

Motic®

Hyper-focal digital microscope

Easy Zoom



30x to 10000x
magnification with single lens body

Major Events in the History of Motic

Motic is a leading enterprise in the field of optical microscopes in China and one of the well-known brands in the world's optical microscopes industry. The products are mainly designed for basic education, higher education, scientific research, industry and biomedical fields. With the advantage of extensive coverage of domestic and international markets, it has customers in mainland China, Spain, Japan, Germany, the United States, Canada, Australia, South Korea, Saudi Arabia, Taiwan, Hong Kong and other countries and regions. Over the years, MOTIC has been committed to the upgradation and innovation of microscopy systems, helping inspectors in all walks of life to achieve continuous progress and improvement in inspection methods.

1988
Biomicroscope



2008
Inverted Life Science
Microscope



2013
Inverted Metallurgic
Microscope



2008
Upright Metallurgical
Microscope



1999
Built-in Digital
Microscope



2020

Cloud and Various IOT Microscopes



2018

Digital Slice Scanner



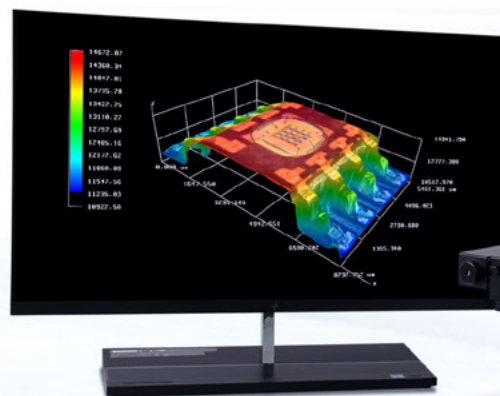
2019

PA Series Fluorescence and
Metallurgic Microscopes

2017

PantheraTEC Metallurgic
Microscope

EasyZoom Series

Comprehensive improvement of optical
inspection and analysis capabilities

Smart and Flexible Optical Solutions

Thanks to an advanced optical system developed in-house, the Motic Easyzoom series of hyper-focal digital microscopes can easily capture high-quality images to read more precise results than ever before.

HD display



Advanced integration all in one system

All observation, recording, measurement and reporting functions have been integrated into one unit, making it one of the most versatile digital products on the market.

30x to 10000x conversion with one zoom lens body

The Easyzoom series adopts a new optical solution, which can realize the conversion from 30x to 10000x with only one zoom lens body. At the same time, the long working distance of collision samples is guaranteed to avoid. The long working distances and a wide range of switching magnifications can be finished in one lens body.

Self-designed High-resolution Camera

To meet the user's need of high-definition imaging in the process of observation, measurement, and photography.

Motorized Z-axis

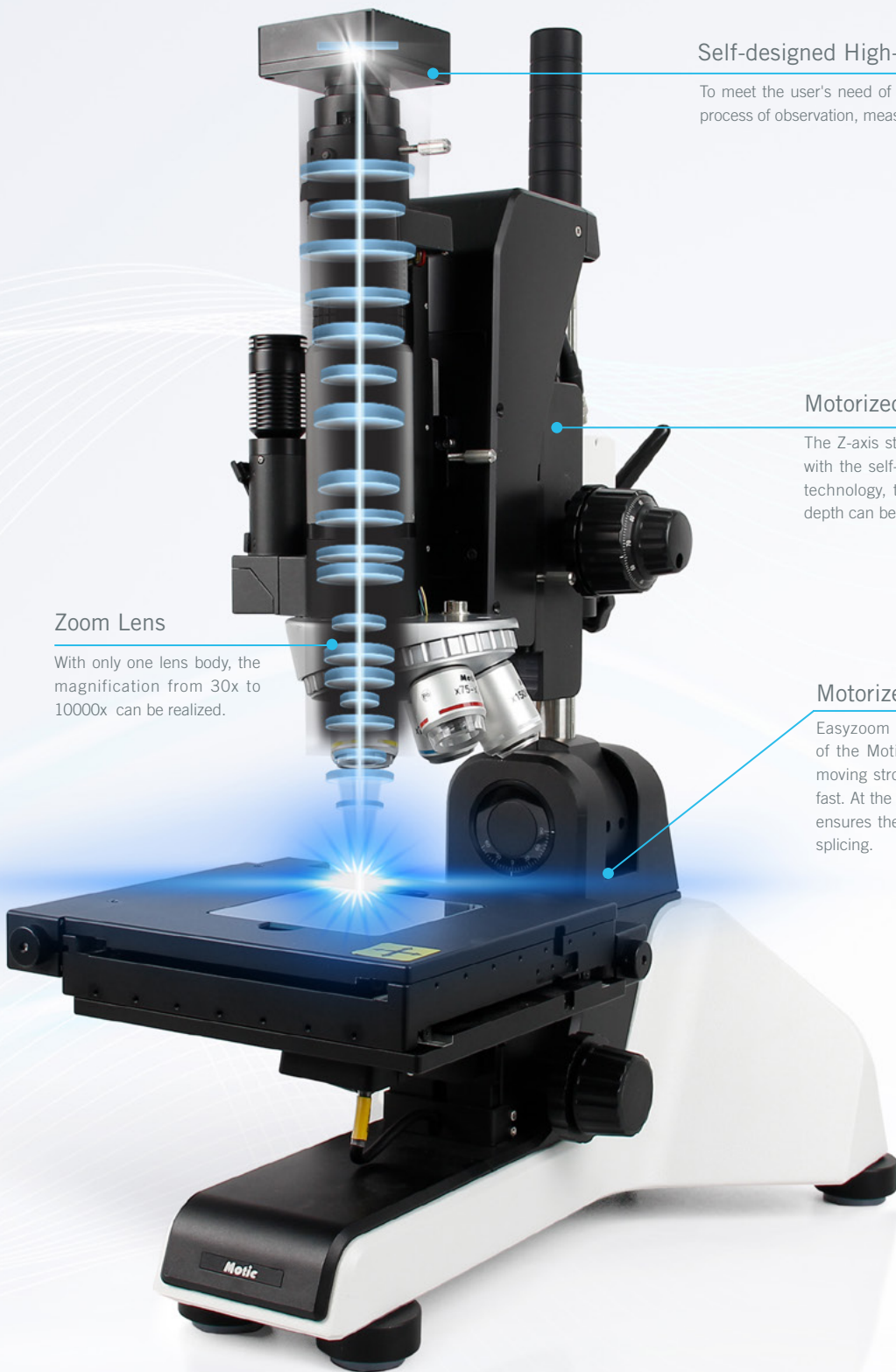
The Z-axis step can be up to $0.5\mu\text{m}$, and with the self-developed image processing technology, the clear parts of each focal depth can be perfectly integrated.

Zoom Lens

With only one lens body, the magnification from 30x to 10000x can be realized.

Motorized stage

Easyzoom follows the platform technology of the Motic 3D series, and can achieve a moving stroke of 100X100mm while moving fast. At the same time, the stable body design ensures the precision required for automatic splicing.



Hyper-focal Observation with 3D Effect

The unique optical system allows Easyzoom to have 3 times more hyper depth than before, and coupled with the sophisticated digital imaging system, the hyper focal problem that exists in traditional microscopes is no longer a trouble for our users. The convenient and fast 3D software can also quickly measure the length, width, height, volume and other three-dimensional data of the sample. Our users are no longer bound by cumbersome measurement steps.

