

## Optical Fiber Series

**High-precision and low-loss optical interconnection.**

- Ultra-low loss waveguide for long-haul, high-fidelity transmission
- Broad spectrum from UV to near-infrared
- Rugged armoring, tensile & fold-resistant
- Customizable core/NA, compatible with standard connectors



One Platform Many Possibilities

Contact Us [sales@venuslabtech.com](mailto:sales@venuslabtech.com)

Get a Quote



Get Expert Advice  
+65 8099 5547 ( WhatsApp )



Visit Us  
[www.venuslabtech.com](http://www.venuslabtech.com)

## 1.V-Spectra Universal Multimode Optical Fiber

### 1.1 Product Introduction

In spectral detection applications, optical fibers act as indispensable connecting components that simplify optical path construction, allowing users to focus more intuitively and efficiently on spectral analysis.

Each fiber is delivered with a printed test report that includes the product serial number and optical signal transmission spectrum. The fibers are durable and break-resistant, providing stable and consistent results even under minor signal variations. Made from imported bare fiber, our products deliver superior transmission performance in the UV-VIS spectrum and exhibit gamma radiation resistance at 800 nm.

These fibers are widely used in laser transmission, spectral detection, biological assays, water quality testing, gemstone inspection, and other detection applications within the UV-VIS spectral range.

### 1.2 Product Appearance



### 1.3 Product Parameters

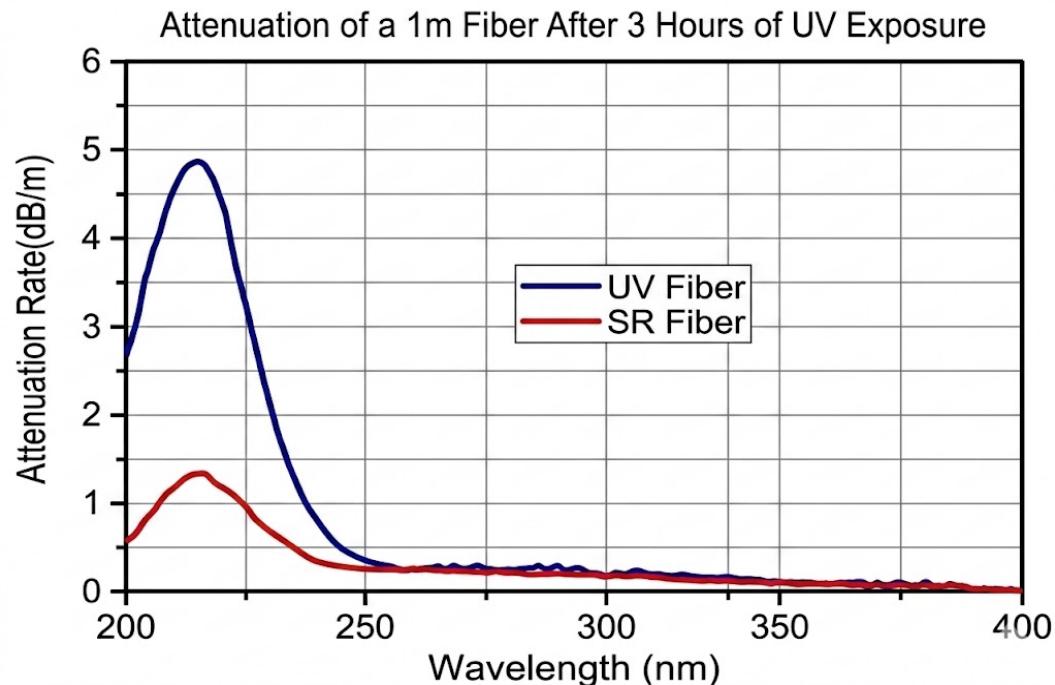
VenusLab Model	Core Diameter	Wavelength Range	N.A.	Outer Sleeve Options	Connector Options
VL-VS-105	105µm	UV-VIS / VIS-NIR	0.22	1. Stainless Steel Monocoil 2. PVC Jacketing (Optional)	1. SMA905 2. FC/PC (Optional) (Optional)
VL-VS-200	200µm				
VL-VS-400	400µm				
VL-VS-600	600µm				
VL-VS-800	800µm				
VL-VS-1000	1000µm				

\* The fiber length is customizable based on customer requirements.

