



WE CREATE SYNERGIES

VIDEO MEASURING SYSTEMS

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VMA Manual video measuring machine

DESCRIPTION



- Powerful measuring software with auto tracing-edge function, multi-output report.
- Sub-pixel segmentation technology improves the ability of image boundary resolution.
- The surface cold light source can be used to measure the complex workpieces.
- With laser pointer, easy to find the specific location of the measured workpiece.
- Stable granite workbench with "00" Grade.
- German made high precision polish rod and bearing.
- High resolution video system.
- Renishaw measuring probe is optional for simple 3D purpose.

Technical features

Product name	Manual video measuring system			
2.5D model	VMA-2010	VMA-3020	VMA-4030	VMA-5040
3D model	VMA-2010P	VMA-3020P	VMA-4030P	VMA-5040P
X - Y axes travel distance	200 x 100 mm	300 x 200 mm	400 x 300 mm	500 x 400 mm
Z axis travel distance	200 mm			
Dimensions	600 x 500 x 920 mm	750 x 520 x 980 mm	1000 x 620 x 990 mm	1100 x 950 x 1660 mm
Net weight	120 kg	150 kg	180 kg	360 kg
X - Y axes accuracy	2.5+L/100 μm			
Loading weight of working stage	25 kg			
Image sensor	TEO 1/3" colorful CCD camera			
Objective lens	Manual position zoom lens			
Video total magnification	Optic zoom lens: 0.7 ~ 4.5x; Objective lens: 20 ~ 148x			
Resolution	0.5 μm			
Working distance (standard)	92 mm			
Object view	8.1 mm ~ 1.3 mm			
Movement system	X - Y axes: polish rod; Z axis: T-type screw rod			
Data processor	RS-100			
Illumination	Surface: 8-division LED cold light; Contour: adjustable 256-grades LED cold illumination			
Measuring software	Mikrosize			
Working environment	Temperature: 20°C ± 2°C; Temperature variation < 2°C/hr; Humidity: 30 - 80%			
	Vibration < 0.002 g, 15 Hz			
Power source	AC 100 ~ 220 V, 50/60 Hz, 10 A			
Packing List				
Mainframe / Dell PC system	Zoom lens 0.7 - 4.5x		LED light source	
RS-100 data processor	1/3" CCD camera		Mikrosize measuring software	
Linear scale	Calibration block/Capture card		Instruction manual/Anti-dust cover	
Z axis high precision linear guide rail	100 mm length block (3D)		Renishaw probe (3D)	

VMC CNC Video measuring machine

DESCRIPTION

- CNC fully auto close loop control, auto measurement; integrative design, convenient for measuring.
- 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 1 μm , great stability.
- Manual zoom lens and 1/2" color high resolution CCD camera.
- Programmable 5 ring, 8-division LED surface illumination.
- Contour parallel LED illumination, can realize 256 grade brightness adjustment intelligently.
- Optional touch probe, realize 3D measurement.



Technical features

Product name		CNC automatic video measuring system		
2.5D model		VMC-3020	VMC-4030	VMC-5040
3D model		VMC-3020P	VMC-4030P	VMC-5040P
X - Y axes travel distance		300 x 200 mm	400 x 300 mm	500 x 400 mm
Z axes travel distance		200 mm		
Dimensions		750 x 520 x 980 mm	1000 x 620 x 990 mm	1300 x 750 x 1000 mm
Maximum load capacity		25 kg	25 kg	25 kg
Net weight		240 kg	280 kg	360 kg
X - Y - Z 3-axes linear scale (2.5D)		Resolution: 0.5 μm		
Accuracy		$E1(x/y) = 2.5+L/100 \mu\text{m}$		
Repeatability		$\pm 2 \mu\text{m}$		
Movement system		X - Y - Z axes: screw rod		
Movement control		CNC auto servo movement control		
Video system		TEO 1/2" color CCD camera		
		Manual coaxial zoom lens		
		Optical magnification: 0.7 - 4.5x; Video magnification: 20 - 148x		
		Working distance (standard): 92 mm		
Object view (standard)		11.1 ~ 1.7 mm		
Speed		X - Y axes: 200 mm/s; Z axis: 50 mm/s		
Illumination	Contour	Adjustable 256-grade LED parallel illumination		
	Surface	Adjustable 256-grades 5-ring and 8-division LED cold illumination		
3D measurement		3D module and UK Renishaw touch probe		
Measuring software		Mikrosize		
Working environment		Temperature: 20°C \pm 2°C; Temperature variation < 2°C/hr; Humidity: 30 - 80%		
Power source		AC 100 ~ 220 V, 50/60 Hz, 10 A		
Packing list				
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		100 mm length block (3D)	Renishaw probe MCP-K2 (3D)	

VMU CNC Video measuring machine

DESCRIPTION



- CNC fully auto close loop control, auto measurement; integrative design, convenient for measuring.
- Stable and reliable marble base and pillar, ensuring high measuring speed, accuracy and precision.
- Precision linear guide and grinding ball screw, AC servo motor ensures accuracy.
- High precision linear scale, resolution is 1 μm , great stability.
- Manual zoom lens and 1/2" color high resolution CCD camera.
- Programmable 5-ring, 8-division LED surface illumination .
- Contour parallel LED illumination, can realize 256 grade brightness adjustment intelligently.
- Optional touch probe for 3D measurement.

