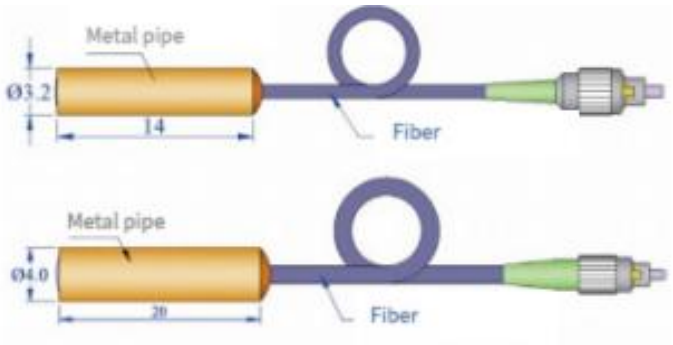
Single Mode Fiber Collimator 405nm



Product Description

It is composed of a fiber pigtail and a focusing lens that are precisely positioned and packaged. It can convert the outgoing light from the fiber into a parallel beam (Gaussian beam), or focus and couple the external parallel light into the fiber. It can also be used alone to achieve a light spot of the required size at a specific position according to the established divergence angle.

Product features

Precise wavelength & low loss; high-quality output beam; compact and reliable mechanical design; flexible application options

Part Number

MP-NIR-CLM-405-0.27-0.12-SA

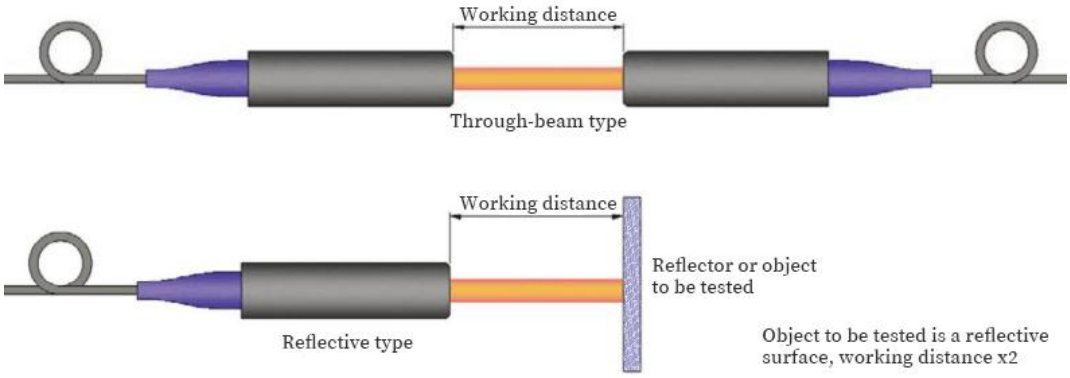
Application area

Precision Manufacturing and Testing | Biomedical and Scientific Research | Frontier Research

Core parameters

Wavelength	Beam Waist	Connector
405m	0.27mm	FC/APC

General Parameters



According to the working distance, it can be divided into fixed working distance (fixed focus) collimator and working distance range (long depth of field) collimator. Spherical lens or gradient refractive index lens is selected according to different working distances.

We recommend that the collimator be installed in the optical precision adjustment frame for alignment and debugging to ensure the best coupling efficiency when coupling spatial beams.

Difference	Fixed Working Distance Collimator	Variable Collimator for Working Distance Range
Working Distance	1m	0-1m any position
Beam Characteristics	Collimation/Focus	Collimation
Beam Size	At a fixed position, a precise sized beam spot can be obtained,with a minimum size of 20um. The beam size rapid changes when moved forwards or backwards.	Move forward and backward within an adjustable range, and the spot size changes very little.
Insert Loss For A Pair	Changes significantly with distance.	Insensitive to changes with distance.
Output Loss	No difference	
Return Loss	No difference	

Fix Working Distance

Wavelength	Bandwidth	Working distance	Beam waist	Divergence angle	Package	Insert loss	Return loss	Mode field diameter	Fiber type	Connector
405nm	± 20nm	100mm	0.27mm	2.1mrad	Φ 3.4mm	⩽ 2.0dB	⩾ 55dB	3.0± 0.5um	405HP	FC/PC

