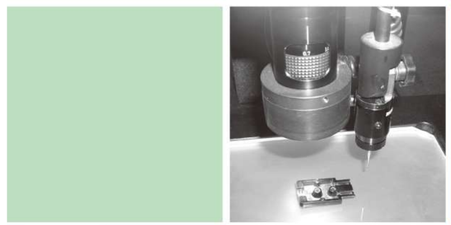
CATALOG

55 Years' Trustworthy Professional Manufacture Quality















GUIYANG XINTIAN OETECH CO., LTD.

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Sinpo

GUIYANG XINTIAN OETECH CO.,LTD.

The figures and parameters are for reference only. Our company reserves the right to improve the products, excuse for not notifying later. The configration of the products should take Paking List as standard.

2023.3

About Us



Founded in 1966, Guiyang Xintian OETECH Co., Ltd is a large-scale enterprise which specialized in high precision optical measuring instruments. With more than 50 years'experience in product development and manufacturing, it integrates development, production and marketing of optical, machinery, electrical and computing technology together to provide customer excellent and advanced solutions. Guiyang Xintian covers an area of over 700k square meters and has more than 400 employees, It has established 8 subsidiaries including Guiyang Xinhao OETECH Co., Ltd, Guiyang Xinhong Casting Co., Ltd and 2 Research & Development centers in Guiyang and Shanghai respectively.

Guiyang Xintian OETECH Co., Ltd is the largest optical instruments production base with the longest history in China which belonging to the 1st-grade measurement services association.

The 1st periscope for the nuclear-powered submarine, the 1st three-dimensional coordinate measurement machine and the 1st large-scale projector in China were all born in Guiyang Xintian.

Now Guiyang Xintian is engaged in nearly 20 categories and more than 100 models of precision optical measuring instruments such as Profile Projectors, Toolmaker's Microscope, Video Measuring Machine, Length ,Masuring Machine, Angle Instruments, Physical-analytical Instruments, linear Scale, Digital Readout Box, etc. Our products are widely used in the metrological and testing services of aerospace, machinery, electronic, petroleum, chemical, metallurgical industries. Our products are exported to over 40 countries and regions worldwide such as USA, Germany, Italy, England, Russia, Japan, South Korea, Singapore, Malaysia, India etc..

Guiyang Xintian OETECH Co., Ltd has been devoting to the international standard for decades of years, aiming the objective of "Creating the 1st class enterprise in optical measurement industry in China and enhance international acknowledge and recognition". After decades years export experience, our machine has gained high reputation from customers all over the world.

The company has passed the ISO9001:2015-1 Quality Management System, EU CE & EMC Certification and verification of ISO10012 Measurement Management System. Guiyang Xintian OETECH Co., Ltd established sales subsidiaries and offices in the large and medium sized cities like Beijing, Shanghai, Suzhou, Guangzhou, Shenzhen, Chongqing, Xian, Wuhan, Changsha, Shengyang, Dongguan etc. in China to provide its comprehensive & prompt service and technical support to all the customers across the country and the world. We are here with our professional spirits to offer you best products and excellent services.











Enterprise Culture and Vision

Enterprise Vision:

To be First class enterprise in China and Famous Brand in the world

Enterprise Goal:

Creating value for customer
Creating opportunity for staff
Creating benefits for society

Development Strategy:

Providing advanced technology
Top class machines
Complete service

Enterprise Spirit:

Dedicated working attitude
High efficient action

Quality Goal:

High Standard, Zero Failure

Quality Policy:

Emphasis on Quality Control
Sustainable Improvement
Enhance Customer Satisfaction

Operation Idea:

Making innovation
Unity of knowing and doing
Talented person system
Being competent
Loyal to position
Devoting to company

Service Goal:

Professional service mode
Professional service quality

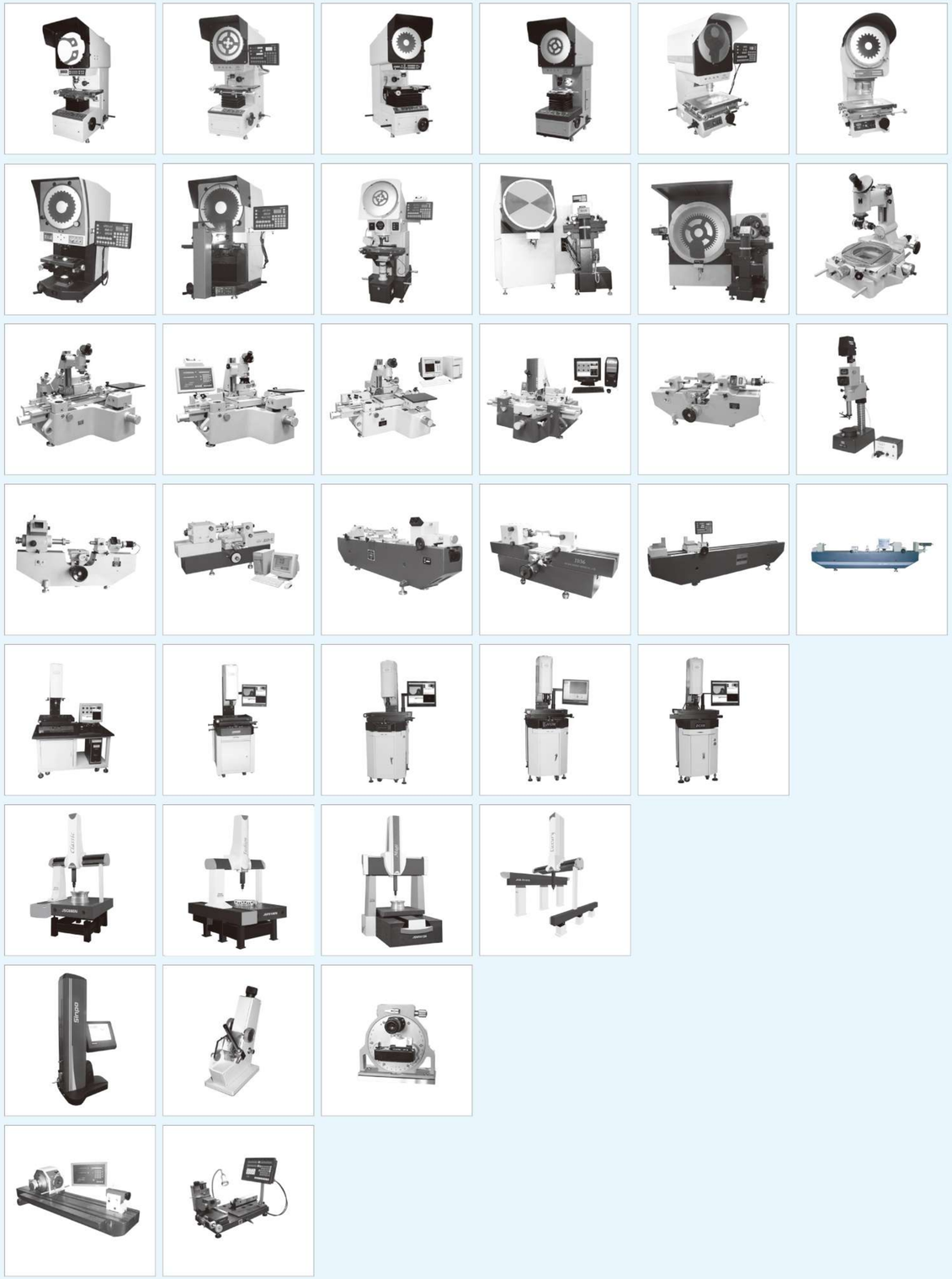
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ISO9001:2015 Certificate



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The series of Video Measuring Machine

Video Measuring Machine is a kind of metrology and measurement instrument, which is based on CCD digital image processing and supported by computer screen measuring technique together with geometrical calculation software to achieve efficient measurement.
According to different structure designs, configurations and software functions, our Video Measuring Machine can be divided into five categories, they are:

Manual model JVB Series ––– Compact structure design and powerful software functions, with geometrical elements and combination measurement, geometric tolerance, coordinate settings, data collection and output , etc.

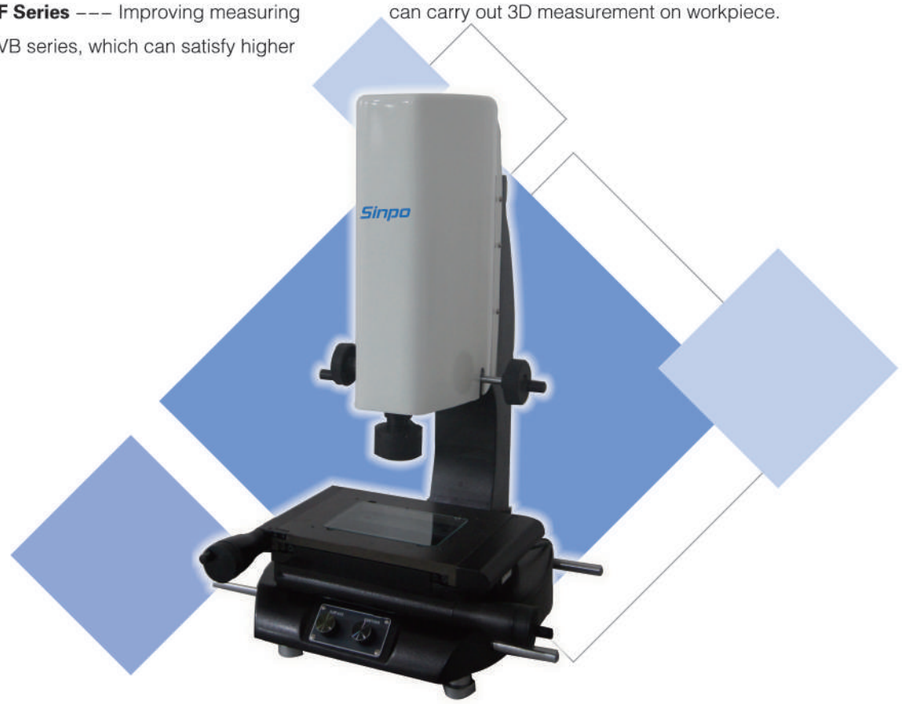
Semi–automatic model JVB–E Series ––– Adding the functions of mortorized Z–axis , auto focusing and SPC statistics.

Precise model JVB–F Series ––– Improving measuring accuracy based on JVB series, which can satisfy higher technical measuring requirements.

Full–automatic model JVB–C Series ––– Adopting CNC control system and realizing full digital control, in which all of measurements can be achieved by joystick and mouse, by thus making the measurement more efficiently.Equipped with stainless steel tape scale for a better and stable performance.

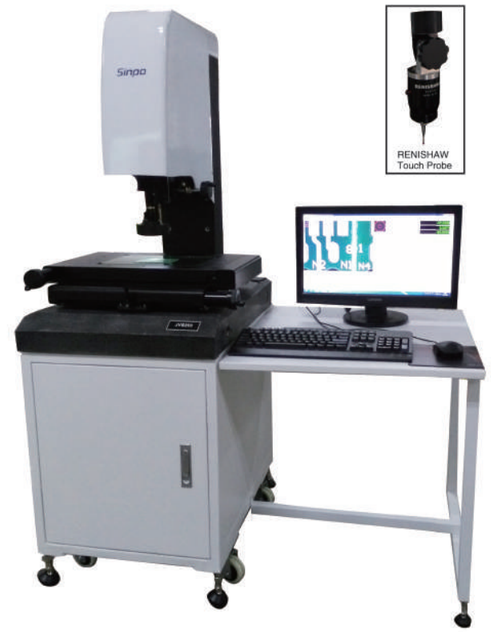
Bridge type JVR series––– Gantry model JVR series provide large travel with stable performance, and big upload capacity while keep high accuracy. Mainly designed for measurement of large and heavy components.

Touch Probe function ––– Renishaw touch probe is feasible to add on any model listed above.By Renishaw touch probe and 3D measurement software, the machine can carry out 3D measurement on workpiece.



JVB SERIES

Series of Manual Video Measuring Machine



Characteristics

- High–accuracy granite base with higher strength and stability; special worktable design for JVB 150 with small size and attractive appearance.
- Precise transmission to eliminate lead screw clearance to ensure comfortable rotation and gapless of hand wheel.
- Lens: 0.7X–4.5X continuous magnification and positioned lens.
- Rough height measurement available after installing optional linear scale on Z–axis.
- Suitable for measuring mobile accessories, home appliances, machine parts, precision clamps, plastics, hardware, products related to computer, precision stamping parts, etc.
- Optional Renishaw MCP probe to realize 3D measurement.

Technical Parameters:

Category	Manual Video Measuring Machine / High–Accuracy Manual Video Measuring Machine				
Model number	JVB150/JVB150F	JVB250/JVB250F	JVB300/JVB300F	JVB400/JVB400F	JVB500/JVB500F
Travel(mm):X × Y × Z	150 × 100 × 100	250 × 150 × 200	300 × 200 × 200	400 × 300 × 200	500 × 400 × 200
Overall dimension:(mm)	350 × 560 × 760	1150 × 700 × 1590	1150 × 700 × 1590	1500 × 985 × 1630	1820 × 1123 × 1727
N/G Weight (kg)	40kg/95kg	220kg/330kg	240kg/350kg	350kg/460kg	550kg/680kg
Load capacity (kg)	5kg	20kg			
Measurement resolution	0.5um				
Measurement accuracy	JVB Series: X, Y accuracy: (3+L/200) um				
	JVBF Series: X, Y accuracy: (2.5+L/200) um				
Repeatability	2μm				
Operating mode	Manual				
Magnification	Optical magnification: 0.7X–4.5X, image magnification: 28X–180X				
Software	SINPO–M				
CCD	470,000 pixel, colorful CCD				
Power supply	110–220V				
Environment	Temperature: 20 ± 5℃, humidity: 45%–75%				
Light source	Programmable control LED cold light	Programmable control 3 rings LED cold light (optional 5 rings and 8 sectors)			

JVB-E SERIES

**Semi-automatic &
Semi-automatic High-accuracy
Video Measuring Machine**



Characteristics

- High-accuracy granite base with higher strength and stability.
- Motor installed on Z-axis and adopts rocker control, convenient for users quick measurement. Realize automatic focusing, image height measurement.
- Semi-automatic measuring software providing various auto image measuring tools to avoid visual error, characterized by SPC statistic analysis and programming study. Data graphics can be output to Auto CAD for further processing.
- Suitable for measuring mobile accessories, home appliances, machine parts, precision clamps, plastics, hardware, products related to computer, precision stamping parts, etc.
- Optional Renishaw MCP probe to realize 3D measurement.

Technical Parameters

Category	Semi-automatic / Semi-automatic high-accuracy (Video Measuring Machine)			
Model number	JVB250E/JVB250EF	JVB300E/JVB300EF	JVB400E/JVB400EF	JVB500E/JVB500EF
Travel(mm):X × Y × Z	250 × 150 × 200	300 × 200 × 200	400 × 300 × 200	500 × 400 × 200
Overall dimension:(mm)	860 × 802 × 1738	860 × 802 × 1738	960 × 902 × 1738	1820 × 1123 × 1727
N/G Weight (kg)	220kg/330kg	240kg/350kg	350kg/460kg	550kg/680kg
Load capacity (kg)	30kg			
Measurement resolution	0.5um			
Measurement accuracy	JVB-E Series: X, Y accuracy: (3+L/200) um; Z accuracy: (5.0+L/200) um			
	JVB-EF Series: X,Yaccuracy: (2.5+L/200) um Z accuracy: (5.0+L/200) um			
Repeatability	2 μ m			
Operating mode	X, Y manual, Z motor driven			
Magnification	Optical magnification: 0.7X-4.5X, image magnification: 28X-180X			
Software	SINPO-E			
CCD	470,000 pixel, colorful CCD			
Power supply	110-220V			
Environment	Temperature: 20 ± 5℃, humidity: 45%-75%			
Light source	Programmable control 3 rings LED cold light(optional 5 rings and 8 sectors)			

JVB-C SERIES

Full-automatic Video Measuring Machine



Characteristics

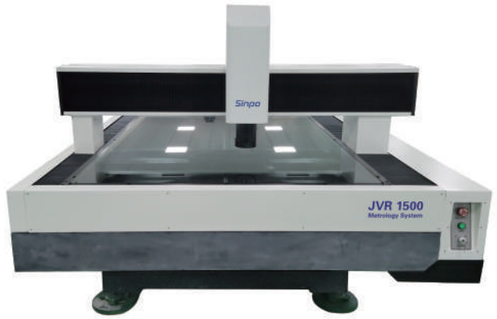
- High-accuracy granite base with higher strength and stability.
- Guide rail directly fixed on the platform of double zero level of granite, ensuring its running accuracy.
- Integrated circuit design with simple software operation, as well as powerful performance, stable and reliable functions. Whole measurement can be done by preset program
- automatically, operation by joystick and mouse to enhance efficiency.
- Suitable for measuring mobile accessories, home appliances, machine parts, precision clamps, plastics, hardware, products related to computer, precision stamping parts, etc.
- Optional Renishaw MCP probe to realize 3D measurement.

