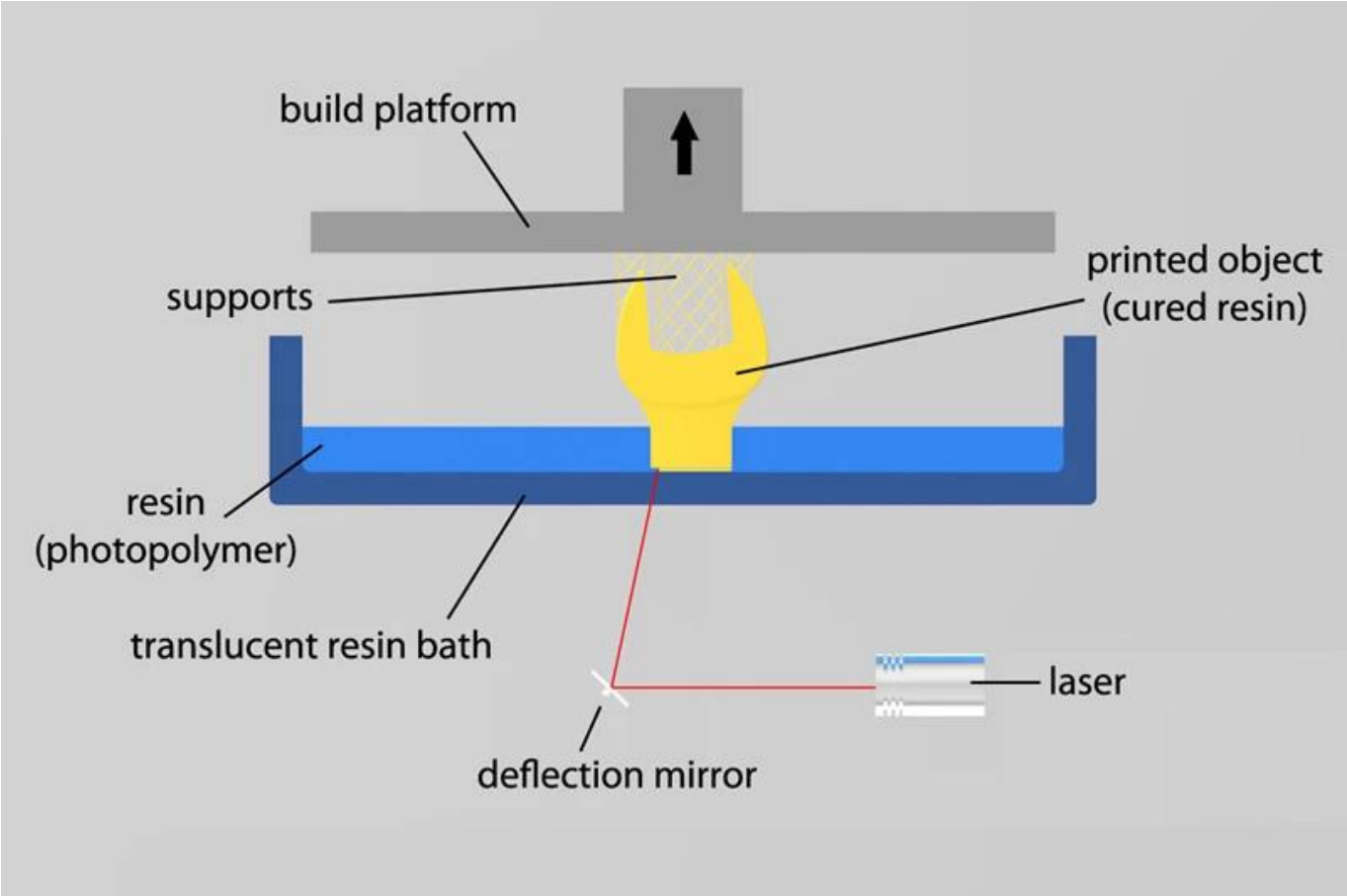
Product Information

Product Description:

SLA(Stereolithography) is an additive manufacturing process that works by focusing an UV laser on to a vat of photopolymer resin. With the help of computer aided manufacturing or computer aided design(CAM/CAD) software, the UV laser is used to draw a pre-programmed design or shape on to the surface of the photopolymer vat. Photopolymers are sensitive to ultraviolet light, so the resin is photochemically solidified and forms a single layer of the desired 3D object. This process is repeated for each layer of the design until the 3D object is complete. (**China UV lens on sale**)

CARMANHAAS could offer customer the optical system mainly includes fast Galvanometer Scanner and F-THETA scan lens, Beam expander, Mirror, etc.