## 2.V-Ultima Anti-Negative Sensation Optical Fiber

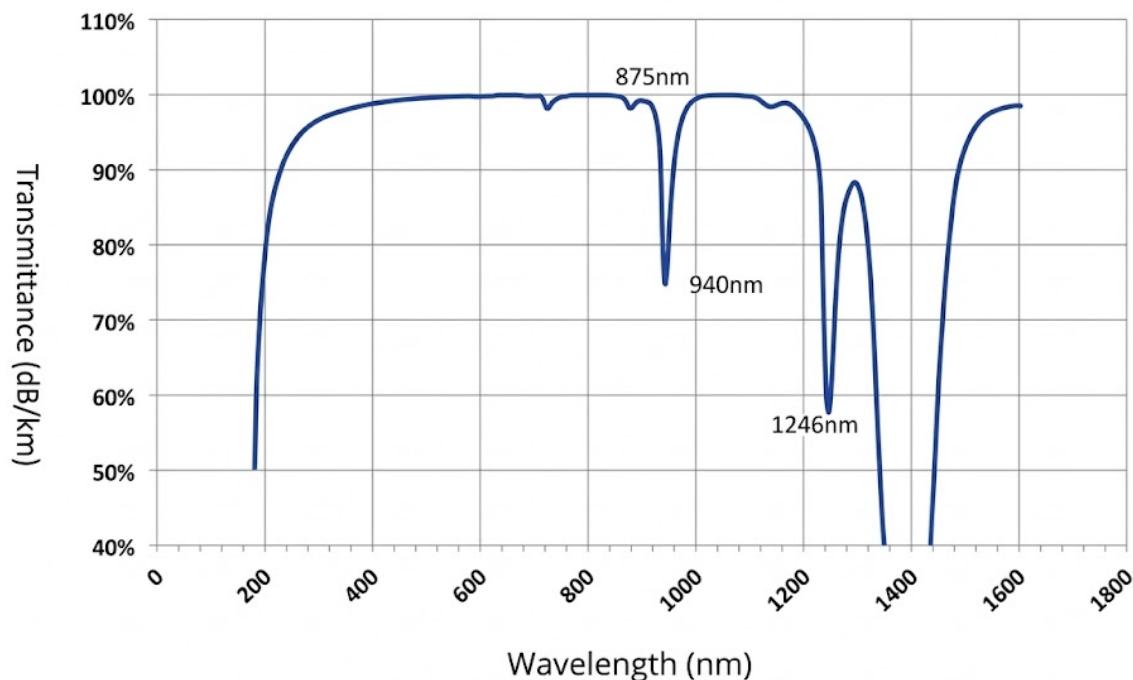
### 2.1 Product Introduction

Anti-reflection multimode fiber delivers excellent performance and transmittance across the UV VIS NIR wavelength range, making it an ideal solution for ArF laser transmission and deuterium lamp applications. It is widely used in laser transmission, spectral detection, UV lithography, medical sensing, biological detection, UV Raman spectroscopy, UV irradiance monitoring, high-temperature measurement, and medical diagnostics.



**Note:** Negative sensing phenomenon (also known as photodegradation) refers to the formation of defect centers inside optical fibers, which results in decreased transmittance. These defect centers are generated when the fibers are exposed to light with wavelengths below 300 nm. Compared with standard optical fibers, anti-negative sensing fibers feature superior resistance to ultraviolet radiation, making them ideal for spectral applications including pollution analysis, chemical processing, ultraviolet lithography, and medical diagnostics.

Standard UV fibers suffer from considerable transmittance loss under ultraviolet radiation. In contrast, anti-negative sensing fibers can maintain higher transmittance, as shown in the figure above. For optimal performance, these fibers must be pre-exposed to UV radiation to establish their initial attenuation level. The exposure duration depends on the light source and its power. Once the exposure reaches equilibrium, anti-negative sensing fibers can be put into regular operation.