Technical Parameters

Category	Full-automatic Video Measuring Machine		
Model number	JVB300C/JVB300CF	JVB400C/JVB300CF	JVB500C/JVB500CF
Travel(mm):X × Y × Z	300 × 200 × 200	400 × 300 × 200	500 × 400 × 200
Overall dimension:(mm)	700 × 760 × 1740	800 × 860 × 1740	960 × 1120 × 1768
N/G Weight (kg)	320kg/415kg	350kg/460kg	600kg/760kg
Load capacity (kg)	30kg		
Measurement resolution	0.5um		
Measurement accuracy	JVB-C Series: X, Y accuracy: (3+L/200) um; Z accuracy: (5.0+L/200) um		
	JVB-CF Series: X,Yaccuracy: (2.5+L/200) um Z accuracy: (5.0+L/200) um		
Measuring speed (mm/s)	X-axis: 150 Y-axis: 150 Z-axis: 80		
Repeatability	2 μ m		
Mode of motor control	Integrated intelligent control (mouse, joystick)		
Lens	Independently developed auto zoom lens (optional USA NAVITAR lens)		
Mode of driving	Screw rod		
Magnification	Optical magnification: 0.7X-4.5X, image magnification: 28X-180X		
Software	SINPO-C		
CCD	HD colorful special CCD (optional SONY HD CCD)		
Power supply	110-220V		
Environment	Temperature: 20 ± 5℃, humidity: 45%-75%		
Light source	PCL 360 intelligent programmable lighting control system: 5-rings and 8 sectors surface light & bottom light		

JVR Series

Big travel Bridge Type Video Measuring Machine



Characteristics

- Adopt 00 grade granite gantry structure to guarantee accuracy and stability.
- High intensity LED illumination system to get a high contrast contour image when lighting on the workpiece.
- Integrates image, probe and laser function to realize programmable measurement.
- Equipped with imported servo motor for close loop movement control.
- Renishaw probe is as optional probe system.
- High precision linear guiderail, together with ball screw drive system to guarantee machine operation accuracy.
- Equipped with high resolution colorful CCD.
- Colorful Confocal optical system is available as optional parts.

Technical Parameters

Model	JVR500	JVR700	JVR1000	JVR1200	JVR1500
Measuring travel(mm)	500×400×200	700×600×200	1000×800×200	1200×1000×200	1500×1200×200
Machine dimension(mm)	1050×1150×1556	1050×1450×1580	1750×1950×1650	1750×1950×1650	1950×2250×1700
Machine weight (kg)	1500	2000	3000	3500	4000
X,Y accuracy(μm)	(3+L/200) μm	(3+L/200) μm	(4+L/200) μm	(4+L/200) μm	(4.5+L/200) μm
Z accuracy(μm)	(5+L/200) μm				
Load capacity(kg)	40kg				
Measuring resolution	0.5μm (Optional 0.1μm)				
Measuring speed	400mm/s				
Repeatability(μm)	3μm				
Objective	Self developed automatic focusing objective				
Magnification	Step zoom optical:0.7–4.5X, image: 28–180X				
Drive mode	HIWIN ball screw drive				
Measuring software	SINPO–CNC				
CCD	HD colorful special CCD (Digital CCD is available for optional)				
Illumination	PLC programmable full angle Intelligent program control illumination system, 5 rings & 8 segments surface light with laser indicator and bottom light				

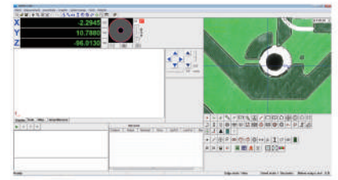
Model	JVR1600	JVR1800	JVR2000	JVR2500	JVR3000
Measuring travel(mm)	1200×1600×200	1500×1800×200	1500×2000×200	1800×2500×200	2200×3000×200
Machine dimension(mm)	1950×2250×1700	2350×2750×1750	2350×2750×1750	2600×3200×1750	3500×42000×1750
Machine weight (kg)	4500	5000	5500	6000	7000
X,Y accuracy(μm)	(4.5+L/200) μm	(5.0+L/200) μm	(5.0+L/200) μm	(5.5+L/200) μm	(6.0+L/200) μm
Z accuracy(μm)	(5+L/200) μm				
Load capacity(kg)	40kg				
Measuring resolution	0.5μm (Optional 0.1μm)				
Measuring speed	400mm/s				
Repeatability(μm)	3μm				
Objective	Self developed automatic focusing objective				
Magnification	Step zoom optical:0.7–4.5X, image: 28–180X				
Drive mode	HIWIN ball screw drive				
Measuring software	SINPO–CNC				
CCD	HD colorful special CCD (Digital CCD is available for optional)				
Illumination	PLC programmable full angle Intelligent program control illumination system, 5 rings & 8 segments surface light with laser indicator and bottom light				

Introduction of SINPO Measuring Software

- Basic geometrical measurement: including measurements of point (one or more), line, circle, arc, ellipse, rectangle and curve;
- Abundant measuring functions: including automatic search of optimized boundary point, automatic line measurement, automatic circle measurement, automatic arc measurement; automatic line identification, automatic circle identification, automatic arc identification; box–selecting point, line, circle (one or more), arc and ellipse; manual mouse acquisition;
- Combination measurement: combining point, line and circle to achieve the geometrical calculations of distance, included angle and intersection point among point, line and circle;
- Shape–position error measurement: including parallelism, verticality, gradient, position, concentricity and symmetry;
- Coordinate system setting: coordinate parallel shift, coordinate rotation, Origin of coordinate conversion, or resetting coordinate system, against the original one;
- Size marking: marking length, angle, radius and diameter in the drawing window, convenient to operation, just as operating CAD software;
- Output of measurement results: graphics and measurement results can be output by WORD, EXCEL, DXF or in statement report;
- Automatic focusing: by adjusting Z–axis, focusing indication curve will generated and the software can choose the best focusing distance, so that manual focusing error will be avoided effectively;
- Image amplification function: Video window can be locally amplified by the small window at the lower right corner, which help to aiming workpiece more accurately;
- Learning function: For mass inspection, the measurement process can be automatically carried out after programming measurement path one time and set measurement times (only for CNC type).

SINPO Measuring Software Functions

Software interface



Common measurement

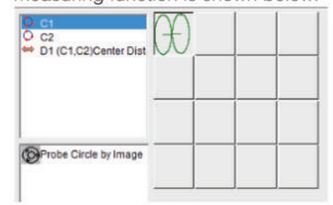


Macro measurement function

It means the user can create a button which could carry out preset measurements he/she compiled. Clicking the button will execute macro measuring function, which can automatically carry out configuration, reduce user's mouse clicks, and improve work efficiency.

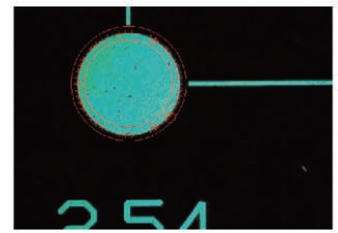
16 buttons are available for macro measuring functions and provided by the softwares.

The user himself/herself can compile the icons of macro measuring function buttons. The interface of macro measuring function is shown below.



Automatic identification measurement (automatic identification of line, circle and arc)

Click , then frame select the edge with mouse circle, thus it is automatic to search the edge to obtain line, circle or arc. For example, the circle is automatically framed as below.

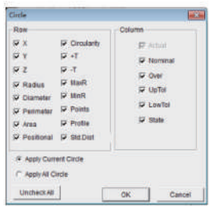


Element construction

This software has a powerful function of element construction, which offers 10 construction methods (translation, rotation, extraction, combination, parallel, verticality, mirror image, symmetry, intersection and tangency) to construct geometrical element. Element construction easy user's difficult measurement easier, thus improve the work efficiency.

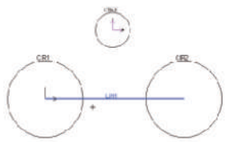
Data display with wide variety of paremeters results

Following picture shows the dialog box of message settings of circle element.



Setup of multi workpiece coordinate system

Multi workpieces coordinate system can be set up in accordance with drawings, to realize the selection among all coordinate systems, to realize the inter–conversion between rectangular coordinate system and polar coordinate system, as well as the storage and recall of all workpiece coordinate systems. The following chart is the figure after setting up two coordinate systems.



Convenient and efficient setup of user program

By means of parallel shift and rotation, user program can be set up. The following figure shows two users programs after parallel shift and rotation.

By means of these two methods, programming efficiency of workpiece will be improved greatly. Especially for some workpieces with regularly arranged elements to be measured, this programming is very convenient and efficient.



Function of marking

It is able to mark angle, distance (along X– or Y– direction), circle/arc radius, diameter and arc length on the element graphs in drawing area and image area directly , give a clear appearance to user.

Measured element and marking can be synchronously displayed on image window and drawing window,the drawn graphics can be hidden on image window. In addition the graph element on image window and 2D graph window can be deleted or selected. The following figure shows the distance of the two circles along X– and Y– direction, as well as the circle diameter.

Data introduced automatically in SPC

After setting up workpiece data in our professional SPC software, as long as completing one workpiece, the data will be automatically introduced into SPC database. It is not required to be converted by TXT document or third–party software. The whole process can complete automatically, no need of manual intervention.

Function of auto focusing and image height measurement

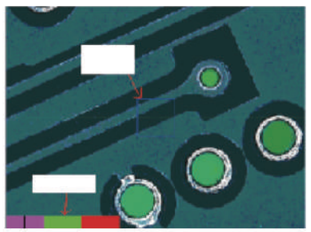
The software characterized by image focusing and height measurement with high precision. In the case when optical magnification exceeds 2.0X, the focusing repeatability can reach 0.003 mm (at the surface of standard gauge block).

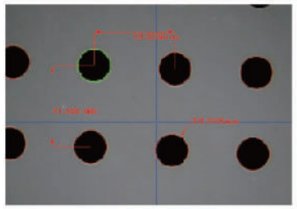
Multi motion control modes

The software offers nine modes of motion control, convenient for user to move worktable.

Auxiliary light control

Light control indicator will help user to determine best light intensity to avoid the measurement error caused by lighting and in the mean time improve measurement accuracy and measurement efficiency.





3D contacting measurement (optional)

The software supports to install a simple probe on Video Measuring Machine to realize 3D measurement.

Functions supported by 3D measurement are as follows:

1.Elements to be measured: point, circle, plane, cylinder, cone, ball, distance, height.

2.Elements to be constructed: plane, angle, distance.

3.Geometric tolerance: verticality, parallelism, gradient, coaxiality.

4.Measuring projection circle through spatial rotation plane.

Laser measurement (optional)

The software has a powerful function of laser measurement. For those problems, which are difficult to be solved by image and probe measurement, such as high–speed planarity measuring, fine concave–convex point and V–angle measuring, as well as high precision scanning of curved surface, laser measurement has dominant position. Laser measurement can be integrated into CNC image measurement software. At present, laser can be used to measure point, height and planarity; scan straight line, circle and curved surface. The data obtained by laser measurement can be stored in DXF or IGES format.

The series of Profile Projector

1. Profile projector is a kind of metrology instruments for measuring the magnified image of work–piece on the projection screen, which adopts the optical principle and rules to magnify image of the work–piece placed on the worktable onto the projection screen by objectives with accurate magnification. It is precise instrument integrated the optics, mechanism, electricity and computer calculation as a whole and has wide–range application fields.

2. Typical application:

Automotive manufacturing industry: inspect the dimensions of work–piece of transmission shafts, supporting axle, motor bearings, internal casting, valve, brake block, tubular parts, diverter and nipple.

Electronic industry: inspect all profile parts and hole of electronic connectors, circuits, mobile housings and keys, video head, sockets and lamps.

Rubber and plastic industry: inspect the parameters of plastic products such as rubber rings, rubber rods and rubber rollers.

Mechanical industry: inspect all shapes and dimensions of products of threads, screws, motor vanes, gears and cutting tool for machine.

Horologe industry: inspect the dimension of parts and outer profile of bearing, gears and pointers.

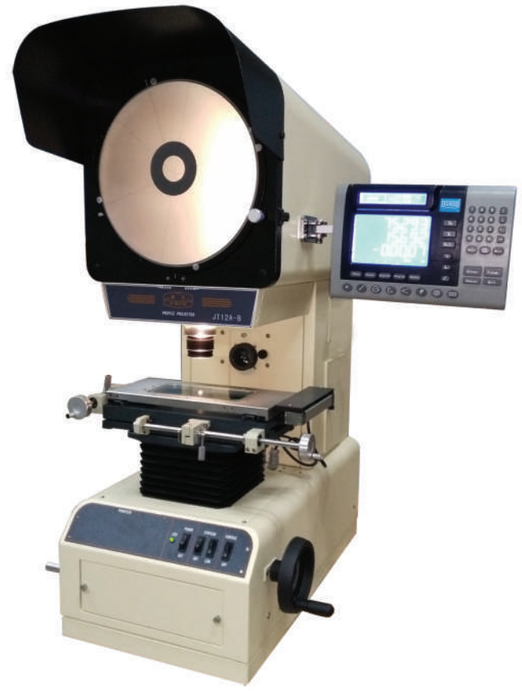
Aerospace industry: inspect the profile dimension of plane blade, plane vanes, controlling parts and engine bearings.

3. Guiyang Xintian OETECH provides wide specifications of very excellent profile projector which sorts by diameter of projection screen, it offers ϕ 250mm, ϕ 300mm, ϕ 350mm, ϕ 400mm, ϕ 500mm, ϕ 600mm, ϕ 800mm, ϕ 1200mm and ϕ 1500mm. inorder to satisfy different requirements of customers for example ϕ 300mm projector has many models: Erect image and reverse image, built–in readout and external readout, worktable with different sizes, different focusing modes etc.. As the optical path is different, the ϕ 350mm projector has three models: Horizontal type, vertical type and inverted type. Our company is still the unique one manufacturer for the projector of which with screen diameter exceeds ϕ 600mm in China.



JT12A-B

ϕ 300 Digital Measuring Projector



Characteristics

- Clear image, accurate magnification, easy to carry out comparative measurement
- With a non–spherical condenser lighting system, the visual field of the projector screen is bright and even, by thus to reduce measurement errors and guarantee the accuracy.
- Long–life halogen tungsten lamps are adopted to satisfy the requirement of long time usage of the projector. With axial flow blower fans, the bilateral heat radiation provides super radiating performance.
- DS600 or DS402 multi–function digital read out is available for selection
- Built in micro–printer.

Technical Parameters

Projection screen

Screen diameter: ϕ 300 mm

Rotation range: 0° ~ 360°

Resolution of the rotary angle: 1′

Accuracy of the rotary angle: 6′

Worktable

Worktable area: 340mm × 152mm

Range of X–axis: 0~150 (mm) Resolution : 0.001 (mm)

Range of Y–axis: 0~50 (mm) Resolution : 0.001 (mm)

Range of Z–axis (Focusing): 0~90 (mm)

Accuracy of the instrument: (3+L/75) μ m,

of which, L = length of the workpiece measured (unit: mm)

Load capacity : 3kg

Lighting source

Transmission illumination 12V 100W Tungsten halogen lamp

Reflecting illumination 24V 150W Tungsten halogen lamp

Objective

Magnification Power	10 ×	20 ×	50 ×	100 ×
Object Field of view	ϕ 30mm	ϕ 15mm	ϕ 6mm	ϕ 3mm
Object Working Distance	75mm	69mm	44mm	26mm
Errors of magnifying power	0.08%			

Ambient environment requirements

Room temperature: 20℃ ± 5℃

Relative humidity: 40%~70%

Overall sizes of the instrument (mm):

380 × 694 × 1058(L × W × H)

Mainframe weight: 135 kg

Power Supply: AC 220V 50HZ

JT300

ϕ300 Digital Measuring Projector



Characteristics

- Use circular arc profile design, beautiful in appearance and easy to operate
- Use linear guide and non–interference nut on the up and down system, more stable and comfortable to use.
- Patent coating proces on the reflective mirror, better anti–dust performance .
- The light intensity is adjustable in high or low mode.to suit measuring requirements of different workpieces.
- Imported long–life halogen tungsten lamps are adopted to satisfy the requirement of long–time uses of the projector.
- Equipped with excellent optical system, the objectives are clear in imaging and accurate in magnification.
- With axial flow blower fans, the bilateral heat radiation provide super radiating power.

Technical Parameters

Projection screen

Screen diameter (mm) : Φ300

Rotating range : 0° ~360°

resolution of the rotary angle : 1′

Accuracy of the rotary angle : 6′

Objective

Magnification Power	10×	20×	50×	100×
Object Field of view	ϕ30mm	ϕ15mm	ϕ6mm	ϕ3mm
Object Working Distance	75mm	69.mm	44 mm	26mm
Errors of magnifying power	0.08%			

Worktable

Size of worktable	400×225
X and Y travel (mm)	200×100
Z–axis(Focusing)(mm)	0~90
Resolution	1 um
Accuracy of X and Y coordinate value	(3+L/75) um, of which,L=length of the work piece measured (unit:mm)
Load capacity of the worktable	5kg

Illumination source

Transmission illumination 12V 100W Tungsten halogen lamp

Reflecting illumination 24V 150W Tungsten halogen lamp

Overall Sizes of the instrument(mm)

694×380×1065(L×W×H)

Ambient environment requirements

Room temperature: 20℃±5℃

Relative humidity: 40%~70%

Power Supply: AC 220V 50HZ

Instrument weight:145kg

JT14A (Erect Image)

ϕ300 Digital Measuring Projector

Characteristics

- The highlight and long–life halogen tungsten lamps are adopted for the lighting source, clear in imaging and homogeneous in lighting.
- The worktable is provided with three different travels for selection in accordance with the dimensions of the measured workpiece.
- The up–and–down hoisting structure adopted for the projecting box can provide with a large focusing stroke in Z–direction.
- The condenser can be adjusted manually; which according adjustment can be done in corresponding to different multiplying factors.
- The tower dial with three objectives simultaneously would be very convenient for the replacement of multiplying factors and for accurate locating.
- With an RS232 interface, can be equipped with two–coordinate measuring software with powerful functions.

