The Global Measurement Leader

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VISION:1/2025



COORDINATE MEASURING MACHINE

PMT®

Perfect Measurement Technology is not only Precise Measurement Technology, but also Professional Measurement Technology.

VISION

The Global Measurement Leader

MISSION

Make Measurement More Accurate and Professional

VALUE

Customer First, Full Commitment and Sustainable Innovation

COORDINATE MEASURING MACHINE

COORDINATE MEASURING MACHINE

- **FUTURE Series** Bridge CMM
- **PRIME** Bridge CMM
- **SPACE Series** Shop Floor CMM
- **LOONG** Gantry CMM

PMT CMM is a new series of products launched by PMT Technologies, which is divided into Four series: Bridge CMM FUTURE, PRIME, Shop Floor CMM SPACE and Gantry CMM LOONG. The coordinate position of each measuring point can be obtained when the object is placed in the CMM space and then, the geometric size, shape and position can be calculated according to the spatial coordinate values of these points. With the excellent performance, PMT CMM provides high-precision, high-stability and high-efficiency measuring solutions for production sites, R&D centers and metrology labs, and is widely used in automotive, mold, machining, precision manufacturing, metrology institutes, aerospace and other fields.



▲ FUTURE



▲ PRIME



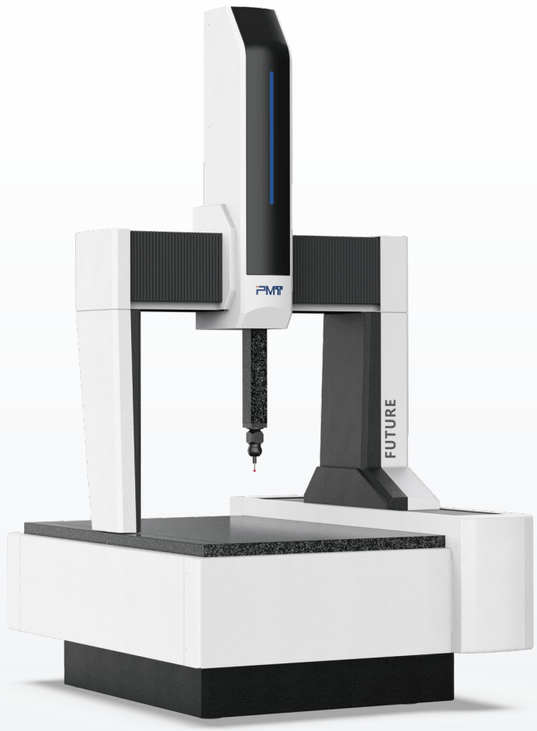
▲ SPACE



▲ LOONG

PMT BRIDGE CMM

The FUTURE series Bridge CMM has 2 models: FUTURE^{PLUS} and FUTURE, which are the high-end CMMs of PMT. The mobile bridge structure design can meet the ultra-high-precision detection needs of complex components with the characteristics of high efficiency and stable performance and help to realize precision machining, assembly and quality control.





Superior Granite ▶

The whole worktable and guideway are all made of granite with low thermal expansivity, stressless deformation, strong rigidity and super stability. The bearing capacity of the granite table is up to 4500kg.

FUTURE SERIES

Rectangular Guideway Structure ▶

The X, Y and Z axes are all made of granite rectangular guideway with low thermal expansivity, which effectively reduces the Non-Linearity Error caused by bending deformation to ensure the symmetry and matching of each air bearing. The 3-axis rectangular guideway can maintain good reliability and stability in the high-speed movement, guaranteeing the excellent dynamic characteristics.



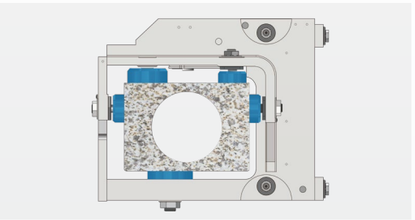
Drive Technology of Dynamic Movement ▶

The drive technology of dynamic movement can ensure the smooth operation of the machine. Y axis adopts friction drive by shaft, while X and Z axes adopt flexible drive by single belt (similar to the flexible rack and gear pair). The electric motor moves with the moving parts, avoiding the difference between the far and the near end caused by the transmission, greatly enhancing the transmission stability and the positioning accuracy, and reducing the maintenance cost.