Technical Parameters:

355nm Galvo Scanner Head

Model	PSH14-H	PSH20-H	PSH30-H
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

355nm F-Theta Lenses

Part Description	Focal Length (mm)	Scan Field (mm)	Max Entrance Pupil (mm)	Working Distance(mm)	Mounting Thread
SL-355-360-580	580	360x360	16	660	M85x1
SL-355-520-750	750	520x520	10	824.4	M85x1
SL-355-610-840-(15CA)	840	610x610	15	910	M85x1
SL-355-800-1090-(18CA)	1090	800x800	18	1193	M85x1

355nm Beam Expander

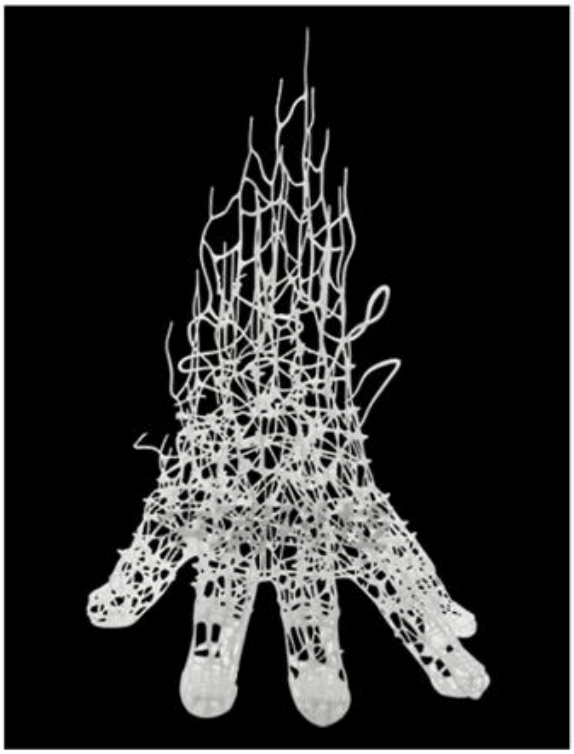
Part Description	Expansion Ratio	Input CA (mm)	Output CA (mm)	Housing Dia(mm)	Housing Length(mm)	Mounting Thread
BE3-355-D30:84.5-3x-A(M30*1-M43*0.5)	3X	10	33	46	84.5	M30*1-M43*0.5
BE3-355-D33:84.5-5x-A(M30*1-M43*0.5)	5X	10	33	46	84.5	M30*1-M43*0.5
BE3-355-D33:80.3-7x-A(M30*1-M43*0.5)	7X	10	33	46	80.3	M30*1-M43*0.5
BE3-355-D30:90-8x-A(M30*1-M43*0.5)	8X	10	33	46	90.0	M30*1-M43*0.5
BE3-355-D30:72-10x-A(M30*1-M43*0.5)	10X	10	33	46	72.0	M30*1-M43*0.5

355nm Mirror

Part Description	Diameter(mm)	Thickness(mm)	Coating
355 Mirror	30	3	HR@355nm,45°AOI
355 Mirror	20	5	HR@355nm,45°AOI
355 Mirror	30	5	HR@355nm,45°AOI

SLA Optical System Supplier

PHYSICAL CHARACTERISTICS (LIQUID STATE)	Appearance: White liquid Density: 1.10 g/cm³ @25℃ Viscosity: 450 CPS @25℃ Dp: ≥0.16 mm Ec: 8.5 mJ/cm²
MOLDING PERFORMANCE A MOLDING PERFORMANCE @355nm point laser @330mW power @5.0m/s scanning @No UV post-cure	Bending Modulus: 1500~1700 MPa Bending Strength: 55~60 MPa Notched Impact Strength: 60~68 J/m 1.2mm Bend Angle: 140~170°
MOLDING PERFORMANCE B MOLDING PERFORMANCE @90min UV post-cure	Bending Modulus: 2688~2790 MPa Bending Strength: 66~73 MPa Notched Impact Strength: 60~68 J/m Hardness: 88 Elongation at break: 10~15% HDT Heat deflection temperature: 52 ℃ Tg Glass transition temperature: 62 ℃ CTE Coefficient of thermal expansion: 93*E-6