Technical Parameters

Projection screen

Screen diameter: ϕ300 mm

Rotation range: 0° ~ 360°

Resolution of the rotary angle: 1′

Accuracy of the rotary angle: 6′

Worktable (Three Optional)

Type	Medium	Large
Range of X–axis	0~200	0~250
Range of Y–axis	0~150	0~150
Load capacity of the worktable	10kg	15kg
Worktable area	400×280	450×286

Resolution: 0.001 (mm)

Range of Z–coordinate (Focusing): 0~100 (mm)



Accuracy of the instrument: (3+L/75) μm, of which, L = length of the workpiece measured (unit: mm)

Lighting source

Transmission lighting: 24V 150W Halogen tungsten lamp

Reflecting lighting: 24V 150W Halogen tungsten lamp

Objective

Magnification Power	10×	20×	50×	100×
Object Field of view	ϕ30mm	ϕ15mm	ϕ6mm	ϕ3mm
Object Working Distance	74mm	69mm	63 mm	41 mm
Errors of magnifying power	0.08%			

Errors of magnifying power: 0.08%

Ambient environment of the instrument service

Room temperature: 20℃±5℃

Relative humidity: Not more than 60%

Overall sizes of the instrument (mm): 410×650×1070

Mainframe weight: 90 kg

* Working distance for 200×150 workstage

JT20A（External Readout）

ϕ300 Digital Measuring Projector



Characteristics

- The up and down hoisting structure adopted for the projecting box to enlarge focusing range in Z direction.
- Two sizes worktable are provided for selection according to the dimensions of the measured workpiece.
- Precise built in objective, rotated button for changing the surface light and bottom light.
- Optical path could be adjusted as per different magnification objective .
- Nice look, with the accuracy of （3+L/75）μm

Technical Parameters

Projection screen

Screen diameter: ϕ300 mm

Rotation range: 0° ~ 360°

Resolution of the rotary angle: 1′

Accuracy of the rotary angle: 6′

Objective

Magnification Power	10×	20×	50×
Object Field of view	ϕ30mm	ϕ15mm	ϕ6mm
Object Working Distance	74mm	69mm	63 mm
Errors of magnifying power	0.08%		

Worktable (Two Optional worktable)

Type	Medium	Large
Range of X-coordinate	0~200	0~250
Range of Y-coordinate	0~150	0~150
Load capacity of the worktable	15kg	20kg
Worktable area	400×280	450×286

Resolution: 0.001 (mm)

Z coordinate travel (Focusing): 0~100 (mm)

Accuracy of the instrument: (3+L/75) μm,

of which, L = length of the workpiece measured (unit: mm)

Lighting source

Transmission lighting: 24V 150W Halogen tungsten lamp

Reflecting lighting: 24V 150W Halogen tungsten lamp

Overall sizes of the instrument (mm):

410×650×1100 (L×W×H)

Mainframe weight: 80 kg

Power supply: AC 220V 50HZ

Ambient environment requirements

Room temperature: 20℃±5℃

Relative humidity: 40%~70%

JT24

ϕ300 Digital Measuring Projector



Characteristics

- This instrument is in conformity with the updated design for a pretty look, compact in structure and convenient for operations.
- High brightness and long-life halogen tungsten lamps are adopted for the lighting source, homogeneous in lighting.
- Beautiful in its outward appearances, this instrument is of super-precision, aviation casting aluminum is selected for worktable, so the weigh is light.
- In high quality in its optical system, the objectives are clear in imaging and accurate in magnification.
- The fiber transmission is adopted for the reflecting lighting, which is small in dimensions, high in its brightness and convenient for uses.
- High and low adjustable light intensity for transmission lighting to provide proper lighting for measuring requirements of different workpieces.

Technical Parameters

Projection screen

Screen diameter: ϕ300 mm

Rotation range: 0° ~ 360°

Resolution of the rotary angle: 1′

Accuracy of the rotary angle: 4′

Worktable

Worktable area: 326mm×150mm

Range of X-axis: 0~200 (mm) Resolution: 0.001 (mm)

Range of Y-axis: 0~80 (mm) Resolution: 0.001 (mm)

Range of Z-axis: (Focusing): 0~100 (mm)

Accuracy of the instrument: (2.5+L/80) μm

of which, L = length of the work piece measured (unit: mm)

Load capacity of the worktable: 5kg

Lighting source

Transmission lighting: 24V 150W Halogen tungsten lamp

Indirect lighting: 24V 150W Halogen tungsten lamp

Objective

Magnification Power	10×	20×	50×	100×
Object Field of view	ϕ30mm	ϕ15mm	ϕ6mm	ϕ3mm
Object Working Distance	75mm	69mm	44mm	26mm
Errors of magnifying power	0.08%			

Ambient environment requirements

Room temperature: 20℃±5℃

Relative humidity: 40%~70%

Overall sizes of the instrument (mm): 746×420×980(L×W×H)

Mainframe weight: 105 kg

Power Supply: AC 220V 50HZ

JT21A

ϕ 350 Digital Measuring Projector

Characteristics

- The inverted projector is in conformity with the humanization design and convenient for operation.
- The axial flow blower with bilateral heat radiation can provide super-strong power for heat radiation.
- Especially suitable for the comparative measurement detection of projection drawings, observation of the contour forms, etc..
- The plug in model is adopted for the objective replacement, provide much convenience way in replacement.
- This instrument equipped with multiple-function digital display meters for the purpose of measurement of complicated parts.



Technical Parameters

Projection screen

Screen diameter: ϕ 350 mm

Rotation range: 0° ~ 360°

Resolution of the rotary angle: 1′

Accuracy of the rotary angle: 4′

Objective

Magnification Power	5×	10×	20×	50×
Object Field of view	ϕ 70mm	ϕ 35mm	ϕ 17.5mm	ϕ 7mm
Object Working Distance	163mm	89mm	76 mm	60 mm
Errors of magnifying power	0.08%			

Worktable

Worktable area: 380mm × 230mm

Range of X-axis: 200 (mm)

Range of Y-axis: 100 (mm)

Resolution: 0.001 (mm)

Range of Z-axis: 0~100 (mm) (Focusing)

Accuracy of the instrument: (3+L/75) μ m,

of which, L = length of the workpiece measured (unit: mm)

Load capacity: 5kg

Lighting source

Transmission lighting: 12V 100W Halogen tungsten lamp

Vertical Reflection lighting: 24V 150W Halogen tungsten lamp

Obligue reflection lighting:

24V 100W Halogen tungsten lamp (only used for 5× objectore)

Overall sizes of the instrument (mm): 854 × 480 × 1400 (L × W × H)

Mainframe weight: 138kg

Ambient environment requirements

Room temperature: 20℃ ± 5℃

Relative humidity: 40%~70%

Power Supply: AC 220V 50HZ

JT27

ϕ 350 Digital Measuring Projector

Characteristics

- This instrument is in conformity with the updated design for a pretty look, compact in structure and convenient to operations.
- On time temperature showing of surface light, bottom light and work stage, auto alarm triggered when the temperature is overheated.
- Beautiful in its outward appearances, this instrument is of super-precision accuracy so the aviation casting aluminum is selected for of worktable, weight is light.
- In high quality optical system, the objectives are clear in imaging and accurate in magnification.
- The fiber transmission is adopted for the reflecting lighting, which is small in dimensions, high in its brightness and convenient for uses.
- High and low adjustable light intensities for transmission lightings can provide proper lighting for measuring requirements of different workpieces.



Technical Parameters

Projection screen

Screen diameter: ϕ 350 mm

Rotation range: 0° ~ 360°

Resolution of the rotary angle: 1′

Accuracy of the rotary angle: 4′

Worktable

Worktable area: 326mm × 150mm

Range of X-coordinate: 0~200 (mm) Resolution: 0.001 (mm)

Range of Y-coordinate: 0~80 (mm) Resolution: 0.001 (mm)

Range of Z-coordinate (Focusing): 0~100 (mm)

Accuracy of the instrument: (2.5+L/80) μ m,

of which, L = length of the work piece measured (unit: mm)

Load capacity: 5kg

Objective

Magnification Power	10×	20×	50×	100×
Object Field of view	ϕ 35mm	ϕ 17.5mm	ϕ 7mm	ϕ 3.5mm
Object Working Distance	88mm	81mm	54 mm	45 mm
Errors of magnifying power	0.08%			

Lighting source

Transmission lighting: 24V 150W Halogen tungsten lamp

Reflecting lighting: 24V 150W Halogen tungsten lamp (with reflection cup)

Ambient environment requirements

Room temperature: 20℃ ± 5℃

Relative humidity: Not more than 60%

Overall sizes of the instrument (mm): 775 × 440 × 980(L × W × H)

Mainframe weight: 150 kg

Power Supply: AC220V 50HZ

Multi–Functional Digital Display Meter



- Multipoint acquisition can define the straight line and the circle.
- Various geometric elements can be preset.
- Various geometric elements can be determined in the combination method.
- Functions of coordinate rotation and motion of translation.
- The length of sensor or the angular value of the encoder may be set in Z–axial.
- Conversion function between the polar coordinates and the rectangular coordinates.
- Function of error correction.
  Function of RS232 output.
- Function of page output.
- Function of power–off memory.
- Various geometric elements can be stored and recalled.

2D measuring software

Acquisition functions: Dots, lines, circles and arcs acquisition.

Construction functions: Construct lines, circles and arcs by acquired dots and calculate thread parameters.

Combined calculating functions:

The combination calculation between “dot” and “dot” gives the dot distance and midpoint coordinate;

The combination calculation between “dot and line” gives the distance between dot and line;

The combination calculation between “straight line and straight line for their crossing” gives their intersecting point coordinate and their included angle;

The combination calculation between “straight line and straight line for their centering” gives the central line information for the two lines;

The combination calculation between “circle and circle” gives the information of the crossing points and the center distance of the circle;

The combination calculation between “circle and straight line” gives the information of their crossing points and the distance from the center of the circle to the line.

Functions for the geometrical tolerance:

Measurement of the circularity between circular and arc;

Measurement of straightness;

Measurement of coaxial;

Measurement of symmetry;

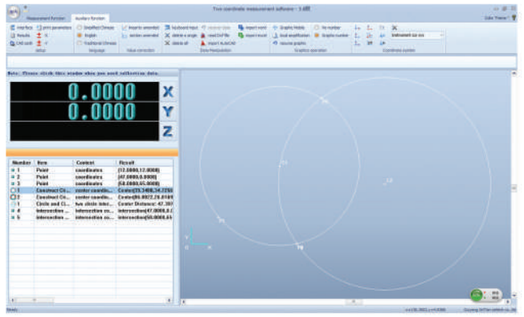
Measurement of displacement.

Exchange of the coordinate system:

The coordinate transition between the rectangular coordinate and the polar coordinate;

Establish the new coordinate and set the coordinate straight.

Data output: The data can be output to AUTOCAD, EXCEL AND WORD .



Accessories of Profile Projector


Objectives


JT14 、JT20 series Objectives


JT3 Objectves

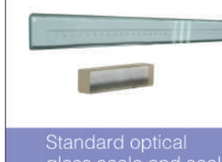

JT5 Objectives


JT7 Objectives

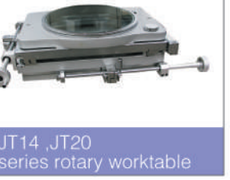

JT12 series semi–transmitted mirror Group


5× Magnifier


Level meter


Standard optical glass scale and scale


JT14 、JT20 series plane worktable


JT14 ,JT20 series rotary worktable


Reflecting lighting devices


JT12 series


Vertical rotary worktable


Vertical square worktable


V–shape support


Position clamping device

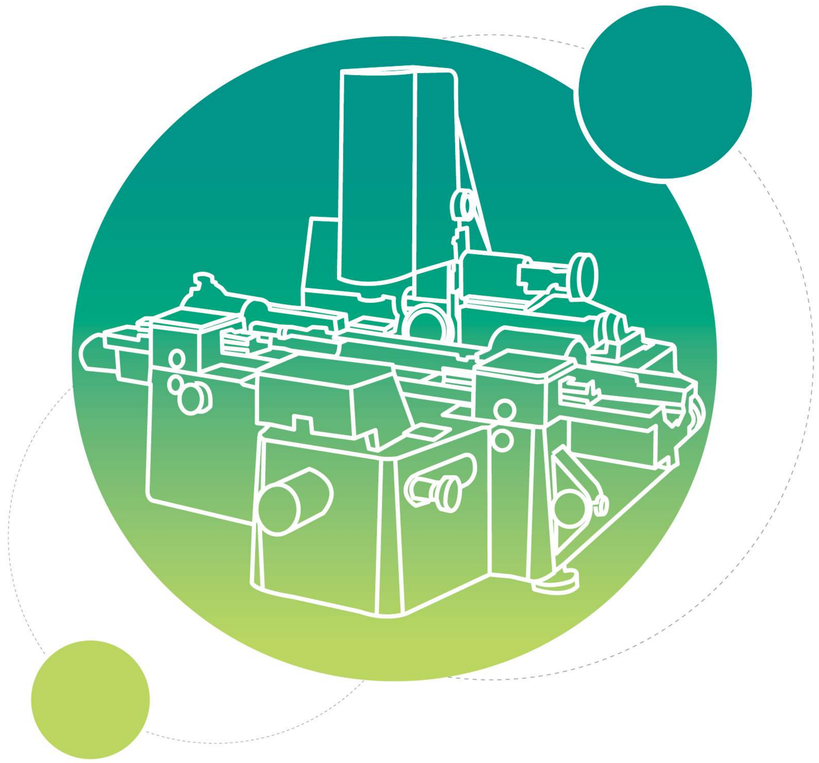

Thimble cradle


Thimble cradle


V–shape support

Introduction of Toolmaker's Microscope

The toolmaker′ s microscope manufactured by our company are divided into large–scale toolmaker′ s microscope and universal toolmaker′ s microscope. We have decades production experience on toolmaker′ s microscope, and our toolmaker′ s microscope is with stable performance and excellent quality.
According to the characteristics of machine performance, toolmaker′ s microscope are divided into following type:
Graduation readout type, Digital display type, Software processing type, CCD & image software processing type etc.. All of them have high measuring accuracy and can satisfy different requirements of various customers.
Toolmaker′ s microscope can measure sizes, angles, shapes and positions of various work pieces and different parameters of screw pieces accurately. It is widely used in the measuring room and inspection station of machine manufacturing, tool making, mold manufacturing, instruments & meters, military, Aviation & Aerospace, Automobile, electronic, plastic and rubber industry and colleagues & universities, research institutes etc.. Our instruments are equipped with wide variety of accessories such as optical locator, tailstock rack, height measuring device, double–image eye lens, template eye lens etc..Thus makes our instruments could be used for quality inspection and control on machinery parts, measuring gauge, cutter, fixture, pattern die, electronic units, circuit board, punching parts, plastic and rubber products.
Typical measurement applications:
Measurement on shapes of various forming parts such as sample plate, sample turning tool, punching die and cam etc..
Measurement on pitch diameter, major diameter, minor diameter, pitch, half of thread angle of external thread of thread plug gauge, lead–screw and endless screw etc..
Measurement on lead, tooth profile and thread angle of gear hobbing cutter.
Measurement on position, symmetry and other geometric tolerance of the holes in drilling jig or hole plate.



JX20

Small Digital Tool Microscope

Characteristics

- Goniometer eyepiece is equipped with main eyepiece used to aim and small eyepiece used to read angle. It has wide measurement application, mainly used to measure angle, thread and alignment of coordinated measurement.
- Main microscope can deflect left and right, suitable for the measurement of spiral parts.
- It provides various eyepieces and objectives to get a clear image and large view field.
- Adopts photoelectric display technology and takes precision grating scale as measuring units for X and Y axis. Thus realize direct reading and convenient measurement.
- The worktable can move rapidly or do fine movement. It can rotate by rotating hand wheel to measure angle conveniently; The worktable is equipped with center cradle for the measurement of shaft parts.



Technical Parameters

Worktable:

Measurement range of coordinate:
X coordinate: 0 ~ 100mm
Y coordinate: 0 ~ 50mm
Resolution for X and Y coordinate: 0.001mm
Accuracy of the instrument: (2+L/50) μ m, of which, L = measured length (unit: mm)
Diameter of the circular worktable:115mm
Load capacity of the worktable:2kg

Microscope upright column

Moving range of Z direction for microscope: 90mm
Deflection angle: ± 10°

Goniometric eyepiece

Angular calibrated range: 0° ~ 360°
Angular calibrated value: 1′

Template eyepiece

Calibrated range of the template eyepiece: ± 7°
Angular calibrated value of the template eyepiece: 10′

Tailstock rack:

Maximum clamping diameter: Φ50mm
Maximum clamping length: 110mm

Optical detector:

Maximum depth of measured hole exceeds 5 mm:15mm
Measuring force: 0.1N
Stability of measurement :0.001mm

Objective

Objective magnification	1×	3×	5×
Gross magnifying power	10×	30×	50×
Object working distance	79mm	69mm	50mm
Object field of view	ϕ20mm	ϕ6.7mm	ϕ4mm

Working distance and diameter of view field with double–image eyepiece

Objective magnification	1×	3×	5×
Gross magnifying power	14.7×	42×	65.1×
Object working distance	35.7mm	64mm	48mm
Object field of view	ϕ13mm	ϕ4.6mm	ϕ2.9mm

The error of composing image of double image: < 0.001mm

Ambient environment requirements

Room temperature: 20℃ ± 3℃
Relative humidity: Not more than 60%

Overall sizes of the instrument (mm): 600 × 350 × 530 (L × W × H)

Mainframe weight: 46kg

JX14B

Large Digital Toolmaker 's Microscope

Characteristics

- Adopts photoelectric display technology, takes high precision grating scale as measuring units for X and Y axis, Digital Read Out shows data directly, convenient to do measurement.
- It provides various eyepieces and objectives to get a clear image and large view field.
- Main microscope can deflect left and right, suitable for the measurement of spiral parts.
- LED illuminating lighting for transmission and reflecting with low heating dissipation and long life.
- High speed movement and micro motion devices could realize quick switch.
- Equipped with tailstock rack to measure shaft parts.
- Variety of accessories are provided to achieve extensive uses.