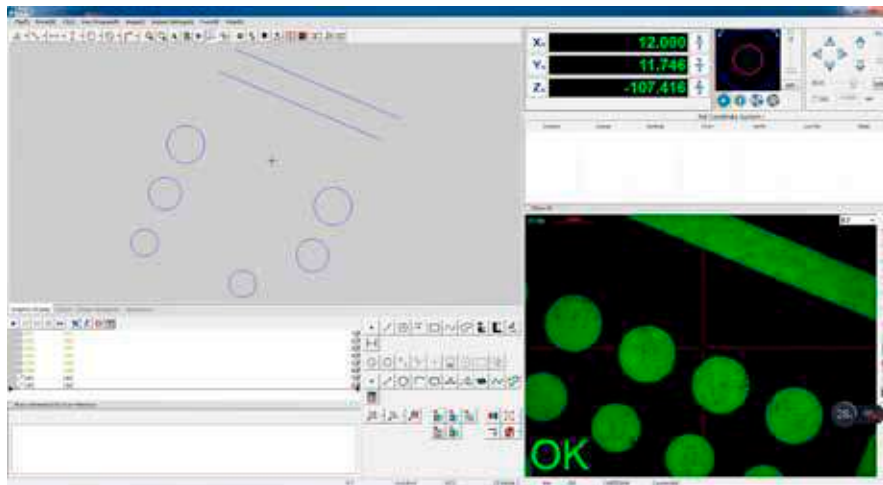
Technical features			
Product name		Fully automatic video measuring system	
2.5D model		VMU-3020	VMU-4030
3D model		VMU-3020P	VMU-4030P
X - Y axes travel distance		300 x 200 mm	400 x 300 mm
Z axis travel distance		200 mm	
Accuracy		$E1(x/y) = 2.5+L/100 \mu\text{m}$	
Video system		TEO 1/2" colorful CCD camera	
		6.5x auto coaxial zoom lens	
		Optical magnification: 0.7 - 4.5x; Video magnification: 20 - 148x	
		Working distance: 92 mm	
Object view (standard)		11.1 ~ 1.7 mm	
Linear scale resolution		0.5 μm	
Movement system		X - Y - Z axes screw rod	
Movement control		CNC auto servo movement control	
Speed		X - Y axes: 200 mm/s; Z axis: 50 mm/s	
Illumination	Contour	Adjustable 256-grade LED parallel illumination	
	Surface	Adjustable 256-grades 5-ring and 8-division LED cold illumination	
3D measurement		3D module and UK Renishaw MCP-K2 touch probe	
Measuring software		Mikrosize	
Maximum load capacity		25 kg	25 kg
Dimensions		750 x 520 x 980 mm	1000 x 620 x 990 mm
Net weight		240 kg	280 kg
Working environment		Temperature: 20°C \pm 2°C; Temperature variation < 2°C/hr; Humidity: 30 - 80%	
Power source		AC 100 ~ 220 V, 50/60 Hz, 10 A	
Packing list			
Measuring software		CCD camera / Video capture card	6.5x auto coaxial zoom lens
Mainframe / Dell PC system		Scale transfer / Movement control card	8-division LED illumination
Linear scale / Calibration block		100 mm length block (3D)	Renishaw probe (3D)

MIKROSIZE MEASURING SOFTWARE

Thanks to the Mikrosize 3D software with simple interface, intuitive operation, easy operation and powerful functions, users can complete the measuring task quickly and efficiently.

Simple and friendly interface

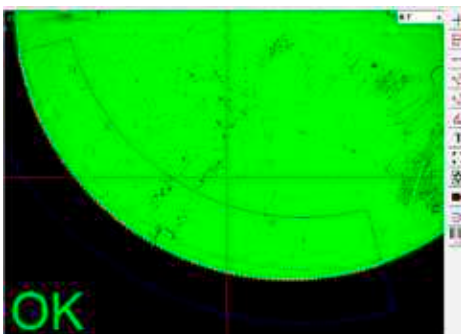
- The common functions are in the main interface, which is easy to get familiar with.
- Users can complete almost all measurement task by simply clicking and dragging the mouse.



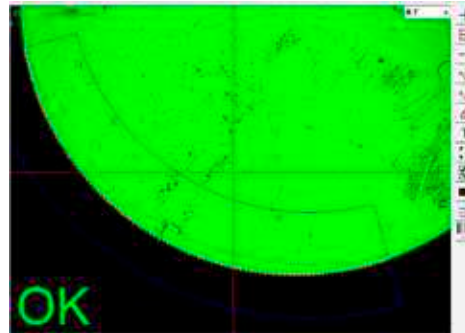
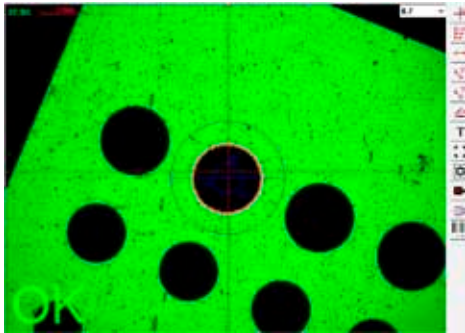
POWERFUL GEOMETRIC MEASUREMENT FUNCTION

Complete geometric measurement function

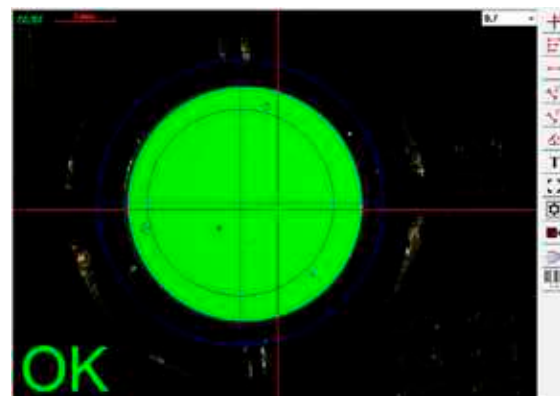
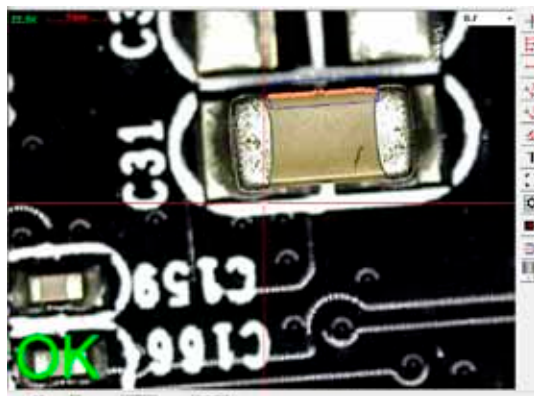
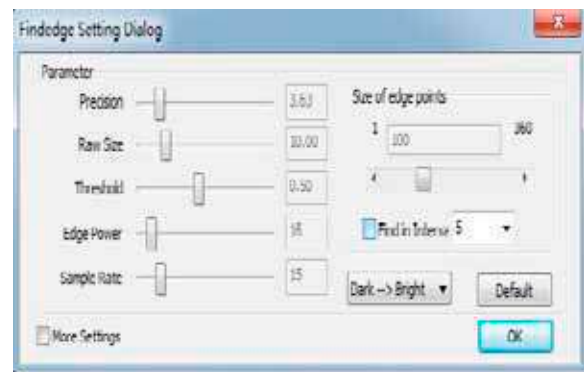
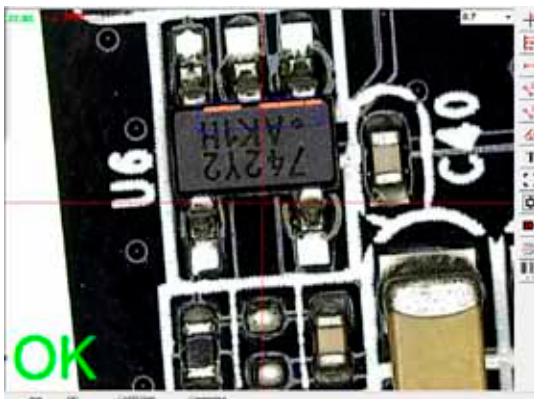
- Measurement of points, lines, arcs, circles, rectangles, ellipses, bond length (waist features), open curves, closed curves, planes, cylinders, cones, balls and other geometric elements.
- When a probe or laser displacement sensor is added to the z-axis, 3D graphic elements such as cylinder, cone, 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.



