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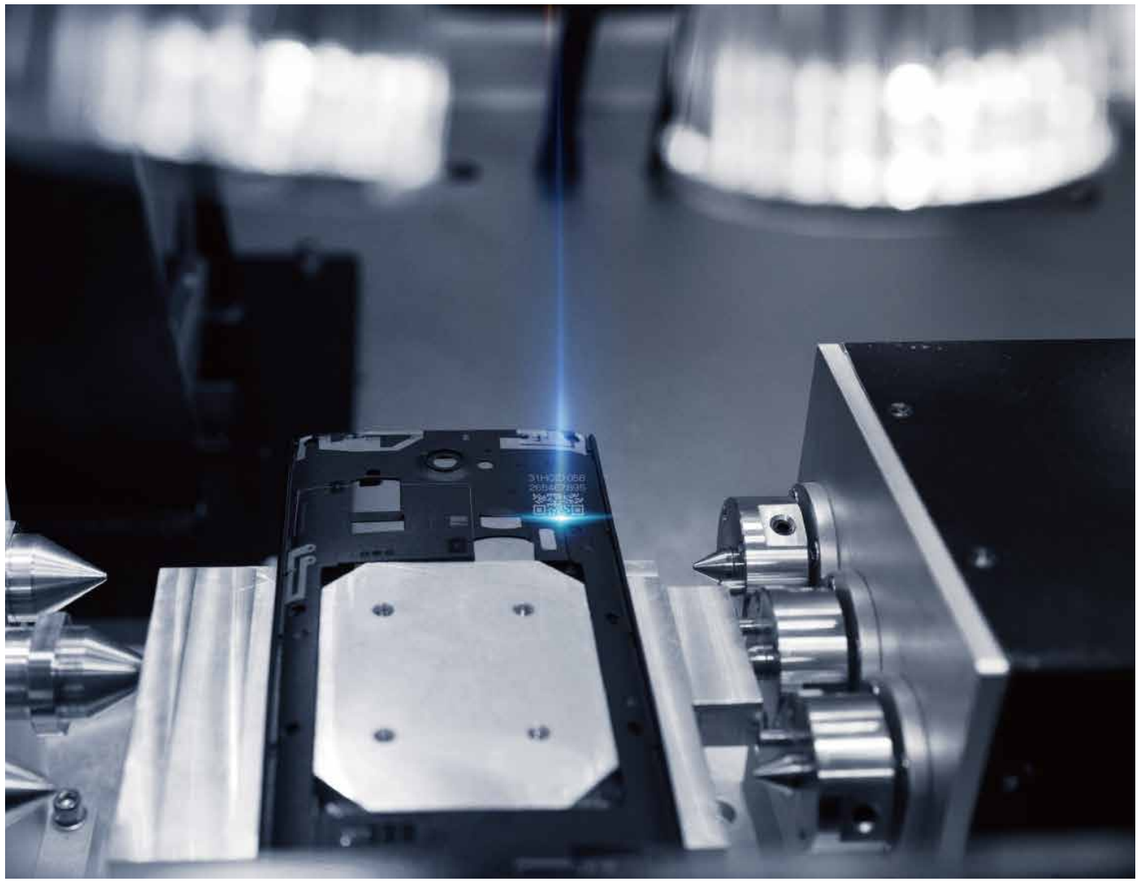
MARKING

Laser Marking Solutions

Laser Marking Series Product



AMS ADVANCED MECHATRONICS SOLUTIONS, INC

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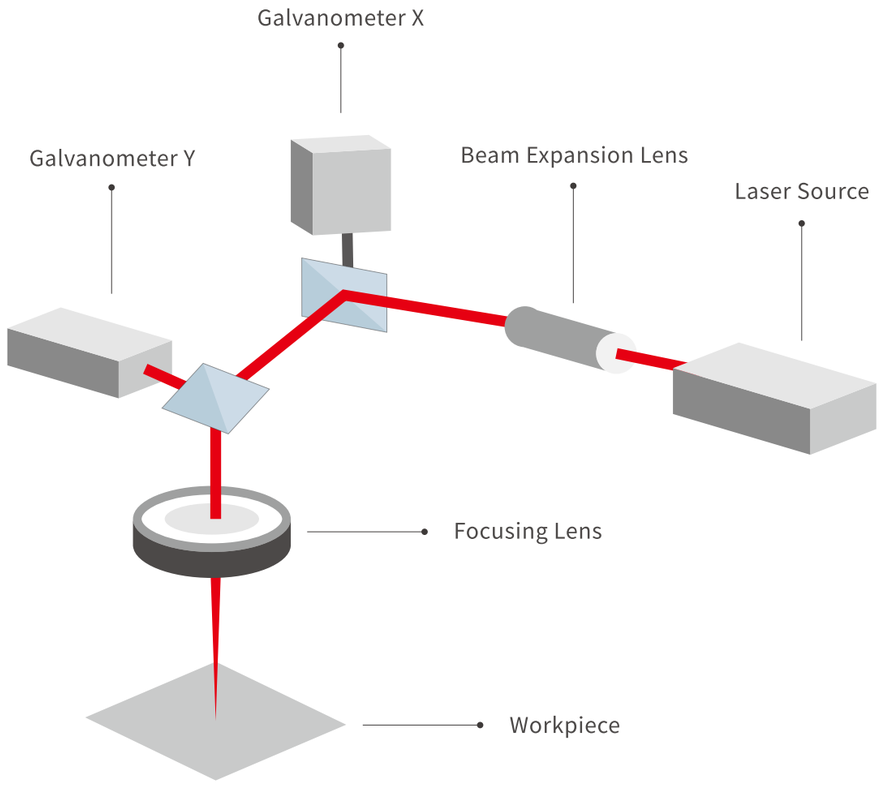
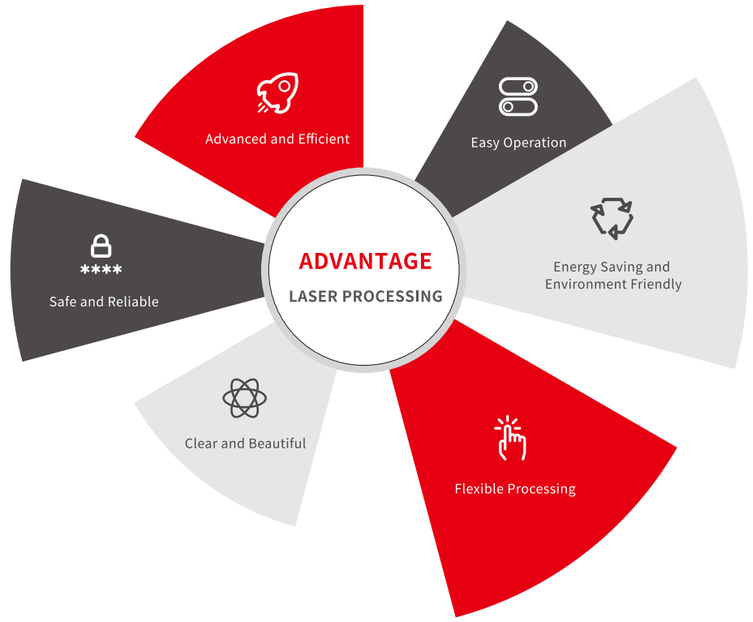
Laser Processing

Principle and Advantages



How does laser marking work?

