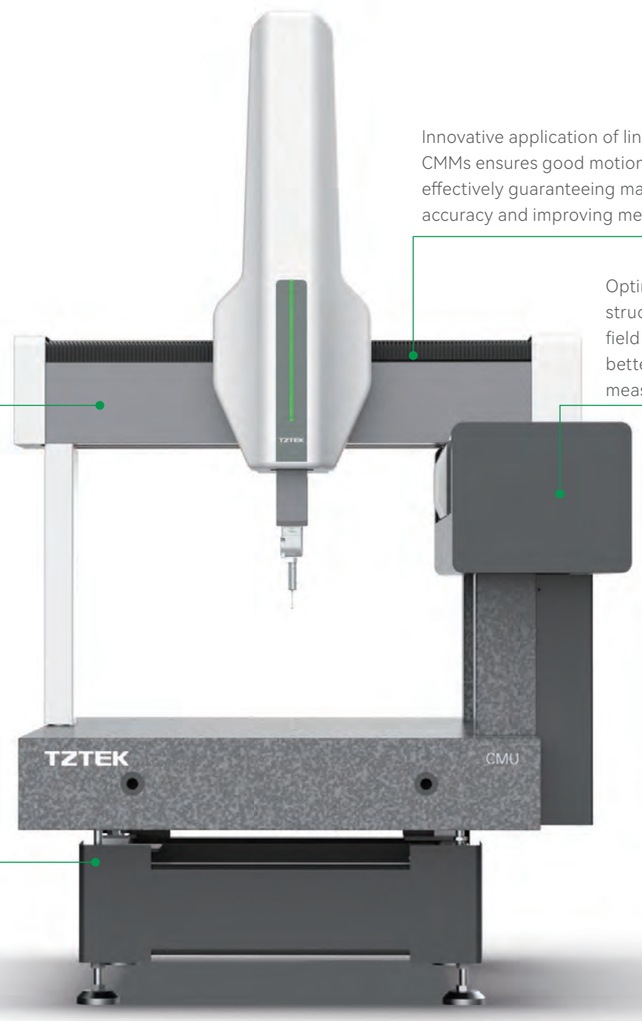
Ultra Coordinate Measuring Machine

CMU 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.



Innovative application of linear motor technology in CMMs ensures good motion performance, effectively guaranteeing machine measurement accuracy and improving measurement efficiency

Optimized design of the main structure and temperature field distribution provides better accuracy stability and measurement speed

The use of a new material, silicon carbide ceramics, guarantees long-term precision stability

In house software, motion controller and detection system bring better compatibility

Product features

Stable mechanical structure

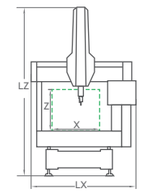
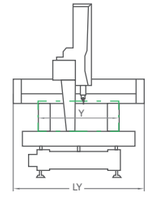
- The single-sided overhead moving bridge structure reduces moving mass and brings the drive closer to the moving center of mass , which minimizes Abbe error, and effectively improves motion performance and accuracy stability.
- High-rigid high-performance air-bearing guide brings neither friction nor 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°±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