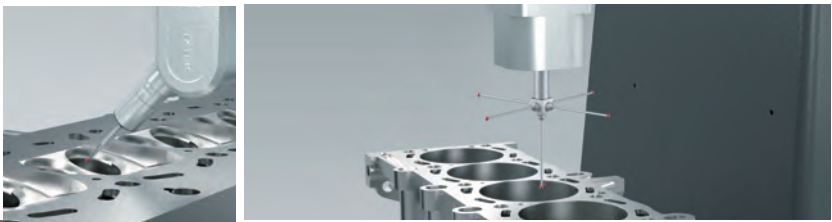


TZTEK Coordinate Measuring Machine



Japan

Tokyo
Kr Toyosu Bldg, 5 Chome-4-9 Toyosu, Koto City, Tokyo

Vietnam

Hanoi
BT1-B02,Splendora, Bac An Khanh Urban Area, An Khanh Ward,
HOAI DUC district, Hanoi City, Vietnam

Bac Ninh
11-12 Li Yingzong Road, Vu Keung Fong, Bac Ninh City,
Bac Ninh Province, Vietnam

Korea

Incheon
722, 194 Hogupo-ro, Namdong-gu, Incheon, South Korea

India

Nasik
G-22 Malegaon MIDC Sinnar Nasik-422113, Maharashtra , India

Chennai
Venkateswara Nagar, Kottivakkam, Chennai, Tamil Nadu 600041, India

Deutschland

München
Hans-Bunte-Str. 5 80992 München / Deutschland

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20250207



TZTEK

Devoted to Smart Industry

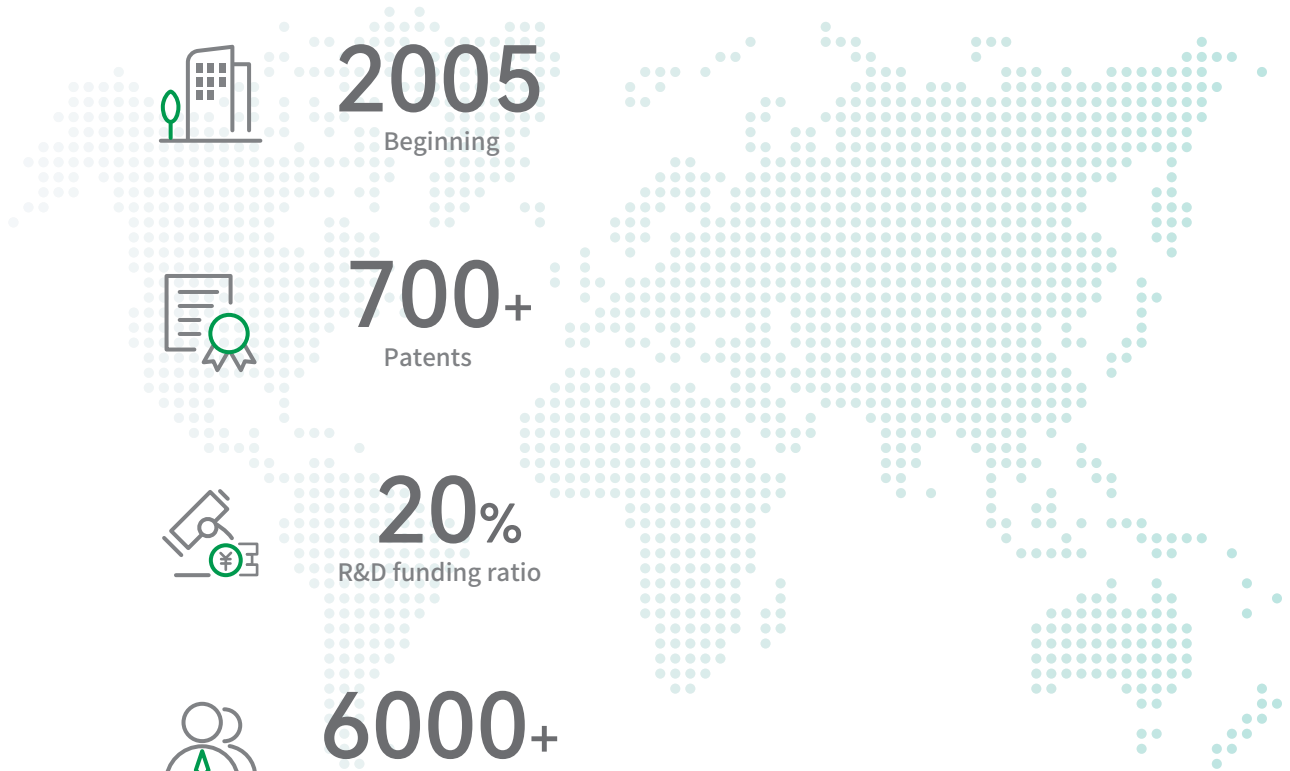
TZTEK, a leading company in high-end vision equipment, is dedicated to promoting smart industry with AI technology. Specializing in electronics, semiconductor, and new-generation vehicle industries, TZTEK provides advanced AI-driven vision equipment that sets new benchmarks for quality and efficiency in the modern industrial landscape.

As a key global supplier of vision equipment, TZTEK leads the electronics industry by delivering cutting-edge vision metrology, inspection, and processing equipment. In the semiconductor field, TZTEK focuses on wafer front-end process, and provides high-precision optical metrology and inspection solutions. For new-generation vehicles and robotics, TZTEK offers innovative autonomous driving systems, universal intelligent solutions, and intelligent equipment. Across the intelligent ecosystem, TZTEK boosts competitiveness and fosters innovation, demonstrating its commitment to driving progress in modern industries.

