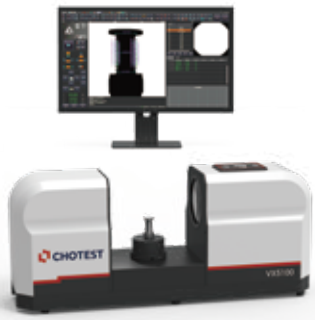
Flash Measuring Machines
VX Series

One Touch Measurement

Efficient Accurate

VX8000 series

VX1000 series



VX5000 series

VX3500 / VX8500

VX4000 series

Efficient measurement

- Auto illumination
- Auto focusing

5000+pcs

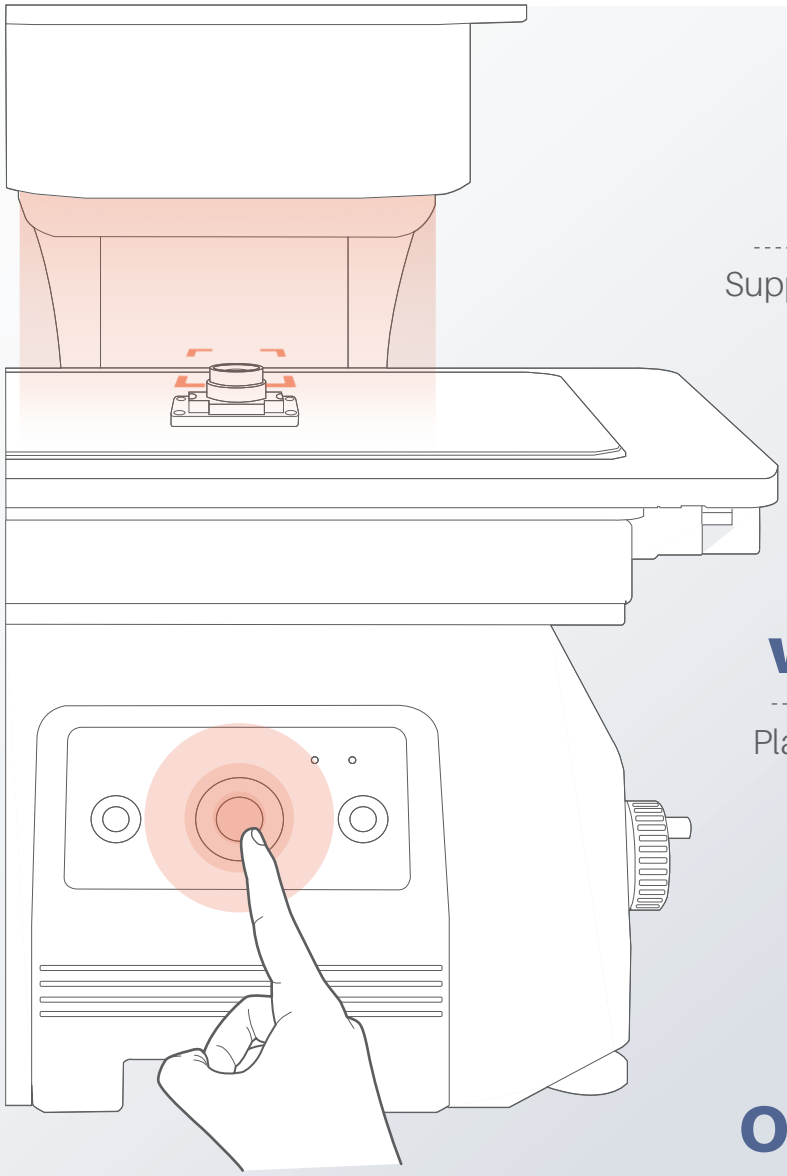
Once up to
5000+features

1024 pcs

Once up to
1024 workpieces

2 secs

In 2 seconds
Finish the
measurement



Load program

Support importing DXF file

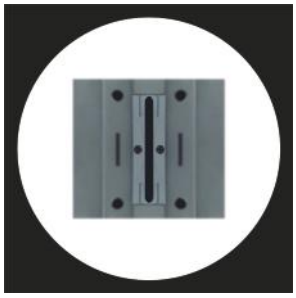
Place workpiece

Place anywhere on table

One-Touch measurement

Touch Measure button

Dedicated Optical Lens

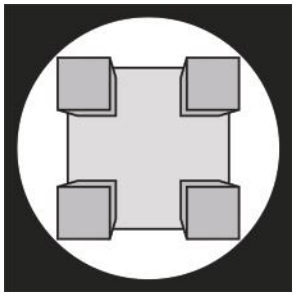


Normal Lens

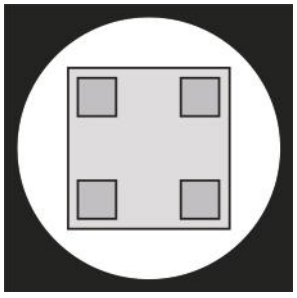
Our Dedicated lens

Clear image even if there are stages

Equipped with a high depth optical lens and automatic focusing, the flash measuring machine only needs to focus at the tested object once. Even if there are variations in height, the images remain clear.



