

Technical Data

REFERENCE SUMMARY

Product Category:
Assembly

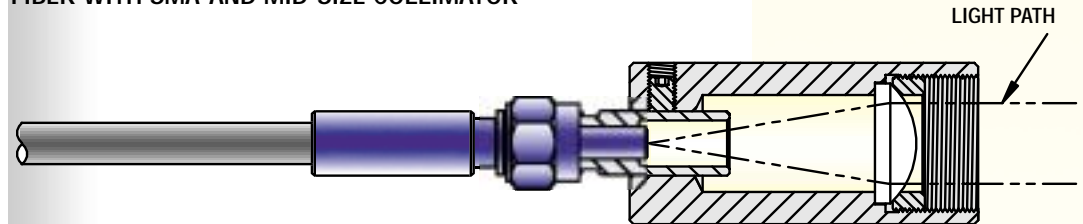
Trade Name:
Collimators & Focus Guides

DESCRIPTION

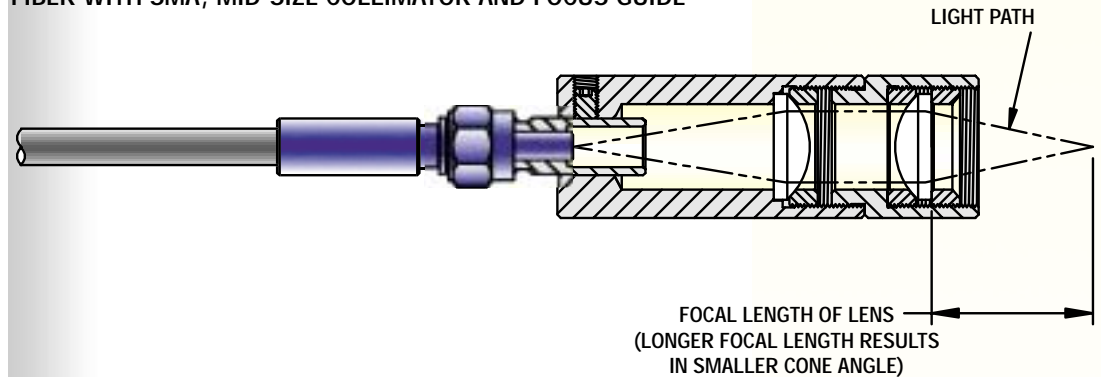
Fiberguide Industries has designed a line of standard Collimators and Focus Guides for use with a wide variety of optical systems. These ruggedized modules are manufactured to accept SMA, ST, FC, or machined ferrule style connectors. Assembled and preset at our factory to meet required specifications, all Collimators and Focus Guides can be adjusted to provide the flexibility necessary for certain set ups. Designed to collimate or focus light exiting an optical fiber to a desired beam diameter or spot size from the end of the module, these devices can be used with laser diodes, photodiodes, acoustic-optic modulators and other fiber optic devices. Collimators and Focus Guides can be used as matched pairs to couple light in and out of optical devices. Focus Guides thread into the Collimator, refocusing the beam at a given distance.

The "Macro" Collimator is used with core optical fiber core sizes larger than 800µm diameter, The "Mid-Size" Collimator is best suited for optical core sizes up to 800µm diameter, and lastly, for smaller optical core fibers up to 400µm diameter, the "Micro" Collimators is the optimum choice. Macro and Mid-Size Collimators and Focus Guides are all compatible with each other.

