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WECHAT

WEBSITE

ISSUED: June,2022

CHOTEST

PRODUCT CATALOGUE

From Nanometer scale to Hectometer scale
we provide professional precision measurement solution!

Chotest Technology Inc.

ABOUT CHOTEST

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

With more than decade 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 pcs of 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 in domains 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 covered 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.

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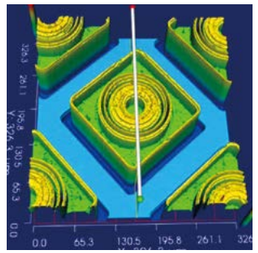

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Flash Measuring Machines VX Series

Efficient, Accurate

VX3030/3030D/3100/3100D

VX3200/VX3200D

VX3300/VX3300D

VX3500/VX8500

VX8200

VX8300

[Features]

Simple Operation

Load program
Support importing DXF file

↓

Place workpiece
Anywhere on table

↓

One-key measurement
Press Measure button or space key

Efficient Measurement

VX series is equipped with double telecentric optical lens with high depth of field and big field of view.

High depth of Field:
Accurate measurement over entire depth of field after once focusing.

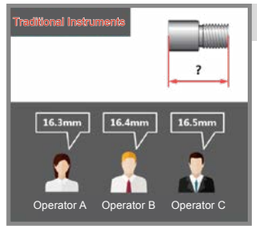
Big Field of View:
Measure all features of all objects within field of view in seconds..

512 Once time up to 512 features

100 Once time up to 100 workpieces

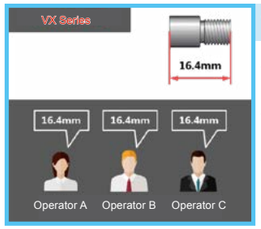
3 Finish measurement in 3 seconds

Eliminate Human-Made Error



Traditional Instruments

Operations such as "focusing", "position selection", "edge alignment" by different persons produce different results.



VX Series

*Auto focusing

* Auto position identification

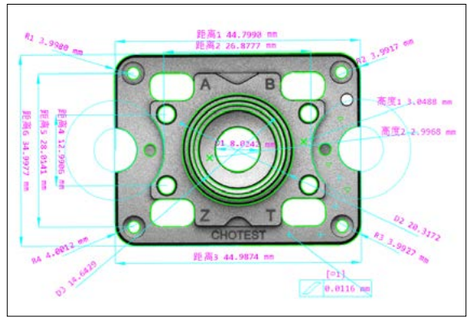
*Auto edge extraction

Non-Contact Height Measurement

Equipped with an optical probe, the VX Series can automatically measure XY sizes, height and flatness of the workpieces in CNC mode.

Note：Two options for Optical probe: Laser point probe or Laser line scanner.

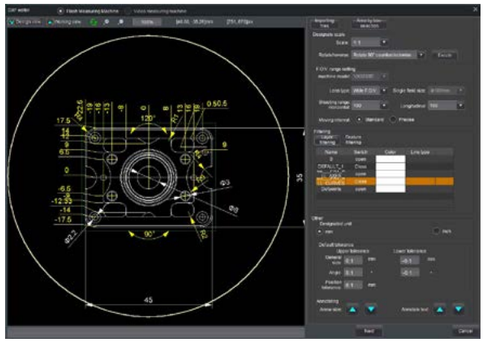
Object



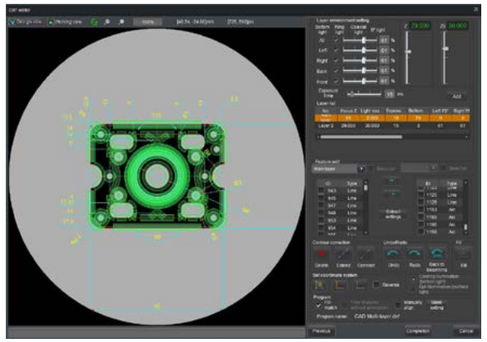
2.5D Measurement

CAD Importing Function

CAD(dxf format) can be imported to software as a program, and its contours and annotations can be imported, too. Consequently, a program can be made without sample.



Import DXF drawing



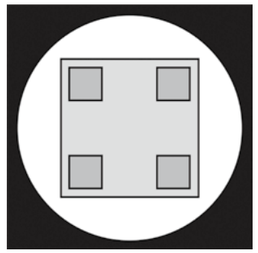
Editing

[Optical Lens]

Lens of VX3000 series VS **Normal lens**

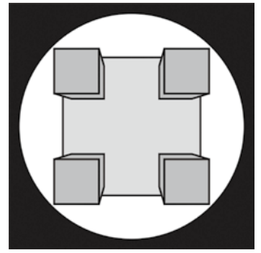
Clear image even if there are stages

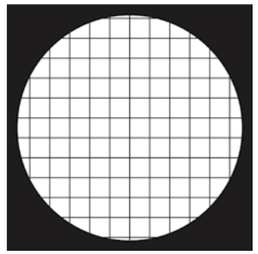
Thanks to the double telecentric optical lens with high depth of field and high resolution, image is still clear even if there are stages. No need fine adjustment of the focal point, measuring data can be obtained correctly.



Always real size even if there are stages

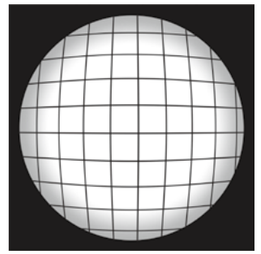
Thanks to the double telecentric optical lens with high depth of field and high resolution, size of object in image is always real. Measuring data can be obtained correctly even for concave-convex area

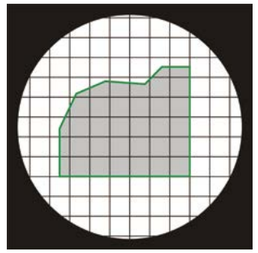




Zero distortion in the full field of view

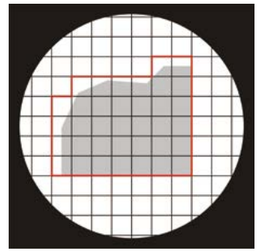
Thanks to the double telecentric optical lens with high depth of field and high resolution, it is almost zero distortion of the image in the full field of view. Test result is always the same in any position of the object table.





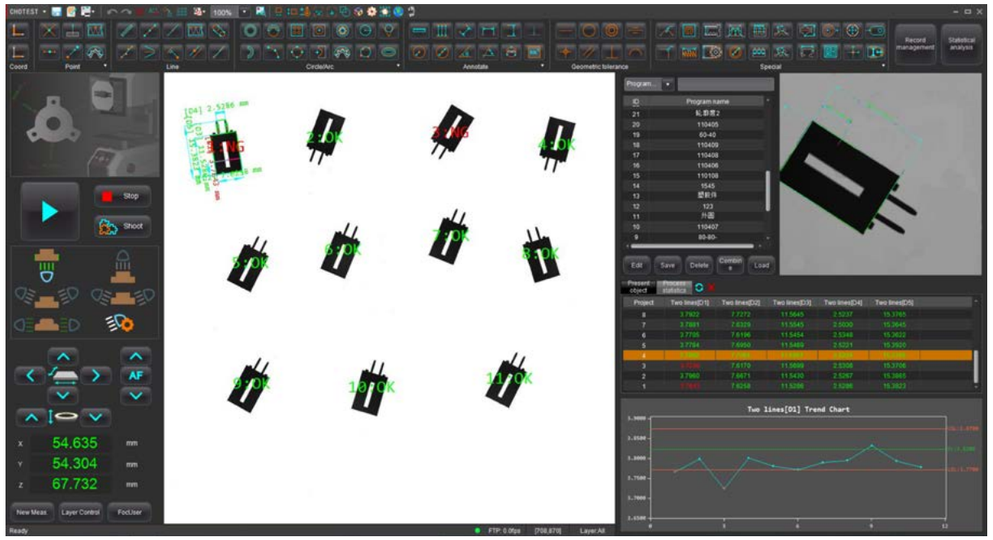
Sub-pixel processing of edges

Thanks to the algorithms of high-order interpolation and numerical fitting, the software can perform sub-pixel processing on the edges, and high-precision measurement with sub-pixel level is applied in large field of view

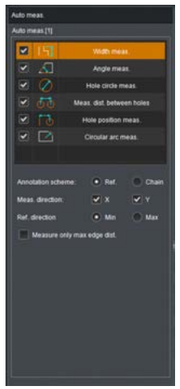


[Software]

VisionX is a professional visual measuring software developed by Chotest which is our own independent intellectual property rights. VisionX has user-friendly interface, easy-to-operate, 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. Besides more functions could be customized according to user`s requirements.



[Functions]



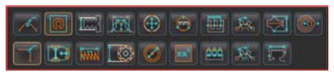
Geometric Tolerance
Straightness, Roundness, Concentricity, Symmetry, Positional Tolerance, Parallelism, Perpendicularity, Profile Tolerance, etc.

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 click.

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

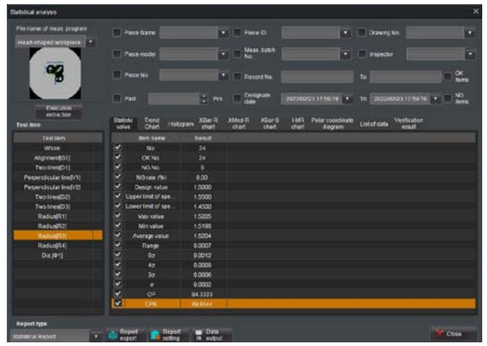


Thickness, Chamfer, Spring, Gear, Sealing gasket, area, Pitch Angle, Boundary width

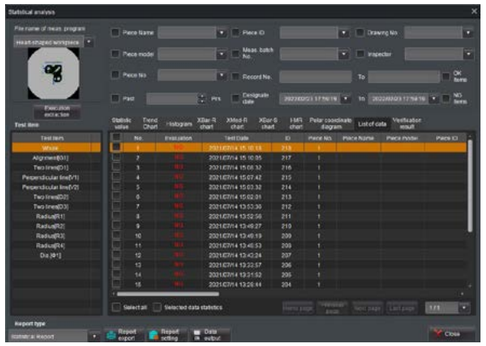
[Statistical Analysis]

VisionX offers about 80 kinds of extraction & analysis tool. There are [Statistical Value], [Trend Chart], [Histogram] and [Data List] in the statistical analysis interface.

Automatic Recording and Searching



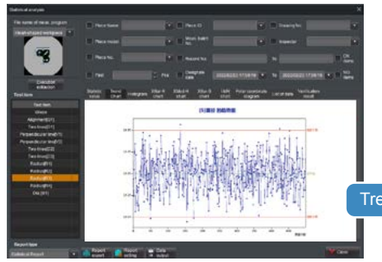
Statistic value



Tabled data

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.

Control Production Process and Improve Product Quality



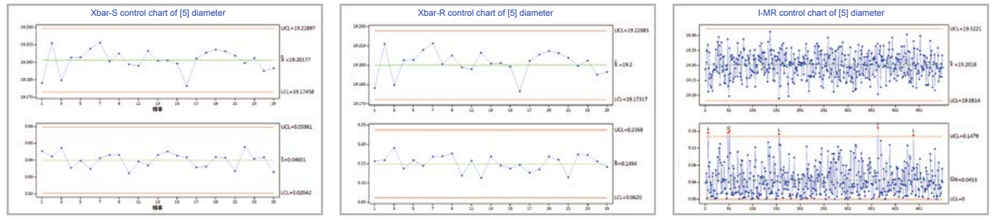
Trend Chart

The **Trend Chart** monitors the abnormalities of producing equipment and producing process by regularly changing trend of measured values. Such as the monotonic and periodic changes of the measured values.

Histogram

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.

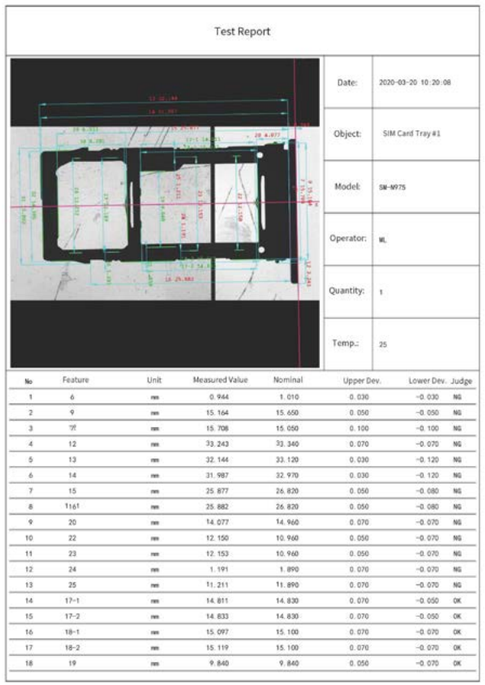
SPC analysis uses statistical methods to monitor product quality and production process trends through quality diagnostic analysis, which is the preventive part in production process, consequently, reduce defective products and increase product quality.