Surrounding Air-bearing Structure ▶

The X、Y and Z axes use the circular symmetrical design of air bearing, which greatly reduces the influence of the machine stability caused by the deformation of structural parts, and effectively enhances the anti-torsion ability of moving parts. The rigidity and stability of the machine are improved as well.



Quick Response to Balanced Pulley of Air Cylinder ▶

The Z-axis adopts the quick response to balanced pulley of air cylinder. The flexible transmission of the pulley belt can reduce the cylinder stroke by 1/2, and the cylinder is placed outside the Z axis, which improves the rapid response ability of it, and avoids the fluctuation influence of the cylinder air flow on the Z axis.



Separated Airflow with Independent Operation ▶

The main airflow is divided into five paths, and each flow state is controlled by the precision pressure regulator, so that the bearing surface and the guide surface can get reasonable airflow distribution.This will achieve the best airflow condition of the overall machine.



Dust Protection Design ▶

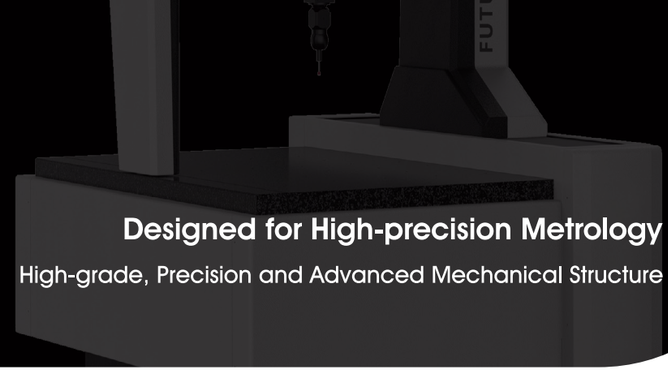
The top of X and Y axis is provided with a dust protection structure, which avoids the dust on the guideways, ensures that the air-bearing can operate in a clean environment, and greatly avoids the occurrence of machine failure.



FUTURE SERIES

- FUTURE PLUS
- FUTURE





Designed for High-precision Metrology

High-grade, Precision and Advanced Mechanical Structure

TECHNICAL FEATURES

FUTURE PLUS BRIDGE CMM

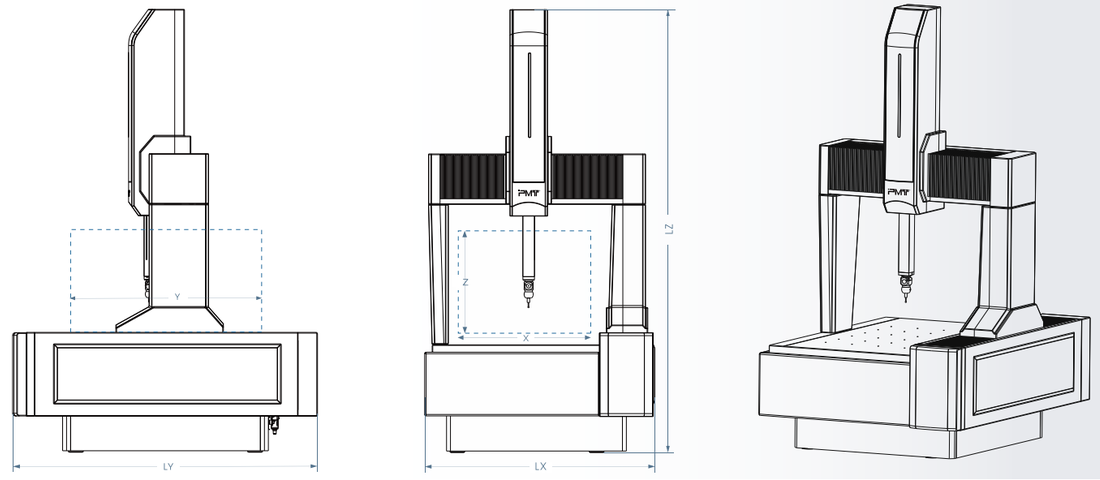
Model		FUTURE PLUS 55		FUTURE PLUS 87			FUTURE PLUS 108				FUTURE PLUS 1210				FUTURE PLUS 1512			
Type		655	855	1087	1587	2087	12108	15108	20108	25108	151210	201210	251210	301210	201512	251512	301512	401512
Range (mm)	X	500	500	800	800	800	1000	1000	1000	1000	1200	1200	1200	1200	1500	1500	1500	1500
	Y	600	800	1000	1500	2000	1200	1500	2000	2500	1500	2000	2500	3000	2000	2500	3000	4000
	Z	500	500	700	700	700	800	800	800	800	1000	1000	1000	1000	1200	1200	1200	1200
Size (mm)	LX	1160	1160	1560	1560	1560	1810	1810	1810	1810	2145	2145	2145	2145	2630	2630	2630	2630
	LY	1590	1790	2060	2560	3060	2420	2800	3400	4000	2940	3540	4140	4740	3760	4360	4960	6260
	LZ	2560	2560	2990	2990	2990	3210	3210	3210	3210	3610	3610	3610	3610	4250	4250	4250	4250
Weight (kg)		800	1050	2200	3100	4250	4300	5000	6500	8200	5500	8000	10000	12500	11000	12500	15300	19500
The Maximum Weight for Workpiece (kg)		400	500	1000	1100	1300	2000	2200	2500	2800	2500	2800	3000	3200	3600	3800	4200	4500
MPE_E (μm)		1.2+L/400		1.4+L/400			1.6+L/400				2.0+L/400				2.6+L/400			
MPE_P (μm)		1.2		1.4			1.6				2.0				2.6			

