

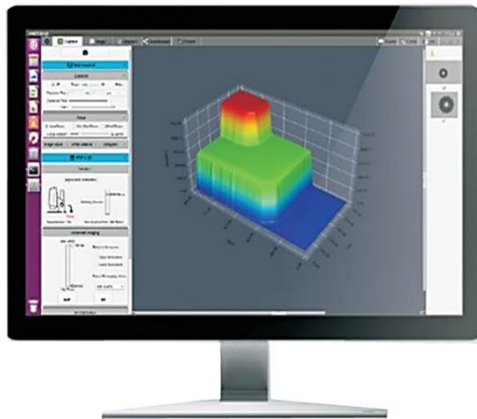


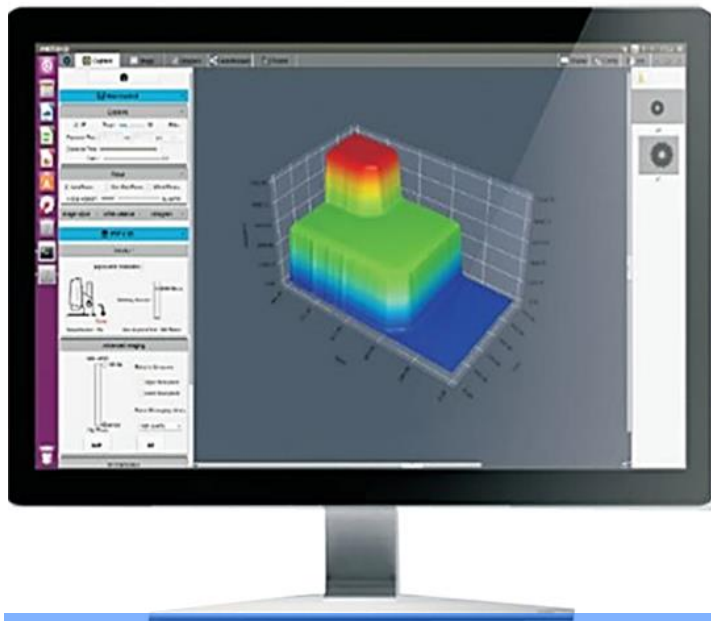
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M20.3820

3D Auto-Focus Super EDF Measuring Digital Microscope

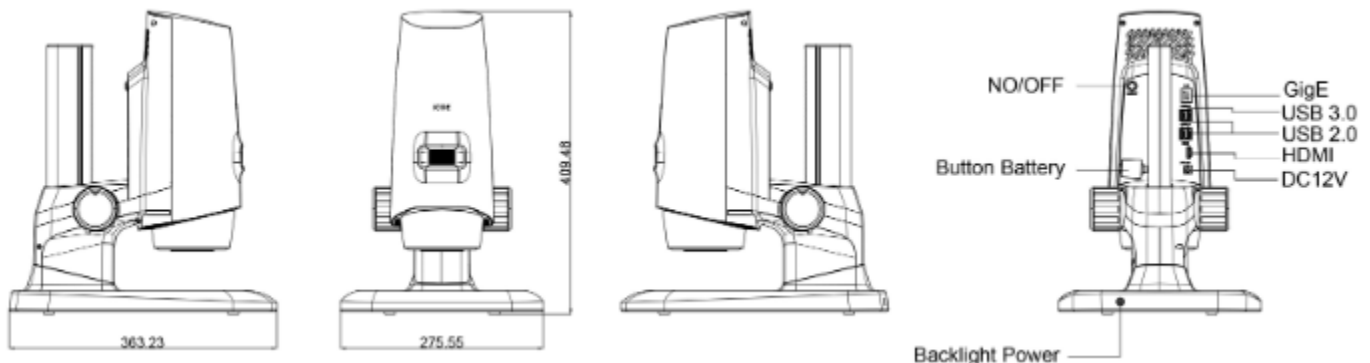




**Greatly Improve The Microscope Observation,
Measurement And Analysis Efficiency!**

M20.3820 is a smart stereo microscope, which is built with 3D and EDF technologies for the efficiency of microscopic researches and inspections. Its unique All-in-one design is equal to five professional equipment in one: a stereoscopic microscope, a camera, a microscopy software, a Z-axis electronic platform and a computer host.

