

Galvanometers & Scanners

Aperture range from 3mm up to 50mm

Acal BFi has been supplying galvanometers to the European market since more than 30 years and can now offer full scan head assemblies including 3-axis scan heads to its customers. Acal BFi offers a full range of high performance scanners. The range of products allows to select the optimum scanner for each application. The systems design provides high precision, speed and repeatability while exhibiting an exceptional life time. The combination of 2 scanners in an appropriate configuration provides XY scanning capability. We also offer the necessary reflecting mirrors, mechanical holders, drivers, and software to fit your needs.

Main Scanners & Scanheads applications:

Materials Processing	
- High speed laser marking	- Laser Engraving
- Laser cutting / Welding	- Welding
- Laser rapid prototyping	- Micromachining
Laser projection	
- Image projection	- Laser entertainment
- Information displays.	- CAD/CAM projection
- Laser cartoon	
Imaging & Printing	
- Image scanning	- 3D Imaging
- Digital radiography	- High resolution printing
Semiconductor	
- Metrology Mask	- Wafer inspection
- Laser resistor trimming	- Drilling
Biomedical Systems	
- Scanning microbiology	- Fluorescence imaging
- DNA analysis	- Ophtalmology
- Electrophoresis	



Specifications of XY Scanners

Model	Aperture (mm)	Scan Angle	Response time
TSH8203	3-5-7	±12°	0.2 msec
TSH8310	9-10	±20°	0.4 msec
TS8618	10-12	±20°	0.7msec
TSH8615	12-14	±12°	0.6 msec
TS8720	16-20	±20°	0.7msec
TSH8050	25-30-32	±12°	<1msec

2D & 3D Laser Scanhead Systems



With aperture range from 3 to 50mm, 1 or 2 axis, scanners alone or complete marking scanhead, SUNNY has a perfect range of high speed scanners to meet your application

SUNNY has also developed 3D scan heads (up to 1000x1000mm² marking field) with dynamic focus unit with associated controller, and software for applications requiring small spot size and large working field.

These scanhead systems are available for YAG, CO₂, Visible, and Fiber lasers with respective deflection mirrors. Other wavelength on request.

Specification 2D Scanheads

2D Scanhead Model	Aperture	Effective Scan Angle	Repeatability
TSH8203	7mm	±12°	<10µrad
TSH8310A/D	9-10mm	±20°	<8µrad
TS8618A/D	10-12mm	±20°	<10µrad
TSH8615A/D	12-14mm	±12°	<8µrad
TS8720A/D	16-20mm	±20°	<8µrad
TSH8050D	25-30-50mm	±12°	<8µrad

Specification 3 Axis Laser Scanning Systems

3Dscanhead-300-15D 3-axis laser scanning system is designed to meet with the requirement of laser scanning with extreme small beam size and large scanning field as well as high scanning flexibility.

3D Scanhead	Aperture		Effective Scan Angle			Repeatability	
3D-300-15D	15mm		±12°			<8µrad	
Field Size (mm ²)	300x300	400x400	500x500	600x600x	750x750	1000x1000	1280x1280
Working Distance (mm)	360	480	600	720	900	1200	1350
Average Focusing Spot (µm)	190	260	320	380	500	690	800
Response Time	<4ms	<4ms	<4ms	<4ms	<4ms	<4ms	<4ms

Main 3D Laser Scan Head applications:

- 3D Application
- Laser rapid prototyping
- Laser welding/Laser cutting
- Laser drilling / Micro-machining



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Software & Controller

SNMark laser marking software integrates powerful function of both graphic editing and various laser marking.

With this software, users is able to edit a complex object without other drawing tools such as CorelDraw or AutoCAD.

Combined with CSC-USB control card and specified galvanometer scanner, it can meet with various requirements of laser marking with high accuracy and high speed.

Laser Scanning Controller

In order to make the scanner perform in is best status, CSC-USB, a real time control for laser scanning has been designed according to the dynamic characteristics of the scanner.

CSC-USB control card is based on large scale field programmable logic arrays (ITGA) which enables real-time control to scanners, lasers, 110 devices, encoders, stepping motors, etc.

When the data amount of the scanning graphic is less than 32M, it can work without a PC. CSC-USB control card works at USB2.0 high speed mode. Both the power supply and data transmission are input via a single USB cable. An outer power in connector is provided when it needs to work without PC.

Combined with SNMark marking software designed by Century Sunny, the CSC- USB control card almost meets all the laser marking application requirements in industry,

To ensure the optimum scanning performance, Century Sunny has designed special F-Theta Repeatability lens for each scan head to provide optimum optical configuration.



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