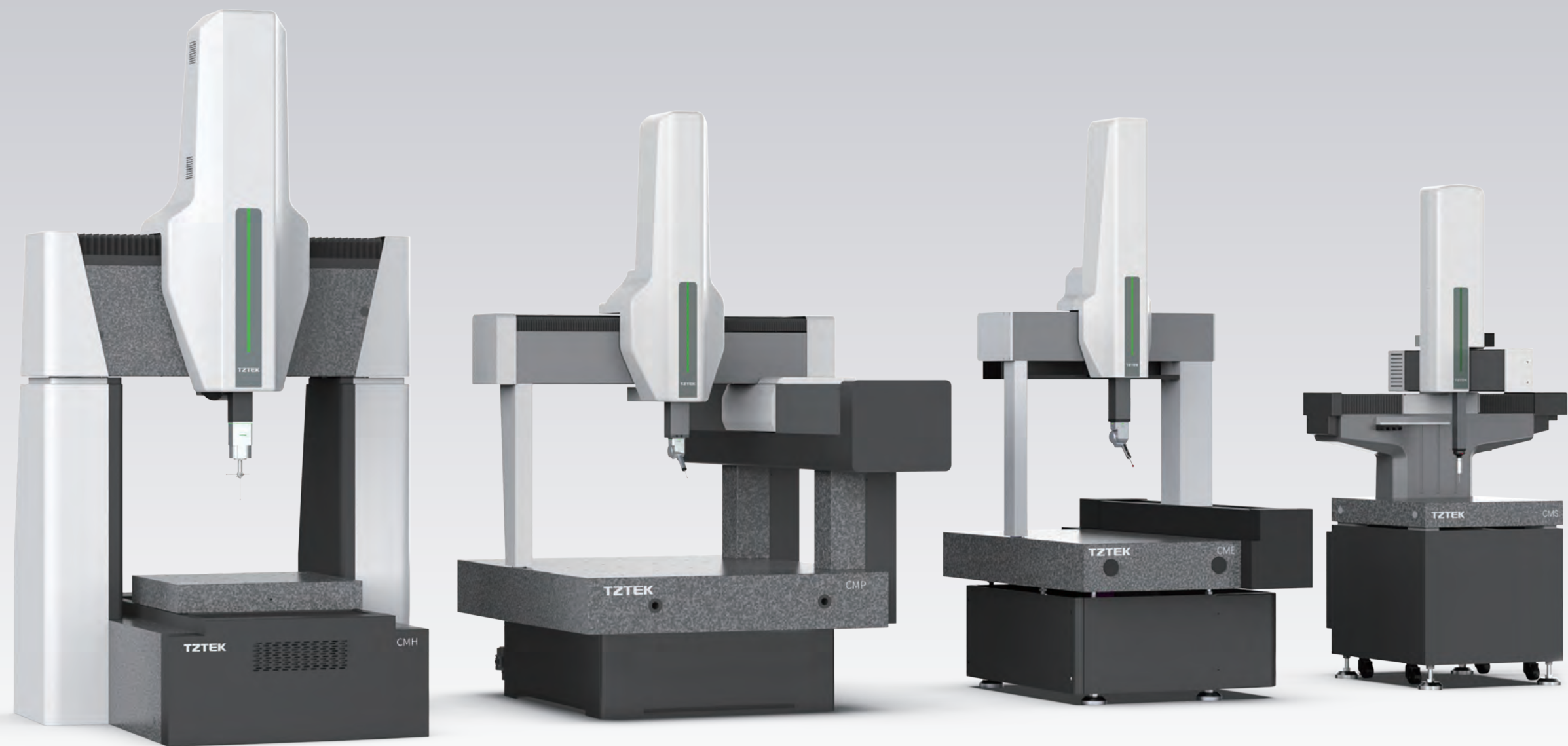
Founded in 2005 and being a pioneer listed on China STAR Market, TZTEK has consistently prioritized research and development, and has built leading technological platforms in AI and precision opto-mechatronics. Partnering with top-tier clients, TZTEK has served over 6,000 customers worldwide, offering customized solutions tailored to a variety of industrial needs. TZTEK has played a significant role in shaping national standards and industry regulations, garnering numerous prestigious awards.

Devoted to Smart Industry, TZTEK leverages AI to drive digital transformation, delivering high quality, efficiency, and human-centric innovations to modern manufacturing. Looking ahead, TZTEK will deepen its focus on electronics, semiconductor, and next-generation vehicle industries, creating enduring value for clients and building a smarter and more sustainable future with global partners.

ABOUT TZTEK



TZTEK Coordinate Measuring Machine



Development and Application of High-precision Coordinate Measuring Machines with Multiple Probing Systems

Make China the third country that masters the same ultra-high precision detection technology after Germany and Japan

- Multi-probe: contact, image and spectrum confocal
- Accuracy: 0.3 μ m

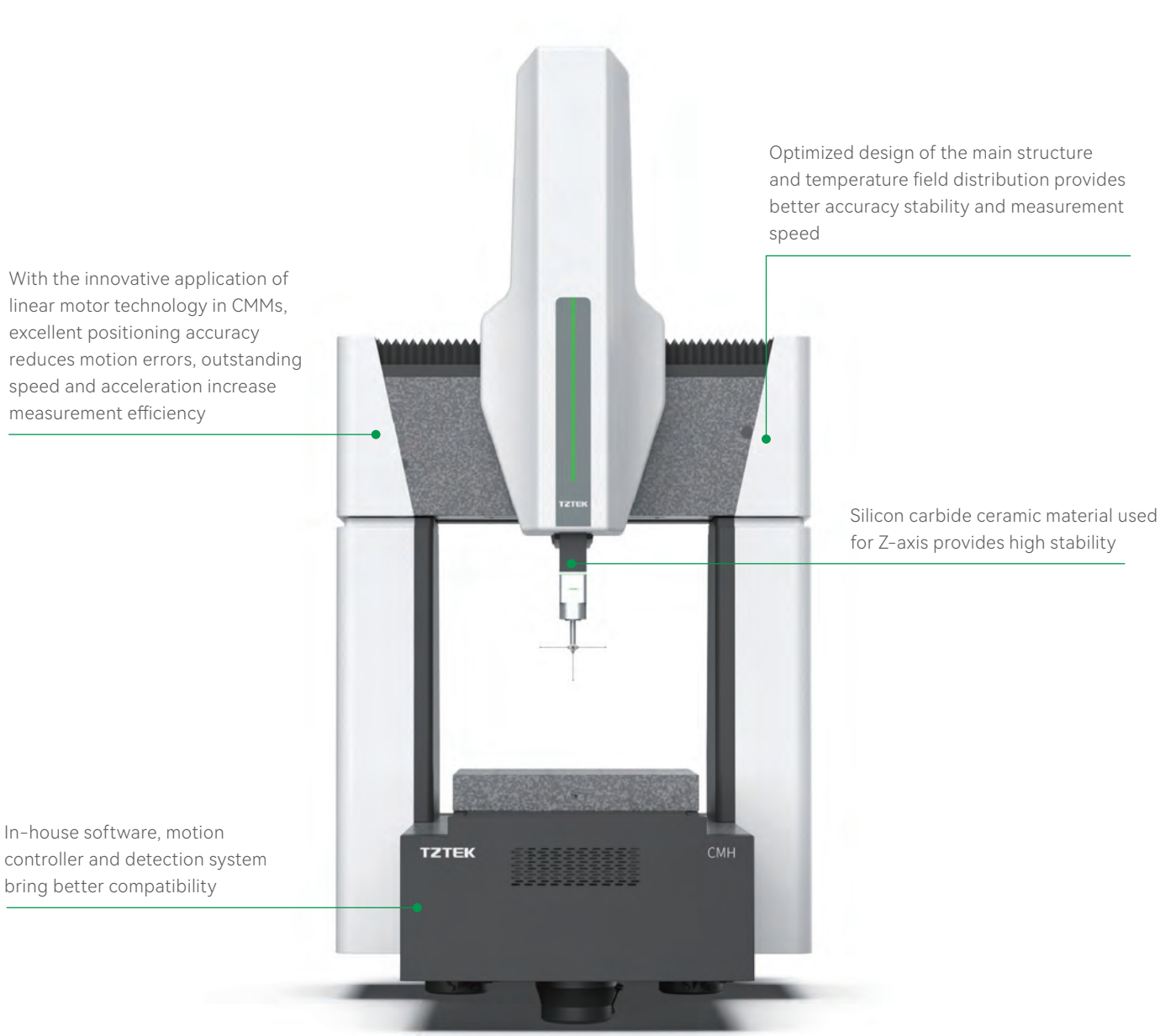
TZTEK CMM is coordinate measuring machine with CMH/CMP/CME series developed on the basis of national major scientific project, *0.3 μ m High-precision Coordinate Measuring Machines with Multiple Probing Systems*. It is featured by the innovative application of high-precision linear motor drive technology and industrial grade silicon carbide ceramic materials on high-end series , as well as TZTEK in-house measurement software Vispec Cube , motion controller (TCC), and probe head and holder(HSP\TR50). With its excellent performance, TZTEK CMM provides high-precision, high-stability and high-efficiency measurement solutions for production sites, R&D centers and metrology rooms, which is widely used in automobile, mold, machining, precision manufacturing, measurement institutes, aerospace and other fields.

