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M13.5820

**Motorized Metallurgical Microscope, BF/DF,
Semi-APO, DIC, XYZ, Nosepiece Motorized**



M13.5820 Series Microscope

MAXCOPE



M13.5820
Motorized Metallurgical Microscope,
BF+DF+PL, Semi-APO, DIC,
XYZ & Nosepiece Motorized



A13.1091

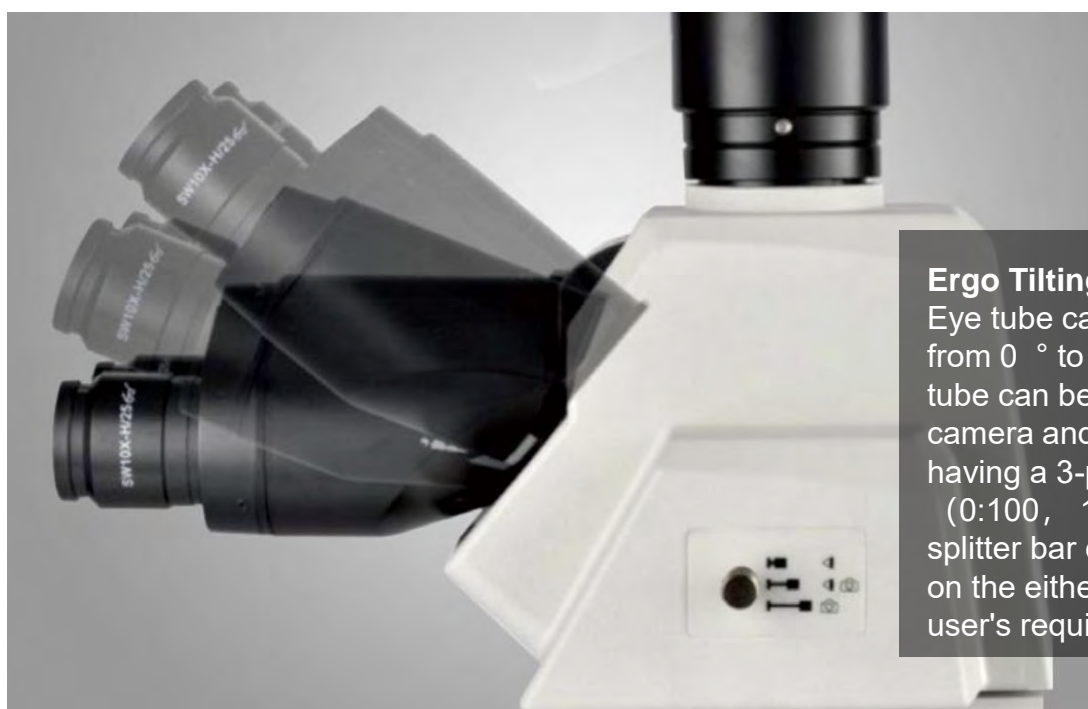


A59.2225 Cooling Digital Camera



A54.5801 XYZ Motorized Stage

Product Details



Ergo Tilting Trinocular Head

Eye tube can be adjustable from 0 ° to 35 °, Trinocular tube can be connected to SLR camera and digital camera, having a 3-position beam splitter (0:100, 100:0, 80:20), the splitter bar can be assembled on the either side according to user's requirement.



Nomarski DIC

With newly designed DIC module, the height difference of a specimen which can not be detected with bright field becomes a relief-like or 3D image. It is ideal for the observation of LCD conducting particles and the surface scratches of hard-disk etc.



A5M.1091, A5M1092 Series Infinity Plan BF/DF Semi-APO Objectives

By using carefully selected high-transparent glass and advanced coating technology, A5M.1091 objective lens can provide high resolution image and accurately reproduce the natural color of the specimen. For special applications, a variety of objectives is available, including polarizing and long working distance.

Focusing System

In order to make the system suitable for the operating habits of the operators, the knob of focusing and stage can be adjusted to the left-hand side or right-hand side. This design makes the operation comfortable





A59.2225

USB3.0 Cooling Digital Camera

With professional image processing software, work with computer to get various advanced function, real time measure, 2D Scan Stitching, 3D Depth of Field Fusion, Fluorescent Image Synthesis, Cell Counting and etc.

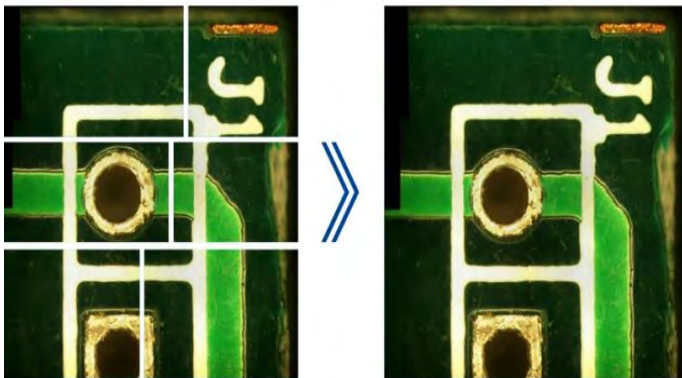


ECO Function

The microscope light would be off automatically after 30 minutes from operators leave. It can not only save energy, but also save the lamp lifetime.

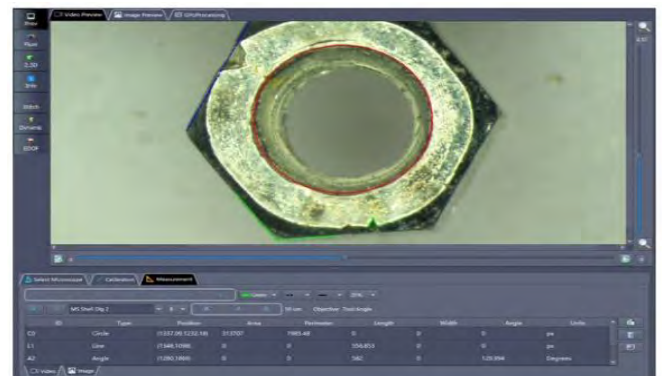
◆ 2D Image Scan & Stitching

Imaging software for high-quality image acquisition, processing and analysis. By collecting images in real time or importing images, small images can be spliced quickly to form a large-size, high-resolution image.



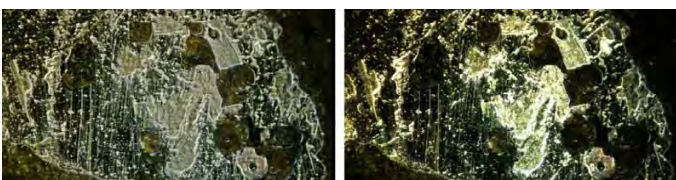
◆ Real-time / static measurement

Typical observation and quality control require interactive measurement functions such as distance, angle, rectangle, circle and ellipse.



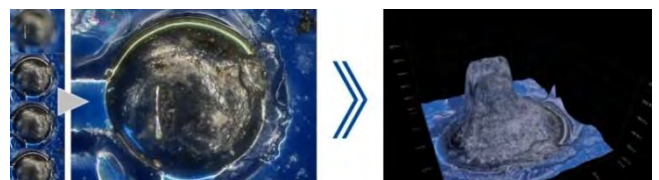
◆ High-definition real-time HDR image/video

When observing different samples, the surface of the sample will show areas of high contrast. HDR allows users to complete the generation of perfect exposure images between clicks

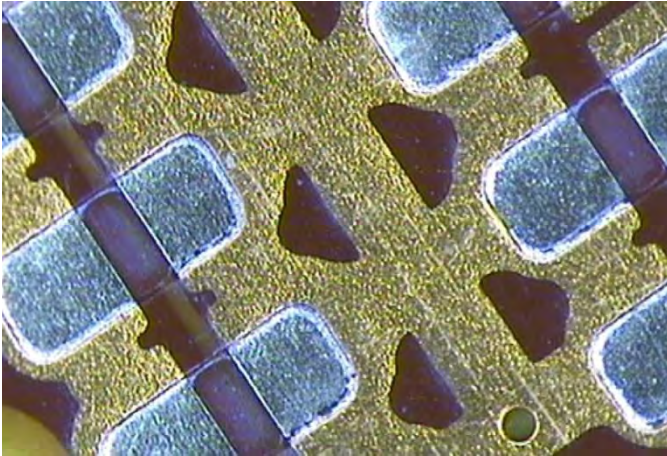


◆ 3D Depth Of Field Fusion

Provides depth fusion and 3D reconstruction functions



With excellent optical system, A13.1091 series microscope provides high resolution and chromatic aberration corrected images both in the eyepieces and on the monitor. A13.1091 series has been designed with modularity to meet various industrial and materials science applications. It gives users flexibility to build a system for specific needs.



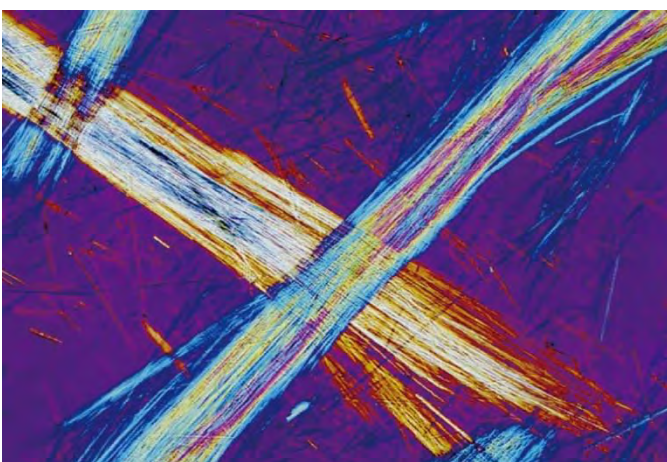
Wafer, Dark Field

Dark Field enables the observation of scattered or diffracted light from the specimen. Anything that is not flat reflects this light while anything that is flat appears dark so imperfections clearly stand out. The user can identify the existence of even a minute scratch or flaw down to the 8nm level-smaller than the resolving power limit of an optical microscope. Darkfield is ideal for detecting minute scratches or flaws on a specimen and examining mirror surface specimens, including wafers.



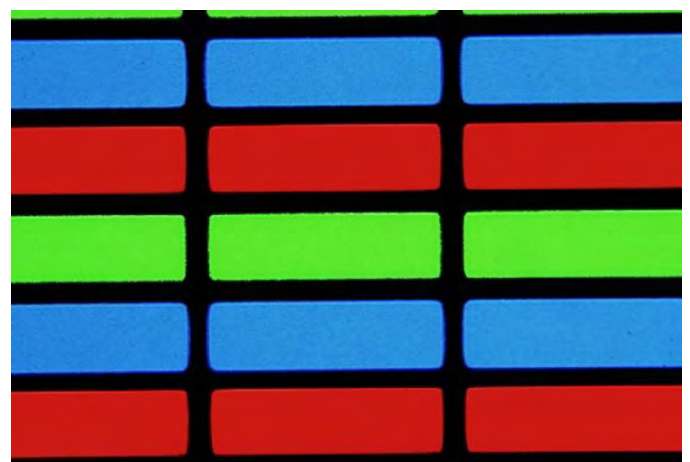
Conducting Particles, DIC

DIC is a microscopic observation technique in which the height difference of a specimen not detectable with bright field becomes a relief-like or three- dimensional image with improved contrast. This technique utilizes polarized light and can be customized with a choice of three specially designed prisms. It is ideal for examining specimens with very minute height differences, including metallurgical structures, minerals, magnetic heads, hard-disk media, and polished wafer surfaces.



Asbestos, Polarized Light

Polarizing Light generated by a set of filters (analyzer and polarizer). The characteristics of the sample directly affect the intensity of the light reflected through the system. It is suitable for metallurgical structures (i.e., growth pattern of graphite on nodular casting iron), minerals, LCDs and, semiconductor materials.

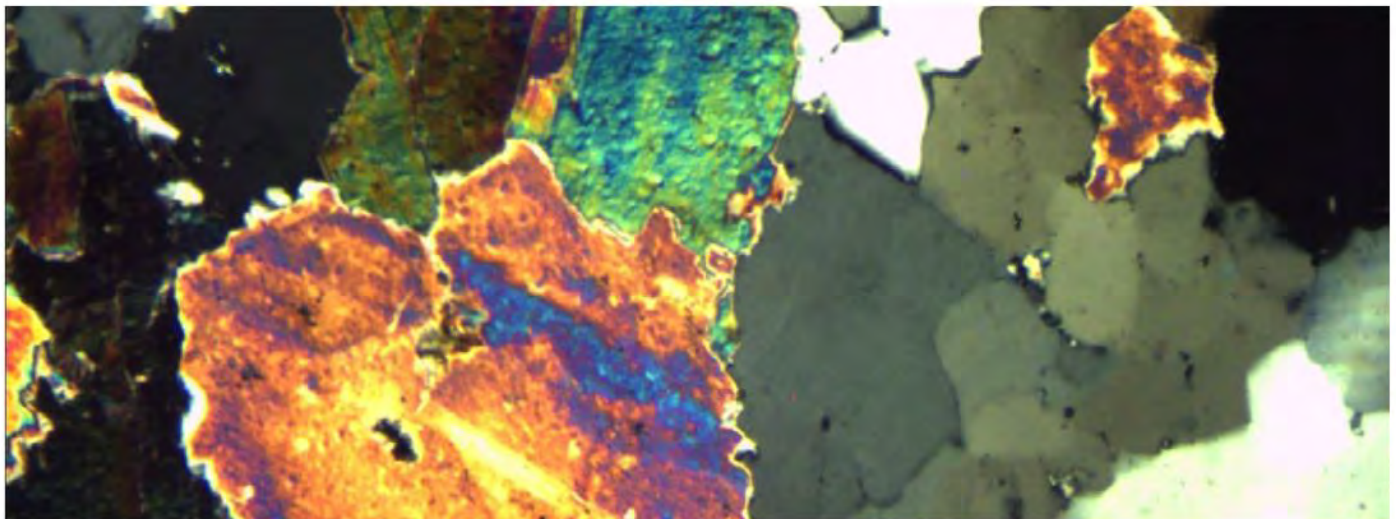
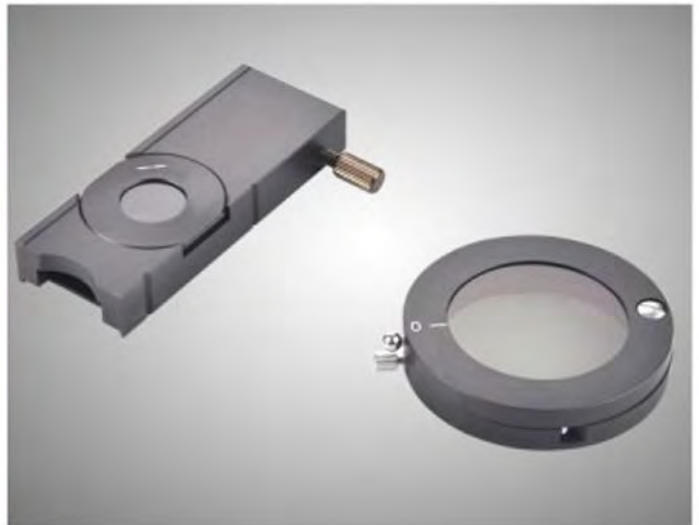
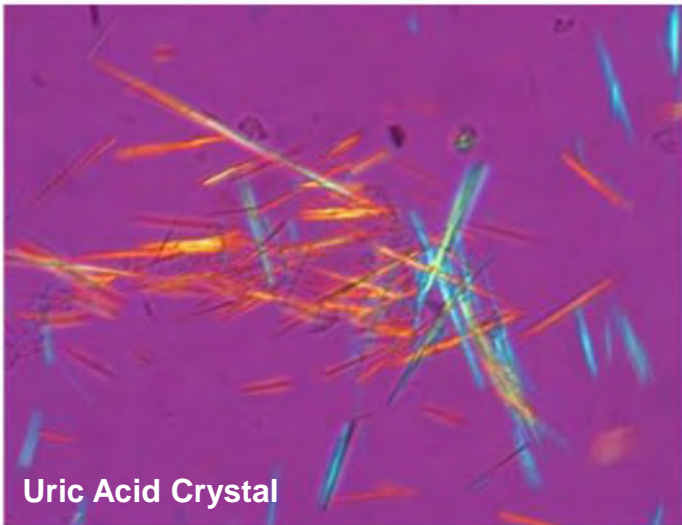


LCD, Transmitted Light Observation

Bright Field Transmit & Reflect View. For transparent specimen such as LCDs, plastics, and glass materials, true transmitted light observation is available by using a variety of condensers. Examining specimen in transmitted bright field and polarized light can be accomplished all in one convenient system.

