



**MEASUREMENT SOLUTION PROVIDER**



# **CNC VISION MEASURING SYSTEMS**

**CATALOGUE NO. ISD-E41**

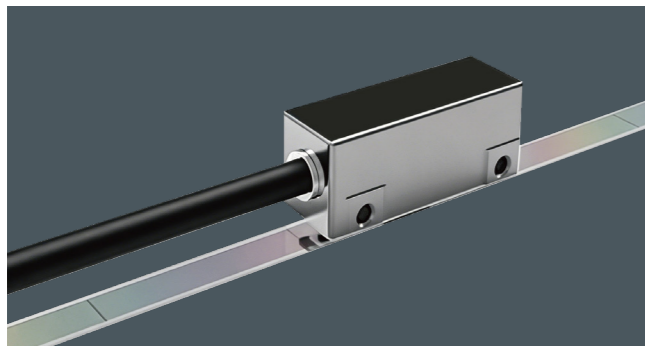
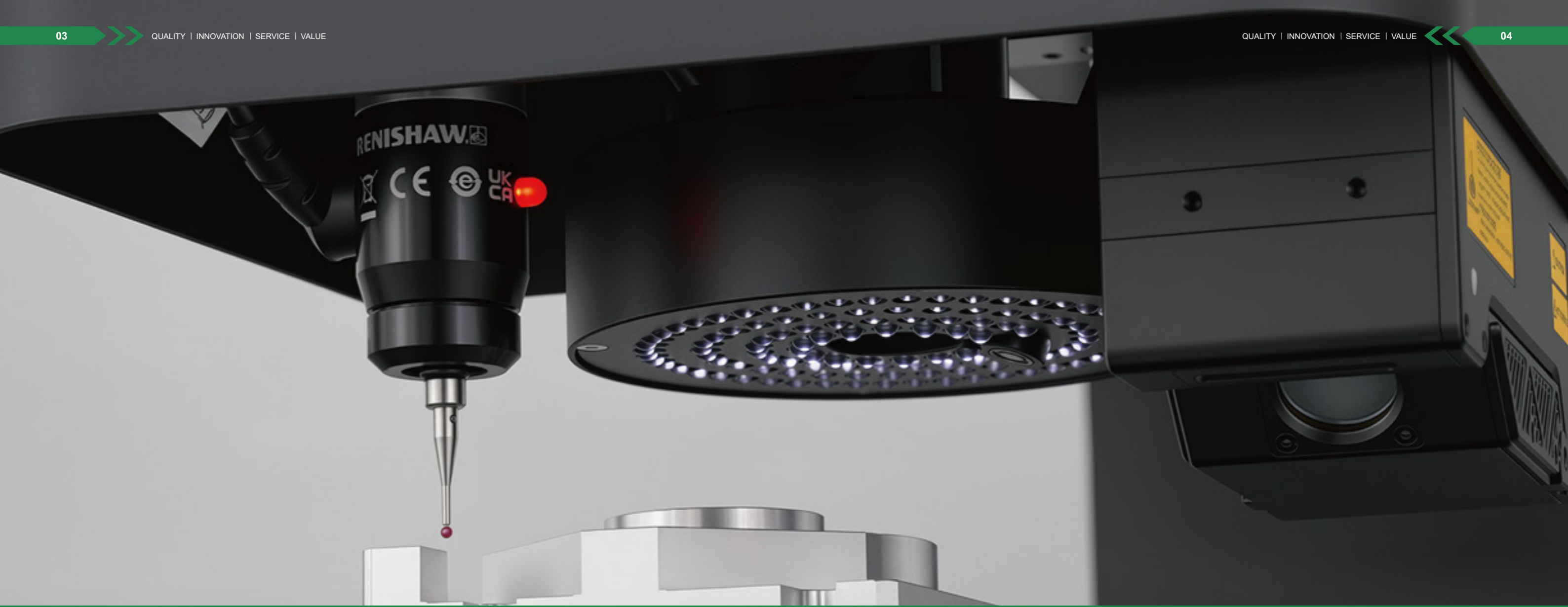
## 01

Product Overview  
and Advantages

CNC vision measuring system is designed to address the challenges of precision measurement. With automation, high precision, and high efficiency at its core, it replaces traditional manual measuring tools and meets a wide range of measurement needs.

