

FIBER/FIBERPORT COLLIMATOR/COUPLER CATALOG

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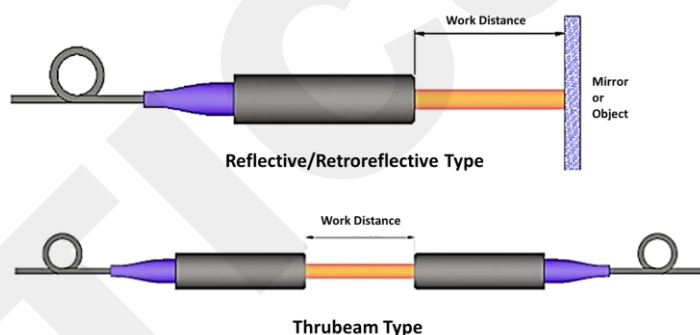
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Single Mode Pigtailed Fiber Collimators

Single mode pigtailed fiber collimators are used to transform the laser emitted from fiber into a parallel Gaussian beam by finely positioning the lens to fiber or couple the parallel Gaussian beam into fiber in inverse. It can be used in reflective type and thru-beam type. Normally, a sphere lens or GRIN lens is used in collimator to transform light. It can be divided into specified working distance collimators and wide working distance range collimators.



Schematic Diagram of the Reflective type and Thru-beam Type



Characteristics of Specified WD Collimators vs Wide WD Range Collimators

	Specified WD Collimators	Wide WD range Collimators
Working distance	<1m (Set in factory)	0~1m
Beam Spot Size	Minimum spot at specified distance	Changes little in WD range
Insert Loss	Sensitive to working distance	Changes little in WD range

405~635nm Specified Working Distance SM Pigtailed Fiber Collimators

Wavelength (nm)	WD (mm)	Bandwidth (nm)	Waist Dia. (mm)	Div. (mrad)	Package Dia. (mm)	Insert Loss (dB)	Return Loss (dB)	Mode-Field Dia. (μm)	Fiber Type	Connector
405	100	±20	0.27	2.1	φ3.4	≤2.5	≥55	3.0±0.5	405HP	FC/PC FC/APC LC/PC Or Custom specific
405	300	±20	0.7	0.78	φ3.4	≤2.5	≥55	3.0±0.5		
450	100	±20	0.26	2.3	φ3.4	<2.0	≥55	3.5±0.5	450HP	
450	300	±20	0.68	0.87	φ3.4	≤2.0	≥55	3.5±0.5		
525	100	±20	0.31	2.3	φ3.4	≤1.5	≥55	3.6±0.5	630HP	
525	300	±20	0.8	0.87	φ3.4	≤1.5	≥55	3.6±0.5		
635	100	±20	0.39	2.6	φ3.4	≤0.7	≥55	4.2±0.5	630HP	
635	300	±20	0.85	1	φ3.4	≤0.8	≥55	4.2±0.5		
635	1000	±20	1.32	0.7	φ3.4	≤1.0	≥55	4.2±0.5		

780~1650nm Specified WD SM Pigtailed Fiber Collimators

Wavelength (nm)	WD (mm)	Bandwidth (nm)	Waist Dia. (mm)	Div. (mrad)	Package Dia. (mm)	Insert Loss (dB)	Return Loss (dB)	Mode-Field Dia. (μm)	Fiber Type	Connector
780	100	±20	0.39	2.6	φ3.4	≤0.6	≥55	4.5±0.5	780HP	FC/PC FC/APC LC/PC Or Customer specified
780	300	±20	0.99	1	φ3.4	≤0.7	≥55	4.5±0.5		
780	1000	±20	1.55	0.7	φ4.0	≤0.9	≥55	4.5±0.5		
850	100	±20	0.37	3	φ3.4	≤0.6	≥55	5.0±0.5		
850	300	±20	0.97	1.1	φ3.4	≤0.7	≥55	5.0±0.5		
850	1000	±20	1.51	0.75	φ4.0	≤0.9	≥55	5.0±0.5		
980	100	±20	0.36	3.5	φ3.4	≤0.5	≥55	5.9±0.3	980HP	
980	300	±20	0.96	1.4	φ3.4	≤0.6	≥55	5.9±0.3		
980	1000	±20	1.48	0.87	φ4.0	≤0.9	≥55	5.9±0.3		
1064	100	±20	0.37	3.3	φ3.4	≤0.5	≥55	6.2±0.3	980HP/ Hi1060	
1064	300	±20	0.99	1.4	φ3.4	≤0.6	≥55	6.2±0.3		
1064	1000	±20	1.53	0.87	φ4.0	≤0.9	≥55	6.2±0.3		
1310	100	±20	0.38	4.4	φ3.4	<0.4	≥55	9.6±0.4	Smf-28e G657A1 G657A2 ZBL	
1310	300	±20	0.73	2.3	φ3.4	≤0.5	≥55	9.6±0.4		
1310	1000	±20	0.91	1.9	φ4.0	≤0.7	≥55	9.6±0.4		
1550	100	±20	0.46	4.5	φ3.4	≤0.4	≥55	10.4±0.5		
1550	300	±20	0.85	2.4	φ3.4	≤0.5	≥55	10.4±0.5		
1550	1000	±20	1.35	1.7	φ4.0	≤0.7	≥55	10.4±0.5		
1650	100	±5	0.47	4.5	φ3.4	<0.4	≥55	10.9±0.5		
1650	300	±5	0.89	2.4	φ3.4	≤0.5	≥55	10.9±0.5		
1650	1000	±5	1.22	1.7	φ4.0	≤0.7	≥55	10.9±0.5		

780~1650nm Wide WD Range SM Pigtailed Fiber Collimators

Wavelength (nm)	WD (mm)	Bandwidth (nm)	Output beam Size (mm)	Div. (mrad)	Dia. (mm)	Insert Loss (dB)	Return Loss (dB)	Mode-Field Dia. (μm)	Fiber Type	Connector
780	0-350	±20	0.9	0.95	φ3.4	≤0.8	≥55	4.5±0.5	780HP	FC/PC FC/APC LC/PC Or Customer specified
850	0-350	±20	1	1.05	φ3.4	≤0.8	≥55	5.0±0.5		
980	0-350	±20	0.99	1.26	φ3.4	≤0.7	≥55	5.9±0.3	Hi1061	
980	50-1000	±20	1.54	0.81	φ4.0	≤0.9	≥55	5.9±0.3		
1064	0-350	±20	1	1.35	φ3.4	≤0.7	≥55	6.2±0.3		
1064	50-1000	±20	1.6	0.85	φ4.0	≤0.9	≥55	6.2±0.3		
1310	0-350	±20	0.81	2.06	φ3.4	<0.7	≥55	9.6±0.4		
1310	50-1000	±20	1.3	1.31	φ4.0	≤0.9	>55	9.6±0.4		
1550	0-350	±20	0.9	2.15	φ3.4	≤0.7	≥55	10.4±0.5	Smf-28e G657A1 G657A2 ZBL	
1550	50-1000	±20	1.45	1.36	φ4.0	≤0.9	>55	10.4±0.5		
1650	0-350	±20	0.96	2.19	φ3.4	<0.7	≥55	10.9±0.5		
1650	50-1000	±20	1.5	1.4	φ4.0	≤0.9	>55	10.9±0.5		



Polarization-Maintaining Pigtailed Fiber Collimators

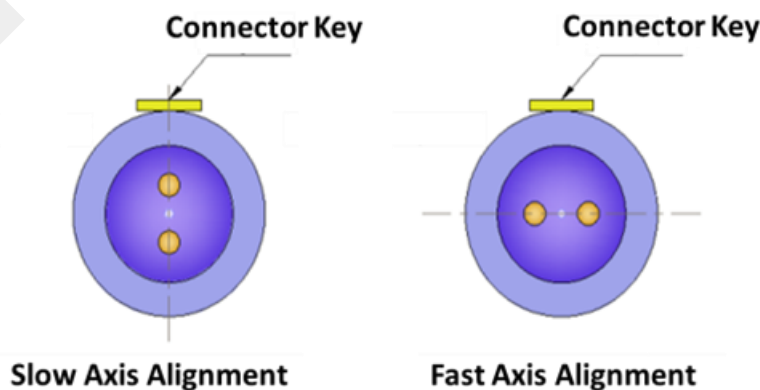
Polarization-Maintaining fiber collimators can ensure the linear polarization direction remains unchanged by using polarization-maintaining fiber. It improves the signal-to-noise ratio in interferometric measurement.