◆ Polarizing Viewing

It is quite suitable for viewing collagen, amyloid and crystal etc. double refracting specimen.



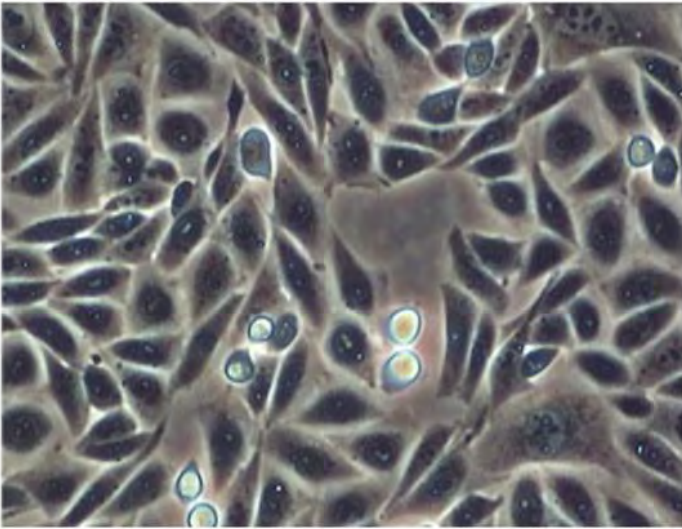
◆ Dark-field Viewing

It can be used for clearly viewing of blood or flagellum etc. fine structure.



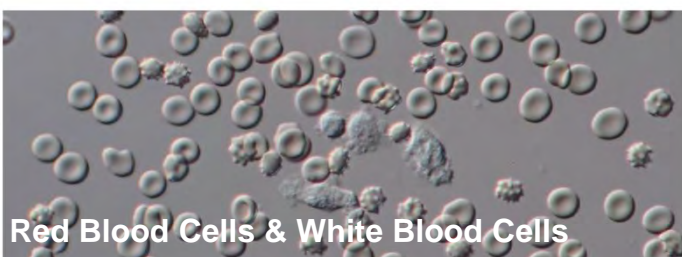
◆ Phase Contrast Viewing

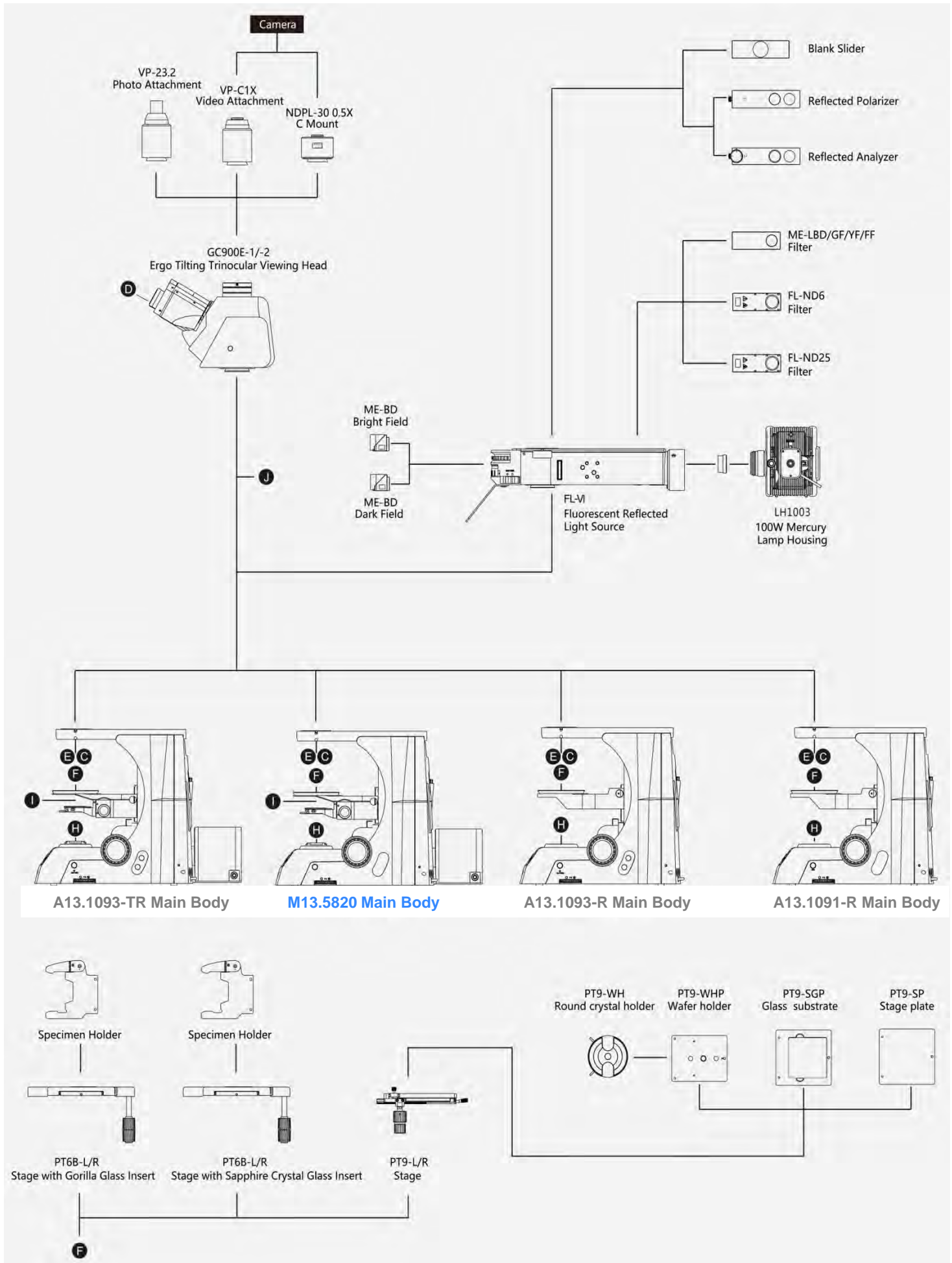
Operators can get high contrast image of neutral background color whatever the magnifications are. It is suitable for viewing non-stained specimen.

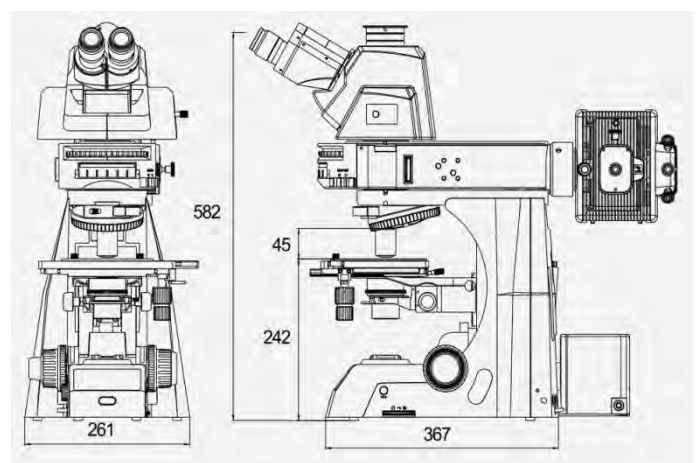
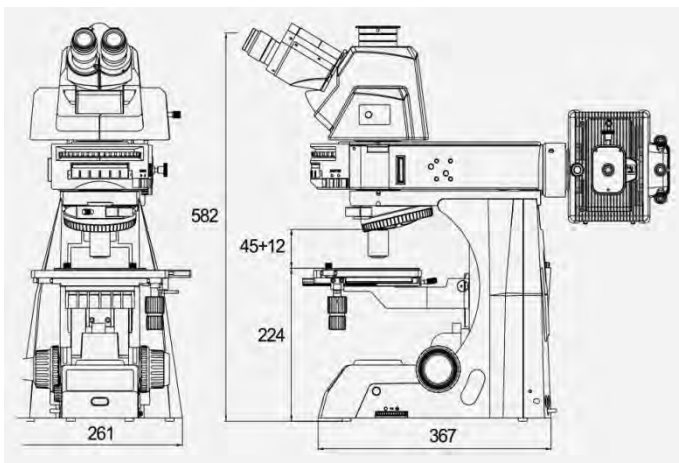
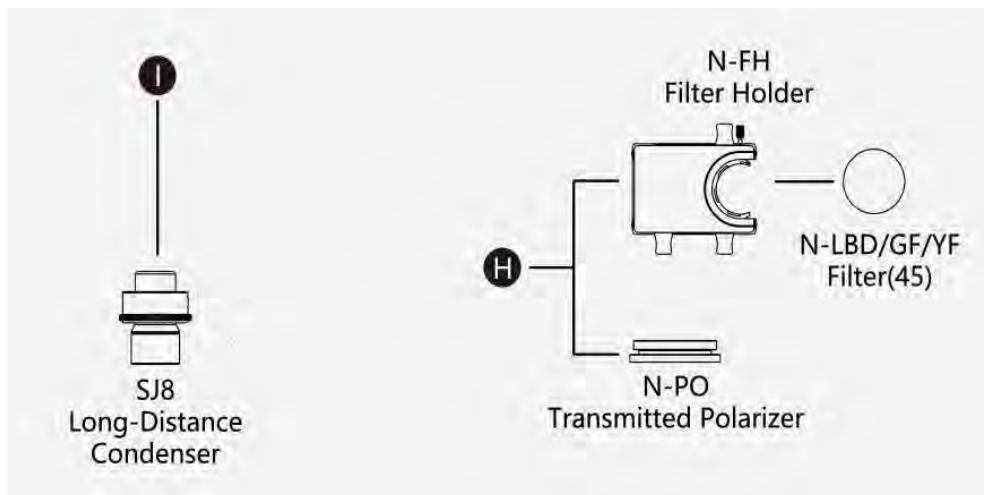
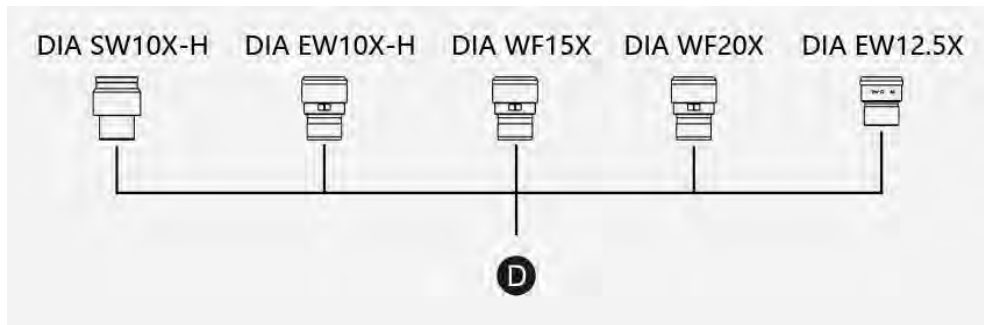
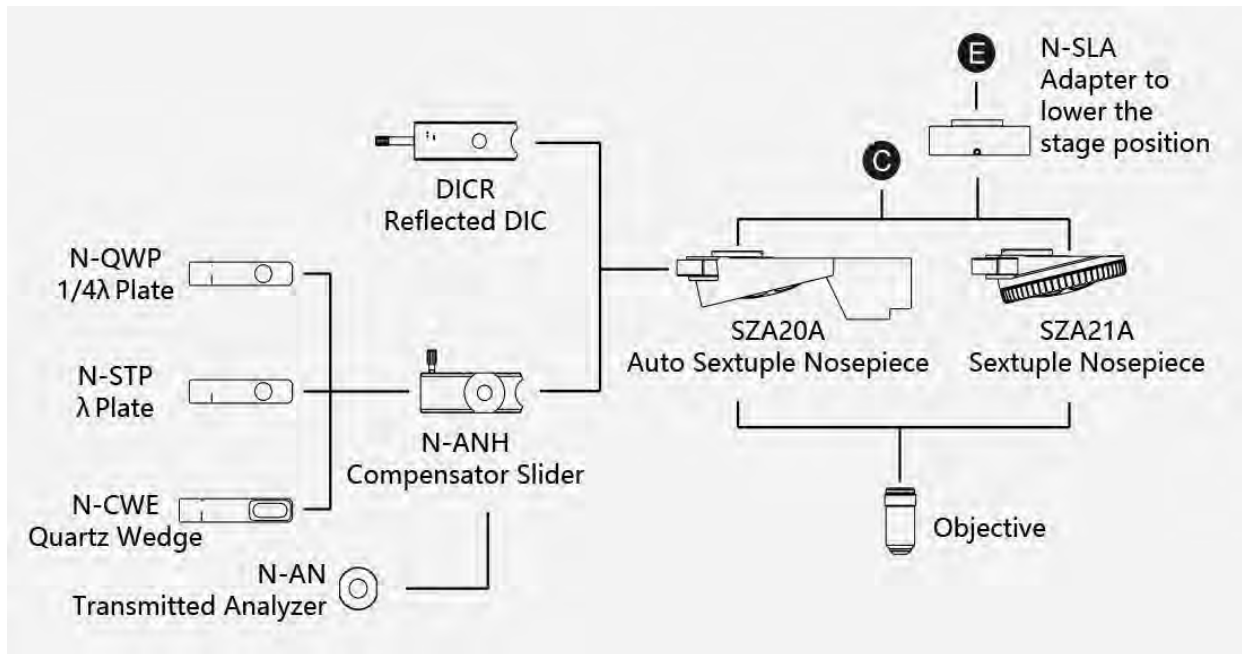


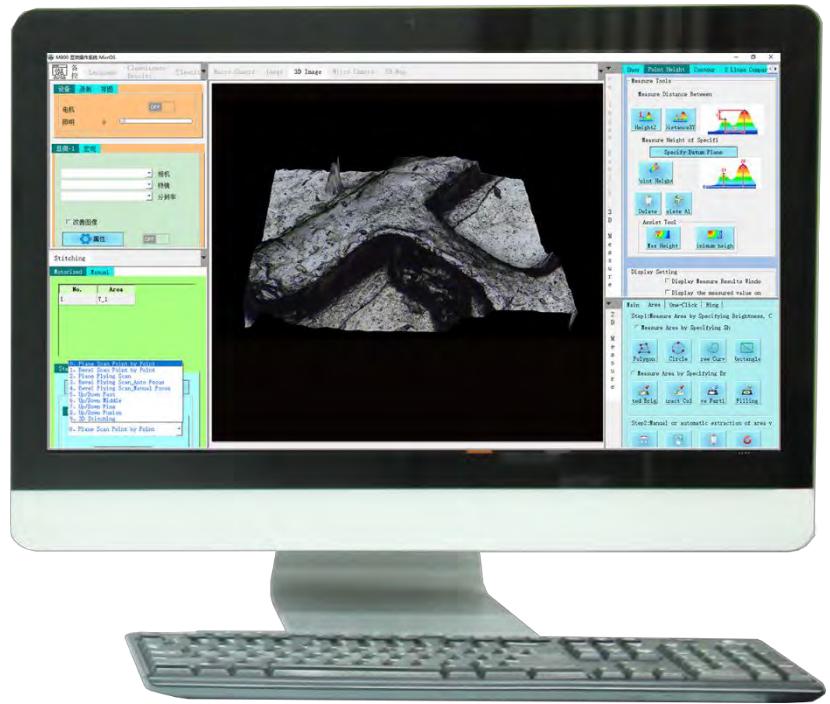
◆ DIC Phase Contrast Viewing

DIC increases the contrast of the sample, and enables the nucleus and larger organelles such as mitochondria to have a strong three-dimensional effect, which is more suitable for micromanipulation. At present, it is mostly used for micromanipulation of gene injection, nuclear transfer, genetically modified animals and other bioengineering









