See what's really there with trevista DOME!

Cognex trevista DOME is a patented illumination concept with a unique **shape-from-shading*** technology. It is particularly suitable for inspection tasks on demanding surfaces.

✓ Perfect image quality for evaluating the finest topographical defects
✓ Patented 2½D Shape-from-Shading process with 3D inspection quality
✓ Optimised for inline inspection in industrial environments with high part throughputs

Initial Situation
- Increasing demands on surface quality
- Specification of an objective, automated 100% check

Challenge
- Different representation of surfaces due to production variation
- Defect variance
- Risk of error slip
- Susceptible to pseudo-rejects

Solution
- Quality inspection with the Cognex standard for surface inspection

Advantages
- Reliable defect detection with minimised pseudo defect percentage
- Increase productivity
- Minimisation of inspection costs
- Process reliability
- Traceability and reproducibility of all results

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Cognex trevista DOME

*What is Shape-from-Shading?
Shape-from-shading is an inspection technology that detects not only texture but also slopes and curvatures of surfaces. It is mainly used in automated quality control for inline inspection tasks and enables the reliable detection of shape deviations such as scratches, pores, blowholes or notches. The method is particularly suitable for demanding surfaces with a high degree of gloss, black surfaces or surfaces with different materials.

trevista DOME types

✓ Three standard sizes (S, M, L), flexible measuring field up to diameter 300mm

trevista DOME S	trevista DOME M	trevista DOME L
246 x 160 x 259 (w x d x h in mm)	388 x 330 x 348 (w x d x h in mm)	669 x 610 x 453 (w x d x h in mm)

Application Examples

trevista DOME with pressure sensor disc

motor piston

bipolar plate fuel cell

trevista DOME Area Scan
- ✓ trevista DOME combined with area scan camera
- ✓ inspection area flat/curved
- ✓ component presentation clocked
- ✓ resolution on object flexible
- ✓ image acquisition typ. < 100ms / Mbyte

trevista DOME Line Scan
- ✓ trevista DOME combined with line camera
- ✓ surfaces of components or flat/curved test surfaces
- ✓ component presentation in rotation or linear movement
- ✓ resolution on object flexible

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All features and advantages

- ✓ trevista DOME is the "state-of-the-art technology" in the shape-from-shading process
- ✓ Sensor technology perfect for surface inspection in industrial environments
- ✓ Realisation of cost-effective inspection systems without time-consuming illumination design and costly re-parameterisation - for maximum inspection reliability
- ✓ Enables 100% inspection with high part throughput - short amortisation
- ✓ Reliable detection of bad parts based on the topography information obtained in the µm range for maximum inspection stability
- ✓ Minimisation of pseudo-rejects
- ✓ Reproducible result images ensure production reliability
- ✓ Stable inspection even with varying degrees of gloss and fluctuating brightness properties of the surface
- ✓ Robust and maintenance-free, no readjustment necessary
- ✓ High precision
- ✓ Enormous light output
- ✓ Perfect physical arrangement
- ✓ Complex technology simply integrated by AIT Goehner

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