405nm	± 20nm	300mm	0.70mm	0.78mrad	Φ 3.4mm	⩽ 2.0dB	⩾ 55dB			FC/APC
450nm	± 20nm	100mm	0.26mm	2.3mrad	Φ 3.4mm	⩽ 2.0dB	⩾ 55dB	3.5± 0.5um	460HP	LC/PC or Customer specified
450nm	± 20nm	300mm	0.68mm	0.87mrad	Φ 3.4mm	⩽ 2.0dB	⩾ 55dB			
520nm	± 20nm	100mm	0.31mm	2.3mrad	Φ 3.4mm	⩽ 1.5dB	⩾ 55dB	3.6± 0.5um		
520nm	± 20nm	300mm	0.80mm	0.87mrad	Φ 3.4mm	⩽ 1.5dB	⩾ 55dB			
635nm	± 20nm	100mm	0.39mm	2.6mrad	Φ 3.4mm	⩽ 0.7dB	⩾ 55dB	4.2±0.5um	630HP	
635nm	± 20nm	300mm	0.85mm	1.0mrad	Φ 3.4mm	⩽ 0.8dB	⩾ 55dB			
635nm	± 20nm	1000mm	1.32mm	0.7mrad	Φ 3.4mm	⩽ 1.0dB	⩾ 55dB			
780nm	± 20nm	100mm	0.39mm	2.6mrad	Φ 3.4mm	⩽ 0.6dB	⩾ 55dB	4.5± 0.5um	780HP	
780nm	± 20nm	300mm	0.99mm	1.0mrad	Φ 3.4mm	⩽ 0.7dB	⩾ 55dB			

780nm	±20nm	1000mm	1.55mm	0.7mrad	Φ4.0mm	⩽0.9dB	⩾55dB			
850nm	±20nm	100mm	0.37mm	3.0mrad	Φ3.4mm	⩽0.6dB	⩾55dB			
850nm	±20nm	300mm	0.97mm	1.1mrad	Φ3.4mm	⩽0.7dB	⩾55dB	5.0±0.5um		
850nm	±20nm	1000mm	1.51mm	0.75mrad	Φ4.0mm	⩽0.9dB	⩾55dB			
980nm	±20nm	100mm	0.36mm	3.5mrad	Φ3.4mm	⩽0.5dB	⩾55dB			
980nm	±20nm	300mm	0.96mm	1.4mrad	Φ3.4mm	⩽0.6dB	⩾55dB	5.9±0.3um		
980nm	±20nm	1000mm	1.48mm	0.87mrad	Φ4.0mm	⩽0.9dB	⩾55dB		Hi1060	
1064nm	±20nm	100mm	0.37mm	3.3mrad	Φ3.4mm	⩽0.5dB	⩾55dB			
1064nm	±20nm	300mm	0.99mm	1.4mrad	Φ3.4mm	⩽0.6dB	⩾55dB	6.2±0.3um		
1064nm	±20nm	1000mm	1.53mm	0.87mrad	Φ4.0mm	⩽0.9dB	⩾55dB			

1310nm	±20nm	100mm	0.38mm	4.4mrad	Φ3.4mm	⩽0.4dB	⩾55dB	9.6±0.4um	SMF-28e G657A1/ G657A2 ZBL	
1310nm	±20nm	300mm	0.73mm	2.3mrad	Φ3.4mm	⩽0.5dB	⩾55dB			
1310nm	±20nm	1000mm	0.91mm	1.9mrad	Φ4.0mm	⩽0.7dB	⩾55dB			
1550nm	±20nm	100mm	0.46mm	4.5mrad	Φ3.4mm	⩽0.4dB	⩾55dB	10.4±0.5um		
1550nm	±20nm	300mm	0.85mm	2.4mrad	Φ3.4mm	⩽0.5dB	⩾55dB			
1550nm	±20nm	1000mm	1.35mm	1.7mrad	Φ4.0mm	⩽0.7dB	⩾55dB			
1650nm	±5nm	100mm	0.47mm	4.5mrad	Φ3.4mm	⩽0.4dB	⩾55dB	10.9±0.5um		
1650nm	±5nm	300mm	0.89mm	2.4mrad	Φ3.4mm	⩽0.5dB	⩾55dB			
1650nm	±5nm	1000mm	1.22mm	1.7mrad	Φ4.0mm	⩽0.7dB	⩾55dB			

