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# M20.0910

All-in-One 3D Industry Fully Motorized Microscope



### 3D/Super-depth Imaging

Efficient and precise observation, unveiling a whole new dimension of the microscopic world



Various observation modes



Excellent image processing



Rich measurement functions



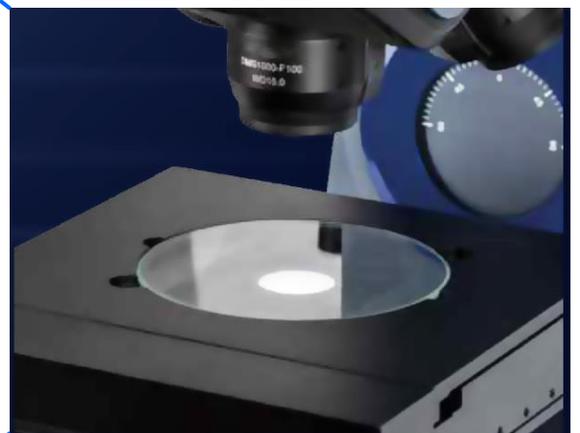
Convenient operational experience

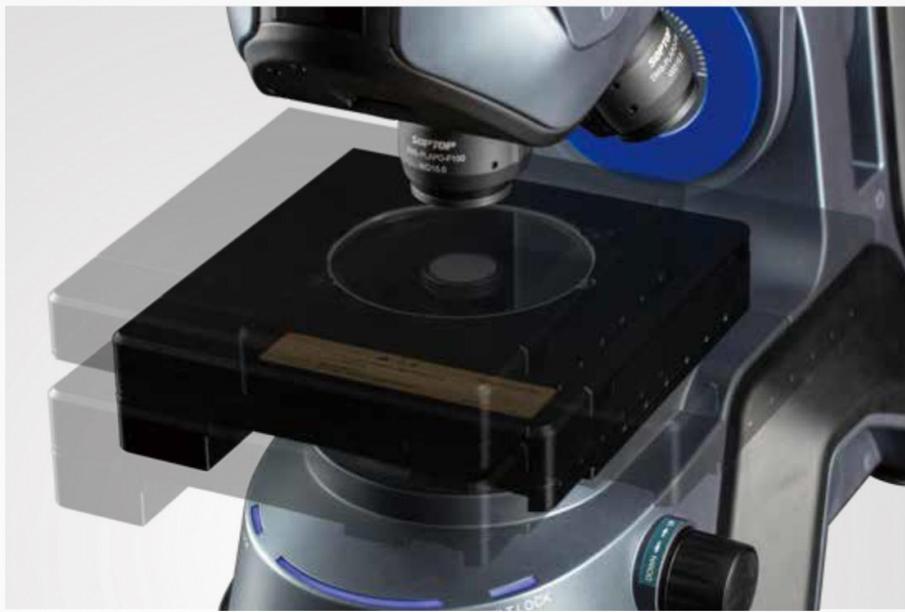


### Full-Field Illumination Leading in Magnification

#### Transmitted Illumination System

- Equipped with LED transmitted illumination to observe transparent samples.
- LED transmitted illumination can prevent sample damage from heat and extend the lifespan of the equipment.





### Large Stroke, Large Rotation Angle Stage

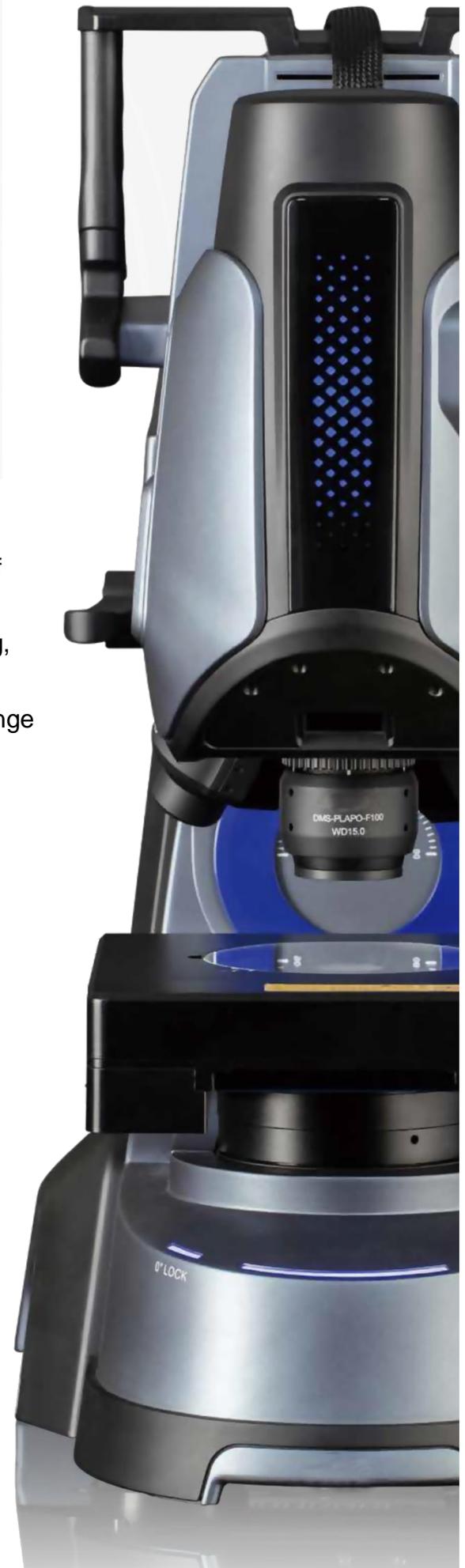
- In rotation priority mode, the stage has a movement range of 50mm x 50mm and can achieve  $\pm 90^\circ$  rotation angles. It is equipped with built-in angle sensors so that even when rotating, the platform can still move in the direction seen in the image.
- In travel priority mode, the stage expands to a movement range of 100mm x 100mm to meet the observation needs of larger samples.

### Precision and Adjustment of Electric Z-axis

- Optional attachment of grating ruler to enhance the measurement accuracy of the Z-axis.
- The coarse and fine handwheels adopt a stepless speed regulation scheme, making the adjustment of the Z-axis smoother and more comfortable, enhancing the operational experience.

