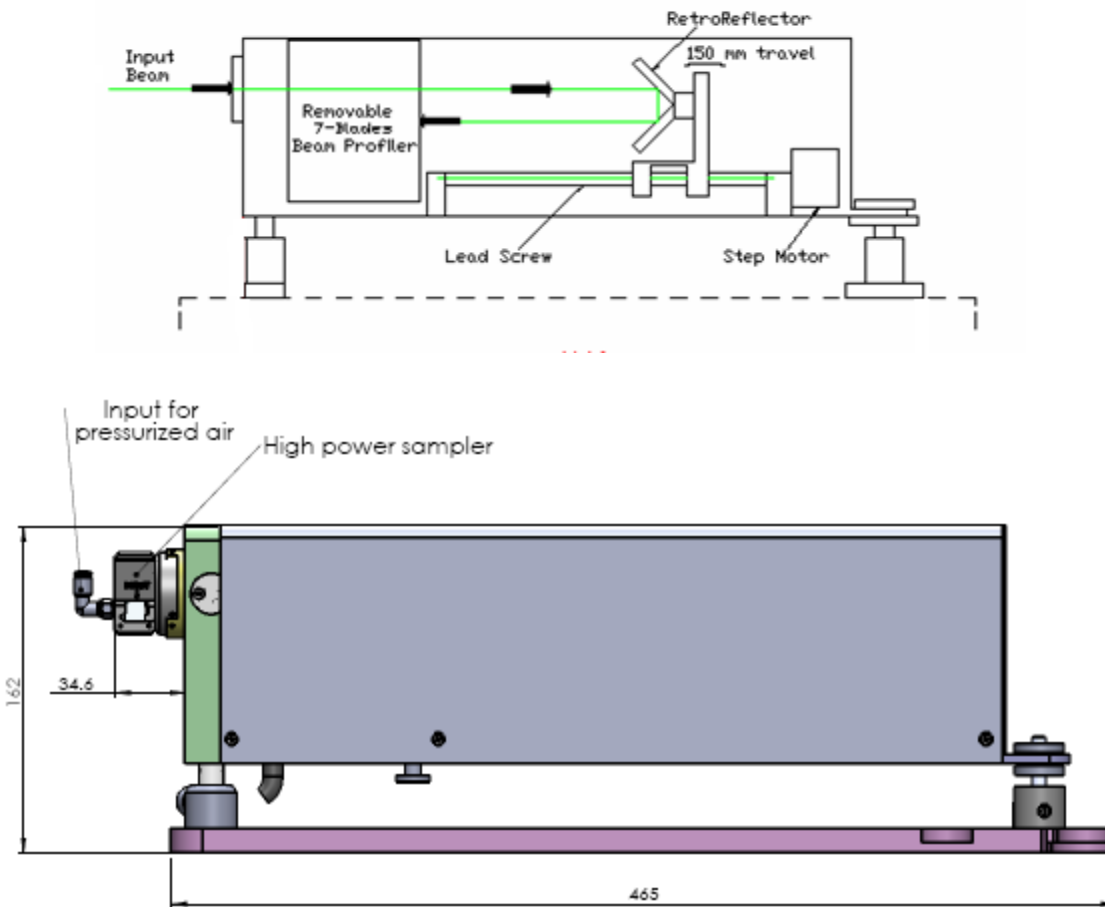




Multi-axis knife edge scanning laser beam profiler (BeamAnalyzer USB)

extended to measurements of M^2

Model M^2 BeamTM



Mechanical configuration (optional SAM3-HP high power beam sampler)



1.0 M² Optical Assembly Specifications

Measurements

Beam Propagation (M²)