- Smart 3D super depth of field microscope with 16X-160X Optical system.
- 8mm Diagonal FOV
- 1920 x1080 Resolution
- $3.75\mu\text{m} \times 3.75\mu\text{m}$ Pixel Size
- 60fps@2MP Frame Rate
- HDMI Data interface



M20.3820 System

GPU+FPGA

Heterogeneous Computing Host

EDF+3D+Edge Detection

Three Core Algorithms

Liquid Lens

Excellent Auto-Focusing

10X Optical Zoom

16X- 160X magnification

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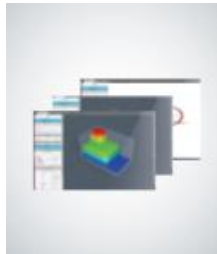
Combined 5 Professional Equipment All-in One



Stereoscopic
Microscope



High-speed Dynamic
Color Camera



Microscopic Image
Analysis Software



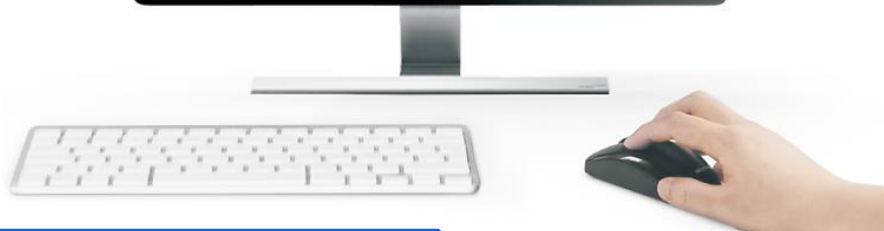
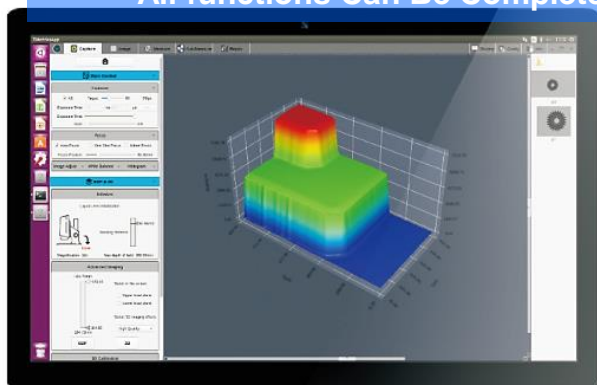
Precision Z-axis
Motorized Stage



High-performance PC
Work Station

Product Details

No Need Computer!
All functions Can Be Completed By Mouse & Keyboard!



Observation Upgrade



Focus position: the highest layer



Focus position: middle layer



Focus position: lowest layer

Large Magnification 16-160x, High-speed Auto Focus Throughout

When observing a sample with an ordinary microscope, manual focusing is required repeatedly, which is cumbersome and inefficient. M20.3820 adopts liquid lens for highspeed auto-focusing, supports 16-160x microscopic magnification observation, and instantly auto-focus at the mouse click, eliminating the need for repeated manual adjustments in the past, and microscopic observation is simpler and smoother



Clear and Efficient Microscopic Observation

M20.3820 Super Depth of Field Achieves Clear And 3D Microscopic Observation

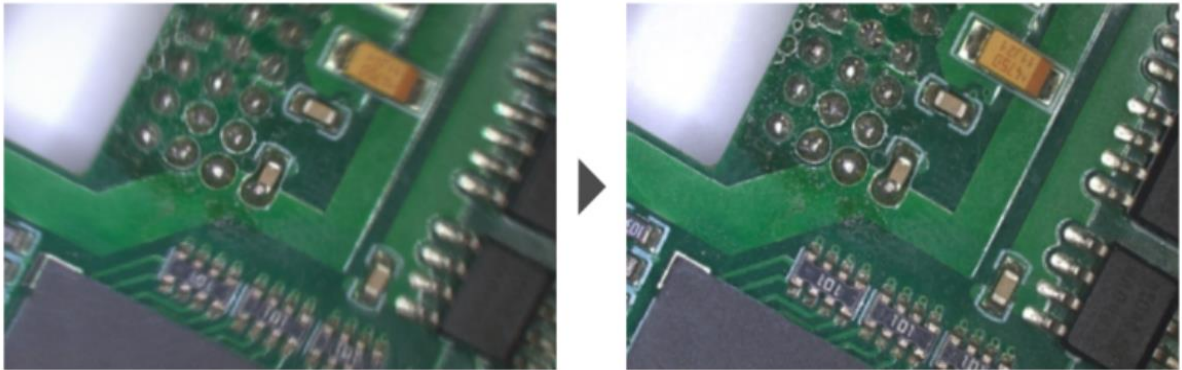


Real-time EDF, focus full width in one second

3D display, observe three dimensional shape features

Real-time Depth Of Field (EDF), Reduce Blurry And False Images

It is easy to cause angle deviation, rotation and uneven focal plane when using third party software and hardware systems to expand the depth of field, M20.3820 optical-mechanical-electrical integration structure and linkage algorithm technology can solve the above problems and obtain a clear and correct full-frame focus picture.