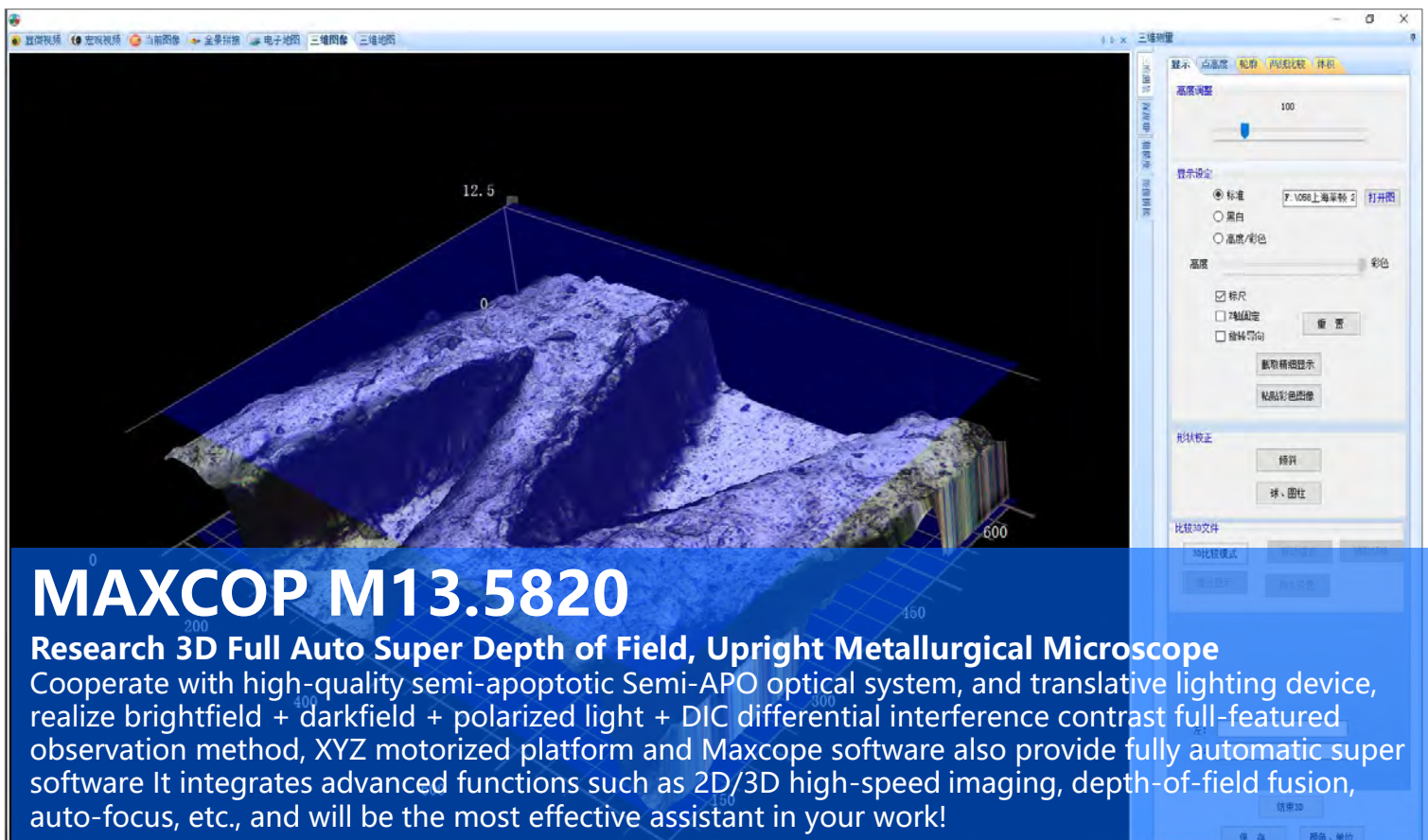
A59.2225 Cooling Digital Camera



A54.5801 XYZ Motorized Stage



M13.5820



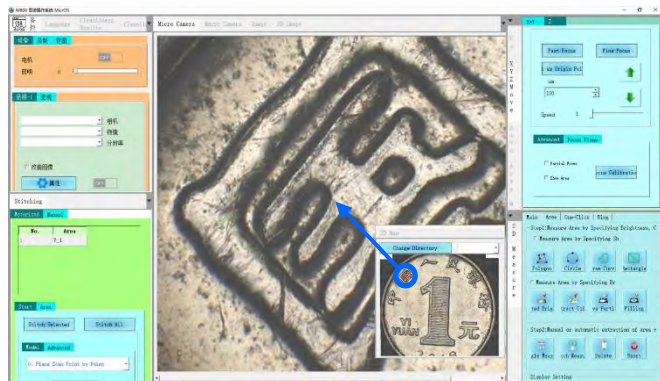
MAXCOPE M13.5820

Research 3D Full Auto Super Depth of Field, Upright Metallurgical Microscope

Cooperate with high-quality semi-apertotic Semi-APO optical system, and translative lighting device, realize brightfield + darkfield + polarized light + DIC differential interference contrast full-featured observation method, XYZ motorized platform and Maxcope software also provide fully automatic super software It integrates advanced functions such as 2D/3D high-speed imaging, depth-of-field fusion, auto-focus, etc., and will be the most effective assistant in your work!

Full Auto Microscope Scanning Software

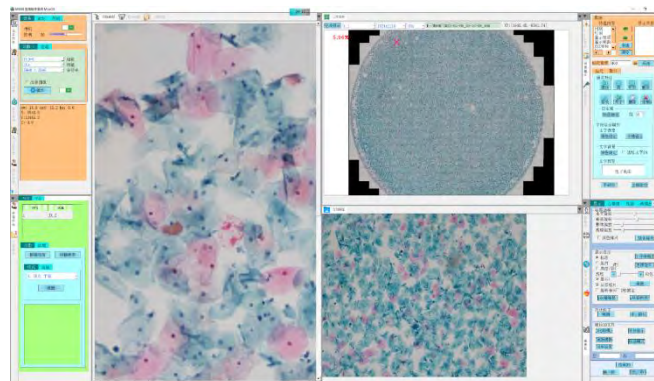
According to surface condition of the sample and the specific requirements of customers, Maxcope has 4 versions and more customized functions provided, which are suitable for the complex automatic microscopic scanning splicing work of the motorized microscope in medical, teaching, industrial, wafer processing and other fields.



A30.5801-2D

2D Version, Maxcope Series Standard Software

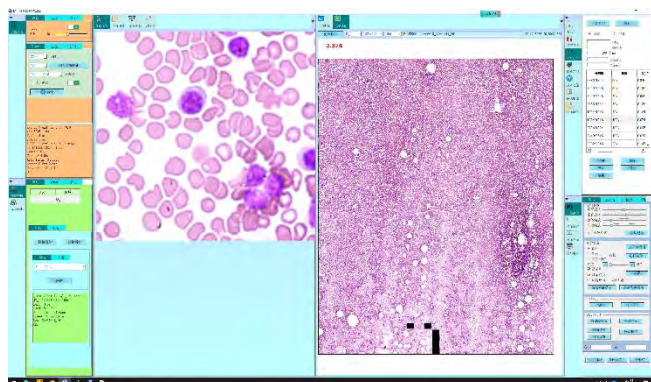
- Plane PXP Scan, Plane Fly Scan
- For XY Stage Model + 2C Computer
- For Plane Smooth Surface Or Low Magnification Samples, No Autofocus Needed
- Single Focal Plane Scan, XY Stage Direct Scan And Stitch 2D Image



A30.5801-2DB

2DB Version, Maxcope Series Optional Software

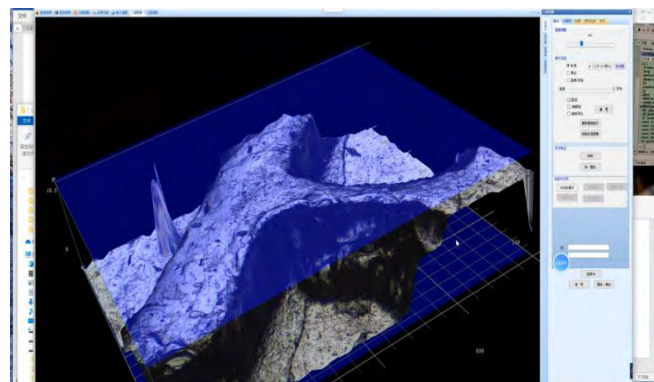
- Including All 2D Function, Add:
- Bevel PXP Scan, Bevel Fly Scan
- For XYZ Stage Model +2C Computer
- For Bevel Smooth Surface Or High Magnification Observation Of Thick Samples
- Auto Acquisition Height Of Multi-focal Planes, After Modeling, Scan And Stitch 2D Image



A30.5801-2DF

2DF Version, Maxcope Series Optional Software

- Including All 2DB Function, Add:
- Up/Down Fast, Middle, Fine, **Fusion** Scan
- For XYZ Stage Model +3C Computer
- For Plane/Bevel/Uneven Surface
- Auto Focus On Multi-focal Planes, Scan And Stitch 2D Image



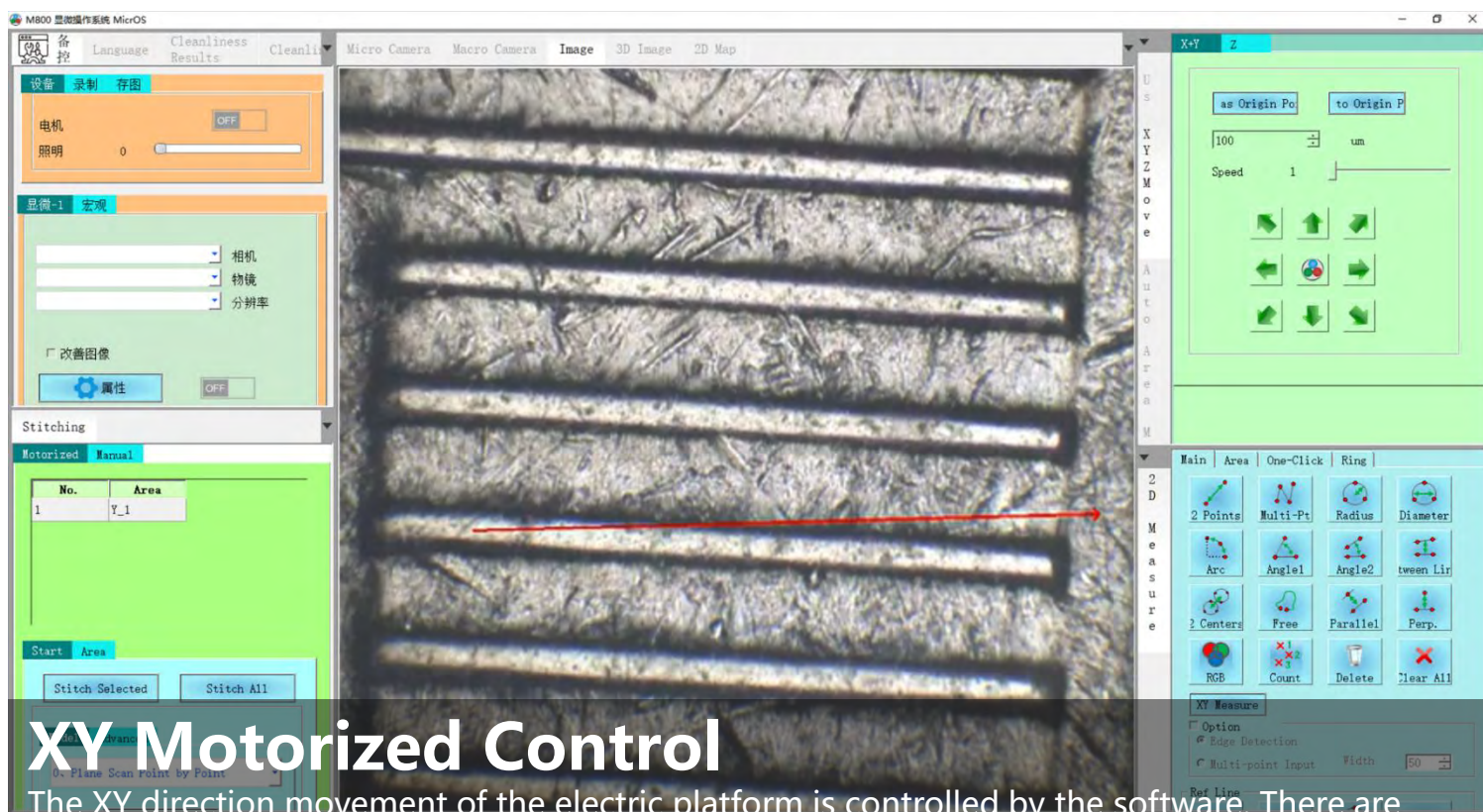
A30.5801-3D

3D Version, Maxcope Series Optional Software

- Including All 2DF Function, Add:
- 3D Scan, 3D Measure
- For XYZ Stage Model +3C Computer
- For Plane/Bevel/Uneven Surface
- Auto Focus On Multi-focal Planes, 3D Scanning And Stitching After Depth Fusion

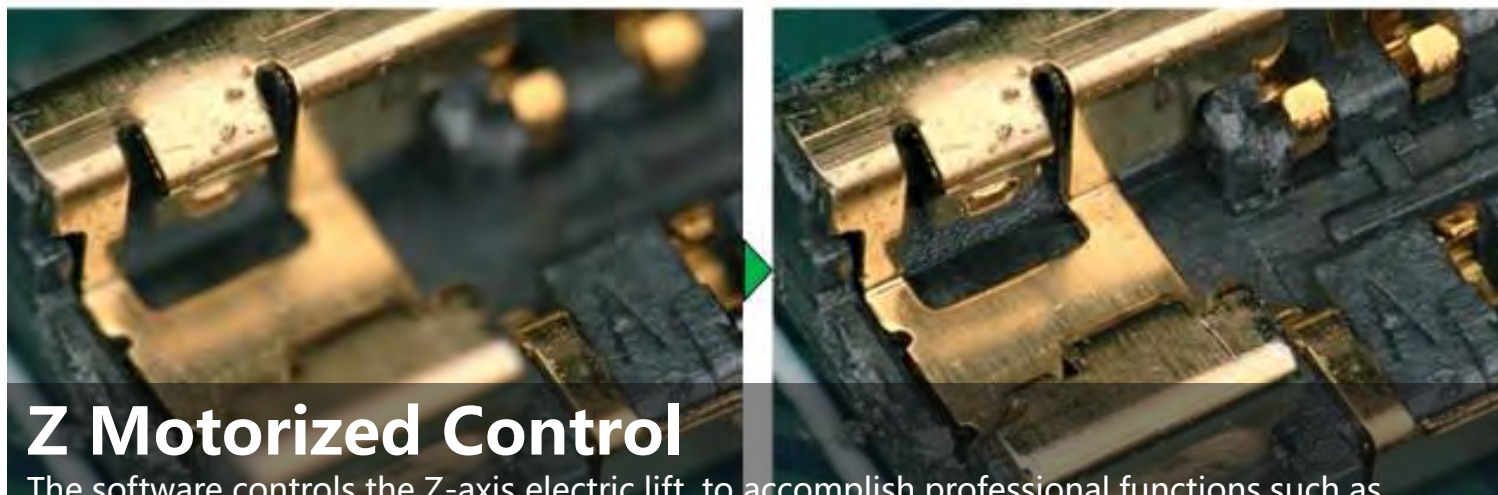
More Depth Customization Functions

HDR Observation Function, DIC Detection Analysis, Professional Metallographic Analysis, Grain Size Analysis, Cleanliness Analysis, Hardness Tester Analysis and other customized solutions for various industries, which can be deeply customized according to the specific needs of different customers to fully meet the complex work needs



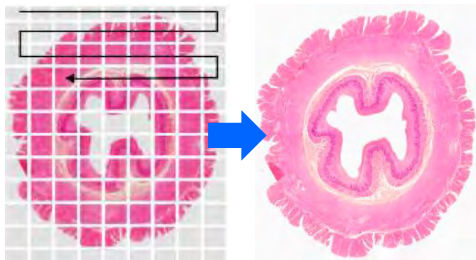
XY Motorized Control

The XY direction movement of the electric platform is controlled by the software. There are various control methods. You can directly drag the window to move the platform manually, or you can double-click any point of the image, to move stage to interesting point quickly.



