Mikrosize®

VMH

Series Fixed Gantry Type Video Measuring System

Video

Web:www.mikrosize.com

Email:mikrosize@mikrosize.com

Description

• VMH Series is a Fixed Gantry Video Measuring Machine, it is designed for high accuracy and large dimension measurement. With high precision measurement accuracy and stability,It is widely used in , medical devices, LCD, aerospace, mechanical manufacturing, electronics, automobile, hardware, plastic, mold and other industries.
• Fixed moving bridge structure is adopted to ensure high accuracy and stability of measurement. Four-axis CNC fully auto loop control, auto measurement.
• Granite base and pillar are adopted, with stable performance and not easy to deform
• Imported open type linear scale, resolution is 0.1um, high accuracy, great stability.
• Independent research and development of measurement software, with fast focusing, automatic edge finding, SPC data processing analysis and automatic measurement functions.
• Independent research and development of motion control system, integrated in the instrument, with higher stability.
• Joystick / mouse operation, easy to use.
• The laser indicator indicates the measuring position, which is convenient for quick positioning.
• Equipped with auto zoom lens, precise auto zoom, only one pixel calibration is needed, which can realize efficient measurement under multi -magnification.
• P-grade linear guide, precision grinding grade ball screw, AC servo motor, to ensure the accuracy and stability of the system position.
• Imported high definition color industry camera, ensure clear observation and stable measurement requirement.
• 6.5X continue auto zoom lens, precision auto zoom, only need to make pixel calibration once time.
• Programmable 5-ring 8-division LED surface illumination, contour parallel LED illumination, can realize 256 grade brightness adjustment intelligently.
• With proprietary fully auto measuring software , powerful function, simple operation;
• Optional touch probe and laser probe, it can also be customized according to customer request.

Mikrosize®

Specification

Product Name	Fixed Gantry Type Automatic Video Measuring Machine			
Model Number	VMH332	VMH 442	VMH 552	VMH 662
X/Y-axis Travel	300x300	400x400mm	500x500	600*600
Z-axis Travel	200mm			
X/Y/Z Linear Scale	Resolution： 0.1μm			
Guidance Mode	High-precision P-grade Double-Track Linear Guide			
Operation Mode	Joystick controller, Mouse operation, automatic detection program			
Probe System	Renishaw MCP Probe change system (Optional)			
Measurement Accuracy	XY-axis： 2+L/200(um) Z-axis： 3.5+L/100(um)			
Repeatability	±1.5um			
Video System	1/2" Color CCD Camera 6.5X Automatic Zoom Lens Optical Magnification: 0.7X-4.5X, Video Magnification： 20X~190X			
Illumination	Contour: LED Parallel Contour Illumination Surface: 5-ring 8-division 0~256 grade continue adjustable			
Working Environment	Temperature: 20℃±2℃, Temperature Change＜2℃/hr, Humidity: 30%－80%RH, Vibration＜0.002g, ＜15HZ			
Measuring Software	Mikrosize			
Load Capacity	30Kg			
Power Supply	AC110V/60Hz, 220V/50Hz			
Machine Dimension(L×W×H)	1137*848*1650	1240*948*1650mm	1457*1048*1650	1657*1148*1650
Package Size (L×W×H)	1550*1080*1800mm	1550*1080*1800mm	1900*1280*1800mm	1900*1280*1800mm
Instrument Weight	480	580	680	850