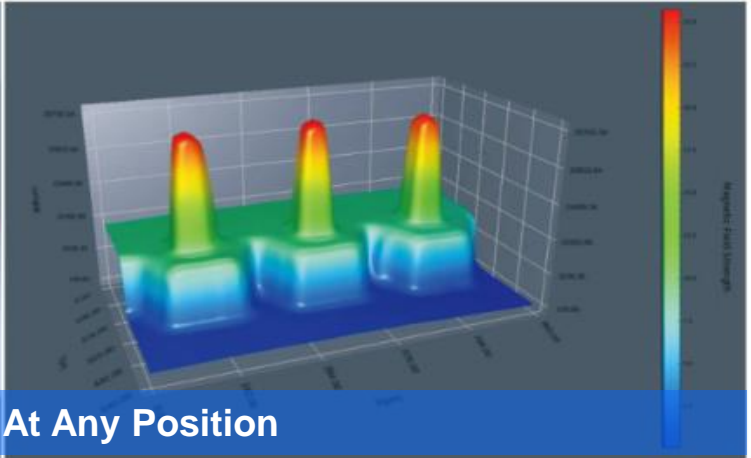


Real-time Wide Dynamic Range (WDR) Effectively Eliminating Strong Reflection Light

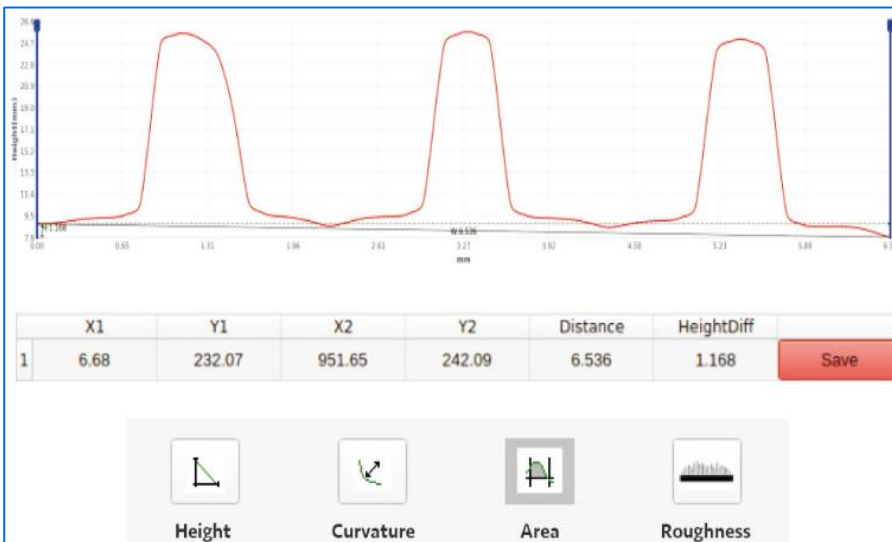
The strong reflection of the metal surface can easily cause the loss of detailed information and affect the judgment. The M20.3820 WDR mode can create images with perfect exposure and clear light and dark details by calculating the data of multiple images with different brightness in real time.



Continuous and Complete Measurement Data Recording



Available To Do 3D Measurement At Any Position



Diversified Tools, Real-time Data Recording

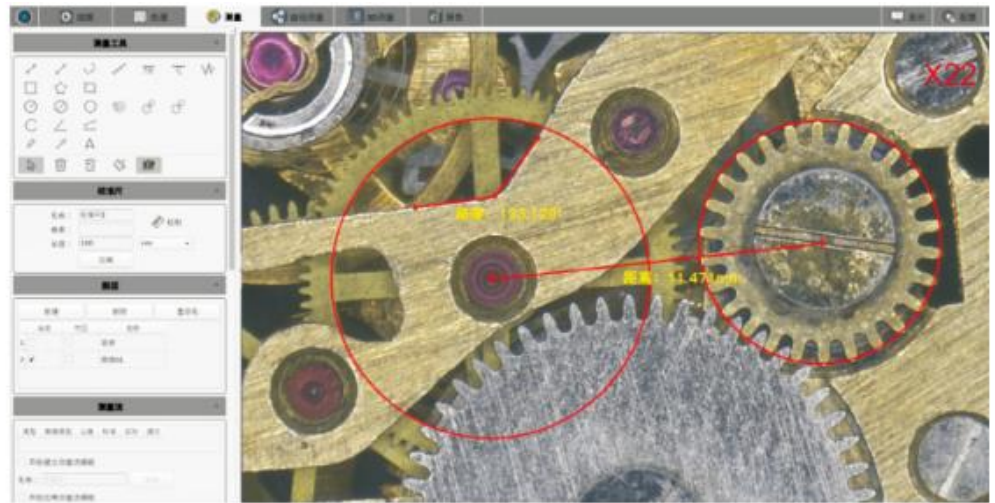
M20.3820 provides a wealth of measurement and analysis tools, and can record data in real time. The Z-axis measurement accuracy of ≤ 50 microns and the repeatability of ≤ 5 microns can meet the needs of most microscopic measurement.

