

**CARMAR ACCURACY CO., LTD.**

Hundreds sizes

Instant detection



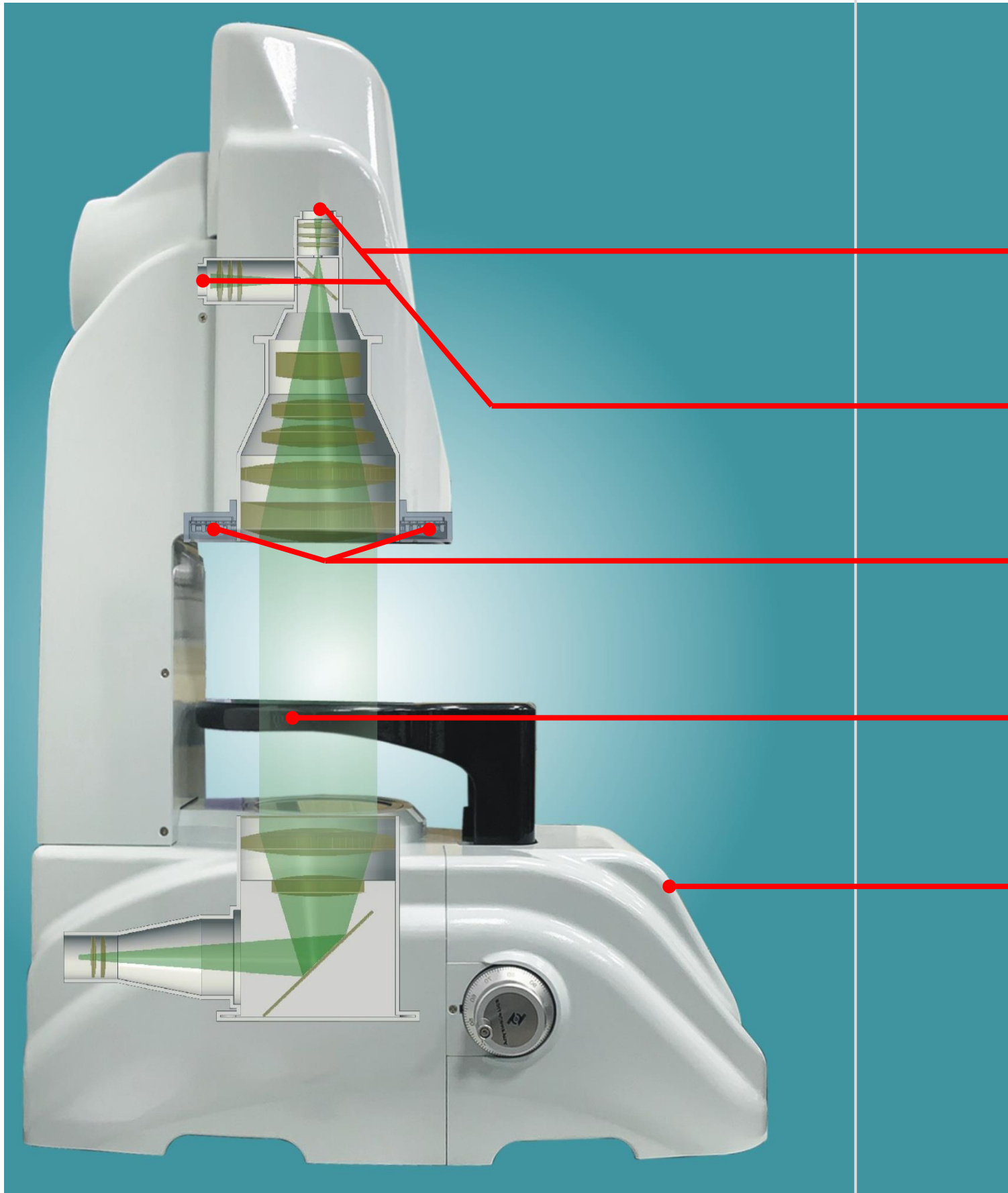
CARMAR ACCURACY CO., LTD.  
ADD : 台中市南屯區工業23路6號  
E-mail : carmar.tech@msa.hinet.net