PHYSICAL CHARACTERISTICS
(LIQUID STATE)

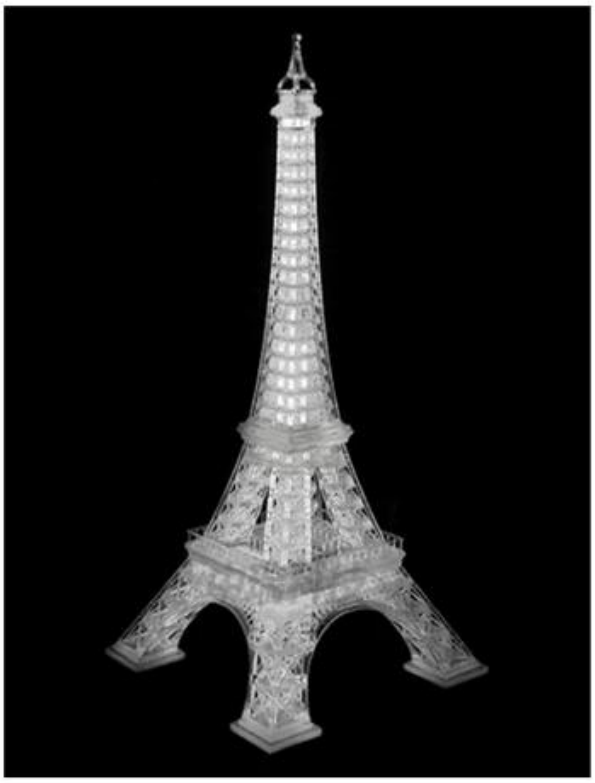
Appearance: White liquid
Density: 1.10 g/cm³ @25℃
Viscosity: 400 CPS @25℃
Dp: ≥0.16 mm
Ec: 7.9 mJ/cm²

MOLDING PERFORMANCE A
MOLDING PERFORMANCE
@355nm point laser
@330mW power
@5.0m/s scanning
@No UV post-cure

Bending Modulus: 2000~2300 MPa
Bending Strength: 75~85 MPa
Notched Impact Strength: 35~45 J/m
1.2mm Bend Angle: ≥170~180°

MOLDING PERFORMANCE B
MOLDING PERFORMANCE
@90min UV post-cure

Bending Modulus: 2813~3520 MPa
Bending Strength: 83~90 MPa
Notched Impact Strength: 42~50 J/m
Hardness: 87~92
Elongation at break: 13~20%
HDT Heat deflection temperature: 52 ℃
Tg Glass transition temperature: 62 ℃
CTE Coefficient of thermal expansion: 93*E-6



PHYSICAL CHARACTERISTICS
(LIQUID STATE)

Appearance: Transparent liquid Pale Purple
Density: 1.10 g/cm³ @25℃
Viscosity: 190 CPS @25℃
Dp: ≥0.18 mm
Ec: 6.9 mJ/cm²

MOLDING PERFORMANCE A
MOLDING PERFORMANCE
@355nm point laser
@150mW power
@5.0m/s scanning
@No UV post-cure

Appearance: High Transparency
Transmittance: 85% (MAX)
Bending Modulus: 1500~1700 MPa
Bending Strength: 45~55 MPa
Notched Impact Strength: 25~35 J/m
1.2mm Bend Angle: 140~170°

MOLDING PERFORMANCE B
MOLDING PERFORMANCE
@90min UV post-cure

Bending Modulus: 1890~2340 MPa
Bending Strength: 55~62 MPa
Notched Impact Strength: 40~55 J/m
Hardness: 79
Elongation at break: 10~15%
HDT Heat deflection temperature: 52 ℃
Tg Glass transition temperature: 62 ℃
CTE Coefficient of thermal expansion: 93*E-6

Real ABS (ABS Like)