FUTURE BRIDGE CMM

Model		FUTURE 55		FUTURE 87			FUTURE 108				FUTURE 1210				FUTURE 1512			
Type		655	855	1087	1587	2087	12108	15108	20108	25108	151210	201210	251210	301210	201512	251512	301512	401512
Range (mm)	X	500	500	800	800	800	1000	1000	1000	1000	1200	1200	1200	1200	1500	1500	1500	1500
	Y	600	800	1000	1500	2000	1200	1500	2000	2500	1500	2000	2500	3000	2000	2500	3000	4000
	Z	500	500	700	700	700	800	800	800	800	1000	1000	1000	1000	1200	1200	1200	1200
Size (mm)	LX	1160	1160	1560	1560	1560	1810	1810	1810	1810	2145	2145	2145	2145	2630	2630	2630	2630
	LY	1590	1790	2060	2560	3060	2420	2800	3400	4000	2940	3540	4140	4740	3760	4360	4960	6260
	LZ	2560	2560	2990	2990	2990	3210	3210	3210	3210	3610	3610	3610	3610	4250	4250	4250	4250
Weight (kg)		800	1050	2200	3100	4250	4300	5000	6500	8200	5500	8000	10000	12500	11000	12500	15300	19500
The Maximum Weight for Workpiece (kg)		400	500	1000	1100	1300	2000	2200	2500	2800	2500	2800	3000	3200	3600	3800	4200	4500
MPE_E (μm)		1.6+L/350		1.8+L/350			2.0+L/350				2.6+L/350				2.9+L/350			
MPE_P (μm)		1.6		1.8			2.0				2.6				2.9			

- MPE_E: According to ISO 10360-2:2009;
- MPE_P: According to ISO 10360-2:2009.

EXTERNAL DIMENSIONS



MEASURING SYSTEM

Incremental Photoelectric Grating Ruler	Optical Scale 20μm; Resolution Ratio: 0.1μm

DYNAMIC PROPERTY

Manual Mode Operation(Vmax)	0~20mm/s (Slow Mode), 0~100mm/s (Standard Mode)
CNC Mode (Vmax)	Uniaxial Velocity 300mm/s, Dynamic Velocity 520mm/s
CNC Mode (Qmax)	Uniaxial Velocity 1000mm/s, Dynamic Velocity 1732mm/s

