Beam Shaping Module

IOS000292 - TopHat of 180 x 180 mm²

Features and Advantages

The beam shaper can be easily plugged to an optical fiber. It generates a homogeneous field of ≥ 180 x 180 mm² with a top-hat profile along both axes under a specified illumination angle.

Product Specifications

Specification Data of the Laser Source (input)	Unit	Value
Centre wavelength	nm	808
Power	W	≤ 200
Fiber core diameter	µm	400
NA		0.22
Fiber connector		SMA905

Specification Data of the Beam Shaper Module[1]	Unit	Value
Beam size at exit window FW 100% power content (h x v)	Mm	18 ± 2 x 20 ±2
Transmission	%	› 90
Efficiency ($I_{field,hom}$ / $I_{field,total}$) [2]	%	› 80 (typical 85)
Homogeneous field dimensions	mm²	› 180 x 180
Inhomogeneity (Imax-Imin)/(Imax+Imin)[3]	%	≤ 7.5 (integrated over the other axis)
Working distance WD [4]	mm	680 ± 25
Angle of incidence (AOI)	°	15 ± 3 (typical 15 ± 1.5)
Housing material		anodized aluminium
Dimensions of the housing (without connector)	mm³	352 x 110 x 80

(1) Example for customization — customized design for different wavelengths, field sizes and angle of incidence on request
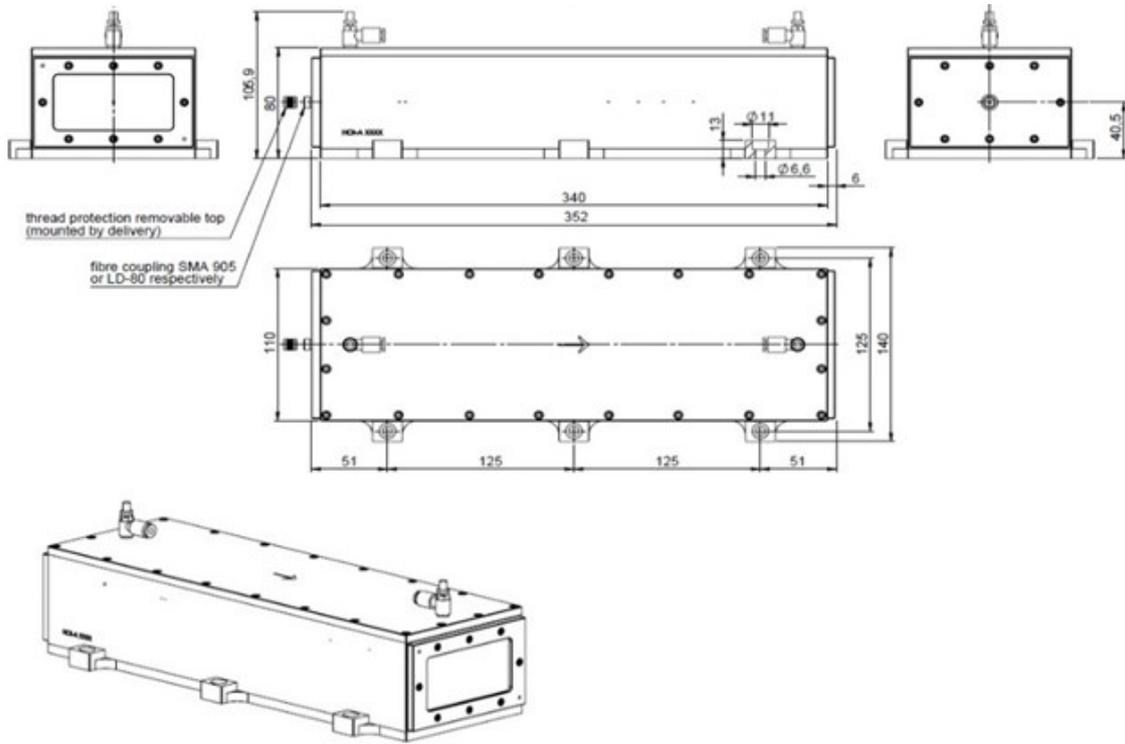
(2) $I_{field,hom}$ / $I_{field,total}$ denotes the ratio of the integrated power in the homogeneous field versus the total power at the field plane

