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Company Official Account

Shenzhen Lihe Precision Equipment Technology Co.,Ltd

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Company Profile

About US

Shenzhen Lihe Precision Equipment Technology Co., Ltd. (referred to as "Lihe Precision") was established in 2017, located in Shenzhen, Guangdong Province, dedicated to the research, production, and sales of high-end precision measurement equipment.

The core products of Lihe Precision mainly cover: 1) Providing a full range of high-precision coordinate measuring machine products, suitable for precision measurement and inspection of products in multiple industries; 2) Providing probe and probe holder with high positioning accuracy, high-speed and high-stability multi-axis motion controllers, and easy-to-learngeometric measurement software and other core components of coordinate measuring machines, replacing imports, achieving a perfect combination of economy and functionality; 3) Providing customers with advanced inspection technology solutions and non-standard customized solutions in all aspects.

Lihe Precision has achieved the localization of the complete technology of coordinate measuring machines and key components, breaking the foreign technology monopoly, and fully gaining global market recognition. The company has obtained the national high-tech enterprise qualification, Shenzhen specialized and sophisticated small and medium-sized enterprise qualification, obtained hundreds of national patents and multiple technical certifications, and also obtained multiple ISO international certifications. The company's core business is mainly applied in high-precision inspection and quality control in industries such as aerospace, automotive manufacturing, medical devices, electronic manufacturing mold manufacturing, energy industry, and mechanical manufacturing.

Lihe Precision will adhere to independent innovation, continuously develop advanced technologies and products, strive to become a world-class precision equipment manufacturing enterprise, and create greater value for customers and society.

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Product Introduction

Honors and Qualifications

Specialized and Sophisticated Small and Medium-sized Enterprises

National High-tech Enterprise Certification

Guangdong Province "Contract-abiding and Credit-worthy" Enterprise

Innovative Small and Medium-sized Enterprises

China's Leading Enterprise in Technological Innovation

Quality Management System Certification

Environmental Management System Certification

Intellectual Property Management System Certification

CF20 CE Certification

SC80 CE Certification

First Prize in the Enterprise Group of the11th China Shenzhen Innovation and Entrepreneurship Competition and the 6th Bao' an Innovation and Entrepreneurship Competition

First Prize in theEnterprise Group of the 11th China Shenzhen Innovation and Entrepreneurship Competition and the 6th Bao'an Innovation and Entrepreneurship Competition (Advanced Manufacturing Industry)

Outstanding Enterprise in the 8th China Innovation and Entrepreneurship Competition

Corporate Culture

Company Mission

Possessing independent intellectual property rights in core technologies of precision measurement, breaking the monopoly of foreign high-end precisionmeasurement instruments, and promoting the development of national industry in the fields of precision measurement and advanced manufacturing in China.

Company Purpose

Providing customers with the best precision measurement solutions and high-quality services.

Company Goal

Becoming a well-known enterprise in the fields of precision measurement and advanced manufacturing both domestically and internationally.

Company Philosophy

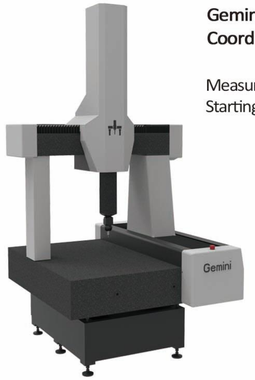
High-end complete machine, independent components, precise measurement, stable and reliable.

Product Series of Measurement Machines

(Note: All coordinate measuring machine models are uniformly equipped with temperature sensors)

Libra Series Ultra-High Precision Coordinate Measuring Machine

Measurement Accuracy:
Starting from 0.6μm



Gemini Series High Precision Coordinate Measuring Machine

Measurement Accuracy:
Starting from 0.9μm

Polaris-C Series Classic Coordinate Measuring Machine

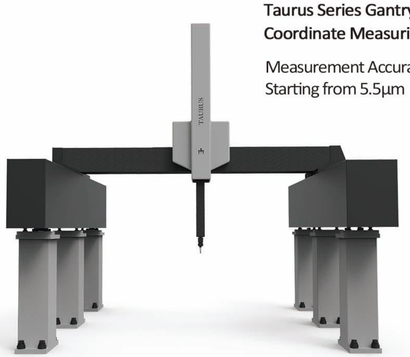
Measurement Accuracy:
Starting from 1.4μm

Pisces Series Standard Coordinate Measuring Machine

Measurement Accuracy:
Starting from 2.4μm

Aries Series On-Site Coordinate Measuring Machine

Measurement Accuracy:
Starting from 3.0 μm



Taurus Series Gantry Bridge Coordinate Measuring Machine

Measurement Accuracy:
Starting from 5.5μm

Hengjian 442 PRO Series Image Measuring Instrument

Measurement Accuracy: 1.3μm

Hengshan 3020 PRO Series Flash

iMeasuring Instrument Accuracy:
1.4μm

Application Fields

Lihe Precision is always committed to providing customers with the best precision measurement solutions and services. Its coordinate measuring machines are widely used in industries such as aerospace, military, research institutes, digital 3C, general machinery, mold manufacturing, automotive, rail transit, optical components, medical devices, and new energy.

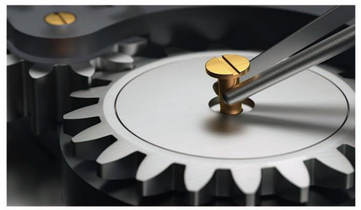
Digital 3C

Lihe Precision Coordinate Measuring Machines are suitable for measuring complex curved surfaces and geometric contours, easily meeting the precise and delicate measurement needs of the electronics industry.

Medical Devices

The safety of medical devices is of paramount importance. Using Lihe Precision Coordinate Measuring Machines, core components of medical devices that are very small, made of soft and transparent materials,and have complex shapes can be inspected, ensuring the superior quality of medical devices.

Precision manufacturing



Lihe Precision Coordinate Measuring Machines, with high accuracy, strong functionality, and good versatility, fully meet the inspection requirements of products in the precision manufacturing field, quickly and accurately achieving precision measurements in the manufacturing field, and can immediately present inspection results.

Rail Transit

Transportation vehicles such as high-speed trains have higher quality requirements, as errors and deformations in key components can affect normal transportation operations. For example, the braking system of high-speed trains can use large-travel gantry coordinate measuring machines to ensure accuracy.

Aerospace

Lihe Precision can flexibly handle the measurement of numerous precise mechanical components and equipment in the aerospace industry. For example, for the measurement of aircraft engine blades, a fixed bridge coordinate measuring machine equipped with a fixed scanning probe can be used to fully meet the measurement needs.