### Integrated Controller Operation

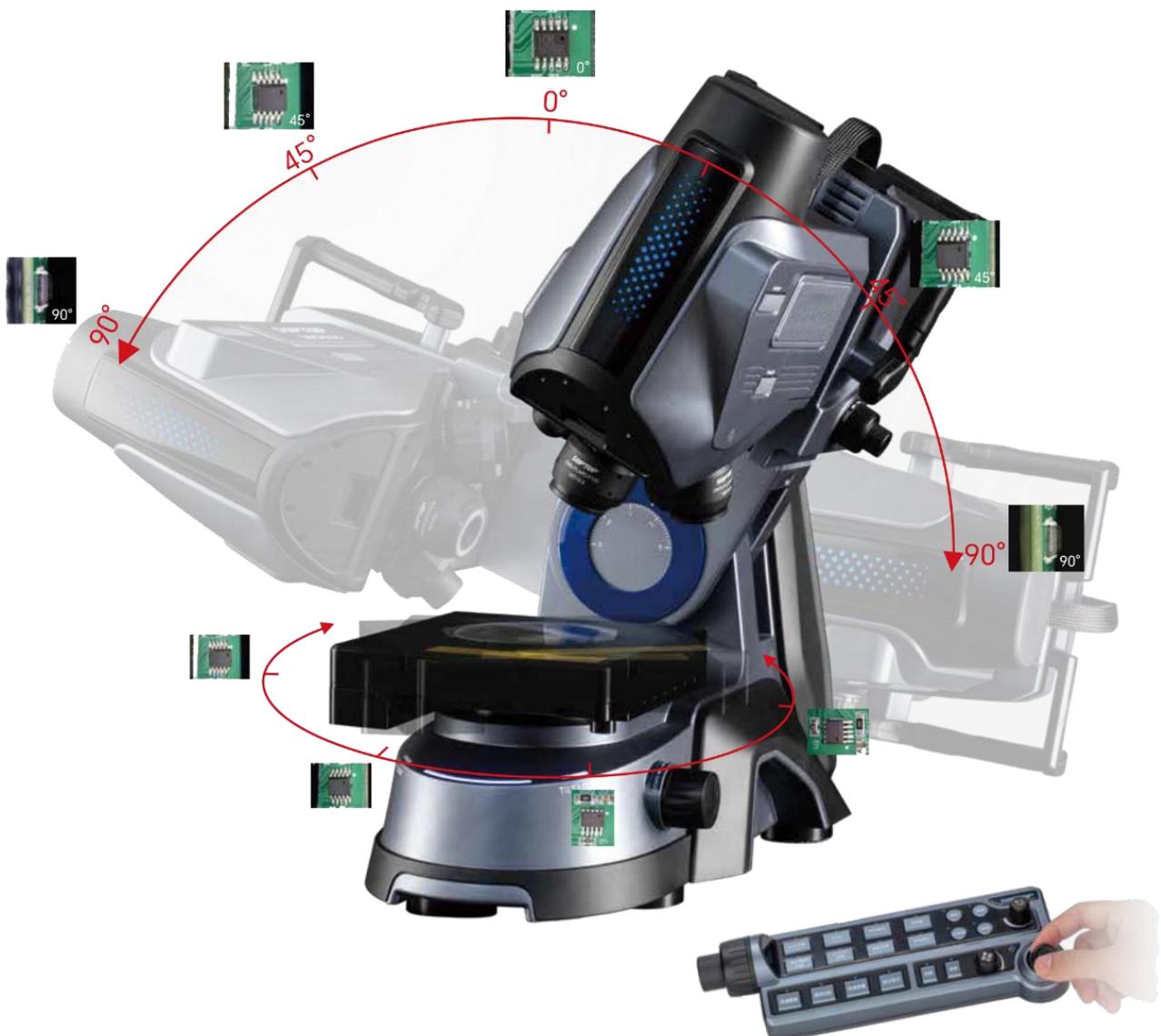
- The controller contains various shortcut keys, enabling efficient and quick control of the microscope body and software.
- Supported functions include: navigation, magnification switching, illumination mode selection, stage electric movement, automatic focusing, real-time depth synthesis, 2D/3D image stitching, glare elimination, high dynamic range (HDR) imaging, shake correction, photography, and data saving, etc.



## Comprehensive Microscope Control - The Perfect Combination of Precision Positioning and Efficient Operation

### Automatic Frame Hovering and Angle Control

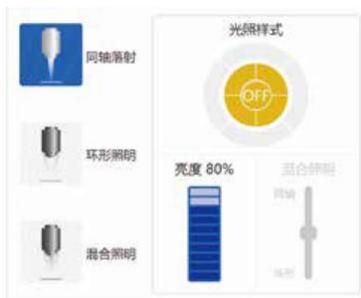
- Utilizing clutch control technology, the frame achieves automatic hovering at any angle upon releasing the button.
- The frame supports a rotation angle range from  $-90^{\circ}$  to  $90^{\circ}$ , enabling panoramic observation without tilting the sample.
- Built-in high-precision angle sensors ensure precise and reliable rotation angles.



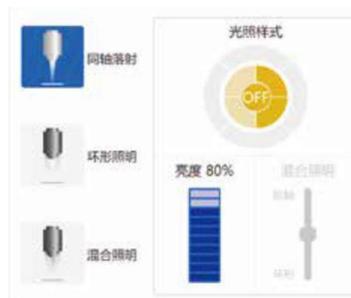
## Integrated Multiple Illumination Modes

### Automatic Frame Hovering and Angle Control

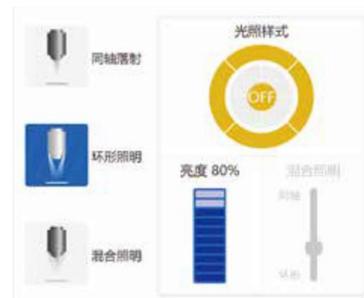
- The M20.0910 integrates coaxial episcopic illumination, coaxial oblique illumination, annular illumination, segmented annular illumination, mixed illumination, and transmitted illumination. It can achieve bright field, dark field, MIX, polarized light, DIC, and other observation modes, providing flexible illumination solutions for observing samples with different attributes.
- The unique four-zone illumination design allows users to illuminate one or more areas as needed to obtain the best observation results.