OPERATING REQUIREMENTS

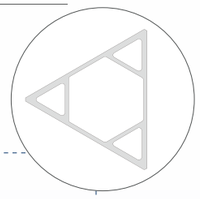
Power Supply	Single-phase Power Supply 1P+N+PE,115/230V+/-10%,50/60Hz,Maximum Power 1000VA; Standard: EN60204/1
Compressed Air	Air Pressure: 6-10bar; Standard: ISO8573-1, Level 4 or higher
Air Flow	160-200Nl/min;
Operating Temperature	20±2℃;
Calibration Temperature(MPE$_E$)	20±1℃, △T 1K/ h, 1K/ m, 2K/d
Relative Humidity	RH40%~75%

PMT BRIDGE CMM

PRIME

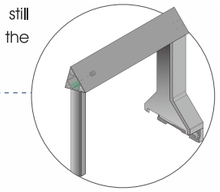
Structure of Equilateral Triangle Beam

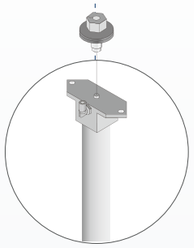
The aluminum alloy beam with the structure of equilateral triangle has good thermal balance and isotropy to ensure that the machine can run smoothly.



Aviation Aluminum Alloy Frame Structure

The aluminum alloy frame with hard anodized surface has a good ratio of rigidity to ensure the machine can still maintain a good precision under the high-speed operation.



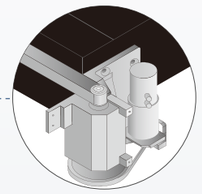


Flexible Pneumatic Balance Technology

The flexible pneumatic balance technology adopts flexible suspension system to avoid the impact on the accuracy balance when the machine is working, improving measurement accuracy and stability.

Flexible Synchronous Belt Drive

The flexible synchronous belt with built-in steel wire, takes into account the flexible meshing and rigid axial transmission, which eliminates the vibration and jitter generated during the movement and ensures the good high-precision positioning performance of the machine.



Superior Granite

The whole worktable is made of granite with low thermal expansivity, stressless deformation, strong rigidity and super stability. The bearing capacity of the granite table is up to 1400kg.

Overall Lightweight and High-strength Structure

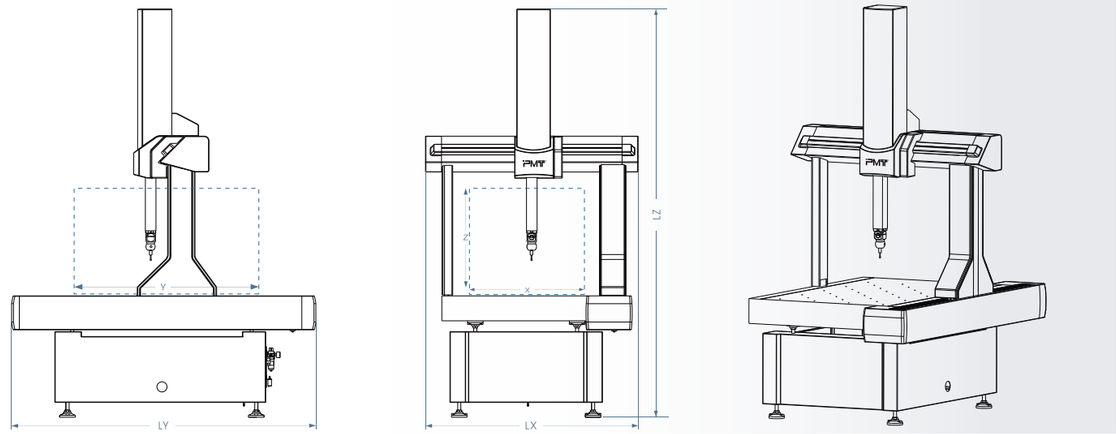
The overall lightweight and high-strength design ensures that the machine can not only achieve a good accuracy in the case of high-speed measurement, but also improve the measurement efficiency.