- ✓ Automatic
- ✓ Precision
- ✓ Quickly
- ✓ Extensively





### High-precision linear scale:

Equipped with a German HEIDENHAIN RSF precision linear scale with a resolution of 0.5 $\mu$ m, ensuring accurate and reliable measurement data.

\*ISD-K Series and ISD-Q Series (included)



### Motorized zoom lens:

No need to manually rotate the lens to adjust the magnification; switch magnification levels with a single click via software to boost productivity.



### Programmable Illuminating System:

Equipped with a programmable segmented ring LED surface and contour lighting system that supports independent adjustment of angle and brightness parameters for each zone, providing flexible adaptation to the inspection lighting requirements of various products.



### Servo motors for X, Y, Z axis:

Panasonic servo control motor, with precise positioning performance in high-speed movement and excellent resistance to interference.

\*ISD-K Series and ISD-Q Series (included)

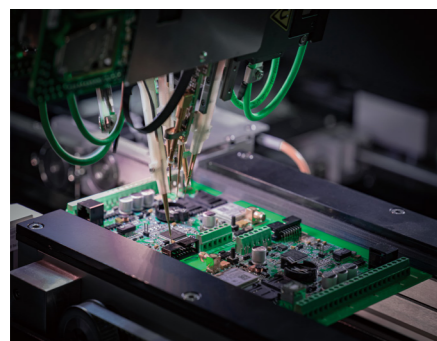


# 02

## I Measurement Domain

As a non-contact, high-precision measurement device, it has become deeply integrated into core industries such as electronics and electrical engineering, precision machinery, automotive manufacturing, medical devices, 3C consumer electronics, aerospace, and mold injection molding, thanks to its micron-level measurement accuracy, adaptability to complex contours, and non-destructive testing capabilities.

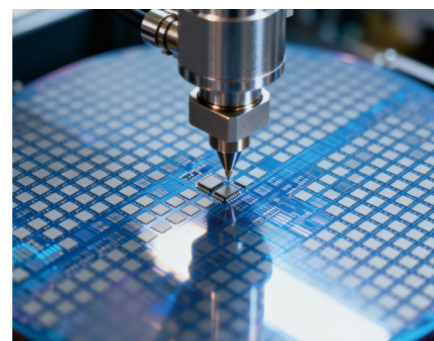
Its core value lies in addressing the dimensional inspection needs of small, irregularly shaped, and precision workpieces, replacing traditional measuring tools while supporting efficient inspection and automation integration in mass production. It not only meets the strict tolerance standards of various industries but also aligns with industrial trends toward precision manufacturing, lightweight design, and miniaturization, making it a critical inspection tool for ensuring product quality and enhancing production efficiency.



