

Collimators & Focus Guides



Fiberguide's Collimators and Focus Guides are for use in a wide variety of optical systems. These ruggedized modules are designed to collimate or focus light exiting an optical fiber to a desired beam diameter or spot size a specific distance away. Collimators and Focus Guides are used with laser diodes, photodiodes, acoustic-optic modulators and other fiber optic devices where a specific output is needed.

STANDARD SPECIFICATIONS

- Collimator Focal Lengths: Micro (10mm), Mid-Size (18mm), Macro (38mm)
- Focus Guide Focal Lengths: Mid-Size (18mm, 25mm, 38mm), Macro (38mm, 51mm, 76mm)
- Fiber Type: Single Mode, Multimode
- Core Sizes: Micro up to 400 μ m; Mid-Sized: 400 μ m - 800 μ m; Macro: 800 μ m - 1000 μ m
- Wavelengths: UV - IR: 190nm - 2400nm
- Numerical Aperture (NA): 0.12, 0.22, 0.26, 0.37
- Lens Materials: BK-7, Silica
- Connector Options: SMA905, FC, ST
- Standard Temperature Range: -40°C to +100°C / -40°F to +212°F

Applications:

- Free Space Coupling
- Process Sampling
- Astronomy
- Metrology
- Quantum Optics
- Imaging

Collimators & Focus Guides

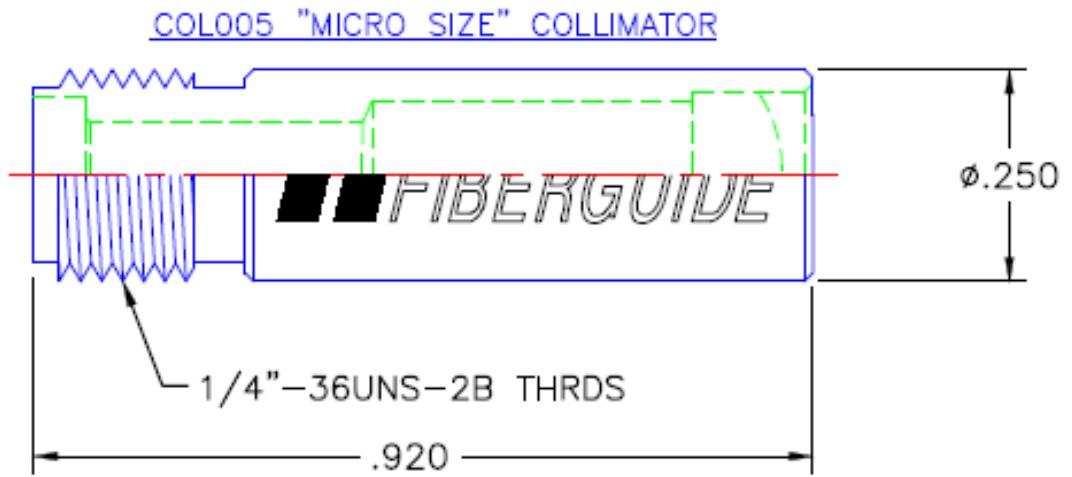
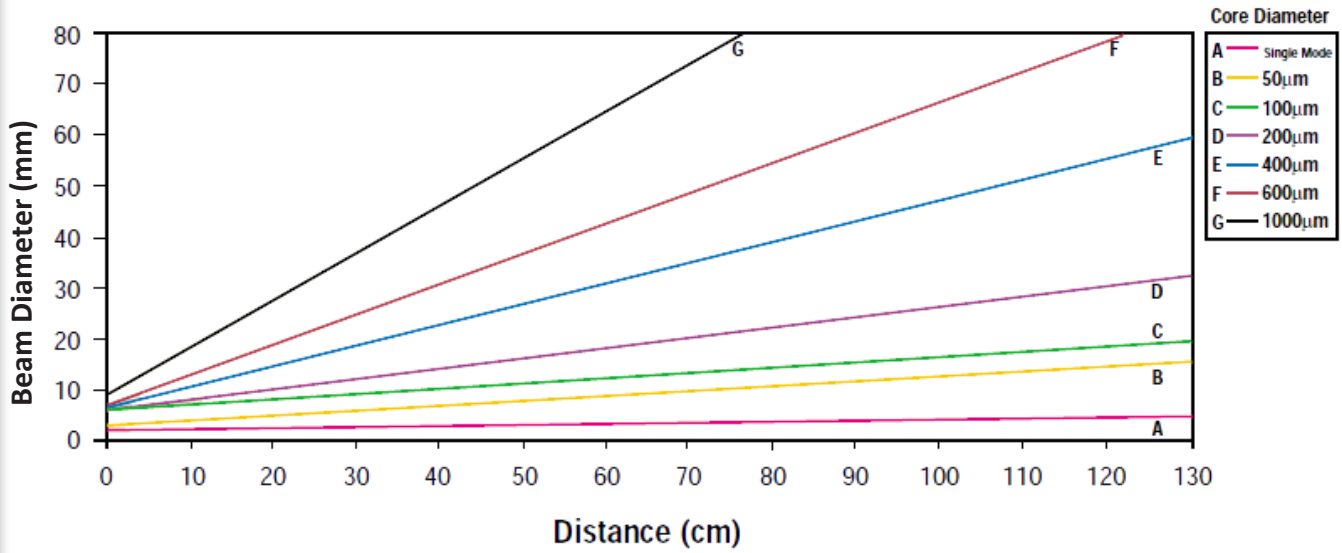
SPECIFICATIONS:

