Product Information

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.

SLM Laser Lenses on Sales

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 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. (**China 3D printer metal Wholesales**)

Advantages of metal 3D printing:

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 Galvo Scanner Head

Model	PSH14-H	PSH20-H	PSH30-H
Input laser power (MAX.)	CW: 1000W @ fiber laser Pulsed: 500W @ fiber laser	CW: 3000W @ fiber laser Pulsed: 1500W @ fiber laser	CW: 1000W @ fiber laser Pulsed: 150W @ fiber laser
Water cool/sealed scan head	yes	yes	yes
Aperture (mm)	14	20	30
Effective Scan Angle	±10°	±10°	±10°
Tracking Error	0.19 ms	0.28ms	0.45ms
Step Response Time(1% of full scale)	≤ 0.4 ms	≤ 0.6 ms	≤ 0.9 ms
Typical Speed			
Positioning / jump	< 15 m/s	< 12 m/s	< 9 m/s
Line scanning/raster scanning	< 10 m/s	< 7 m/s	< 4 m/s
Typical vector scanning	< 4 m/s	< 3 m/s	< 2 m/s
Good Writing quality	700 cps	450 cps	260 cps
High writing quality	550 cps	320 cps	180 cps
Precision			
Linearity	99.9%	99.9%	99.9%
Resolution	≤ 1 urad	≤ 1 urad	≤ 1 urad
Repeatability	≤ 2 urad	≤ 2 urad	≤ 2 urad
Temperature Drift			
Offset Drift	≤ 3 urad/℃	≤ 3 urad/℃	≤ 3 urad/℃
Qver 8hours Long-Term Offset Drift (After 15min warn-up)	≤ 30 urad	≤ 30 urad	≤ 30 urad
Operating Temperature Range	25℃±10℃	25℃±10℃	25℃±10℃
Signal Interface	Analog: ±10V Digital: XY2-100 protocol	Analog: ±10V Digital: XY2-100 protocol	Analog: ±10V Digital: XY2-100 protocol
Input Power Requirement (DC)	±15V@ 4A Max RMS	±15V@ 4A Max RMS	±15V@ 4A Max RMS

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)-250-425-(30CA)-WC	425	250x250	30	475	M132x1
SL-(1030-1090)-142-277-(15CA)-WC	277	142x142	15	340	M85x1
SL-(1030-1090)-254-420-(15CA)-WC	420	254x254	15	509	M85x1
SL-(1030-1090)-230-420-(20CA)-WC	420	230x230	20	509	M85x1
SL-(1030-1090)-410-650-(20CA)-WC	650	410x410	20	562	M85x1

1030-1090nm Beam Expander

Part Description	Expansion Ratio	Input CA (mm)	Output CA (mm)	Housing Dia(mm)	Housing Length(mm)	Mounting Thread
BE-(1030-1090)-D26:45-1.5x-A	1.5X	18	26	44	45	M30x1 M43x0.5
BE-(1030-1090)-D53:118.6-2x-A	2X	30	53	49	118.6	M30x1
BE-(1030-1090)-D37:118.5-2x-A-WC	2X	18	37	59	118.5	M30x1