TEL:886-4-23592289(台灣)  
FAX:886-4-23598060  
<http://www.carmar-tech.com>



Randomly Place → Auto Measuring

# Auto measuring without a click



## Artificial Intelligence

Automatically detect whether to replace the workpiece, to achieve keyless measurement

## With large and small field of view

Choose the appropriate measurement field of view for workpieces of different sizes

## variable ring lighting

Adjust the lighting angle, no dead angle in plane measurement

## High-speed lifting platform

The maximum load is 3 kg, with auto focus function

## One-click measurement

Put the object under test and complete the measurement with one key

## Time to use

- Incoming material
- Experiment batch inspection



It is used when you receive the materials. When an abnormality is detected, we can ask to return or exchange the product, so as to avoid the use of inferior products and cause product abnormalities.



Products are tested during trial production, and mass production is carried out only when a process that meets product specifications to avoid waste of raw materials.

- Sampling in mass production
- Pre-shipment inspection



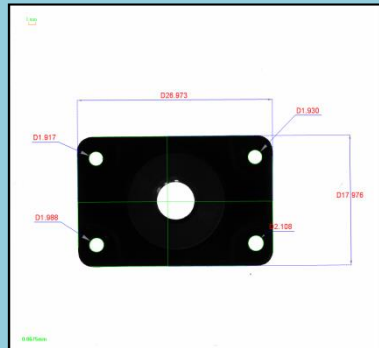
In the process of mass production, process parameters need to be adjusted as time progresses, and the results of random inspection can assist in fine-tuning process parameters.



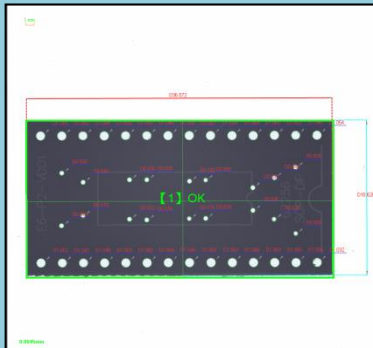
In order to ensure the quality of shipments, it can be equipped with a robotic arm to inspect all products to improve the yield of good products.

