



- 1 Determination of the diameter of a drilled micro-hole ( $R=100 \mu\text{m}$ ).
- 2 Inner structure of a sensor element.
- 3 3D reconstruction of a die casting component.
- 4 Computer tomography system V|tome|x L 240 / 180.

## METROLOGICALLY COMPUTER TOMOGRAPHY

### Computer tomography

Computer tomography enables the nondestructive investigation of the inner and outer geometry of objects. Using virtual cross sections of the object it is possible to check the material, detect defects and determine geometric structures inside the object.

### CT parameter

Fraunhofer IOF has available a modern system for high resolution CT measurements of the company GE Sensing & Inspection GmbH. Detailed parameters of the duplex tube system:

- Nano focal tube: 180 kV
- Micro focal tube: 240 kV
- Max. object diameter: 320 mm
- Max. object height: 320 mm (special mode up to 640 mm)
- Detector resolution: 2048 x 2048 pixel (special mode up to 4096 x 2048 pixel)

- Flaw detectability: up to 300 nm
  - Measurement uncertainty:  $1 \mu\text{m}$
- Switching between tubes by software is possible.

### Our Offer

The Fraunhofer IOF offers the following services:

- Full 3D digitalisation of objects
- Formulation of analysis strategies for determination of geometry and size accuracy of inner and outer structures
- Variance analysis of CT measurements and the original CAD model
- Optimization of CT parameters for series inspections
- Data analysis for material testing (cavities, cracks, porosity, enclosures, etc.)
- Control of object adjustment and assembling
- Consulting for embedding in manufacturing processes and QA control

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