Control Charts

[Auto Generate Report by One Key]

* Import and export measurement records
* Different report format in PDF, Excel, csv
* Support user-defined report template
* Quick export and print report by one key
* Support to export measurement data to designated Excel/csv file automatically in real time
* Support to export measurement data to IM system of the customer automatically



No	Feature	Unit	Measured Value	Nominal	Upper Dev.	Lower Dev.	Judge
1	6	mm	0.944	1.010	0.030	-0.030	NG
2	9	mm	15.164	15.650	0.050	-0.050	NG
3	7#	mm	15.708	15.050	0.100	-0.100	NG
4	12	mm	33.243	33.340	0.070	-0.070	NG
5	13	mm	32.144	33.120	0.030	-0.120	NG
6	14	mm	31.987	32.970	0.030	-0.120	NG
7	15	mm	25.877	26.820	0.050	-0.080	NG
8	11&1	mm	25.882	26.820	0.050	-0.080	NG
9	20	mm	14.077	14.960	0.070	-0.070	NG
10	22	mm	12.150	10.960	0.050	-0.070	NG
11	23	mm	12.153	10.960	0.050	-0.070	NG
12	24	mm	1.191	1.890	0.070	-0.070	NG
13	25	mm	11.211	11.890	0.070	-0.070	NG
14	17-1	mm	14.811	14.830	0.070	-0.050	OK
15	17-2	mm	14.833	14.830	0.070	-0.050	OK
16	18-1	mm	15.097	15.100	0.070	-0.070	OK
17	18-2	mm	15.119	15.100	0.070	-0.070	OK
18	19	mm	9.840	9.840	0.050	-0.070	OK

Test report

[Application]

VX Series of 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 accessories


Watch accessories


Machining parts


Stamping parts


Sheet metal parts


Plastic injection parts


Magnetic component


Tools

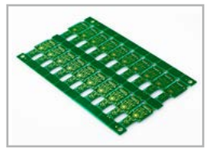

Small metal parts


Gear


Rubber ring

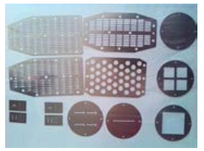

Spring


Thread, Shaft


Rigid PCB


Soft PCB


Shielding case

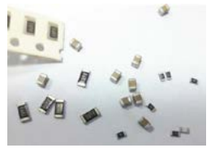

Mask board

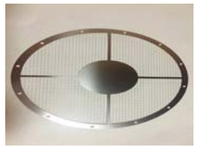

Ceramic plate

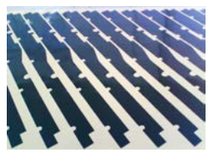

Car monitor frame

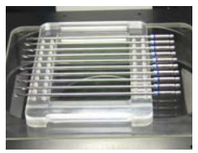

Connectors

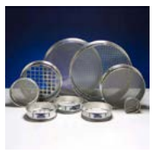

Battery


Ceramic plate


Filter mesh


Die cutting

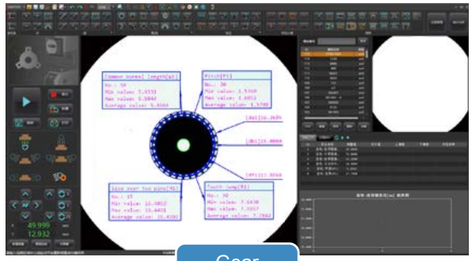

Medical drill


Sieve


Radius gauge

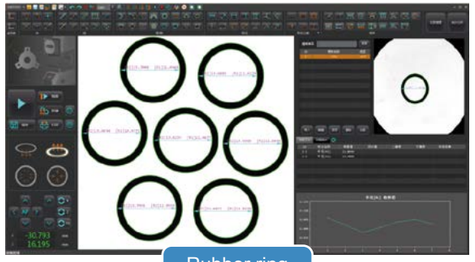

Thread template

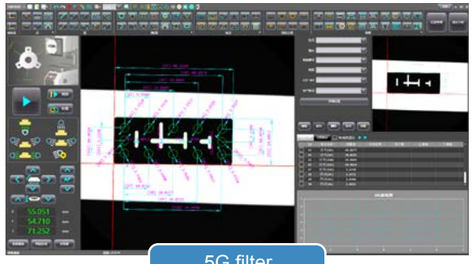
[Application Case]


Gear

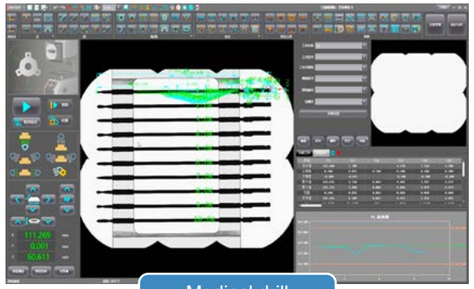

Spring

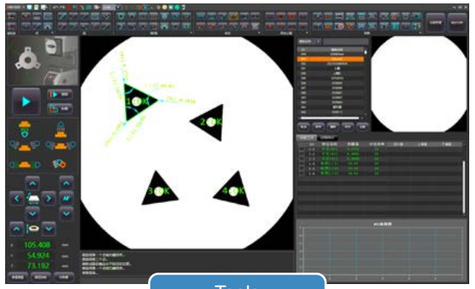

Metal part


Rubber ring


5G filter


Camera module


Medical drill


Tools

[VX3000 Series Parameters]

Model No.			VX3030	VX3100	VX3030D	VX3100D
Image Senor			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		W20×L130mm	Φ100×L200mm	W20×L130mm	Φ100×L200mm
	High Precision		/	/	W6×L116mm	W20×L130mm
Repeatability of Image Meas.	Large Field	Without Stitching*1	±0.5μm	±1μm	±0.5μm	±1μm
		With Stitching*2	±1μm	±2μm	±1μm	±2μm
	High Precision	Without Stitching*1	/	/	±0.1μm	±0.5μm
		With Stitching*2	/	/	±0.5μm	±1.5μm
Accuracy of Image Meas.	Large Field	Without Stitching*1	±2μm	±5μm	±2μm	±5μm
		With Stitching*2	±(4+0.02L)μm	±(7+0.02L)μm	±(4+0.02L)μm	±(7+0.02L)μm
	High Precision	Without Stitching*1	/	/	±0.7μm	±2μm
		With Stitching*2	/	/	±(2+0.02L)μm	±(4+0.02L)μm
Software			VisionX			
Resolution			0.1μm			
XY Object Table	X Travel range		110mm			
	Y Travel range		——			
	LoadingCapacity		2kg			
Z-Axis	Travel range		35mm			
	Accuracy		——			
Size(LxWxH)			(500×280×670)mm			
Weight			30kg	30kg	31kg	31kg
Power supply			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 1 kg or less;

L is the moving range of the table in mm.

【VX3000 Series Parameters】

Model No.			VX3200	VX3200D
Image Senor			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		200×200mm(4 Angles R50)	200×200mm(4 Angles R50)
	High Precision		/	W130×L130mm
Repeatability of Image Meas.	Large Field	Without Stitching*1	±1μm	±1μm
		With Stitching*2	±2μm	±2μm
	High Precision	Without Stitching*1	/	±0.5μm
		With Stitching*2	/	±1.5μm
Accuracy of Image Meas.	Large Field	Without Stitching*1	±5μm	±5μm
		With Stitching*2	±(7+0.02L)μm	±(7+0.02L)μm
	High Precision	Without Stitching*1	/	±2μm
		With Stitching*2	/	±(4+0.02L)μm
Software			VisionX	
Resolution			0.1μm	
XY Object Table	X Travel range		110mm	
	Y Travel range		110mm	
	LoadingCapacity		5kg	
Z-Axis	Travel range		75mm	
	Accuracy		———	
Size(LxWxH)			(531×386×731)mm	
Weight			48kg	49kg
Power supply			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 in mm.

【VX3000 Series Parameters】

Model No.			VX3300	VX3300D
Image Senor			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		300×200mm(4 Angles R50)	300×200mm(4 Angles R50)
	High Precision		/	230×130mm
Repeatability of Image Meas.	Large Field	Without Stitching*1	±1μm	±1μm
		With Stitching*2	±2μm	±2μm
	High Precision	Without Stitching*1	/	±0.5μm
		With Stitching*2	/	±1.5μm
Accuracy of Image Meas.	Large Field	Without Stitching*1	±5μm	±5μm
		With Stitching*2	±(7+0.02L)μm	±(7+0.02L) μm
	High Precision	Without Stitching*1	/	±2μm
		With Stitching*2	/	±(4+0.02L) μm
Height Meas. (Optical Probe) (Optional)	Measuring Range(XY)		120×110mm	
	Max Hole/Depth Ratio(h/Φ)		1.5	
	Z Non-Move	Range(Z)	±3.5mm	
		Accuracy	±2μm	
	Z Move	Range(Z)	70mm	
		Accuracy	±(6+L/100)μm	
	Dia. of Beam		Φ38mm	
	Resolution		0.25μm	
Software			VisionX	
Resolution			0.1μm	
XY Object Table	X Travel Range		210mm	
	Y Travel Range		110mm	
	Loading Capacity		5kg	
Z-Axis Travel Range			75mm	
Size(L×W×H)			(531×503×731)mm	
Weight			74kg	75kg
Power supply			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 in mm.

【VX8000 Series Parameters】

Model No.			VX8200	VX8300
Image Senor			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		200×200mm(4 Angles R50)	300×200mm(4 Angles R50)
	High Precision		W130×L130mm	W230×L130mm
Repeatability of Image Meas.	Large 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.	Large Field	Without Stitching*1	±3μm	±3μm
		With Stitching*2	±(5+0.02L)μm	±(5+0.02L)μm
	High Precision	Without Stitching*1	±1.5μm	±1.5μm
		With Stitching*2	±(3+0.02L)μm	±(3+0.02L)μm
Horizontal Rotary Unit (Optional)	Rotation Angle		Range 360°, Resolution 0.01°	
	Rotation Speed		0.2~2rev/s	
	Max Diameter		Φ60mm	
Height Meas. (Optical Probe) (Optional)	Measuring Range(XY)		/	120mm×110mm
	Max Hole/Depth Ratio(h/Φ)		/	1.5
	Z Non-Move	Range(Z)	/	±3.5mm
		Accuracy	/	±2μm
	Z Move	Range(Z)	/	75mm
		Accuracy	/	±(6+L/100)μm
	Dia. of Beam		/	Φ38μm
	Resolution		/	0.25μm
Software			VisionX	
Resolution			0.1μm	
XY Object Table	X Travel range		110mm	210mm
	Y Travel range		110mm	110mm
	LoadingCapacity		5kg	5kg
Z Travel range			75mm	
Size(LxWxH)			(531×386×731)mm	(531×503×731)mm
Weight			49kg	75kg
Power supply			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 in mm.

【VX3500/VX8500 Parameters】

Model No.			VX3500	VX8500
Image Senor			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		500×400mm(4 Angles R50)	
	High Precision		W430×L330mm	
Repeatability of Image Meas.	Large 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.	Large Field	Without Stitching*1	±5μm	±3μm
		With Stitching*2	±(6+0.005L)μm	±(5+0.005L)μm
	High Precision	Without Stitching*1	±2μm	±1.5μm
		With Stitching*2	±(3+0.005L)μm	±(3+0.005L)μm
Horizontal Rotary Unit (Optional)	Rotation Angle		Range 360°, Resolution 0.01°	
	Rotation Speed		0.2~2rev/s	
	Max Diameter		Φ60mm	
Height Meas. (Optical Probe) (Optional)	Measuring Range(XY)		300mm×300mm	
	Max Hole/Depth Ratio(h/Φ)		1.5	
	Z Non-Move	Range(Z)	±3.5mm	
		Accuracy	±2μm	
	Z Move	Range(Z)	200mm	
		Accuracy	±(6+L/100)μm	
	Dia. of Beam		Φ38μm	
	Resolution		0.25μm	
Software			VisionX	
Resolution			0.1μm	
XY Object Table	X Travel range		410mm	
	Y Travel range		310mm	
	LoadingCapacity		20kg	
Z Travel range			200mm	
Size(LxWxH)			(900×1340×1600)mm	
Weight			950kg	
Power supply			AC200-240V,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 in mm.

Automatic Video Measuring Machines CH Series

Precision, Versatile

CHT Series

CHS Series

CHX Series

[Features]

1. After loading the measurement program, the measurement process can be automatically executed by one click, and batch measurement can be performed quickly and accurately.
2. Support importing of CAD drawings and Gerber drawings to establish measurement programs.
3. Provide up to 80 kinds of analysis tools such as feature extraction, auxiliary construction, intelligent annotation, geometric tolerance, special application, etc..
4. Integrating high-magnification lens and large field of view lens, ensure both measurement efficiency and accuracy.
5. Automatically identify the measuring part, and obtain uniform and stable measurement results every time.
6. Touch probe and optical probe are available for height and flatness measurement.
7. With simple operation interface, VisionX software is easily set & used by anyone and no complicated training is required.
8. One-click automatic generation of SPC analysis report, test result report, etc.

[Functions]

1. Measurement tools: Extracting edge points by scanning, extracting edge points by multi-segment, extracting edge points by circle, ellipse extraction, extracting contour line by frame selection, focus point, nearest points, etc.
2. Measure geometric features: Point, line, circle (center coordinate, radius, diameter), arc, center, angle, distance, line width, hole site, aperture, number of holes, distance from hole to hole/ hole to edge, distance from the arc center to the hole, distance from the arc center to the edge, distance from the arc high point to the other arc high point, distance from the intersection to the intersection, etc.
3. Construction features: Intersection, center point, extreme point, endpoint, two-point connection, parallel line, perpendicular line, tangent, bisector, center line, line segment fusion, drawing circle by radius, drawing inscribed circle among three lines, drawing inscribed circle by two lines & radius , etc.
4. Geometric tolerance: Straightness, roundness, contour, position, parallelism, symmetry, perpendicularity, concentricity, and other shape and position tolerance evaluation.
5. Coordinate system: Default coordinate system, user-defined coordinate system; Image registration coordinate system; Coordinate system can be translated, rotated, and manually adjusted.
6. Output SPC analysis report, which includes statistical values (such as CA, PPK, CPK, PP, etc.) and control charts (such as mean and range charts, mean and standard deviation charts, median and range charts, single value and moving range chart).
7. Support Q-DAS transmission according to designated format.
8. Support exporting data to designated excel file according to designated template in real time
9. Can output Excel, Word, TXT reports and AutoCAD files.

