Mikrosize®

VMU

CNC Automatic Video Measuring System

Video

Web:www.mikrosize.com Email:mikrosize@188.com

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VMU CNC Automatic Video Measuring System Description

- CNC fully auto close loop control, auto measurement; Integrative Design , convinient for measuring.
- 00" Grade Stable and Reliable Marble base , Ensuring high measure speed, accuracy and precision.
- Precision Linear Guide and Grinding Ball Screw, AC servo motor ensures accuracy.
- High precision linear scale, resolution is 1um, high accuracy, great stability.
- Manual zoom lens and 1 /2" color high resolution CCD camera.
- Programmable 5 Ring, 8-division LED Surface illumination controlled by software and with memory function.
- Contour parallel LED illumination, can realize 256 grade brightness adjustment intelligently.
- Optional imported touch probe, realize 3D measurement.

VMU CNC Automatic Video Measuring System Application

- It is widely used in machinery manufacturing, electronics, automobile, hardware, plastic, mold and other industries.
- It can accurately measuring workpiece size,shape,position tolerance, so as to complete the tasks of components inspection, shape measurement, process control and so on.

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VMU Automatic Gantry CNC Video Measuring System Specification

Product Name	CNC Automatic Video Measuring System		
2.5D Model	VMU-3020	VMU-4030	VMU-5040
3D Model	VMU-3020P	VMU-4030P	VMU-5040P
X,Y-axis Travel	300x200mm	400x300mm	500X400mm
Z-axis Travel	200mm		
Dimensions(mm)	750X520X980	1000x620x990	1300x750x1000
Max.load Capacity	25Kg	25Kg	25Kg
Net Weight	240Kg	280Kg	360Kg
X/Y/Z 3-axis Linear Scale(2.5D)	Resolution:0.5μm		
Accuracy(um)	E1(x/y)=2.5+L/100		
Repeatability	±2um		
Movement System	X,Y,Z-axis:Screw Rod		
Movement Control	CNC Auto Servo Movement Control		
Video System	1/2" color CCD camera Auto Coaxial Zoom Lens Optical Magnification:0.7-4.5x; Video Magnification:20-148x Working Distance(Standard): 92mm		
Object View(Standard)	11.1~1.7mm		
Speed(mm/s)	X,Y-axis:200 Z-axis:50		
Illumination Contour	Adjustable 256-grade LED Parallel illumination		
Surface	Adjustable 256-grades 5-Ring & 8-Division LED Cold illumination		
3D Measuerment	3D Module and UK Renishaw Touch Probe		
Measuring Software	Mikrosize		
Working Environment	Temperature: 20℃±2℃, Temperature Variation<2℃/hr,Humidity:30~80%		
Power Source	AC 100~220V 50/60HZ 10A		

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VMU CNC Automatic Video Measuring System
Standard Delivery

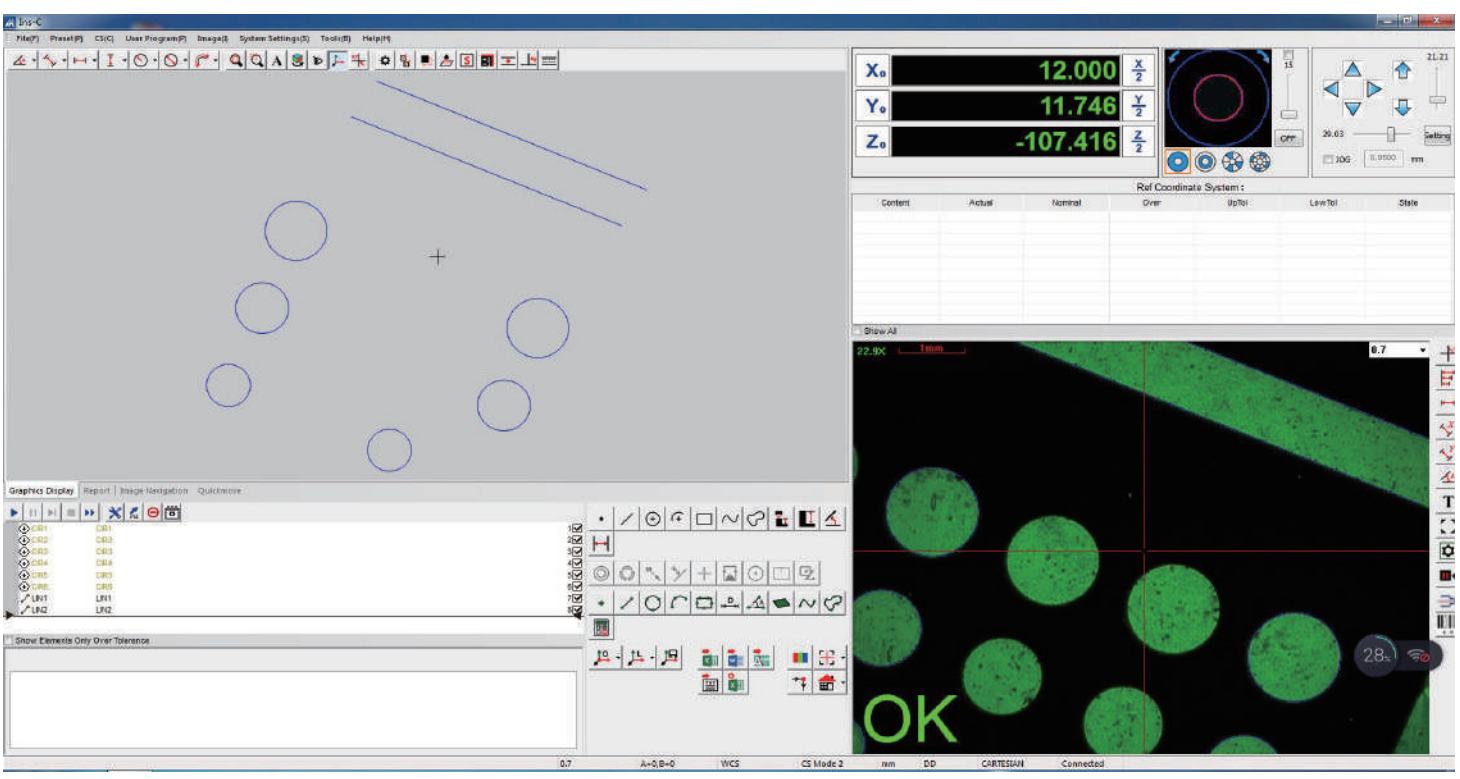
Product Name	Product Name	Product Name
Measuring Software	CCD Camera/Video Capture Card	Manual Coaxial Zoom Lens
Mainframe/Dell PC System	Scale Transfer /Movement Control Card	48 –Division LED Illumination
Linear Scale/Calibration Block	100mm Length Block(3D)	Renishaw Probe MCP-K2(3D)