TECHNICAL FEATURES

Model			PRIME					
Type			866	1086	1286	12108	15108	20108
Range	X	(mm)	600	800	800	1000	1000	1000
	Y		800	1000	1200	1200	1500	2000
	Z		600	600	600	800	800	800
Size	LX	(mm)	1170	1370	1370	1650	1650	1650
	LY		1760	1960	2160	2350	2650	3250
	LZ		2630	2630	2630	3080	3080	3080
Weight		(kg)	660	880	1000	1200	1450	1850
The Maximum Weight for Workpiece		(kg)	300	500	700	1000	1200	1400
MPE_E		(μm)	2.8+L/300	2.8+L/300	2.8+L/300	3.4+L/300	3.4+L/300	3.4+L/300
MPE_P		(μm)	2.8	2.8	2.8	3.4	3.4	3.4

▶ MPE_E: According to ISO 10360-2:2009; ▶ MPE_P: According to ISO 10360-2:2009.

EXTERNAL DIMENSIONS



MEASURING SYSTEM

Incremental Photoelectric Grating Ruler	Optical Scale 20μm; Resolution Ratio: 0.5μm

DYNAMIC PROPERTY

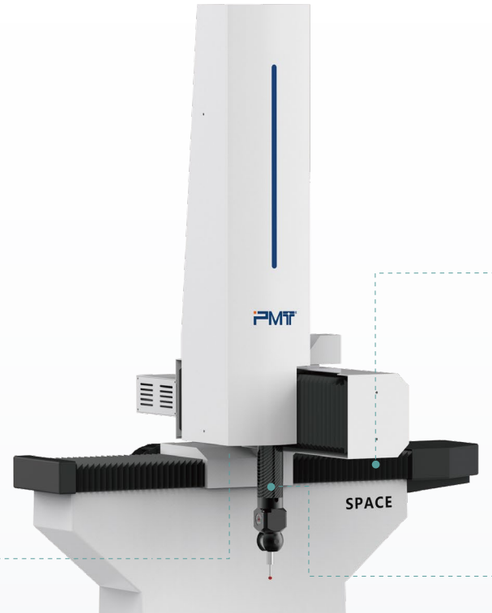
Manual Mode Operation(Vmax)	0-20mm/s (Slow Mode), 0-100mm/s (Standard Mode)
CNC Mode (Vmax)	Uniaxial Velocity 300mm/s, Dynamic Velocity 520mm/s
CNC Mode (Amax)	Uniaxial Velocity 1000mm/s, Dynamic Velocity 1732mm/s

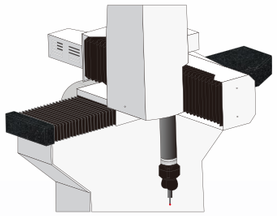
OPERATING REQUIREMENTS

Power Supply	Single-phase Power Supply 1P+N+PE,115/230V+/-10%,50/60Hz,Maximum Power 1000VA; Standard: EN60204/1
Compressed Air	Air Pressure: 6-10bar; Standard: ISO8573-1, Level 4 or higher
Air Flow	160-200Nl/min;
Operating Temperature	20±2℃;
Calibration Temperature(MPE)	20±1℃, △T 1K/ h, 1K/ m, 2K/d
Relative Humidity	RH40%～75%

SPACE

Shop Floor CMM



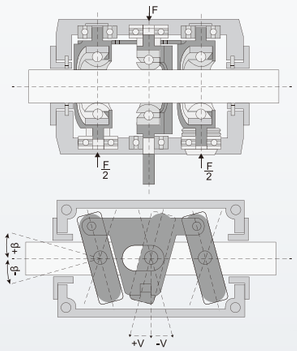


Dustproof and Antifouling Design ▲



Aviation Carbon Fiber ▲

Friction Drive ▼





SPACE is an innovative CMM specifically designed for shop floor. It has a compact, robust and ergonomic structure and enables perfect quality control in manufacturing process. The machine is easy-to-operate, flexible and versatile, bringing a new measurement experience to new users.

Shop Floor Design
Adapt to Machining Environment

ADVANTAGES

No Need for Air Source
Can be directly placed in the workshop environment for measurement, efficient and stable

No Requirement of Temperature
The accuracy varies little by temperature fluctuation, which is suitable for shop floor site;

Strong Vibration Resistance
The table is made of high-quality granite, and the X, Y, Z axes are made of ductile iron, which can effectively prevent and isolate vibration.