## Applications

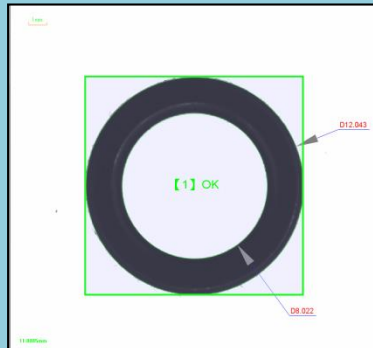
- Plastic injection parts



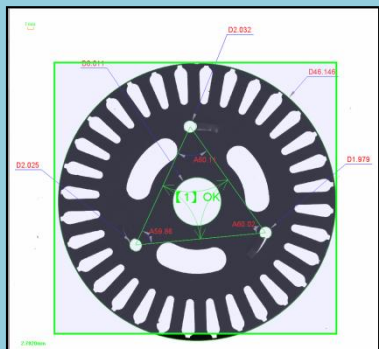
- PCB board



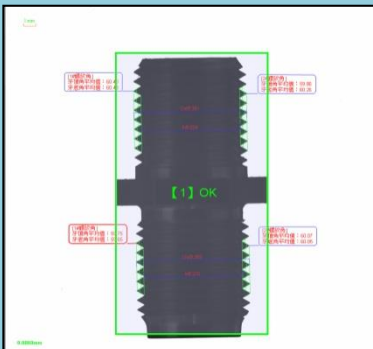
- Concentricity



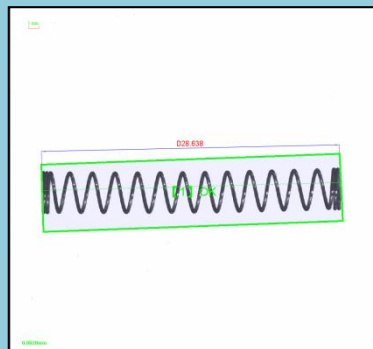
- Stamping



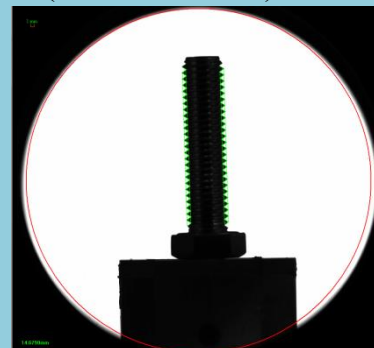
- thread



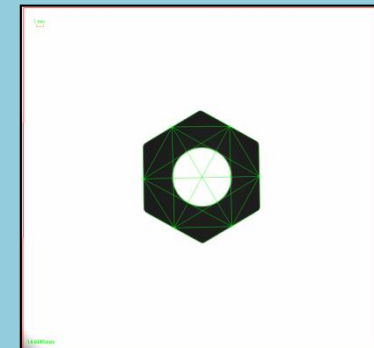
- spring



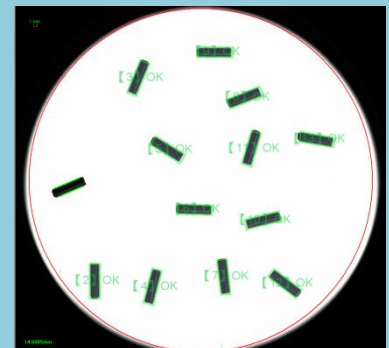
- Large workpieces (diameter 96 mm)



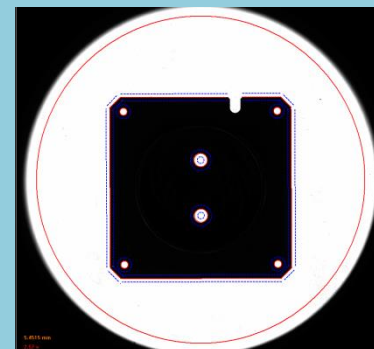
- No fixture workpiece



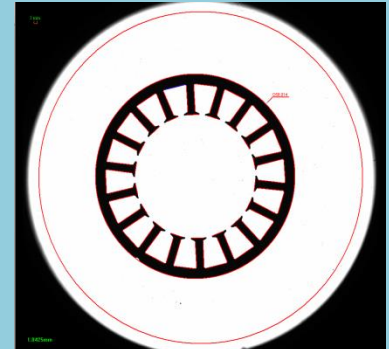
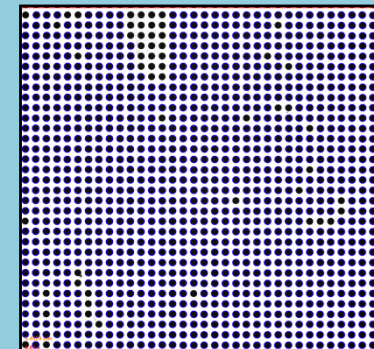
- Multiple workpiece measurement



