

60FC-E-4-F57x171-852

Fiber collimator for an elliptical beam cross section



FEATURES

Fiber collimator for an elliptical beam cross section

- Effective focal lengths f' 57 x 171 mm
- Aspect ratio 1:3
- Designed and adjusted for the wavelength 852 nm
- Clear aperture \varnothing 42 mm
- Receptacle for fiber connectors type FC APC

DESCRIPTION

The fiber collimator generates a collimated beam with an elliptical cross section. It is suitable for single-mode and polarization-maintaining fiber cables and leads to a collimated beam with a Gaussian intensity profile and an elliptical beam cross section with an axis ratio of 1:3.

The effective focal lengths are f' 57 x 171 mm.

The state of polarization is linear and can be orientated in parallel with either the long or short elliptical axis.

Optical design

The radiation of the fiber is collimated to a beam with a diameter in the range \varnothing 1 - 4 mm. An adjacent anamorphic beam shaping optics transforms the circular beam into a beam with an elliptical cross section. Finally the beam is expanded to the desired diameter.

Adjustment of focus

All fiber collimators of series 60FC-E are aligned for the specified wavelength.

In case of need you can change the distance between fiber end-face and the first collimating optics by means of an eccentric key. The lens does not rotate when adjusting the focus in both cases. The final focus setting is locked by means of two radially arranged clamping screws. Additionally attachment optics can be mounted to the front of the collimator.

Optimum lens performance

The angled polish of connectors of type APC is considered by a [pre-angled mechanical coupling axis](#) that compensates the beam deflection and you can use the lens centrally. This minimizes aberrations simply resulting from a non-ideal beam path through the lens.

Connector Type

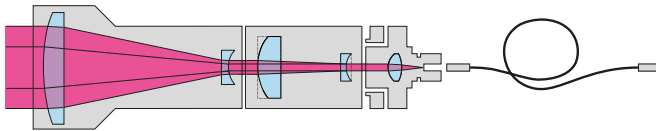
The fiber collimator is equipped with a type FC APC receptacles. An additional grub screw fixes the spring loaded ferrule of the fiber connector in order to increase pointing stability.

Housing material

The fiber collimators are made of nickel silver and black anodized aluminum.

Mounting

The collimators series 60FC-E all posses a flange for low-strain mounting e.g. using the clamp collars [series CC](#).



TECHNICAL DATA

60FC-E-4-F57x171-852

Type	60FC-E
Order Code	60FC-E-4-F57x171-852
Eff. focal lengths	57 x 171 mm
Aspect ratio	1 : 3
Clear aperture	42 mm
Elements/Groups	8/5
Wavelength range	630 - 852 nm
Alignment wavelength	852 nm
Fiber connection	FC/APC
Outer diameter	Ø 45/49 mm
Total length	183 mm

Material	Nickel silver and black anodized aluminum
Weight	approx. 420 g

DOWNLOADS



[980241100800_2.pdf \(Dimensional drawing\)](#)

RELATED PRODUCTS

POLARIZATION ANALYZER SK010PA Measurement tool for coupling into polarization-maintaining fiber cables

FIBER CABLES PMC Polarization-maintaining fiber cables

This is a printout of the page <https://sukhamburg.com/products/details/60FC-E-4-F57x171-852> from 5/4/2024

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