high electro-optic efficiency, enabling maintenance-free operation, low power consumption and affordable running cost.

Built with marble precision base and integrated closed gantry frame, the machine delivers outstanding structural rigidity, anti-vibration property and stable high-speed running performance.

Fitted with imported maglev linear motors, 0.5μm high-precision grating scales and full closed-loop bus CNC system, it realizes rapid response, ultra-precise machining and minimal maintenance.

YC-GJM01 performs high-precision cutting on stainless steel, carbon steel, silicon steel, tungsten steel, aluminum alloy, titanium alloy, copper and other metallic materials.
With interchangeable laser sources, it is also available for cutting and drilling precision advanced ceramics including: Al₂O₃, ZrO₂, AlN, SiC, and Si₃N₄.

■ Application

Widely applied in

3C Electronics: Ideal for 2D laser machining of stamped & formed thin-shell metal parts for consumer device casings.

New Energy Vehicle Motors: High-speed precision cutting of silicon steel laminations for motor stators, rotors and cores.

E-Cigarette Products: Cutting of metallic & ceramic heating components.

Automotive Tire Molds: Precision cutting of tiny steel inserts for tire tread patterns.

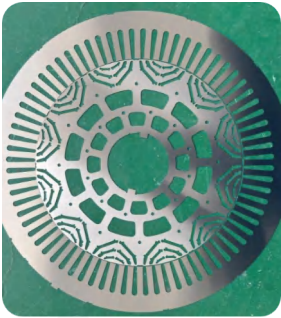
Other Industries: Micromachining for thin metal and alloy sheets.



➤ Technical Parameters

NO.	Item	Parameter
1	Laser Wavelength	1060-1080nm
2	Laser Output Power	1000W/1500W / 2000W / 3000W
3	Max. Cutting Range	600×600mm / 800×800mm / 1000×1000mm /1250×1250mm (Custom)
4	X/Y Axis Repeat Positioning Precision	±5μm
5	Cutting Accuracy	±0.01-0.02mm
6	Processing Speed	0-500mm/s
7	Maximum Acceleration	1.5G
8	Worktable Precision	≤0.015mm
9	Transmission Mode	Imported linear motor + 0.5μm grating ruler
10	Whole Machine Power (No Fan)	≤8KW;≤12KW
11	Total Machine Weight	1800KG - 3000KG
12	External Dimension (L×W×H)	1800×1470×1890mm;2000×1660×1890mm; 2380×1980×2080mm;2630×2370×2080mm (Reference)

■ Cutting sample display



Motor stator
& rotor & core



Aeroengine soft magnetic
alloy steel sheet



Motor laminations



Alloy Steel Saw Blade

Product overview

YC-BLD Glass Laser Drilling Machine

Equipment description

YC-BLD is configured with high-power nanosecond green or infrared MOPA laser and 2.5D high-speed high-precision galvanometer. Featuring auto-focus and layer-by-layer scanning, it enables rapid, precision drilling.

Built on a marble precision platform and closed cross-type XY frame, it maintains stable optical path for premium light transmission.

Outfitted with high-speed precision linear motors, high-accuracy grating scales and full closed-loop bus CNC system, the machine delivers fast processing speed, superior accuracy and steady performance.



It specializes in cutting and drilling brittle transparent materials including glass, sapphire and quartz.

Application

Widely applied in

3C industry: mobile phones, cameras, glass for wearing digital products, sapphire covers, etc.

Home appliance industry: glass cutting and punching for various household appliances.

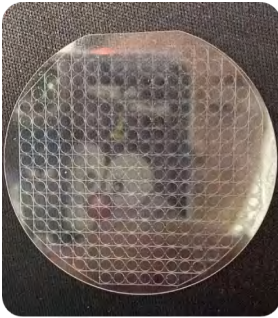
Automotive industry: car glass, LCD screen, rearview mirror, etc.

Optical glass: laser protective lenses, reflectors, filters, K9 glass, etc.

