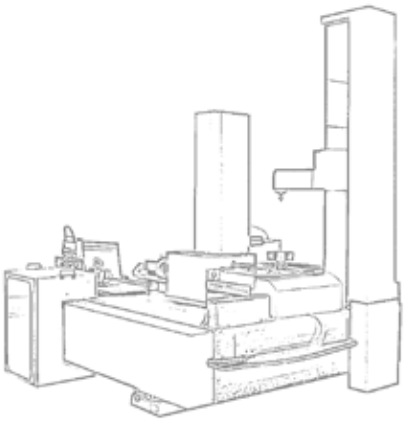
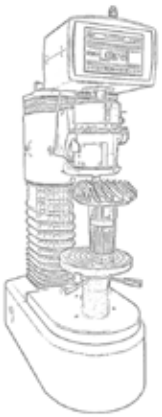
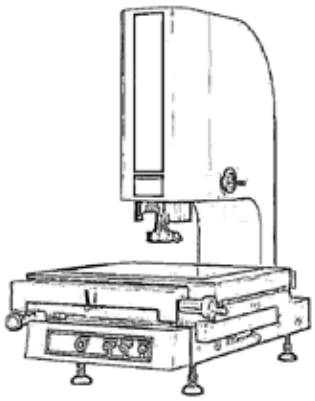
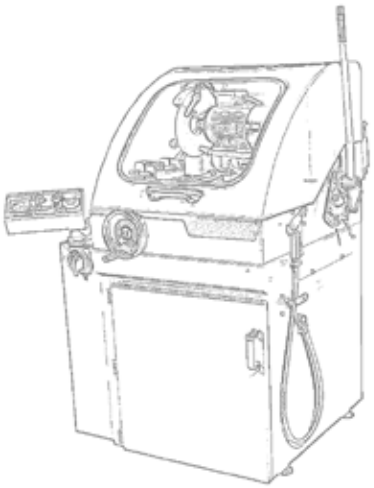
CRASE

VIDEO MEASURING SYSTEMS









kiwa
ISO 9001

www.crase.com

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)	Renihshaw 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 µm		
Repeatability		± 2 µm		
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 ± 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	VMU-5040
3D model		VMU-3020P	VMU-4030P	VMU-5040P
X - Y axes travel distance		300 x 200 mm	400 x 300 mm	500 x 400 mm
Z axis travel distance		200 mm		
Accuracy		E1(x/y) = 2.5+L/100 µm		
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	25 kg
Dimensions		750 x 520 x 980 mm	1000 x 620 x 990 mm	1300 x 750 x 1000 mm
Net weight		240 kg	280 kg	360 kg
Working environment		Temperature: 20°C ± 2°C; Temperature variation < 2°C/hr; Humidity: 30 - 80%		
Power source		AC 100 ~ 220 V, 50/60 Hz, 10 A		

Packing list

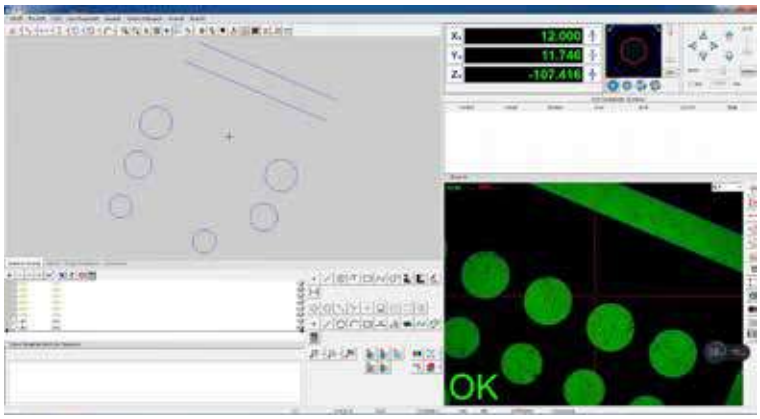
Measuring software	CCD camera / Video capture card	6.5x auto coaxial zoom lens
Mainframe / Dell PC system	Scale transfer / Movement control card	8-division LED illumination
Linear scale / Calibration block	100 mm length block (3D)	Renishaw probe (3D)

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

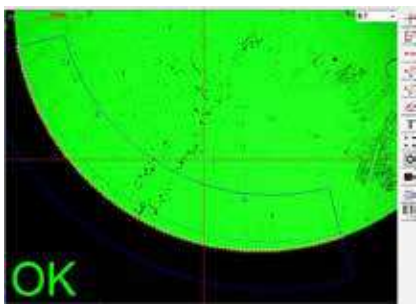
• The common functions are in the main interface, which is easy to get familiar with.
• Users can complete almost all measurement task by simply clicking and dragging the mouse.



