

60FC-MAV-4-M12-08-Ti-V

Fiber Coupler for collimating radiation exiting an optical fiber or as incoupler



FEATURES

The amagnetic fiber collimator is designed for collimating radiation exiting from an optical fiber cable or used in reverse for coupling a beam into an optical fiber cable.

- Focal length 12 mm
- Optics type: Doublet optics, Monochromatic
- AR-Coating: 980 - 1550 nm
- Mini AVIM ® type receptacle (APC): compatible with fiber connectors type Mini AVIM ® and Midi AVIM ®
- Front connector accepts attachment optics
- Compact Ø 12 mm housing
- Titanium design

DESCRIPTION

The fiber collimators series 60FC is designed for collimating radiation exiting optical fiber cables with high pointing stability. They can also be used in reverse-mode as fiber incouplers. They are suitable for single-mode and polarization-maintaining fiber cables leading to collimated beams with a Gaussian intensity profile. Please note that for multimode collimation the intensity profile is not Gaussian and depends on certain fiber and radiation properties.

The features of the coupler type 60FC include:

Optics

The monochromat with focal length 12 mm is designed for collimating single wavelengths. It is AR-coated from 980 - 1550 nm. It is corrected for spherical aberrations and designed in such a way that it leads to a diffraction-limited beam with an $M^2 < 1.05$. The focus position varies strongly with wavelength so that the collimator has to be recollimated after any changes to the wavelength. It is not suitable for UHV applications.

Adjustment of focus

The distance between fiber end-face and collimating optics is adjusted by means of an eccentric key. The lens does not rotate when adjusting the focus. The final focus setting is locked by means of two radially arranged clamping screws. Additionally attachment optics of series 60FC 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 coupler has a [receptacle](#) of type Mini AVIM ® , APC (for fibers with 8°-polish). The receptacle type Mini AVIM ® is compatible with fiber connectors type Mini AVIM ® and Midi AVIM ®. Compatible fiber cables can be found on www.diamond-fo.com.

Material

The fiber collimator type 60FC is made from amagnetic titanium. The linear coefficient of thermal expansion is close to that of the optics so that a thermal stability over a larger temperature range can be expected. The collimator is vacuum-compatible.

Mounting

The collimator can be placed into a standard mirror mount using the corresponding [adapters](#).

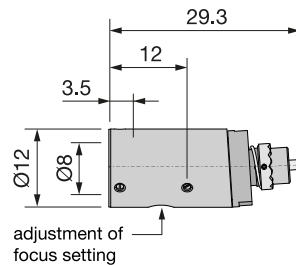
TECHNICAL DATA

60FC-MAV-4-M12-08-Ti-V

Type	60FC
Order Code	60FC-MAV-4-M12-08-Ti-V
Focal lengths	12 mm
AR coating	08
Wavelength range	980 - 1550 nm
Lens type	Doublet optic
Correction	Monochromatic
Numerical Aperure	0.23
Clear aperture	4.5 mm
Connector type	Mini AVIM
Outer diameter	Ø 12 mm
Tilt adjustment	No
Front fitting	Ø 8 mm
Housing Material	Titanium
Weight	
UHV compatible	No
Suitable for multimode	Yes

Note

Dimensions (for a complete dimensional drawing please refer to the downloads section)



DOWNLOADS



[200109000101.pdf \(Dimensional drawing\)](#)



[200109000101.stp \(STEP model\)](#)



[Coating-0800-25.pdf \(Coating curve\)](#)

ACCESSORIES

**POLARIZATION
ANALYZER SK010PA**

Measurement tool for coupling into polarization-maintaining fiber cables

**ATTACHMENT OPTICS
SERIES 5**

to attach in the front of collimators with system mount
Ø 8 mm

9D-12

Screwdriver WS 1.2

60EX-5

Eccentric key with a stroke of ± 1.0 mm.

RELATED PRODUCTS

**LASER BEAM
COUPLERS SERIES
60SMF-MAV**

with mini AVIM type receptacle and with fine-thread
adjustment screws - for coupling into single-mode
and polarization-maintaining fiber cables

**FIBER COLLIMATOR
SERIES 60FC-LSA**

with LSA type receptacle for collimating radiation
exiting an optical fiber or as an incoupler

This is a printout of the page <https://sukhamburg.com/products/details/60FC-MAV-4-M12-08-Ti-V> from 5/6/2024

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