VMU Automatic Video Measuring System Measuring Software Mikrosize3D

• The Mikrosize 3D-M software with simple interface, intuitive operation, easy operation and powerful functions, users can complete the measuring task quickly and efficiently.

1.Simple and friendly interface

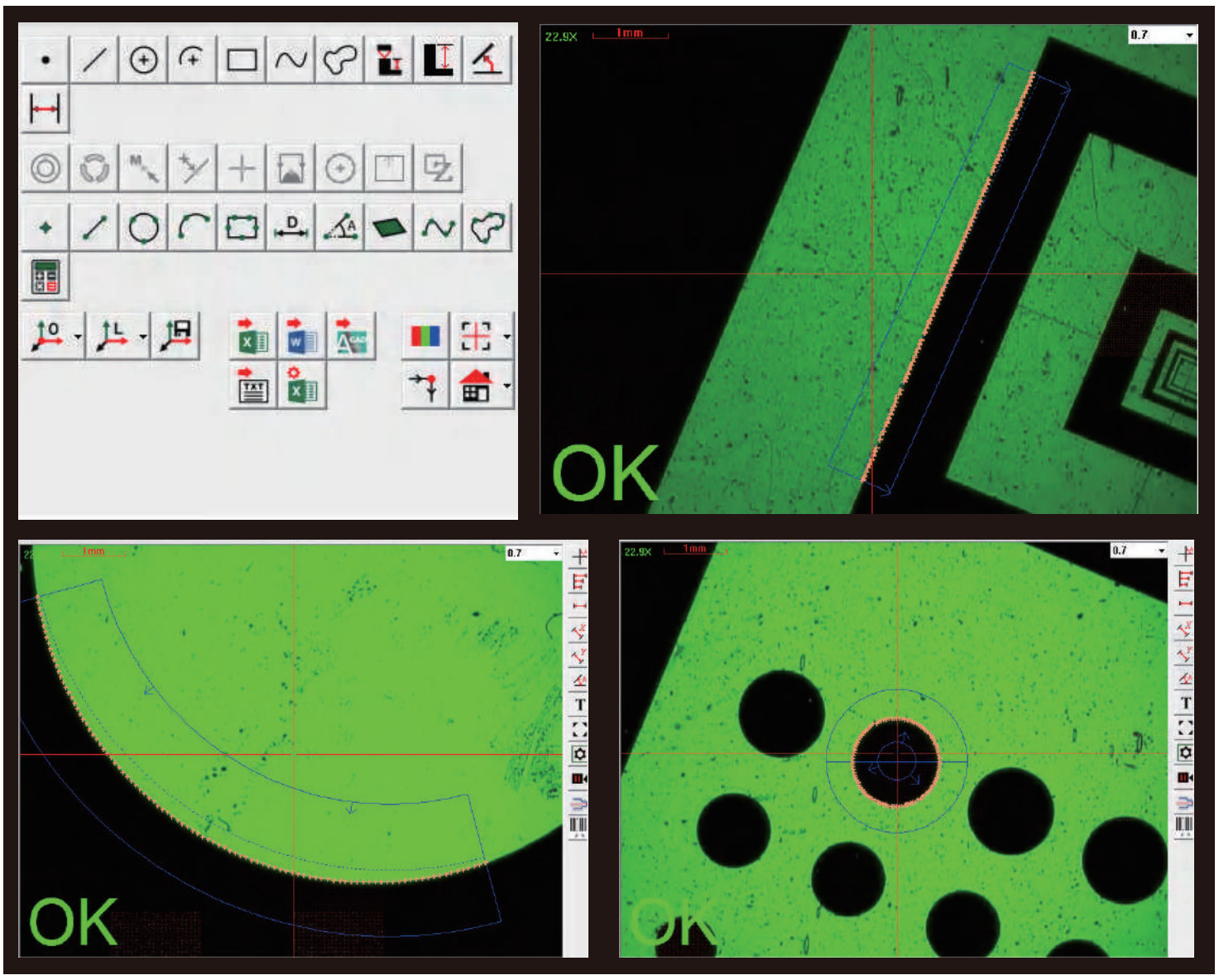
• The commonly functions are in the main interface , which is easy to be familiar with.
• Users can complete almost all measurement task by simply clicking and dragging the mouse.



