

How does 3D Deep Engraving on metal and nonmetal surface work?

Here is a video to show you laser engraving working on ceramic cup.

Product Information

Product Description:

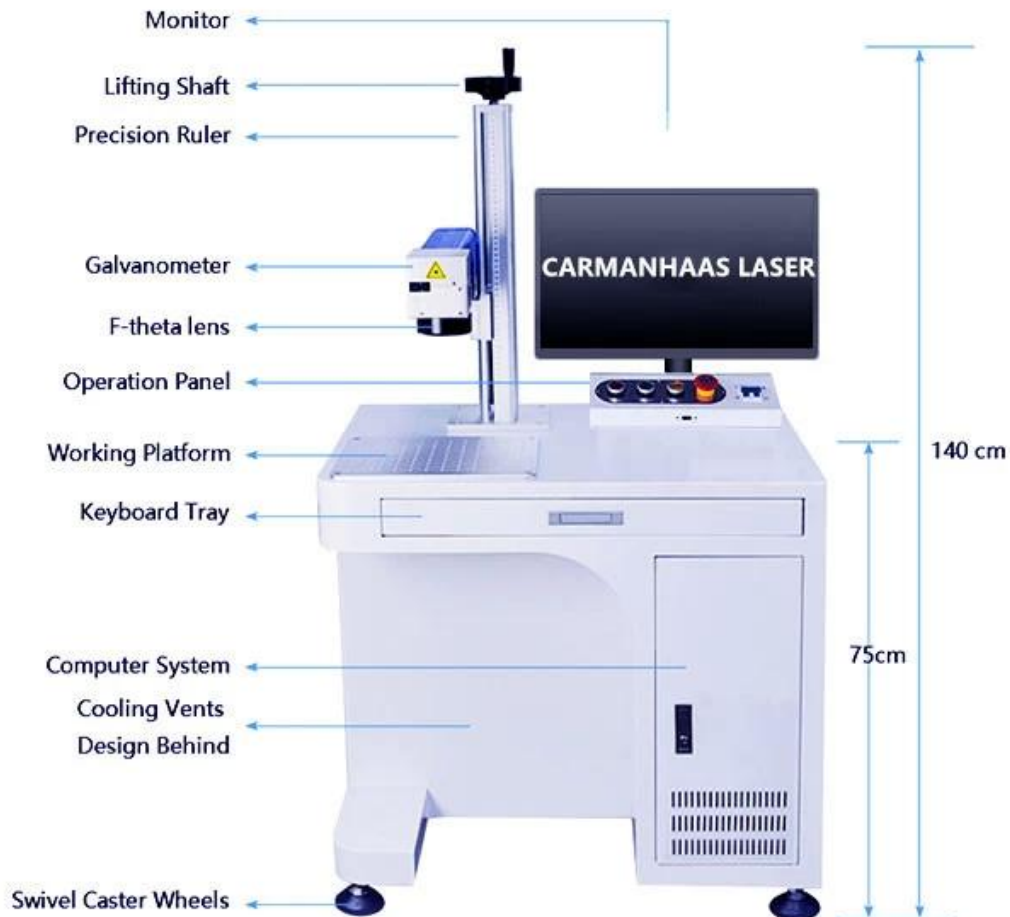
Deep Laser Engraving is a process by which a beam of focused light interacts with the surface material to vaporize or remove many layers leaving a cavity in the surface that is noticeable to the eye and touch. The amount of material removed and the depth of the cavity can be controlled by a skilled engineer to produce quality engravings in any material type.

Carmanhaas deep engraving lasers perform a highly specialized engraving process of penetration and surface removal resulting in deep engraving with ultra-fine detail and finish which cannot be achieved by any mechanical means except CNC machines.

Carmanhaas deep engraving lasers are used in deep engraving and high precision permanent impression with a very high optical quality and easy control panel. Our deep engraving fiber laser series is a unique laser engraving machine in the deep engraving laser industry which requires precision, speed, and reliability to the last engraving.