Technical Parameters

Worktable

Measuring range of the coordinate

X–coordinate: 150mm

Y–coordinate: 75mm

Measuring resolution : 0.001mm

Accuracy of the instrument: (2+L/50) μm, of which,

L = measured length (unit: mm)

Diameter of the circular worktable: Φ190mm (glass)

Φ280mm (metal)

Angular calibrated range of the circular worktable: 0° ~ 360°

Measured–angle resolution ratio of the circular worktable: 3′

Microscope upright column

Deflection angle: ±12°

Calibrated value of the slope angle: 30′

Goniometric eyepiece

Angular calibrated range: 0° ~ 360°

Angular calibrated value: 1′

Template eyepiece

Calibrated range : ±7°

Angular calibrated value : 10′

Optical detector

Minimum detective hole diameter : Φ5mm

Maximum detective depth : 15mm

Measuring force: 0.1N

Tailstock rack:

Maximum clamping diameter: Φ70mm

Maximum clamping length: 190mm

Objective

Objective magnification	1×	3×	5×
Gross magnifying power	10×	30×	50×
Object working distance	79mm	69mm	49mm
Object field of view	φ20mm	φ6.6mm	φ4mm

Load capacity of the instrument: 20kg

Overall sizes of the instrument (mm) :720×460×600 (L×W×H)

Mainframe weight: 100 kg

JX11B

Multipurpose Digital Toolmaker 's Microscope

Characteristics

- It provides various eyepieces and objectives to get a clear image and large view field.
- Adopts photoelectric display technology, takes high precision grating scale as measuring units for X and Y axis to get a high accuracy of measurement.
- Main microscope can deflect left and right, suitable for the measurement of spiral parts.
- Variety of accessories such as tailstock, V shape support, index header, height measuring device etc. are provided to achieve extensive uses.

Technical Parameters

Worktable

Measuring rang of the coordinate

X–coordinate: 200mm

Y–coordinate: 100mm

Resolution: 0.0002mm

Accuracy of the instrument: (1+L/100) μm, of which, L = measured length , unit: mm

Area of square worktable： 260mm×270mm

Diameter of the circular worktable：φ213mm

Angular calibration range of the circular worktable ：0° ~ 360°

Measured range resolution ratio of the circular worktable ：1′

Maximum height of the workpiece on the square worktable (mm)：140

Microscope upright column

Deflection angle: ±12°

Angle tilting division value: 30′

Tailstock

Maximum diameter gripped by the tailstock: φ100 mm

Maximum length gripped by the tailstock: 700 mm

High Tailstock

Maximum diameter gripped by the higher tailstock: φ250 mm

Maximum length gripped by the higher tailstock: 200 mm

Goniometer eyepiece

Angular calibration range: 0° ~ 360°

Angular calibrated value:1′

profile eyepiece

Angular calibration range: ±7°

Angular calibrated value:10′

Maximum length gripped by the tailstock: 700 mm

Circullar dividing head

Angular calibration range: 0° ~ 360°

Angular calibrated value:1′



Objective

Objective magnification	1×	3×	5×
Gross magnifying power	10×	30×	50×
Object working distance	79mm	69mm	49mm
Object field of view	φ20mm	φ6.7mm	φ4mm

Optical position indicator

Vertical oscillation range of measuring rod：±3°

Minimum aperture detected: φ5 mm

Maximum depth detected : 15mm

Measuring force(N): 0.1±0.03

Locating stability: < 0.001mm

Load capacity of the instrument: 40kg

Ambient environment requirements:

Room temperature: 20℃±1℃

Relative humidity: Not more than 60%

Overall size the instrument(mm): 1300×1250×800 (L×W×H)

Mainframe weight: 450kg

JX13B

Computerized Multipurpose Toolmaker 's Microscope

Characteristics

- It provides various eyepieces and objectives to get a clear image and large view field.
- Adopts photoelectric display technology, takes high precision grating scale as measuring units for X and Y axis to get a high accuracy of measurement.
- Main microscope can deflect left and right, suitable for the measurement of spiral parts.
- Variety of accessories such as tailstock, V shape support, index header, height measuring device etc. are provided to achieve extensive application.
- Adopts advanced computer processing technology, realize the on time input of collected signals by linear scale measuring system into computer, and then processed by powerful 2D measuring software to finish all kinds of complicated measurement works.

Technical Parameters

Worktable

Measuring range of coodinate:

X–coordinate: 200mm

Y–coordinate: 100mm

Resolution : 0.0002mm

Accuracy of instrument: (1+L/100) μm, of which, L = measured length unit: mm

Area of square worktable ： 260mm × 270mm

Diameter of the circular worktable：ϕ213mm

Graduated range of circular dividing head ：0° ~ 360°

Scale unit of circular dividing head ：1′

Maximum height of the stored workpiece on the square worktable (mm)：140

Maximum load of the instrument：40kg

Microscope upright column

Deflection angle: ±12°

Angle tilting division value：30′

Tailstock:

Maximum diameter gripped by the tailstock: ϕ100 mm

Maximum length gripped by the tailstock：700 mm

High Tailstock

Maximum diameter gripped by the higher tailstock： ϕ250 mm

Maximum length gripped by the higher tailstock： 200 mm

Goniometer eyepiece

Angular calibration range: 0° ~ 360°

Angular calibrated value:1′

profile eyepiece

Angular calibration range: ±7°

Angular calibrated value:10′

Maximum length gripped by the tailstock: 700 mm

Circullar dividing head

Angular calibration range: 0° ~ 360°

Angular calibrated value:1′

Objective

Objective magnification	1×	3×	5×
Gross magnifying power	10×	30×	50×
Object working distance	79mm	69mm	49mm
Object field of view	20mm	6.7mm	4mm

Optical position indicator

Minimum aperture detected : ϕ5 mm

Maximum depth detected: 15mm

Measuring force(N): 0.1±0.03

Locating stability: ＜0.001mm

Limit error gauged for head diameter: 0.0005mm

Ambient environment requirements:

Room temperature: 20℃±1℃

Relative humidity: Not more than 60%

Overall size of the instrument(mm): 1300×1250×800 (L×W×H)

Mainframe weight: 450kg



JX13C

Image Processing Universal Toolmaker'sMicroscope

Characteristics

- Adopts imported high precision grating scale as the measuring units, with low heating dissipation , corrosion resistance, pollution resistance, excellent shock proof performance etc..
- Powerful image processing software, can complete complicated measurement task; software data can communicate with CAD to complete surveying and mapping work.
- Eyepiece optical system is acting as an auxiliary viewing window, could be shifted quickly.
- Equipped with digital display angle reading table and height measuring device, all measured results of angles and heights can be displayed digitally.
- LED cold–light source is adopted for the whole lighting device, with low heating dissipation and durable for long time usage.
- Main microscope can deflect left and right, suitable for the measurement on spiral parts.
- Adopts semi conductor laser device as positioning device for locating,enhance image positioning efficiency.

Technical Parameters

Worktable

Measuring range of coordinate:

X–coordinate: 200 mm

Y–coordinate: 100 mm

Resolution : 0.0002mm

Accuracy of the instrument: (1+L/100) μm, of which, L = measurred length , unit: mm

Area of square worktable : 260mm × 270mm

Maximum height of the workpiece on the square worktable (mm): 140

Load capacity of the instrument: 40kg

Microscope upright column

Angle tilting range: ±12°

Angle tilting division value: 30′

Tailstock

Maximum diameter gripped by the tailstock: ϕ100 mm

Maximum length gripped by the tailstock: 700 mm

Higher Tailstock

Maximum diameter gripped by the higher tailstock: ϕ250 mm

Maximum length gripped by the higher tailstock: 200 mm



Objective

Objective magnification	1×	3×	5×
Work distance(mm)	82	70	49
Visual field (mm)	6.0×4.0	2.0×1.5	1.5×0.9
Image magnification	40×	120×	200×
Screen image range(mm)	1/2″≈5.2×4.1	1/2 ″≈1.7×1.4	1/2″≈1.0×0.8
CCDspecifications	1/3″=4.1×3.1	1/3″=1.4×1.0	1/3″=0.8×0.6

Goniometer eyepiece

Angular calibration range: 0° ~ 360°

Angular calibrated value:1′

profile eyepiece

Angular calibration range: ±7°

Angular calibrated value:10′

Maximum length gripped by the tailstock: 700 mm

Digital display index head

Angle measuring range: 0° ~360°

Resolution ratio of the angle measuring: 5″

Accuracy of the angle measuring: 30″

CCD camera

1/2″ or 1/3″ black & white (or colored) CCD

Pixel Numbers: 795×596

Optical position indicator

Minimum detected aperture: ϕ5 mm

Maximum depth detected: 15mm Metering force: 0.1N

Locating stability: ＜0.001mm

Limit error gauged for head diameter: 0.0005mm

Ambient environment requirements:

Room temperature: 20℃±1℃

Relative humidity: Not more than 60%

Overall size of the instrument(mm):

1300×1250×800 (L×W×H)

Mainframe weight: 450kg

* JX13CS is equipped with touch screen monitor.

JX13V

Twin Display Universal Toolmaker's Microscope



Characteristics

- It provides various eyepieces and objectives to get a clear image and large view field.
- Main microscope can deflect left and right, suitable for the measurement on spiral parts.
- Variety of accessories such as tailstock, V shape support, index header, height measuring device etc. are provided to achieve extensive measurement applications.
- Perfect image–forming system.
- Equipped with powerful measurement software, convenient to operate.

Technical Parameters

Worktable

Measuring range of coordinate:

X–coordinate: 200 mm

Y–coordinate: 100 mm

Resolution : 0.0002mm

Accuracy of the instrument: (1+L/100) μ m,

of which, L = measured length , unit: mm

Area of square worktable : 260mm × 270mm

Maximum height of the workpiece on the square worktable (mm): 140

Load capacity of the instrument: 40kg

Microscope upright column

Angle tilting range: ± 12°

Angle tilting division value: 30′

Objective

Objective magnification	1×	3×	5×
Work distance(mm)	82	70	49
Visual field (mm)	6.0×4.0	2.0×1.5	1.5×0.9
Image magnification	40×	120×	200×
Screen image range(mm)	1/2″≈5.2×4.1	1/2 ″≈1.7×1.4	1/2″≈1.0×0.8
CCDspecifications	1/3″=4.1×3.1	1/3″=1.4×1.0	1/3″=0.8×0.6

Tailstock

Maximum diameter gripped by the tailstock: ϕ 100 mm

Maximum length gripped by the tailstock: 700 mm

Higher Tailstock

Maximum diameter gripped by the higher tailstock: ϕ 250 mm

Maximum length gripped by the higher tailstock: 200 mm

Digital display index head

Angle measuring range: 0° ~360°

Division value of goniometer eyepiece angle: 1’

Resolution ratio of the angle measuring: 5″

Accuracy of the angle measuring: 30″

CCD camera

1/2″ or 1/3″ black & white (or colored) CCD

Pixel Number: 795 × 596

Visual magnification rate on LCD display: 40X, 120X, 200X

Optical position indicator

Minimum detected aperture: ϕ 5 mm

Maximum depth detected: 15mm

Measuring force: 0.1N

Locating stability: < 0.001mm

Limit error gauged for head diameter: 0.0005mm

Ambient environment requirements:

Room temperature: 20℃ ± 1℃

Relative humidity: Not more than 60%

Overall size of the instrument(mm):

1300 × 1250 × 800 (L × W × H)

Mainframe weight: 450kg



* JX13VS is equipped with touch screen monitor.

Accessories of Toolmaker's Microscope



Objective groups



RMD/LMD template eyepiece



Digital display index head



Higher tailstock



Goniometric eyepiece



Lighting device for the goniometric eyepiece



Digital display height–measuring device



V–type support



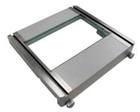
Double–image objective



Indirect lighting device



Sleeve of tailstock



Plane worktable



Bolt clamping plate



Measuring–knife device



Digital display rotary table



V–Type



Outer tailstock rack and inner tailstock rack



Focus–fixing bar



Non–centering support



Electric source box



Optical locator



Thimble cradle

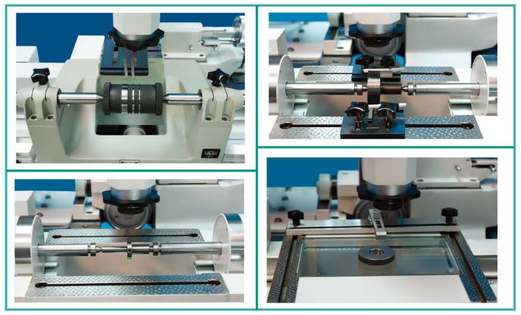


Non–centering support



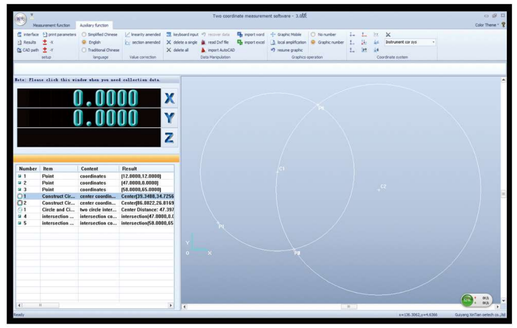
Electric source box

Measurement Demo



Software Introduction

2D Measuring Software



Functions of 2D measuring software

Acquisition functions: Acquisition of dots, lines, circles and arcs.

Construction functions: Construct straight line, circle and arc by acquired dots; Construct centre line, angle bisector by two lines,

Combined computing functions:

The combination calculation between “dot” and “dot” gives dot to dot distance and midpoint coordinate;

The combination calculation between “dot and line” gives dot to line distance;

The combination calculation between “straight line and straight line for their crossing” gives their intersecting point coordinate and their included angle;

The combination calculation between “straight line and straight line for their centering” gives the central line information for the two lines;

The combination calculation between “circle and circle” gives the information of the crossing points and the distance between two centers of these two circles;

The combination calculation between “circle and straight line” gives the information of their crossing points and the distance from the center of the circle to the line.

Calculating the screw pitch, pitch diameter and half angle

Functions for the shape and location tolerance processing:

Measurement of the roundness of circle and arc;

Measurement of straightness

Measurement of concentricity

Measurement of symmetry

Measurement of position

Coordinate System Transformation

The coordinate transition between the rectangular coordinate and the pole coordinate

Establish new coordinate and coordinate upright setting.

Data output: Output data in AUTOCAD, EXCEL or WORD for further data processing.

Functions of Image Processing Software

Collection tools

Collect coordinate points, lines, circles, arcs, distance between two points,distance of centers of 2 circles, included angle between two straight lines directly.

Point collection method

Automatic point–collection by frame selection

Draw a frame to collect lines, circles and arcs automatically

Point collection identification automatically by cross–line center

Point collection by rotation of cross–line center

Point searching by clicking Automatic edge identification

Construction functions

Construction centre line from two lines, construction a straight line from two points and construction a circular or an arc from three points.

Combination functions

Calculation on pitch–diameter, semi–angle, pitch of screw threads; calculation on point spacing and middle–point coordinate of two points, calculation on the distance from a point to a straight line between a point and a line, calculation on the intersection point coordinate between two circles, calculation the included angle between two straight lines.

Geometrical Tolerance

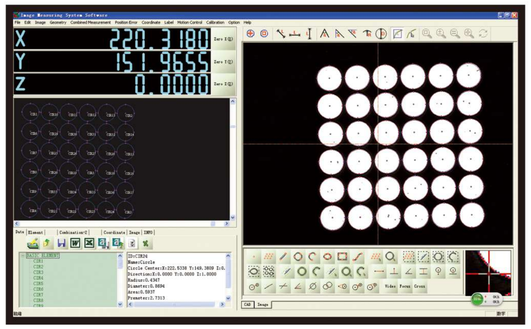
Straightness, roundness, arc, concentricity, symmetry, parallelism and position tolerance

Coordinates Transformation

Rectangular coordinate system, pole coordinate system, coordinate translation and upright setting.

Data Output

Output data in AUTOCAD, EXCEL or WORD for further data processing.



Overview of Length Measuring Machine

- The Length Measuring Machine is a kind of instruments used for measuring the distance between two end faces of a measured piece. Its end faces include plane or curved ones and exterior or internal ones. The Length Measuring Machine is divided into optical ones, linear measuring instruments and linear measuring machines.
- The Length Measuring Machine is widely used in the measuring rooms of the enterprises in the engineering industry; tooling, measuring implement manufacturing industry and instrument and metering industry, etc. and also used in the professional measurement and appraisal departments at various levels.