High energy laser beam is produced by the Laser Source, which is focused by the Field Lens. The tiny spot after focusing acts on the surface of the material to be processed, so that the surface of the material is oxidized, melted or even gasified, resulting in color or depth changes, so as to achieve the purpose of laser marking.



Advanced and Efficient

Non contact processing, it can complete the traditional method unable achieved the process. It has high processing speed and high efficiency, and can process parts of various materials, including metal alloy, non-metal, plastic, glass and others.

Energy Saving and Environment Friendly

Fast processing speed, only has power consumption. Laser processing is safe and harmless, and the processed products exceed the requirements of environmental protection and safety regulations, no need to worry about the export restrictions caused by chemical corrosion of printing machine.

Safe and Reliable

Non contact processing, it can avoid mechanical extrusion and mechanical stress damage to products. Permanent marking for identification, it' s easy to identify and trace.

Easy Operation

It is easy to operate and control automatically, by using computer control for easy operation.

Clear and Beautiful

The laser beam is fine, the focus spot is small, the heat affected area is small, and the processing effect is clear and beautiful.

Flexible Processing

Laser processing flexibility, product diversity, easy to change, easy to achieve customized production, no need to worry about mass production inventory backlog.

Laser Marking

Suitable Light Source for Common Materials

YAG / YVO4

Solid Laser Series

Item	Application Area
Common Metals and Alloys	All metals such as Iron, Copper, Aluminum, Magnesium, Zinc, Titanium, etc
Precious Metals and Alloys	Gold, Silver, Platinum, etc
Metallic Oxide	Various Metal Oxides
Special Surface Treatment	Phosphating, Aluminum Anodizing, Electroplating Surface
Crystal	Craft Gifts, Advertising Signs Crystal Carving
Plastic	3C, Automotive Electronics, Electrical Instruments,Daily Consumer Goods , etc3
Printing Ink	Transparent Keys, Printed Products
Epoxy Resin	Electronic Component Packaging, Insulating Layer

CO2

Gas Laser Series

Item	Application Area
PVC	Pipe, Wire Insulation, Sealing Parts
Nylon, PA	Artificial Leather, Paint
PMMA	Transparent Material, Instrument Case and Identification Plate
Rubber	Product Appearance Parts, Cushion
Plastic	Electronics Components Housing
Woodwork	Household Goods, Craft Gifts
Leather	Household Goods, Craft Gifts
Glass	Daily Consumer, Medical, Chemical Utensils

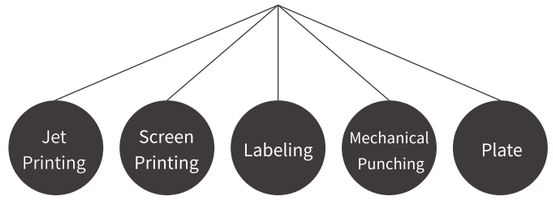
Some materials can be used for two or more lasers at the same time. Some materials have complex properties and are not easy to classify.
Based on the above reasons, you can dispatch the product to us, we will make professional test verification, select the most suitable model for you.

Laser Marking

Comparison with Other Processes

One-time Investment
Low Cost

Long-term Continuous Investment
High Cost



Item	Laser Marking	Jet Printing	Screen Printing	Labeling	Mechanical Punching	Plate
Material	Metal, Plastic, Glass, etc.	Metal, Plastic, etc.	No Limit	No Limit	Metal	No Limit
Processing Method	No Contact	Contact	Contact Screen Printing Board needs to be made in advance	Stickiness	Contact	Binding
Processing Efficiency	Rapid one-time Prototyping	One-time Prototyping	Need Two-times Processing	Need Two-times Processing	Permanent Identification	Easy to Lose
Adhesion Strength	Permanent Identification	Easy to Fall off and Easy to Erase	Permanent Identification	Easy to Fall off	Easy to Oxidize with Materials	Easy to Contaminate and Discolor
Damage and Pollution Prevention	Waterproof and Oil Proof	Easy to Oxidize with Materials	Easy to Contaminate and Discolor	Easy to Contaminate and Discolor	Easy to Accumulate Dust	Easy to Accumulate Dust
Environmental Protection	Environment Friendly	Environment Unfriendly	Environment Unfriendly	Environment Unfriendly	One-time Prototyping	Need Manual Two-times Processing
Space Requirement	At Any Position	Large Area Required	Large Area Required	Large Area Required	Large Area Required	Large Area Required
Consumables	No Consumables	Printing Ink	Screen Printing Board /Printing Ink	Label Sticker	Punching Needle	Plate or Board
Graph Text Change	Change at will	Easy to Change	Not Easy to Change	Not Easy to Change	Not Easy to Change	Not Easy to Change
Reading Effect of Barcode Reader	High Contrast, Easy to Read	Has Contrast and can be Recognized	Easy to Read	Easy to Read	No Contrast, Low Recognition Rate	Easy to Read
Long Term Operating Costs	One-time Investment, Low Cost	Long-term Continuous Investment, High Cost	Long-term Continuous Investment, High Cost	Long-term Continuous Investment, High Cost	Long-term Continuous Investment, High Cost	Long-term Continuous Investment, High Cost

Using laser processing, marking effect is fine, improve production efficiency, save manpower and a large number of consumables, but also more safe and environment friendly.

Precise and Efficient

Laser Marking Products

01

Fiber Marking Series

The whole series includes General, Large Size, Rotary Double Station, Portable and other series. Each series has different configuration models. Each model can be equipped with Safety Protection Cover. At the same time, it can be customized according to the needs of users.

02

End Pump Marking Series

HGLaser Diode End Pump Laser Marking Machine is suitable for marking metal and non-metallic materials. It' s the preferred tool for high-quality laser precise micro processing.

03

CO2 Marking Series

The whole series includes low power 30, 55W, medium power 100, 150W, suitable for processing non-metallic materials such as rubber, leather, acrylic, membrane, etc.

04

Pico-second Marking Series

Pico-second series is for high-precision and rapid processing, mainly used in glass material marking, coating removal, micro and invisible 2D code and other processes.

05

3D Marking Series

The whole series includes Fiber, UV and CO2 series, which are widely used in mobile phone manufacturing, stereoscopic circuit, medical equipment, mould, 3C electronics, auto parts, electronic communication and other industries, such as laser 3D marking, surface decoration technology, structure, etc.

LSF SERIES

Q-Switch Pulse Fiber Series

Model

LSF20D | LSF30D | LSF50D | LSF100D
LSF20 | LSF30 | LSF50 | LSF100

Customized automatic solutions

Product Description

Fiber series products adopt 1064nm wavelength laser, which are suitable for various metal materials such as iron, copper, aluminum, gold, silver, and some non-metallic materials such as PC, ABS, PVC, PC + ABS. It' s widely used in 3C, auto parts, electronic components, integrated circuit (IC), electrical appliances, precise instruments, hardware products, building materials, glasses, watches, jewelry accessories, craft gifts and other industries.