Electronics industry



Car manufacturing



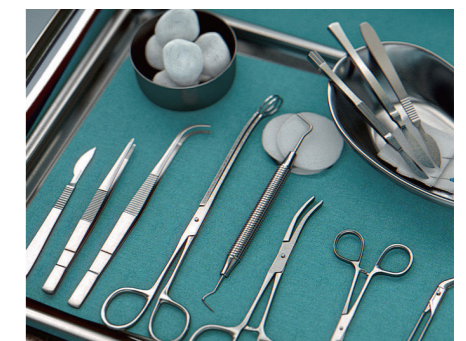
Semiconductor



Aerospace



Machining



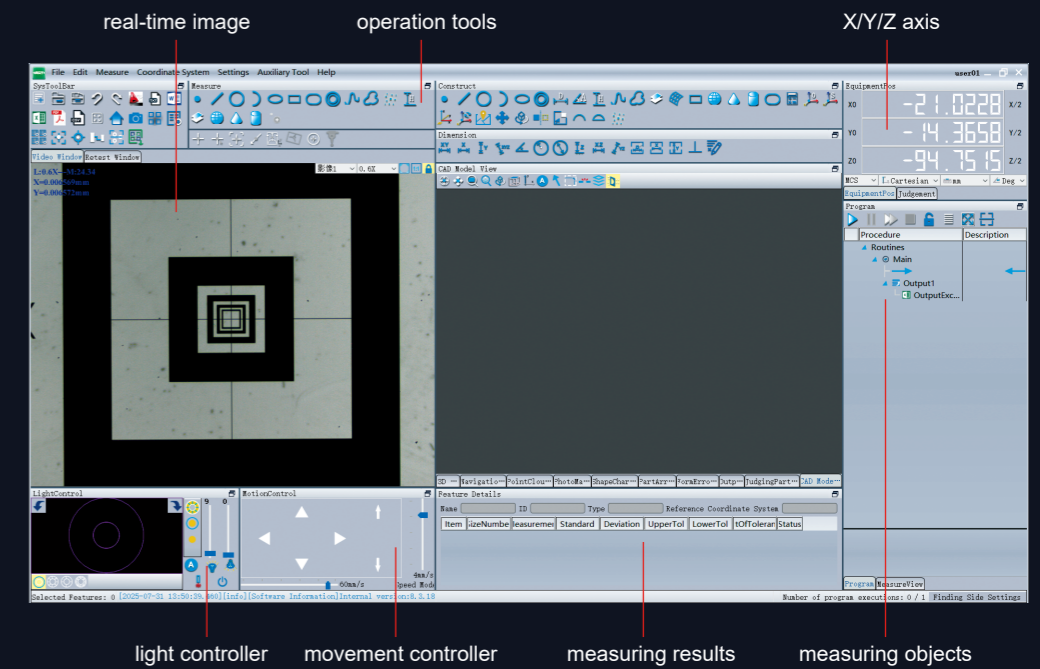
Medical devices



# 03

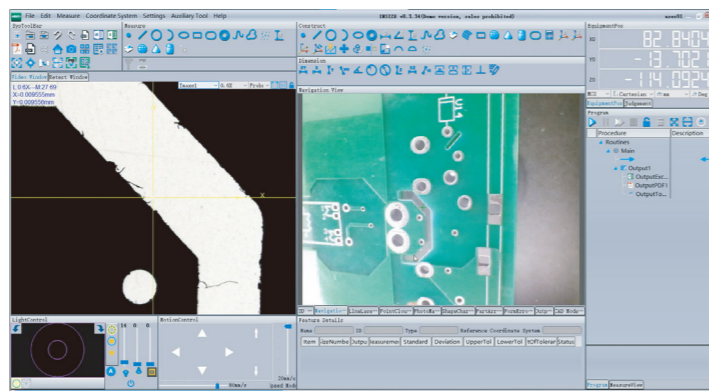
## I Software Features

The device is equipped with full-featured professional measurement software. In addition to basic measurement functions, it comes standard with key features such as navigation camera, template assisted positioning function, CAD file import, SPC statistical analysis, and multi-point autofocus measurement. It also supports optional function for stitching measurement, gear/thread, and probe/point/line laser measurement, efficiently addressing all precision measurement needs—from basic dimensional inspection and complex geometric tolerance evaluation to batch quality control.



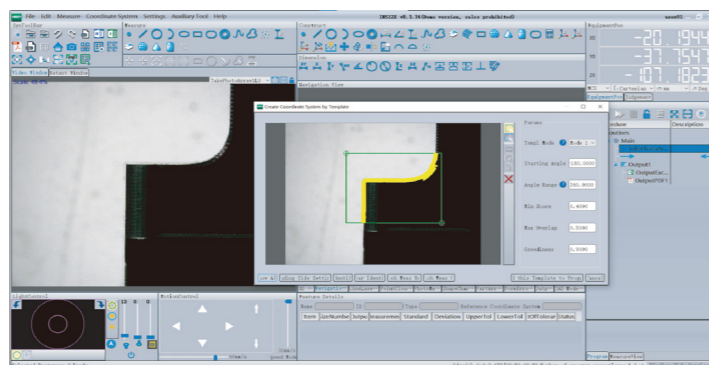
## Navigation Camera (included)

The navigation camera significantly reduces measurement setup time and minimizes the cost of errors associated with clamping and positioning; simply click on an image within the navigation camera view to quickly move to a specific location.