MIKROSIZE MEASURING SOFTWARE



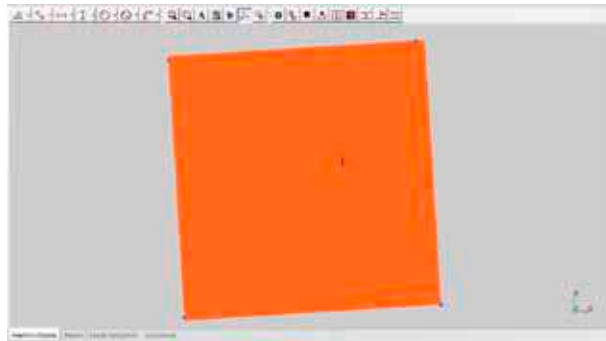
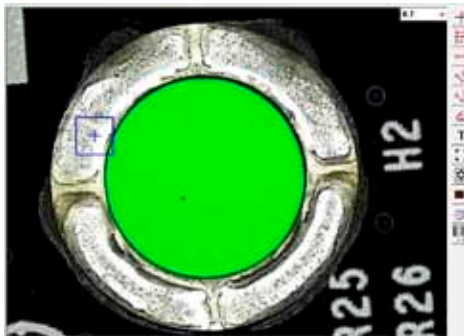
- It can grasp the weak edge, set the edge searching direction arbitrarily, avoid the edge selection error, set the edge searching parameters flexibly, and remove the influence of the rough edge.



MIKROSIZE MEASURING SOFTWARE

AUTO FOCUS FUNCTION AND FOCUS MEASUREMENT FUNCTION

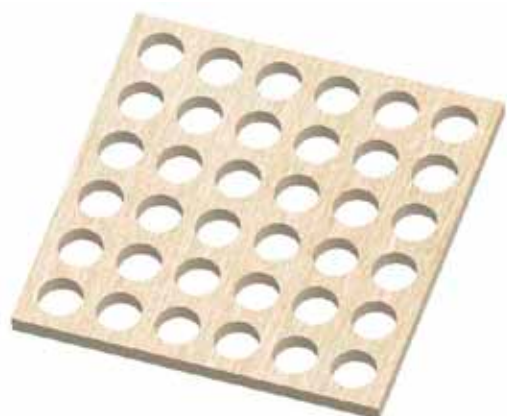
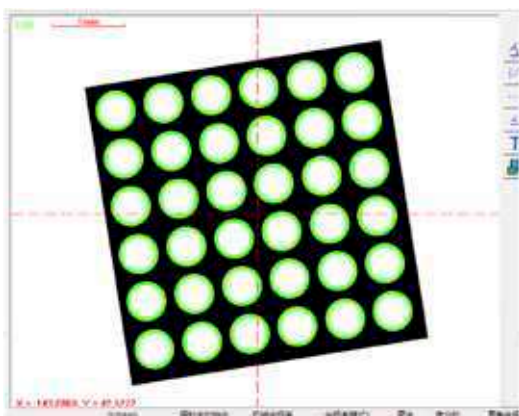
- The software can automatically determine whether the focus is the clearest or not. This function can also be used to measure height and flatness.



FAST RESPONSE TO MEASUREMENT OF COMPLEX SHAPE WORKPIECE AND MASS WORKPIECE (SPECIAL FUNCTION OF AUTOMATIC MACHINE)

Translational array measurement of elements

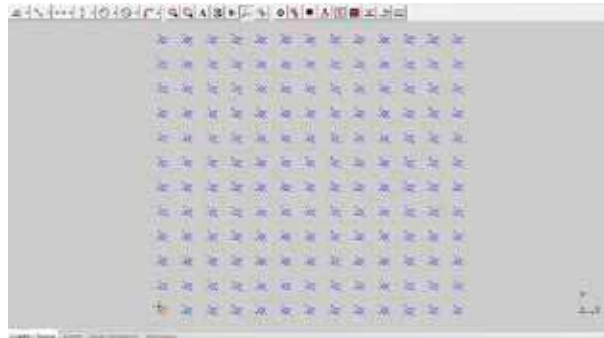
- For equidistant elements series, only one element needs to be measured manually, and then all elements can be measured automatically through the translation array function, which is very convenient to measure array features.