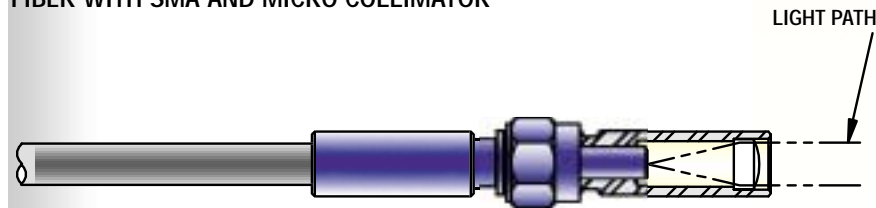
FIBER WITH SMA AND MID-SIZE COLLIMATOR



FIBER WITH SMA, MID-SIZE COLLIMATOR AND FOCUS GUIDE



FIBER WITH SMA AND MICRO COLLIMATOR



A HALMA COMPANY

Fiberguide Industries, Inc., 1 Bay Street, Stirling, NJ 07980
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Collimators & Focus Guides

FEATURES & BENEFITS

Features	Benefits
<ul style="list-style-type: none"> Broad wavelength range from UV to IR. 	<ul style="list-style-type: none"> Low cost BK7 glass plano/convex lens for 350nm to 2000nm. UV grade fused silica plano/convex lens for deep UV down to 180nm or IR (when radiation resistance is required).
<ul style="list-style-type: none"> Simplicity of design for handling and mounting. 	<ul style="list-style-type: none"> Robust and compact. Includes standard female SMA connectors. Available with optional ST, SC, FC, and machined ferrule style connectors. Focus guides mate directly to Collimator assemblies. Precision, lockable focus adjustment. Compatible with connectorized or ferrule terminated fiber cables.
<ul style="list-style-type: none"> Extensive range of optical fibers available. 	<ul style="list-style-type: none"> Single mode. Multimode up to 1000.
<ul style="list-style-type: none"> Compatible with variety of Numerical Apertures (N.A.'s). 	<ul style="list-style-type: none"> 0.22 standard 0.12 0.26 0.39 (hard clad silica) 0.40 (plastic clad silica)

APPLICATIONS

- Fiber to detector coupling
- Source to fiber coupling
- Sensing
- LIDAR
- Spectroscopy
- Laser diode interface
- Free space / fiber optic interface
- Fiber optic device packaging
- General research

TYPICAL APPLICATIONS



Note: All part numbers have prefix "COL" for Collimator or "FSG" for Focus Guide followed by the diameter of the lens (example: 10mm diameter would be "010"); next either "B" or "S" to indicate either a borosilicate or silica lens material followed by the focal length of the lens in mm (example: 38mm focal length would be "038"; the last digit is always "1" for a Collimator or "0" for a Focus Guide).



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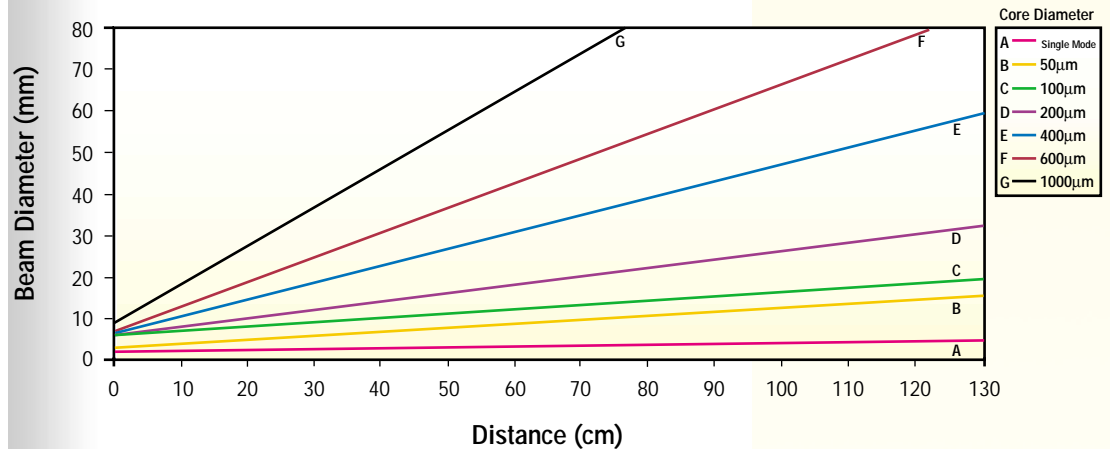
Trade Name:
Collimators & Focus Guides