MICRO COLLIMATOR
Length: 23.37mm (0.92")
Outside Diameter: 6.35mm (0.250")
Material: Stainless Steel

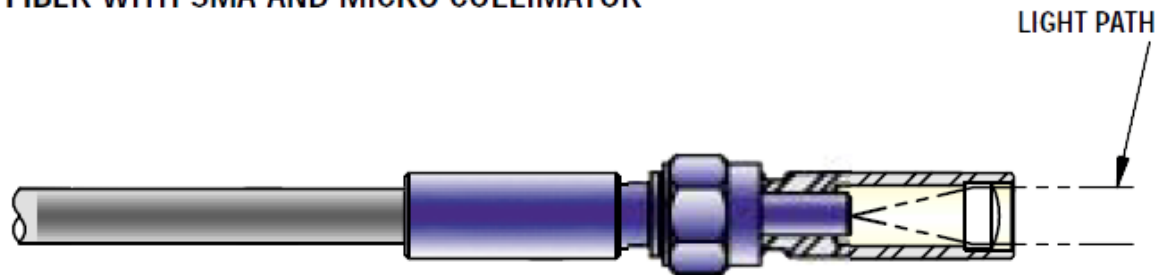
Note: Collimator Divergence (milliradians) = Fiber Diameter (μ) / 10mm (Lens Focal Length)

For use with Fibers with up to 400 μ m Cores

Micro Collimator - COL005B0101 & COL005S0101
5mm Lens Diameter. NA of the fiber = 0.22



FIBER WITH SMA AND MICRO COLLIMATOR



Collimators & Focus Guides

SPECIFICATIONS:

MID-SIZE COLLIMATOR

Length: 34.29mm (1.35")

Outside Diameter: 15.88mm (0.625")