The deep laser engraving machines from Carmanhaas incorporates laser marking and deep engraving technologies in one with just a small change in speed and power.

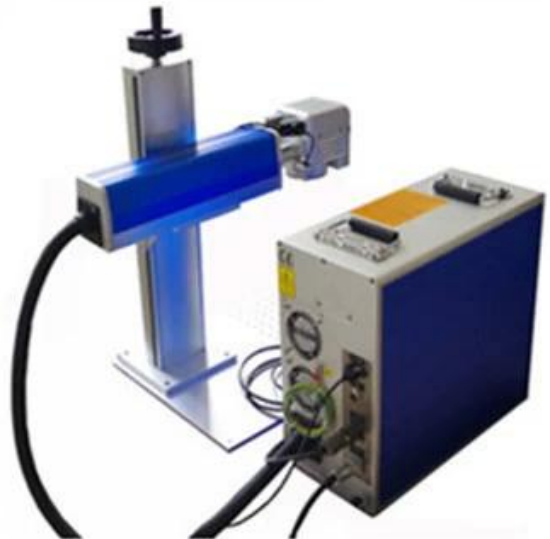
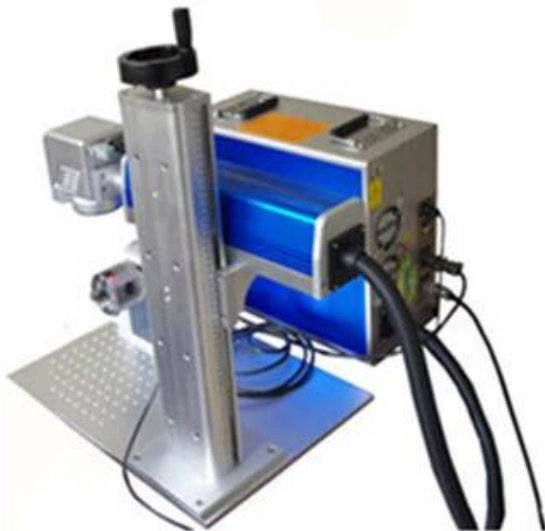
[Laser marking and engraving systems supplier china](#), The high-speed achieving quality of Carmanhaas deep engraving lasers makes the laser multifunctional, easy to operate, convenient and flexible.



DEEP LASER ENGRAVING VS. LASER ENGRAVING/ETCHING

The difference between deep laser engraving and laser engraving/etching is a matter of depth and where the line falls is subjective based on the shop you are dealing with and the material to be engraved. Going .005" deep on aluminum is very different than doing it on titanium and both are different than stainless or tool steel. An operator must have the skill, experience and most importantly the right laser for deep engraving on that material because most lasers generate heat. Excessive heat while deep engraving will damage and potentially destroy a part thus choosing the right laser engraving service provider is crucial.

Not only can we reach the depth you need, we perform deep laser engraving measurements on all depth critical jobs and provide documentation if needed for quality purposes.



Application materials:

Fiber laser deep engraving machine is used for marking and engraving on

(1) **Metal surface:** stainless steel, aluminum, alloy, brass, silver, gold, titanium, iron

(2) **Non-metal surface:** guns, firearms, rings, bearings, gears, automotive parts, hardware and tools, aerospace components, integrated circuit chips, computer accessories, watches, electronics and communications products, home appliances, wire and cable, Jewelry, adornments, necklace, bracelet and many other areas of graphics and text mark up.

The deep laser engraving machine can also cut thin metals, such as stainless steel, aluminum, alloy, brass, silver, gold, titanium, etc.

It adapts to the major range of industrial parts organic and non-organic material, including metal, glass, ceramic, graphite, plastics, rubber, engineering plastics, electroplating materials, fiber and composite.

If you're not sure if your material will mark, send it in for a free material testing study by our applications experts.