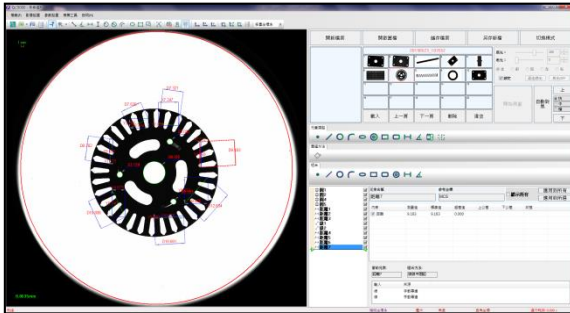
- DXF Comparison



- Automatic circle measurement
- rotate copy

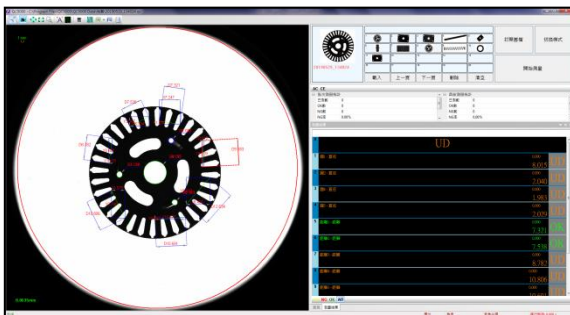


# Functions



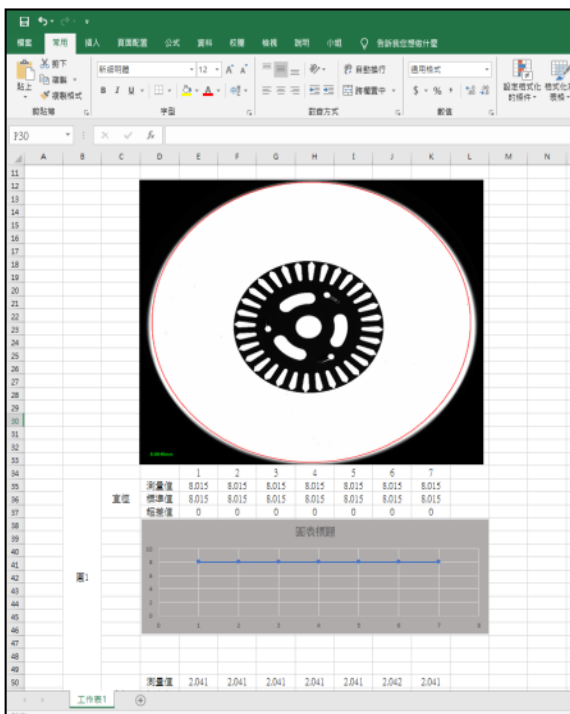
## Record measurement file

Create measurement files with QC5000 software, and the measurement content includes points, lines, circles, arcs, ellipses, rings, rectangles, groove shapes, distances, angles, pitches, point sets, etc.。



## Online Instant Check

The inspection is completed after placement, and the results are reflected immediately and the data is combined to calculate the NG rate, so that the process parameters can be adjusted online to improve the product yield.

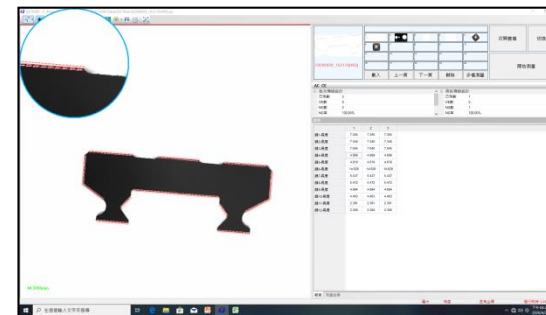
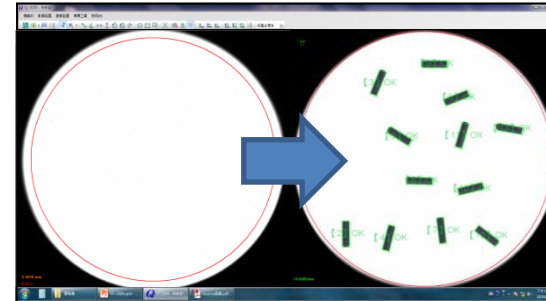


## Statistical report export

The data after measurement is automatically output as report. There are three types of report formats, including default output, custom report and data import to the report specified by the customer, which can reduce the time for personnel to repeatedly input data.