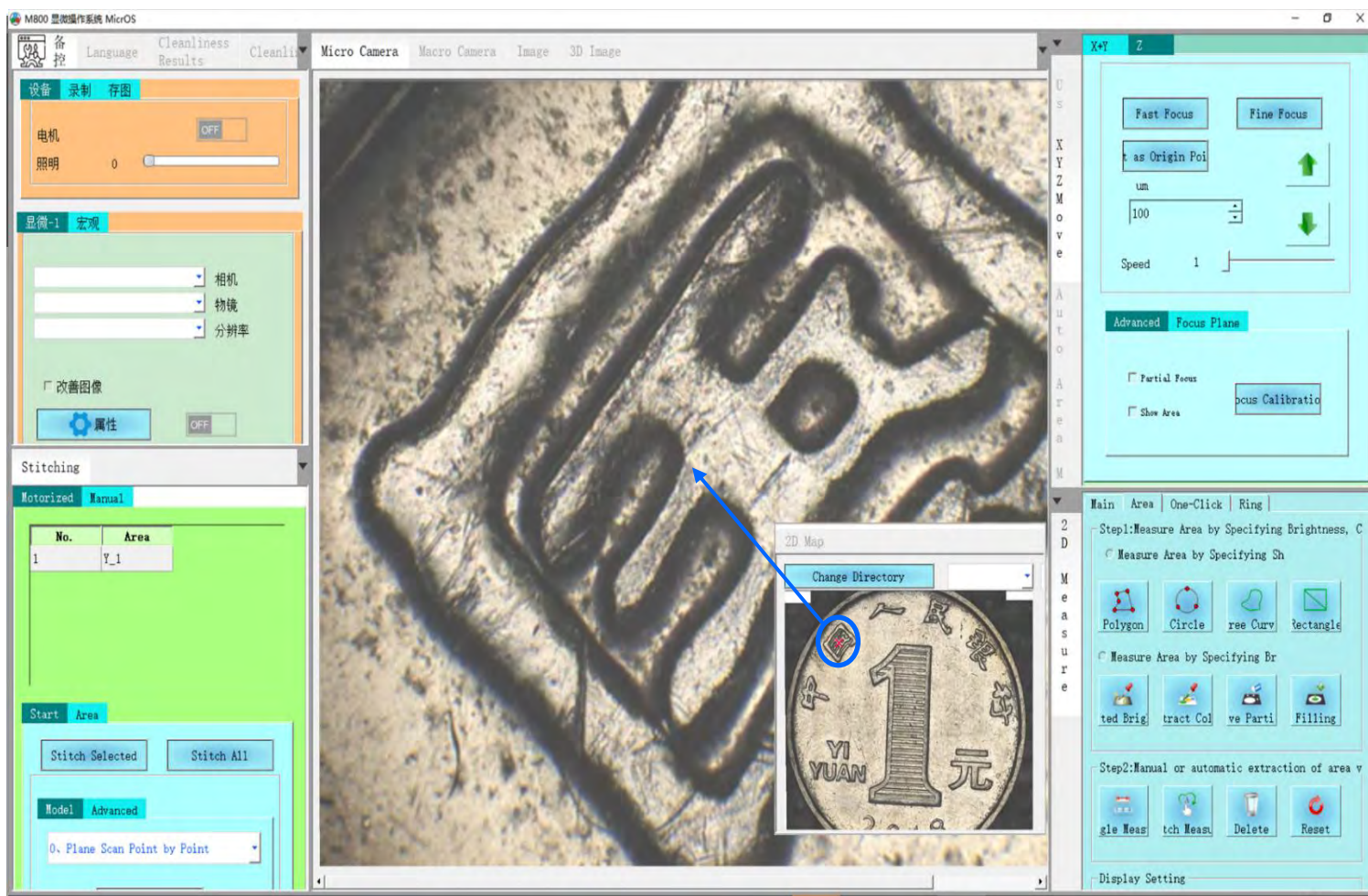
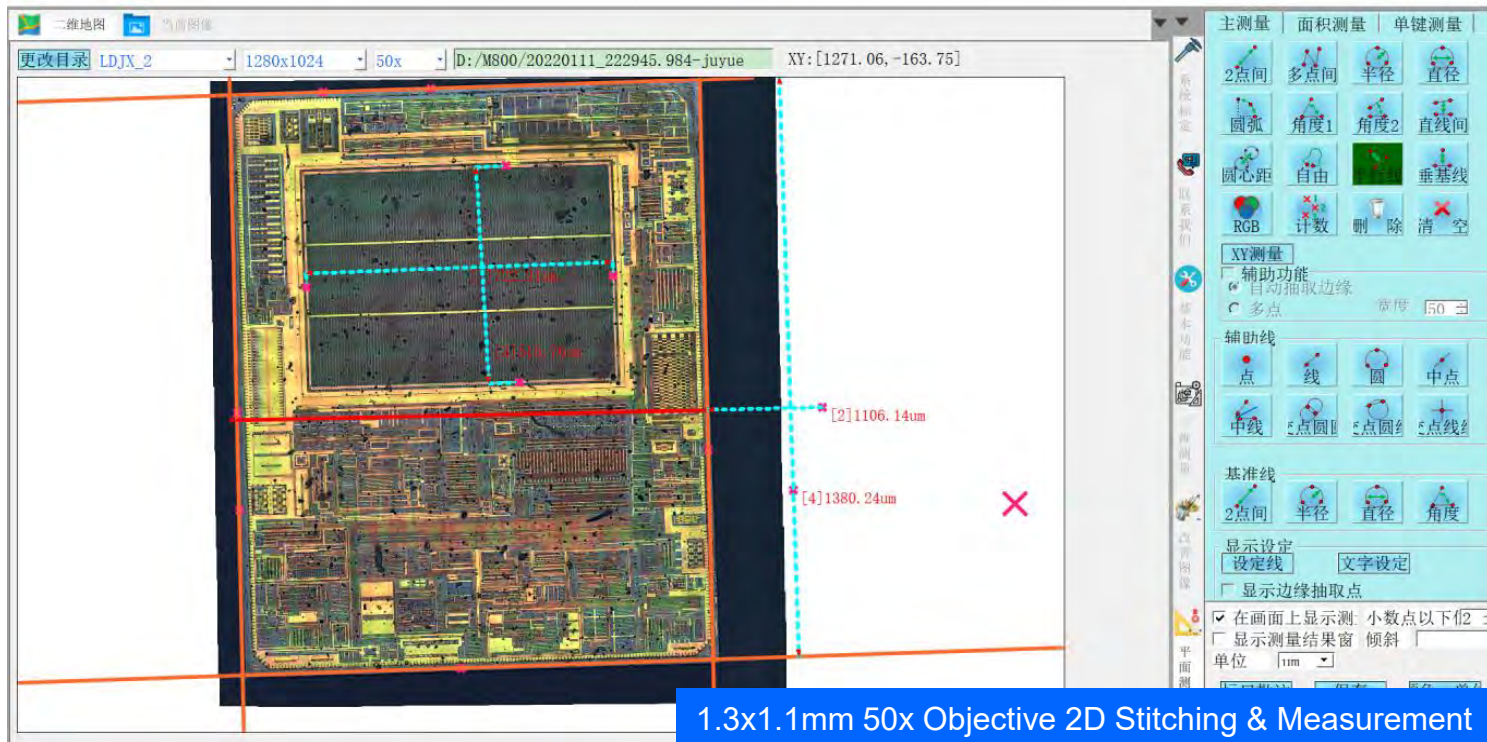
Z Motorized Control

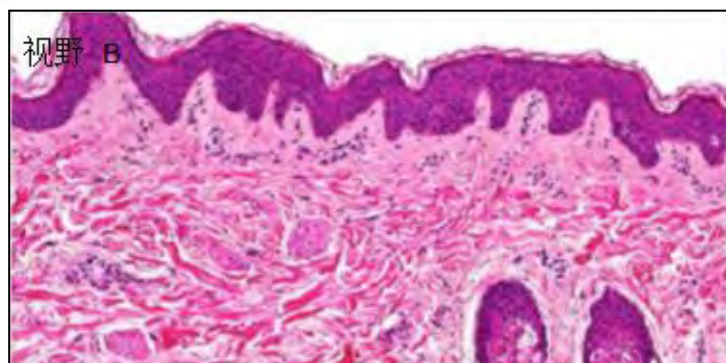
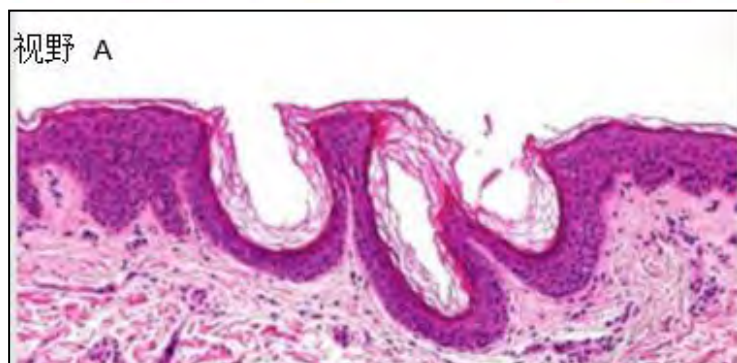
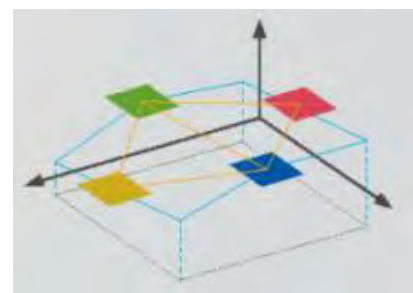
The software controls the Z-axis electric lift, to accomplish professional functions such as manual focus/auto focus/super depth of field fusion. One-button autofocus, focusing speed accuracy can be selected.



2D Stitching

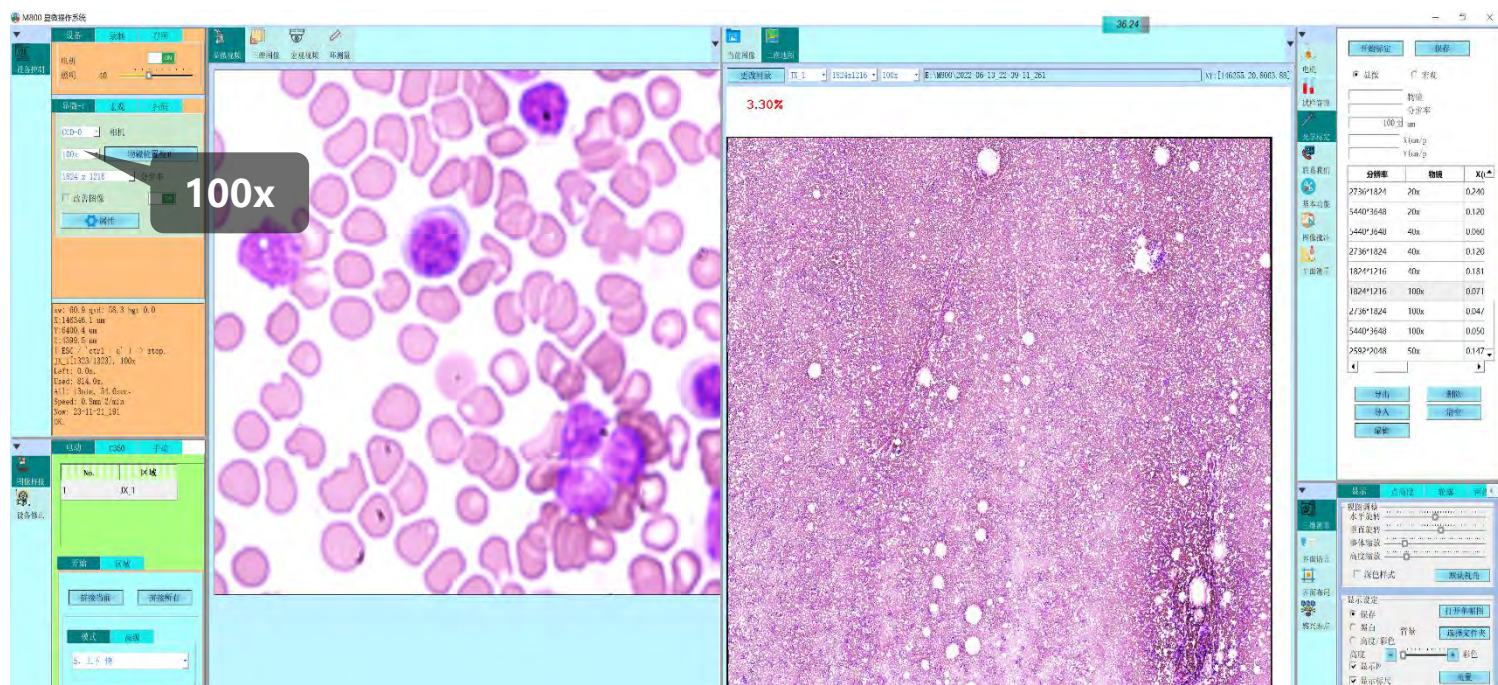
Supports auto scanning and stitching of 2D images of any tilt plane or concave and convex surface. 2 Standard 2D Stitching Modes, 7 Advanced 2D Stitching Modes can scan & stitch at different scanning accuracy and speed as your need.





High Speed – Fly Scan Mode

After setting the scanning range of bevel or uneven surface, the software will automatically select 9 acquisition points, automatically focus and record the height respectively, and establish a height model. Then fly scan can move Z axis according to height model and take photos quickly and stitch 2D panoramic scan images at high speed.