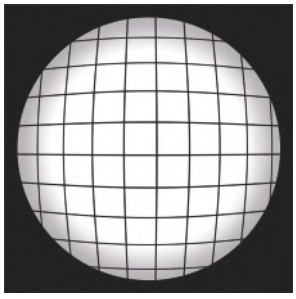
Normal Lens



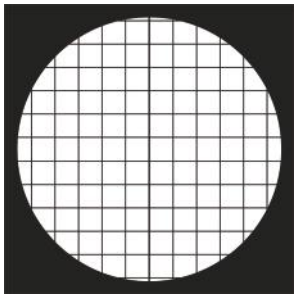
Our Dedicated lens

Always real size even if there are stages

With a double telecentric optical lens, the size of objects in the image is always real and accurate, even features that are located at edge of the field of view.



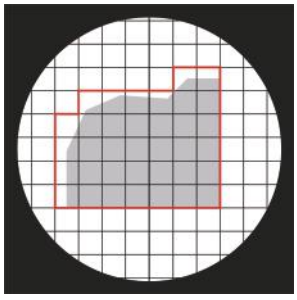
Normal Lens



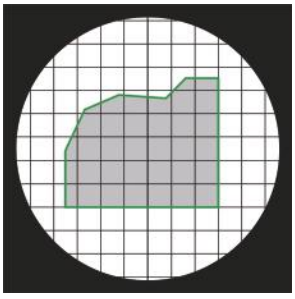
Our Dedicated lens

Zero distortion in the full field of view

Thanks to the double telecentric optical lens with high depth of field and high resolution, it is almost zero distortion of the image in the full field of view. Test result is always the same in any position of the object table.



Normal Lens



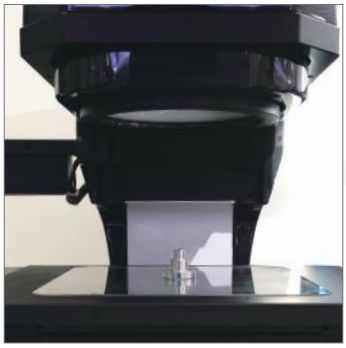
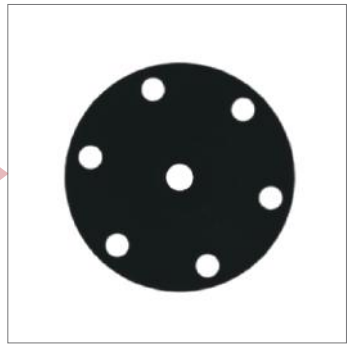
Our Dedicated lens

Sub-pixel processing of edges

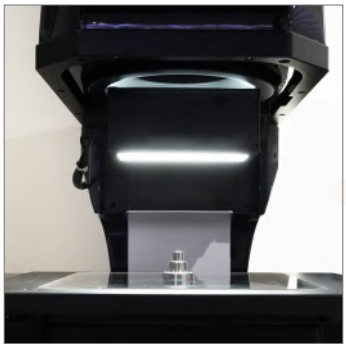
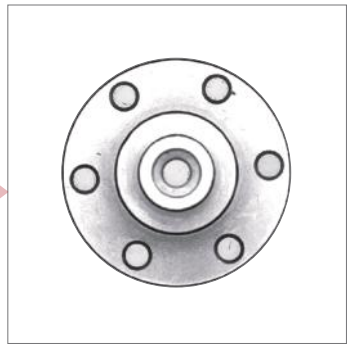
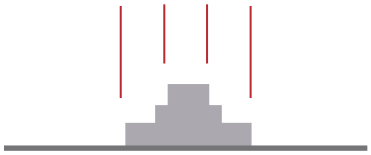
With algorithms of high-order interpolation and numerical fitting, the software can perform sub-pixel processing of the edges.

