



FAST MINI SCANNER FOR LASER MATERIAL PROCESSING

Technology

The Fraunhofer ILT has developed an innovative compact 2D-scanning technology that combines a small construction volume with large aperture.

The mini scanner offers comparable precision and dynamics to commercial galvo scanners realizing a clearly more compact construction design. The mini scanner is therefore predestined for use in hand-guided laser marking and engraving systems. Due to its small size, multiple mini scanners can be grouped into one compact scan head for multi-beam processing. Through independent control of multiple laser beams, the productivity in applications such as additive manufacturing, laser drilling and laser micro structuring can be increased significantly without any loss in flexibility.

The optics of the mini scanner can be furnished with all available high-power coatings, making it, therefore, particularly appropriate for pico- and femtosecond laser radiation with high peak pulse power.

Depending on customer demands, the Fraunhofer ILT can implement tailor-made designs without the scanner itself having to pass through complex process lines during manufacture. By directly transforming the digital design into a product, we can manufacture individual scanner systems both in small lot sizes and economically.

Applications

- Laser marking and engraving
- Ultrashort pulsed laser processing
- Additive manufacturing
- Multi-beam processing
- Medical technology

Specifications

| | |
|----------------------|------------------------------|
| Dimensions L x W x H | 57 x 40 x 43 mm ³ |
| Weight | 110 g |
| Scanning speed | ≤ 8 m/s |
| Scan angle (optical) | ± 20° |
| Aperture | 7 mm |
| Radiant exposure | ≤ 10 J/cm ² |
| Wavelengths | customized |
| Interface | XY2-100 |

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1 2D mini scanner.

2 Customized laser manufacture of scanner substrates.