2.Powerful geometric measurement function

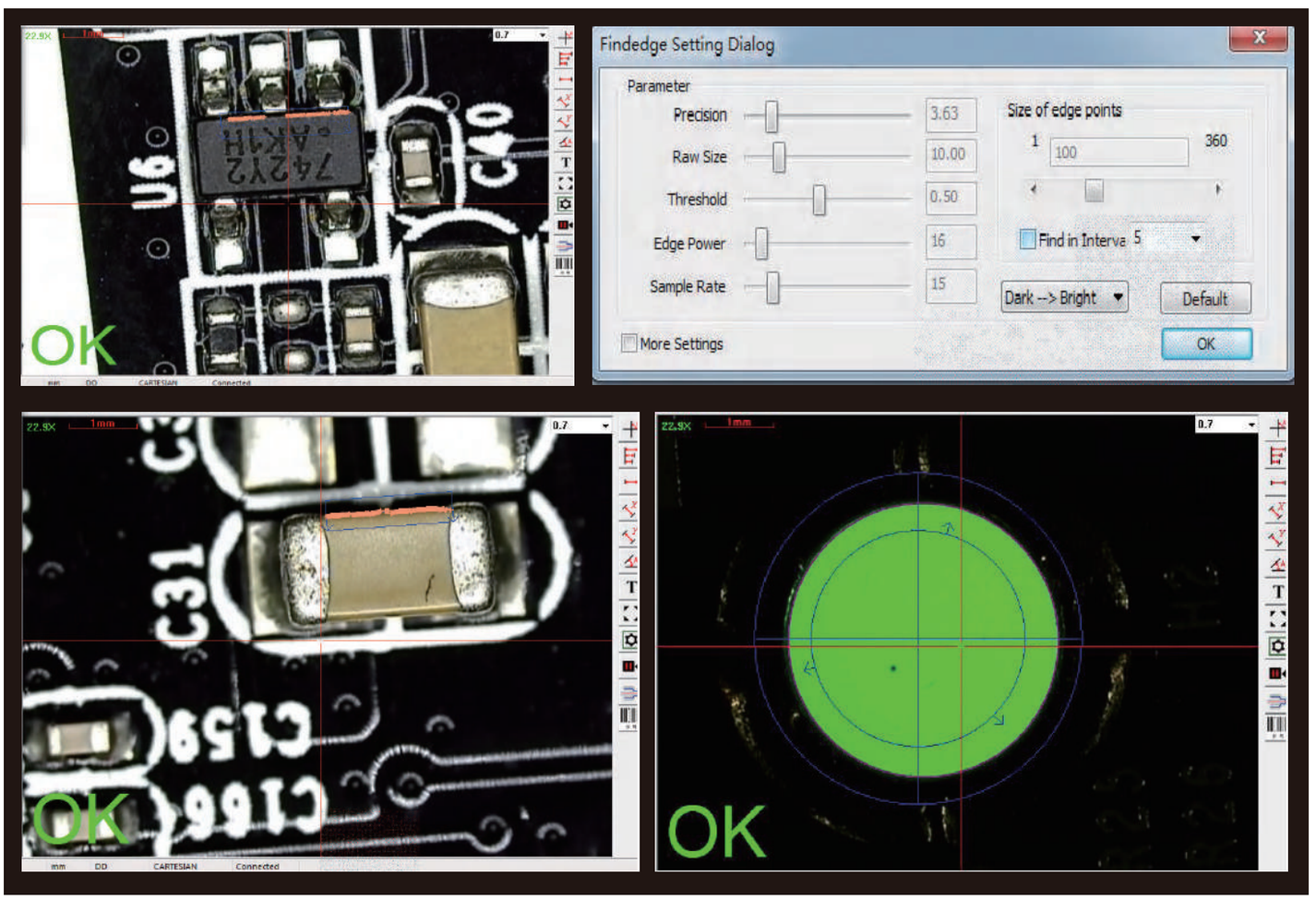
2.1. Complete geometric measurement function

• Measurement of points, lines, arcs, circles, rectangles, ellipses, bond length (waist features), open curves, closed curves, planes, cylinders, cones, balls and other geometric elements.
• When a probe or laser displacement sensor is added to the z-axis, 3D graphic elements such as cylinder, cone, sphere and surface of 3D space can be measured. According to the actual characteristics of elements, each element can be measured by a variety of different methods.
• The coordinate value, length, area, volume and other data of the element can be obtained directly after edge searching.