Light Source

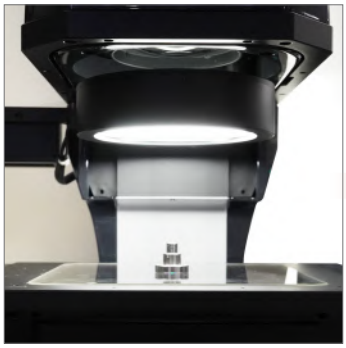
Back light

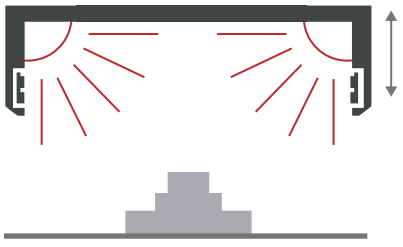




Coaxial light

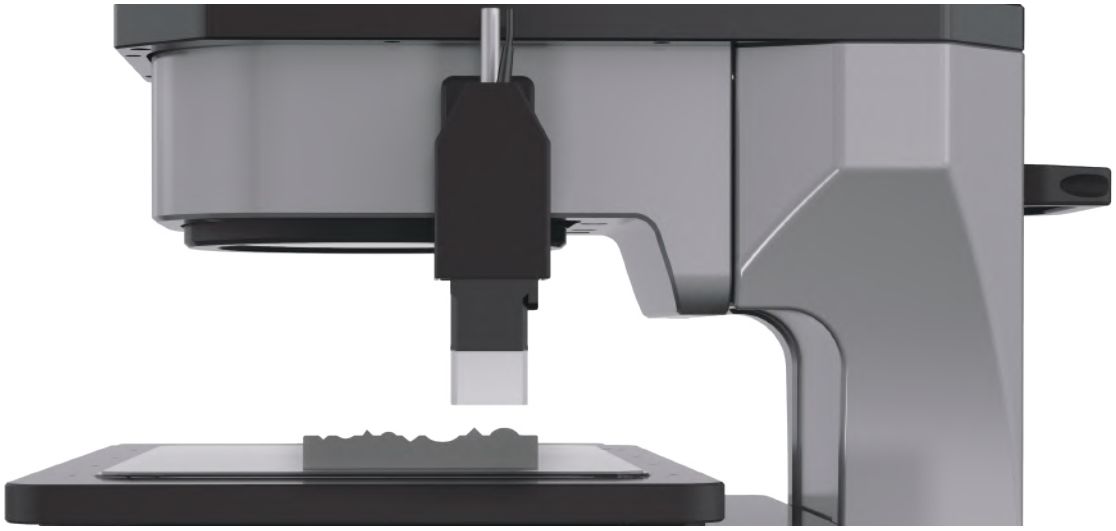




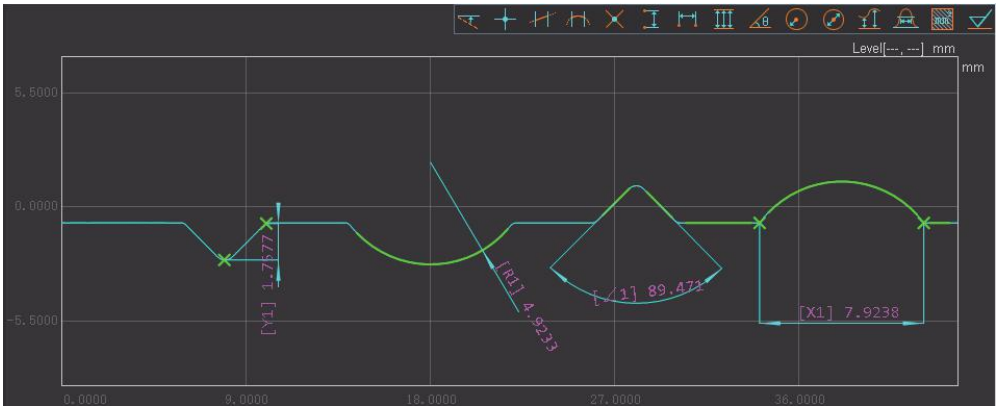
75°Ring light





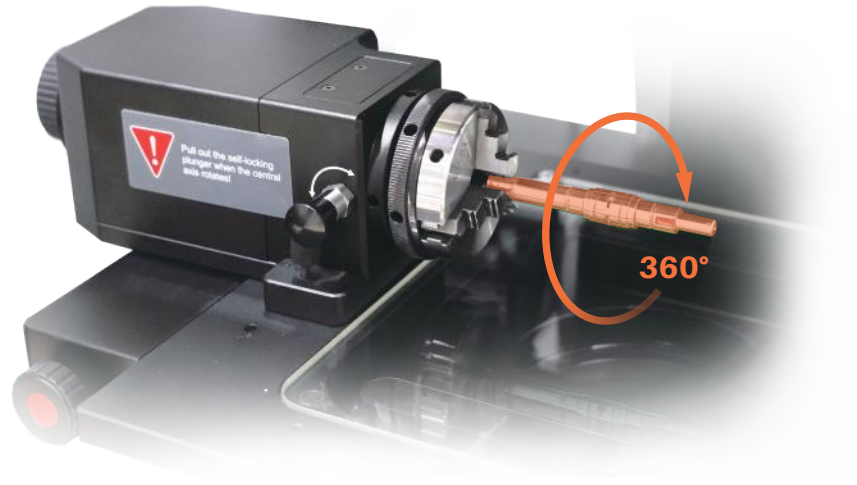
Height probe

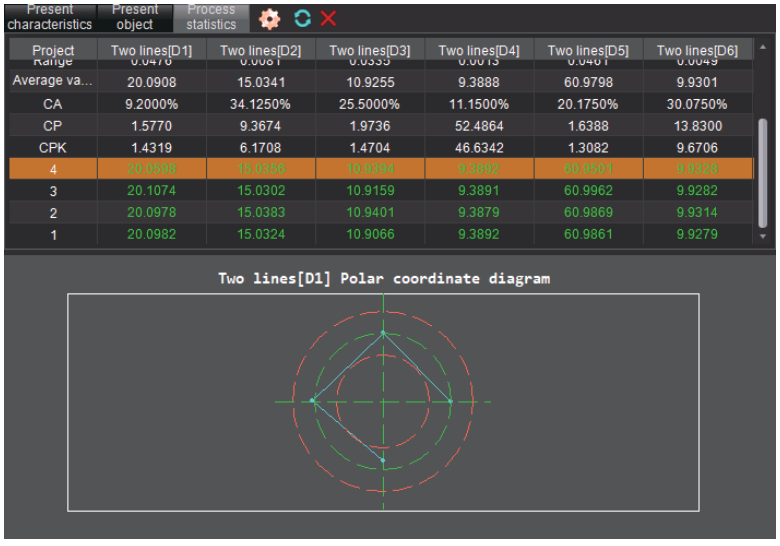




It is a white light confocal probe, and can be used to measure thickness, height difference, flatness, parallelism, etc. Moreover, this probe can scan the contour of the sample.