Beam Waist Location

Beam Waist Diameter

Divergence

Rayleigh Range

Waist Asymmetry

Astigmatism

Input Beam

Spectral Range	400 nm to 1100 nm for Si version 800 nm to 1800 nm for InGaAs version 190 nm to 1100 nm for UV-Enhanced version
Beam Power Range	100 μ W – 1W (with supplied internal filters for the Si version) 100 μ W – 5 mW for InGaAs & UV versions With SAM3-HP up to 4kW
Number of Knife-edges	7
Beam size	15mm diameter with lens (Si&UV versions) 7mm without lens (Si&UV versions) 3mm dia./5mm dia. without lens (InGaAs ver)
Maximum Divergence	10 mrad (no lens)



Beam Waist to Lens Distance	2.0 to 2.5 meters optimum 2.0 meters minimum
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Scanning Assembly Attachment

Construction	Aluminum
Lens Focal Length	300mm (at 632.6 nm)
Lens Diameter	25 mm
Number of Scan Steps	140
Minimum Step Size	100 μ m
Scan length	280mm

Physical

Weight	2.5 Kg (without the BeamAnalyzer sensor head)
Dimensions	100 X 173 X 415 mm
Mounting	M6 or 1/4" screws
Mechanical adjustment	Horizontal angle: $\pm 1.5^\circ$ Vertical angle: $\pm 1.5^\circ$
Cable	2.5m long



Accuracy

Waist Position as measured at the Transformed Waist:

V Axis: $\pm 50 \mu\text{m}$

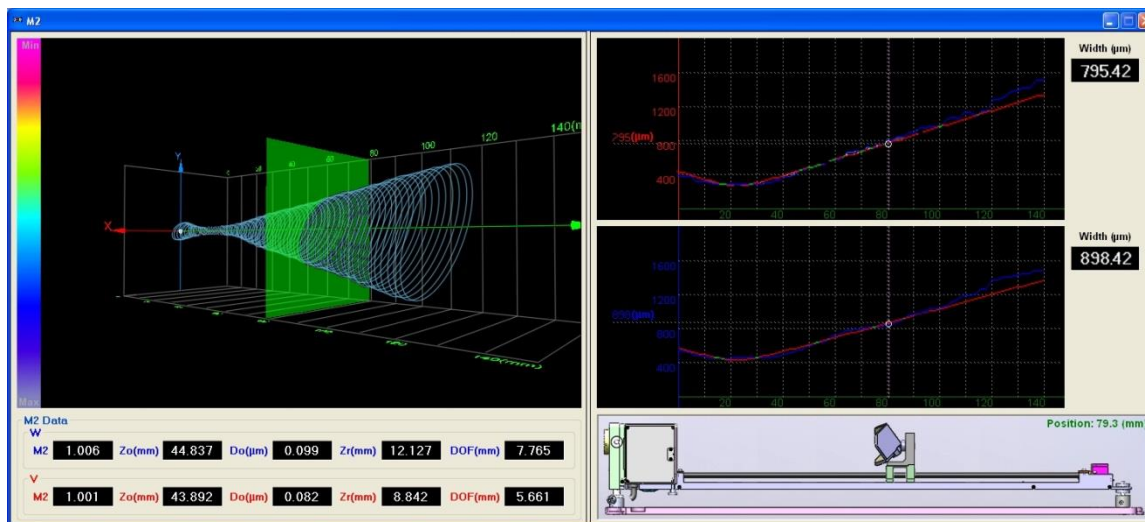
W Axis: $\pm 50 \mu\text{m}$

Z Axis: $\pm 50 \mu\text{m}$

M² Value: $\pm 10 \%$

2.0 Software presentations

M² calculation and display screen



Additionally, for a certain Z axis location, all Beam Analyzer functions can be operated and displayed:

- Beam Profile (V, W)
- Position
- Power
- Projection (2D / 3D)
- Chart
- Plot
- Log and statistics.



3.0 Ordering information

M2Beam-Si – attachment for silicon range (350 – 1100nm)

M2Beam-UV – attachment for silicon range (190 – 1100nm)

M2Beam-IR – attachment for silicon range (800 – 1800nm)

SAM3-HP-M – beam sampler for high power beams.