New Energy

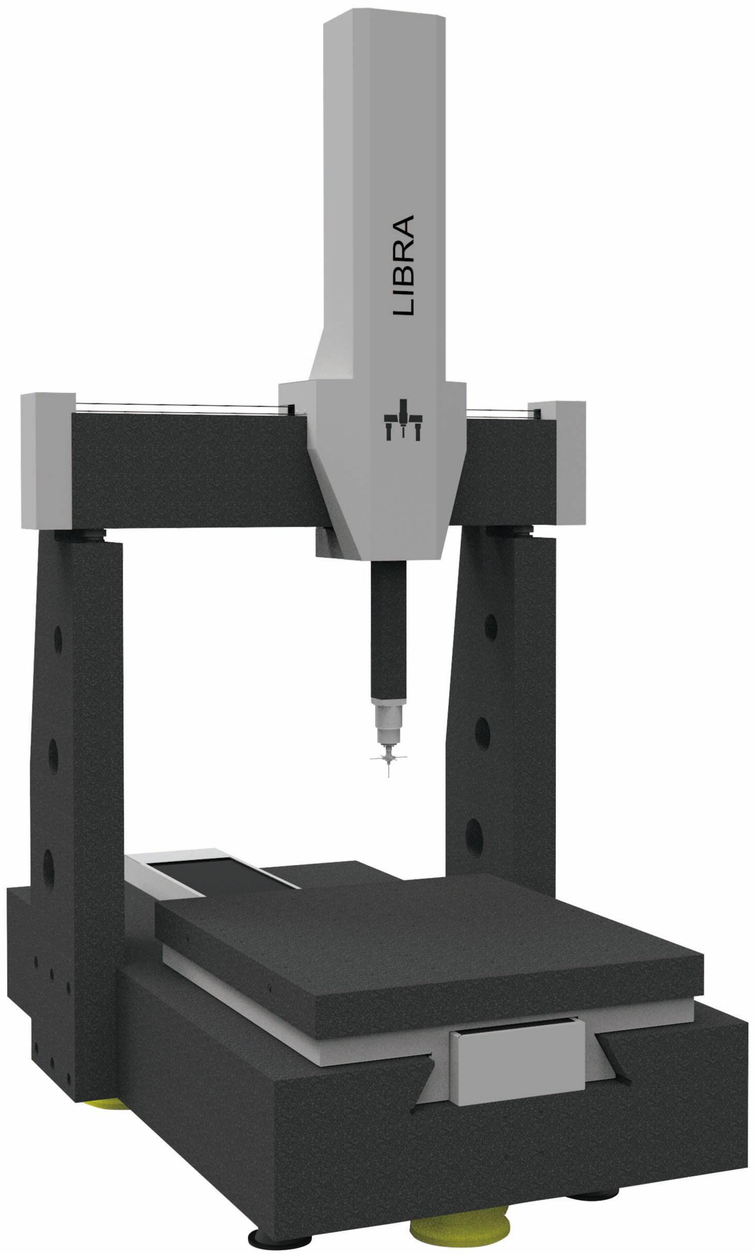
The structure of new energy power systems is vastly different from that of internal combustion engine vehicles. To help automotive manufacturers and suppliers cope with this change, Lihe Precision provides a variety of advanced measurement technologies to ensure that new energy vehicles have excellent energy efficiency and are safe and reliable.

Automotive Manufacturing

Automotive components have high quality requirements, large batches, and diverse shapes. Lihe Precision optimizes the combination of measurement system hosts, probe systems, and software, making it an ideal choice for completing geometric measurements and quality control of automotive components.

Research Institutes

With its automatic, intelligent, and high-speed measurement technology and capabilities, Lihe Precision meets the measurement accuracy requirements of research institute laboratories during the development process, ensuring the accuracy of measurement data.



Libra Series Ultra-High Precision Coordinate Measuring Machine

Ultra-high precision coordinate measuring machines support measurement modes such as triggering, scanning, and laser scanning. The entire machine adopts a fixed bridge structure, providing various size forms, achieving a perfect combination of high precision, high efficiency, and high performance, offering users the most optimized measurement methods.

Ultra-high rigidity architectural design

The ultra-high precision coordinate measuring machine frame adopts a unique low internal stress natural granite material, ensuring the machine's ultra-high rigidity, reducing deformation caused by force and temperature factors, and achieving high stability measurement.

Higher stability and measurement accuracy

Air bearings are distributed on the hydrostatic guidewaysof the ultra-high precision coordinate measuring machine,with strong anti-interference ability, achieving high stability and high measurement accuracy even during high-speed movement. The X-axis and Z-axis adopt a toothless meshing transmission method, while the Y-axis adopts a precision ball screw transmission method, further ensuring high positioning accuracy and motion stability. The Z-axis uses a dedicated low-friction cylinder to balance the weight, ensuring smooth and sensitive operation under any operating condition.

Ultra-high resolution grating and readhead

The ultra-high precision coordinate measuring machineis equipped with an ultra-high resolution grating, eliminating the impact of temperature gradient on accuracy, ensuring stable measurement performance within the temperature range of +19℃ to +21℃. The ultra-high resolution readhead provides comprehensive real-time grating data.

(Measurement range: mm, Accuracy: μm)

Model	X-axis Travel	Y-axis Travel	Z-axis Travel	MPEe	MPEp
Starting from 686	600	800	600	Starting from 0.6+L/500	0.8

Optional Accessories

SC80 scanning probe

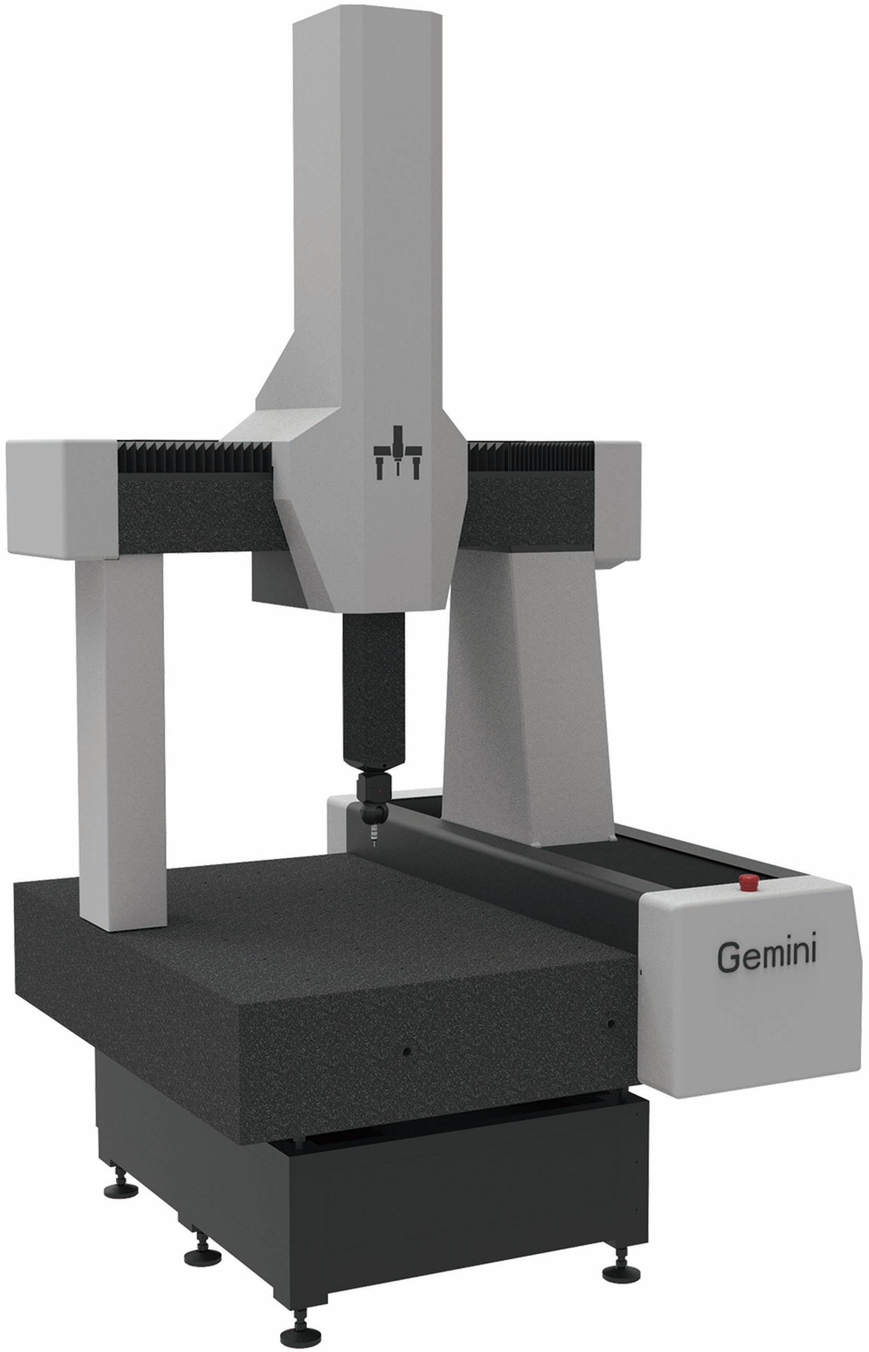
CZ10T-S indexing automatic probe head

CZ10M-S high-speed indexing automatic probe head

SC30 compact scanning probe

Vibration Isolation System

Temperature compensation system



Gemini Series High Precision Coordinate Measuring Machine

The high-precision coordinate measuring machine can easily meet the measurement challenges of precision hardware, molds, digital 3C and other industries, with an accuracy of up to 0.9μm. The high-rigidity four-sided air-bearing guideway design ensures optimal dynamic performance, making it a perfect combination of efficient measurement and precision measurement.