Rotary chuck

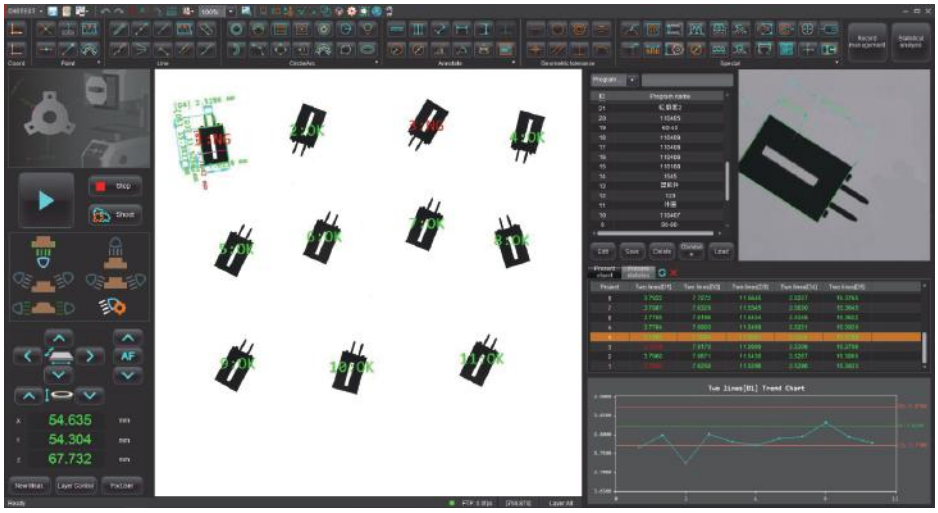




Rotary chuck can rotate 360°. It is convenient to measure the sizes in different section according to rotation angle specified by the operator. It is an ideal solution to measure all kinds of cylindrical parts, such as shaft, etc.

Software

VisionX professional visual measurement software is completely independently developed by CHOTEST, and CHOTEST has independent intellectual property rights. VisionX has friendly user interface, convenient operation, powerful and practical functions, support more than 80 kinds of extraction and analysis tools, including feature extraction tool, auxiliary tool, annotation tool and special application tool, etc. Moreover, functions can be customized according to user's need, so as to improve work efficiency more effectively.



Home Interface

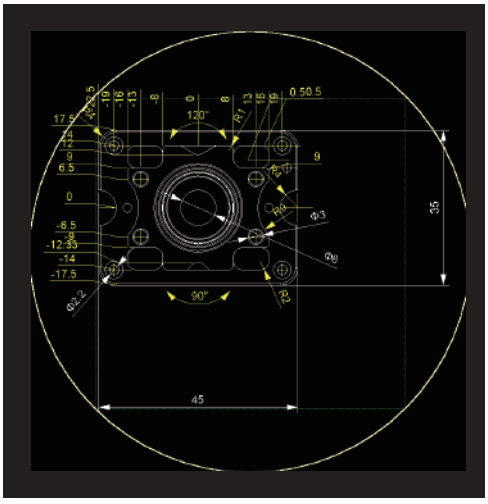
Features

Geometric Tolerance	Straightness, Roundness, Concentricity, Symmetry, Positional Tolerance, Parallelism, Perpendicularity, Profile Tolerance, etc.
CNC Mode	Modify CNC program anytime, as well as adding or reducing features OK or NG is concluded according to tolerance in CNC program
Automatic	Only need to select the measuring features, after placing the workpiece, measuring results can be obtained quickly by one key
Coordinate System	Can create coordinate system by Point-line, Line-line, and translate & rotate coordinate system, as well as create multi-coordinate system
Special tools	Rounded corner, Contour, Thread, Slot, Perimeter, Pitch distance, Thickness, Chamfer, Spring, Gear, Sealing gasket, Area, Pitch Angle, Boundary width

DXF Import

Measurement data can be obtained from CAD drawings. Even if the test object is not physically available, you can still create measurement programs quickly.The system can automatically assign features and dimensions from the DXF drawing to the sample, including surface dimensions.

Sample

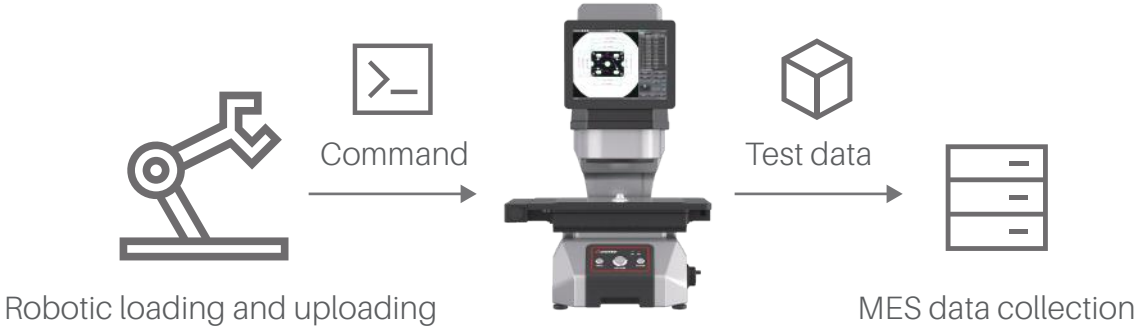


Automatically assign DXF features to the sample

Work with Robot

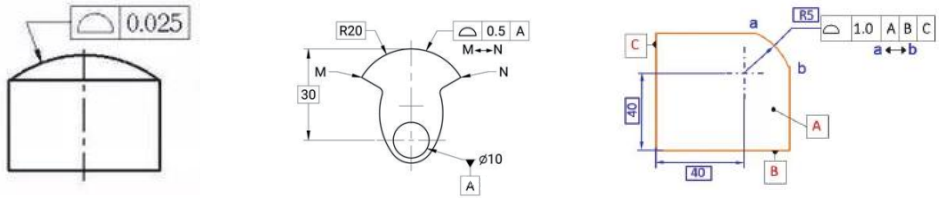
Measurement data is transmitted to the MES system of the customer via socket or HTTP protocols in real time.

