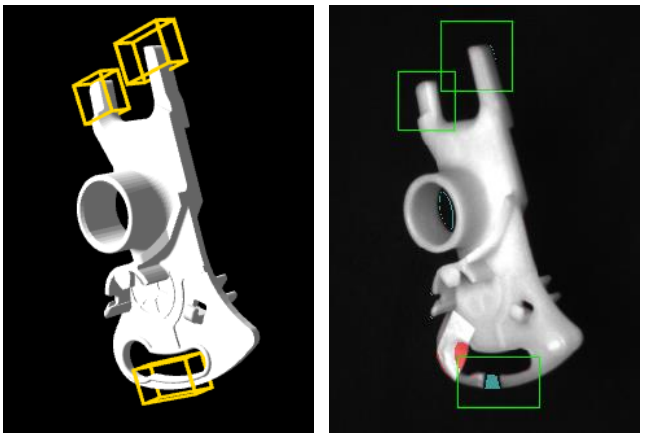
FORTecH Software

Our Product
3D-Shape Sensor

Application Areas

The 3D-Formsensor is a contact-free sensor detecting shape errors of inelastic parts. The reference model is being derived directly from construction data. The sensor can be used for instance in the injection molding industry to detect production errors.



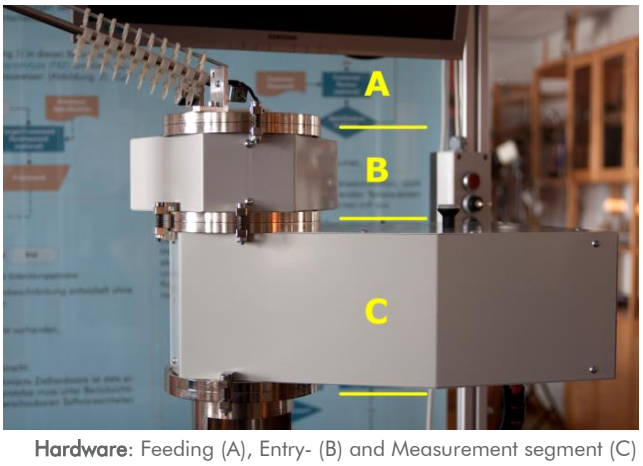
Inspection result: *Left*: Reference model viewed from determined 3D-pose depicted with configured volumes of interest. *Right*: Image with oversize (red) and missing (blue) material, respectively. Bounding boxes around projected volumes of interest are shown in green.

Mode of Operation

Parts fall through up to four measurement segments, each featuring two cameras. For every segment the exact captured 3D-pose of the part is determined. To avoid double-counting of volume mismatches silhouette deviations against the reference model as seen from the different camera perspectives are consolidated.

Technical Parameters

- Contact-free measurement
- Test duration typically less than a second
- Switching to a test setup of a different part typically less than 30 seconds†
- Uses construction data as reference, no learning phase required
- Maximum part size approximately 60 x 100 x 60 mm³ (W x H x D)
- Volume resolution at least 0,03 mm³
- Dedicated part testing criteria definable and free configurable volumes of interest
- Outputs sorting information
- Imaging in direct-light mode or transmitted-light mode, respectively



Hardware: Feeding (A), Entry- (B) and Measurement segment (C)

Volume resolution and test duration may be adapted by using a different Camera, Lens and/or Computing equipment just by reconfiguring the sensors Software.

† Given a suitable mechanical feeding and a prepared reference model.