integrates coaxial episcopic illumination



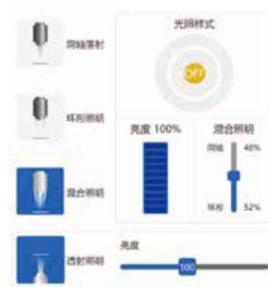
coaxial oblique illumination



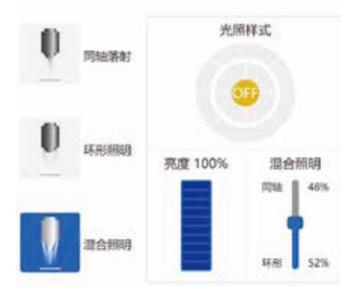
annular illumination



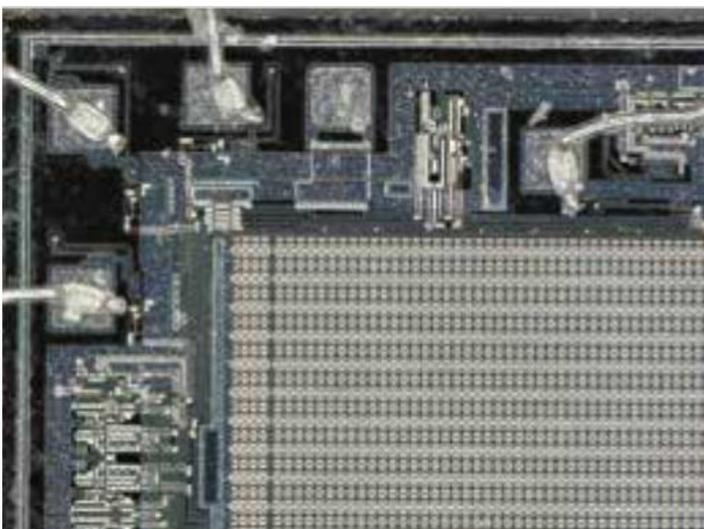
segmented annular illumination



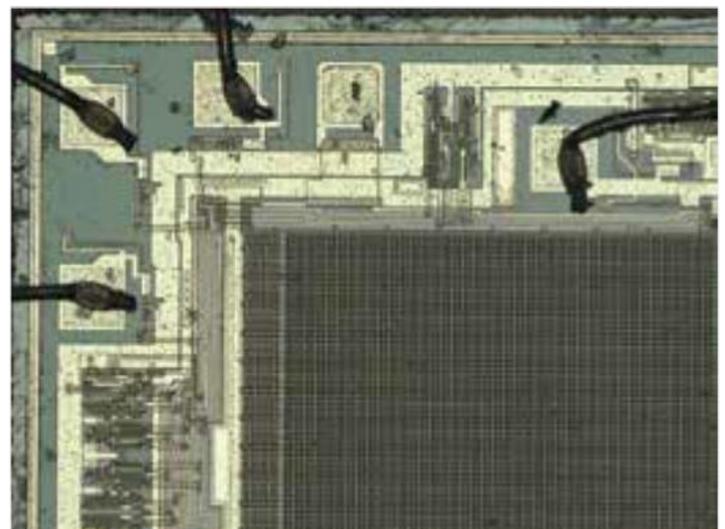
mixed illumination



transmitted illumination



**Ring illumination** can restore the original color and stain status of the sample.



**Coaxial illumination** is suitable for observing the fine structure of flat samples.

## Complete Series of Objective Configurations

- With a continuous zoom system and various APO lenses, it provides the best magnification, resolution, and working distance.
- Users can quickly switch from macro overview to detailed observation with just one click.
- Five objective options are provided to meet the diverse needs of different users.

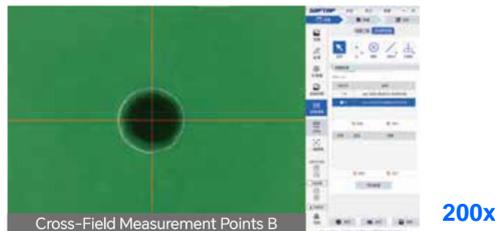
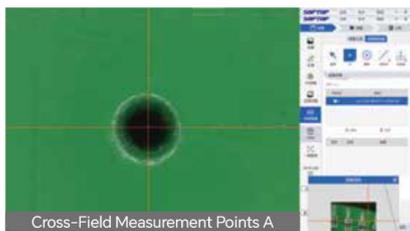
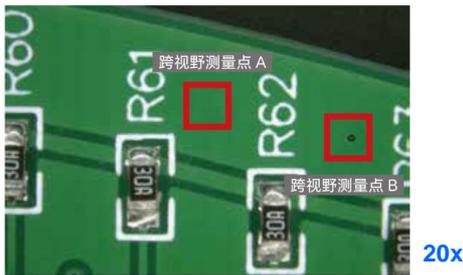


Objective Model	DMS-PLAPO-F100	DMS-PLAPO-F20	DMS-PLAPO-F10	DMSPLAPO-F4	DMS-PLAPO-F2
Maximum Total Magnification	100x	500x	1000x	2500x	7500x
Maximum Field of View Range	3.8mm	0.76mm	0.38mm	0.152mm	0.076mm

## Revolutionary Measurement Experience - One-click Cross-field, Automatic and Accurate Identification

### Cross-Field Rapid Measurement

- When observing at high magnification, traditional methods require extensive dimensional measurements on stitched images, which not only consume time but also inaccuracies due to stitching errors.
- The unique four-zone illumination design allows users to illuminate one or more areas as needed to obtain the best observation results.



测量结果

(单位:  $\mu\text{m}$ )

标记点	坐标
<input checked="" type="checkbox"/> 4	xyz: (3321.88,41211.9,2919.54)
<input checked="" type="checkbox"/> 5	xyz: (11223.3,42880.4,2919.54)

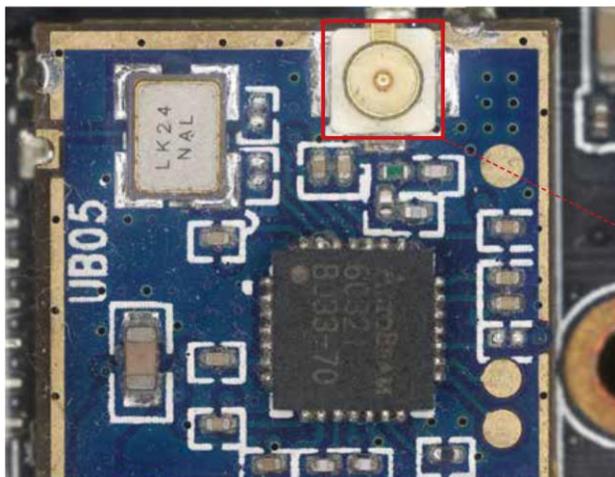
删除 清空

名称	类型	结果
4_5	距离	8075.63

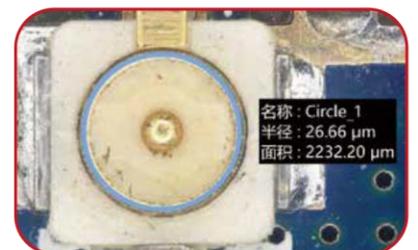
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## Intelligent Planar Measurement

- In order to solve the measurement errors caused by traditional manual selection of measurement points, the M20.0910 integrates advanced edge grayscale recognition. Users only need to select the area to be measured, and the software automatically identifies feature positions and measures feature geometry information. This not only ensures measurement consistency between different operators but also avoids errors caused by manual operations, thus improving measurement accuracy and efficiency.