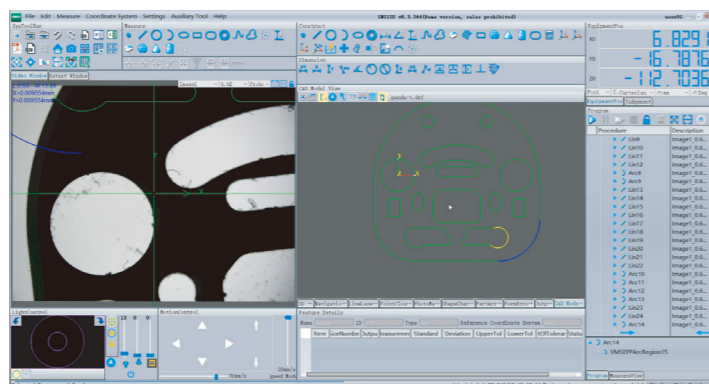
## Template Assisted Positioning Function (included)

When the program runs repeatedly, as long as the positioning feature appears within the field of view, automatic measurement will be performed. No need to establish a coordinate system.



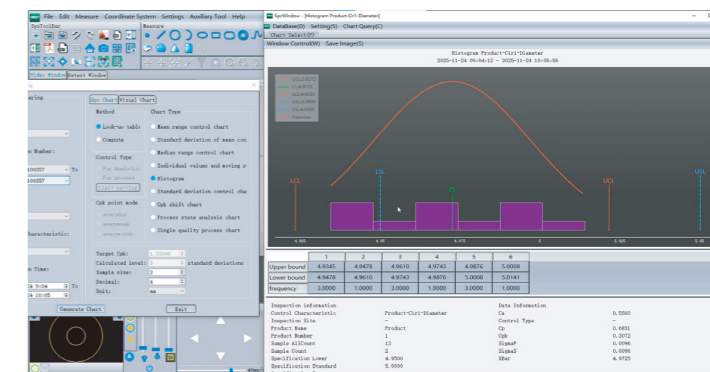
## CAD Import Programming Function (included)

CAD import functionality allows standard DXF files to be imported into the measurement software to assist with programming.



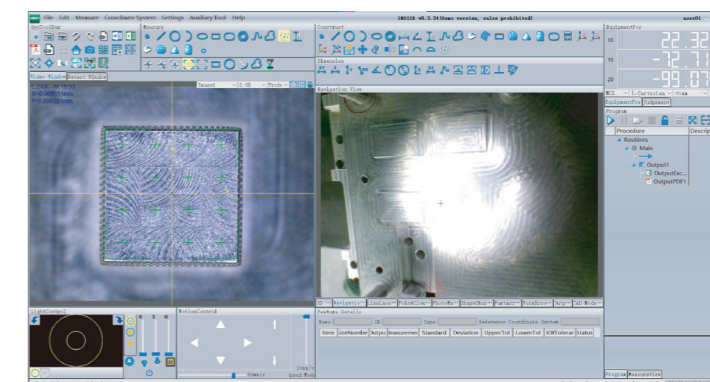
## SPC Analysis Function (included)

Collect measurement data in real time, generate quality control charts, accurately identify process fluctuations, support process optimization, and improve inspection efficiency and product yield.



