



# Flash Measuring Machine

One-Touch Measurement



Since established in 2005, Chotest Technology Inc. is focusing on the designing and manufacturing of precision dimensional measurement and calibration instruments.

With more than about twenty years of professional technology accumulation, Chotest has accumulated rich practical experience and set up a strong team who is specialized in optics, machinery, Electronics and information technology. At present, CHOTEST has more than 100 technology patents and software intellectual property rights. With competence in Micro-Nano motion, 3D Reconstruction of Micro-Nano



measurement, 3D Form and Surface Analysis of Micro-Nano measurement, Large-scale 3D Measurement, Precision Sensing Probe and Image processing technology, Chotest is capable to provide the customers with professional precision measurement solution from Nanometer to Hectometer.

Our products are widely used by public metrology labs and quality inspection workshops in the automotive, aerospace, machinery, metallurgy, power, and petrochemical industries. Chotest's service net is covering more than 30 provinces in China, and is also focusing on the development in overseas markets like Europe and APAC.

The goal of Chotest is to provide high-end dimensional measurement equipment to manufacturing industry all over the world.

# One-Touch Measurement

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# Efficient measurement

**5000+** pcs

Once up to  
5000+features

**1024** pcs

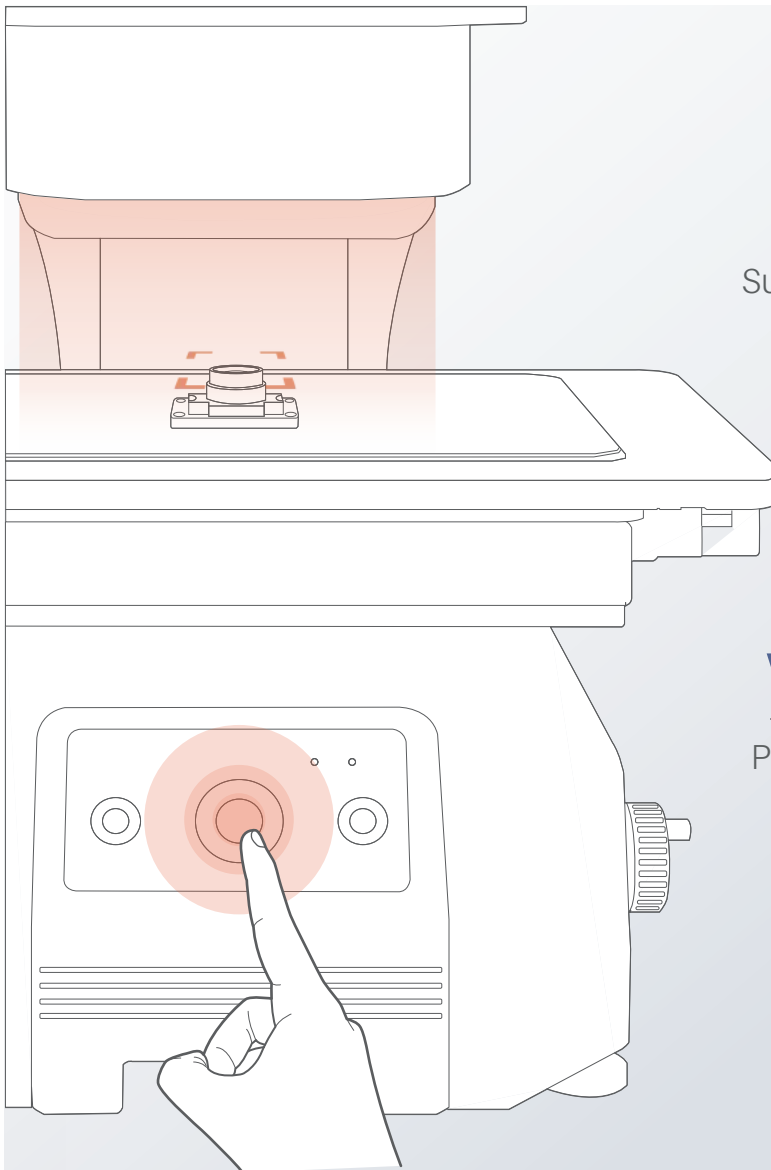
Once up to  
1024 workpieces

**2** secs

In 2 seconds  
Finish the  
measurement

- Auto illumination
- Auto focusing





## Load program

Support importing DXF file



## Place workpiece

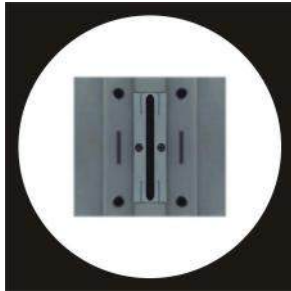
Place anywhere on table



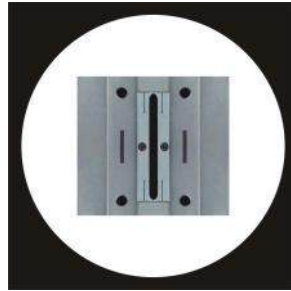
## One-Touch measurement

Touch Measure button

## Dedicated Optical Lens



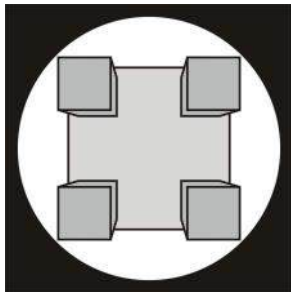
Normal Lens



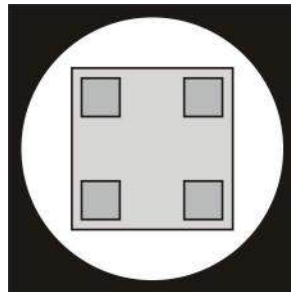
Our Dedicated lens

### 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.



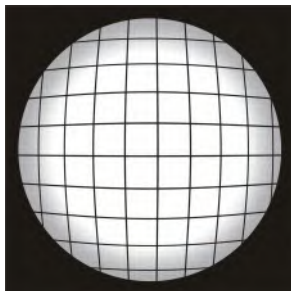
Normal Lens



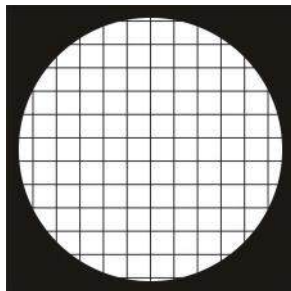
Our Dedicated lens

### 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.



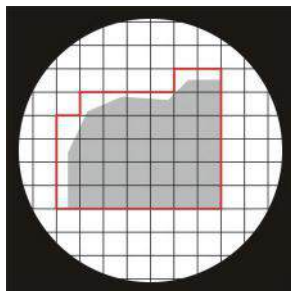
Normal Lens



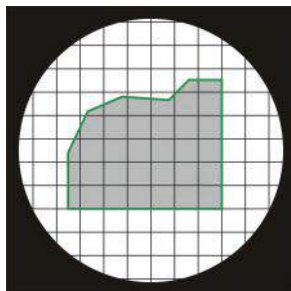
Our Dedicated lens

### 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

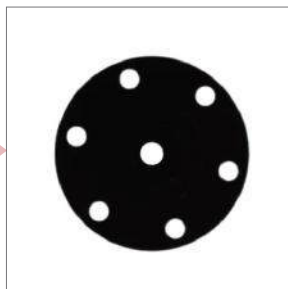
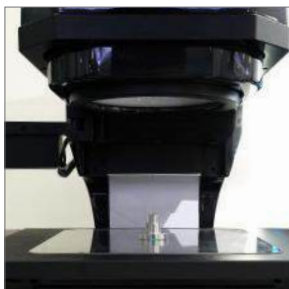
### Sub-pixel processing of edges

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

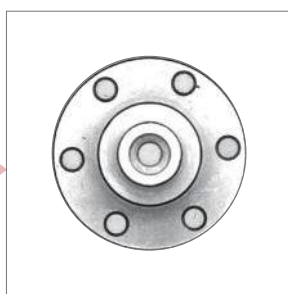
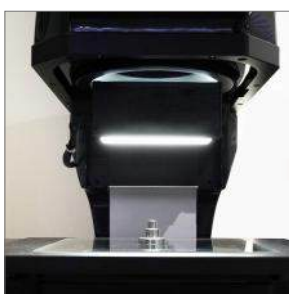


# Light Source

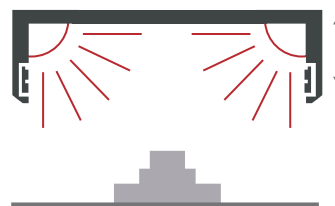
Back light



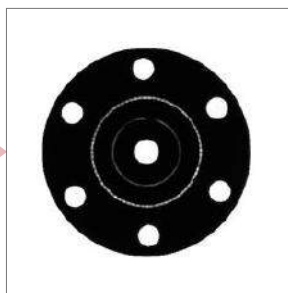
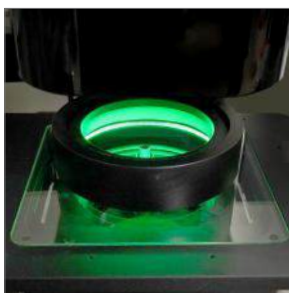
Coaxial light



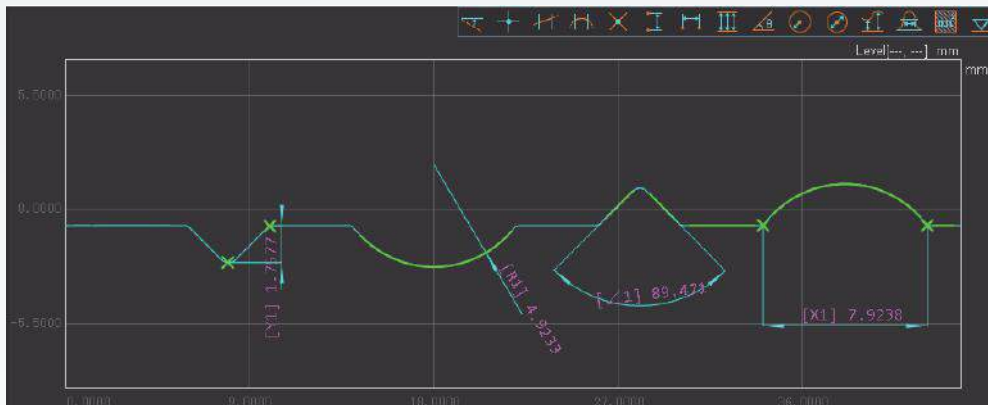
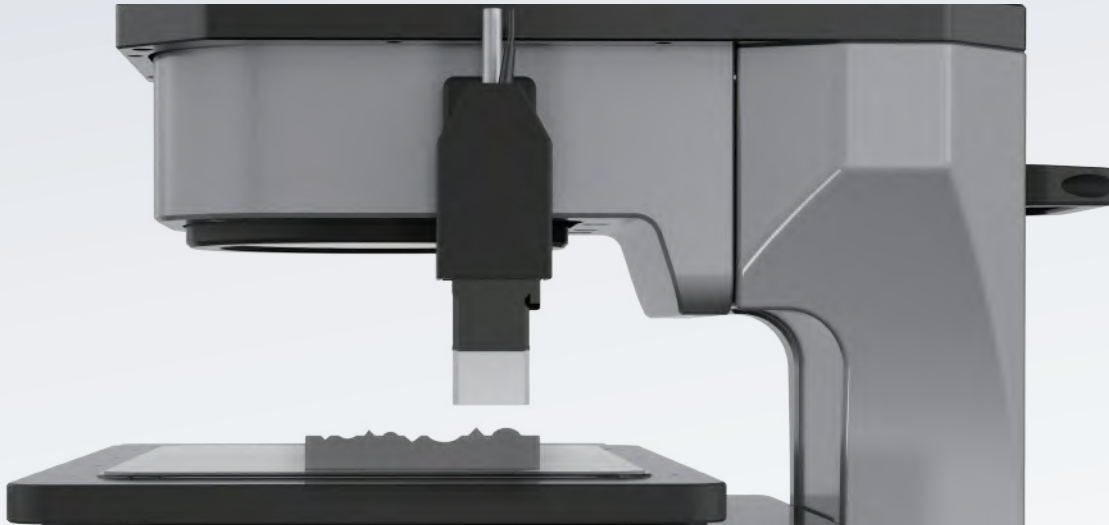
Ring light



0° ring light

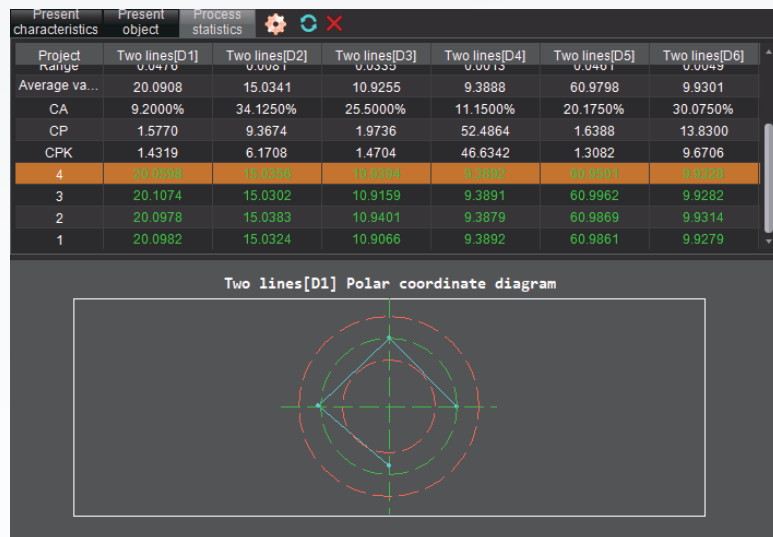
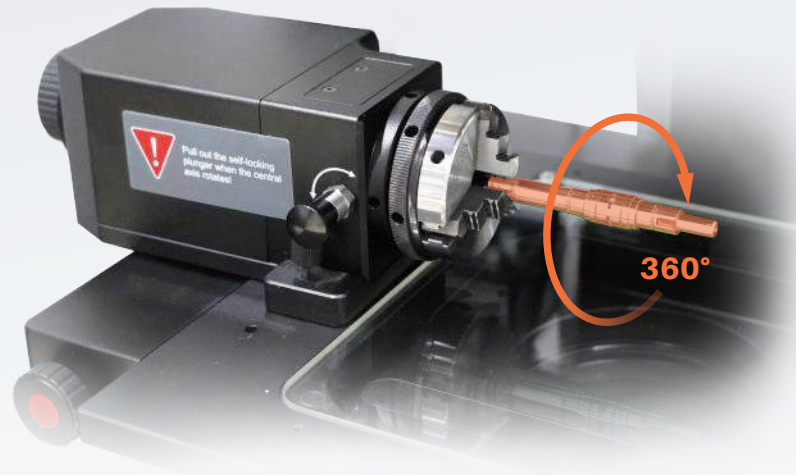


# Height probe



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 surface of the sample continuously.