Mikrosize®

Standard Delivery

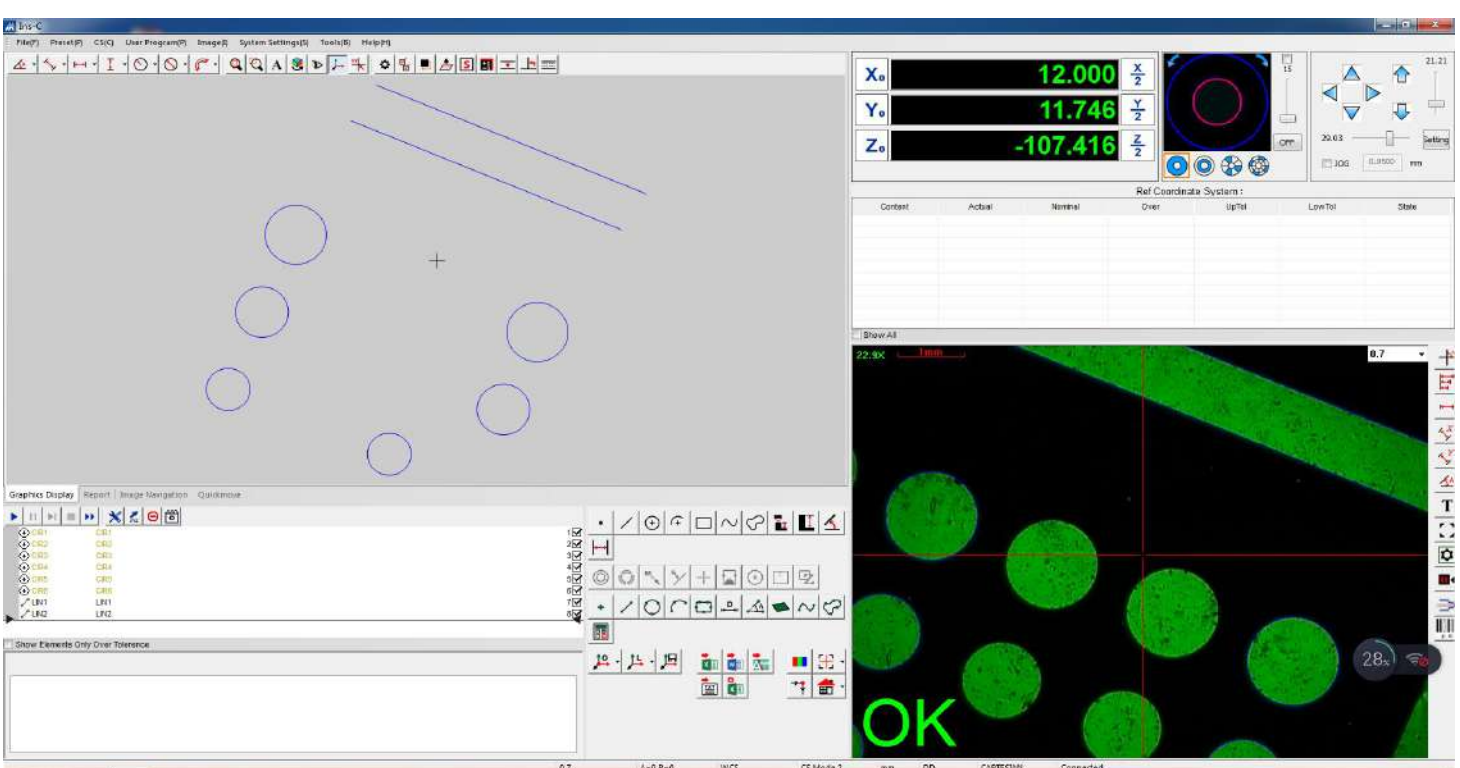
No	Name	Specification	Qty
1	Mainframe with Optical Glass	Grade 00 Natural Marble	1
2	Moving Control System with Joystick	UWC3500i	1
3	Linear Scale	Imported Renishaw Reflective Linear Scale	3
4	Linear Guide	HIWIN	3
5	ball screw	Taiwang TBI grinding grade ball screw	3
6	Motor	Panasonic	3
7	Camera	1/2"CCD Colorful High resolution	1
8	Zoom Lens	Fully auto Zoom Lens	1
9	Surface Illumination	Programmable 5-ring 8-division LED surface illumination	1
10	Calibration Board	Company customization	1
11	Computer	DELL	1
12	Sofwtare	INS-C	1

