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Carmanhaas □□ □□ □□ □□ □□ □□ □□ □□ □□ □□ □□ □□ □□. QBH □□, Galvo □□, F-Theta □□ □□ □□ □□ □□ □□ □□.

□□ Galvo □□ □□ □□ PSH10, PSH14, PSH20 □ PSH30□□.

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**PSH10** □□ - >

**PSH14-H** □□ □□ -

**PSH20-H** □□ □□ - 300W□□ 3kW (CW) □□ □□ □□ □□; □ □□□□□ □□ □□ □ □□ □□; □□ □□□ □□, □ □□ □□ □□□ □□□ □□□□□. , □ : □□□ □□ (3D □□), □□□ □□ □>

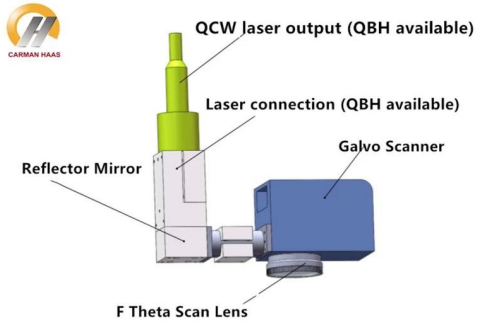
**PSH30-H** □□ □□ - e. g. □□□ □□.

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- 1. extriely □□ □□□□ (≤3urad / °C); 8 □□ □□ □□ □□□ □□□ ≤30 □□□
- 2. □□ □□□ □ □□□; □□□ ≤1 URAD; □□□ ≤ 2 Urad.
- 3. Super □□ :
  - PSH10 : 17m / S.
  - PSH14 : 15m / S.
  - PSH20 : 12M / S.
  - PSH30 : 9m / S.

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Model	PSH10	PSH14-H	PSH20-H	PSH30-H
<b>Input laser power (MAX.)</b>	CW: 1000W @ fiber laser Pulsed: 150W @ fiber laser	CW: 1000W @ fiber laser Pulsed: 500W @ fiber laser	CW: 3000W @ fiber laser Pulsed: 1500W @ fiber laser	CW: 1000W @ fiber laser Pulsed: 150W @ fiber laser
<b>Water cool/sealed scan head</b>	NO	yes	yes	yes
<b>Aperture (mm)</b>	10	14	20	30
<b>Effective Scan Angle</b>	±10°	±10°	±10°	±10°
<b>Tracking Error</b>	0.13 ms	0.19 ms	0.28ms	0.45ms
<b>Step Response Time(1% of full scale)</b>	≤ 0.27 ms	≤ 0.4 ms	≤ 0.6 ms	≤ 0.9 ms
<b>Typical Speed</b>				
<b>Positioning / jump</b>	< 157 m/s	< 15 m/s	< 12 m/s	< 9 m/s
<b>Line scanning/raster scanning</b>	< 12 m/s	< 10 m/s	< 7 m/s	< 4 m/s
<b>Typical vector scanning</b>	< 5 m/s	< 4 m/s	< 3 m/s	< 2 m/s
<b>Good Writing quality</b>	900 cps	700 cps	450 cps	260 cps
<b>High writing quality</b>	700 cps	550 cps	320 cps	180 cps
<b>Precision</b>				
<b>Linearity</b>	99.9%	99.9%	99.9%	99.9%
<b>Resolution</b>	≤ 1 urad	≤ 1 urad	≤ 1 urad	≤ 1 urad
<b>Repeatability</b>	≤ 2 urad	≤ 2 urad	≤ 2 urad	≤ 2 urad
<b>Temperature Drift</b>				
<b>Offset Drift</b>	≤ 3 urad/°C	≤ 3 urad/°C	≤ 3 urad/°C	≤ 3 urad/°C
<b>Over 8hours Long-Term Offset Drift ( After 15min warm-up )</b>	≤ 30 urad	≤ 30 urad	≤ 30 urad	≤ 30 urad
<b>Operating Temperature Range</b>	25°C±10°C	25°C±10°C	25°C±10°C	25°C±10°C
<b>Signal Interface</b>	Analog: ±10V Digital: XY2-100 protocol	Analog: ±10V Digital: XY2-100 protocol	Analog: ±10V Digital: XY2-100 protocol	Analog: ±10V Digital: XY2-100 protocol
<b>Input Power Requirement (DC)</b>	±15V@ 4A Max RMS	±15V@ 4A Max RMS	±15V@ 4A Max RMS	±15V@ 4A Max RMS

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- (1) □□ □□ □□ □□ □□□.
- (2) f-theta objective f = 163mm. □□ □□ □□ □□ □□ □□ □□□.
- (3) 1mm □□ □□ □□□□ □□.