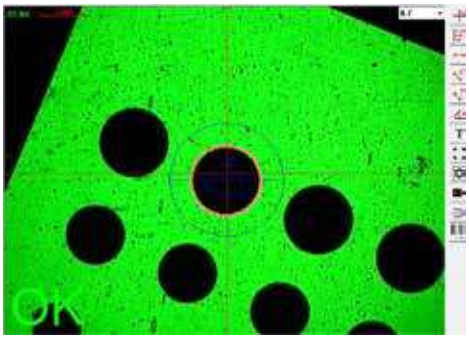
POWERFUL GEOMETRIC MEASUREMENT FUNCTION

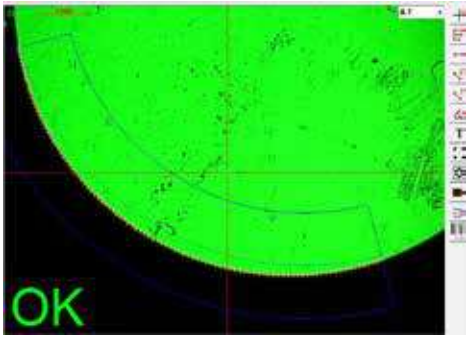
Complete geometric measurement function

• 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.

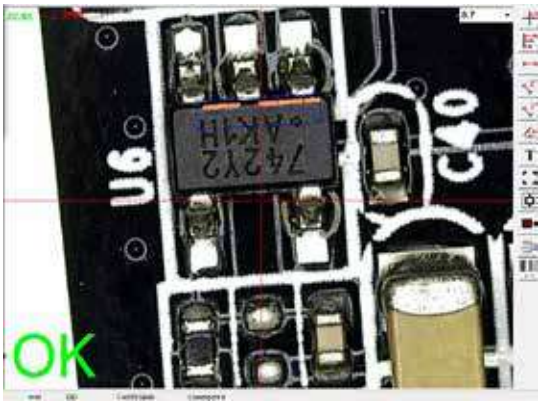


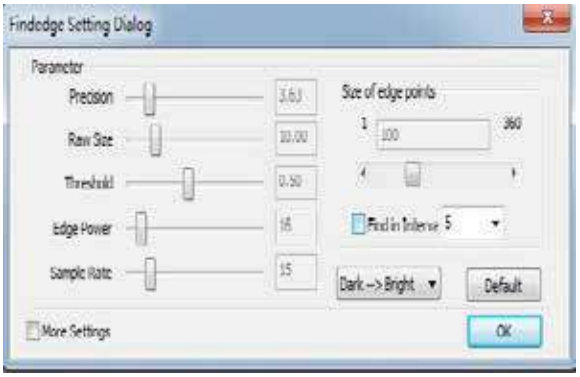
MIKROSIZE MEASURING SOFTWARE

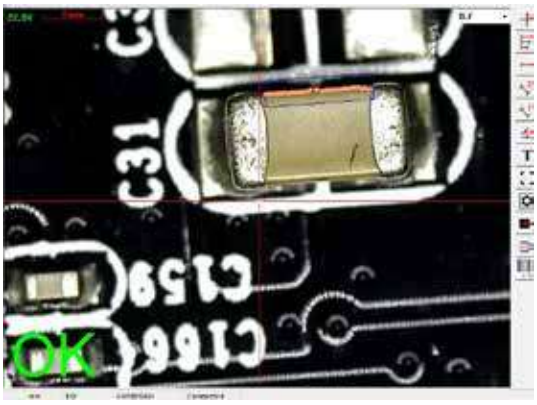


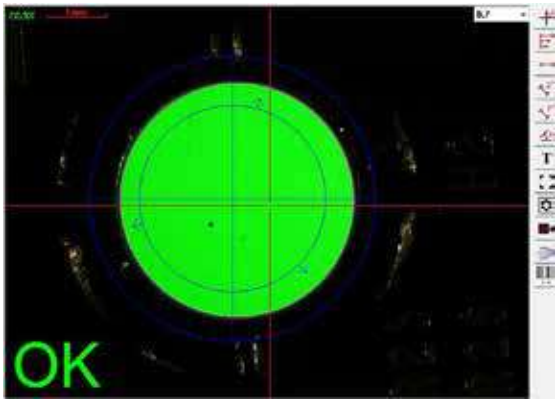


• It can grasp the weak edge, set the edge searching direction arbitrarily, avoid the edge selection error, set the edge searching parameters flexibly, and remove the influence of the rough edge.