Project Participants



Zenith Coordinate Measuring Machine

CMH Zenith Coordinate Measuring Machine is a high-end metrological equipment produced by TZTEK. It has a fixed-bridge structure to meet the requirements of ultra-high precision measurement of complex components. With advantages of sub-micron accuracy, high efficiency and stable performance, it contributes to precision machining, assembly and quality control.



Product features



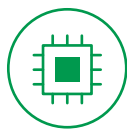
Ultra-high rigid mechanical structure

The high-rigid fixed-bridge mechanical structure , as well as the combination of granite beams, granite bases, granite columns and Z-axis made of industrial precision material silicon carbide ceramic, ensures the high stability of the mechanical structure and the strong resistance against external interference.



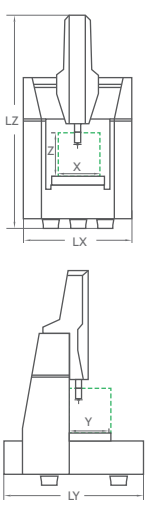
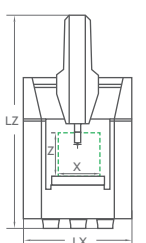
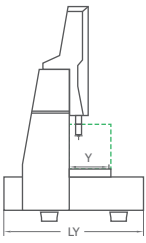
Ultra-high stability

- Preloaded air bearings are used for all axes, and their enveloping structure ensures high rigidity, no contact and low friction.
- Zero expansion coefficient scale, ultra-high resolution up to the nanometer level, and insusceptible to external temperature, ensures high precision and the stability of the machine.



In-house compensation algorithm

With TZTEK in-house geometric error compensation, the accuracy can reach metrology grade.

Model	Stroke range(mm)				Overall dimension(mm)			Main machine weight(kg)	Max. load (kg)	Vector motion velocity (mm/s)	Vector motion acceleration (mm/s²)
	X	Y	Z		LX	LY	LZ				
06.08.06	600	800	600		1682	2107	3260	4760	400	520	1870
08.10.06	800	1000	600		1882	2557	3260	6207	500	520	1870
10.12.08	1000	1200	800		2082	3007	3660	8000	800	520	1870
10.15.08	1000	1500	800		2082	3582	3660	9600	800	520	1870
12.15.10	1200	1500	1000		2282	3582	4060	10800	1000	400	1000
12.20.10	1200	2000	1000		2282	4632	4060	13800	1000	400	1000

Length measurement error MPE (E0) (μm)	Single stylus form probing error MPE (PFTU) (μm)
From 0.5+L/500	From 0.5

Precision index: According to the performance evaluation standard of CMM in ISO10360-2:2009 and ISO10360-5:2010

Temperature requirements for measuring machine room		Power requirement	
Room temperature (temperature control room)	20°C±1°C	Voltage	220 vac±10%
Temperature gradient (time)	0.5°C /h	Frequency	50/60 Hz±1%
Temperature gradient (time)	1°C /24h	Electric current	6A
Temperature gradient (space)	0.5°C /m	Power	1.5kw
Air source requirement		Electrical equipment requires reliable grounding: grounding resistance is less than 4 ohms	
Min. air supply pressure	0.6MPa	Humidity requirements for measuring machine room	
Air consumption	250L/min	Relative air humidity	25~75%

* The machine parameters will change due to product update, which shall be subject to the technical agreement