VisionX also could receive commands from the external server to load the program and begin measurement, so it is compatible with robotic arms to achieve unmanned measurements.



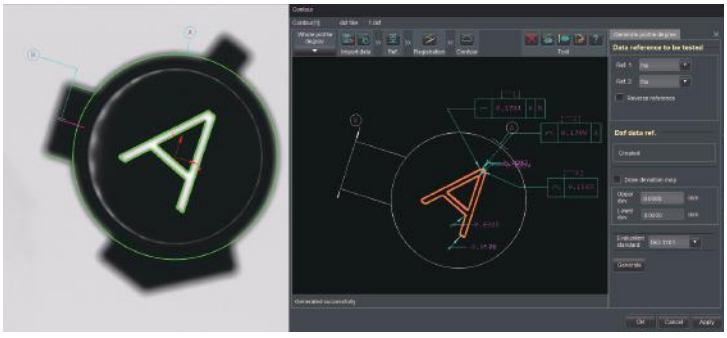
Profile tolerance

- This tool has three evaluation methods: No reference (only shape error evaluation), Single reference, Multiple references.



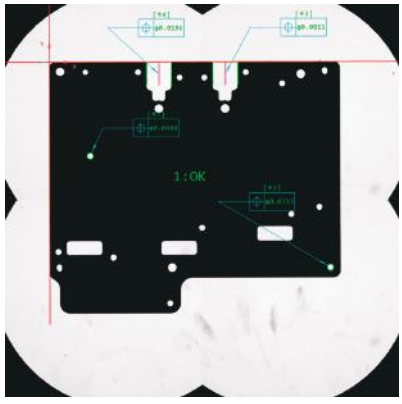
- Multiple annotations: Multiple profile tolerance can be annotated in a single program.No need to establish a coordinate system: Just need to enter the reference in the drawing .Measurement of profile tolerance in different coordinate systems can be achieved in a single program.

- Multiple types: Evaluate the profile tolerance by scanning the entire contour; Or evaluate the profile tolerance by measuring point with specifying coordinate values.



Position Tolerance

It can measure both point position tolerance and line position tolerance. Evaluation can be performed by XY coordinates in Cartesian coordinate system or radius & angle in polar coordinate system.

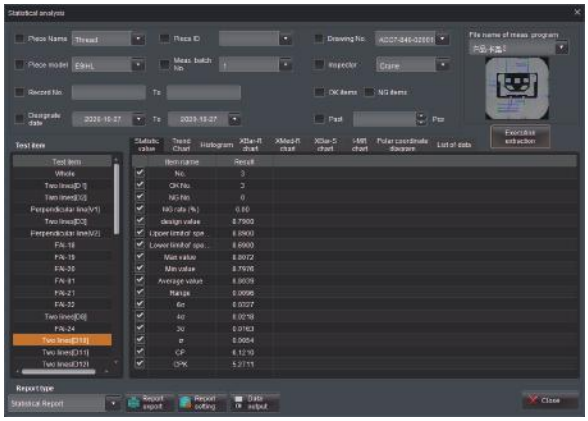


Statistical Analysis

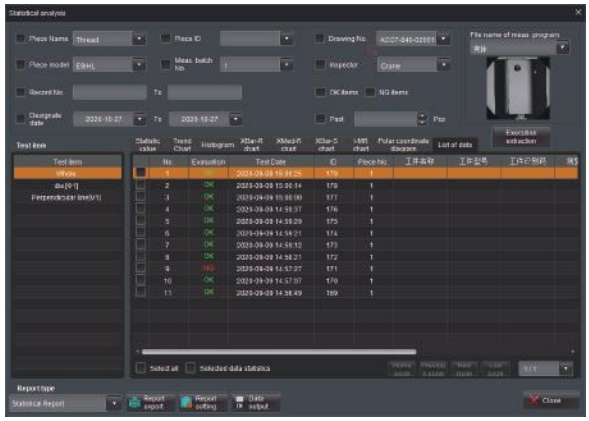
The statistical analysis interface has the tabs of [Statistical Value], [Trend Chart], [Histogram] and [Data List]

Automatic recording and sorting

Measurement results and its main statistical information (e.g. average value, σ, 3σ, 6σ, Ca, Cp, Cpk etc) will be automatically recorded and saved. Operator could search records by different conditions.



Statistic

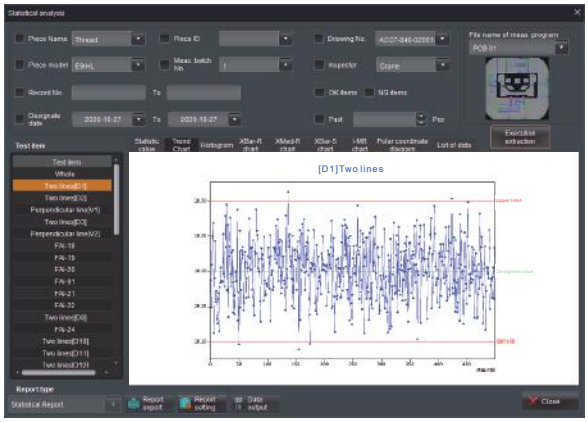


Tabled data

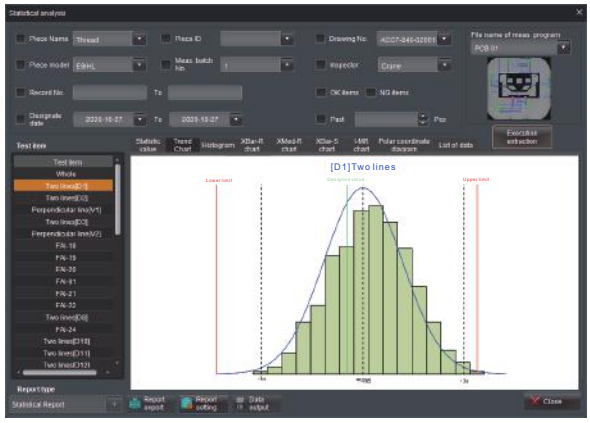
Control production process and improve product quality

The trend chart monitors the abnormalities of generating equipment and production process by regularly changing trend of measured values. Such as the monotonic and periodic changes of the measured values.

