Midel Photonics

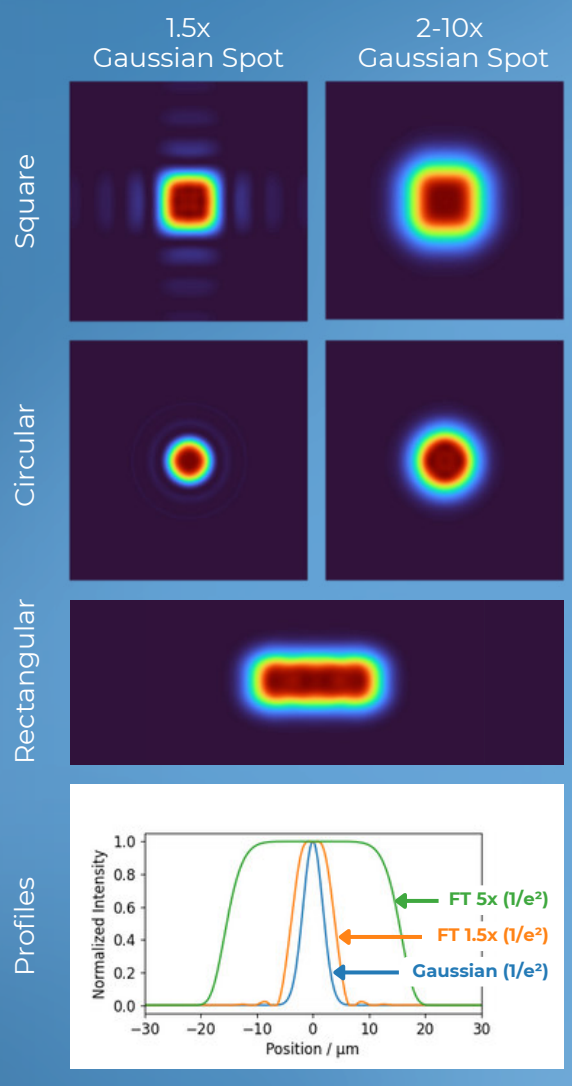
ALL-REFLECTIVE
Flat-Top Shapers
based on micro-structured mirrors

Our Flat-Top beam shapers are specifically designed to create homogeneous power distributions in various sizes and shapes, whether rectangular, square, or circular. These beam shapes are ideal for microprocessing applications or any process requiring a uniform intensity profile, such as material ablation, precision cutting, drilling, or surface modification.

Flat-Top Solutions

Uncompromising Quality
Our beam shapers are tailored to your desired geometry, size, and system requirements as a standard.

- **Plateau Sizes**: 1.5x to 10x Gaussian spot width
- **Highest Efficiency**: >90% to >95%
- **All Geometries**: Square, rectangular, circular, or any custom shape



Midel Benefits

Core
System-Adapted DOE with Individual Support: The winning strategy for beam shaping in industrial context

Valuable
Superior Productivity by unmatched efficiency in shaping laser light
Fast Delivery within 3 weeks

Baseline
All Lasers, all Power Levels: Deep-UV to Near-IR, femto to continuous, low power to 50kW+

Contact us for your optimal Flat-Top solution. Fully customized and in your hands faster than ever!

Start NextGen Laser Processing!
Say Hi to our Team.

Call us +49 (0)228/28-679710
Write us info@midel-photonics.de
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Specifications

Flat-Top Geometry

Flat-Top Size	1.5x - 10x of Gaussian Spot Diameter (1/e²)
Efficiency	> 90% (1.5x Gaussian spot) | >95% (2-10x Gaussian spot)
Homogeneity	<5% Plateau Uniformity (ISO 13694:2018)
Strongest Side Modes	<1.5%
Depth of Focus	~ 60% of Gaussian spot

Input Beam Requirements

Input Beam	M^2< 1.5; higher on request
Input Beam Diameter	Customized for Beam Diameter ±5%; Max Diameter 16mm (AOI=45°)
Wavelengths	1064/1030 nm; 532/515 nm; 450nm; 355/343 nm; 266 nm; others on request
Clear Aperture	Clear aperture ≥2x beam diameter (1/e²)

Integration

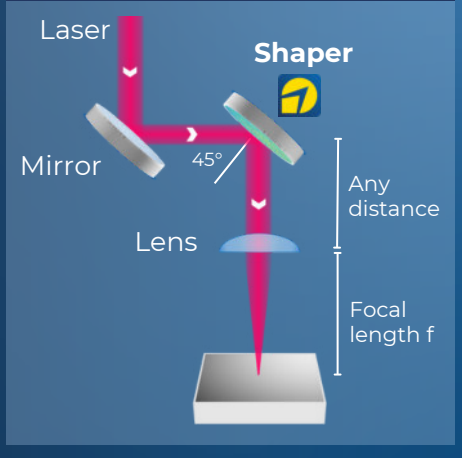
Alignment	Lateral alignment required; rotation not possible. For rotated structures, contact us.
Setup	Recommended: Integrate into collimated beam with a focusing lens (see below). For setups without a lens, contact us for analysis.

Further Specs

Material	Micro-structured dielectric HR coating on fused silica substrate
Reflectivity	>99.9% @ 1064/1032 nm; 532/515 nm; 355/343 nm; >99.8% @266 nm
Dimensions	Ø25mm/1" and Ø50mm/2". Other dimensions on request.

Configurations

Parallel / Z-Folded



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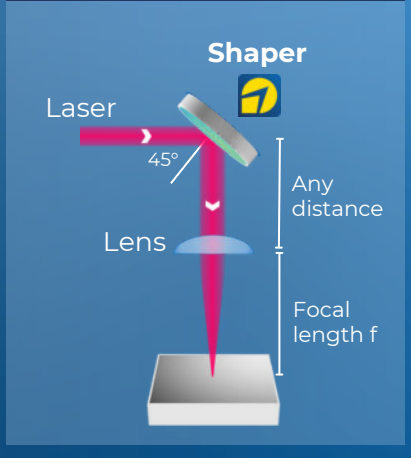
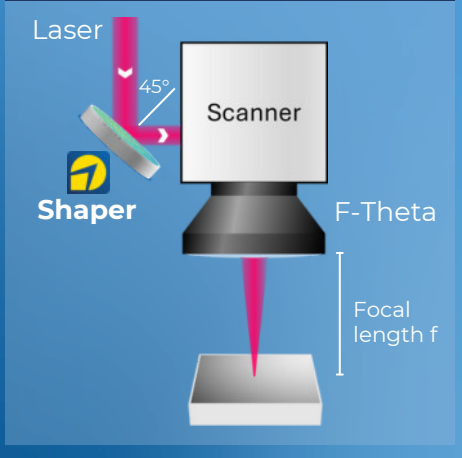


Scanner



Other configurations and angles-of-incidence (AOI) available

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