Typical measurement applications:

External dimensions

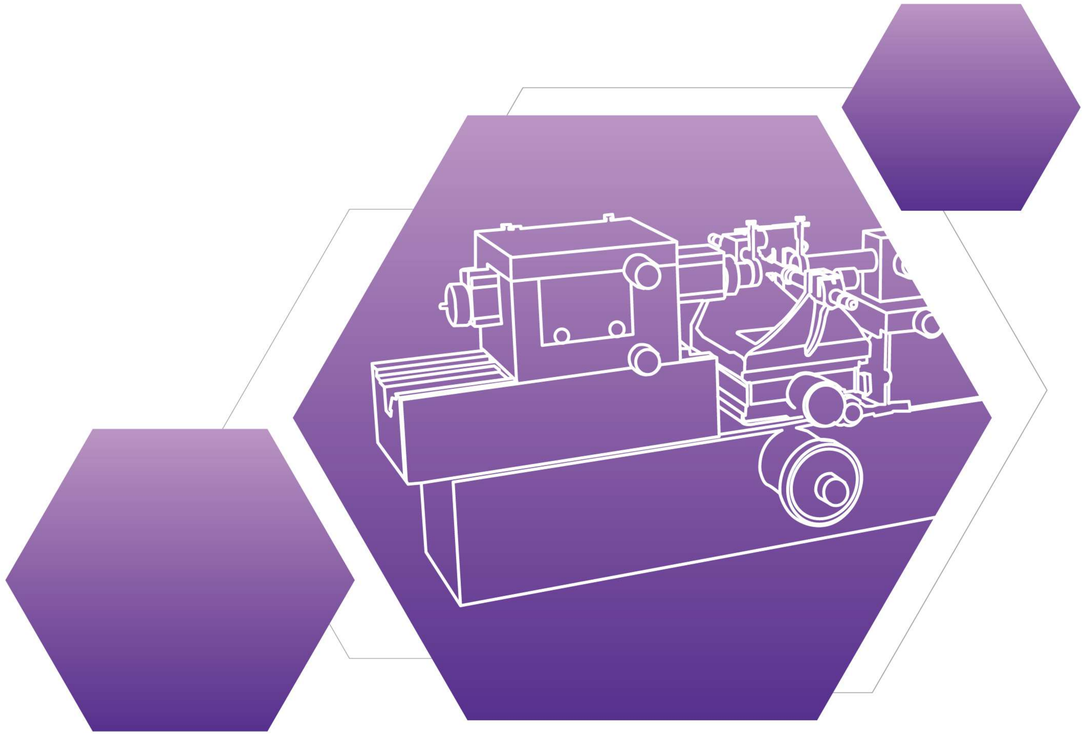
- The measurement of the parallel plane surface for the measured piece, such as measuring blocks.
- The measurement of the spherical dome for the measured piece, such as length bars, steel balls.
- The measurement of the cylindrical surfaced for the measured piece, such as axles, circular cylinders.

Internal dimensions

- The measurement of the parallel plane for the measured piece, such as: snap–gauge.
- The measurement of the aperture, such as: ring–gauges.Screw thread

Screw thread

The measurement of diameter of threads.



JD3

Vertical Projection Optimeter

Characteristics

- New screen technology, equipped with reading magnifier to get uniform field brightness and clear image.
- High measuring accuracy, stable and reliable data, realize convenient and quick measurement for precision parts with small dimension.
- Optimized structure design, small overall dimension, convenient for transportation.
- Dual–purpose instrument, the glass tube of the projection optimeter can be taken off and installed on a machine tool to control machining size directly .



Technical Parameters

Range of measurement: 0–180mm

Worktable

Circular plane worktable (D): ϕ88mm

Circular ribbed worktable (D): ϕ88mm

Square ribbed worktable (mm): 142×130

Fit outside diameter of measuring spindle and measuring cap of worktable: ϕ6g6

Allowable difference of parallelism of small three–point worktable: 0.0015mm

Precision of instrument

Indication error:

Within 60μm range: ±0.20μm

Over 60μm range: ±0.25μm

Indication stability: 0.1μm

Projection optimeter scale tube

Graduation value of dividing plate: 0.001mm

Graduation range of dividing plate: ±0.1mm

Measuring force(N) : 2±0.2

Free up and down distance of measuring lever: 0.5mm

Fit outside diameter of projection optimeter tube: ϕ28h6

Fit outside diameter of measuring lever and measuring cap: ϕ6g6

Ambient environment requirements:

Room temperature: 20℃±3℃

Relative humidity: Not more than 60%

Mainframe weight: 21kg

Overall sizes of the instrument (mm): 160×340×750

JD3A

Vertical Digital Optimeter



Characteristics

- Adopts low voltage LED lighting source to realize extremely low heat dissipation in optical and electrical systems to minimize heat effect.
- Combining traditional optical lever theory and modern CCD digital image technology to achieve high resolution, accurate and stable measuring results.
- LCD digit display screen locates close position to measurement area to realize observation on measured dimension and measured results.
- Wide range of indicating value to obtain accurate measuring results even under the condition of big difference between standard parts and measured parts.
- Measuring value shown in LCD digits, convenient to read comfortably. Simulation Cursor under LCD digits gives clear and direct observation on measuring header movement.
- Equipped with 5 measuring caps with different measuring contact ends and 5 different application worktable to achieve measurement on plane shape, cylinder shape, ball shape, plate shape, needle shape and spiral shape parts.
- Variety specifications of mobile frame of gauge block are provided to avoid heat effect on gauge block by hand pick up.

Technical Parameters

Range of measurement: 0–180mm

Resolution : 0.0001mm

Indication range: ±0.1mm

Measuring force (N): 2.0±0.2

Indication error:

±(0.1+0.001A) μm, (of which, A= Indication,unit: μm)

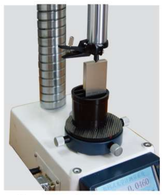
Ambient environment requirements:

Room temperature: 20℃±3℃

Relative humidity: Not more than 60%

Overall sizes of the instrument (mm): 160×340×450

Mainframe weight: 21 kg



Inspecting gauge blocks



Inspecting plain plug gauge



Inspecting thread plug gauge



Measuring steel ball



Inspecting thin gauge blocks



Inspecting three–wire



Measuring thin plate



Locating brasket

Improve measuring efficiency for mass production parts by using locating bracket

JD20

0.2 μ m Precision Optimeter

Characteristics

- JD20 adopts new screen technology, equipped with reading magnifier to get uniform field brightness and clear image.
- High measuring accuracy, stable and reliable data, realize convenient and quick measurement for precision parts of small dimension.
- Optimized structure design, overall dimension is small, convenient for transportation.



Technical Parameters

Range of measurement: 0–180mm

Minimum graduation: 0.2 μ m

Indication range: ± 0.02mm

Indication error

± (0.05+0.0025A) μ m (of which, A= Indication value,unit: μ m)

Indication repeatbility: 0.02 μ m

Measuring force (N): 1.20 ± 0.2

Fine movement range of graduation : ± 5 graduations

View width of every graduation: 1.7 mm

Fit outside diameter of measuring lever and measuring cap:

ϕ 6g6

Fit inside diameter of measuring cap: ϕ 6H7

Ambient environment requirement:

Room temperature: 20℃ ± 3℃

Relative humidity: Not more than 60%

Overall sizes of the instrument (mm):

230 × 320 × 820 (L × W × H)

Mainframe weight: 30 kg

Worktable

Seven–grooved worktable: used for verification of thick block gauges and workpieces

Spherical grooved worktable: used for verification of thin block gauges and workpieces

Plane worktable: used for measurement of sphere diameters

Moving bracket of block gauge: used for laying and moving the standard and the measured block gauges.

JD22A

Vertical Digital Metroscope

Characteristics

- Adopts advanced technology,digital display of measured value.
- The measuring axis adopts square design and six super bearings support to guarantee good linear movement and stable performance.
- Auto or manual control is provided to the main measuring axis movement, convenient for the measurement of mass workpieces with high efficiency.
- Worktables with various surface shapes can be adaptable for the measured pieces of different geometry shapes.
- Conform Abbe theory,high measuring accuracy.



Technical Parameters

Measuring range

Absolute measurement: 0–100 (mm)

Relative measurement: 0–200 (mm)

Resolution: 0.0001mm

Accuracy of the instrument: (1+L/100) μ m, (of which, L = length of the workpiece measured , unit: mm)

Measuring force: 2.5N

Load capacity of the worktable: 10Kg

Overall sizes of the instrument (mm): 665 × 350 × 450(L × W × H)

Mainframe weight: 100kg

JD18

Projection Universal Metroscope (Horizontal)

Characteristics

- The precise scale and optical prolection measuring system are convenient for digital reading.
- Equipped with multiple accessories, to realize the measurement of the internal and external dimensions of various gauges and precise parts
- Dual–purpose instrument, equipped with optimeter tube, it could be used as the horizontal optimeter as well as the universal metroscope. (Optional)

Technical Parameters

Measuring range

Absolute measurement: 0 –100(mm)

Relative measurement

External size : 0–500(mm)

Internal size:

While using a measuring hook: 10–200(mm)

Using an electric measuring hook : 1–20(mm)

Intermediate diameters between external screws: 0–180(mm);

Intermediate diameters between internal screws: 14–140(mm)

Universal worktable:

Division value of horizontal micro–drum: 0.01mm

Horizontal stroke: 25mm

Vertical stroke: 100mm

Load capacity: 10kg

Minimum division value: 0.001mm

Measuring force (N):1.5–2.5

Measurement Accuracy

Measurement on external sizes: ≤(1+L/200) μm

Measurement on internal sizes: ≤(15+L/100) μm

In which, L is the measured size, unit: mm

Maximum diameter gripped by the tailstock

When the length between 0–85, ϕ180 mm

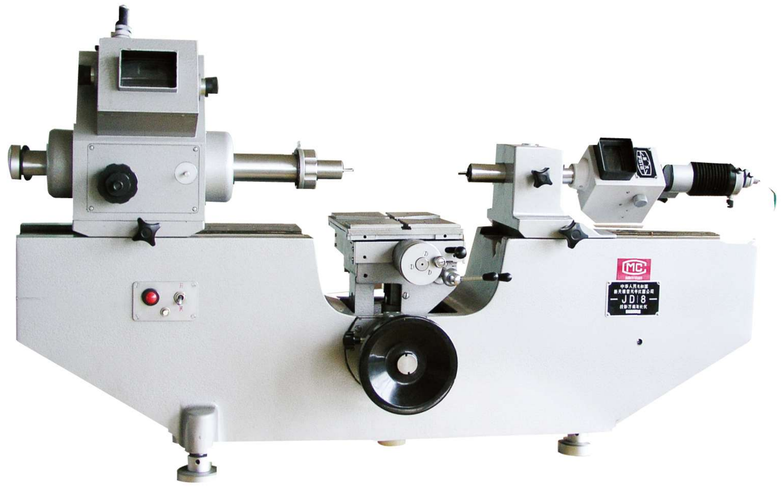
When the length t0 200. ϕ20 mm

Fitting size for the measuring cap's internal diameter: ϕ6H7

Size of outer diameter between the reference rod and the measuring cap's internal diameter: ϕ696

Overall Sizes of the Instrument(mm):1000×370×620(L×W×H)

Mainframe weight:127kg



JD25C

Data Processing Universal Length Measurer

JD25D

Digital Universal Length Measurer

JD25H

Data Processing Universal Metroscope



Characteristics

- High quality cast iron base after long time natural aging gives good stability.
- Main measuring axis adopts optimized square design to assure the stability of moving performance during measurement.
- It has many powerful optional accessories to satisfy different measuring requirements.
- The instrument adopts high precision measuring system, which conforms to the Abbe principle and has high measuring accuracy.
- The imported grating system and subdivision card have high precision and reliable stability;
- JD25–C used Powerful function software can correct the measuring error caused by indicating value and temperature variation. And it has the function of automatic reversal point detection.
- JD25–D equipped with Digital display Readout.
- JD25–H adopts imported grating scale system with high accuracy and reliable stability

Technical Parameters

Universal Working Table

Area of installation : 160mm×160mm

Range of height adjustment : 0~100 (mm)

Transverse travel : 25mm

Y–Gradient : ±3°

Rotation of the working table : ±4°

Permissible load : 10kg

Fitting size for the measuring cap's internal diameter : Φ6H7

Size of outer diameter between the reference rod and the measuring cap's internal diameter : Φ6g6

Measuring Range :

External size (mm) : Absolute measurement: 0 –100

Relative measurement: 0– 670

Internal size (mm) : While using a small measuring hook (when maximum extending–in depth up to 12, the maximum arm thickness of 50), 10~400

While using a large measuring hook (when maximum extending–in depth up to 50, the maximum arm thickness of 85), 30~370

Using a electric measuring hook (mm) : 1~60

Using a universal measuring hook (mm) : 14~112

Intermediate diameters between internal screws (mm)

While using a small measuring hook (small screw diameter of 13~30)

While using a large measuring hook {small screw diameter of 31 – (70 –arm thickness) ×2}

Screw pitch(mm): 0.5~6

Intermediate diameters between external screws (mm):

maximum: 200, Screw pitch : 1~6

Measuring force (N) : 0; 1.5; 2.5

Digital display equivalent : 0.0001mm

Variability of the instrument display value :

While measuring the external size, 2σ≤0.3μm

While measuring the internal size, 2σ≤0.5μm

Instrument Precision (20℃±0.2℃ under this circumstance)

Model	External dimension direct measurement	Internal dimension measurement
JD25–D	(0.5+L/200) μm	(1+L/100) μm(In the formula L representing the measured size, with its unit : mm)
JD25–C	0.5 μm	1 μm
JD25–H	0.4 μm	0.8 μm

Operating enviromments of the instrument: Room temperature is 20℃±0.5℃, and relative humidity does not exceed 60%.

Overall Sizes of the Instrument (mm) : 960×390×450

Mainframe weight : 150kg

JD36H

High Precision Universal Length Measurer

Characteristics

- High quality cast iron base after long time natural aging offers good stability.
- Main measuring axis adopts optimized square design to assure the stability of movement performance during measurement.
- Powerful optional accessories are provided to satisfy different measuring requirements.
- The illuminating system adopts infrared illuminating device with low voltage, small volume and long life as light sources.
- The instrument adopts high precision measuring system, which conforms to the Abbe theory and can reach high measuring accuracy.
- The imported grating system and subdivision card have high accuracy and reliable stability;
- Powerful function software can correct the measuring error caused by indicating value and temperature variation. Also with the function of automatic reversal point detection.

Technical Parameters

Universal worktable :

Area of installation: (160 × 160) mm

Range of height adjustment : 0 ~ 100 (mm)

Transverse travel: 25mm

Tilting around Y axis: ±3°

Worktable rotation: ±4°

Load capacity: 10kg

Measuring range (mm):

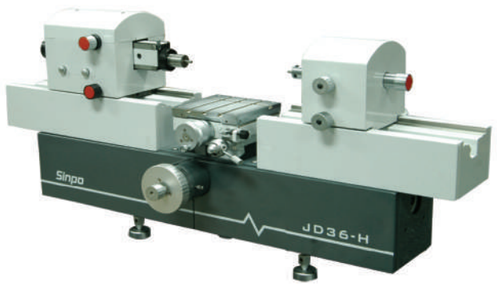
External dimension: Absolute measurement 0 ~ 100

Relative measurement 0 ~ 750

Internal dimension:

With small measuring yokes (depth of extend up to 12mm, maximum wall thickness 50mm) :10 ~ 480

With large measuring yokes (depth of extend up to 50mm, maximum wall thickness 85mm) : 30 ~ 450



Measurement with electric equipment:

With electric measuring yoke 1 ~ 60

With universal measuring yoke 14 ~ 112

Resolution : 0.1 μm

Accurary of the instrument: (under20℃ ± 0.2℃)

Model	External dimension direct measurement	Internal dimension measurement
JD36-H	0.2 μm	0.6 μm

Thread measurement:

Measuring internal pitch diameter(mm):

With small measuring yoke(thread small diameter 13~30)

With large measuring yoke [thread small diameter 31 ~ (70 – wall thickness) × 2]

Pitch of screws 0.5 ~ 6

Measuring the external pitch diameter(mm):

Maximum 200, screw pitch: 1~6

Measuring force(N): 0, 1.5, 2.5

Variability of the displaying value

Model	External measurement	Internal measurement
JD36-H	2σ ≤ 0.1 μm	2σ ≤ 0.3 μm

Combination dimension of internal diameter contact tip : Φ6H7

Combination external dimension of measuring rod with contact tip: Φ6g6

Overall Sizes of the Instrument (mm): 1060 × 390 × 450(L × W × H)

Mainframe weight : 170kg

JDS1000-HA

High Accuracy Universal Length Measuring Machine

Characteristics

- Imported high accuracy reflection grating scale system from Germany, length value measured can be showed on computer to realize on time grating reading display.
- Temperature errors can be compensated on time.
- High quality granite base, with strong stiffness and stability without deformation.
- Equipped with complete accessories to satisfy various measurement applications and difference measurement requirements
- Square design main measuring axis is adopted to guarantee stability during movement when measurement was made.
- Automatic temperature compensation, with machine temperature and workpiece temperature real-time display.
- Special chart display window for inflection point in software interface, easy to operate.
- Calibration on gauges as per different standard such as GB, ISO, BS, ANSI, DIN and JIS.
- Built in Database of gauge block, ring gauge, plug gauge, caliper gauge, setting bar, scales & rulers, dial gauge etc up to 39 standard specifications. Satisfy wide calibration procedures and standards, and convenient for final result judgment according to relative standards and procedures.
- Measured results/data can be exported WORD and EXCEL with preset format with part name, part number, inspector, equipment number, calibration date etc.. Customer can compile their own report format.