Aviation Carbon Fiber
The Z-axis is made of high-quality carbon fiber material, which has extremely high strength and rigidity and low thermal expansivity.

Friction Drive
The X, Y and Z axes adopt optical friction gear pairs (compared with flexible ball screw gear pairs), which makes the transmission more efficient and stable.

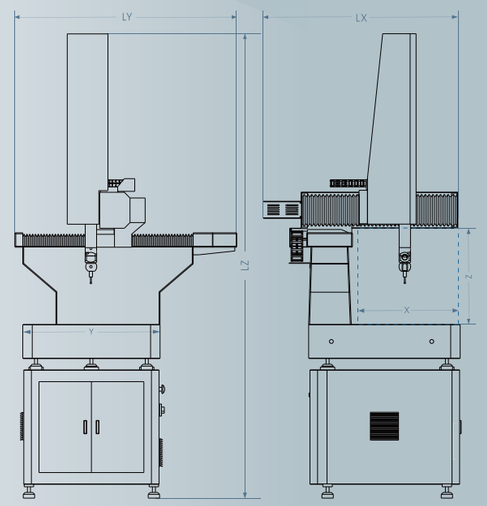
Three Directions of Loading and Unloading
Three directions of loading and unloading to improve the product quality as well as the work efficiency.

Less Occupied Area
Combine measurement and operation, optimize the use of space and occupy the minimum site area.

Anti-pollution
The closed structure of dustproof cover ensures the use of the machine in various production environments.

Open System
SPACE can be connected with robots, automatic loading and unloading, machine tools to realize the functions like automatic loading, testing and sorting.

▼ EXTERNAL DIMENSIONS



TECHNICAL FEATURES

Model			SPACE^{PLUS}		SPACE	
Type			655	855	655	855
Range	X	(mm)	500	500	500	500
	Y		600	800	600	800
	Z		500	500	500	500
Size	LX	(mm)	1040	1040	1040	1040
	LY		1175	1675	1175	1675
	LZ		2570	2570	2570	2570
Weight		(Kg)	500	700	500	700
The Maximum Weight for Workpiece		(Kg)	200	300	200	300
MPE_E	15℃~22℃	(μm)	2.4+L/350	2.4+L/350	2.9+L/350	2.9+L/350
	15℃~26℃		2.4+L/250	2.4+L/250	2.9+L/250	2.9+L/250
	15℃~30℃		2.4+L/200	2.4+L/200	2.9+L/200	2.9+L/200
MPE_P		(μm)	2.4	2.4	2.9	2.9

DYNAMIC PROPERTY

Manual Mode Operation(Vmax)	0～20mm/s (Slow Mode), 0～100mm/s (Standard Mode)
CNC Mode (Vmax)	Uniaxial Velocity 300mm/s, Dynamic Velocity 520mm/s
CNC Mode (Qmax)	Uniaxial Velocity 1000mm/s, Dynamic Velocity 1732mm/s

OPERATING REQUIREMENTS

Power Supply	Single-phase Power Supply 1P+N+PE,115/230V+/-10%,50/60Hz,Maximum Power 1000VA; Standard: EN60204/1
Operating Temperature	15℃~30℃, <2℃/h, <4℃/24h, <2℃/m

GANTRY CMM

LOONG

Double Grating Technology Ensures High-precision

Superior Granite

Made of granite with low thermal expansivity, stressless deformation, strong rigidity and super stability. The bearing capacity of the granite table is up to 10,000kg.