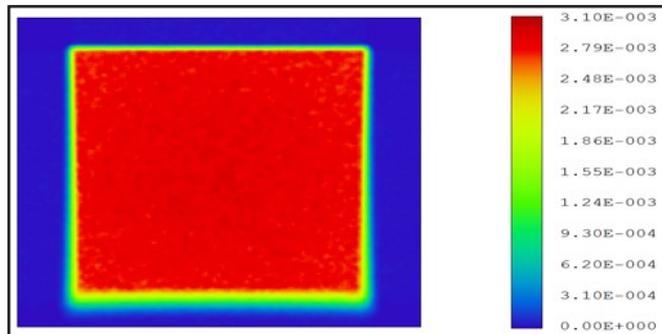(3) Imax and Imin denote the maximum and minimum intensity in the uniform field, respectively.
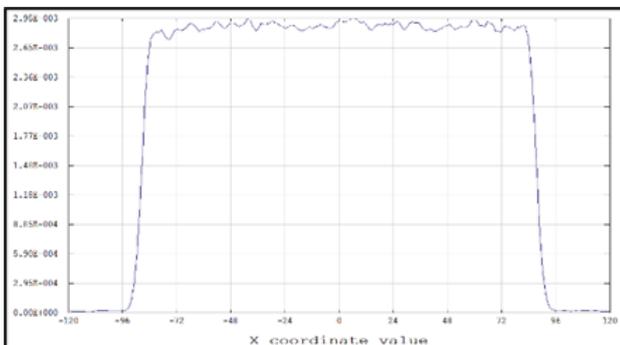
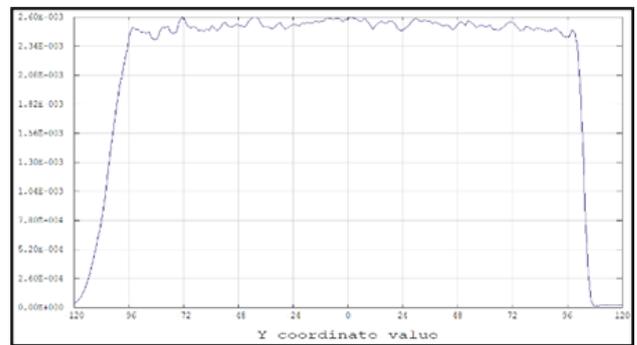(4) Between last mechanical surface and focus

Product Drawing (mm)

thread protection removable top
(mounted by delivery)

fibre coupling SMA 905
or LD-80 respectively

Beam Simulation Data

3.10E-003
2.79E-003
2.48E-003
2.17E-003
1.86E-003
1.55E-003
1.24E-003
9.30E-004
6.20E-004
3.10E-004
0.00E+000
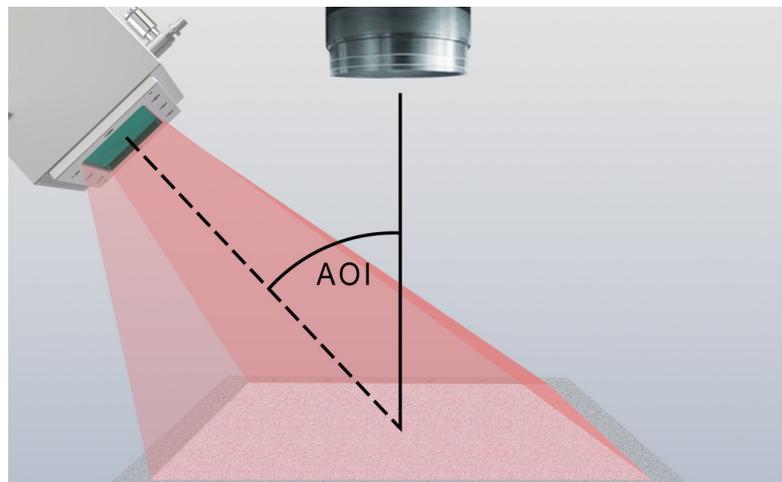
Intensity profile (typically)

Intensity cross section x-direction

Intensity cross section y-direction