Smart Measurement



## 2D/3D Measurement, and Intelligent Analysis

### Rich Measurement Tools

- **Telecentric System:** Through specific optical design, it places the entrance pupil of the lens at the focal plane to achieve low distortion and stable magnification. This improves imaging accuracy and ensures the accuracy and consistency of measurement results.

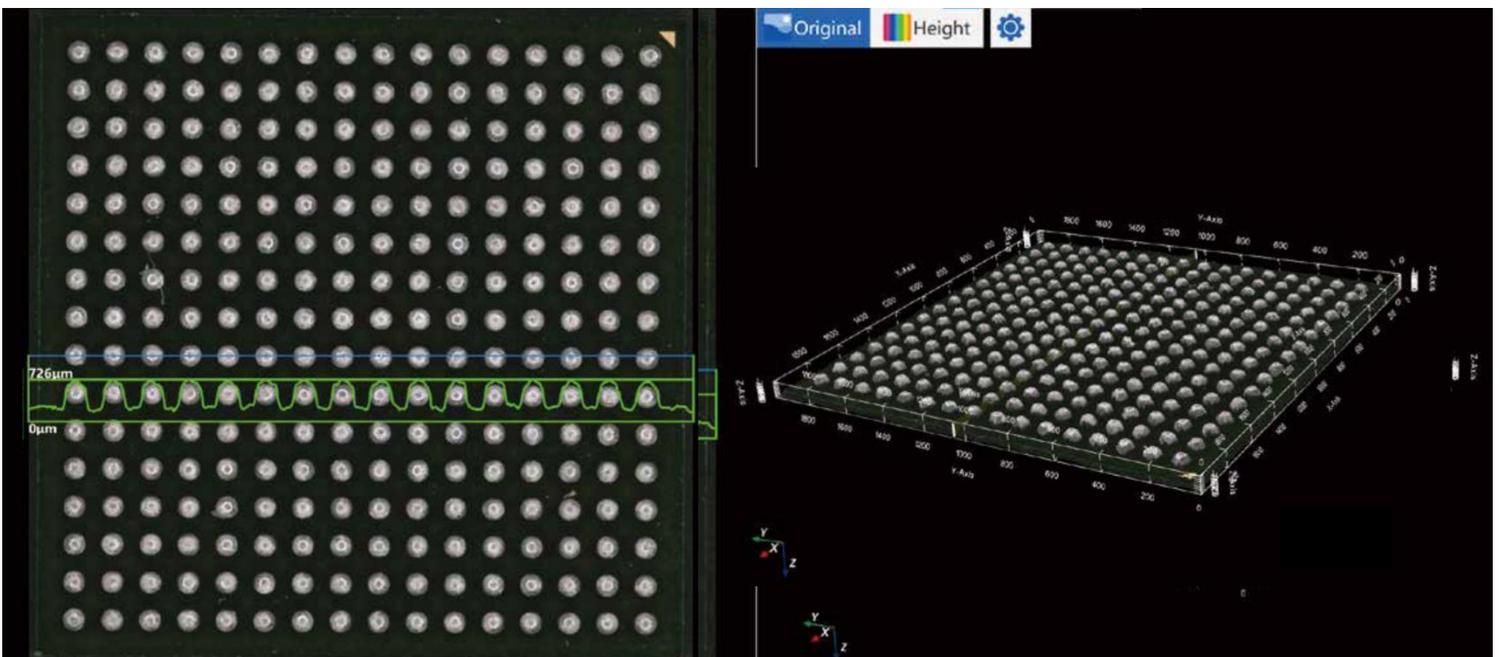
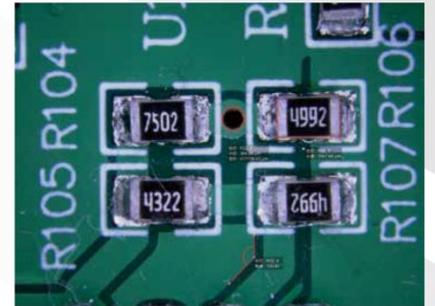
- **2D Measurement Tool Set:** Provides diverse measurement functions such as point-to-point, point-to-line, parallel lines, angles, and areas, supports exporting data to Excel. Users can also customize settings (font size, line color, unit display) for an optimized measurement experience.

- **Automatic Template Measurement:** Create and save measurement parameters that you frequently use for quick and accurate repetitive application.

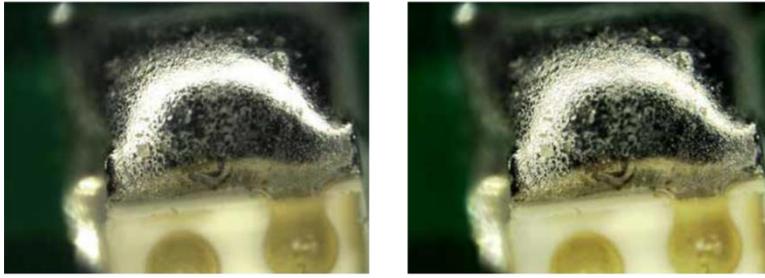
- **3D Measurement Functionality:** Easily calculate the volume, surface area, and height of objects.

- **Contour Measurement:** Precisely measure and analyze the shape of three-dimensional reconstructed objects.

- **Particle Counting and Analysis:** Combining intelligent algorithms with grayscale recognition technology, automatically separate overlapping objects, and quickly count the particle area and quantity in the target area.