Acquired 0.5μm certification from National Institute of Metrology, China

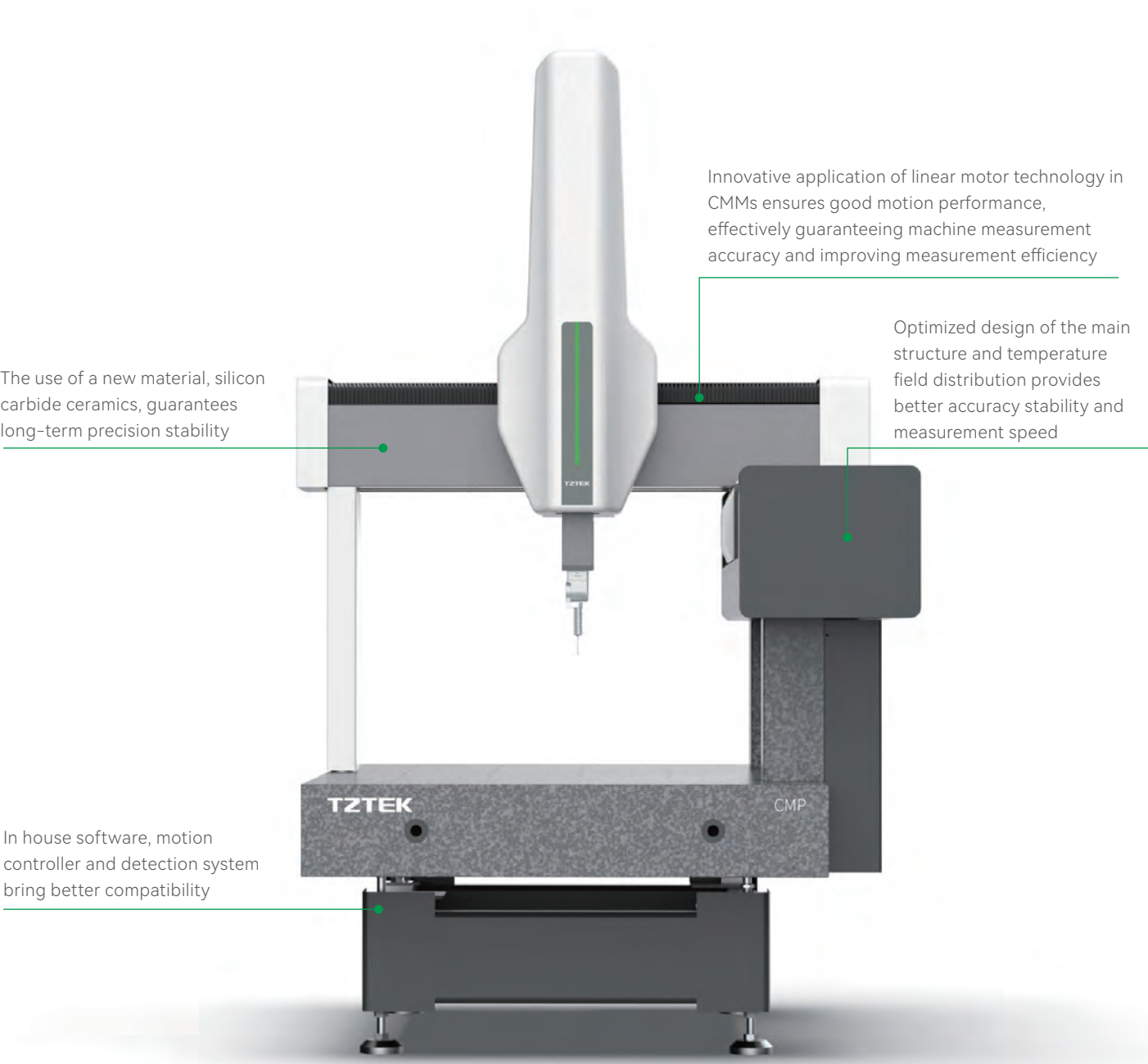
Calibration based on/reference to technical documents JJF 1064-2010 CMM calibration specification

Certificate No: CDLz2025-00173

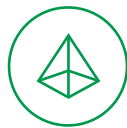


Ultra Coordinate Measuring Machine

CMP Ultra Coordinate Measuring Machine is a high-end measuring equipment produced by TZTEK. With a unique single-side overhead structure, and advantages of stable and reliable performance, high efficiency and high precision, it can cover most application scenarios of triggering and scanning complex measurement.



Product features



Stable mechanical structure

- The single-sided overhead moving bridge structure reduces moving mass and brings the drive closer to the moving center of mass, which minimizes Abbe error, and effectively improves motion performance and accuracy stability.
- High-rigid high-performance air-bearing guide brings neither friction nor wear or tear, and the three axes designed in an enveloping structure together with air-bearing pressure monitor effectively ensure its stability.
- Ultra-low linear temperature and linear expansion coefficient scale for three axes is insusceptible to temperature change, effectively improving the accuracy of the machine.



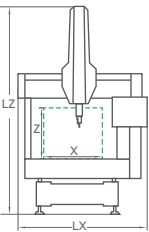
Application of new materials

Key structural parts are made of high-precision silicon carbide ceramics, which provide higher rigidity and lower temperature linear expansion performance while making the moving bridge lighter in mass, greatly improving accuracy and long-term reliability.



Safety

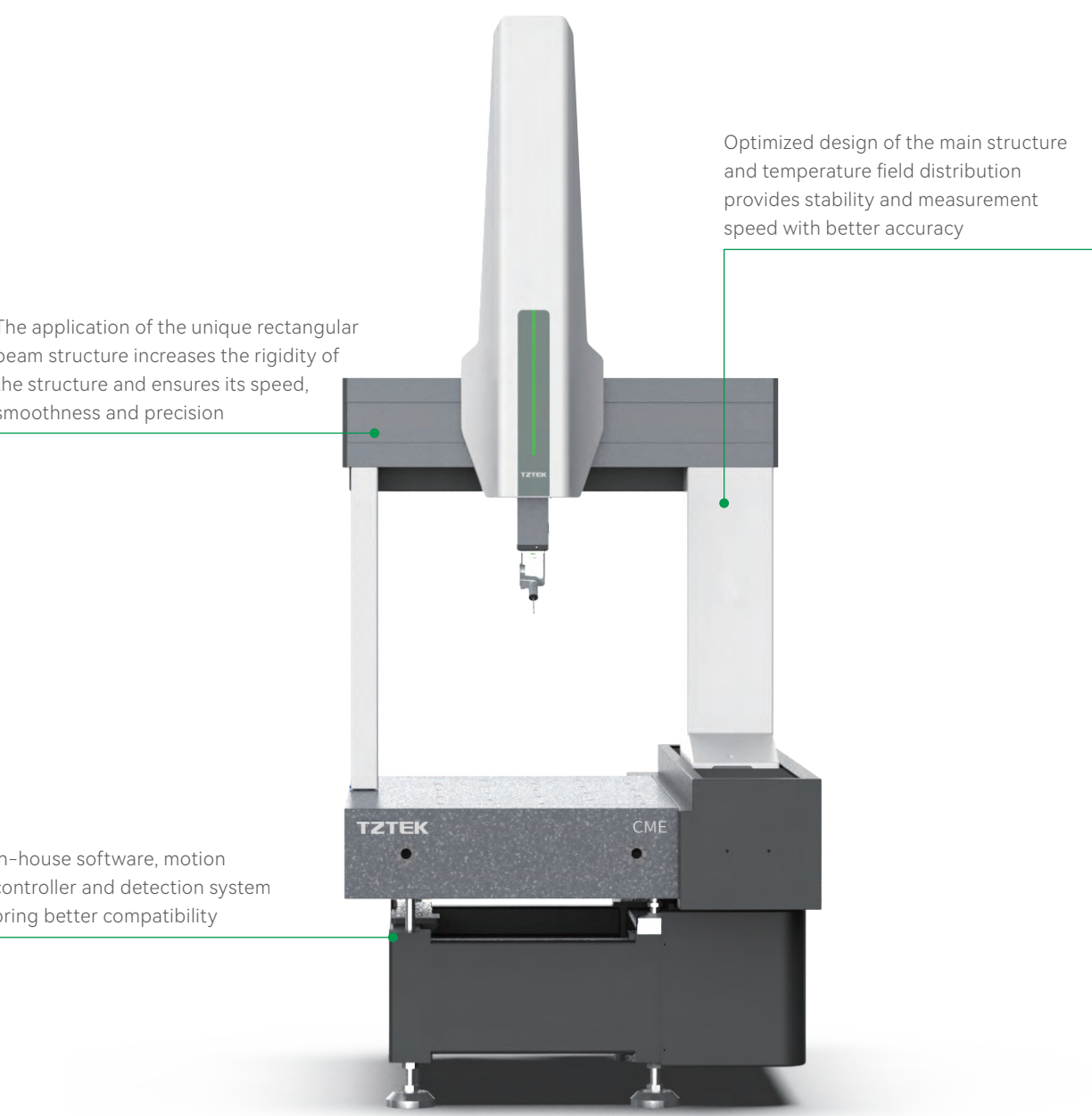
The Z-axis is under the protection of both the pneumatic logic of the balancing cylinder and the hardware hold-up mechanism, ensuring the safety of the detection system in an emergency.

