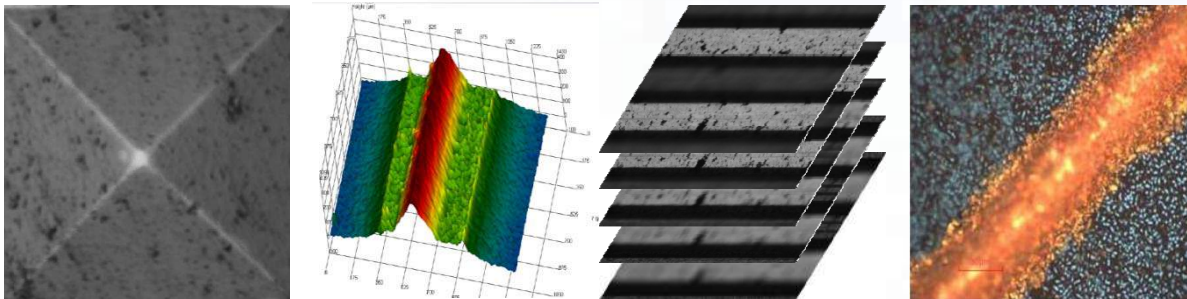


Compact **3D** Digital **Microscope**

- High Resolution Digital Microscopy
- Accurate Z Depth Measurement
- Fast 3D Acquisition and Analysis
- Automatic Depth Composition
- 3D Surface Metrology



PORTABLE 3D DIGITAL MICROSCOPE

The Easiest Way To 3D Imaging

Applications:

3D Image documentation
Z-Stacking
Extended depth of field
3D Shape
Image fusion
Roughness
Z Depth measurement
Surface Metrology

Labs & Field Inspection

Metal Tooling
Forensics
Printing
Archeology
Education
Electronics
Semiconductor
Museum
Automotive
Aerospace
Geology

- No Moving Parts
- All-In-One Device
- Maintenance Free
- No Costly Accessories
- User Friendly Software

ZeeScope Head



*Fast Z scanning,
Flexible Z range &
Nanopositioning Robust
& reliable optical device*

*3 Camera models available:
1MP - 2MP - 5MP*

*Built-in coaxial LED light
source*

*Multiple fixturing
threads*

*Interchangeable
objectives*

ZeeScope Control Unit

*Robust & flexible cable to
Zeescop head*



*Single USB connection to PC
No bulky controllers and
cumbersome accessories*



*Optional Lithium
battery for Field
autonomy*

ZeeScope Applications

Light Portable Microscope For Field Inspection

- ✓ *On site Quality Control*
- ✓ *Field Inspection*
- ✓ *Maintenance*



Accurate 3D Microscope For Labs & Shop Floor

- ✓ *Shop Floor Rapid Testing*
- ✓ *R&D Labs*
- ✓ *QC Laboratories*



3D Industrial Quality Control

- ✓ *Manufacturing Quality Control*
- ✓ *Shop Floor Diagnostic Tool*
- ✓ *Machine Vision 3D Camera*
- ✓ *Automated Optical Inspection*



Applications

Surface Metrology
3D Shape
Roughness
Corrosion analysis
Z Depth
Digs , scratches QC
Surface inspection

Industries

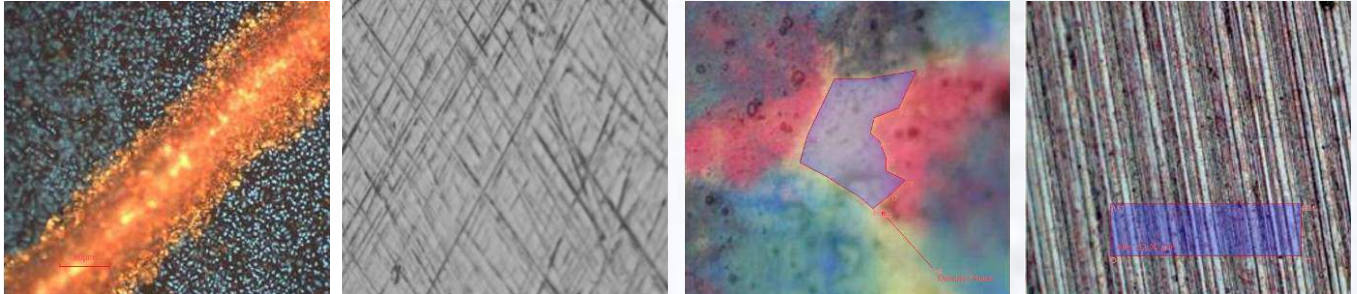
Metal Tooling
Printed Board
Medical
Automotive
Aerospace
Semiconductor
Solar Cells
Electrics
Food
Packaging
Wood
Flooring
Adhesive Beads.
Weld Seams

