Motic®

EasyZoom

Hyper-focal digital microscope

50x to 5800x

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.

2020
Cloud and Various IOT Microscopes

2018
Digital Slice Scanner

2019
PA Series Fluorescence and Metallurgic Microscopes

2013
Inverted Metallurgic Microscope

2008
Inverted Life Science Microscope

2017
PantheraTEC Metallurgic Microscope

1988
Biomicroscope

1999
Built-in Digital Microscope

2008
Upright Metallurgical Microscope

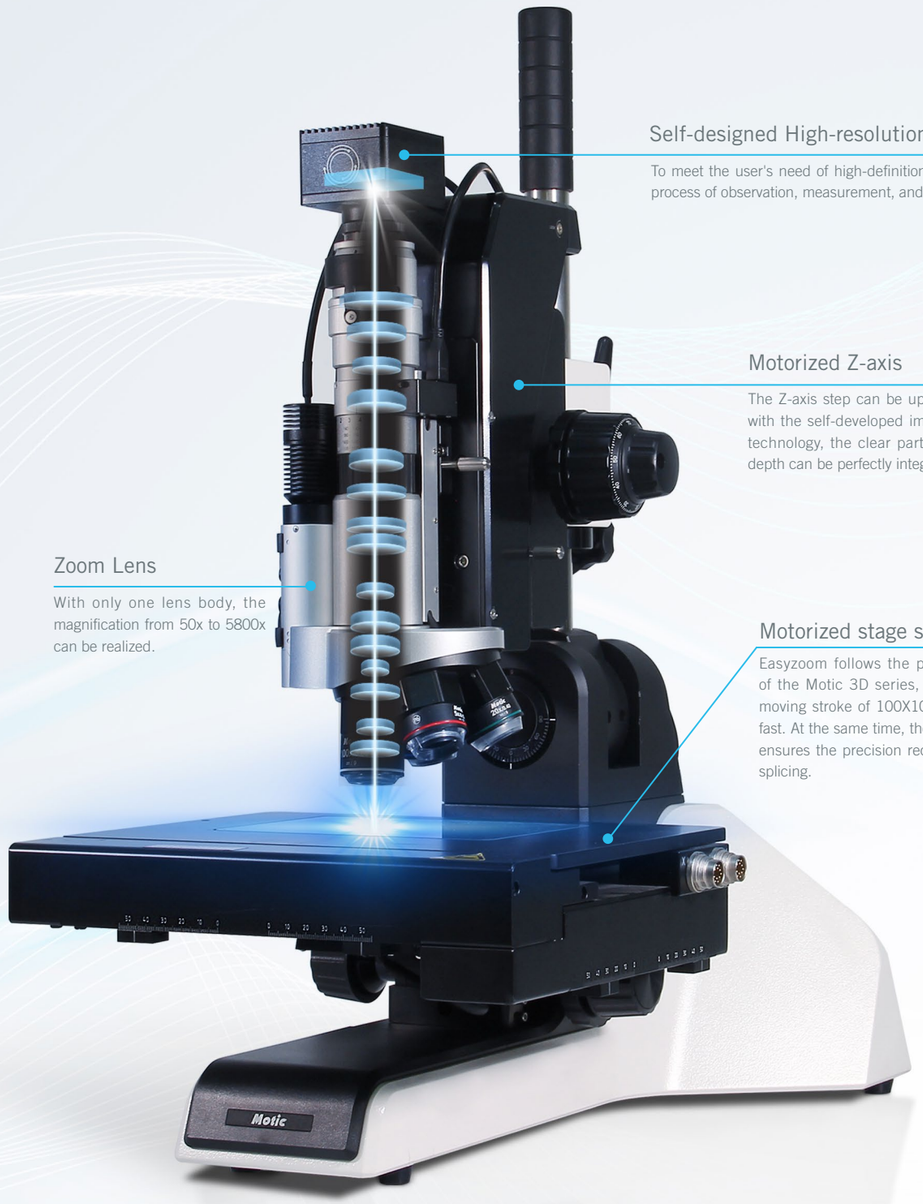
EasyZoom Series

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



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 0.5μm, 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 50x to 5800x can be realized.

Motorized stage set

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.

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.

50x to 5800x conversion with one zoom lens body

The Easyzoom series adopts a new optical solution, which can realize the conversion from 50x to 5800x 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.

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	Specification	
5X	Optical Magnification	0.711x~5.156x
	Total magnification	50X~290X
	FOV	8.284mm~1.428mm
	Working Distance	9.3mm
20X	Optical Magnification	2.844x~20.622x
	Total magnification	160X~1160X
	FOV	2.071mm~0.357mm
	Working Distance	10mm
50X	Optical Magnification	7.111x~51.556x
	Total magnification	400x~2900x
	FOV	0.828mm~0.143mm
	Working Distance	10mm
100X	Optical Magnification	14.222x~103.111x
	Total magnification	800x~5800x
	FOV	0.414mm~0.071mm
	Working Distance	3mm

Flexible and easy-to-operate objective lens

The seamless conversion from 50x to 5800x makes complex observation tasks simple. When it is necessary to enhance structural observation and metallurgical field evaluation, simply rotate the objective lens to enhance the quality of the pictures.

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.

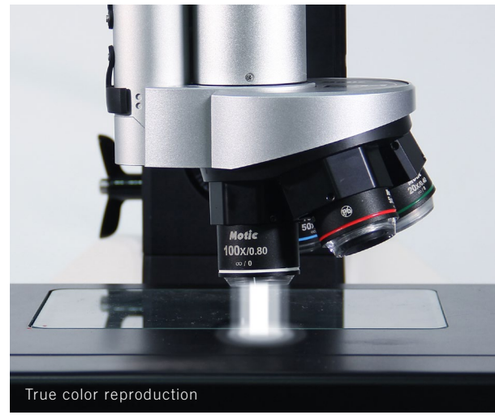
Ultra-high-speed camera at 30 frames per second guarantees continuous images

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.