Light weight, high dynamics

The classic moving bridge machine structure, optimized by finite element design, achieves a perfect upgrade of good rigidity and light weight, enhancing the dynamic rigidity of the coordinate measuring machine.

Granite material, inherently high stability

Based on the consideration of achieving high stability and high tolerance of the measuring machine, Lihe Precision prefers hard and dense granite as the material for the workbench and Y-axis. The X-axis and Z-axis are optimized for high stiffness, with two materials available for you to choose from: precision ceramic or granite beams.

Convenient workpiece loading and unloading

The ergonomic open structure workbench design makes workpiece loading and unloading more convenient.

The air-bearing guideway's stable design achieves high-precision measurement.

The high-rigidity four-sided air-bearing guide design ensures measurement accuracy and long-term stability.

High-performance DC servo motor, sensitive transmission

Using high-performance DC servo motor drive and non-tooth meshing transmission method, ensuring the agility, precision, and stability of the transmission.

(Measurement range: mm, Accuracy: μm)

Model	X-axis Travel	Y-axis Travel	Z-axis Travel	MPEe	MPEp
Starting from 565	500	600	500	Starting from 0.9+L/300	1.1

Optional Accessories

SC80 scanning probe

CZ10T-S high-speed indexing automatic probe head

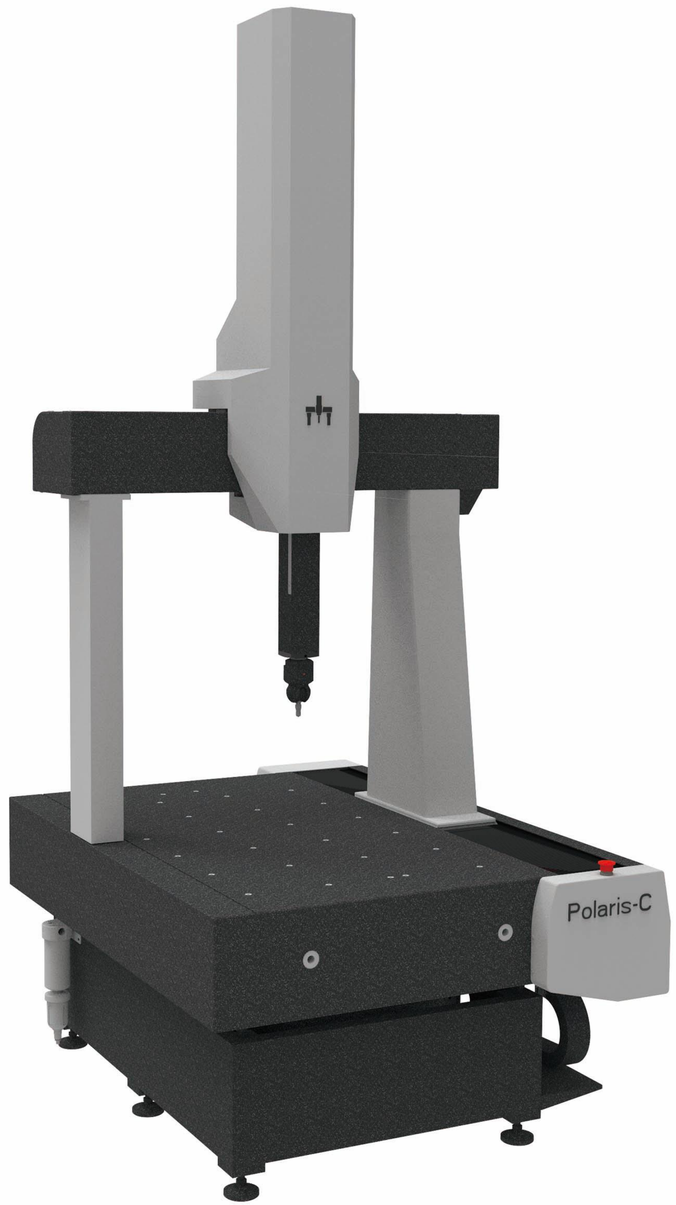
CZ10M-S high-speed indexing automatic probe head

CZ20i semi-automatic probe head

SC30 compact scanning probe

Vibration Isolation System

Temperature compensation system



Polaris-C Series Classic Coordinate Measuring Machine

The classic coordinate measuring machine adopts the classic bridge structure, and the high-rigidity four-sided air-bearing guide design ensures optimal dynamic performance. At the same time, optimized weight reduction treatment is carried out, ensuring the rigidity of the whole machine structure while achieving high-speed and precise measurement.

Fast Measurement Speed

The classic coordinate measuring machine has a measurement acceleration of 1000mm/s² and a measurement speed of 700mm/s.

Lighter and more stable overall design

The overall structure is modularly designed based on the classic coordinate measuring machine, achieving high rigidity and light weight while saving your usage costs.

High-resolution grating technology

Using high-resolution grating scales, with strong anti-interference ability and wear resistance, achieving high-precision positioning of the three coordinates.

Three-axis transmission module, achieving error-free precise measurement

The three-axis adopts backlash-free flat belt transmission, with small mechanical vibration, eliminating jitter during high-speed measurement, ensuring precise positioning.

(Measurement range: mm, Accuracy: μm)

Model	X-axis Travel	Y-axis Travel	Z-axis Travel	MPEe	MPEp
686	600	800	600	1.4+L/300	1.7
8106	800	1000	600	1.6+L/300	1.8

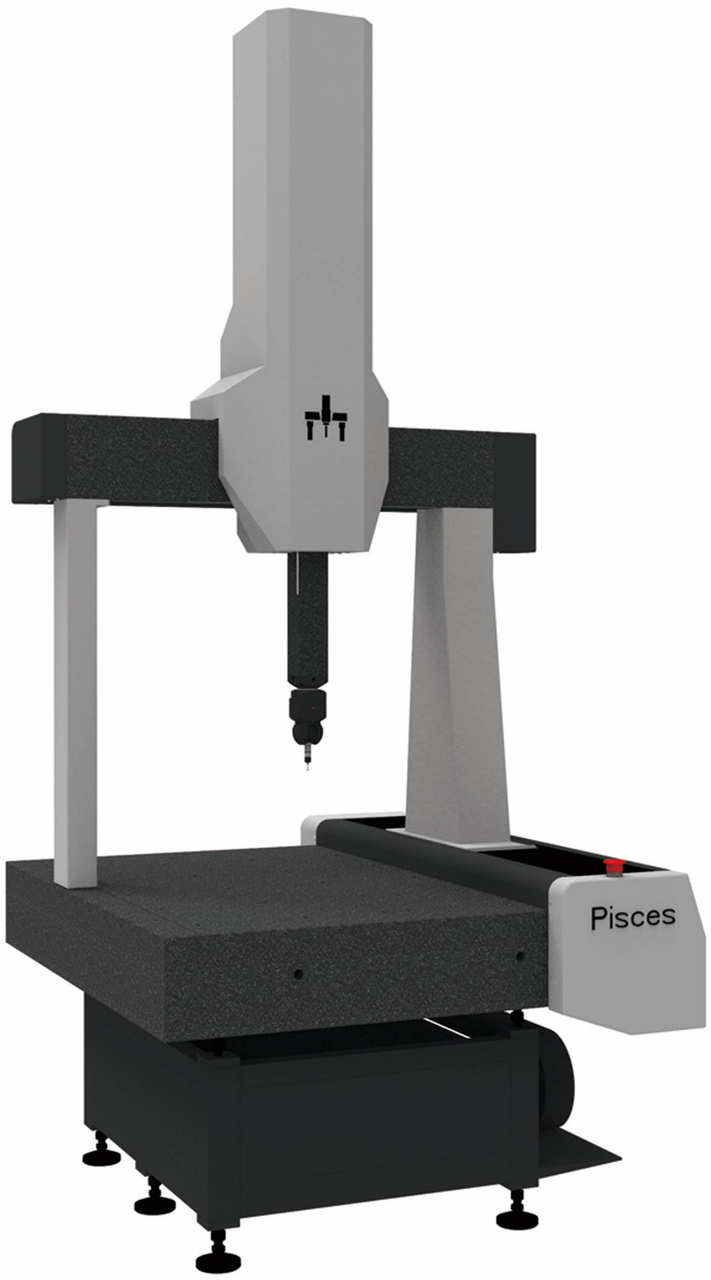
Optional Accessories

CZ10T-S high-speed indexing automatic probe head

CZ20i semi-automatic probe head

Vibration Isolation System

Temperature compensation system



Pisces Series Standard Coordinate Measuring Machine

Lihe Precision's newly launched Pisces series standard coordinate measuring machine, fully inheriting the high rigidity advantage of the classic moving bridge structure, through lightweight optimization design, ensures professional performance while reducing user investment costs. Flexible optional automatic or semi-automatic control system, balancing measurement efficiency and accuracy, providing customers with higher cost-effective precision measurement solutions.