PHYSICAL CHARACTERISTICS
(LIQUID STATE)

Appearance:	Bright yellow liquid
Density:	1.10 g/cm³ @25℃
Viscosity:	400 CPS @25℃
Dp:	≥0.16 mm
Ec:	7.9 mJ/cm²

MOLDING PERFORMANCE A
MOLDING PERFORMANCE
@355nm point laser
@330mW power
@5.0m/s scanning
@No UV post-cure

Bending Modulus: 2000~2300 MPa
Bending Strength: 75~85 MPa
Notched Impact Strength: 35~45 J/m
1.2mm Bend Angle: ≥170~180°

MOLDING PERFORMANCE B
MOLDING PERFORMANCE
@90min UV post-cure

Bending Modulus: 2813~3520 MPa
Bending Strength: 83~90 MPa
Notched Impact Strength: 42~50 J/m
Hardness: 87~92
Elongation at break: 13~20%
HDT Heat deflection temperature: 52 ℃
Tg Glass transition temperature: 62 ℃
CTE Coefficient of thermal expansion: 93*E-6

Red Wood (Tooling Board Like)

PHYSICAL CHARACTERISTICS
(LIQUID STATE)

Appearance:	Epoxy Tooling Board Like (Pink) liquid
Density:	1.10 g/cm³ @25℃
Viscosity:	400 CPS @25℃
Dp:	≥0.16 mm
Ec:	7.9 mJ/cm²

MOLDING PERFORMANCE A
MOLDING PERFORMANCE
@355nm point laser
@330mW power
@5.0m/s scanning
@No UV post-cure

Bending Modulus: 2000~2300 MPa
Bending Strength: 75~85 MPa
Notched Impact Strength: 35~45 J/m
1.2mm Bend Angle: ≥170~180°