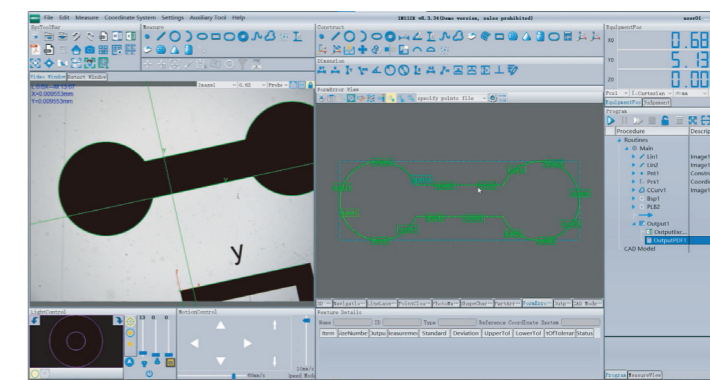
## Multi Point Autofocus Function (included)

A single autofocus operation acquires height information of multi points, enabling efficient height measurement and flatness measurement.



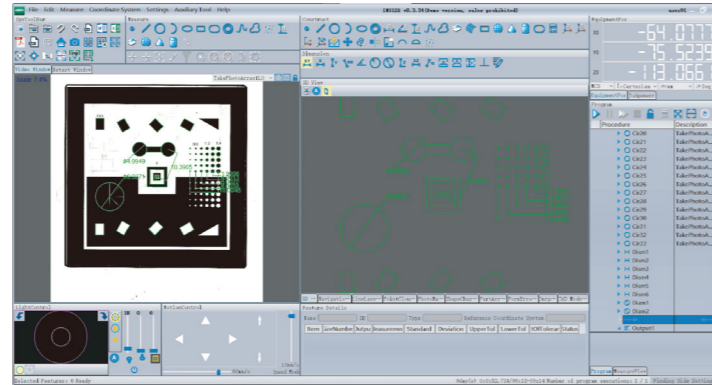
## Line Profile Software (optional)

It supports importing theoretical curves for comparison with actual measured curves, allowing users to visualize deviations, accurately calculate profile measurement results, and export specific deviation data for each individual point.



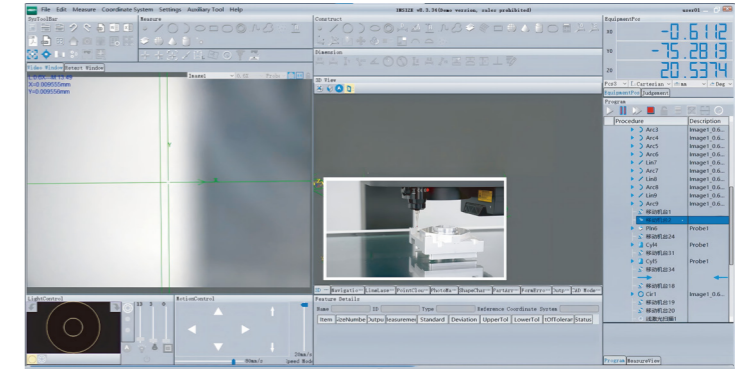
## Stitching Software (optional)

By combining precision motion control with digital image processing, software algorithms are used to stitch multiple partial images into a single high-resolution composite image.



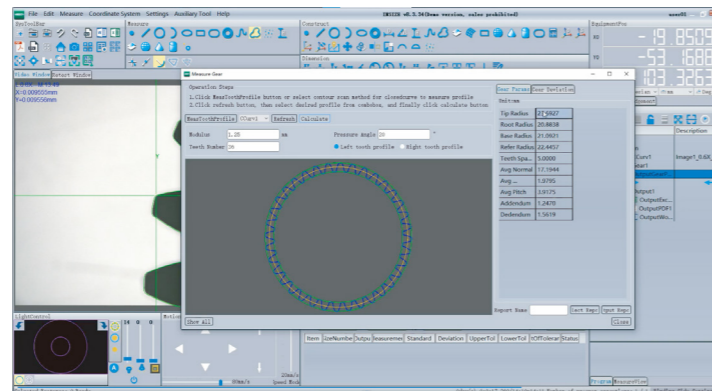
## Probe (optional)

Equipped with a contact probe, it enables hybrid measurement combining “optical imaging and probe contact”, addressing the limitations of purely optical measurement when inspecting complex workpiece features and significantly expanding the scope of applications for the vision measuring system.