Lightweight structural design

The whole machine adopts a lightweight design, ensuring excellent rigidity and dynamic performance while effectively controlling costs and reducing the usage costs for enterprises.

High-rigidity materials are selected

The combination of aluminum and granite materials effectively reduces deformation caused by force and temperature factors, significantly improving the smoothness of frame movement and the dynamic measurement accuracy of the machine.。

Anti-interference sealed air bearing

Adopts a unique sealed air bearing layout with strong anti-interference capability, effectively reducing Abbe errors, enabling high-precision measurement even during high-speed motion.

Strong environmental adaptability

Three-axis linear temperature sensors are configured, with strong environmental adaptability to meet special and complex testing environments.

(Measurement range: mm, Accuracy: μm)

Model	X-axis Travel	Y-axis Travel	Z-axis Travel	MPEe	MPEp
Starting from 565	500	600	500	2.4+L/300	2.7

Optional Accessories

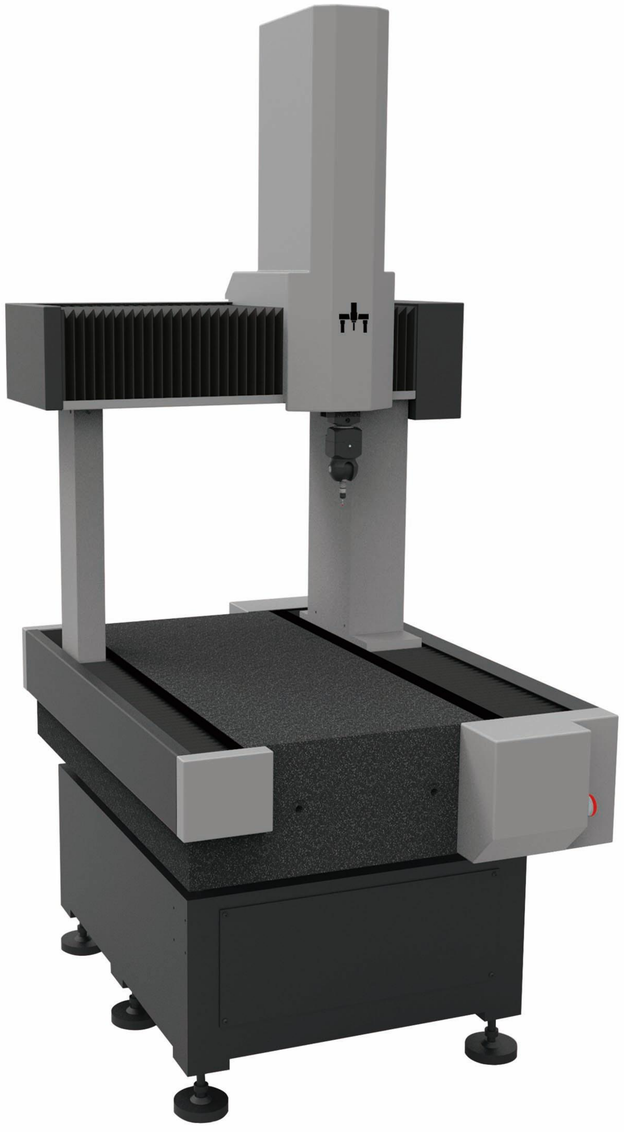
CZ10T-S high-speed indexing automatic probe head

CZ20i semi-automatic probe head

Vibration Isolation System

Temperature compensation system

Aries Series On-Site Coordinate Measuring Machine



The compact structure of the whole machine reduces the workshop footprint, and the linear guide design ensures smooth movement, making it a high-precision measuring device that meets the production measurement needs of users' workshops.

Compact structure, space-saving

The compact structure of the on-site coordinate measuring machine greatly saves space. In addition, you can freely choose between an integrated computer system or a separate computer desk.

Think what you need, can be easily and flexibly moved

On-site coordinate measuring machines can be optionally equipped with casters for easy mobility.

Temperature compensation system

The on-site coordinate measuring machine has strong tolerance to the measurement environment, allowing measurement operations even in daily indoor temperatures ranging from 15℃ to 30℃.

Vibration damping system and linear guides, always excellent precise measurement

The on-site coordinate measuring machine contains a vibration isolation system, effectively reducing vibrations during measurement, thereby achieving high stability measurement. In addition, high-precision linear guides greatly increase stability, ensuring long-term measurement process stability.

(Measurement range: mm, Accuracy: μm)

Model	X-axis Travel	Y-axis Travel	Z-axis Travel	MPEe	MPEp
454	400	500	320	3.5+L/300	4.5
565	500	600	500	4.0+L/300	5.0

Optional Accessories

CZ10T-S high-speed indexing automatic probe head

CZ10M-S high-speed indexing automatic probe head

CZ20i semi-automatic probe head

SC30 compact scanning probe

Vibration isolation system

Temperature compensation system

Taurus Series Gantry Bridge Coordinate Measuring Machine

The gantry bridge coordinate measuring machine is the first choice for measuring oversized products. The whole machine adopts a gantry structure, providing precise and fast measurement solutions for large and extra-large workpieces, suitable for industries such as automotive manufacturing and aerospace.

Unique large space openness

The machine adopts a large gantry bridge structure, providing precise and fast measurement solutions for oversized workpieces. Additionally, it is equipped with a movable worktable for convenient loading and unloading during measurement.

Dual grating dual drive system

All three axes are equipped with high-resolution gratings and reading heads, with an ultra-long Y-axis travel, and can be configured with a dual grating dual drive system to effectively reduce yaw error.

Closed hydrostatic air bearing guide

The Y-axis guide can achieve high-precision, high-strength, ultra-long smooth splicing. The right guide adopts a dovetail structure, and the closed hydrostatic air bearing guide offers high rigidity and excellent stability.

High rigidity, fast and precise positioning

The three axes use gear rack transmission with a device to eliminate backlash, offering high rigidity and excellent positioning characteristics.

Supports multiple trigger and scanning probes

Can be configured with various trigger and scanning probes to achieve high-precision and high-speed measurement of complex surfaces.

