

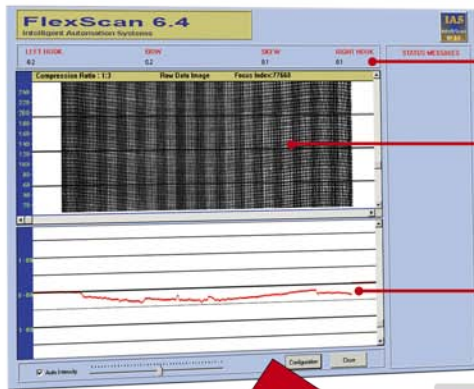
## Advanced Imaging Technology for Bow & Skew Measurements

Reduce bow and skew in textile and carpet processes with FlexScan - an automated, robust and cost effective solution for distortion measurement and system control.

- Visual and numerical information for bow, skew and hook
- Integrates with production processes
- Acts as a sensor for system control
- Optimizes the textile production process through precise inspection and quality control
- Provides an operator friendly interface FlexScan



### A Screen Shot of the main User Interface of FlexScan



Quantified values of the fabric bow, skew, and hook are used by the operator to adjust the process.

FlexScan provides a clear simple user interface.

"Pick Trace" graph

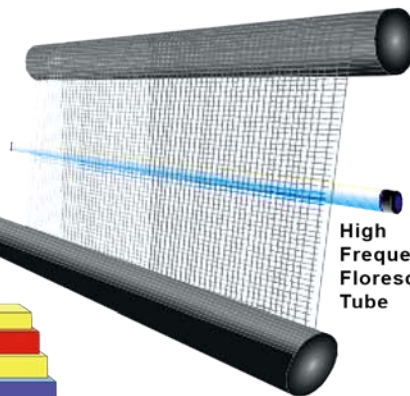
Bow  
0.231

Skew  
0.001

Left Hook  
0.0

Right Hook  
-0.12

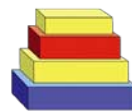
High Speed Scan Digital Camera



High Frequency Florescent Tube



Industrial PC



Corporate Quality Database

[impact-tek.com](http://impact-tek.com)

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### A Screen Shot of the main User Interface of FlexScan

Quantified values of the important features of the fabric like bow, skew, and hook are used by the operator to adjust the processes manually. Optionally, these values can be used for automatic control of processes



FlexScan provides a clear and simple user interface. It compresses the field of view for the operator to the monitor's width for better monitoring of the fabric's quality

The "Pick Trace" graph is another visual aid to help the operator in determining the status of the fabric

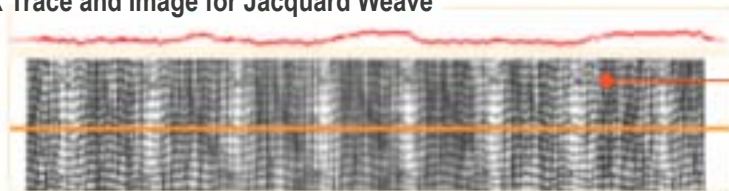
Depending upon the construction of the woven materials, the quality of the image can vary from being too bright to too dark. The "Auto Intensity" feature of the FlexScan maintains the image quality between materials of different construction

### Pick Trace and Image for Open Weave Fabric

Images of the open weave materials tend to be washed out at certain places. The proprietary "Pick Trace" algorithm uses sophisticated techniques to trace the picks from end-to-end



### Pick Trace and Image for Jacquard Weave



FlexScan images and calculates the bow, skew and hook of materials that have complex construction. The pick for Jacquard weave shown here is otherwise difficult to trace visually

## FlexScan

The FlexScan system of Impact Technologies is a sophisticated combination of state-of-the-art hardware and software components. It provides pertinent information about the quality of fabric or carpet in-process so the operator can minimize distortion - bow, skew and hook.

The overall system is designed so that it may integrate into the manufacturing process.

For accurate record keeping, the data generated by the FlexScan system can be stored in a database using Microsoft's Dynamic Data Exchange (DDE) link. Analyzing the data provides an enhanced understanding of the manufacturing processes and leads to process improvement strategies.

## Benefits

- Compressed images of different width fabrics are re-sized to fit the monitor for easy analysis of bow, skew and hook
- Provides data for analysis and control of the processes
- Can be used as a "Sensor" for automatic control of the bow, skew and hook in woven materials
- "Pick Trace" provides an intuitive visual aid for the operator
- Clear and operator friendly interface

## Special Features

Accommodates yarn spacings of 50 per inch or more.\*

- Measures Bow, Skew, Left Hook and Right Hook
- Analyzes both narrow and wide fabrics
- Works well with complex Jacquard Weaves
- Automatically adjusts image brightness to compensate for changes in fabric "cover"
- Reliable hardware and stable software
- Clear and friendly operator user interface
- 

\*Higher densities may require multiple cameras.

FlexScan	
Woven Materials Supported	Simple plain weaves to complex Jacquard
Maximum Width of the Material	150 Inches
Minimum Yarn Spacing	10 per inch
Maximum Yarn Spacing	50 per inch
Support Software	
Operating System	Micorsoft Windows XP
Frame Grabber Support (Bitflow SDK)	Version 2.5 or later
Protocol for Data Transfer	Dynamic Data Exchange (DDE)
Hardware *	
Computer Specification	Processor: Intel Pentium, 2GHz or better Storage: 256 MB RAM, 10 GB HDD
LineScan Camera Specification	Model: Dalsa Piranha 1 or 2 Sensor: 4096/6188 CCD Pixel Array
Frame Grabber Specification	Model: Bitflow CL Max Line Rate: 9,600 lines per second
Miscellaneous	Encoder: 1024 pulses per cycle Light Source: Florescent Tube with High Frequency Ballast

\* Listed Specifications on hardware are typical and are subject to change.