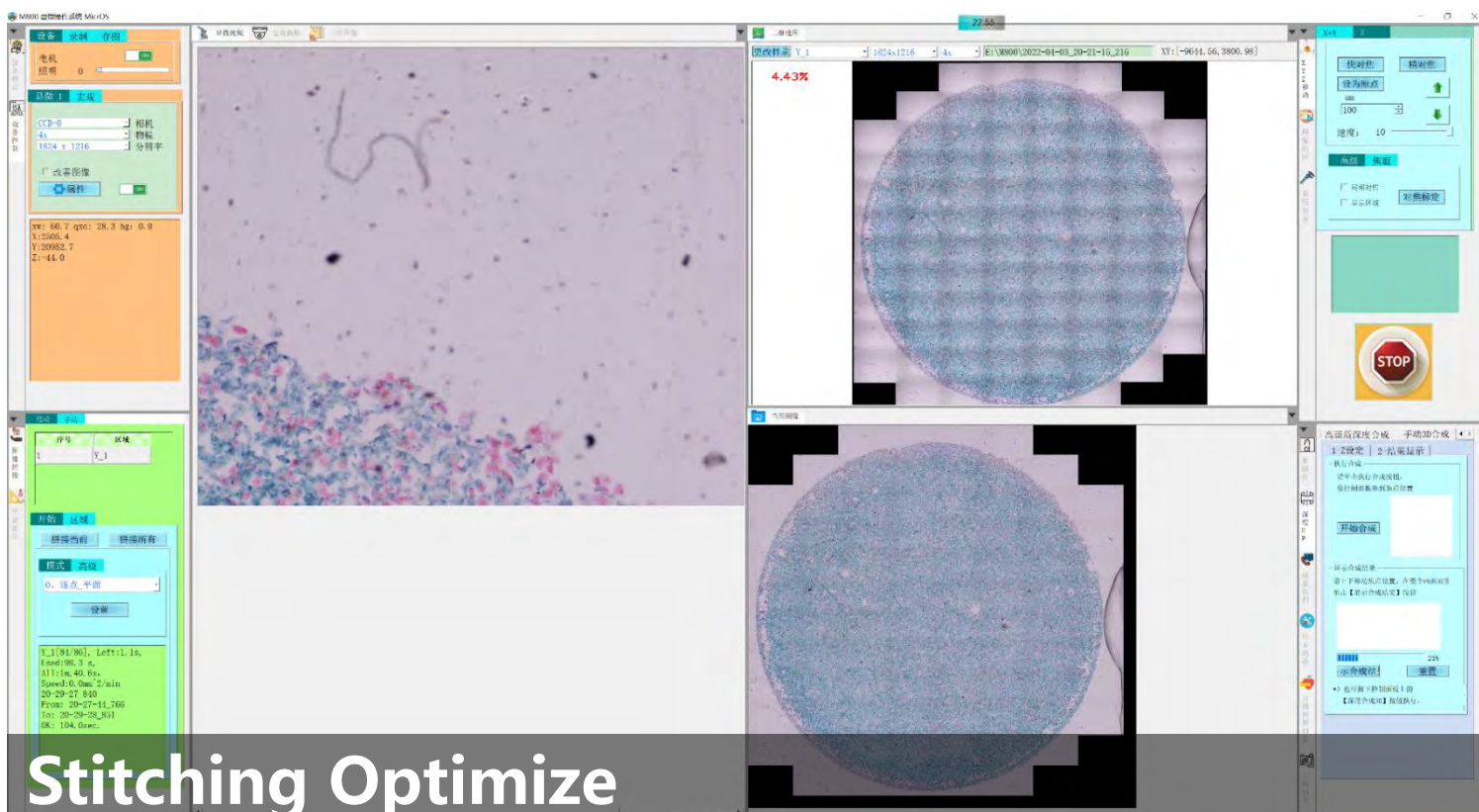
High Resolution – Scan Under 40x, 100x

In addition to the basic XY motorized scanning and stitching, the advanced 2D scanning mode can simultaneously perform continuous scanning along the Z axis until the focus is found or depth of field fusion is made, and then panoramic stitching is performed. Even for industrial samples with uneven surfaces, or biological slices with uneven thickness under high magnification 40x or 100x, high-resolution 2D or 3D scan images with clear focus in all areas can be obtained.



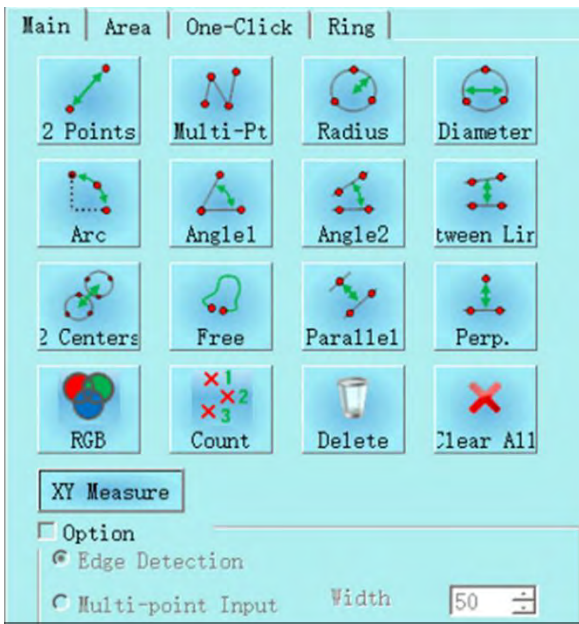
Free Stitching Area

The scan area can be automatically recognized by the software (the contour line mode automatically detects the edge contour of the object). Software also provides a variety of manual selection scan area modes, free curve mode can draw any shape as splicing area



Stitching Optimize

The built-in advanced algorithm can intelligently optimize and correct the grid phenomenon and shadow phenomenon caused by lens aberration, uneven lighting and other factors when scanning and stitching, so that the stitched image will be one high-definition, no offset, no grid, no shadow.



All Kind 2D Measurement

2D plane measurement function, length, angle, radius, diameter, free-form curve length, parallel line distance, point-line distance, 2-point distance, multi-point distance, radius, diameter, arc length, RGB measurement, counting and other 10 kinds of measurements mode, and provides a variety of auxiliary lines, reference line tools, free coordination can achieve various complex measurements

1-Extract | 2-Optimize | 3-Sh

Brightness | Color | Manual

Manual

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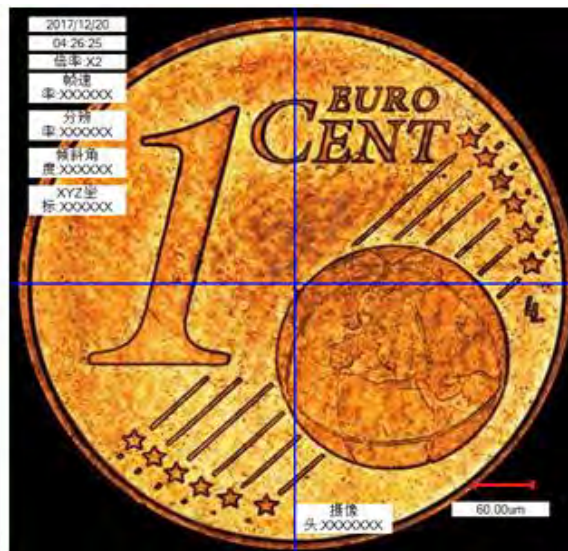
Confirm Ar 3

maginifier dual size

Return text step

One Key Auto Measurement

Multiple measurement items can be saved as templates, the software intelligently matches similar shapes, removes redundant targets or separates overlapping targets, and automatically performs unified measurement, counting and analysis for multiple targets with one key.



Freely Remark And Output Reports

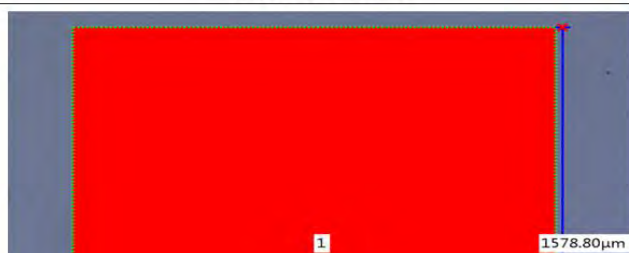
Remark information can be freely inserted and displayed in the microscope video window and 2D map window. The annotation content, ruler, color, line, etc. can be freely set, and output to the experimental report along with the image



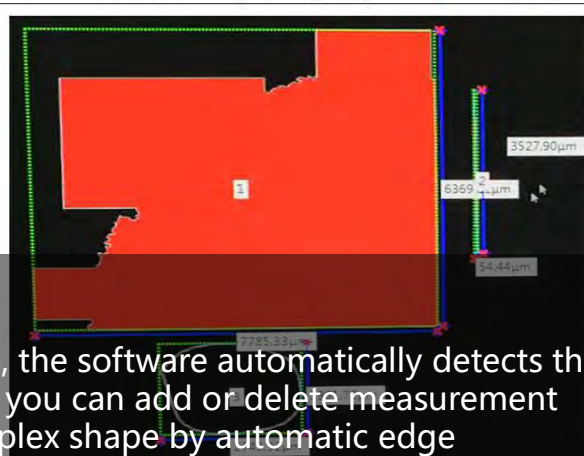
Max/Min Diameter



Circumscribed Rectangle (Minimum Area)



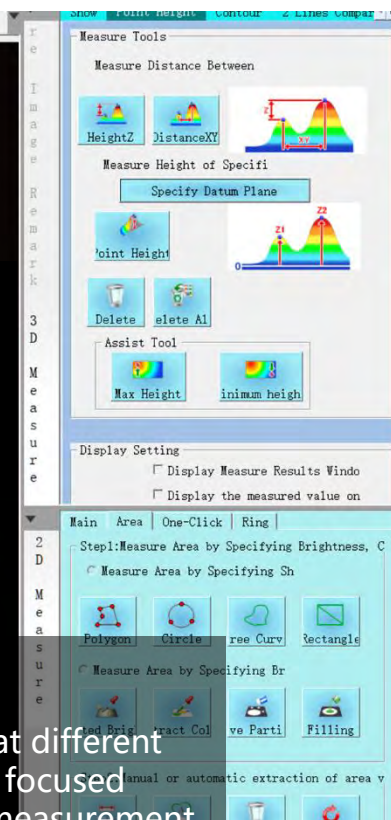
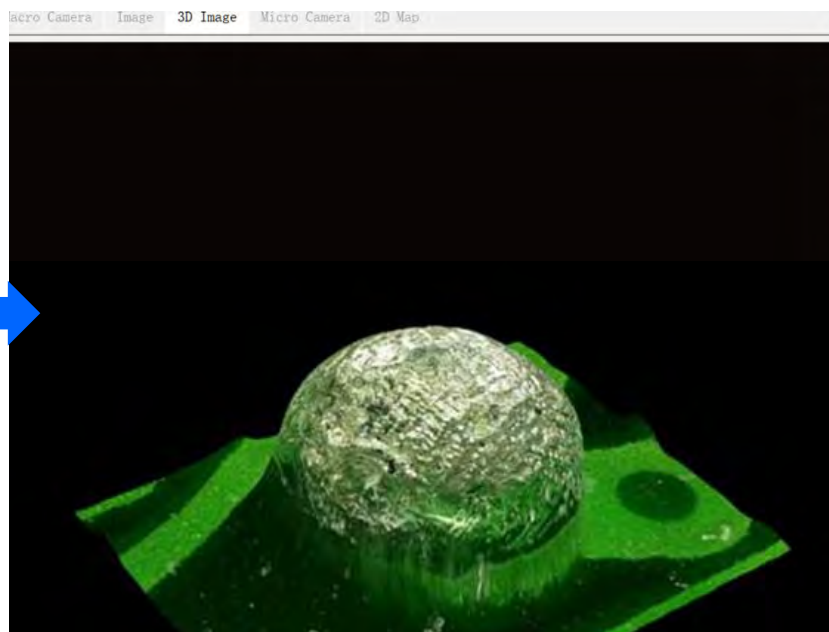
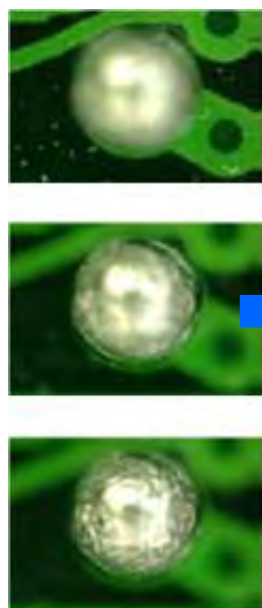
Circumscribed Rectangle (Ferret's Diameter)



Circumscribed Rectangle (Arbitrarily Specified)

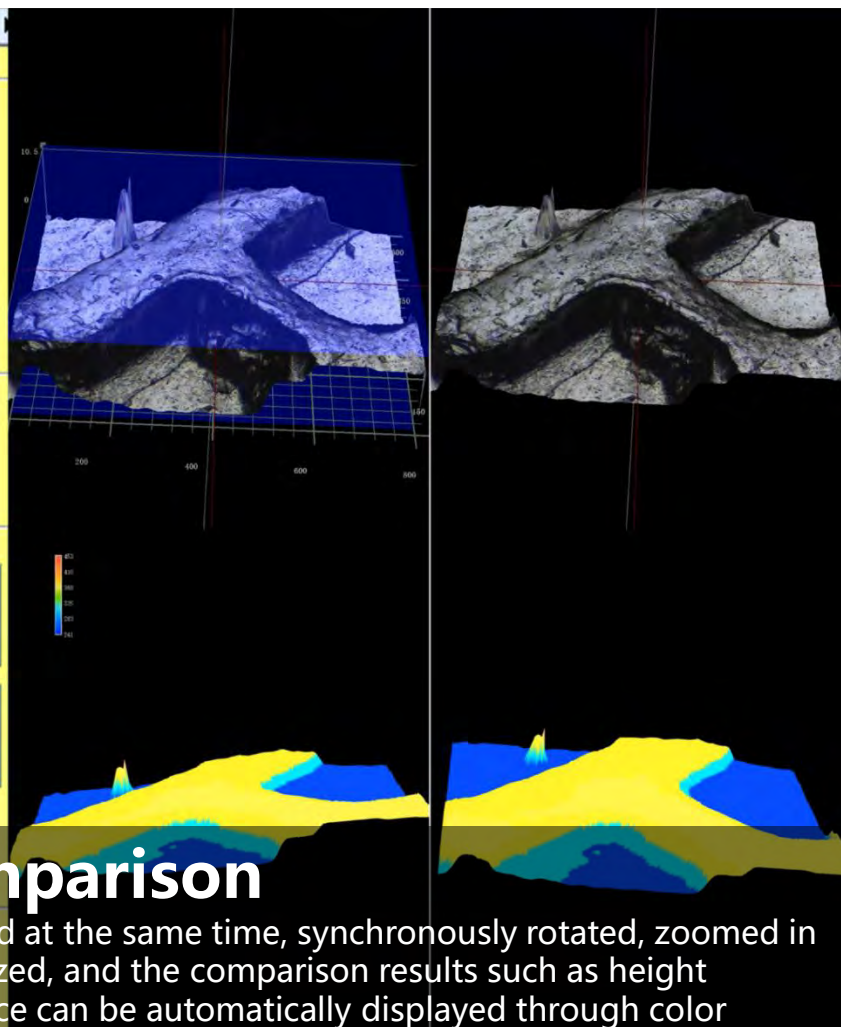
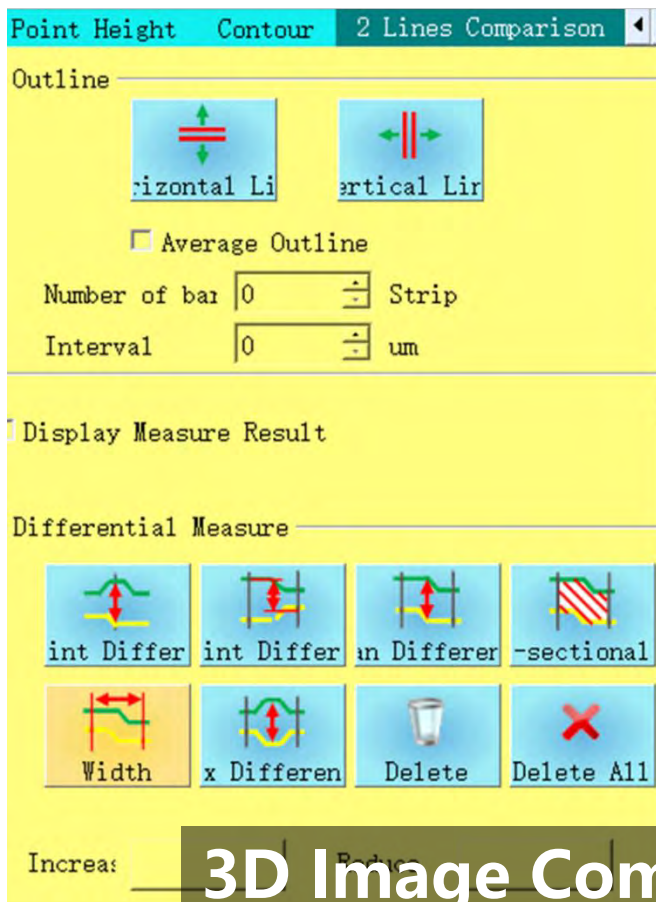
Max Area Measurement