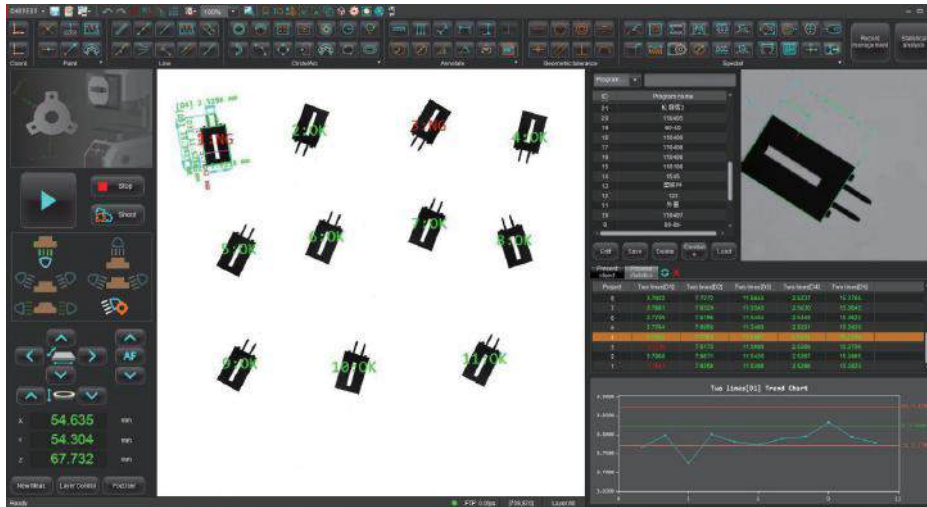
# Rotary chuck



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

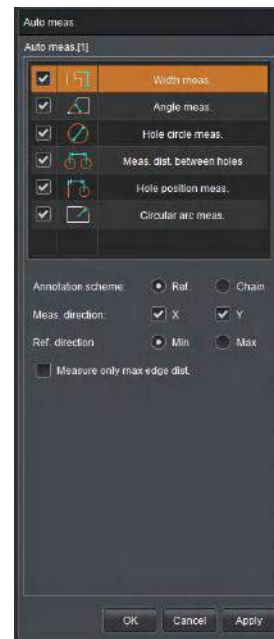
Vision X professional visual measurement software is completely independently developed by CHOTEST, and CHOTEST has independent intellectual property rights. VisionX has friendly user interface, convenient operation, powerful and practical functions, support more than 80 kinds of extraction and analysis 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

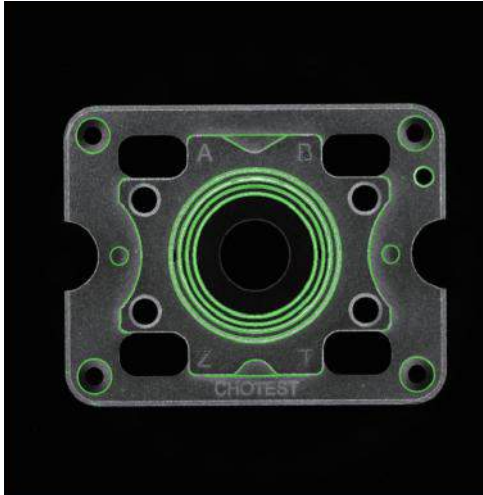
# Features

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

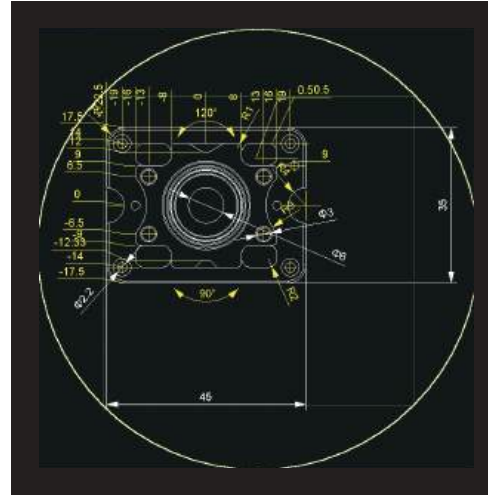


## DXF Import

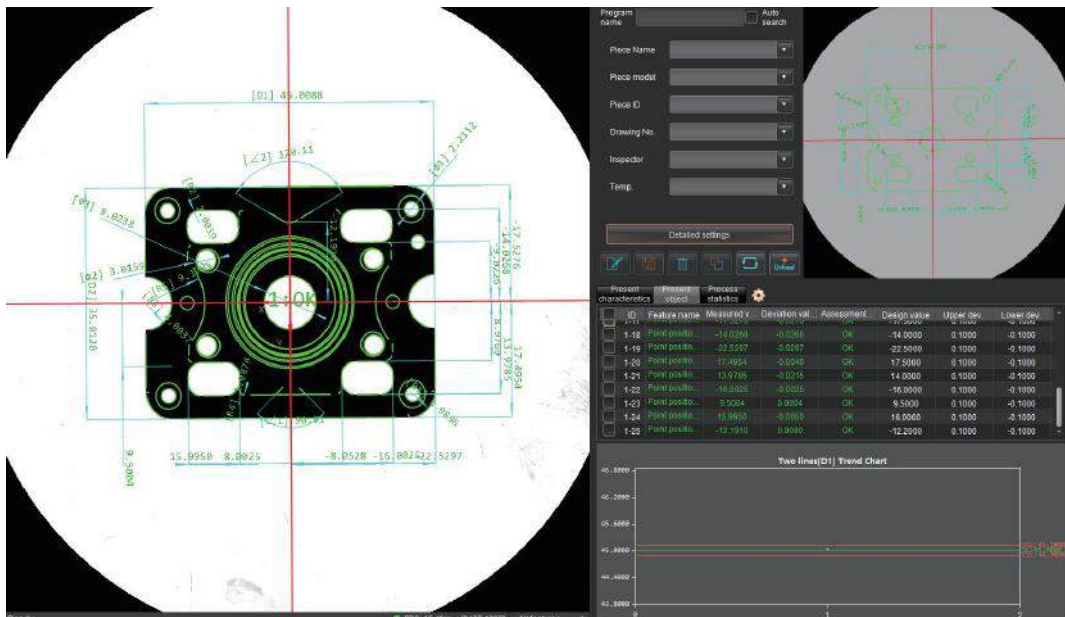
Measurement data can be obtained from CAD drawings. Even if the test object is not physically available, you can still create measurement programs quickly. The system can automatically assign features and dimensions from the DXF drawing to the sample, including surface dimensions



Sample



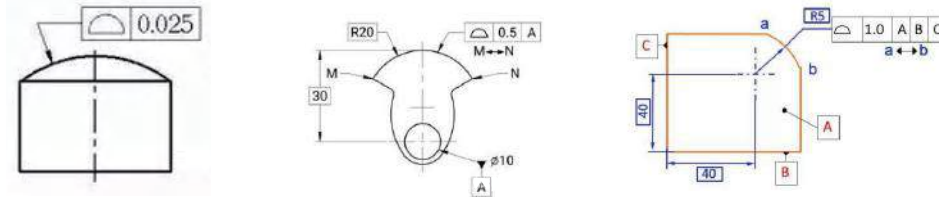
Automatically assign DXF features to the sample



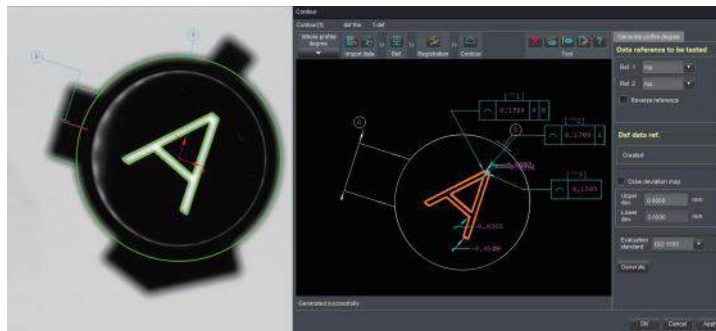
CNC Measure

## Profile Degree

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

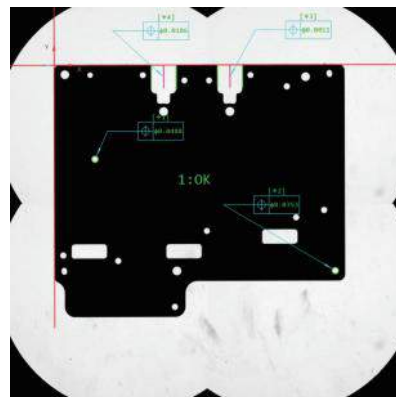


- Multiple annotations: Multiple profile degrees can be annotated in a single program.No need to establish a coordinate system: Just need to enter the reference in the drawing .Measurement of profile degrees in different coordinate systems can be achieved in a single program.
- Multiple types: Evaluate the profile degree by scanning the entire contour; Or evaluate the profile degree by measuring point with specifying coordinate values.



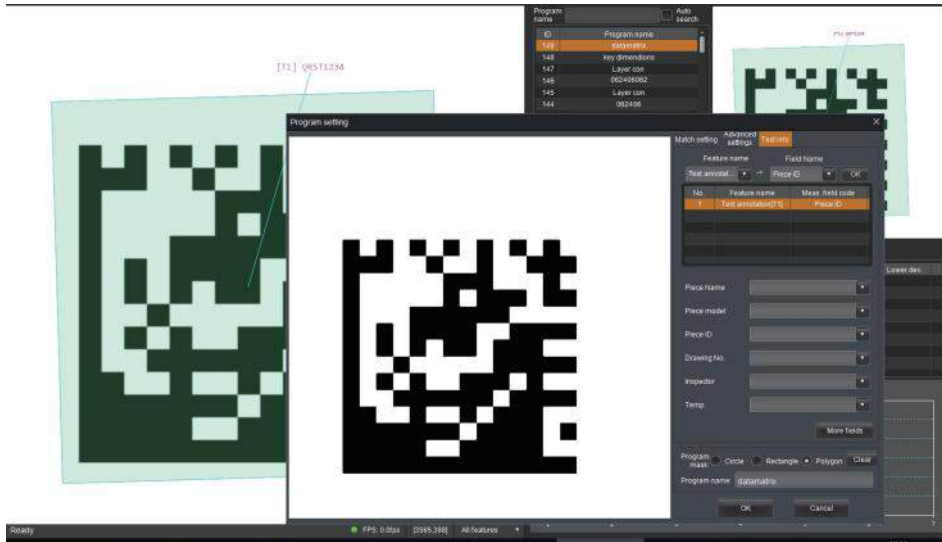
## Position Degree

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

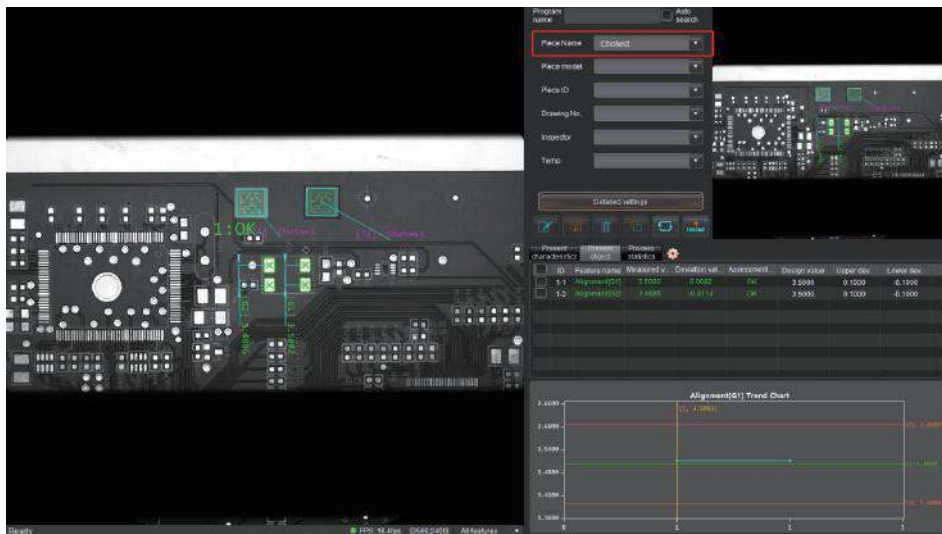


# QR Code Recognition

The QR code on the sample can be defined as inspection information.

