Miniature OCT Fiber Probe

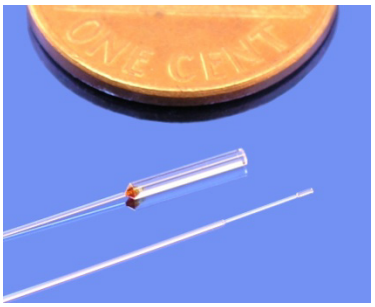
(patent pending)

Product Description

Agiltron's miniature OCT fiber probe is the ideal optical imaging solution offering high resolution and high sensitivity in a miniature format. Based on Agiltron's patented beam shaping technology, a high quality lens is uniquely formed directly at the fiber tip that focuses to a small beam spot.

The OCT fiber probe features optical efficiency that is more than five times greater than a fiber coupled to a conventional GRIN lens collimator. Agiltron's fused lens technology eliminates the need for fiber-to-lens alignment and can be made in small diameters compatible with all existing fibers.

Custom-built side-firing probes are also available.



Features

- Low Loss
- High Optical Efficiency
- Low Internal Reflection
- Low Distortion
- Low Cost
- Patented Technology

Specifications

Insertion Loss[1]	< 0.2 dB
Operation Wavelength	600 nm ~ 1800 nm
Internal Back Reflection	≤ -70dB
End Surface Back Reflection	-20 ~ -70 dB
Outer Diameter (OD)	1.8 mm, 1.0 mm, 0.25 mm, and 0.125 mm
Beam Size (at waist)	10 µm ~ 100 µm
Working Distance (WD)	0 ~ 6 mm

1. Excluding connectors.

Applications

- Imaging, OCT
- Fiber Collimator
- Optical System
- Optical Coupling

Beam size and working distance

For OCT probes, there are two important parameters to describe optical performance. One is the working distance and the other is beam size. Since the light emitted from the fiber lens is a Gaussian beam, the beam has a minimum spot diameter at its waist which is defined as the beam size. The distance from the beam waist position to the fiber lens surface is defined as the working distance. The working distance and beam size are related. Selecting a longer working distance produces a larger beam size. Two examples appear on page 2.

PLEASE SPECIFY EITHER DESIRED WORKING DISTANCE OR BEAM SIZE. AGILTRON WILL ESTIMATE THE OTHER PARAMETER.

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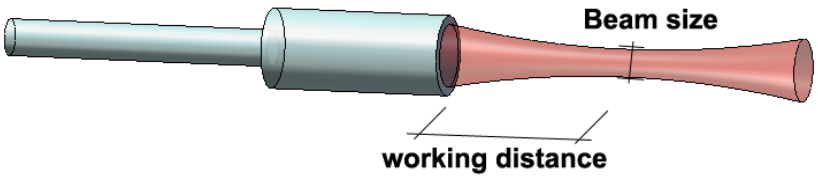
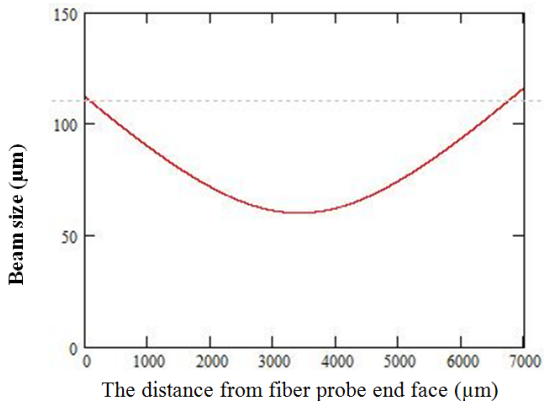
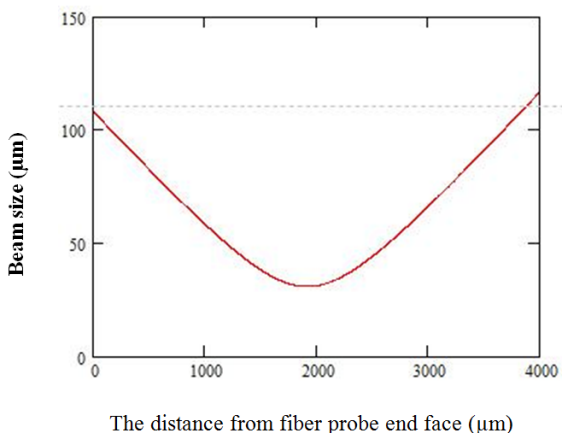


Example I:
The working distance of 3.5 mm has a best focus beam size of 60 µm.



Example II:
The working distance of 2.0 mm has a best focus beam size of 35 µm.



Ordering Information

OCTC-	☐	☐	☐	☐	☐	☐	☐	☐
	Wavelength	Outer Diameter	Working Distance	Type	Angle	Fiber Type	Fiber Length	Connector
	1310nm=3 1550nm=5 800nm=8 980nm=9 1060nm=1 Special=0	1.000mm=1 0.125mm=2 0.250mm=3 0.500mm=5	1mm=1 2mm=2 3mm=3 Special=0	straight= 00 side fire=01	0°=0 8°=8 Special=9	SMF-28=1 Special=0	0.25m=1 0.5m=2 1.0m=3 Special=0	None=1 FC/PC=2 FC/APC=3 SC/PC=4 SC/APC=5 ST/PC=6 LC=7 Special=0

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