

COORDINATE MEASURING MACHINES

Premium technology for maximum precision.

COORDINATE MEASURING
MACHINES



3D coordinate measuring machines from Mitutoyo:

The new dimension of quality assurance

COORDINATE MEASURING MACHINES

Today's manufacturing demands more accuracy, speed and functionality from measuring technologies. Here, 3D coordinate measuring machines from Mitutoyo reveal their full potential, demonstrating absolute precision, ground-breaking innovation and high efficiency.

This brochure presents an overview of Mitutoyo's current range of 3D coordinate measuring technology to help you choose the system that best meets your needs. It shows specifications, configurations, additional equipment options and software solutions.

Single product brochures are also available to provide detailed information on the 3D CMM of your choice.

Whichever model you choose, with a coordinate measuring machine from Mitutoyo you can trust in the experience, competence and high performance of a world leader in measurement technology and can be assured of first-class, customer-oriented service.



3D coordinate measuring machines from Mitutoyo:

Advanced technology for custom-made solutions



CRYSTA-PLUS M



CRYSTA-APEX S



STRATO-APEX



LEGEX



MACH KO-GA-ME

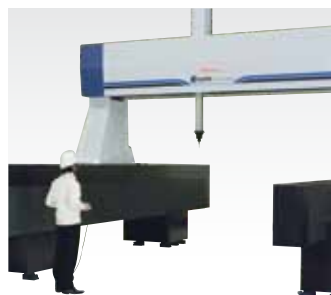
	Model	Page	Profile
MANUAL	CRYSTA-PLUS M Manual	4 - 5	Provides the functionality of a universal manually operated gauge with high accuracy and easy operation at the lowest cost. Ideal for cost-effective quality control in low volume production.
	CRYSTA-APEX S CNC	8 - 9	Delivers excellent accuracy, speed and functionality at an attractive price point. High speed means high throughput and makes this an ideal CMM for cost-effective quality control involving typical tolerances.
CNC	STRATO-APEX CNC	10 - 11	Superb accuracy and dynamic response means top scanning performance with same functionality as CRYSTA-APEX S. High speed means high throughput making this an ideal CMM for quality control involving tight tolerances.
	LEGEX CNC	12 - 13	Represents the highest limit of CMM accuracy combined with a dynamic response that delivers the highest scanning performance. High speed means high throughput and the extraordinary accuracy suits applications requiring inspection of the tightest engineering tolerances.
IN-LINE CNC	MACH KO-GA-ME CNC	14 - 15	A CMM featured, self-contained 3D measuring head. Designed to be attached to a rigid structure such as a machine tool or custom-built frame. Highly accurate absolute measurements with excellent dynamic response gives high throughput.
	MACH-3A CNC	16 - 17	A very fast and accurate horizontal-arm CMM designed for keeping pace with CNC machine tools on the production line and is particularly efficient when equipped with an indexing table. Sealed design minimises downtime and optimised for use with TP7 probe.
	MACH-V CNC	18 - 19	A very fast and accurate enclosed-gantry CMM designed for keeping pace with CNC machine tools on the production line and featuring an open construction that suits typical transfer systems. Sealed design minimises downtime and optimised for use with TP7 probe.
GANTRY CNC	CRYSTA-G CNC	20 - 21	Designed for accurate measurement of components too large to mount on a measuring table CMM. Lightweight materials and innovative moving-gantry structure provide high motion stability, accuracy and affordability.
	FALCIO-G CNC	22 - 23	Designed for very accurate measurement of components too large to mount on a measuring table CMM. Lightweight materials and innovative moving-gantry structure provide high motion stability, accuracy and affordability.



MACH-3A



MACH-V



CRYSTA-G



FALCIO-G

Measuring ranges X:Y:Z (mm)

Highlights

from 400 : 400 : 300
to 700 : 1000 : 600

- Lightweight moving elements enable smooth and easy operation.
- Requires minimum floor space for the measuring volume covered.
- Self-adjusting air bearings on all axes for zero-wear maintenance.

from 500 : 400 : 400
to 2000 : 5000 : 2000

- Built-in thermal-effect compensation enables 16–26°C operating range.
- High drive speed and acceleration for fast part-program execution.
- Moving-bridge design keeps component stationary for simple fixturing.

from 505 : 705 : 405
to 1605 : 4005 : 1605

- Built-in thermal-effect compensation enables 19–21°C operating range.
- High drive speed and acceleration for fast part-program execution.
- Moving-bridge design keeps component stationary for simple fixturing.

from 505 : 750 : 450
to 1205 : 1205 : 805

- Built-in thermal-effect compensation enables 18–22°C operating range.
- Fixed bridge, moving table structure and advanced mechanical design provides highest level of accuracy.
- High drive speed and acceleration for fast part-program execution.