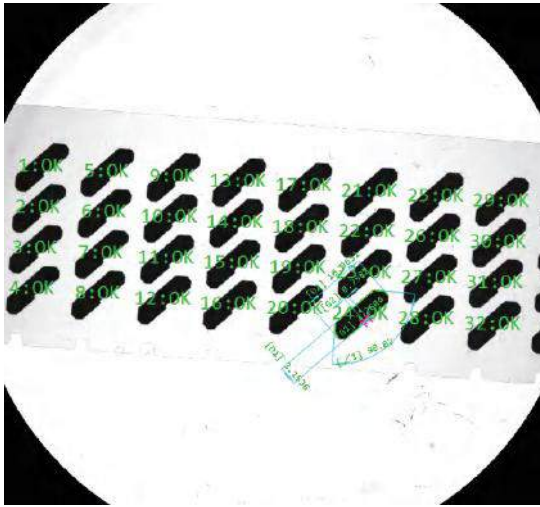


The QR value which is recognized by the software can be saved as inspection information according to pre-setting during CNC measurement.

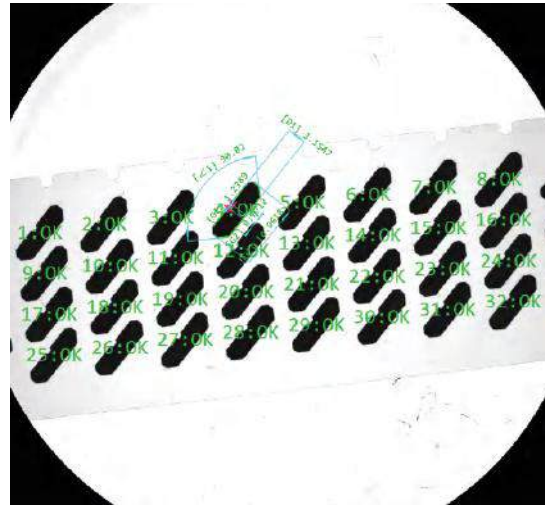


## Automatic Multi-Object Matching

The system supports automatic measurement of multiple objects, up to 1024 objects at a time. 360-degree rotation search function, tested objects can be easily recognized and automatically measured, regardless of their orientation. The measurement sequence of the samples can be customized.



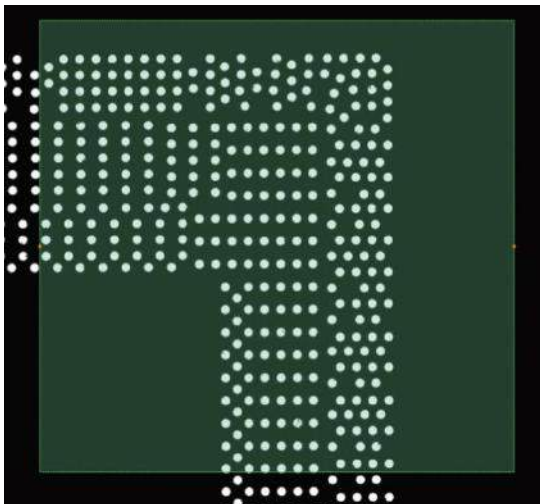
Z-order numbering



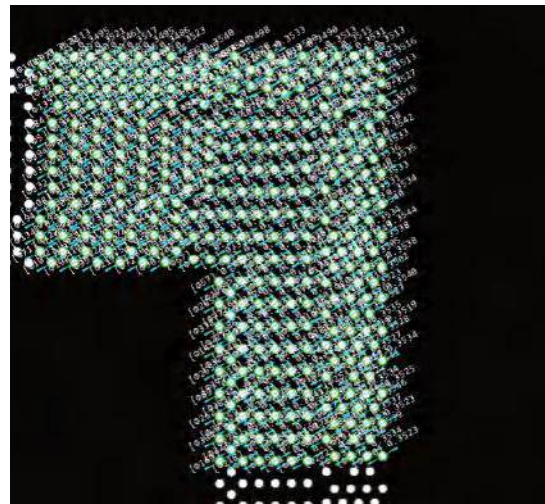
N-order numbering

## Extract Multi-Circle by Lasso

When there are many circles located together on a sample, extracting circles one by one can be time-consuming and labor-intensive. This tool allows the diameter of the circles to be quickly extracted and annotated all at the same time.



Before posture adjustment



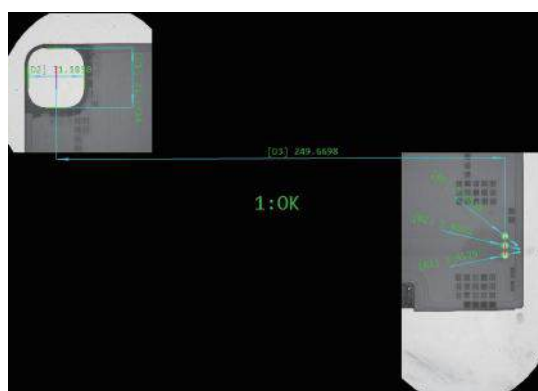
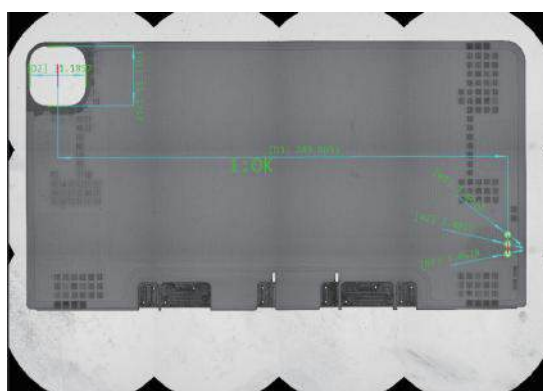
After posture adjustment



## Fixed Position Measurement

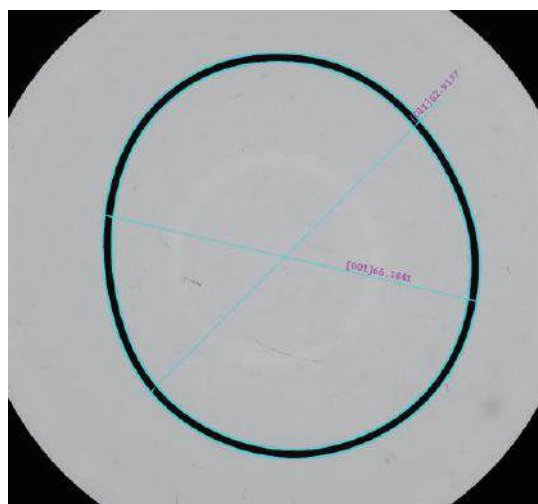
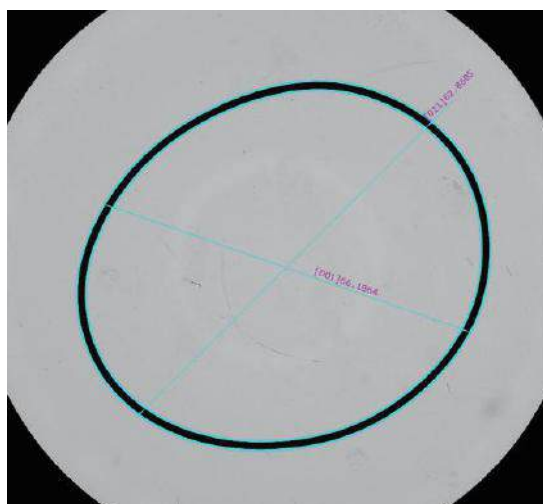
Fixed position measurement eliminates the matching process, and the tested objects need to be placed in the same position. During CNC measurement, only images of the measurement areas are captured, greatly enhancing measurement efficiency.

Even for samples with significant deformation, such as rubber seals, automatic CNC measurement can be achieved through fixed position measurement.



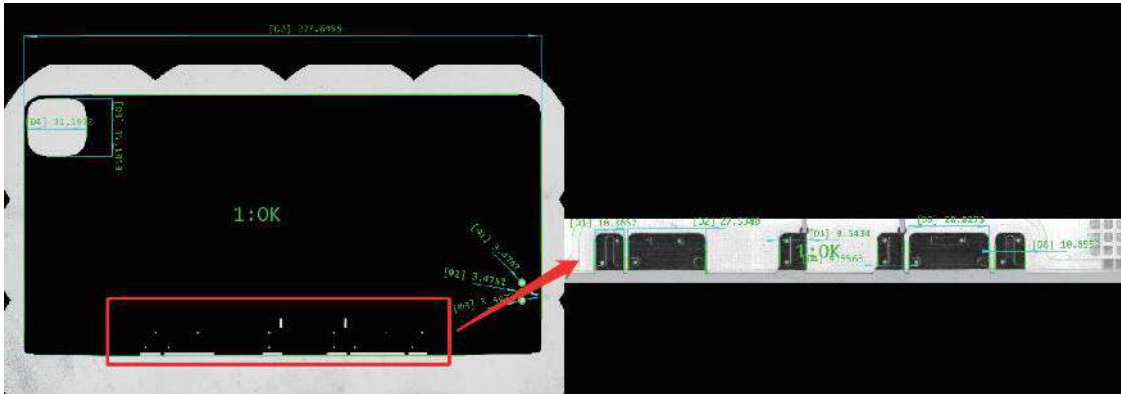
## Seal Measurement

Accurate measurements can be performed even for seal rings with large deformations.

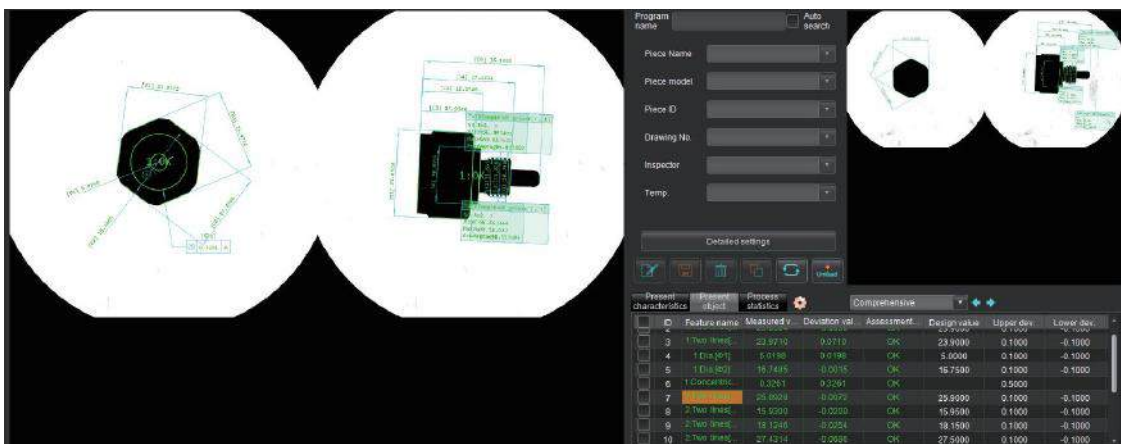


## Conjoint program

Combine Wide F.O.V. and High Precision F.O.V. : Wide F.O.V. mode allows efficient measurement for large dimensions. High precision F.O.V. mode focuses on small dimensions of the test object, ensuring accuracy.

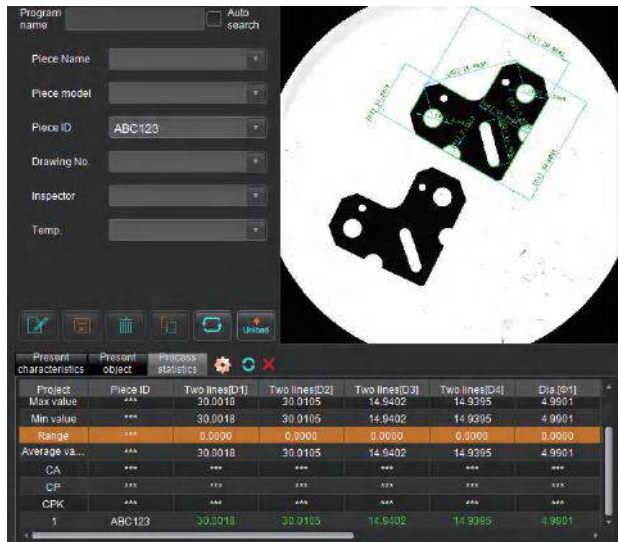


Software can combine two programs with different measurement views of the test object as a Conjoint one. During CNC measurement, two sub-programs can be performed sequentially on different views, then all data can be generated to a single measurement record for easy data management and statistic.



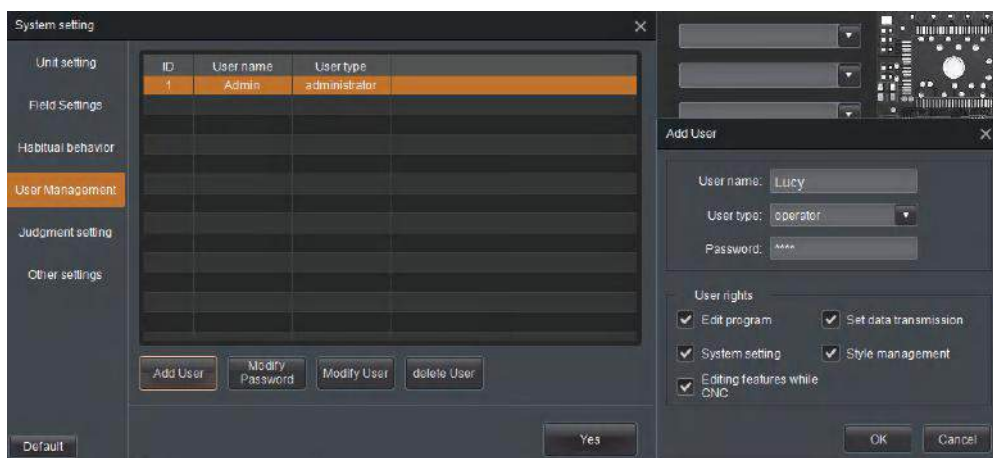
## Barcode Scanner

The barcode value which is read by Scanner can be saved as inspection information, or used to search program according to definition of the operator.



## User Management

The accounts can be defined as administrator or operator, and user rights of the operator account could be constrained according to requirement.