Product Features

01 Integrated overall design, compact structure, and stable performance.

02 Optional configuration is rich to meet the marking needs of different products.

03 Effect of marking is perfect, realizing the fine marking of complex graphics.

04 Independent research and development, rich customization.

Samples

- Black metal marking of ear-phone components

- 2D code marking of rough iron castings

- Nameplate marking

- Black marking of stainless steel for kitchenware

- Black marking of medical instruments

- Black marking of aluminum alloy

Machine Specification

Model		LSF20D/LSF20	LSF30D/LSF30	LSF50D/LSF50	LSF100D/LSF100
Laser	Average Output Power	20W	30W	50W	100W
	Wavelength	1064nm	1064nm	1064nm	1064nm
	Average Power Stability	<3%rms	<3%rms	<3%rms	<3%rms
Optical	Scanner Speed	F = 160 mm , ⩽ 7000 mm / s			
	Marking Range	F=160 /110mm×110mm (standard) ;		F=160 /100mm×100mm (quartz lens) ;	
		F=100/70mm×70mm;F=210/145mm ×145mm;		F=100/70mm×70mm;	
		F=254/175mm×175mm（optional）		F=254/160mm×160mm（optional）	
	Min Marking Line Width	0.06mm (depend on material) @ F=160mm			
	Min Marking Height	0.2mm @ F=160mm			
Environment	Cooling Method	Air Cooling			
	Power	1.0KW/AC220V/50Hz | 1.0KW/AC220V/50Hz | 1.0KW/AC220V/50Hz | 1.5KW/AC220V/50Hz			
		oltage fluctuation range ±5%, if exceeds the fluctuation range, voltage stabilizer is required			
	Temperature & Humidity	0~40°C, 30%⩽RH⩽85%, Air Condition is required if temperature out of range			
	Oil Mist & Condensation	Not allow			
Others	Dimension (LxWxH)	≈820mm×640mm×1500mm			
	Weight	≈145kg			

3C

• Shield QR code marking

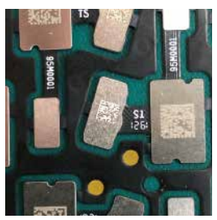
• Tablet PC inner frame marking

• Smart watch marking

• Vehicle charging LOGO marking

• Charger marking

• Chip QR code marking



• Chip QR code marking

Auto

• Auto wheel marking

• Diesel filter dimension code mark

• Auto VIN Code engraving for high-strength steel

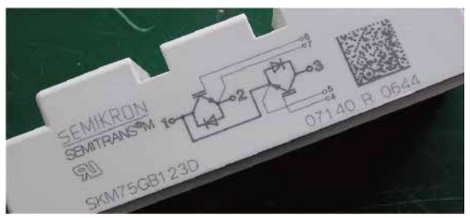
• Automobile drive shaft marking

• Auto fuel tank cap marking

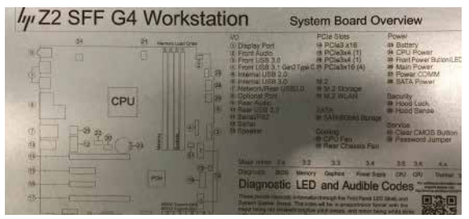
• Motor housing marking

• Auto glass marking

Electronic instrument



• IGBT module marking

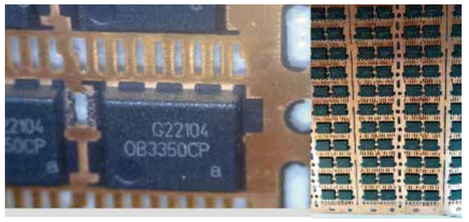


• Nameplate information marking

• Silver label paper marking

• Sheet metal paint marking

• Sensor marking



• Semiconductor resin marking

Others

• Brass badge marking

• Medical device marking

• Animal mark marking

• Flower pot marking

LSF SERIES

Narrow Pulse Fiber Series

Optional

Product Description

LSF series fiber marking series products are suitable for various types of metal materials such as iron, copper, aluminum, metal, silver, etc, and parts of non-metal materials like PC, A BS, P VC, and PC + A BS. Widely used in 3 C, auto parts, electronic components, integrated circuits (IC), instrumentation, electrical appliances, medical devices, hardware, building materials, glasses and clocks, ornaments, Art & Craft.

Product Features

01 Apply advanced pulse-width adjustable laser and have wide applicable range of materials.

02 Especially suitable for various consumer electronic products and medical devices.

03 Good marking at anodized aluminum, keyboard , transparent key, and charger etc.

04 Untouchable markings that are suitable for various types of medical devices.

Samples

• Laptop safety regulation marking

• Mobile phones production information marking

• Laptop keyboard marking

• Drill marking

Machine Specification

Model		LSF20H	LSF20N
Laser	Average Output Power	20W	20W
	Wavelength	1064nm	1064nm
	Pulse Frequency	10~1000kHz Adjustable Pulse Width	1.6~1000kHz Import, Adjustable Pulse Width
	Adjustable Pulse Width	<3%rms	<3%rms
Optical	Scanner Speed	F = 160 mm , ⩽ 7000 mm / s	
	Marking Range	F=160 /110mm×110mm (standard) ;	
		F=100/70mm×70mm;F=210/145mm ×145mm;F=254/175mm×175mm (optional)	
	Min Marking Line Width	0.06mm (depend on material) @ F=160mm	
	Min Marking Height	0.2mm @ F=160mm	
Environment	Cooling Method	Air Cooling	
	Power	1KW/AC220V/50Hz	
		Voltage fluctuation range ±5%, if exceeds the fluctuation range, voltage stabilizer is required	
	Temperature & Humidity	0~40°C, 30%⩽RH⩽85%, Air Condition is required if temperature out of range	
	Oil Mist & Condensation	Not allow	
Others	Dimension (LxWxH)	≈820mm×640mm×1500mm	
	Weight	≈180kg	

3C

- Computer marking

- Keyboard marking

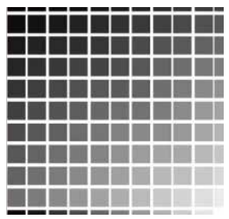
- Smart watch marking

- Laptop metal cover

- Earphone accessories marking

- Digital camera marking

- Digital camera marking



- Digital cameral color chart

- Bracelets safety regulation marking

- Electrical components function marking

- 3C parts 2D code marking

- Keys marking

Auto

- Auto regulation controller marking

- Wheel hub m arking

- Auto transparent key marking

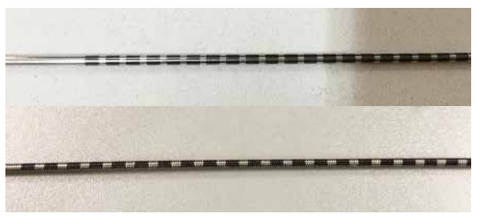
- Auto transparent key marking

Medical Equipment

- Surgical tool marking

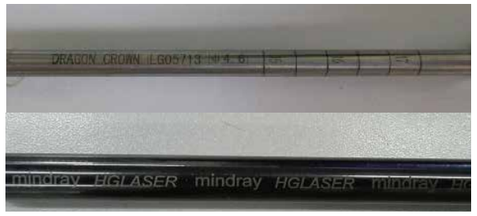
- Medical equipment marking

- Surgical tool marking



- Biopsy needle marking / metal spring tube marking

- Orthopedic implant materials marking



- Medical equipment marking

Color Marking

- Stainless steel color marking

- Stainless steel color marking

- Stainless steel color marking

- Stainless steel tableware marking

Small Metal Parts

Laser Marking Machine

Product Description

Machine uses for metal part laser marking with high precision requirement, deburring, deoxidizing layer and remove surface silver layer of ceramic filter.