Ultra-high-definition pictures, thanks to self-developed optical technology

Powerful multifunctional objectives, and high-precision digital technology combined with HDR image processing technology create a highly optimized observation system. By eliminating excessive reflected light, ultra-high-definition photos can be presented to the user with just one click.

Objective lens model	Standard		Objective lens model	Standard	
EZ-30BD	Optical Magnification	0.68X~4.53X	EZ-300BD	Optical Magnification	6.8X~45.3X
	Total Magnification	30X~200X		Total Magnification	300X~2000X
	Field of View	13mm~2mm		Field of View	1.3mm~0.2mm
	Working Distance	10mm		Working Distance	12mm
EZ-75BD	Optical Magnification	1.7X~11.3X	EZ-750BD	Optical Magnification	17X~113.3X
	Total Magnification	75X~500X		Total Magnification	750X~5000X
	Field of View	5.2mm~0.78mm		Field of View	0.52mm~0.08mm
	Working Distance	11mm		Working Distance	7.6mm
EZ-150BD	Optical Magnification	3.4X~22.7X	EZ-1500BD	Optical Magnification	34X~226.7X
	Total Magnification	150X~1000X		Total Magnification	1500X~10000X
	Field of View	2.6mm~0.39mm		Field of View	0.26mm~0.04mm
	Working Distance	11.9mm		Working Distance	3mm



Flexible and easy-to-operate objective lens

Seamless conversion from 30x to 10000x makes complex and varied observation tasks simple. When higher magnification is required for finer evaluation of sample surfaces, a simple rotation of the objective lens enhances the quality of the photograph.

Ultra-high true color reproduction performance

Motic has the world's leading lens production process and coating technology in the optical field, allowing users to experience the true color of the sample to the greatest extent. Semi-apochromatic objectives also provide better resolution and true color reproduction.

Long-life high-brightness LED light source design enhances image fidelity and resolution

The vertical illumination cold light source provides a single wavelength light source, which effectively increases the optical resolution and reduces the influence of the temperature change of the light source on the sample analysis.

Ultra-high-speed camera at 50 frames per second guarantees continuous images

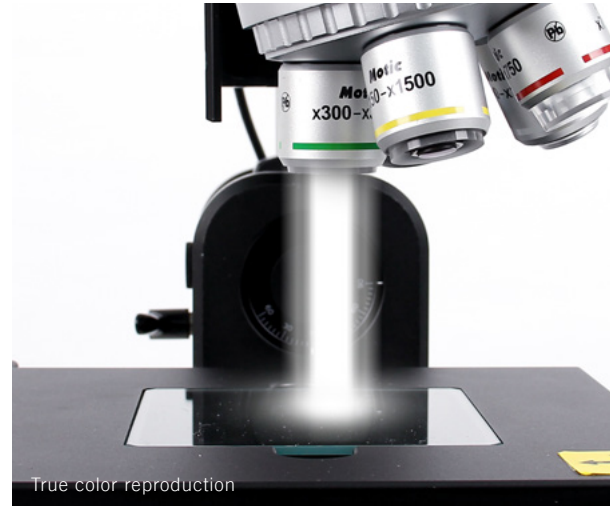
High-speed image data acquisition combined with advanced image processing technology allows users to easily get ultra-high-definition pictures.

Tilt stand for easy swivel and tilt up to 150 degrees

Easyzoom has the flexibility to capture large-scale, multi-angle images of most difficult-to-observe samples. The main body can be tilted in a range of 150 degrees, and at the same time, the object can be easily rotated.



Conveniently operated objective lens



True color reproduction



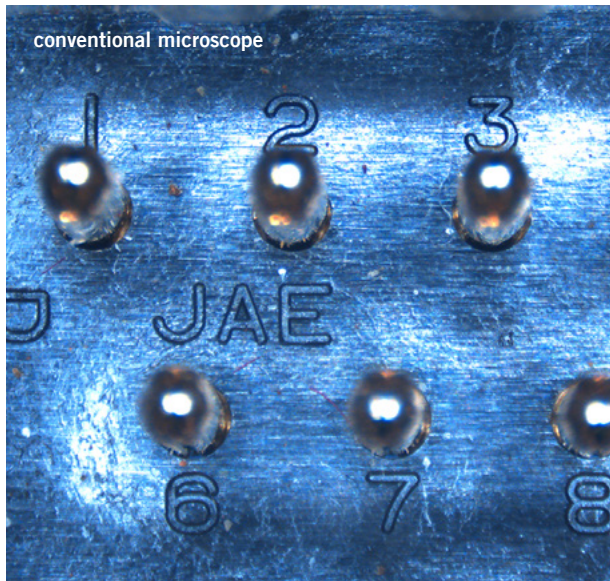
Ultra High Speed Camera



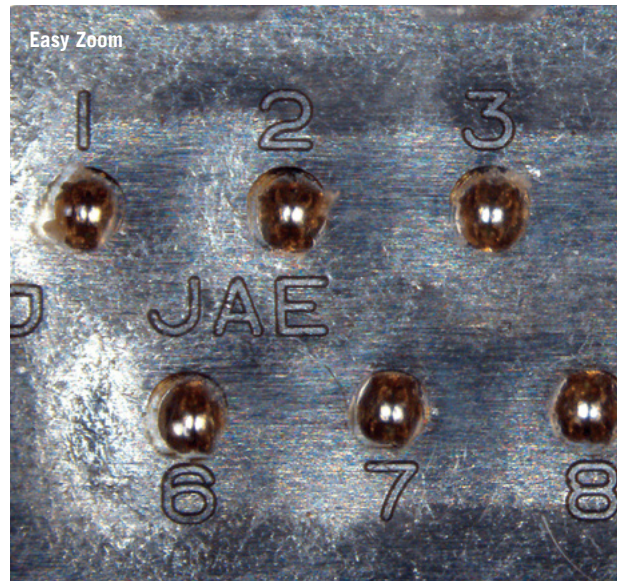
Tilt within 150 degrees

Achieve 10x the depth of field of a conventional microscope without depth of field synthesis

Conventional microscopes are often unable to handle samples with large height drops, and reflections can be a challenge. the Easy Zoom makes previously gripping inspection tasks a breeze with its exclusive HDR technology coupled with a real-time depth of field of more than 10x that of conventional microscopes.