Technical Parameters

Measuring range(mm): External size : 0 ~ 1000

Internal size : 30 ~ 920

Resolution: 0.05 μm

Accuracy:

± (0.2+L/1000) μm for outside dimension, (L is the measured length in mm)

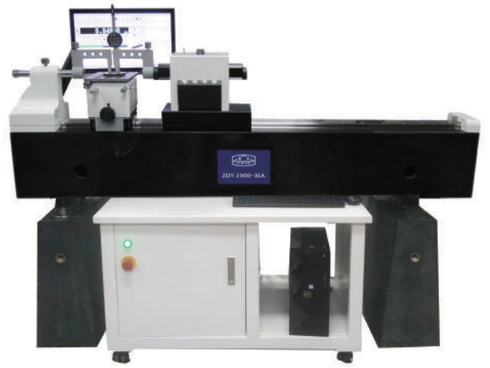
± (0.5+L/1000) μm for inside dimension, (L is the measured length in mm)

Variability of the instrument display value:

2σ ≤ 0.2 μm for outside dimension

2σ ≤ 0.5 μm for inside dimension

Measuring force(N): 0.5–2 with adjusting switches



Universal worktable :

Vertical travel	Transverse travel	Rotation	Tilting range	Max upload
0–70	0–40	> ± 3°	> ± 3°	30kg

Max external screw thread: M100

Max internal screw thread: M100

Min internal screw thread: M32

Abbe measuring movement range: ±8mm

Fitting size for the measuring cap s internal diameter: Φ6H7

Fitting outside diameter size between measuring rod and inside diameter of measuring cap: Φ6g6

Maximum holding diameter of center cradle (mm):

If length is in 0~170: Φ100

If length is in 170 ~ 210: Φ90

Maximum length of gauge block that allowed by supporting bracket: 1000mm

Maximum length of length bar that allowed by supporting bracket: : 1000mm

Maximum length of gauge block grinding coincide: 100mm

Overall size of instrument(mm): 1780 × 380 × 480 (L × W × H)

Working environment temperature requirement : Room temperature (20 ± 0.4) ℃; temperature fluctuation can not exceed 0.3℃ per hour

Calibration environment temperature requirement : Room temperature (20 ± 0.2) ℃; temperature fluctuation can not exceed 0.2℃ per hour

Minimum temperature balance time of tested unit in room: 48 hours

Max temperature difference between tested unit and testing machine & tools: 0.3° C

Power Supply: (220 ± 22) V, without inference, well connected to ground

JD60

Multifunctional ULM

Characteristics

- High–quality granite base with low temperature influence, good rigidity and stability.
- Equipped with comprehensive and complete measurement accessories to satisfy wide range of measurement applications.
- The imported guide rail and high precision counting system are adopted to achieve high measuring accuracy;
- The measuring spindle adopts optimized square design to ensure the stability of the motion performance during measurement;
- The measuring force is constant and the repeatability is good;
- Equipped with temperature sensors, enabling automatic correction of the real–time compensation of temperature error;
- The certificate format is customized as needed to facilitate users;
- Built in multiple international standard providing different reference

Technical Parameters

Range of measurement (mm)

a. External dimension

Absolute measurement 0 ~ 100

Relative measurement 0 ~ 600

b. Internal dimensions:

Use small measuring hook (maximum extend depth of 12, maximum wall thickness of 50) 10–600

Use big measuring hook (maximum extend depth of 50, maximum wall thickness of 85) 30–600

Measured with a electrical measuring device (mm):

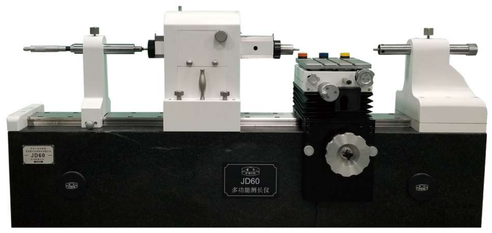
a.Electrical measuring hook 1 ~ 60

b.Use universal measuring hook 14 ~ 112

Double–hook internal thread measurement (standard configuration) (mm):

a.Pitch diameter measurement of internal thread

When using small measuring hook (minor diameter of the thread is 13 to 30)



When using big measuring hook [minor diameter of the thread is 31 – (70 – wall thickness) × 2]

Pitch 0.5–6

b.Pitch diameter measurement of external thread:

Up to 200

Screw Pitch 1–6

Image T–shape measuring head for internal thread measurement (Optional VTD and motorized worktable up and down, digital display for selection):

Range of measured thread (mm): M5 – M75

Range of measured screw pitch (mm): 0.5, 0.75,1, 1.5,2,3,4,5,6

Measuring force (N): 0, 1.5, 2.5

Instrument indication variability

a. When measuring external dimensions: 2σ ≤0.3μm

b. When measuring internal dimensions: 2σ ≤0.5μm

Instrument accuracy

a.In case of absolute measurement of external dimensions, the instrument accuracy is superior to:

0.5μm (20℃±0.2℃)

b. In case of measurement of internal dimensions, instrument accuracy is superior to: 1μm

Universal workbench

a. Installation area: 164×200 mm

b. Height adjustment range:0 ~ 70 mm

c. Transverse stroke (value of division of 0.01):25 mm

d. Longitudinal floating travel at horizontal position: 10 mm

e. Tilt around Y axis: ±3°

f. Rotation of worktable: ±3°

g. Allowable load: 30 kg

h. Worktable lifting digital resolution: 1μm or 0.1μm (optional)

Matching dimension for inner diameter of measuring cap: Φ6H7

Outer diameter of measuring cap rod for matching inner diameter of measuring cap: Φ6g6

Overall dimensions of instrument (mm):

1225×400×680(L×W×H)

Environmental requirements:

Ambient environment requirements: Room temperature 20 ℃ ± 1℃, relative humidity ≤ 60% RH

JD9A 1–M Projection Length Measuring Machine

JD21 2–M Projection Length Measuring Machine

JD10A 3–M Projection Length Measuring Machine

Characteristics

- High–quality cast iron is adopted as base, which has been undergone natural aging treatment to guarantee its sufficient steely property and stability.
- Use Eppenstein optical principle to carry out real time correction of Abbe errors thus guarantee the accuracy of measurement.
- A new projection system is adopted for the projecting readout screen to get a clear and vivid images.
- Worktable can be moved, turned around and deflected in all directions, convenient for the inspection of various shapes of parts.
- Provide complete range measuring accessories to achieve wide application.

Technical Parameters

Measuring range (mm)

Measuring range	JD9A	JD21	JD10A
External sizes	0–1000	0–2000	0–3000
Internal sizes	13.5–900	13.5–1900	13.5–2900

Depth of small and large measuring hooks: 5–50

Measurement on pitch diameter of external–thread : 0–140

Minimum division value: 0.001mm

Accuracy on outer size's measurement

Readout errors of division value in micrometer:

Within ±60μm ≤ ±0.20μm

Exceed ±60μm ≤ ±0.25μm

Readout errors of division value in millimeter:

≤ ±(0.6+L/200) μm

Readout errors of division value in decimeter:

≤ ±(0.5+L/100) μm ,

of which, L= length measured, unit:mm

Display value variety of the Abbe axis

Measurement of external sizes: ≤ 0.1μm

Measurement of internal sizes: ≤ 0.5μm

Measuring forces (N)

Measurement on external sizes: 2±0.4

Measurement on internal sizes: 1.5~2

Universal worktable

Vertical stroke: 0~70mm

Horizontal stroke: 0~40mm

Longitudinal floating stroke of horizontal position: 10mm

Division value of horizontal micro–drum: 0.01mm

Load capacity : 10kg

Maximum diameter gripped by the tailstock (mm)

When the length between 0~170, ϕ140

When the length between 170~210, ϕ130

V–shape support

Height adjustment : > 28mm

Diameter spec of the supporting workpiece : Up to ϕ30 mm

Support frame for the gauge block: Up to 1000mm

Working range of V–shape iron: Up to ϕ45 mm

Gauge block grinding coincide range: Up to 100mm

Ambient environment requirement:

Room temperature: 20℃±1℃

Relative humidity: Not more than 60%

Overall sizes & weight of the Instrument (mm):

Model	Overall size (mm)	Mainframe weight(kg)	
		Mainbody	Accessories
JD9A	1980×450×750	650	300
JD21	2980×450×800	1200	300
JD10A	4000×450×850	1800	300



JDS1000 1–M Optical Grating Length Measuring Machine
JDS2000 2–M Optical Grating Length Measuring Machine
JDS3000 3–M Optical Grating Length Measuring Machine

Characteristics

- Imported precision grating linear is used as measuring unit, with good stability, lower heat dissipation, corrosion resistance and contamination resistance.
- Expansion coefficient of grating linear material is same as steel, minimize the effect of ambient temperature.
- Computer data processing technology, combined with one dimensional measuring software to carry out various measurements in high efficiency.
- Worktable can be moved, turned around and deflected in all directions, convenient for the inspection of various shapes of parts.
- With inclination detection sensor, software achieves real time compensation of Abbe error.
- Equipped with temperature sensor, software achieves real time compensation of temperature effects.

Technical Parameters

Measuring range (mm)

Measuring range	JDS1000	JDS2000	JDS3000
External sizes	0–1000	0–2000	0–3000
Internal sizes	30–900	30–1900	30–2900

Measurement on pitch diameter of external thread : 0–140mm

Measurement resolution: 0.1μm

Readout error: ±(0.5+L/200)um

of which, L= measured length, unit:mm

Universal worktable (mm)

Vertical stroke: 0~70

Horizontal stroke: 0~40

Longitudinal floating stroke of horizontal position: 10

Rotation: > ±3°

Deflection: > ±3°

Division value of horizontal micro–drum: 0.01

Load capacity : 10kg

Abbe axis movement range: ±10mm

Measuing forces (N) : 1.5 2.5

Maximum diameter gripped by the tailstock (mm)

When the length between 0~170, ϕ140

When the length between 170~210, ϕ130

V–shape support

Height adjustment: > 28mm

Diameter spec of the supporting workpiece : Up to ϕ30 mm

Support bracket for the gauge block: Up to 1000mm

Working range of V–shape support: Up to ϕ45 mm

support frame for gauge bar : Up to 1000mm

Support frame for the gauge block: Up to 1000mm

Gauge block grinding coincide range: Up to 100mm

Ambient environment requirement:

Room temperature: 20℃±1℃

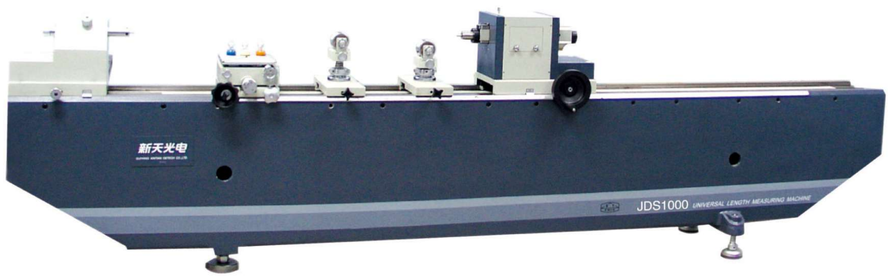
Relative humidity: not more than 60%

Fitting size for the measuring cap's internal diameter : Φ6H7

Size of outer diameter between the reference rod and the measuring cap's internal diameter : Φ6g6

Overall Sizes & weight of the Instrument (mm):

Model	Overall size (mm)	Mainframe weight(kg)	
		Mainbody	Accessories
JDS1000	1980×450×750	650	300
JDS2000	2980×450×800	1200	300
JDS3000	4000×450×850	1800	300



JDJ1000 1–M Laser Length Measuring Machine
JDJ2000 2–M Laser Length Measuring Machine
JDJ3000 3–M Laser Length Measuring Machine

Characteristics

- Enclosed box structure, high–quality cast iron is adopted for the base of the instrument to get adequate rigidity and stability.
- Renishaw Laser Interferometer is adopted as measuring basis, which is completely conform to Abbe Principle, thus achieve higher measuring accuracy.
- This instrument is equipped with auto–compensation system for the ambient temperature, which can compensate measuring errors caused by temperature automatically.
- The computer data processing technology combined with one–dimensional measuring software to carry out various complicated measurements in high efficiency.
- Equipped with multiple accessories such as measuring hook, tailstock, V–shape support etc. to realize precise measurements for various internal and external sizes.

Technical Parameters

Measuring range (mm)

Measuring range	JDJ1000	JDJ2000	JDJ3000
External sizes	0–1000	0–2000	0–3000
Internal sizes	30–900	30–1900	30–2900

Measurement on pitch–diameter of external thread : M140

Measurement resolution : 0.1μm

Readout error:

External sizes: ±（0.5+L/500）μm

Internal sizes: ±（1.5+L/500）μm,

(of which, L= length measured, unit:mm)

Renishaw XL–80 Laser Device

Accuracy on linear measurement: ±0.7ppm

Resolution on linear measurement: 0.001mm

Long time frenquency stabilization : ±0.05ppm

Universal worktable (mm)

Vertical stroke: 0~70

Horizontal stroke: 0~40

Longitudinal floating stroke of horizontal position: 10

Rotation: > ±3°

Deflection: > ±3°

Division value of horizontal micro–drum: 0.01

Load capacity : 10kg

Movement range of Abbe axis: ±25mm

Measuring force (N) : 1.5 2.5

Fitting size for the measuring cap ś internal diameter : Φ6H7

Size of outer diameter between the reference rod and the measuring cap ś internal diameter : Φ6g6

Maximum diameter gripped by the tailstock (mm)

For length in 0~170, ϕ140 mm

For length in 170~210, ϕ130 mm

V–shape support

Height adjustment : > 28mm

Diameter spec of the supporting workpiece : Up to ϕ30 mm

Support brocket for the gauge block: Up to 1000mm

Working range of V–shape support: Up to ϕ45 mm

Ambient environment requirement

Room temperature: 20℃±1℃

Relative humidity: Not more than 60%

Overall size & weight of the Instrument (mm):

Model	Overall size (mm)	Mainframe weight(kg)	
		Mainbody	Accessories
JDJ1000	1980×450×750	650	300
JDJ2000	2980×450×800	1200	300
JDJ3000	4000×450×850	1800	300



JDQ

Flotation Optical Grating Length Measuring Machine

Characteristics

- Digital display of grating linear scale, steel tape reflecting optical grating linear scale sticked to the datum plane of measuring body, the measured length results shown on computer screen.
- Real time compensation of temperature error, equipped with temperature sensor, so computer can carry out real–time compensation for temperature error automatically.
- High quality granite base with good rigidity and stability.
- Main measuring axis adopts optimized square design to assure the stability of movement performance during measurement.
- Prompt facility offers real time measuring operation status.
- Inflexion point chart window of software offers convenient operation.

Technical Parameters

Measuring range (mm)

Model	JDQ1000	JDQ2000	JDQ3000	JDQ6000
External sizes	0–1000	0–2000	0–3000	0–6000
Internal sizes	30–900	30–1900	30–2900	30–5900

Digital display equivalence and accuracy of instrument

Digital display equivalence：0.2μm

Accuracy of instrument：

±(0.5+L/200) μm

(of which,L is the length to be measured, in mm.)