Schematic Diagram of Polarization-Maintaining Pigtailed Fiber Collimators



Fiber Collimator



Fiber Connector

Polarization-Maintaining Pigtailed Fiber Collimators

100mm Working Distance PM Pigtailed Fiber Collimators

Wavelength (nm)	Bandwidth (nm)	WD (mm)	Waist Beam (mm)	Div. Angle (mrad)	Package Dia. (mm)	Extinction Ratio (dB)	Output Loss (dB)	Return Loss (dB)	Mode-Field Dia. (μm)	Fiber Type
635	±20	100	0.39	2.6	Ø3.4	≥18	<0.5	≥55	4.5±0.5	PM630-HP
780	±20	100	0.41	2.4	Ø3.4	≥18	<0.5	≥55	5.2±1.0	PM780-HP
850	±20	100	0.37	3	Ø3.4	≥18	≤0.5	≥55		
980	±20	100	0.5	2.5	Ø3.4	≥20	<0.35	≥55	6.6±0.5	PM980-XP
1064	±20	100	0.51	2.7	Ø3.4	≥20	≤0.35	≥55		
1310	±20	100	0.4	4.2	Ø3.4	≥20	≤0.35	≥55	9.3±0.5	PM1300-XP
1550	±20	100	0.45	4.4	Ø3.4	≥20	≤0.35	≥55	10.1±0.5	PM1550-XP

300mm Working Distance PM Pigtailed Fiber Collimators

Wavelength (nm)	Bandwidth (nm)	WD (mm)	Waist Beam (mm)	Div. Angle (mrad)	Package Dia. (mm)	Extinction Ratio (dB)	Output Loss (dB)	Return Loss (dB)	Mode-Field Dia. (μm)	Fiber Type
635	±20	300	0.85	1	Ø3.4	≥18	<0.5	≥55	4.5±0.5	PM630-HP
780	±20	300	0.75	1.3	Ø3.4	≥18	<0.5	≥55	5.2±1.0	PM780-HP
850	±20	300	0.97	1.1	Ø3.4	≥18	≤0.5	≥55		
980	±20	300	0.96	1.3	Ø3.4	≥20	<0.35	≥55	6.6±0.5	PM980-XP
1064	±20	300	0.9	1.5	Ø3.4	≥20	≤0.35	≥55		
1310	±20	300	0.8	2.1	Ø3.4	≥20	≤0.35	≥55	9.3±0.5	PM1300-XP
1550	±20	300	0.86	2.3	Ø3.4	≥20	≤0.35	≥55	10.1±0.5	PM1550-XP

Polarization-Maintaining Pigtailed Fiber Collimators

1000mm Working Distance PM Pigtailed Fiber Collimators

Wavelength (nm)	Bandwidth (nm)	WD (mm)	Waist Beam (mm)	Div. Angle (mrad)	Package Dia. (mm)	Extinction Ratio (dB)	Output Loss (dB)	Return Loss (dB)	Mode-Field Dia. (μm)	Fiber Type
635	±20	1000	1.32	0.7	Ø4.0	≥18	≤0.5	≥55	4.5±0.5	PM630-HP
780	±20	1000	1.55	0.7	Ø4.0	≥18	<0.5	≥55	5.2±1.0	PM780-HP
850	±20	1000	1.51	0.75	Ø4.0	≥18	≤0.5	≥55		
980	±20	1000	1.48	0.87	Ø4.0	≥20	≤0.35	≥55	6.6±0.5	PM980-XP
1064	±20	500	1.43	0.95	Ø4.0	≥20	≤0.35	≥55		
1310	±20	1000	1.2	1.4	Ø4.0	≥20	<0.35	≥55	9.3±0.5	PM1300-XP
1550	±20	1000	1.3	1.5	Ø4.0	≥20	≤0.35	≥55	10.1±0.5	PM1550-XP

0~100mm Wide WD Range PM Pigtailed Fiber Collimators

Wavelength (nm)	Bandwidth (nm)	WD (mm)	Waist Beam (mm)	Div. Angle (mrad)	Package Dia. (mm)	Extinction Ratio (dB)	Output Loss (dB)	Return Loss (dB)	Mode-Field Dia. (μm)	Fiber Type
633	±20	0-100	0.39	2.6	Ø3.4	≥18	≤0.5	≥55	4.5±0.5	PM630-HP
780	±20	0-100	0.39	2.6	Ø3.4	≥18	<0.5	≥55	5.2±1.0	PM780-HP
850	±20	0-100	0.37	3	Ø3.4	≥18	≤0.5	≥55		

0~350mm Wide WD Range PM Pigtailed Fiber Collimators

Wavelength (nm)	Bandwidth (nm)	WD (mm)	Waist Beam (mm)	Div. Angle (mrad)	Package Dia. (mm)	Extinction Ratio (dB)	Output Loss (dB)	Return Loss (dB)	Mode-Field Dia. (μm)	Fiber Type
780	±20	0-350	1.05	0.95	Ø3.4	≥18	≤0.5	≥55	5.2±1.0	PM780-HP
850	±20	0-350	1.02	1.05	Ø3.4	≥18	<0.5	≥55		
980	±20	0-350	0.99	1.26	Ø3.4	≥20	≤0.35	≥55	6.6±0.5	PM980-XP
1064	±20	0-350	1	1.35	Ø3.4	≥20	≤0.35	≥55		
1310	±20	0-350	0.81	2.06	Ø3.4	≥20	≤0.35	≥55	9.3±0.5	PM1300-XP
1550	±20	0-350	0.92	2.15	Ø3.4	≥20	≤0.35	≥55	10.1±0.5	PM1550-XP

Polarization-Maintaining Pigtailed Fiber Collimators

50~850mm Wide WD Range PM Pigtailed Fiber Collimators

Wavelength (nm)	Bandwidth (nm)	WD (mm)	Waist Beam (mm)	Div. Angle (mrad)	Package Dia. (mm)	Extinction Ratio (dB)	Output Loss (dB)	Return Loss (dB)	Mode-Field Dia. (μm)	Fiber Type
980	± 20	50-850	1.54	0.81	$\varnothing 4.0$	≥ 20	≤ 0.35	≥ 55	6.6 \pm 0.5	PM980-XP
1064	± 20	50-850	1.6	0.85	$\varnothing 4.0$	≥ 20	≤ 0.35	≥ 55		
980	± 20	50-850	1.54	0.81	$\varnothing 4.0$	≥ 20	≤ 0.35	≥ 55	6.6 \pm 0.5	PM980-XP
1310	± 20	50-850	1.27	1.31	$\varnothing 4.0$	≥ 20	≤ 0.35	≥ 55	9.3 \pm 0.5	PM1300-XP
1550	± 20	50-850	1.45	1.36	$\varnothing 4.0$	≥ 20	≤ 0.35	≥ 55	10.1 \pm 0.5	PM1550-XP

High Temperature Pigtailed Fiber Collimators

High temperature pigtailed collimators can operate from -40°C to $+220^{\circ}\text{C}$ with special design, technology and materials. Each collimator must be tested for 48h at 220°C before sending to customers, which ensures the reliability of the device working in a high temperature environment for a long time.



1310~1650nm SM High Temperature Pigtailed Fiber Collimators

Wavelength (nm)	Band width (nm)	Working Distance (mm)	Output beam Size (mm)	Div. (mrad)	Diameter (mm)	Insert Loss	Return Loss (dB)	Mode-Field Dia.	Fiber Type
1310	± 20	≤ 300	0.81	2.3	$\text{Ø}3.4$	≤ 0.6	≥ 55	$9.2 \pm 0.4 \mu\text{m}$	9/125 Polyimide coating
1310	± 20	300-1000	1.27	1.7	$\text{Ø}3.4$	≤ 0.9	≥ 55		
1550	± 20	≤ 300	0.92	2.4	$\text{Ø}3.4$	≤ 0.6	≥ 55	$10.4 \pm 0.5 \mu\text{m}$	
1550	± 20	300-1000	1.45	1.4	$\text{Ø}3.4$	≤ 0.9	≥ 55		
1650	± 20	< 300	0.96	2.4	$\text{Ø}3.4$	< 0.6	≥ 55	$10.4 \pm 0.5 \mu\text{m}$	
1650	± 20	300-1000	1.5	1.4	$\text{Ø}3.4$	< 0.9	≥ 55		