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

SPECIFICATIONS

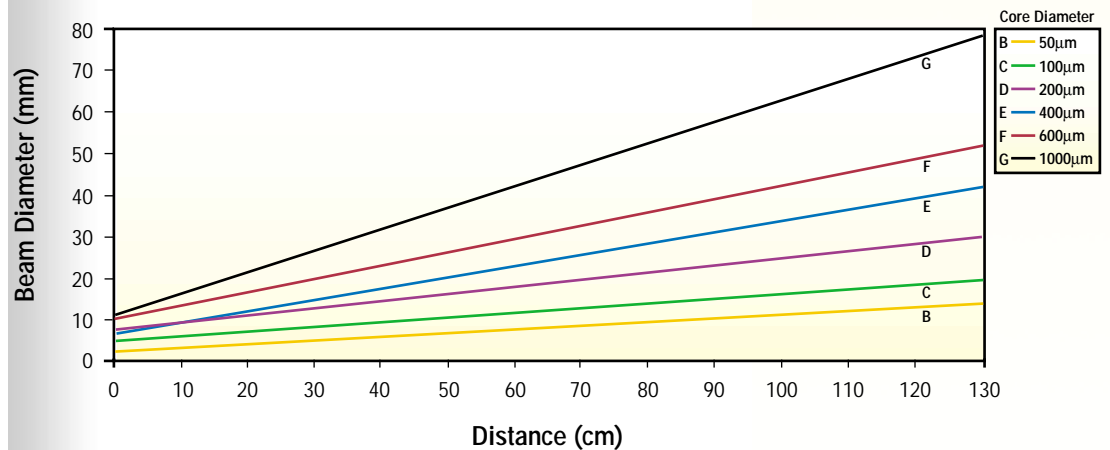
MICRO COLLIMATOR	
length:	23.37mm
outside diameter:	6.35mm
material:	stainless steel

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



MID-SIZE COLLIMATOR		MID-SIZE FOCUS GUIDE	
length:	34.29mm	length:	16.38mm
outside diameter:	15.88mm	outside diameter:	15.88mm
material:	anodized aluminum	material:	anodized aluminum

Mid-Size Collimator - COL012B0181 & COL012S0181
12mm Lens Diameter, NA of the fiber = 0.22



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



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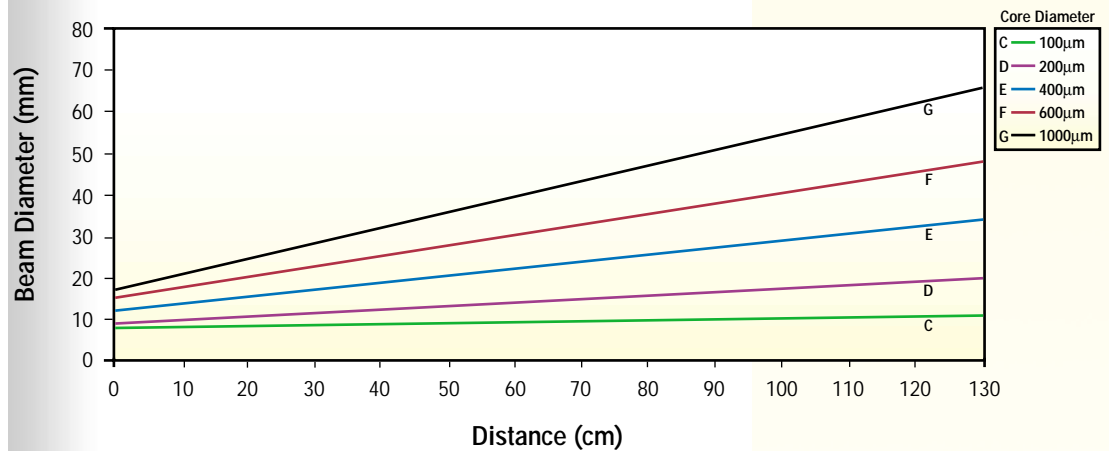
Trade Name:
Collimators & Focus Guides