Traditional microscope effects



Results of shooting with Easy Zoom



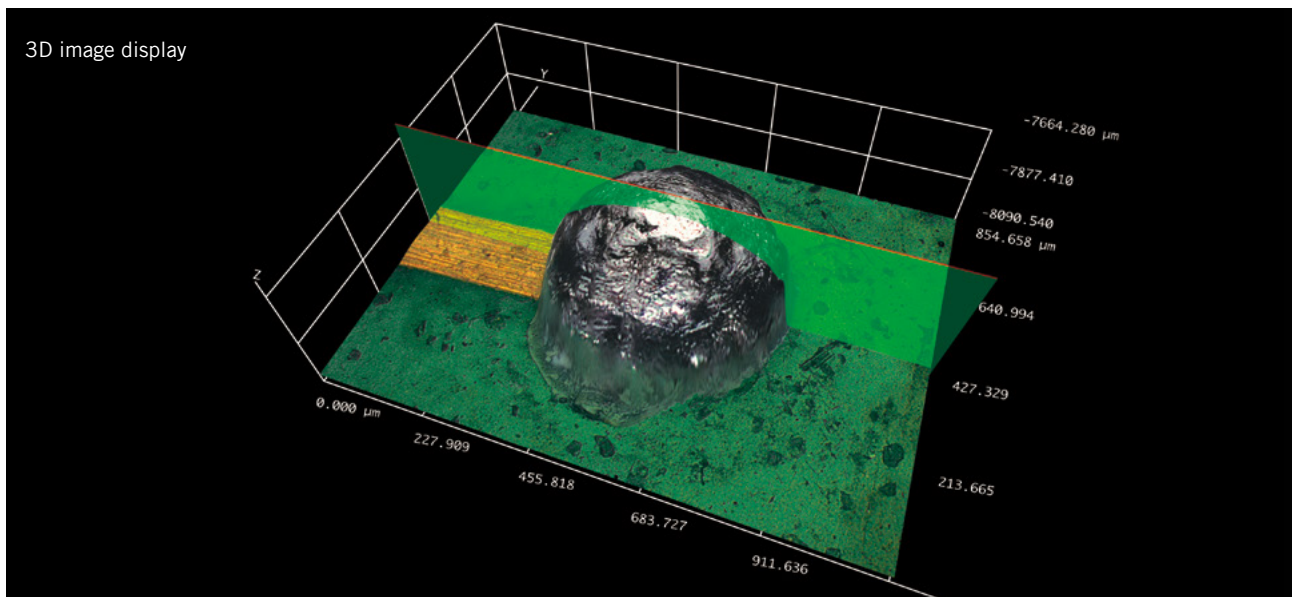
Can be further amplified



Combined with the 360° holder you get a tilted and fully focused picture of the sample, making it easy for the user to get a closer look at the side of the sample.

Full focus even at high magnifications

Advanced optical technology and precise Z-axis control make realizing panoramic depth of field observation at high magnification no longer a fantasy. The unique image processing technology also guarantees the stability when synthesizing the depth of field. At high magnification, traditional microscopes are limited by the depth of field and often only see a partial portion of the sample, increasing the uncertainty of the analysis results. Easy Zoom, through the Z-axis stepping which can reach up to $0.1\mu\text{m}$, together with the self-developed image processing technology, perfectly blends the clear portion of each depth of field together, and maximizes the shielding of the scattered light, so that even at high magnification, the can also obtain clear pictures.

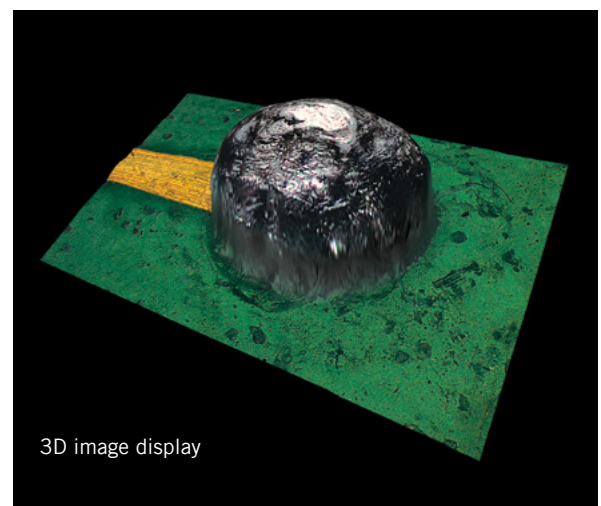
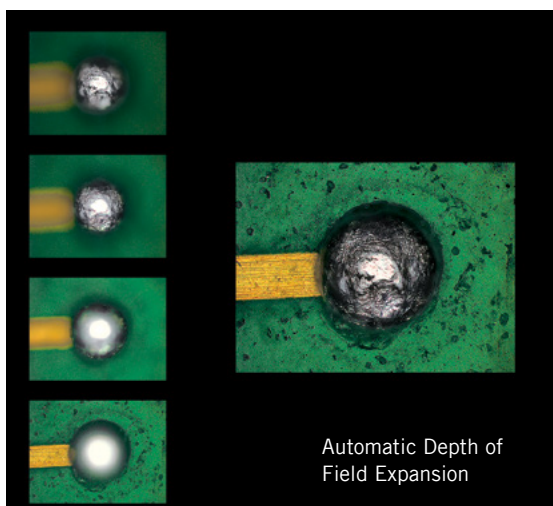


EDF (Extended Depth of Field) function - Accurate 3D image construction

With the motorized Z-axis module, the EDF function can synthesize images with different focal lengths. Deeper samples can be fully focused and quickly synthesized at high magnification.

Features of 3D image display: you can see the highest and lowest points at a glance

After acquiring multiple images and converting them to 3D images, the images can be displayed in a 360° panoramic view. Different heights can be displayed in different colors.



High-speed image acquisition and processing

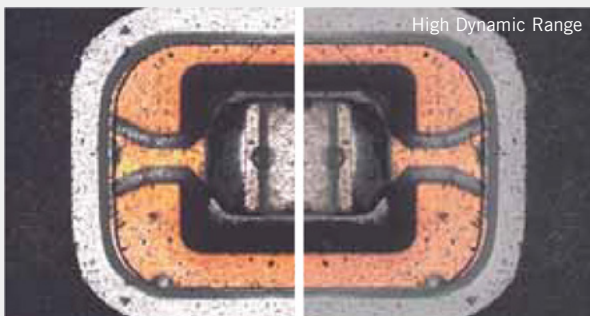
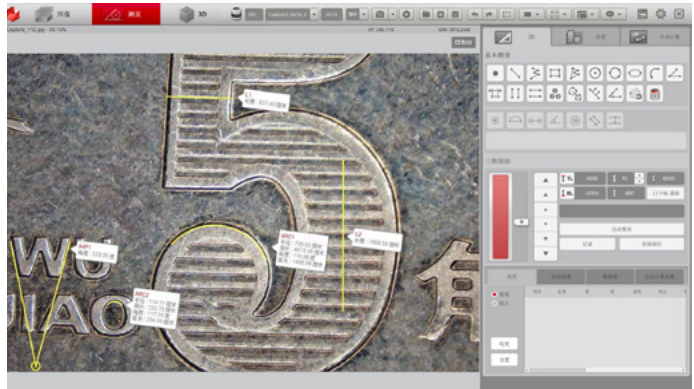
Easy Zoom uses the latest optics and image processing systems developed in-house to reduce the time users have to wait for results to a third of what it used to be. This combination of technologies maximizes the timeliness of observations and measurements.

Real-time measurements during observation

The system allows users to perform all measurements directly on the live image with just a few clicks, making the process simpler and faster than before.

Two-dimensional measurement

It provides measurement tools like line, circle, arc, angle, polyline, polygon, vertical, width, and counting. The new automatic edge detection feature speeds up measurements and reduces human error.



HDR (High Dynamic Range)

The camera captures multiple color images at varying brightness levels, and image processing creates high-quality images, widening the brightness range to avoid glare and reflections.

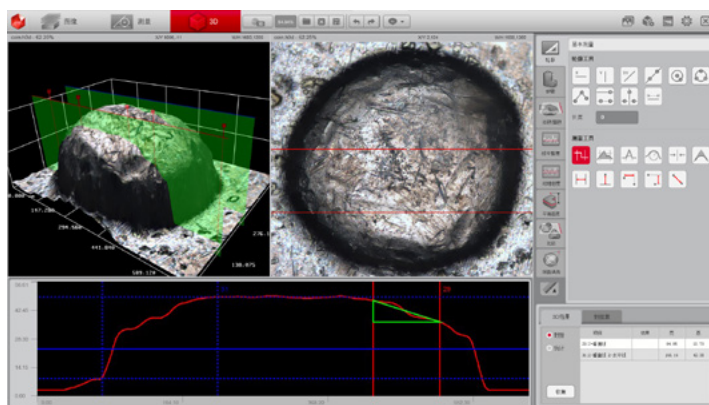
Automatic area measurement and counting

Easily and conveniently measures and counts the area of targets within a specified range. Excess targets can be rejected or overlapping targets can be separated. Anyone can use it easily and obtain high-precision analysis results.