## Image Processing - Insight into Details, Revealing Structures



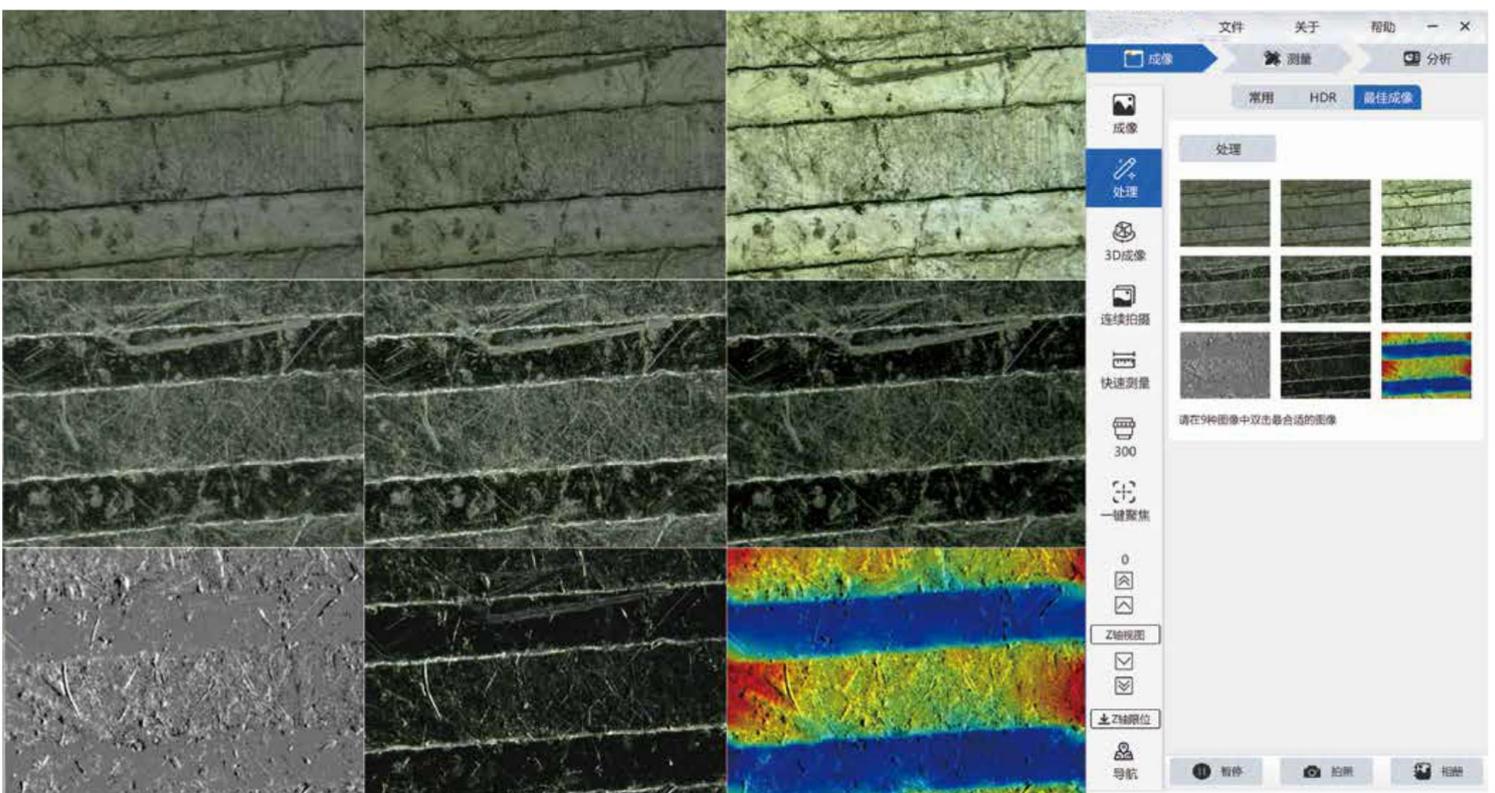
Reflection Removal Processing



Optical Shadow Processing

## One-click access to preview nine processing effects

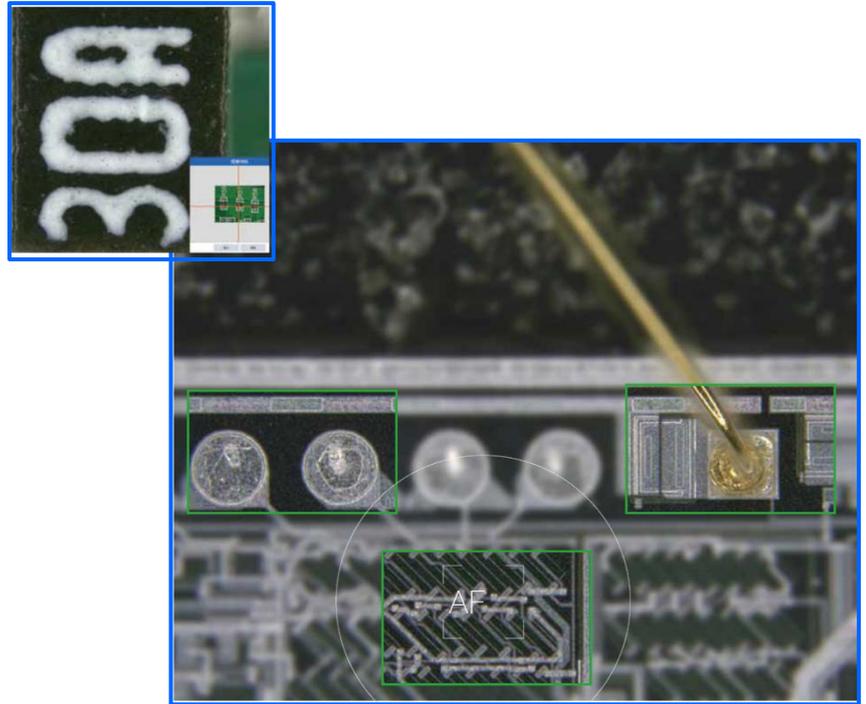
In the optimal image mode, users can obtain nine preview effects (optical shadow, image sharpening, reflection removal, relief color, etc.). It is easy to compare and select the processing effect that best meets the needs to achieve the best quality of microscopic image.



## Image Processing - Insight into Details, Revealing Convenient Operational Experience - Rapid Focus and Navigation

### Quick Automatic Focus

The automatic focusing is equipped with intelligent auto-focus function, which can quickly and accurately adjust the focal length, ensuring that you capture every detail. Whether observing biological Samples or researching material structures, our auto-focus technology can help you obtain clear, high-quality images.