(**Measurement range: mm, Accuracy: μm**)

Model	X-axis Travel	Y-axis Travel	Z-axis Travel	MPEe	MPEp
Starting from 203010	2000	3000	1000	Starting from 4.5+L/250	5.0

Compatible accessories

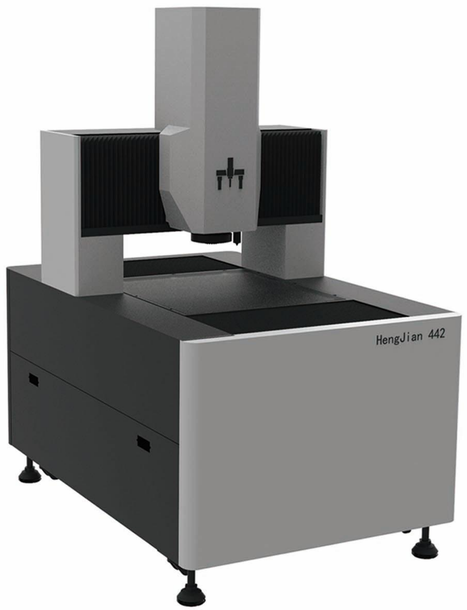
CZ10T-S high-speed indexing automatic probe head

CZ10M-S high-speed indexing automatic probe head

CZ20i semi-automatic probe head

Cast iron platform

Temperature compensation system



(Hengjian 442PRO Series Image Measuring Instrument)

Hengjian 442PRO Series Image Measuring Instrument

Hengjian PRO adopts an integrated fixed gantry structure design, offering outstanding reliability and stability. Based on optical sensors, the device is equipped with a fully automatic high-precision zoom lens and a high-pixel digital camera, meeting the diverse measurement needs and quality control of precision parts. It is a high-precision image measuring instrument.

Product overview

1. Equipped with CNC fully automatic closed-loop control, enabling fully automated measurement functions.
2. Adopts an integrated fixed gantry structure design, with a stable body and main materials made of granite. The load-bearing platform ensures no displacement of the workpiece during operation, with excellent overall stability.
3. Equipped with high-precision grating scales and high-performance motors, achieving rapid and precise motion control of the three axes with full closed-loop response. Combined with self-developed high-precision measurement algorithms, the measurement is accurate and efficient.
4. Equipped with industrial-grade five-ring eight-zone LED cold light sources, with independently controllable lighting to adapt to different workpiece inspection needs.
5. Configured with a high-pixel digital area array camera and a 13.3X zoom lens, ensuring high-definition imaging effects.
6. Equipped with fully automatic image measurement software, meeting various 2D and 3D dimensional measurement requirements.
7. Optional AI automatic measurement function and 3D scanning technology (3D measurement of step difference flatness/3D comparative analysis).

Parameters	HengJian 442
XYZ travel	400mm*400mm*200mm
External dimensions	1350mm×950mm×1650mm
Measurement accuracy	XY axis - (13+L/200) μm; Z axis fixed Fixed-point accuracy - (28+L/200) μm
Repeatability accuracy	1μm
Weight	730KG
Operating temperature	19℃~24℃ (effective accuracy)
Operating humidity	45%~75%RH
Power	1600w
Power supply	220v

(Hengshun 3020 PRO Series Flash Measuring Instrument)

Hengshun 3020 PRO Series Flash Measuring Instrument

The Hengshun PRO Series Flash Measuring Instrument is equipped with high-resolution dual telecentric optical lenses and linear motors, enabling quick and precise one-click measurement of workpieces at any position within the field of view. This device is specifically designed for rapid dimensional measurement of small components. Compared to traditional measuring instruments, it offers simpler operation, effectively saves positioning time, and enhances inspection efficiency.

Product overview

1. Supports one-click flash measurement, with simple operation; can be synchronized with production line IO signals to achieve 24-hour unmanned efficient measurement.
2. Utilizes linear motor drive, with a response speed of up to 300mm/s, significantly improving overall measurement efficiency compared to traditional measuring instruments.
3. Equipped with low-distortion dual telecentric double lenses and a 20-megapixel dual camera, ensuring true and accurate imaging, whilecombining large field of view measurement with high-precision measurement functions.
4. Features a rich automatic lifting optical system, including lifting ring light, 0-degree and 45-degree surface illumination, parallel bottom light, and coaxial light, adaptable to the lighting needs of different workpieces to obtain clear images.
5. The device can automatically recognize and measure single or multiple products of the same specification placed arbitrarily within the field of view, without the need for fixtures\or positioning, enhancing measurement efficiency.
6. Supports template matching function and multi-threaded measurement, efficiently completing batch measurement tasks for parts.
7. Equipped with intelligent and efficient professional visual measurement software, achieving seamless integration with MES systems, automatic surface precise edge finding, import/export and display of CAD data, and automatic generation of various analysis reports.

Parameters	Hengshun 3020 PRO
XYZ Travel	300mm*200mm*75mm
External dimensions	588mm×505mm×693mm
High-precision measurement mode	no stitching ±1.4μm, with measurement accuracy stitching ±(1.9+L/200)μm; wide field of view measurement mode:no stitching ±2.4μm, with stitching ±(3.8+L/200)μm
Repeatability precision	High-precision measurement mode: platform not moved ±0.3μm, repeat accuracy platform moved ±1.1μm; wide field of view measurement mode: platform not moved ±0.7μm; platform moved ±1.7μm
Weight	75KG
Operating temperature	20±2℃
Operating humidity	20-80% (no condensation)
Vibration	< 0.002g 15Hz
Power	220V±10%，50Hz

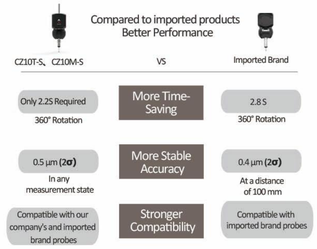
CZ10T-S, CZ10M-S high-speed indexing automatic probe head

CZ10T-S has undergone tens of thousands of parameter adjustments and tests, resulting in faster motor rotation speed. It takes only two seconds to rotate 360°, doubling the measurement speed compared to conventional probe heads. Suitable for high-volume and high-precision measurement tasks, such as in the 3C digital and precision hardware industries.

CZ10M-S has a more comprehensive measurement mode, compatible with various trigger probes and scanning probes, enabling conventional contact single-point measurement and high-speed surface scanning measurement, widely applicable to various coordinate measuring machines.

Product Parameters

Probe head	CZ10T-S	CZ10M-S
Length	113mm	126mm
Width	62mm	62mm
Weight	725g	730g
Installation Method	Long Handle	Long Handle
Probe Installation	M8 Thread	M8 Thread
Position repeatability accuracy	0.5 μm（2σ）	0.5 μm（2σ）
Cycle time (360°)	2.2 seconds	2.2 seconds
Angle	A-axis 0° to 105°, B-axis 0° to ±180°, 7.5° indexing	A-axis 0° to 105°, B-axis 0°to ±180°, 7.5° indexing
Total number of positions	720	720
Maximum driving force output torque	0.18Nm	0.18Nm
Maximum extension ro	100 mm, using PEL2 extension rod	100 mm, using PEL2 extension rod



CZ10T-L, CZ10M-L heavy-duty automatic probe head

CZ10T-L can be equipped with CF20 probe and longer extension rods, with a torque increase of 22% compared to other brand probe heads. The powerful driving force allows it to flexibly rotate and position even in applications with ultra-heavy loads.

CZ10M-L brings higher flexibility, speed, and accuracy to three-coordinate measurement. Equipped with the SC30 probe, it can rapidly collect data from any feature within a 720-degree range. Quickly exchange probe needles without recalibration, maintaining high repeatability accuracy even during long-term measurements.

Product Parameters

Probe Station	CZ10T-L	CZ10M-L
Length	113mm	126mm
Width	62mm	62mm
Weight	725g	730g
Installation Method	Long Handle	Long Handle
Probe Installation	M8 Thread	M8 Thread
Position repeatability accuracy	0.5 μm（2σ）	0.5 μm（2σ）
Cycle time(360°)	2.8 seconds	2.8 seconds
Total angle	720	720
Maximum driving force output torque	0.55Nm	0.55Nm
Maximum extension rod	300 mm，using PAA3 extension rod	300 mm，using PAA3 extension rod

CZ10TD5 fully automatic rotary probe head

CZ10TD5, with the flexible rotation of the AB dual-axis,provides 1584 positions at 5° increments, enabling precise control of the probe's spatial position with a repeat positioning accuracy of 0.5μm. The probe needle can be quickly adjusted without recalibration, significantly improving inspection efficiency. This probe head can directly install M8 threaded interface probes and is compatible with 100mm extension rods.

