

PIONEER

The Affordable Quality Coordinate Measuring Machine



PIONEER ...

PIONEER is the perfect fit for manufacturers purchasing their first coordinate measuring machine, and for large manufacturing operations needing multiple CMMs with maximum price-to-performance ratio.

PIONEER CMMs are used in quality inspection for first and final part acceptance, fixture qualification and process control. PIONEER is the ideal measurement system for handling a variety of dimensional inspection tasks on general mechanical and prismatic components.

PIONEER combines breakthrough design, proven construction and controller technology, and today's most advanced measurement software and touch probe systems to give you the accuracy, throughput and rugged reliability you need in an extremely cost effective inspection package.

Each PIONEER CMM is checked and certified meeting the most rigorous application test procedures required by ISO standards. Just as importantly, PIONEER machines are backed by Hexagon Metrology, the world's largest manufacturer of coordinate measurement systems.





THE MOST POPULAR AND POWERFUL INSPECTION SOFTWARE

PC-DMIS, today's most widely used metrology software, features an intuitive graphic user interface that easily guides users through part programming, setup and inspection. Users of all skill levels can measure everything from simple prismatic parts to complex geometries quickly and accurately.

PC-DMIS BASIC is the new entry level package that allows you to drive a PIONEER CMM without the CAD support.

PC-DMIS PREMIUM is the new entry level module provided with the CAD support. It offers the same BASIC capabilities plus the powerful CAD tools.

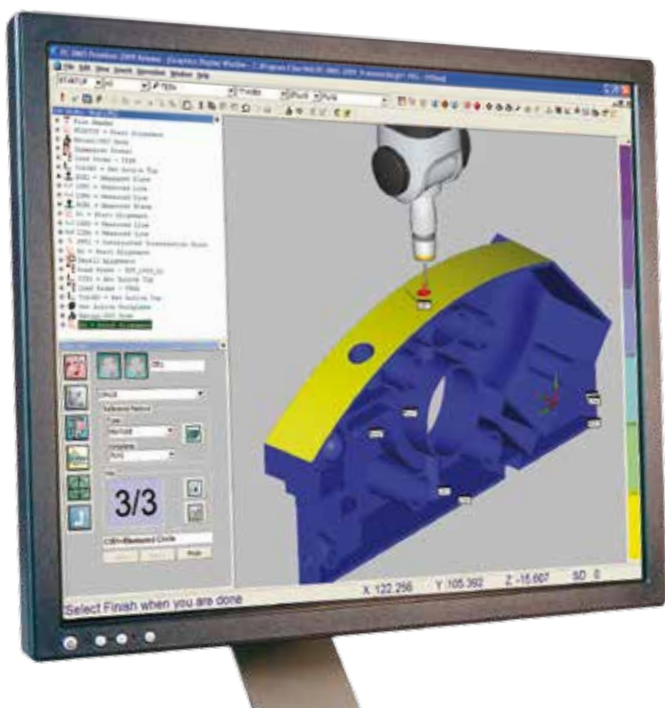
Both PC-DMIS BASIC and PC-DMIS PREMIUM inspection software allow you to reach your quality goal in a short time, with less complexity and less training.

A NEW DIMENSION IN PROBE TECHNOLOGY

You can tailor your PIONEER CMM with a complete range of Swiss-made touch probes, probe heads and probe accessories.

Choose from probes with a trigger force as low as 0.05 N and commonly used M8 threads. Integrated probe/probe head combinations provide features including adjustable trigger force and indexing capability that allows the stylus to swivel through 168 positions without the need for recalibration.

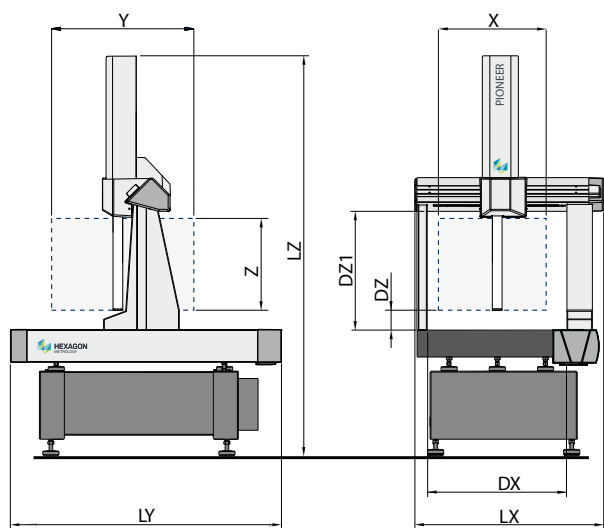
Motorized probe heads offer high speed indexing in 5° increments and can accept extension lengths up to 300 mm.