Model	Stroke range(mm)				Overall dimension(mm)			Main machine weight(kg)	Max. load (kg)	Vector motion velocity (mm/s)	Vector motion acceleration (mm/s²)
	X	Y	Z		LX	LY	LZ				
06.08.06	600	800	600		1479	1932	2780	2400	600	520	1870
08.10.06	800	1000	600		1679	2132	2830	2850	1000	520	1870
10.12.08	1000	1200	800		1879	2340	3158	3250	1200	520	1870
10.15.08	1000	1500	800		1879	2632	3158	3620	1500	520	1870
10.20.08	1000	2000	800		1879	3230	3158	4800	1800	520	1870
12.15.10	1200	1500	1000		2104	2632	3292	7600	1500	450	1200
12.20.10	1200	2000	1000		2104	3230	3292	9600	1800	450	1200
15.20.12	1500	2000	1200		2630	3230	3950	10100	1800	450	1200
15.25.12	1500	2500	1200		2630	4037	3950	12500	2300	450	1200
15.30.12	1500	3000	1200	2630	4844	3950	14700	2500	450	1200	
Length measurement error MPE (E0) (μm)					Single stylus form probing error MPE (PFTU) (μm)						
From 0.9+L/350 ^[1]					From 1.2						
Precision index: According to CMM calibration standard: JJF 1064-2010 (ISO 10360-2:2009, ISO 10360-5:2010)											
Temperature requirements for measuring machine room					Power requirement						
Room temperature (temperature control room)			20°C±2°C		Voltage					220 vac±10%	
Temperature gradient (time)			1°C /h		Frequency					50/60 Hz±1%	
Temperature gradient (time)			2°C /24h		Electric current					10A	
Temperature gradient (space)			1°C /m		Power					2.5kw	
Air source requirement					Electrical equipment requires reliable grounding: grounding resistance is less than 4 ohms						
Min. air supply pressure			0.6MPa		Humidity requirements for measuring machine room						
Air consumption			150L/min		Relative air humidity					25~75%	

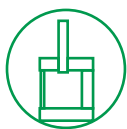
[1] The accuracy of CMU-S machine shall meet the requirement starting from 1.5+L/350 μm, and the specific technical parameters can be communicated with our sales staff
* The machine parameters will change due to product update, which shall be subject to the technical agreement

Economic Coordinate Measuring Machine

Universal production-oriented CMM of CME series is designed to meet the needs of users for measuring three-dimensional dimensions. With advantages of high precision, versatility, automation and high flexibility, it provides stable and efficient measurement solutions for production sites and R&D centers.

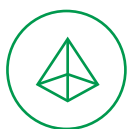


Product features



Classical structure

The classic mobile bridge structure is simple and compact with good openness and fast movement speed, providing measurement with high efficiency and high precision.



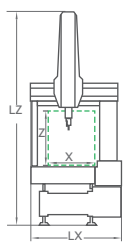
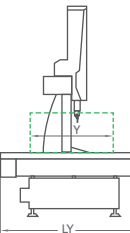
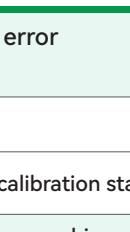
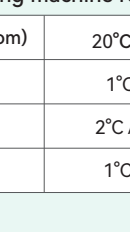
High stability

- High-rigid high-performance air-bearing guide brings neither friction nor wear or tear, and the three axes designed in an enveloping structure effectively ensure its stability.
- Application of a high-resolution coefficient scale for the three axes ensures high accuracy.



Driving mode

The three axes are driven by servo motors. The motors are arranged at the far end of all axes, effectively avoiding the effect of heat arising from their operation on the local temperature of the measuring machine.

Model	Stroke range(mm)				Overall dimension(mm)			Main machine weight(kg)	Max. Load (kg)	Vector motion velocity (mm/s)	Vector motion acceleration (mm/s²)
	X	Y	Z		LX	LY	LZ				
06.08.06	600	800	600		1150	1800	2725	1420	550	520	1730
08.10.06	800	1000	600		1350	2000	2725	1810	550	520	1730
10.12.08	1000	1200	800		1676	2273	3130	2700	1500	520	1730
10.15.08	1000	1500	800		1676	2573	3130	3100	1700	520	1730
10.20.08	1000	2000	800		1676	3073	3130	4000	1800	520	1730
12.15.10	1200	1500	1000		1876	2773	3600	4100	1850	450	1200
12.22.10	1200	2200	1000		1876	3273	3600	5800	2300	450	1200

Length measurement error MPE (E0) (μm)	Single stylus form probing error MPE (PFTU) (μm)
From 1.9+L/300	From 1.9