Probe Station	CZ10TD5 fully automatic rotary probe head
Position repeatability	0.5μm（2σ）
Positioning angle	A-axis 0°-105° with 5 divisions, totaling 22 positions; B-axis ±180° with 5 divisions, totaling 72 positions
Compatible probe types	CF20,TP20,TP200
Dimensions	Length 119.7±0.5mm; Width 62±0.5mm
Weight	753g±10g
Spatial positioning points	1584

CZ20i, CZ8i semi-automatic probe heads

The CZ20i semi-automatic probe head can achieve pitch and yaw rotation and positioning. The A and B axes provide positioning at 168 repeatable positions in space at 15° increments. It can directly load probe needles or the CF20 module and is compatible with the Renishaw TP20 module.

Probe Station	CZ20i semi-automatic probe head
Position repeatability	1.5μm（2σ）
Positioning angle	A-axis 0°-90°, with 15 divisions, totaling 15 positions; B-axis ±180°, with 15 divisions, totaling 48 positions
Compatible probe types	CF20,TP20
Dimensions	Length 62mm; Width 50mm
Weight	300g
Spatial positioning points	168

The CZ8i can be equipped with the CF20 probe to achieve high-precision, repeatable probe positioning at 1.5μm. The A and B axes quickly lock the probe head to one of the 168 repeatable positions, and replacing the lower module does not require recalibration.

Probe Station	CZ8i semi-automatic probe head
Position repeatability	1.5μm (with TP20 or CF20 and 10mm stylus installed) 2.5μm (with PEL1 extension module and 10mm stylus installed)
Positioning angle	0 to 90°, in 15° increments; ±180° in 15° increments
Probe head installation	Handle
Probe status indication	1 LED indicator light
Cable connection	Small round head 5-pin terminal
Dimensions	Length 61.7±0.5mm; Width 52±0.5mm
Weight	296±10g

CZ6, CZ6M fixed straight probe heads

CZ6 is a small-diameter fixed probe head installed on the coordinate measuring machine through the tool holder. The base can connect to an M8 threaded probe, with built-in cables,and can be applied to moving bridge coordinate measuring machines and image measuring instruments.

Probe Station	CZ6 fixed straight probe head
Weight	50g
Probe installation method	M8 Thread
Number of probe slots	1
Probe status indication	LED indicator
Cable connection	Built-in cable

CZ6M achieves rapid connection between the probe and the adapter through an automatic adsorption joint, improving measurement efficiency. This probe head is fully compatible with the scanning probe SC30 and the trigger probes CF20/CF30, and can be adapted to the full range of imported brand probes with the CF-Z1 series adapter. At the same time, the measurement range of the probe can be extended through the extension rod, and the CF-Z1 series adapter can be used to adapt to M8 interface probes.

Probe Station	CZ6M fixed straight probe holder
Weight	160g
Maximum extension rod length	300mm
Number of probe slots	1 automatic adsorption connector
Probe status indication	LED indicator
Electrical interface	Mini DB connector

SC80 scanning probe

The SC80 scanning probe is a continuous scanning probe with analog signal output, allowing connection of up to 600mm probe needles to meet the scanning measurement needs of internal features of parts. Internally integrated automatic weight balancing system, allowing the use of probe needles within 1000g. The SC80 uses high-resolution and high-precision displacement detection sensors, with strong environmental adaptability, capable of meeting measurement needs from the metrology room to the workshop. The SC80 probe supports single-point measurement, self-centering measurement, and continuous high-speed precision scanning measurement of free-form surfaces and curves. During the measurement process, all three axes of the probe remain relaxed, ensuring that the measurement always follows the normal direction of the measured point, allowing high-precision compensation for probe needle deformation.

Probe parameters	SC80
Probing force(N)	0.1-0.2
Scanning force(N)	0.3
Range (mm)	±1.0
Allowable overtravel XYZ(mm)	±3.0
Allowed probe needle length MAX(mm)	600
Allowed probe needle weight (g)	1000
Resolution (um)	0.01
Probe mounting	Automatic
Online 29-point ball test	0.7-1.4

SC30 compact scanning probe

The SC30 high-precision scanning probe series is fully compatible with both triggering and scanning functional modes, allowing flexible application in most part measurement scenarios. The SC30 is designed to be compact and small, capable of automatic installation and adsorption on the CZ10M and other brands of automatic probe holders. Internally, it uses highly sensitive Hall sensors, providing excellent measurement performance and shorter measurement cycle times.

The three products in the SC30 series use different rigid leaf springs, adapting to the specified probe needle length range, with each product having a matching probe needle suction cup.

Probe parameters	SC30-1	SC30-2
Weight (g)	180	180
Size (mm)	33	33
Probe thread interface	M3	M3
Range (mm)	±0.5	±0.5
Stiffness(N/mm)	0.6 (longest probe needle) ~1.5 (shortest probe needle)	0.6 (longest probe needle) ~1.5 (shortest probe needle)
Resolution(um)	0.1	0.1
Overstroke(mm)	XY=±1.5、+Z=±1.7、-Z=1.2	XY=±1.5、+Z=±1.7、-Z=1.2
Probe length (mm)	Vertical probe 21-100mm Horizontal probe 40mm	Vertical probe 100-250mm Horizontal probe 40mm

CF20 Trigger Probe

The CF20 is a high-precision trigger probe available in 5-direction and 6-direction measurement versions. The CF20 probe consists of two modules: the probe body and the stylus holder. The upper and lower module design facilitates manual/automatic stylus replacement without the need for recalibration, significantly saving measurement time.

The upper module of the CF20 trigger probe has a diameter of 16mm and a length of 13.5mm, and can be installed on an M8 threaded interface base. The lower module of the CF20 5-direction trigger probe offers four types of measuring forces: micro, medium, standard, and high, suitable for various measurement scenarios. The lower modules are distinguished by letters, allowing users to choose based on actual usage.

Lower Module Product Parameters

	CF20-A(LOW) Micro Force	CF20-B(MEDIUM) Medium Force	CF20-C(STANDARD) Standard Force	CF20-D(EXTENDED) High Force	CF20-6w six-directional
Application	Automatic or Manual CMM	Automatic or Manual CMM	Automatic or Manual CMM	Automatic or Manual CMM	Automatic or Manual CMM
Application Scenarios	Low force applications, such as rubber seals	Situations requiring higher than calibration measurements	Suitable for most scenarios	Situations where large diameter/heavy stylus assemblies or mechanical vibrations cause false triggers	Measurement in the -Z direction
Detection direction	±X,±Y, + Z	±X,±Y, + Z	±X,±Y, + Z	±X,±Y, + Z	±X,±Y,±Z
Pre-travel change	±0.72μm	±1.20μm	±0.96μm	±2.40μm	±1.80μm
Unidirectional Repeatability	±0.42μm	±0.60μm	±0.42μm	±0.78μm	±1.20μm
Stylus Exchange Repeatability Automatic	Automatic ±0.60μm Manual ±1.20μm	Automatic ±0.60μm Manual ±1.20μm	Automatic ±0.60μm Manual ±1.20μm	Automatic ±0.60μm Manual ±1.20μm	Automatic ±0.60μm Manual ±1.20μm
Force measurement	X,Y:0.055N,Z:0.65N, Stylus 10mm	X,Y:0.1N,Z:1.9N, Stylus 25mm	X,Y:0.08N,Z:0.65N, Stylus 10mm	X,Y:0.1N,Z:3.2N, Stylus 50mm	X,Y:0.14N,Z:1.6N, Stylus 10mm
Adaptive probe length	10-30mm	10-60mm	10-50mm	10-60mm	10-30mm
Stylus interface	M2 threaded hole	M2 threaded hole	M2 threaded hole	M2 threaded hole	M2 threaded hole
Overall dimensions	φ13.2×20.9mm	φ13.2×20.9mm	φ13.2×20.9mm	φ13.2×20.9mm	φ13.2×25mm
Weight	9.5±0.5g	9.5±0.5g	9.5±0.5g	9.5±0.5g	11±0.5g

CF30 high-precision touch trigger probe

The CF30 high-precision touch trigger probe employs single-point trigger detection technology, offering higher accuracy than traditional touch trigger probes. It can rapidly and automatically collect thousands of data points for a complete and precise evaluation of all part features.