Product Features

01 High precision CCD poisoning, high precision processing

02 HEquip customized fixture with Motion platform to achieve numbers product process same time and save time.

03 Safety first design and protect operator.

Samples

- Titanium material (marking)

- Titanium material (marking)

- Bicycle part marking

- Sensor marking

- Chips marking

- Sensor marking

- Watch back marking

- Mould deep engraving

Machine Specification

Model		LSF20TC	LSF30H
Laser	Average Output Power	1064nm	1064nm
	Power	20W	30W
	Pulse Frequency	30~60kHz	10~1000kHz
Optical	Scanner Speed	F=160mm, ⩽7000mm/s (depend on material)	F=160mm, ⩽7000mm/s (depend on material)
	Focus Lens	F=210	F=210
	Marking Range	145×145	145×145
	Line Width	0.06mm (depend on material) @ F=160	0.06mm (depend on material) @ F=160
	Min Marking Height	0.2mm @ F=160 mm	0.2mm @ F=160 mm
Cooling Method	Laser Source Cooling	Air Cooling	Air Cooling
Environment	Power	3KW/AC220V/50Hz	3KW/AC220V/50Hz
	Temperature	0~40°C	0~40°C,
	Humidity	30%⩽RH⩽85%, Air Condition is required if temperature out of range	30%⩽RH⩽85%, Air Condition is required if temperature out of range

LSU SERIES

Optional

Product Description

LSU series laser marking machine equip with 355nm wavelength laser source which suitable for plastic material (ABS , PC, PVC, HIPC, etc..) leather , gold , glass , LED , ceramic silicon, IC and gem stone to laser marking. Applications covers 3C , auto , electropneumatic meter, white goods , integrated circuit , medical device , tools , food and medicines laser marking.

Product Features

01 355nn wavelength UV, gold and non-gold materials can absorb, suitable for more kind of materials.

02 Adopt “cold processing” , minimum heat affect , no damage on materials.

03 Tiny focus laser spot, high quality laser beam , able to achieve to super precision marking with fast speed.

04 Laser source adopts intracavity frequency doubling technology +TEC Cooling technology, stable product quality.

05 Laser source adopts inner temperature monitoring system and power detection module, able to monitor laser power in time, machine with high safety.

06 Integrated cabinet, compact structure, small floor space, easy to transport.

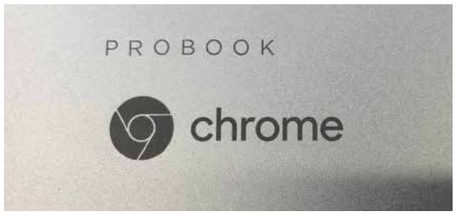
Samples

- Laser marking on laptop

- Laser marking on WIFI box

- Laser marking on laptop

- Wire laser marking



- Laser marking on laptop

Machine Specification

Model		LSU3EB	LSE5EB	LSE10EB	LSE15EB
Laser	Average Output Power	3W	5W	10W	15W
	Wavelength	355nm			
	Average Power Stability	<3%rms		<5%rms	
Optical	Scanner Speed	F=170mm,≤7000mm/s			
	Marking Range	F=170 /100mm ×100mm (standard;			
		F=210/130mm ×130mm;F=254/160mm×160mm (optional)			
	Min Marking Line Width	0.02mm (depend on material) @ F=170mm			
	Min Marking Height	0.1mm @ F=170mm			
Environment	Cooling Method	Cooling deionized water or purified water			
	Power	2KW/AC220V/50Hz		2.5KW/AC220V/50Hz	
		Voltage fluctuation range ±5%, if exceeds the fluctuation range, voltage stabilizer is required			
	Temperature & Humidity	5~35°C, 30%≤RH≤85%, Air Condition is required if temperature out of range			
	Oil Mist & Condensation	Not allow			
Others	Dimension (LxWxH)	≈1050mm×640mm×1500mm			
	Weight	≈215kg		≈350kg	

3C

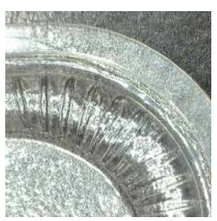
- Phone back cover marking

- earphone marking

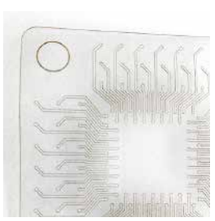
- silicon rubber marking

- Metal logo/2D code marking

- WIFI box marking



- Diaphragm cutting



- Plastic film cutting

- Electric component marking

Electrical

- Electrical mark number identification

- Electric component marking

- Relay marking

- Breaker marking

- Amphenol connector marking

- Relay marking

- Electric component marking

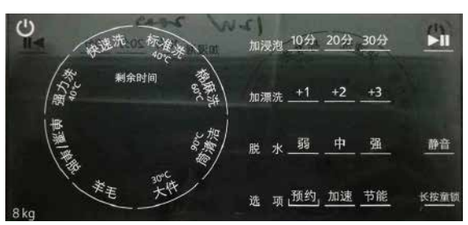
- Electric component marking

Home appliances

- Refrigerator Marking

- Lamp holder marking

- Fire-alarm marking



- Washing machine panel marking

- Air conditioner marking

- Charger marking

Medical instruments

- Biopsy instrument marking

- Oxygen breathing ring marking

- Biomarker kit marking

- Instrument marking

Others

- Wine bottle marking

- Beverages bottle marking

- Glass bottle marking

- Paper label marking

LSG SERIES

YAG Laser Marking Machine

Product Description

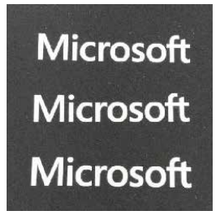
LSG series laser marking machine equip with 532nm wavelength laser source which suitable for plastic material, leather , , glass , acrylic , and IC to laser marking. Applications covers 3C and integrated circuits laser marking.

Product Features

Good for integrated circuits , leather and acrylic material marking.

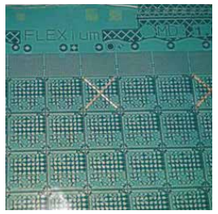
Samples

- Leather keyboard marking



- Keyboard leather marking

- Thin PCB marking



- PCB 2D code marking

- Electric component marking

- Watchband marking

- Electric component cover marking

- Transparent plastic tube marking

Machine Specification

Model		LSG10EA
Laser	Average Output Power	10W
	Wavelength	532nm
	Average Power Stability	<3%rms
Optical	Scanner Speed	F=160mm,≤7000mm/s
	Marking Range	F=160 /110mm ×110mm (standard) ;
		F=100/60mm ×60mm;F=254/165mm×165mm (optional)
	Min Marking Line Width	0.03mm (depend on material) @ F=170mm
	Min Marking Height	0.06mm @ F=170mm
Environment	Cooling Method	Cooling deionized water or purified water
	Power	2KW/AC220V/50Hz
		Voltage fluctuation range ±5%, if exceeds the fluctuation range, voltage stabilizer is required
	Temperature & Humidity	5~35°C, 30%≤RH≤80%, Air Condition is required if temperature out of range
	Oil Mist & Condensation	Not allow

LSC SERIES

CO2 Laser Marking Machine

Product Description

LSC series laser marking machine suitable for plastic material, rubber, resin, ceramics, coating film, stone leather , acrylic , wood, paper and cloth IC to laser marking , cutting and drilling . Applications covers clothing, leather products, electronic components, food package industrial and other fields.