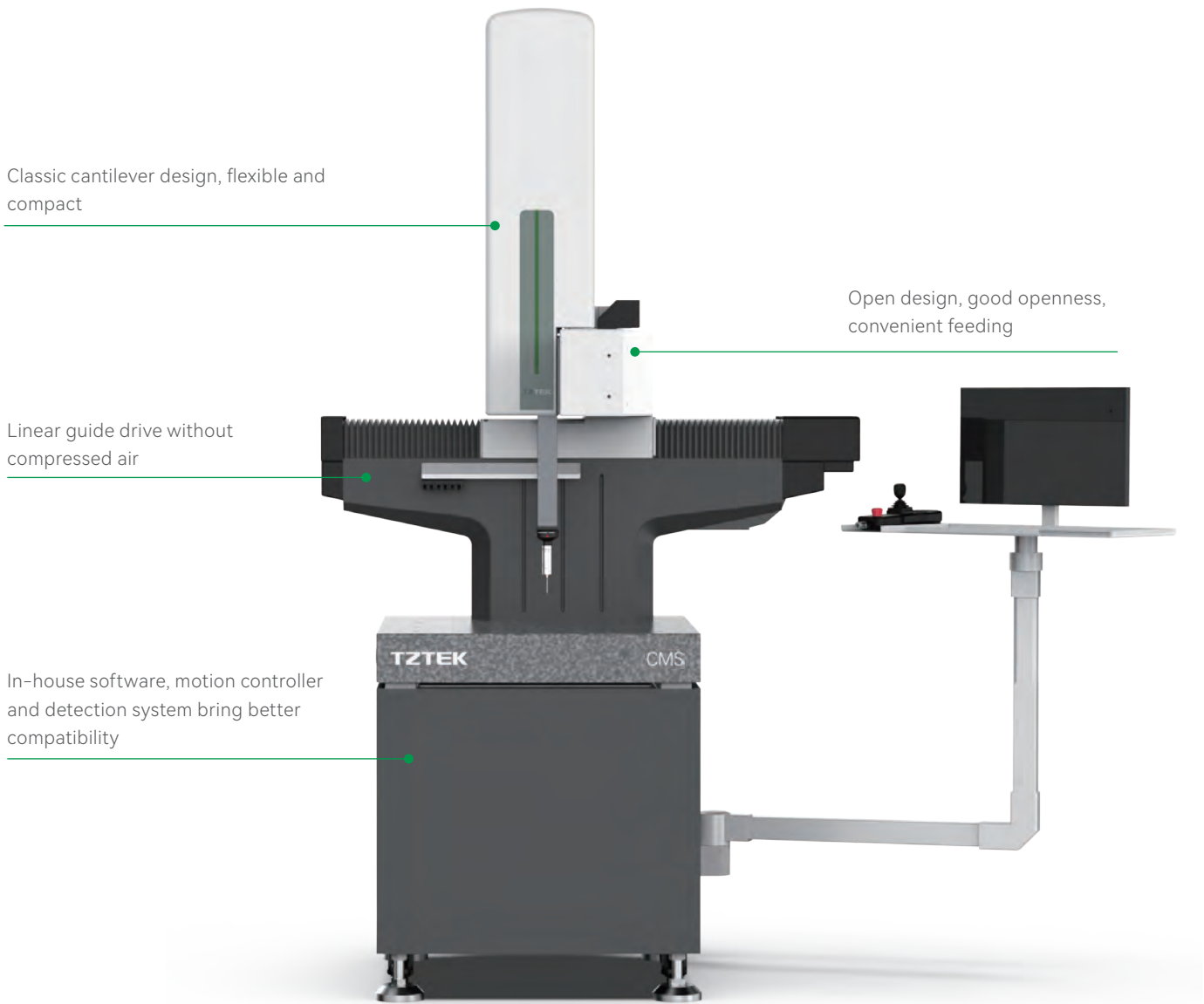
Precision index: According to CMM calibration standard: JJF 1064-2010 (ISO 10360-2:2009, ISO 10360-5:2010)

Temperature requirements for measuring machine room		Power requirement	
Room temperature (temperature control room)	20°C±2°C	Voltage	220 vac±10%
Temperature gradient (time)	1°C /h	Frequency	50/60 Hz±1%
Temperature gradient (time)	2°C /24h	Electric current	10A
Temperature gradient (space)	1°C /m	Power	2.5kw
Air source requirement		Electrical equipment requires reliable grounding: grounding resistance is less than 4 ohms	
Min. air supply pressure	0.6MPa	Humidity requirements for measuring machine room	
Air consumption	100L/min	Relative air humidity	25~75%

* The machine parameters will change due to product update, which shall be subject to the technical agreement

Shopfloor Coordinate Measuring Machine

CMS is a general workshop type coordinate measuring machine, with small space consumption. It's designed to meet the 3D dimensional measurement needs, suitable for all types of workpiece measurement, and its unique structural design improves the system's anti-interference performance for the environment and long-term stability. It can be widely used in all kinds of production sites, without the need of professional measuring room, and can be seamlessly connected to the production line, achieving convenient and fast workpiece measurement.

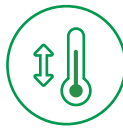


Product features



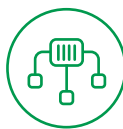
Stable structure

- The casting key parts of the main body, combined with the high rigidity linear guides, improves the stability of the structure as well as the accuracy.
- The three axes use low-expansionhigh-resolution scales to ensure good accuracy.



Great environment adaptability

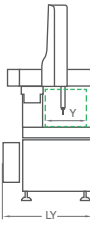
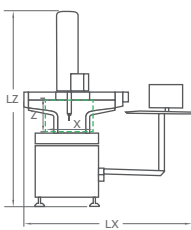
- Good protection of the outer cover, effectively avoiding the dust or oil interference.
- Excellent measurement accuracy even in 15-40°C operating environments.



Strong flexibility

- No need for compressed air, small and compact body, flexible movement in the workshops.
- Can be connected to automatic loading and unloading and embedded in the assembly line operation, which is convenient and efficient.

Model	Stroke range(mm)			Overall dimension(mm)		
	X	Y	Z	LX	LY	LZ
05.06.05	500	600	500	1800	1100	2440
Main machine weight(kg)	Max. Load (kg)		Vector motion velocity (mm/s)		Vector motion acceleration (mm/s²)	
700	150		606		2598	



Length measurement error MPE (E0) (μm)		18-22°C: 2.2+L/300 μm; 18-26°C: 2.5+L/250 μm; 18-30°C: 2.7+L/200 μm; 15-40°C: 3.9+L/100 μm	
Single stylus form probing error MPE (PFTU) (μm)		From 2.2	
Maximum permissible limit of repeatability MPL(R0)(μm)		1.6	
Scanning detection error MPE(THP)(μm)		2.9μm/55s	

Precision index: According to CMM calibration standard: JJF 1064-2010 (ISO 10360-2:2009, ISO 10360-5:2010)

Temperature requirements for measuring machine room	
Room temperature (temperature control room)	15-40°C
Temperature gradient (time)	1°C/h(18-22°C); 1°C/h(18-26°C); 2°C/h(18-30°C&15-40°C)
Temperature gradient (time)	2°C/d(18-22°C); 5°C/d(18-26°C); 5°C/d(18-30°C&15-40°C)
Temperature gradient (space)	1°C /m