Technical Parameters

NO.	Item	Parameter
1	Nanosecond laser wavelength	532nm/1064nm
2	Laser power	30-120W(optional)
3	Effective format	400*500mm
4	Drilling thickness	≤10mm
5	Drilling precision	±10-20μm
6	Precision of repeated positioning of X/Y axis	±3μm
7	Processing speed	0-500mm/S
8	Maximum amount of edge collapse	20-450μm
9	CCD visual positioning accuracy	±5μm
10	Electricity requirements	AC220V,50HZ,≤5KW
11	Environmental requirements	Temperature 20-26℃, humidity around 50%
12	Total weight of the whole machine	About 1600KG
13	Environmental requirements	Temperature 20-26℃, humidity around 50%
14	External dimension(L*W*H)	1400×1500×1800mm(For reference)

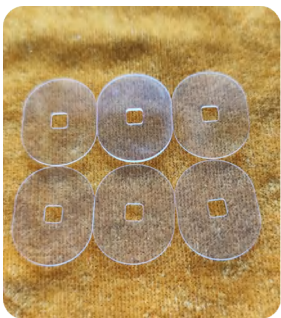
Cutting sample desplay



Sapphire drilling



Optical protective lenses



Sapphire cutting



Glass drilling

Product overview

➤ YC-BLSW Single Worktable Glass Laser Cutting Machine

■ Equipment description

YC-BLSW employs high-power infrared picosecond laser cutting and CO₂ laser scribing paired with its in-house developed glass cutting head.

It features an integrated front-cut & back-break design to cut manual workflows and boost productivity.

Built on a marble precision base and split closed XY framework, the machine delivers steady optical transmission for consistent processing quality.

Equipped with high-speed precision linear motors, high-accuracy grating scales and full closed-loop bus CNC system, it realizes fast machining speed, outstanding precision and reliable operation.

The equipment targets cutting of transparent brittle materials including glass, sapphire and quartz.

■ Application

Widely applied in

3C industry: mobile phones, cameras, glass for wearing digital products, sapphire covers, etc.

Home appliance industry: glass cutting and punching for various household appliances.

Automotive industry: car glass, LCD screen, rearview mirror, etc.

Optical glass: laser protective lenses, reflectors, filters, K9 glass, etc.



➤ Technical Parameters

NO.	Item	Parameter
1	IR picosecond laser wavelength	1064nm
2	Picosecond laser power	50W(optional)
3	CO2 laser wavelength	10.6μm
4	CO2 laser power	120W
5	Max.cutting range	500*600mm
6	Cutting thickness	≤5mm (Depending on material)
7	Cutting precision	≤20μm
8	Precision of repeated positioning of X/Y axis	±3μm
9	Processing speed	0-500mm/S
10	Minimum amount of edge collapse	≥5μm
11	CCD visual positioning accuracy	±5μm
12	Electricity requirements	AC220V,50HZ,≤6kW
13	Environmental requirements	Temperature 20-26℃, humidity around 50%
14	Total weight of the whole machine	About 2500KG