1310~1650nm Multi-mode High Temperature Pigtailed Fiber Collimators

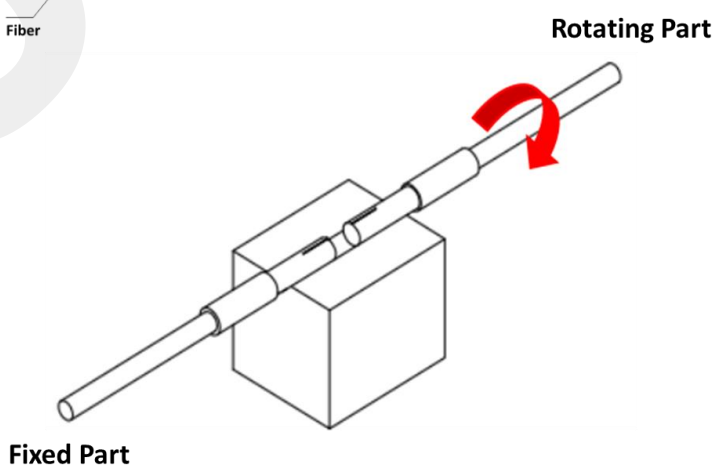
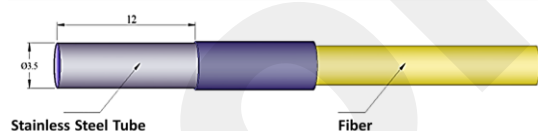
Wavelength (nm)	Band width (nm)	Working Distance (mm)	Output beam Size (mm)	Div. (mrad)	Diameter (mm)	Insert Loss	Return Loss (dB)	Mode-Field Dia.	Fiber Type
1310	± 20	10	0.6	20	$\text{Ø}3.4$	≤ 0.5	≥ 30	$50 \pm 2.5 \mu\text{m}$	50/125 Polyimide coating
1550	± 20	10	0.6	20	$\text{Ø}3.4$	≤ 0.5	≥ 30		
1310	± 20	10	0.75	24	$\text{Ø}3.4$	≤ 0.6	≥ 30	$62.5 \pm 2.5 \mu\text{m}$	62.5/125 Polyimide coating
1550	± 20	10	0.75	24	$\text{Ø}3.4$	≤ 0.6	≥ 30		

Aligned Pigtailed Fiber Collimators

Normally there exists offset or angle between Optical axis and mechanic axis of fiber collimator. That causes great insert loss. Collimators can't be plug and play or rotated in use. The offset and angle between optical axis and mechanic axis of aligned fiber collimator are eliminated with ingenious design and precise assembling. It greatly improves installation efficiency with free adjustment. It also supports rotation of fiber collimator in use and can be used in optical fiber rotary connectors and other products.



Schematic Diagram of Aligned Pigtailed Fiber Collimators



Aligned Pigtailed Fiber Collimators

1310~1550nm Single Mode Aligned Pigtailed Fiber Collimators

Wavelength (nm)	Working Distance (mm)	Waist Beam (mm)	Deflection Angle	Div. Angle (mrad)	Package Dia. (mm)	Insert Loss (dB)	Return Loss (dB)	Fiber Type	Connector
1310	0~20	0.31	< 0.1°	< 5	3.5	≤1.0	≥50	Smf-28e	FC/APC
	10~50	0.33	< 0.1°	< 5.5	3.5	≤1.0	≥50		
	50~80	0.46	< 0.1°	< 4.5	3.5	≤1.0	≥50		
1550	0~20	0.37	<0.10	< 5.5	3.5	≤1.0	≥50		
	10~50	0.38	< 0.1°	< 6	3.5	≤1.0	≥50		
	50~80	0.5	< 0.1°	< 4.5	3.5	≤1.0	≥50		

850~1550nm Multimode Aligned Pigtailed Fiber Collimators

Wavelength (nm)	Working Distance (mm)	Waist Beam (mm)	Deflection Angle	Div. Angle (mrad)	Package Dia. (mm)	Insert Loss (dB)	Return Loss (dB)	Fiber Type	Connector
850	0~50	0.75	< 0.1°	< 9	3.5	≤1.0	≥35	OM2	FC/PC
1310	0~50	0.7	< 0.1°	<12	3.5	≤1.0	≥35	OM2/OM3	
1550	0~50	0.7	< 0.1°	< 12	3.5	≤1.0	≥35	OM2/OM3	

Short Working Distance Pigtailed Fiber Collimators

Short working distance collimator can focus light into a very small spot (several microns to dozens of microns diameter), which is important for some applications like topography, ranging.



405nm Short WD Pigtailed Fiber Collimators

Wavelength (nm)	Bandwidth (nm)	Spot Size at Focus (μm)	Working Distance (mm)	Package Size	Transmittance	Fiber Type	Connector
405	± 10	6	5	$\text{Ø}3.5 \times 10$	>90%	405HP	FC/PC
405	± 10	15	10	$\text{Ø}3.5 \times 10$			
405	± 10	24	20	$\text{Ø}3.5 \times 12$			

525nm Short WD Pigtailed Fiber Collimators

Wavelength (nm)	Bandwidth (nm)	Spot Size at Focus (μm)	Working Distance (mm)	Package Size	Transmittance	Fiber Type	Connector
525	± 10	6	5	$\text{Ø}3.5 \times 10$	>90%	405HP	FC/PC
525	± 10	15	10	$\text{Ø}3.5 \times 10$			
525	± 10	26	20	$\text{Ø}3.5 \times 12$			

650nm Short WD Pigtailed Fiber Collimators

Wavelength (nm)	Bandwidth (nm)	Spot Size at Focus (μm)	Working Distance (mm)	Package Size	Transmittance	Fiber Type	Connector
650	± 10	7	5	$\text{Ø}3.5 \times 10$	>90%	630HP	FC/PC FC/APC SMA90
650	± 10	18	10	$\text{Ø}3.5 \times 10$			
650	± 10	29	20	$\text{Ø}3.5 \times 12$			

780nm Short WD Pigtailed Collimators

Wavelength (nm)	Bandwidth (nm)	Spot Size at Focus (μm)	Working Distance (mm)	Package Size	Transmittance	Fiber Type	Connector
780	± 10	9	5	$\text{Ø}3.5 \times 10$	>90%	780HP	FC/PC FC/APC SMA90
780	± 10	21	10	$\text{Ø}3.5 \times 10$			
780	± 10	34	20	$\text{Ø}3.5 \times 12$			

Aspherical Lens Pigtailed Fiber Collimators

Aspherical lens can correct spherical aberration. Energy of the laser has a Gaussian distribution and beam is well collimated. But it can't correct chromatic aberration, because the focal length is related to wavelength of laser.



400~650nm Aspherical Lens Pigtailed Fiber Collimators

Wavelength (nm)	Bandwidth (nm)	Waist Beam (mm)	Divergence Angle	EFL (mm)	N.A.	Package Dia. (mm)	Transmittance	Fiber Type	Connector
405	±5	0.85	0.06°+0.01°	0.25	4.45	Ø9.0	>90%	405HP	FC/PC FC/APC
405	±5	2.01	0.02°+0.01°	0.25	10.67	Ø9.0			
405	±5	3.6	0.015°+0.01°	0.15	17.71	Ø9.0			
450	±5	0.82	0.05°+0.01°	0.25	4.5	Ø9.0			
450	±5	2	0.02°+0.01°	0.24	10.77	Ø9.0			
450	±5	3	0.015°+0.01°	0.15	17.88	Ø9.0			
525	±5	0.84	0.05°+0.01°	0.25	4.55	Ø9.0			
525	±5	2.1	0.02°+0.01°	0.24	10.87	Ø9.0			
525	±5	3.2	0.015°+0.01°	0.15	18.02	Ø9.0			
635	±5	0.86	0.05°+0.01°	0.24	4.59	Ø9.0		630HP	
635	±5	2.06	0.02°+0.01°	0.24	10.96	Ø9.0			
635	±5	3.5	0.015°+0.01°	0.15	18.14	Ø9.0			

Aspherical Lens Pigtailed Fiber Collimators

780~1064nm Aspherical Lens Pigtailed Fiber Collimators

Wavelength (nm)	Bandwidth (nm)	Waist Beam (mm)	Divergence Angle	EFL (mm)	N.A.	Package Dia. (mm)	Transmittance	Fiber Type	Connector
780	±5	1	0.06°+0.01°	0.24	4.63	Ø9.0	>90%	780HP	FC/PC FC/APC
780	±5	2.4	0.026°+0.01°	0.24	11.06	Ø9.0			
780	±5	4	0.01 +0.01°	0.15	18.33	Ø9.0			
850	±5	1	0.06°+0.01°	0.24	4.64	Ø9.0			
850	±5	2.41	0.03°+0.01°	0.24	11.1	Ø9.0			
850	±5	3.9	0.02°+0.01°	0.15	18.45	Ø9.0			
980	±5	1	0.07°+0.01°	0.24	4.66	Ø9.0		Hi1060	
980	±5	2.4	0.03°+0.01°	0.24	11.16	Ø9.0			
980	±5	4	0.02° +0.01°	0.15	18.52	Ø9.0			
1064	±5	1	0.08°+0.01°	0.24	4.67	Ø9.0			
1064	±5	2.4	0.032°+0.01°	0.24	11.18	Ø9.0			
1064	±5	4.05	0.02° +0.01°	0.15	18.58	Ø9.0			