Data Exported To Automatically Created Report

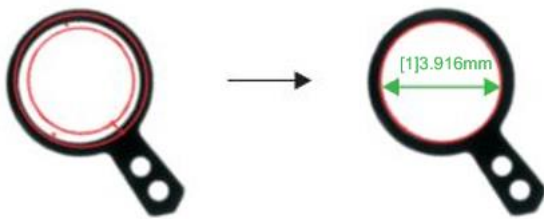
M20.3820 can not only save image and video data, but also automatically create test reports with pictures and texts. All data in the workflow can be exported, when the operation is over, the work is completed, quite simple and easy



Measurement Upgrade



Real-time Measurement, No Need Recalibrate In Auto Focus Zoom Mode

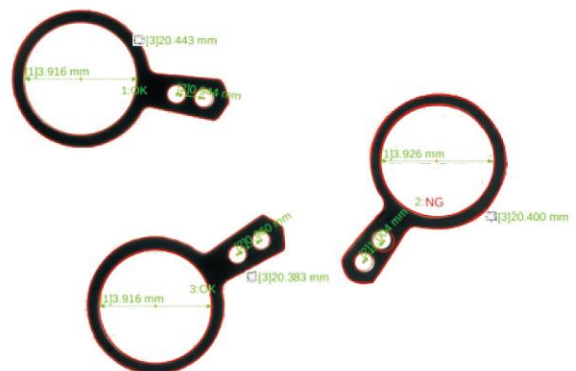


Automatic Edge Extraction To Eliminate Human Error

M20.3820 automatic edge extraction function can quickly perform standard modeling work without manual precise positioning, 3 micron resolution, automatic measurement accuracy ≤ 5 microns, repeat accuracy ≤ 3 microns, effectively eliminating human operation errors.

Automatic batch measurement to improve work efficiency

After completing the standard modeling of small devices, M20.3820 can quickly complete the batch measurement work of other samples, export data information of multiple samples in one time, greatly improve work efficiency.



M20.3820 Specification Sheet

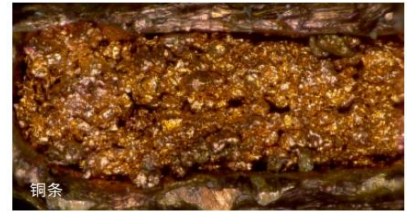
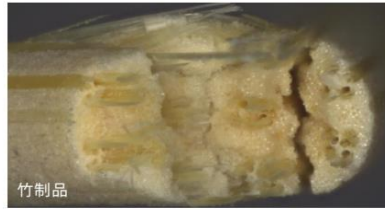
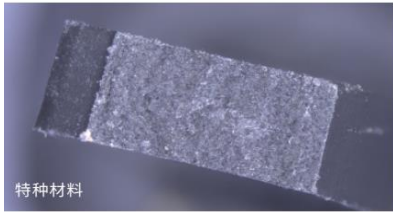
M20.3820 3D Super Depth of Field Microscope

