MultiBeamScanner MBS-G4

Massive process acceleration through parallel machining

- drills up to **14.000 holes** per second
- **reduction of** laser processing costs
- up to **100 times faster** than using single beam
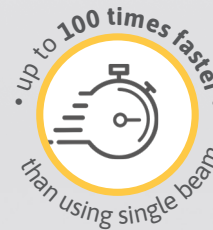
Beam entrance
& automated beam adjustment unit
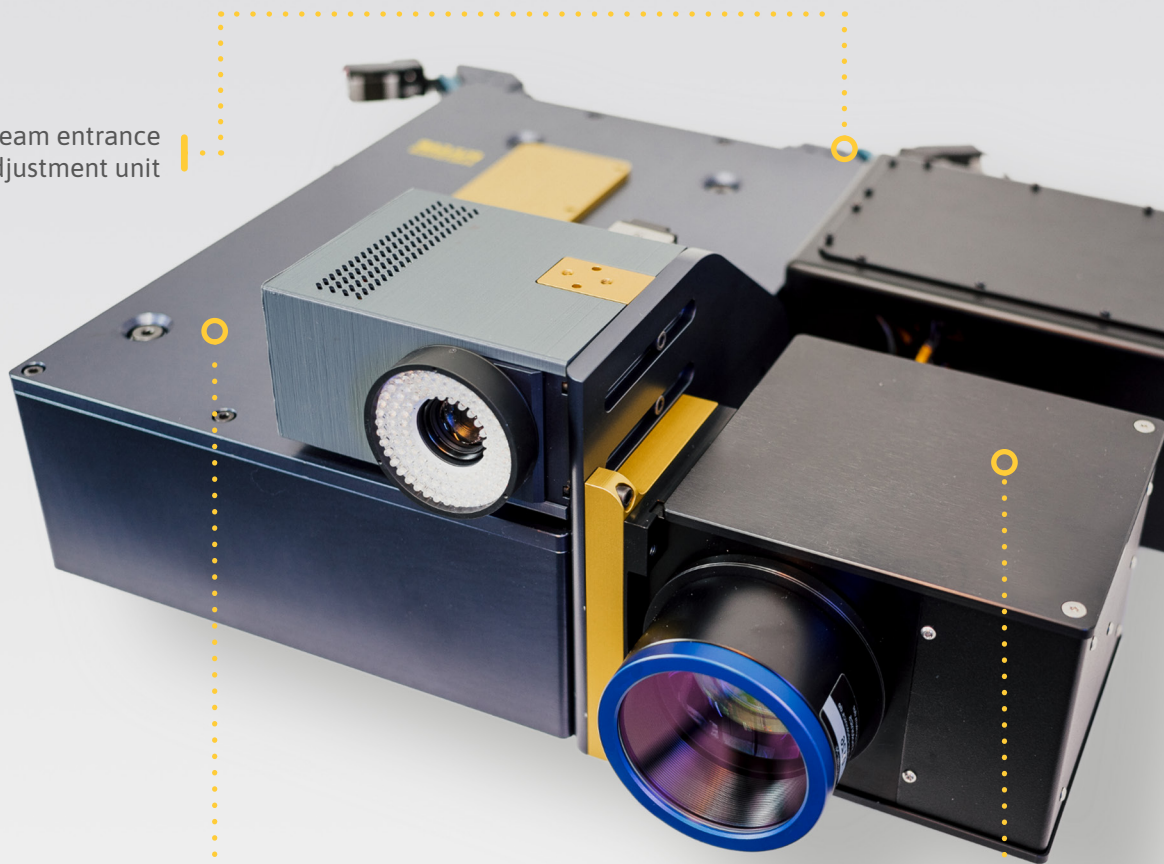
MBM-G4 MultiBeamModule

Galvanometerscanner:
SCANLAB intelliSCAN
or SCANLAB excelliSCAN

Parallel processing system using beam splitting

The unique combination of a precise galvano-metric scanning system and beam splitting in one system allows to multiply laser cutting, drilling or ablation processes without loosing the freedom of geometry of the scanner. Using diffractive optical elements (DOEs) the incoming laser beam is split up into multiple beams, generating multiple laser spots in the work plane of the scanning system.

This way multpile structures can be processed in parallel or, for example, complex cut patterns can be realized while multiplying the production output. The MultiBeamScanner is the solution to significantly reduce production costs in laser micromachining of periodic structures by up to two orders of magnitude.

Technical drawing and technical data
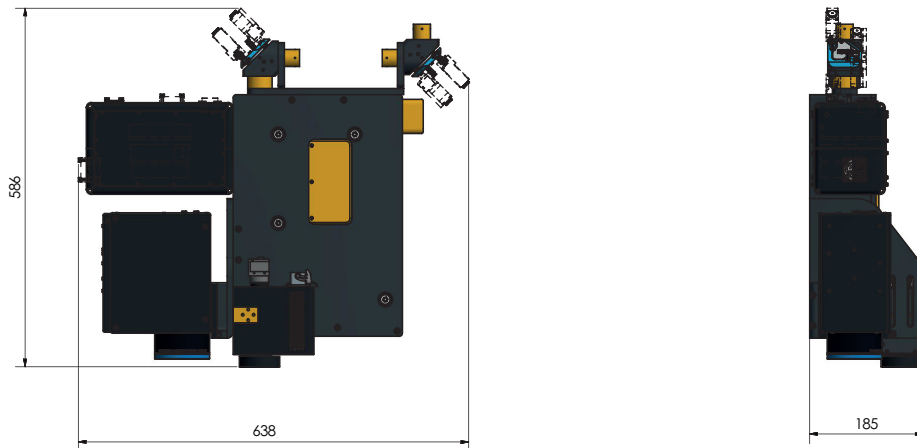
- **Max. Dimensions:** (L x W x H): 638mm x 586mm x 185mm
- **Adresssable area with DOE:** Max. 5mm x 5mm @ f=100mm

Wavelengths
- IR (1030nm-1070nm)
- VIS (515nm-532nm)
- UV (343nm-355nm)

Suitable pulse durations
- Nanosecond / Picosecond / Femtosecond
- Max. Power: 150 W
- Max. Pulse energy: 1 mJ @ 1ps

Functions
- Masking of higher orders
- Integrated beam position stabilisation to ensure alignment
- Rotation of beam distribution
- Fine adjustment of spot pitch
- Switching between single-beam and multi-beam processing

Spot position error
- <3 µm @ f=100mm

Spot distributions
- e.g. 2×2, 4×4, ..., 8x8, user defined distributions

Galvanometer-Scanner
- Type: SCANLAB intelli*SCAN* III 14 or excelli*SCAN* 14

Control software - Photonic Tools
- Software for adjustment, calibration and control of the system
- Camera-assisted adjustment and calibration

Optional components
- Ext. camera system for intensity measurement

manufactured by

PULSAR PHOTONICS
a schunk company

distributed by

SCANLAB
innovators for industry

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SCANLAB and Pulsar Photonics collaborate in a sales and development partnership.