1200~1700nm Aspherical Lens Pigtailed Fiber Collimators

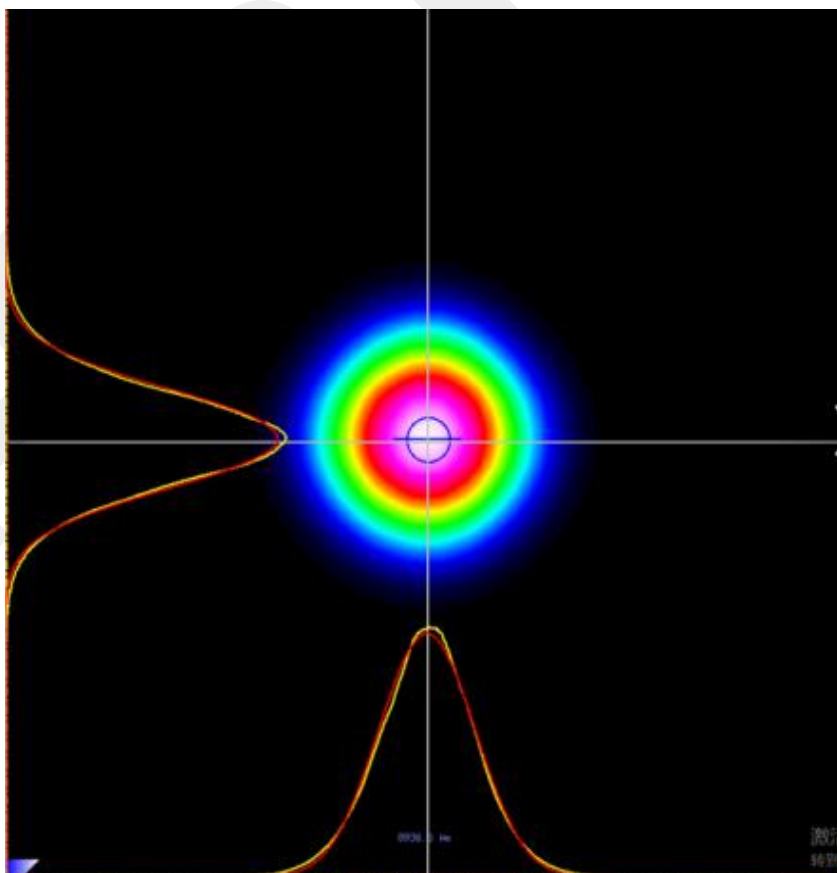
Wavelength (nm)	Bandwidth (nm)	Waist Beam (mm)	Divergence Angle	EFL (mm)	N.A.	Package Dia. (mm)	Transmittance	Fiber Type	Connector
1310	±5	0.84	0.11°+0.01°	0.24	4.7	Ø9.0	>90%	Smf-28e	FC/PC FC/APC
1310	±5	2.04	0.047° +0.01°	0.23	11.25	Ø9.0			
1310	±5	3.35	0.029°+0.01°	0.15	18.67	Ø9.0			
1550	±5	0.87	0.11°+0.01°	0.24	4.74	Ø9.0			
1550	±5	2.1	0.053°+0.01°	0.23	11.31	Ø9.0			
1550	±5	3.5	0.032°+0.01°	0.15	18.75	Ø9.0			

Aspheric Lens Fiberport Collimators

Aspherical lens can correct spherical aberration. Energy of the laser has a Gaussian distribution and beam is well collimated. But it can't correct chromatic aberration. Because focal length of aspherical lens is related to wavelength.



Power Distribution



Aspheric Lens Fiberport Collimators

400~650nm Single Mode Aspheric Lens Fiberport Collimators

Wavelength (nm)	Bandwidth (nm)	beam Size (mm)	Div. (mrad)	EFL (mm)	N.A.	Package Dia. (mm)	Transmittance	Fiber Type	Connector
405	±5	0.86	0.06°+0.01°	4.45	0.25	Ø11	>95%	405HP	FC/PC FC/APC Sma905
	±5	2.4	0.02°+0.01°	10.67	0.25	Ø11			
	±5	3.1	0.015°+0.01°	17.71	0.15	Ø11			
450	±5	0.82	0.05°+0.01°	4.5	0.25	Ø11			
	±5	2.2	0.02°+0.01°	10.77	0.24	Ø11			
	±5	3	0.015°+0.01°	17.88	0.15	Ø11			
520	±5	0.84	0.05°+0.01°	4.55	0.25	Ø11			
	±5	2.2	0.02°+0.01°	10.87	0.24	Ø11		460HP	
	±5	3.2	0.015°+0.01°	18.02	0.15	Ø11			
633	±5	0.86	0.05°+0.01°	4.59	0.24	Ø11		630HP	
	±5	2.2	0.02°+0.01°	10.96	0.24	Ø11			
	±5	3.5	0.015°+0.01°	18.14	0.15	Ø11			

780~1064nm Single Mode Aspheric Lens Fiberport Collimators

Wavelength (nm)	Bandwidth (nm)	beam Size (mm)	Div. (mrad)	EFL (mm)	N.A.	Package Dia. (mm)	Transmittance	Fiber Type	Connector
780	±5	1	0.06°+0.01°	4.63	0.24	Ø11	>95%	780HP	FC/PC FC/APC Sma905
	±5	2.25	0.026°+0.01°	11.06	0.24	Ø11			
	±5	4	0.01° +0.01°	18.33	0.15	Ø11			
850	±5	1	0.06°+0.01°	4.64	0.24	Ø11			
	±5	2.3	0.03°+0.01°	11.1	0.24	Ø11			
	±5	3.99	0.02° +0.01°	18.45	0.15	Ø11			
980	±5	1	0.07°+0.01°	4.66	0.24	Ø11		980HP	
	±5	2.3	0.03°+0.01°	11.16	0.24	Ø11			
	±5	4	0.02° +0.01°	18.52	0.15	Ø11			
1064	±5	1	0.08°+0.01°	4.67	0.24	Ø11		Hi1060	
	±5	2.3	0.032°+0.01°	11.18	0.24	Ø11			
	±5	4.05	0.02° +0.01°	18.58	0.15	Ø11			

Aspheric Lens Fiberport Collimators

1200~1700nm Single Mode Aspheric Lens Fiberport Collimators

Wavelength (nm)	Bandwidth (nm)	beam Size (mm)	Div. (mrad)	EFL (mm)	N.A.	Package Dia. (mm)	Transmittance	Fiber Type	Connector
1310	±5	0.84	0.11°+0.01°	4.7	0.24	Ø11	>95%	Smf-28e	FC/PC FC/APC Sma905
	±5	2.05	0.047°+0.019°	11.25	0.23	Ø11			
	±5	3.35	0.029°+0.01°	18.67	0.15	Ø11			
1550	±5	0.87	0.11°+0.01°	4.74	0.24	Ø11			
	±5	2.1	0.053°+0.01°	11.31	0.23	Ø11			
	±5	3.5	0.032°+0.01°	18.75	0.15	Ø11			
1650	±5	0.9	0.11°+0.01°	4.74	0.24	Ø11			
	±5	2.15	0.058°+0.01°	11.36	0.23	Ø11			
	±5	3.64	0.035°+0.01°	18.81	0.15	Ø11			

