

Photon Kinetics Production and Laboratory Products

**Reducing the cost of
optical fiber and cable
measurements**

www.pkinetics.com



Reducing the Cost of Measurements

For over 30 years, Photon Kinetics has provided the world's leading optical fiber, cable and component manufacturers with automated test systems for virtually every stage of production - from fiber preform to finished cable. We also offer fiber preparation and alignment tools that enhance the productivity of our test systems and software that facilitates both instrument remote control and data collection. Together, our comprehensive measurement solutions enable manufacturers to obtain the highest quality measurements in the shortest possible time, facilitating both product improvement and manufacturing cost reduction.



Photon Kinetics headquarters in Beaverton, Oregon, USA



2600 Preform Analyzer



P104 Preform Analyzer

Refractive Index Profiling

The first measurement performed in optical fiber manufacturing is characterization of the fiber preform by refractive index profiling. Profile data is essential for estimating the transmission characteristics of the fiber that is ultimately drawn from the preform, and it is useful for obtaining information that is critical for subsequent preform processing. Refractive index profiling is also performed on drawn fibers to ensure that the drawing process did not significantly alter the profile. The capability and performance of our refractive index profiling products are the reason that over 95% of the world's optical fiber manufacturers rely on them to maximize both preform and fiber yields.

Fiber Index Profiling

S14 Fiber Refractive Index Profiler

Preform Index Profiling

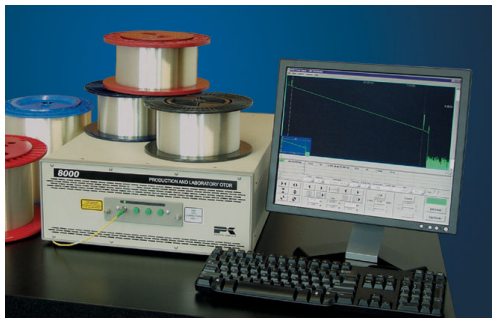
2600 Optical Fiber Preform Analyzer

2610 High Performance Preform Analyzer

P104 Optical Fiber Preform Analyzer

Fiber Transmission Parameters

Our line of products for characterizing optical fiber transmission properties consists of a broad range of test instruments from OTDRs to multi-parameter optical test systems. These instruments are used by optical fiber, cable and component manufacturers to measure fiber transmission properties that are critical to the proper functioning of both single-mode and multimode optical communications networks. These properties include: spectral attenuation, chromatic and polarization mode dispersion, cut-off wavelength, mode field diameter, numerical aperture, effective area, multimode bandwidth, differential mode delay and encircled flux. All Photon Kinetics transmission parameter test systems feature high-speed data acquisition and fiber handling, providing manufacturers with rapid, reliable process feedback and reduced measurement costs.



8000 Production and Laboratory OTDR

Dispersion and Strain

2800 Fiber Analysis System

2850 Tunable Laser-based CD System

Optical Time Domain Reflectometry

8000 and 8000i Production and Laboratory OTDRs

Single-mode Attenuation, Cut-off, Mode Field, Effective Area

2200 Series Optical Fiber Analysis Systems

2201 Far Field Scanner

2500 Optical Fiber Analysis System

Multimode Bandwidth, Attenuation, DMD

2500 Optical Fiber Analysis System

Encircled Flux

2440 Launch Analyzer

Numerical Aperture

2201 Far Field Scanner

2500 Optical Fiber Analysis System

Fiber Geometry

Precise control of optical fiber geometry is essential to ensure that fibers perform as designed and they can be spliced with low optical loss. Our 2400 Fiber Geometry System and its family of measurement options have provided standard fiber manufacturers with this high precision measurement capability for almost 20 years. The 2400 delivers high-speed characterization of properties such as the diameter, circularity and concentricity of the core, cladding and coating layers, as well as fiber curl. Options are available that improve the 2400's measurement performance on standard fibers, and extend its capability to a variety of specialty fiber designs. The 2400-RGS option increases the measurement precision of the 2400 by a factor of 10 for several key parameters. For specialty fibers such as PM and microstructured (holey) fibers that have embedded stress rods or holes, the 2400-PMF and 2400-MFS options enable complete characterization of these structures, in addition to standard core and cladding measurements. The 2410 Large Diameter Fiber Geometry System employs specialized optics to enable measurement of fibers with cladding diameters from 125 to 450 μm



2400 Fiber Geometry System with 2400-PMF Option

Glass Geometry

2400 Fiber Geometry System

- 2400-RGS High Precision Option
- 2400-PMF Polarization Maintaining Fiber Option
- 2400-MFS Microstructured Fiber Geometry Option

2410 Large Diameter Fiber Geometry System

Coating Geometry

2401 Ray-Traced Coating Geometry System

2402 Dark Field Coating Geometry System

Fiber Curl

2411 Fiber Curl Measurement System

Fiber Preparation, Alignment and Test Automation

Photon Kinetics is the leading supplier of high productivity testing solutions for the fiber and cable manufacturing industry, but the high performance of our test instruments is just part of the reason. Our fiber preparation tools, and fiber handling products leverage the performance of our measurement systems to maximize overall testing productivity. They do this by minimizing the time that technicians need to spend preparing fibers and connecting them to the test instrument.

Photon Kinetics' fiber preparation products feature the industry standard FK11 and FK12 fiber cleavers whose "tension first" designs produce defect-free, flat (FK11) or angled (FK12) fiber end faces. Once cleaved, temporarily coupling the fibers to the pigtailed test instrument can be accomplished in seconds with either the 1100 or 1120 Single Fiber Aligners. Automated coupling of fibers, particularly beneficial for high volume cable testing, can be accomplished with the 1001 Multiple Fiber Handler.



1001 Multiple Fiber Handler

In addition to fiber cleavers and fiber coupling tools that minimize test setup time, Photon Kinetics also offers software that automates the OTDR testing process from data entry and OTDR setup to analysis of signatures and handling of results. When used in cable manufacturing final test with the 1001 Multiple Fiber Handler, the OASYS.net OTDR Automation Software is capable of increasing testing throughput to over 1000 fibers in an 8 hour shift.



FK11 and FK12 Cleavers

Fiber Cleaving

FK11 and FK12 Fiber Cleavers

Single and Multiple Fiber Alignment

1001 Multiple Fiber Handler

1100 Single Fiber Aligner

1120 Bare Fiber Aligner

Test Automation Software

OASYS.net OTDR Automation Software