Mikrosize3D Measuring Software

• 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

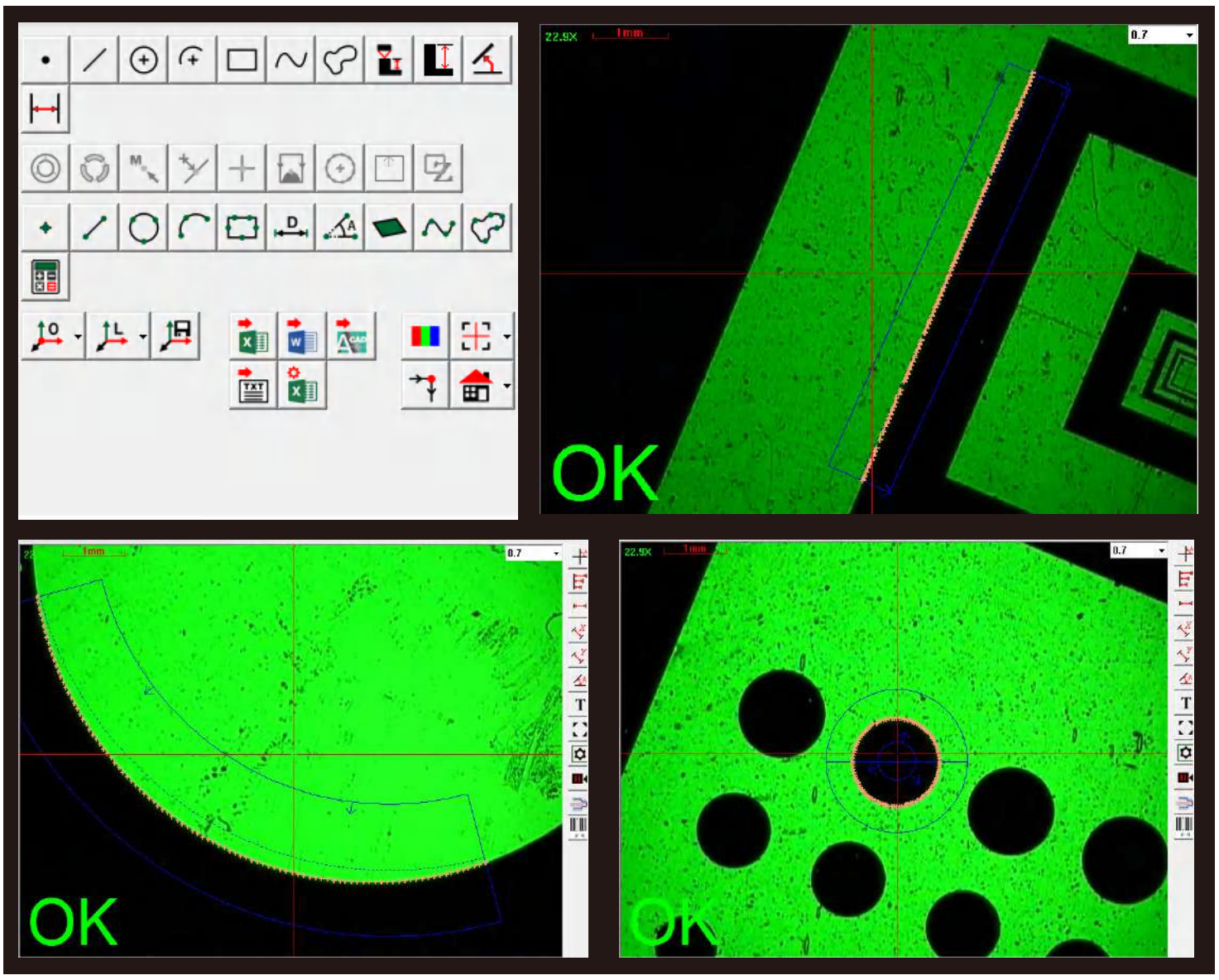
• The commonly functions are in the main interface , which is easy to be familiar with.
• Users can complete almost all measurement task by simply clicking and dragging the mouse.



2.Powerful geometric measurement function

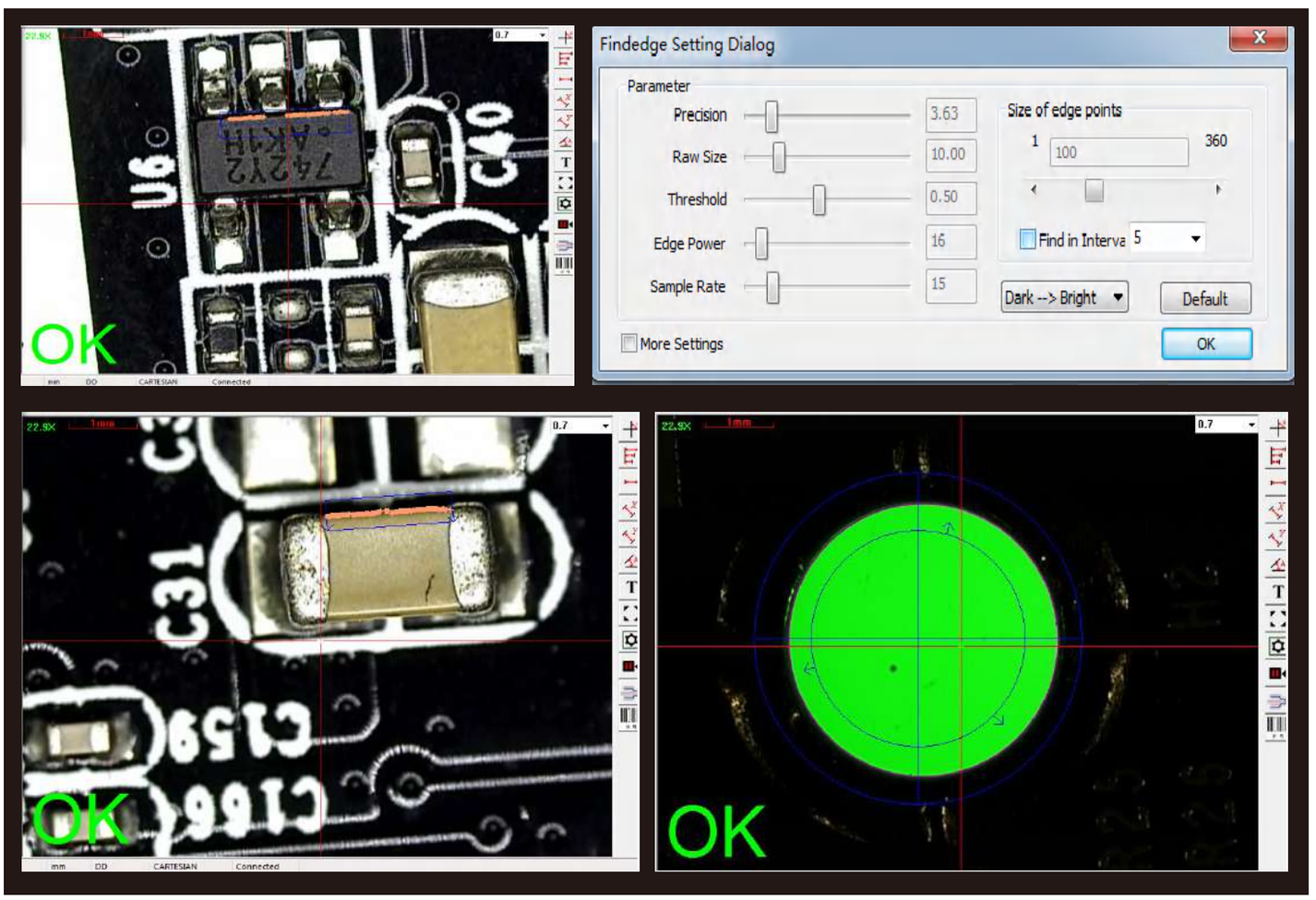
2.1. Complete geometric measurement function