## 2.2 Product Specifications

Fiber Model	Core Diameter	Wavelength Range	N.A.	Outer Sleeve Options	Connector Options
VL-VU-100	100μm	190~1250nm	0.22	1. Stainless Steel Corrugated Sleeve 2. PVC Sleeve (Optional)	1. SMA905 2. FC/PC (Optional)
VL-VU-200	200μm	190~1250nm	0.22		
VL-VU-300	300μm	190~1250nm	0.22		
VL-VU-400	400μm	190~1250nm	0.22		
VL-VU-600	600μm	190~1250nm	0.22		

\*Fiber length is customizable based on customer requirements.

## 3.1 Product Introduction

The VL-LC-200-7 series multi-core multimode fiber features a 7-core design with 200μm core diameter, arranged in a circular pattern at the input end and linearly at the output end. The linear-to-circular fiber design enhances coupling efficiency for optical spectrum analyzer signal reception.

When inserting a spectrometer or other device into the linear end of the fiber bundle, the fiber array must be precisely aligned with the incident slit. A directional guide line on the connector sleeve facilitates this alignment (as shown in the figure). While high-precision alignment isn't required, deviations exceeding ±5% may reduce signal strength.

To achieve maximum signal intensity, rotate the fiber bundle while monitoring the spectrometer's intensity levels. The optimal alignment is achieved when the maximum intensity is reached, by securing the fiber bundle in place through the threaded portion of the SMA connector. For our miniature optical fiber spectrometer, the fiber array should be oriented vertically when using this fiber bundle.

## 3.2 Product Illustration



## 3.3 Product Specifications

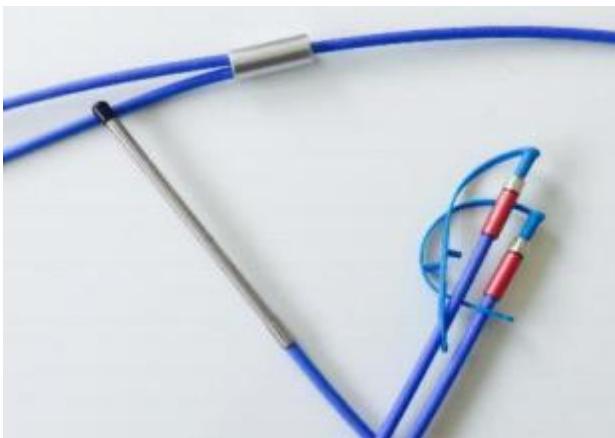
Fiber Model	VL-LC-105-7	VL-LC-200-7	VL-LC-300-7
Multi-Core Fiber	105μm×7 cores	200μm×7 cores	300μm×7 cores
Fiber Length	2m (customizable)		
Transmission Wavelength	UV-VIS or VIS-NIR (optional)		
N.A.	0.22/0.37 (optional)		
Outer Sleeve	Black Kevlar Armor		
End Structure	SMA905		

