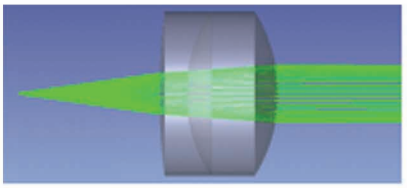
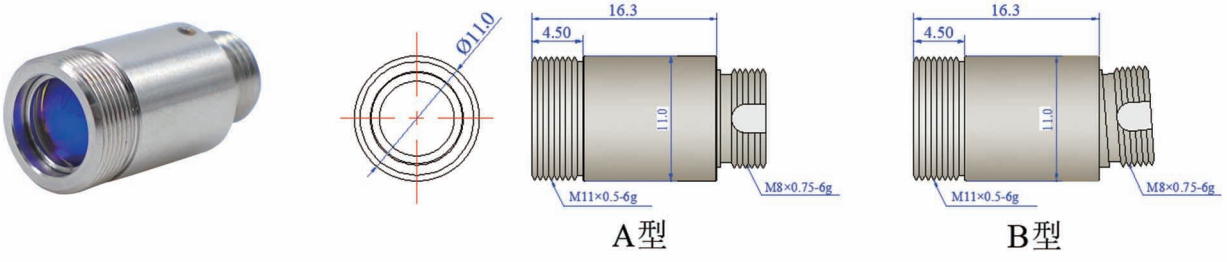
消色差准直器
Achromatic Lenses Collimators

由一组长焦准直光学系统构成，有消色差、消像差设计，故准直器焦距对波长带宽不敏感。它将光纤出射的发散光束进行整形处理，使光束在一定距离范围内具备良好的准直效果和光斑形状。透镜组各光学表面镀制增透膜，最大限度减少表面反射。透镜和光纤的相对位置经过精密调试，确保出光偏角在0.3°范围以内，同时标准化的制作工艺，确保产品稳定的一致性。



It consists of a group of long focal length collimating optical systems with chromatic aberration and distortion compensation design, making the focal length of the collimator insensitive to wavelength bandwidth. The divergent light beam emitted from the optical fiber, providing a good collimating effect and beam shape within a certain distance range. The optical surfaces of the lens group are coated with anti-reflection film to minimize surface reflection. The relative position of the lens and fiber is precisely adjusted to ensure that the deviation angle of the emitted light is within 0.3°, and standardized manufacturing processes ensure stable consistency of the product.



特征 Features：

- 接头类型可选Three Connector Options：FC/PC、FC/APC、SMA905
- 兼容宽键和窄键的接头 Compatible with Narrow and Wide Key Connectors
- 结构紧凑，便于安装 Compact structure, Convenient for installation
- 波长对于焦距不敏感，可兼顾相邻波长

The focal length has little influence on the wavelength, thus facilitating the handling of adjacent wavelengths.

- 建议配合远讯的标准跳线使用，获得更好的互换性和重复性

It is recommended to use it together with Ysenser's standard patch cords to achieve better interchangeability and repeatability.