## Artificial Intelligence

When the AI mode is turned on, as long as the customer changes the object to be tested, the software will automatically perform the measurement. If the customer needs a full inspection, it can be used with a robotic arm for measurement to reduce labor costs. (without a click)



## DXF comparison

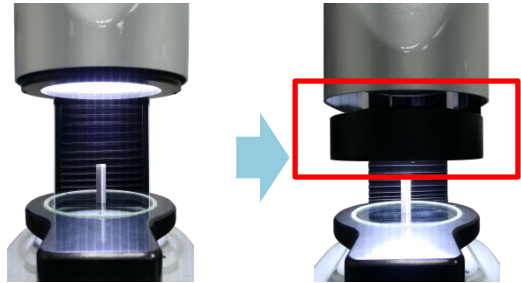
Import DXF files, and set the workpiece size tolerance zone, real-time image comparison to see if it exceeds the tolerance zone, and even output DXF with software measurement function。



## SPC statistics

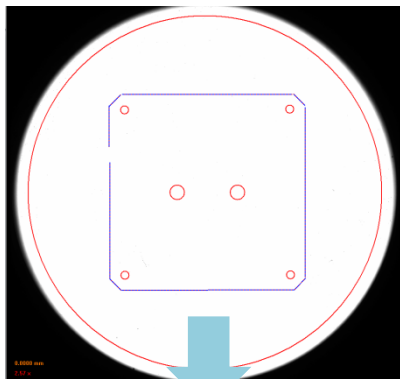
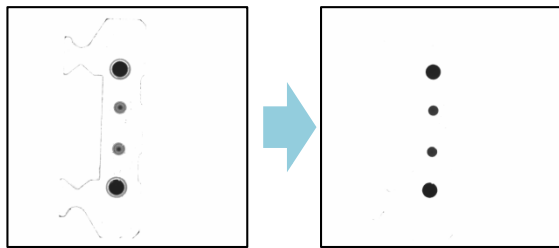
According to the measurement items, it can automatically calculate and display OK number, NG number, maximum value, minimum value, average value,  $\sigma$ ,  $3\sigma$ ,  $6\sigma$ ,  $C_p$ ,  $C_{pk}$  and other main statistical values. The management of batch engineering capacity is also quite easy.

# Unique application

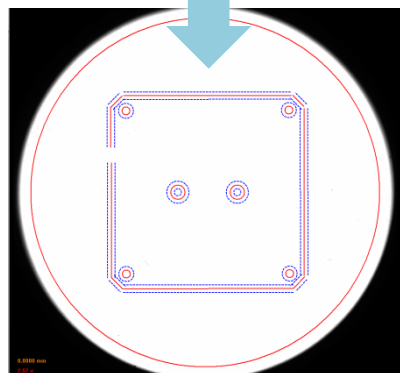


## ➤ Lifting light source

- Applied to blind holes or surface hole topography
- Light source lifting height can be selected
- Surface ring light with 4 angles, suitable for many situations
- Automatically record the height of the light source, the product is placed and measured

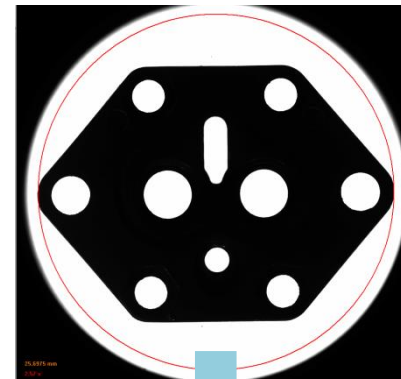


設定DXF帶寬



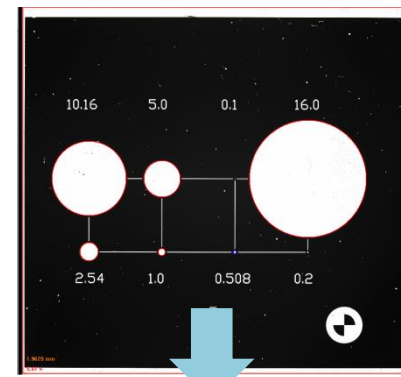
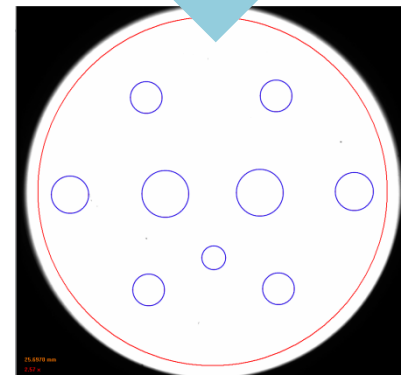
## ➤ DXF comparison

