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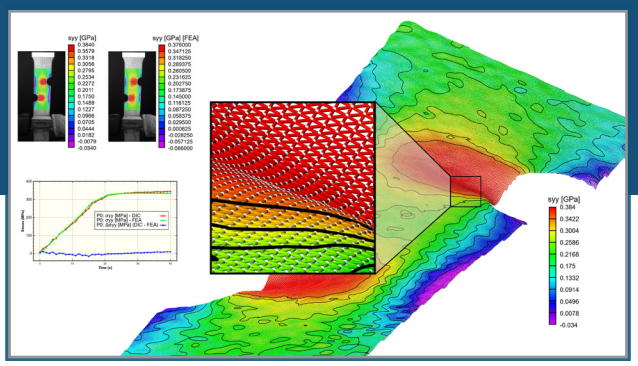
SOLUTIONS

VIC-3D 11 with *iris*
System Specifications



VIC-3D is the industry-leading, non-contact measurement system designed to capture full-field, surface shape, deformation, strain, vibration, and more. This document outlines the specifications of a variety of VIC-3D turnkey systems. All systems are customized to your needs. To discuss the parameters of a specific application, please contact our Sales Team.

Measurement Resolution & Accuracy

	VIC-3D Quasi-Static	VIC-3D Dynamic	VIC-3D High-Speed
Camera Resolution at Full Frame Rate	1.6 MP @ 227 Hz to 24.4 MP @ 15 Hz	2.8 MP @ 400 Hz to 45 MP @ 15 Hz	1 MP @ 76,000 Hz to 9.4 MP @ 1,250 Hz
Maximum Frame Rate at Reduced Resolution*	Up to 100 Hz	Up to 1,500 Hz	Up to 20 MHz
Image Field-of-View (FOV) Range **	5 MP @ 1 mm x 0.8 mm - ∞	5 MP @ 6.7 mm x 5.6 mm - ∞	1 MP @ 20 mm x 20 mm - ∞
In-Plane Displacement Resolution	+/- FOV * 1/200,000		+/- FOV * 1/100,000
Out-of-Plane Displacement Resolution	+/- FOV * 1/100,000		+/- FOV * 1/50,000
Strain Resolution	down to 5 με (with time averaging)		
Strain Range	from 0.005% to > 2,000%		
Full-Field Real-Time Analysis	Yes, up to 10 Hz		n/a
VIC-Gauge 3D *(output of virtual gauges and extensometers)*	Real-Time up to 500 Hz with up to 4 real-time analog outputs		n/a
FFT Module	Available for most systems		

**Maximum frame rate depends on camera model. Minimum camera resolution required to obtain DIC data is ~200x200 pixels, **No theoretical limit for large-scale fields-of-view, and for FOV < 6 mm, Blue Falcon or Stereo-Microscope system is required.*

Turnkey Systems

VIC-3D systems provide a fully customized and integrated hardware and software solution for DIC. Standard systems include (but are not limited to):

- **VIC-Suite Software Seat**
- **Dedicated PC**
- **Cameras & Lenses**
- **Mounting & Lighting**
- **Data Acquisition Device (DAQ)**
- **Calibration Target & Speckle Kits**

Contact our Sales Team to explore the range of industry-leading digital image correlation systems from Correlated Solutions.

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Standard Full-Field Contour Variables

Metric	Variables	Description
Shape	x (pixel)	X-location, in the raw image, of the data point
	y (pixel)	Y-location, in the raw image, of the data point
	X (mm, m, in, ft)	Metric position along the X-axis
	Y (mm, m, in, ft)	Metric position along the Y-axis
	Z (mm, m, in, ft)	Metric position along the Z-axis
Displacement	U (mm, m, in, ft)	Metric displacement along the X-axis
	V (mm, m, in, ft)	Metric displacement along the Y-axis
	W (mm, m, in, ft)	Metric displacement along the Z-axis
Strain Tensors Available *-Engineering* *-Biot* *-Lagrange* *-Henky (log)* *-Euler-Almansi* *-Log Euler-Almansi* *-Tresca* *-von Mises*	exx	Strain in the X-direction
	eyy	Strain in the Y-direction
	exy	Shear strain
	e1	Major principal strain
	e2	Minor principal strain
	gamma	Principal strain angle
Confidence Margins	Sigma (pixel)	Correlation uncertainty
	Sigma_X/Y/Z (mm)	Uncertainty in the X/Y/Z-position and displacement

Additional Post-Processing Variable Options

Other computable variables include velocities, acceleration, strain rates, curvature, rotation angles, vibration amplitudes (requires FFT module), polar coordinates, cylindrical coordinates, raw pixel disparities, custom variables from user-defined functions, and stress calculated directly from strain and material models.

Licensing, Support, & Hardware Warranty

- Permanent software licenses on USB dongles
- Additional post-processing licenses and network licensing available
- US-based technical support directly from the inventors of DIC technology
- 2-year hardware warranty (some high-speed cameras excluded)
- 2-day on-site installation and training
- Extensive and growing online Knowledgebase

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