



HIGH

RESOLUTION

REPEATABILITY

REPRODUCIBILITY

FIBERCHEK

2ND GENERATION FIBER INSPECTION TECHNOLOGY



SYSTEM CONCEPT Hardware & Software Integration

The caliber of high-performance imaging systems depends on both the quality of data the hardware can acquire and the algorithms the software is built upon. FiberChek2 is an integrated hardware/software package engineered with the single purpose of critically and consistently grading fiber end-faces. We began by designing a microscope system and all-digital camera purpose-built for this application. Creating a hardware system optimized for a single application removes the limitations inherent in working

with off-the-shelf components. The result is a hardware system unlike any other, capable of integrating with second-generation algorithms to deliver industry-changing levels of performance.

The heart of the microscope is a high-resolution, all-digital sensor. That sensor allows FiberChek2 to function at two magnifications and two camera settings without costly moving parts. At the click of a button, FiberChek2 uses the full area of

the large sensor to scan a wide field looking for the fiber and surrounding debris. Once the fiber is located the camera mode is changed. A smaller, full-resolution window is placed on top of the fiber and settings are optimized to reveal fine scratches. The first image is used to identify debris around the fiber, while the second image is used to analyze only the glass fiber, the critical area. All of this occurs in a fraction of a second, so quickly that even in hand-held applications crisp images can be acquired easily.

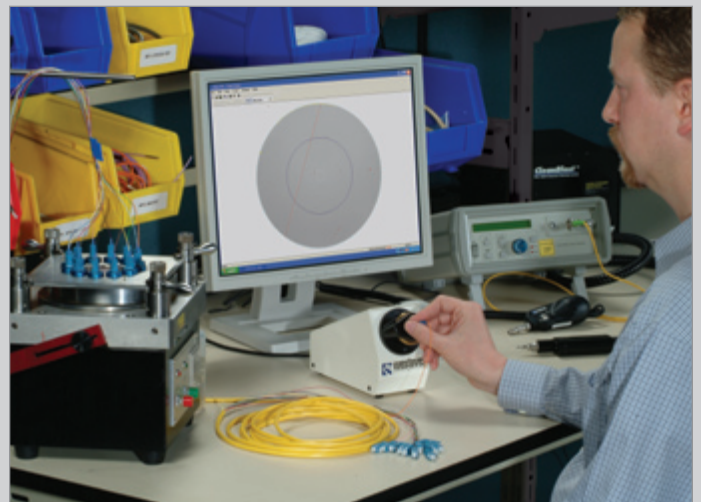


FVD-2400 DIGITAL VIDEO MICROSCOPE

FiberChek2 is sold in two basic configurations. The FVD-2400 is a high-resolution, bench-top microscope suitable for critically evaluating patch cords. Ideally suited for post-polish inspection of high-quality end-faces, the FVD-2400 can repeatedly detect scratches that human technicians would often miss. This platform delivers the sensitivity and repeatability the industry has long-sought. A small footprint, single USB 2.0 cable and low unit cost finally allows process engineers to introduce consistent grading from even new technicians at a cost that makes sense.

FVD-2400 FEATURES & BENEFITS

FEATURE	BENEFIT
Hi-Resolution, Large Area Sensor	Second generation sensor provides superior sensitivity & repeatability. Allows for dual-magnification preview/capture using hardware based ROI (region of interest) image processing.
USB2.0 Video Stream	Delivers pristine, uncompressed images to the PC.
Small Footprint	Maximizes work space.



FIBERCHEK 2 SOFTWARE

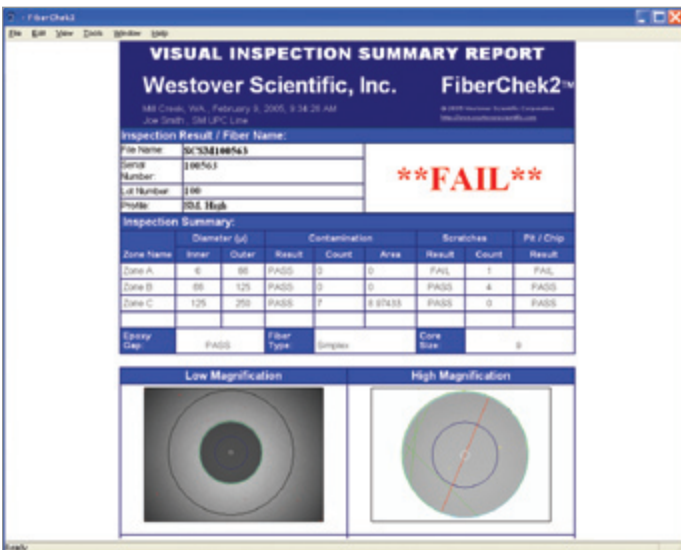
Leveraging purpose-built hardware, FiberChek2's second-generation algorithms deliver unprecedented levels of sensitivity and repeatability. First-generation systems use a single image to scan both the glass fiber and its surrounding areas. This compromise fundamentally limits how effectively the software can detect fine scratches. Processing two independent images, combined with two years of additional algorithm research, produces an ideal product that leaps past previous offerings.