The histogram reflects the fluctuation and distribution of product quality, and transmits information about process quality, which can be used to judge and predict product quality and unqualified rate.



Trend Chart



Histogram

Application

Flash measuring machines are widely used in industry of machinery, electronics, mold, injection molding, hardware, rubber, low-voltage electrical appliances, magnetic materials, precision stamping, connectors, connectors, terminals, mobile phones, home appliances, printed circuit boards, medical equipment, watches, tools, etc.


Phone case


Phone accessories


Watch inner parts


Watch chain

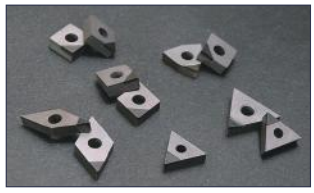

Machining parts


Stamping parts


Sheet metal parts


Plastic injection parts


Magnetic component


Cutting tools

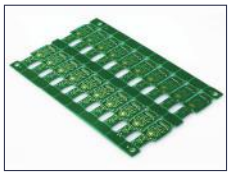

Small metal parts


Gear

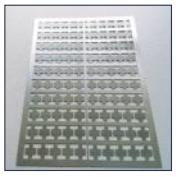

Rubber ring

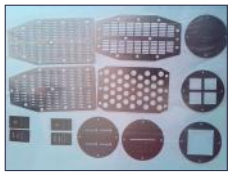

Spring

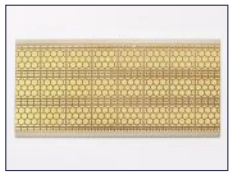

Thread, Shaft


Rigid PCB


Soft PCB

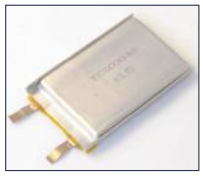

Shielding case

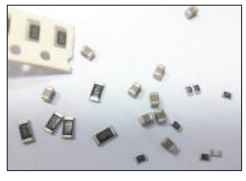

Mask board

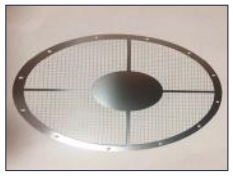

Ceramic plate

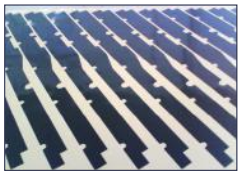

Car monitor frame

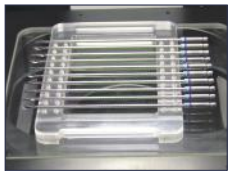

Connectors


Battery


Resistors


Filter mesh


Die cutting

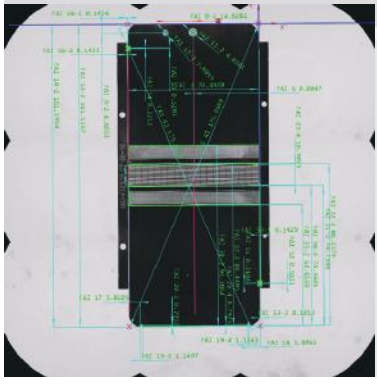

Medical drill


Sieve

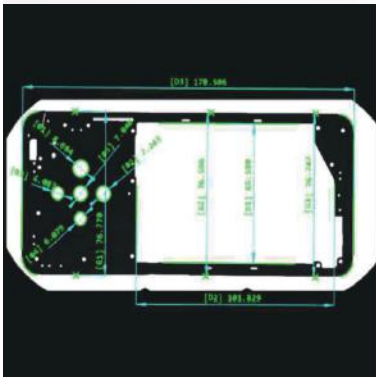

Radius gauge


Thread template

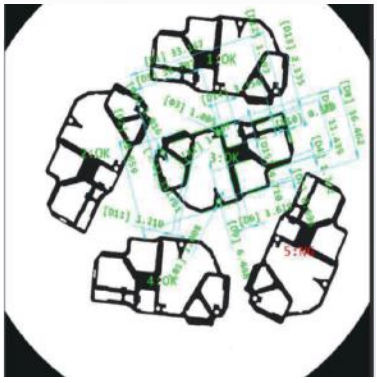
Foldable Screen of Mobile Phone



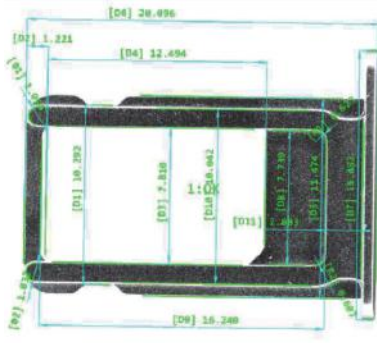
Phone Casing



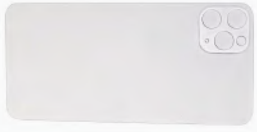
Shielding Covers



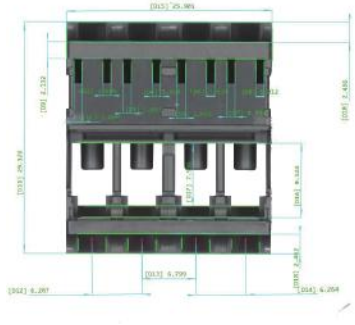
Shield slot



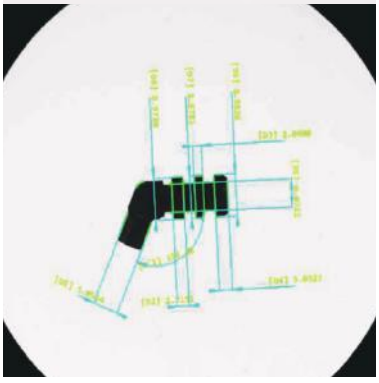
Back Cover Glass of Mobile Phone



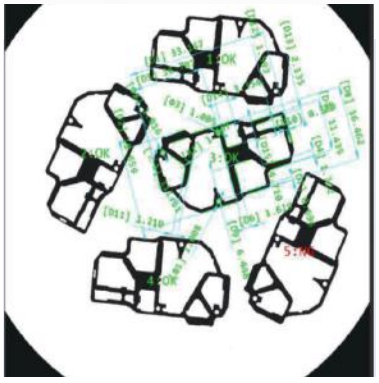
Plastic



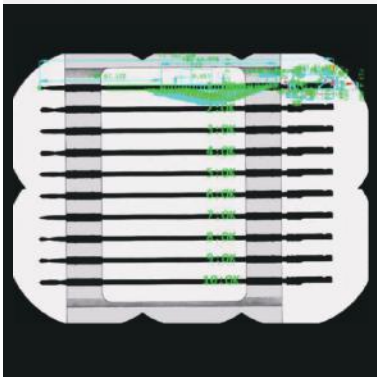
Terminal



