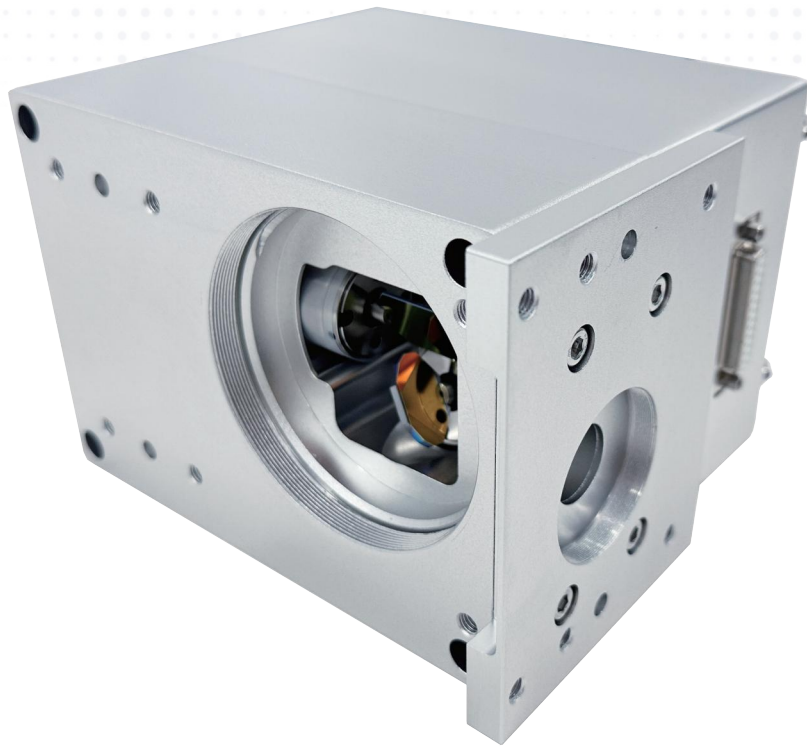


PSH14HW Scan Head

Focusing on high-end industrial laser applications



Typical Applications:

PSH14HW is specifically designed for high-power laser processing applications, making it an ideal choice for a wide range of uses, including high-power marking, laser cleaning, drilling, welding, scribing, materials processing, processing on-the-fly, etc.

PSH14HW is optimized to achieve highest dynamic performance in high-laser-power scenarios up to 1-kilowatt range. It is equipped with the water cooling system, and its highly encapsulated housing ensures exceptional air-tightness. With the unique design, this product demonstrates excellent beam reflection-resistant ability and prioritizes safety features.

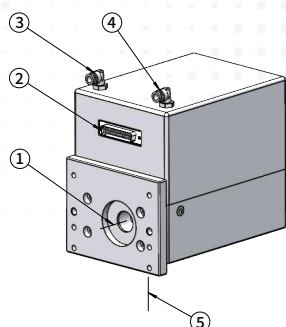
Specifications are subject to change without notice.
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Focusing on high-end industrial laser applications

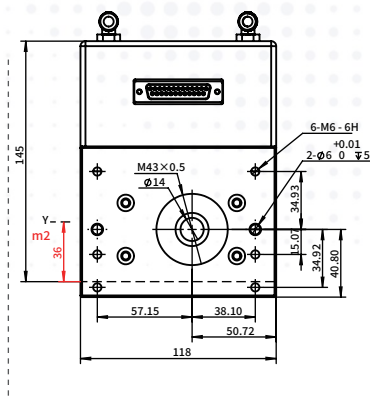
Mechanical Drawings (Dimensions in mm)



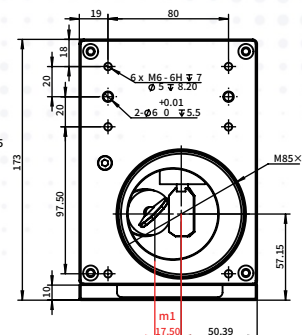
PSH14HW Scan Head

Legend:

1. Beam in
2. Electrical connectors (XY2-100 or PRS422 , Power in)
3. Water in
4. Water out
5. Beam out



Beam In & Mounting Bracket



Beam Exit Side

Specifications

Specifications	PSH14HW
Maximum allowed average laser power ⁽¹⁾	1000 W
Optional adaptable wavelengths ⁽⁸⁾	355nm;532nm;1030-1090nm
Cooling	Water
Aperture	14 mm
Typical scan angle ⁽²⁾	± 10°
Tracking error	≤ 0.15 ms
Step response time (1% of full scale)	≤ 0.36 ms
Speed Positioning / Jump ⁽³⁾ Line scan ⁽³⁾ Vector scan ⁽⁴⁾ Good writing quality ⁽³⁾⁽⁵⁾	< 25 m/s < 25 m/s < 3 m/s 700 cps
Precision Linearity Repeatability	99.9 % 2 μrad
Temperature drift (with laser power < 500W) Offset Gain	20 μrad/°C 20 μrad/°C
Temperature drift(after 30 mins warm up)⁽⁶⁾ Over 8 hours long-term offset drift Over 8 hours long-term gain drift	40 μrad 80 μrad
Operating Temperature Range	25 °C ± 10 °C
Signal interface	Analog: ± 10 V or ± 5 V Digital: XY2 - 100, PRS422 protocol
Input power requirement (DC)	± 15 V @ 5 A Max RMS

Note:

(1) For laser wavelength 1030-1090 nm.

(2) All angles are in mechanical degrees.

(3) With F-Theta objective $f = 160$ mm. Speed value varies correspondingly with different focal lengths.

(4) Repeatability and temperature drift are measured within this speed.

(5) Single-stroke font with 1 mm height.

(6) The long-term thermal drift test shall be carried out under a constant ambient temperature of approximately 25 °C, with the laser power kept below 500 W. High laser power shall not be adopted for thermal drift testing. Under high laser power, thermal distortion will occur in both the optical system and mechanical system. Consequently, it cannot be determined whether the measured drift originates from the inherent drift of the galvo scanner or from thermal deformation of the optical and mechanical systems.

(7) Appropriate delay parameters must be configured for normal operation of the galvo scanner. Failure to do so may result in abnormal operation of the galvo motor and even irreversible damage to the motor! Please contact PSI engineers regarding relevant parameter configuration issues.

(8) Wavelength customization available. Please consult PSI engineers!