Material: Anodized Aluminum

MID-SIZE FOCUS GUIDE

Length: 16.38mm

Outside Diameter: 15.88mm

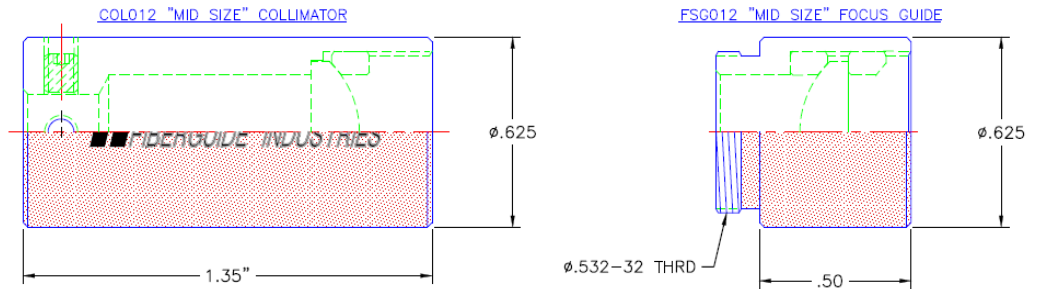
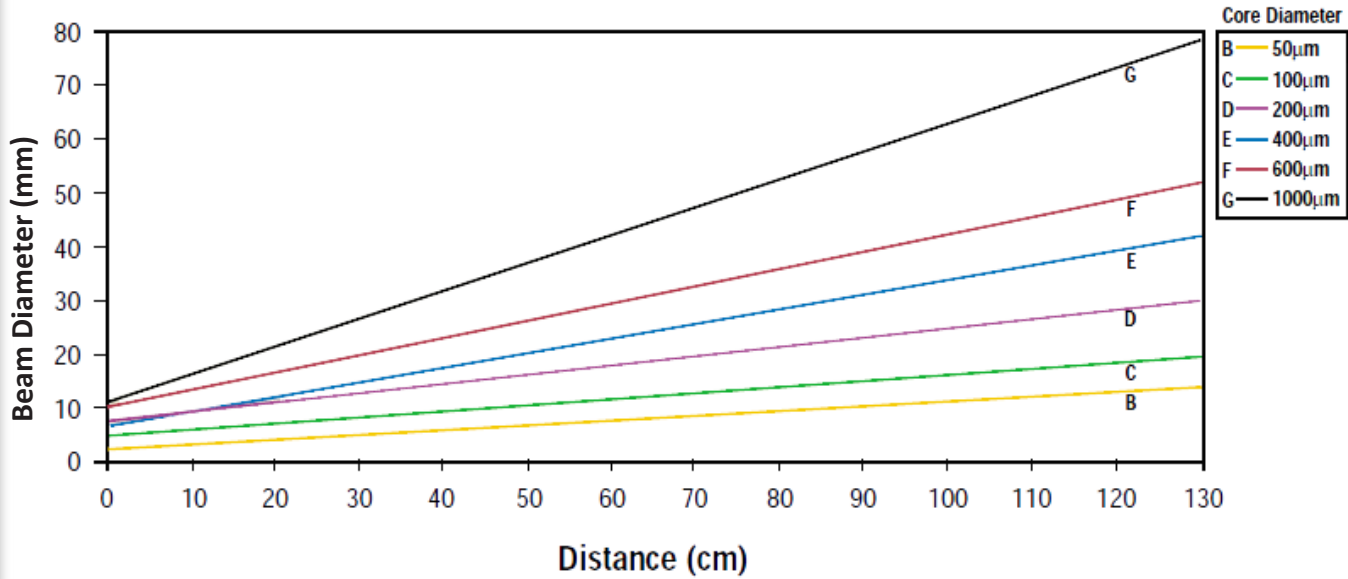
Material: Anodized Aluminum

Note: Collimator Divergence (milliradians) = Fiber Diameter (μ) / 18mm (Lens Focal Length)

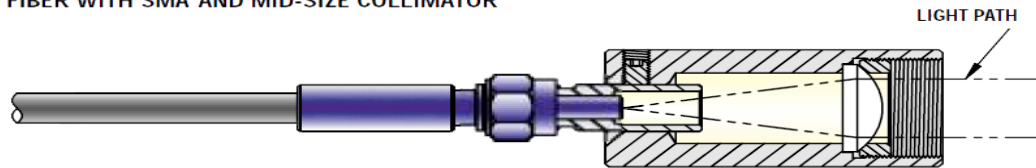
For use with Fibers with 400 μ m - 800 μ m Cores