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

SPECIFICATIONS

MACRO COLLIMATOR		MACRO FOCUS GUIDE	
length:	52.83mm	length:	25.4mm
outside diameter:	28.58mm	outside diameter:	28.58mm
material:	anodized aluminum	material:	anodized aluminum

Macro Collimator - COL025B0381 & COL025S0381
25mm Lens Diameter, NA of the fiber = 0.22



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Technical Data

REFERENCE SUMMARY

Product Category:
Assembly

Trade Name:
Collimators & Focus Guides

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

PRICES - DOMESTIC

Part Number	Function	Lens	Focal length	Price
Micro				
COL0005B0101	Collimator	BK-7	10mm	\$103.00
COL0005S0101	Collimator	Silica	10mm	\$196.00
Mid-Size				
COL012B0181	Collimator	BK-7	18mm	\$158.00
FSG012B0180	Focus Guide	BK-7	18mm	\$151.00
FSG012B0250	Focus Guide	BK-7	25mm	\$164.00
FSG012B0380	Focus Guide	BK-7	38mm	\$164.00
COL012S0181	Collimator	Silica	18mm	\$225.00
FSG012S0180	Focus Guide	Silica	18mm	\$219.00
FSG012S0250	Focus Guide	Silica	25mm	\$231.00
FSG012S0380	Focus Guide	Silica	38mm	\$231.00
Macro				
COL025B0381	Collimator	BK-7	38mm	\$175.00
FSG025B0380	Focus Guide	BK-7	38mm	\$169.00
FSG025B0510	Focus Guide	BK-7	51mm	\$171.00
FSG025B0760	Focus Guide	BK-7	76mm	\$171.00
COL025S0381	Collimator	Silica	38mm	\$273.00
FSG025S0380	Focus Guide	Silica	38mm	\$266.00
FSG025S0510	Focus Guide	Silica	51mm	\$324.00
FSG025S0760	Focus Guide	Silica	76mm	\$324.00

Note: Contact your sales representative for additional information or custom needs.



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Trade Name:
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Note:
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$$D_b = 2 \cdot f \cdot NA \text{ where}$$

D_b = Beam diameter in millimeters
 f = Lens focal length in millimeters
 NA = Fiber numerical aperture

PRICES - INTERNATIONAL

Part Number	Function	Lens	Focal length	Price
Micro				
COL0005B0101	Collimator	BK-7	10mm	\$115.00
COL0005S0101	Collimator	Silica	10mm	\$218.00
Mid-Size				
COL012B0181	Collimator	BK-7	18mm	\$176.00
FSG012B0180	Focus Guide	BK-7	18mm	\$168.00
FSG012B0250	Focus Guide	BK-7	25mm	\$182.00
FSG012B0380	Focus Guide	BK-7	38mm	\$182.00
COL012S0181	Collimator	Silica	18mm	\$250.00
FSG012S0180	Focus Guide	Silica	18mm	\$244.00
FSG012S0250	Focus Guide	Silica	25mm	\$257.00
FSG012S0380	Focus Guide	Silica	38mm	\$257.00
Macro				
COL025B0381	Collimator	BK-7	38mm	\$195.00
FSG025B0380	Focus Guide	BK-7	38mm	\$188.00
FSG025B0510	Focus Guide	BK-7	51mm	\$190.00
FSG025B0760	Focus Guide	BK-7	76mm	\$190.00
COL025S0381	Collimator	Silica	38mm	\$304.00
FSG025S0380	Focus Guide	Silica	38mm	\$295.00
FSG025S0510	Focus Guide	Silica	51mm	\$360.00
FSG025S0760	Focus Guide	Silica	76mm	\$360.00

Note: Contact your sales representative for additional information or custom needs.

Fiberguide Industries Customization Program

Fiberguide Industries is a full service custom fiber and value-added assembly provider. If you have unique requirements, please contact us to discuss tailoring a product or design to optimize optical performance for your specific application.

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