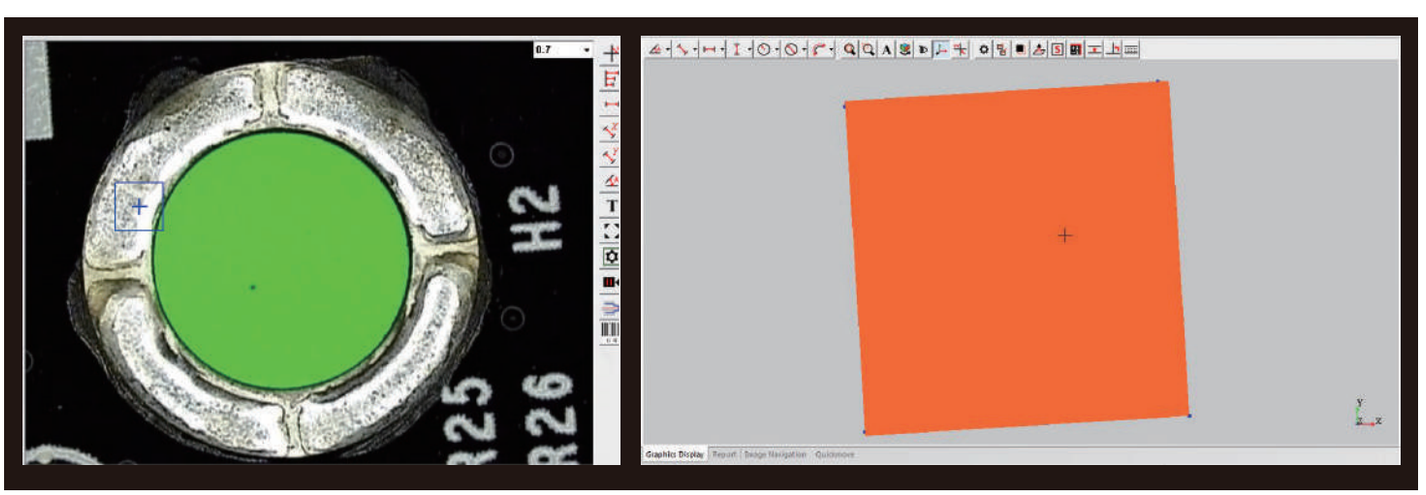
Mikrosize3D Measuring Software

• It can grasp the weak edge, set the edge searching direction arbitrarily, avoid the edge selection error, set the edge searching parameters flexibly, and remove the influence of the rough selvedge.



3. Auto focus function and focus measurement function

• The software can automatically determine whether the focus is the clearest or not. This function can also be used to measure height and flatness.

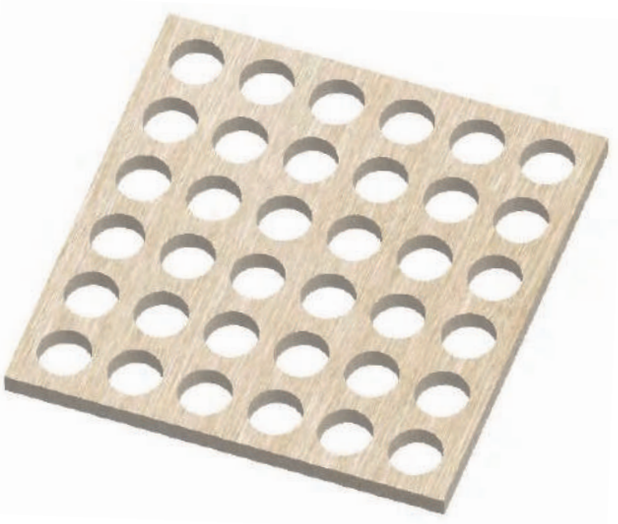


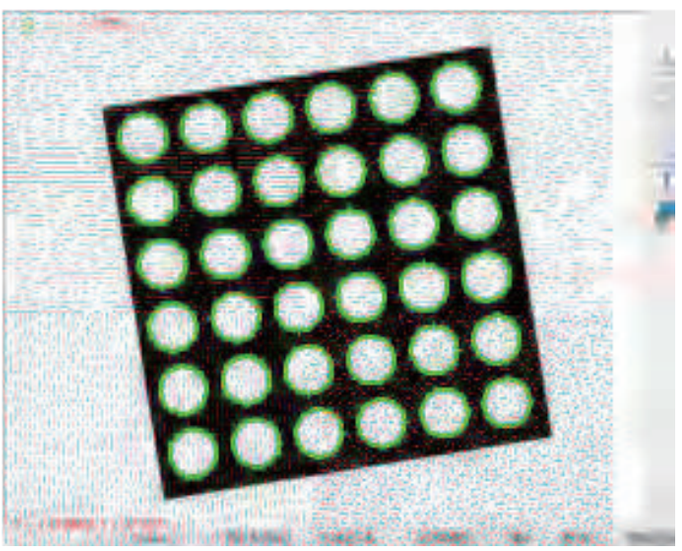
Mikrosize3D Measuring Software

4.Fast response to measurement of complex shape workpiece and mass workpiece (special function of automatic machine)

4.1.Translational array measurement of elements

• For equidistant feature elements, only one element needs to be measured manually, and then all elements can be measured automatically through the translation array function, which is very convenient to measure array features.

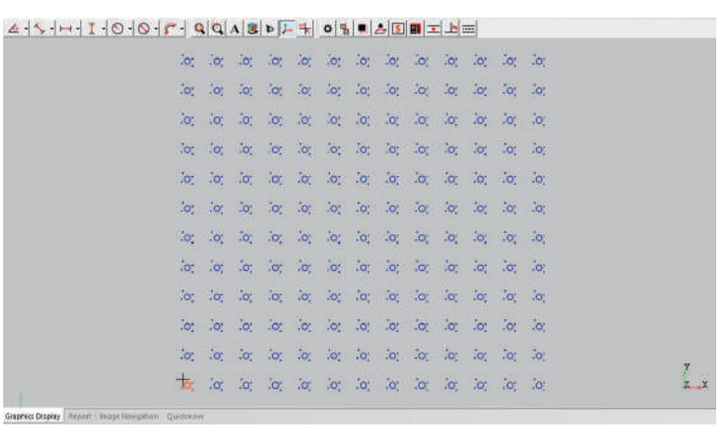




4.2.Workpiece array and array macro measurement (special function of automatic Machine)

• When a large number of workpieces are measured, only one workpiece can be measured manually, and all workpieces can be measured automatically through the workpiece array and array macro function.

