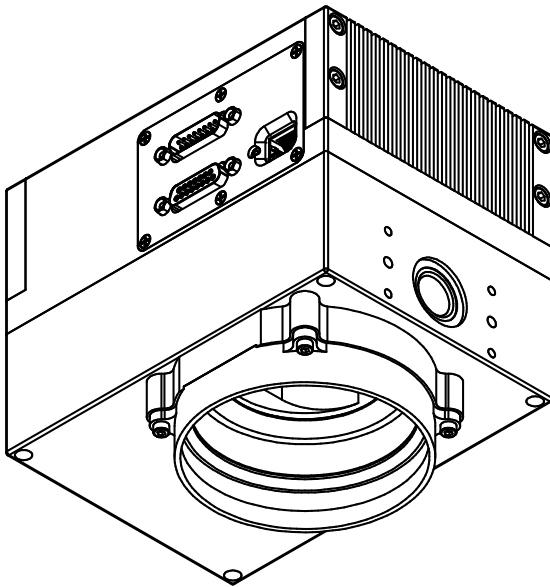


# SH10<sup>std</sup> 10 mm Scanhead

*Highest Speed, Low Drift Digital State Space based Scanhead*



### Digital Control

- Digital State Space Control
- Direct Mirror Control
- No Tracking Error
- Auto Tuning

### Digital Input

- XY2-100
- or
- Marking Engine on board

### Options

- Structured mirrors for highest speeds
- Drift reduced version available
- Water cooling available for demanding applications

Our model based Digital State Space controller enables unseen marking speeds due to its unique design. Especially demanding wobble or drill applications benefit from the huge bandwidth coming along with our model based approach. In addition our on board Ethernet interface allows the communication to an optional built in marking engine as well as the glueless exchange of status and real time information

Power Supply	
Voltage Rating	±15V .. ±24V
Required Current <sup>1</sup>	4-8A RMS, 10-20A pk
Ripple	<200mV
Noise	≤0.5% DC to 30 MHz

General Spec	
Ambient Temperature	+15°C .. +35°C
Weight	~4Kg

Beam Steering		Dynamic Specs	
Aperture:	10 mm	Wobblefreq <sup>4</sup> .@ 0.01°	7000 Hz
Typical Scan Angle:	±21° opt.	Wobblefreq <sup>4</sup> .@ 0.1°	3600 Hz
Resolution:	18 bit, 1.5µrad	Wobblefreq <sup>4</sup> .@ 1°	1400 Hz
Dither <sup>2</sup> :	< 4.5 µrad	Writing Speed <sup>5</sup>	1200 cps
Offset Drift <sup>3</sup> :	< 15 µrad/°C	Tracking Error	0 µs
Gain Drift <sup>3</sup> :	< 50 ppm/°C		

**All angles are in mechanical degrees if not stated differently.**

- (1) Application dependent
- (2) Standard deviation of the motor position in case of a constant command within typical scan angle.
- (3) Per axis in standard configuration. Can be three times improved in drift reduced version
- (4) Possible wobble frequency at the given amplitude (°optical)
- (5) 1mm single stroke character with F-Theta objective, f = 160 mm