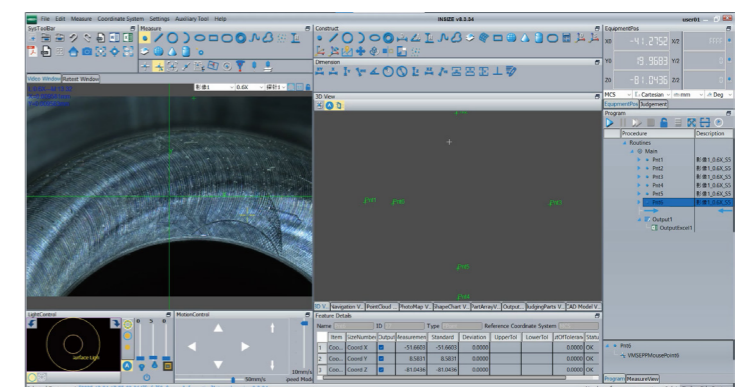
## Gear Software (optional)

Using non-contact measurement technology based on optical imaging, this method can accurately measure various key dimensional parameters of gears. It offers the advantage of high measurement efficiency, enabling rapid image acquisition and automatic calculation and output of measurement results.



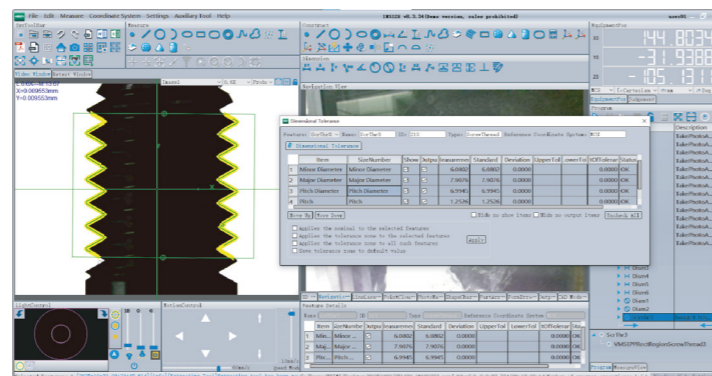
## Laser Probe (optional)

You can quickly measure flat surfaces and height differences using the laser. After selecting the target measurement location in the image area, right-click to switch to point laser measurement mode.



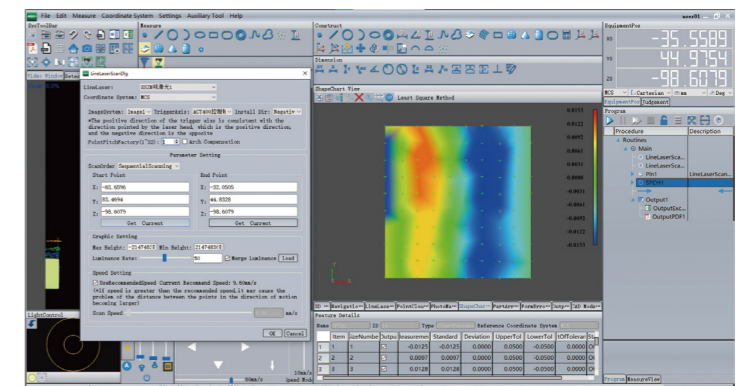
## Thread Software (optional)

High-resolution cameras capture high-definition images of threads, and core algorithms such as edge detection and contour fitting are used to extract thread feature information, enabling precise calculation of various dimensional parameters.



## Line Laser Sensor (optional)

With exceptional measurement efficiency, a single scan using a line laser captures complete data for all points along the scan line, and its multi-plane measurement speed significantly outperforms that of point laser measurement methods.