参数表 Parameter

Wavelength	Bandwidth	Waist Beam	Divergence Angle	EFL	NA	Package Dia.	Fiber Type	Max.Power	Transmittance
405nm	±30nm	0.97mm	0.062+0.01°	4.06mm	0.61	Φ11mm	405HP	2W/mm²@ Beam Size	>95%
	±30nm	2.0mm	0.03+0.01°	10.05mm	0.37	Φ11mm			
	±30nm	3.7mm	0.021+0.01°	15.96mm	0.25	Φ11mm			
	±30nm	3.95mm	0.015+0.01°	19.95mm	0.2	Φ11mm			
450nm	±30nm	0.96mm	0.06+0.01°	4.10mm	0.6	Φ11mm	460HP		
	±30nm	2.0mm	0.028+0.01°	10.07mm	0.37	Φ11mm			
	±30nm	3.6mm	0.020+0.01°	15.98mm	0.25	Φ11mm			
	±30nm	3.95mm	0.014+0.01°	19.96mm	0.2	Φ11mm			
520nm	±30nm	0.92mm	0.059+0.01°	4.15mm	0.6	Φ11mm			
	±30nm	2.0mm	0.025+0.01°	10.09mm	0.37	Φ11mm			
	±30nm	3.2mm	0.019+0.01°	15.98mm	0.25	Φ11mm			
	±30nm	3.95mm	0.014+0.01°	19.97mm	0.2	Φ11mm			
635nm	±30nm	0.87mm	0.056+0.01°	4.20mm	0.58	Φ11mm	630HP		
	±30nm	2.0mm	0.024+0.01°	10.13mm	0.37	Φ11mm			
	±30nm	3.12mm	0.019+0.01°	16.01mm	0.25	Φ11mm			
	±30nm	3.95mm	0.014+0.01°	20mm	0.2	Φ11mm			
780nm	±30nm	1.95mm	0.031+0.01°	10.04mm	0.37	Φ11mm	780HP		
	±30nm	3.49mm	0.020+0.01°	16.0mm	0.24	Φ11mm			
	±30nm	4.4mm	0.015+0.01°	20.03mm	0.2	Φ11mm			
850nm	±30nm	2.0mm	0.030+0.01°	10.05mm	0.37	Φ11mm			
	±30nm	3.47mm	0.020+0.01°	16.01mm	0.24	Φ11mm			
	±30nm	3.95mm	0.016+0.01°	20.03mm	0.2	Φ11mm			

Wavelength	Bandwidth	Waist Beam	Divergence Angle	EFL	NA	Package Dia.	Fiber Type	Max.Power	Transmittance
980nm	600~1050nm	2.0mm	0.035+0.01°	10.07mm	0.37	Φ11mm	980HP	2W/mm2@ Beam Size	>95%
	600~1050nm	3.39mm	0.024+0.01°	16.03mm	0.24	Φ11mm			
	600~1050nm	4.23mm	0.018+0.01°	20.05mm	0.2	Φ11mm			
1064nm	1050~1700nm	2.0mm	0.038+0.01°	10.03mm	0.37	Φ11mm	HI1060		
	1050~1700nm	3.51mm	0.032+0.01°	15.97mm	0.24	Φ11mm			
	1050~1700nm	3.9mm	0.026+0.01°	19.97mm	0.2	Φ11mm			
1310nm	1050~1700nm	2.0mm	0.053+0.01°	10.07mm	0.37	Φ11mm	Smf-28e		
	1050~1700nm	2.91mm	0.036+0.01°	16.01mm	0.24	Φ11mm			
	1050~1700nm	3.62mm	0.028+0.01°	20.0mm	0.2	Φ11mm			
1550nm	1050~1700nm	2.0mm	0.06+0.01°	10.11mm	0.37	Φ11mm			
	1050~1700nm	3.14mm	0.039+0.01°	16.08mm	0.24	Φ11mm			
	1050~1700nm	3.55mm	0.031+0.01°	20.07mm	0.2	Φ11mm			
1654nm	1050~1700nm	2.0mm	0.06+0.01°	10.14mm	0.37	Φ11mm			
	1050~1700nm	3.2mm	0.036+0.01°	16.15mm	0.24	Φ11mm			
	1050~1700nm	3.65mm	0.029+0.01°	20.12mm	0.2	Φ11mm			

* 所有光斑、发散角的测试数据均由远讯标准跳线接入测试
  All testing data for beam size and divergence angle are obtained by connecting the standard jumpers from Ysenser.
* 也适用于相应波长的保偏单模光纤接入
Also applicable for polarization maintaining fiber with corresponding wavelength.
* 可定制应用于无磁或真空环境的产品
  Products suitable for non - magnetic or vacuum environments can be customized.

