OCS

Optical
Control
Systems
®

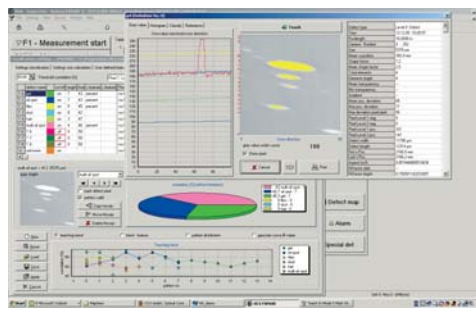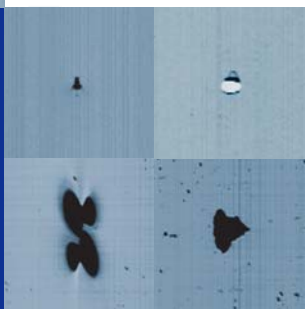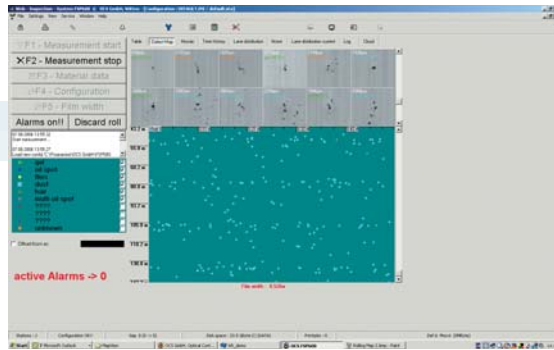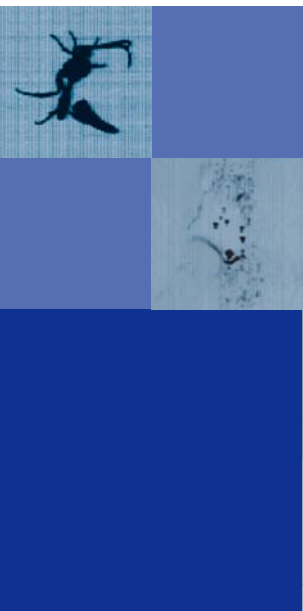**The Solution for the Polymer Industry**

Web Inspection System

FSP600

**The Original by OCS**

# Wide Web Inspection FSP600

## Wide Web Inspection

Web Inspection System FSP600 for the 100% surface control of transparent and opaque/coloured films for speeds up to 800 m/min. and resolutions up to 50 µm. The lighting technologies (transmission or reflection mode) used are high frequent fluorescence lamps with a special designed focussing rod, high power red/white LED`s or fibre optics with metal halide lamps. The defects are classified according to customised defect classes like flies, gels, black specs, scratches, bubbles, fisheyes, holes or repeating defects. The images of these defects are stored for further analysis.

The high end system uses Fuzzy Logic. The Easy Teach-In function enables the operator to select and name the defect classes by evaluating the defect images. Then a classifier automatically determines the parameters for these defect classes.

Furthermore, the operator has the possibility to evaluate the defect image with a 3-D Analyser. The Film Test Evaluation Software enables the customer to re-analyse the defect information according to other specifications.

The sophisticated software enables the operator to analyse the roll quality and to print customised quality protocols of the rolls. It is possible to report the defects to various customised lanes in machine direction.

The system warns the operator with an alarm lamp if critical defects or an amount of critical defects per mÇ, 10 mÇ or 100 mÇ occur.

All this information will be stored and reported in the quality protocols and on the graphical user interface.

## Performance features

- **Modular Architecture**
  Easy expansion, easy customisation and adaptation.
- **Advanced Embedded PC Technology**
  An embedded PC is integrated with the camera in a closed stainless steel housing and can buffer more than 1.000 defect photos per second. This unit is connected via Ethernet 100MB to a FSP600 Windows XP Professional server. The FSP600 server can be connected to the company network easily.
- **Real-time Defect Analysis**
  Fast analysis and display of the inspection results to interfere directly into the process.
- **Easy-Teach-In Classification**
  Intelligent Fuzzy Technology classifies the defects automatically by their parameters.
- **Statistics**
  Statistical information (absolute, per 10 mÇ, 100 mÇ and trend) depending on defect size and type.