## 04

## I Operating Procedure



step 1

**Place workpiece**

Selecting the appropriate fixing device.



step 2

**Focus and illumination adjustment**

Adjust the light source and focus to ensure the image is clear.



step 3

**Measurement**

Edit the measurement programme and run.



step 4

**Editorial report**

Select file format, select item.



# 05

## I Specification



ISD-R430 (STANDARD TYPE)

Code	ISD-R320	ISD-R430	ISD-R540
Measuring range (X×Y×Z)	300×200×200mm	400×300×200mm	500×400×200mm
Stage size	620×380mm	720×480mm	750×600mm
Glass stage size	360×260mm	460×360mm	550×450mm
Resolution of X/Y/Z axis	0.5μm		
Accuracy of X/Y axis	≤(2.5+L/200)μm (L is the measuring length in mm)		≤(2.8+L/200)μm (L is the measuring length in mm)
Repeatability	2μm		
Objective	0.7X~5.0X (zoom)		
Working distance	58mm		
View field (diagonal length)	1.57~7.49mm		
Magnification	35X~165X (on 23.8" monitor)		
Camera	1/1.2" color CCD, 2.3M pixel		
Max. height of workpiece	200mm		
Illumination	surface	coaxial light, programmable segmented ring light	
	contour	adjustable LED light	
Operation system	Windows 10/11		
Max. weight of workpiece	35kg		
Drive method	automatic		
Environmental requirement	temperature: 20°C±5°C, relative humidity: 20%~80%, vibration: <0.002g, less than 15Hz		
Power supply	190~230V, 50Hz, 1500W		
Dimension (L×W×H)	620×780×1750mm	740×930×1750mm	900×1300×1800mm
Net weight	350kg	400kg	550kg



ISD-K432 (ADVANCED TYPE)

Code	ISD-K322	ISD-K432	ISD-K542
Measuring range (X×Y×Z)	300×200×200mm	400×300×200mm	500×400×200mm
Stage size	620×380mm	720×480mm	750×600mm
Glass stage size	360×260mm	460×360mm	550×450mm
Resolution of X/Y/Z axis	0.5μm		
Accuracy of X/Y axis	≤(1.8+L/200)μm (L is the measuring length in mm)		≤(2.3+L/200)μm (L is the measuring length in mm)
Repeatability	2μm		
Objective	0.6X~8.0X (13.3:1 continuous zoom ratio)		
Working distance	83mm		
View field (diagonal length)	0.81~10.72mm		
Magnification	27X~356X (on 23.8" monitor)		
Camera	1/1.2" color CCD, 2.3M pixel		
Max. height of workpiece	200mm		
Illumination	surface	coaxial light, five-ring eight-zone adjustable ring light	
	contour	adjustable LED light	
Operation system	Windows 10/11		
Max. weight of workpiece	35kg		
Drive method	automatic		
Environmental requirement	temperature: 20°C±5°C, relative humidity: 20%~80%, vibration: <0.002g, less than 15Hz		
Power supply	190~230V, 50Hz, 1500W		
Dimension (L×W×H)	620×780×1750mm	740×930×1750mm	900×1300×1800mm
Net weight	350kg	400kg	550kg



ISD-Q652

Code	ISD-Q542	ISD-Q652	ISD-Q762
Measuring range (X×Y×Z)	400×500×200mm	500×600×200mm	700×600×200mm
Glass stage size	560×630mm	660×750mm	760×870mm
Resolution of X/Y/Z axis	0.5μm		
Accuracy of X/Y axis	≤(2.5+L/200)μm (L is the measuring length in mm)		
Repeatability	2μm		
Objective	0.6X~8.0X (13.3:1 continuous zoom ratio)		
Working distance	83mm		
View field (diagonal length)	0.81~10.72mm		
Magnification	27X~356X (on 23.8" monitor)		
Camera	2/3" color CCD, 5M pixel		
Max. height of workpiece	200mm		
Illumination	surface	coaxial light, five-ring eight-zone adjustable ring light	
	contour	adjustable LED light	
Operation system	Windows 10/11		
Max. weight of workpiece	35kg		
Drive method	automatic		
Environmental requirement	temperature: 20°C±5°C, relative humidity: 20%~80%, vibration: <0.002g, less than 15Hz		
Power supply	190~230V, 50Hz, 1650W		190~230V, 50Hz, 2250W
Dimension (L×W×H)	1400×1010×1780mm	1500×1110×1780mm	1600×1210×1780mm
Net weight	825kg	950kg	1200kg

