

## › Challenge

During the manufacturing of lamps, different quality criteria must be inspected. Typical issues are glass defects on bulb, geometry of bulb, mount and coil unit, splinters in the bulb ore fusing in of lead wires.

## › Solution

The inspection system consists of several separate inspection stations with camera units arranged at the positions of an indexing table. The cameras are turned around the lamps and acquire images of different perspectives. A very compact installation size is reached due to optimized mirror systems. Detected defects are classified by type and size and stored into a database. The limits for defect sizes and distinctive features are adjustable. Lamps with defects are discharged from production.

New lamp types are trained once by a simple procedure. In case of changing production at the line, the actual type is just chosen from the list of known lamp types.

## › Benefits

- Detection of all relevant defects
- Comprehensive quality monitoring
- Identification of process malfunctions in due time
- Robust recognition
- Use of standard hardware
- Easy process integration
- Standard data interface for SPC

## › Contact

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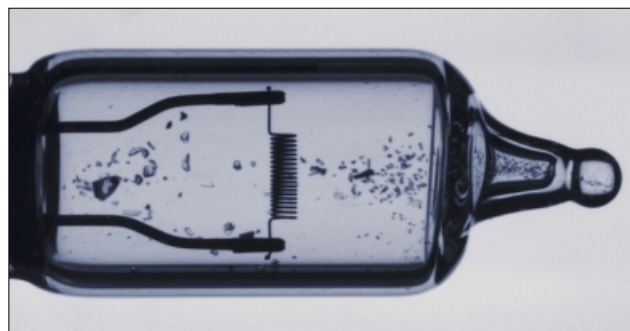
## G/Glas Glass inspection



Lamps in the inspection station



Glass defects at lamp shoulder and bulb



Glass splinters in the bulb