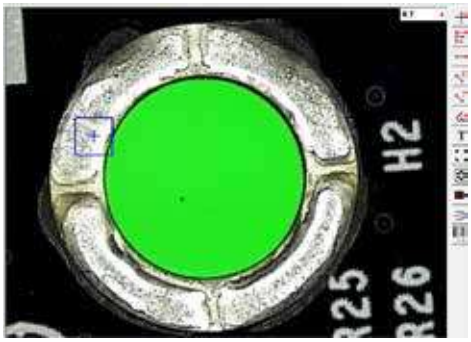


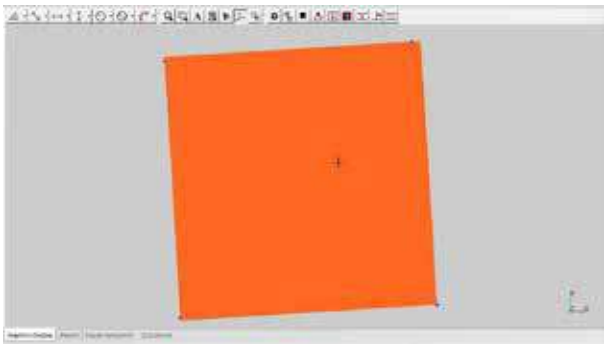




AUTO FOCUS FUNCTION AND FOCUS MEASUREMENT FUNCTION

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

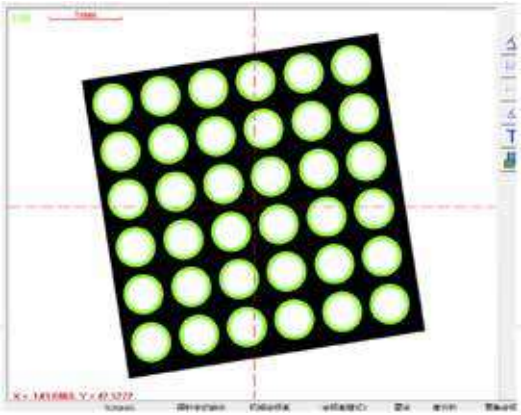


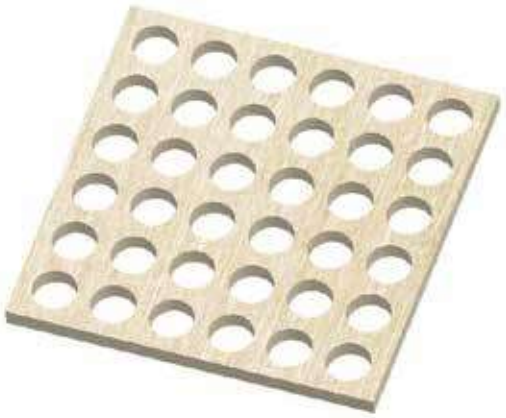


FAST RESPONSE TO MEASUREMENT OF COMPLEX SHAPE WORKPIECE AND MASS WORKPIECE (SPECIAL FUNCTION OF AUTOMATIC MACHINE)

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.

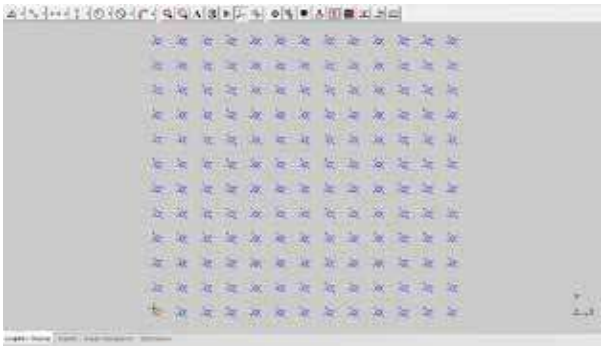




Workpiece array and macro array measurement
(special function of automatic machine)

• 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.

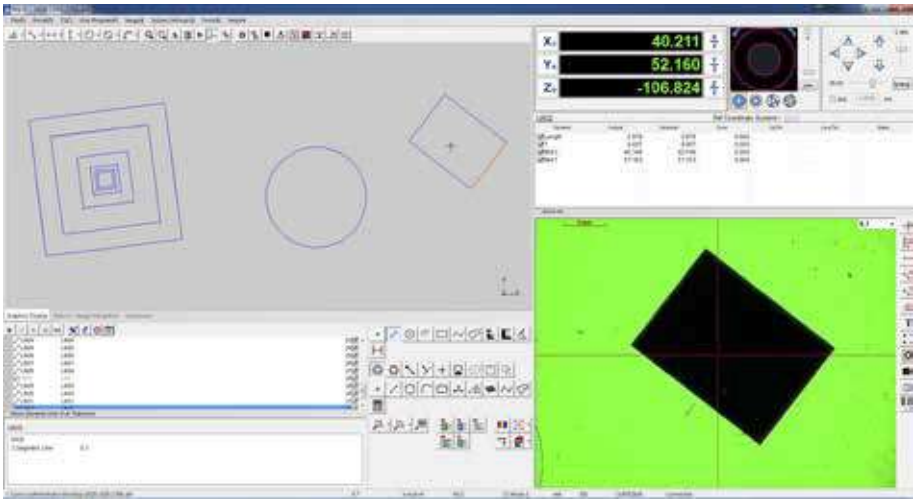
• Both a single fixture and multiple fixtures can deal with it at the same time. It can save time and improve measurement efficiency.



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.

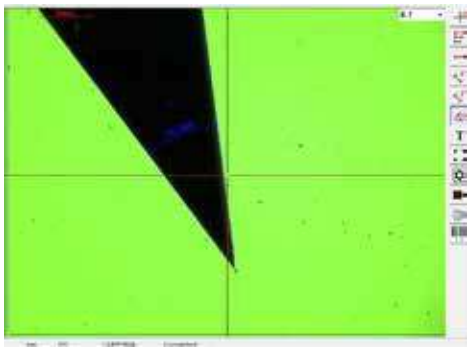
• It is very convenient for coordinate measurement and contour contrast measurement of complex or irregular shapes.