[CHT Series Parameters]

Model No.		CHT322A	CHT432A	CHT542A
Travel Range	X(mm)	300	400	500
	Y(mm)	200	300	400
	Z(mm)	200	200	200
Structure Type		Column		
Base Material		Marble	Marble	Marble
Size(mm)		720×1200×1700	850×1280×1700	950×1350×1700
Weight(kg)		400	480	650
Loading Capacity(kg)		25	25	25
Power		1500W	2000W	2500W
Monitor		24" LCD(1920×1080)		
Image Sensor		High definition colorful industrial camera		
Lens		6.5X manual lens(Optical Zoom：0.7X~4.5X)		
Resolution of Glass scale		0.5μm		
Guide Rail		Precision linear guide rail		
Light	Bottom	Telecentric transmission illumination		
	Ring	5 rings and 8 segments (255 levels) surface light		
Accuracy*1	X/Y	E1x/y≤±(2.5+L/200)μm		
	Z*2	E1z≤±(5.0+L/200)μm		
Max Speed	XY(mm/s)	500		
	Z(mm/s)	100		
Sensor Option		(1)Touch probe；(2)Laser probe；(3)Laser Profiler		
Motion Control		Servo control system		
Software		VisionX Pro		
Input		AC200-240V,50/60Hz		
Working Environment		Temp.20℃ ±2℃ , Humidity 20~80%, Vibration<0.002g, Less than15Hz		

Note: *1 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.
*2 It is mechanical accuracy, and actual accuracy depends on object surface where lens focuses.

[CHT Series Parameters]

Model No.		CHT322U	CHT432U	CHT542U
Travel Range	X(mm)	300	400	500
	Y(mm)	200	300	400
	Z(mm)	200	200	200
Structure Type		Column		
Base Material		Marble	Marble	Marble
Size(mm)		720×1200×1700	850×1280×1700	950×1350×1700
Weight(kg)		400	480	650
Loading Capacity(kg)		25	25	25
Power		1500W	2000W	2500W
Monitor		24" LCD(1920×1080)		
Image Sensor		High definition colorful industrial camera		
Lens		6.5X motorized lens(Optical Zoom：0.7X~4.5X)		
Resolution of Glass scale		0.5μm		
Guide Rail		Precision linear guide rail		
Light	Bottom	Telecentric transmission illumination		
	Ring	5 rings and 8 segments (255 levels) surface light		
Accuracy*1	X/Y	E1x/y≤±(1.8+L/200)μm		
	Z*2	E1z≤±(3.5+L/200)μm		
Max Speed	XY(mm/s)	500		
	Z(mm/s)	100		
Sensor Option		(1)Touch probe；(2)Laser probe；(3)Laser Profiler		
Motion Control		Servo control system		
Software		VisionX Pro		
Input		AC200-240V,50/60Hz		
Working Environment		Temp.20℃ ±2℃ , Humidity 20~80%, Vibration<0.002g, Less than15Hz		

Note: *1 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.
*2 It is mechanical accuracy, and actual accuracy depends on object surface where lens focuses.

[CHS Series Parameters]

Model No.		CHS452	CHS562	CHT682
Travel Range	X(mm)	400	500	600
	Y(mm)	500	600	800
	Z(mm)	200	200	200
Structure Type		Gantry		
Base Material		Marble	Marble	Marble
Size(mm)		950×1500×1700	1100×1600×1700	1200×2000×1700
Weight(kg)		850	1500	2000
Loading Capacity(kg)		25	25	25
Power		2500W	2500W	2500W
Monitor		24" LCD(1920×1080)		
Image Sensor		High definition colorful industrial camera		
Lens		6.5X motorized lens(Optical Zoom: 0.7X~4.5X)		
Resolution of Glass scale		0.1μm		
Guide Rail		Precision linear guide rail		
Light	Bottom	Telecentric transmission illumination		
	Ring	5 rings and 8 segments (255 levels) surface light		
	Coaxial Light	LED		
Accuracy*1	X/Y	E1x/y≤±(1.8+L/200)μm		
	Z*2	E1z≤±(3.5+L/200)μm		
Max Speed	XY(mm/s)	500		
	Z(mm/s)	100		
Sensor Option		(1)Touch probe；(2)Laser probe；(3)Laser Profiler		
Motion Control		Servo control system		
Software		VisionX Pro		
Input		AC200-240V,50/60Hz		
Working Environment		Temp.20℃ ±2℃ , Humidity 20~80%, Vibration<0.002g, Less than15Hz		

Note: *1 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.

*2 It is mechanical accuracy, and actual accuracy depends on object surface where lens focuses.

[CHX Series Parameters]

Model No.		CHX0810	CHX1012	CHX1215
Travel Range	X(mm)	800	1000	1200
	Y(mm)	1000	1200	1500
	Z(mm)	200	200	200
Structure Type		Gantry		
Base Material		Marble	Marble	Marble
Size(mm)		1750×2220×1700	2150×2620×1700	2550×3220×1700
Weight(kg)		2900	3600	4500
Loading Capacity(kg)		50	50	50
Power		2500W	2500W	2500W
Monitor		24" LCD(1920×1080)		
Image Sensor		High definition colorful industrial camera		
Lens		6.5X motorized lens(Optical Zoom: 0.7X~4.5X)		
Resolution of Glass scale		0.1μm		
Guide Rail		Precision linear guide rail		
Light	Bottom	Telecentric transmission illumination		
	Ring	5 rings and 8 segments (255 levels) surface light		
	Coaxial Light	LED		
Accuracy*1	X/Y	E1x/y≤±(3.5+L/200)μm		
	Z*2	E1z≤±(4.0+L/200)μm		
Max Speed	XY(mm/s)	500		
	Z(mm/s)	100		
Sensor Option		(1)Touch probe；(2)Laser probe；(3)Laser Profiler		
Motion Control		Servo control system		
Software		VisionX Pro		
Input		AC200-240V,50/60Hz		
Working Environment		Temp.20℃ ±2℃ , Humidity 20~80%, Vibration<0.002g, Less than15Hz		

Note: *1 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.

*2 It is mechanical accuracy, and actual accuracy depends on object surface where lens focuses.

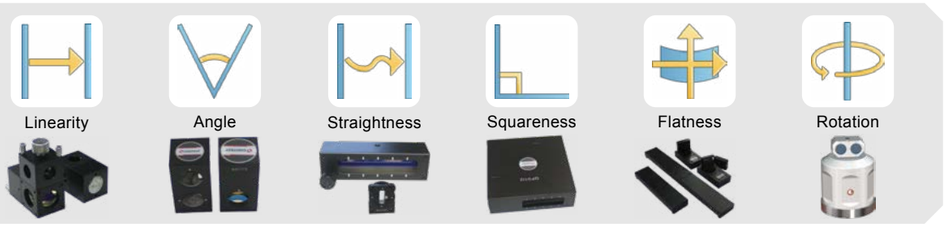
Laser Interferometer Measurement System SJ6000

Calibration of Guide Rail

Portable case and tripod

Structure of the case

[Prism Modules]



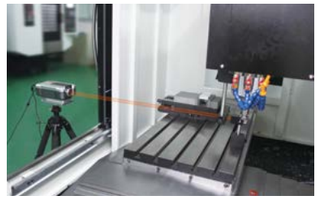
Laser interferometer is recognized as a high precision, high sensitive measuring method by applying light wavelength as criterion, and is widely used in high-end manufacturing domain.

Laser interferometer SJ6000 insists of high-frequency Helium-Neon laser generator from an USA supplier, high-precision environmental compensation modules, high-precision laser interference signal processing system, high-performance computer control system. By applying with thermal frequency stabilization technology of laser dual-longitudinal mode and geometric parameters interference optical path design, SJ6000 can output long-term stable and high-precision(0.05ppm) laser quickly(about 6 minutes) which has powerful anti-interference performance. With different prism modules, it can measure linearity, angle, straightness, Flatness and perpendicularity, besizes it can also analyze dynamic characteristics.

Functions

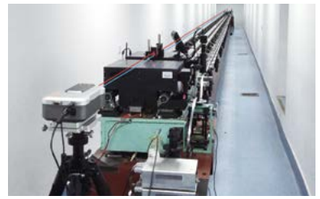
1. Calibrate motion accuracy of guide rail quickly and accurately.
2. Measure and analyze many kinds of dynamic parameters, such as displacement, velocity, acceleration and amplitude frequency.
3. Built-in variety of general standards of machine tools.

[Application]



Linear meas. of machine tool

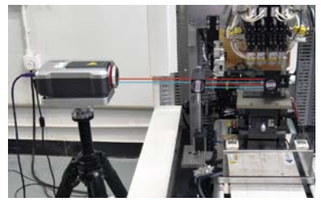
Linear meas. of stage module



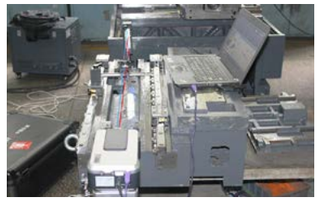
Lab length reference

Linear meas. of machine tool

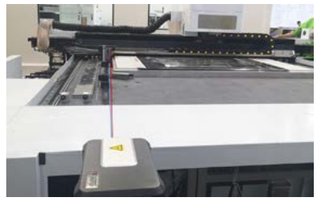
Angle meas. of stage module



Angle meas. of DC motor



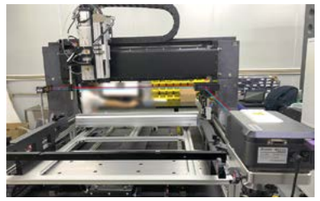
Parallelism meas. of two guide rails



Straightness meas. of equipment

Flatness meas. of Granite table

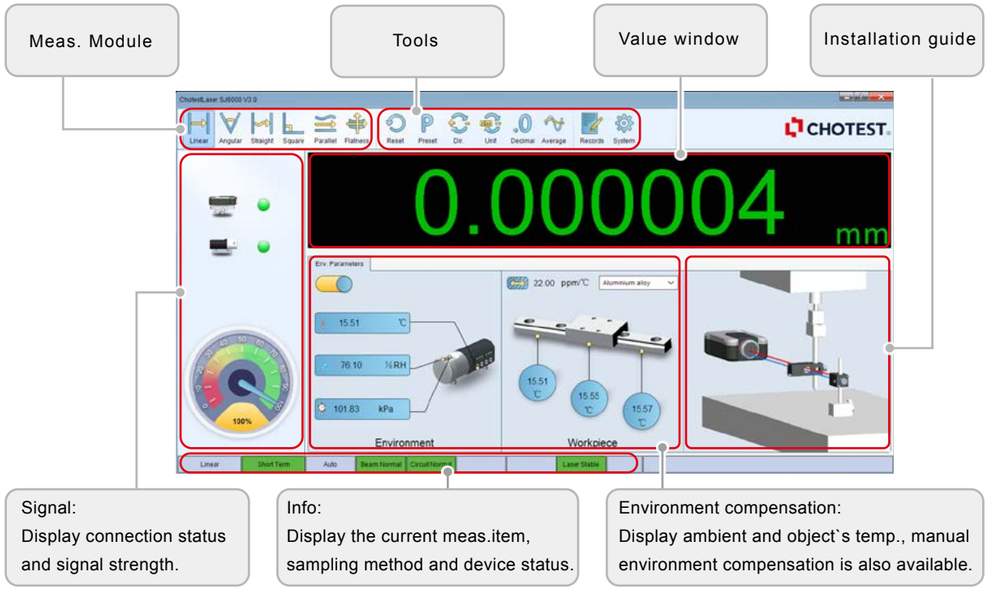
Perpendicularity meas. of CMM



Perpendicularity meas. of equipment

Twin guide rails meas. of equipment

[Software]



[Dynamic Measurement Application]

Time based

Motion performance evaluation

* Control parameter test and setting of motion controller PID
* Stability test and evaluation after high-speed motion
* Small steps test of high-performance motion controller

Vibration monitoring

* Scanning application:
  Applied for the situation when positioning accuracy is not important but constant speed is critical for high quality imaging.
* Machine tool applications:
  Applied for the situation when slow and smooth contour movement of cutting tool is critical for high quality machning.

Vibration frequency analysis

* Vibration frequency analysis of the measured object
* FFT fast Fourier transform analysis

Distance based

In distance-based dynamic measurement, laser interferometer SJ6000 "flies" along the axis, that means SJ6000 samples data at designated points without stopping.

Pulse Trigger Mode

Pulse trigger CT70 is compatible with glass scales, encoders and controllers. Equipped with Pulse trigger CT70, laser interferometer SJ6000 can sample data in pulse trigger mode. Even if the axis does not stop, laser interferometer SJ6000 could sample data at designated points or continuously sample data.

