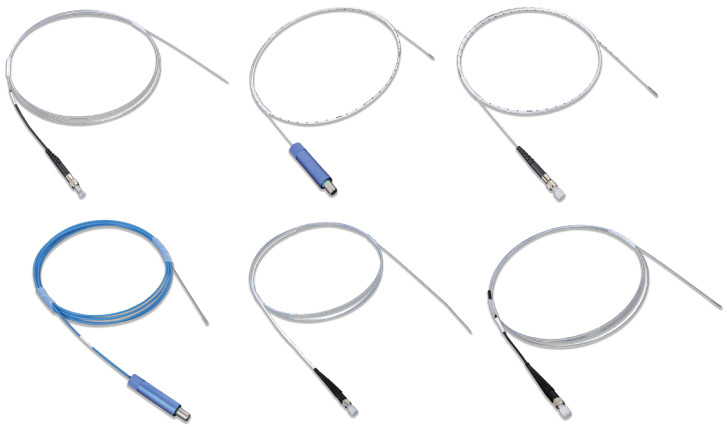


RL-F Series Therapeutic Fiber

RealLight provides professional therapeutic fiber solutions for customers in the diode medical and aesthetic industries. The RL-F series therapeutic fibers, when used in combination with the RL-HP series fiber handpieces, multi-wavelength diode laser modules, AWM series laser systems and OEM modules, can achieve optimal product performance.

Key Features

- Wide spectral range, high fiber transmission efficiency
- Fiber core diameter and aperture can be customized
- Good consistency and uniformity, high transmittance

Applications

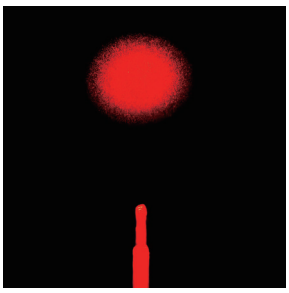
Biomedicine

Laser Aesthetics

Point-emission Fiber

The distal end of the point-emission fiber features a flat tip, delivering a Gaussian-distributed circular small spot. The spot diameter is typically similar to the fiber core diameter (e.g., 400μm, 600μm), resulting in concentrated energy.

Fiber Type	Point-Emission Fiber
Part No.	F01-400-0.37-CR-3-SM
Wavelength Range（nm）	400~1700
Fiber Core Diameter（μm）	400（Customizable）
Fiber Outer Diameter（μm）	730
Numerical Aperture NA	0.37（Customizable）
Fiber Connector	SMA905
Jacket Color	Transparent
Fiber Length（m）	3

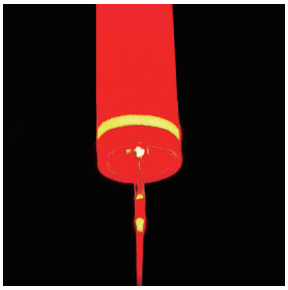


Output Beam Pattern

Single-ring Fiber

The distal end of the single-ring fiber features a single circular ring output. The energy distribution forms a hollow ring with low intensity at the center. The commonly used core diameter is 600μm, with a ring diameter of approximately 1.5-2.0mm.

Fiber Type	Single-Ring Fiber
Part No.	F02-400-0.37-WT-3-SM
Wavelength Range（nm）	400~1700
Fiber Core Diameter（μm）	400
Fiber Outer Diameter（μm）	800
Numerical Aperture NA	0.37
Fiber Connector	SMA905
Jacket Color	White
Fiber Length（m）	3
Glass Tube Outer Diameter（mm）	1.8
Glass Tube Length（mm）	12

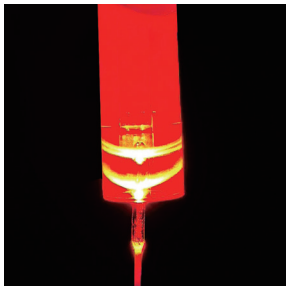


Output Beam Pattern

Dual-ring Fiber

Based on the single-ring design, the dual-ring fiber incorporates a concentric outer ring to deliver dual-ring energy output. The energy of each ring can be controlled independently or simultaneously.