- Applied to cut surface or contour level check
- set the outline of DXF
- import customer's own DXF drawing file
- Quickly check if object exceeds bandwidth

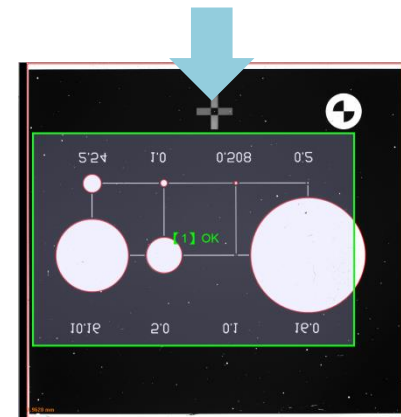


## ➤ One-click measure circle

- Applied to processing drilling and accelerating file building
- After clicking the function, the software quickly measure all circles, and also measure without creating a file.
- Quick inspection of urgent and temporary items



The mirror image is reversed



## ➤ Mirror measurement

- Applied to flat processing
- Solve the problem of which side should be facing up on object tested.
- Cooperate with random placement and AI function to achieve measurement when changing parts

# VS-100A/C

## Features

- ▶ Lifting ring light and bottom light
- ▶ Two kinds of field of view can be switched arbitrarily
- ▶ high precision measurement
- ▶ Instant detection of hundreds of sizes
- ▶ Equipped with SPC statistics system
- ▶ Simultaneous multi-part measurement



## Technical specifications

		VS-100A	VS-100C
Lifting light source		no	yes
working distance(mm)		120	
Working load (kg)		3	
Working table lifting stroke(mm)		50	
focus(z)		auto focus	
Drive control system		Independent Motor Control	
Sys Te m	Telecentric lens magnification	0.088 X	0.176 X
	Measuring Field of View(mm)	96*96	50*50
	Repeatability (μm)	1	1
	Movement accuracy(μm)	8	5
	depth of field (mm)	±8	±3.6
image sensor		20 million USB3.0 industrial camera	
digital measuring system		QC5000 Professional software for data processing	
Lighting system		Adopt LED ring surface light, bottom light (automatic best light source)	
Instrument Dimensions (L x W x H)		568*283*769 mm	
Instrument weight (kg)		About 40 kg	

# VS-240A

## Features

- ▶ Ultra-large field of view to measure large-sized workpieces
- ▶ Long depth of field focus without blur
- ▶ Instant detection of hundreds of sizes
- ▶ Equipped with SPC statistics system
- ▶ Simultaneous multi-part measurement

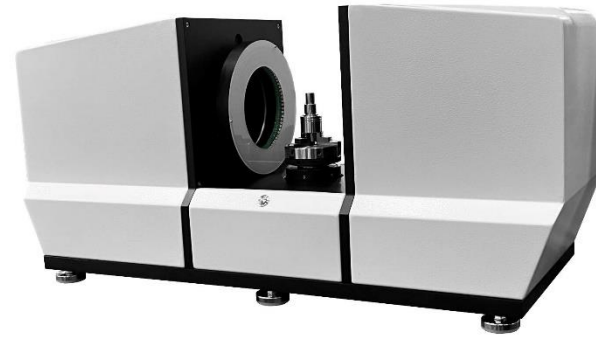


## Technical specifications

		VS-240A
Lifting light source		no
working distance(mm)		410
Working load (kg)		5
Working table lifting stroke(mm)		40
focus(z)		auto focus
Drive control system		Independent Motor Control
Sys Te m	Telecentric lens magnification	0.069 X
	Measuring Field of View(mm)	190*127
	Repeatability (μm)	1
	Movement accuracy(μm)	10
	depth of field (mm)	±10
image sensor		20 million USB3.0 industrial camera
digital measuring system		QC5000 Professional software for data processing
Lighting system		bottom light (Automatic best light source)
Instrument Dimensions (L x W x H)		670*740*1900 mm
Instrument weight (kg)		About 300kg