Pulse trigger CT70

Technical Parameters

System parameters:

1. Measuring method: single frequency
2. Laser frequency accuracy: 0.05ppm
3. Dynamic capture rate: 50kHz
4. Warm-up time: about 6 min
5. Operating temperature: (0~40)℃
6. Environment temperature: (0~40)℃, humidity: 0~95%
7. Storage temperature: -20℃~70℃

Environmental sensors:

1. Atmospheric temperature sensor : ±0.1℃(0~40)℃, resolution: 0.01℃
2. Material temperature sensor: ±0.1℃(0~40)℃, resolution: 0.01℃
3. Atmospheric humidity sensor: ±5% (0~95%)
4. Atmospheric pressure sensor: ±0.1kPa (65~115)kPa

Linearity measurement:

1. Measuring range: (0~80)m
2. Measuring accuracy: 0.5ppm (0~40)℃
3. Measuring resolution: 1nm
4. Maximum measuring speed: 4m/s

Angle measurement:

1. Axial range: (0~15)m
2. Measuring range: ±10°
3. Measuring accuracy: ±(0.02%R+0.1+0.024M)″ (R is indicating value, unit: ″; M is measured length in m)
4. Measuring resolution: 0.1″

Flatness measurement:

1. Axial range: (0~15) m
2. Flatness measuring range: ±1.5 mm
3. Measuring accuracy: ±(0.2%R+0.02M) μm (R is indicating value in μm; M is measured length in meters)
4. Substrate size: 180mm adjustable, 360mm adjustable
5. Measuring resolution: 0.1μm

Straightness measurement:

Item	Axis range	Measuring range	Accuracy	Resolution
Short straightness	(0.1~4)m	±3.0mm	±(0.5+0.25%R+0.15M)μm	0.01μm
Long straightness	(1~20)m	±3.0mm	±(5.0+2.5%R+0.015M)μm	0.1μm

Note: R is indicating value in μm; M is measured length in meters

Squareness measurement:

Item	Axis range	Measuring range	Accuracy	Resolution
Short distance	(0.1~3)m	±3.0M mm/m	±(2.5+0.25%R+0.8M)μm/m	0.01μm
Long distance	(1~15)m	±3.0M mm/m	±(2.5+2.5%R+0.08M)μm/m	0.1μm

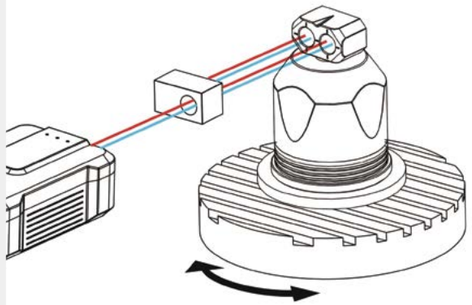
Note: R is indicating value in μm; M is measured length in meters

Rotary axis measurement:

1. Measuring range of angle: 0-360°
5. Power supply: Li-battery
2. Max axis rotation speed: 10rpm
6. Communication type: Bluetooth

5. Power supply: Li-battery
6. Communication type: Bluetooth
7. Weight: 1.9kg
8. Size: Φ112*H148mm

Precision TurnTable WR50



Measurement Diagram

[Measurement Principle]

Equipped with Precision turntable WR50 and Angle prism, Laser interferometer SJ6000 is capable to calibrate rotary axis 0~360°. Precision turntable WR50 is intalled to the rotary axis as angle master.

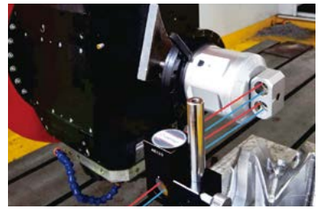
Parameters

Model No.: WR50
Measuring range: (0~360)°
Accuracy: ±1″
Resolution: 0.1″
Max axis rotation speed: 10rpm
Max tracking speed: 2rpm
Weight: 1.9kg
Size: Φ112*H148mm
Communication type: Bluetooth
Power supply: Li-battery

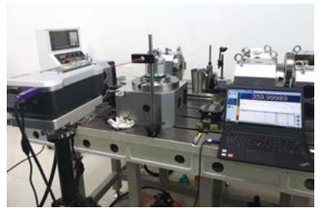
[Application]

Rotary axis measurement of CNC

Electric spindle measurement of CNC



Swing axis measurement of CNC

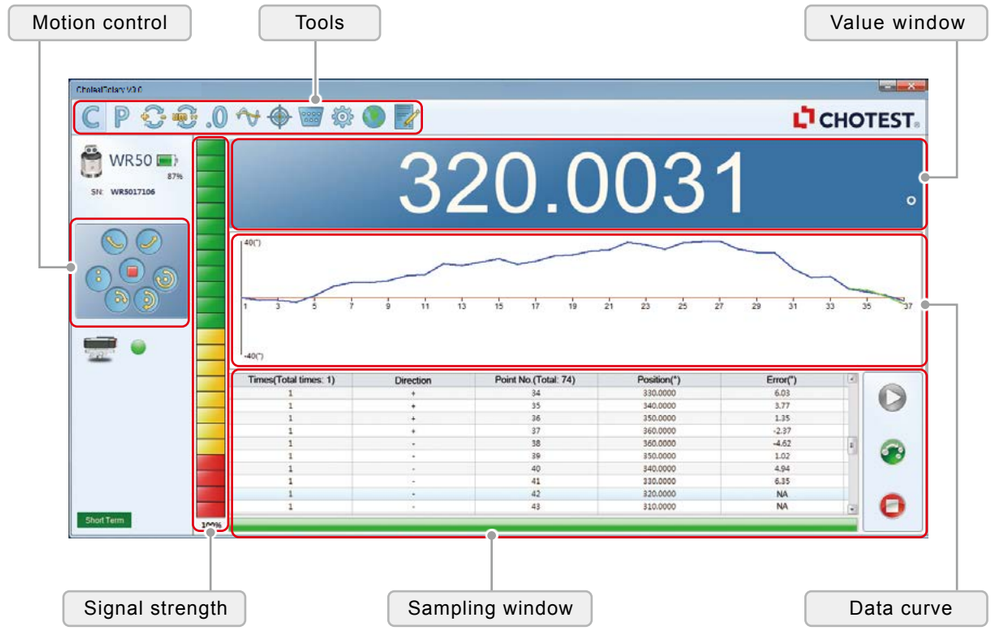


Angle measurement of CNC index plate

Angle measurement of turntable

Angle measurement of CNC turntable

[Software]



[Eccentric Axis Measurement]

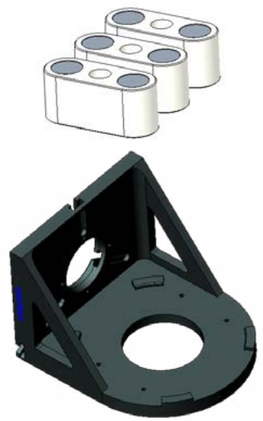
Equipped with angle prism, precision turntable WR50, dedicated jig and dedicated software, SJ6000 is capable to calibrate eccentric axis rotation accuracy.

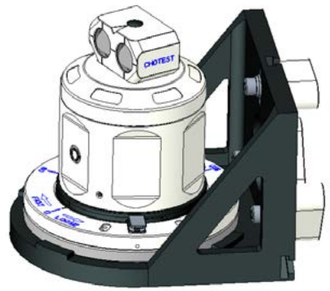
Eccentric axis meas. kit:

1.Magnet, 3pcs

2.90° Jig

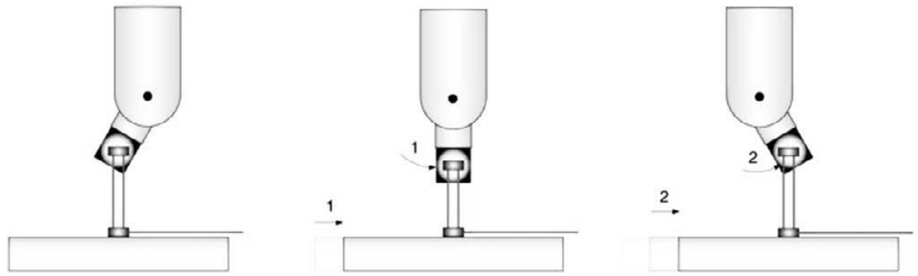
3.Dedicated software



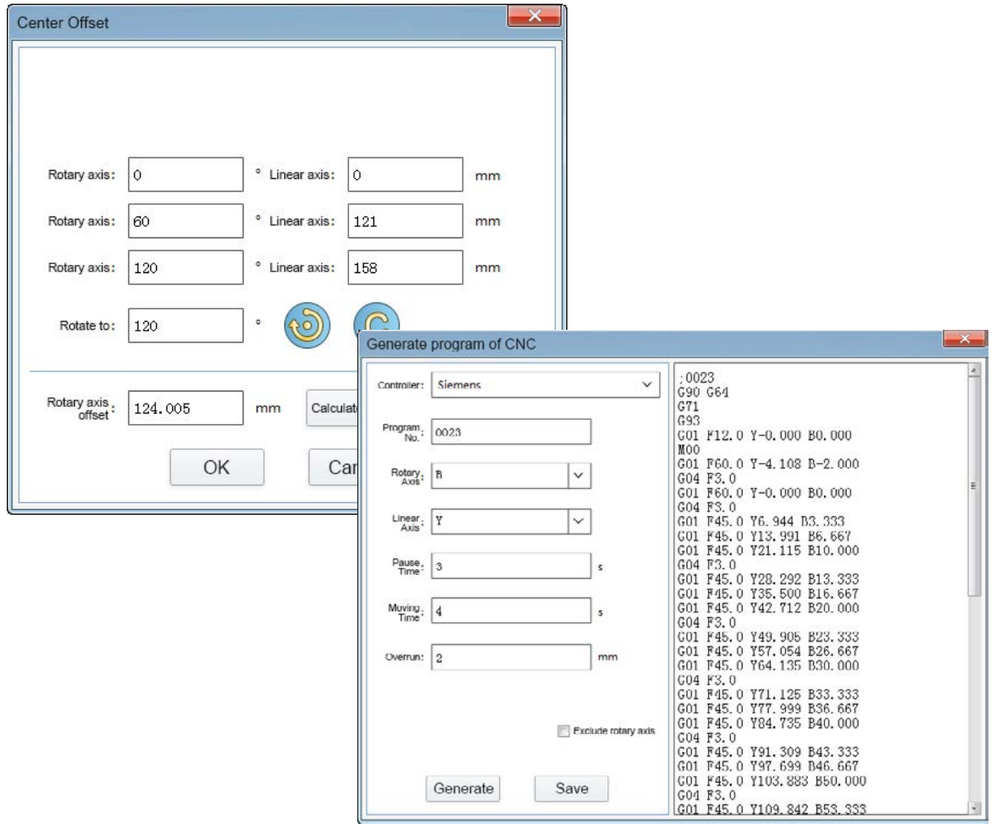


Measurement Principle

The measurement principle is to use the synchronous movement of the object table and the main spindle, as shown in the figure below. It is important to make sure that angle prism should be always aligned with WR50.

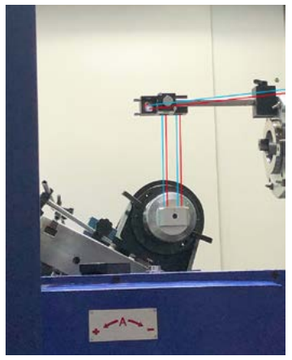


Measurement Principle



Software Setting

[Application]



Eccentric axis measurement

Wireless Ballbar MT21

Fast Diagnosis Tool for Machine

MT21 Wireless Ballbar is a simple, fast, economical and efficient solution to diagnose performance of machine tools, and helps to improve the machining quality of machine tools.

[Features]

Simple, Fast

The measurement software with guided operation can generate the machine running program automatically. With simple setting, the round track test on three orthogonal planes can be completed in 10~15 minutes.

Powerful Function

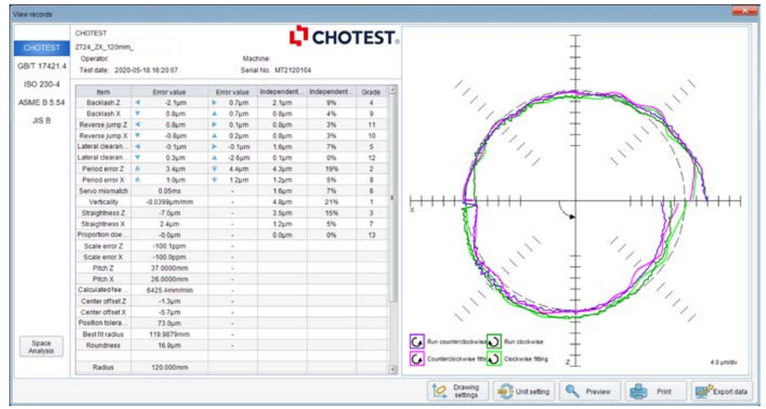
Comprehensive diagnosis report provides a full and professional assessment of machine performance. Taking 360 degree measurement at the XY plane as an example, it can analyze: backlash X, backlash Y, reverse jump X, reverse jump Y, lateral gap X, lateral gap Y, period error X, period error Y, servo Mismatch, perpendicularity, straightness X, straightness Y, proportional mismatch, scale error X, scale error Y, thread pitch X, thread pitch Y, feed rate, center offset X, center offset Y, position tolerance, the best fitting radius, roundness.

Wireless

Data is transferred to the laptop computer via Bluetooth in real time.

[Software]

MT21 software with guided operation can implement the round track test on three orthogonal planes quickly and simply. After measurement, software calculates the overall measurement values (roundness, roundness deviation) of the positional accuracy automatically, then generates the analysis report with the graphic format according to GB17421-4, ISO230-4. MT21 achieves the real spatial diagnosis for machine tools.



Error Analysis Report

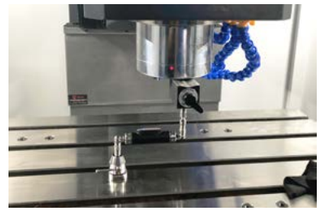
Parameters

Communication: Bluetooth(Typical 10m)
Power supply: Li-battery
Resolution: 0.1μm
Measuring accuracy: ±(0.7+0.3%L)μm
Measuring range: ±1.0mm
Sensor range: ±2.0mm
Sample rate: 1000Hz
Working Temperature: (0~40)℃
Size: 150mm×26mm×21mm

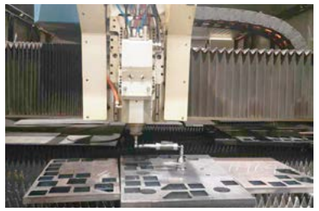
Configuratioin

1. MT21 Wireless Ballbar	1pc
2. Master gauge	1pc
3. Offset setting ball	1pc
4. Centric holder	1pc
5. Tool cup	1pc
6. Extension bar 50, 100, 150mm	1pc of each
7. Software	
8. Portable suitcase	
9. User Manual, Product certificate and Warranty	

[Application]



Roundness inspection of machine tool



Machine Tool Probes PO Series

Precision, Reliable

PO series contains 3-point trigger unit inside the probe, which is the most stable structure. When the stylus is moved radially or axially by external force, the trigger unit is triggered. Then the circuit inside of probe sends a triggering signal to the receiver, and the receiver transmits it to the machine tool, consequently the present coordinates of each axis of the machine tool are recorded automatically. Finally measurement results are calculated according to the coordinate records of related points.