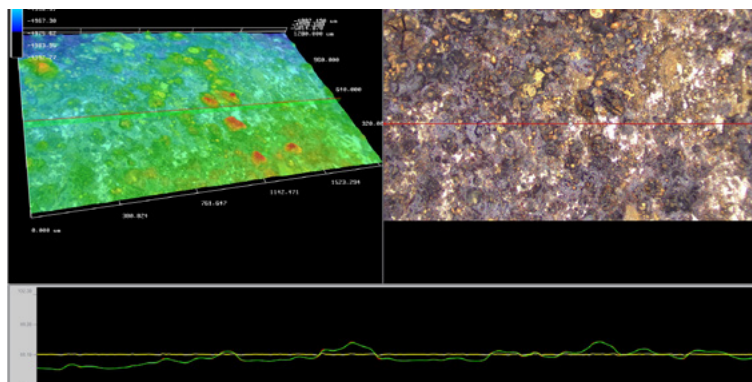
3D Measurement

Even if the target is bumpy, you can instantly obtain a full-focus image that is synthesized from images with different focal points. In addition, the 3D display makes it possible to freely observe the surface shape from all angles.

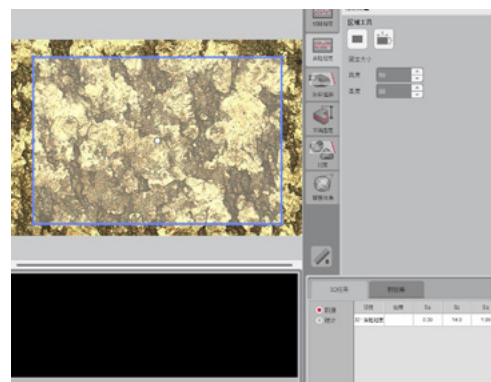


Precise measurement of line and surface roughness

Line Roughness Measurement: 2D or 3D images can be used to accurately select the measurement position, avoiding foreign objects that can cause errors.

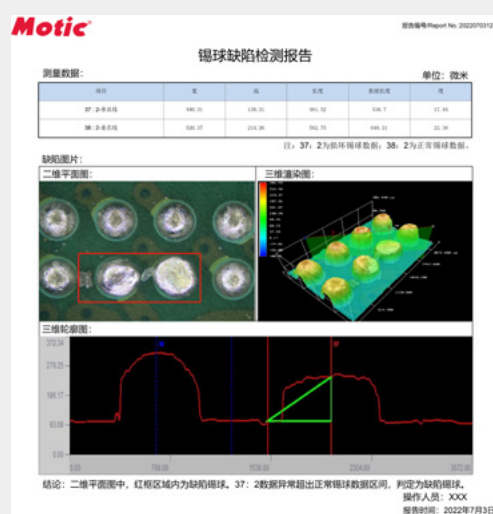


Surface Roughness Measurement: The surface roughness can measure the difference in appearance.



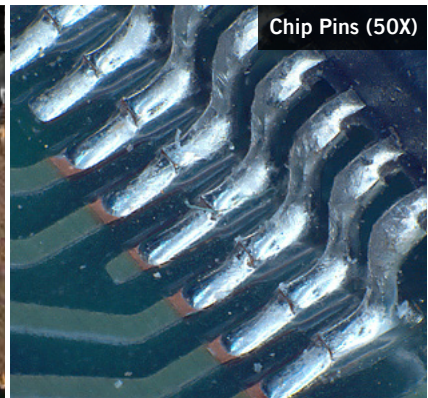
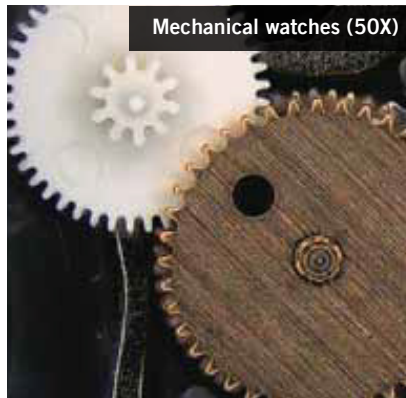
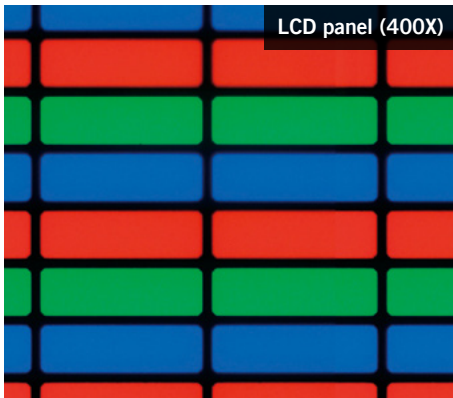
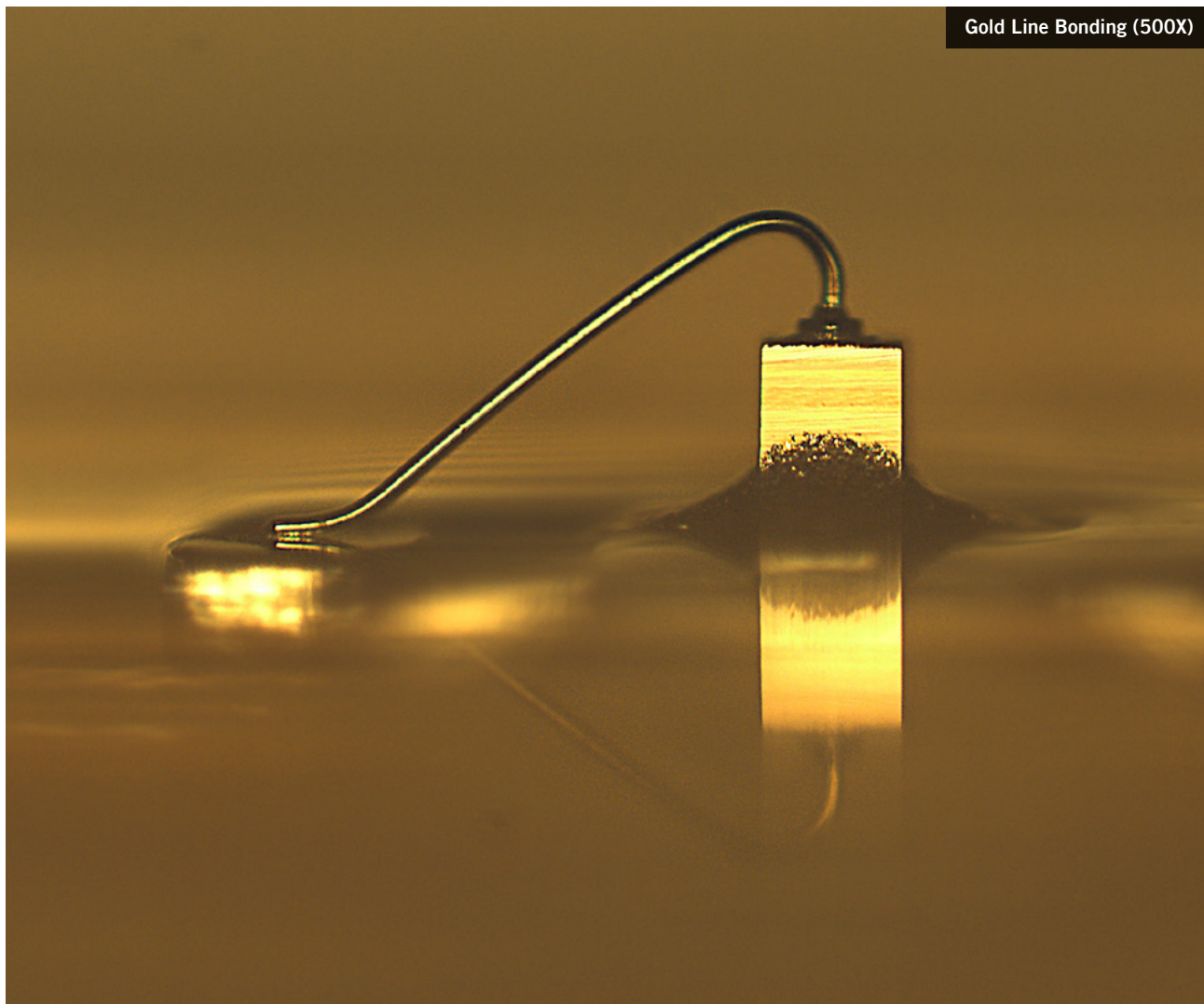
Create reports quickly