MIKROSIZE MEASURING SOFTWARE

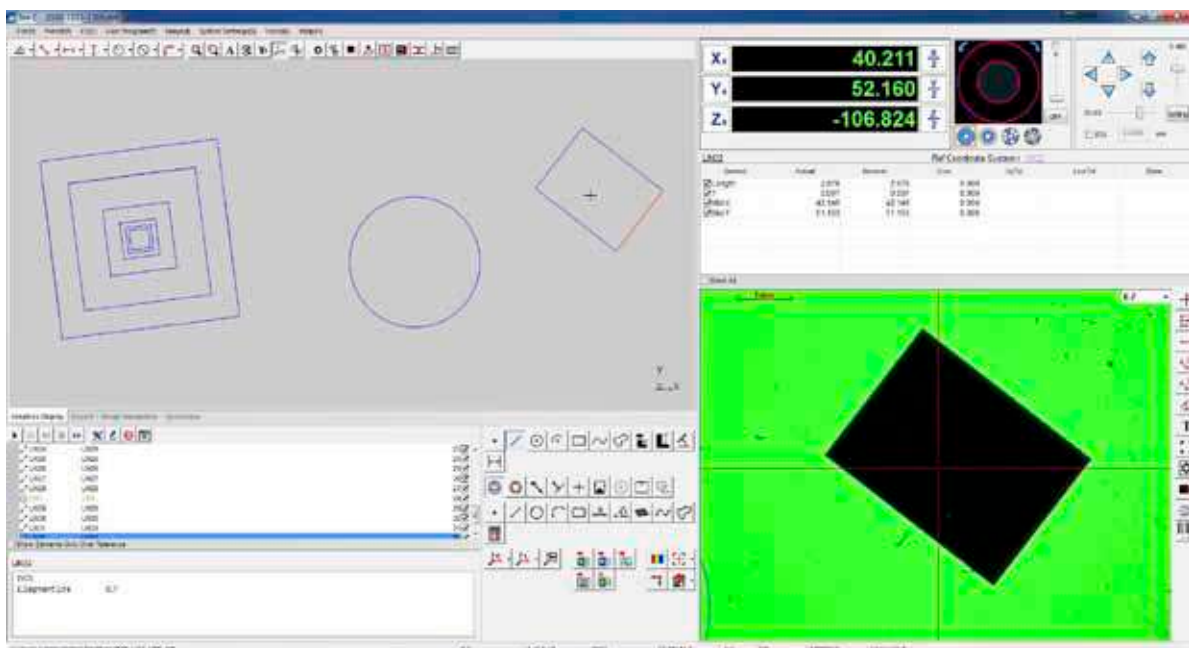
Workpiece array and macro array measurement (special function of automatic machine)

- 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 macro array function.
- Both a single fixture and multiple fixtures can deal with it at the same time. It can save time and improve measurement efficiency.



Import CAD drawing measurement function

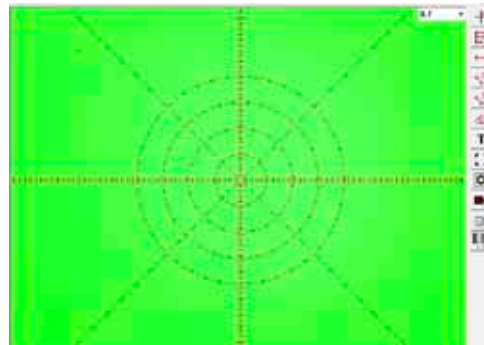
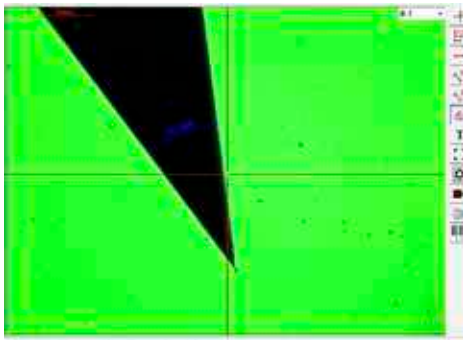
- The dimension drawing can be done directly by CAD software, and the automatic measurement can be realized after importing the software; there is no need to collect points for edge searching.
- It is very convenient for coordinate measurement and contour contrast measurement of complex or irregular shapes.



MIKROSIZE MEASURING SOFTWARE

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.



FLEXIBLE USER PROGRAM

- The software automatically compiles the user program according to the sequence of user measurement steps, and control the program running and stop.
- The user program and each step can be edited, sorted, inserted, deleted, so that it can adapt to various complex and changeable measurement steps.
- When measuring a large number of workpieces, only one edge measurement is needed.



MIKROSIZE MEASURING SOFTWARE

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.

CIR1		Ref Coordinate System : PCS1				
Content	Actual	Nominal	Over	UpTol	LowTol	State
<input checked="" type="checkbox"/> Center X	10.527	10.527	0.000			
<input checked="" type="checkbox"/> Center Y	-2.613	-2.613	0.000			
<input checked="" type="checkbox"/> Diameter	5.088	5.088	0.000	0.030	-0.030	OK
<input checked="" type="checkbox"/> T	0.000	0.000	0.000			
<input checked="" type="checkbox"/> Circularity %	100.000	0.000	100.000			

CIR5		Ref Coordinate System : PCS1				
Content	Actual	Nominal	Over	UpTol	LowTol	State
<input checked="" type="checkbox"/> Center X	44.624	44.624	0.000			
<input checked="" type="checkbox"/> Center Y	-34.724	-34.724	0.000			
<input checked="" type="checkbox"/> Diameter	3.987	3.987	0.000	0.030	-0.030	OK
<input checked="" type="checkbox"/> T	0.031	0.031	0.000			
<input checked="" type="checkbox"/> Circularity %	99.201	0.000	99.201			

Show All

CIR7

PSN
 COC
 CRO
 LMC
 MMC

2D
 3D

Target:

Base:

Measure:
 Nominal:
 Over:
 State:

VMQ-100 Instant video measuring system



DESCRIPTION

One-key instant measuring, batch testing

- Measuring sample can be placed randomly without fixture positioning; software can identify and match automatically.
- Unlimited dimension measurement; measurement task can be completed within 1 second.
- CAD drawing import for direct measurement.
- One-time measurement of the same type of measuring sample.

Accurate calculation and high repeatability

- Unique patent technology of edge extraction and lens distortion correction.
- Automatic lighting, greatly improves the repeatability.
- It can be compared with the measurement accuracy and repeatability of traditional video measuring machines.

