←INSIZE→

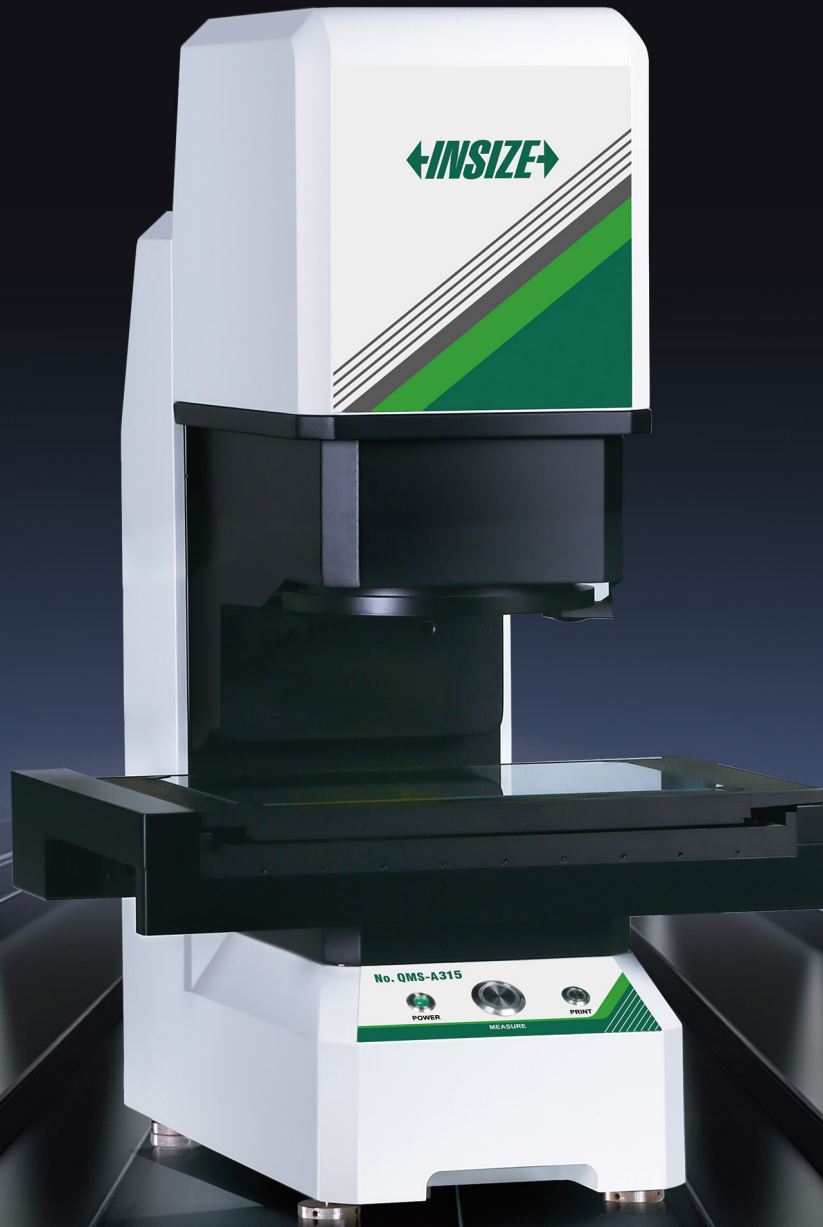**MEASUREMENT SOLUTION PROVIDER**
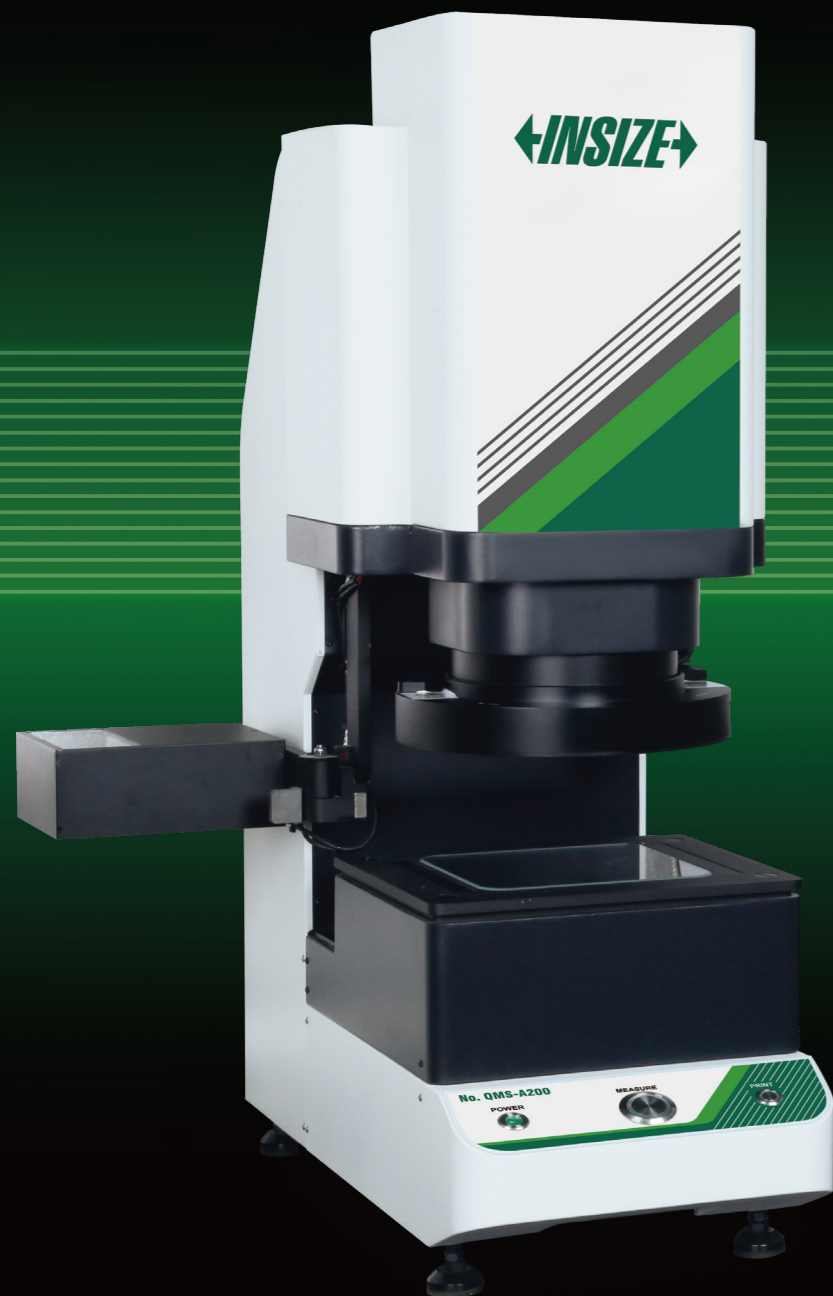
←INSIZE→