The analyzed image can then be compared to custom Pass/Fail criteria programmed to match customer specifications. As pending industry standards come to fruition, FiberChek2 will be released with those criteria preprogrammed and un-editable.

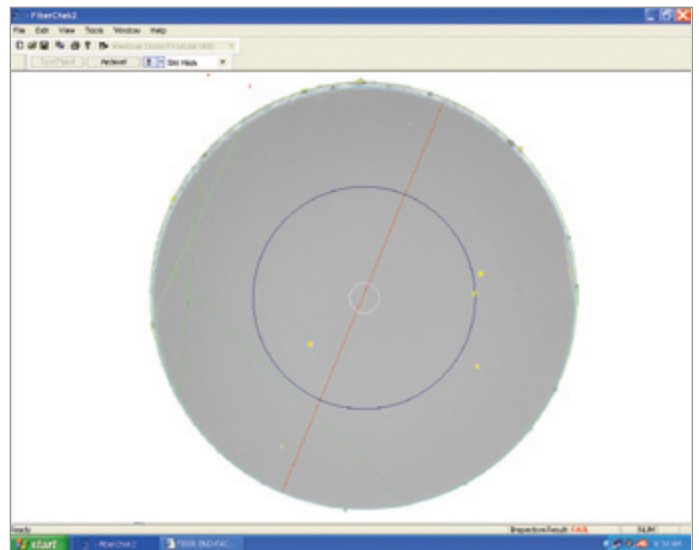
Test results can be displayed within FiberChek2 or dynamic HTML reports. This report is a powerful feature and can be generated by a standard browser. Within the window, summarized results and both low- and high-magnification images are displayed and interactive. You can zoom in,

mouse-over defects for detailed information, toggle on/off overlays, and change the display mode. Further, this entire HTML report can be edited to your liking so future tests generate exactly the report of your choosing. All files associated with the report are generated and saved by utilizing the Archive function within FiberChek2. An Extract Archive function can strip the defect details from these files and create an Excel file for statistical analysis.

FiberChek2 delivers on the promise of a truly effective, practical solution for fiber end-face grading.



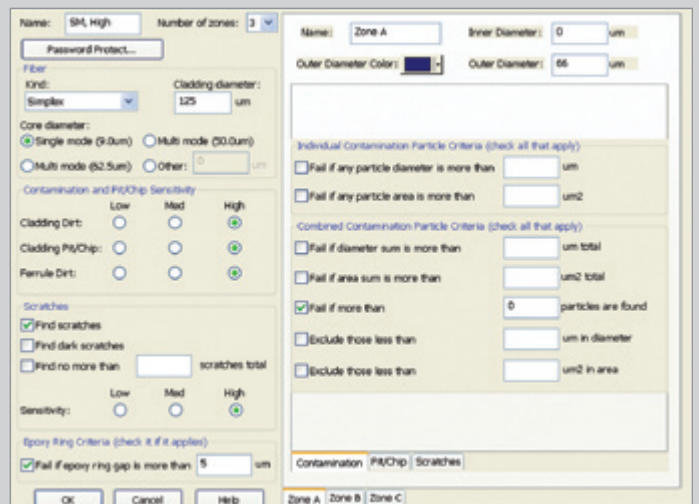
Interactive HTML Report



Main Screen - Adjustable Window Size

FIBERCHEK 2 FEATURES & BENEFITS

FEATURE	BENEFIT
Automated Image Analysis	Eliminates human subjectivity to ensure quality inspections. Provides an objective evaluation of end-face condition, reducing vendor/supplier conflict.
Utilizes Second Generation Algorithm	Improves test repeatability.
Integrates Second Generation Hardware	Dramatically improves sensitivity.
Dynamic HTML Reporting Tools	Allows for customization and interactivity of Archive Information.
Fast and consistent image processing	Ideal for high-throughput production environments.



User Customizable Pass/Fail Criteria Menu

FBP-P5000 DIGITAL INSPECTION PROBE

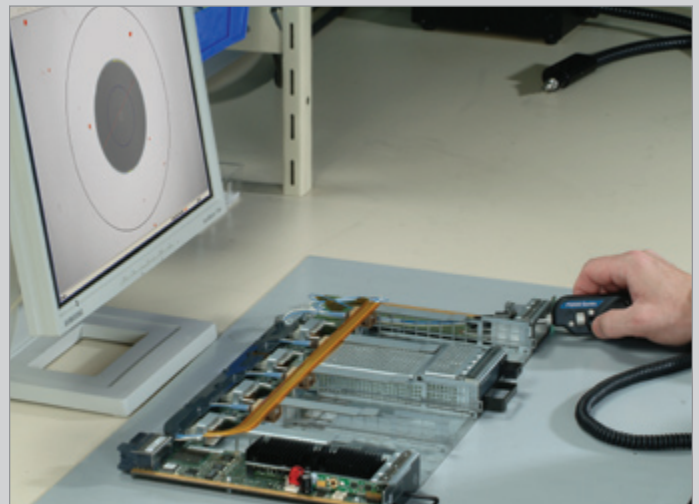
Our FBP-P5000 is a “probe” type instrument operable to view patch cords, connectors in bulkhead adapters, receptacles, and hard-to-reach end-faces. Once outside the polish lab, the versatility of a hand-held probe makes them the easy choice for inspection hardware. Able to image in either a male or female application, probes have come to dominate the market. One limitation of a hand-held probe is that it can be challenging to position the fiber in the center of the screen. The dual magnification mode inherent in all FiberChek2 platforms provides a large, easily centered image during hand-held focusing, thereby greatly simplifying the process of achieving a quality image in view. Once the quick-capture button is