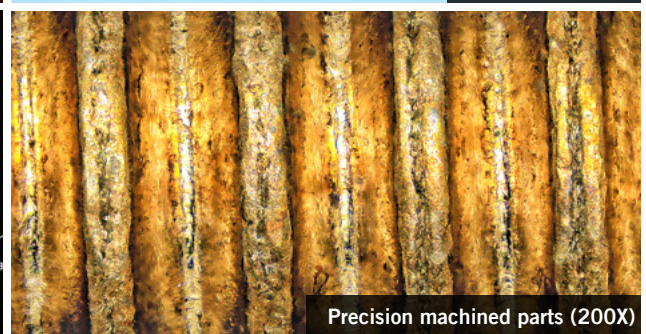
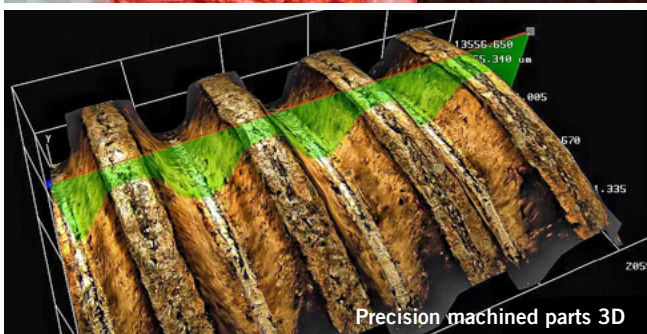
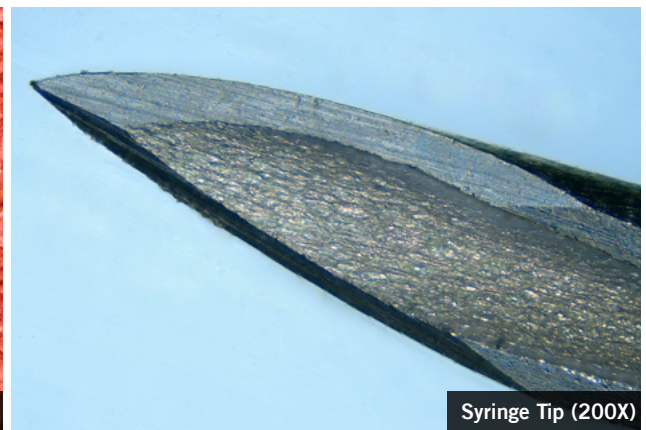
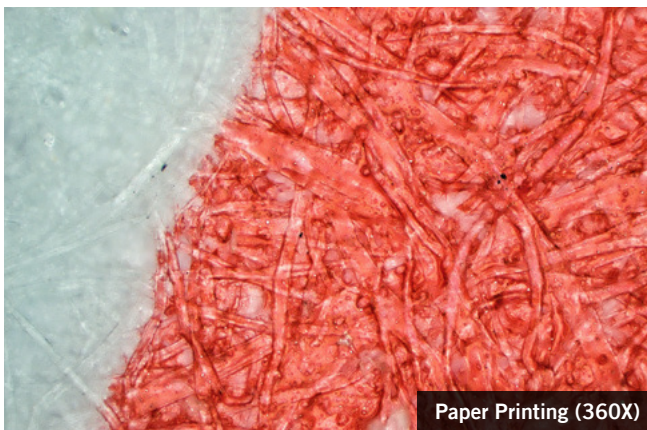
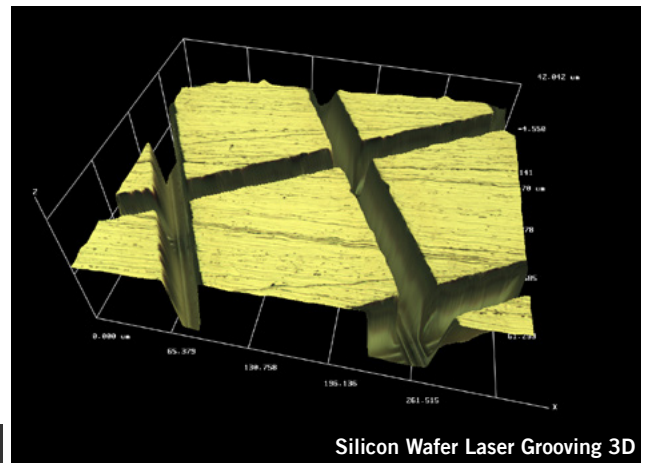
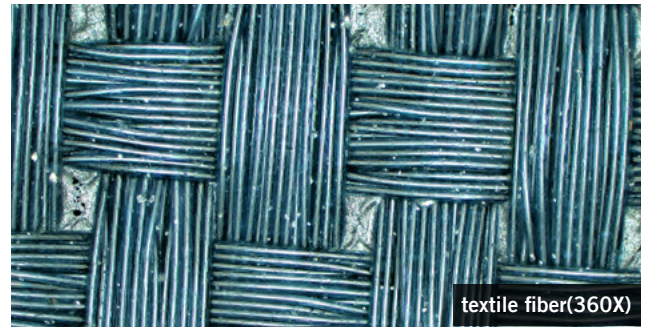
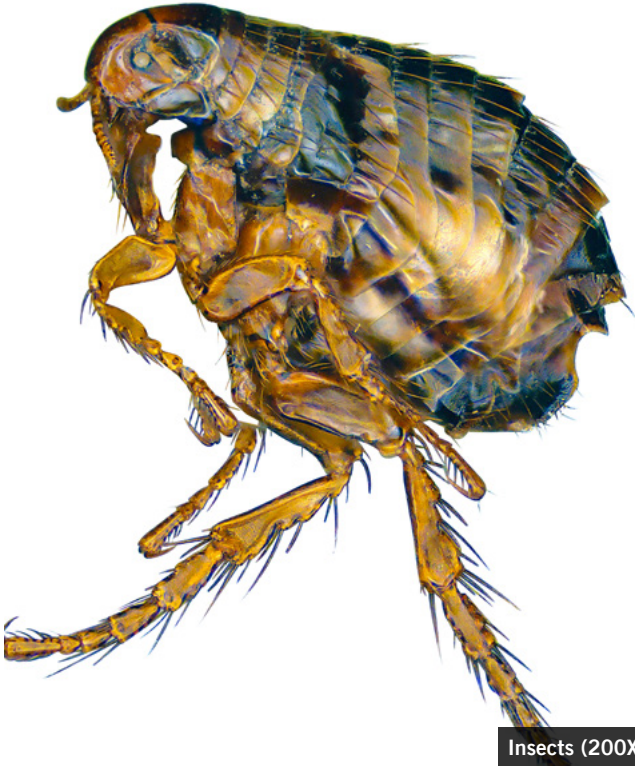
All data and analysis from the Easy Zoom system can be quickly integrated into the report generator. Create reports using standard or custom templates to speed up the completion of reports for a variety of analytical functions. These reports automatically capture data including date, time, lens, magnification and various measurements.