Easy-to-operate objective lens



True color reproduction

Ultra-high-speed camera

Tilt within 150 degrees

High-speed image acquisition and processing

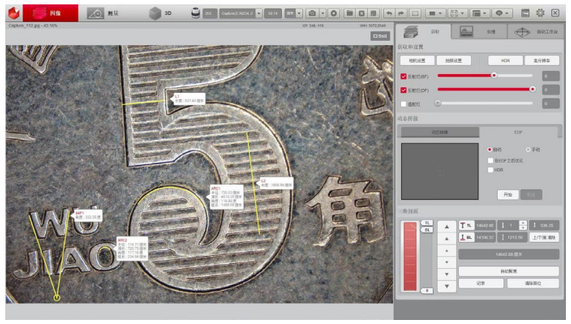
Easyzoom uses the latest self-developed optical system and image processing system, which shortens the time for users to wait for results to a third of the previous. This combination of technologies maximizes the timeliness of observations and measurements.

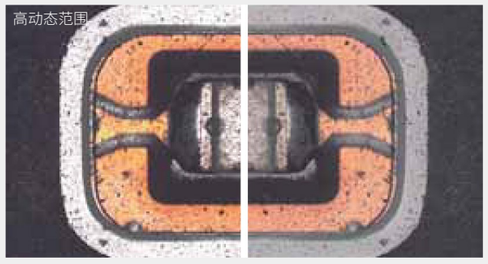
Real-time measurement during observation

The system allows the user to complete all measurements directly on the screen with live images. The process only takes a few clicks, which is easier and faster than previous ones.

2D measurement

It provides various measurement tools such as line, circle, arc, angle, polyline, polygon, perpendicular, width and parallel, all suitable for the counting of the measurement results.



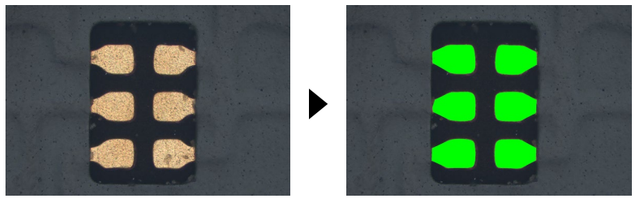


HDR (High Dynamic Range)

The camera captures multiple color images at different brightness levels by varying the shutter speed. Then, image processing generates images with high-level data. The achievable brightness range is widened to accurately represent targets without glare and reflections.

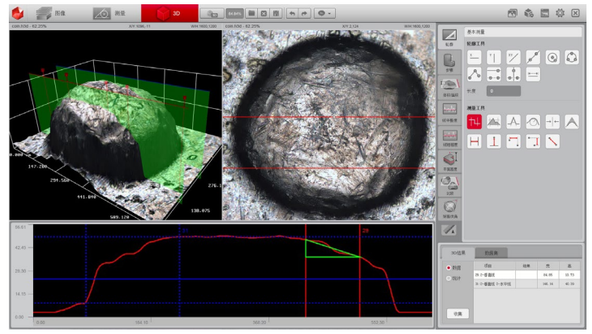
Automatic area measurement and counting

Area measurement and counting of objects within a specified range is easy and simple. Excessive targets can be rejected or overlapping targets can be separated. Anyone can use it easily and obtain high-precision analysis results.



3D measurement

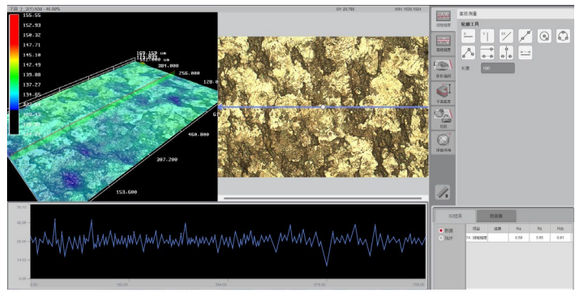
Even if the target has unevenness, it is possible to instantly obtain a full-frame in-focus image composed of images with different focal points. In addition, the surface shape can be freely observed from various angles thanks to the 3D display.



Line roughness and surface roughness can be measured precisely

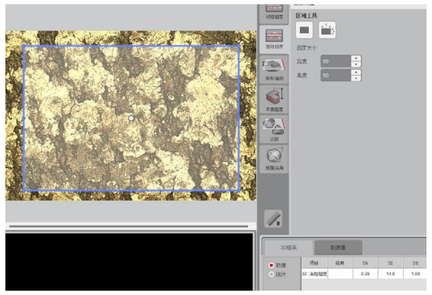
Line roughness

We can avoid defect that can cause error through the 2D or 3D picture.



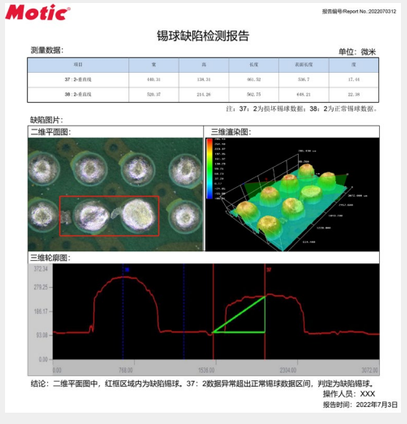
Surface roughness

We can see difference from picture, but how big is the difference? We can fonfirm the difference by measure the surface roughness.