• 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.



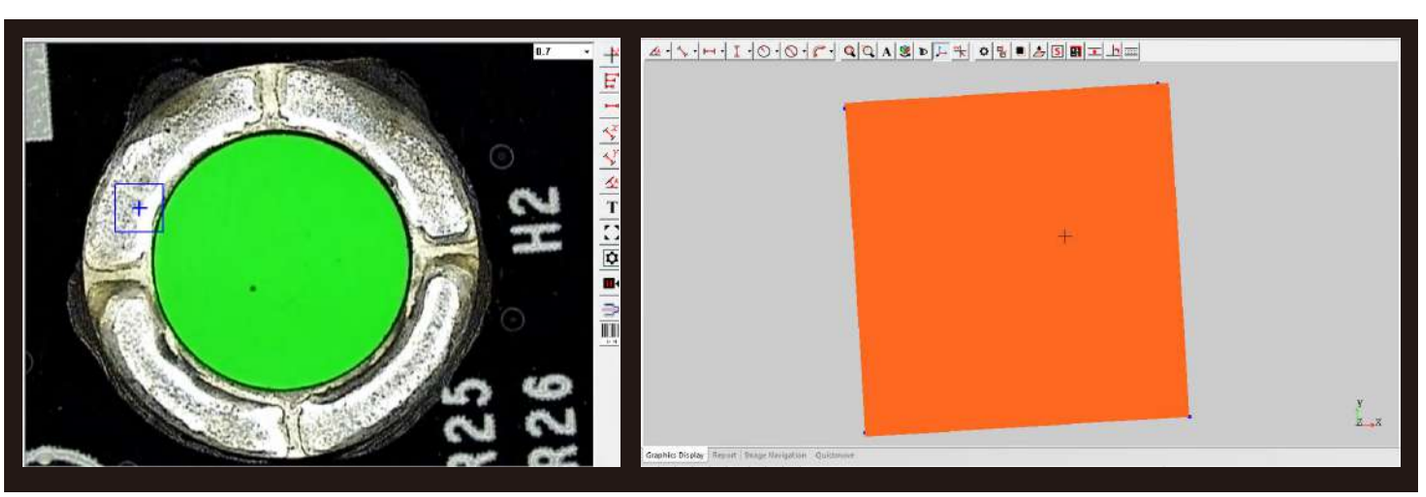
Mikrosize3D Measuring Software

• 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.