Product Features

01 Adopt high quality Co2 laser source.

02 High quality optical components, great optical model.

03 Long-term running with stable performance system.

04 Integrated cabinet, compact structure, stable performance, Samples show .

Samples

• IC chip marking

• PET cutting

• Cow identification device

• Wire rubber material marking

• Wall clock marking

• Phone cover marking

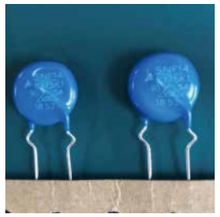
• Leather cutting

• Leather cutting

Machine Specification

Model		LSC30	LSC55
Laser	Wavelength	10.6μm	
	Average Output Power	30W	55W
	Pulse Frequency	0~25kHz	0~25kHz
Optical	Scanner Speed	F=150mm，≤7000mm/s	
	Focus Lens	F=150 mm	F=250 mm
		Standard	Optional
	Marking Range	107 mm ×107 mm	160mm ×160 mm
	Line Width	0.1mm (depend on material) @ F=150 mm	
	Min Marking Height	0.4mm @ F=150 mm	
Cooling Method	Laser Source Cooling	Air Cooling	
Environment	Power	1.5KW/AC220V/50Hz	
	Temperature	0~40°C, Air Condition is required if temperature out of range	
	Humidity	30%≤RH≤85%, Air Condition is required if temperature out of range	

3C Industrial

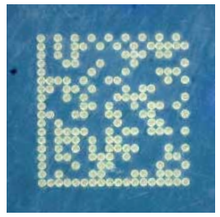


- Thermistor

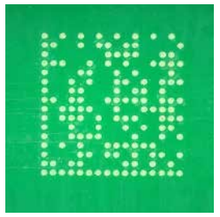
- Electric component marking

- H ite screen PCB 2D code marking

- Bluetooth earphone 2D code marking



- Blue screen 2D code marking



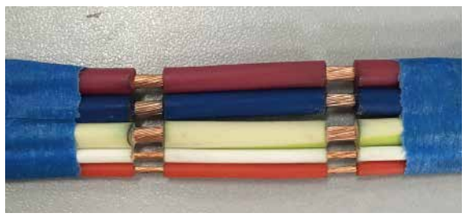
- Green screen 2D code marking

- Resin marking

Wiring Harness Marking and Stripping

- Plastic tube marking

- Cable stripping

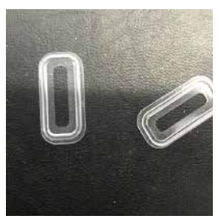


- Cable stripping

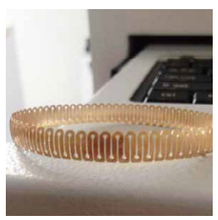
Film Material Cutting

- Sonics-module cutting

- Thin film cutting



- Diaphragm cutting



- Plastic material cutting

Wood Product Marking

- Wood plate carving

- Comb-Painting

- Wood 2D code marking

- Hanger LOGO marking

Daily Packing

- Daily consumer goods packing marking

- Drug box marking

- Drug box marking

Others

- Paper label cutting

- Cloth watchband marking

- Ceramic cup marking

- Acrylic painting

Picosecond Processing Machine

Product Description

Picosecond processing equipment is the characteristic product specially developed by HGLaser for the demand of low power picosecond level, high precision and fast Laser processing. It should be widely used for thin material, ceramic drilling line, glass ink removal, coating removal, dazzling color marking, micro and hidden 2d code marking, thin film material fine line cutting.

Product Features

01 The structural design is compatible with more light source modules.

02 Marble structure optical platform, stable optical performance.

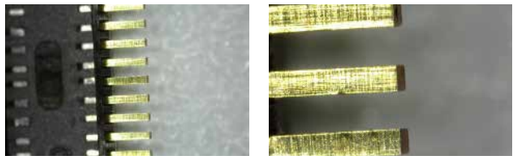
03 The structural design is compatible with more transmission mechanisms.

04 Adopt CCD positioning , ensure processing accuracy.

05 Laser source put on back platform , easy to disassemble and repair.

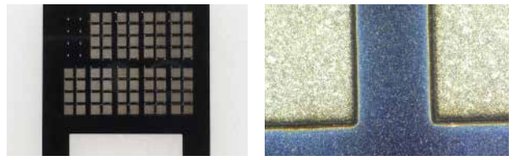
Samples

- G lass base oil removal

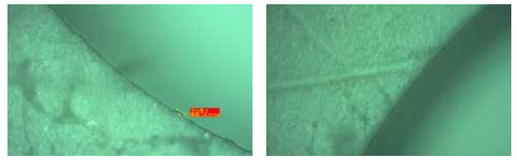


- Phone inner connector pin cutting

- Phone back plate glass ink color marking



- Material coating layer removal



- Artificial heart valve cutting

Machine Specification

Model		LSP
Laser	light sources	infrared, UV , Green picosecond laser source available.
	Power	10-50W
Configuration	Light Path	Customized marble structure, compatible with a variety of light sources, precision electric Z-axis adjustment.
	Visual inspection system	Ten million level visual system, professional customized solutions for customers
	Movement	Customized advanced precision motion platform, modules/coiling machine/customized clamping optional
	Fixture	According to customer's product design requirement
	Dust Collector	Able to connect customer' s dust removal system (smoke puffier optional)
	Software	Independent research and development, easy to operate, can meet the different needs of customers
Cooling system	Laser Source Cooling Type	Water-cooling.
Environment	Power	3KW/AC220V/50Hz
	Temperature	15~35°C，Air Condition is required if temperature out of range
	HUmidity	35%≤RH≤85%，Air Condition is required if temperature out of range

3D Curved Face Processing Machine

Product Description

Machine suitable for high precision laser marking of 3 C, car, electric meter, white goods, integrated circuit, medical therapy instruments, metal tools and other curved surface moulders

Product Features

01 Adopt high precision 3D scanner with HGlaser developed 3D software and control system , able to do laser marking on any curved surface workpiece.

02 High color , no damage marking , archive high ration with clean outlooking marking.

03 Optional with auto focus, power rate feedback, 2D code reading, visual operation function.

Samples

- Curve ceramic marking

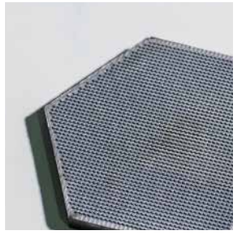
- Washing machine panel marking

- LED marking

- White appliances marking

- Deep- sea motor housing

- Surface texture structure of steel



- Surface structure of silicon carbide material

- Inner ceramic marking

Machine Specification

Model		LSF20DS	LSU5DS
Laser	Wavelength	1064nm	355nm
	Average Output Power	20W	5W
Optical	Scanner Speed	F=160mm, ⩽7000mm/s (depend on material)	
	Line Width	0.06mm (depend on material) @ F=160	0.02mm (depend on material) @ F=170 mm
	Min Marking Height	0.2mm @ F=160 mm	0.1mm @ F=170 mm
Cooling Method	Laser Source Cooling	Air Cooling	Water-cooling
Others	Software	Independent research and development of operating system, easy to operate	
	Vision System	Equipped with HGLaser developed visual system	
	Movement	XY motion platform can be customized	
	Fixture	According to customer's product design requirement	
Environment	Power	1.5KW/AC220V/50Hz | 2.0KW/AC220V/50Hz	
	Temperature	0~40°C, Air Condition is required if temperature out of range	
	Humidity	30%⩽RH⩽85%, Air Condition is required if temperature out of range	

Double Working Stations

Laser Processing Machine

Product Description

Double working stations laser processing machine adopt fiber or uv laser source, intergrated into automatic detection and identification CCD system , which can automatically read the document and laser marking, detect defects and remove NG products, compatible with five templates at the same time , fast switching , is the best choice for consumer electronics products.