[Features]

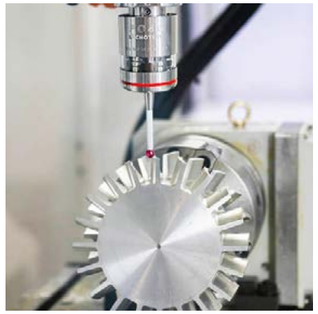
***High repeatability:** One-way repeatability <1μm

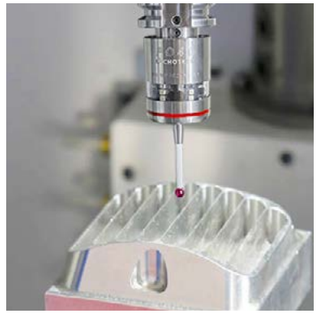
***Long standby time:** As long as 6 months

***Omnidirectional energy-absorbing design:** 360° omnidirectional energy-absorbing design, which helps to cushion the spindle in impact when an operating accident occurs

***Waterproof design:** IP68 for probe and receiver

***Intelligent LED indicators:** Show current working status of the probe





[Parameters]

1. Technical parameters of the probe:

1) Storage temperature: (-25-70)℃

2) Working temperature: (5~55)℃

Model No.	PO40	PO60	PO40L	PL20
Size	Φ40mm* L50mm	Φ63mm* L76mm	Φ40mm* L52mm	Φ25mm* L41mm
Weight(Without Holder)	260g	880g	280g	65g
Transmission Type	360° IR	360° IR	360° IR	Cable
Transmission Distance	5m	6m	5m	No limit
Starting Mode	Code M	Code M, Revolve	Code M	/
Rotational Speed	Max 1000rev/min	Max 1000rev/min	Max 1000rev/min	Max 1000rev/min
Power Supply	1/2AA 3.6V battery*2	AA1.5V/3.6V battery*2	1/2AA 3.6V battery*2	/
Triggering Direction	±X/±Y/-Z	±X/±Y/-Z	±X/±Y/-Z	±X/±Y/-Z
Repeatability of One-way triggering 2δ(*1)	1μm	2μm	1μm	0.5μm
Max overrun(*2)	XY:12.5mm +Z:6mm	XY:21mm +Z:11mm	XY:12mm +Z:6mm	XY:12.5mm +Z:6mm
XY Trigger Force(*3)	0.5 N~0.9N	0.5 N~1.6N Adjustable	0.3 N~1.6N Adjustable	0.5 N~1N Adjustable
Z Trigger Force	5.8N	3.5N~14N Adjustable	4N~10N Adjustable	5.9N
Application	Small and medium-sized 3-axis, 5-axis machining center	Large gantry machine tool, horizontal machining center	CNC lathe or turning-milling composite machining center	Small engraving and milling machine tool

Note: .

*1: Test with a 50mm straight stylus under speed 480mm/min

*2: Test with a 50mm straight stylus

*3: Test with a 50mm straight stylus under speed 480mm/min

2. Technical parameters of the receiver:

1) Transmission type: IR, 360°

2) Working range: Max 8m

3) Weight: 926g

4) Input voltage: 12V~ 30V

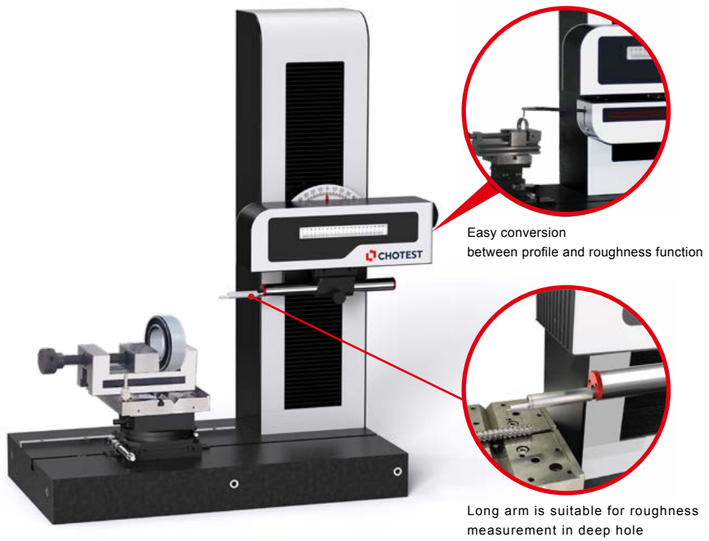
5) Input current: <100mA, receiving <40mA

6) Cable to machine controller: dedicated 13PIN shielded cable, 8 meters or 15 meters

7) Storage temperature: (-25-70)C, working temperature: (5~55)C

COMI Receiver

Profilometers SJ57 Series



Easy conversion
between profile and roughness function

Long arm is suitable for roughness measurement in deep hole

SJ5701

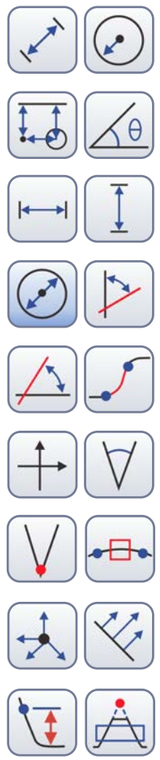
Easy conversion
between profile and roughness function
(Roughness module is optional)

SJ5760

[Software]

Surf&Rough X is an user-friendly and powerful software, which is completely developed by Chotest. It can analyze not only surface contour, but also evaluate surface roughness. Surf&Rough X contains 76 kinds of utility tools, such as coordinate system, construction tools, geometric tolerance, surface roughness assessment tools, etc. CNC measurement mode is a convenient function for batch measurement, and it improves measurement efficiency greatly. Moreover, discontinuous measurement function is also available for the special workpieces.

[Functions]



Geometric Tolerance
Straightness, roundness, position degree, parallelism, perpendicularity, contour degree, etc.

Custom Program
The measurement process can be customized according to the characteristics of the workpiece (Set the probe to jump deep holes, steep slopes or obstacles).

CNC Mode
The one-key measurement program can be built for batch measurement. If the tolerance is also entered to the program, the measurement result will be automatically judged as OK or NG.

Coordinate system
Coordinate system could be established by point-line or line-line, and it could be translated and rotated.

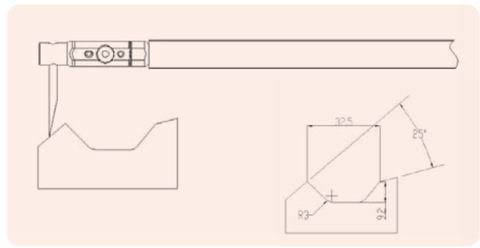
Special Tool
Ball screw shaft measurement (corrected helix angle), thread measurement, step height, groove depth, groove width, area, curvature, etc.

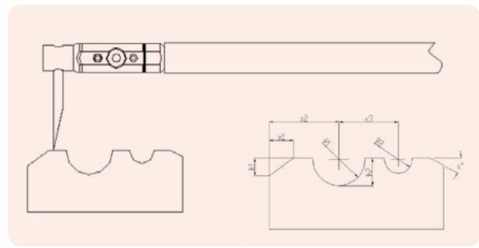
Report
Export report in .doc, .xls or .pdf, and support user-defined report template.

Contour Comparison
After import CAD drawing to the software, the user can compare the difference between drawing and scanning contour.

Roughness
Ra, Rp, Rv, Rz, Rt, Rmax, Rq, Rsk, Rku, RSm, RPc, Rdq, Rdc, Rmr, Pa, Pq, Pt, Pp, Pv, Psm, Psk, Pku, Pdq, Plq, Pdc, PHSC, Ppc, PMr, Waviness of Profile, Motif, etc.

[Example]





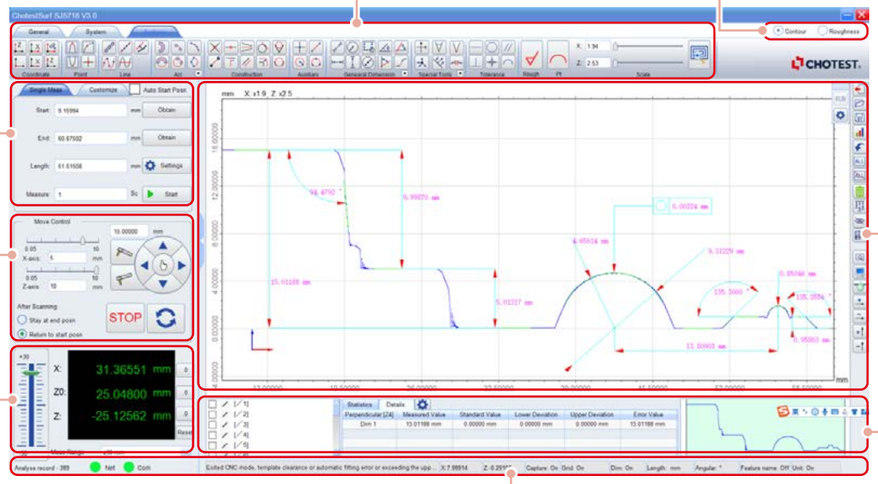
[Software Interface]

Scanning Settings:
Set measuring conditions, Inspection info and scanning positions.

Tool bar:
Extraction tools and Annotation tools.

Switch meas. function:
Switch between profile measurement and roughness measurement.

Scanning graph window:
Display the scanning graph and perform the analysis operation.



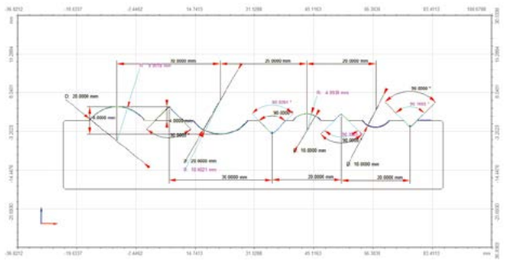
Motion control:
Control probe to move ▲, ▼, ►, ◄, and stop, reset.

Coordinate display:
Display the coordinates of current probe position.

Status Bar:
Network, serial port, unit, operation tips, login time, user name, etc.

Analysis data:
List features, measured data and tolerance.

[Measurement Interface]



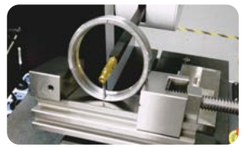
Profile measurement

Roughness measurement

[Roughness Parameters]

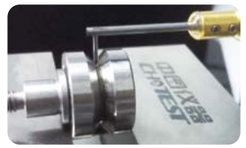
Parameter classification	Parameters
Roughness	Ra, Rq, Rz, Rmax, Rpc, Rz-JIS, Rt, Rp, Rv, R3z, Rsm, Rs, Rsk, Rku, Rdq, Rlq, Rdc, RHSC, Rmr, Rz-L, Rp-L, R3z-L, Rdc-L, RMr-L, Pdc-L, PMr-L
Key roughness	Rk, Rpk, Rvk, Rpkx, Rvkx, Mr1, Mr2, A1, A2, Vo
Profile	Pa, Pq, Pt, Pp, Pv, Psm, Psk, Pku, Pdq, Plq, Pdc, PHSC, Ppc, PMr
Waviness of Profile	Wa, Wq, Wt, Wp, Wv, WSm, Wsk, Wku, Wdg, Wdc, WMr
Motif	R, Ar, W, Aw, Rx, Wx, Wte, Nr, Ncrx, Nw, Cpm, CR, CF, CL
ISO 5436	Pt, D

[Application]



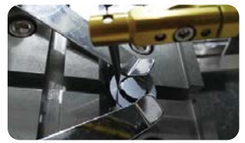
Bearing measurement

Bearing measurement



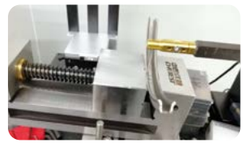
Auto parts measurement

Screw rod measurement



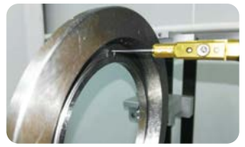
Stamping part measurement

Thread workpiece measurement



Machining part measurement

Roughness specimen measurement



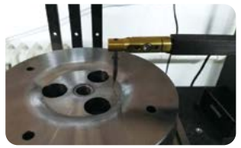
Railway parts measurement

Engine cylinder measurement

Custom bearing measurement

Die casting measurement

NPT thread measurement



Auto wheel measurement

Die casting measurement

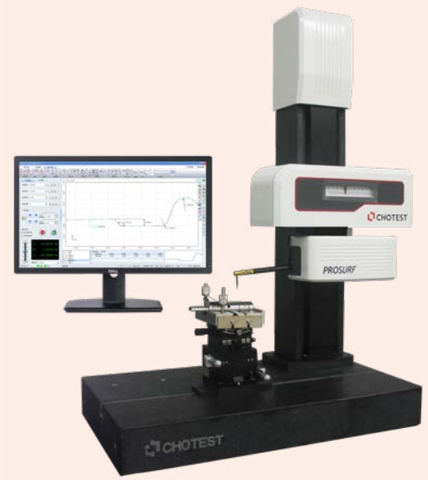
Gearbox part measurement

[Technical Parameters]