Fiber Type	Dual-Ring Fiber
Part No.	F03-600-0.22-WT-3-SM
Wavelength Range（nm）	350~2300
Fiber Core Diameter（μm）	600
Fiber Outer Diameter（μm）	950
Numerical Aperture NA	0.22
Fiber Connector	SMA905
Jacket Color	White
Fiber Length（m）	3
Glass Tube Outer Diameter（mm）	1.8
Glass Tube Length（mm）	12

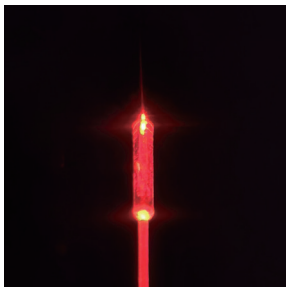


Output Beam Pattern

Tapered Fiber

The tapered fiber features a conical distal end, which increases the output beam angle. The energy density rapidly decreases as the distance increases.

Fiber Type	Tapered Fiber
Part No.	F04-600-0.37-CR-3-SM
Wavelength Range（nm）	400~1700
Fiber Core Diameter（μm）	600（Customizable）
Fiber Outer Diameter（μm）	750
Numerical Aperture NA	0.37
Fiber Connector	SMA905
Jacket Color	Transparent
Fiber Length（m）	3
Glass Tube Outer Diameter（mm）	1.8
Glass Tube Length（mm）	12



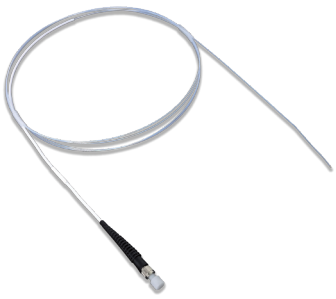
Output Beam Pattern

Diffusing Fiber

The diffusing fiber features a specially designed diffuser (e.g., spherical or cylindrical) at the distal end, enabling 360°uniform lateral scattering of the laser. The scattering length can be customized, ranging from a few millimeters to several centimeters.

Fiber Type	Diffusing Fiber
Part No.	F05-400-0.37-CR-3-SM
Wavelength Range（nm）	400~1700
Fiber Core Diameter（μm）	400（Customizable）
Fiber Outer Diameter（μm）	730
Numerical Aperture NA	0.37
Fiber Connector	SMA905
Jacket Color	Transparent
Fiber Length（m）	3
Diffusing Soft Cylinder Length（cm）	1~5（Customizable）

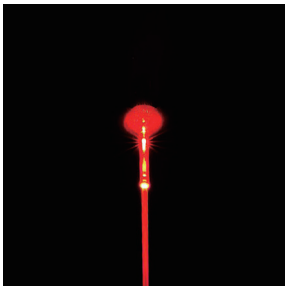
Output Beam Pattern



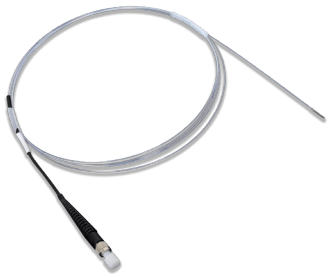
Spherical Fiber

The spherical fiber features a fused spherical tip at the distal end, combining both contact and non-contact characteristics. The sphere can either focus or scatter the light.

Fiber Type	Spherical Fiber
Part No.	F06-400-0.37-CR-3-SM
Wavelength Range（nm）	400~1700
Fiber Core Diameter（μm）	400（Customizable）
Fiber Outer Diameter（μm）	730
Numerical Aperture NA	0.37
Fiber Connector	SMA905
Jacket Color	Transparent
Fiber Length（m）	3
Glass Tube Outer Diameter（mm）	1.3
Glass Tube Length（mm）	12



Output Beam Pattern



Note:

1. All RL-F series therapeutic fibers can be customized according to customer specifications.
2. All the data in the above table are the typical values obtained from the tests at room temperature of 25℃, and the final data is subject to the final test report.