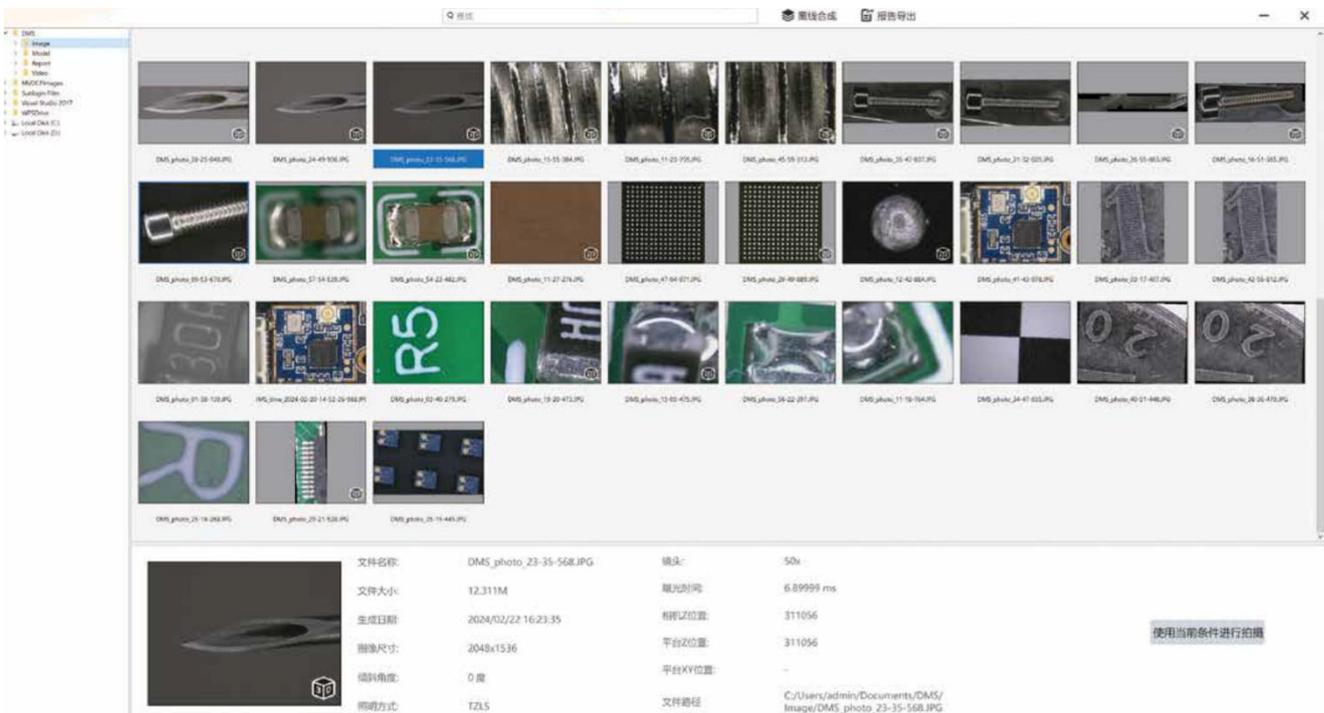


### Intuitive Navigation System

With the navigation window, you can accurately locate the area you want to observe at any magnification.

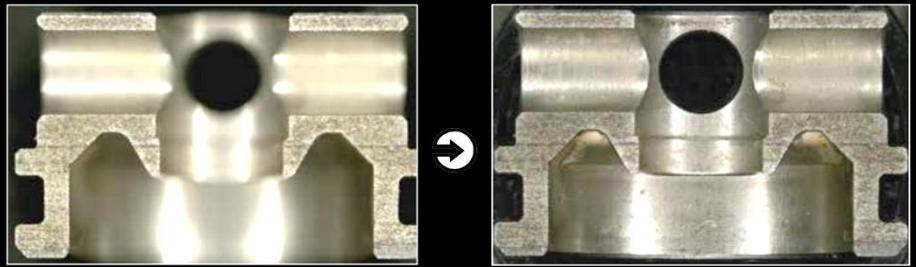
### Saving and Reporting

Powerful scene reproduction feature enables you to accurately reproduce the shooting conditions of the images. The reporting function helps you easily generate professional and accurate reports. No need for manual data organization and formatting, just click to generate complete report content. The auto-generate report function supports custom templates and styles, meeting your various needs.



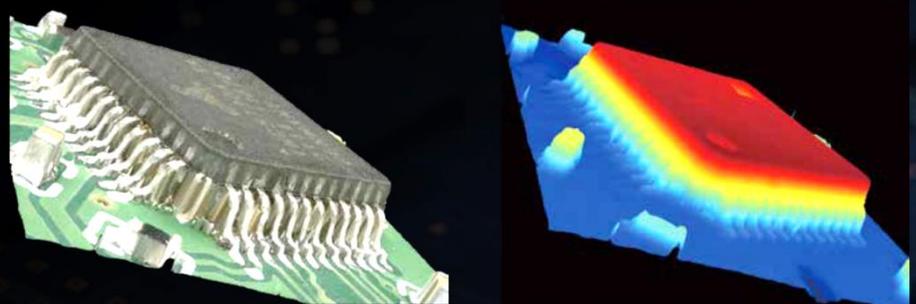
## Depth Fusion

The fusion of optics and algorithms presents clearer and more three-dimensional images, bringing a richer observation experience.



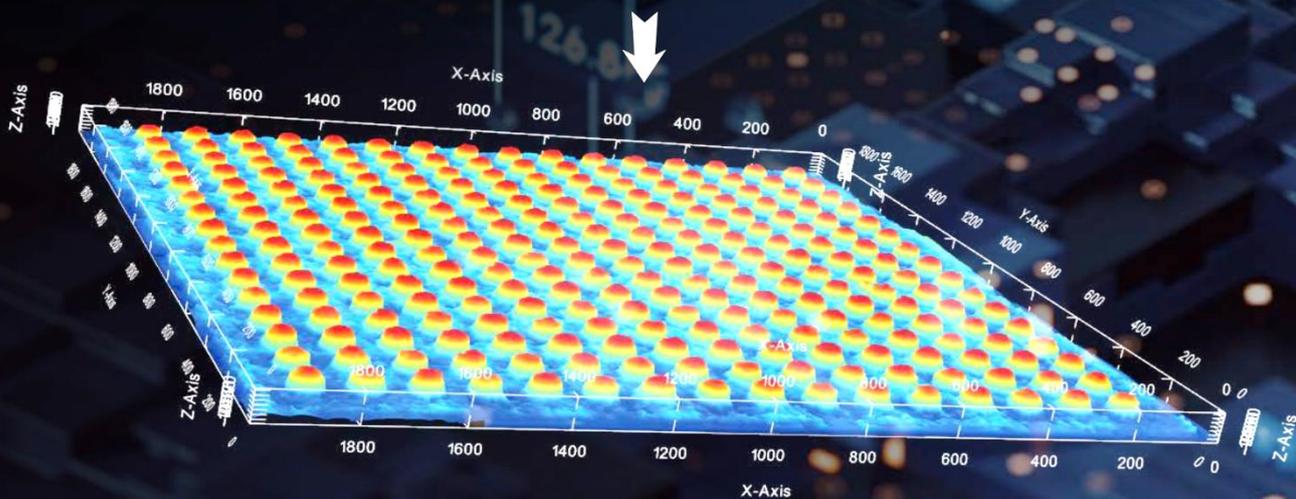
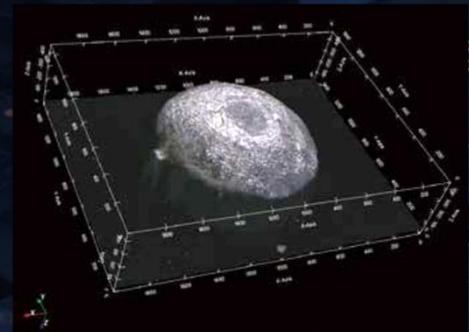
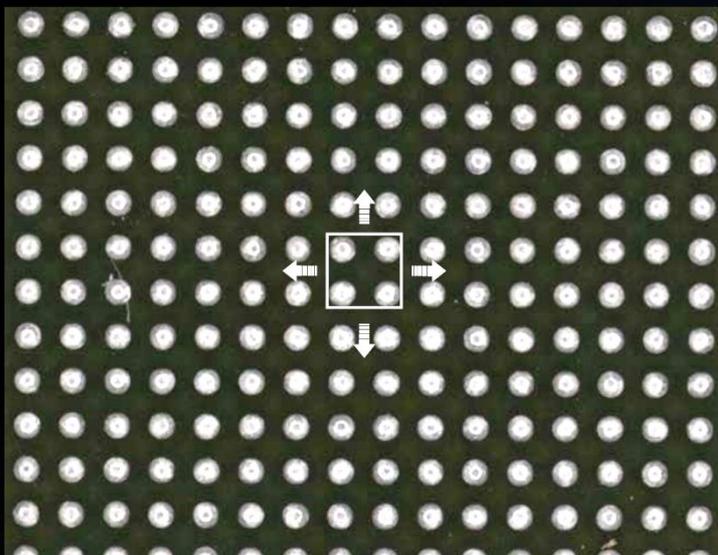
## Image Stitching