Easy to operate without training

- Anyone can get started quickly without training.
- Simple interface, intelligent measurement, optimized operation process, real-time operation tips.
- All measurement data can be automatically recorded, statistical analysis can be generated with one key, measurement results can be printed in various file formats or directly printed by printer.

Various function, automatic report

- The software is divided into three functional modes: measurement setting, continuous measurement and statistical analysis.
- Continuous measurement can be used for real-time measurement and it can judge NG / OK without pressing the key, providing 80 tools of extraction and analysis, including feature extraction tools (such as maximum point, center line, arc, peak circle, etc.), auxiliary tools (such as arbitrary point line circle, fitting line, fitting circle, tangent line, inscribed circle, etc.), intelligent annotation tool, geometric tolerance tool, special application tool (such as R angle, etc.).

VMQ-100 Instant video measuring system

Technical features		
Product name	Instant video measuring system	
Dimensions	480 x 240 x 680 mm	
Weight	30 kg	
Working stage capacity	3 kg	
Software	Fom2d	
Camera	5 MegaPixel CCD industrial camera	
Lens	Double telecentric lens	
Illumination	Program controlled parallel light or telecentric parallel light, each section of brightness is controlled independently	
Field of view	30 mm ~ 100 mm	
Focus	Manual	
Measuring accuracy	$\pm 3 \mu\text{m}$	
Measuring function	Point, line, circle, multipoint line, multipoint circle, automatic circle, arc, multisection circle, automatic R angle, contour scanning, fixed point, peak line, circle, etc	
Tagging function	Aligned, vertical, angular, radius / diameter	
Geometrical tolerance	Straightness, roundness, symmetry, profile, etc	
Virtual structure	Center line, bisector, tangent point, tangent point of circle line, circle center, line center, etc	
Automatic template matching	Support	
Report function	SPC analysis report (CPK, CA, PPK, CP, PP)	
Software customization	CAD import profile analysis, automatic management link, APP management application	
Measuring quantity	99 pieces/second	
Template quantity	Unlimited	
Power source	AC 100 ~ 240 V, 50/60 Hz	
Working environment	Temperature: $23^{\circ}\text{C} \pm 2^{\circ}\text{C}$; Humidity: 20 - 80% RH	
Packing list		
Machine mainframe	Dell 24" computer	Mikrosize measuring software
Telecentric lens	High resolution camera	Surface lighting
Calibration block	Power line	Product certificate

VMQ-100 Instant video measuring system

APPLICATIONS

The software can be used in machinery, electronics, mold, injection molding, hardware, rubber, low-voltage electrical appliances, magnetic materials, precision stamping, connectors, terminals, mobile phones, household appliances, printed circuit boards, medical devices, watches, knives and other fields.



Gears



Mobile phones and watches



Semiconductors (film)

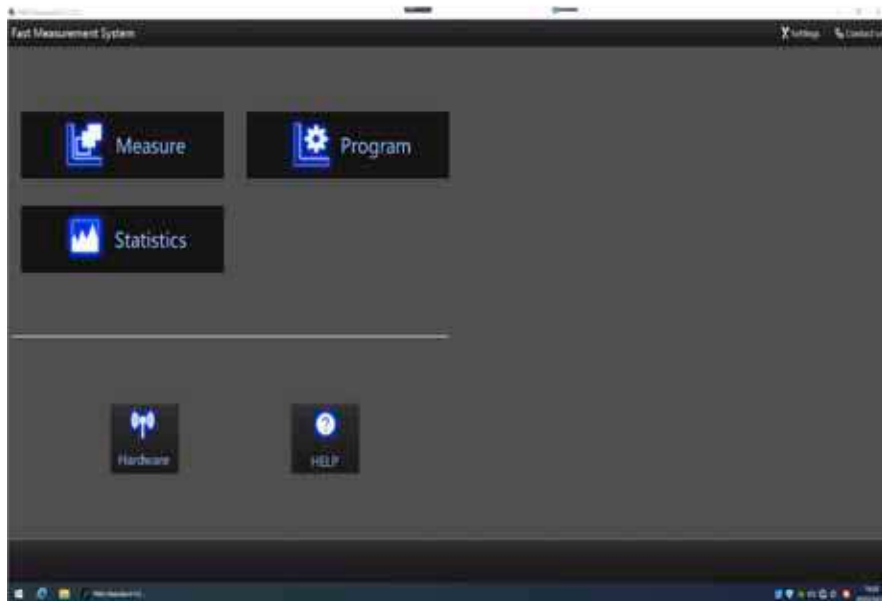


Hardware

VMQ-100 - MIKROSIZE MEASURING SOFTWARE

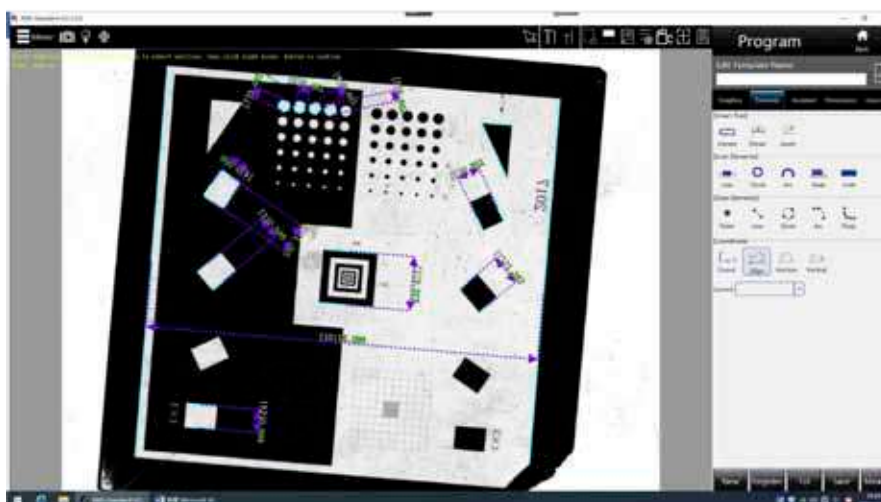
SOFTWARE INTERFACE

Software main interface is divided into three functional modes: measurement setting, continuous measurement and statistical analysis. Simple, easy to use.