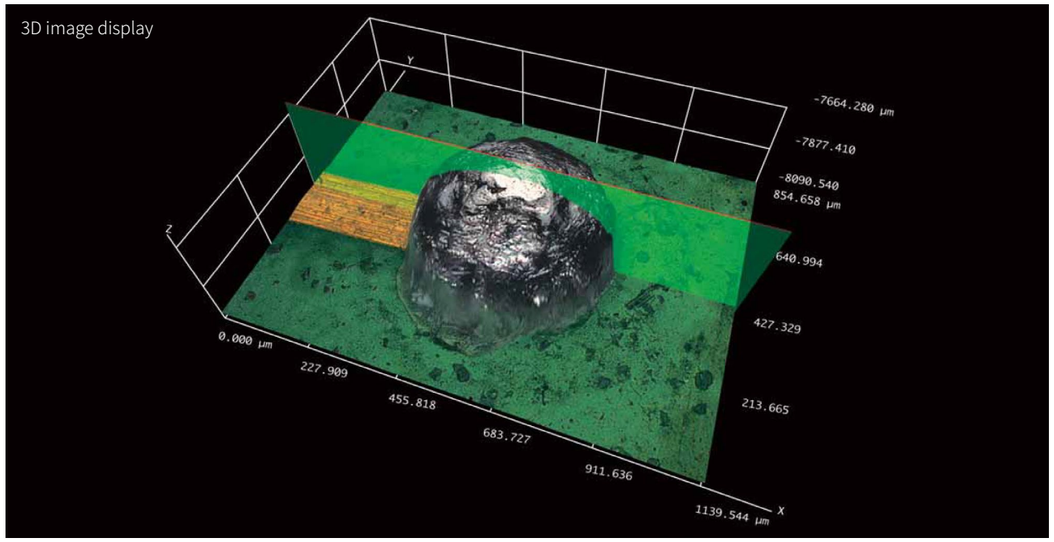
Quick report creation

All data and analysis in the EasyZoom system can be quickly integrated into the report generator. The standard or custom templates can be used to expedite the completion of reports for various analytical functions. These reports can automatically capture data including date, time, lens, magnification and various measurements.



Full focus even at high magnification

Advanced optical technology and precise Z-axis control make it no longer an illusion to achieve panoramic and deep observation at high magnification. The unique image processing technology also escorts the stability of the depth of field synthesis. In the case of high magnification, traditional microscopes are limited by the problem of depth of field, and often only a part of the sample can be seen, which increases the uncertainty of analysis results. Through the Z-axis step size up to 0.5μm, and the self-developed image processing technology, Easyzoom perfectly fuses the clear parts of each focal depth, shielding the defocused light to the greatest extent. Even at high magnification, users can also get a clear picture.

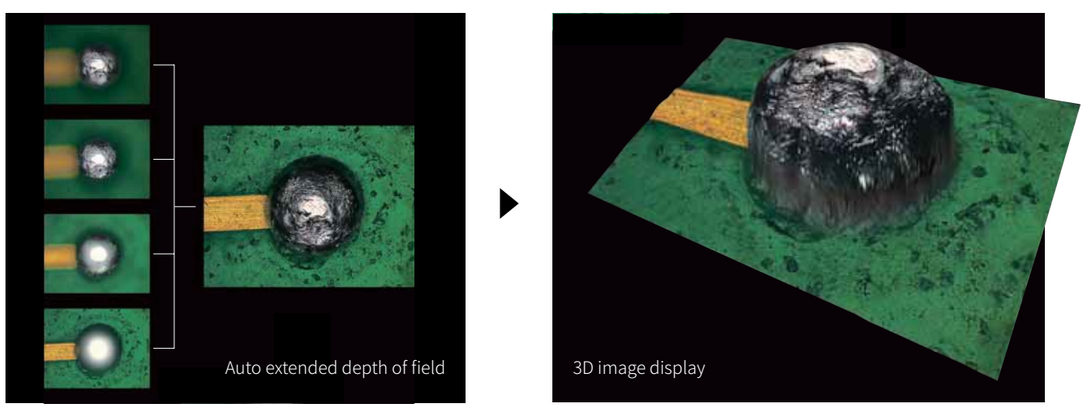


EDF (Extended Depth of Field) function — Accurate construction of 3D images

The EDF function can synthesize images of different focal lengths with the use of the motorized Z-axis module. Deeper samples can be fully focused and rapidly synthesized at high magnification.

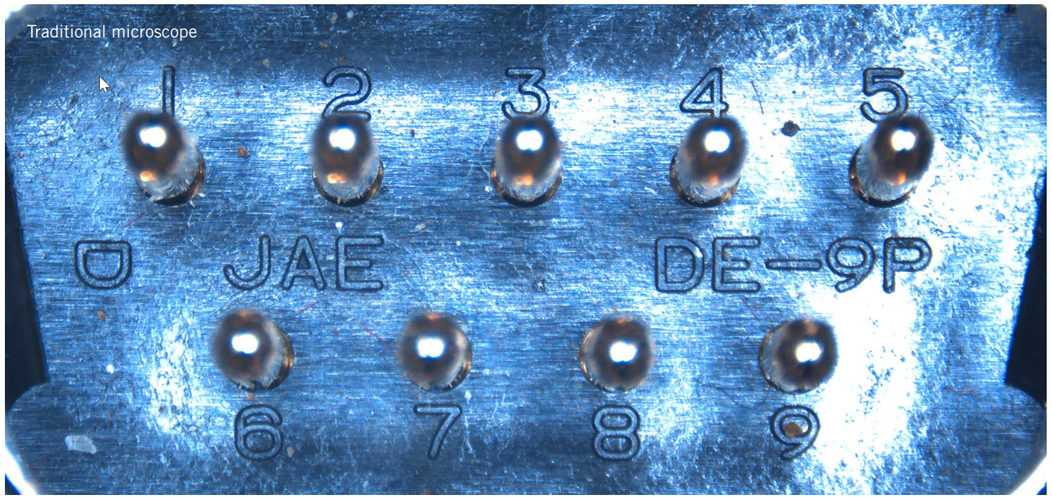
Features of 3D image display: High and low points can be seen at a glance