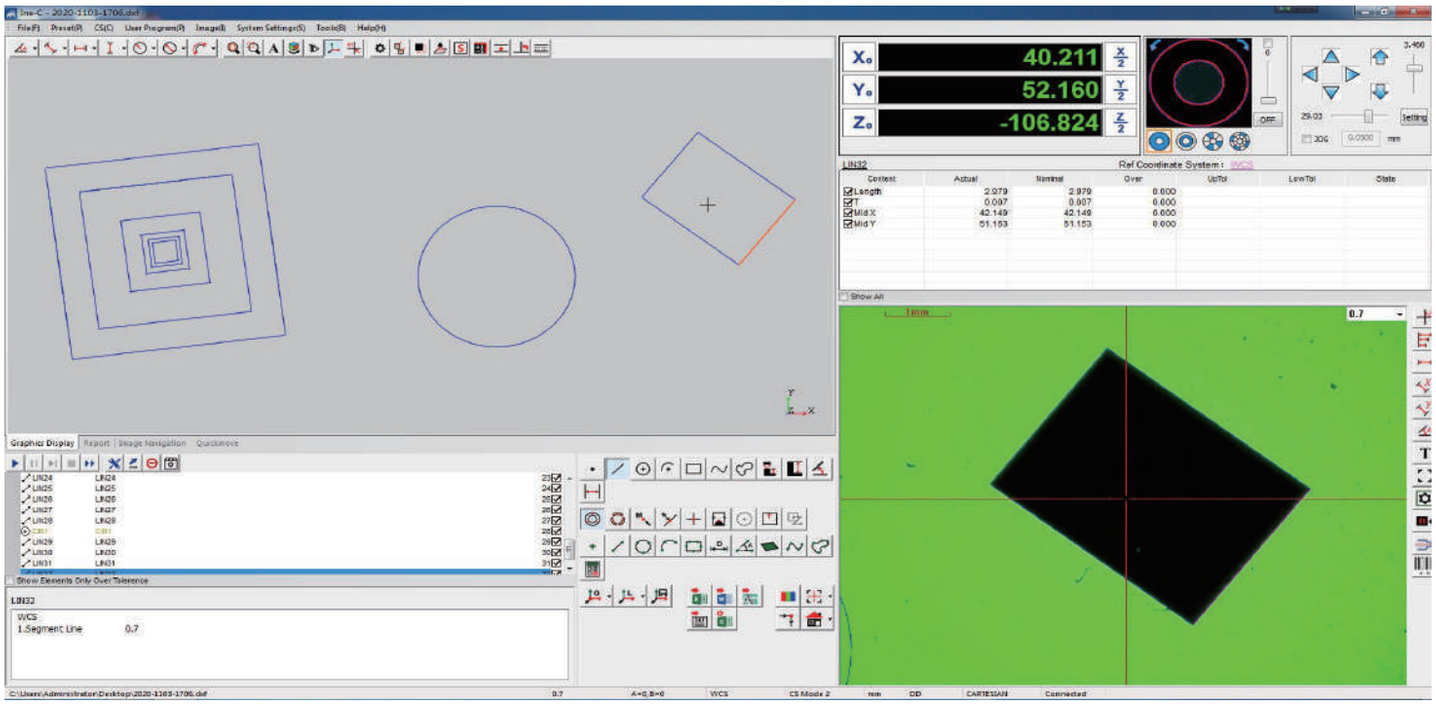
• Whether a single fixture or multiple fixtures can deal with it at the same time. It can save time and improve measurement efficiency.



4.3.Import CAD drawing function measurement

• The dimension drawing can be done directly by CAD software, and the automatic measurement can be realized after importing the software, and there is no need to collect points for edge searching.