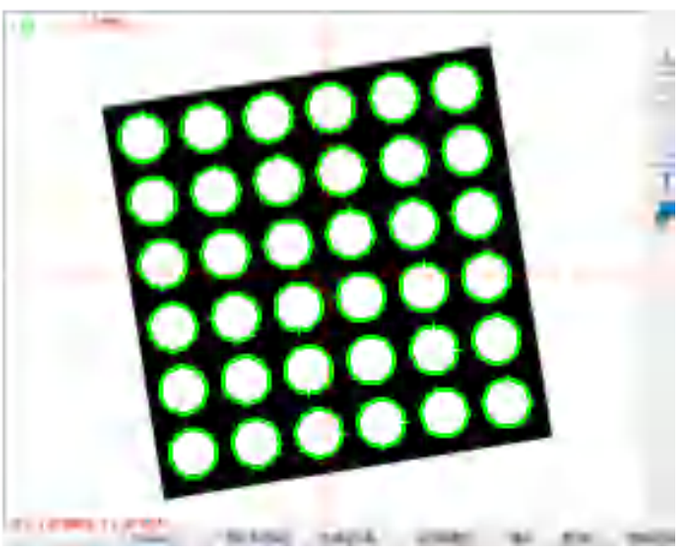


Mikrosize3D Measuring Software

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

4.1.Translational array measurement of elements

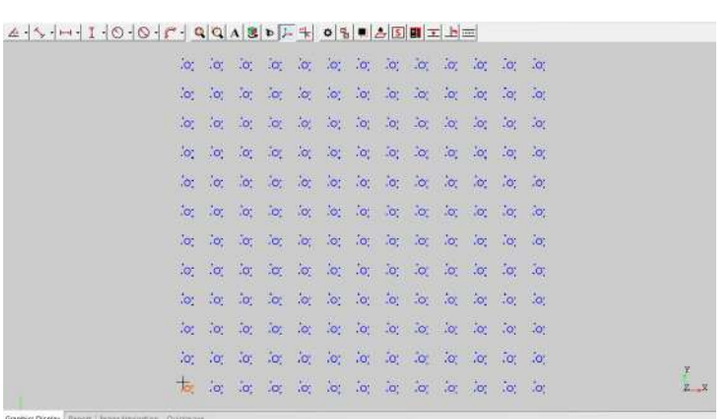
• For equidistant feature elements, only one element needs to be measured manually, and then all elements can be measured automatically through the translation array function, which is very convenient to measure array features.



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.

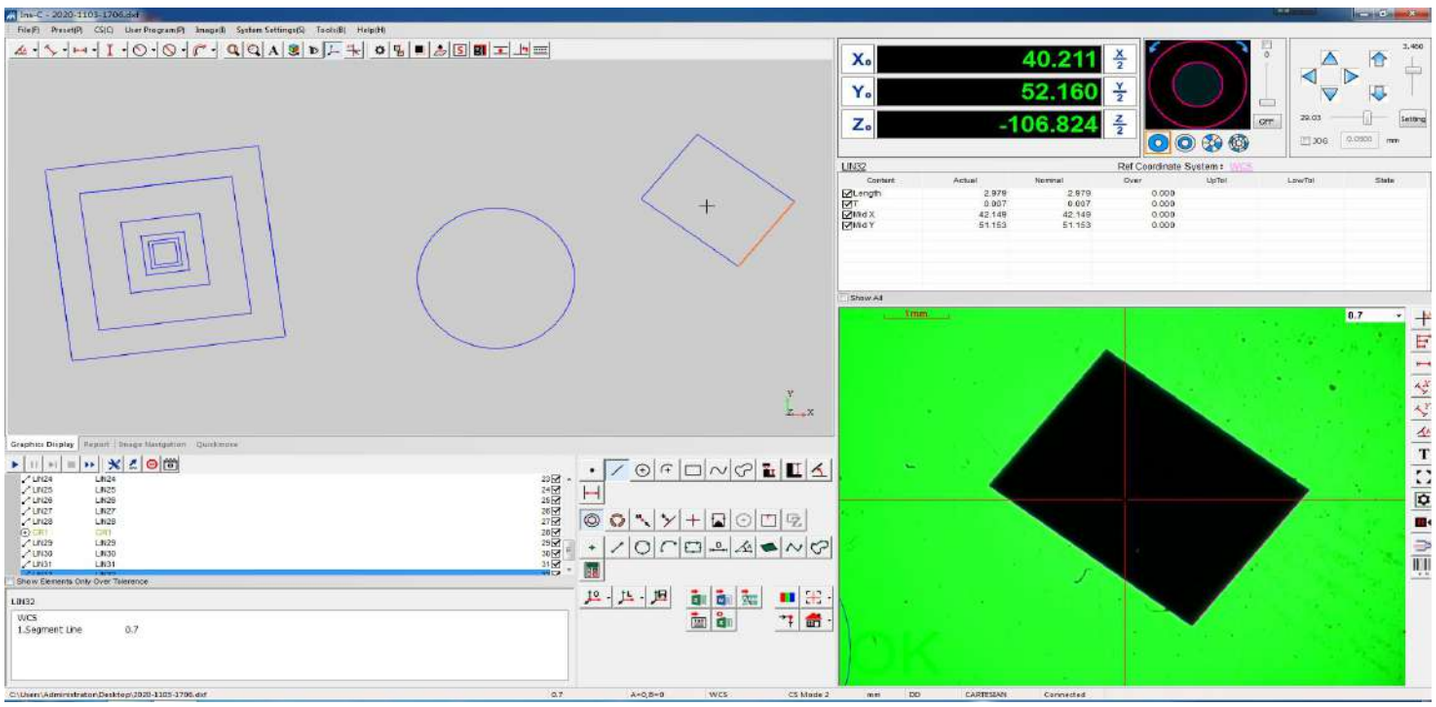


Mikrosize3D Measuring Software

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.