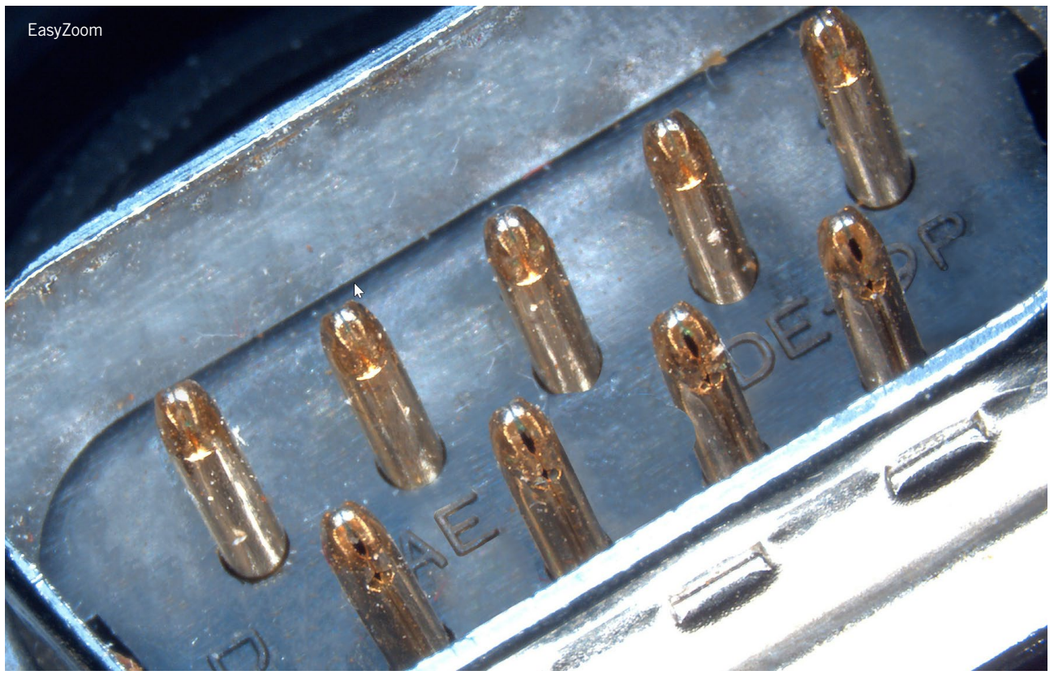
After acquiring multiple images and converting them into 3D images, the images can be displayed in a 360° panoramic view. Different heights can be displayed in different colors.



10x the depth of field of conventional microscopes can be realized without depth-of-field synthesis

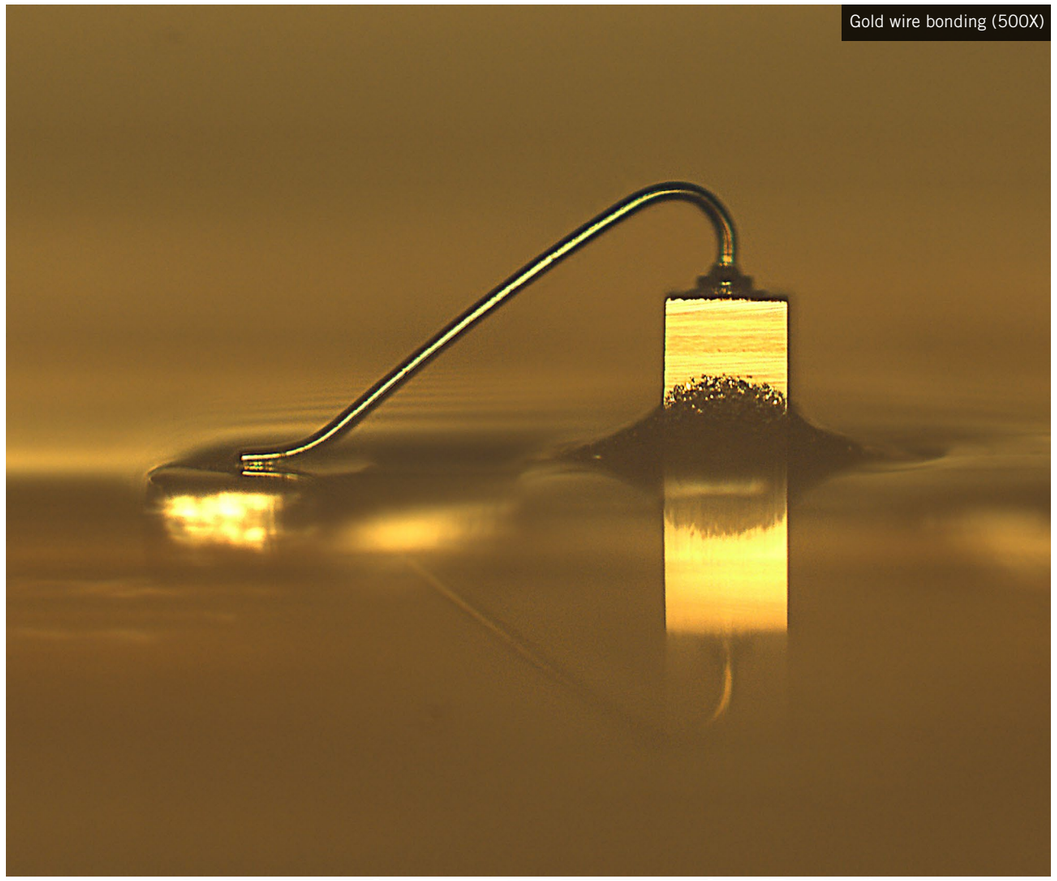
Traditional microscopes are often unable to handle samples with large height drop.Reflection is also a problem. EasyZoom provides more than 10 times the real-time depth of field of traditional microscopes through unique HDR technology, making inspection tasks that used to be frustrating easy.

