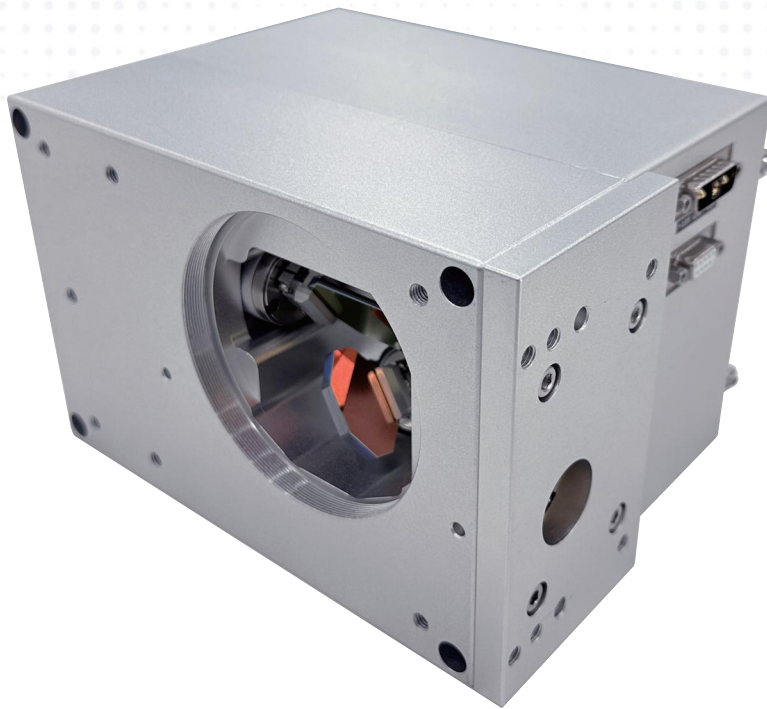


PSH20HW Scan Head

Focusing on high-end industrial laser applications



Typical Applications:

PSH20HW 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.

PSH20HW is optimized to achieve highest dynamic performance in high-laser-power scenarios up to 2-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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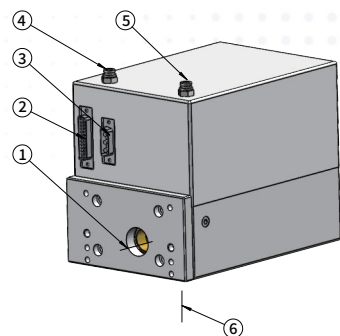
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PSH20HW Scan Head

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Mechanical Drawings

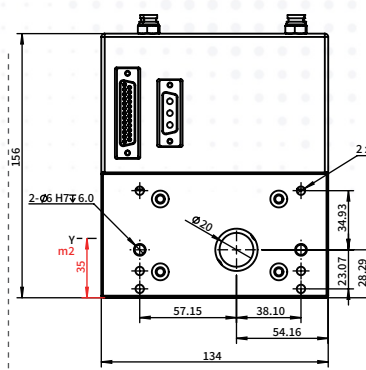


PSH20HW Scan Head

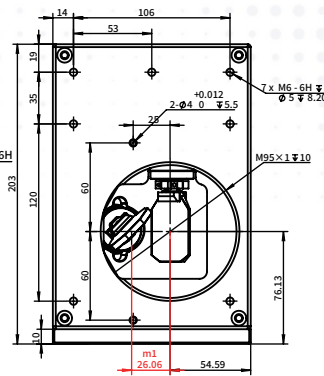
(Dimensions in mm)

Legend:

1. Mounting screws (M5×14)
2. Installation flange
3. Alignment pins (φ4)
4. Electrical connector (XY2-100)
5. Power in
6. Water in
7. Water out
8. Beam out
9. Beam in



Beam In & Mounting Bracket



Beam Exit Side

Specifications

Specifications	PSH20HW
Maximum allowed average laser power ⁽¹⁾	2000 W
Optional adaptable wavelengths ⁽⁸⁾	355nm;532nm;1030-1090nm
Cooling	Water
Aperture	20 mm
Typical scan angle ⁽²⁾	± 10 °
Tracking error	≤ 0.28 ms
Step response time (1% of full scale)	≤ 0.65 ms
Speed	
Positioning / Jump ⁽³⁾	< 15 m/s
Line scan ⁽³⁾	< 15 m/s
Vector scan ⁽⁴⁾	< 2 m/s
Good writing quality ⁽³⁾⁽⁵⁾	400 cps
Precision	
Linearity	99.9 %
Repeatability	2 μrad
Temperture drift (with laser power<500W)	
Offset	20 μrad/°C
Gain	20 μrad/°C
Long-term drift (after 30 mins warm up)⁽⁶⁾	
Over 8 hours long-term offset drift	40 μrad
Over 8 hours long-term gain drift	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!