Model No.	SJ5701	SJ5760
Profile Measurement		
X Axis	Range: 0~200mm, Resolution: 0.01μm Indication error: ±(0.6+1.5L/100)μm Moving speed: 0.1~10mm/s Straightness: 0.4μm/100mm	Range: 0~200mm, Resolution: 0.01μm Indication error: ±(0.6+1.5L/100)μm Moving speed: 0.1~10mm/s Straightness: 0.5μm/100mm
Z1 Axis	Range: ±25mm Indication error: ±(0.6+|4H|/100)μm Resolution: 0.01μm	
Z Axis	Range: 0~450mm, Moving speed: 0~10mm/s	
Scanning Force	10~150mN	
Max Slope	Uphill 77°, downhill 88°	
Scanning Speed	0.05-5mm/s	
Power Supply	AC100~240V, 50/60Hz, 350W	
Size and Weight	Marble base: 800x450x100mm Overall: 850x450x1000mm Weight: 150kg	
Operating Environment	No strong magnetic field, no vibration, no corrosive gas Operating temperature: 20 ± 2℃, Relative humidity: 10-70%RH	
Roughness Measurement		
Range	X axis: 0~200mm Z0: ±400μm	X axis: 0~200mm Z0: ±80μm, ±40μm, ±20μm
Straightness Error	≤0.15μm/20mm, ≤0.4μm/100mm	≤0.3μm/20mm, ≤0.5μm/100mm
Indication Error	±(0.005+0.025A)μm, A(Ra)μm	±(0.01+0.05A)μm, A(Ra)μm
Resolution	Z0: 0.001μm(±400μm) Measurement residual: ≤0.005μm	Z0: 0.004μm(±80μm), Z0: 0.002μm(±40μm), Z0: 0.001μm(±20μm) Measurement residual: ≤0.01μm
Scanning Speed	0.05mm/s~0.5mm/s adjustable	
Probe	Long-arm probe(Height<7mm) 1pc, Pin radius 2μm, Static measuring force 1~2mN	Standard probe(Height<8mm) 1pc, Pin radius 2μm, Static measuring force 0.75mN
Column	Range: (0-450)mm	
Filter	2RC filtering, Gaussian filtering and Zero phase filtering Filter band can be selected or set at will Support to select filter type and sampling length automatically according to the standard	

Small Profilometer SJ5718

Compact, Accurate, Economic

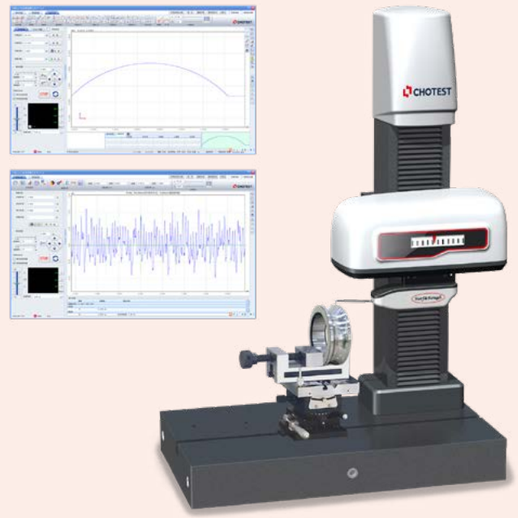


[Technical Parameters]

Model No.	SJ5718
X Axis	Range: 0~100mm, Resolution: 0.1μm Indication error: ±(0.6+2L/100)μm, L is horizontal measured length in mm Moving speed: 0~10mm/s Straightness: 0.5μm/100mm
Z1 Axis	Range: ±30mm Indication error: ±(0.6+|5H|/100)μm, H is horizontal measured height in mm Resolution: 0.1μm
Z Axis	Range: 0~300mm, Moving speed: 0~10mm/s
Scanning Force	30mN
Max Slope	Uphill 77°, downhill 88°
Scanning Speed	(0.05-5)mm/s
Power Supply	AC100~240V, 50/60Hz, 350W
Size and Weight	Marble base: 600x350x100mm Overall: 600x350x850mm Weight: 95kg
Operating Environment	No strong magnetic field, no vibration, no corrosive gas Operating temperature: 20 ± 2℃ Relative humidity: 10-70%RH

Profilometer SJ5730

Once Scanning for both Profile and Roughness



[Roughness Parameters]

Parameter classification	Parameters
Contour Evaluation	P(Original profile), R(Surface roughness profile), W(Waviness)
Evaluation Parameters	Ra, Rp, Rv, Rz, Rt, Rmax, Rq, Rsk, Rku, RSm, RPc, Rdq, Rdc, Rmr, Motif, RCore, P, W
Filter Type	2RC filtering, Gaussian filtering and Zero phase filtering
Cut-off Wavelength λc	0.008, 0.025, 0.08, 0.25, 0.8, 2.5, 8mm selectable
λs	0.25, 0.8, 2.5, 8, 25um selectable
Shape Error	Aspheric shape error measurement, straight line shape error measurement, cambered shape error measurement
Standard/Norm	DIN EN ISO 4287:2010, ASME B46.1-2002, JIS B 0601:2013, GB/T 3505-2009, ISO 4287:1997, ISO 13565-2:1996, ISO 1302:2002

[Typical Application]

Pt, Ra of bearing raceway

Ra of gear tooth surface

Ra of blade surface

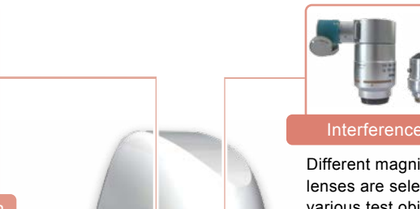
Ra&Profile of screw rod

[Technical Parameters]

Model No.	SJ5730
X Axis	Range: 0~100mm, Resolution: 1nm Straightness: 0.2μm/50mm, 0.3μm/100mm Moving speed: 0.1~10mm/s
Z1 Axis	Range: ±7mm(Standard measuring arm L85mm) Range: ±8mm(Optional measuring arm L95mm) Range: ±10mm(Optional measuring arm L110mm) Resolution: 0.1nm
Z Axis	Range: 0~300mm, Moving speed: 0~10mm/s
Profile Measurement Accuracy	Angle: ≤1' Z1: ≤±(0.5+|6H|/100)μm, H is horizontal measured height in mm Standard arc Pt accuracy: ≤±0.3μm Standard sphere: ≤±(1+R/20)μm
Roughness Measurement Accuracy	Roughness measuring range: Ra0.05μm~Ra12.5μm Ra: ≤±(4nm+2.0%A) (A is nominal Ra value) Repeatability: 1δ≤1nm (0.1-0.2μm square wave roughness specimen, standard stage block) Measurement residual: ≤0.003μm
Scanning Force	3~4mN
Max Slope	Uphill 77°, downhill 88°
Scanning Speed	0.05~5mm/s
Power Supply	AC100~240V, 50/60Hz, 350W
Size and Weight	Marble base: (600x350x100)mm Overall: (600x350x850)mm Weight: 95kg
Operating Environment	No strong magnetic field, no vibration, no corrosive gas Operating temperature: 20 ± 2℃ Relative humidity: 10-70%RH

3D Optical Surface Profilometer SuperView W1

White Light Interferometry • Nano 3D Surface Form and Roughness



Sonic Vibration Isolation

The shell is separated from the internal motion unit, which effectively isolates the transmission of sound wave vibration.

Vacuum Object Table

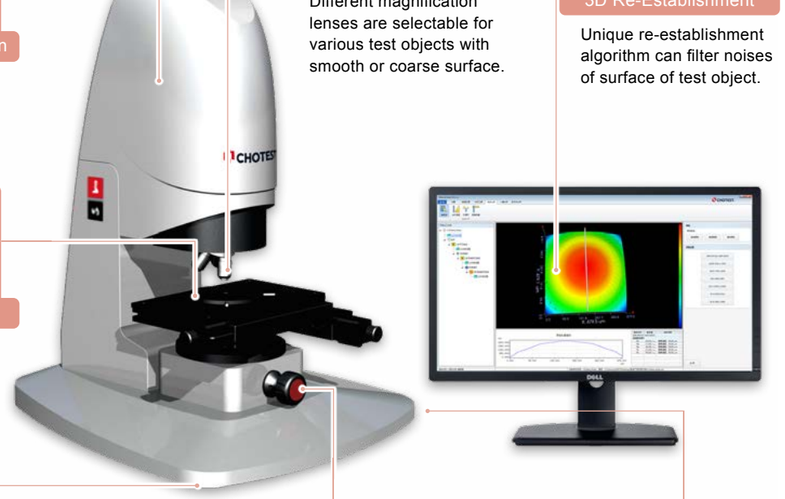
Vacuum Object Table is specially customized for semi-conducting wafers, so influence from feeble air flowing to test object is eliminated in measurement.

Interference Lens

Different magnification lenses are selectable for various test objects with smooth or coarse surface.

3D Re-Establishment

Unique re-establishment algorithm can filter noises of surface of test object.



Air-Bearing Isolation System

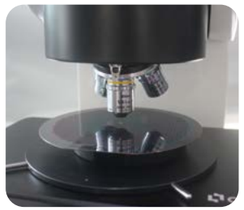
Built-in air bearing isolation system can isolate the vibration. Air pressure of the machine can be supplied by air compressor or inflators.

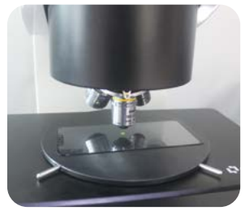
Easy Level

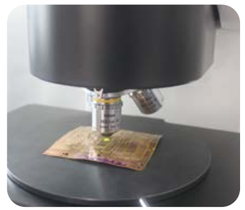
Improve the re-establishment accuracy and adjust stripe width by adjusting tilt of object table.

Convenient joystick

Easy to control X/Y/Z movement, speed and light source brightness; Emergency stop button.

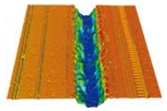
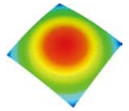
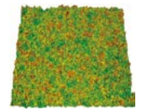
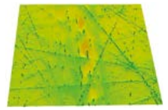






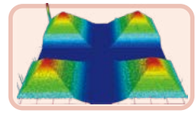
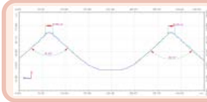
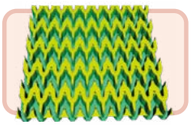
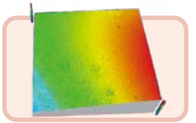
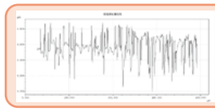
[Application]

It is used for measurement and analysis of surface roughness and profile of precision components from industries of semi-conductor, 3C Electronics, ultraprecise machining, optical machining, micro-nano materials, micro-electro-mechanical system.

Semi-Conductor	Cut sheet, Coated sheet, wafer IC	Roughness, microcosmic	
3C Electronics	Sapphire screen, glass screen,Ink screen	Roughness, flatness, Stage height	
Ultraprecise Machining	Precision mould, optical lens	Roughness, flatness, profile, radius of curvature	
Micro-Nano Materials	Film on PET substrate	Film roughness, film thickness	
MEMS	MEMS components	Surface profile and roughness, area, volume	

[Application Case]

Measurement and analysis for various products, components and materials`surface form and profile characteristics, such as flatness, roughness, waviness, appearance, surface defect, abrasion, corrosion, gap, hole, stage, curvature, deformation, etc.

Surface formfile	Diamond, Magnetic head		Pyramid angle 
Profile sizes	Diffractive optics		Profile curve 
Surface roughness	Engine blade of aircraft		Surface roughness 

[XtremeVision 3D Software]

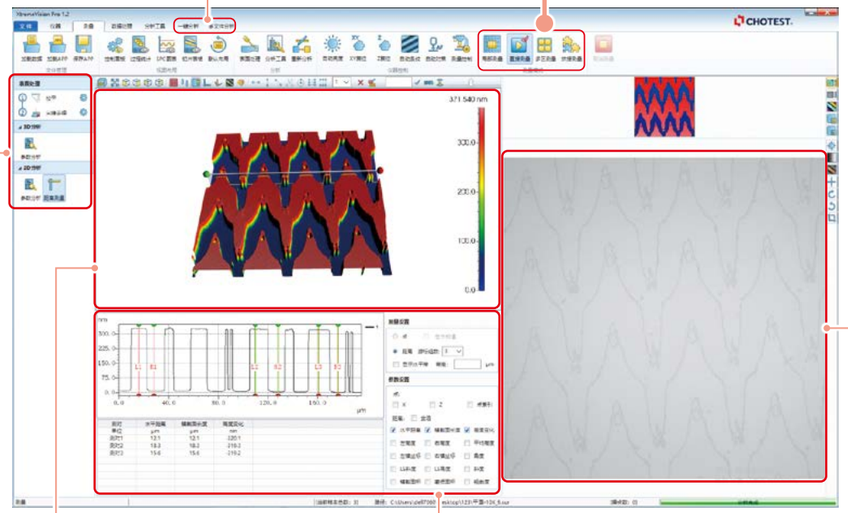
Integration software: Measurement and analysis are operated in the same interface; With pre-set analytic parameters, the software automatically generates measurement data, and achieves rapid CNC measurement.

Auto Measurement:
After set measuring ranges & points and related parameters, multi-area can be measured.

After set analytic program, more than 10 files can be analyzed by one click, finally data result and statistical graph are generated automatically.

Partial measurement:
Can select any area in field of view to be measured.

Stitching Measurement:
After set the measuring range and parameters, large area could be measured by one click automatically.



Configure parameters:
After pre-set leveling, filtering and 2D&3D parameters, data could be measured and generated automatically according to pre-set program.

2D, 3D Image operating zone.

