

# kolibri Flex 400

## Portable optical 3D measuring machine

### Conceptual design

- Fully automated optical 3D digitizer
- Mobile concept for use at different locations
- Tilting sensor head and flexible camera position
- Complete record of object surface **without reference markers or matching procedures**
- **MULTIview technology** by 3-camera system and pivoted motorized rotation stage
- Very robust against environmental influences (long term shifts) because of **self-calibration**
- High ability for reproduction because of **predefined measuring schemes**
- Easy handling

### Fields of application

- **Quality inspection**  
3D deviation analysis to CAD data  
3D and 2D dimensioning  
Geometrical dimensioning & tolerancing (GD&T)
- **Reverse Engineering**  
Rapid technologies  
Digital mock-up
- **3D visualization and virtual reality**

### Measuring principle

- **Triangulation with the help of digital fringe projection** in combination with photogrammetric methods  
→ **Phasogrammetry**

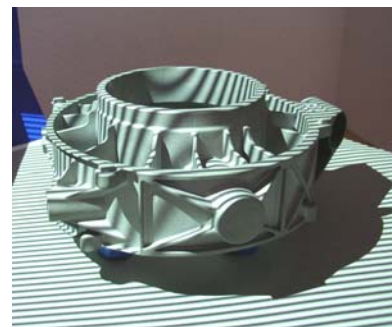
### Technical parameter

- Measurement volume: max. Ø 440mm, height 250mm
- Data capturing time: 3-4 min
- Measuring uncertainty  $\sigma$ : 20  $\mu\text{m}$
- Point distance: 0.3-0.4mm
- Required space: 2.0 x 2.0 x 1.7 m<sup>3</sup>

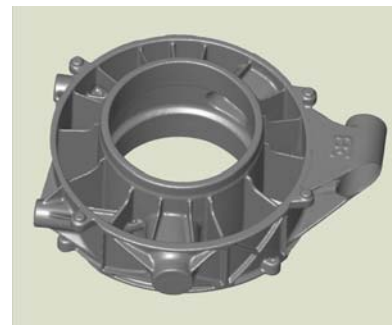
### Competence in optical measuring technology



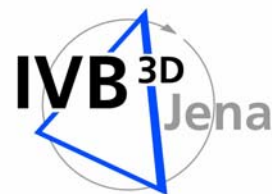
3D measuring system kolibri Flex 400



Projected fringe pattern on moulded part



STL surface of a moulded part



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