Just use the mouse to specify the measurement range, the software automatically detects the edge of the object and selects the measurement area, you can add or delete measurement areas at will, and measure the largest area of any complex shape by automatic edge recognition instead of manual precise positioning



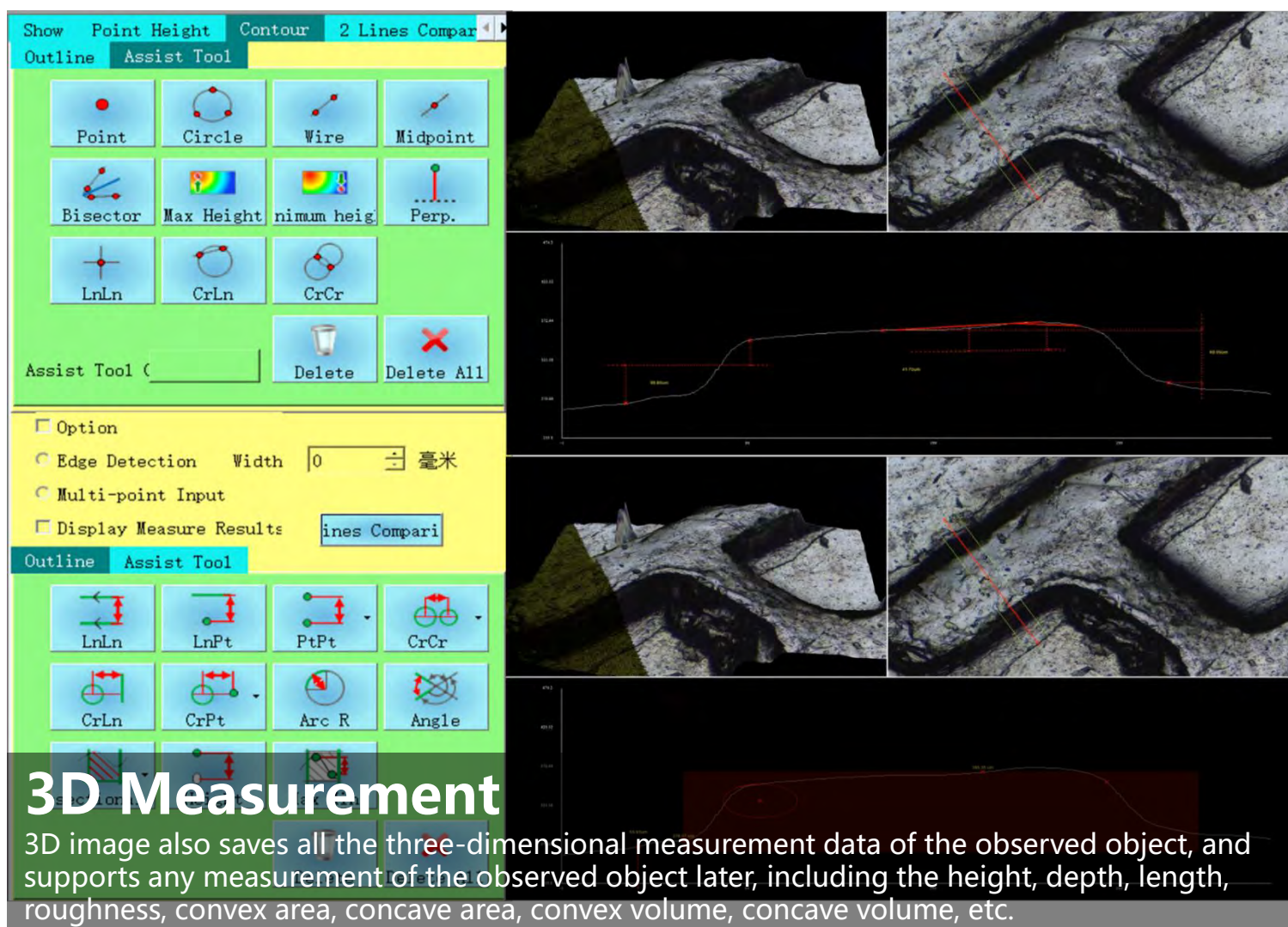
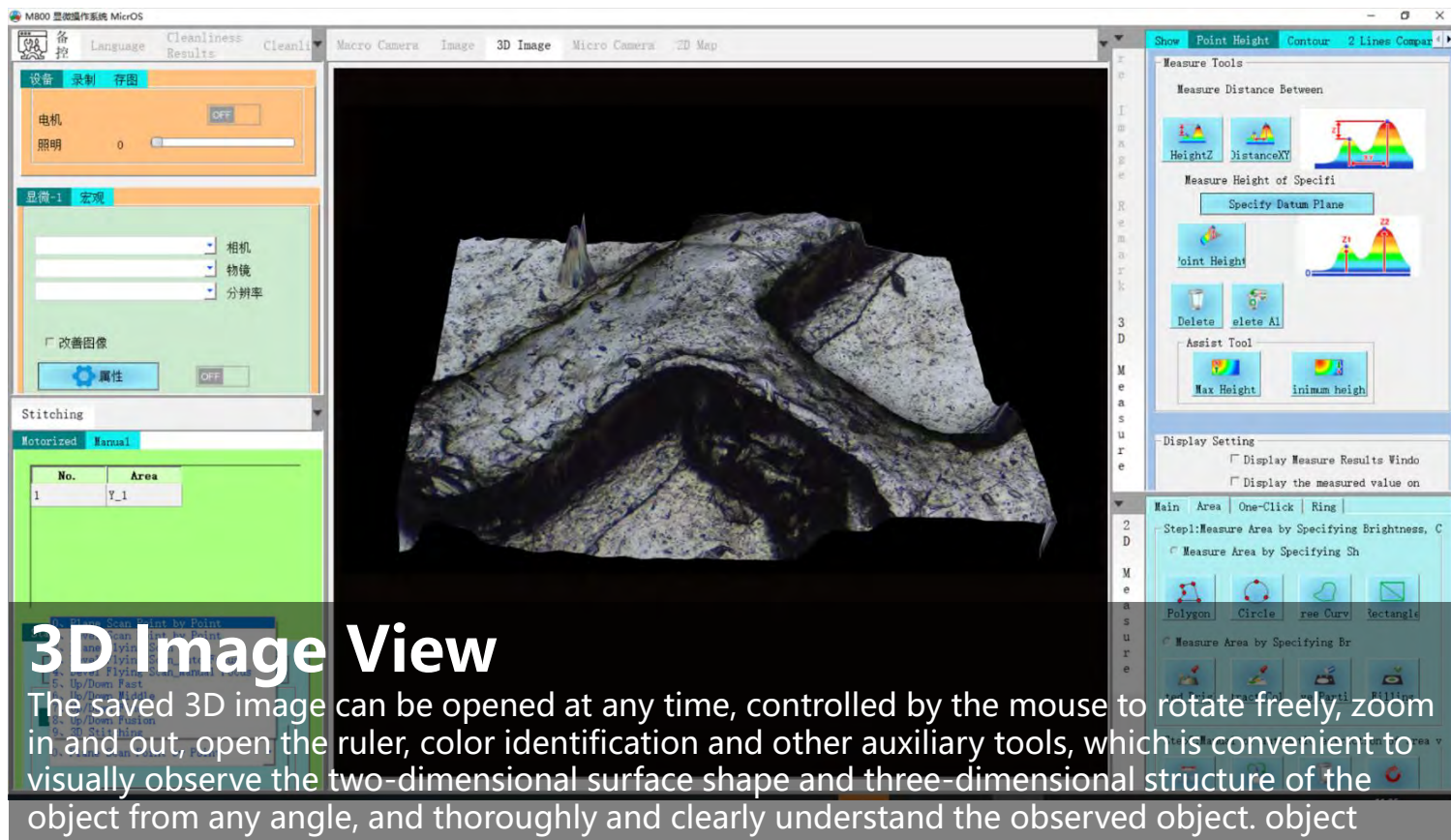
3D Stitching

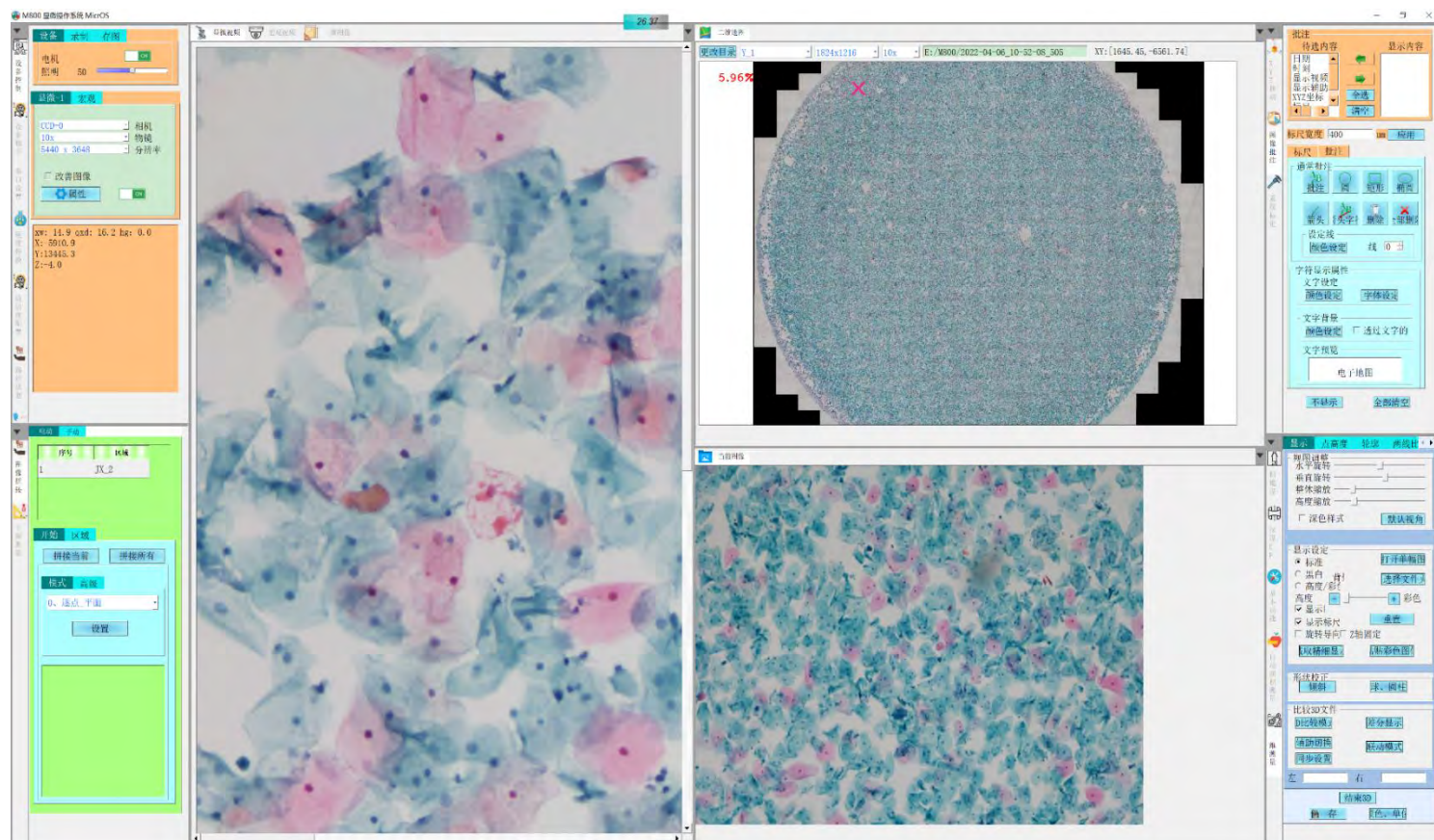
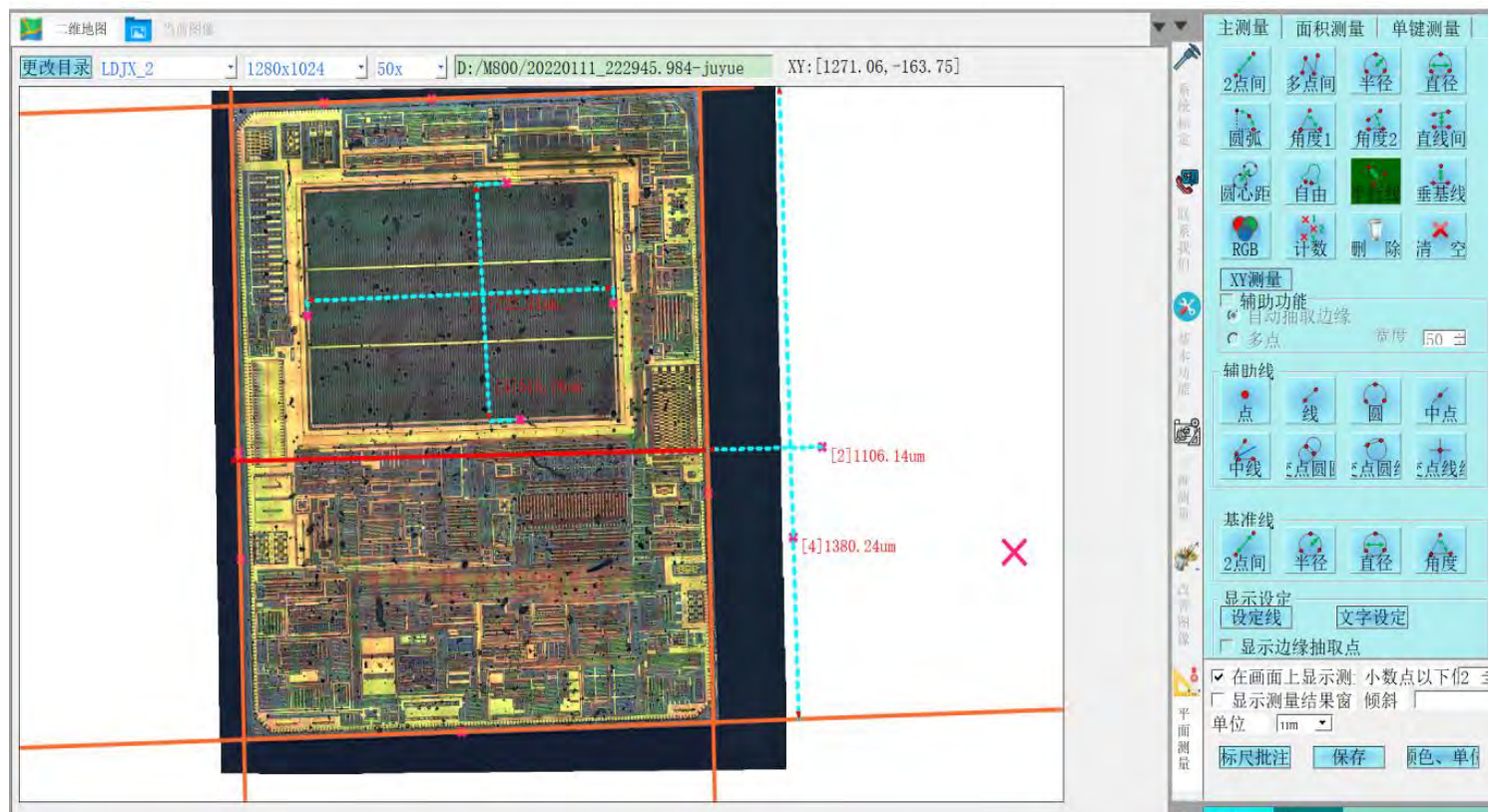
It can take pictures of uneven observation objects after auto-focusing at different heights, obtain a full-frame clear 2D image synthesized from all clearly focused images, and stitch together to form a 3D image, and retain all the 3D measurement data of the observed object for later observation and analysis. Measurement. Super powerful algorithm can achieve 200-500 layers of fusion.