Product Features

01 Double working stations structure, laser heads can be set with electrically adjustable with big working range and high efficiency.

02 Adopt multiple CCD camera and light source in the processing area to ensure high poisoning accuracy, able to equip OCR and double check functions..

03 Machine able to communicate with production management system of factory.

Samples

• SIM card slot marking

• Phone PVD removal

• Glass ink layer marking

• Phone back plate glass marking

• Phone back plate marking

Double Heads With Four Working Stations

Laser Processing Machine

Product Description

Suitable for 2D code marking and surface coating removal on phone , pad and other products

Product Features

01 Double laser heads design , higher processing efficiency.

02 Able to equipped with rotary jigs and auto focusing system to ensure the working effect.

03 CDD crema system ensure processing accuracy.

04 Machine able to communicate with production management system of factory.

Machine Specification

Model		LSF	LSU
Lsaer	depend on material	infrared picosecond laser source available.	UV picosecond laser source available.
	Power	20W/30W/50W	3W/5W/10W/15W
optical	Galvanometer	Multiple options	
	Focus Lens	Multiple focus specific optional	
Others	Visual inspection system	Ten million level visual system, independent research and development, professional customized solutions for customers	
	Motion system	Customized motor two stations motion platform	
	Fixture	According to customer's product design requirement	
	Dust Collector	Able to connect customer' s dust removal system (smoke puffier optional)	
	Software	Independent research and development, easy to operate, can meet the different needs of customers	
Cooling Method	Laser Source Cooling	Air cooling |	water-cooling
Environment	Power	3KW/AC220V/50Hz |	3KW/AC220V/50HZ
	Temperature	5~35°C, Air Condition is required if temperature out of range	
	Humidity	35%≤RH≤85%, Air Condition is required if temperature out of range	

Wireless Charging Coil

Coating Removal / Shear

Laser Processing Machine

Product Description

Double station cutting & removing equipment is suitable for two processes of wirelessly charging coil removing and cutting.

Product Features

01 Environment-friendly remove process, avoid secondary pollution.

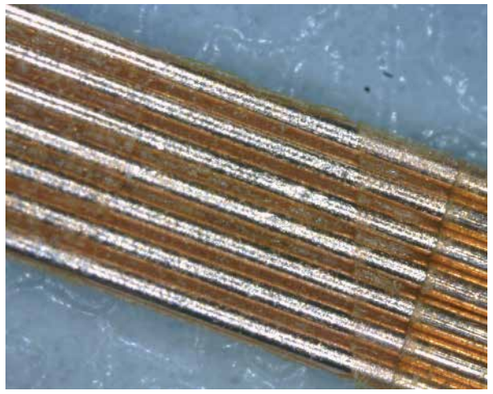
02 No damage on bas material with high precision and high yield during shear and coating removal process.

03 No consumption , low machine use cost.

04 Adopt rotary double head with double working stations structure with high processing efficiency.

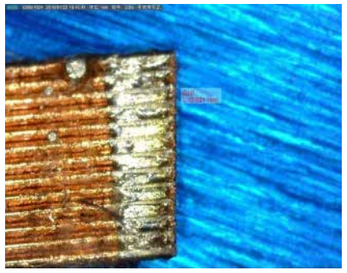
05 Equipped with visual perception system , CCD position , achieve high precision processing.

Samples



Coil coating removal:

Equipped with UV-5W laser source , good effect for tin painting after coating removal;
The upper and lower laser heads working same time with double vision system: High processing efficiency, CT>5s, no consuming material.



Coil shear

Equipped with IR-50W laser source, fine cutting section without black spot; single head cutting, accuracy <0.05mm: High processing efficiency , CT<1.5S

Machine Specification

Model		LSF50SD	LSU5SD
Laser	Wavelength	1064nm	355nm
	Power	50W	5W
	Pulse Frequency	50~100kHz	20k~200kHz
Optical	Scanner Speed	F=210mm,≤7000 mm/s (depend on material)	F=254mm,≤7000 mm/s (depend on material)
	Line Width	0.1mm@ F=210 mm (depend on material)	0.03mm (depend on material) @ F=254 mm
	Min Marking Height	0.3mm @ F=210 mm	0.1mm @ F=254 mm
Cooling System	Laser Source Cooling	Air cooling |	Water-cooling
Others	Software	HG Laser Developed Software, interface friendly	
	Vision System	Equipped with self-developed dual vision system, 1000w pixels, CCD coaxial structure	
	Movement	HGTECH customized double station mobile platform	
Environment	Power	2KW/AC220V/50Hz	3.5KW/AC220V/50Hz
	Temperature	0~40°C, Air Condition is required if temperature out of range	
	Humidity	30%≤RH≤85%, Air Condition is required if temperature out of range	

Thin Material

Laser Processing Machine

Product Description

This product dedicated design for thin material product laser online mark, able to adjust inner conveyor width automatically to match customer conveyor and product or fixture. Integrated with CCD inspection system for precision positioning and laser marking. This product suitable for 2D code, Character, Logo, product model info laser marks.

Product Features

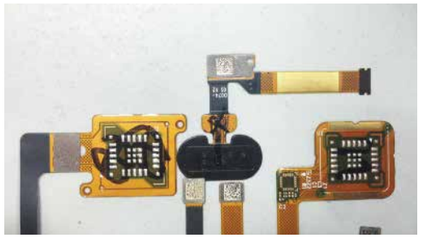
01 Support online 2D code laser mark, able to integrate with UC, IR, CO2, Fiber laser source.

02 Bar-code scanner read code and upload to system database automatically.

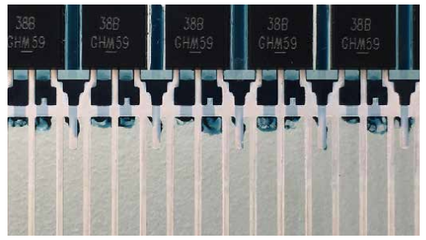
03 Positioning by CCD Vision system, precision up to 0.05mm, UPH 1200pcs.