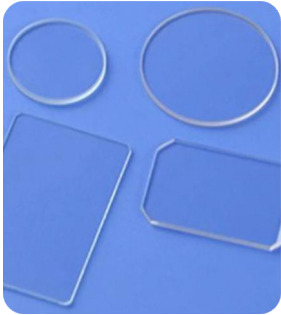
■ Cutting sample display



Wearing digital product
glass cover



Optical protective lenses



Sapphire cutting



Protective Screens
for Digital Devices

Product overview

➤ YC-BLDW Dual Worktable Glass Laser Cutting Machine

■ Equipment description

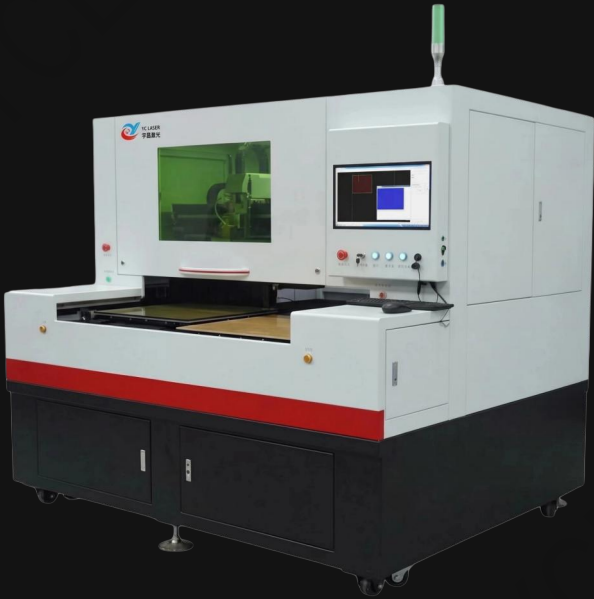
YC-BLSW employs high-power infrared picosecond laser cutting and CO laser scribing paired with its in-house developed glass cutting head.

It features an integrated front-cut & back-break design to cut manual workflows and boost productivity.

Built on a marble precision base and split closed XY framework, the machine delivers steady optical transmission for consistent processing quality.

Equipped with high-speed precision linear motors, high-accuracy grating scales and full closed-loop bus CNC system, it realizes fast machining speed, outstanding precision and reliable operation.

The equipment targets cutting of transparent brittle materials including glass, sapphire and quartz.



■ Application

Widely applied in

3C industry: mobile phones, cameras, glass for wearing digital products, sapphire covers, etc.

Home appliance industry: glass cutting and punching for various household appliances.

Automotive industry: car glass, LCD screen, rearview mirror, etc.

Optical glass: laser protective lenses, reflectors, filters, K9 glass, etc.

➤ Technical Parameters

NO.	Item	Parameter
1	IR picosecond laser wavelength	1064nm
2	Picosecond laser power	80W(optional)
3	CO2 laser wavelength	10.6μm
4	CO2 laser power	150W
5	Max.cutting range	600*700mm
6	Cutting thickness	≤20mm (Depending on material)
7	Cutting precision	±20-30μm
8	Precision of repeated positioning of X/Y axis	±5μm
9	Processing speed	0-500mm/S
10	Minimum amount of edge collapse	≥5μm
11	CCD visual positioning accuracy	±5μm
12	Electricity requirements	AC220V,50HZ,≤8kW
13	Environmental requirements	Temperature 20-26℃, humidity around 50%
14	Total weight of the whole machine	About 3500KG
15	External dimension(L*W*H)	2150×2080×1960mm(For reference)

■ Cutting sample desplay



Watch glass
protective screen



Thick glass cutting



Sapphire cutting



Mobile phone
glass protective screen

Product overview

YC-UVP Ultraviolet Picosecond Laser Cutting Machine

Equipment description

The ultraviolet picosecond laser cutting machine uses a picosecond ultraviolet laser (<15ps) with a laser wavelength of 355nm.

It's suitable for high-speed laser etching, peeling, etching, scribing, dicing, material removal, and fabrication on various material surfaces.

Simultaneously, it can perform micro-machining such as scribing and grooving on the surfaces of materials such as silicon wafers, ceramics, sapphire, glass, metals, and polymer materials, meeting the cutting and drilling needs of ultra-thin materials (metals, carbon fibers, glass, silicon wafers, PET, PI, composite materials, etc.).

It is the ultimate manufacturing tool for cutting-edge fields such as precision electronics, biomedicine, and scientific research.

After importing CAD data, the CCD vision positioning system automatically etches the laser. Combined with an ultra-precision motion and optical system, intelligent monitoring and control system, electric lifting worktable, and unique dust removal system, it achieves near-perfect processing quality.



