



# We keep an eye on your quality

Print Vision Master - quality control for sheets & endless materials

# 100% quality control for endless materials or sheets

## The Print Vision Master

Ibea expanded its range of products with the new PRINT VISION MASTER (PVM), which was developed especially for the quality inspection of endless materials or sheets.

The Print Vision Master is capable of inspecting the following criteria: Color fidelity (R/G/B), contrast, fitting displacements, decor deviations such as stains, scratches, missing decor, wrong decor, blurs, etc. Ibea integrates the whole system into existing production lines (up to 6 m/sec). The number of cameras to be chosen for the system depends on the required defect resolution.

For the illumination Ibea has developed an extremely bright slit-lamp, which illuminates up to 80 lux/mm<sup>2</sup> and has daylight spectrum. This illumination assures extremely short camera shutter sequences and therefore enables sharp images without blurs caused by movement even at high feed rates. The image recording takes place in sections, that means sections of the endless material are generated and recorded, each slightly overlapping, so that the system can recognize the beginning and the end e.g. for decor recognition. Sheet material is fed in skid-proof and the analysis is carried out by means of pattern match, which means the faults are recognized by means of differential image generation. And displacements of up to 1 pixel can be detected.



Modules are connected through a robust industrial network to the LPT. The LPT operator monitor provides a permanent operator interface for setting up the modules, monitoring the process, logging/printing/ uploading of production data and has helpful menus for service personnel.

## The greatest advantage

The greatest advantage is the new inline-color-control. This feature takes care of the dye distribution on the whole sheet so it grants a 100% control. In fact the color control doesn't monitor the colour bars itself, but the finished print picture. By the use of a RGB Camera you have a very high quality by the color proof, because the RGB camera grants higher accuracy than a densitometer (or similar measurements). The colors are monitored simultaneously so the operator is able to see differences instantly. Because the system detects deviations before they are out of the specifications the printing operator is able to invent before faulty sheets will be printed. This technology grants another contribute to a sustainable production.

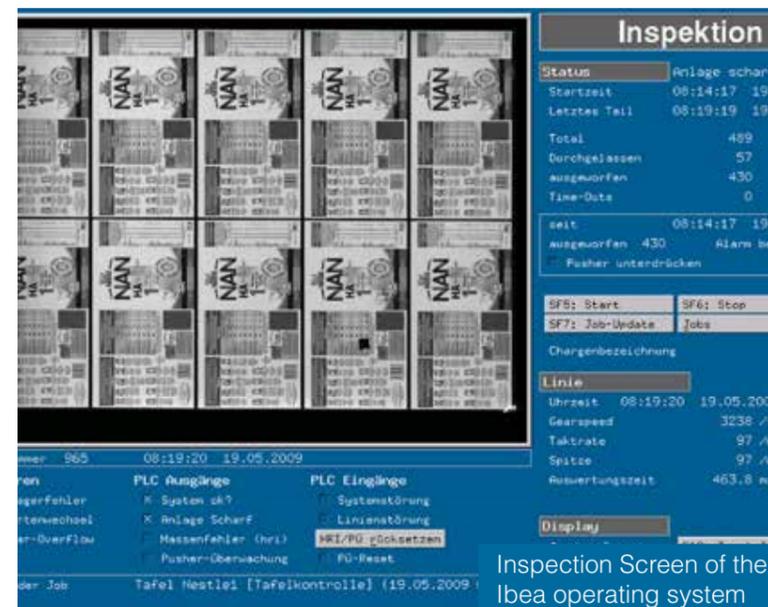
## Easy to operate

Ibea is specially focused on developing a system, which is easy to operate. This is documented in the simple and easy comparison of reference images. The operator merely teaches in the allowed fitting displacements, the maximal color anomaly in percent and if required the allowable defect size in pixel.

# Print inspection simple & reliable

## The Features

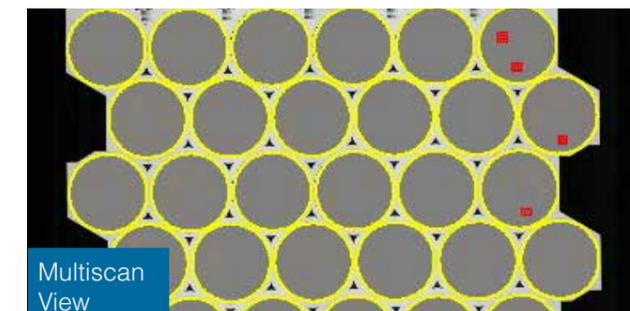
- Maintenance free
- Long life-time
- Individual produced systems according to client requirements
- Simple integration into existing processes on site
- Network-compatible and therefore remote control operating possible
- Annealed, long-life Ibea LED slit-lamp, which illuminates up to 5000 W/m<sup>2</sup>, consisting of 24 single segments with a max. length of 3 m.
- Feed rate up to 6 m/sec. possible on a width of max. 3 m. High resolution line scan camera with 2.000, 4.000 or 8.000 pixel (Connectors for up to 4 cameras in B/W also Color possible)
- Sectional and overlapping image recording
- Automatic begin/end recognition and consolidation of all image fields for faultless inspection and analysis (up to 1 pixel accuracy)



Inspection Screen of the Ibea operating system



- Evaluation by means of differential image calculation
- Color measurement with Ibea white light line illumination possible
- Core i7 based visions PC
- SAP link-up possible
- Easy and quick inspection of new products with the Ibea „Teach In Application, „easy teach in“
- Access during realtime operation possible anytime, also via network
- Direct connectors for light (slit lamp), camera, angle transmitter and trigger
- Integrated statistic and analysis tool
- Up to 3 options for discharge provided
- Interported Plc for up to 3 Pusher



# ibea - product quality systems

## Testing methods applied by ibea systems

- Standard image processing applications:  
inspection by camera of surface, texture, geometry, shape and dimensional accuracy, color, 2D and 3D measurement, holographic imaging, roughness, measurement of position and torsion, leak tightness
- Image processing, special applications:  
Heat-flow thermography by direct application of heat or ultrasonic initiation for structure checks, crack detection or the detection of other anomalies; UV light for fluxing agents or coating checks — crack detection, X-Ray
- Acoustic inspection:  
initiation by a hammer system
- Eddy current measurement:  
castings

## What ibea systems inspect

- Ceramic tubes, ceramic insulators
- NoX sensors
- Sprinkler glasses, Sprinkler bodies
- Glass ampoules, plastic ampoules
- Syringes, syringe parts
- Laparoscopes, Biopsy forceps
- Catheter, Artery tubes
- Toothpaste caps or shoulders
- Blister packaging, before sealing:
  - two-sided and for filling
- Tablets - color, cracks, size
- Silicone sealings and plastic sealings
- Metal packaging
- Plastic packaging
- Heavy ceramics and fine ceramics

## Put our know-how to the test

Feel free to send us samples of your faulty products that need inspection. Please give us a short description of your conveying system, possibly including photographs. Please also include conveyor speed and part rate. We will prepare a comprehensive offer specified to your needs, including needed accessories — all for an attractive price!

## About Ibea

ibea develops and implements inspection systems for a perfect quality check — modular, future-proof, and flexible. It is our aim to ensure a trouble-free production around the clock. Our focus is on producing systems, which are stable and maintenance-free. As a systems integrator we offer you comprehensive professional service from consulting to implementation.