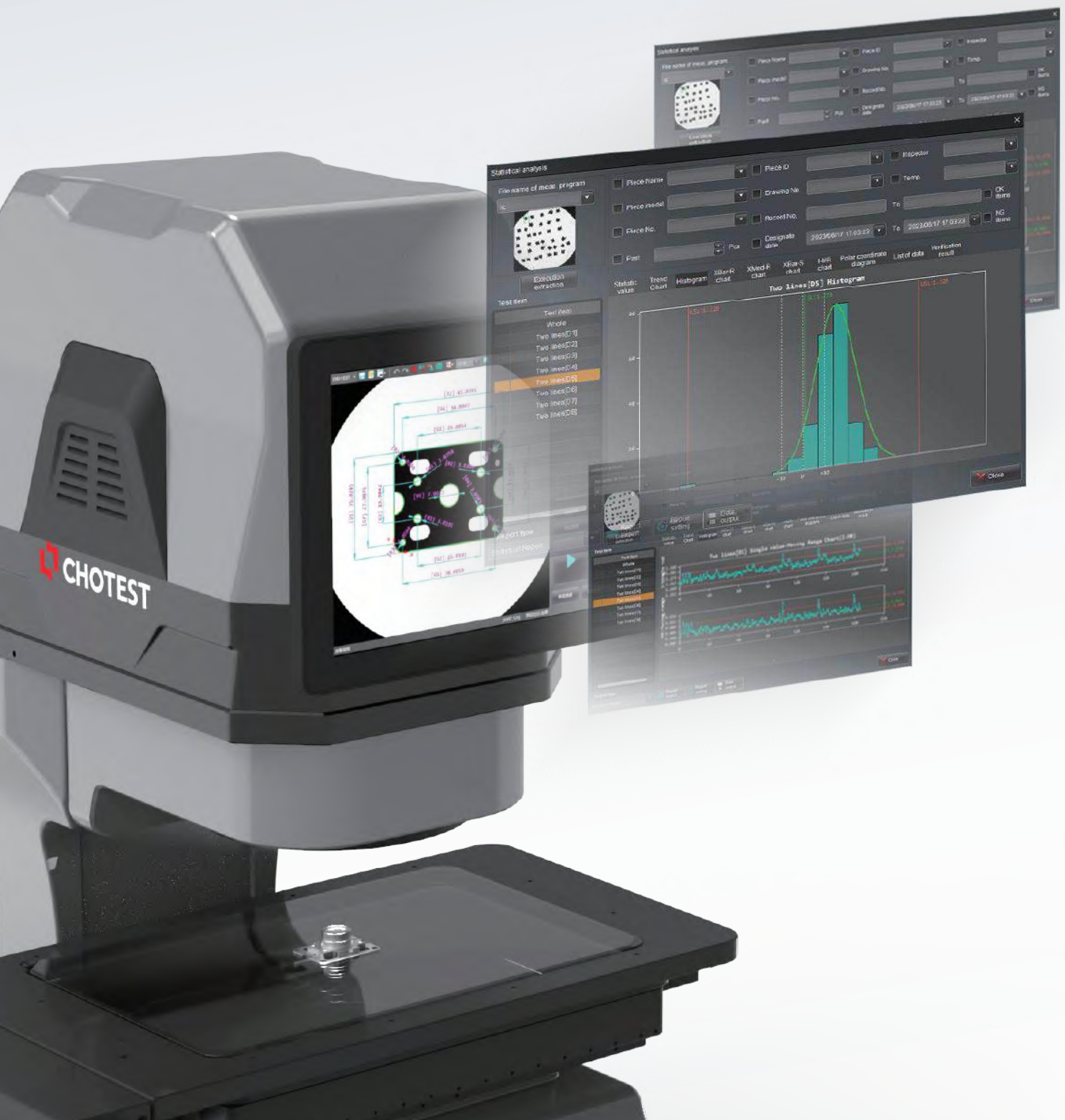


## Statistical Analysis

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,  $\sigma$ ,  $3\sigma$ ,  $6\sigma$ , Ca, Cp, Cpk etc) will be automatically recorded and saved. Operator could search records by different conditions.





Statistic

The screenshot shows the 'Statistical analysis' window with the following details:

- Item Information:** Piece Name: Thread, Piece ID: [empty], Drawing No.: ACC7-940-02651, Piece model: E9IHL, Meas. batch No.: 1, Inspector: Crane, Designate date: 2020-10-27.
- File name of meas. program:** 壳体
- Test item list:** Whole, dia [φ1], Perpendicular line[V1].
- Tabled Data Table:**

No.	Evaluation	Test Date	ID	Piece No.	工件名称	工件型号	工件识别码	测程
1	OK	2020-09-09 15:00:25	179	1				
2	OK	2020-09-09 15:00:14	178	1				
3	OK	2020-09-09 15:00:00	177	1				
4	OK	2020-09-09 14:59:37	176	1				
5	OK	2020-09-09 14:59:29	175	1				
6	OK	2020-09-09 14:59:21	174	1				
7	OK	2020-09-09 14:59:12	173	1				
8	OK	2020-09-09 14:58:21	172	1				
9	NG	2020-09-09 14:57:27	171	1				
10	OK	2020-09-09 14:57:07	170	1				
11	OK	2020-09-09 14:56:49	169	1				
- Report type:** Statistical Report

Tabled data

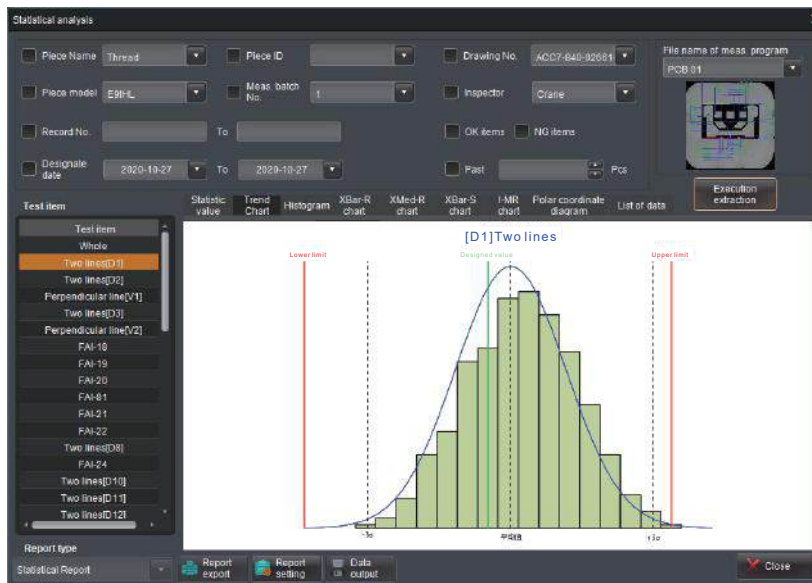
## ■ Control production process and improve product quality

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.

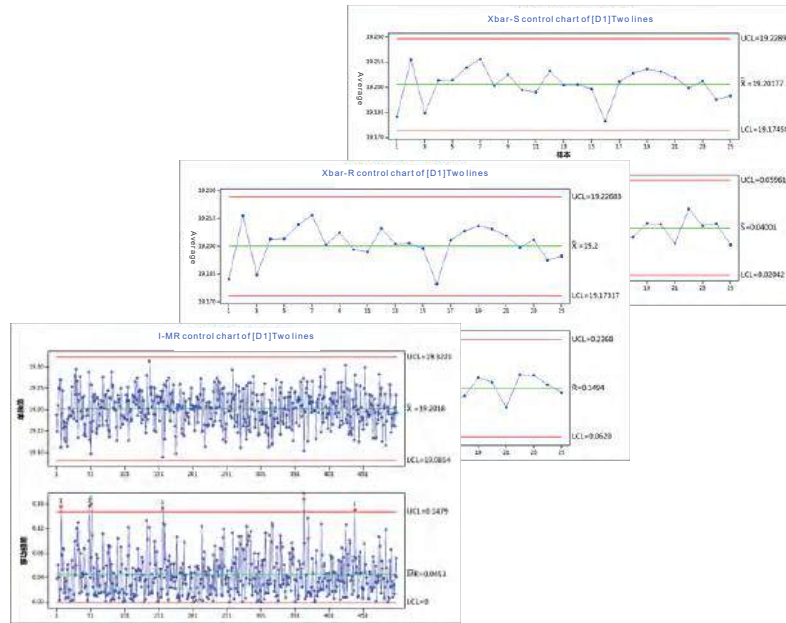


Trend Chart



Histogram

By quality diagnosis and analysis, SPC statistical method can not only realize the monitoring of product quality, but also reflect the change trend in the generation process, reduce the waste caused by post-inspection, so as to achieve the effect of controlling the production process and improving product quality.



Control Charts

■ Generate measurement report automatically by One Key

1. Import and export Measurement records
2. Able to saved as PDF, CSV, Excel ,text files
3. Support user-defined PDF report template
4. Support user-defined Excel report template
5. Quick export and print reports by one key

Test Report							
							Date: 2020-09-29 10:20:08
							Object: SIM Card Tray #1
							Model: SM-W975
							Operator: ML
							Quantity: 1
							Temp.: 25
No.	Feature	Unit	Measured Value	Nominal	Upper Dev.	Lower Dev.	Judge
1	6	mm	0.944	1.010	0.030	-0.030	NG
2	17-1	mm	14.811	14.830	0.070	-0.050	OK
3	17-2	mm	14.833	14.830	0.070	-0.050	OK
4	18-1	mm	15.097	15.100	0.070	-0.070	OK
5	18-2	mm	15.119	15.100	0.070	-0.070	OK
6	19	mm	39.840	39.840	0.050	-0.070	OK
7	15	mm	25.877	26.820	0.050	-0.080	NG
8	15cf	mm	25.882	26.820	0.050	-0.080	NG

Test report

# Evaluation Methods

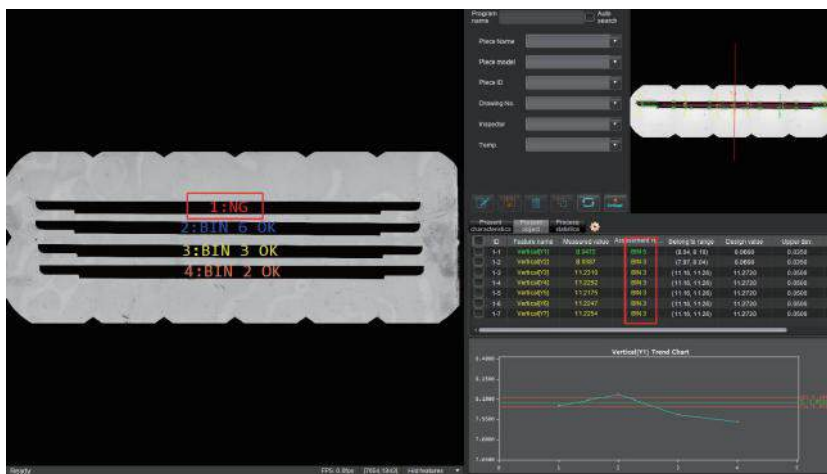
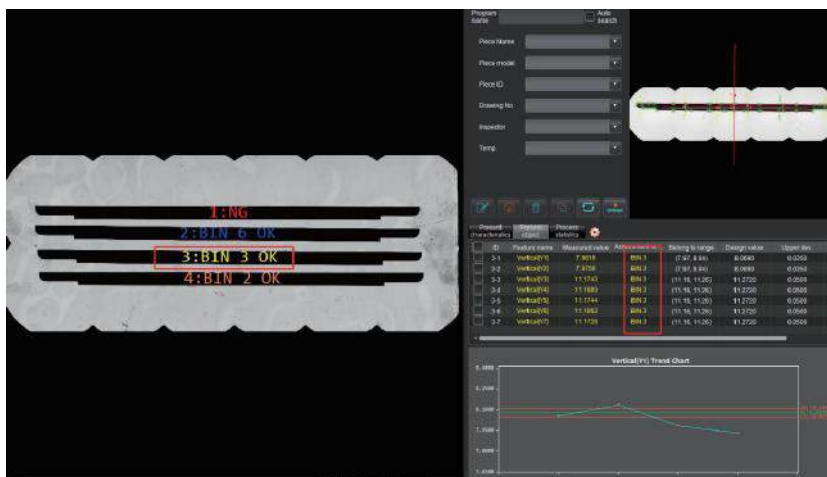
## Standard Tolerance

Evaluate the measured values against the given design value and upper/lower tolerances specified on the drawing.

ID	Feature name	Measured value	Assessment result	Design value	Upper dev.	Lower dev.
1	Two lines[D1]	14.0731	OK	14.0700	0.0500	-0.0500
2	Dia [φ1]	16.0572	OK	16.0500	0.0500	-0.0500
3	Point position-X[X1]	0.1999	OK	0.2000	0.0500	-0.0500
4	Point position-Y[Y1]	9.5467	OK	9.5500	0.1000	-0.1000
5	Positional alignme...	0.0066	OK		0.1000	
6	Concentricity[◎1]	0.0094	OK		0.1000	
7	Dia [φ2]	17.9646	OK	17.9600	0.0500	-0.0500
8	Surface[φ2]	19.7949	OK	19.8000	0.0500	-0.0500

## Grade of Tolerance

Divide the tolerance into multiple grades according to deviation range. Evaluate the sample's grade based on the actual measured value; If the dimensions of a sample are not in the same grade, this sample is unqualified. Classifying samples into different grades facilitates assembly and reduces waste.