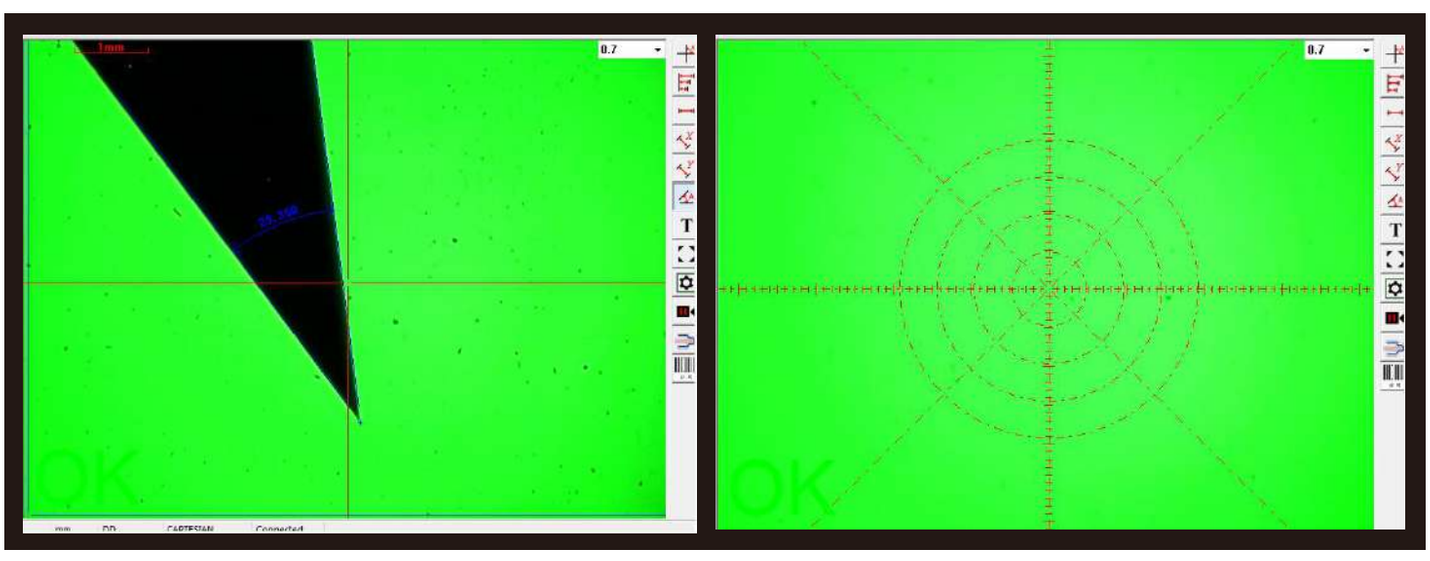
• It is very convenient for coordinate measurement and contour contrast measurement of complex or irregular shapes.



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.