- *Smart 3D vision*
- *No Moving Parts*
- *All-In-One Device*
- *Maintenance Free*
- *Affordable Solution*
- *Easy Implementation*

All-In-One 3D Digital Microscope

High Resolution Digital Microscope Camera

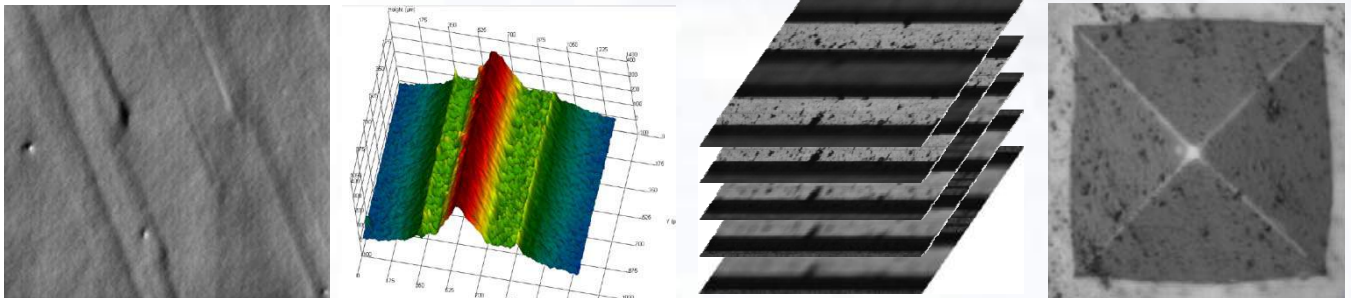
Megapixel CCD • 2D Measurements • Graphics Overlay • Report



ZeeScope provides sharp & crisp digital images in real time, featuring all necessary tools for digital image documentation in high resolution.

Multiple Imaging Capabilities

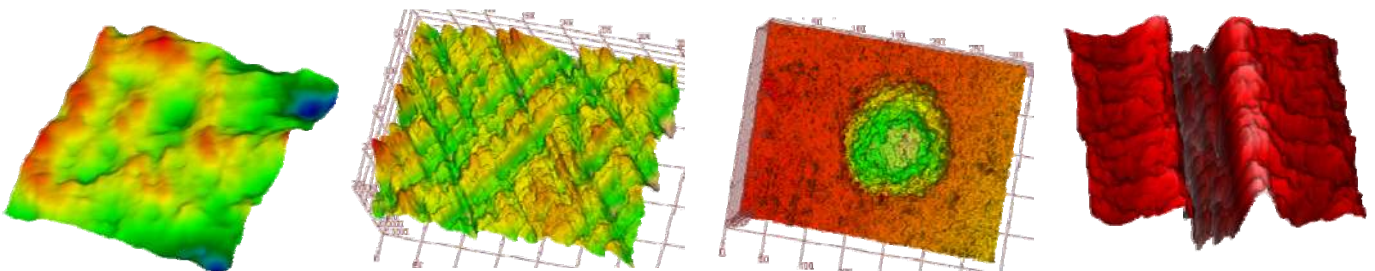
AutoFocus • Depth Measurement • Z-Stacking • Extended Depth of Field • 3D Reconstruction



Thanks to its integrated ZeeScan module, the 3D Digital Microscope performs all critical tasks in material microscopy while using a standard upright or inverted microscope.

3D Surface Metrology

Surface Shape • Roughness • Waviness • Step Height



ZeeScope is the quickest and easiest way for precise surface topography measurements compared to complex, bulky and expensive systems.

Software

- GetPhase® GUI software (included) is compatible with Windows 8, 7, XP & Vista. GetPhase® provides comprehensive tools from automatic acquisition to 2D / 3D image analysis, documentation and reports. Including Z -stacking, Z height measurement, Image fusion (Extended Depth of Field), 3D reconstruction and measurements, multiple display modes: DIC, Phase, brightfield, darkfield , surface and profile roughness, step height measurements.
- API / SDK (optional) for controlling ZeeScope acquisition, routines for Z-stack, 3D reconstruction, EDF, DIC, Phase, and 3D surface analysis.