□□□□ (mm) :



# PSH20 Scan Head

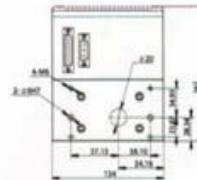
Focus on high end industrial laser applications

## Mechanical Drawings

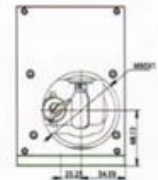


PSH20 scan head

- Legend:**
- 1.Mounting screw holes (M5×12)
  - 2.Installation flange
  - 3.Dowel pin-hole (φ4×2)
  - 4.Electrical connector
  - 5.Beam in hole
  - 6.Beam out hole



Beam In & Mounting Bracket

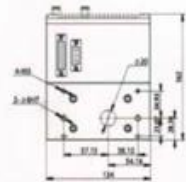


Beam Exit Side

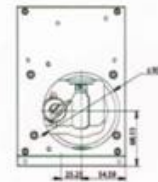


PSH20-H scan head

- Legend:**
- 1.Mounting screw holes (M5×12)
  - 2.Installation flange
  - 3.Dowel pin-hole (φ4×2)
  - 4.Electrical connector
  - 5.Beam in hole
  - 6.Beam out hole
  - 7.Cooling water in
  - 8.Cooling water out



Beam In & Mounting Bracket



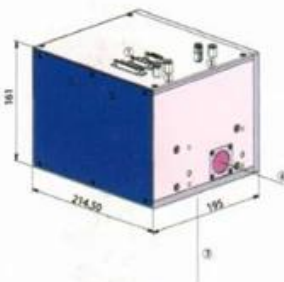
Beam Exit Side

# PSH30 Scan Head

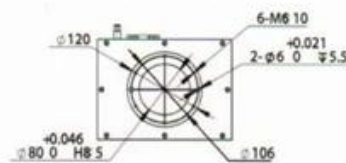
Focus on high end industrial laser applications



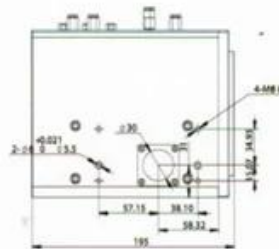
## Mechanical Drawings



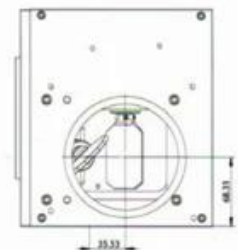
PSH30/PSH30-H scan head



Installation flange



Beam In Side



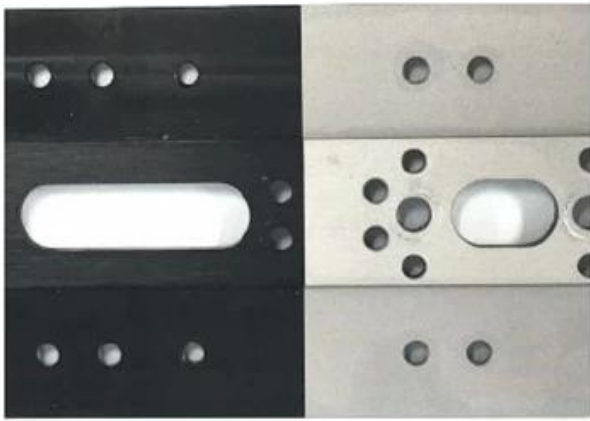
Beam Exit Side





**BEFORE**

**AFTER**



BEFORE

AFTER



BEFORE

AFTER



BEFORE

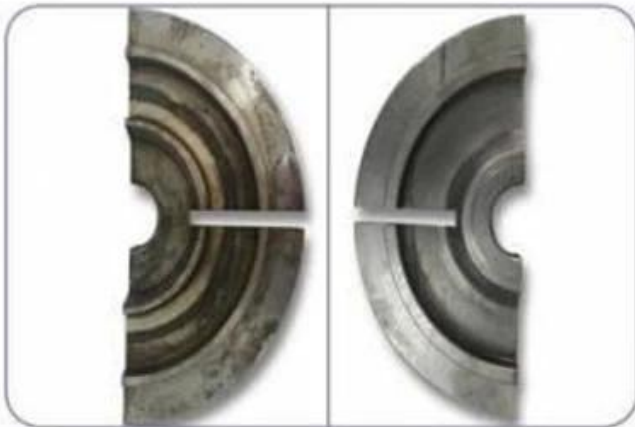


AFTER



BEFORE

AFTER













重要仪器,  
非专业人士勿动。

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 : **Camman 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**