## 4.V-Probe Immersion Reflectance Probe

### 4.1 Product Overview

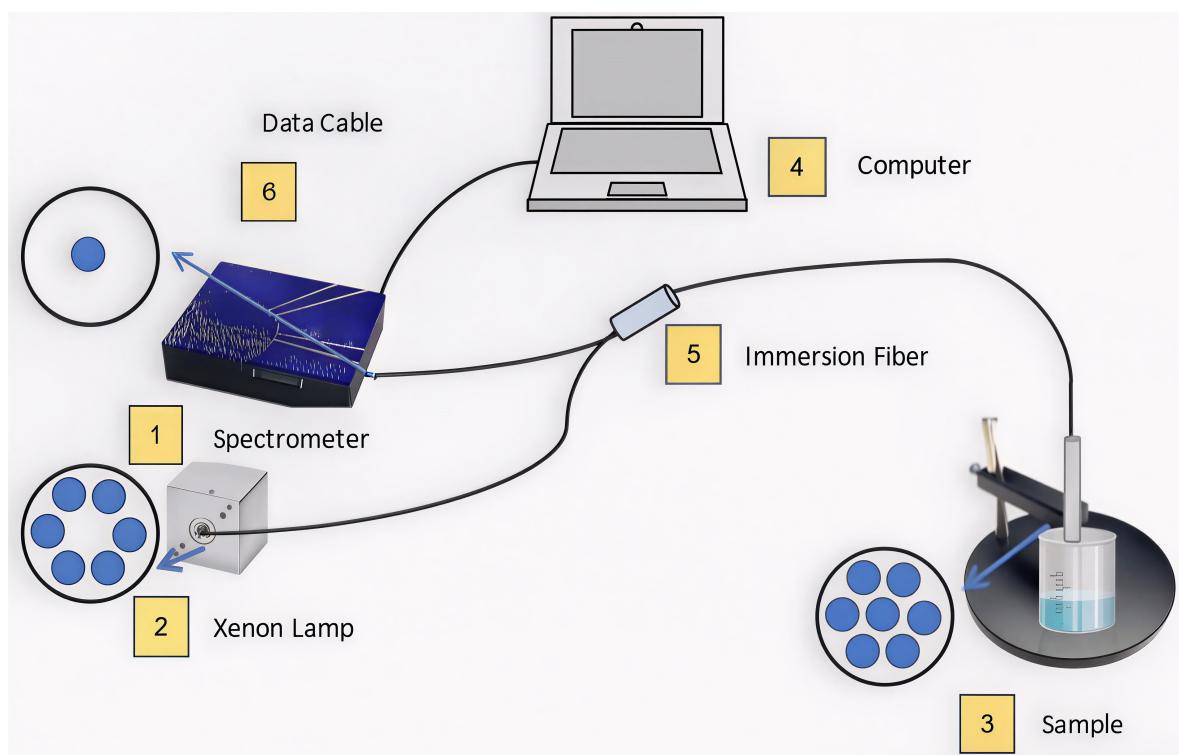
The HP series immersion reflector fiber probes are specially designed for measuring the reflectance and absorbance of liquid samples. Unlike traditional cuvette-based instruments, these probes adopt a front-end immersion structure that can be directly placed into the sample, allowing liquid to flow freely into the probe opening. This direct-sampling design makes them particularly suitable for real-time applications such as chemical reaction monitoring and water quality analysis.

The probe head is constructed from stainless steel and equipped with high-precision mirrors to reduce reflection loss when light enters the liquid. As shown in the figure, light transmitted through the fiber bundle is reflected at the sample end. At the front detection port of the probe, light passes through the sample twice: once when exiting the fiber bundle, and again when reflected back into the probe by the mirror. Although a longer optical path improves measurement sensitivity, it also leads to higher overall reflection loss.



### 4.2 Test Schematic

Reflected and scattered light from the sample is collected by six outer fibers in the fiber bundle and transmitted to the spectrometer end of the fiber assembly. This configuration, which integrates both the light source and the spectrometer, greatly reduces beam obstruction during light exit and re-entry into the fibers. The spectrometer end can be rotated for optimal alignment between the fiber bundle and the spectrometer, after which the SMA connector can be tightened to fix the assembly in place.



## 4.3 Product Specifications

Fiber Model	VL-PB-200-38	VL-PB-400-07	VL-PB-600-07
Multi-Core Fiber	105 $\mu$ m $\times$ 7 cores	200 $\mu$ m $\times$ 7 cores	300 $\mu$ m $\times$ 7 cores
Fiber Length	2m (customizable)	2m (customizable)	2m (customizable)
Transmission Wavelength	UV-VIS or VIS-NIR (optional)	UV-VIS or VIS-NIR (optional)	UV-VIS or VIS-NIR (optional)
N.A.	0.22/0.37 (optional)	0.22/0.37 (optional)	0.22/0.37 (optional)
Outer Sleeve	Black Kevlar Armor	Black Kevlar Armor	Black Kevlar Armor
End Structure	SMA905	SMA905	SMA905