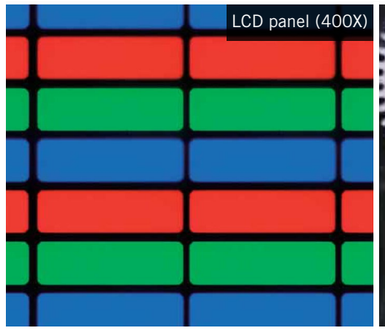




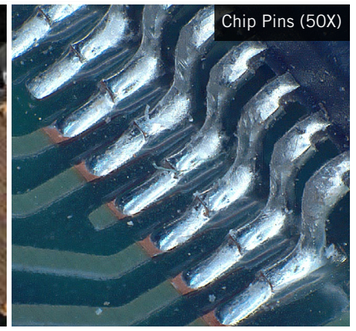
Case Display

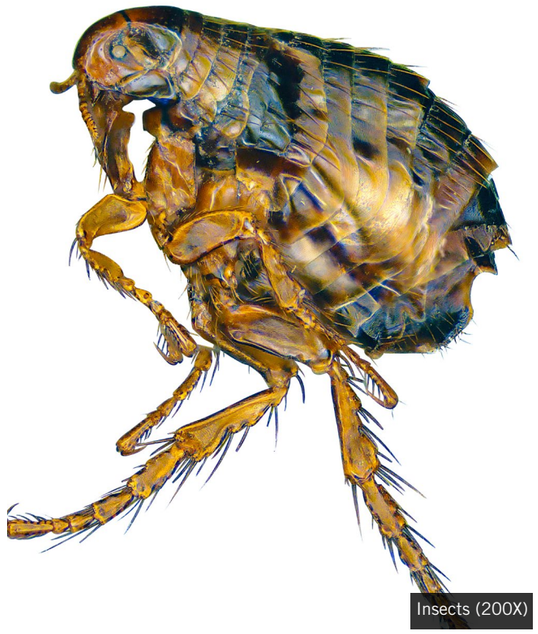
Advanced, flexible, detailed analysis, exceptional durability, diverse, and reliable accessories enable a wide range of applications through Motic's digital optics technology.

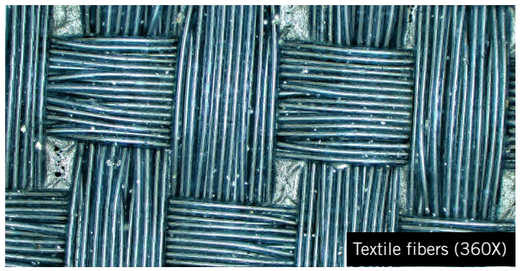

Gold wire bonding (500X)

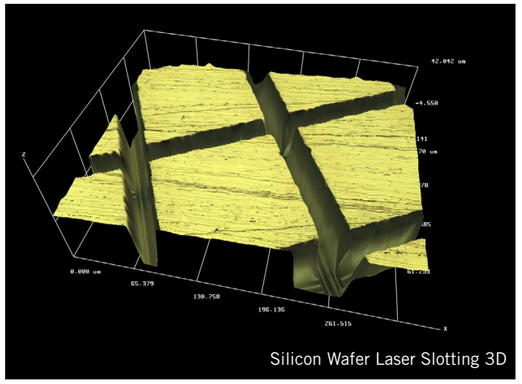

LCD panel (400X)

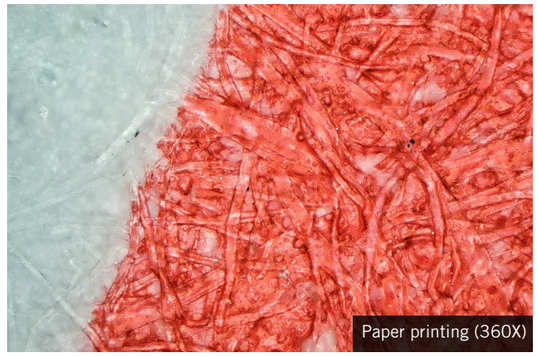

Mechanical Watch (50X)

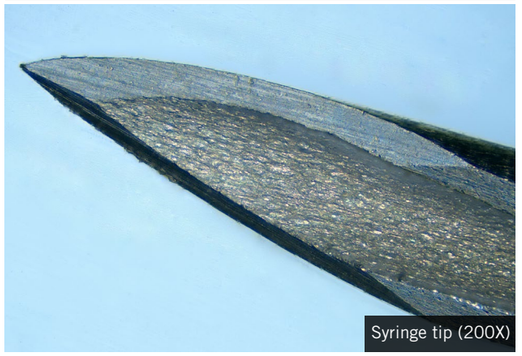

Chip Pins (50X)

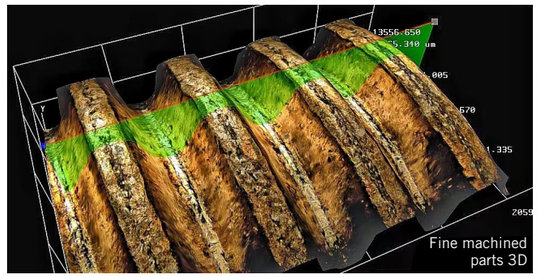

Insects (200X)

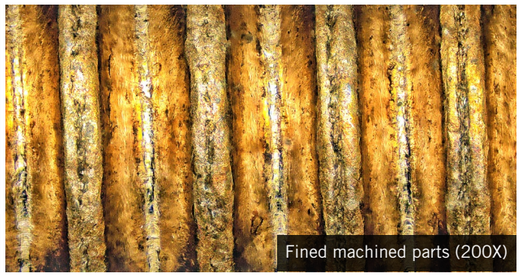

Textile fibers (360X)


Silicon Wafer Laser Slotting 3D


Paper printing (360X)


Syringe tip (200X)