*U. Singh*  
UDM International Certification  
Auditing Training Centre Industry  
and Trade Inc. Co.

The validity of the certificate can be checked through [www.udem.com.tr](http://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 10 years from the registration of certificate. This certificate only covers the product(s) stated above and UDEM must be notified in case of any changes on the product(s).  
Address: Mithakeet Mahabul 2073 Sokak (Eski 93 Sokak) No:10 Çankaya - Ankara - TÜRKİYE  
Phone: +90 0312 443 03 90 Fax: +90 0312 443 03 76  
E-mail: [info@udemtd.com.tr](mailto:info@udemtd.com.tr) [www.udem.com.tr](http://www.udem.com.tr)



## Certificate of Approval

Certificate No.: 10119Q12565R0M

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>)



Beijing ZhongLianTianRun Certification Center

Room2003, 22nd Floor, 2nd Unit, Block 1, No.4 Yard, Qiyang Road, Chaoyang District, Beijing, P.R. China 100022

Information of the center 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

ISO 9001





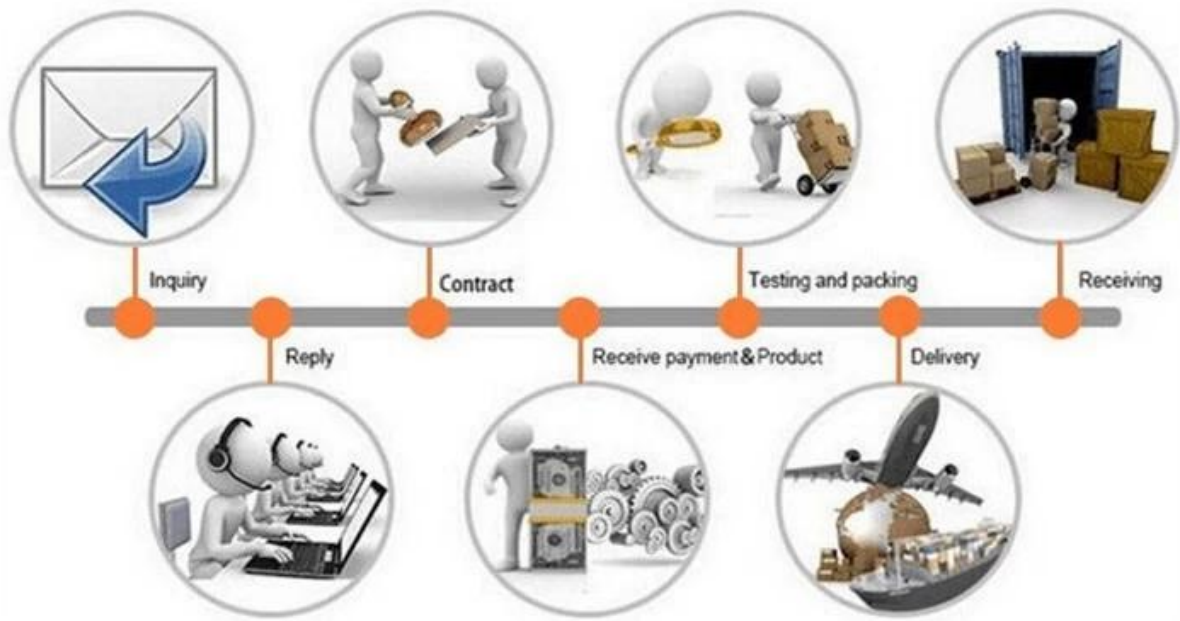




Model: PSH20  
S/N: PSHf200046

**Precision Scan Inc.**

D5-4 Red Manor International Bounded Innovation Park, No. 1 Baijialou,  
Chaoyangbei Rd, Chaoyang District, 100024 Beijing, China  
<https://www.precisionscan.ca>



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