超远距离准直镜头
Ultra-Long-Range Collimator

针对超远距离应用的设计，其准直距离可突破1000米，确保激光束在超远距离的传输过程中依旧维持高度的准直状态，最大程度地降低能量发散现象，有效保障能量的高度集中，进而显著提升激光的传输效率与定位精度。产品设计焦距超过300毫米，这一参数使得它能够出色地实现空间激光的聚焦功能。通过精准聚焦，能够促使更多的激光能量高效耦合进入光纤内部，完美契合远距离漫反射测试等应用场景的严苛需求。产品配备 100 毫米的大口径设计，能够允许更多的激光能量顺利通过，大幅提高了系统的光通量。在增强激光功率与强度的同时，大口径设计还有助于优化光束的成像质量，有效降低波像差，为系统的整体性能提升提供了坚实保障。

Designed for ultra-long-distance applications, this collimator boasts an impressive collimation distance surpassing 1000 meters. It ensures the laser beam maintains high collimation throughout extended transmission, minimizing energy divergence and concentrating energy effectively. This significantly boosts laser transmission efficiency and positioning precision.

With a focal length exceeding 300 mm, the collimator excels at focusing spatial lasers. Its precise focusing mechanism enables efficient coupling of more laser energy into optical fibers, perfectly suiting demanding scenarios like long-distance diffuse reflection testing.

Featuring a 100-mm large aperture, the collimator facilitates smooth passage of increased laser energy, substantially enhancing the system's luminous flux. Besides augmenting laser power and intensity, the large aperture optimizes beam imaging quality and reduces wave aberration, providing robust support for overall system performance enhancement.

应用 **Application**：

• 远距离激光通信，减少信号衰减和干扰，实现高速、大容量的数据传输

Long-distance laser communication reduces signal attenuation and interference, enabling high-speed and large-capacity data transmission.

• 激光测绘，用于地形测绘、建筑测量等，利用激光的高准直性和精确测距能力，获取高精度的三维地形数据和建筑物信息

In laser surveying and mapping for terrain and architecture, lasers' high collimation and precise ranging yield high-precision 3D terrain and building data.

• 配合高能激光作为发射镜头或测距镜头

It can be paired with high-energy lasers, functioning as a transmitting or ranging lens

参数表 Parameter

Wavelength	Bandwidth	Waist Beam	Divergence Angle	EFL	NA（Lens）	Package Dia.	Fiber Type	Transmittance
450nm	±30nm	58.1mm	0.015(+0.03/-0) mrad	300 mm	0.16	Φ110mm	460HP	>90%
520nm	±30nm	58 mm	0.015(+0.03/-0) mrad	306.8 mm	0.16	Φ110mm		
635nm	±30nm	62.6 mm	0.016(+0.03/-0) mrad	309.6 mm	0.16	Φ110mm	630HP	
780nm	±30nm	67.3 mm	0.018(+0.03/-0) mrad	310.6 mm	0.16	Φ110mm	780HP	
850nm	±30nm	67.6 mm	0.019(+0.03/-0) mrad	312.4 mm	0.16	Φ110mm		
980nm	±30nm	65.2 mm	0.02(+0.03/-0) mrad	315.2 mm	0.15	Φ110mm	Hi1060	
1064nm	±30nm	68.6 mm	0.023(+0.03/-0) mrad	314.2 mm	0.15	Φ110mm		
1310nm	±30nm	57.5 mm	0.03(+0.03/-0) mrad	315.89 mm	0.15	Φ110mm	Smf-28e	
1550nm	±30nm	60.5 mm	0.034(+0.03/-0) mrad	317.54 mm	0.15	Φ110mm		

* 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.