

450nm long-distance collimating lens



● Product Description

The fiber output can be collimated and shaped for different laser outputs from fiber connections, providing diffraction-limited performance at the designed wavelength with collimation distances up to 200 meters. The design of this series of collimating lenses is compact and unaffected by misalignment. During design, image aberration correction is applied, and a double-lens series with air spacing is chosen for excellent collimation performance. The effective focal length of the double-lens is wavelength-dependent. Therefore, this series of collimating lenses should be used at the designed wavelength for optimal performance.

● Part Number

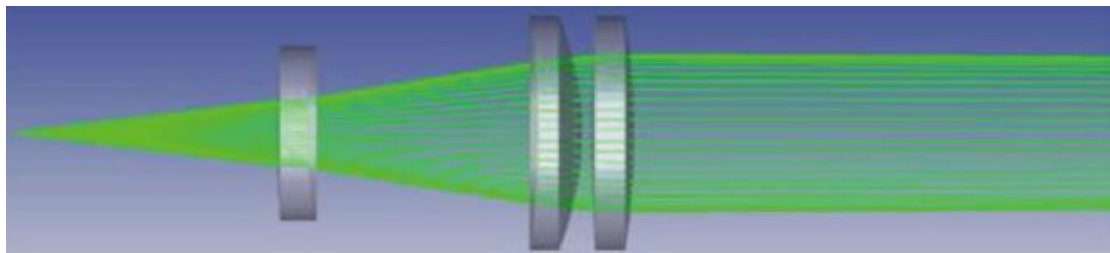
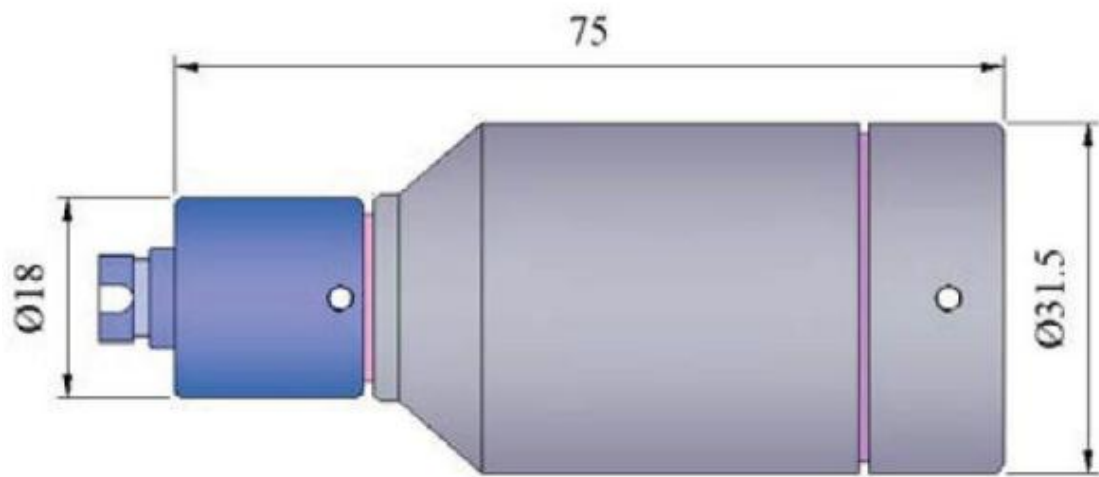
NIR-CLM-450-13.7-0.004-95

● Product features

Fiber Collimator with FC/APC, FC/PC, or SMA905 Connectors、 Usable for wavelength range from 405 nm to 1.55 μm 、 Simplifies free-space laser-to-fiber coupling、 Double-lens design with aberration correction

Parameters

Dimensional Drawing



Beam waist spot diameter: Taken at the $1/e^2$ point of the Gaussian beam, calculated using the theoretical value for single-mode fiber at each wavelength.

Far-field divergence angle of the beam: The input uses single-mode fiber for each wavelength, with the divergence angle calculated according to the theoretical value of a Gaussian beam at the $1/e^2$ point.

Tolerance: $+0.01^\circ$ / 0.0°

Technical Parameters

Central Wavelength	Bandwidth	Beam Waist Diameter (at $1/e^2$)	Beam Divergence Angle (Far Field)	Effective Focal Length	Numerical Aperture (Lens)	Fiber Type	Transmittance
405nm	$\pm 30\text{nm}$	10.2mm	0.09mrad	66.5mm	0.19	405HP	>92%
450nm	$\pm 30\text{nm}$	13.7mm	0.07mrad	68.4mm	0.18	405HP	>92%
520nm	$\pm 30\text{nm}$	14.2mm	0.06mrad	70.3mm	0.18	460HP	>92%
635nm	$\pm 30\text{nm}$	14.5mm	0.07mrad	72.1mm	0.17	630HP	>92%
780nm	$\pm 30\text{nm}$	14.2mm	0.07mrad	73.3mm	0.17	780HP	>92%
850nm	$\pm 30\text{nm}$	14.9mm	0.07mrad	73.7mm	0.17	780HP	>92%
905nm	$\pm 30\text{nm}$	14.9mm	0.07mrad	73.9mm	0.17	980HP	>92%
980nm	$\pm 30\text{nm}$	15.0mm	0.09mrad	74.2mm	0.17	980HP	>92%
1064nm	$\pm 30\text{nm}$	15.2mm	0.09mrad	74.5mm	0.17	980HP	>92%
1310nm	$\pm 30\text{nm}$	12.9mm	0.12mrad	75.1mm	0.17	SMF-28e	>92%
1550nm	$\pm 30\text{nm}$	14.2mm	0.14mrad	75.6mm	0.17	SMF-28e	>92%
1650nm	$\pm 30\text{nm}$	14.5mm	0.14mrad	76.0mm	0.17	SMF-28e	>92%