

Anamorphic beam-shaping optics 5AN

Transforms a collimated laser beam with elliptical cross section into a circular beam or vice versa



FEATURES

Anamorphic optics act one-dimensionally on the elliptical profile of the collimated beam.

- Radially symmetric output beam achieved by down scaling of the longer elliptical axis (beam-shaping factor 0.33 – 0.63)
- Integrated astigmatism correction
- No lateral beam shift or beam deviation as with anamorphic prism pairs
- Various optics UV-IR
- Clear aperture: 5 mm
- Diffraction-limited optics pair
- Ø 19.5 mm system mount: Full integration with - multicubeTM system / 30 mm cage system, collimators and adapters

DESCRIPTION

A circular beam profile may be preferred over the elliptical profile usually provided by laser diodes or by tapered amplifiers. Anamorphic optics act one-dimensionally on the elliptical profile of the collimated beam. They can be used to

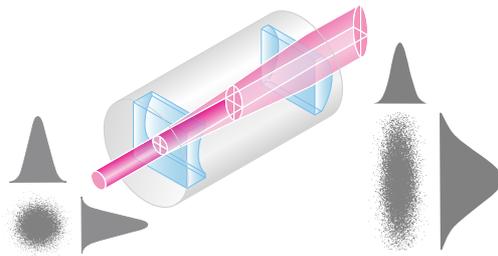
- Adjust the larger beam diameter to the dimension of the smaller one, producing a radially symmetric beam
- Adjust the smaller beam diameter to the dimension of the larger one, producing a radially symmetric beam
- Transform a circular beam into an elliptical one
- Enlarge one elliptical axis to produce a beam with a higher axis ratio

The Anamorphic Beam-shaping Optics type 5AN are cylinder lens systems and, therefore, can be additionally used to correct the astigmatic difference ΔA_s of the laser diode or tapered amplifier through a refocusing of the optical system. Coupling efficiencies to single-mode fibers of 80% or more are possible when using anamorphic beam-shaping optics (depending on the beam characteristics of the laser diode or tapered amplifier).

Form Factor

The anamorphic effect is described by the form factor F , which indicates the relative diameter change of the parallel beam.

The target value is calculated from the ratio of the beam diameters \varnothing_{\perp} and \varnothing_{\parallel} of the collimated beam.



ORDER OPTIONS

Order Code	Form Factor	Wavelength Range
5AN-1.6-V-05	0.63	600 nm - 1020 nm
5AN-2-V-35	0.5	390 nm - 620 nm
5AN-2-V-05	0.5	980 nm - 1550 nm
5AN-2-V-08	0.5	600 nm - 1020 nm
5AN-2.5-V-05	0.4	980 nm - 1550 nm
5AN-2.5-V-08	0.4	600 nm - 1020 nm
5AN-3-V-35	0.33	390 nm - 540 nm
5AN-3-V-05	0.33	600 nm - 1020 nm
5AN-3-V-08	0.33	980 nm - 1550 nm
5AN-3-V-19	0.33	1500 nm - 2100 nm

TECHNOTES

- [Astigmatism Correction](#)
[Astigmatism Correction using anamorphic beam-shaping optics type 5AN](#)
- [Beam-shaping and fiber coupling](#)
[Using anamorphic optics to increase coupling efficiency](#)
- [Article - Anamorphic Shaping of Laser Beams](#)
[How to Transform a Collimated Laser Beam with Elliptical Cross-section into a Circular Beam or Vice Versa](#)
- [Single-mode and PM fiber Coupling \(6\)](#)
[Selection of focal length, estimated coupling efficiency](#)
 - [Single-mode and PM fiber Coupling](#)
[Selection of focal length, estimated coupling efficiency](#)
 - [Selection of coupling focal length for an elliptical beam](#)
[Selection of focal length and effective coupling diameter](#)
 - [Coupling efficiency](#)
[Sources of loss when fiber-coupling](#)
 - [Industry-grade fiber coupling](#)
[Industry-grade fiber coupling for different well-established laser systems](#)
 - [Article - Fiber Coupling to Polarization-Maintaining Fibers and Collimation](#)
[How measured fiber parameters help to choose the best coupling and collimation optics](#)
 - [Article - Perfectly Coupled](#)
[Making single-mode fiber coupling smooth and permanent](#)

DOWNLOADS



[Article_AnamorphicOptics.pdf \(Technote\)](#)

This downloads section only includes general downloads for the complete series.

Please access the individual product pages (using the product configurator, the product list, order options or the search button if you have a complete order code). Here you will find specific downloads including technical drawings or stepfiles.

ACCESSORIES

50HD-15	Hex key WS 1.5
60EX-5	Eccentric key with a stroke of ± 1.0 mm.
9D-12	Screwdriver WS 1.2

19.5AM25-L

Adapter for 60SMS Laser Beam Couplers Outer
diameter Ø 25/28 mm

This is a printout of the page <https://sukhamburg.com/products/fiberoptics/fibercoupler/anamorphic.html> from
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