Adjustable Working Distance

Wavelength	Bandwidth	Working distance	Export beam size	Divergence angle	Package	Insert loss	Return loss	Mode field diameter	Fiber type	Connector
780nm	± 20nm	0-350mm	0.9mm	0.95mrad	Φ 3.4mm	⩽ 0.8dB	⩾55dB	4.5± 0.5um	780HP	FC/PC FC/APC LC/PC or Customer specified
850nm	± 20nm	0-350mm	1.0mm	1.05mrad	Φ 3.4mm	⩽ 0.8dB	⩾55dB	5.0± 0.5um		
980nm	± 20nm	0-350mm	0.99mm	1.26mrad	Φ 3.4mm	⩽ 0.7dB	⩾55dB	5.9± 0.3um	Hi1060	
980nm	± 20nm	50-1000mm	1.54mm	0.81mrad	Φ 4.0mm	⩽ 0.9dB	⩾55dB			
1064nm	± 20nm	0-350mm	1.0mm	1.35mrad	Φ 3.4mm	⩽ 0.7dB	⩾55dB	6.2± 0.3um		
1064nm	± 20nm	500-1000mm	1.6mm	0.85mrad	Φ 4.0m	⩽ 0.9dB	⩾55dB			

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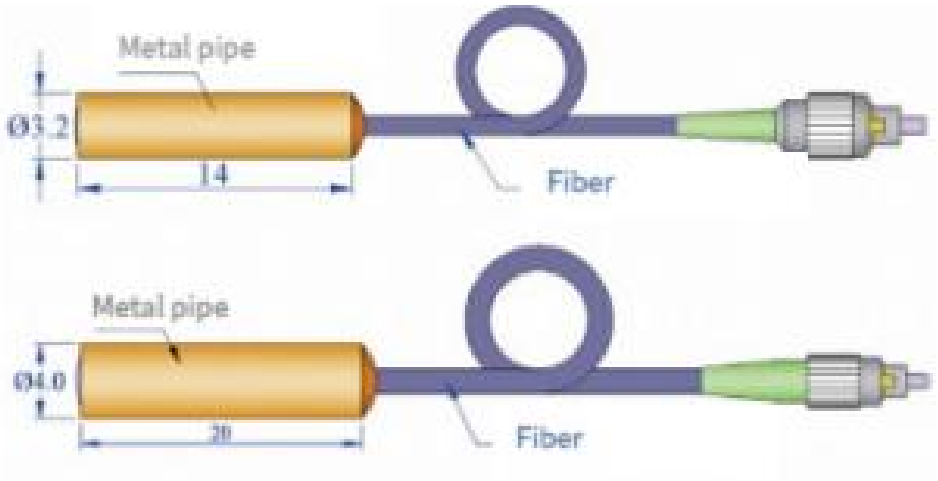
1310nm	±20nm	0-350mm	0.81mm	2.06mrad	Φ3.4mm	≤0.7dB	⩾55dB	9.6±0.4um	SMF-28e/G657A1/G657A2/ZBL
1310nm	±20nm	50-1000mm	1.3mm	1.31mrad	Φ4.0mm	≤0.9dB	⩾55dB		
1550nm	±20nm	0-350mm	0.9mm	2.15mrad	Φ3.4mm	≤0.7dB	⩾55dB	10.4±0.5um	
1550nm	±20nm	50-1000mm	1.45mm	1.36mrad	Φ4.0mm	≤0.9dB	⩾55dB		
1650nm	±20nm	0-350mm	0.96mm	2.19mrad	Φ3.4mm	≤0.7dB	⩾55dB	10.9±0.5um	
1650nm	±20nm	50-1000mm	1.50mm	1.40mrad	Φ4.0mm	≤0.9dB	⩾55dB		


Metal pipe
Ø3.2
14
Fiber
Metal pipe
Ø4.0
20
Fiber