MOLDING PERFORMANCE B
MOLDING PERFORMANCE
@90min UV post-cure

Bending Modulus: 2813~3520 MPa
Bending Strength: 83~90 MPa
Notched Impact Strength: 42~50 J/m
Hardness: 87~92
Elongation at break: 13~20%
HDT Heat deflection temperature: 52 ℃
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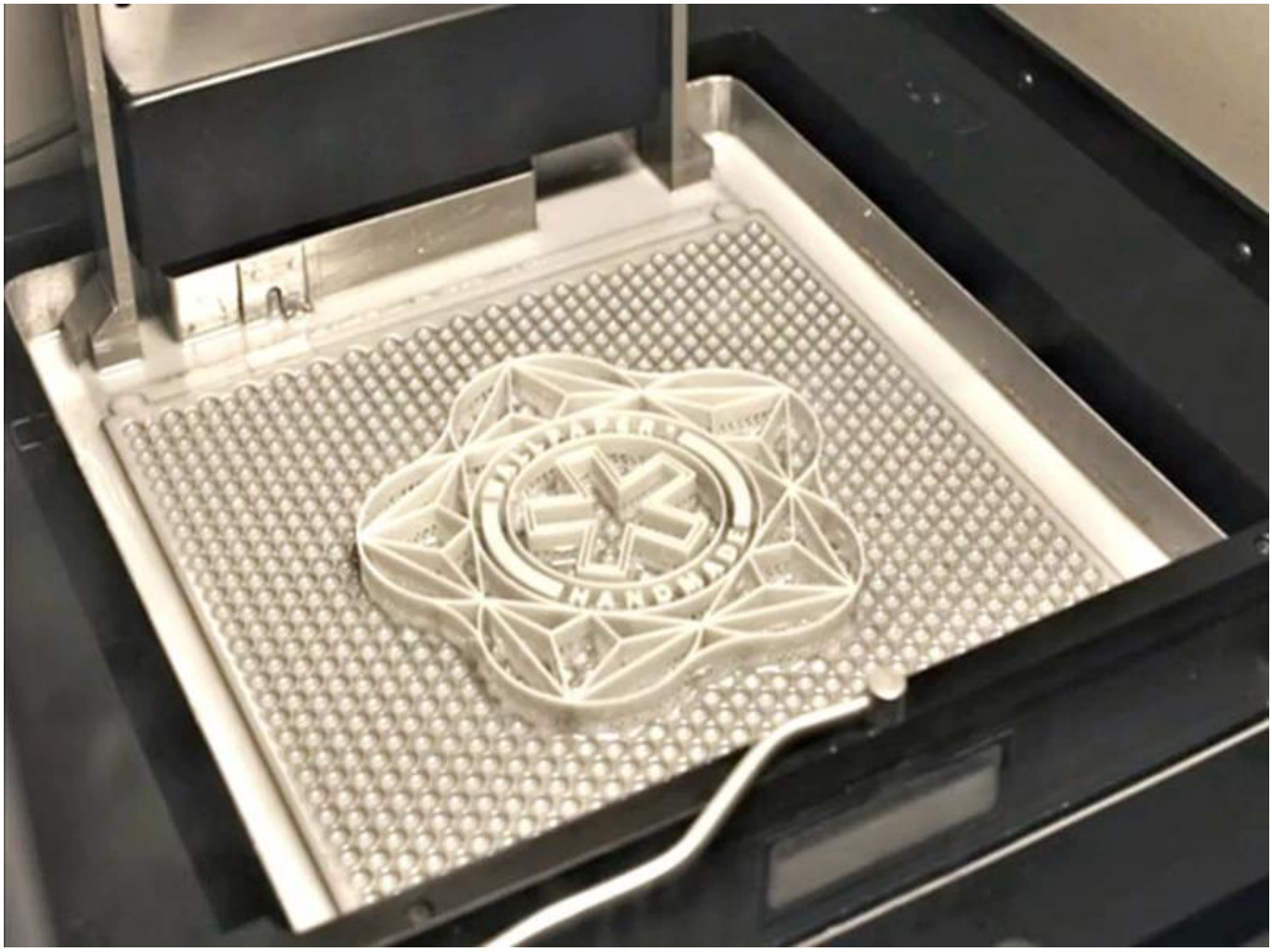
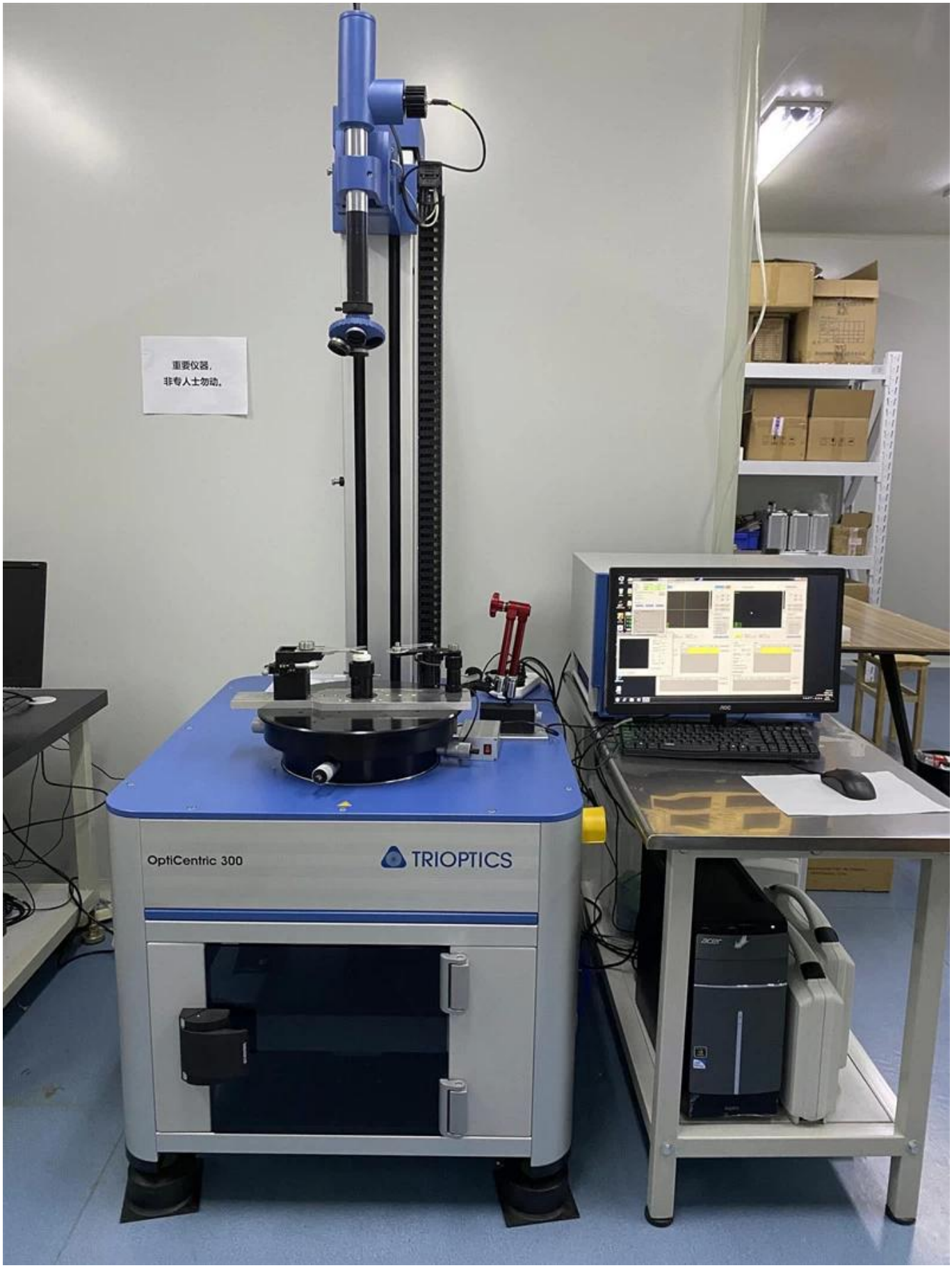
Desktop FDM
Industrial FDM
Desktop SLA
Industrial SLA
Industrial SLS