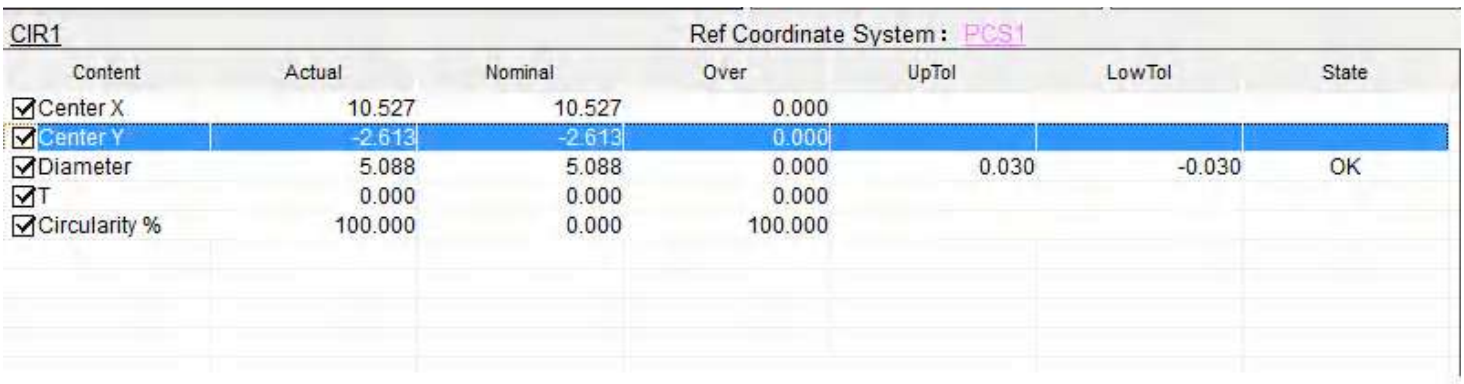
Mikrosize3D Measuring Software

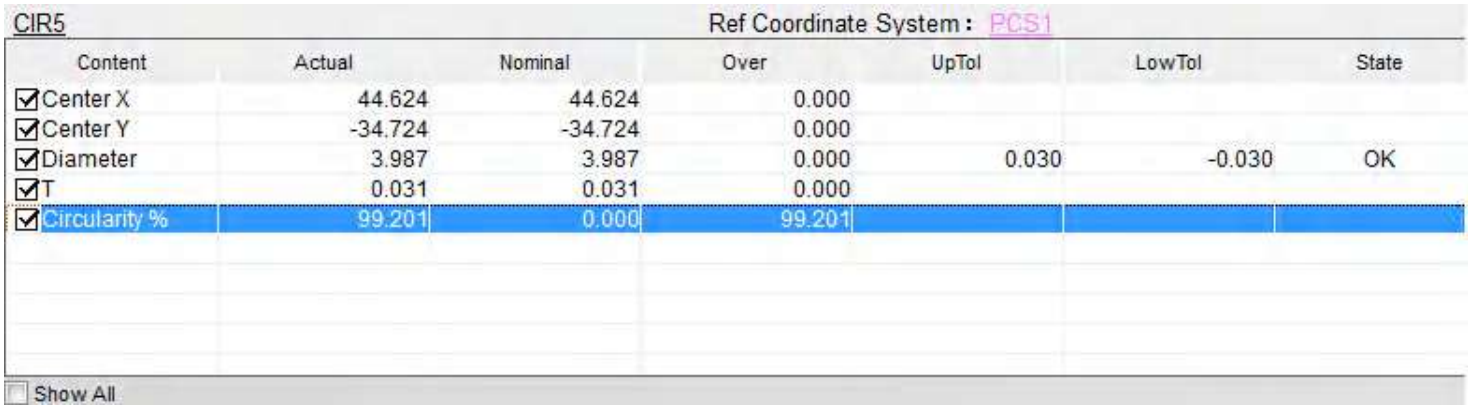
5.Flexible user program

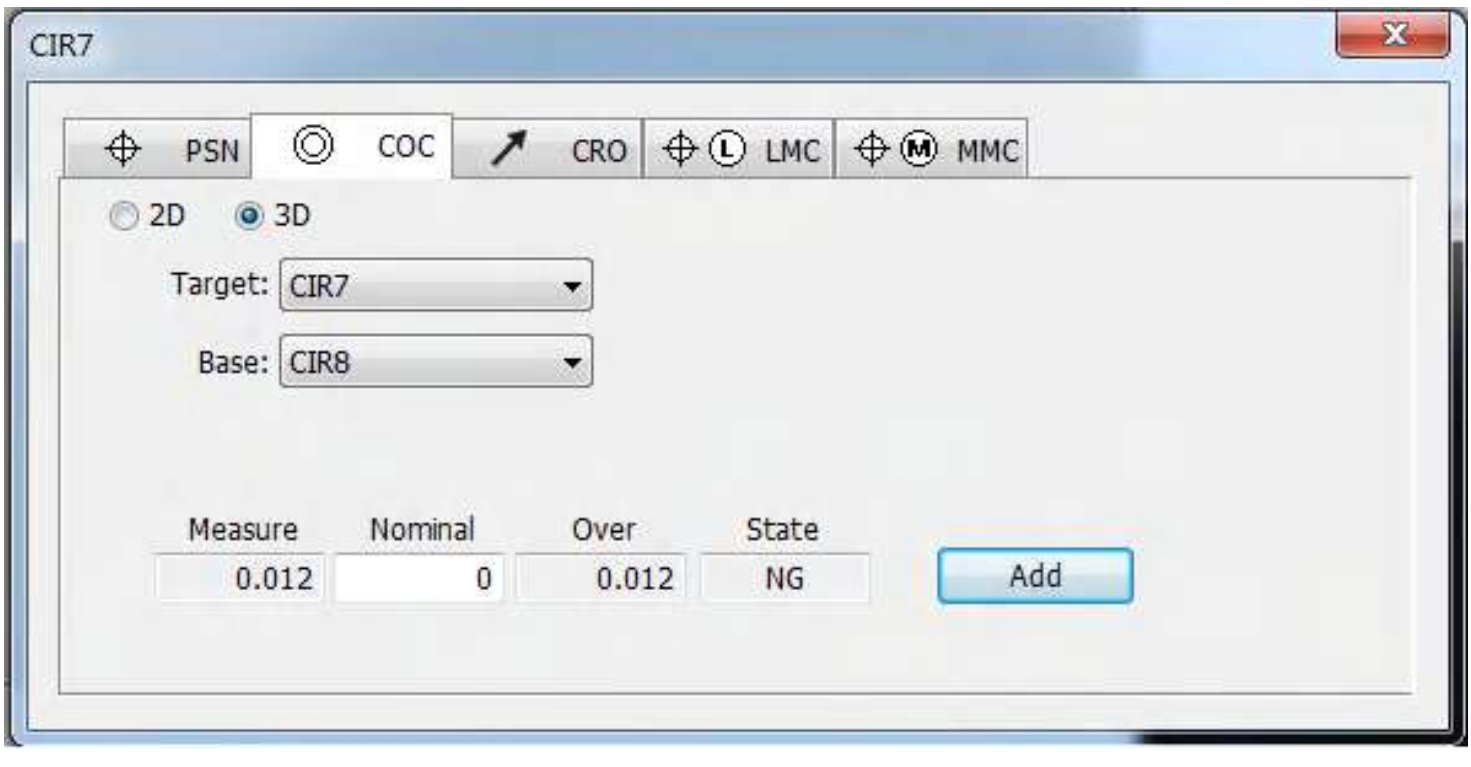
• The software automatically compiles the user program according to the sequence of user measurement steps. And control the program running, stop.
• The user program and each step can be edited, sorted, inserted, deleted , which can adapt to various complex and changeable measurement steps.
• When measuring 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.