Case Study

Advanced, flexible, detailed analysis, superior durability, and versatile, reliable accessories are made possible by Motic's digital optics for a wide range of applications in a variety of fields.

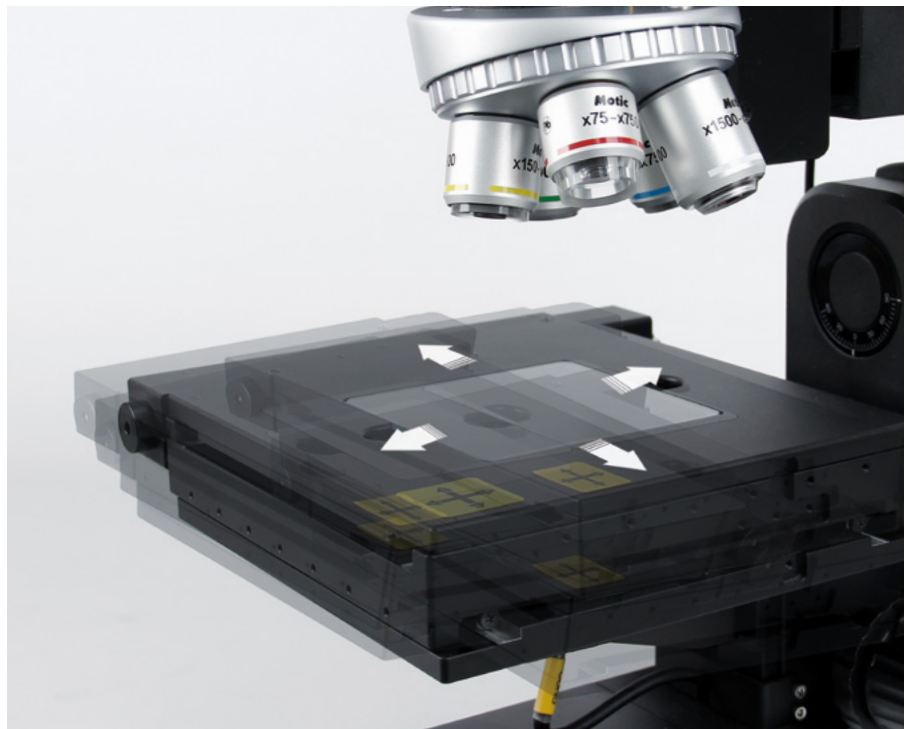




A zoom lens that allows conversion from low to high magnification enables observation and measurement in a wide range of industries such as semiconductors, automotive metals, chemicals, materials, electronic transmission, and medical. Rapid observation is possible without additional work on the sample. Direct observation through on-site demonstration and discussion by multiple people.

One-touch calibration

A dedicated scale is set up to read the required calibration value for each lens with a single click. The work is simple and straightforward, and anyone can perform accurate and error-free calibration.



Ensures stability for high-speed splicing

High-speed stitching is an important feature that allows users to view samples on a larger scale, and Easy Zoom boasts ultra-high compositing speeds while maintaining image quality. In addition, the use of navigation reference points reduces artifacts and image glitches, and a single image contains 3.6 billion pixels when composited.

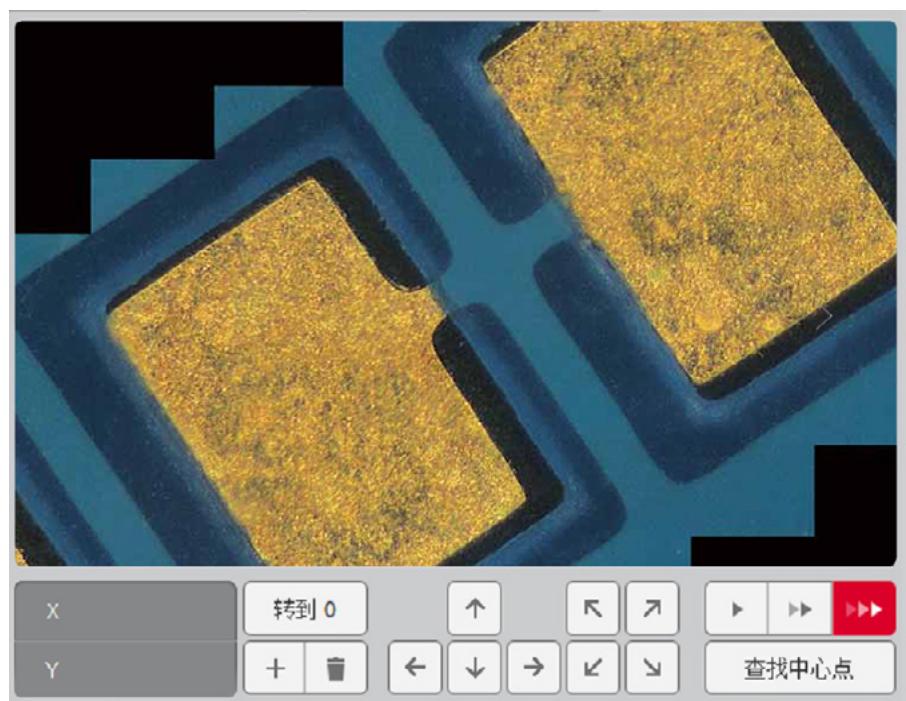


Image stitching



Users can easily achieve panoramic observation in multi angles

Observe without tilting the sample where conventional microscopes can't.

The right scale

A reference scale is marked according to the different setting positions of various lenses. Changing lenses is quicker.

Anti-vibration shims

Adoption of anti-vibration shims absorbs a wide range of vibrations from low to high frequencies. Observations can be made without interference.

Low center of gravity

The main body is made of die-cast material, realizing a low center of gravity and high rigidity structure. Excellent stability can be realized.



Portable High Performance Zoom Lens

Combining compactness and high resolution, it offers 25-200x magnification and 10x the depth of field of conventional lenses.

EZ-2520Z

Total Magnification	25x~200x
Field of View	19.80mm~2.48mm
Working Distance	36mm
Magnification Recognition	Yes



High Definition Zoom Lens

Observation range from 200x to 1160x with a 10mm working distance, enabling high-resolution imaging and micrometer-level 3D measurements.