Structure of Triangular Beam

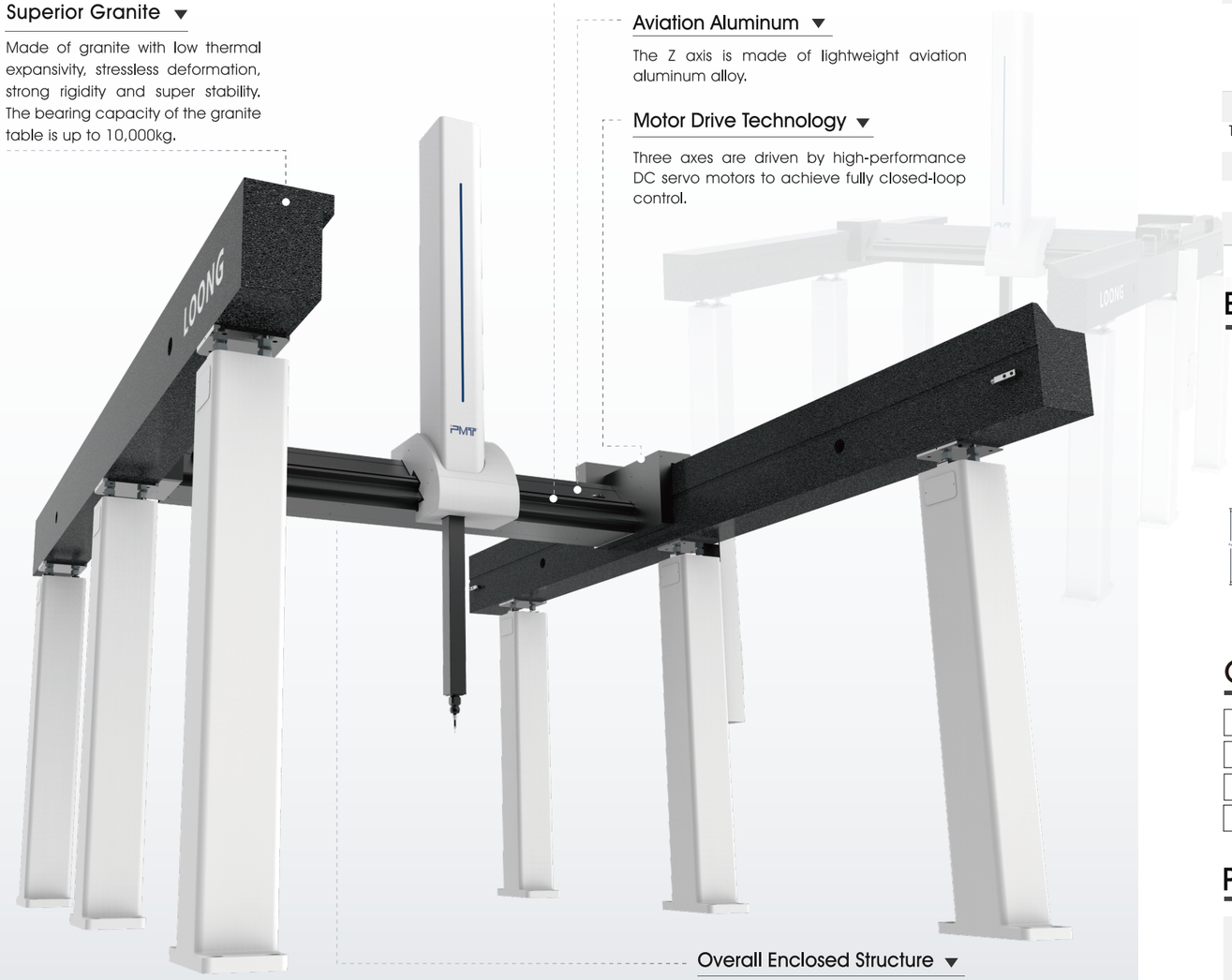
The Y axis beam with structure of triangular beam has the characteristics of strong rigidity.

Aviation Aluminum

The Z axis is made of lightweight aviation aluminum alloy.

Motor Drive Technology

Three axes are driven by high-performance DC servo motors to achieve fully closed-loop control.



Overall Enclosed Structure

Fully enclosed installation, which ensures the measuring machine is not disturbed by external dust.

The LOONG GANTRY CMM is an ideal solution in PMT company for large-scale and complex measurement in industries such as automotive, aerospace, shipbuilding, energy units, heavy transportation, communication and satellite equipment. It adopts the latest measurement technologies, high-power transmission systems, dual grating technology and multi-axis linkage scanning technology, ensuring the precise measurement of large, complex and high-precision parts.
This machine can work in open workshop. It integrates exclusive features such as reliable operation, low maintenance cost, easy loading and unloading, large measurement space and high automation.