Aspheric Lens Fiberport Collimators

400~650nm Multimode Aspheric Lens Fiberport Collimators

Wavelength (nm)	Bandwidth (nm)	beam Size (mm)	Div. (mrad)	EFL (mm)	N.A.	Package Dia. (mm)	Transmittance	Fiber Type	Connector
450	±5	5.7	5.9	10.77	0.31	Ø11	>95%	62.5/125	FC/PC FC/APC Sma905
	±5	4.7	18.8	10.77	0.31	Ø11		200/220	
486	±5	4.7	9.9	10.84	0.31	Ø11		62.5/125	
	±5	4.8	18.7	10.84	0.31	Ø11		200/220	
	±5	4.8	37.6	10.84	0.31	Ø11		400/440	
	±5	5.8	6	10.89	0.31	Ø11		62.5/125	
525	±5	4.8	9.8	10.89	0.31	Ø11		105/125	
	±5	4.8	18.7	10.89	0.31	Ø11		200/220	
	±5	4.8	37.5	10.89	0.31	Ø11		400/440	
	±5	5.9	5.9	11	0.31	Ø11		62.5/125	
635	±5	4.8	9.7	11	0.31	Ø11		105/125	
	±5	4.8	18.5	11	0.31	Ø11		200/220	
	±5	4.9	37.2	11	0.31	Ø11		400/440	

780~1064nm Multimode Aspheric Lens Fiberport Collimators

Wavelength (nm)	Bandwidth (nm)	beam Size (mm)	Div. (mrad)	EFL (mm)	N.A.	Package Dia. (mm)	Transmittance	Fiber Type	Connector
780	±5	5.9	5.8	11.09	0.3	Ø11	>95%	62.5/125	FC/PC FC/APC Sma905
	±5	4.9	9.7	11.09	0.3	Ø11		105/125	
	±5	4.9	18.4	11.09	0.3	Ø11		200/220	
	±5	4.9	37	11.09	0.3	Ø11		400/440	
850	±5	6	6	11.12	0.3	Ø11		62.5/125	
	±5	4.8	9.6	11.12	0.3	Ø11		105/125	
	±5	4.8	18.4	11.12	0.3	Ø11		200/220	
	±5	4.8	36.9	11.12	0.3	Ø11		400/440	
905	±5	4.8	9.6	11.14	0.3	Ø11		105/125	
	±5	4.8	18.4	11.14	0.3	Ø11		200/220	
1064	±5	6	5.8	11.19	0.3	Ø11		62.5/125	
	±5	4.9	9.6	11.19	0.3	Ø11		105/125	
	±5	4.9	18.3	11.19	0.3	Ø11		200/220	
	±5	4.9	36.6	11.19	0.3	Ø11		400/440	

Aspheric Lens Fiberport Collimators

1200~1700nm Multimode Aspheric Lens Fiberport Collimators

Wavelength (nm)	Bandwidth (nm)	beam Size (mm)	Div. (mrad)	EFL (mm)	N.A.	Package Dia. (mm)	Transmittance	Fiber Type	Connector
1310	±5	6	5.7	11.26	0.3	Ø11	>95%	62.5/125	FC/PC FC/APC Sma905
	±5	4.9	9.5	11.26	0.3	Ø11		105/125	
	±5	4.9	18.2	11.26	0.3	Ø11		200/220	
	±5	4.9	36.5	11.26	0.3	Ø11		400/440	
1550	±5	6	5.7	11.32	0.3	Ø11		62.5/125	
	±5	4.9	9.5	11.32	0.3	Ø11		105/125	
	±5	4.9	18.1	11.32	0.3	Ø11		200/220	
	±5	5	36.3	11.32	0.3	Ø11		400/440	

Single Mode Achromatic Fiber Collimators

Single Mode Achromatic Fiber Collimators is used for wide band application. Chromatic aberration is elaborately compensated with special design on materials, curves, thickness and separation of lenses. Please use right connectors and fibers listed in tables.



400~650nm Single Mode Achromatic Fiber Collimators

Wavelength (nm)	Bandwidth (nm)	Waist Beam (mm)	Divergence Angle	EFL (mm)	N.A.	Package Dia. (mm)	Transmittance	Fiber Type	Connector
405	±30	0.97	0.062+0.01°	4.06	0.61	Ø11	>95%	405HP	FC/PC FC/APC
	±30	2.1	0.03+0.019	10.05	0.37	Ø11			
	±30	3.7	0.021+0.01°	15.96	0.25	Ø11			
	±30	4.9	0.015+0.01°	19.95	0.2	Ø11			
450	±30	0.96	0.06+0.01°	4.1	0.6	Ø11			
	±30	2.1	0.028+0.019	10.07	0.37	Ø11			
	±30	3.6	0.020+0.01°	15.98	0.25	Ø11			
	±30	4.7	0.014+0.01°	19.96	0.2	Ø11			
525	±30	0.92	0.059+0.01°	4.15	0.6	Ø11			
	±30	2.04	0.025+0.019	10.09	0.37	Ø11			
	±30	3.2	0.019+0.01°	15.98	0.25	Ø11			
	±30	4.3	0.014+0.019	19.97	0.2	Ø11			
635	±30	0.87	0.056+0.01°	4.2	0.58	Ø11			
	±30	2	0.024+0.01°	10.13	0.37	Ø11			
	±30	3.12	0.019+0.019	16.01	0.25	Ø11			
	±30	3.95	0.014+0.01°	20	0.2	Ø11			

Single Mode Achromatic Fiber Collimators

780~1064nm Single Mode Achromatic Fiber Collimators

Wavelength (nm)	Bandwidth (nm)	Waist Beam (mm)	Divergence Angle	EFL (mm)	N.A.	Package Dia. (mm)	Transmittance	Fiber Type	Connector	
780	±30	1.95	0.031+0.01°	10.04	0.37	Ø11	>95%	780HP	FC/PC FC/APC	
	±30	3.49	0.020+0.01°	16	0.24	Ø11				
	±30	4.4	0.015+0.019	20.03	0.2	Ø11				
850	±30	2	0.030+0.019	10.05	0.37	Ø11				
	±30	3.47	0.020+0.01°	16.01	0.24	Ø11				
	±30	4.33	0.016+0.01°	20.03	0.2	Ø11				
980	±30	1.95	0.035+0.01°	10.07	0.37	Ø11		980HP		FC/PC FC/APC
	±30	3.39	0.024+0.01°	16.03	0.24	Ø11				
	±30	4.23	0.018+0.01°	20.05	0.2	Ø11				
1064	±30	1.9	0.038+0.019	10.03	0.37	Ø11	Hi1060	FC/PC FC/APC		
	±30	3.51	0.032+0.01°	15.97	0.24	Ø11				
	±30	4.39	0.026+0.01°	19.97	0.2	Ø11				

1200~1700nm Single Mode Achromatic Fiber Collimators

Wavelength (nm)	Bandwidth (nm)	Waist Beam (mm)	Divergence Angle	EFL (mm)	N.A.	Package Dia. (mm)	Transmittance	Fiber Type	Connector
1310	±30	1.85	0.053+0.01°	10.07	0.37	Ø11	>95%	Smf-28e	FC/PC FC/APC
	±30	2.91	0.036+0.01°	16.01	0.24	Ø11			
	±30	3.62	0.028+0.019	20	0.2	Ø11			
1550	±30	1.85	0.06+0.01°	10.11	0.37	Ø11			
	±30	3.14	0.039+0.01°	16.08	0.24	Ø11			
	±30	3.92	0.031+0.01°	20.07	0.2	Ø11			
1654	±30	2.05	0.06+0.01°	10.14	0.37	Ø11			
	±30	3.2	0.036+0.01°	16.15	0.24	Ø11			
	±30	3.98	0.029+0.01°	20.12	0.2	Ø11			

Multimode Achromatic Fiber Collimators

Multimode Achromatic Fiber Collimators is used for wide band application. Chromatic aberration is elaborately compensated with special design on materials, curves, thickness and separation of lenses. Please use right connectors and fibers listed in tables.