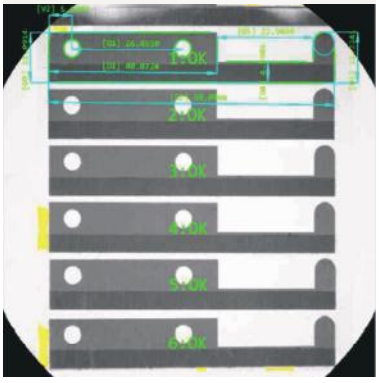
Shielding Covers



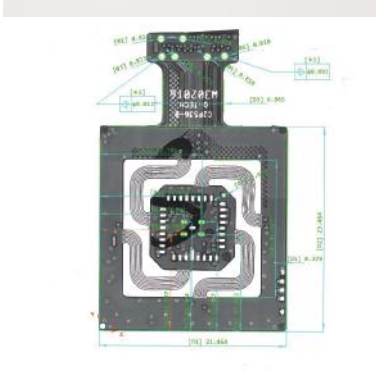
Medical drill



Die Cutting



Soft PCB



Filter

Parameters

Model No.			VX8100	VX8200	VX8300	VX8306D
Image Senor			20MP CMOS			
Monitor	Built-in		10.4" LCD (XGA: 1024x768)			
	Outside		24" LCD XGA(1920x1080)(Optional)			
Acceptance Lens			Double Telecentric Lens			
Light	Ring Light		Four-segment illumination(White Light)			
	Back Light		Telecentric transmission illumination(Green Light)			
	Coaxial Light(Optional)		LED parallel light			
F.O.V.	Wide Field(mm)		200x100 (4 Angles R50)	200x200 (4 Angles R50)	300x200 (4 Angles R50)	230x130
	High Precision(mm)		130x20	130x130	230x130	216x116
Resolution			0.1μm			
Repeatability of Image Meas.	Wide Field	Without Stitching*1	±1μm			±0.5μm
		With Stitching*2	±2μm			±1μm
	High Precision	Without Stitching*1	±0.5μm			±0.1μm
		With Stitching*2	±1.5μm			±0.5μm
Accuracy of Image Meas.	Wide Field	Without Stitching*1	±3μm			±2μm
		With Stitching*2	±(5+0.02L)μm			±(4+0.02L)μm
	High Precision	Without Stitching*1	±1.5μm			±0.7μm
		With Stitching*2	±(3+0.02L)μm			±(2+0.02L)μm
Horizontal Rotary Unit (Optional)	Rotation Angle		———	Range 360°, Resolution 0.02°		
	Rotation Speed		———	0.2~2rev/s		
	Max Diameter		———	Φ60mm		
Height Meas. (Optical Probe) (Optional)	Measuring Range(X*Y)		———		120*110mm	
	Max Depth/Diameter(H/Φ)		———		1.64	
	Dia. of Beam		———		Φ100μm(Φ18μm optional)	
	Resolution		———		0.25μm	
	Z Non-movement	Range(Z)	———		±2mm	
		Accuracy	———		±2μm	
	Z Movement	Range(Z)	———		75mm	
		Accuracy	———		±(6+0.01H)μm, H is Z movement height in mm	
XY Object Table	X Travel Range		110mm		210mm	
	Y Travel Range		/	110mm		
	Loading Capacity		2kg	7.5kg		
Z-Axis Travel Range			35mm	75mm		
Size(LxWxH) mm			500x280x670	531x386x731	531x503x731	
Weight			30kg	49kg	75kg	
Input			AC100~240V, 50/60Hz, 2A, 300W			
Working Environment			Temp.10 °C~35 °C, Humidity 20~80%, Vibration<0.002g, Less than15Hz			