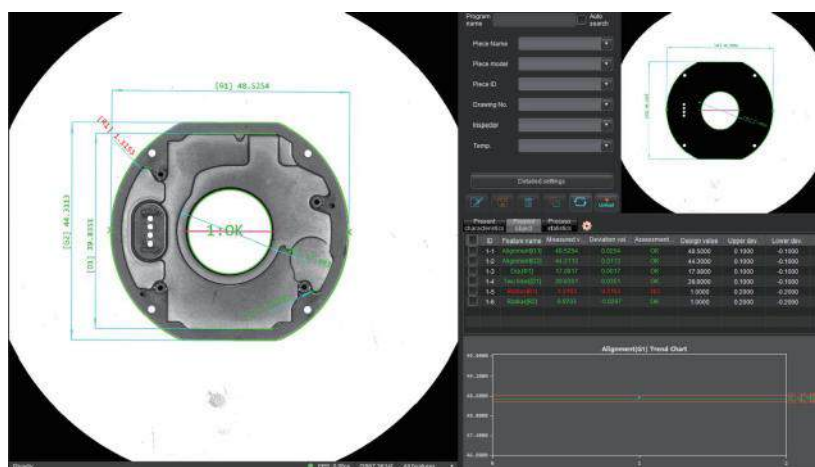
## ■ Proportion of Tolerance

Divide the tolerance into multiple grades according to tolerance percentage. Evaluate the sample's grade based on the actual measured value, so it can be used for pre-warning of processing equipment's state.

ID	Feature name	Measured value	Assessment result	Belong to range	Design value	Upper dev.
5-1	14.0624	14.0624	G1	(0.00%, 80.00%)	14.0700	0.0250
5-2	Dia[Φ1]	16.0396	G1	(0.00%, 80.00%)	16.0500	0.0250
5-3	Point position-X[Y]1	0.2203	G2	(80.00%, 100.00%)	0.2000	0.0250
5-4	Point position-Y[Y]1	9.5129	G1	(0.00%, 80.00%)	9.5500	0.1000
5-5	Positional alignm...	0.0846	G2	(80.00%, 100.00%)		0.1000
5-6	Concentricity[Φ 1]	0.0093	G1	(0.00%, 80.00%)		0.1000
5-7	Dia[Φ2]	17.9727	G1	(0.00%, 80.00%)	17.9600	0.0250
5-8	Vertical[Y1]	19.7822	G1	(0.00%, 80.00%)	19.8000	0.0250

## ■ Critical Dimensions

The sample is qualified by only Critical Dimensions which are specified by the operator.



- Data

Test reports can be generated simple and fast, such as PDF, WORD, EXCEL, CSV and TXT.

- Process Statistics:

Automatically calculate Cp and Cpk. Real-time trend chart or histogram display quality trends and changes during measurements.

- Custom Excel Report

Measurement data & corresponding test images and inspection info are automatically exported into a designated Excel template in real time.

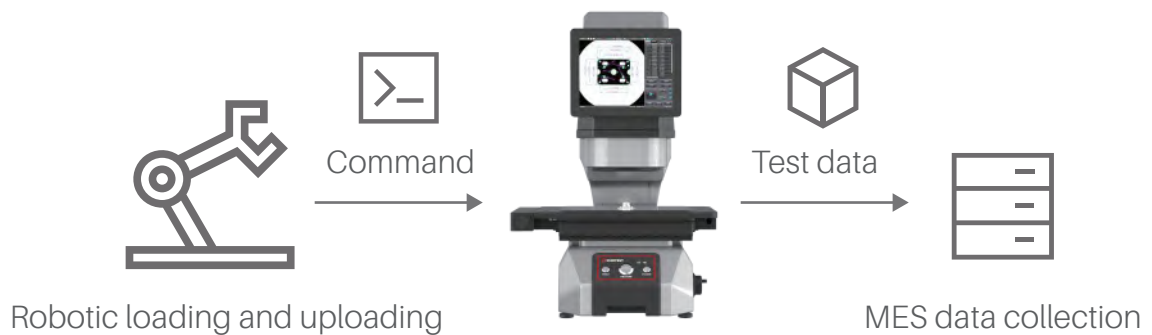
Customer		LOT No	
Part name		Material	
Part No.		Spec.	

Batch No.	Item	Measured value	Design Value	Upper Limit	Lower Limit	Inspector	Date
D8X62723-E75-P-N-1	L①	2.513	2.5	0.2	-0.2	Crane	09.20
D8X62723-E75-P-N-1	L②	2.512	2.5	0.2	-0.2	Crane	09.20
D8X62723-E75-P-N-1	L③	2.511	2.5	0.2	-0.2	Crane	09.20
D8X62723-E75-P-N-1	L④	2.508	2.5	0.2	-0.2	Crane	09.20
D8X62723-E75-P-N-1	L⑤	2.509	2.5	0.2	-0.2	Crane	09.20
D8X62723-E75-P-N-1	L⑥	2.511	2.5	0.2	-0.2	Crane	09.20
D8X62723-E75-P-N-1	L⑦	2.513	2.5	0.2	-0.2	Crane	09.20
D8X62723-E75-P-N-1	L⑧	2.512	2.5	0.2	-0.2	Crane	09.20
D8X62723-E75-P-N-1	L⑨	2.509	2.5	0.2	-0.2	Crane	09.20
D8X62723-E75-P-N-1	W①	1.999	2	0.3	-0.1	Crane	09.20
D8X62723-E75-P-N-1	W②	1.997	2	0.3	-0.1	Crane	09.20
D8X62723-E75-P-N-1	W③	1.998	2	0.3	-0.1	Crane	09.20
D8X62723-E75-P-N-1	W④	1.997	2	0.3	-0.1	Crane	09.20
D8X62723-E75-P-N-1	W⑤	1.997	2	0.3	-0.1	Crane	09.20
D8X62723-E75-P-N-1	W⑥	1.999	2	0.3	-0.1	Crane	09.20
D8X62723-E75-P-N-1	W⑦	1.996	2	0.3	-0.1	Crane	09.20
D8X62723-E75-P-N-1	W⑧	1.999	2	0.3	-0.1	Crane	09.20
D8X62723-E75-P-N-1	W⑨	1.997	2	0.3	-0.1	Crane	09.20
D8X62723-E75-P-N-1	H①	0.901	0.9	0.1	-0.1	Crane	09.20
D8X62723-E75-P-N-1	H②	0.904	0.9	0.1	-0.1	Crane	09.20
D8X62723-E75-P-N-1	H③	0.904	0.9	0.1	-0.1	Crane	09.20
D8X62723-E75-P-N-1	H④	0.903	0.9	0.1	-0.1	Crane	09.20
D8X62723-E75-P-N-1	H⑤	0.902	0.9	0.1	-0.1	Crane	09.20
D8X62723-E75-P-N-1	H⑥	0.905	0.9	0.1	-0.1	Crane	09.20
D8X62723-E75-P-N-1	H⑦	0.901	0.9	0.1	-0.1	Crane	09.20
D8X62723-E75-P-N-1	H⑧	0.903	0.9	0.1	-0.1	Crane	09.20
D8X62723-E75-P-N-1	H⑨	0.901	0.9	0.1	-0.1	Crane	09.20

## ■ TCP

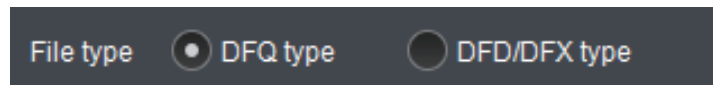
Measurement data is transmitted to the MES system of the customer via socket or HTTP protocols in real time.

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.

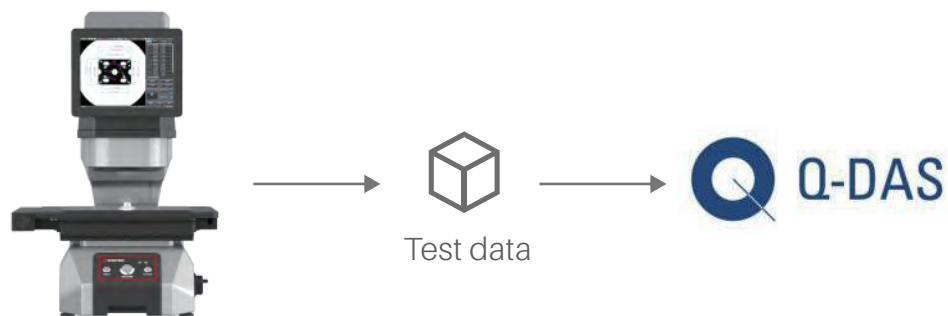


## ■ QDAS

Automatically generate test results in a format which can be recognizable by the QDAS system.



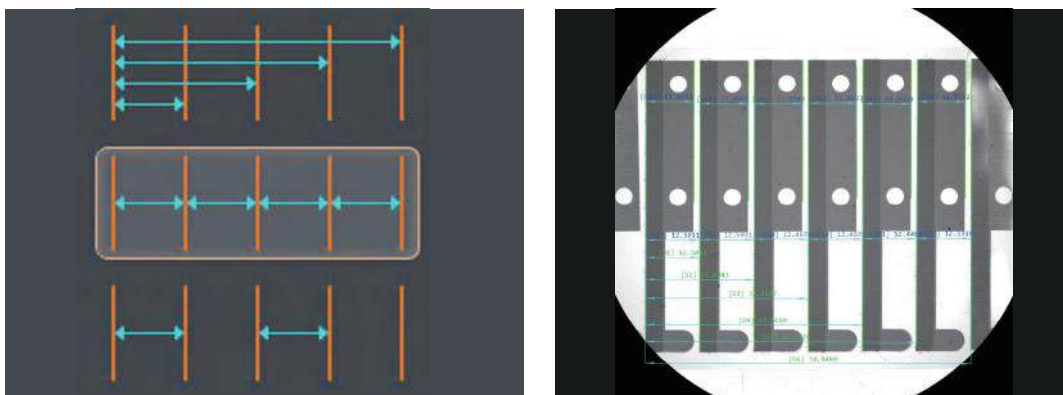
K fields can be customized to link VX machines to output parameters.



Custom Text Report: Operator can define the content format of the report in Text file, and the measurement data are exported in real time.

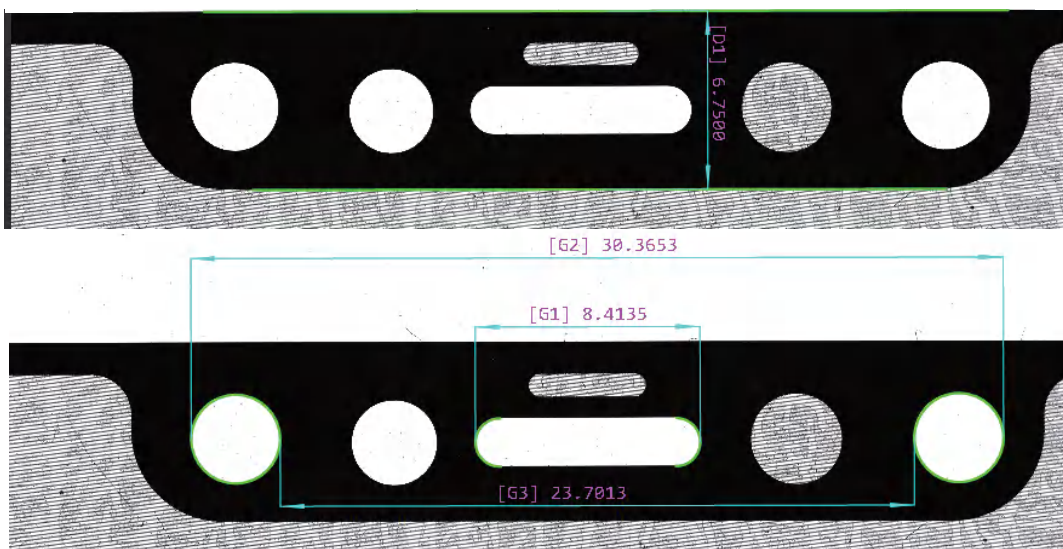
## Baseline-Line Distance

There are Three options for Baseline-Line Distance annotation. Select the desired line and annotate it with a single click.



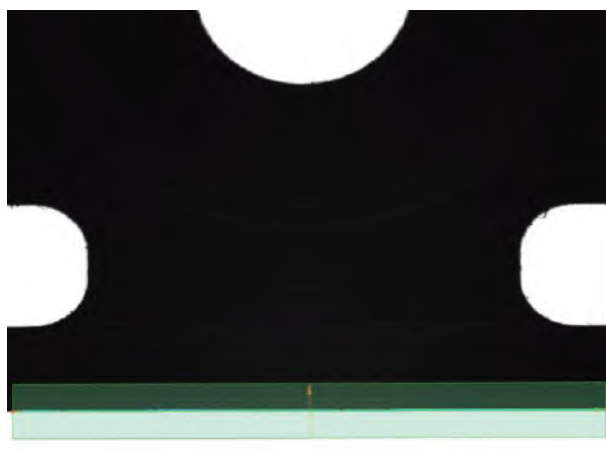
## Intelligent Annotating

This tool can annotate distance between two points or two lines, center distance between two circles, max distance or min distance or center distance between line and circle, etc.

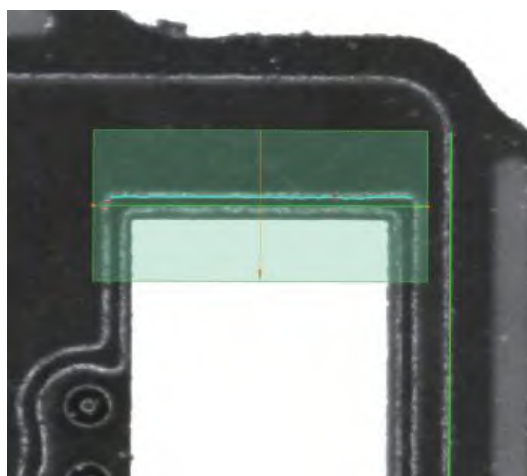


## Auto Edge Detection

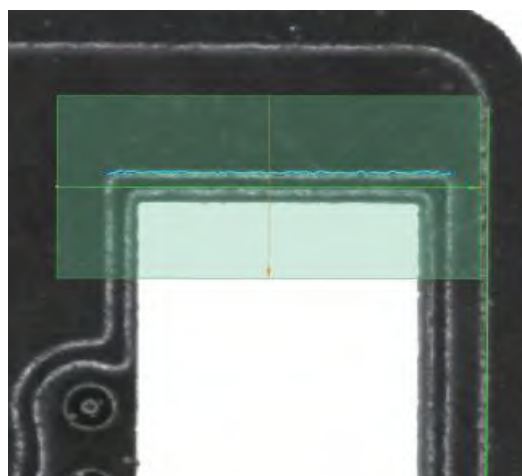
Simply highlight the region where the feature is located, and the system will automatically capture the edge.