消色差准直器（应用于多模光纤）

Achromatic collimators (for multimode fibers)

多模光纤因数值孔径偏大，使边缘的光束经过镜头更容易产生杂光与像差等问题。因此多模光纤输出激光后需要接入的匹配型大数值孔径的镜头显得尤为必要。远讯自主研发的数值孔径0.5以上的镜头，专为多模光纤应用量身打造。这款准直器能够出色地对NA为0.5的光纤输出光进行准直处理，得益于透镜的消色差设计，它可以将波长在±20nm范围内的激光实现良好的进行准直输出，有效保证了激光输出的质量合稳定性。此外，该镜头较大的数值孔径使其具备显著优势，能够高效地将空间光耦合进数值孔径为 0.5 的光纤内，极大地提升了光信号的传输效率和质量，为多模光纤的应用提供了更为可靠和高效的解决方案。

Due to the relatively large numerical aperture (NA) of multimode fibers, the marginal light beams are more likely to generate problems such as stray light and aberrations when passing through the lens. Therefore, it is particularly necessary to connect a matching lens with a large NA after the multimode fiber outputs the laser.

Ysenser's self-developed lens, boasting a NA exceeding 0.5, is meticulously engineered for applications involving multimode fibers. This achromatic collimator demonstrates remarkable proficiency in collimating the output light from fibers with an NA of 0.5. Leveraging the sophisticated achromatic design of the lens, it is capable of delivering excellent collimation output for lasers within a wavelength range of ±20 nm. By virtue of this, it effectively guarantees the high quality and stability of the laser output, setting a new standard for performance in this domain.

In addition, the large NA of this lens gives it significant advantages. It can efficiently couple space light into a fiber with a NA of 0.5, greatly improving the transmission efficiency and quality of optical signals and providing a more reliable and efficient solution for multimode fiber applications.

特征 Features：

- 设计波长范围Designed Wavelength Range: 400nm~1700 nm
- 数值孔径大，用于多模光纤With a large numerical aperture, it is applied to multimode fibers.
- 有效焦距Effective Focal Length: 10mm
- 有效通光孔径Effective Aperture for Light Transmission: Ø11.0 mm
- 两款接头类型可选 Two Connector Options：FC/PC 2.2mm wide key connector,SMA905
- 可以用作耦合器或准直器:It can be used as a coupler or a collimator.
- 所有光斑、发散角的测试数据均由远讯标准跳线接入测试

All testing data for beam size and divergence angle are obtained by connecting the standard jumpers from Ysenser

参数表 Parameter

Wavelength	Bandwidth	AR Coating	Exit Beam Diameter Laser（光纤NA 0.22）	Exit Beam Diameter LED（光纤NA 0.5）	EFL	Fiber Type	Pakage Dia.	NA
405nm	±10nm	400-700 nm	4.5mm	10 mm	9.61 mm	50um 105um 200um 400um 600um	Φ15mm	0.54
450nm	±10nm	400-700 nm	4.5mm	10 mm	9.76 mm			
520nm	±10nm	400-700 nm	4.5mm	10 mm	9.91 mm			
633nm	±10nm	400-700 nm	4.5mm	10 mm	10.05 mm			
780nm	±10nm	600-1050 nm	4.5mm	10.5mm	10.22 mm			
850nm	±10nm	600-1050 nm	4.5mm	10.5mm	10.25 mm			
980nm	±10nm	600-1050 nm	4.5mm	10.5mm	10.30 mm			
1064nm	±10nm	1050-1700 nm	4.5mm	10.5mm	10.32 mm			
1310nm	±10nm	1050-1700 nm	4.5mm	10.5 mm	10.38 mm			
1550nm	±10nm	1050-1700 nm	4.5mm	10.5 mm	10.43 mm			
1650nm	±10nm	1050-1700 nm	4.5mm	10.5 mm	10.45 mm			

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  All testing data for beam size and divergence angle are obtained by connecting the standard jumpers from Ysenser.
* 可定制应用于无磁或真空环境的产品
  Products suitable for non - magnetic or vacuum environments can be customized.