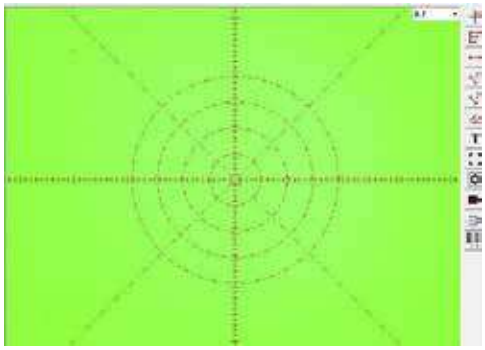


Comparative measurement function

• 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.

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.

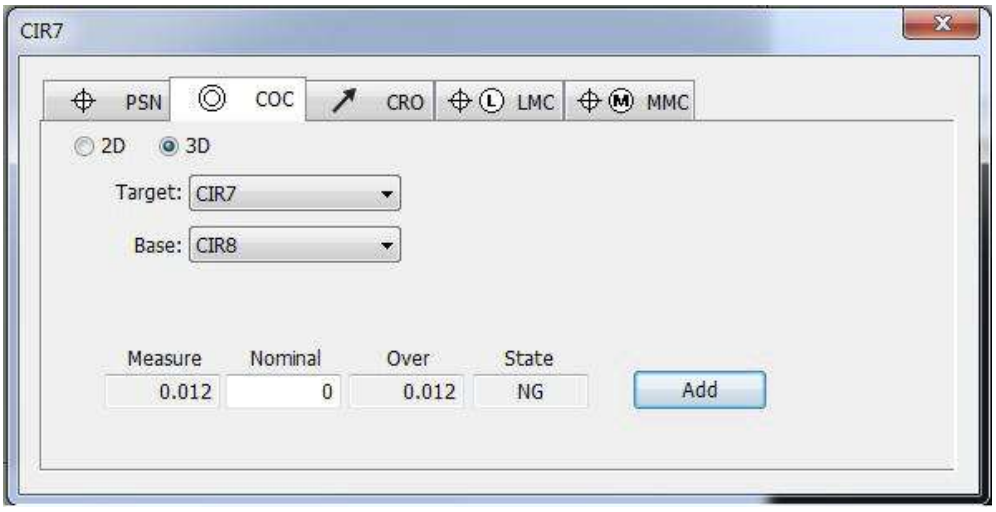
CIR1 Ref Coordinate System : PCS1

Content	Actual	Nominal	Over	UpTol	LowTol	State
Center X	10.527	10.527	0.000			
Center Y	-2.613	-2.613	0.000			
Diameter	5.088	5.088	0.000	0.030	-0.030	OK
T	0.000	0.000	0.000			
Circularity %	100.000	0.000	100.000			

CIR5 Ref Coordinate System : PCS1

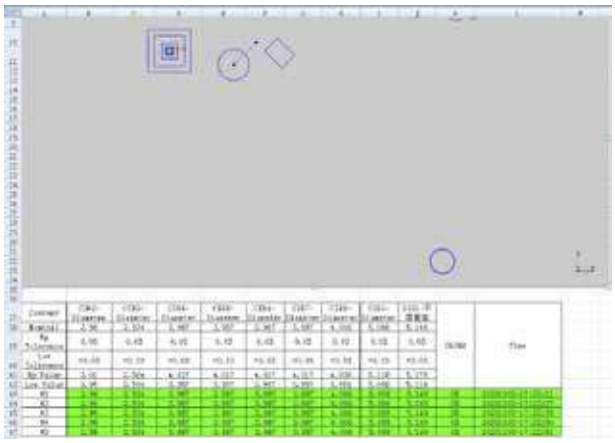
Content	Actual	Nominal	Over	UpTol	LowTol	State
Center X	44.624	44.624	0.000			
Center Y	-34.724	-34.724	0.000			
Diameter	3.987	3.987	0.000	0.030	-0.030	OK
T	0.031	0.031	0.000			
Circularity %	99.201	0.000	99.201			

Show All

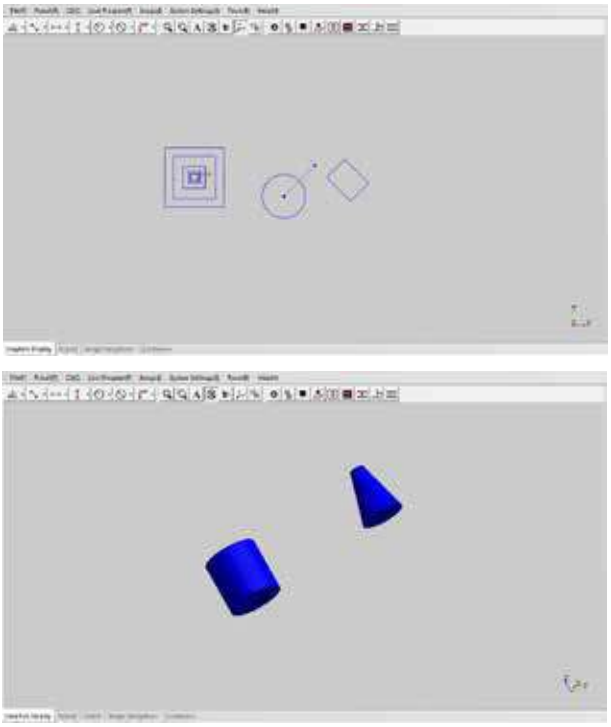


DIVERSIFIED DATA REPORT AND GRAPHIC DATA EXPORT FUNCTION

• 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.