Analysis window: Display the curves and data generated by present analysis tool.

Real-time video window.

[Technical Parameters]

Model No.		SuperView W1	SuperView W1-Pro
Light source		White/ Green LED	
Video system		1024×1024	
Standard Field of View		0.98×0.98 mm	
Max Field of View(Optional)		6.0×6.0 mm	
Object Table	Size	(320×200)mm	(300×300)mm
	Travel range	(140×100)mm	(200×200)mm
	Load capacity	10kg	
	Control method	Motorized	
	Tilt	±5° Manual	
Z-axis travel range		100mm Motorized	
Z-axis stroke scanning range		10mm	
Z-axis scanning speed		45μm/s	
Z-axis Resolution		0.1nm	
Lateral Resolution		0.1μm	
Characters of Test Object		Super-smoothing surface, coarse surface; Reflectivity 0.05%~100%	
Accuracy of Stage	Accuracy	0.3%	
	Repeatability	0.08% 1σ	
Power Supply		AC100~240V, 50/60Hz, 4A, 300W	
Size		L900*W700*H604mm	L900*W700*H1500mm
Weight		<150KG	<160KG

Standard Configuration

1) Host machine
2) High speed camera
3) Optical zoom: 0.5X
4) Parfocal objective lens: 10×
5) Motorized X & Y object table
6) Manual 3 holes turret
6) 4.7μm stage master gauges
7) Joystick
8) XtremeVision software with automatic stitching function
9) Electrical control box
10) Computer(WIN10) and 24" monitor
11) Accessory suitcase
12) Portable inflating pump
13) User Manual and Product Certificate

Optional Configuration

1) Parfocal objective lens: 2.5X, 5X, 10X, 50X, 100X
2) Optical zoom: 0.75X, 1X
3) Vacuum chuck: 4", 6" or 8"
4) Motorized 5 holes turret

Environmental requirement

1) Operating environment: No strong magnetic field
2) Working temperature:15℃~30℃, fuctuation <2℃/60min
3) Relative humidity: 5%~95% RH, no condensation
4) Environmental vibration: VC-C or better
5) Pressure supply: 0.6Mpa oil-free, water-free, 6mm diameter of hose

3D Optical Surface Profilometer SuperView W3

Large-scale microscopic 3D form and shape

- Large table
- Applicable for 12" wafer
- One-key automatic measurement

[Dedicated Functions for Semiconductor Field]

- Measure profile trenches after laser grooving in the dicing process.
- Measure film step-height of wafer ranging from 1nm~1mm.
- Measure roughness of silicon cut sheet after grinding process, and can measure dozens of small areas to obtain the average value by one click.
- Support 6", 8" and 12" wafer measurement, and easy switch between 3 sizes of vacuum chucks by one click automatically.

[Technical Parameters]

Model No.		SuperView W3
Light source		White/ Green LED
Video system		1024×1024
Standard Field of View		0.98×0.98 mm
Max Field of View(Optional)		6.0×6.0 mm
Object Table	Size	(450×450)mm
	Travel range	(300×300)mm
	Load capacity	10kg
	Control method	Motorized
	Tilt	±5° Manual
Z-axis travel range		100mm Motorized
Z-axis stroke scanning range		10mm
Z-axis scanning speed		45μm/s
Z-axis Resolution		0.1nm
Lateral Resolution		0.1μm
Characters of Test Object		Super-smoothing surface, coarse surface; Reflectivity 0.05%~100%
Accuracy of Stage	Accuracy	0.3%
	Repeatability	0.08% 1σ
Power Supply		AC200~240V, 50/60Hz, 4A, 600W
Size		L1000*W900*H1500mm
Weight		<500KG

Standard Configuration

1) Host machine
2) High speed camera
3) Optical zoom: 0.5X
4) Parfocal objective lens: 10×
5) Motorized X & Y object table
6) Manual 3 holes turret
6) 4.7μm stage master gauges
7) Joystick
8) XtremeVision software with automatic stitching function
9) Electrical control box
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Optional Configuration

1) Parfocal objective lens: 2.5X, 5X, 10X, 50X, 100X
2) Optical zoom: 0.75X, 1X
3) Vacuum chuck: 4", 6", 8" or 12"
4) Motorized 5 holes turret

Environmental requirement

1) Operating environment: No strong magnetic field
2) Working temperature:15℃~30℃, fuctuation <2℃/60min
3) Relative humidity: 5%~95% RH, no condensation
4) Environmental vibration: VC-C or better
5) Pressure supply: 0.6Mpa oil-free, water-free, 6mm diameter of hose

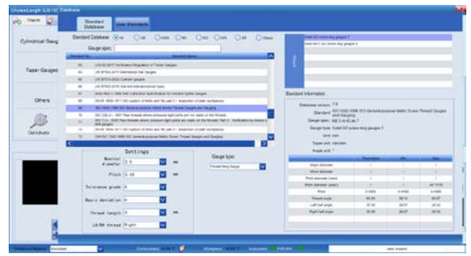
Universal Length Measuring Machine SJ5100

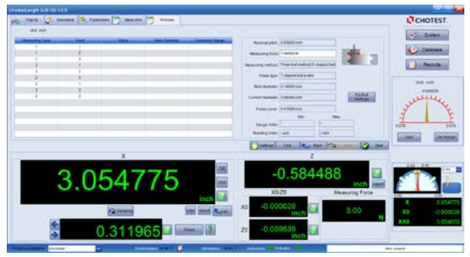
Absolute measurement over entire measuring range

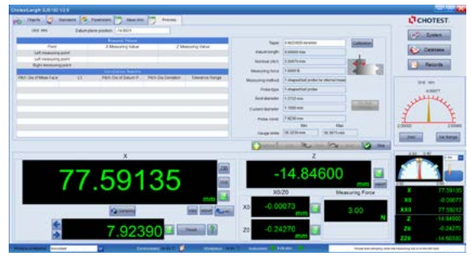
[Functions]

1. Measure gauge blocks, thread gauges, plain gauges, Taper thread/plain gauges, pin gauge, caliper, spline gauges, setting bars, snap gauges, internal/external micrometers, feeler gauges, Dial indicators, dial bore gauge, dial test gauges, internal micrometer three points, etc.
2. Measure various gauges according to GB, ISO, BS, ANSI, DIN, JIS, API standards. With comprehensive and professional standards in database, it meets requirements of most customers.
3. Conform to a variety of verification regulations & measuring standards. All test results are generated according to relevant regulations and standards.
4. User-friendly software.
5.With centralized database management for measuring records, the operator can query and manage the measuring records according to object type , testing institution, manufacturing number, inspector, submitted institution, equipment number, inspection date and effective date.
6. Support to print multiple selected test records or test certificates from database at once time.
7. Support to export test data to Word, Excel, AutoCAD (optional) files.
8. Data backup and restore.
9. Support user-defined template of report.
10. Support user-defined standard/tolerance.

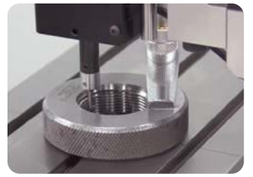
Software Interface





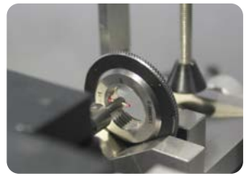


[Application]

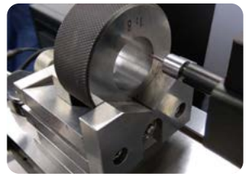


Thread ring gauge

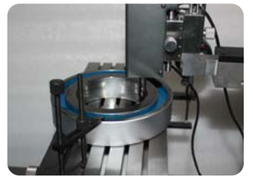
Taper thread plug gauge



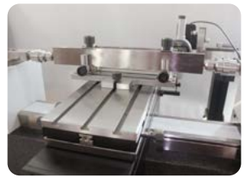
Taper thread ring gauge



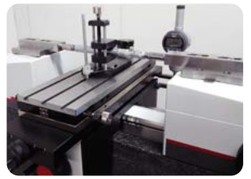
Taper plain ring gauge



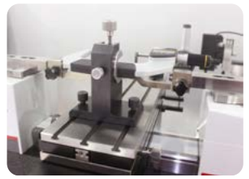
Plain ring gauge



Gauge block



Inside Micrometer

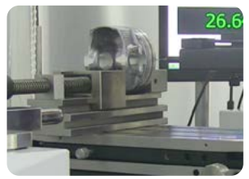


Outside Micrometer

Bearing inner ring

Bearing outer ring

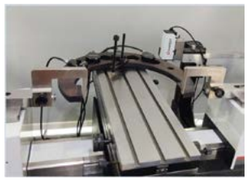
Spline plug gauge

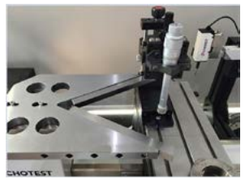


Automotive part

[More Application]


Dial indicator


Snap gauge


Inside micrometer three points


3m external micrometer

[Technical Parameters]

Model No.		SJ5100-UP300	SJ5100-UP600	SJ5100-UP1000
Absolute measurement	External range	0-340mm	0-640mm	0-1040mm
	Internal range	0.7~200mm	0.7~500mm	0.7~900mm
Indication error		±(0.09+L/1500)μm (Note: L is measured length in mm)		
Repeatability (2s)		0.06μm		
Resolution(μm)		0.01μm		
Max pitch diameter(mm)		200mm(Ring)/250mm(Plug)		
Measuring force		0.1N, 0.3N, 0.5N, (1~10)N continuously adjustable by hand		
Dimension(mm)		20±0.5℃, fluctuation≤0.2℃/hour, Related Humidity: 20~60%		
Operation environment(mm)		1400×400×450	1400×400×450	1700×400×450
Weight(kg)		150kg	150kg	180kg
Five-axis object table	Z-axis range	0~50mm		
	Y-axis range	±25mm		
	X-axis floation	±10mm		
	Z-axis rotation	±3°		
	Y-axis yaw	±3°		
	Loading capacity	>30kg		
	Dimension	350mm×125mm		

Model No.		SJ5100-300A/B	SJ5100-600A/B	SJ5100-1000A/B	SJ5100-1500A/B	SJ5100-2000A/B	SJ5100-3000A/B
Absolute measurement	External range	0~340mm	0~640mm	0~1040mm	0~1540mm	0~2040mm	0~3040mm
	Internal range	0.7~200mm	0.7~500mm	0.7~900mm	0.7~14000mm	0.7~1900mm	0.7~2900mm
Indication error		A series: ±(0.12+L/1000)μm; B series: ±(0.20+L/1000)μm (Note: L is measured length in mm)			A series: ±(0.25+L/1000)μm; B series: ±(0.4+L/1000)μm (Note: L is measured length in mm)		
Repeatability (2s)		A Series:0.08μm; B Series 0.10μm			A Series:0.08μm; B Series 0.10μm		
Resolution(μm)		0.01μm					
Max pitch diameter(mm)		200mm(Ring)/250mm(Plug)					
Measuring force		0.1N, 0.3N, 0.5N, (1~10)N continuously adjustable by hand					
Operation environment		A series: 20±1℃, fluctuation≤0.2℃/hour, Related Humidity: 20~60% B series: 20±2℃, fluctuation≤0.5℃/hour, Related Humidity: 20~60%					
Dimension(mm)		1400×400×450	1400×400×450	1700×400×450	2200×400×450	2700×400×450	3700×400×450
Weight(kg)		150kg	150kg	180kg	310kg	360kg	450kg
Five-axis object table	Z-axis range	0~50mm					
	Y-axis range	±25mm					
	X-axis floation	±10mm					
	Z-axis rotation	±3°					
	Y-axis yaw	±3°					
	Loading capacity	>30kg					
	Dimension	350mm×125mm					

[Configuration]

1.Absolute measurement:
Thanks to precision glass-scale for positioning of measuring spindle, SJ5100 can implement the precision absolute measurement over the entire range.

2.High precision and High stability:

(1) Precision glass-scale; Resolution: 0.01μm.

(2) Precision grinding guide rail with excellent straightness lays foundation for accuracy and stability of measurements.

(3) Measuring values are acquired truly and accurately by using high-rigid and deformation-free measuring slider.

(4) Thanks to marble base, the machine is protected against external vibration interference, which ensures stable and reliable working.

(5) The headstock is very stable during travel by using compact friction driving structure.

3.Bidirectional constant measuring force:

(1) Bidirectional constant measuring force system reduces the influence of measuring force on measured values, which helps to improve the accuracy of measurements.

(2) Manual continuously-adjustable measuring force.

(3) The smart sensing system of measuring force eliminates error caused by un-horizontal position of the machine and surrounding environment vibration automatically.

4. Intelligent management and measurement software system:

(1) More than 15 years of practical experience in the design of measurement software; User-friendly software is designed for customers to operate the system fast.

(2) Operation of the machine is simple, so the operator can be trained to use it shortly.

(3) With built-in a variety of norms, the powerful software can process the measured data and generate various test reports automatically.

(4) Can calculate various dimensional parameters for different gauges according to selected norm.

(5) The operator can find the inflection point of workpiece fast and simply though the guide function of software.

5.High-performance five-axis object table:

(1) High-performance cross-roller for rails of X, Y, Z axis: very small friction, excellent stability and large loading capacity.

(2) Function of fine adjustment of Y-axis travel & tilt & horizontal rotation is designed for the operator to find the inflection point of each axis easily.

(3) The software can collects data automatically from Z-axis digital dial indicator(standard) and Y-axis digital dial indicator(optional), which is used for measurements of taper thread gauges and taper plain gauges.

6.High-performance inside size measuring unit:
With this unit, SJ5100 can calibrate small ring gauges(the min thread ring gauge is as small as M3; plain ring gauge is as small as diameter ≥0.5mm). Adjustable measuring force is 0.3N~10N; Repeatability of plain ring gauge's measurements is less than 0.1μm.