No. QMS-A315

POWER   MEASURE   PRINT

QUICK MEASUREMENT SYSTEMS

CATALOGUE NO. QMS-E01

01
| One Button

◆ Double telecentric lens, one button measurement of multiple workpieces.

◆ Measurement accuracy up to 0.7μm.

  initiate The software has OCR character recognition function.

◆ Several measurement ranges, max support 500x400(mm).

◆ Automatic measurement, extract elements automatically.

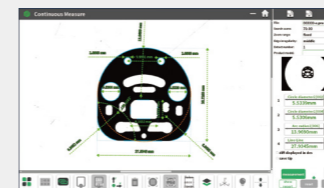◆ Can customize reports, industry-specific software modules and operators.

effect with body display **(optional)**

02
Product Advantages |

Practical measurement functions

Geometric tolerance
Straightness, roundness, perpendicularity, parallelism, position, concentricity, symmetry, profile.

Continuous measurement
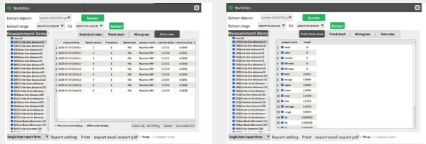Continuous measurement results will automaticallyjudge OK or NG.

Build a coordinate system
Supports five coordinate system establishment methods such as point and line, line and line, can translatecoordinate system, and can also establish multi-coordinate system.

Special application tools
Circumference, automatic measurement, screw measurement, fillet, csurface, curve length, slot, pointposition, circle diameter cross, ellipse, area.

Rich statistical forms

The measurement results are saved automatically

All measurement result are saved into project file automatically.