Machine movements on all axes are monitored by Heidenhain high resolution METALLUR® scales.

TECHNICAL SPECIFICATIONS

Model	Measuring Strokes (mm)			Maximum Permissible Error (µm)		Max. 3D Speed (mm/s)	Max. 3D Acc. (mm/s²)	Daylights (mm)			Overall Dimensions (mm)			Max. Part Weight (kg)	Machine Weight (kg)
	X	Y	Z	MPE _E	MPE _P			DX	DZ	DZ1	Lx	Ly	Lz		
05.06.04	500	600	400	2.8+3.5 L/1000	3.0	520	1732	634	144	594	1050	1535	2247	300	590
06.10.06	600	1000	600	2.8+4.0 L/1000	3.0	520	1732	734	144	794	1063	1825	2658	300	890
08.12.06	800	1200	600	2.9+4.0 L/1000	3.1	520	1472	934	144	794	1236	2025	2658	500	1196



This size drawing fits for all series 05.XX.04, 06.XX.06 and 08.XX.06 of PIONEER.

Stated accuracy performance specifications are subject to the following conditions

Thermal requirements
Ambient temperature: from 18 °C to 22 °
Maximum temperature rates of change: 1 K/h and 2 K/24h
Maximum spatial thermal gradients: 1 K/m

Probe and stylus configurations
with standard force module, stylus length 20 mm, stylus tip diameter 4 mm.

Measuring accuracy performances are expressed according to the ISO 10360-2 international standard. MPE_P is the maximum permissible probing error and MPE_E is the maximum permissible error of indication for size measurement, where L is the length of the measurement in mm.

Air Supply
Minimum air supply pressure: 0.5 MPa
Air consumption: 120 NL/min

- Standard system package**

 - PIONEER metrology frame
 - FB 2 control system
 - Jogbox remote control
 - Head and probe
 - Hexagon Metrology basic styli kit
 - PC-DMIS BASIC inspection software
- Probing Options**

Integrated Probe/Head:

 - Probe Head
 - Touch Probe or
 - Styli Kit: kit #7

Software Options

 - PC-DMIS PREMIUM inspection software

... COST-EFFECTIVE, PROVEN QUALITY



The Y axis beam and Z axis ram are constructed of micro-machined aluminum alloy for a higher strength-to-weight ratio.



One-piece granite worktable provides a solid, stable work surface. The table is provided with M8 threaded inserts for part fastening.



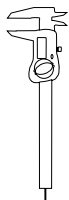
Aluminum orifice air bearings offer unsurpassed reliability and optimum stiffness.



A precision-machined dovetail cut into the granite worktable improves accuracy and repeatability.



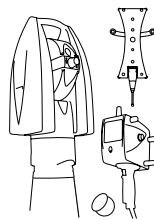
The patented TRICISION™ bridge, with wider bearing separation, a lower center of gravity and lighter weight than a conventional bridge, has a better rigidity-to-mass ratio for higher accuracy, speed and reliability.



PRECISION MEASURING
INSTRUMENTS



PORTABLE MEASURING ARMS



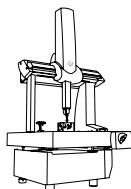
LASER TRACKERS
& STATIONS



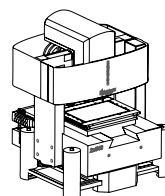
WHITE LIGHT SCANNERS



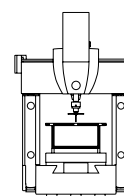
SENSORS



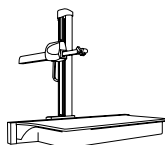
BRIDGE CMMs



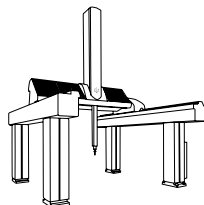
MULTISENSOR & OPTICAL SYSTEMS



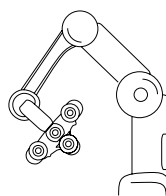
ULTRA HIGH ACCURACY CMMs



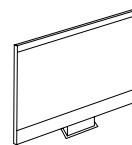
HORIZONTAL ARM CMMs



GANTRY CMMs



AUTOMATED APPLICATIONS



SOFTWARE SOLUTIONS



HEXAGON
METROLOGY

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With more than 20 production facilities and 70 Precision Centers for service and demonstrations, and a network of over 100 distribution partners on five continents, we empower our customers to fully control their manufacturing processes, enhancing the quality of products and increasing efficiency in manufacturing plants around the world.

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Hexagon (Nasdaq Stockholm: HEXA B) has more than 15,000 employees in 46 countries and net sales of approximately 2.6bn EUR.

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ISO 14001



ISO 9001



VDA 6.4