• Acquisition & Processing

- 2D / 3D Acquisition Wizard
- Auto Focus & Exposure
- Region-of-Interest
- Navigator
- Stitching
- Macro Recording

• 2D/3D Display & Analysis

- BF, DF, Ph, DIC, 3D views
- Text & Graphics overlay
- 2D / 3D measurements
- Image fusion (EDF)
- Roughness ISO standards
- Step Height Measurements

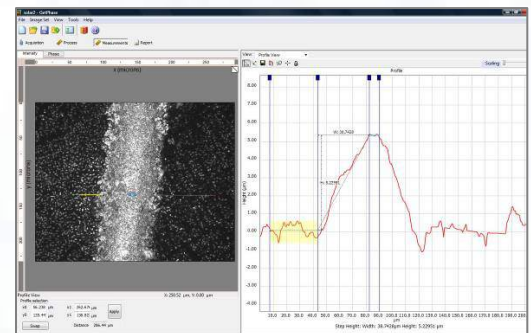
• Image Data Export & Report

- Project Archiving
- 3D Data in Excel Format
- 3D Data for 3rd Party Software
- Report Editor
- HTML Compatible Presentation

Powerful Imaging Tool

Z-stacking of high resolution images can be automatically achieved providing image fusion image (Extended depth of Field image, Z depth measurement or 3D reconstruction. In addition, GetPhase provides 2D measurements and image documentation tools.

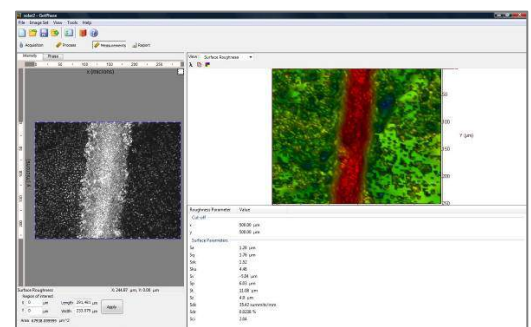
- **Reveals finest structure details without specialized optics**
- **On click Image documentation with multiple views**
- **Automatic image fusion (Extended Depth of Field)**
- **2D measurements & report**



Fast & Accurate 3D Surface Metrology

ZeeScan with GetPhase performs 3D acquisition and analysis in a remarkable fast and easy way. Non contact optical surface profiling is highly repeatable.

- **3D surface analysis in micrometer and nanometer range**
- **Measurement capabilities from smooth to rough surfaces**
- **ISO Roughness and step heights measurements**
- **High throughput thanks to fast acquisition & processing time**



Smart Hardware Architecture

ZeeScope is an all-in one 3D digital microscope controlled by PC with a single USB2 connection and integrating the proprietary PhaseView ZeeScan optical assembly . Accurate calibration is achieved using an automated procedure and stored in an internal memory to prevent any losses.

	ZeeScope 100	ZeeScope 150	ZeeScope 200
Camera	½" CMOS 1280 x 1024 5.2µm square pixels 30fps@full resolution	1/1.8" CCD 1616 x 1216 4.40 square pixels 12fps@full resolution	½" CCD 2560 x 1920 2.20 square pixels 6fps@full resolution
Light source	Built-in coaxial LED light source		
Objectives	Interchangeable objectives (Finite - Infinite type) adapter provided for threads RMS and M25/0.75		
Dimensions & weight			
ZeeScope Head	225(H) x 40 (W) x 55(D) mm, 425g		
Control unit	40(H) 158(W) 150(D) mm, 150g		
Power supply	110/220V AC		
PC interface	USB 2.0		

3D Measurement Performance

Z range and resolution are objective and c-mount coupler magnification dependant. The table here under gives typical performance for standard objective magnification. For any other magnification, the following formulas can be applied:

$$Z \text{ Range} = 60\text{mm} / (G_{\text{Obj}})^2$$

$$Z \text{ Resolution} = \text{Objective Depth Of Field} / 4$$

$$G_{\text{Obj}} = \text{Objective magnification}$$

Objective Mag / NA	Z Range (µm)	Z Resolution (µm)	
5X / 0.10	2400	18.5	<i>Z accuracy: 1%</i>
10X / 0.25	600	3	<i>Z Repeatability: 0.35%</i>
20X / 0.45	150	1	<i>Max slope: 90°</i>
50X / 0.8	24	0.25	<i>XY Spatial resolution determined by camera resolution and objective magnification</i>

Roughness Measurement

12 analysis parameters are provided in total, including the frequently-used Ra (Sa), Rq (Sq), Rz (Sz), parameters. Parameters conform to ISO 4287, 25178 DIN 4768

Measuring range: Ra, Rq: 0.01-500µm Measuring accuracy: $\leq \pm 10\%$ Repeatability: $\leq 6\%$