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



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.

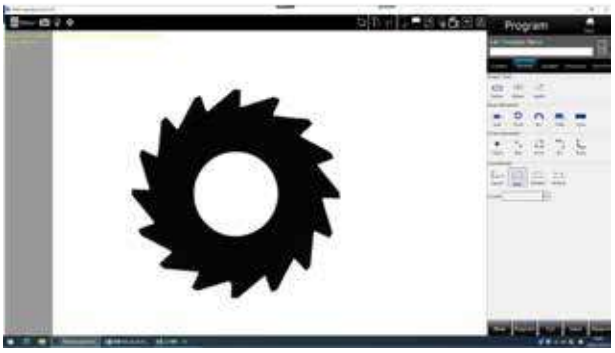
• Continuous measurement can be used for real-time measurement and it can judge NG / OK without pressing the key, providing 80 tools of extraction and analysis , including feature extraction tools (such as maximum point, center line, arc, peak circle, etc.), auxiliary tools (such as arbitrary point line 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

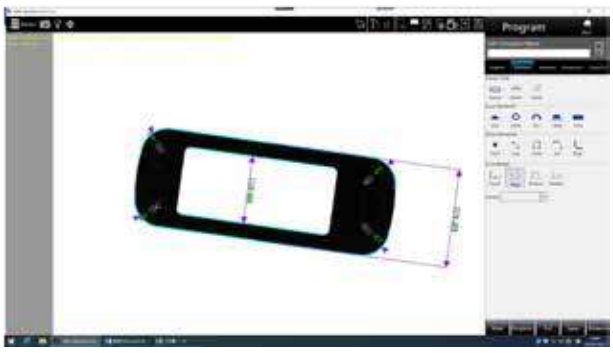
Technical features		
Product name	**Instant video measuring system**	
Dimensions	480 x 240 x 680 mm	
Weight	30 kg	
Working stage capacity	3 kg	
Software	Fom2d	
Camera	5 MegaPixel CCD industrial camera	
Lens	Double telecentric lens	
Illumination	Program controlled parallel light or telecentric parallel light, each section of brightness is controlled independently	
Field of view	30 mm ~ 100 mm	
Focus	Manual	
Measuring accuracy	± 3 µm	
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°C ± 2°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

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.

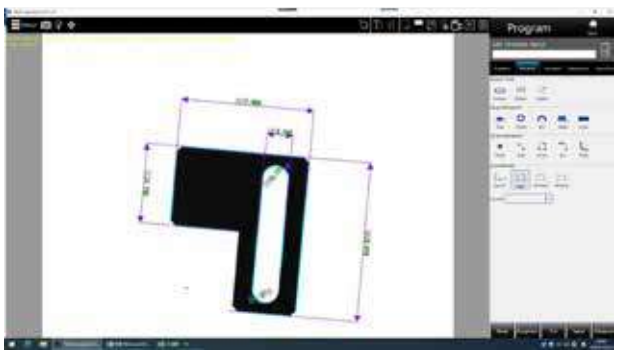


Gears



Mobile phones and watches

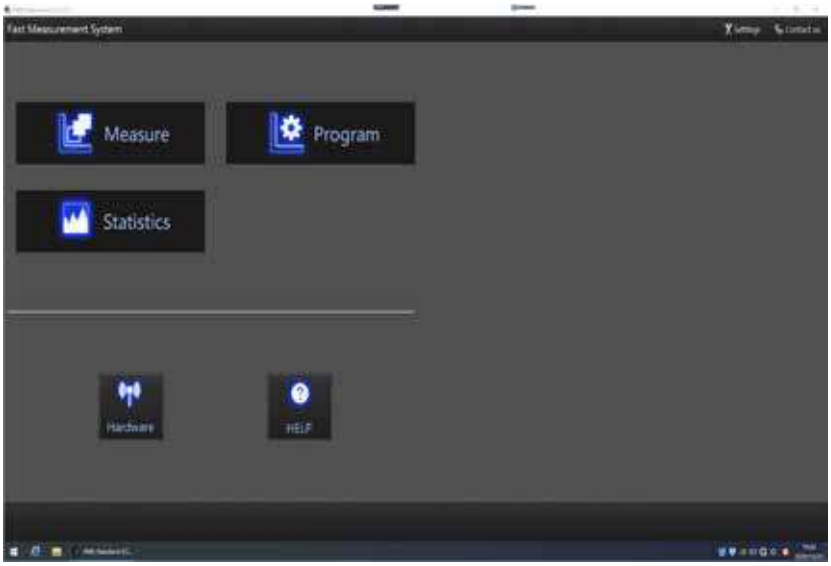
Semiconductors (film)