400~650nm Multimode Achromatic Fiber Collimators

Wavelength (nm)	Bandwidth (nm)	Waist Beam (mm)	Div. (mrad)	EFL (mm)	N.A. (Lens)	Package Dia. (mm)	Fiber Type	Connector
450	±30	5.4	7.5	10.09	0.37	11	62.5/125 NA0.27	FC/PC FC/APC
		12.5	4.3	25	0.25	15		
		4.4	21	10.09	0.37	11	200/220 NA0.22	
		12.1	8.8	25	0.25	15		
		4.4	41	10.09	0.37	11	400/440 NA0.22	
		12.1	16.7	25	0.25	15		
485	±30	4.4	11.2	10.1	0.37	11	105/125 NA0.22	
		11.5	4.9	25	0.25	15	200/220 NA0.22	
		4.4	21.1	10.1	0.37	11		
		11.5	8.8	25	0.25	15		
		7.5	28.4	10.1	0.37	11	200/230 NA0.37	
525	400~700	5.4	8	10.11	0.37	11	62.5/125 NA0.27	
		12.5	3.9	25.02	0.25	15	105/125 NA0.22	
		4.4	11.2	10.11	0.37	11		
		11.4	4.8	25.02	0.25	15		
		4.4	21.2	10.11	0.37	11	200/220 NA0.22	
		11.3	8.6	25.02	0.25	15	400/440 NA0.22	
		4.4	41.2	10.11	0.37	11		
		11.3	16.5	25.02	0.25	15		
635	400~700	5.4	8.4	10.14	0.37	11	62.5/125 NA0.27	
		12.5	3.8	25.07	0.25	15	105/125 NA0.22	
		4.4	11.4	10.14	0.37	11		
		11.2	4.7	25.07	0.25	15		
		4.4	21.3	10.14	0.37	11	200/220 NA0.22	
		11.2	8.5	25.07	0.25	15	400/440 NA0.22	
		4.4	41.3	10.14	0.37	11		
		11.2	16.4	25.07	0.25	15		

Multimode Achromatic Fiber Collimators

780~1064nm Multimode Achromatic Fiber Collimators

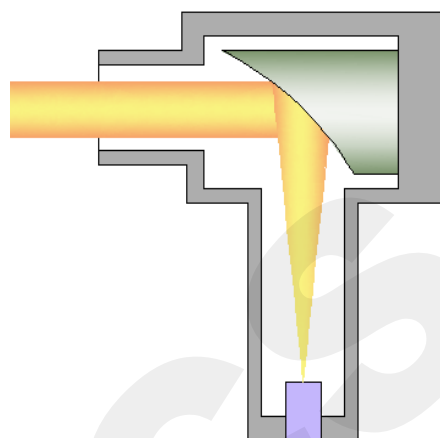
Wavelength (nm)	Bandwidth (nm)	Waist Beam (mm)	Div. (mrad)	EFL (mm)	NA (Lens)	Package Dia. (mm)	Transmittance	Fiber Type	Connector
780	600~1050	5.4	8.3	10.04	0.37	11	>92%	62.5/125 NA0.27	FC/PC FC/APC
		12.5	4.9	24.97	0.25	15			
		4.4	11.5	10.04	0.37	11		105/125 NA0.22	
		11	4.5	24.97	0.25	15			
		4.4	21.4	10.04	0.37	11		200/220 NA0.22	
		11	8.4	24.97	0.25	15			
850	600~1050	5.4	8.4	10.05	0.37	11		62.5/125 NA0.27	
		12.5	4.8	24.98	0.25	15			
		4.4	11.5	10.05	0.37	11		105/125 NA0.22	
		10.9	4.5	24.98	0.25	15			
		4.4	21.5	10.05	0.37	11		200/220 NA0.22	
		10.9	8.4	24.98	0.25	15			
		4.4	41.5	10.05	0.37	11		400/440 NA0.22	
		10.9	16.5	24.98	0.25	15			
905	600~1050	4.4	11.5	10.06	0.37	11		105/125 NA0.22	
		4.4	21.5	10.06	0.37	11		200/220 NA0.22	
1064	1050~1700	5.4	7.7	10.03	0.37	11		62.5/125 NA0.27	
		12.5	4.9	24.94	0.25	15			
		5.4	11.3	10.03	0.37	11	105/125 NA0.22		
		10.7	5	24.94	0.25	15			
		4.4	21.3	10.03	0.37	11	200/220 NA0.22		
		10.7	9.2	24.94	0.25	15			
		4.4	41.3	10.03	0.37	11	400/440 NA0.22		
		10.7	17.8	24.94	0.25	15			

Multimode Achromatic Fiber Collimators

1200~1700nm Multimode Achromatic Fiber Collimators

Wavelength (nm)	Bandwidth (nm)	Waist Beam (mm)	Div. (mrad)	EFL (mm)	NA (Lens)	Package Dia. (mm)	Transmittance	Fiber Type	Connector		
1310	1050~1700	5.4	7.8	10.07	0.37	11	>92%	62.5/125 NA0.27	FC/PC FC/APC		
		12.5	5.3	25.01	0.25	15					
		4.4	11.2	10.07	0.37	11		105/125 NA0.22			
		10.6	5.12	25.01	0.25	15					
		4.4	21.2	10.07	0.37	11		200/220 NA0.22			
		10.7	9.2	25.01	0.25	15					
		4.4	41.2	10.07	0.37	11		400/440 NA0.22			
		10.7	17.8	25.01	0.25	15					
1550	1050~1700	5.4	7.8	10.11	0.37	11		>92%		62.5/125 NA0.27	FC/PC FC/APC
		12.5	5.8	25.1	0.25	15					
		4.4	11.7	10.11	0.37	11				105/125 NA0.22	
		10.7	5	25.1	0.25	15					
		4.4	21.2	10.11	0.37	11				200/220 NA0.22	
		10.7	9.1	25.1	0.25	15					
		4.4	41.1	10.11	0.37	11				400/440 NA0.22	
		10.7	17.6	25.1	0.25	15					

Reflective Achromatic Fiber Collimators



Schematic Diagram of Reflective Achromatic Fiber Collimators

Reflective achromatic collimator uses a 90° off-axis ellipsoidal mirror to couple free space laser beam into fiber or vice versa. Focal length of reflective mirror is irrelevant with wavelength. That makes it an idea solution to achromatic aberration. Al, Ag and Au is optional to be deposited as reflective film.

- Aluminum averages greater than 90% reflectance from 200nm to the far infrared, except in the 750 – 900nm region where it averages around 85% reflectance.
- Silver coatings can offer better performance in the visible and NIR from 450nm to 2μm.
- For IR performance gold coatings offer high reflectivity of around 97% from 700nm up to 10μm.

Specifications

Wavelength	450nm - 20um
HR Coating	Silver film / Aluminium film / Gold Film
Reflectance	≥96%
Output Beam Diameter	2mm , 4mm , 8.5mm , 12mm (Fiber NA=0.13)
Numerical Aperture	0.4, 0.36 , 0.167 , 0.216
Aperture	φ7.5mm , φ11mm, φ22m
Connector	FC/PC , FC/APC, Sma905
Working Temperature	-10~70° C

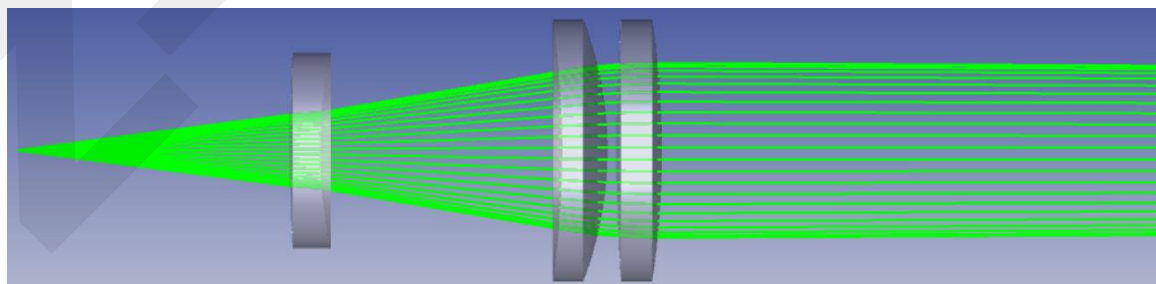
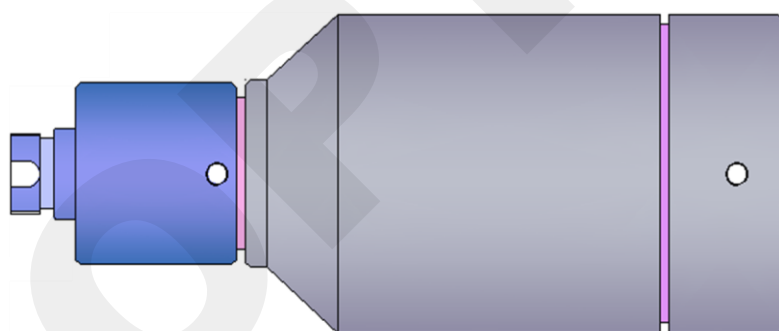
Long Work Distance Fiber Collimators

- series 1

Long work distance collimator can provide near parallel beam up to 200 meters. Aberration is corrected to emit the near diffraction limit light with separated lenses. But effective focal length is still affected by wavelength. So, this collimator performs best at the specified wavelength.