EZ-1160Z

Total Magnification	200x~1160x
Field of View	2.48mm~0.43mm
Working Distance	10mm
Magnification Recognition	Yes



Wide range dual illumination zoom lens

With brightfield and darkfield capabilities, it offers 30x to 7500x magnification with a single objective.

EZ-L7500

Total Magnification	30x~10000x
Field of View	13mm-0.04mm
EZ-30BD	WD=10mm
EZ-75BD	WD=11mm
EZ-150BD	WD=11.9mm
EZ-300BD	WD=11.9mm
EZ-750BD	WD=7.6mm
EZ-1500BD	WD=3mm
Magnification Recognition	Yes



It can be handheld for observation to further improve the efficiency of sample processing.



A variety of accessories give users more choices, ensuring that the image quality and detection efficiency are improved while giving users the best cost-effectiveness.

Customized platform

Can satisfy users

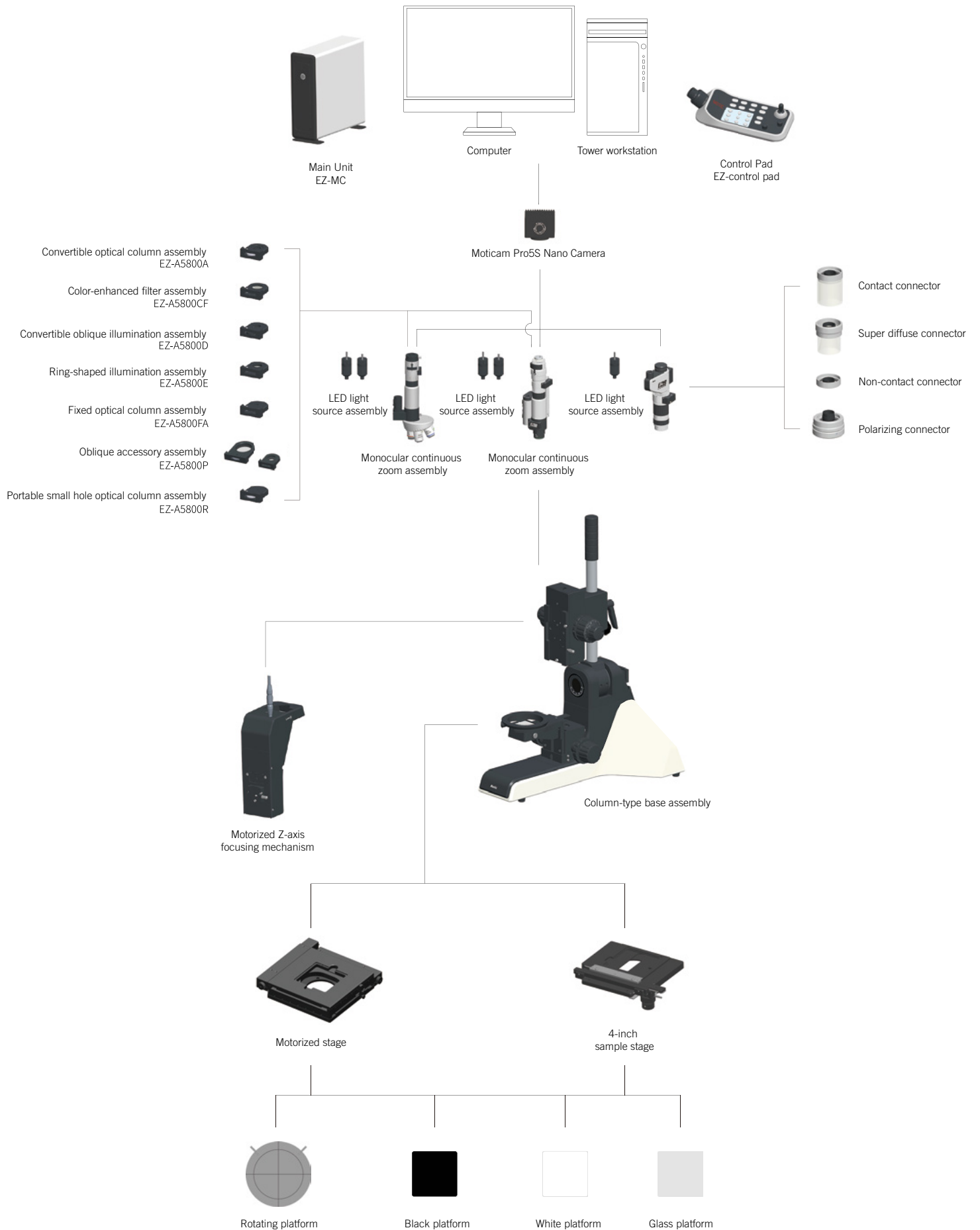
Various measurement
requirements



Software tailored for users

Motic can develop AI software for
users according to their needs to achieve the
integration of measurement, data collection, data upload and
data display

System Diagram



Technical Specifications

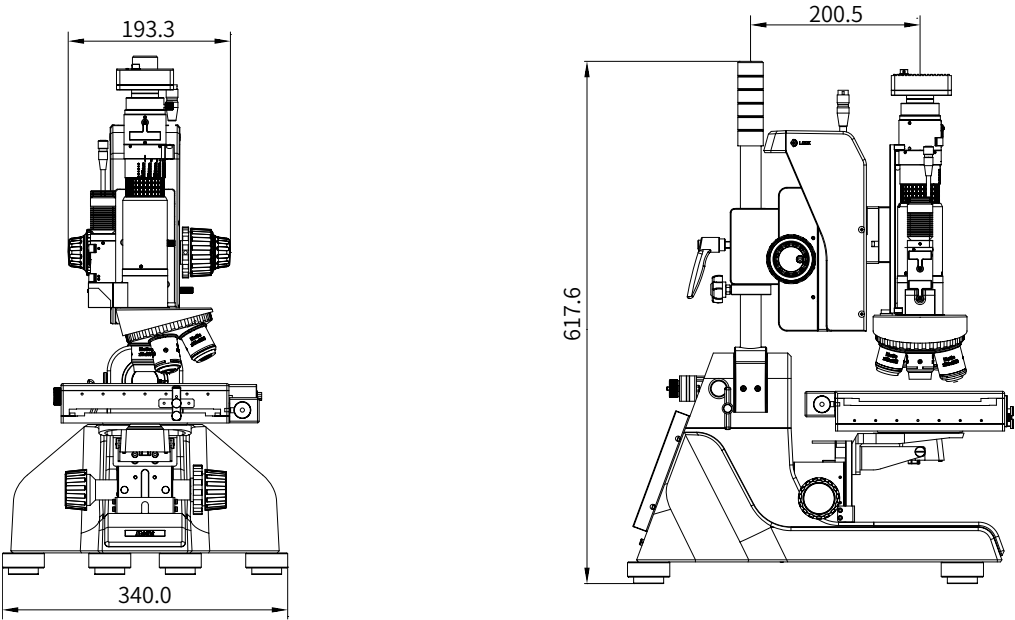
Technical Specifications		
Easyzoom2	Total magnification	25x~200x
	FOV	19.80mm~2.48mm
	Working distance	36mm
	Magnification Recognition	Active
Easyzoom5P	Total magnification	30x~10000x
	FOV	13mm ~ 0.04mm
	Working distance	EZ-30BD : 10mm
		EZ-75BD : 11mm
		EZ-150BD/EZ-300BD : 11.9mm
		EZ-750BD : 7.6mm
		EZ-1500BD : 3mm
	Magnification Recognition	Active
Easyzoom5S	Total magnification	200x~1160x
	FOV	2.48mm~0.43mm
	Working distance	10mm
	Magnification Recognition	Active
High-performance Business Computer	Intel i7 Processor	
	Solid State Drive SSD 512G	
	Mechanical Hard Disk 1T	
	27-inch 4K HD Screen	
High Precision Frames	Upper-Z axis travel distance (manual)	50mm
	Top-Z Resolution	1 μ m
	Ambient temperature	10°C to 40°C (no condensation)
	Relative humidity	Below 85% (no condensation)
	Dimensions (mm)/ Weight	273(W) x 467.1(H) x 444(D) / 8kg
Swing frame	Upper-Z axis travel distance (manual)	50mm
	Top-Z Resolution	1 μ m
	Lower-Z-axis travel distance (manual)	50mm
	Swing angle	-60°~+90°
	ambient temperature	10°C to 40°C (no condensation)
	Relative humidity	Below 85% (no condensation)
	Dimensions (mm)/ Weight	319.7(W) x 633(H) x 439(D) / 12kg
Motorized Z-axis	Distance	30mm
	Resolution	0.1 μ m
	Repeatability	1 μ m
	Dimensions (mm)/ Weight	Module: 60(W) x 158(H) x 42(D) / 1.6kg
Electric control platform	Distance	100(X) x 100(Y)mm
	Drive mode	Electric
	Size	246 x 247.5 x 47mm
Manual control of the platform	Drive mode	Manual
	Size	243.5 x 211.5 x 81.7mm
	Distance	104(X) x 102(Y)mm
Lighting source	LED	5V1A bright LED
	LED life	40000 hours