04 Able to support mark small size 2D code, min able to mark 0.2*0.2mm code.

Samples

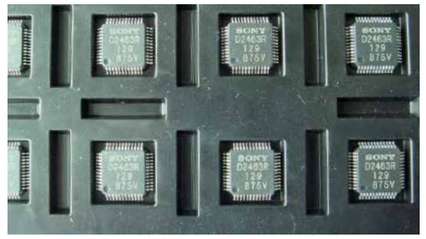


• Component laser mark



• Component laser mark

• IC chip laser mark



• IC chip laser mark

Machine Specification

Model		LSF20-OL
Laser	Wavelength	1064nm
	Power	20W
Optical	Scanner Speed	F=160mm, ⩽7000mm/s (depend on material)
	Line Width	0.06mm (depend on material) @ F=160
	Min Marking Height	0.2mm @ F=160 mm
Cooling System	Laser Source Cooling	Air cooling
Others	Software	HG Laser Developed Software, interface friendly
	Vision System	Dedicated design, for Customer Customize solution
	Movement	Customize base on customer product
	Fixture	According to customer's product design requirement
Environment	Power	3KW/AC220V/50Hz
	Temperature	0~40°C, Air Condition is required if temperature out of range
	Humidity	30%⩽RH⩽85%, Air Condition is required if temperature out of range

Laser Stripping Machine

Product Description

Laser Stripping Machine is use laser high power density, high frequency features, shoot laser on the require stripping area and works on the material, with the high energy in the working area, remove the surround material, like the outer material of cable, painting of metal etc....

Product Features

01 Environment Protection: Non-Touch and no pollution.

02 High Efficiency: One time strip multiple products with high precision, not hurt base material.

03 Economic: No consumption parts, long lifetime, low running cost.

04 Easy Operation: Very easy operation, load material and press start button, running automatically.

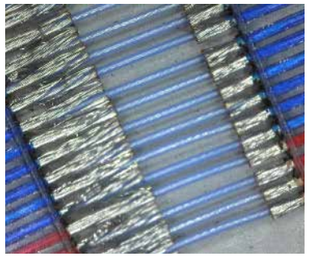
05 Low Noisy: Noise much lower compare to other way.

06 Health: Low Work Intensity, No Pollution, without hurt for human health.

Samples

- Single core wire/double core wire/twisted pair wire/multi-core shielded wire/coaxial wire/extra-fine coaxial wire/enameled wire

- Cable skin removal



- Cable skin removal (z oom in)

- Metal coating removal

Machine Specification

Model	Scanner Type Double head Laser Stripping Machine		Collimation Type Double head Laser Stripping Machine	
	LSC55WZ	LSF50WZ	LSC50WD	LSF20WD
Power (Wavelength)	55W,10.6um	50W,1064nm	50W,10.6um	20W,1064nm
Machine Power	3. 2KW, AC220V 50Hz	3.2KW, AC220V 50Hz	3.2KW, AC220V 50Hz	2.5KW, AC220V 50Hz
Cooling Type	Air Cooling	Air Cooling	Air Cooling	Air Cooling
Dimension (LxWxH)	1500x1300x1350mm		1382x624x1230mm	
CCD Vision	Optional	Optional	Optional	Optional
Precision	±0. 2mm	±0. 2mm	±0. 2mm	±0. 2mm

Specification for reference, machine configuration accept customize

MARKING

Big Size

Laser Processing Machine

Product Description

LHC150V, an HG Laser developed Dynamic Focusing Equipment, suitable for big size laser marking, cutting,carving, painting process, material surface micro-heat processing applications.
LHC150V big size piercing machine adopts high speed, high precision 3D scanner with HG Laser developed control software with system, implement precision process of products, no focus out issue, able to tracing and adjust focus in real time to get great quality.

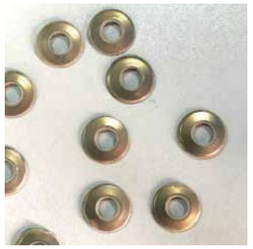
Product Features

01 Wide application. Suitable for leather, paper, wooden, stone material etc...
02 Big area process with high efficiency.
03 High laser beam quality with small size, able to implement precision and stable marking.
04 Low heat influence, material no deformation and burn.
05 Easy operation.

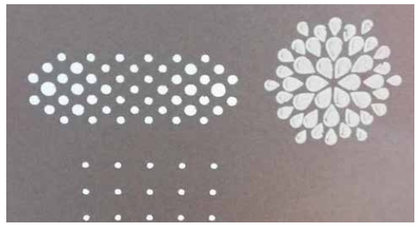
Samples

• 600mm range paper process

• Postage stamp



• Metal cutting



• Leather cutting

• Painting remove

Machine Specification

Model		LHC150
Laser	Wavelength	9.4μm
	Power	150W
Optical	Scanner Speed	⩽7000mm/s
	Range	⩽800mmX800mm
	Line Width	0.1mm (depend on material) @100mmX100mm
	Min Marking Height	0.3mm
Cooling system	Laser Source Cooling	Water-cooling
Mechanical	Absorb Platform	800mmX800mm
	Manual Type Lift	660mm
Environment	Power	4.5KW/AC220V/50Hz
	Temperature	15~30°C，Air Condition is required if temperature out of range
	Humidity	5%⩽RH⩽80%，Air Condition is required if temperature out of range

Non-Metal Material Process Equipment

Product Description

Non-Metal material process equipment able to integrate with different laser source, motion and vision system, able to do the applications like plastic material laser marking, piercing, Film cutting, burr removing etc...

Product Features

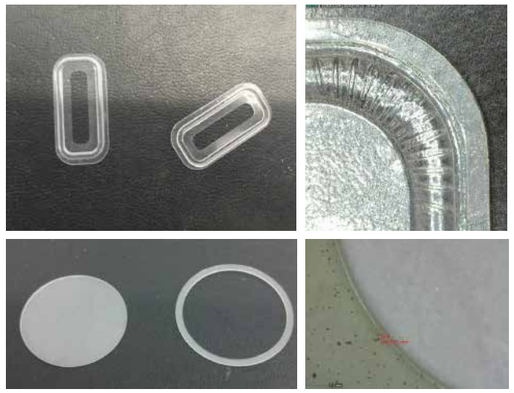
01 High precision piercing, smooth edge and no burr of the hole.

02 Film high precision cut, no burn of edge, no color change.

03 Vision inspection and positioning to guide laser path.

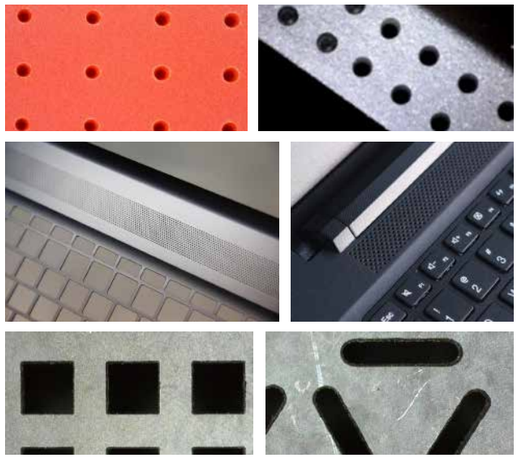
04 Able to integrate with film process machine for conveyor integrate.