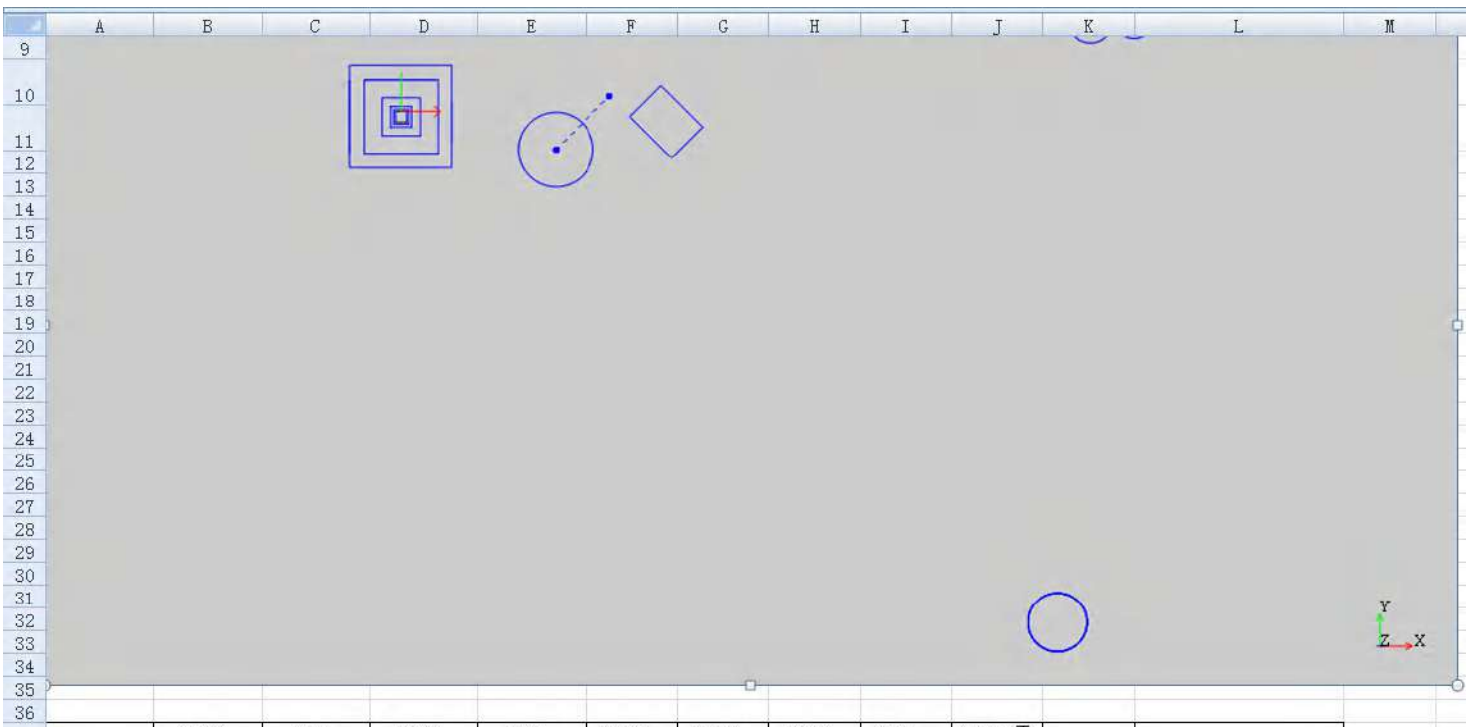




Mikrosize3D Measuring Software

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.

Mikrosize3D Measuring Software

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.