Technical Specifications

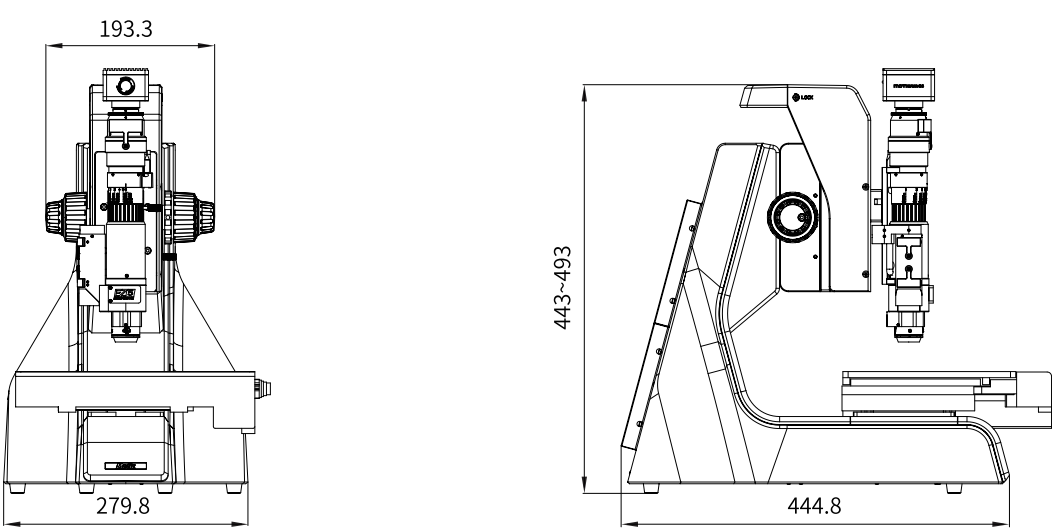
Technical Specifications	
Observation function	Lighting Switching Function
	Bottom Lighting
Display function	Full-Screen Display Function
	Screen Split Function
	Annotation Display Function
Picture quality improvement function	HDR Function
	Anti-Reflection Function
Image stitching function	2D Image Stitching
	3D Image Stitching
3D stitching function	Quick Synthesis and 3D Function
	One-Click Synthesis Function
	3D Display Function
	3D Shape Correction Function
Storage function	Report Output (EXCEL), Formats CSV/DAT
	2D Image Saving
	3D Image Saving
	Video Recording and Playback Function
Measurement function	Automatic Length Measurement, Automatic Thickness Measurement, Automatic Burr Measurement
	Automatic Area Measurement, Automatic Mesh Measurement
	Automatic Edge Detection Function
	Area Measurement Function
	Scale Display
	Horizontal Calibration Function
	Particle Analysis Function
	Data Collection Function
3D measurement function	3D Profile Measurement
	Point Height Measurement
	Line and Surface Roughness Measurement (Optional Paid Module)
	Line and Surface Roughness Measurement (Optional Paid Module)
Practical features	Lens Magnification Auto Recognition Function
	User Settings Storage
	Network Connection Function, MES System Integration
	Center Calibration
PC software	Ability to Install Various Office Software

Dimensions (mm)

Easy Zoom 5P

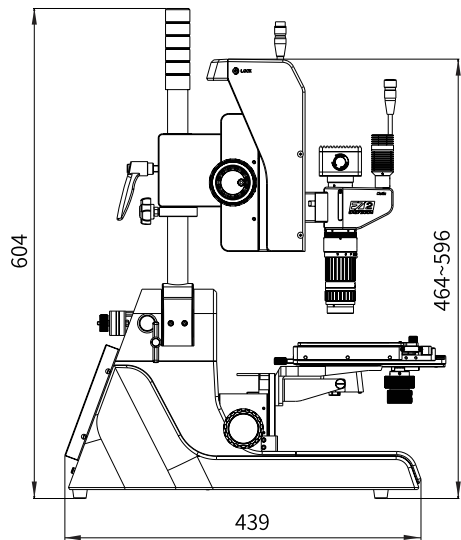
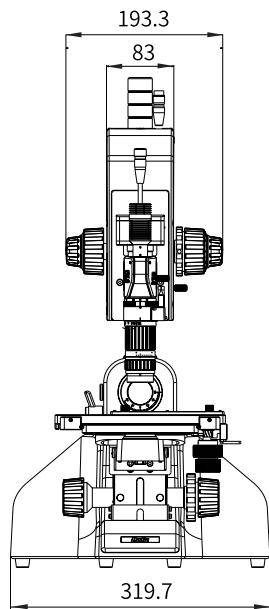


Easy Zoom 5S



Dimensions (mm)

Easy Zoom 2





Canada | Germany | Spain | USA | Hong Kong



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EN | ES | DE

Motic Instruments (Canada)

130 - 4611 Viking Way, Richmond, BC V6V 2K9 Canada
Tel: 1-877-977 4717 | Fax: 1-604-303 9043

Motic Deutschland (Germany)

Christian-Kremp-Strasse 11, D-35578 Wetzlar, Germany
Tel: 49-6441-210010 | Fax: 49-6441-210 0122

Motic Hong Kong Limited (Hong Kong)

Unit 1712, 17/F, Exchange Tower, 33 Wang Chiu Road,
Kowloon bay, Hong Kong
Tel: 852-2837 0888 | Fax: 852-2882 2792

Motic Europe (Spain)

C. Les Carls 12, Pol. Ind. Les Carls. 08349 Cabrera de Mar, Barcelona,
Spain Tel: 34-93-756 62 86 | Fax: 34 93 756 6287

Motic USA

1500 Northlake Pass, Suite 197, Universal City, Tx 78148, United States
Tel: 800 275 3716 | Fax: 200 590 1104

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Designed in Hong Kong

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