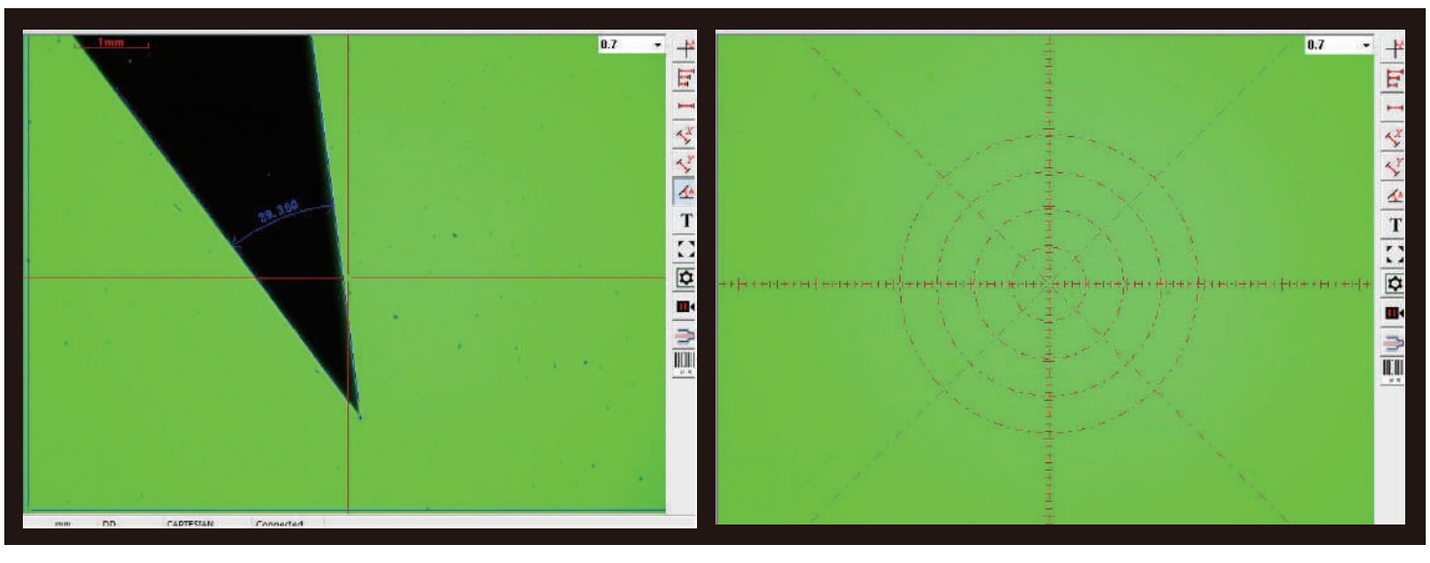
• It is very convenient for coordinate measurement and contour contrast measurement of complex or irregular shapes.



4.4.Comparative measurement function

• The scale line, angle line and standard circle can be preset for comparative measurement of workpiece.

• The dimension line or angle line can also be drawn directly on the image outline,observe the length, angle, step height and diameter of the workpiece dynamically.



Mikrosize3D Measuring Software

5.Flexible user program

• The software automatically compiles the user program according to the sequence of user measurement steps. And control the program running, stop.

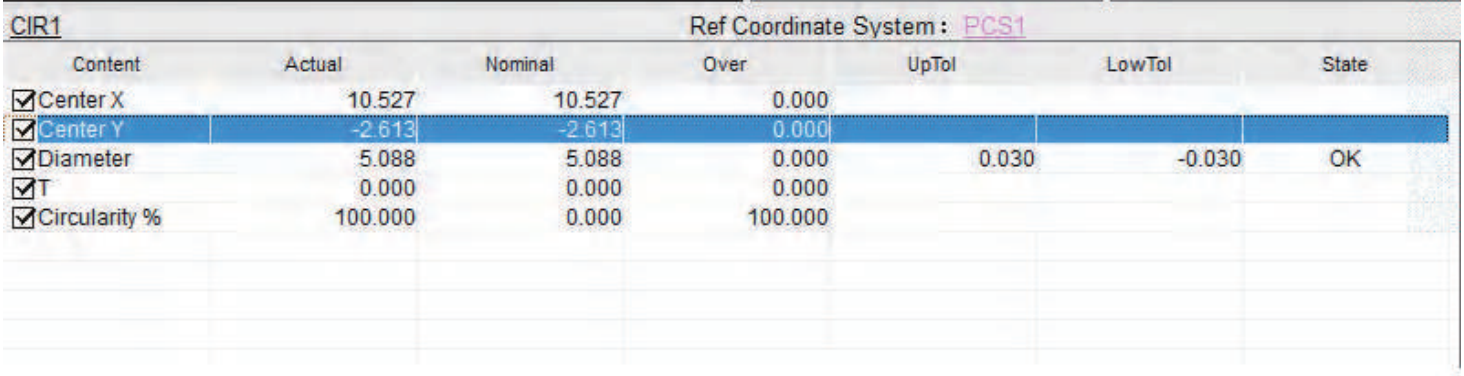
• The user program and each step can be edited, sorted, inserted, deleted , which can adapt to various complex and changeable measurement steps.

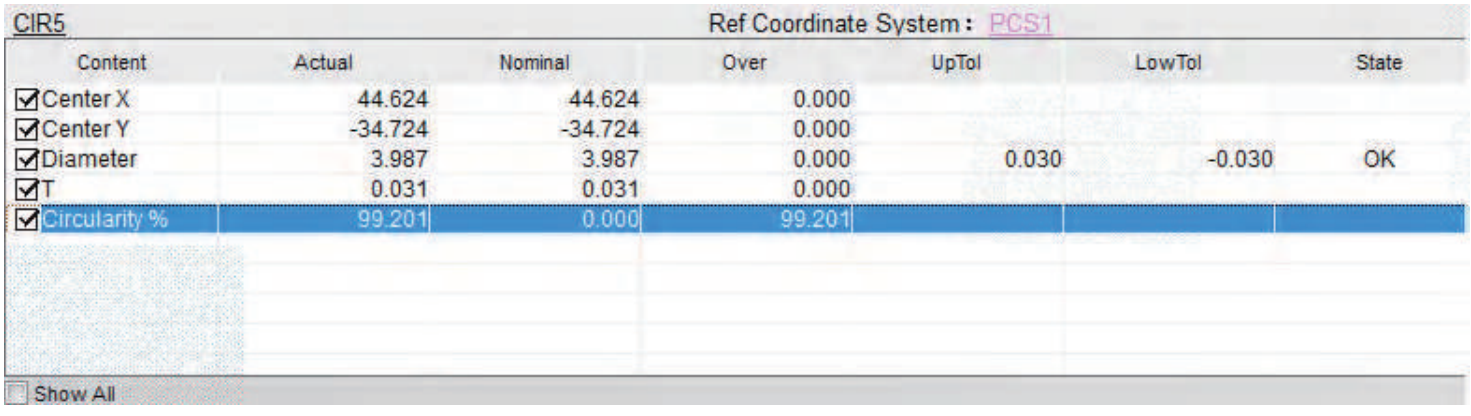
• When measuring a large number of workpieces, only one edge finding measurement is needed.