1030-1090nm Protective Window

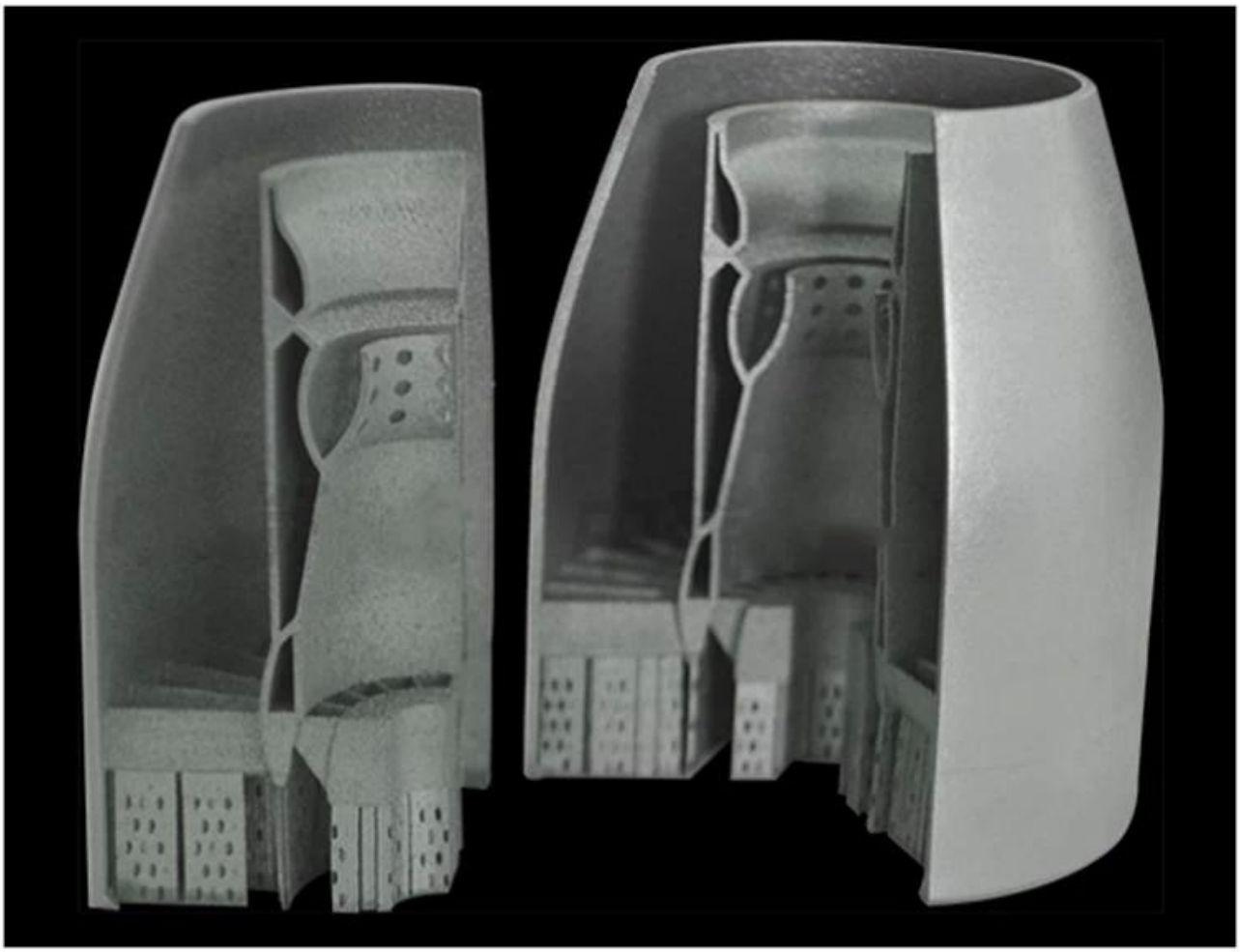
Part Description	Diameter(mm)	Thickness(mm)	Coating
Protective Window	98	4	AR/AR@1030-1090nm
Protective Window	113	5	AR/AR@1030-1090nm
Protective Window	120	5	AR/AR@1030-1090nm
Protective Window	160	8	AR/AR@1030-1090nm

1030-1090nm QBH Collimating Optical Module

Part Description	Focal Length (mm)	Clear Aperture (mm)	NA	Coating
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
CL2-(1030-1090)-38-F75-QBH-A-WC	75	34	0.22	AR/AR@1030-1090nm
CL2-(1030-1090)-38-F100-QBH-A-WC	100	34	0.16	AR/AR@1030-1090nm
CL2-(1030-1090)-38-F125-QBH-A-WC	125	34	0.13	AR/AR@1030-1090nm

Die Steel

Titanium Alloy



Aluminium Alloy ($AlSi_{10}Mg$)