Movement range of Abbe measuring axis： ±10mm

Measuring force：1.5N or 2.5N

Fitting dimension of internal diameter contact cap：Φ6H7

Fitting dimension between measuring rod and contact cap：Φ6g6

Universal worktable：(mm)

Vertical travel：70mm

Transverse travel：40mm

Floating stroke of horizontal position：10mm

Rotation：＞ ±3°

Deflection：＞ ± 3°

Division value of horizontal micro drum：0.01mm

Load capacity：10kg

Maximum holding diameter of center cradle

For length in 0～170mm：Φ140

For length in 170～210mm：Φ130

V–shape support

Adjustment height：＞28

Diameter spec of the supporting workpiece：up to Φ30

Support bracket for gauge block：Up to 0~1000

Support bracket for length bar：Up to 0~1000

Gauge block support：gauge block grinding coincide range:

Up to 100

Working range of V–shape support :Up to Φ45

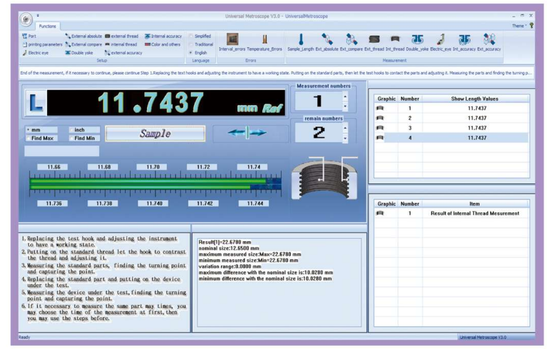
Overall size & weight of the Instrument (mm):

Model	Overall size (mm)	Mainframe weight(kg)	
		Mainbody	Accessories
JDQ1000	2200×510×750	1500	300
JDQ2000	3200×510×750	2100	300
JDQ3000	4200×510×750	2800	300
JDQ6000	7200×510×750	4400	300



Introduction for the Software Function of Universal Metroscope and Length Measuring Machine

- The software has the function of temperature correction.
- It has the function of segment compensation.
- It can display the change of length in diagram bar,Thus help to find the inflexion point easily.
- The measuring results can exported to Excel
- Function for external absolute dimension measurement
- Function for external dimension comparison measurement
- Function for measuring the workpiece with external thread (Metroscope)
- Function for measuring the workpiece with internal thread (Metroscope)
- Measuring internal dimension with double yokes
- Measuring the hole by “Magic eye” (Metroscope)
- Inspecting the accuracy of external dimension.
- Inspecting the accuracy of internal dimension.
- Display, save, modify and delete the coordinate point



Accessories


Spherical measuring head


Plane measuring head


Knife–edge measuring head

Optimeter Accessories


Supporting brackets for gauge block


Circular ribbed worktable


Circular planed worktable


Square ribbed worktable


Assistant worktable

Accessories for Length Measurer


Small measuring hook
Large measuring hook


Elastic measuring hook


Universal measuring hook


Tailstock frame


Cross rack

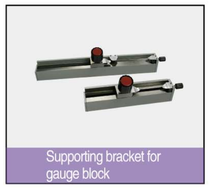

Floating worktable


Electronic measuring (magic-eye)


Electronic measuring hook

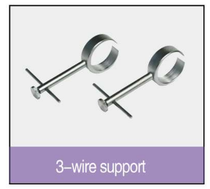

Standard ring-gauge


Gradient steady rest


Supporting bracket for gauge block

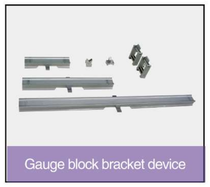

V support


Dial gauge support


3-wire support

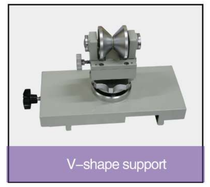

High shimming block

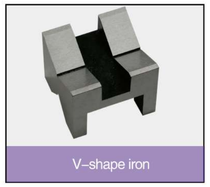
Accessories of Length Measuring Machine


Gauge block bracket device


Measuring yoke


Tailstock frame


V-shape support

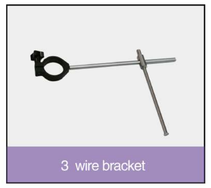

V-shape iron


Auxiliary worktable


Gauge bracket


Gauge block clamping group


Screw clamping plate


3 wire bracket

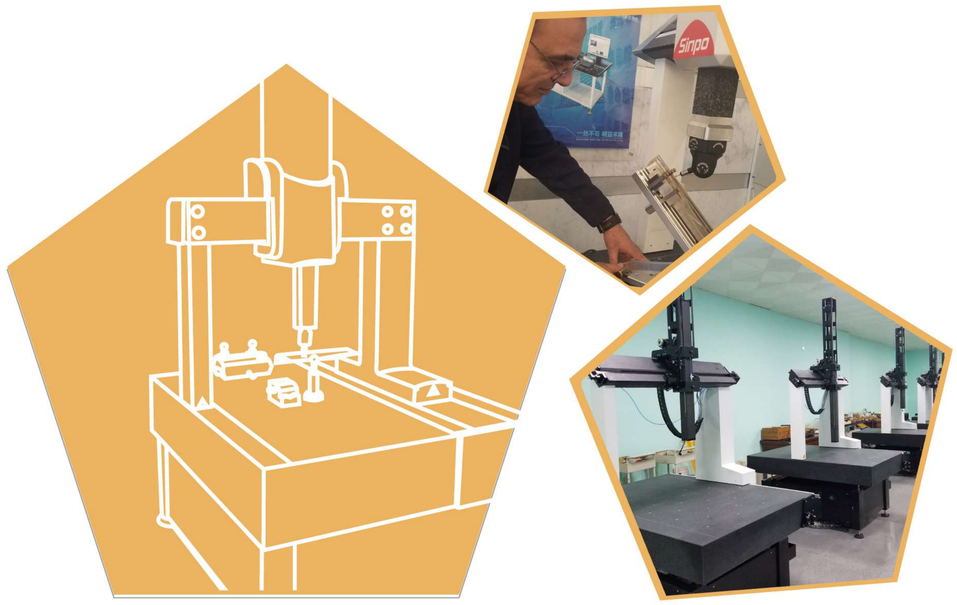
Overview of Three-coordinate Measuring Machine

The three-coordinate measuring machine is a multi-functional precision measuring instrument integrating light, machine, electricity and calculation, and it represents the testing trend in the field of modern geometric measurement.

As one of the first batch of domestic enterprises developing and manufacturing three-coordinate products, Xintian Optoelectronics manufactured the first JS 05 three-coordinate measuring machine in China as early as December 1984, which passed the ministerial certification of China and won the third prize of the Science and Technology Achievement Award of the Ministry of Machinery Industry and Technology in 1985. In 1993, the Company independently developed JS 866 three-coordinate measuring machine.

The above products can be widely used in first piece inspection, final inspection, process and fixture calibration, process control and reverse engineering applications in the industry, and can very effectively complete the measurement of box workpiece and curved surfaces of complex contour. Their high intelligence not only improves testing efficiency and measurement accuracy, but also allows you to choose different measurement methods according to different product characteristics by equipping them with a variety of measuring heads, measuring seats, laser scanning heads, optical CCD heads and highly intelligent software. Whether in pursuit of economical and practical application, or for high precision, high efficiency, or large travel, we will provide you with the most suitable model.

When you choose our three-coordinate measuring machine, you will not only have the latest and fastest measurement solutions, but also have our technology R&D team and after-sales service team consisting of 30 professionals available for you at any time to provide the best solutions to all the difficulties you encounter in the process of use.



CLASSIC SERIES

Three Coordinate Measuring Machine Series

Characteristics

- CLASSIC series three–coordinate measuring machine is the latest generation of three–coordinate measuring machine jointly designed and developed by us together with our British partner.
- JSC series CMM adopts advanced FeA technology and high precision Rectangular beam design .And the slide support adopts totally enclosed air flotation of all sides to get a good strength but light weight and organ type anti dust design can provide a good anti dust performance.
- Adopts high strength, light weight all enclosed moving bridge design, simple structure while compact to realize good upload capacity, movement performance. Whole machine adopts 7075 hard Aluminum alloy for main body to get a good dynamic performance and response.
- Excellent granite integrated worktable, grade 000 accuracy to make micron accuracy flatness and strong enough to give support for required capacity. The bench mark of worktable is parallel with Y guiderail to make sure the bench base is keep same level with guiderail bench.
- Y guiderail is forked tail design, main/vice guide rail level parallel, to minimum the error generated during movement.
- X/Y/Z adopts self clean , preload, high accuracy and multi holes air bearing/ static air flotation guiderail. Multi holes air flotation is 30% exceeds in upload, 40% in strength curve than single hole. Special design can realize small resistance, low wear to guarantee stable movement.
- RENISHAW RTLC+FASTRACK+Vionic position feedback system, get quick response on temperature change and activate real time compensation to achieve a smart management on error compensation. Minimize the bad effect by temperature.
- Patent technology of reference point calibration system, simple to mount by pull in installation and disassembly. Optimize the procedure for machine calibration. The reference bench mark record can find the original reference position and finish secondary reset, thus enhance machine operation accuracy and usage efficiency, ease operation.



- Powerful software Rational DMIS provide complete and comprehensive measurement functions and online function to provide customer perfect measurement solution.

Technical Parameters

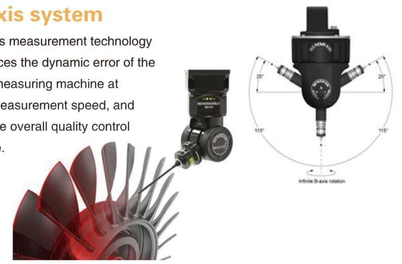
Measuring range (mm)	X axis，from 500 to1200	
	Y axis，from 600 to 2000	
	Z axis，from 400 to 1000	
Accuracy	Common	High
Measuring Error	≤2.2＋3.3L/1000 μ m	(1.2+L/350) μ m
Probe Error	≤2.2 μ m	1.2 μ m

Measuring head and control system

All models of the machine support the full series of measuring head configurations from a single measuring head to an automatic continuous scanning head system, and can be customized according to the actual measurement requirements of the customer.

Five–axis system

The five–axis measurement technology greatly reduces the dynamic error of the coordinate measuring machine at ultra–high measurement speed, and enhances the overall quality control performance.



Automatic measuring seat



Measuring module



Three–axis trigger measuring head



Three–axis scanning measuring head

Manual measuring seat



Controllers



Drive system

- Drive by the DC servo motor, the 3 axes can move according to the speed T curve or S curve without clearance and vibration.
- The measuring head interface circuit is compatible with various types of trigger measuring heads, analog scanning measuring head and non–contact measuring head, and can support different models of head products of many companies.
- The control system provides multiple control modes to prevent the occurrence of galloping accidents, and has the online fault diagnosis function.
- It can realize TP SCAN function, that is, the ordinary trigger measuring head achieves scanning measurement. It can track and scan the unknown curves and surfaces.
- It can take both straight or circular arc paths, enabling the scanning of circular workpieces.
- The control system is stable and reliable, and easy to maintain.
- Humanized design of the control box.



Three–coordinate software measurement system

About RationalDMIS measuring software system

- RationalDMIS Is a new generation of three–coordinate measurement software independently developed by us. Once launched, it was highly evaluated by CMM industry experts for its intuitive, powerful and efficient characteristics, and also won the dependence of the majority of users.
- RationalDMIS has passed the certification of ta world famous measurement and testing research institution, PTB from Germany, so the reliability and effectiveness of its algorithm have been authoritatively recognized. It fully meets the DMIS standard and ISO22093:2003.
- A set of RationalDMIS, a complete set of solutions! It can fully support the I++ protocol control system or other multiple control equipment. It features friendly and simple software interface, unique drag–and–drop operation, seamless docking with CAD data, 100% graphical display from measurement to output report, and object–based rapid programming testing, users able to quickly master without too much professional knowledge.

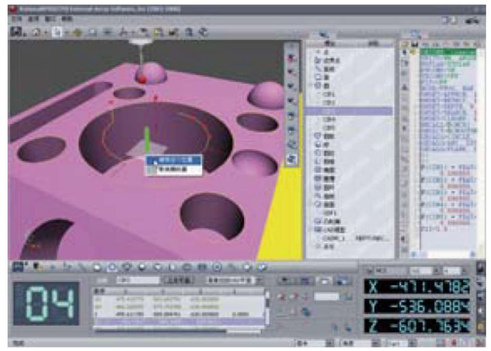
RationalDMIS features

- Intuitive and simple interface
- Unique, intuitive and simple user interface
- No popups
- No tedious input and output process
- Avoid interface redundancy caused by multiple window popups



Easy and Efficient Operation

- Mouse click + mouse drag = the implementation of the powerful function
- Graphic area, data area, operation area real–time association, simple "mouse click", can identify all elements on CAD, complete the program fast editing and other functions.
- The "Drag and Drop" operation simplifies the operation process to the greatest extent, whether measuring head check, element measurement, establishment of coordinate system, construction of elements, calculation of tolerances, output of statements, etc. can be completed by simply dragging and dropping the mouse to, make the operation so easy.

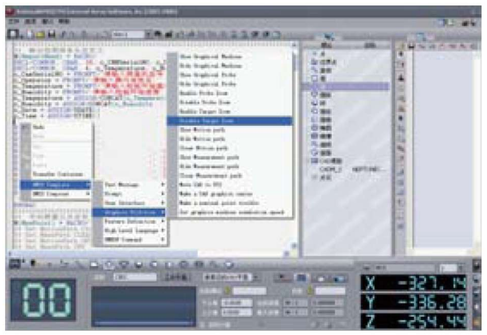


100% graphical presentation



Strong function

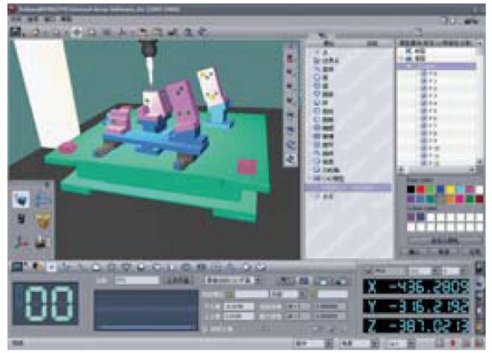
- 100% DMIS kernel
- DMIS 5.0 programming
- DMIS self–learning program
- DMIS format import/export
- Quick programming based on graph objects
- Support for both offline and online programming status
- DMIS Chinese display, embedded DMIS Chinese and English fast translation

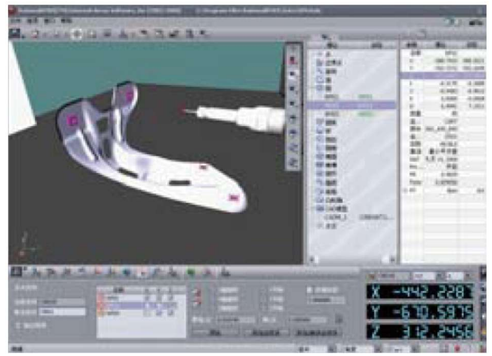


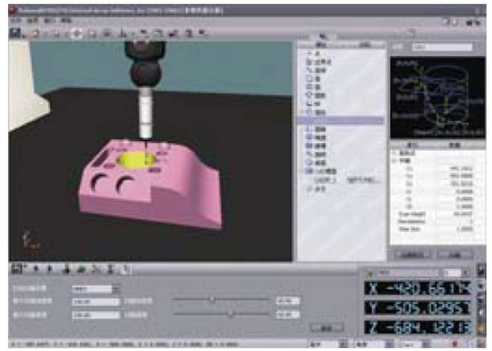
Seamless link to the CAD data

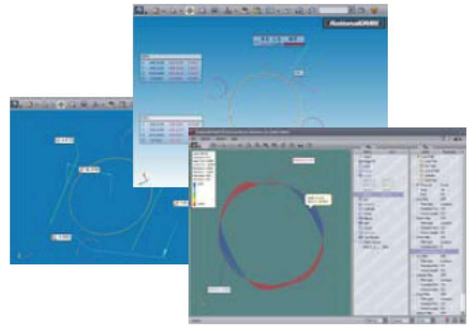
- Intelligent testing
- Continuous scanning
- Various methods of creating coordinate systems
- Strong element construction ability
- Complete and fast tolerance calculation
- Rich variety of output reports

.....

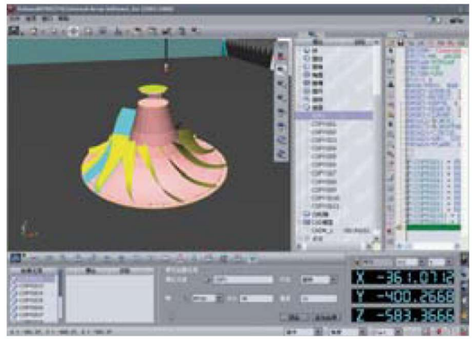


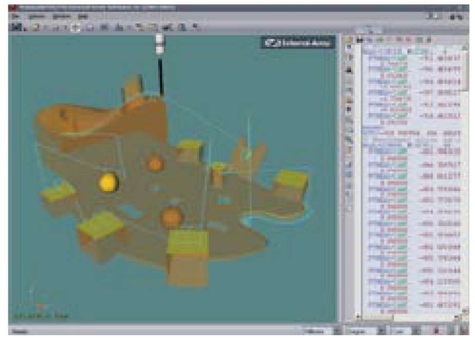










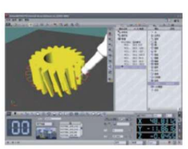


VI The series of Other Instruments

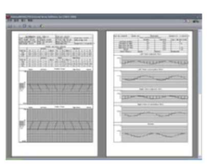
Xecute–workshop dedicated CMM software interface

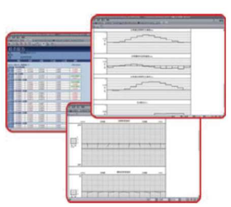


- SPC module: for the quality statistical analysis of products
- CCD module: for graphic analysis and composite measurement
- Laser scanning module: often used in high–speed, high–precision reverse engineering
- Gear module: for the testing of the cylindrical involute gear. Including: internal straight teeth, external straight teeth and external oblique teeth
- Management module: for the testing and analysis of automobile pipelines and oil transmission management
- Cam module: for the testing and analysis of cams/camshafts
- Blade module: for the testing and analysis of aviation blades and nuclear power blades









Touch screen: The operator can use the touch screen to complete most of tests at the measuring machine terminal.



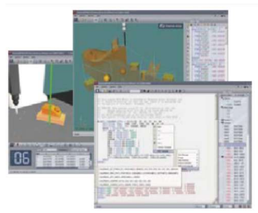


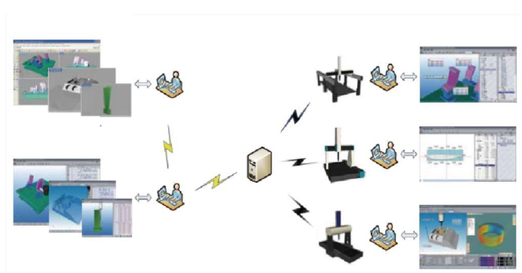


Network statement: view test data and edit output statements on other computers in real time via LAN



Network programming: allow programmers to program DMIS parts on other computers through LAN.