# VH-100S

## Features



- ▶ 360 degree rotating stage
- ▶ Single program without dead angle measurement
- ▶ Special type for tools and lathe parts
- ▶ Instant detection of hundreds of sizes
- ▶ Equipped with SPC statistics system

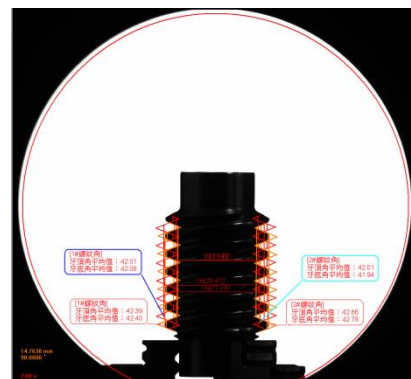
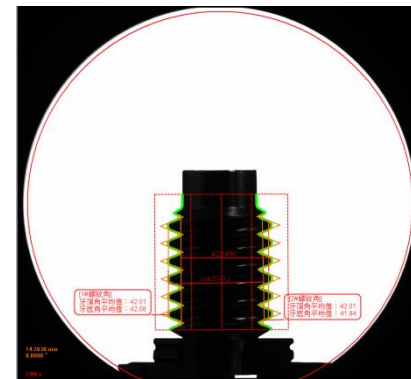
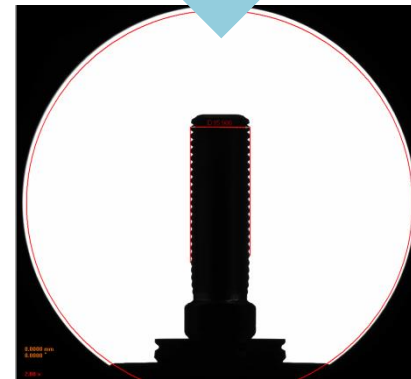
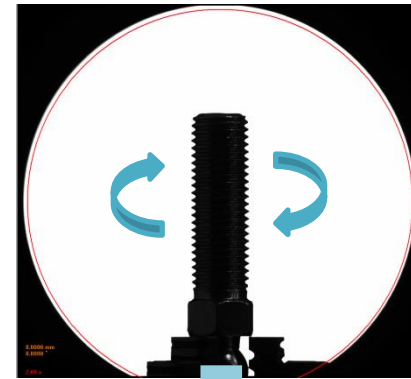
## Technical specifications

VH-100S		
Surface light source	Deployed	
Working distance (mm)	120	
Working load (kg)	3	
Movement stroke(mm)	20	
focus(z)	Auto focus	
Drive control system	Servo motor	
Table Angle	360 <sup>0</sup>	
Sys Tem	Telecentric head magnification	0.088 X
	Measuring field of view(mm)	85*65
	Repeatability (μm)	1
	Movement Accuracy (μm)	5
	Depth of Field (mm)	±8
Image detector	20 million USB3.0 Industrial camera	
Digital measuring system	CARMAR QC5000	
Lighting system	Contour	
Instrument Dimensions (L x W x H)	800*260*370 mm	
According to the weight of the device(kg)	About 40kg	

# CARMAR

The only option for rapid testing

## VH-100S



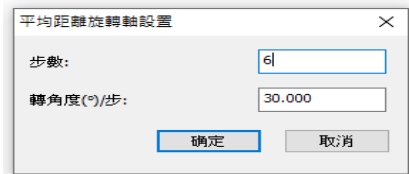
### ➤ Maximum size measurement

- Superimpose the image of the sample rotated 360° into a picture
- Measure the size of the picture
- It can avoid the non-maximum size caused by the measurement angle

### ➤ Multi-angle measurement averaging (with software computing function)

- Avoid extreme values caused by measurement angle differences
- Sample placement does not require a specific angle
- Quick inspection of tools, lathe parts

# VH-100S



## ➤ Average distance measurement

- Measure distance at current angle
- Angle set to automatic rotation
- Calculate the average distance from multiple angles



## ➤ C-angle measurement

- Measure the distance between C-angle X/Y
- Measure the angle between A1/A2