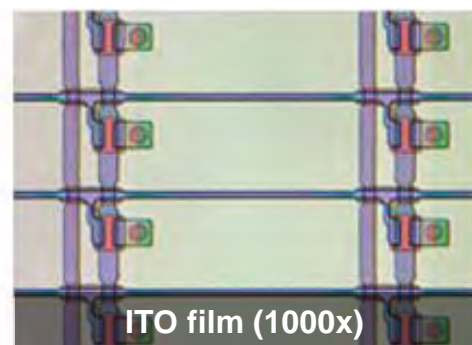
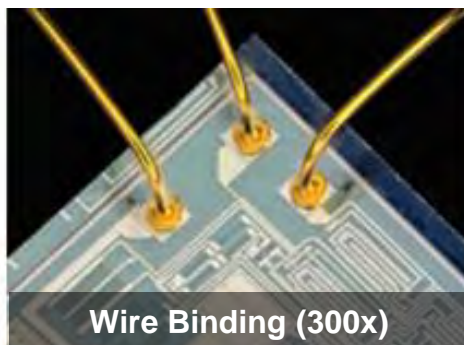
3D Image Comparison

Two 3D images can be opened at the same time, synchronously rotated, zoomed in and out, compared and analyzed, and the comparison results such as height difference and shape difference can be automatically displayed through color identification

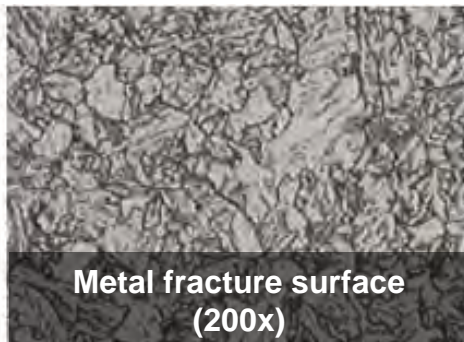
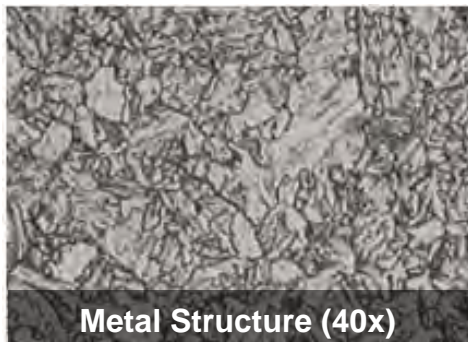




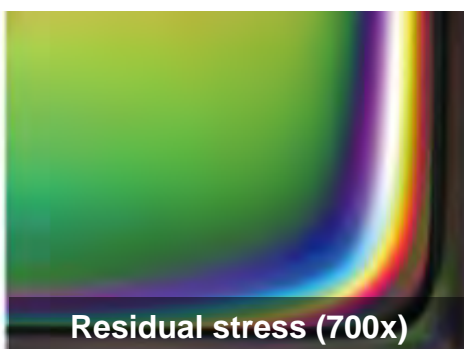
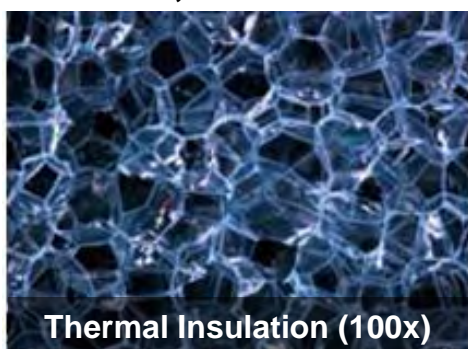
Semiconductor Industry



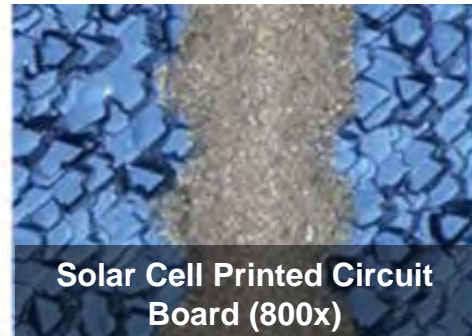
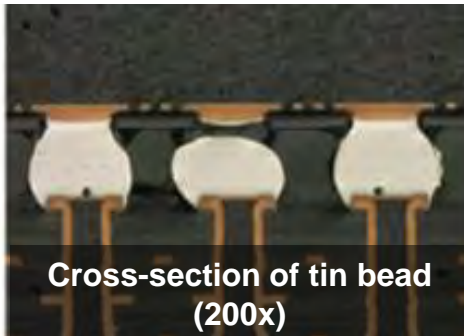
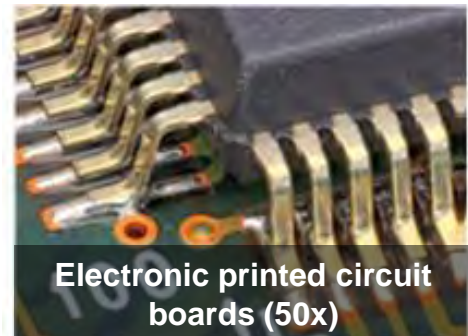
Automotive And Metal Industries



Materials, Chemical Industry



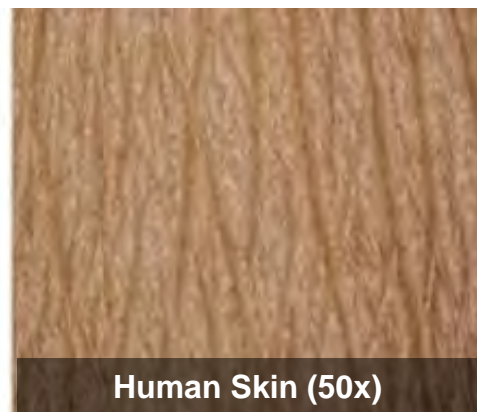
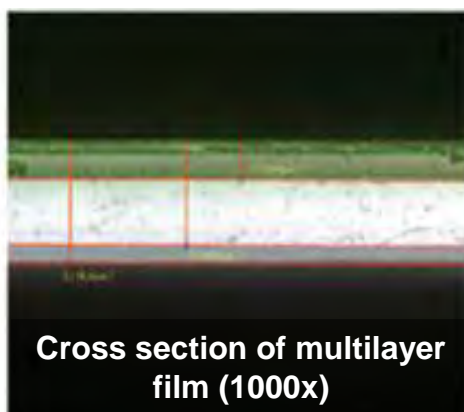
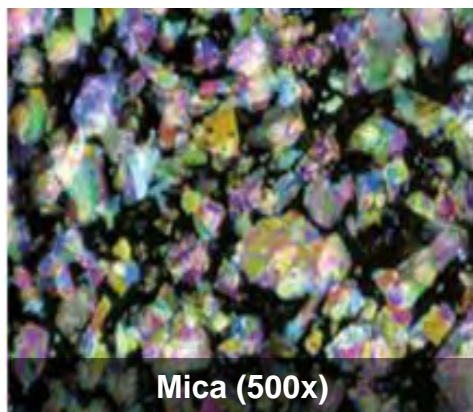
Electrical And Electronic Industries



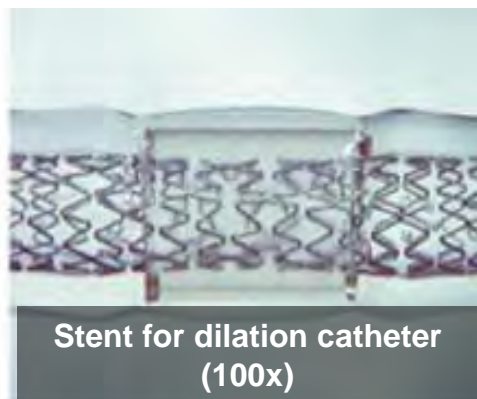
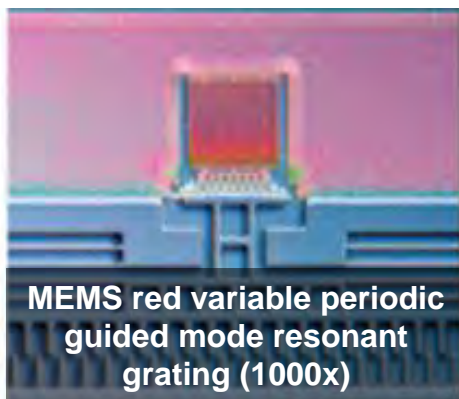
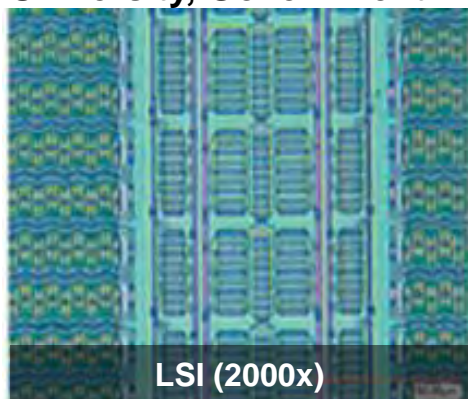
Medicine, Medicine And Food Industry



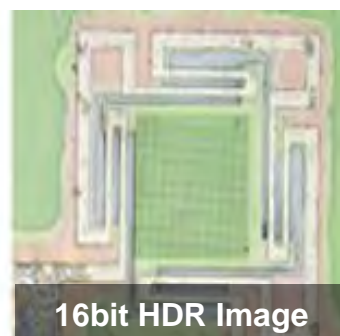
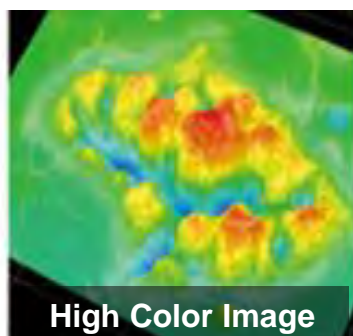
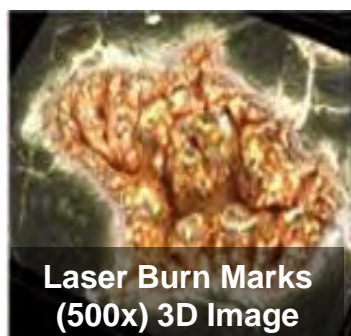
Other

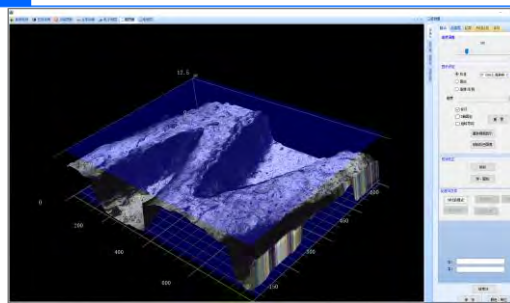
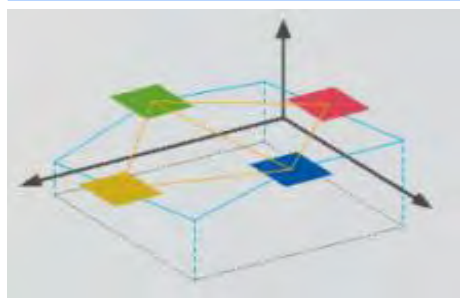


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Advanced Functional Use






M13.5820 Motorized Metallurgical Microscope, BF+DF+PL, Semi-APO, DIC, XYZ & Nosepiece Motorized			Cata. No.
Optical System	NIS45 Infinite Optical System	●	
Observation Method	Bright Field	●	
	Dark Field	●	
	Polarizing	●	
	DIC	●	
		●	
Main Body	BH Manual Body + Halogen Illumination.	●	A54.1090-BH
	BL Manual Body + LED Illumination.	○	A54.1090-BL
Head	Seidentopf Binocular Head, Inclined 30°, Interpupillary Distance 47-78mm	○	A53.1090-B
	Seidentopf Trinocular Head, Inclined 30°, Interpupillary Distance 47-78mm, 3 Level Light Split Switch E100:P0/E20:P80/E0:P100	○	A53.1090-T
	Ergo Tilting Trinocular Head, Inclination 0°~35°, Interpupillary Distance 47-78mm, 3 Level Light Split Switch E100:P0/E20:P80/E0:P100	●	A53.1090-TT
Eyepiece	SW10x/25mm, High Eyepoint, Diopter Adjustable, Dia.30mm	●●	A51.1090-1025
	SW10x/22mm, High Eyepoint, Diopter Adjustable, Dia.30mm	○	A51.1090-1022
	EW12.5x/16mm, High Eyepoint	○	A51.1090-12516
	WF15x/16mm, High Eyepoint, Diopter Adjustable, Dia.30mm	○	A51.1090-1516
	WF20x/12mm, High Eyepoint, Diopter Adjustable, Dia.30mm	○	A51.1090-2012
Nosepiece	Coded & Motorized Nosepiece, Sextuple, Backward, Control Objective Switch by Software	●	
	With Slot For Polarizing Compensator Slider Or DIC Slider	●	
NIS45 N-MPFN Infinity Plan BF/DF Semi-APO Metallurgical Objective	BD 5x/0.15, W.D.20mm, No Cover Glass	●	A5M.1091-5
	BD 10x/0.3, W.D.11mm, No Cover Glass	●	A5M.1091-10
	BD 20x/0.45, W.D.3mm, No Cover Glass	○	A5M.1091-20A
	BD LWD 20x/0.4, W.D.12mm, No Cover Glass	●	A5M.1091-20
	BD LWD 50x/0.5, W.D.10.6mm, No Cover Glass	●	A5M.1091-50
	BD LWD 100x/0.8, W.D.3.5mm, No Cover Glass	●	A5M.1091-100
NIS45 BF/DF APO	BD 50x/0.8, W.D.1mm, No Cover Glass	○	A5M.1092-50
	BD 100x/0.9, W.D.1mm, No Cover Glass	○	A5M.1092-100
Condenser	LWD Condenser, N.A.0.65, W.D.10.2mm, Center Adjustable, Dual Condenser Lifting Handle	●	A5M.1095
Focusing	Coaxial Coarse & Fine Focusing, Fine Division 0.001mm, Focusing Range 35mm, Coarse Stroke 37.7mm, Fine Stroke 0.1mm, Can Exchange Hand Wheel Between Left/Right,	●	
	Max Sample Space 76mm		
	Max Sample Space 56mm	●	
Reflect Light Source	Reflect Epi Metallurgical Illuminator, Turret Disc With 6 Positions For Filter Block, Kohler Illumination	●	A5M.1090
	12V100W Halogen Lamp Housing	●	A5M.1090-100W
	BF/DF View Block	●	A5M.1090-BD
	BF1 View Block	●	A5M.1090-B1
	BF2 View Block	●	A5M.1090-B2
Filter For Reflect Light Source	Filter Blue	●	A56.1093-B
	Filter Green	●	A56.1093-G
	Filter Yellow	●	A56.1093-Y
	Filter Forested	●	A56.1093-F

