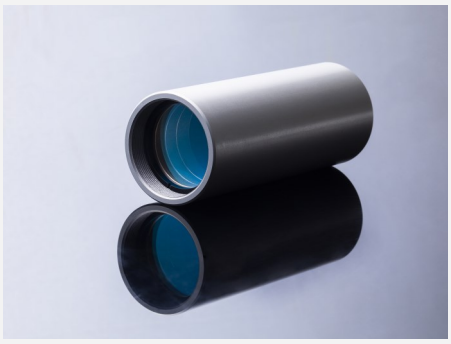
Compact Beam Shaper

IOS000306 - TopHat of 41.0 x 1.6 mm²



Features and Advantages

This compact beam shaper is designed for a fiber coupled diode laser to generate a homogeneous field of 41.0 x 1.6 mm² in a working distance of approximately 200 mm.

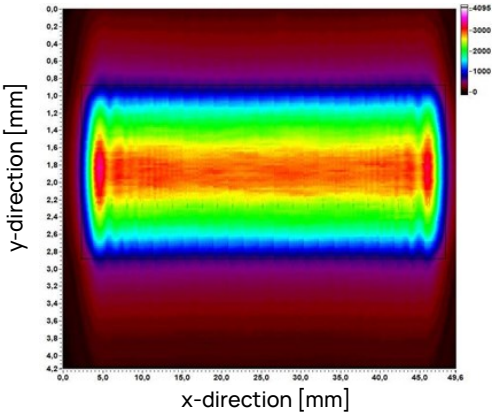
Product Specifications

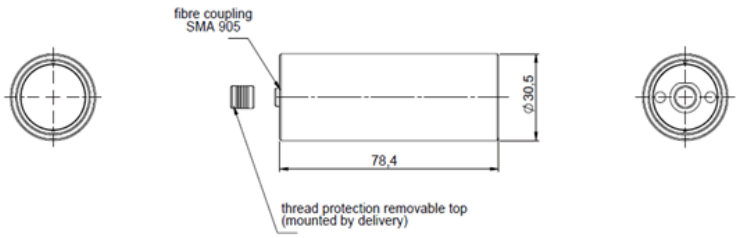
Specification Data of the Laser Source (input)	Unit	Value
Wavelength	nm	790-990
Power	W	≤ 120
Fiber core diameter	µm	400
NA		0.22
Fiber connector		SMA905

Specification Data of the Beam Shaper Module[1]	Unit	Value
Transmission	%	› 95
Efficiency ($I_{field,hom}$ / $I_{field,total}$) [2]	%	› 60
Generated field size	mm²	41 ± 2 (top hat region) 1.6 ± 0.2 (gaussian like, FWHM)
Inhomogeneity (Imax-Imin)/(Imax+Imin) [3]	%	≤ 7 .5 (integrated over the other axis)
Working distance WD [4]	mm	200± 15
Housing material		anodized aluminium
Dimensions of the housing	mm	see drawing

(1) Example for customization — customized field sizes and coatings on request
(2) $I_{field,hom}$ / $I_{field,total}$ denotes the ratio of the integrated power in the homogeneous line versus the total power at the field plane
(3) Imax and Imin denote the maximum and minimum intensity in the uniform field, respectively.
(4) Between last mechanical surface and focus

Typical Measured Field and Product Drawing (mm)





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LIMO GmbH **Address:** Bookenburgweg 4-8, 44319 Dortmund, Germany
Focuslight (DG) Microoptics Co. Ltd. **Address:** No. 49, Jingyi Road, Dongcheng Street, Dongguan City, Guangdong Province, China
Tel: +49 231 22 24 1 - 0 (DE) +86 29 8956 0050 (CN) I **Email:** sales@focuslight.com I **Website:** https://www.focuslight.com