

## Product Description

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Laser metal 3D printing technology mainly includes SLM (laser selective melting technology) and LENS (laser engineering net shaping technology), among which SLM technology is the mainstream technology currently used. This technology uses laser to melt each layer of powder and produce adhesion between different layers. In conclusion, this process loops layer by layer until the entire object is formed. SLM technology overcomes the troubles in the process of manufacturing complex-shaped metal parts with traditional technology. It can directly form almost completely dense metal parts with good mechanical properties, and the precision and mechanical properties of the formed parts are excellent.



CARMANHAAS ([3D printer metal on sale factory](#)) Compared with the low precision of traditional 3D printing (no light is needed), laser 3D printing is better in shaping effect and precision control. The materials used in laser 3D printing are mainly divided into metals and non-metals. Metal 3D printing is known as the vane of the development of the 3D printing industry. The development of the 3D printing industry largely depends on the development of the metal printing process, and the metal printing process has many advantages that the traditional processing technology (such as CNC) does not have.

In recent years, CARMANHAAS Laser ([Additive Manufacturing factory china](#)) has also actively explored the application field of metal 3D printing. With years of technical accumulation in the optical field and excellent product quality, it has established stable cooperative relations with many 3D printing equipment manufacturers. The single-mode 200-500W 3D printing laser optical system solution launched by the 3D printing industry has also been unanimously recognized by the market and end users. It is currently mainly used in auto parts, aerospace (engine), military products, medical equipment, dentistry,

etc.

## Advantages of metal 3D printing:

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### [SLM Optical System Supplier China](#)

1. One-time molding: Any complicated structure can be printed and formed at one time without welding;
2. There are many materials to choose from: titanium alloy, cobalt-chromium alloy, stainless steel, gold, silver and other materials are available;
3. Optimize product design. It is possible to manufacture metal structural parts that cannot be manufactured by traditional methods, such as replacing the original solid body with a complex and reasonable structure, so that the weight of the finished product is lower, but the mechanical properties are better;
4. Efficient, time-saving and low cost. No machining and molds are required, and parts of any shape are directly generated from computer graphics data, which greatly shortens the product development cycle, improves productivity and reduces production costs.



## Technical Parameters:

### 1030-1090nm F-Theta Lenses

Part Description	Focal Length (mm)	Scan Field (mm)	Max Entrance Pupil (mm)	Working Distance(mm)	Mounting Thread
SL-(1030-1090)-170-254-(20CA)-WC	254	170x170	20	290	M85x1
SL-(1030-1090)-170-254-(15CA)-M79x1.0	254	170x170	15	327	M79x1
SL-(1030-1090)-290-430-(15CA)	430	290x290	15	529.5	M85x1
SL-(1030-1090)-290-430-(20CA)	430	290x290	20	529.5	M85x1
SL-(1030-1090)-254-420-(20CA)	420	254x254	20	510.9	M85x1
SL-(1030-1090)-410-650-(20CA)-WC	650	410x410	20	560	M85x1
SL-(1030-1090)-440-650-(20CA)-WC	650	440x440	20	554.6	M85x1