Camera Features	Sensor	Sony 1/2"color CMOS
	Resolution	2 million pixels(1920×1080)
	Pixel size	3.75μm×3.75μm
	Shutter mode	Rolling
	Scanning method	Progressive scanning
	Frame rate	60fps(Normal),30fps(WDR)
	Gain	Automatic / Manual
	Exposure time	Automatic: 0.1ms-16.6ms, manual: 0.0001s-1s
	White balance	Automatic/manual/area
	Image storage	TIFF/JPEG
	Video format	AVI/MP4(1080P)
	Bit width	24bit
Electronic Interface	HD interface	HDMI 2.0
	Storage	Built-in 32G Emmc
	Switch	Have
	LED indicator	Turn on the blue light
	Internet connection	Fast Ethernet
	USB3.0	Host x2
	USB2.0	Host x2
	Power supply	12V8A
Optical Parameters	System magnification	16x-160x
	Optical magnification	0.25-2.5X
	Optical resolution	3μm
	Working distance	Range: 35mm-220mm, Best: 81±1mm
	Field size	Minimum size: 28.8mmx16.2mmx200mm Maximum times: 2.88mmx1.62mmx4.5mm
	Focus method	automatic / manual
	Z axis adjustment method	Manual
	Z axis adjustment stroke	200mm (single turn 23mm)
Light Source	Illumination	Four-Division LED Ring Light
	Lighting life	40000 hours
	Color temperature	6500K
Advanced Features (Embedded)	Auto focus	Continuous auto/single auto
	Magnification recognition	Auto
	3D noise reduction	Support
	WDR	Support
	Real-time EDoF	Support
	Edge enhancement	Support
	Gamma Correction (Contrast)	Support
	Color enhancement	Support
	Flat field correction	Support
	e Preview mode	Normal/Negative/Embossed/Grayscale
Input	3D display	Support
	Mouse input	USB mouse
Measurement Function (Embedded)	Keyboard input	USB keyboard
	2D measurement basic elements	Line, Radius, Diameter, Angle, Arc, Parallel, Perpendicular
Others	2D measurement ruler display	Have
	2D automatic measurement	Minimum times: measurement accuracy ±20um repeatability ±13um Maximum times: measurement accuracy ± 5um repeat accuracy ± 3um
	3D measurement	Maximum times: measurement accuracy ±50um repeat accuracy ±5um
	Range of working temperature	5°C to 40°C
Others	Relative humidity	Below 85% (no condensation)
	Weight	6.5kg
	Appearance size (WxHxD)	276mm x 402mm x 363mm
	Online upgrade	Support

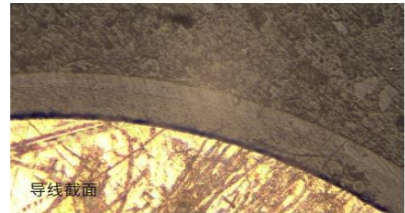
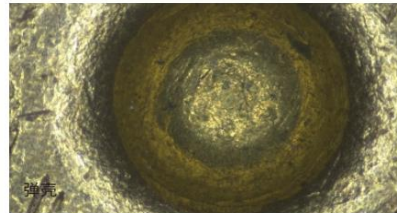


Sample Cases & Analysis Capabilities

Material Fracture Analysis



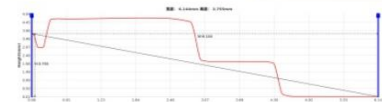
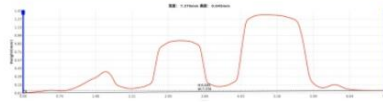
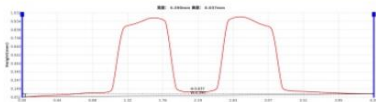
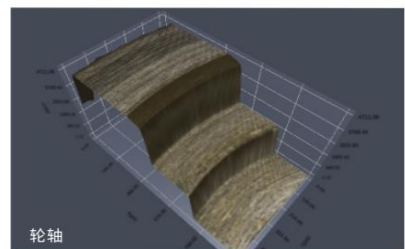
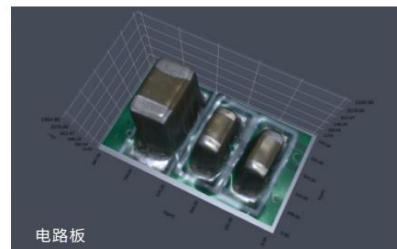
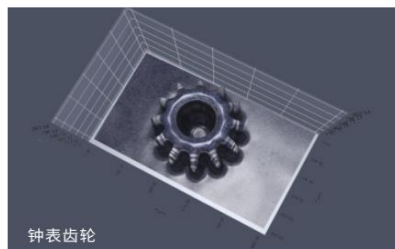
Surface Trace Detection



Biological Observation



Parts Measurement



MICROSCOPE IS OUR FOCUS

The Key To Micro World

Opto-Edu is one of the most professional supplier for microscope & educational instruments from China. We have been focusing in this field for more than 25 years, has a professional sales team who can assist our customer to find the BEST SELECTED microscope with competitive price and 3 YEARS Warranty.

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



MICRO
WORLD

The Key To OPTO-EDU



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