pressed, FiberChek2 does the rest. A pristine, high-magnification image is acquired, analyzed, and graded. The P5000 platform delivers both industry-changing usability and repeatability.



FBP-P5000 FEATURES & BENEFITS

FEATURE	BENEFIT
Hi-Resolution Sensor	Dramatically improves sensitivity and repeatability.
Large Field of View	Makes centering image easy without sacrificing resolution.
Single USB2 Cable	No additional cables or devices needed.
USB2.0 Video Stream	Delivers pristine, uncompressed images to the PC.

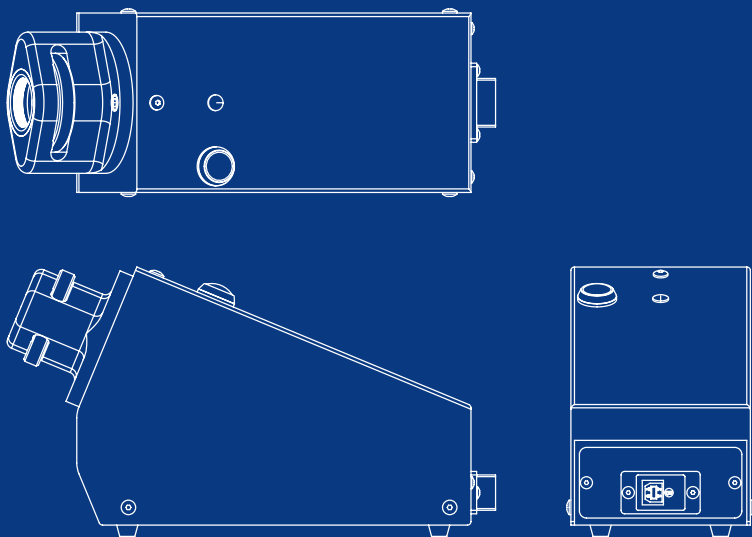


FIBERCHEK 2 SYSTEM REQUIREMENTS

Recommended	PC with Pentium® IV 2.0Ghz processor or higher, Windows® XP operating system
Minimum Recommended USB 2.0 Card for PC's without USB II	PC with Pentium® III 1.0Ghz processor, Windows® 2000 or XP operating system
Recommended USB 2.0 PCMCIA Card for PC's without USB II	Adaptec USB2 Connect (AUA-5100)

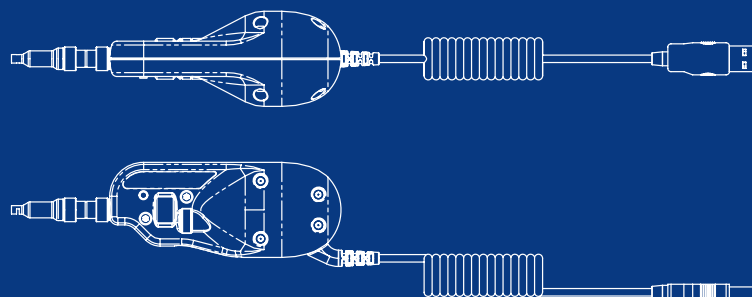
FV & FBP CAMERA SPECIFICATIONS

Camera Type	USB 2.0 B&W Camera
Sensor Type	1280x1024 B&W 1/2" CMOS Sensor
Live Image	Windowed 640x480 @ 15fps
Temperature Range	0 to 50 degrees C



FV SPECIFICATIONS

Powered from USB Port 5V @ 500ma	
Weight	1.01 Kg. / 2.23 lb
Low Mag FOV	Horizontal = 350 Microns Vertical = 263 Microns Diagonal = 402 Microns
High Mag FOV	Horizontal = 175 Microns Vertical = 130 Microns Diagonal = 200 Microns
Resolution @ high	Better than 0.5 Microns
Cable	6' USB 2.0 cable included (extenders available)
Certifications	CE
Warranty	1 year



FBP SPECIFICATIONS

Powered from USB Port	
Weight	0.11 Kg. / 0.25 lb
Low Mag FOV	Horizontal = 650 Microns Vertical = 620 Microns Diagonal = 747 Microns
High Mag FOV	Horizontal = 425 Microns Vertical = 320 Microns Diagonal = 489 Microns
Resolution @ high	Better than 1.5 Microns
Cable	Integrated USB 2.0 coil cable. 2.5' relaxed 10.5' fully extended
Certifications	CE
Warranty	1 year



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