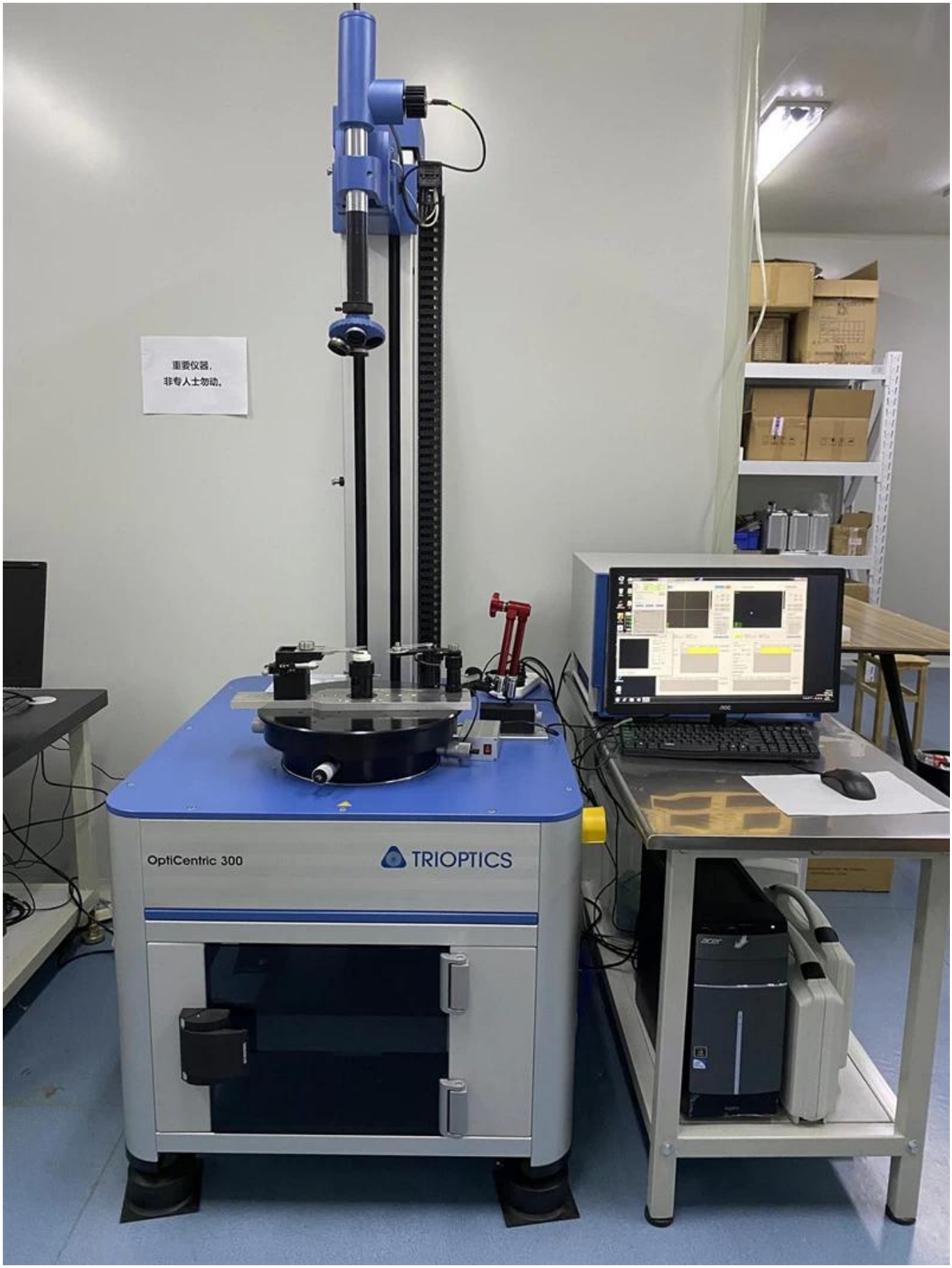
Co-Cr Alloy (MP1)