Power requirement	
Voltage	220V±10%
Frequency	50/60 Hz±1%
Electric current	10A
Power	2.5kw

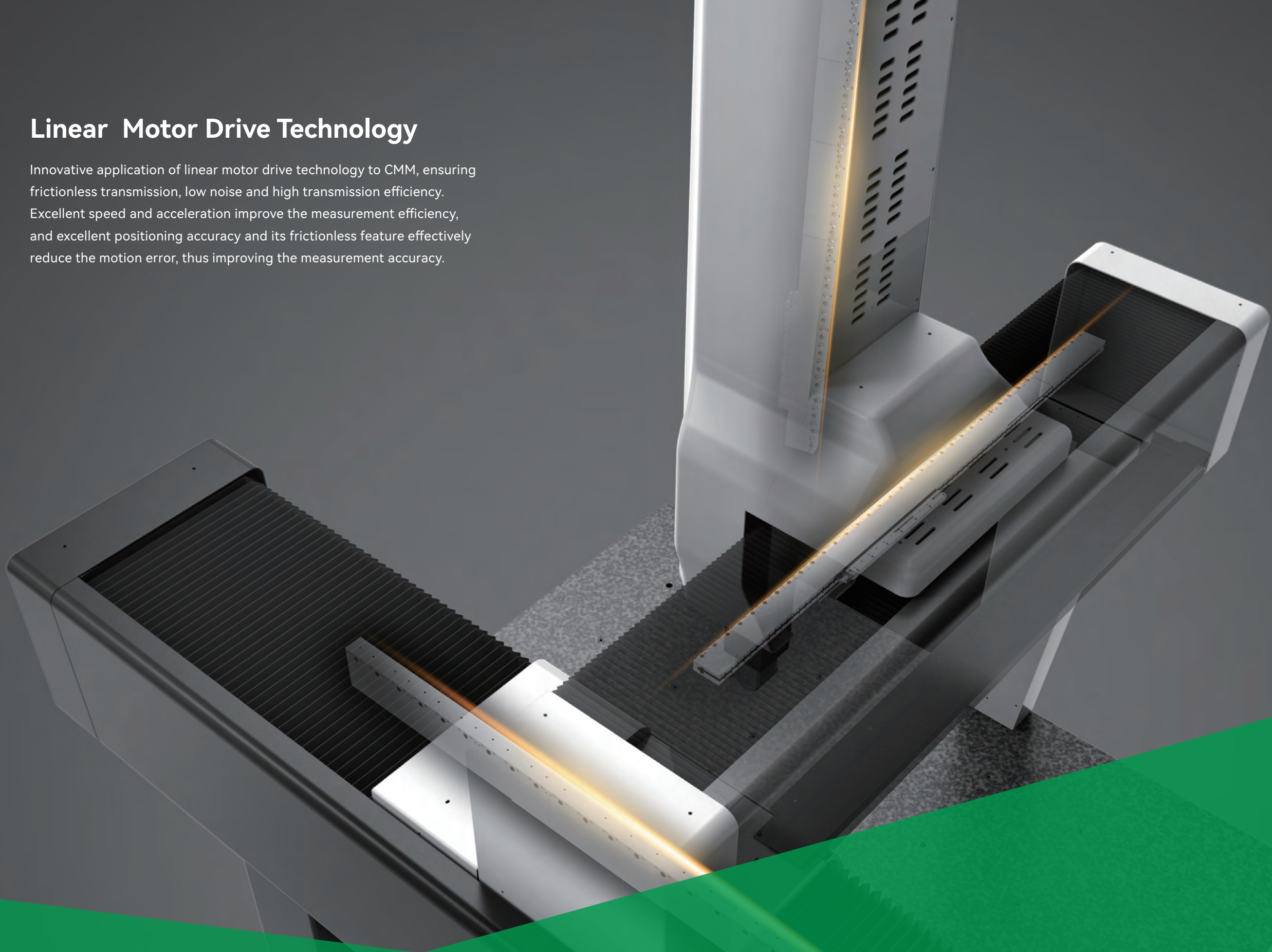
Humidity requirements for measuring machine room	25% -75%, non condensing
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* Electrical equipment requires reliable grounding: grounding resistance less than 4Ω

* The machine parameters will change due to product update, which shall be subject to the technical agreement

Linear Motor Drive Technology

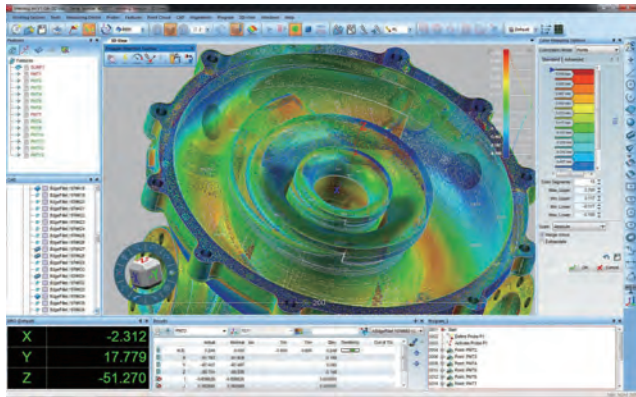
Innovative application of linear motor drive technology to CMM, ensuring frictionless transmission, low noise and high transmission efficiency. Excellent speed and acceleration improve the measurement efficiency, and excellent positioning accuracy and its frictionless feature effectively reduce the motion error, thus improving the measurement accuracy.



Higher Compatibility



◆ The CMM system supports, providing users with more choices



◆ The CMM system supports Metrologic X4 software, providing users with more choices



◆ TZTEK CMM can be compatible with multi-brand and multi-type probe head systems.

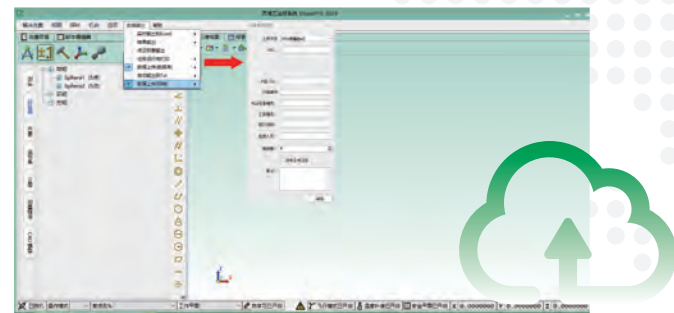


Value-added Services



Customized reports

Support customized output reports to meet the individual needs of different users.