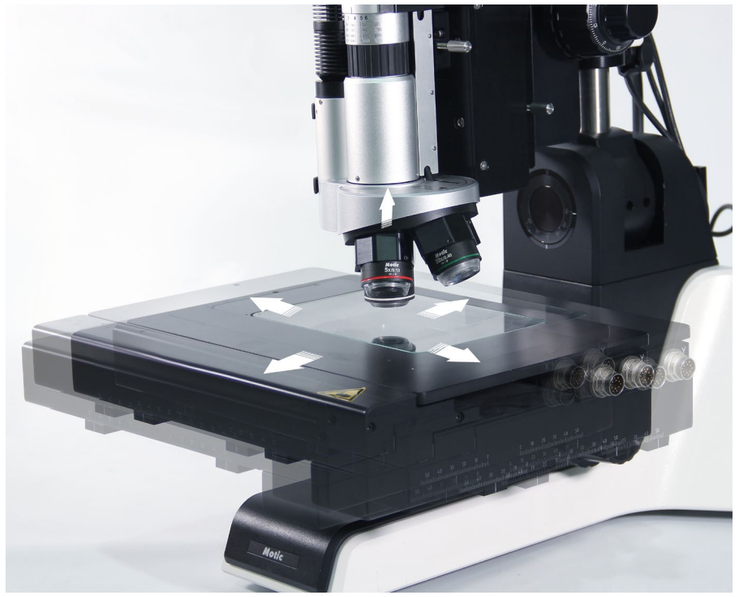

Fine machined parts 3D


Fined machined parts (200X)

Low power to high power Zoomlens Insingle test or observation can be widely used in semiconductor, automotive metal, chemical, material, electronic transmission and medical industries. Users can view quickly without extra work on the sample. Through direct observation of live demonstrations, discuss among people can be done cooperatively.

One-click calibration

Dedicated scales are set to read the required calibration values for each lens with one click. The task is easy to do and anyone can make accurate, error-free corrections.



Ensure the stability of high-speed splicing

High-speed splicing is an important function that allows users to observe samples in a wider range. Easyzoom not only has super high speed of synthesis, but also can guarantee the quality of pictures. In addition, the use of navigation reference points reduces artifacts and image glitches. A single image contains 400 million pixels when composited.

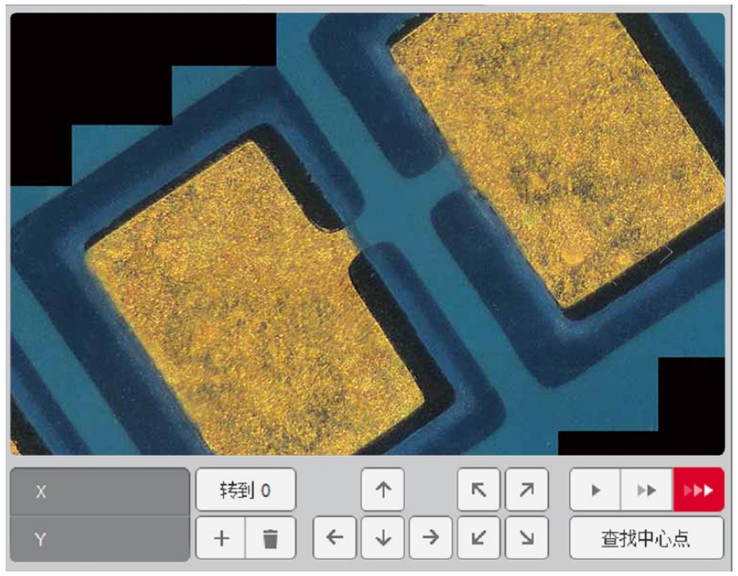


image stitching

Users can easily achieve panoramic observation in multi angles

Users can see where conventional microscopes cannot see without tilting the sample

Suitable scale

According to the different setting positions of various lenses, the marked reference scale make the replacement of lens more quickly.

Anti-vibration gasket

Anti-vibration spacers are used to absorb a wide range of vibrations from low to high frequencies for undisturbed observation.

Low center of gravity

The main body is made of die-casting material, which realizes a low center of gravity and high hardness structure to achieve excellent stability.

Portable high performance zoom lens

A combination of compact size and high resolution, it can easily achieve magnification from 25x to 200x, and has 10 times the depth of field of conventional lenses.

EasyZoom 2

Total magnification	25x~200x
FOV	16.384mm~2.048mm
Working distance	36mm
AMS function	Active

High definition zoom lens

With a FOV of 10mm in the range of 200x to 1160 x, it is easy to obtain high-resolution pictures, enabling micron-scale 3D composite measurements.

EasyZoom 5S

Total magnification	200x~1160x
FOV	2.071mm~0.357mm
Working distance	10mm
AMS function	Active

Wide range dual illumination zoom lens

With bright and dark field function, only one lens body can achieve 50x to 5800x magnification.

EasyZoom 5

Total magnification	50x~5800x
FOV	0.071mm~8.284mm
Working distance	5x objective lens 9.3mm; 20x、50x objective lens 10mm; 100x objective lens 3mm
AMS function	Active

Hand-held observation can further improve the efficiency of processing samples.

Diversified accessories allow users to have more choices, ensuring that the image quality and detection efficiency are improved while users have access to the cost-effective products.