Mid-Size Collimator - COL012B0181 & COL012S0181

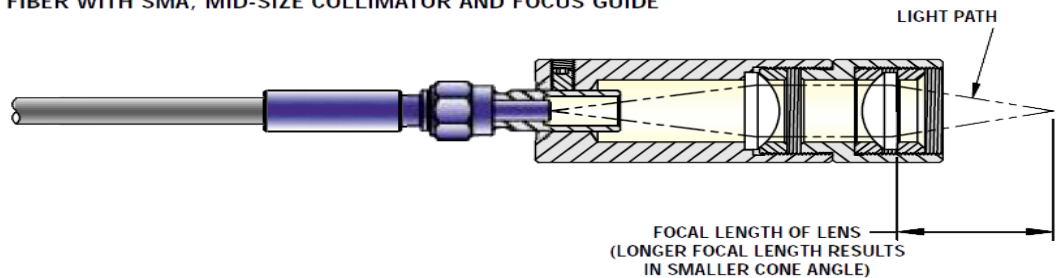
12mm Lens Diameter. NA of the fiber = 0.22



FIBER WITH SMA AND MID-SIZE COLLIMATOR



FIBER WITH SMA, MID-SIZE COLLIMATOR AND FOCUS GUIDE



Collimators & Focus Guides

SPECIFICATIONS:

MACRO COLLIMATOR

Length: 52.83mm

Outside Diameter: 28.58mm

Material: Anodized Aluminum

MACRO FOCUS GUIDE

Length: 25.4mm

Outside Diameter: 28.58mm

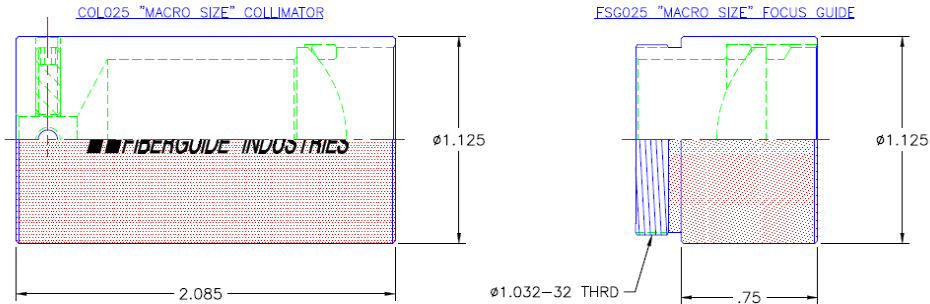
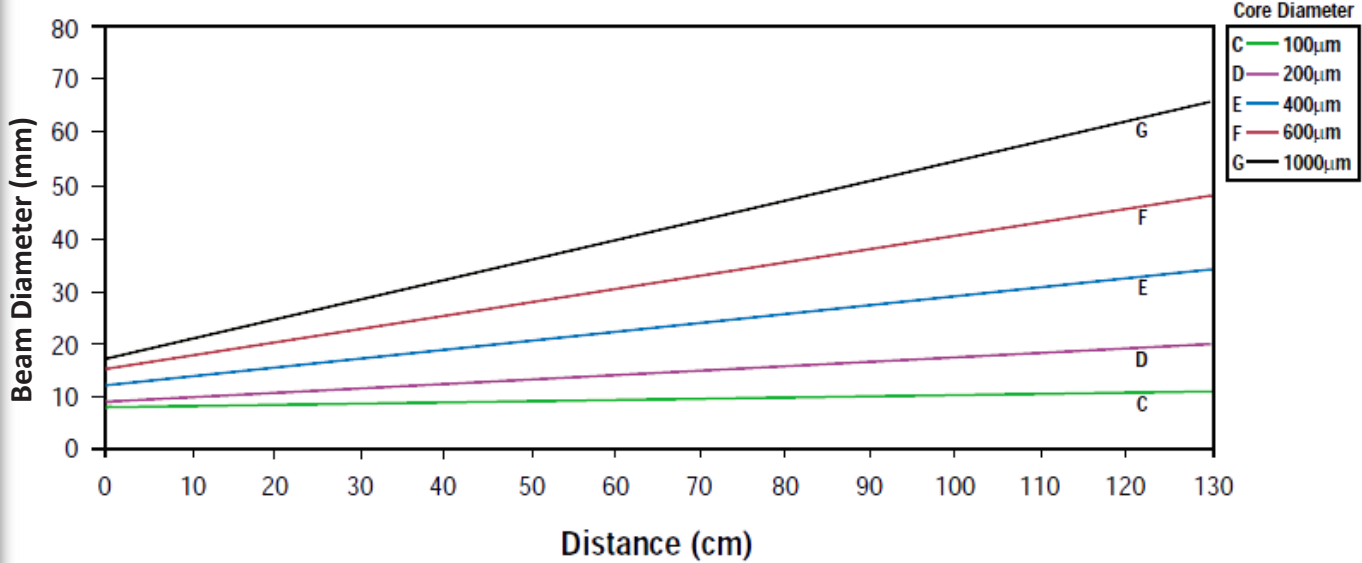
Material: Anodized Aluminum