Samples



- Film cut

- Magnetic material cut



- Piercing

- Burr remove

Machine Specification

Model		LHU15BUV Laser Cutting	LHC100Piercing
Laser	Wavelength	355nm	9.4μm
	Power	15W	100W
	Pulse frequency	40kHz≤F≤200kHz	0~100kHz
Optical	Scanner Speed	F=170mm, ≤7000 mm/s (depend on material)	
	Focus Lens	Multiple focus specific optional	
	Line Width	0.02mm (depend on material) @ F=170 mm	0.1mm (depend on material) @ F=100 mm
	Min Marking Height	0.1mm @ F=170 mm	0.4mm @ F=150 mm
Cooling System	Laser Source Cooling Type	Water cooling	Water cooling
Others	Software	Independent research and development, can meet the different needs of customers	
	Fixture	Customize base on product	
	Motion system	Module, Roll etc...optional	
	Dust removal system	Remain port connect to Customer Dust Collect system (Air Purifier Optional)	
Environment	Power	2.0KW/AC220V/50Hz	1.2KW/AC220V/50Hz
	Temperature	0~40°C, Air Condition is required if temperature out of range	
	Humidity	30%≤RH≤85%, Air Condition is required if temperature out of range	

Laser Cleaning Machine

Product Description

Laser Cleaning Machine shoot laser on product surface, the material absorb laser, with the high power density, the surface material, like painting, rust etc... will evaporation and makes the product clean. This application widely use for metal/glass material surface cleaning.

Product Features

01 Environment friendly, no consumption parts, no touch, avoid pollution.

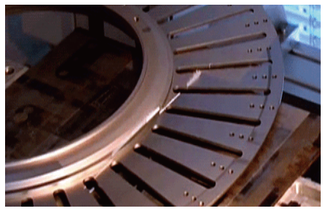
02 Precision cleaning with great control, clean the surface but not hurt base material.

03 Handheld operate as manual type or integrate with robot as auto type, low cost with long life time.

04 Low noise.

Item	Laser Cleaning	Chemical Cleaning	Mechanical Grinding	Carbon-dioxide Cleaning	Ultrasonic Cleaning
Cleaning Type	Laser, Non-touch	Chemical cleaning agent, touch	sandpaper, touch	Carbon-dioxide, Non-touch	Cleaning agent, touch
Cleaning Type	No	Yes	Yes	No	No
Efficiency	High	Low	Low	Mid	Mid
Consumption	Electric Power Only	Chemical cleaning agent	Sandpaper	Carbon-dioxide	Cleaning agent
Cleaning Effect	High cleanliness	Generally, uneven	Generally, uneven	Great, uneven	Great, small range
Environment protection	No Pollution	Have Pollution	Have Pollution	Great, uneven	Great, small range
Operation	Easy operate, handheld or auto	Operation Complex, need great skill of operator	Low efficiency and need protect worker	Easy operate, handheld or auto	Easy operate ,add consumption parts by manual
Cost	First investment high, no consumption	First investment low, high consumption	First investment high, low consumption	First investment mid, high consumption	First investment low, mid consumption

Samples



- Wheel hub oil cleaning

- Tire mold glue cleaning

- Stainless steel welding oxide layer cleaning

- Fixture rust remove

- Bearing oil remove

- Painting remove

Machine Specification

Model		LSF100C	LSF200C	LSF500C
Laser Cleaning Machine	Power	100W	200W	500W
	Machine power consumption	1500W	2500W	5400W
	Clean width	10-100mm	10-120mm	10-120mm
	Speed	⩽10000mm/s	⩽10000mm/s	⩽10000mm/s
	Painting/Rust (20μm)	4.0m²/h	9.0m²/h	24m²/h
	Oil (20μm)	4.5m²/h	10m²/h	30m²/h
	Oxide Flm	3.0m²/h	6.5m²/h	12m²/h
	Cable Length	4.5M	4.5M	10M、15M
	Cooling Type	Air Cooling	Water Cooling	
	Operation Type	Manual/Auto		
	Working Distance	160mm (Standard) , 210mm , 250mm (optional)		
	Cleaning Head Weight	≈2.2Kg	≈2.5Kg	≈3Kg
	Electric	AC 220V 50Hz	AC 220V 50Hz	AC 220V 50Hz

Vision System

With the Vision System to assistant laser marking, like installed eye to laser marking system, where to mark, how is result, all able to implement by it. The vision system helps make the laser process advantage fully exert, solve the marking position issue, support more products and automation manufacture, reduce cost but increase efficiency.

Vision System using optical parts with non-touch sensor to collect and process real products image automatically, as add eye to machine for inspect, identify and control. The overall capability of machine vision system is better than human eye, with industry automation and intelligence trend, Vision System are widely use with laser marking system for innovation manufacturing.

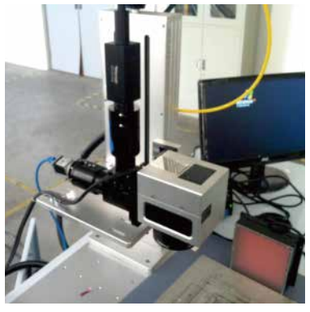
Human Eye vs Vision System

Item	Vision System	Human Eye
Color recognition ability	Quantifiable	Vulnerable to people' s psychological influence, cannot be quantified
Gray resolution	Strong, currently mostly use 256 gray levels	Weak, normally only able to identify 64 gray levels
Spatial resolution	High resolution, can observe micron meter level targets	Low resolution, not able to observe tiny targets
Speed	Fast, Shutter time up to 10us	Slow, not able to see fast moving target which Visual persistence time less than 0.1s
Sensitivity range	Wide range	Narrow range, visible light range
Environmental adaptability	Strong	Many field are harmful for human health
Observation accuracy	High precision, up to micron level, able to quantify	Low precision, not able to quantify
Others	Objectivity, can work continuously	Subjectivity, psychologically affected, easy to fatigue

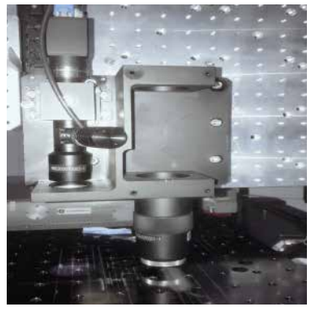
Original from internet

Vision & Laser

- External coaxial positioning laser marking system



- Inner coaxial positioning laser marking system



- Paraxial positioning laser marking system

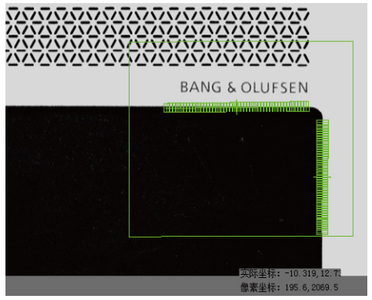
HG Laser marking system, use CCD vision inspection technology, collect pictures and generate files automatically, implement fast picture transfer mark. Use for OCR faulty identify, appearance inspection, read marking content (picture, character, barcode, 2D code), inspect and identify it' s ok or not, makes the marking system more smart.

Typical Vision Inspection Case Of Laser Marking System

Positioning for mark

1 **Positioning for mark**
Laptop positioning and mark

- Laptop frame side mark



- Laptop information mark

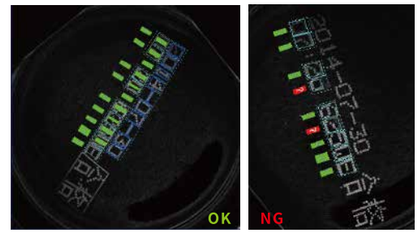
Inspection item

1 **Barcode, 2D Code Identify**

- Automotive label barcode read

- SSD 2D code read

2 **OCR Identify**



- Can bottom character inspection

3 **Appearance Inspection**
Mobile phone glass appearance inspection

- Good parts vision inspection image

- NG parts vision inspection image