Machine Technical Parameters:

P/N	LMCH-F50
Brand	Carmanhaas
Laser Output Power	50W (60w/70w/100w Optional)
Laser Brand	Raycus, IPG, MAX, JPT
Wavelength	1064nm
Pulse Energy	1mJ@50kHz
Pulse duration	90-150ns
Laser beam quality M2	<1.8
Maximal processing speed	600 character/s
Repeat accuracy	50k-100kHz
Laser Source Life	>100,000 hours
Galvanometer	2D or 3D galvanometer
Marking Area	100x100x40mm(optional)
Spot size	27.5µm
Marking Depth	0.03-0.5mm
Controller	computer with marking software
Graphic format supported	Jpg,Bmp,DXF,PLT,AI,STL
Working voltage	AC220V 50HZ or AC110V 60HZ
Cooling type	Air cooling
Operating parameter	0-40°C
Warranty	fiber laser source we warranty for 3 years /the other parts warranty for 2 years

Optional parts:

*The Products not include any optional parts

*You can choose the optional parts according to your marking requirements



2D Working table:

XYaxis adjustable worktable can achieve very small position movement of workpiece via adjust the worktable.



Rotating worktable :

it can achieve multi-station marking of surface.



Rotary Device:

rotary device is mainly apply to the surface of curved and cylinder marking.

Our Service:

□Pre-sale service

(1) Free sample marking

For free sample testing, please send us your file, we will do marking here and make video to show you the effect, or send sample to you for checking quality.

(2) Customized machine design

According to customer's application, we may revise our machine accordingly for customer's convenience and high production efficiency.

□ After-sale Service:

Before delivering the machine, we will test and adjust it, so you can use it directly when you get it.

- * If you have problems while using, 24hours online professional advice available.
- * Lifetime software free upgrades.
- * Fiber laser source we warranty for 2 years ,the other parts warranty for 1 year.

Marking Samples







Factory



Certificate&Exhibition





Packing List

P/N	Item Name		Quantity
	Laser Marking Machine	Carmanhaas	1 set
	Machine body	Desktop/Split/Enclosed	
Free Accessories			
1	Foot Switch		1 piece
2	CD for EzCard	Marking Software	1 piece
3	Power cord(Optional)	EU/USA/National Standard	1 set
4	Inner hexagon wrench		1 set
5	Ruler	30cm	1 piece
6	User Manual& Laser Source Report		1 piece
7	Laser Protective Goggles	1064nm	1 piece

Packing details	One set in a wooden case Single
package size	98x83x142cm
Single gross weight	135Kg
Delivery time	Shipped in 2-5 days after receiving full payment

Accessories(free)







Return Policy:

We provide a free ONE YEAR Full Machine WARRANTY and TWO YEARS Laser Source WARRANTY Should returns be required:

Step 1) Contact us with this website email.

Step 2) Provide as much detail as possible about the problem you are having.

Step 3) Authorization to return the item will be issued.

Step 4) Return the item for the agreed replacement or refund.

Logistics:

Optics order ship by DHL, UPS, FedEx, TNT, EMS etc For Laser machine order delivery, can be optional with terms of Exwork, FOB, CNF, CIF by air or by sea based on the buyer's forwarder or ours

Q1.Are you a manufacturer?

A1: Yes, we are professional and experienced manufacturer with our own molds and production lines.

Q2.How about quality of products?

A2: Our technicians and QC teams test the products one by one using aging line, professional devices and instruments to ensure the quality for all products.

Q3.How about price?

A3: We are a manufacturer and always offer our customers the most competitive prices.

Q4.How to place an order?

A4: Contact with online service, or sent email to us directly, we will reply to you with product price, specifications, packing etc. soon. Thank you.

Q5.May I send material to test marking performance?

A5: Yes! You are welcome to send material to test our superior quality and service.

Q6.Can I visit your factory?

A6: Yes, welcome to visit our factory at your convenient time.

Q7.How can I make OEM or ODM orders?

A7: We have different print processing for different OEM/ODM orders. Please contact us with online service or send email to us directly.

Q8. How should I pay for my orders?

A8: You can pay by T/T would be available for qualified bank and MOQ required for each order.