Note:

*1 In the focus position, the environment temperature is +20 °C ± 1.0 °C

*2 In the focus position, the environment temperature is +20 °C ± 1.0 °C, and the load on the table is 2 kg or less; L is the moving range of the table (mm)

Parameters

Model No.		VX1100
Image Senor		20MP CMOS
Monitor		24" LCD (XGA:1920×1080)
Acceptance Lens		Double Telecentric Lens
Light	Ring Light	Four-segment illumination(White Light, Manual up & down)
	Back Light	Telecentric transmission illumination(Green Light)
F.O.V.		Φ100mm
Repeatability of Image Meas.		±1μm
Accuracy of Image Meas.*1		±3μm
Software		VisionX
Resolution		0.1μm
Z Axis Travel Range		35mm
Loading Capacity		5kg
Size(L×W×H)		500×280×670mm
Weight		25kg
Input		AC100~240V, 50/60Hz, 2A, 300W
Working Environment		Temp.10°C~35°C, Humidity 20~80%, Vibration<0.002g, Less than15Hz

Note:

*1 In the focus position, the environment temperature is +20 °C ± 1.0 °C

Parameters

Model No.	VX4230S	VX4230
Image Senor	25MP CMOS	12MP CMOS
Outside Monitor	24" LCD (XGA: 1920×1080)	
Acceptance Lens	Double Telecentric Lens	
Back Light	Parallel transmission illumination(White Light)	
F.O.V	Φ230mm	200x150mm
Depth of Field	50mm	50mm
Working Distance	400mm	
Repeatability	±2μm	
Accuracy of Image Meas.*1	±5μm	
Z Axis Rravel Range	65mm	100mm
Software	VisionX	
Resolution	0.1μm	
Loading Capacity	15kg	
Size(L×W×H)	830×605×1500mm	
Weight	375kg	
Input	AC100~240V, 50/60Hz, 4A, 600W	
Working Environment	Temp.10℃~35℃, Humidity 20~80%, Vibration<0.002g, Less than15Hz	

Note:

*1 In the focus position, the environment temperature is +20 °C ± 1.0 °C

Parameters

Model No.		VX5100
Image Senor		5MP CMOS
Outside Monitor		24" LCD (XGA: 1920×1080)
Acceptance Lens		Double Telecentric Lens
Back Light		Telecentric transmission illumination
F.O.V.		Φ100mm
Repeatability		±2μm
Accuracy*1		±5μm
Software		VisionX
Resolution		0.1μm
Motorized XY Object Table (Optional)	Rotational Speed	0.2 ~2 Revolutions/s
	Diameter	Φ60mm
	Capacity	3kg
Size(L×W×H)		736×200×325mm
Weight		25kg
Input		AC100~240V, 50/60Hz, 1.3A, 150W
Working Environment		Temp.10 °C~35 °C, Humidity 20~80%, Vibration<0.002g, Less than15Hz

Note:

*1 In the focus position, the environment temperature is +20 °C ± 1.0 °C

Parameters

Model No.			VX 3500	VX 8500
Image Senor			5MP CMOS	20MP CMOS
Monitor			24"LCD(XGA :1920x1080)	
Acceptance Lens			Double Telecentric Lens	
Light	Ring Light		Four-segment illumination(White Light/Green Light)	
	Back Light		Telecentric transmission illumination(Green Light)	
F.O.V.	Large Field		500x400mm(4 Angles R50)	
	High Precision		430x330mm	
Resolution			0.1μm	
Repeatability of Image Meas.	Wide Field	Without Stitching*1	±1μm	±1μm
		With Stitching*2	±2μm	±2μm
	High Precision	Without Stitching*1	±0.5μm	±0.5μm
		With Stitching*2	±1.5μm	±1.5μm
Accuracy of Image Meas.	Wide Field	Without Stitching*1	±5μm	±3μm
		With Stitching*2	±(7+0.02L)μm	±(5+0.02L)μm
	High Precision	Without Stitching*1	±2μm	±1.5μm
		With Stitching*2	±(4+0.02L)μm	±(3+0.02L)μm
Horizontal Rotary Unit (Optional)	Rotation Angle		Range 360°, Resolution 0.02°	
	Rotation Speed		0.2~2rev/s	
	Max Diameter		Φ60mm	
Height Meas. (Optical Probe) (Optional)	Measuring Range(X*Y)		300*300mm	
	Max Depth/Diameter(H/Φ)		1.64	
	Dia. of Beam		Φ100μm(Φ18μm optional)	
	Resolution		0.25μm	
	Z Non-movement	Range(Z)	±2mm	
		Accuracy	±2μm	
	Z Movement	Range(Z)	200mm	
		Accuracy	±(6+0.01H)μm, H is Z movement height in mm	
XY Object Table	X Travel Range		410mm	
	Y Travel Range		310mm	
	Loading Capacity		20kg	
Z- Axis Travel Range			200mm	
Size(LxWxH)			900x1340x1600mm	
Weight			950kg	
Input			AC100~240V, 50/60Hz, 10A, 2500W	
Working Environment			Temp.10 °C~35 °C , Humidity 20~80%, Vibration<0.002g, Less than15Hz	

Note:

*1 In the focus position, the environment temperature is +20 °C ± 1.0 °C
*2 In the focus position, the environment temperature is +20 °C ± 1.0 °C, and the load on the table is 2 kg or less;
L is the moving range of the table (mm)