Code	ISD-Q1210	ISD-Q1612	ISD-Q2015
Measuring range (X×Y×Z)	1000×1200×200mm	1200×1600×200mm	1500×2000×200mm
Glass stage size	1140×1370mm	1380×1790mm	1700×2260mm
Resolution of X/Y/Z axis	0.5μm		
Accuracy of X/Y axis	≤(2.5+L/200)μm (L is the measuring length in mm)		
Repeatability	2μm		
Objective	0.6X~8.0X (13.3:1 continuous zoom ratio)		
Working distance	83mm		
View field (diagonal length)	0.81~10.72mm		
Magnification	27X~356X (on 23.8" monitor)		
Camera	2/3" color CCD, 5M pixel		
Max. height of workpiece	200mm		
Illumination	surface	coaxial light, five-ring eight-zone adjustable ring light	
	contour	adjustable LED light	
Operation system	Windows 10/11		
Max. weight of workpiece	35kg		
Drive method	automatic		
Environmental requirement	temperature: 20°C±5°C, relative humidity: 20%~80%, vibration: <0.002g, less than 15Hz		
Power supply	190~230V, 50Hz, 2750W		
Dimension (L×W×H)	2120×1590×1780mm	2530×1830×1780mm	3100×2120×1780mm
Net weight	2300kg	3300kg	4900kg

## STANDARD DELIVERY

Main unit	1 pc
Dongle	1 pc
Software	1 pc
Lens with coaxial light	1 pc
Controller	1 pc
Computer	1 pc
Calibration glass chart	1 pc
Desk	1 pc
Clay	1 pc

## OPTIONAL ACCESSORY

Name	ISD-R Series (STANDARD TYPE)
0.5X auxiliary objective	code: <b>ISD-R-OB5X</b> , working distance: 116mm magnification: 17.5~82.5X (on 23.8" monitor)
2X auxiliary objective	code: <b>ISD-R-OB2X</b> , working distance: 29mm magnification: 70~330X (on 23.8" monitor)
Name	ISD-K Series (ADVANCED TYPE), ISD-Q Series
0.5X auxiliary objective	code: <b>ISD-K-OB5X</b> , working distance: 175mm magnification: 13.5~178X (on 23.8" monitor)
2X auxiliary objective	code: <b>ISD-K-OB2X</b> , working distance: 29mm magnification: 54~712X (on 23.8" monitor)
Spectral confocal sensor	code: <b>ISD-K-SCS</b> (must be installed in factory)
Laser probe	code: <b>ISD-K-LASER</b> (must be installed in factory)
Probe	code: <b>ISD-K-PROBE</b> , includes Ø1mm styli and Ø2mm styli, Ø20mm calibration ball
Line laser sensor	code: <b>ISD-K-LINE</b> (must be installed in factory)
Line profile software	code: <b>ISD-K-LP</b>
Gear software	code: <b>ISD-K-GEAR</b>
Thread software	code: <b>ISD-K-THREAD</b>
Stitching software	code: <b>ISD-K-STITCHING</b>
Office software	code: <b>7313-OFFICE</b>

laser probe (optional)  
measuring accuracy is 4μmprobe (optional)  
includes Ø1mm and Ø2mm styli,  
Ø20mm calibration ball, measuring accuracy is 5μmspectral confocal sensor (optional)  
measuring accuracy is 5μmline laser sensor (optional)  
quick measurement of flatness, height,  
measuring accuracy is 10μm



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