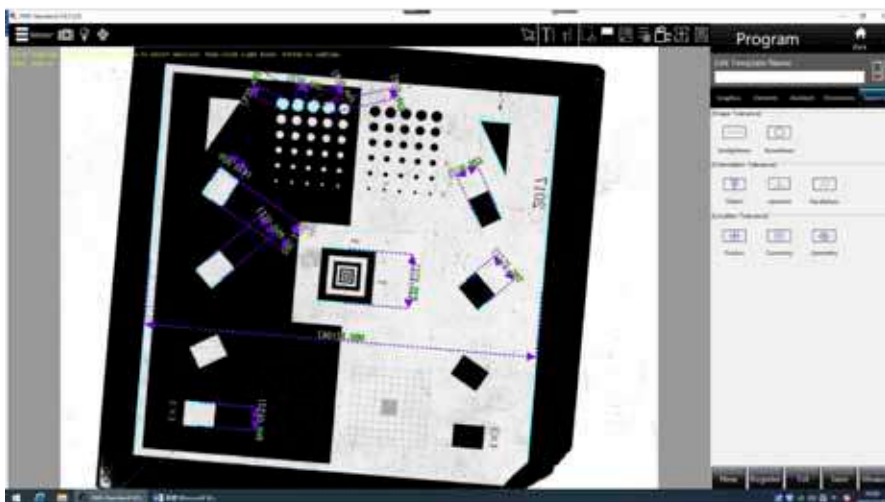
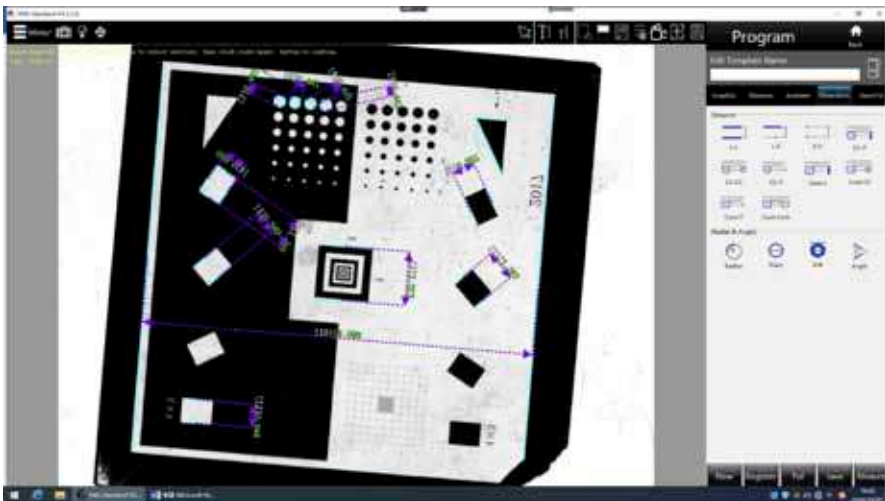
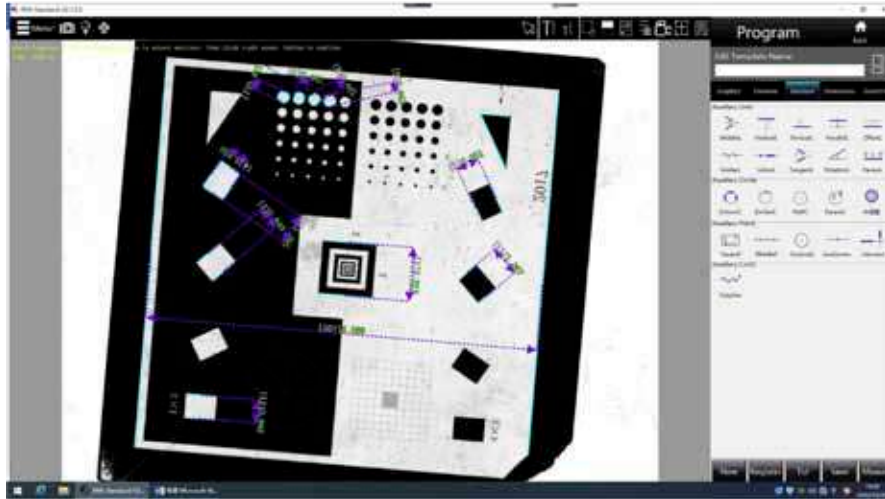


Measurement setting

In this mode, we can quickly extract geometric elements and do dimensioning to complete the measurement setting.