Hardware

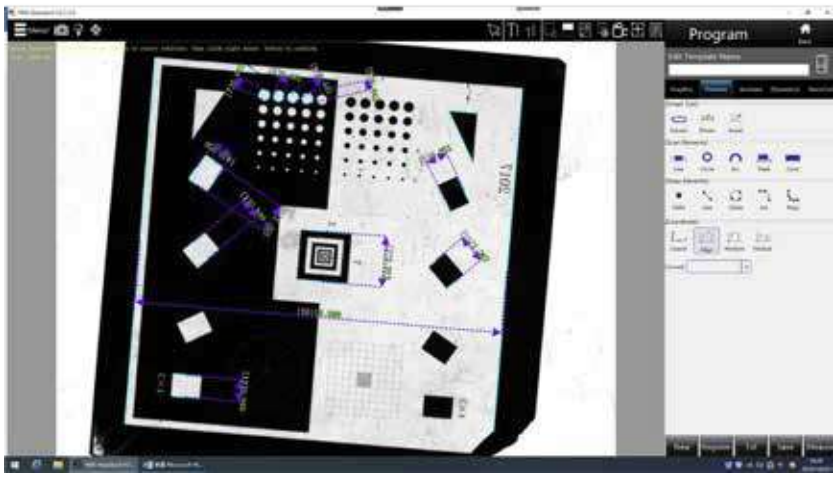
SOFTWARE INTERFACE

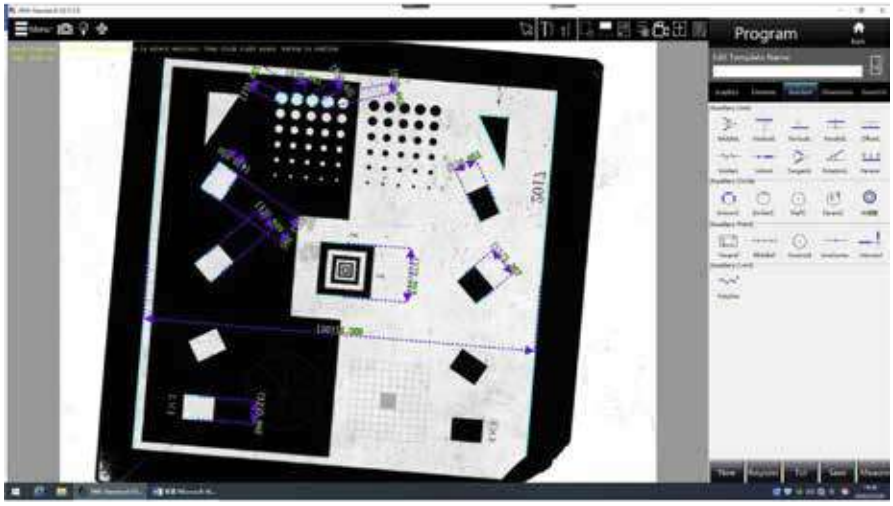
Software main interface is divided into three functional modes: measurement setting, continuous measurement and statistical analysis. Simple, easy to use.