Application

Widely applied in

Display & Touch Control : LED/LCD panel cutting: crack-free & burr-free for rigid/flexible & irregular display panels. Precision cut & drill for cover glass (cell phone lens, camera protective window)

Semiconductor & Microelectronics:Wafer dicing & cutting, Precision machining of packaging substrate. Contour cutting and window opening for FPC & HDI

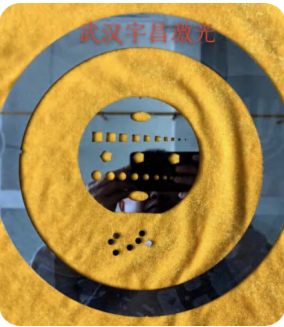
Precision Optics & Optocom:Micro-processing for optical glass, quartz, sapphire and other brittle materials. Fine cutting & marking of fiber, waveguide and optical filter

New Energy:Scratch-free cutting for Cu/Al lithium battery pole foil. PV cell edge isolation, slotting & scribing (PERC/TOPCon/HJT)

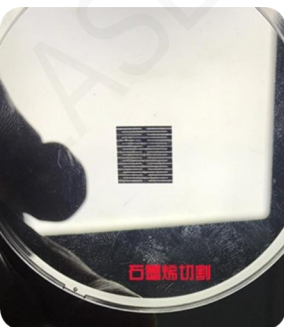
Technical Parameters

NO.	Item	Parameter
1	Laser	355nm 30W picosecond infrared laser
2	Laser Pulse Width	<15ps
3	Processing Area	300x300mm
4	Single Cutting Area	50x50mm
5	Minimum line width	15μm
6	Laser frequency range	100Hz-2000kHz
7	Minimum line spacing	20μm
8	Table positioning accuracy	±2μm
9	Straightness	±5μm
10	Table repeatability	±2μm
11	Z-axis travel	50mm
12	CCD auto-positioning accuracy	±2μm
13	Scanning speed	Maximum speed 5000mm/s
14	Equipment dimensions	1500mmL×1650mmW×1800mmH
15	Adsorption system	Fan airflow 100m3/h
16	Chiller	The water chiller has a temperature control range of 18°C~24°C and a temperature control accuracy of ≤0.2°C.
17	Power consumption	3000W
18	Software system	Supports galvanometer scanning linked with platform travel, Enables adjustment of laser processing parameters, Complies with CAD file import standards, Handles drawings over 1GB for machining.
19	Equipment casing	The equipment is fully enclosed and has an internal door switch to prevent the laser from posing a danger to people.
20	Processable file formats	Standard DXF file

Cutting sample display



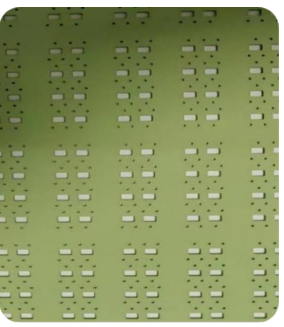
Wafer Dicing



Graphene Cutting



Carbon Fiber Cutting



Green Tape Drilling

Product overview

➤ YC-UVN UV Nanosecond Laser Cutting Machine

■ Equipment description

The YC-UVN is equipped with an advanced 5-axis motion system, integrating a CNC control system, laser galvanometer head, linear motor stage, vision alignment system, and vacuum chuck. The configuration ensures high stability and positioning accuracy during processing, meeting the requirements of precision applications.

An ultra-short pulse UV laser (cold processing) is used to minimize thermal effects, effectively preventing material discoloration and heat damage.

The system is designed for easy operation and low maintenance, improving overall production efficiency. It can perform large-format precision cutting, and drilling of various patterns and sizes.



The YC-UVN is mainly used for high-speed and high-precision cutting of various ultra-thin ceramics. It can also be applied to scribing and etching micro-processing on the surfaces of silicon wafers, ceramics, sapphire, glass, metals, and high-molecular materials.

■ Application

Widely applied in

3C & Display Industry: Precision cutting & microvia drilling for FPC, HDI, PI/LCP film, coverlay and polarizer; crack-free cutting of cover glass, sapphire and quartz for cellphone lenses & display panels.