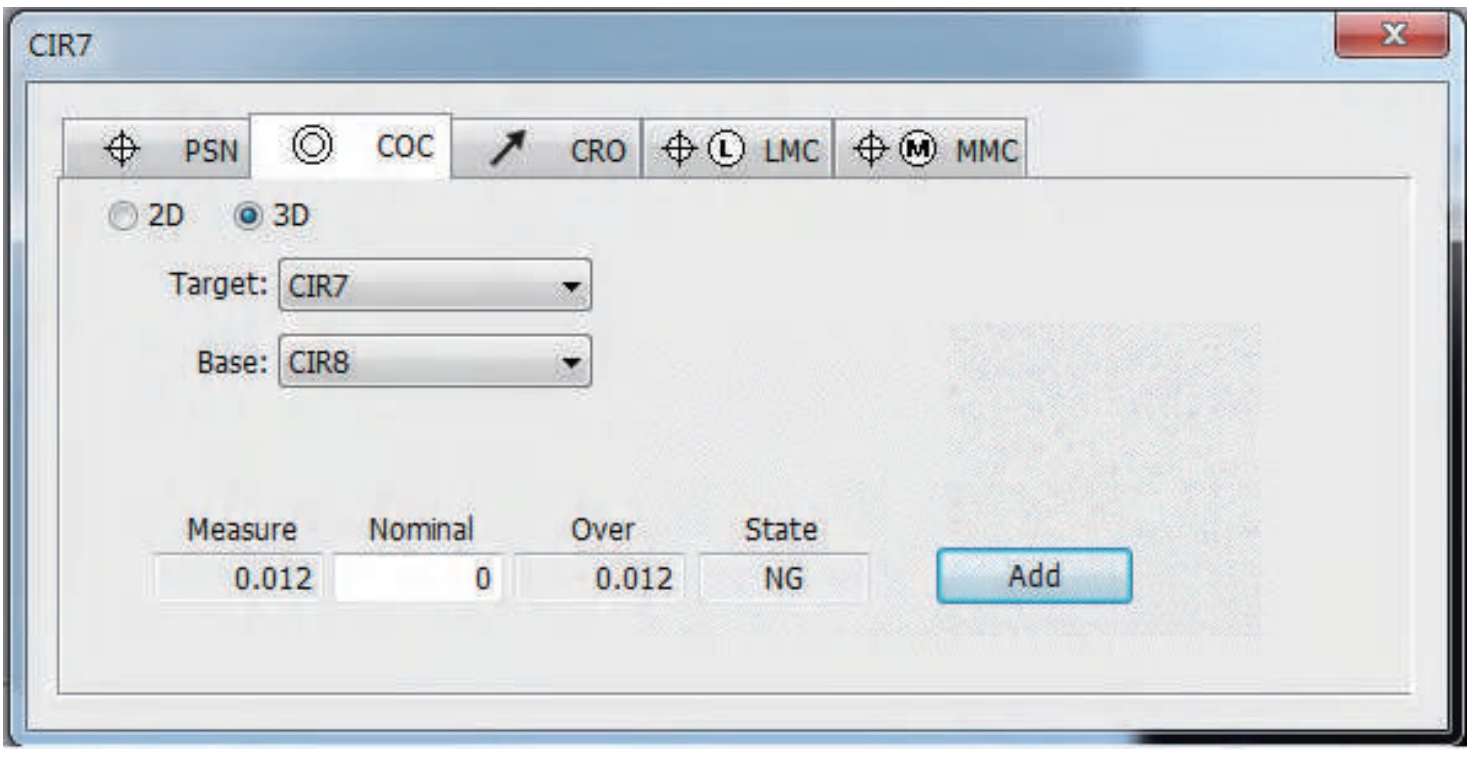
6.Automatic calculation of geometric tolerance of elements

• The software provides complete tolerance setting and calculation functions, which can set and calculate geometric tolerances such as straightness, roundness, flatness, cylindricity, profile, position, parallelism, perpendicularity, concentricity, circle runout, etc.

• It can automatically judge whether the tolerance is OK or NG, and has NG warning and prompt function. The visualized tolerance chart enables users to know the specific out of tolerance position and find out the cause of out of tolerance conveniently.