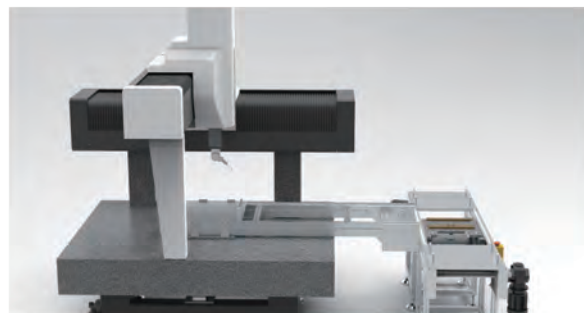
MES data cloud service

Offer MES data upload function to help customers realize intelligent management of measurement data.



Expandable rotary table

Four-axis measurement with the rotary table simplifies and accelerates the measurement process and further expands the measurable range.



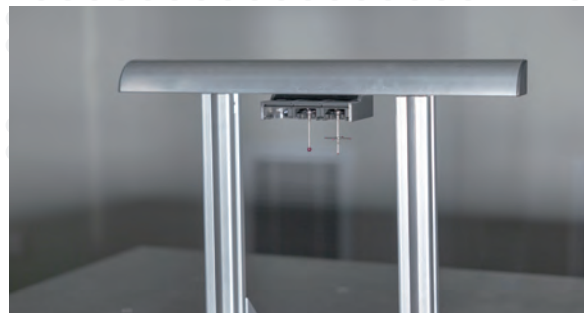
Automatic loading and unloading

Help customers improve production efficiency and reduce labor costs.



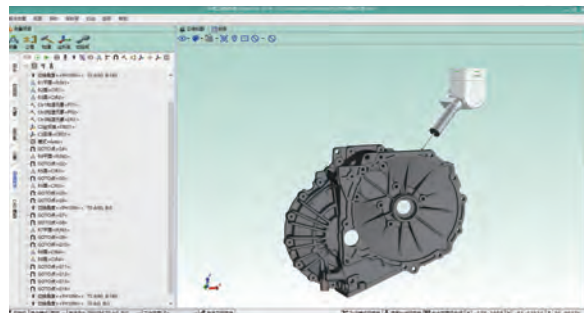
Universal fixture

Strong trial-and-error and versatility, adapting to the needs of most shapes of workpieces.



Changer rack

Allow for automatic probe changing, increasing measurement efficiency while enhancing the probe's measurement capabilities.



Valet programming

With a professional editing team of measurement program, the company can provide the best measurement scheme according to the actual needs of customers, so as to provide customers with all-round technical support such as procedural programming, measurement action debugging and customer training

In-house Software



TCC In-house Electronic Control

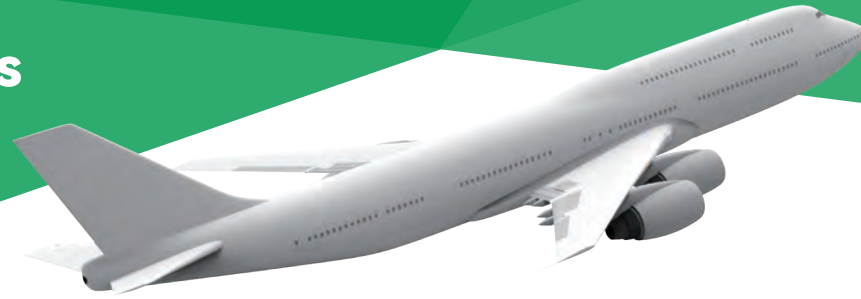


Vispec Cube passed the highest accuracy Class 1 (0.1 μm, 0.1") certification of German PTB



Functional specification	TCC-UZ	TCC-E
Number of control axis	XYZR (support gantry dual drive)	XYZR
Motor form	Linear motor	DC servo motor
PC communication	100M Ethernet	
Integrated power supply	✓	
Scanning interface	SP80/SP25/TZ HSP	
Triggering interface	✓	
Automatic head interface	✓	
Temperature sensor	16 channels	
Dynamic error compensation	✓	

Application Areas



Aerospace

For aero-engines, gear blades and other parts, CMM provides efficient and precise dimension measurement, which ensures the quality of products and improves production efficiency.



Automobile manufacturing

In automotive manufacturing, from powertrain, auto parts, to body design, manufacturing and verification, as well as mold and tooling manufacturing inspection, CMM is widely used.



Medical industry

In the medical industry, it is used for inspection of precision parts, such as implants and surgical instruments, to ensure compliance with high standards of dimensional accuracy and shape complexity. It serves product development and equipment calibration, and helps to improve the quality and safety of medical products through high-precision three-dimensional measurement.



Machinery manufacturing

The CMM is mainly used to measure the size, shape and position tolerance of precision components. By collecting data with contact or non-contact probes, it efficiently performs 3D measurement of complex workpieces, ensuring that the products meet the design specifications and quality standards. It is widely used in product inspection, mold correction, process optimization, quality control and other fields, effectively improving manufacturing accuracy and efficiency.



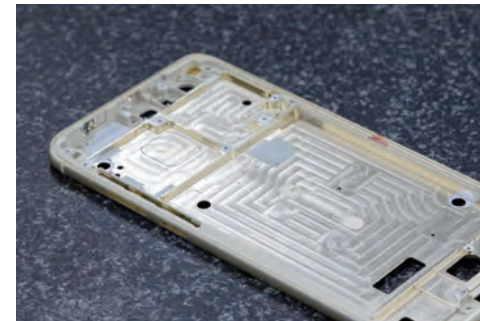
Precision machining

The CMM plays a core inspection role in precision machining, evaluating high-precision three-dimensional size and form and positional tolerances of complex components to ensure that the products meet the design standards, powerfully driving process optimization and quality control, and enhancing manufacturing accuracy and consistency.



3C industry

The CMM is used for three-dimensional size, positional and form tolerance inspection of precision components such as circuit boards, housings and connectors. With the high-precision measurement technology, the assembly accuracy of spare parts and the quality stability of the whole product are ensured, especially in the field of precision assembly such as smart phones and tablet computers, which effectively promotes the optimization of production process, the yield improvement and the quality control. It is an important detection method to realize the fine and miniaturized manufacturing of 3C products.



Electronic industry

As a key testing tool in the electronic industry, CMM accurately measures the three-dimensional size and position errors of precise components such as circuit boards and components, thus ensuring the assembly accuracy and product quality, and strongly supporting the high-precision manufacturing and quality improvement of electronic products.

