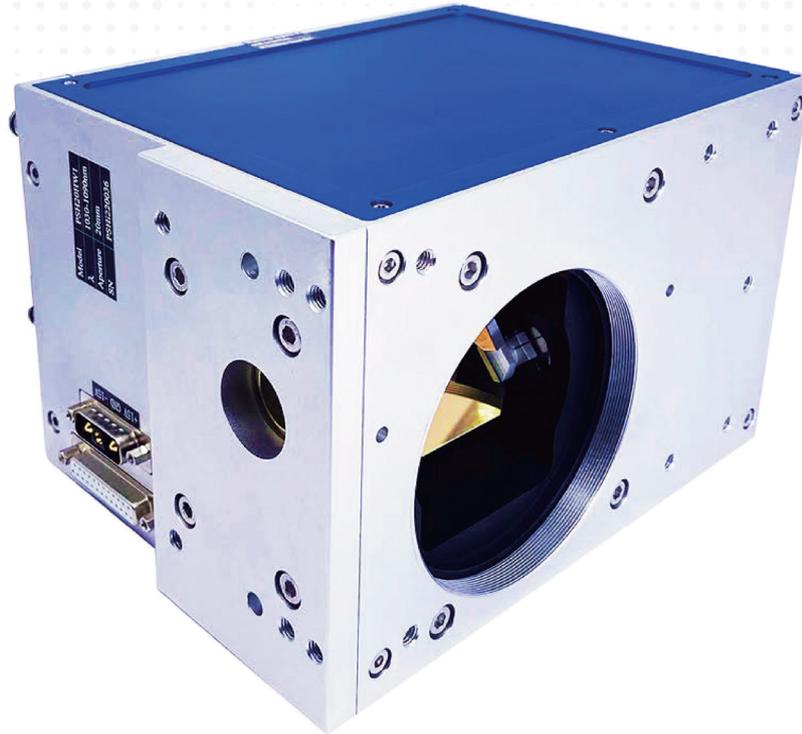


PSH20HW Scan Head

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.

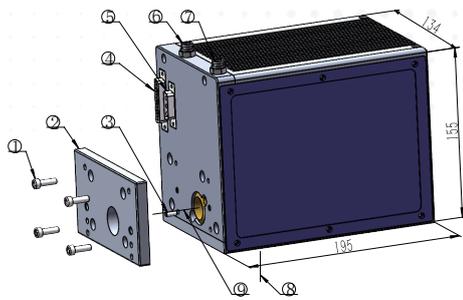
PSH20HW is optimized to achieve highest dynamic performance in high-laser-power scenarios up to 2-kilowatt range. It is equipped with the water cooling system, and its highly encapsulated housing ensures exceptional air-tightness. With the unique design, this product demonstrates excellent beam reflection-resistant ability and prioritizes safety features.

PSH20HW Scan Head



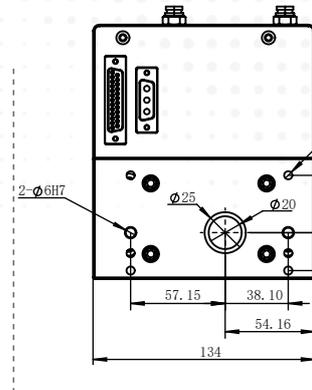
Focusing on high-end industrial laser applications

Mechanical Drawings (Dimensions in mm)

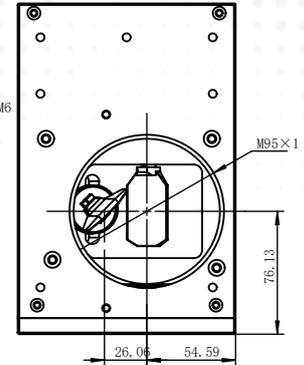


PSH20HW Scan Head

- 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 |
| Cooling | Water |
| Aperture | 20 mm |
| Typical scan angle ⁽²⁾ | ± 10 ° |
| Tracking error | ≤ 0.28 ms |
| Step response time (1% of full scale) | ≤ 0.6 ms |
| Speed | |
| Positioning / Jump ⁽³⁾ | < 11 m/s |
| Line scan ⁽³⁾ | < 11 m/s |
| Vector scan ⁽⁴⁾ | < 2 m/s |
| Good writing quality ⁽³⁾⁽⁵⁾ | 450 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 | 60 μrad |
| Operating Temperature Range | 25 °C ± 10 °C |
| Signal interface | Analog: ± 10 V or ± 5 V Digital: XY ₂ - 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 = 163 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) Long-term temperature drift is given under an ambient temperature environment of 25°C. and a working load under 500W. Temperature drift testing with high laser power is strictly prohibited. High laser power could induce thermal deformations in both the optical and mechanical systems, making it impossible to differentiate whether the drift is originating from galvanometer scanner itself or due to deformations in the optical and mechanical systems.