

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 ($I_{\text{field,hom}} / I_{\text{field,total}}$) ⁽²⁾	%	> 60
Generated field size	mm ²	41 ± 2 (top hat region) 1.6 ± 0.2 (gaussian like, FWHM)
Inhomogeneity $(I_{\text{max}} - I_{\text{min}}) / (I_{\text{max}} + I_{\text{min}})$ ⁽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

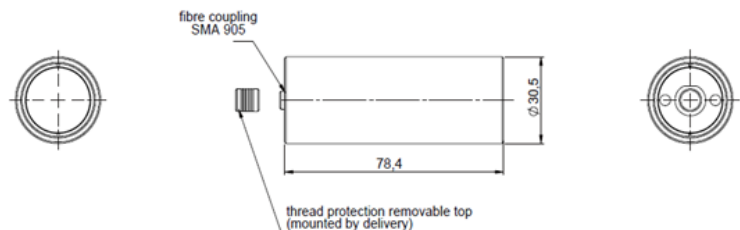
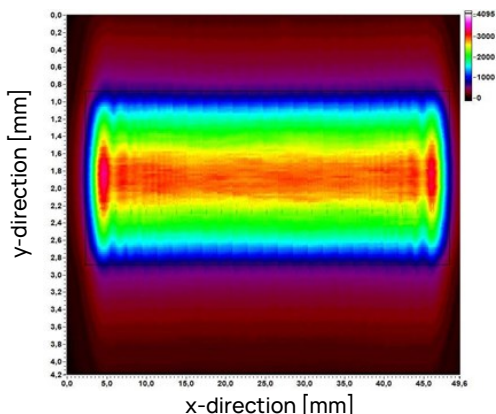
(1) Example for customization – customized field sizes and coatings on request

(2) $I_{\text{field,hom}} / I_{\text{field,total}}$ denotes the ratio of the integrated power in the homogeneous line versus the total power at the field plane

(3) I_{max} and I_{min} 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)



Rev 02 | Updated June 8, 2021 | RoHS compliant 2011/65/EU and 2015/863/EU