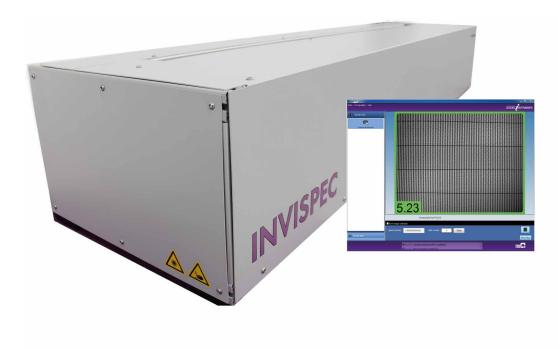# INVISPEC

LENZING iNSTRUMENTS

Producers of woven fabrics are well aware of the potential savings connected with on-line monitoring of defects such as warp and weft faults, holes and contamination. Yet, the demand for a system which offers both accurate defects detection as well as intuitive operation often turns out to be difficult.

With the optical online inspection system **INVISPEC**, Lenzing Instruments offers non-contact scanning of the web for optimum defect detection. Any kind of defect is detected by the system, independent of defect size.
INVISPEC is suitable for woven fabrics and composite webs out of materials such as plastics, metal, glass and carbon. Special illumination modules enable even strongly reflective materials to be monitored with **INVISPEC.**

The system adjusts automatically to various kinds of defects by means of a special teach-in mode based on complex image analysis algorithms. That way, no reprogramming of the software or expert knowledge is needed for the parameterisation of new products. This ensures for easy and intuitive operation and permits a wide spectrum of textures to be monitored.

INVISPEC is a modular system, which is set up according to the specific requirements of the customer. Depending on the measurement task, either line scan cameras or area cameras are applied. The modular set-up allows for **INVISPEC** to be optimised for each customer project in order to yield optimum operating efficiency and product quality.

Scope:
Real time online monitoring of fabrics and composite webs for detection of defects such as broken filaments, fluff, double ends, extraneous fibers, loops, etc.

Method:
The inspected web is either illuminated by incident or transmitted light by means of long-life LED units. Thereby, images of the material are generated by a camera unit in combination with the image processing software. Any deviations from requested material properties are detected by comparison with stored productspecific image processing recipes of the server PC.

Results:
Detected material defects are displayed in real time in the software as a defect map together with images of the defects and their localisation. The software offers extensive possibilities for further defect analysis together with a defect classification according to customer-specific quality standards.

General system specification:

Application area:
Fabric, fabric mesh and laid webs of any colour

Defects:
Physical defects:
Broken filaments, thin- and thick places, fluff, wrinkles, inhomogeneities...
Aesthetical defects:
Dirt, misprints, dye stains...

Software modules:
Monitoring and classification:
- Easily set sorting parameters
- Image acquisition of defects
- Display of statistical data
- Batch-based documentation of defect type and position

System configuration:
- Monitoring of physical defects, misprints and aesthetical appearance
- Camera modules with black and white or colour cameras
- LED-illumination modules with incident or transmitted light

Optionen:
- Large letter remote display
- Marking of defects
- Remote support via modem or Ethernet
- LAN-integration
- PLC-interface

Specification linescan camera:

- Modular monitoring system, system configuration dependent on customer requirements
- A cluster of PCs allows for high monitoring speed

Specification area camera:

- Max. scan width: 580 cm Scan resolution:10 Pixel/mm (Standard) These guide values as well as the scan rate may vary depending on customer requests and application.
- Depending on the scan width and the required resolution, either one or two cameras are operated with one PC.
- The PC is equipped with a variable number of high-end graphic boards.

Technical data and pictures are subject to change!