Schematic Diagram of Long Work Distance Fiber Collimators



Long Work Distance Fiber Collimators

400~905nm Long Work Distance SM Fiber Collimators

Wavelength (nm)	Bandwidth (nm)	Waist Beam (mm)	Div. (mrad)	EFL (mm)	NA (Lens)	Transmittance	Fiber Type	Connector
405	±30	10.2	0.09	66.5	0.19	>92%	405HP	FC/PC FC/APC Sma905
450	±30	13.7	0.07	68.4	0.18		460HP	
520	±30	14.2	0.06	70.3	0.18		630HP	
635	±30	14.5	0.07	72.1	0.17			
780	±30	14.2	0.07	73.3	0.17		780HP	
850	±30	14.9	0.07	73.7	0.17			
905	±30	14.9	0.07	73.9	0.17			

980~1650nm Long Work Distance SM Fiber Collimators

Wavelength (nm)	Bandwidth (nm)	Waist Beam (mm)	Div. (mrad)	EFL (mm)	NA (Lens)	Transmittance	Fiber Type	Connector
980	±30	15	0.09	74.2	0.17	>92%	980HP	FC/PC FC/APC Sma905
1064	±30	15.2	0.09	74.5	0.17			
1310	±30	12.9	0.12	75.1	0.17		Smf-28e	
1550	±30	14.2	0.14	75.6	0.17			
1650	±30	14.5	0.14	76	0.17			

Long Work Distance Fiber Collimators

400~905nm Long Work Distance Multimode Fiber Collimators

Wavelength (nm)	Bandwidth (nm)	Waist Beam (mm)	Div. (mrad)	EFL (mm)	NA (Lens)	Transmittance	Fiber Type	Connector
450	±30	25	2	50.11	0.25	>92%	62.5/125	FC/PC FC/APC Sma905
	±30	22	4.9	50.11	0.25		200/220	
	±30	22	8.93	50.11	0.25		400/440	
485	±30	22	2.75	50.1	0.25		105/125	
	±30	22	4.6	50.1	0.25		200/220	
525	±30	25	2.4	50.12	0.25		62.5/125	
	±30	22	2.5	50.12	0.25		105/125	
	±30	22	4.5	50.12	0.25		200/220	
	±30	22	8.5	50.12	0.25		400/440	
635	±30	25	2	50.2	0.25		62.5/125	
	±30	22	2.3	50.2	0.25		105/125	
	±30	22	4.6	50.2	0.25		200/220	
	±30	22	8.2	50.2	0.25		400/440	
780	±30	25	4.1	49.17	0.25		62.5/125	
	±30	22	2.5	49.17	0.25		105/125	
	±30	22	4.4	49.17	0.25	200/220		
850	±30	22	4.1	50.05	0.25	62.5/125		
	±30	22	2.4	50.05	0.25	105/125		
	±30	22	4.3	50.05	0.25	200/220		
	±30	22	8.4nrad	50.05	0.25	400/440		
905	±30	10.9	4.5	24.99	0.25	105/125		
	±30	10.9	8.3	24.99	0.25	200/220		

980~1650nm Long Work Distance Multimode Fiber Collimators

Wavelength	Bandwidth	Waist Beam	Div. (mrad)	EFL	NA(Lens)	Transmittance	Fiber Type	Connector
1064nm	±30nm	25.0mm	4.5mrad	49.84mm	0.25	>92%	62.5/125	FC/PC FC/APC Sma905
	±30nm	21.2mm	2.8mrad	49.84mm	0.25		105/125	
	±30nm	21.2mm	4.9mrad	49.84mm	0.25		200/220	
	±30nm	21.2mm	9.3mrad	49.84mm	0.25		400/440	
1310nm	±30nm	25.0mm	4.5mrad	49.97mm	0.25		62.5/125	
	±30nm	21.2mm	2.7mrad	49.97mm	0.25		105/125	
	±30nm	21.2mm	4.8mrad	49.97mm	0.25		200/220	
	±30nm	21.2mm	9.2mrad	49.97mm	0.25		400/440	
1550nm	±30nm	25.0mm	4.5mrad	50.16mm	0.25		62.5/125	
	±30nm	21.2mm	2.7mrad	50.16mm	0.25		105/125	
	±30nm	21.2mm	4.8mrad	50.16mm	0.25		200/220	
	±30nm	21.2mm	9.1mrad	50.16mm	0.25		400/440	

Long Work Distance Fiber Collimators

- series 2

Long work distance collimator can provide near parallel beam up to 200 meters. Aberration is corrected to emit the near diffraction limit light with separated lenses. But effective focal length is still affected by wavelength. So, this collimator performs best at the specified wavelength.



400~1650nm Long Work Distance SM Fiber Collimators

Wavelength (nm)	Bandwidth (nm)	Waist Beam (mm)	Div. (mrad)	EFL	NA (Lens)	Package Dia. (mm)	Transmittance	Fiber Type	Connector
405	±30	5.3	0.16	33.2	0.27	24	>92%	405HP	FC/PC FC/APC
450	±30	5.8	0.12	33.5	0.26	24		460HP	
525	±30	6.3	0.1	34.3	0.26	24		630HP	
635	±30	7	0.12	35.3	0.25	24		780HP	
780	±30	7.4	0.14	36	0.25	24		Hi1060	
850	±30	7.8	0.14	36.2	0.25	24		Smf-28e	
905	±30	7.5	0.15	36.3	0.25	24			
980	±30	8.5	0.16	36.4	0.25	24			
1064	±30	7.9	0.17	36.6	0.25	24			
1310	±30	6.6	0.24	36.7	0.24	24			
1550	±30	6.9	0.28	37.1	0.24	24			
1654	±10	6.9	0.3	37.2	0.24	24			

400~650nm Long Work Distance Multimode Fiber Collimators

Wavelength (nm)	Bandwidth (nm)	Waist Beam (mm)	Div. (mrad)	EFL	NA (Lens)	Package Dia. (mm)	Transmittance	Fiber Type	Connector
450	±30	18	2.3	33.5	0.27	24	>92%	62.5/125	FC/PC FC/APC
	±30	14.6	6.5	33.5	0.27	24		200/220	
	±30	14.6	12.5	33.5	0.27	24		400/440	
485	±30	15	4	34.1	0.27	24		105/125	
	±30	15	7	34.1	0.27	24		200/220	
	±30	15.4	12.8	34.1	0.27	24		400/440	
525	±30	18.2	2.2	34.3	0.27	24		62.5/125	
	±30	14.9	3.5	34.3	0.27	24		105/125	
	±30	14.9	6.2	34.3	0.27	24		200/220	
	±30	15.2	12.6	34.3	0.27	24		400/440	
635	±30	18.8	2.8	35.3	0.26	24		62.5/125	
	±30	15.2	4	35.3	0.26	24		105/125	
	±30	15.3	6.1	35.3	0.26	24	200/220		
	±30	15.4	11.8	35.3	0.26	24	400/440		

Long Work Distance Fiber Collimators

780~1064nm Long Work Distance Multimode Fiber Collimators

Wavelength (nm)	Bandwidth (nm)	Waist Beam (mm)	Div. (mrad)	EFL	NA (Lens)	Package Dia. (mm)	Transmittance	Fiber Type	Connector
780	±30	19	2.7	36	0.26	24	>92%	62.5/125	FC/PC FC/APC
	±30	15.6	3.1	36	0.26	24		105/220	
	±30	15.5	5.9	36	0.26	24		200/220	
	±30	15.5	11.6	36	0.26	24		400/440	
850	±30	19.1	2.7	36.2	0.26	24		62.5/125	
	±30	15.6	3.2	36.2	0.26	24		105/220	
	±30	15.6	5.8	36.2	0.26	24		200/220	
	±30	15.6	11.4	36.2	0.26	24		400/440	
905	±30	15.7	3.3	36.3	0.26	24		105/220	
	±30	15.7	5.9	36.3	0.26	24		200/220	
1064	±30	19.4	2.4	36.6	0.26	24		62.5/125	
	±30	15.8	3.4	36.6	0.26	24		105/125	
	±30	16	6.4	36.6	0.26	24		200/220	
	±30	16	12.2	36.6	0.26	24		400/440	

1200~1700nm Long Work Distance Multimode Fiber Collimators

Wavelength (nm)	Bandwidth (nm)	Waist Beam (mm)	Div. (mrad)	EFL	NA (Lens)	Package Dia. (mm)	Transmittance	Fiber Type	Connector
1310	±30	19.4	2.3	36.7	0.25	24	>92%	62.5/125	FC/PC FC/APC
	±30	15.8	3.5	36.7	0.25	24		105/125	
	±30	15.8	6.1	36.7	0.25	24		200/220	
	±30	15.9	11.6	36.7	0.25	24		400/440	
1550	±30	19.4	2.1	37.1	0.25	24		62.5/125	
	±30	15.9	3.4	37.1	0.25	24		105/125	
	±30	15.9	6.1	37.1	0.25	24		200/220	
	±30	16	11.6	37.1	0.25	24		400/440	

Ultra Long Work Distance Fiber Collimators

Ultra long work distance fiber collimators have over 2km work distance by expanding laser beam from fiber to dozens of millimeters, even over 100mm beam diameter. It's used in telemetry, illumination, lidar and so on, which project laser to remote distance. Multi-groups air-spaced lenses are used to optimize the power distribution. The beam spot is homogeneous and has clear board line.



