

# Fiber Collimators Diffraction Limited



## Features

- Adjustable focus
- No epoxy in the optical path
- No fluorescence
- Clean Gaussian beams at any distance
- Low wavefront error
- Very high transmission
- FC, FC/APC, or pigtailed
- 350 nm to 2300 nm

## Applications

- Lidar
- Free Space Communications
- Interferometry
- Confocal Microscopy
- Optical tweezers
- Cytometry
- Scanning
- Direct write

Our High Performance Fiber Collimators are of a multi-element design that gives a highly collimated, clean Gaussian beam with low wavefront error and no diffraction.

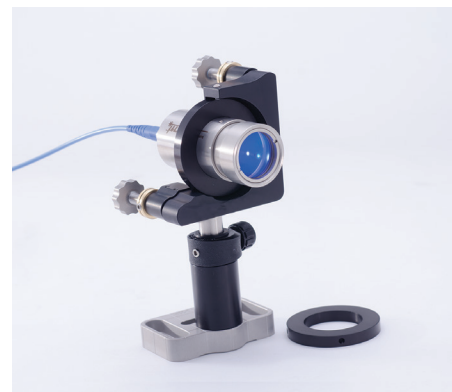
Adjustable focus collimators are very versatile. They can replace several fixed focus collimators. You can optimize the collimator to your non-standard wavelength and lock it down. Besides collimation, these fiber collimators can also focus to a very tight spot at a very large distance or expand to illuminate a large area.

Standard collimators have apertures from 6 mm to 23 mm yielding beams from 2 mm to 11.5 mm in diameter. They are stocked for quick delivery. The smaller collimators have fine 80 pitch threads for fine focus/collimation adjustment. Four coating regions cover the 350 nm to 2300 nm spectrum.

Pigtailed versions are also available as is custom requirements for mounting, coating, material or environmental requirements.

See our "Large Fiber Collimator" brochure for FC40, FC45, FC100 which produces beams of 23mm, 33mm and 50mm.

FC20 with ring adapter mounted in a common optical mount.



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# Fiber Collimators

## Specifications (for singlemode fiber)

|   | FC5               | FC10              | FC20                |
|---|-------------------|-------------------|---------------------|
| Aperture:   | 6.9 mm            | 11.9 mm           | 23.8 mm             |
| Beam size*:                                       | 2.1 mm            | 5.5 mm            | 11 mm               |
| Beam divergence:                                  | < 0.5 mrad        | < 0.25 mrad       | < 0.1 mrad          |
| Wavefront error over 1/e <sup>2</sup> points rms: | < 1/10 wave       |                   |                     |
| Receptacle:                                       | FC or FC/APC      |                   |                     |
| Adjustable Collimation:                           | 80 tpi            | 80 tpi            | Adjustable          |
| Locking:  | yes               |                   |                     |
| Housing material:                                 | Stainless Steel   |                   |                     |
| Weight:   | 45 g<br>(1.6 oz.) | 85 g<br>(3.0 oz.) | 286 g<br>(10.1 oz.) |

\*measured at 1/e<sup>2</sup> points with singlemode fiber of NA = 0.13 at 635 nm

Please note that multimode fibers will have different specifications.

## Ordering Information

| Model #            | Description                                |
|--------------------|--|
| FC5-λ-FC           | Yields ~2.1 mm beam. FC receptacle         |
| FC5-λ-APC          | Yields ~2.1 mm beam. FC/APC receptacle     |
| FC10-λ-FC          | Yields ~5.5 mm beam. FC receptacle         |
| FC10-λ-APC         | Yields ~5.5 mm beam. FC/APC receptacle     |
| FC20-λ-FC          | Yields ~ 11.5 mm beam. FC receptacle       |
| FC20-λ-APC         | Yields ~11.5 mm beam. FC/APC receptacle    |
| <b>Accessories</b> |  |
| FC5R-1.0           | FC5 ring adapter for 1 in. optical mounts  |
| FC10R-1.0          | FC10 ring adapter for 1 in. optical mounts |
| FC20R-2.0          | FC20 ring adapter for 2 in. optical mounts |

Use -VIS1 for any λ = 350 nm to 600 nm  
 Use -NIR1 for any λ = 600 nm to 1000 nm  
 Use -NIR2 for any λ = 1000 nm to 1700 nm  
 Use -SWIR for any λ = 1500 nm to 2300 nm

Standard collimators are stock items.

Pigttailed versions and SMA receptacle are also available.

## Specialty Fiber Collimators

Mid IR Fiber Collimators  
 Vacuum Compatible  
 Non Magnetic Fiber Collimators  
 Radiation Resistant

Special beam sizes, optical materials, housing materials or wavelength ranges have also been manufactured.

We manufacture all our collimators and optics in our facility in California, USA.

Please call 714-898-6001 or email [sales@microlaser.com](mailto:sales@microlaser.com) for your particular application.

Specifications subject to change without notice.



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