The number of OK and NG, NG rate, σ, 2σ, 3σ can be calculated automatically according to the saved results.

Meanwhile, date, time and lot number can be saved automatically, so as to facilitate the extraction of measurement results in the past period.

Tendency chart

The abnormality of the production equipment and production process can be monitored through the regular change trend of the measured value, such as the monotonic change of the measured value, the periodic change.

Histogram

It can reflect the status and distribution of product quality fluctuations, and transmit information about process quality more intuitively, which can be used to judge and test product quality and failure rate.
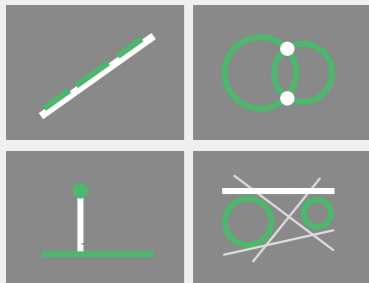
Simple

Simple operation process

Place work piece →One-key measurement.

Automatic measurement

The self-developed automatic measurement operators can realize simultaneous measurement of width, hole, ring, included angle and other elements, so it is easy to operate and fast in measurement.
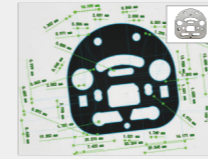
Practical auxiliary tools for measurement

27 auxiliary operators can fit intersection point, vertical line, tangent line and tangent circle, and simplify complicated measurement according to the auxiliary elements such as edge.
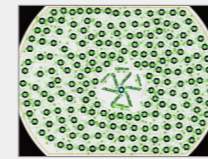
When adding auxiliary elements, it can draw directly, simple to operate, and improve the programming speed greatly.

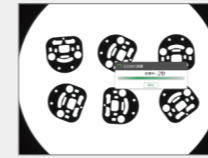# High Efficient

999+ positions can be measured at a time

As shown in the figure, different features of work piece can be measured simultaneously, and 999+ positions can be measured for once pro+ graming.

200+ work pieces can be measured at a time

As shown in the figure, multiple work pieces can be arranged and measured with one key simultaneously, and each work piece can be measured atdifferent positions.

New integrated barcode operator, support multi-workpiece 1D or 2D code measurement, while measuring the size, the scanning result can be bound to the data, simplifying the manual scanning process.
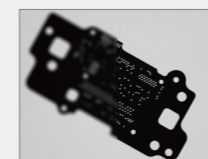
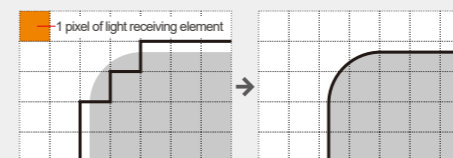### 1s to complete a measurement

Measurement can be completed in 1s.

The measurement result is clear, the measurement working hours can be reduced greatly, and the efficiency can be improved.

Precise

Automatic adjustment of focus

"Automatic focusing" can adjust the height of Z axis, so that the measurement object can be clear and easy to measure.

- –1 pixel of light receiving element

- No subpixel processing　　• With subpixel processing

Identify the edge intelligently and eliminate the deviation

Sub-pixel processing

1 pixel can be divided into less than 0.01, which can be applied to the edge detection and measurement in wide-field and high-precision mode.
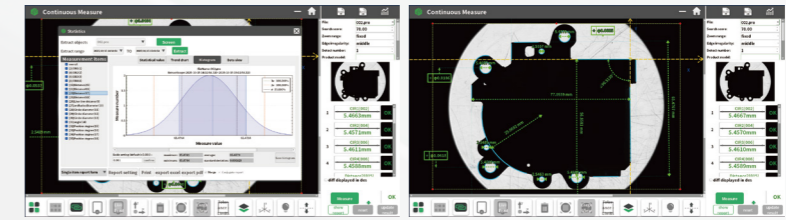
Fitting processing

More than 100* measurement edge points can be extracted, fitting processing can be realized with the minimum multiplication, so that the "line", "circle" or "arc" can be identified.