This probe has strong load-bearing capability for probes, allowing connections of up to 100mm in length, thus meeting the needs for touch trigger measurements of internal part features. It also features collision protection, combined with quick probe replacement and efficient calibration procedures, helping to enhance measurement efficiency. The CF30 is compatible with motorized repeatable positioning probe holders, compatible with the CZ10M-S high-speed indexing probe holder and the LHCR25 automatic exchange rack.

Probe parameters	CF30
Length	117.4±0.5mm
Maximum diameter	33mm
Weight	180±10g
Probe thread connection	M3
Probe resolution	≤0.1um
Probe overtravel	XY=±1.5mm； +Z=1.7mm /-Z=1.2mm
Adaptive probe length	21-100mm

Side of the MACC controller

Back of the MACC controller

Handheld controller

MACC series high-precision three-coordinate motion controller

The MACC series is a high-speed, high-precision control system with integrated drive and control, suitable for various types of three-coordinate measuring machines. It features a built-in high-performance DSP motion controller and motor driver, integrating touch trigger and scanning probe signal interfaces and indexing probe holder interfaces. The compact structure with fewer connecting cables enables high-speed, high-precision motion control and ensures accurate measurement results.

Product features

- Strictly selected supply chain and quality checks, followed by rigorous environmental testing, ensure product reliability
- High integration, adopting a drive-control integrated design, integrating power and motor drive, compact structure
- High reliability, all products undergo strict environmental testing to ensure operational reliability
- Excellent performance, integrated DSP and FPGA, superior motion control capability, precise measurement data
- Convenient debugging, software setup wizard, guiding users to easily set and adjust parameters
- Adopts international standard I++DME interface, compatible with various universal DMIS software
- MACC3000 PLUS/MACC5000 PLUS fully supports probe calibration, trigger measurement, and scanning measurement of SC30, SC80, and SP25 scanning modules
- The hand controller adopts ergonomic design, simple and intuitive operation, sturdy and durable

Product Parameters

Function/Specifications	MACC3000	MACC5000	MACC3000 PLUS	MACC5000 PLUS
Input power supply	24~72VDC，15Amax	24~72VDC，15Amax	24~72VDC，15Amax	24~72VDC，15Amax
Input control power	24VDC±2V，2Amax	24VDC±2V，2Amax	24VDC±2V，2Amax	24VDC±2V，2Amax
Measurement software interface	SDK/I++ DME	SDK/I++ DME	SDK/I++ DME	SDK/I++ DME
Integrated drive axis number	3	5	3	5
Communication interface with PC	Ethernet	Ethernet	Ethernet	Ethernet
Trigger probe CF20 interface	√	√	√	√
Scanning probe SC80 interface	x	x	√	√
Scanning probe SC30/SP25 interface	x	x	√	√
Automatic probe head CZ10 interface	√	√	√	√
Temperature sensor input	16 channels	16 channels	16 channels	16 channels
Supports measuring machine size (grating Scale resolution 0.1um)	210x210x210m	210x210x210m	210x210x210m	210x210x210m
Chassis size (mm)	453x224x83	453x224x83	453x224x83	453x224x83
Chassis weight (kg)	3.4	3.6	3.4	3.6

VCC Series High-Precision Image Measurement Controller

The VCC series features full closed-loop motion control, 3D linear interpolation, 3D spatial arc interpolation, and multi-point continuous motion, enabling flexible and efficient motion control with high positioning accuracy and speed. It is a high-precision composite measurement controller suitable for coordinate measuring machines and image measuring instruments. Additionally, the VCC4500 and VCC8000 in the VCC series support advanced functions such as flying image capture, automatic probe head, and TP20/TP200 probe measurement.

Product features

- Compact structure
- Equipped with full closed-loop position control function, achieving precise control of the structure's end position
- Features 3D spatial interpolation motion function, excellent motion control capability, ensuring high stability motion
- Has high-speed position capture function, enabling high-precision measurement with probe trigger heads
- Can adjust motion feed rate in real-time, allowing for convenient speed adjustment
- Using a 100M Ethernet communication interface, with low latency and stable operation
- Adopt S-curve flexible acceleration and deceleration planning to reduce oscillation and impact caused by motion start and stop
- The handheld controller features an ergonomic design, making it simple to operate, intuitive, straightforward, sturdy, and durable

Controller VCC3100

Controller VCC3200, VCC4500 side and back

Controller VCC8000

Handheld controller

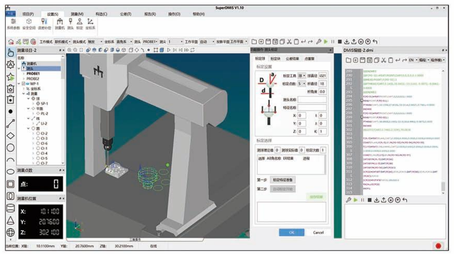
Product Parameters

Parameter Name	VCC3100	VCC3200	VCC4500	VCC8000
Input Voltage	DC24±2V/3A	DC24~48V/10A	DC24~48V/10A	DC24~48V/10A
Supported Axes	4（XYZU）	4（XYZU）	4（XYZU）	8-axis
U-axis drive method	Built-in stepper drive/pulse + direction (open-loop control)	Built-in stepper drive/pulse + direction (open-loop control)	Pulse + direction (open-loop control)	8-axis control method is consistent
Closed-loop control algorithm	PID+VFF	PID+VFF	PID+VFF	PID+VFF
Servo refresh frequency	200us	200us	200us	200us
Maximum pulse output frequency	4MHz	4MHz	4MHz	4MHz
Number of grating scale counting axes	3（XYZ）	3（XYZ）	4（XYZU）	8
Grating scale signal type	Single-ended or Differential	RS422 differential signal	RS422 differential signal	RS422 differential signal
Maximum counting frequency of grating scale	5MHz	20MHz	20MHz	20MHz
Number of LED drive channels	11 Channels (8+2+1)	11 Channels (8+2+1)	11 Channels (8+2+1)	11 Channels (8+2+1)
Surface light drive capability	8 zones; 150mA(max)@ 24V/channel; Serial control up to 40 zones light source	8 zones; 30mA(max)@24V/ channel constant current; Serial control up to 40 zones light source	8 zones: 100mA(max)@24V/ channel constant rrent; Serial control up to 40 zones light source	8 zones: 100mA(max)@24V/ channel constant current; Serial control up to 40 zones light source
Contour light output capability	150 mA@5V or 1500mA@12V	50 mA@5V or 400mA @12V constant current	50mA@5V or 400mA@ 12V constant current	50 mA@5V or 400mA@ 12V constant current
Coaxial light output capability	1500mA@5V	150mA@5V Constant Current	150mA@5V Constant Current	150mA@5V Constant Current
I/O Expansion	8 Input/8 Output(24V)	8 Input/8 Output(12V or 24V)	8 Input/8 Output(24V)	8 Input/8 Output(24V)
Communication Method	100M Ethernet	100M Ethernet	100M Ethernet	100M Ethernet
Probe Holder Support	Manual/semi-automatic probe heads such as MCP, PH6	Manual/semi-automatic probe heads such as MCP, PH6 Semi-automatic Probe Holder	Manual/semi-automatic probe heads such as MCP, PH6 Automatic probe head; Automatic probe head PH10T/CZ10T	Manual/semi-automatic probe heads such as MCP, PH6 Automatic probe head; Automatic probe head PH10T/CZ10T
Probe Support	TP20、CF20	TP20、CF20	TP20、CF20、TP200	CF20、TP20
Fly Capture Function	Without	Without	Support	Support
Error compensation function	Single-axis linearity + perpendicularity compensation	Single-axis linearity + perpendicularity compensation	21 mechanical error compensations	21 mechanical error compensations

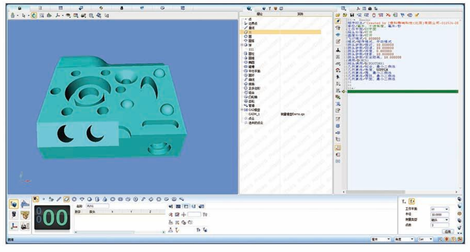
SuperDMIS-Basic, SuperDMIS-Plus measurement software

The SuperDMIS series of coordinate measuring software independently developed by Lihe Precision integrates the best features of all measurement software interfaces, with outstanding functions such as fast tolerance calculation, making it the best choice for the manufacturing and metrology industries.