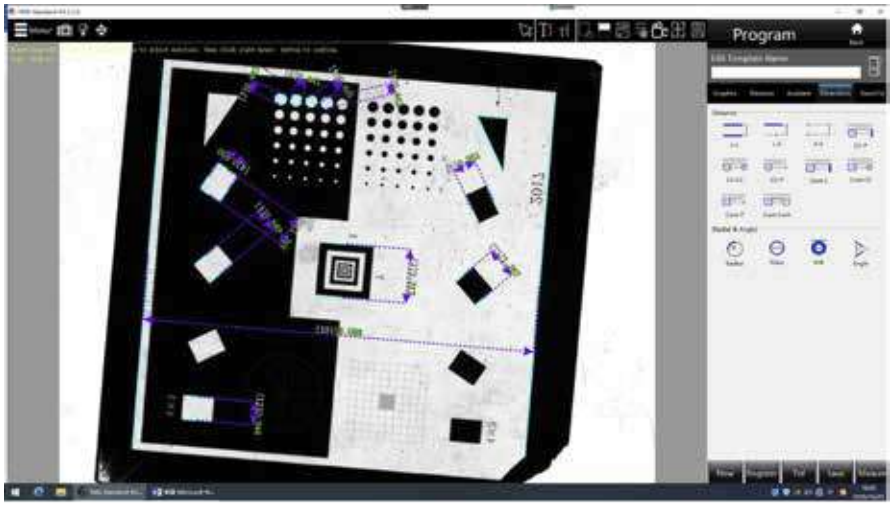


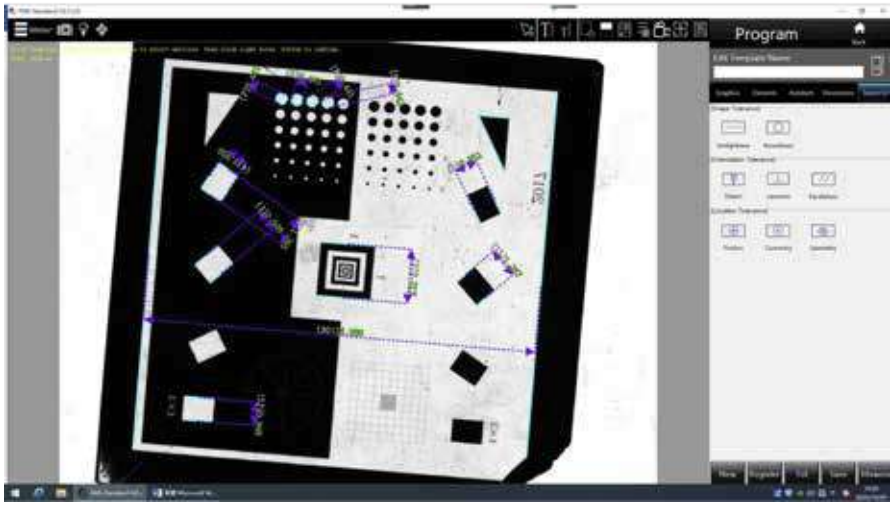
Measurement setting

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



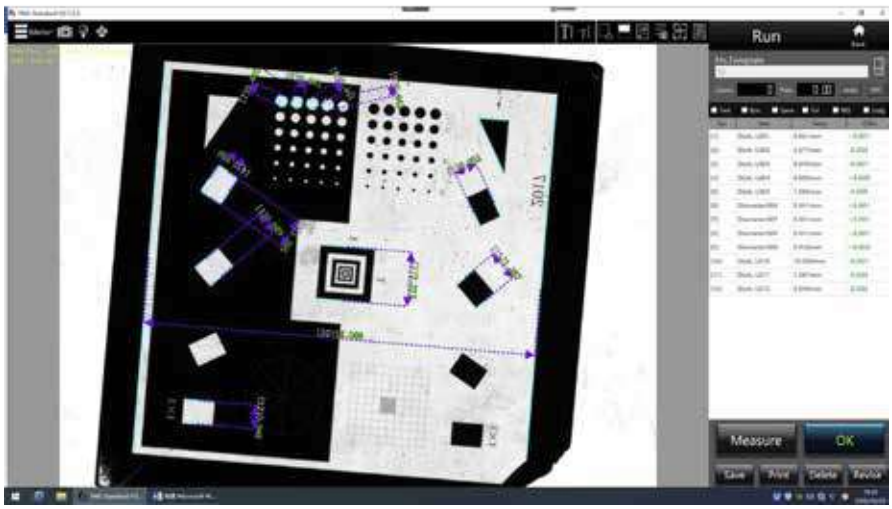

Program


Program


Program

Continuous measurement

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

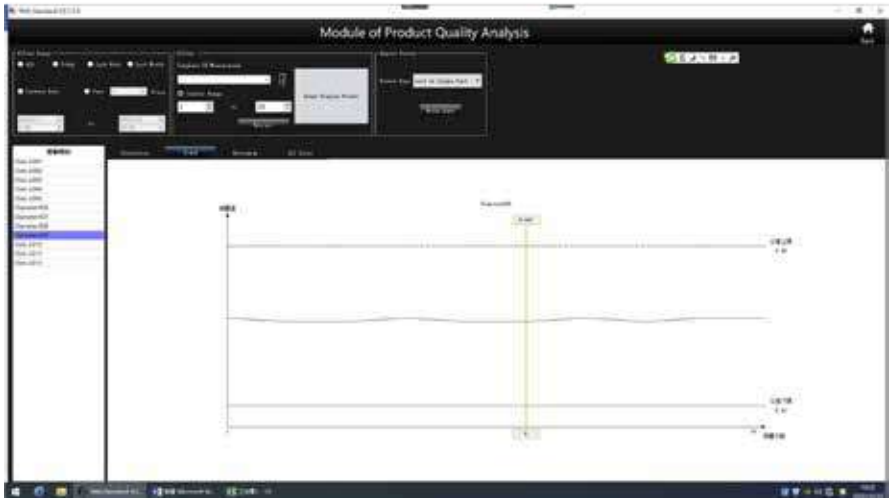


Statistical analysis

Mikrosize 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.

PRODUCING PROCESS CONTROL AND IMPROVE PRODUCT QUALITY

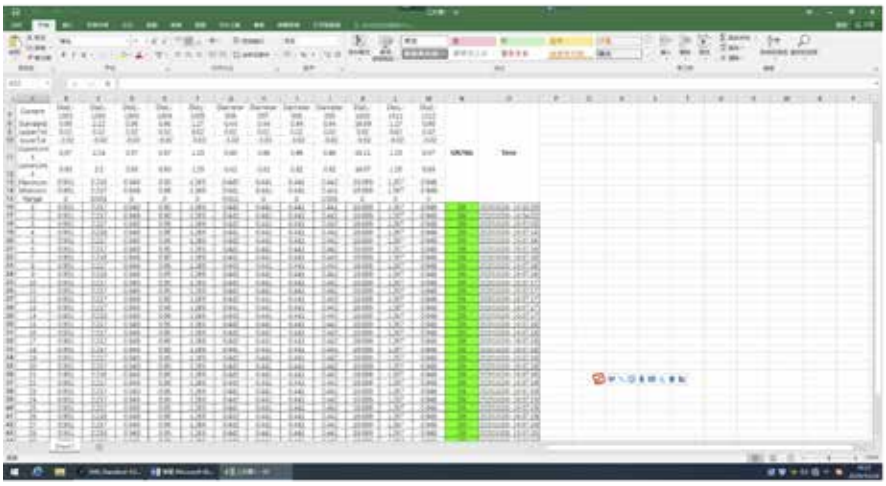
The trend graph can monitor the abnormal of producing equipment and producing process through the regular tendency of measured value, such as monotonic change and periodic change of measured value.