Various edge extraction conditions can be set to exclude interference and accurately extract the target feature, even for tiny boundaries.



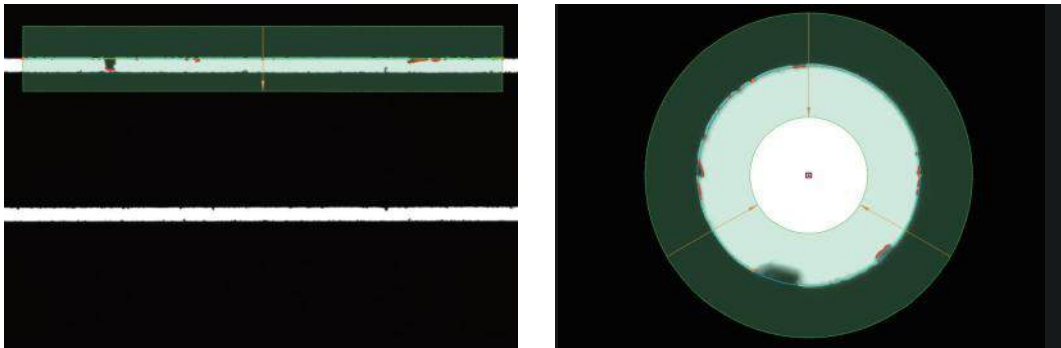
Extract from dark to bright



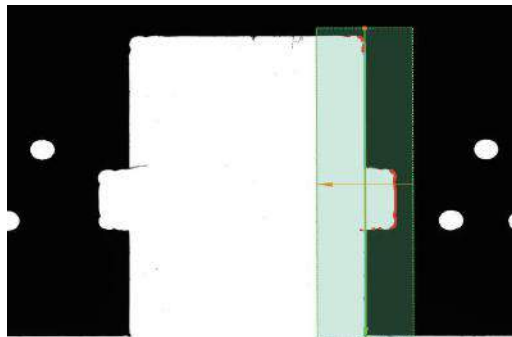
Extract from bright to dark

## Auto deburring

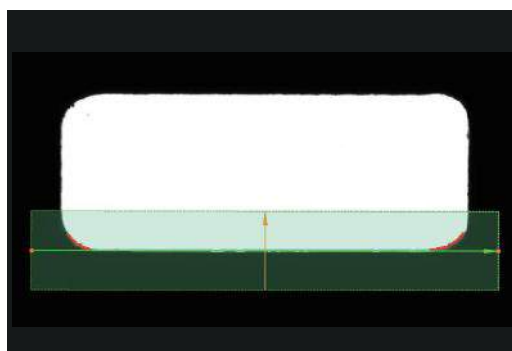
Automatically remove abnormal points to eliminate the interference of edge burrs, and extract features accurately.



Even if boundary is discontinuous, the system can eliminate interference from nearby features. Complex settings are not required as the system automatically removes abnormal points.

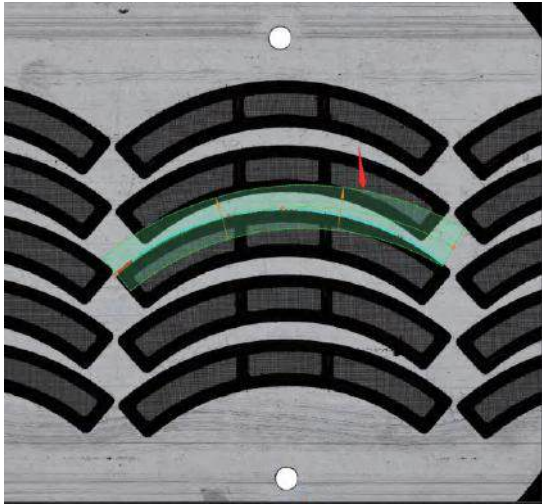


The arcs at both ends of a straight line can also be automatically excluded

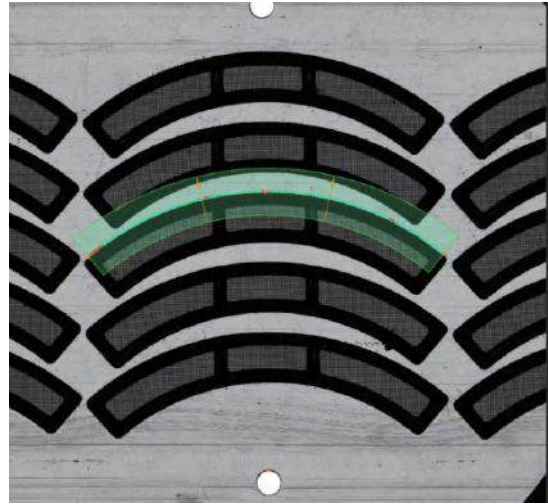


## Posture Adjustment

The posture adjustment function automatically adjusts the orientation of the lasso to ensure precise feature extraction. Even if the lasso does not contain the target feature appropriately, the system automatically adjusts the posture of the lasso to center on the feature.

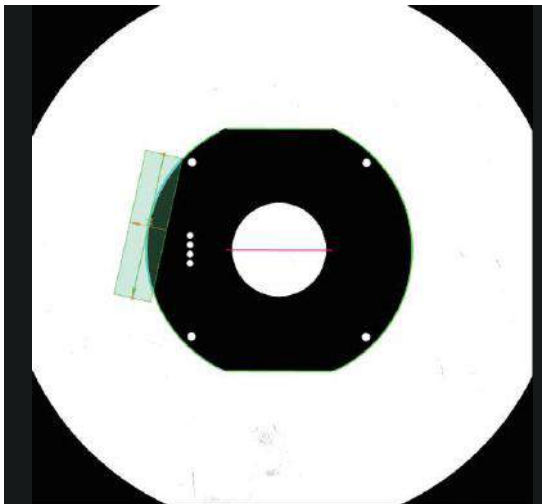


Free selection

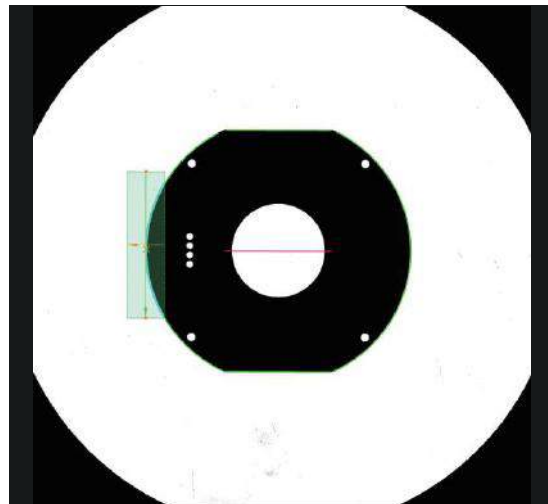


After auto adjustment

For the measurement of peak point, the operator can set condition to constrain orientation of the lasso to ensure accurate calculation of peak value.



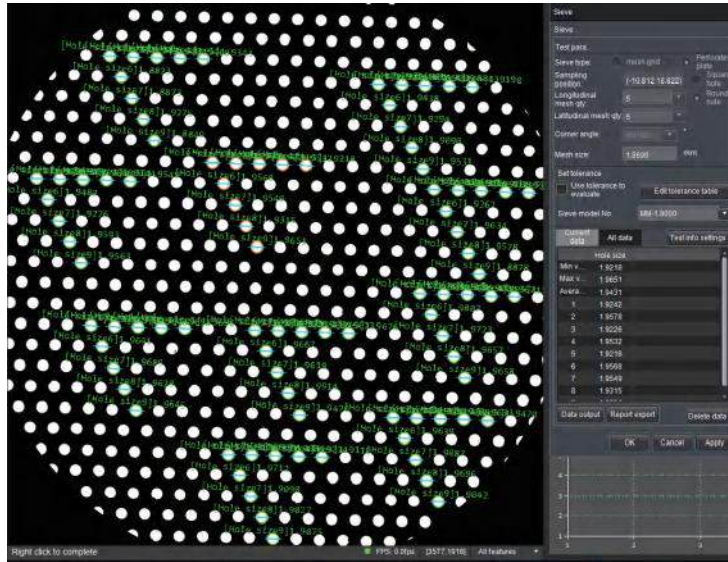
Before posture adjustment



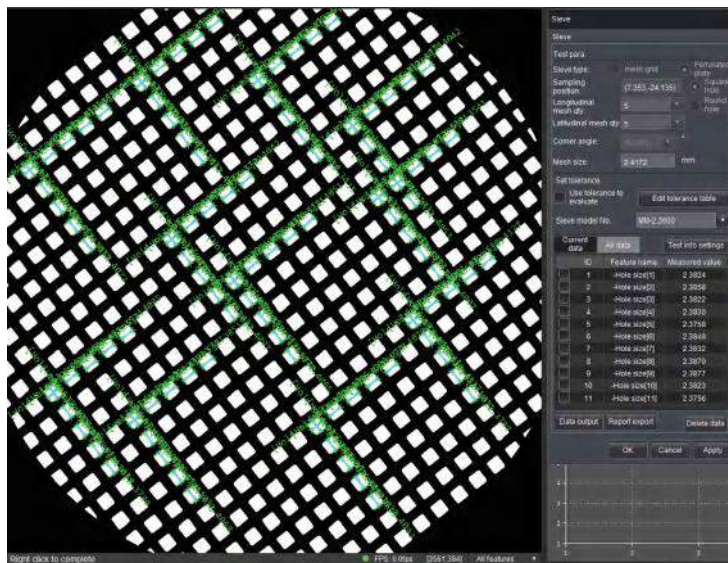
After posture adjustment

# Sieve Measurement

Multiple measurements can be made continuously, and the report can be output with the deviation values.



Circles

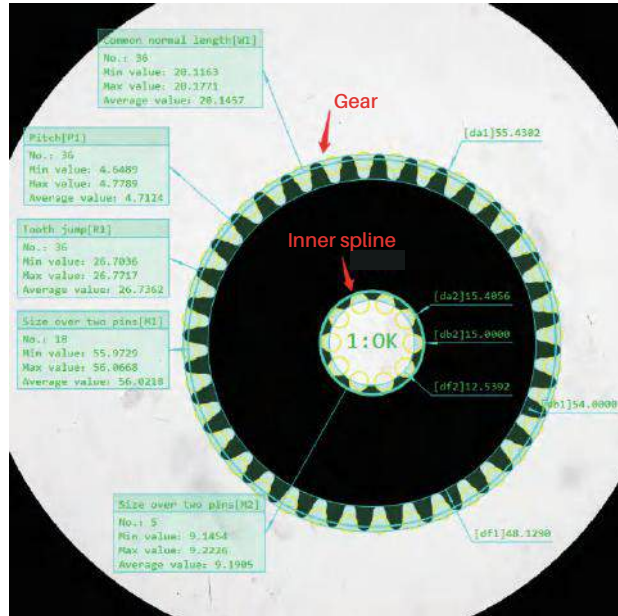


Squares



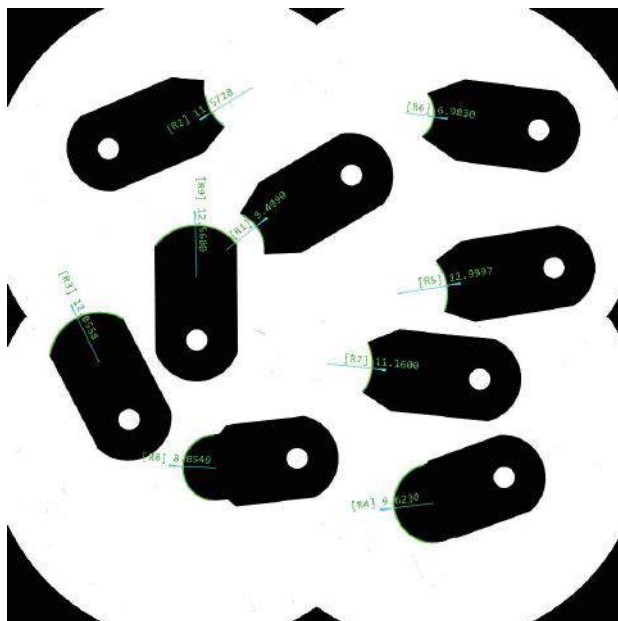
## Gear/R Gauge Measurement

- Gear parameters can be measured in as fast as 2 seconds, such as pitch distance, tooth spacing, normal line, tooth runout, etc. Splines also can be measure by this tool, and both internal and external gears/splines can be measured.



Gear

- No need to create a program. Place the objects on the table then click Measure.