Standard configuration

1. SJ5100 host machine
2. ST-30.1 five-axis object table
3. ST-S1.1 one-coordinate floating object table
4. Measuring probes
5. A set of three-wire for thread measurement(24 pairs)
6. SF-P60.1 workholder for plug gauges
7. SF-V1.1 V-shaped supporting block for setting bar
8. SF-GB1.1 and SF-GB2.1 supporting fixture for gauge block
9. ST-CL1.1 and ST-CL2.1 clamping fixture
10. SDE-R200.1 Precision inside dimension measuring device
11. SB-T12.1 T-shaped ruby ball probe
12. SB-S4.1 single ruby ball probe Φ4mm
13. SH-L1.1 big measuring jaw for Φ60~Φ200mm ring gauge
14. SH-L2.1 small measuring jaw for Φ16-Φ100 ring gauge
15. Standard plain ring gauge Φ40mm
16. Measuring software
17. Built-in popular standards in database
18. Desktop computer
20. DLB-200 supporting fixture for monitor
21. Aluminum alloy suitcase for accessories
22. Temperature compensation device
23. Product certification and Warranty card
24. User manual
25. One year free afterservice

Optional configuration

1. Marble desk
2. SDE-Z200.1 Precision inside dimension measuring device (for internal measurement and taper thread gauge measurement)
3. SF-Z1.1 workholder for taper plain/thread ring/plug gauge
4. Digital micrometer indicator with cable(for Taper thread/ plain gauge)
5. Measuring jaw (for spline ring gauge/ outer ring of bearing)
6. Measuring cap (for spline plug gauge/ inner ring of bearing)
7. Small measuring bar for spline gauge measurement(12 pairs)
8. Micro measuring jaw for Φ4~Φ20mm plain ring gauge
9. Single ruby ball probe Φ0.3mm, Φ0.5mm, Φ1mm, Φ2mm
10. Short T-shaped probes for trapezoidal thread ring gauges
11. Paralleled probes for external micrometers and calipers
12. Workholer for external micrometers and venier caliper
13. Workholder for depth calipers/depth micrometers
14. Workholder for snap gauge measurement
15. Workholder and probe for plunger dial indicators
16. Workholder and probe for dial test indicators
17. Workholder for dial bore indicators with stem diameter Φ4~Φ28mm
18. Workholder and V Block for internal micrometer three point 6~200mm
19. SR-H65.1: Axis raising(H=65mm) block
20. Portal bubble level gauge (for five-axis object adjustment)

Universal Thread Measuring Machines SJ5200/5500

Measure all parameters of thread gauge in 2 min

SJ5200

SJ5500

[Features]

1. Full-automated measurement: Scan test objects and display all values in 2 minutes without manual intervention and calculation. According to selected thread standards, the system generates the test report. That significantly simplifies the operator's work, as well as improves the measuring efficiency, quality and accuracy.
2. Resolution is 0.01um; High accuracy, high stability and high repeatability.
3. Easy-to-use and humanized design: Thanks to patented workholders, object installation is very simple and easy. Due to user-friendly software interface, the operator can be trained to use it within a few minutes. Operation of the machine is extremely simple.
4. 3D navigation function(Patent No.1): Greatly improve the operating convenience, accuracy, safety and reliability.
5. Convenient and accurate replacement of measuring pin(Patent No.2): Thanks to innovative structure for probe installation, the probe is fixed easily. This structure eliminates errors caused by repeated installation, which guarantees excellent repeatability.
6.Combined workholder(Patent No.3): Thanks to two-in-one and three-in-one workholders, gaskets and heel blocks are not required. These workholders can be used for measuring both thread ring and plug gauges, which makes work more simple and efficient, moreover reduces the risk of misoperation.
7. Ingenious balancing mechanism(Patent No.4): Thanks to ingenious balancing mechanism, the problem of Z-axis swing while X-axis movement is solved completely, which ensures the stability of the coordinate system during scanning, consequently measuring accuracy is improved.
8. Accurate & sensitive measuring force system.
Measuring force automatically varies from 0.01 ~ 0.10N according to different gradient during scanning. Thanks to micro measuring force, measuring pin is almost abrasion-free, so lifespan of probe is very long, and test objects are protected as well. The micro measuring force also greatly helps to achieve measurements for steep-slope thread gauges.

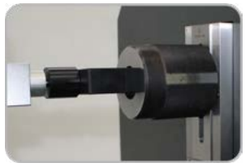
[Functions]

1. Full-automatic measurement for comprehensive parameters of cylindrical thread plug gauges, cylindrical thread ring gauges, taper thread plug gauges, taper thread ring gauges, plain ring gauges, plain plug gauges and other gauges with internal & external dimensions, including virtual pitch diameter , single pitch diameter, basic pitch diameter, major diameter, minor diameter, thread pitch, thread angle, half of thread angle, flank straightness, lead angle, taper, etc.
2. Can measure trapezoidal thread gauges, buttress thread gauges, sawtooth thread gauges and other large-slope thread gauges.
3. Can measure comprehensive parameters of single thread and multiple thread.
4. Can measure various thread gauges according to GB, ISO, BS, ANSI, DIN, JIS, API standards. With comprehensive and professional thread standards in database, it meets requirements of most customers.
5. Automatically generate test report according to selected standard.
6. After once measurement, the software can calculate various parameters of thread and display data of any position, it also could generate the thread curve, relevant parameters and analysis chart automatically.
7. Measuring probe and workholder are identified automatically, which avoids collision of measuring probe caused by misoperation.
8. One-sided or two-sided measurement and analysis for gauges.
9. Controller for measuring pin positioning: with an easy-to-use buttons control box, the operation is more flexible.
10. User-friendly software, simple and easy-to-use.
11. Test results are saved automatically with name of measuring series number + size of measuring gauge + type of measuring gauge. With centralized database management for measuring records, the user can query and manage the measuring records according to object type, testing institution, manufacturing number, inspector, submitted institution, equipment number, inspection date, effective date, etc.
12. Can print multiple selected test records or test certificates from database at once time.
13. Can export test data to Word, Excel, AutoCAD (optional) files.
14. Data backup and restore.
15. Can output reports in a variety of formats in Word or PDF, moreover the report format can be customized.
16. Support user-defined standards.

SJ5200 Application

Thread plug gauge

Plain ring gauge



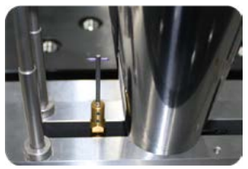
Taper plain ring gauge

Taper plain plug gauge

SJ5500 Application

Thread plug gauge

API gauge



Taper plain plug gauge

API gauge

SJ5200 Technical Parameters

Model No.	SJ5200-60	SJ5200-100	SJ5200-160
External measuring range	(1.0-50)mm	(1.0-90)mm	(1.0-150)mm
Internal measuring range	(2.5-60)mm	(2.5-100)mm	(2.5-160)mm
Max scanning range	60mm(Optional 75mm)	60mm(Optional 75mm)	60mm(Optional 75mm)
Min pitch	0.1mm	0.1mm	0.1mm
Weight	200kg	250kg	300kg
Size	100×45×100cm	100×45×100cm	100×45×113cm
Measurement uncertainty			
Cylindrical or Taper thread ring gauge(Minor diameter>2.5mm,half of thread angle≥27°)			
Minor diameter(μm)	2.5 + L/200	3.0 + L/200	3.0 + L/200
Actual pitch diameter(μm)	2.5 + L/200	3.0 + L/200	3.0 + L/200
Pitch(μm)	0.75 + L/200	0.75 + L/200	0.75 + L/200
Cylindrical or Taper thread plug gauge(Major diameter>1mm,half of thread			
Major diameter(μm)	2.0 + L/200	2.5 + L/200	2.5 + L/200
Actual pitch diameter(μm)	2.0 + L/200	2.5 + L/200	2.5 + L/200
Pitch(μm)	0.75 + L/200	0.75 + L/200	0.75 + L/200
Cylindrical or Taper plain gauge(Diameter from 1mm to 10mm)			
Diameter(μm)	1.0 + L/200	1.5 + L/200	1.5 + L/200
Cylindrical or Taper plain gauge(Diameter>10mm)			
Diameter(μm)	1.5 + L/200	2.0 + L/200	2.0 + L/200

SJ5200 Configuration

Standard configuration:

1. SJ5200 host machine
2. Workholders
3. Measuring probes
4. Setting master gauges
5. Standard plain ring gauges
6. Standard plain plug gauges
7. Built-in regulations and standards
8. Measuring software
9. Desktop computer
10. Aluminum alloy suitcase for accessories
11. User manual
12. Product certification and warranty card

Optional configuration:

1. Software module for trapezoidal thread
2. Measuring probes for trapezoidal thread
3. Software module for buttress/sawtooth thread
4. Measuring probes for buttress/sawtooth thread
5. Software module for profile measurement
6. Object table for profile measurement
7. Other workholders
8. Water-free, oil-free, silent pressure supply system
9. Electronic moistureproof case
10. Marble desk
11. Summer or winter laboratory uniform

SJ5500 Technical Parameters

Model No.	SJ5500-200	SJ5500-300	SJ5500-400	SJ5500-500	SJ5500-600
External measuring range	(1.0-250)mm	(1.0-350)mm	(1.0-450)mm	(1.0-550)mm	(1.0-620)mm
Internal measuring range	(2.5-250)mm	(2.5-350)mm	(2.5-450)mm	(2.5-550)mm	(2.5-620)mm
Max scanning range	250mm				
Min pitch	0.1mm				
Weight	2000kg				
Size	200×90×91cm				
Measurement uncertainty					
Cylindrical or Taper thread ring gauge(Minor diameter>2.5mm,half of thread angle≥27°)					
Minor diameter(μm)	3.0 + L/200				
Actual pitch diameter(μm)	3.0 + L/200				
Pitch(μm)	0.8 + L/200				
Cylindrical or Taper thread plug gauge(Major diameter>1mm,half of thread					
Major diameter(μm)	2.9 + L/200				
Actual pitch diameter(μm)	2.9 + L/200				
Pitch(μm)	0.8 + L/200				
Cylindrical or Taper plain gauge(Diameter from 1mm to 10mm)					
Diameter(μm)	2.0 + L/200				
Cylindrical or Taper plain gauge(Diameter>10mm)					
Diameter(μm)	2.0 + L/200				

SJ5500 Configuration

Standard configuration:

1. SJ5500 host machine
2. Workholders
3. Measuring probes
4. Setting master gauges
5. Standard plain ring gauges
6. Standard plain plug gauges
7. Built-in regulations and standards
8. Measuring software
9. Desktop computer
10. Aluminum alloy suitcase for accessories
11. User manual
12. Product certification and warranty card

Optional configuration:

1. Software module for trapezoidal thread
2. Measuring probes for trapezoidal thread
3. Software module for buttress/sawtooth thread
4. Measuring probes for buttress/sawtooth thread
5. Software module for profile measurement
6. Object table for profile measurement
7. Other workholders
8. Water-free, oil-free, silent pressure supply system
9. Electronic moistureproof case
10. Summer or winter laboratory uniform

Automated Dial Indicator Testing Machines SJ2620/2018

Precision, Versatile, Efficient

SJ2018

SJ2620

[Functions]

1. Measure dial indicators, micrometer dial indicators, dial test indicators, dial bore indicators, automatically according to the elevant regulations and standards.
2. Measure the above gauges with digital display automatically.
3. Measure the above gauges with imperial system automatically.
4. Support semi-auto testing mode.
5. Automatic zeroing after click "Start".
6. Overtolerance hinting during measuring process.
7. Process and qualify the measured data automatically.
8. Can search and manage the test records according to object type, manufacturer, serial No., inspector, applicant, equipment No., inspection date or effective date etc.
9. Can print or export former test records including error sheet or curve.
10. Can print or export multiple selected test records from database once time.
11. Can export test data in CSV, EXCEL, WORD.
12. Data backup and restore.
13.Can customize format of test report according to requirements of customer.
14. Support user-defined testing program and tolerance.

[Application]

Digital dial indicator

Dial test indicator

Dial bore indicator

Mechanical comparator

Technical Parameters

Model No.	SJ2018	SJ2620
Measuring range	(0-50)mm	
Resolution	0.01μm	
Repeatability	0.1μm	
Reading accuracy	1/60 of division value for Resolution 0.01mm dial indicator 1/30 of division value for Resolution 0.001mm dial indicator	
Indication error	Random 1mm≤0.6μm Random 2mm≤0.6μm Random 10mm≤0.8μm Random 30mm≤0.9μm 50mm≤1μm	
Hysteresis	0.5μm	
Interface	RS232 (Can convert to USB)	
Input voltage	AC100~240V, 50~60Hz	
Operating environment	Temp.(20±2)℃, RH(50~70)%	
Dimension	640×240×530mm	300×235×640mm
Weight	35kg	25kg

Configuration

Standard configuration:

1. SJ2620 or SJ2018 host machine
2. SJ20D Quick workholder for plunger dial indicator with stem diameter Φ8
3. SJ20B workholder for dial test indicator with stem diameter Φ4, Φ6 or Φ8mm and dial bore indicator with stem diameter Φ4~Φ28mm
4. Three balls object table SJ23A
5. Desktop computer
6. Measuring software
7. Aluminum alloy case
8. User manual

Optional configuration:

1. J30A digital forcemeter
2. SJ20G workholder for imperial system indicator with stem diameter Φ9.525mm
3. SJ20J workholder for torsion spring indicator and mechanical comparator with stem diameter Φ28mm
4. SJ20H Quick workholder for dial indicator with stem diameter Φ10
5. SJ20I Quick workholder for dial indicator with stem diameter Φ20