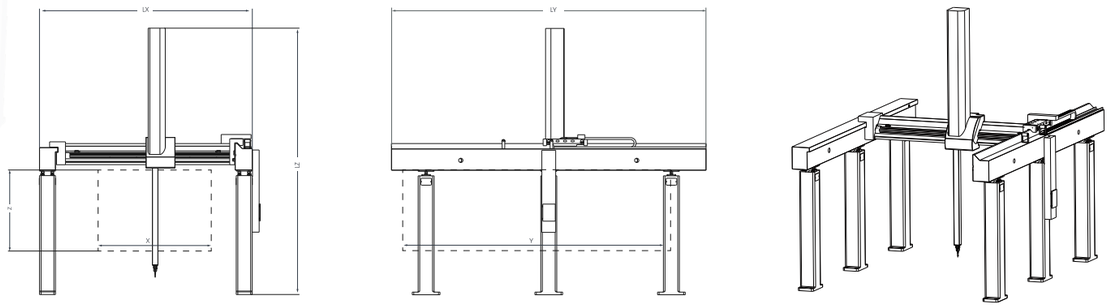
TECHNICAL FEATURES

More functions can be customized according to requirements

Model			LOONG						
Type			203310	203315	205015	253315	255015	253318	255018
Range	X	(mm)	2000	2000	2000	2500	2500	2500	2500
	Y		3300	3300	5000	3300	5000	3300	5000
	Z		1000	1500	1500	1500	1500	1800	1800
Size	LX	(mm)	3640	3640	3640	4140	4140	4140	4140
	LY		4200	4200	5900	4200	5900	4200	5900
	LZ		3640	4640	4640	4640	4640	4945	4945
Weight		(kg)	4690	5010	7120	5040	7150	5050	7160
The Maximum Weight for Workpiece			6000	6000	8000	8000	10000	8000	10000
Quantity of columns			2+2	2+2	3+3	2+2	3+3	2+2	3+3
MPE_E		(μm)	4.5+4L/1000	4.5+5L/1000	4.5+6L/1000	6+6L/1000	6+7L/1000	7+7L/1000	8+8L/1000
MPE_P			4.5	4.5	4.5	6	6	7	8

▶ MPE_E: According to ISO 10360-2:2009; ▶ MPE_P: According to ISO 10360-2:2009.

EXTERNAL DIMENSIONS



OPERATING REQUIREMENTS

Power Supply	Single-phase Power Supply 1P+N+PE,115/230V+/-10%, 50/60Hz, Maximum Power 1000VA; Standard: EN60204/1
Compressed Air	Air Pressure: 6-10 bar; Standard: ISO8573-1, Level 4 or higher
Operating Temperature	20±2°C;
Relative Humidity	RH40%～75%

PROBE SYSTEM



▶ Manual articulating repeatable positioning probe head

Incorporated in the TP20 kinematic mount with 2-axis indexing, it's easy and flexible to change the stylus and to position the probe repeatably. The A-axis can be rotated ±180° in the XY plane, the B-axis can be rotated ±90° in the Z plane, and the locking rod can be rotated in 15° increments to lock the probe head to one of 168 repeatable positions. A full range of TP20 probe modules can be installed on the probe head, as long as each stylus/module combination is calibrated at all locations, there is no need to re-calibrate the module when replacing it.



▶ Fully automatic repeatable positioning probe head

The function of controlling probe positioning by program is added to the fully automatic coordinate measuring machine to improve the measuring efficiency of the equipment.
This series consists of three PH10 PLUS models. Each model can be equipped with an optional series of probes and extension bars, which can achieve duplicate positioning of 720 positions to detect features at different angles without the frequent and time-consuming changes of the stylus module.



▶ Active scanning probe head

With the carrying capability of long stylus and ultra-high precision measurement performance, it is the first choice of scanning probe in many applications.

- Ultra-high scanning accuracy with digital reading heads with a resolution up to 0.02μm;
- Can be used with up to 1000mm, weighing up to 500g (unbalanced) large diameter/ deviation measuring stylus;
- Fast dynamic response due to the low suspension mass in the probe;
- Repeatable switching probes for quick, convenient and flexible detection for workpieces.