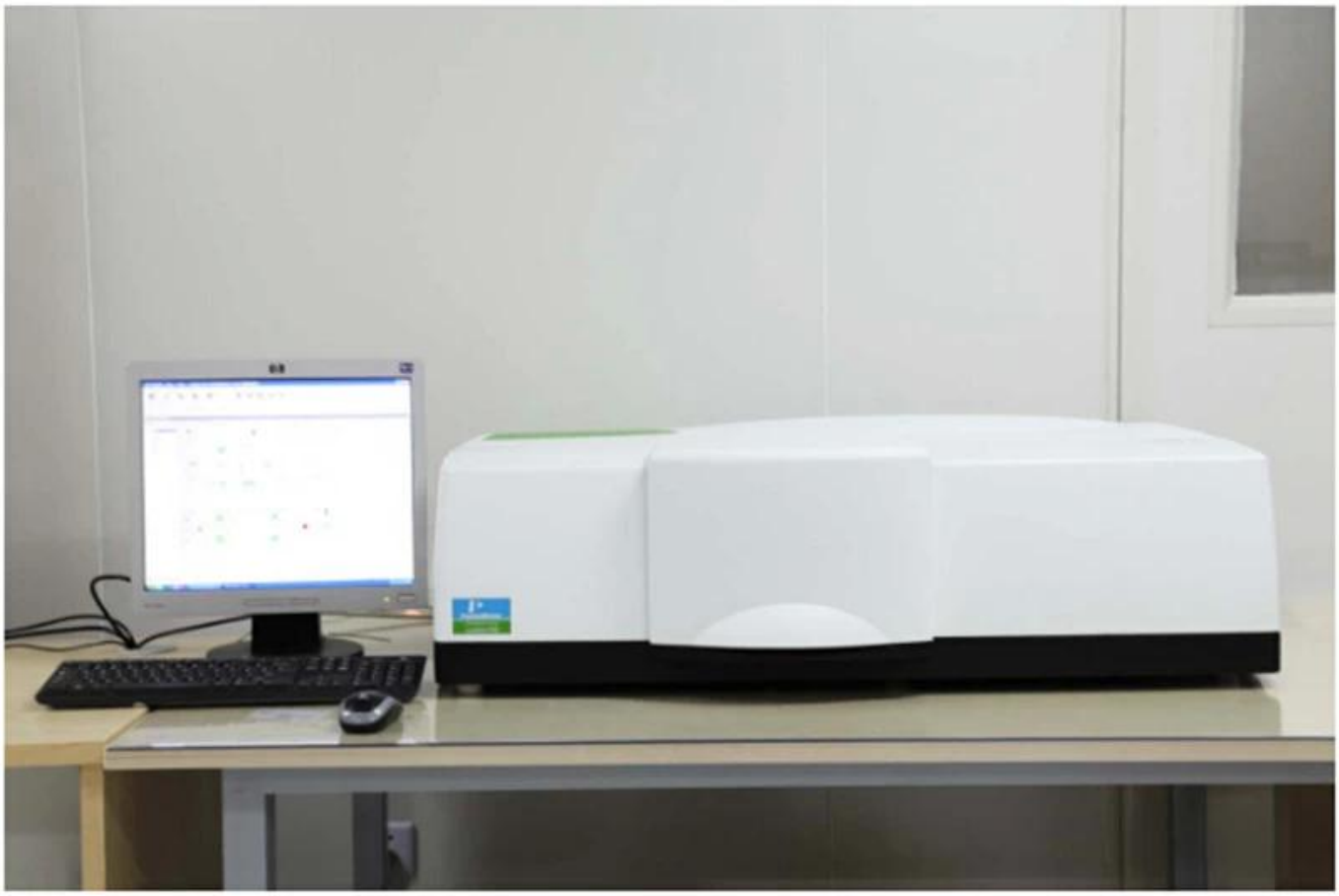

HANDY RIDE

Factory


CARMAN HAAS
企业愿景：致


verifire
zygo
LSXP型


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



PerkinElmer Lambda 950---Testing Transmission and Reflectivity

CERTIFICATE

ATTESTATION
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

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

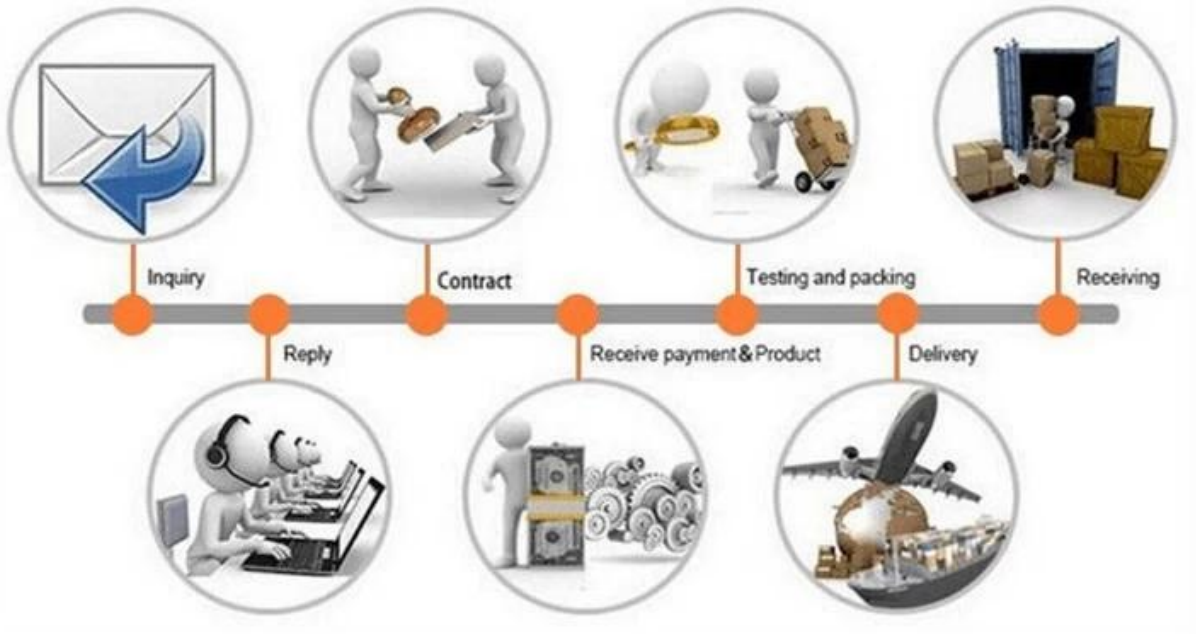
Beijing Zhongliantianrun Certification Center ISSUED BY

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)

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.