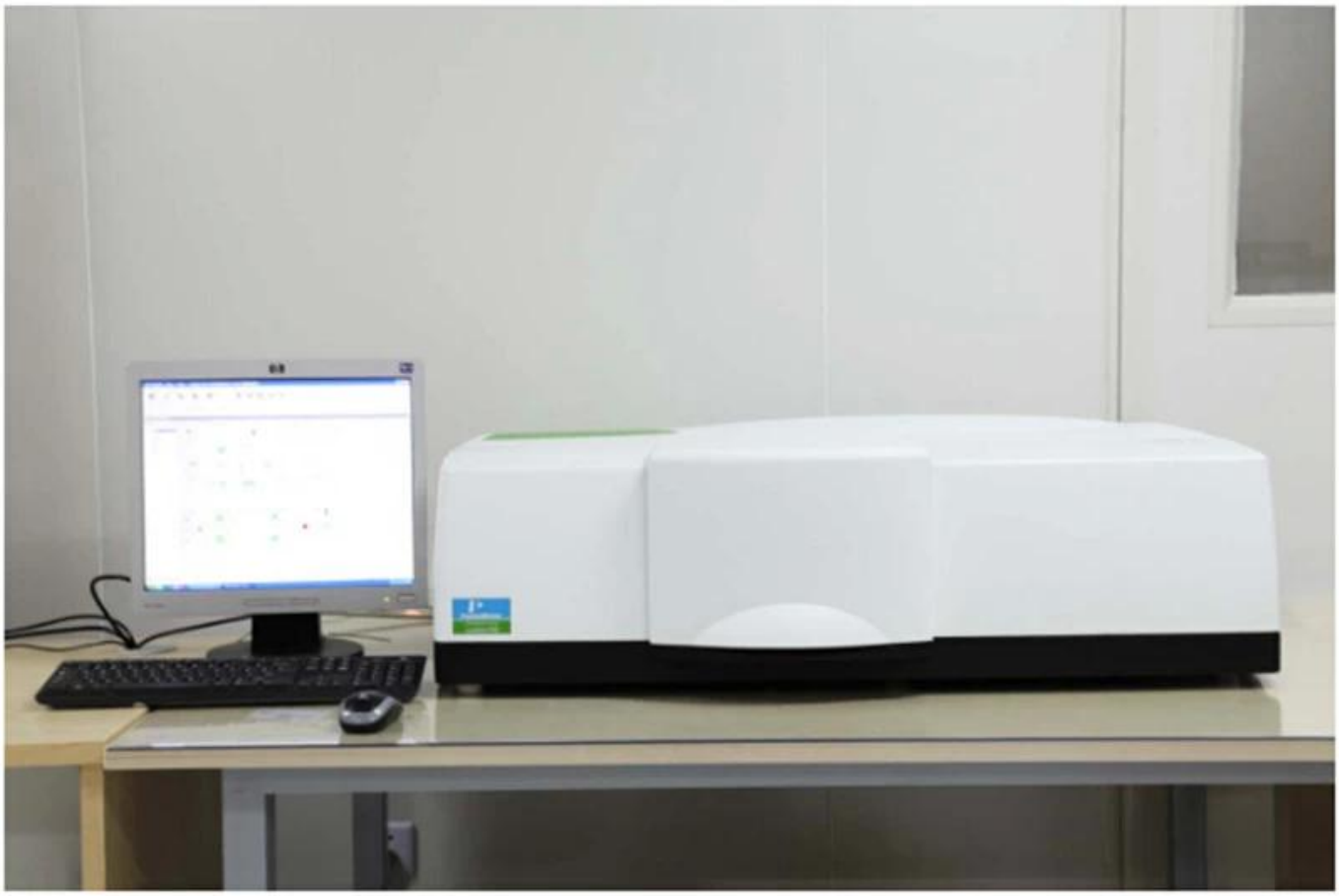
Factory

卡门哈斯（苏州）
CARMAN HAAS

CARMAN HAAS

venfire
zygo
LSXP


重要仪器，
非专人士勿动。
OptiCentric 300
TRIOPTICS



PerkinElmer Lambda 950---Testing Transmission and Reflectivity

Certificate&Exhibition

CERTIFICATE

ATIESTATION
CERTIFICATE OF MACHINERY AND LOW VOLTAGE DIRECTIVES

Technical file of the company mentioned below has been observed and audit has been completed successfully. 2006/42/EC Machinery Directive and 2014/ 35/EU Low Voltage Directive have been taken as references for these processes