M13.5820 Motorized Metallurgical Microscope, BF+DF+PL, Semi-APO, DIC, XYZ & Nosepiece Motorized			Cata. No.
Polarizing	Polarizer For Reflect Light Source	●	A5P.1090-RP
	Analyzer For Reflect Light Source	●	A5P.1090-RA
DIC	Blank Slider	●	A5P.1090-E
	Nomarski DIC Slider For Reflect Light Source	●	A5M.1090-DIC
Transmit Light Source	Transmit Kohler Illumination, Brightness Adjustable, 12V100W Halogen, External Lamp House	●	A56.1090-12V100W
	Transmit Kohler Illumination, Brightness Adjustable, 3W S-LED, Built-in Main Body	○	A56.1090-3WLED
	ECO Function Support Auto Power Off After 30 Mins From Operator Leave To Save Energy	●	A56.1090-ECO
Filter For Transmit Light Source	Filter Holder On Base, Can Hold 3 Filters	●	A56.1092-H
	Filter LBD	●	A56.1092-LBD
	Filter Green	●	A56.1092-G
	Filter Yellow	●	A56.1092-Y
	Filter ND6	●	A56.1092-ND6
	Filter ND25	●	A56.1092-ND25
Adapter	Eyepiece Adapter Dia.23.2mm	○	A55.1090-E
	C-Mount 1.0x	○	A55.1090-1.0x
	C-Mount 0.5x	○	A55.1090-0.5x
Software	NOMIS Basic Image Processing Software	○	A30.1090
Other Accessories	Working Stage Holder Bracket	●	A54.1096
	Adapter To Adjust Eye Position	○	A54.1096-A1
	Adapter To Lower The Stage Position 1"	○	A54.1096-A2
	Immersion Oil	○	A50.1090-01
	Allen Wrench	●	A50.1090-02
	Power Cord	●	A50.1090-03
	Short Eye Cover, For Eyepiece	○	A50.1090-04
	Long Eye Cover, For Eyepiece	○	A50.1090-05
	Eyepiece Micrometer, Cross	○	A50.1090-06
	Adapter Ring To Install Eyepiece Micrometer	○	A50.1090-07
	USB Cable	○	A50.1090-08
Phase Contrast	Centering Telescope 10x	○	A5C.1092
	Infinity Plan Phase Contrast Objective N-PLN PH 10x/0.25	○	A5C.1091-10
	Infinity Plan Phase Contrast Objective N-PLN PH 20x/0.40	○	A5C.1091-20
	Infinity Plan Phase Contrast Objective N-PLN PH 40x/0.65	○	A5C.1091-40
	Infinity Plan Phase Contrast Objective N-PLN PH 100x/1.25(Oil)	○	A5C.1091-100
DIC	Polarizer For Transmit Light Source	○	A5P.1090-TP
	Turret DIC Condenser	○	A5C.1095
	DIC Slide 10x, Used With Semi-APO Fluorescent Objective	○	A5C.1095-10
	DIC Slide 20x/40x, Used With Semi-APO Fluorescent Objective	○	A5C.1095-2040
	DIC Slide 100x, Used With Semi-APO Fluorescent Objective	○	A5C.1095-100
	DIC Slide With Analyzer 10x-20x	○	A5C.1095-1020P
	DIC Slide With Analyzer 40x-100x	○	A5C.1095-40100P
NIS60 N-PLFN Semi-APO Fluorescent Objective For DIC	4x/0.13, W.D.16.5, Cover Glass 0.17mm	○	A5F.1091-4
	10x/0.3, W.D.8.1, Cover Glass 0.17mm	○	A5F.1091-10
	20x/0.5, W.D.2.1, Cover Glass 0.17mm	○	A5F.1091-20
	40x/0.75, W.D.0.7, Cover Glass 0.17mm	○	A5F.1091-40
	100x/1.3, W.D.0.15, Cover Glass 0.17mm, Oil	○	A5F.1091-100
Note: "●" In Table Is Standard Outfits, "○" Is Optional Accessories "-" Is Unavailable			

Motorized Working Stage, Computer & Software

Motorized Working Stage	XYZ Motorized Working Stage, 2-Phase Stepping Motor, High Precision Module, Aluminum Alloy Material, Surface Anodized, Anti-Corrosion And Scratch-Resistant --For Biological Transmit Light Source, With 6 Slides Holder --For Metallurgical Reflect Light Source, With Metal Plate	• 	A54.5806
Size	255x210mm		
XYZ Moving	85x70x42mm		
Resolution	<0.05um		
Repeatability	≤20um		
Maxcope Software	2D, Plane Scan, For XY or XYZ Stage+2C Computer	•	A30.5801-2D
	2DB, Add Bevel Scan, For XYZ Stage+2C Computer	○	A30.5801-2DB
	2DF, Add Up/Down Fusion Scan, For XYZ Stage+3C Computer	○	A30.5801-2DF
	3D, Add 3D Scan, For XYZ Stage+3C Computer	○	A30.5801-3D
	Customized Function, Detail See Maxcope Software Version Table	○	A30.5801-CF
Computer	Dell i5 64G 256G+1T, 2G Graphic, 27" 4K, Pre-Installed Maxcope Software.	•	A30.5801-2C
	Standard Computer For 2D, 2DB Version Software		
	Dell Xeon W-2265 12 Core 3.5GHz, 128G+1T NVMe 4T, RTX4000-8G, 27" 4K, Pre-Installed Maxcope Software.	○	A30.5801-3C
	Standard Computer For 2DF, 3D Version Software		

Maxcope Software Version Table

2D Version

(Standard Version, For XY or XYZ Stage + 2C Computer)

XY Motorized Control	Control the motorized stage through software, support one-click set/return to origin point, three ways control methods: • Click the 8-direction arrow with the mouse to manually control the stage movement, and the step distance and move speed can be freely adjusted • Long press the mouse and drag in the camera preview window, to move the working stage to the corresponding direction • Double-click the mouse at any point in the preview window, the point will be set as center of the window, the stage will move accordingly
2D Plane Scan	2 kinds plane scan modes, no need auto or manual focus during stitching, for plane smooth surface or low magnification view, XY stage will direct scan single focal plane and stitch the 2D image • Plane PXP Scan, point by point, high precision, slow speed • Plane Fly Scan, line by line, low precision, high speed Supports automatic scanning and stitching of 2D images at any magnification, with optional scanning accuracy and speed.
Free Stitching Area	Provides 6 stitching area modes, which can quickly set stitching areas of any shape: Polygon, 2-point rectangle, 3-point circle, 4-point ring, outline, free curve. • Outline mode can automatically detect the edge contour of the object as the stitching area. • Free curve mode can freely draw any shape as the stitching area.
2D Stitching Optimize	The built-in advanced algorithm can intelligently optimize and correct the grid phenomenon and shadow phenomenon caused by lens aberration, uneven lighting and other factors when scanning and stitching, so that the stitched image will be one high-definition, no offset, no grid, no shadow.
Calibration	It can do the necessary calibration before measurement, for different camera & objective lenses, user can add, delete, and manage the calibration list at any time
2D Measurement	2D plane measurement 10+ functions, including length, angle, radius, diameter, free curve length, parallel line distance, point-line distance, 2-point distance, multi-point distance, radius, diameter, arc length, RGB measurement, counting, etc. and a variety of auxiliary lines and reference line tools are provided. Combined with these tools, various complex measurements can be achieved, and various measurable information of planar images can be obtained more efficiently.
2D Map Guide	After scanning and stitching to generate a panoramic image, it can be used as an electronic 2D map for navigation. Click the 2D map to control the motorized stage to quickly locate the specified position for high-magnification observation, avoiding the confusion of difficult positioning in traditional high-magnification observation.
Point of Interest	Click the mouse to freely set and save multiple points of interest on the image, you can select and quickly return to the point of interest at any time for repeated focus observation
Marco Camera Guide	The model with optional macro camera, the panoramic image previewed in real time can be used as an electronic 2D map for navigation function, one click can reach the point of interest for high-power observation
Motorized Nosepiece	Optional motorized nose wheel models, you can select different objective lenses in the software, and switch the magnification with one click

Full Parameter Record	While taking pictures and videos, software can automatically records comprehensive information such as shooting date, objective lens, magnification, stage position, etc., which is convenient for outputting to experimental reports or for reproducing observation results later.
Extra Long Video Record	The longest 1 hour, the fastest 50PFS video recording, can comprehensively record the experimental detection process, or the long-term change process of the observed object, subtle movements and other information. The video results can be fast-forwarded or played frame by frame, and still images can be extracted and saved.
Customized Report	Freely set Word and Excel report templates, including images and comprehensive shooting parameters, which is convenient for quickly outputting a complete inspection report in the later stage
Free Interface	The software interface and each submenu can be freely settled by dragging and dropping with the mouse, and can be saved, exported, and imported into the customized interface layout, and the default simple interface can also be restored easily by hot key Ctrl + G.
Multi Language	The software supports Simplify Chinese, Traditional Chinese, English, Russian, Korean, Japanese, Iranian, Dutch, French, German, Italian, and other language versions can be customized.
2DB Version (2D + Below Functions, For XYZ Stage + 2C Computer)	
Z Motorized Control	<p>The software controls the Z-axis motorized lift, support professional functions such as manual focus/auto focus/super depth of field fusion</p> <ul style="list-style-type: none"> Click the up and down arrows with the mouse to manually control the Z-axis lift and focus One-click autofocus, focusing speed & accuracy can be selected
2D Bevel Scan	<p>3 kinds Bevel Scan modes, can auto acquisition height of multi-focal planes, after modeling, scan and stitch 2d image, especially suitable for bevel smooth surface,</p> <ul style="list-style-type: none"> Bevel PXP Scan, Point by Point Bevel Fly Scan. Manual Focus Bevel Fly Scan Auto Focus
Auto Focus	One click autofocus, as quick as 0.3-2 seconds for each focus, focusing accuracy and speed are optional
2DF Version (2DB + Below Functions, For XYZ Stage + 3C Computer)	
2D Fusion Scan	<p>4 kinds of auto focus stitching modes up and down, with Z-axis motorized, you can focus on the inclined plane and the concave-convex surface layer by layer along the Z axis to find the correct focal plane, or after the depth of field fusion of multi-layer images, then scan and stitch into a clear full frame 2D images, especially suitable for complex industrial inspection, special slice observation and other fields</p> <ul style="list-style-type: none"> Up/Down Scan, Fast Up/Down Scan, Middle Up/Down Scan, Fine Up/Down Scan, Fusion
Depth Fusion	The innovative design of high-quality depth synthesis can easily do 200~500 layers of super depth of field superposition and fusion in a short period of time. The software makes intelligent judgment on abnormal high and low points, scans with full coverage, and obtains full-frame clear focus pictures
Auto Edge Selection	When the measurement point manually selected by the mouse is deviated on the screen, the software can automatically detect the edge of the target and automatically correct the measurement point to the edge to eliminate human error and improve the efficiency of measurement range selection
3D Version (2DF + Below Functions, For XYZ Stage + 3C Computer)	
3D Scan	<p>3D stitching mode, which can automatically focus on uneven objects, take pictures at different heights, obtain a full-frame clear 2D image composed of all clearly focused images, and stitch all focused image together to form a 3D image, and retain all the 3D measurement data of the observed object.</p> <ul style="list-style-type: none"> 3D Stitching
3D Image View	The saved 3D image can be opened at any time, controlled by the mouse to rotate freely, zoom in and out, open the ruler, color identification and other auxiliary tools, which is convenient to visually observe the 2D surface shape and 3D structure of the object from any angle, and thoroughly and clearly understand the observed object
3D Measurement	The 3D image also saves all the three-dimensional measurement data of the observed object, and supports any measurement of the observed object later, including the height, depth, length, roughness, convex area, concave area, convex volume, concave volume, etc.

3D Image Comparision	Two 3D images can be opened at the same time, synchronously rotated, zoomed in and out, compared and analyzed, and the comparison results such as height difference and shape difference can be automatically displayed through color identification
3D Manual Stitching	Support manual stage models, only need to manually lift the stage, the software automatically scans and takes pictures and stitches to form 3D images, upgrade manual stage model to do semi-automatic 3D scanning and stitching work.
Multi Files Comparison	Multiple files can be opened at once for cross-section, volume, area, flatness, roughness measurements, and more. Even if there are multiple evaluation samples, analysis can be performed instantaneously under the same conditions. It is possible to see at a glance where and what differences exist, such as changes in shape due to prototypes with different manufacturing conditions or wear. Not only can measurement work be significantly reduced, but evaluation errors caused by deviations in measurement conditions can also be prevented.。
CF Version Customized Function Module For Special Observation	
HDR	Acquires multiple ultra-clear images using a single wavelength of light and images with different shutter speeds, and turns them into 1 image with high grayscale data. Achieved unprecedented high-definition, high-contrast observation
DIC	The automatic turret of the six-hole objective lens, combined with the adjustment of the DIC prism, can make the height difference of the objective lens surface produce obvious relief effect, greatly improve the contrast of the image, and facilitate the user to analyze efficiently and accurately. Combined with polarized light observation, DIC can reflect the smallest surface morphology differences as brightness differences, and can display perfect images even for low-contrast, multi-phase samples and reflective materials.
Cell Count & Analysis	Through the automatic focusing acquisition method, high-definition scanning and splicing images of multiple areas are simultaneously obtained, and the number, concentration, diameter, and area of cells are statistically analyzed. The speed is fast and the identification is accurate.
Metallurgical Analysis	Using automatic image stitching, the image is analyzed through image enhancement, contrast adjustment, scratch processing, image correction, multi-region image segmentation, morphological processing, image annotation, and layer merging processing methods. It is easy to use and concise, and the measurement is accurate and reliable.
Cleanliness Analysis	Cleanliness analysis can be performed according to standards such as ISO Standard 16232, VDA 19.1-2015, ISO 16232, ISO4406 and ISO 4407. At the same time, it supports user-defined rating standard rules. Divide a large area into multiple areas to shoot and analyze them individually, and you can deal with a wide range of cleanliness analysis. The number of particles extracted and the cleanliness class can be displayed for each largest diameter class (B to K). Also provides height information for selected particles.
Vickers/Knoo Hardness Test Auto Analysis	Efficient and fast panorama scanning, diversified path planning, automatic continuous loading, focusing, and measurement are convenient for users to obtain accurate measurement results and greatly improve work efficiency.
Brinell Hardness Tester Analysis	One-Click automatic identification function is significantly ahead of the existing mainstream Brinell hardness tester software products.
Porosity Measurement	The system complies with VW50097, VW50093, VDG_P202 standards, and the whole image is obtained by panoramic stitching for analysis, so that the porosity measurement can obtain more reliable results in the entire analysis area.
Grain Size Analysis	According to JIS standard G0551 or ASTM standard E1382, the measurement line can select [vertical line], [horizontal line], [diagonal line], [multiple circles] to measure the crystals on test line.
One Click Auto Measurement	Multiple measurement items can be saved as templates, the software intelligently matches similar shapes, removes redundant targets or separates overlapping targets, and automatically performs unified measurement, counting and analysis for multiple targets with one click
Max Area Measurement	Just use the mouse to specify the measurement range, the software automatically detects the edge of the object and selects the measurement area, you can add or delete measurement areas at will, and measure the largest area of any complex shape by automatic edge recognition instead of manual precise positioning

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