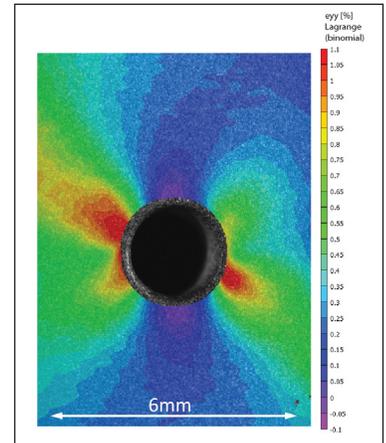


3D-MICRO-DIC

From .5x to 2x Magnification

The 3D-Micro-DIC system specializes in full field strain and deformation measurement on small fields-of-view (FOV). It is available in three 5MP FOV configurations: 2:1 (4.2 mm x 3.5 mm), 1:1 (8.4 mm x 7.0 mm), and 1:2 (17 mm x 14 mm). This system uses the Scheimflug optics principle to overcome diffraction limits and depth of field issues present in traditional imaging optics, obtaining unmatched optical resolution for small field imaging. The 3D-Micro-DIC system leverages the patented distortion correction calibration module to overcome non-parametric distortions introduced by the lens/sensor tilt present in Scheimflug setups



This is the sensor for 1:1 magnification with 8 mm x 6 mm @ 5 Mpx and 75 Hz.

System Features & Advantages

- 3D full-field (5 Mpx @ 75 Hz frame rate)
- Suitable for video extensometer functions and real time feedback control
- Strain noise level of 0.001% (10 $\mu\epsilon$)
- Deformation sensitivity in nm range (1/100 pixel) depending on FOV
- Compact and rigid design with pre-adjusted, fixed field of view and stable calibration
- Designed for small and very small fields-of-view (FOV)
- Reliable and fast USB 3.0 interface for desktop or laptop PCs

Handle with integrated high precision levels

Stroboscopic mode to prevent surface heating

Mono-mode Blue-X-Focus LED light source

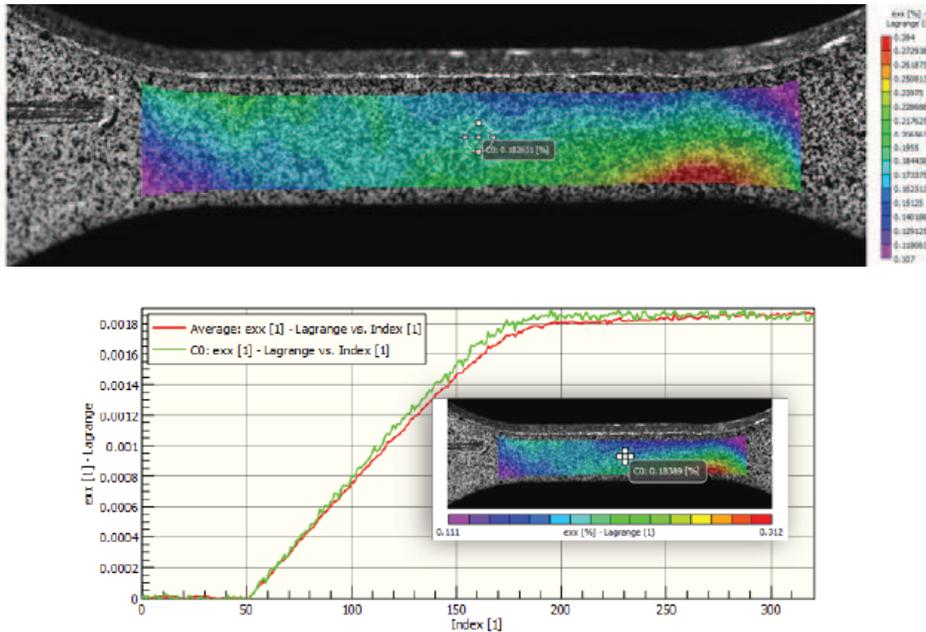
Polarization filters included on LED and on lenses (adjustable)

100 mm working distance

Attachment for 3D stage or tripod head



The 3D-Micro-DIC system can also be used as a 3D video extensometer (e.g. @ 300 Hz) and for high resolution, 3D, full-field strain, deformation and fatigue measurements on small fields-of-view.



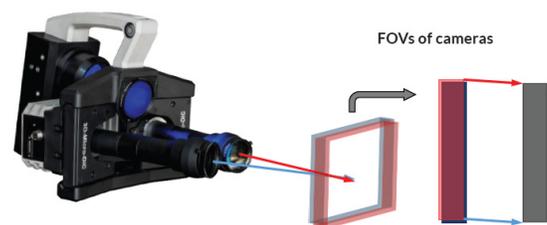
Comparison of Overlapping Field-of-View (FOV) Regions

Conventional Stereo Camera Setups



Effective usable FOV width is far smaller than for a single camera. Further depth-of-field for enhanced FOV requires a closed aperture, which reduces optical resolution due to the diffraction limit.

3D-Micro-DIC



Fully overlapping the measurement volumes of the two cameras enables evaluation over the full FOV with the highest precision (corresponding optical resolution at equivalent apertures of conventional stereo setup).