- **Time Trend**
  Graphical view of the detected defect classes, width or opacity subject to time, running meters or lanes.
- **Open Data Format**
  The inspection data can be converted into common formats (Access, Excel...) for additional statistics. Optional My SQL or Oracle interfaces are available.
- **Width Measurement**
  The system controls the width of the film and alarms the operator when the width changes.
- **Opacity Measurement**
  Online measurement of the absolute and relative transparency values.
- **Lane Reporting**
  The defects will be reported up to 25 various lanes with individual printouts. The lane width can be configured automatically or individually.
- **3D-Defect Analysis**
  Powerful software tool for a sophisticated defect image analysis.
- **Repeating Defect Alarm**
  The system gives an alarm (horn, marker, log in alarm file and on rolling map) and the operator can write a comment in the rolling map.
- **Streak/Line Detection**
  Highly sophisticated 2-D filter operations in real-time detect low-contrast defects within the surface in machine direction.
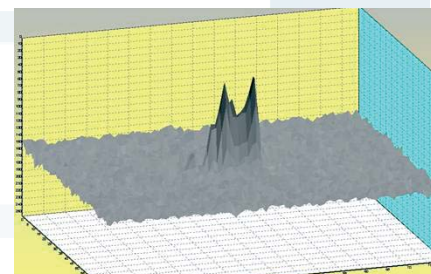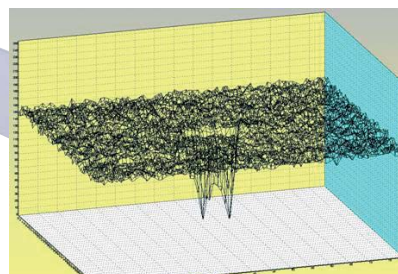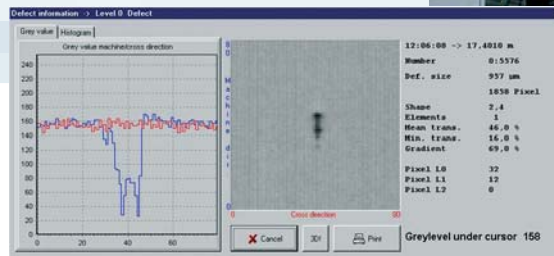
- **Quality Traffic Light**
  SW Tool for the operator to check quickly the film quality.
- **Alarm Comment**
  With every alarm the operator can write a comment in the rolling map (e.g. screen change or additive change etc.).
- **Customised Defect Printouts**
  The RTF Printout Manager enables the user to generate an individual defect protocol including company logo and specific defect types or size classes. Also, defect types or size classes can be eliminated from the printout.
- **Reverse Turn Management**
  Reversing of the machine direction defect position in the rolling map and defect table to find the defects on the rewinder.
- **OCS Viewer**
  Displaying GUI screenshots from up to 4 FSP600 systems via network on one monitor automatically.
- **Validation Software/Dynamic Calibration**
  A DIN A4 sheet with very precise printed black points and 4 coordinates will be placed on the web and runs under the camera system. The coordinates and black dots will be scanned and the measurement results will be compared automatically.

## Types of Defects

- Gels
- Black Specks
- Fish Eyes
- Holes
- Wrinkles
- Scratches
- Coating Voids
- Water Drops
- Oil Stains
- Insects
- Die Lines
- Contaminations
- Bubbles

## Fields of Application

- Cast, Blown Film and Sheet Lines (PP, PET, PE, ABS, PC, PMMA…)
- Coating Lines
- Laminating Lines
- Calendering Lines
- Bi-orientation stretch film lines
- Aluminium: extrusion coating and lacquering lines
- Technical Films
- Surface Protection Films
- Medical Films/Pharmacy
- Optical Films
- Food/Barrier Films
- Hygiene/Diaper/Non woven Films and Laminates
- Automotive Films

## Technical Data

- **Inspection range**  100 mm - 10 m
- **Camera**
  Principle          CCD line sensor
                     2048 – 8192 pixels/camera
                     max. 320 MHz data rate
- **Architecture Concept**
  Cllient Server
  Embedded Pentium M Technology
- **Illumination**
  HF-cycled, high-performance fluorescent light
  Cold-light illumination with cross section transformer
  White and red LED's
- **Interfaces**
  Ethernet 100 MB, my SQL, Oracle, SAP-link
- **Remote control**
  Extender           Ethernet
  Service            via ISDN, Internet
- **Software**
  Operating systems  Windows XP Professional
- **Main power**
  Power supply       230 V AC, 6 A / 115 V AC, 12 A

**Technical alterations are reserved.**

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