R Gauge

# 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



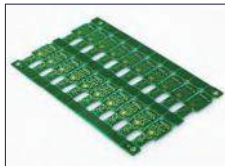
Rubber ring



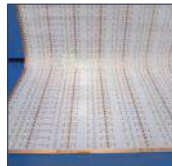
Spring



Thread, Shaft



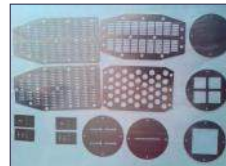
Rigid PCB



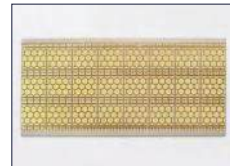
Soft PCB



Shielding case



Mask board



Ceramic plate



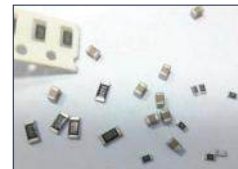
Car monitor frame



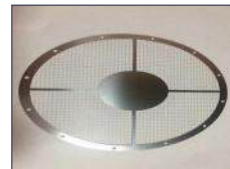
Connectors



Battery



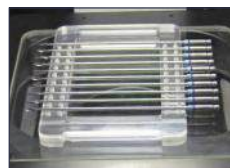
Resistors



Filter mesh



Die cutting



Medical drill



Sieve

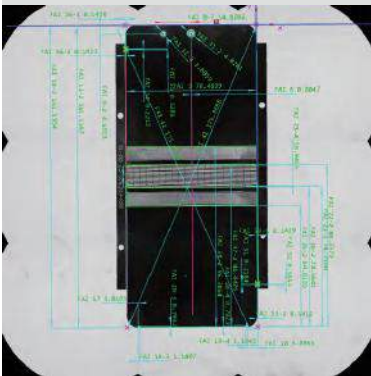


Radius gauge

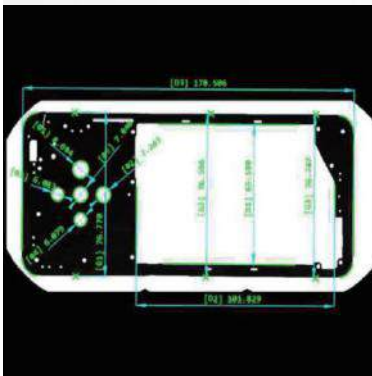


Thread template

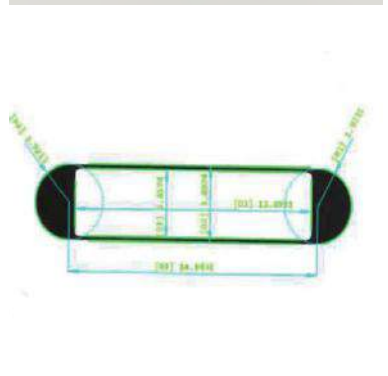
Foldable Screen of Mobile Phone



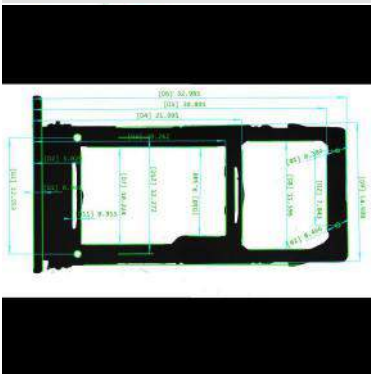
Phone Casing



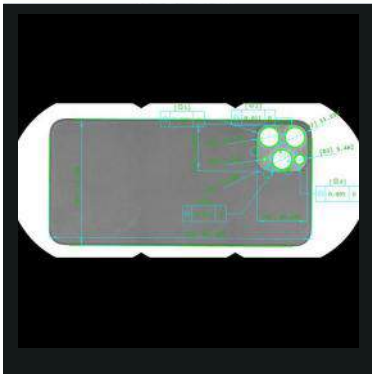
Camera support



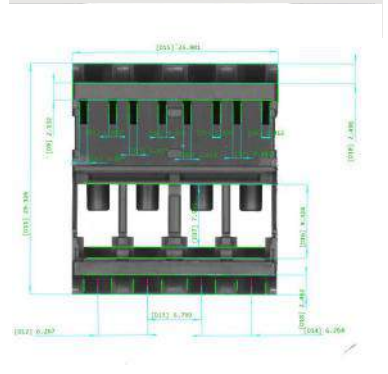
Shield slot



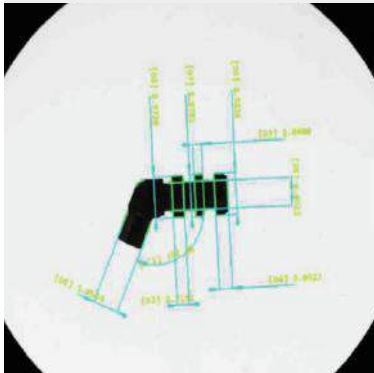
Back Cover Glass of Mobile Phone



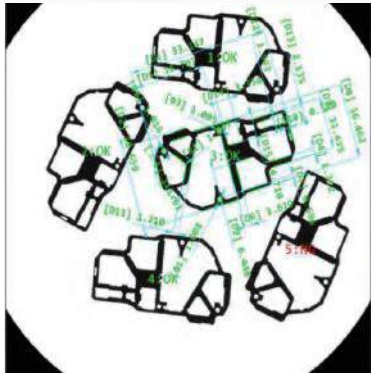
Plastic



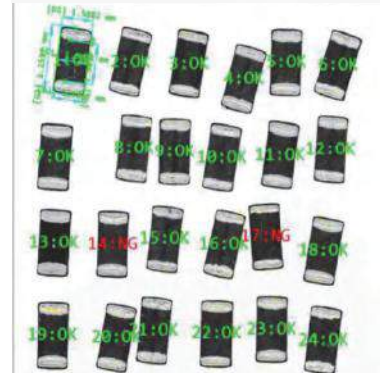
Terminal



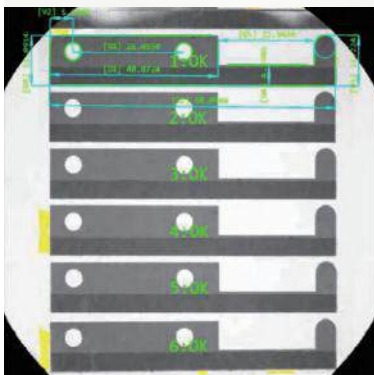
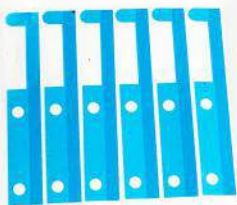
Shielding Covers



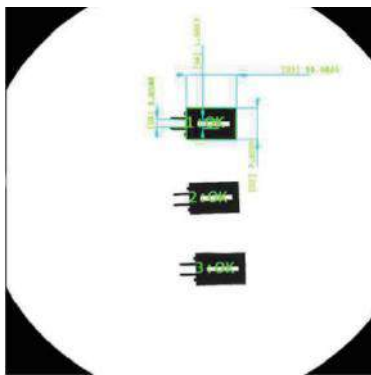
Resistors



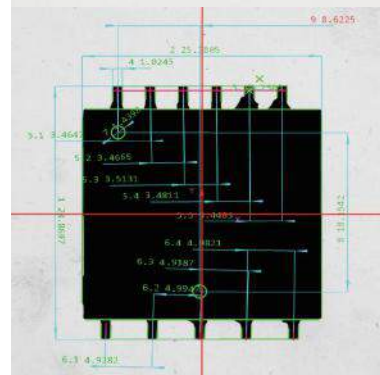
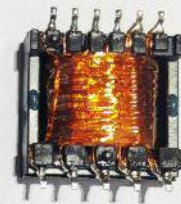
Die Cutting



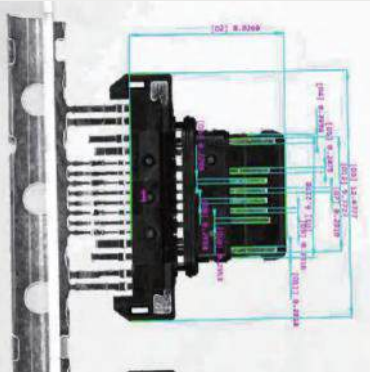
Sockets



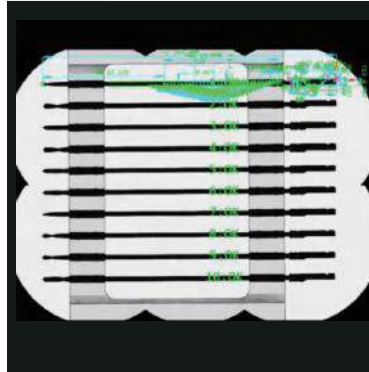
Magnetic Component



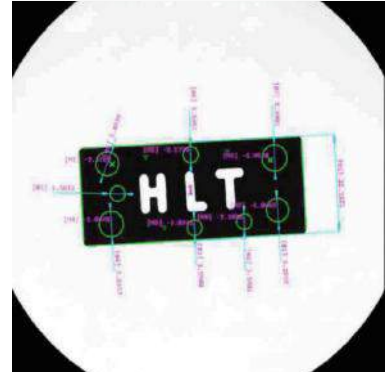
Type-C Charging Port



Medical drill



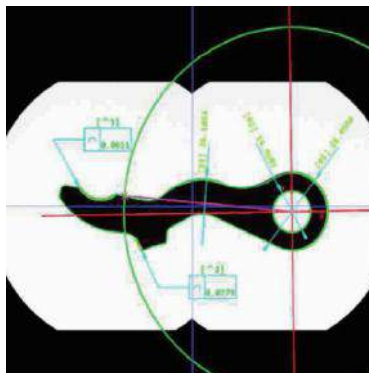
Filter



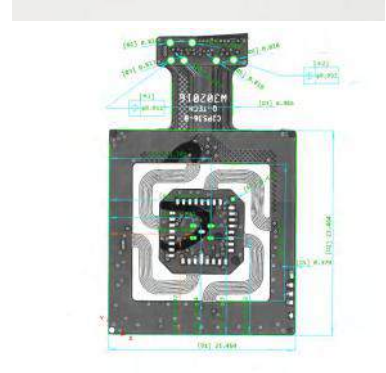
Connector



Parking Pawl



Soft PCB



# VX8200 / VX8300



Imaging by 20 million pixel CMOS is clearer  
Rotary chuck is available for 360° measurement of cylindrical samples



Rotary chuck



## Parameters

Model No.		VX8200	VX8300
Image Sensor		20M CMOS	
Monitor	Built-in	10.4" LCD(XGA 1024x768)	
	Outside	24"LCD(XGA 1920x1080)	
Acceptance Lens		Double Telecentric Lens	
Light	Ring	Four-segment illumination(White Light/Green light)	
	Bottom	Telecentric transmission illumination(Green Light)	
F.O.V.	Large Field	200x200mm(4 Angles R50)	300x200mm(4 Angles R50)
	High Precision	130x130mm	230x130mm
Resolution		0.1 μm	
Repeatability of Image Meas.	Wide Field	Without Stitching*1	±1 μm
		With Stitching*2	±2 μm
	High Precision	Without Stitching*1	±0.5 μm
		With Stitching*2	±1.5 μm
Accuracy of Image Meas.	Wide Field	Without Stitching*1	±3 μm
		With Stitching*2	±(5+0.02L) μm
	High Precision	Without Stitching*1	±1.5 μm
		With Stitching*2	±(3+0.02L) μm
Horizontal Rotary Unit (Optional)	Rotation Angle	Range 360°, Resolution 0.02°	
	Rotation Speed	0.2~2rev/s	
	Max Diameter	Φ 60mm	
Height Meas. (Optical Probe) (Optional)	Measuring Range(X*Y)		120*110mm
	Max Hole/Depth Ratio		1.5
	Dia. of Beam		Φ38 μm
	Resolution		0.25 μm
	Z Non-movement	Range(Z)	±3.5 μm
		Accuracy	±2 μm
	Z Movement	Range(Z)	75mm
Accuracy		±(6+0.01H) μm, H is Z movement height in mm	
XY Object Table	X TravelRange	110mm	210mm
	Y TravelRange	110mm	
	Loading Capacity	7.5kg	
Z-Axis TravelRange		75mm(Motorized)	
Size(LxWxH)		(531x386x731)mm	(531x503x731)mm
Weight		49g	75kg
Input		AC100-240V,50/60Hz, 2A	
Working Environment		Temp.10 °C~35 °C ,Humidity 20~80% , Vibration<0.002g Less than15Hz	

Remark : \*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)

# VX3200D/VX3300D





## Parameters

Model No.		VX3200D	VX3300D
Image Sensor		5M CMOS	
Monitor	Built-in	10.4"LCD(XGA: 1024x768)	
	Outside	24"LCD(XGA: 1920x1080)	
Acceptance Lens		Double Telecentric Lens	
Light	Ring	Four-segment illumination(White Light/Green light)	
	Bottom	Telecentric transmission illumination(Green Light)	
F.O.V.	Large Field	200x200mm	300x200mm
	High Precision	130x130mm	230x130mm
Resolution		0.1μm	
Repeatability of Image Meas.	Wide Field	Without Stitching*1	±1μm
		With Stitching*2	±2μm
	High Precision	Without Stitching*1	±0.5μm
		With Stitching*2	±1.5μm
Accuracy of Image Meas.	Wide Field	Without Stitching*1	±5μm
		With Stitching*2	±(7+0.02L)μm
	High Precision	Without Stitching*1	±2μm
		With Stitching*2	±(4+0.02L)μm
Height Meas. (Optical Probe) (Optional)	Measuring Range(X*Y)		120*110mm
	Max Hole/Depth Ratio		1.5
	Dia. of Beam		Φ38μm
	Resolution		0.25μm
	Z Non-movement	Range(Z)	±3.5μm
		Accuracy	±2μm
	Z Movement	Range(Z)	75mm
		Accuracy	±(6+0.01H)μm, H is Z movement height in mm
XY Object Table	X TravelRange	110mm	210mm
	Y TravelRange	110mm	110mm
	Loading Capacity	7.5kg	
Z-Axis TravelRange		75mm(Motorized)	
Size(LxWxH)		(531x386x731)mm	(531x503x731)mm
Weight		49kg	75kg
Input		AC100-240V,50/60Hz, 2A	
Working Environment		Temp. 10 °C~35 °C, Humidity 20~80%, Vibration<0.002g, Less than 15Hz	

Remark: \*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)