### 1030-1090nm QBH Collimating Optical Module

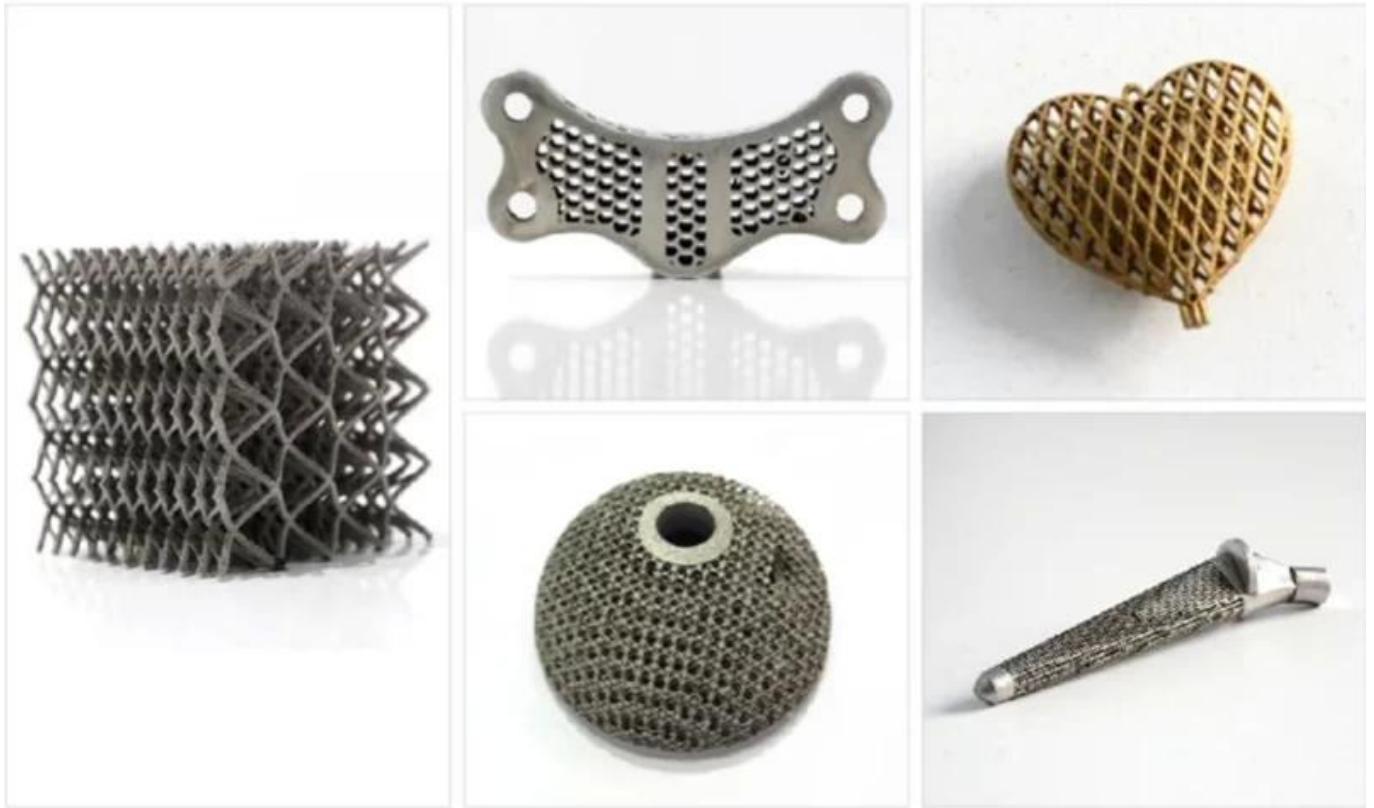
Part Description	Focal Length (mm)	Clear Aperture (mm)	NA	Coating
CL2-(1030-1090)-25-F50-QBH-A-WC	50	23	0.15	AR/AR@1030-1090nm
CL2-(1030-1090)-30-F60-QBH-A-WC	60	28	0.22	AR/AR@1030-1090nm
CL2-(1030-1090)-30-F75-QBH-A-WC	75	28	0.17	AR/AR@1030-1090nm
CL2-(1030-1090)-30-F100-QBH-A-WC	100	28	0.13	AR/AR@1030-1090nm

### 1030-1090nm Beam Expander

Part Description	Expansion Ratio	Input CA (mm)	Output CA (mm)	Housing Dia(mm)	Housing Length(mm)
BE-(1030-1090)-D26:45-1.5X-A	1.5X	18	26	44	45
BE-(1030-1090)-D53:118.6-2X-A	2X	30	53	70	118.6
BE-(1030-1090)-D37:118.5-2X-A-WC	2X	18	34	59	118.5

### 1030-1090nm Protective Window

Part Description	Diameter(mm)	Thickness(mm)	Coating
Protective Window	98	4	AR/AR@1030-1090nm
Protective Window	113	5	AR/AR@1030-1090nm
Protective Window	120	5	AR/AR@1030-1090nm
Protective Window	160	8	AR/AR@1030-1090nm



Titanium Alloy



# Aluminium Alloy ( $AlSi_{10}Mg$ )



## Co-Cr Alloy ( MP1 )

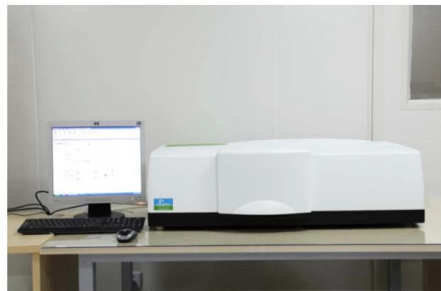


**Factory**

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**TRIOPTICS OptiSpheric 2000 AF**  
---Testing EFL, R, Centering Error, Wedge Angle, BFL, MTF



**PerkinElmer Lambda 950**---Testing Transmission and Reflectivity



**Carmanhaas Coating Machine**



## Certificate&Exhibition

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## Packing List

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**Return Policy:**

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:**

(1)For Laser Optics order delivery,can be optional with DHL,UPS,FedEx,TNT,EMS,ets

(2)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 forwarders or ours.

## **FAQ**

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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.