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.

Test report generated with one key

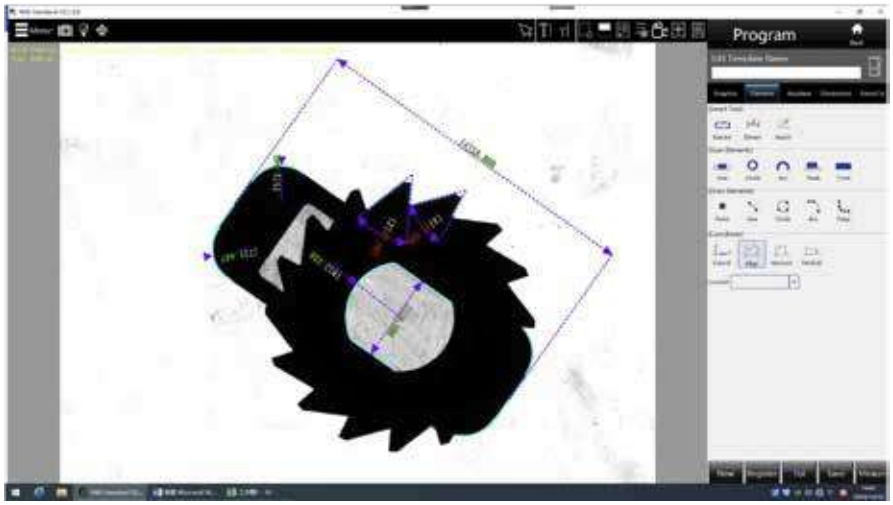
The test results report and SPC analysis report can be automatically generated with one key.



Special function

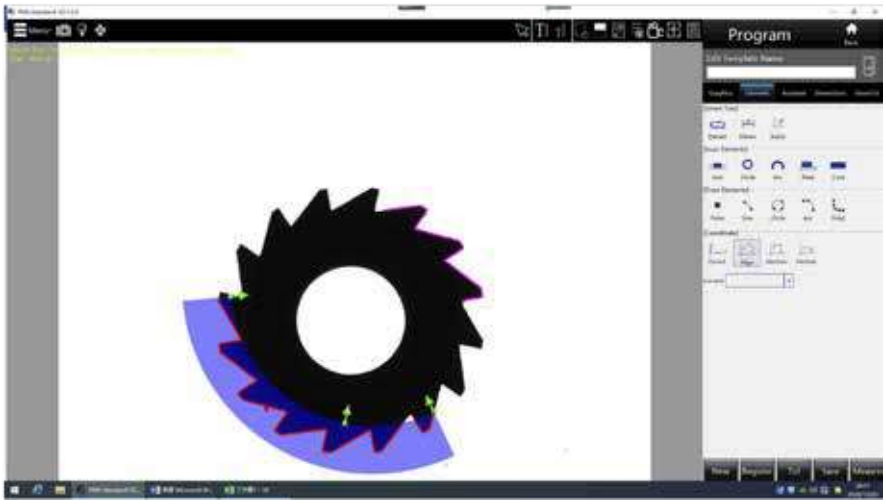
• INTELLIGENT EXTRACTION FUNCTION:

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



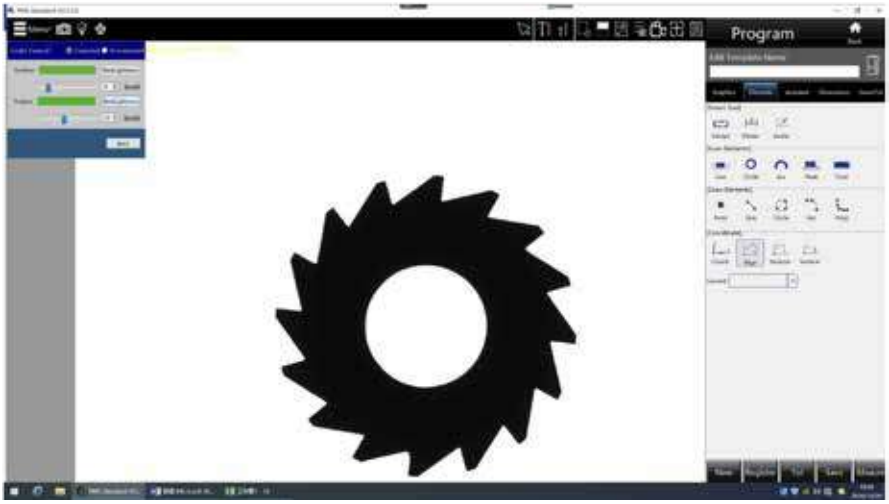
• CONTOUR EXTRACTION FUNCTION:

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).



• 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.

CONTACTS

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