# VX3030D / VX3100/3100D



## Parameters

Model No.		VX3030D	VX3100	VX3100D	
Image Sensor		5M CMOS			
Monitor	Built-in	10.4"LCD(XGA: 1024x768)			
	Outside	24"LCD(XGA: 1920x1080)			
Acceptance Lens		Double Telecentric Lens			
Light	Ring	Four-segment illumination(White Light/Green light)			
	Bottom	Telecentric transmission illumination(Green Light)			
F.O.V.	Large Field	W20mmxL130mm	Φ100mmxL200mm	Φ100mmxL200mm	
	High Precision	W6mmxL106mm	—————	W20mmxL120mm	
Repeatability of Image Meas.	Wide Field	Without Stitching* <sup>1</sup>	±0.5μm	±1μm	±1μm
		With Stitching* <sup>2</sup>	±1μm	±2μm	±2μm
	High Precision	Without Stitching* <sup>1</sup>	±0.1μm	—————	±0.5μm
		With Stitching* <sup>2</sup>	±0.5μm	—————	±1.5μm
Accuracy of Image Meas.	Wide Field	Without Stitching* <sup>1</sup>	±2μm	±5μm	±5μm
		With Stitching* <sup>2</sup>	±(4+0.02L)μm	±(7+0.02L)μm	±(7+0.02L)μm
	High Precision	Without Stitching* <sup>1</sup>	±0.7μm	—————	±2μm
		With Stitching* <sup>2</sup>	±(2+0.02L)μm	—————	±(4+0.02L)μm
Software		VisionX			
Resolution		0.1μm			
Physical Probe		No			
XY Object Table	X Travelrange	110mm			
	Y Travelrange	—————			
	Loading Capacity	2kg			
Z-Axis Travelrange		35mm(Motorized)			
Size(LxWxH)		(500x280x670)mm	(500x280x670)mm	(500x280x670)mm	
Weight		31kg	30kg	31kg	
Input		AC100-240V,50/60Hz, 2A			
Working Environment		Temp.10°C~35°C, Humidity 20~80%, Vibration<0.002g, Less than15Hz			

Remark: \*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 1 kg or less;

L is the moving range of the table (mm)

# VX1060/VX1100



## Parameters

Model No.		VX1060	VX1100
Image Sensor		20M CMOS	
Monitor		24" LCD (XGA:1920×1080)	
Acceptance Lens		Double Telecentric Lens	
Light	Ring	Four-segment illumination(White Light)	
	Bottom	Telecentric transmission illumination(Green Light)	
F.O.V.		Φ60mm	Φ100mm
Repeatability of Image Meas.		±1μm	±2μm
Accuracy of Image Meas.		±3μm	±4μm
Software		VisionX	
Resolution		0.1μm	
Z axis travel range		35mm	
Loading Capacity		3kg	
Size(L×W×H)		500×280×670mm	
Weight		25kg	
Input		AC200-240V , 50/60Hz,10A , 2500W	
Working Environment		Temp.10°C~35°C, Humidity 20~80%, Vibration<0.002g, Less than15Hz	

# VX4230 S/VX4230



No stitching measurement, any position on object able.  
Ideal for measurement of phone case and big accessories.



## Parameters

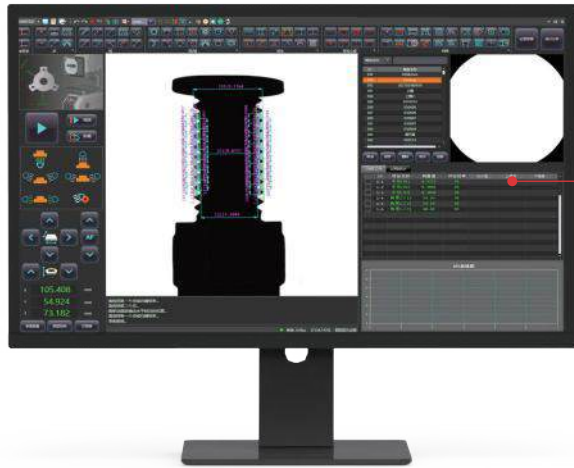
Model No.	VX4230S	VX4230
Image Sensor	12M CMOS	
Outside Monitor	24" LCD (XGA:1920×1080)	
Acceptance Lens	Double Telecentric Lens	
Transmission Illumination system	Parallel transmission illumination(White Light)	
Field of view	Φ230mm	200x150mm
Depth of Field	50mm	50mm
Working Distance	400mm	
Repeatability	±2μm	
Accuracy	±5μm *1	
Z axis travel range	65mm	100mm
Software	VisionX	
Resolution	0.1μm	
Loading Capacity	15kg	
Size(L×W×H)	830×605×2030mm	
Weight	375kg	370kg
Input	AC100-240V,50/60Hz, 4A	
Working Environment	Temp.10°C~35°C, Humidity 20~80%, Vibration<0.002g, Less than15Hz	

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

# VX5100



No need workholder  
Ideal for measurement of thread and shaft



Vision X software





## Parameters

Model No.	VX5100	
Image Sensor	5M CMOS	
Outside Monitor	24" LCD (XGA : 1920×1080)	
Acceptance Lens	Double Telecentric Lens	
Transmission Illumination system	Telecentric transmission illumination(Green Light)	
Field of view	φ100mm	
Repeatability	±2μm	
Accuracy *1	±5μm	
Software	VisionX	
Resolution	0.1μm	
XY Object Table (Optional)	Rotational Speed	0.2 Revolution/s~2 Revolutions/s
	Diameter	φ60mm
	Capacity	3kg
Size(L×W×H)	(736×200×325)mm	
Weight	25kg	
Input	AC100-240V,50/60Hz,1.3A	
Working Environment	Temp.10 °C~35 °C, Humidity 20~80%, Vibration<0.002g, Less than15Hz	

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

# VX3500 / VX8500



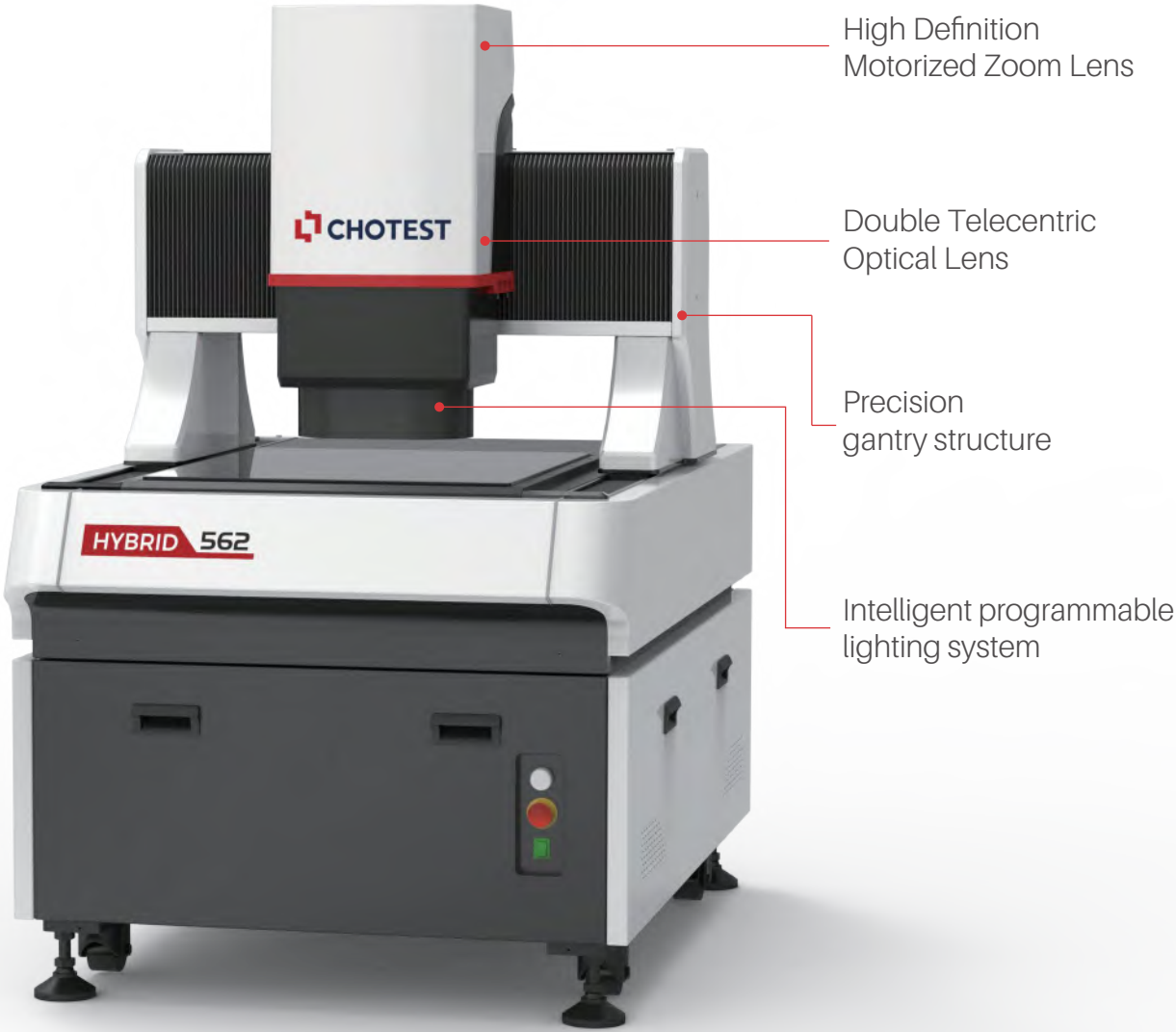
## Parameters

Model No.		VX3500	VX8500	
Image Sensor		5M CMOS	20M CMOS	
Monitor		24"LCD(XGA:1920x1080)		
Acceptance Lens		Double Telecentric Lens		
Light	Ring	Four-segment illumination(White Light/Green light)		
	Bottom	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* <sup>1</sup>	±1μm	±1μm
		With Stitching* <sup>2</sup>	±2μm	±2μm
	High Precision	Without Stitching* <sup>1</sup>	±0.5μm	±0.5μm
		With Stitching* <sup>2</sup>	±1.5μm	±1.5μm
Accuracy of Image Meas.	Wide Field	Without Stitching* <sup>1</sup>	±5μm	±3μm
		With Stitching* <sup>2</sup>	±(7+0.005L)μm	±(5+0.005L)μm
	High Precision	Without Stitching* <sup>1</sup>	±2μm	±1.5μm
		With Stitching* <sup>2</sup>	±(4+0.005L)μm	±(3+0.005L)μm
Rotary Chuck	Rotation Angle		Range 360°, Resolution 0.01°	
	Rotation Speed		0.2~2rev/s	
	Max Diameter		Φ60mm	
Height Meas. (Optical Probe) (Optional)	Measuring Range(X*Y)		300*300mm	
	Max Hole/Depth Ratio		1.5	
	Dia. of Beam		Φ38μm	
	Resolution		0.25μm	
	Z Non-movement	Range(Z)	±3.5μm	
		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(Motorized)		
Size(LxWxH)		(900x1340x1600)mm		
Weight		950kg		
Input		AC200-240V,50/60Hz, 10A		
Working Environment		Temp.10 °C~35 °C, Humidity 20~80%,Vibration<0.002g,Less than15Hz		

Remark: \*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)

# Hybrid series



High Definition  
Motorized Zoom Lens

Double Telecentric  
Optical Lens

Precision  
gantry structure

Intelligent programmable  
lighting system

## Parameters

Model No.		Hybrid432	Hybrid562	Hybrid682
Travel range	X(mm)	400	500	600
	Y(mm)	300	600	800
	Z(mm)	200	200	200
Structure type		Column	Gantry type	Gantry type
Base material		Marble	Marble	Marble
Monitor		24" LCD (1920x1080)		
Resolution of glass scale		0.1μm		
Guide rail		Precision linear guide rail		
High-resolution electric zoom lens	Lens	13.3X Electric continuous zoom		
	Magnification	Optical zoom: 0.6~8.0X, Image zoom: 17~232X		
	Image sensor	HD colorful industrial camera		
	Single F.O.V	1mm×1mm~12mm×12mm		
	Measuring range	360mm×310mm	410mm×600mm	610mm×800mm
	Measurement accuracy (XY)	(1.8+L/200)μm	(2.0+L/200)μm	(2.2+L/200)μm
	Measurement accuracy (Z)	(2.8+L/200)μm		
	Bottom	Telecentric transmission Illumination (Green)		
	Ring	6 rings and 8 segments light (white light)		
	Coaxial light	LED light		
Double telecentric wide F.O.V optical lens	Lens Specifications	Φ100mm double telecentric lens		
	Size of Single F.O.V	90mm×90mm		
	Measuring range	440mmX400mm (4 Angles R50)	480mmX600mm (4 Angles R50)	580mmX800mm (4 Angles R50)
	Accuracy of Single F.O.V	±4μm		
	Accuracy of Stitching Measurement	(4+L/200)μm	(5+L/200)μm	(6+L/200)μm
	Bottom	Telecentric transmission Illumination (Green)		
	Ring	4 segments illumination (White light, 75°), directional ring light (Green light, 0°)		
Max speed	XY(mm/s)	500		
	Z(mm/s)	100		
Size (mm)		530×503×730	850×1240×1600	900×1340×1600
Weight (kg)		650	1000	1300
Loading capacity (kg)		25kg	50kg	50kg
Power supply		2000W	2500W	2500W
Motion control		Servo control system		
Software		VisionX Pro		
Input		200-240VAC, 50/60Hz		
Working environment		Temperature 20°C±2°C, humidity 20~80%, vibration<0.002g, lower than 15HZ		

Remark: \*1 Image magnification is approximate and depends on monitor size and resolution.

\*2 In the focus position, the environment temperature is +20 °C ± 1.0 °C, and the load on the table is 5 kg or less; L is the moving range of the table in mm.

\*3 It is obtained by using Chotest master gauge in the environment with temperature of 20°C±1°C.

\*4 In the focus position, the environment temperature is +20 °C ± 1.0 °C, and the load on the table is 5 kg or less



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WEBSITE

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