The series includes two software versions: the trigger version SuperDMIS-Basic and the scanning version SuperDMIS-Plus. SuperDMIS is suitable for conventional feature measurement, while SuperDMIS-Plus includes measurement modules for blades, gears, and more.



(Trigger version SuperDMIS Basic)



(Scanning version SuperDMIS Plus)

Product features

SuperDMIS-Basic

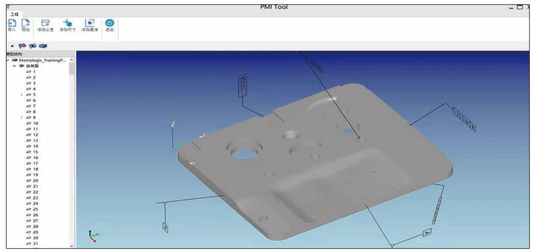
- Customizable icon toolbar and graphical interface.
- 100% DMIS kernel, enabling DMIS program import/export functionality
- Powerful probe management for creating trigger probes, managing probe angles, and automatic calibration Function
- Graphical measurement path simulation, automatically optimizing inspection paths
- ISO standard evaluation of Geometric tolerances, ensuring product performance and quality
- Rich and diverse report output: supports HTML, PDF, and Word formats Multiple formats

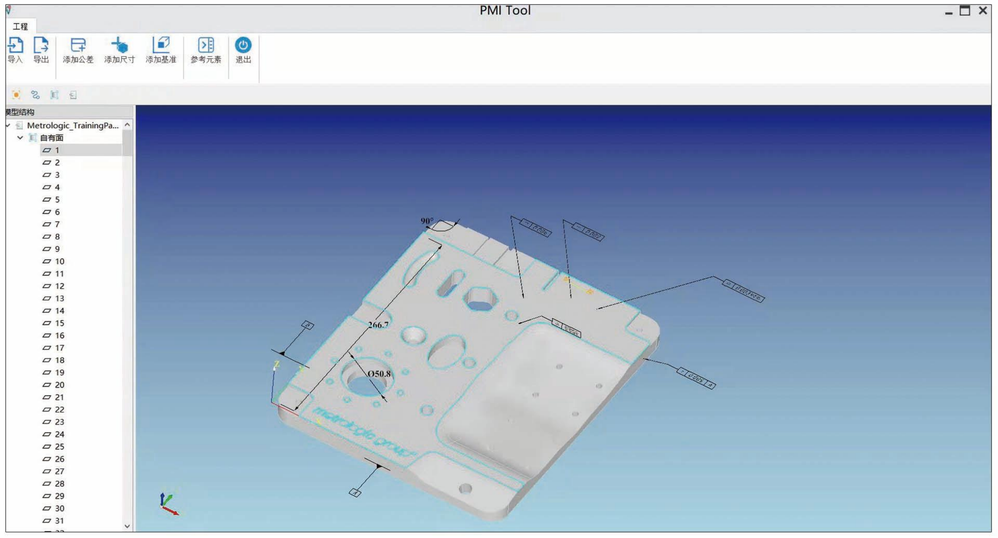
SuperDMIS-Plus

- Application of advanced SPC data analysis technology, quickly completing feature data analysis
- Configurable with blade, gear, and CCD measurement modules for aviation blades, nuclear Electric blade
- Cylindrical involute gear inspection analysis and graphical analysis.
- Intelligent calculation, creating probing paths to avoid collisions, ensuring zero collisions Inspection path
- Intelligent calculation, seamless connection with CAD data
- Supports PMI annotation functionality

Annotation and programming software AutoDMIS

AutoDMIS Annotation and Programming V1.0 is a specialized annotation tool software for coordinate measurement, capable of automatically reading PMI information and creating optimal inspection paths, generating standardDMIS measurement programs.





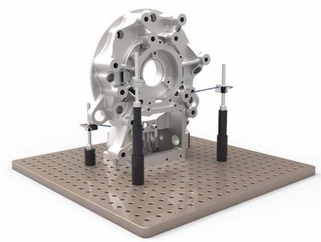
Product features

- CAD PMI annotation functionality: supports reading IGES, STEP standard formats; annotation of PMI information, dimensions, tolerances, references, etc.
- CAD coordinate system transformation function: automatic recognition of CAD theoretical elements, CAD translation, rotation, view transformation.
- Standard DMIS programming function: standard DMIS 5.2 measurement programming, DMIS format import/export, editing, compilation
- Automatic inspection program output function: automatic reading of PMI information, automatic creation of optimal inspection paths and generation of standard DMIS measurement programs

Attachment

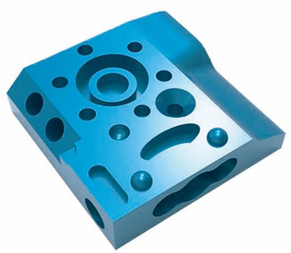
Automatic probe changer

Lihe Precision's three needle changers can keep all probe sets ready for measurement services at all times. The LHCR20 automatic needle changer can automatically exchange up to six probe modules under the control of the measurement program, suitable for CF20 probe exchange. The LHCR25 supports automatic exchange of SC30 scanning and trigger probe modules. The LHCR80 iis used for automatic exchange of SC80 scanning probe modules.



Universal fixture for coordinate measuring machines

This set of fixtures is universal and adopts a combined form. This set of universal fixtures mainly consists of a fixture base plate, a pressure plate kit, or a magnetic pressure plate kit. The fixture base plate is equipped with various standard specifications of M2, M4, or M6 threads, plus freely combinable fixture components. No matter the size, shape, or material of the workpiece, the combination of fixtures can quickly solve clamping problems, improve inspection efficiency, and avoid delays during the inspection process.



Demo module

The demonstration module contains various features that may be encountered during general measurement processes, and can be used to demonstrate the actions and operations of the coordinate measuring machine during various feature measurements.

Probe

The G5 ruby probe is composed of a probe ball, a probe rod, and a probe shank, with a ball diameter of 1~4mm, high compressive strength, and high wear resistance. It is mainly used on the probe heads of coordinate measuring machines, gear inspection instruments, and machine tools, as the actuator of trigger sensors.

Standard sphere

The G5 grade standard sphere, made of zirconia and tungsten carbide, has corrosion resistance, anti-magnetic properties, and high wear resistance, and can more accurately assist in the calibration of coordinate measuring machines.

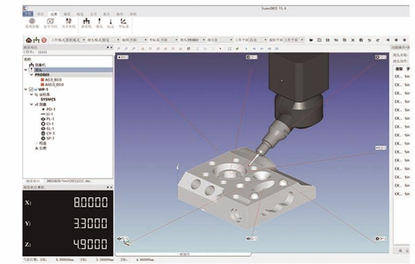
Multi-purpose pressure-sensitive adhesive

The multi-purpose pressure-sensitive adhesive is internationally certified as safe and non-toxic, can be reused thousands of times and remains effective for 3-5 years, adheres without leaving marks and does not damage surfaces. It is a multi-functional environmentally friendly adhesive that integrates fixing, cleaning, and sealing.

Service and support

Service system

Professional pre-sales purchase consultation and after-sales support service system, efficiently and quickly solving your measurement needs.



Measurement software

Top-level SuperDMIS and AutoDMIS software, providing you with practical operational performance and authoritative measurement results.

Training support

Special introductory training courses and usage problem solutions are provided for you.

A complete range of measurement products and solutions

Provide you with a full set of product measurement solutions including self-developed probe heads, probes, software, etc.

Upgrade and update

Assistance to help you achieve any measurement product and software system upgrades and updates.

System solutions in the field of industrial measurement

Solution provider