2KM Work Distance Fiber Collimators

Wavelength (nm)	Beam Size (mm)	Div. (mrad)	EFL (mm)	Transmission Distance (km)	Transmittance	Fiber Type	Connector
525±20	110	0.6	250	2	>90%	60/125μm NA 0.22	FC/PC FC/APC Sma905
525±20	110	0.8	250	2		105/125μm NA 0.22	
525±20	48	< 0.05	250	2		460HP	
905±20	110	0.55	250	2		60/125μm NA 0.22	
905±20	110	0.72	250	2		105/125μm NA 0.22	
905±20	55	< 0.06	250	2		780HP	
1550±20	110	0.44	250	2		60/125μm NA 0.22	
1550±20	110	0.61	250	2		105/125μm NA 0.22	
1550±20	49	< 0.06	250	2		Smf-28e	

Ultra Long Work Distance Fiber Collimators

3KM Work Distance Fiber Collimators

Wavelength (nm)	Beam Size (mm)	Div. (mrad)	EFL (mm)	Transmission Distance (km)	Transmittance	Fiber Type	Connector
525±20	140	0.49	320	3	>90%	60/125µm NA 0.22	FC/PC FC/APC Sma905
525±20	140	0.69	320	3		105/125µm NA 0.22	
525±20	61	< 0.04	320	3		460HP	
905±20	140	0.4	320	3		60/125µm NA 0.22	
905±20	140	0.58	320	3		105/125µm NA 0.22	
905±20	70	< 0.05	320	3		780HP	
1550±20	140	0.43	320	3		60/125µm NA 0.22	
1550±20	140	0.58	320	3		105/125µm NA 0.22	
1550±20	63	< 0.05	320	3		Smf-28e	

5KM Work Distance Fiber Collimators

Wavelength (nm)	Beam Size (mm)	Div. (mrad)	EFL (mm)	Transmission Distance (km)	Fiber Type	Connector
525±20	175	0.32	400	5	60/125µm NA 0.22	FC/PC FC/APC Sma905
525±20	175	0.43	400	5	105/125µm NA 0.22	
525±20	76	< 0.025	400	5	460HP	
905±20	175	0.31	400	5	60/125µm NA 0.22	
905±20	175	0.42	400	5	105/125µm NA 0.22	
905±20	92	< 0.03	400	5	780HP	
1550±20	175	0.32	400	5	60/125µm NA 0.22	
1550±20	175	0.43	400	5	105/125µm NA 0.22	
1550±20	78	< 0.03	400	5	Smf-28e	

Focus Adjustable Fiber Collimators

Focus Adjustable Fiber Collimators can adjust beam diameter at specified distance by screwing a ring, which drives a lens stuck to it and changes the distance between this lens and fiber at last.



F=4.5mm Focus Adjustable Fiber Collimators FC/APC Connector

EFL (mm)	NA (Lens)	Waist Beam (mm)	AR Coating	Far-field Div. (mrad)	Input Fiber MFD (um)	Length Between Fiber and Lens (mm)	Transmittance	connector
4.5	0.54	0.86	400~700nm R<0.5%	0.78	3.5	2.4-4.9	>90%	FC/PC FC/APC
	0.54	0.98	600~1050nmR<0.5%	1.1	5	2.4-4.9		
	0.54	0.87	1050~1700nm R<0.5%	2.3	10.4	2.4-4.9		

F=7.5mm Focus Adjustable Fiber Collimators

EFL (mm)	NA (Lens)	Waist Beam (mm)	AR Coating	Far-field Div. (mrad)	Input Fiber MFD (um)	Length Between Fiber and Lens (mm)	Transmittance	connector
7.5	0.3	1.35	400~700nm R<0.5%	0.49	3.5	4.2- 6.8	>90%	FC/PC FC/APC
	0.3	1.6	600~1050nmR<0.5%	0.66	5	4.2- 6.8		
	0.3	1.44	1050~1700nm R<0.5%	1.4	10.4	4.2- 6.8		

F=11mm Focus Adjustable Fiber

EFL (mm)	NA (Lens)	Waist Beam (mm)	AR Coating	Far-field Div. (mrad)	Input Fiber MFD (um)	Length Between Fiber and Lens (mm)	Transmittance	connec
11	0.3	1.96	400~700nm R<0.5%	0.32	3.5	8.6 -10.9	>90%	FC/PC FC/APC
	0.3	2.35	600~1050nmR<0.5%	0.46	5	8.6 - 10.9		
	0.3	2.1	1050~1700nm R<0.5%	1	10.4	8.6 - 10.9		

Zoom Fiber Collimators

Zoom fiber collimators can change beam size continuously while keeping beam pattern homogeneous and clear. It works like zoom lenses of camera, instead of only adjusting separation distance between lenses and fiber as focus adjustable fiber collimators. Beam quality is much better than focus adjusting. It can be used in telemetry, illumination, lidar and so on.



Single Wavelength Zoom Fiber Collimators

Zoom Ratio	Working Distance	Range of Div. changes	Power Capacity	Package Size	Transmittance	Fiber Type	Connector
20×	30~600m	0.05~1.0°	30W	Ø50×150mm	85%	60/125	FC/PC
50×	20~1000m	0.05~2.5°	50W	Ø50×220mm		105/125 200/220	

Three-wavelength Zoom Fiber Collimators

Zoom Ratio	Working Distance	Range of Div. changes	Power Capacity	Package Size	Transmittance	Fiber Type	Connector
50×	20~1000m	0.05~2.5°	20W	Ø55×260mm	80%	60/125 400/440	FC/PC

U Benches

Each fiberport has five degrees of freedom adjustment. Travel of X and Y direction is $\pm 0.7\text{mm}$, Z $>2\text{mm}$, pitch and yaw $\pm 4\text{degree}$. It's used for applications requiring flexibility.



F=7.5mm U Benches

Wavelength (nm)	Bandwidth (nm)	Waist Beam (mm)	Div. (mrad)	EFL (mm)	NA(Lens)	Transmittance	Fiber Type	Connector
1064	± 30	25	4.5	49.84	0.25	>92%	62.5/125	FC/PC FC/APC Sma905
	± 30	21.2	2.8	49.84	0.25		105/125	
	± 30	21.2	4.9	49.84	0.25		200/220	
	± 30	21.2	9.3	49.84	0.25		400/440	
1310	± 30	25	4.5	49.97	0.25		62.5/125	
	± 30	21.2	2.7	49.97	0.25		105/125	
	± 30	21.2	4.8	49.97	0.25		200/220	
	± 30	21.2	9.2	49.97	0.25		400/440	
1550	± 30	25	4.5	50.16	0.25		62.5/125	
	± 30	21.2	2.7	50.16	0.25		105/125	
	± 30	21.2	4.8	50.16	0.25		200/220	
	± 30	21.2	9.1	50.16	0.25		400/440	

F=10mm U Benches Assembling Achromatic Lenses

Wavelength (nm)	EFL (mm)	Fiber MFD (um)	Waist Beam (mm)	Div. (mrad)	NA(Lens)	AR Coating	Transmittance
350 - 700	10	3.5	1.64	0.35	0.23	R<1.0%@350 - 700 nm	>95%
600-1050	10	5	2.16	0.5	0.23	R<1.0%@600 - 1050 nm	
1050 - 1650	10	10.4	1.99	0.99	0.23	R<1.0%@1050 - 1650 nm	

F=11mm U Benches Assembling Aspherical lenses

Wavelength (nm)	EFL (mm)	Fiber MFD (um)	Waist Beam (mm)	Div. (mrad)	NA(Lens)	AR Coating	Transmittance
350 - 700	11	3.5	1.8	0.32	0.2	R<1.0%@350 - 700 nm	>95%
600-1050	11	5	2.38	0.46	0.2	R<1.0%@600 - 1050 nm	
1050 - 1650	11	10.4	2.09	0.95	0.2	R<1.0%@1050 - 1650 nm	