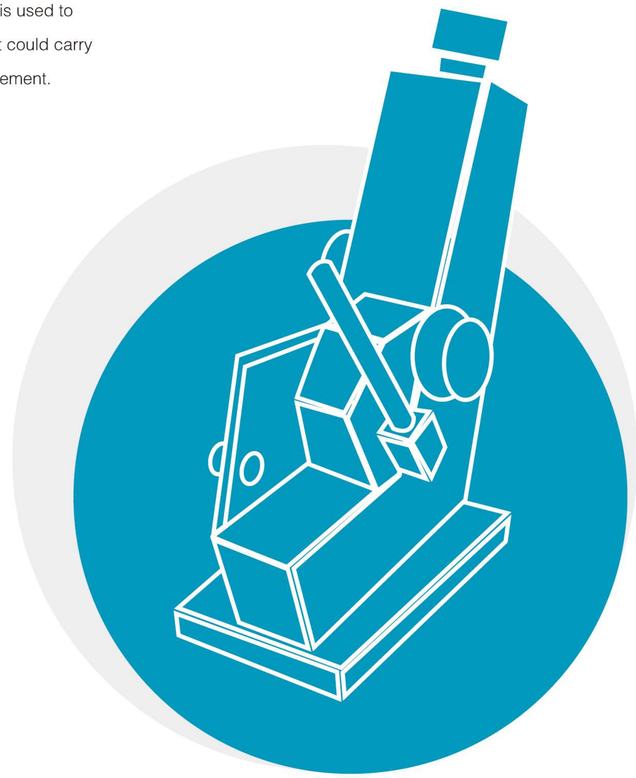




Overview of Other Instruments

In addition to these 6 series instruments mentioned previously, our company also produces a wide range of measuring products. They are Intellgent Height Gauge, Inclinometer, Optical Dividing Head, Cutter Tester, Dial Gauge Tester etc.,what's more,we also supply necessary optical componens for measuring machines & instruments. Here following we would like to give you a brief presentation on these products.

Optical Inclinometer, based on the bubble cells theory, is a kind of instrument to measure angles directly. The Optical Dividing Head is a precision metric instrument to carry out angular indexing or angle inspection on the workpieces clamped on main shaft. Cutter Tester is used to detect various parameters especially focusing on workpieces processed by cutters. Dial gauge Tester is used to calibrate most of the dial gauge with high efficiency.It could carry out two dimensional and measurement angle measurement.



CX15V

Vision Cutter Tester

Application

CX15V Series is a new kind of measuring instrument that developed for cutter and tool industry. Adopting the latest machine vision imaging technology and processing software, they are the practical, efficient measuring machines that are suitable to use in factory environment. They are mainly used to measure geometrical dimension and dimensional control in production process. For example, to measure the rake angle, clearance angle, blade width, helical angle etc. of cylindrical cutters (milling cutter, reamer, drill etc.) .

Characteristics

- Stable granite working reference platform.
- With slider rail on X and Z axis direction and precision screw thread drive on X and Z direction, it can aim at the cutter’s profile accurately, stably and comfortably.
- With precision digital rotary measuring table.
- Different optional accessories can be choosed, which makes measurement more quickly and widely.
- Surface light source projection measurement.

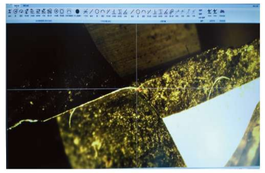
Technical Parameters

Measuring range (mm)：120×100
Resolution (mm)：120×100
Accuracy of the machine：8um (optional 5um)
Lens magnification：0.7X~4.5X
Additional lens：0.5X
Precision digital rotary measuring table：Rotate360°，Resolution6″
Accuracy of stage：Grade I platform
Accuracy of V-block：Grade I
Stage max. load capacity(kg)：≤20
Light source：Dual LED cold lighting source
Overall dimension(mm)：540×350×350
Cutter rotation measuring accessory：1 Set
Ring reflecting illumination：1 Set



Software Introduction of Vision Cutter Tester

- It support screen fast measurement and automatic edge measurement, easy to learn and operate.
- Angle function: angle in horizontal direction(acute angle,obtuse angle), angle between vertical direction (acute angle,obtuse angle), double edge angle etc. It can measure rake angle, clearance angle, helical angle, gash angle, thread form angle etc.
- Dimension measurement: it can measure circle, arc, distance between two points, distance between point and line, distance between two lines, diameter, length, blade width, core thickness, tap diameter, bottom diameter.
- Template function: the CAD template can be imported to software to compare with the actual vision.
- According to the tool characteristics, the cross line can be rotated arbitrarily. Any angle crossing line can be added based on cross line, it can measure cutting tools conveniently and rapidly.
- The measuring results can be exported to Excel or Word files to print out.



CX15

Cutter Tester

Application

This instrument is a new product developed for tool and tool industry. It’s a kind of inspection apparatus widely used in factory workshop with high efficiency. Its main application is online measurement of geometrical parameters such as anterior angle, relief angle, blade width and helical angle of cylinder cutters (milling cutters, wring cutters and aiguilles) produced by tool factory.

Characteristics

- Stable and open die castiron worktable can reach the rapid and accurate online inspection.
- Moving directions of X and Y adopt “V” shape straight line guide rails. X direction adopts precision lead-screw driving to aim cutter profile movements with more comfortable feeling and more stable indicated value.
- X direction has metal protective cover and Z direction adopts organ type protective housing. So the appearance is beautiful.
- Rotatable “V” iron measuring worktable is equipped with indicated scale of coarse adjustment and can locate in any positions among the range of 90° . With the “V” shape iron attachment, the measurement becomes faster and has wider application.
- It adopts ergonomics 45° image inspection method and latest reticule marking technology. Therefore, the marking line is finer and aiming is more accurate.
- The supporting feet changed to freely adjustment type. So the adjustment becomes convenient.
- The readout equipped with bracket. The user can mount it or take off it at his disposal.
- LED and Halogen lamp illuminating light source provided for user’s selection.



Technical Parameters

Measuring range：
X coordinate travel： 150mm, Z coordinate travel: 50mm
Display equivalent of X and Y： 0.001mm
Accuracy of indicated value：
(8+L/20) μm，(L is the length unit：mm)
Objective magnification：0.5X, 1X and 2X
View field diameter corresponding to the magnification：
φ30 φ15 φ7.5
Measuring range of the index plate： 0° ~ 360°
Measuring accuracy of CX15 index plate：6′
The rotation of the V iron slide range：≥90°
Worktable precision：1-grade stage
Precision of V-shape block：one-grade
Load capacity：≤20kg
Overall size：540mm×350mm×350mm(L×W×H)

JJ2A

Digital 2″ Index Head

Characteristics

- Renishaw circular raster is adopted as the basis of angle measurement.
- Resolution of digital display of angle is 1″ , with high measuring precision.
- The angle measured can be displayed in degree, minute and second in digital readout.
- Double–globe spherical bearing is used in the main shaft of index head,realize smooth running and strong wear and abrasion resistance.
- Granite or cast iron base available for selection.

Appliation

JJ2A Digital 2″ index head is a precision optical instrument to graduate and inspect the angle of work piece clamped in the main shaft, suitable for the inspection on cam, gear, leading screw and irregular parts. In addition, it is equipped with special accessories to measure cam lift and geometric shape.

Technical Parameters

Range of measurement: 0° ~360°

Resolution of digital display of angle: 1″ or 0.0001°

The measurement accuracy: 4″

Temperature requirement: 20℃ ± 3℃

Relative humidity: 40%~60% RH

Central height of thimble: 150 mm

Center distance of thimble: 1000 mm

Adjustment range of main shaft pitch: 0° ~90°

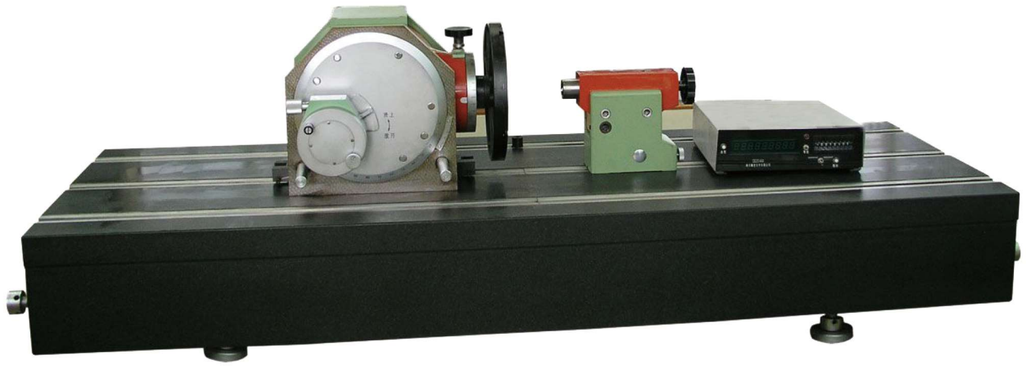
Size of main shaft taper: Morse 4#

Size of tailstock taper: Morse 4#

Central height of tailstock: 2 mm adjustable

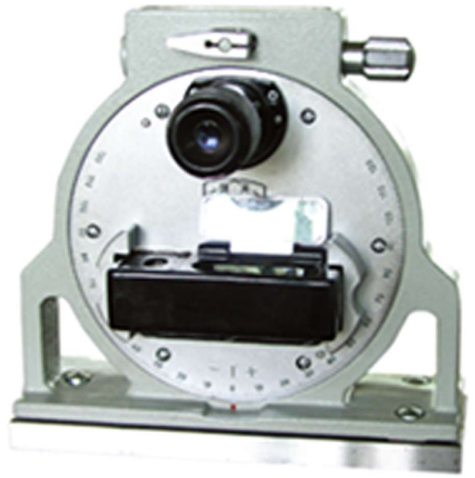
Dimension(mm) 1650 × 600 × 590 (L × W × H)

Mainframe Weight: 650 kg



JJ4

40″ Optical Inclinometer



Characteristics

- High in measurement accuracy; with a bubble cell of high sensitivity and a fully–enclosed optical dial disc adopted.
- Convenient in readings; with dial and micrometric video data simultaneously displaying on the eyepiece field.
- Good in stability; The base plate of the instrument is of high hardness and good wear resistanle.
- Portable type.The natural light is adopted to illuminate,without any electricity supply.

Application

The optical inclinometer is a kind of metric meter to measure the angular position between the plane (or cylinder face) placed and the level surface in the space. Its is mainly applied in:

- Mechanical installation and leveling engineering and horizontal trim of the deck plate for machine tools;
- Measuring and detecting 3 rotary angles of the worktable for machine tools and the inclined angle between large–scale structures;
- Checking the vertical deviations and their relevant depths of parallelism in front, back, left and right for machine tools;
- Measuring angles and their rotary angles of larger parts.

Technical Parameters

Instrument accuracy: 40″

Span of metal dial scale: 1°

Span of glass dial scale: 1°

Minimum value of division: 1′

Scale span of long bubble cell: 30″ /2mm

Scale span of horizontal bubble cell: 4′ /2mm

Measurement Range: ± 120°

Dimension(mm): 182 × 182 × 114mm

JDY-D/DP

Electronic Dial Gauge Tester

JDY-Z/K

Full Automatic Dial Gauge Tester

Characteristics

- High in measurement accuracy,with a bubble cell of high sensitivity and a fully–enclosed optical dial disc adopted.
- Convenient in readings; with dial and micrometric video data simultaneously displaying on the eyepiece field.
- Good in stability; The base plate of the instrument is of high hardness and good wear resistanle.
- Portable type.The natural light is adopted to illuminate,without any electricity supply.

Application

Dial Indicator Tester makes the calibration work more visual and quantitative by digital read out and computer control method. Enhance calibration efficiency and quality, thus reduce the operator,s working strength.

JDY–D/P Tester

Equipped with big LCD, smart operation instruction;

Built in data memory, min printer and USB2.0 communication port, convenient to print, save and export all recorder.

JDY–Z/K Tester

Adopts AI and machine vision technology, recognizes reading of the calibrated dial gauge automatically. Whole calibration is complete automatic operation

Equipped with USB2.0 port, realize on time data collection, transfer, display and calculation. With Data back up and recover function.

Motorized movement forth or back of the dial gauge in the calibration, image processing system recognizes readings of the dial gauge without operator.

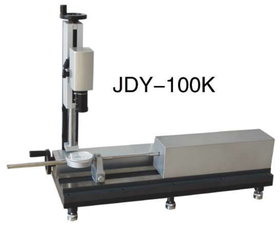
Calibration procedure is conform to National Standard on dial gauge, lever gauge, bore gauge and digital gauge etc..



JDY–50D



JDY–50Z/K



JDY–100K

Model	JDY–10D/JDY–10DP	JDY–50D/JDY–50DP
Measuring range	0–13mm	0–52mm
Resolution	0.1μm	
Display error	within10mm,≤1.0μm	within 10mm,≤1.0μm，within 50mm,≤2.0μm
Return error	≤0.4μm	
Power supply	AC220V，50HZ	
Environment temperature	(20±5)℃	
Weight(kg)	8	10
Dimension(mm)	320×155×230	410×175×230

(Model DP is equipped with USB port)

Model	JDY–50Z	JDY–50K	JDY–100K
Measuring range	0–52mm	0–52mm	0–104mm
Resolution	0.1μm		
Reading error	Betler than 0.1 graduation		
Calibration speed	0.5 sec/ point (adjustable)	0.3 sec/ point (adjustable)	
Display error	JDY–50Z:within 10mm,≤1.0μm，within 50mm,≤2.0μm，≤0.4μm for return JDY–50K:within 10mm,≤0.7μm，within 50mm,≤1.0μm，≤0.3μm for return JDY–100K:within 10mm,≤1.5μm，within 50mm,≤2.5μm，within100mm,≤5.0μm，0.4μm for return		
Communication method	USB2.0 high speed port		
Power supply	AC220V，50HZ		
Environment temperature	(20±5)℃		
Relative humidity	≤80%RH		
Weight (kg)	20	20	35
Dimension(mm)	480×220×450	480×220×450	675×230×450

Optics Parts



The Optics Manufacturing department of Guiyang Xintian OETECH Co., LTD is the production unit of optical comporents for measuring instruments,which has more than 50 years' manufacturing experiences on high precision optical elements. It produces high quality optical components for the optical measuring instments of ours own, but also produces components according to other metrology customer's requirements for all kinds of optical components.

Optical lens :

All technical parameters of sizes, angles and tolerances:

Curve error: N ≤2，△N ≤0.2

Surface defects: (pits, spots,scratch, open bubble, breaking point and breachs) B ≤Ⅲ

Deviation error of lens: C ≤0.01mm

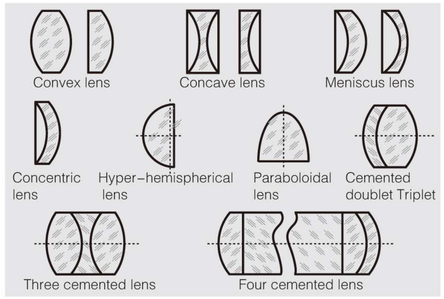
Thickness tolerance of lens center: △d ≤±0.03mm

Diameter tolerance of lens: f7

Diameter of processing capacty: φ3–φ170(mm)

We can coat anti–reflection coating of all wavelengths according to the requirement and the image ,Reflecting coating (concave–convex)

The image quality of cemented is very good



Prism :

All technical parameters of sizes, angles and tolerances:

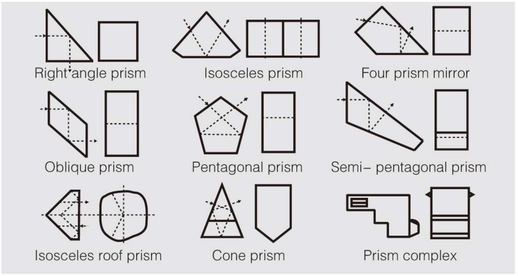
Angle error: ±1″

Surface shape error: N ≤1 △N ≤0.2

Optical parallel error : θ ≤5″

Surface defects of prism: (pits, scratch, open bubble, breaking point and breachs) B ≤Ⅲ

The image quality of cemented is very good



Graduation optical elements

All technical parameters of sizes, angles and tolerances:

All technical parameters of sizes, angles and tolerances:

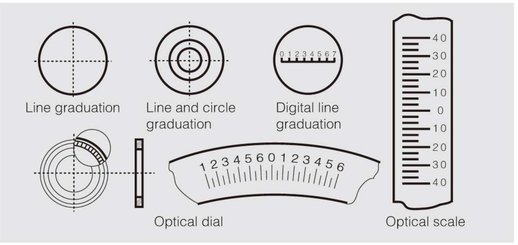
Finishing of graduation surface B=Ⅰ–0

Precision of the line width ±0.001

Distance error of any marking line ≤±0.001

The deviation of crossline center and center of outer circle ＜0.02

Graduate line according to the design requirements.



Planes elements:

All technical parameters of sizes, angles and tolerances:

Error of surface shape N ≤23，△N ≤0.3

Parallel error θ ≤3′

Defects of surface B ≤Ⅲ

Diameter of processed workpiece (mm) : φ3–φ800mm

The minimum depth of machined workpieces is 0.15mm

We can coat reflection coating or anti–reflection film of all wavelengths according to requirements.