## 5.VenusLab Coaxial Beam Splitting Fiber

### 5.1 Product Overview

The VenusLab V-Split Series employs premium-grade optical fibers engineered for precise light distribution. Its common end features a meticulously aligned multi-fiber array, which can be customized to either square or circular geometries, and then splits into separate single-fiber channels. Developed to meet diverse experimental needs, these assemblies are configurable for both Ultraviolet-Visible (UV-VIS) and Visible-Near Infrared (VIS-NIR) spectral ranges, with core diameter options of 200  $\mu$ m, 400  $\mu$ m, and 600  $\mu$ m.

### 5.2 Product Appearance



### 5.3 Application

- Spectroscopy
- Fluorescence Microscopy Emission Collection
- Particle Detection Scanning
- Colorimetry
- Illumination

All of our fiber bundles can be fully customized to meet specific customer requirements. For instance, a single combined end can be split into two or more connectors, with the flexibility to arrange the fiber core sequence as specified.

## Service & Support

We are dedicated to delivering exceptional optoelectronic solutions to every client. From precision manufacturing and secure delivery to full-lifecycle technical support, we are here to ensure a seamless and reliable experience at every step.

### 1. Warranty Policy

#### Quality First, Worry-Free Operation

**Warranty Period:** We offer a **two-year** warranty service for all of our core optoelectronic products, effective from the date of shipment.

**Coverage:** We provide free repair or replacement services for malfunctions caused by material defects or workmanship errors under normal operating conditions.

**Rapid Response:** Upon receiving a warranty claim, we guarantee to initiate the assessment process within **24 hours** to minimize your equipment downtime.

### 2. Technical Support

#### Expert Team, Full-Process Guidance

**Technical Consultation:** Our team of senior optical engineers provides **24/7 online support** to assist with installation, commissioning, optical path alignment, and parameter optimization.

**Scheduled Maintenance:** We offer full-lifecycle maintenance recommendations, including firmware upgrades, optical component cleaning guidelines, and precision calibration services.

**Training Services:** We provide customized remote or on-site operational and safety training to ensure your team can operate the equipment efficiently and safely.

### 3. Logistics & Delivery

#### Precision Packaging, Global Reach

**Professional Packaging:** Given the fragile nature of optical instruments, we utilize industrial-grade shockproof, anti-static, and moisture-proof vacuum packaging to ensure zero damage during transit.

**Logistics Partners:** We partner with top-tier global logistics providers (**DHL / FedEx / UPS / SF Express**) to offer reliable shipping with real-time tracking.

**Shipping Insurance:** All shipments are fully insured to eliminate logistics risks.

### 4. Compliance & Certification

#### Strict Standards, Total Compliance

**Quality Certification:** Our manufacturing process is **ISO 9001 certified**, and our products comply with international standards such as **CE** and **RoHS**.

**Export Compliance:** "Committed to environmental responsibility, all our products comply with **RoHS 2.0** and **REACH** standards, ensuring safety and global compliance."

## Explore Series

Model	Connector	Core Specs	N.A.	Wavelength Range
VL-VS-400	SMA905 / FC/PC (Optional)	400 μm Single Core	0.22	UV-VIS / VIS-NIR
VL-VS-200	SMA905 / FC/PC (Optional)	200μm	0.22	UV-VIS / VIS-NIR
VL-PB-200-38	SMA905	105 μm × 7 Cores	0.22 / 0.37 (Optional)	UV-VIS or VIS-NIR
VL-PB-400-07	SMA905	200μm×7 cores	0.22/0.37 (optional)	UV-VIS or VIS-NIR (optional)

 Get in touch with our team to explore configurations, request a quote, or learn more about customized solutions tailored to your needs.

Let us help you move science forward—faster and smarter.

Get a Quote



Get Expert Advice  
+65 8099 5547 (WhatsApp)



Visit Us  
www.venuslabtech.com