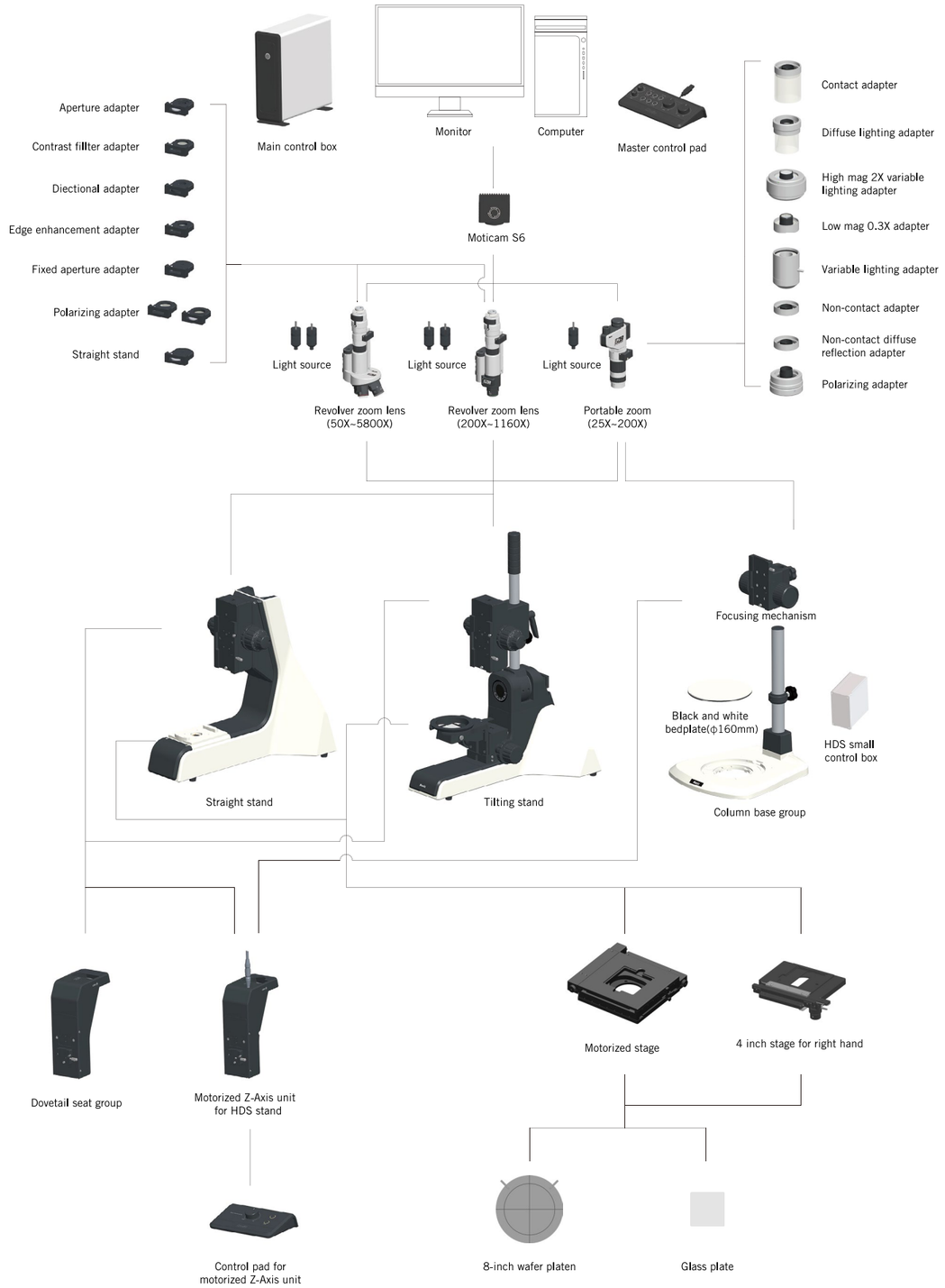
Customized Platform

can meet users'
various measurement needs

Software tailored to the user

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

System Diagram



Technical Specifications

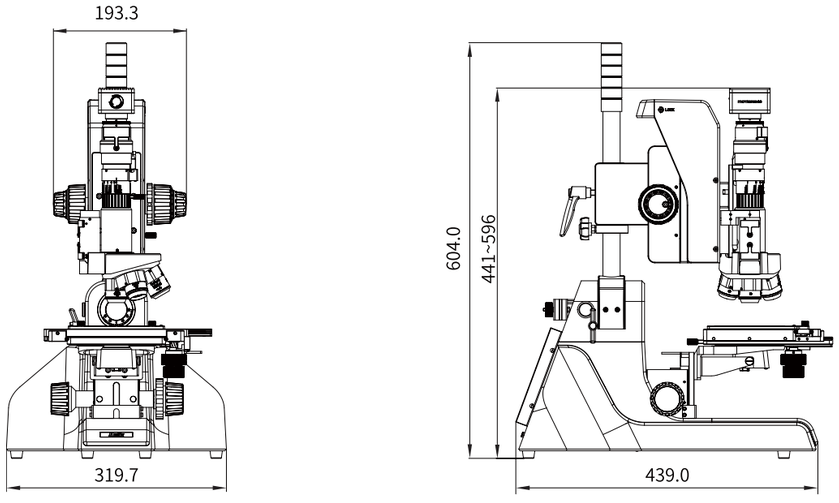
Technical Specifications		
Easyzoom2/ Easyzoom2PS	Total magnification	25x~200x
	FOV	16.384mm~2.048mm
	Working distance	36mm
	AMS function	Active
Easyzoom5	Total magnification	50x~5800x
	FOV	8.284mm~0.071mm
	Working distance	5x objective 9.3mm； 20x/50x objective 10mm； 100x objective 3mm
	AMS function	Active
Easyzoom5S	Total magnification	200x~1160x
	FOV	2.071mm~0.357mm
	Working distance	10mm
	AMS function	Active
High-performance Business Computer	Intel i7 Processor	
	Solid State Drive SSD 256G	
	Mechanical Hard Disk 1T	
	27-inch 4K HD Screen	
High Precision Frames	Upper-Z axis travel distance (manual)	50mm
	Top-Z Resolution	1 μm
	Lower-Z-axis travel distance (manual)	50mm
	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 μm
	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 μm
	Repeatability	1 μm
	Dimensions (mm)/ Weight	Module: 60(W) x 158(H) x 42(D) / 1.6kg
Electric control platform	2D image stitching	
	3D image stitching	
	Distance	100(X) x 100(Y)mm
	Drive mode	Electric
	Size	8 inches
	3D display function	
	3D contour correction function	
Manual control of the platform	Drive mode	Manual
	Size	4 inches
	Distance	104(X) x 102(Y)mm
Lighting source	LED	5V1A bright LED
	LED life	More than 20000 hours
	Color temperature	5650K

