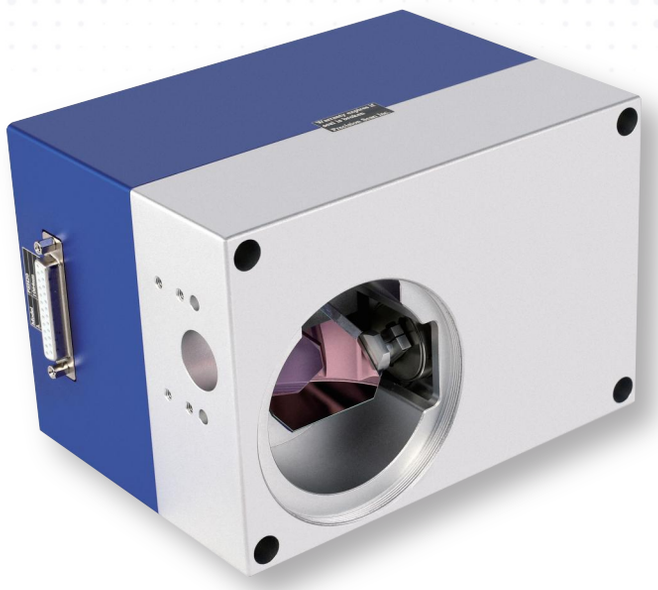
PSH20 Scan Head

Focusing on high end industrial laser applications

PSIGALVO



Typical Applications:

The PSH20 scan head is a versatile product suitable for a wide range of laser processing applications. It excels in scenarios that require higher performance index, such as marking, laser cleaning, drilling, welding, scribing, micro-structuring, materials processing, processing on-the-fly, etc.

The PSH20 offers excellent price/performance ratio. Moreover, it is characterized with low temperature drift value, high precision and high dynamic performance.

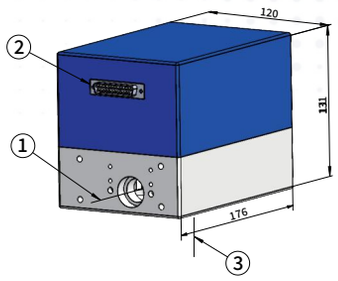
Specifications are subject to change without notice.
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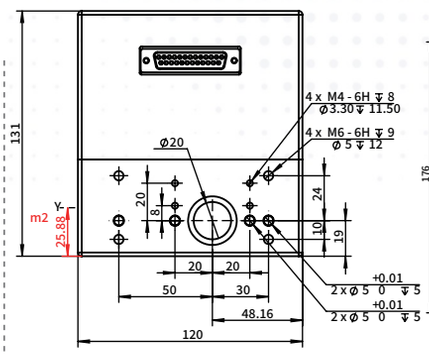
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Mechanical Drawings (Dimensions in mm)

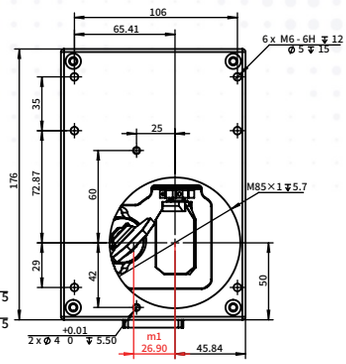


Legend:
1. Beam in
2. Electronical connector (XY2-100, Power in)
3. Beam out

PSH20 Scan Head



Beam In & Mounting Bracket



Beam Exit Side

Specifications

Specifications	PSH20
Maximum allowed average laser power(1)	1000 W
Optional adaptable wavelengths(8)	532nm;1030-1090nm
Aperture	20 mm
Effective 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(4)	< 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 @ 5A Max RMS

Note:
(1) For laser wavelength 1030-1090nm.
(2) All angles are in mechanical degrees.
(3) With F-Theta objective f = 160mm. Speed value varies correspondingly with different focal lengths.
(4) Reapeatibility 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!