Note: Collimator Divergence (milliradians) = Fiber Diameter (μ) / 38mm (Lens Focal Length)

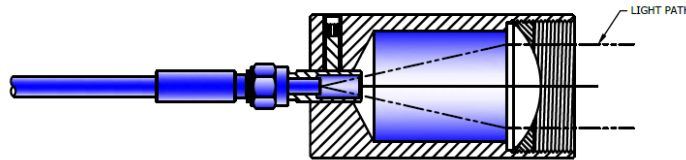
For use with Fibers with 800 μ m - 1000 μ m Cores

Macro Collimator - COL025B0381 & COL025S0381

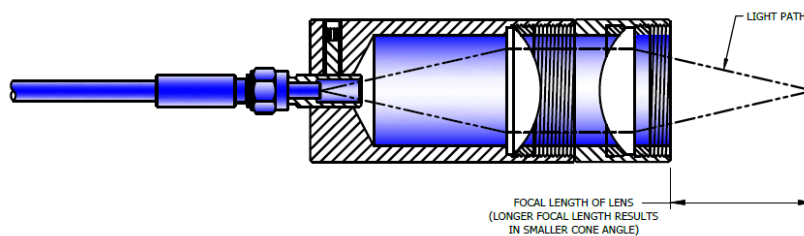
25mm Lens Diameter, NA of the fiber = 0.22



FIBER WITH SMA AND MACRO SIZE COLLIMATOR



FIBER WITH SMA, MACRO SIZE COLLIMATOR AND FOCUS GUIDE



Collimators & Focus Guides

Part Number	Function	Lens	Focal Length
Micro			
COL005B0101	Collimator	BK-7	10mm
COL005S0101	Collimator	Silica	10mm
Mid-Size			
COL012B0181	Collimator	BK-7	18mm
FSG012B0180	Focus Guide	BK-7	18mm
FSG012B0250	Focus Guide	BK-7	25mm
FSG012B0380	Focus Guide	BK-7	38mm
COL012S0181	Collimator	Silica	18mm
FSG012S0180	Focus Guide	Silica	18mm
FSG012S0250	Focus Guide	Silica	25mm
FSG012S0380	Focus Guide	Silica	38mm
Macro			
COL025B0381	Collimator	BK-7	38mm
FSG025B0380	Focus Guide	BK-7	38mm
FSG025B0510	Focus Guide	BK-7	51mm
FSG025B0760	Focus Guide	BK-7	76mm
COL025S0381	Collimator	Silica	38mm
FSG025S0380	Focus Guide	Silica	38mm
FSG025S0510	Focus Guide	Silica	51mm
FSG025S0760	Focus Guide	Silica	76mm

Note: Collimator Beam Diameter: The beam diameter of a collimated beam is given by the following formula:

$$D_b = 2 \cdot f \cdot NA \text{ where}$$

D_b = Beam Diameter in Millimeters

f = Lens Focal Length in Millimeters

NA = Fiber Numerical Aperture