Technical Specifications

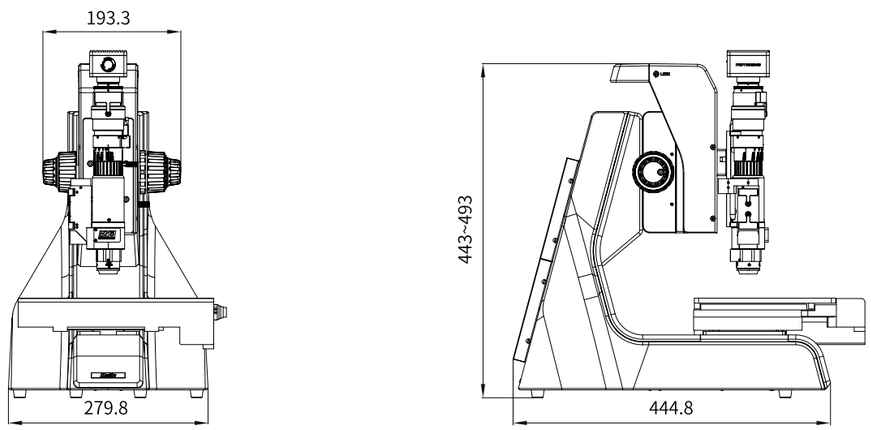
Technical Specifications	
Observation function	Lighting switch function
	Bottom lighting
Display function	Full screen function
	Screen split function
	Annotation display function
Picture quality improvement function	HDR function
	Fine shooting function
Image stitching function	2D image stitching
	3D image stitching
3D stitching function	Fast compositing and 3D function
	High-quality deep compositing
	3D display function
	3D shape correction function
Storage function	Report output (EXCEL)
	2D image saving
	3D image saving
	Video recording playback function
Measurement function	Width, height difference, angle, etc.
	Plane height measurement
	3D comparative measurements
	Spherical angle measurement
	Ruler display
	Lens magnification automatic recognition function
	Horizontal calibration function
	Noise removal function
	Automatic counting function
	Automatic height measurement
	CSV save
3D measurement function	3D profile measurement
	Point height measurement
	Line and surface roughness measurement
Manual X,Y Measurement System	Dynamic EDF
Practical features	Simple mode
	Each user set value storage
	Internet connection function
	Feature Guide
PC software	Communication software

Dimensions (mm)

EasyZoom5

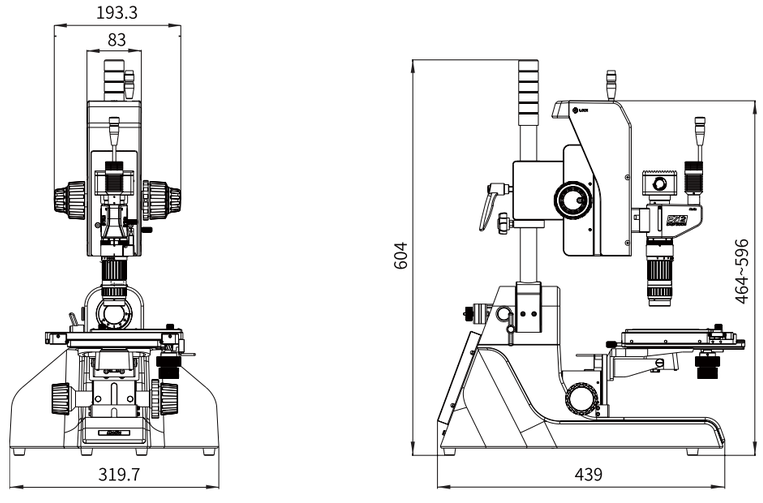


EasyZoom5S

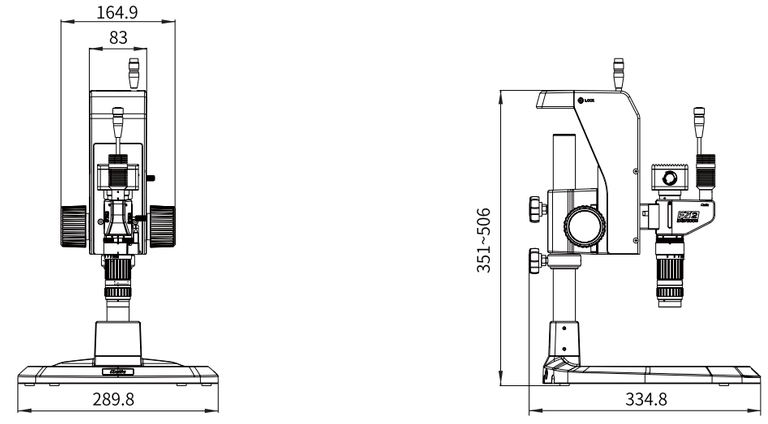


Dimensions (mm)

EasyZoom2



EasyZoom2PS



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Canada I China I Germany I Spain I USA

www.motic.com

EN | ES | FR | DE | IT | PT

Motic Scientific (Xiamen)
Motic Building Torch Hi Tech Industrial Development Zone,Xiamen P.R.C.
Tel: +86 0592 5698 916 I E-mail: Sales.BioMed@motic.com

Motic Instruments (Canada)
130 - 4611 Viking Way, Richmond, BC V6V 2K9 Canada
Tel: 1-877-977 4717 I Fax: 1-604-303 9043

Motic Deutschland GmbH (Germany)
Christian-Kremp-Strasse 11, D-35578 Wetzlar, Germany
Tel: 49-6441-210 010 Fax: 49-6441-210 0122

Motic Hong Kong Limited (Hong Kong)
Unit 1712, 17th Floor, Exchange Tower, 33 Wang Chiu Road, Kowloon Bay, Kowloon, Hong Kong
Tel: 852-2837 0888 I Fax: 852-2882 2792

Motic Europe (Spain)
C. Les Corts 12, Pol. Ind. Les Corts. 08349 Cabrera de Mar, Barcelona, Spain
Tel: 34-93-756 6286 I Fax: 34-93-756 6287

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