* According to different to-be-measured profiles, there may be less than 100 measurement edge points
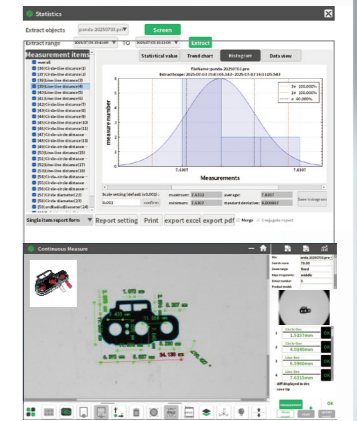
- Fitting processing

03
Measurement Cases

• **Automobile industry**

• **3C metal structural member**

• **Abundant industry application**

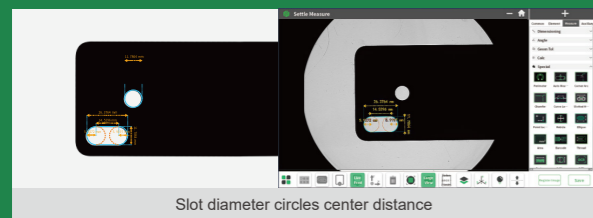| Electronics industry | Tool, die cutting | Cables & wires | Vehicle industry | Solar energy | Semiconductor | Clock parts | Hydraulic hinge | Precision parts | Forgings | Fastener | Plastic parts | UK plastic plug |

Diameter and center distance between two holes

Testing requirements: measure the diameter of the slot of the mobile phone case

Advantage: Use a special slot operator to automatically detect all dimensions of the entire slot once

Solution: Recommend QMS-A315 series, choose slot operator
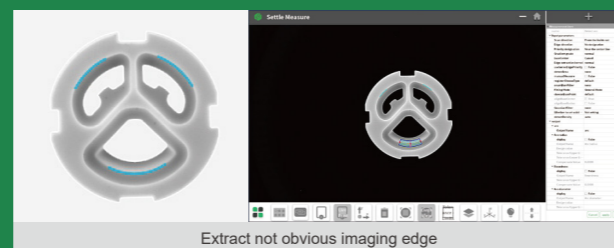
Slot diameter circles center distance

Mobile back cover, phone cases, etc. have slot size test requirements. This slot operator can automaticaly measure all circles and distances of the entire slot at one time, greatly reducing programming time.

Edge extract

Testing requirements: Test ceramic parts edge precisely

Difficulty: The edge imaging and edge transition is not that obviously

Solution: Choose edge extract operator to catch the edge precisely
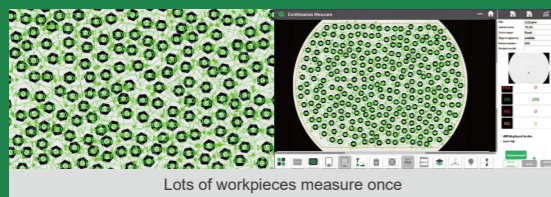
Extract not obvious imaging edge

Suitable for parts which has not obvious edge imaging or edge transition, this operator can easily help to catch the edge precisel.
Eg. Ceramic parts, light color parts, matte parts.

Measurement Typical Case

Batch measurement

Testing requirements: Lots of workpieces batch measurement quickly

Solution: Smart series, one-key measurement, deal with 999+ dimension, 200+ workpieces batch measurement in few seconds

Lots of workpieces measure once
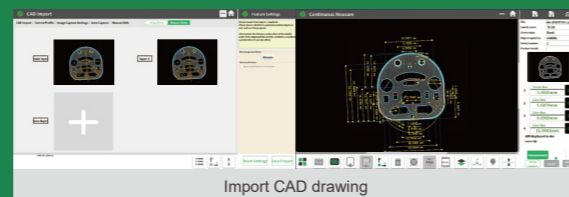
Lots of workpieces to test together by one-key measurement, each workpiece includes many dimension, the result wilshow in 1s, greatly shorter measure time, increase the efficiency, can count test qty. automatically.

CAD import function (*Option)

Testing requirements: The all dimension of the workpiece

Difficulty: Lots of dimensions to be programmed which will takes long time

Solution: Choose CAD import function. Import the CAD file, only need few procedures to program all dimensions of the workpiece easily

Import CAD drawing

CAD import function adapt to Auto CAD and zhong-Wang different version files. The fast and convenient import function increase the programming efficiency greatly and reduce the technical reliance on the operation staff.

2D+3D flash measuring equipment

High efficiency, Precise, Simple

As shown in the figure, different features of work piece can be measured.
simultaneously, and 999+ positions can be measured for once programing.