Company Name	: **Carman HAAS Laser Technology (Suzhou) Co., Ltd.**
Company Address	: No 155, West Road Suhong, Suzhou Industrial Park, Suzhou City, Jiangsu , P.R.China
Related Directives and Annex	: **Low Voltage Directive 2014/35/EU** **Machinery Directive 2006/42/EC**
Related Standards	: **EN ISO 12100:2010; EN 60204-1:2006+A1:2009+AC:2010**
Product Name	: **Laser Marking Machine**
Report No and Date	: SD-90049717;09.08.2018
Product Brand/Model/Type	: LMCH-3W,LMCH-5W,LMCH-10W,LMCH-15W,LMCH-20W,LMCH-25W, LMCH-30W,LMCH-50W,LMCH-60W,LMCH-70W,LMCH-100W, LMCH-120W,LMCH-150W,LMCH-200W,LMCH-300W,LMCH-500W
Certificate Number	: **M.2018.201.N6073**
Initial Assessment Date	: 10.08.2018
Registration Date	: 13.08.2018
Reissue Date/No	:
Expiry Date	: **12.08.2023**

UDEM International Certification Auditing Training Centre Industry and Trade Inc. Co.

The validity of the certificate can be checked through www.udem.com.tr. The CE mark shown on the right can only be used under the responsibility of the manufacturer with the completion of EC Declaration of Conformity for all the relevant Directives. This certificate remains the property of UDEM International Certification Auditing Training Centre Industry and Trade Inc. Co. to whom it must be returned upon request. The above named firm must keep a copy of this certificate for 15 years from the registration of certificate. This certificate only covers the product(s) stated above and UDEM must be noticed in case of any changes on the product(s)

Address: Mutlukent Mahallesi 2073 Sokak (Eski 93 Sokak) No:10 Çankaya – Ankara – TURKEY
Phone: +90 0312 443 03 90 **Fax:** +90 0312 443 03 76
E-mail: info@udemltd.com.tr www.udem.com.tr

ISO 9001

Certificate of Approval

Certificate No.: 10119Q12565ROM

Awarded to

Carman Haas Laser Technology(SuZhou) Co., Ltd.

Organization Code Certificate No. / Unified Social Credit Code:91320594MA1MF4EP56
Add.:No.155, West Road Suhong, Suzhou Industrial Park, Suzhou City, Jiangsu Province, P.R. China. 215000

Beijing ZhongLianTianRun Certification Center (ZLTR) certify that the Quality Management System of the above organization has been assessed and found to be in accordance with the requirements of the standard:

GB/T19001-2016 / ISO9001:2015

SCOPE OF CERTIFICATION/REGISTRATION

The Research and Development and Production of Optics Lenses (Except the limits of national laws and regulations.)

This certificate is made valid when used with certification scopes and the requirements of applicable laws and regulations. These requirements include, but are not limited to, administrative permits, scopes of qualifications, and CCC requirements.
Subject to operation conditions in requirements conformity with Quality Management System,
This Certificate is valid for a period of three years only,
Date from: Mar 13th,2019 To: Mar 12th,2022
The effectiveness of this Certificate shall be Validated by periodic surveillance audit of ZLTR for maintenance.
Information of this certificate can be found on the official website of Beijing Zhonglian Tianrun Certification center (http://www.zltr.com.cn)

SCC Accredited CB-MS
OCSM Accrédité CCN
Accredited CB-MS (Certification Body – Management Systems)

MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT IAF

Beijing Zhongliantianrun Certification Center ISSUED BY

Beijing Zhongliantianrun Certification Center
Room2603, 22nd Floor, 2nd Unit, Block 1, No.4 Yard, Qiyang Road, Chaoyang District, Beijing, P.R. China 100102
Information of this certificate can be found on the official website of Certification and Accreditation Administration of the People's Republic of China (http://www.cnca.gov.cn)

ISO 9001

Packing List

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

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.