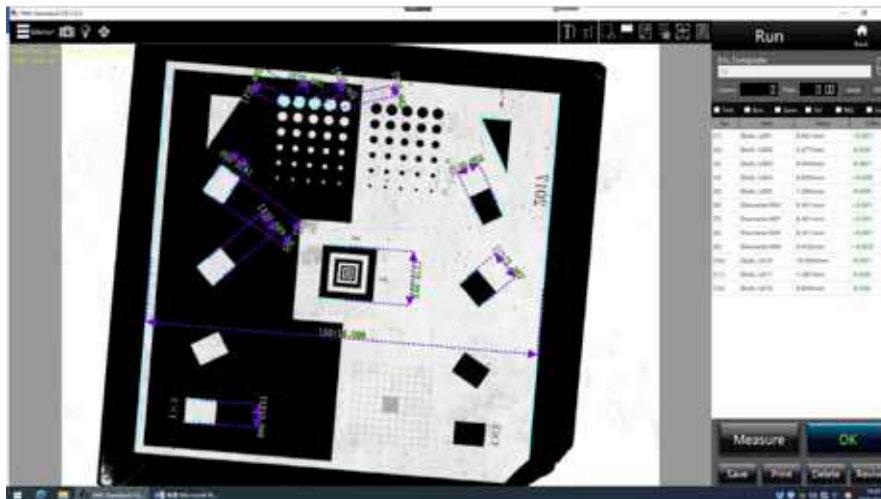
VMQ-100 - MIKROSIZEN MESSTECHNIK



VMQ-100 - MIKROSIE MEASURING SOFTWARE

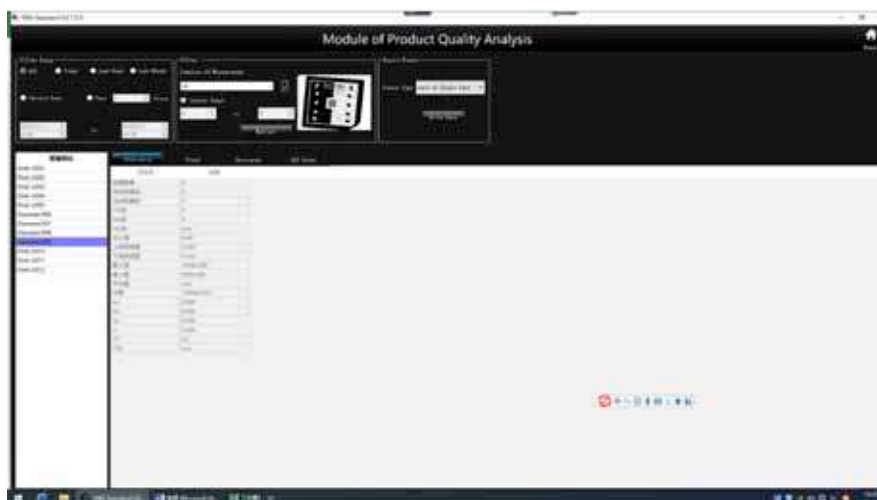
Continuous measurement

After measurement setting, software enters to the continuous measurement mode, which can be doing rapid and accurate batch measurement.



Statistical analysis

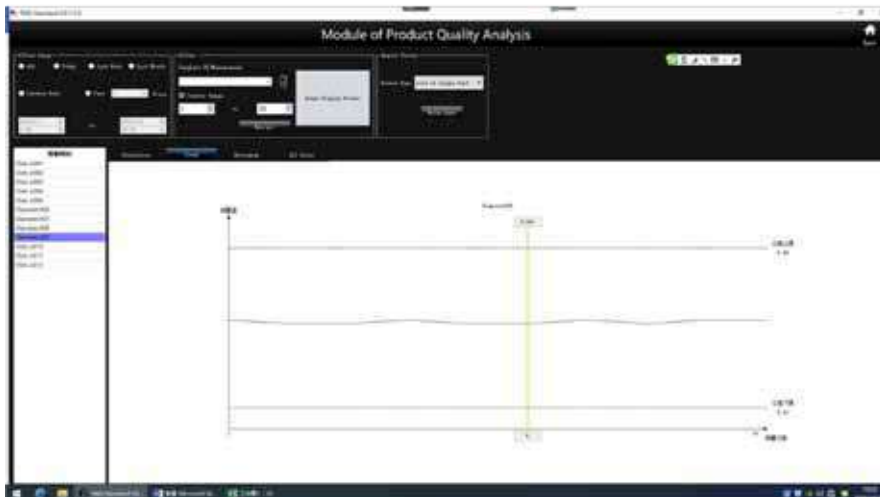
Mikrosie software provides a variety of extraction and analysis tools, the statistical analysis interface has statistical value, trend graph, histogram and data. Measurement results and main statistical information (such as average, σ , 3σ , 6σ , Cpk, etc.) will be automatically recorded and filed. The operator can select different filter conditions to extract history records.



VMQ-100 - MIKROSIZE MEASURING SOFTWARE

PRODUCING PROCESS CONTROL AND IMPROVE PRODUCT QUALITY

The trend graph can monitor the abnormal of producing equipment and producing process through the regular tendency of measured value, such as monotonic change and periodic change of measured value.



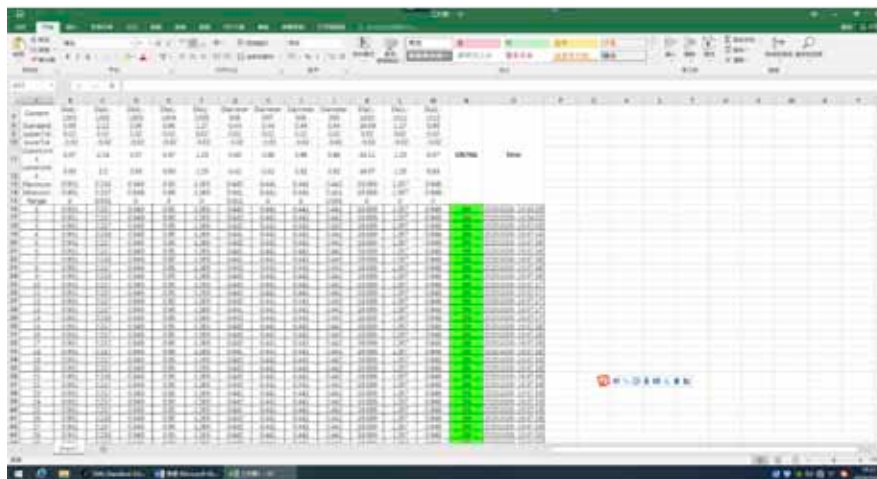
Histogram can reflect the fluctuation and distribution of product quality, and intuitively transfer the information of quality status, which can be used to judge and predict product quality and unqualified rate. By quality diagnosis, SPC uses statistical methods to monitor the change tendency of product quality and producing process. It plays a preventive role in the producing process as to improve the product quality.



VMQ-100 - MIKROSIZE MEASURING SOFTWARE

Test report generated with one key

The test results report and SPC analysis report can be automatically generated with one key.