Seamlessly stitch multiple images to create a perfect visual experience!



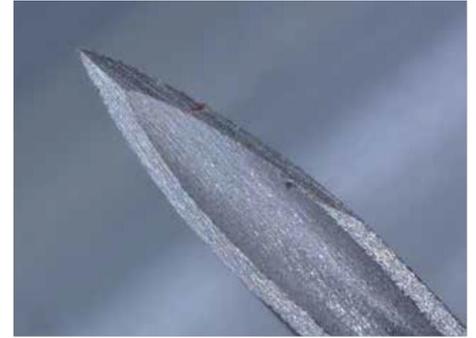
## 3D Reconstruction

Collect Z-series images within the current field of view for 3D reconstruction.





80X Screw - 3D Stitching



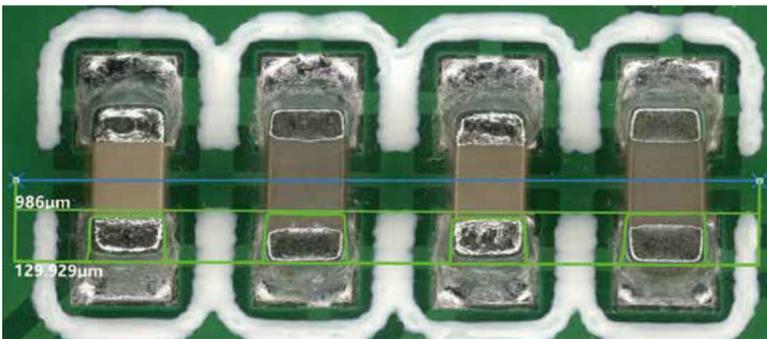
80X Needle - Depth Fusion



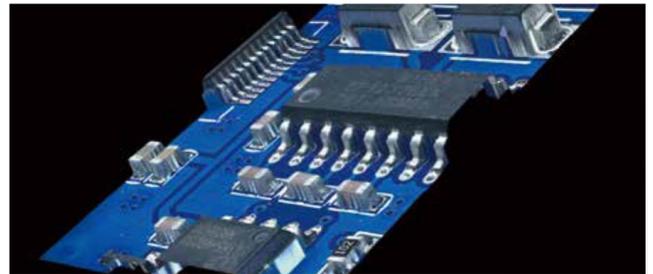
200X Screw - 3D Reconstruction



80X Beetle - 3D Stitching



80X Circuit Board - 3D Measurement



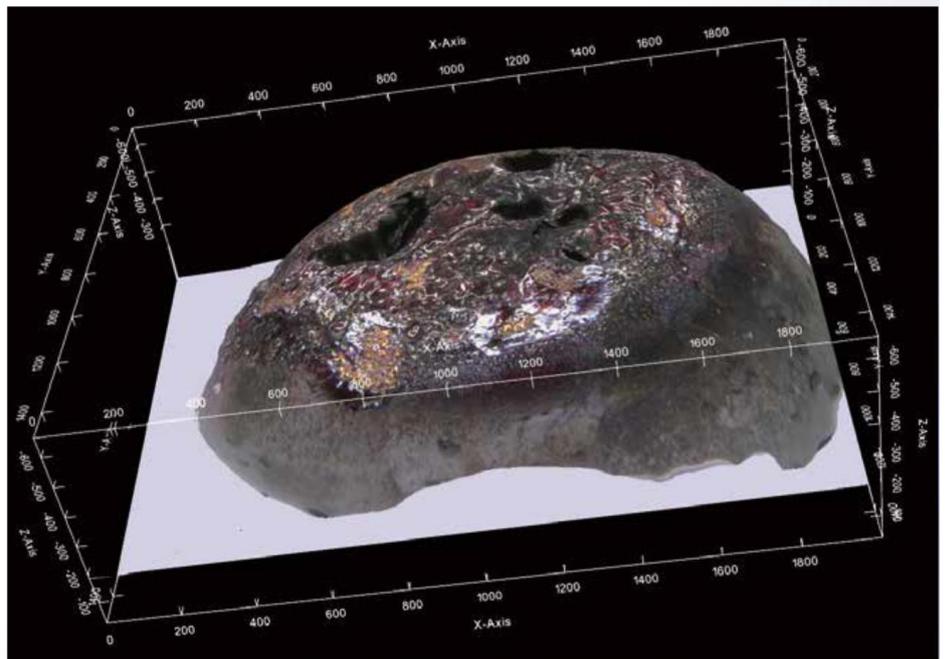
80X Circuit Board - 3D Stitching



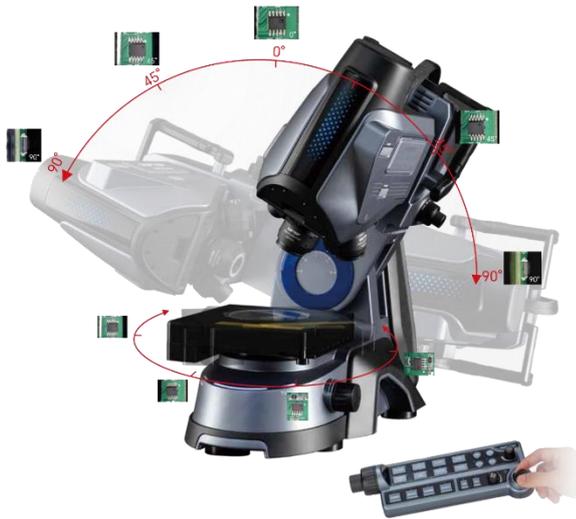
400X Metal Surface - Ring Illumination



400X Leather - Ring Illumination

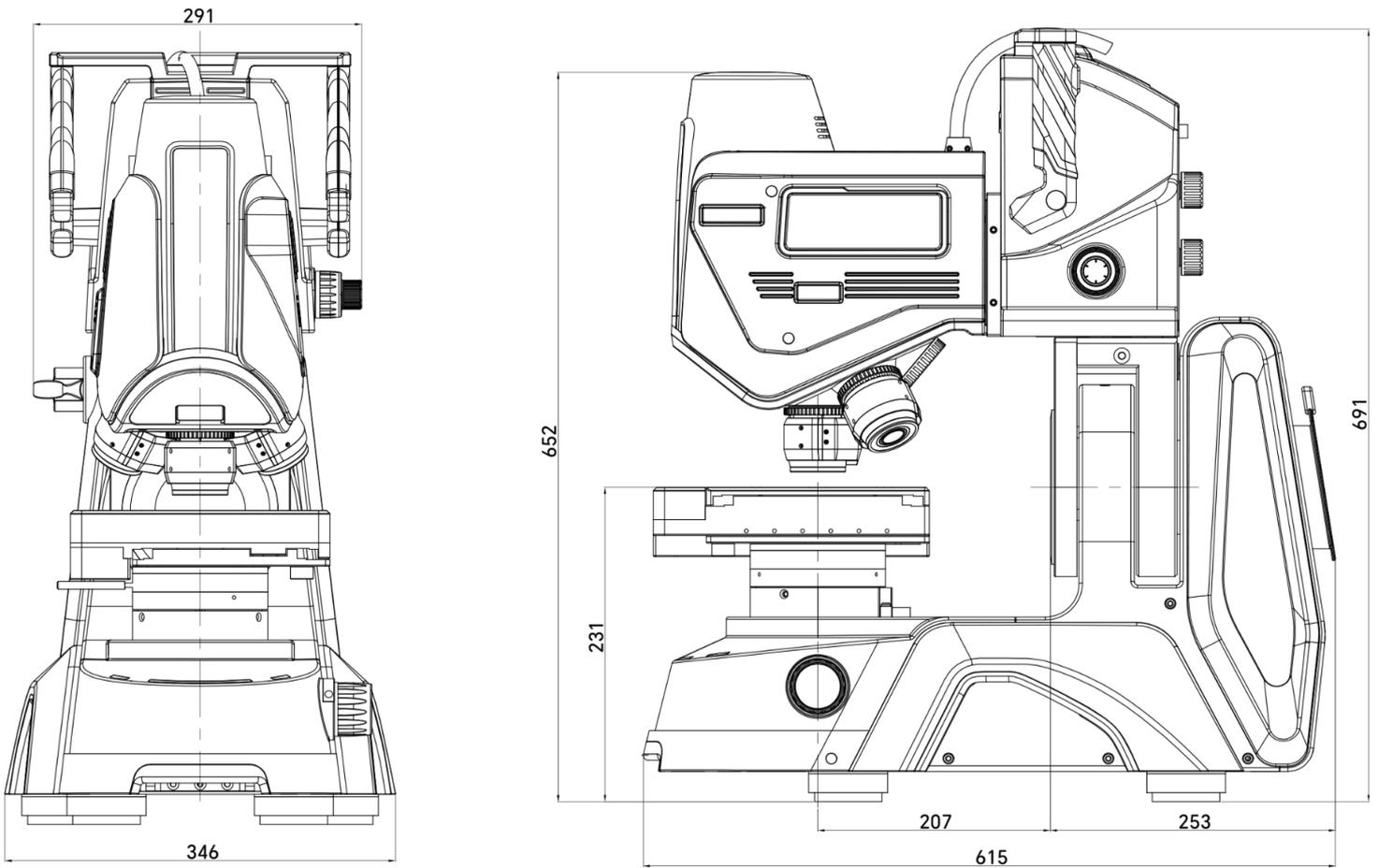


200X Metal Bead - 3D Measurement



## M20.0910 Specification

Optical System	Telecentric Continuous Zoom System	
Comprehensive Magnification	20-7500X	
Magnification Switching Method	Motorized Switching	
Camera	1/1.8 inch, 3.2MP, max frame rate 50fps 1/1.7 inch, 12MP, max frame rate 30fps	
Illumination Methods	Coaxial episcopic, coaxial oblique, annular illumination, segmented annular illumination mixed illumination, transmitted illumination	
Stage	Stage Size	230*245mm
	Travel Range	Maximum 100*100mm
	Rotation Angle	Maximum $\pm 90^\circ$ , with angle recognition
	Load Capacity	5Kg
Microscope Frame	Upper Z-axis Travel	51mm
	Upper Z-axis Movement Method	Motorize, manual handwheel, controller, software control
	Lower Z-axis Travel	50mm
	Lower Z-axis Movement Method	Motorize, manual handwheel
	Tilt Angle	$+90^\circ$ , with angle recognition
Controller	Controls the linkage of various components	
Computer	28-inch 4K Ultra HD LCD monitor, CPU: i7; Memory: 32GB; Hard Drive: Solid State Drive+ Mechanical Hard Drive	
Software	Imaging	2D imaging
		3D imaging
		Image processing
		Stitching imaging
		Multi-area shooting
	Measurement	Repeat measurement
		Cross-field measurement
		Planar measurement
		Point height measurement
		Automatic measurement
Other	Power	100-240VAC 50/60HZ
	Size	615*346*691mm (excluding computer and controller)
		30 measurement tools
		Contour measurement
		Particle counting



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MICROSCOPE IS OUR FOCUS

# The Key To Micro World

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25+ Year professional experience we know Microscopes the best!  
150+ Microscope & accessory manufacturers supply all models from China  
200+ Hot sale microscopes & Newest Models Updated Every Month  
750+ Customer from all over the world & keep rising every day  
1500+ Microscope products create your one-stop purchase platform  
3000+ Educational Instruments For School, College And University Teaching  
The Most Professional Microscope Manufacturer in China!



MICRO  
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