- **Optional:** 3D sensorfor height, steps and flatness measurement
- **3Dmeasurement**
  Measurement accuracy: $\pm(5+L/200)\mu m$, repetitive
  accuracy: $\pm1\mu m$
  Measuring range: 70 $\pm10mm$
  light spot diameter: $\varnothing50\mu m$
- Suitable for fastener, stamping, injection, die cutting, 3C, machining industries
- **Suitable model:** QMS-A315, QMS-H210, QMS-A450

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Product model			QMS-A110	QMS-A200	QMS-A220	QMS-A315	QMS-H210	QMS-A450
Measurement range (mm)	Wide field		98x78	148x108	200x200	300x200	210x130	500x400
	Small field		/	48x33	130x130	230x130	200x100	430x350
Measurement accuracy (μm)	No [1] Splicing	Wide field	±3*①	±5*②	±3*①	±3*①	±2*⑨	±3*⑬
		Small field	/	±2*③	±1*④	±1*④	±0.07*⑩	±1*⑭
	With [2] Splicing	Wide field	/	/	±(5+0.02L)*⑤	±(5+0.02L)*⑦	±(4+0.02L)*⑪	±(5+0.02L)*⑮
		Small field	/	/	±(3+0.02L)*⑥	±(3+0.02L)*⑧	±(2.7+0.02L)*⑫	±(3+0.02L)*⑯
Repetition accuracy (μm)	No Splicing	Wide field	±1	±1	±1	±1	±1	±1
		Small field	/	±0.5	±0.5	±0.5	±0.25	±0.5
	With Splicing	Wide field	/	/	±2	±2	±2	±2
		Small field	/	/	±1.5	±1.5	±1.25	±1.5
Product dimension (mm)			580x235x790	638x336x885	532x428x766	532x497x766	460x515x740	1060x860x1890
Optical lens			Single-field dual-telecentric lens	Dual-field dual-telecentric, lowdistortion lens			dual-field dual-telecentric low-distortion lens	Dual-field dual-telecentric lens
Weight of platform (kg)			40	60	50	60	45	650
Load-bearing (kg)			5					25
Illumination system			**Transmission light:** Telecentric Parallel Illumination (Green light) **Surface light:** 4-zone medium and low angle ring lighting (Whiteht light)		**Surface light:** Ring (low angle) illumination (green light) **Coaxial light (optional):** Epi-illumination (white light)			**Transmission light:** Telecentric Parallel illumination (Green light) **Surface light:** High angle lighting (white light) **Surface light:** 4-zone medium and low angle ring lighting (white light) **Surface light:** Ring (low angle) illumination (green light) **Coaxial light (optional):** Epi-illumination (white light)
Measurement data			2D measurement					
Output data			With the function of report output and statistics					
Placement of work piece			Allow free placement of single or multiple work pieces, and realize one-key measurement					
Power requirement			220V, 50Hz, 600W					220V, 50Hz, 1200W
Environmental requirement			Temperature: 20°C±2°C, relative humidity: 30%-80%, vibration: <0.002g, less than 15Hz					

Optional: Foot-switch, Coaxial light illumination, CAD import function of software, MES transmission function, Glass calibration plate, Rotary table (for QMS-A450、QMS-A220、QMS-A315、QMS-H210), 11.6" LCD (for QMS-A110、QMS-A200、QMS-A220、QMS-A315、QMS-H210), Laser sensor (for QMS-A315、QMS-A450、QMS-H210)

【Remark】

*[1] Based on focal position and environment temp.at 20±1°C

*[2] Based on focal position, environment temperature at 20°C±1°C, and workpiece is less than 2kg, L is the travel of stage

* ① Within Φ80x64mm
* ② Within Φ120x88mm
* ③ Within Φ40x28mm
* ④ Within 16x13mm
* ⑤ Within 180x180mm
* ⑥ Within 117x117mm
* ⑦ Within 270x180mm
* ⑧ Within 207x117mm
* ⑨ Within 35x28mm
* ⑩ Within 10x6mm
* ⑪ Within 174x121mm
* ⑫ Within 146x97mm
* ⑬ Within 73x49mm
* ⑭ Within 16x12mm
* ⑮ Within 450x360mm
* ⑯ Within 387x315mm

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