Microelectronics & LTCC Ceramics: Contour cutting and window opening for green/white LTCC green tape, sintered ceramic substrates, packaging carriers and thin silicon wafers.

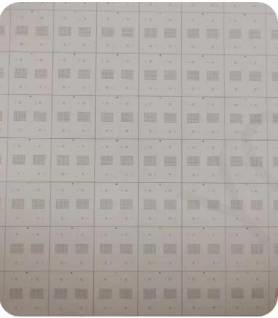
Precision Optics: Fine micromachining of optical glass, quartz, optical fiber and filter substrates with clean cutting edge.

New Energy & Medical Devices: Scratch-free cutting of lithium battery copper/aluminum foil; precision machining of thin metallic & nonmetal parts for medical micro-components.

➤ Technical Parameters

NO.	Item	Parameter
1	Laser	355nm Nanosecond ultraviolet(10-30w)
2	Processing Area	300x300mm
3	Single Cutting Area	50x50mm
4	Minimum focused spot	20μm
5	Minimum etching linewidth	15μm
6	Laser frequency range	500Hz-2000kHz
7	Table positioning accuracy	±3um
8	Table repeatability	±2um
9	Z-axis travel	50mm
10	CCD auto-positioning accuracy	±3um
11	Scanning speed	Maximum speed 7000mm/s
12	Equipment dimensions	1400mmL×1500mmW×1800mmH (about 1500kg))
13	Adsorption system	Fan airflow 100m3/h
14	Chiller	The water chiller has a temperature control range of 18℃~24℃ and a temperature control accuracy of ≤0.2℃.
15	Electricity usage requirements	220V,50HZ,4KW
16	Software system	Supports galvanometer scanning linked with platform travel, Enables adjustment of laser processing parameters, Complies with CAD file import standards, Handles drawings over 1GB for machining.
17	Processable file formats	Standard DXF file

■ Cutting sample desplay



HTCC and LTCC green sheets laser drilling and scribing



Laser cutting of SOFC and SOEC battery plate



Laser cutting of SOFC and SOEC battery plate



Polymer Material Perforation

FAQ

Q: What materials can your machine process?

A: Compatible with advanced ceramics, LTCC green tape, glass, sapphire, quartz, PCB/FPC, wafer, ultra-thin metal, lithium battery foil and other hard & brittle precision materials. Optional laser sources for multi-purpose processing.

Q: What's the minimum drill hole and positioning accuracy?

A: Min. hole diameter 0.05mm, repeat positioning accuracy $\pm 2\mu\text{m}$, fit mass production of 3C, semiconductor and optical components.

Q: What laser sources are installed on your machines? Are they well-known branded lasers?

A: We configure lasers with different wavelengths and output powers tailored to your processing requirements. Our equipment is fitted with self-developed laser sources as standard; alternatively, specified branded lasers can be installed upon customer's request.

Q: Is 24h unattended mass production available?

A: Our machine adopts full closed-loop CNC control; optional auto loading/unloading and dual worktable enable 24-hour unattended automatic production. However, periodic short rest intervals after long continuous operation help extend the equipment service life effectively.

Q: What about daily consumable and running cost?

A: Long-lifespan laser core parts, few wearing components; only regular lens maintenance required for low operating cost.

Q: Which file formats are supported? Does it support galvanometer & platform linkage?

A: Supports CAD/DXF import; galvanometer-platform linkage is standard, all process parameters adjustable via touch screen.

Q: What's your warranty policy and after-sales service?

A: 1-year standard machine warranty, extended laser warranty available. Free on-site installation & operator training domestically; overseas remote support plus optional field service. We provide lifelong online technical support for all customers.

Q: How about after-sales repair response?

A: Dedicated technical support with 24h domestic response; remote troubleshooting first, on-site service for complex faults.

Q: Can machine be customized with dual worktable or auto fixtures?

A: Customization available including worktable size, auto loading system and customized tooling as per production demands.

Q: What is standard lead time?

A: 7~15 working days for standard models, customized lead time confirmed upon project scheme.