



On-loom

Tire Cord Fabric Automatic Inspection

Elbit Vision Systems (EVS) is the leading provider of computer vision systems for automatic inspection of textile fabrics, as well as other industrial fabrics, such as Tire cord fabrics, Glass fiber fabrics, automotive fabrics, etc.

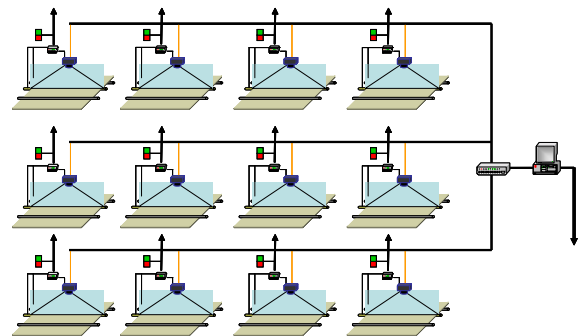
Tailored Configurations:

Based on customer needs, the On-Loom technology provides high flexibility in the design of an optimal system configuration. This optimization is achieved by implementing multiple Smart Vision Camera systems, considering the following aspects:

- Each loom is equipped with a single Smart Vision Camera and light source
- The information regarding the defects data (location, type, image and loom number) are transferred to a central computer station that can be positioned in few places in the weaving room.

Typical Detectable Defects:

- Broken picks
- Loose picks
- Missing picks
- Distorted picks
- Broken ends
- High or low warp yarn density
- Knot



Information flow chart

Benefits:

- Eliminates repetitive defects
- Allows real-time monitoring & corrective actions, thus increases product quality
- Enables reliable and consistent quality of fabrics
- Allows convenient sorting of defective fabrics for mending or disposal
- Records digital quality defect data and statistical tools
- Remote connection for technical support and system software upgrade
- All cameras are equipped with a Local Control Unit which enables transmitting or receiving signals to or from external electronic devices

On-loom

The On-loom is a third generation computerized visual inspection system that automatically detects, memorizes, displays and further grades defects and irregularities appearing in industrial webs.

The On-loom system is empowered by three novel technologies that elevate the automatic visual inspection to a new performance level.

EIP - Embedded Image Processing integrates the video camera with the image processing hardware and software. With the implementation of **EIP** the system reliability is increased, the number of components is reduced, the installation process becomes significantly easier and the maintenance costs go down.

QST - Quick Style Tuning provides feedback from the video album review to the inspection instruction file. It enables rapid optimization of the inspection process of new styles, enhances the detection while minimizing over-detection.

DSA - Defect Sorting Algorithm enables better definition of defect categories for an automatic defect sorting into groups.



System Highlights:

- Modular and compact
- Cost-effective
- Centralized control over multiple inspection points
- Short MTTR (Mean Time To Repair - camera replacement using laser and S/W tools)
- Offering a remote diagnostic tool
- Light weight and very low power dissipation (1.5 Kg, 15 Watts per camera)

On-Loom System Concept:

- The Supervisor can use the central PC screen for viewing each loom inspection status, by using the multi screen display
- The Supervisor can use the central PC screen for viewing the weaving defects image and data (location, type and loom number), which will enable him to track the corresponded defect's loom for further actions (activating alarm or stop the loom)
- The operator can address the corresponded defect's loom for further actions



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