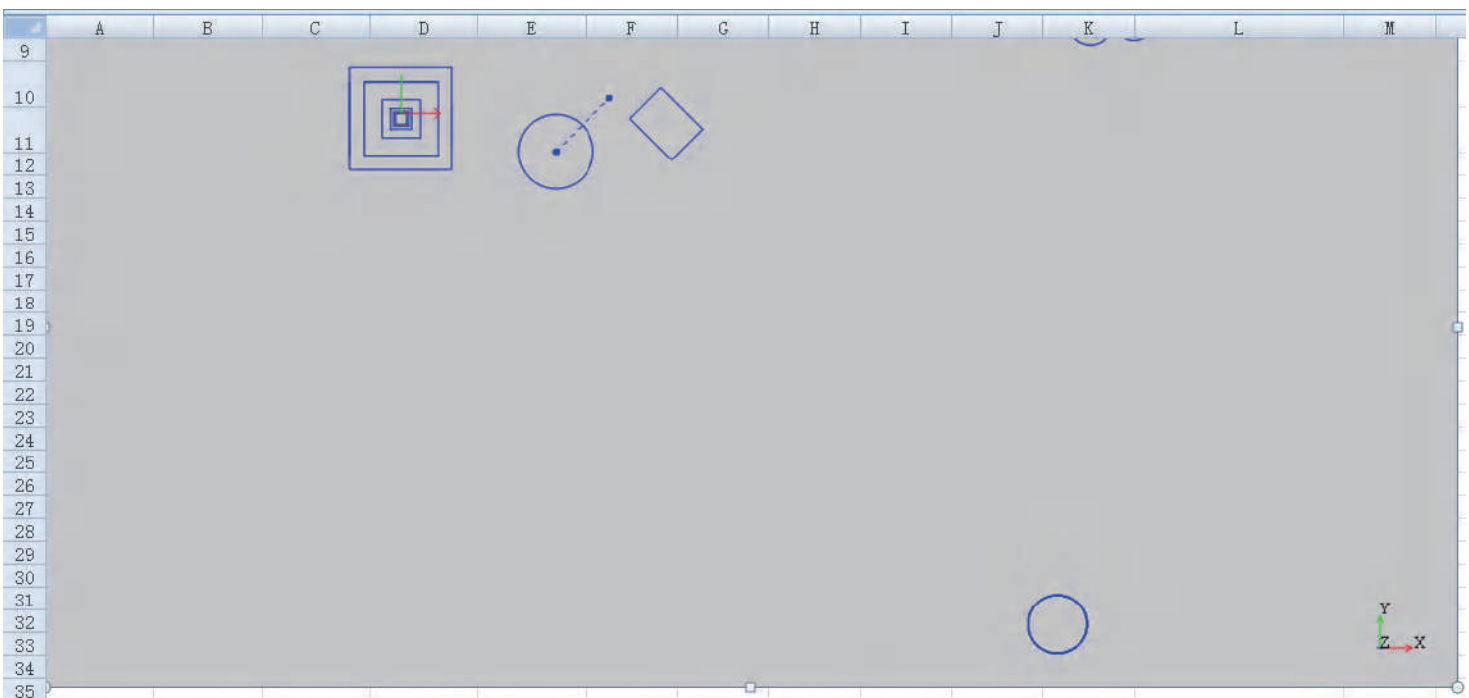




Mikrosize3D Measuring Software

7. Diversified data report and graphic data leading-out function

• The software can lead-out the result data in a variety of report formats, EXCEL,WORD, TXT , and support the excel report format setting function.



Content	CIR2-Diameter	CIR3-Diameter	CIR4-Diameter	CIR5-Diameter	CIR6-Diameter	CIR7-Diameter	CIR8-Diameter	CIR1-Diameter	DIS1-平面距离	OK/NG	Time
Nominal	2.98	2.534	3.987	3.987	3.987	3.987	4.006	5.088	5.148		
Up Tolerence	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03		
Low Tolerence	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03		
Up Value	3.01	2.564	4.017	4.017	4.017	4.017	4.036	5.118	5.178		
Low Value	2.95	2.504	3.957	3.957	3.957	3.957	3.976	5.058	5.118		
#1	2.98	2.534	3.987	3.987	3.987	3.987	4.006	5.088	5.148	OK	20201103-17:22:11
#2	2.98	2.534	3.987	3.987	3.987	3.987	4.006	5.088	5.148	OK	20201103-17:22:37
#3	2.98	2.534	3.987	3.987	3.987	3.987	4.006	5.088	5.148	OK	20201103-17:22:38
#4	2.98	2.534	3.987	3.987	3.987	3.987	4.006	5.088	5.148	OK	20201103-17:22:50
#5	2.98	2.534	3.987	3.987	3.987	3.987	4.006	5.088	5.148	OK	20201103-17:22:51

• The software can lead-out DXF and IGS format graphics data, and can be directly used in reverse engineering.

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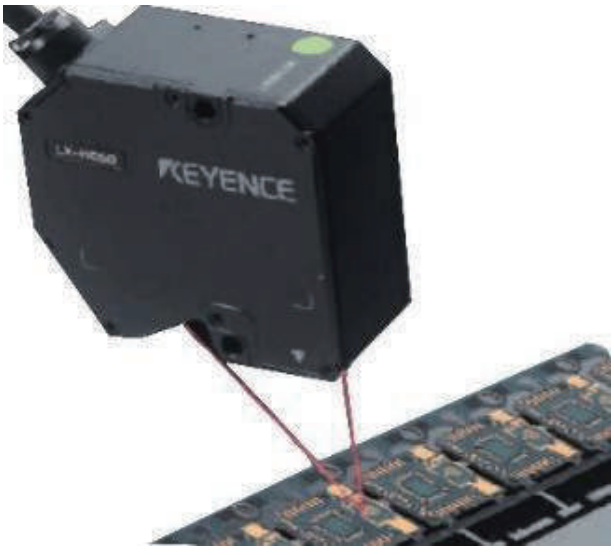
8.Peripheral connection function(optional)

- The software supports the connection of probe, laser sensor, white light sensor, manipulator and other external devices, and can integrate these devices to measure the height and 3D size of workpiece more accurately.