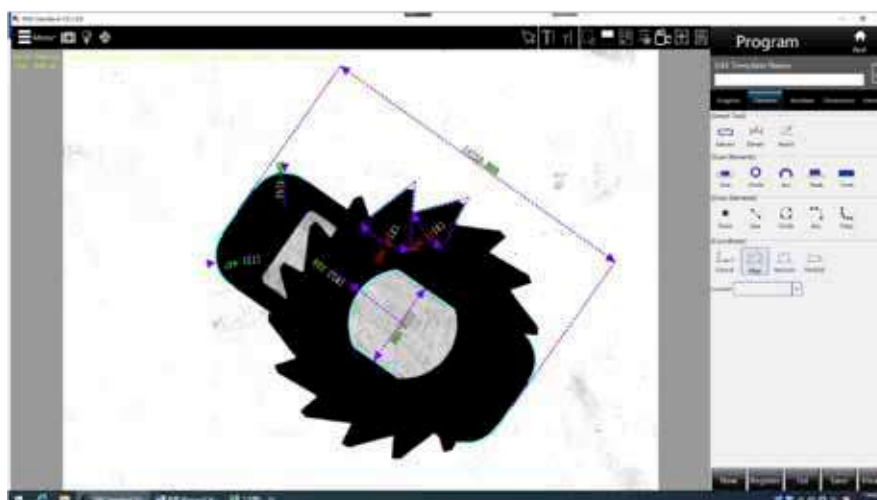


The screenshot displays a software window with a menu bar at the top and a large data table below. The table contains multiple columns of numerical data. A vertical column of cells is highlighted in green. The software interface includes a toolbar with various icons and a status bar at the bottom.

Special function

- INTELLIGENT EXTRACTION FUNCTION:

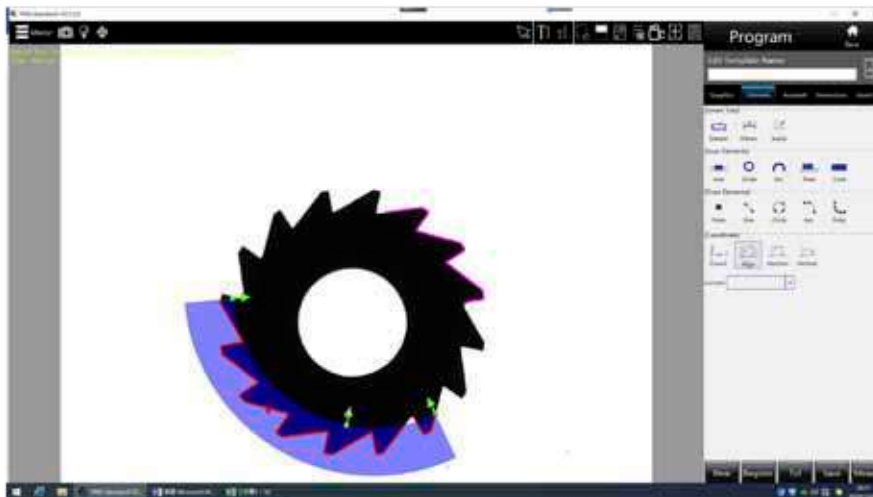
The line, arc and circle can be extracted automatically by mouse clicking the area near the elements to be measured.



VMQ-100 - MIKROSIZE MEASURING SOFTWARE

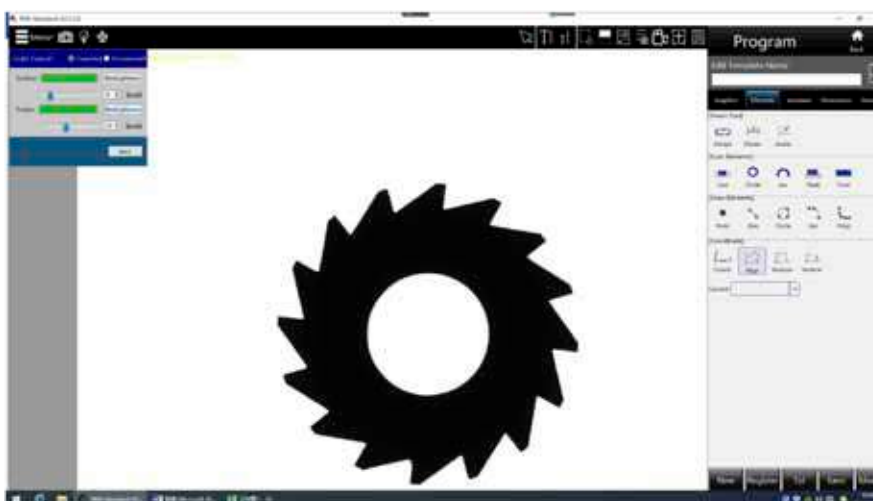
- CONTOUR EXTRACTION FUNCTION:

It provides various methods of contour extraction and contour conversion tools, which can measure irregular objects and small objects.



- AUTOMATIC LIGHTING:

When a single lighting unit, falling lighting or projection lighting, is used, the software can automatically and quickly determine the best illumination brightness (within 5 seconds).



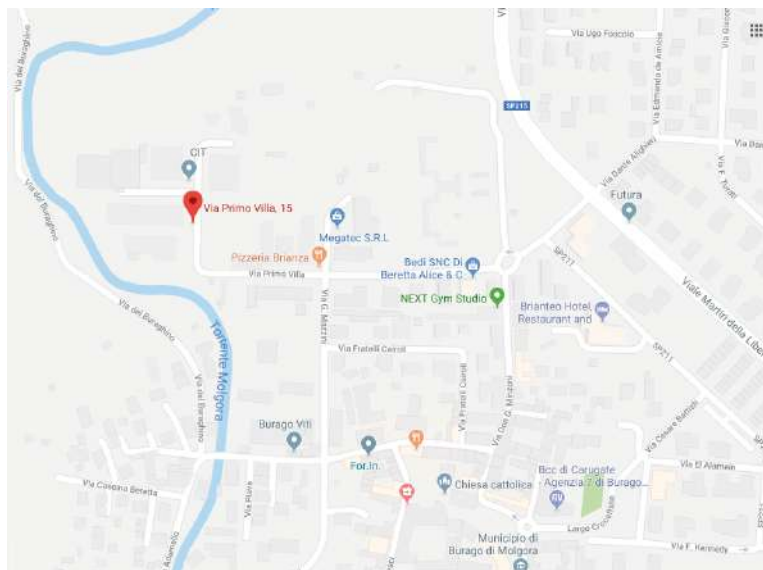
VMQ-100 - MIKROSIZE MEASURING SOFTWARE

- QUICK MODULE SEARCH:

For the measurement of a large number of different spare parts, the software can automatically find out the corresponding measurement program (within 0.1s) from the measurement module pool after placing a spare part.



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