120 : 120 : 80

- Uniquely able to be built onto any suitable machine tool or rigid frame.
- Absolute measurement system, not comparative, so needs no external reference.
- No air supply is required, contributing to lower cost of ownership.

from 605 : 505 : 285
(others available)

- Ultra-high drive speed and acceleration for fast part-program execution.
- Integrates with automated production processes, loading systems and indexing tables.
- Enclosed design for high-environmental resistance with minimum footprint.

from 500 : 600 : 500
to 900 : 1000 : 600

- Ultra-high drive speed and acceleration for fast part-program execution.
- Integrates with automated production processes and loading systems.
- Enclosed design for high-environmental resistance with adjustable-height table.

from 2000 : 3000 : 1200
to 3000 : 6000 : 2000

- Capable of measuring large, heavy components to a high level of accuracy.
- Built-in thermal-effect compensation enables operation over 18–22°C range.
- Lightweight structure enables good dynamic performance and lowest cost.

from 2000 : 3000 : 1200
to 4000 : 6000 : 2500

- Capable of measuring large, heavy components to a very high level of accuracy.
- Built-in thermal-effect compensation enables operation over 18–22°C range.
- Lightweight structure enables good dynamic performance and lowest cost.

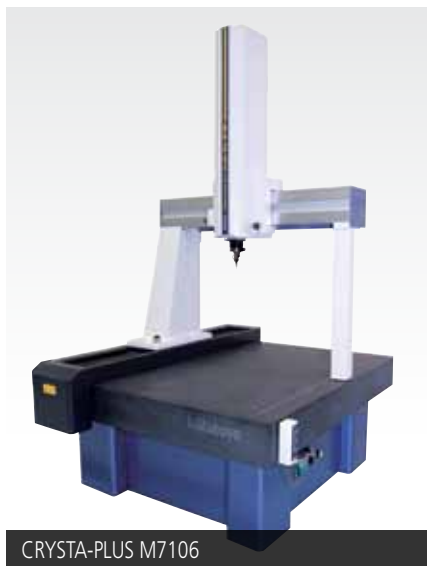
CRYSTA-PLUS M

Compact and economical manual measurement.

The CRYSTA-PLUS M provides the functionality of a universal manually operated gauge with high accuracy and easy operation at the lowest cost. This basic CMM is ideal for cost-effective quality control where the requirement is to inspect components manufactured to typical engineering tolerances in low volume. In addition to general 3D coordinate measurement its ability to use solid, as well as touch-trigger and vision, probes enables complex 3D freeform surfaces to be characterised at low cost.

Features & Benefits

- Three-dimensional manual operation.
- Measuring volumes from 400:400:300 to 700:1000:600 mm (X:Y:Z) available.
- Guaranteed measuring accuracy starts at better than 3 μm , depending on range. Built-in thermal-effect compensation is optional.
- Moving-bridge design means measured component is always stationary and so allows simple, or no, fixturing.
- High-stability glass scales for excellent long-term measuring accuracy.
- Self-adjusting air bearings on all axes for zero-wear maintenance.
- Lightweight moving elements enable smooth and easy operation.
- Continuous fine feed and air clamping on all axes provide rapid and easy positioning.
- Requires minimum floor space for the measuring volume covered.
- Premium software supplied as standard for user-friendly measurement and evaluation.



Mitutoyo



White-LED lighting for easier probe positioning



With CF20 video camera system



Individual axis locks and fine adjusters

CRYSTA-PLUS M

From 3 μm accuracy

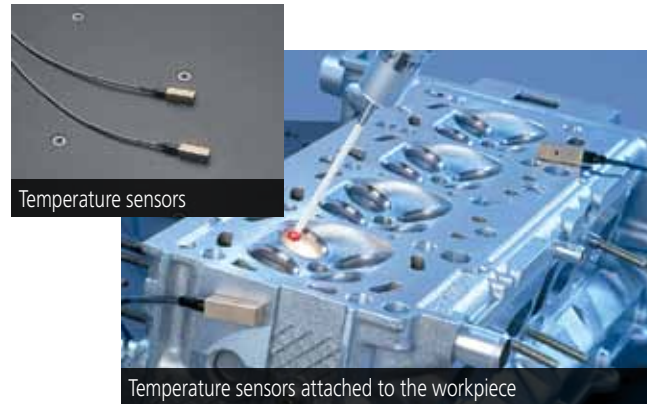
Advanced CMM design in detail:

Technology competence by Mitutoyo

Stable, accurate measuring results even while temperature is changing*

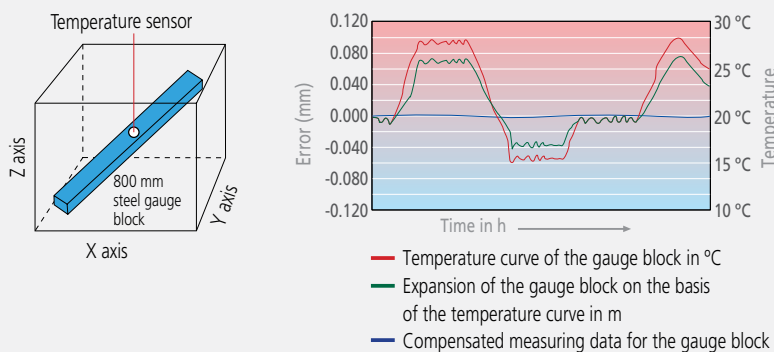
Even while the temperature of the machine or the workpiece is changing, Mitutoyo coordinate measuring machines perform just as superbly as they do under thermally stable conditions. Sensors attached to the CMM and workpiece detect temperature variations and transfer this information to the controller so it can apply the appropriate corrections to the system in real time. This guarantees shop floor measurements to an accuracy that can otherwise only be obtained in a thermally stable quality control room.

* Limits apply. See relevant product brochure for details.



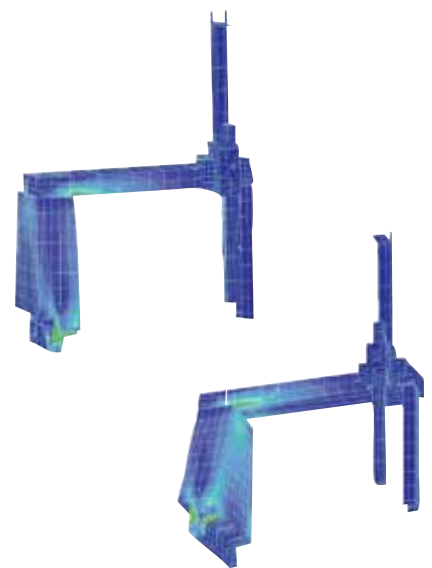
Thermal compensation in action

The graph shows thermal-effect compensation in action during measurement of an 800 mm steel gauge block mounted diagonally on the CMM table. The length of the gauge block (as at 20 °C) is maintained very accurately by the CMM while the block expands and contracts as its temperature varies.



High accuracy from new construction principles

Higher stability and guideway accuracy through state-of-the-art technologies: the bridges of Mitutoyo's coordinate measuring machines are designed using a finite element method (FEM) analysis that guarantees high rigidity and straightness of the guideways as well as effective vibration damping. The high heat conductivity of the aluminium-alloy guideways prevents linear or torsional deflection through thermal influences.



Bridge structure design undergoing FEM analysis

Dust-resistant glass scales

Mitutoyo coordinate measuring machines employ high precision dust-resistant glass scales. Temperature sensors on the scales provide the drive signals for the integrated thermal-effect compensation system.



Air-bearings on all axes

Self-adjusting air bearings on all axes allow particularly smooth, fast and precise movements, a basic prerequisite for high precision.



Self-adjusting air bearings on the CRYSTA-APEX S

Space saving and light weight

3D coordinate measuring machines from Mitutoyo do not require any special constructional prerequisites at the installation site. Thanks to particularly high-quality lightweight materials and space-saving dimensions, a hard and stable mounting surface with normal machine-standard foundations is quite sufficient.



Section through a CRYSTA-APEX S guideway

Exceptional geometrical and kinematic accuracy

The excellent geometrical and kinematic accuracy of LEGEX machines is due to the fixed-bridge principle.

Faster and more accurate with ceramic-coated guides

The LEGEX versions from the 500 series and upwards come as standard with ceramic coating of the X and Y guides as well as the Z spindle.

Highly dynamic, flexible digitised drive

The drive control for the LEGEX operates using a powerful digital signal processor (DSP). It perfectly controls the digital signals of all control circuits, travel movements, positions and speed for maximum measuring quality.

Thermally stable glass scales with 'zero' thermal expansion

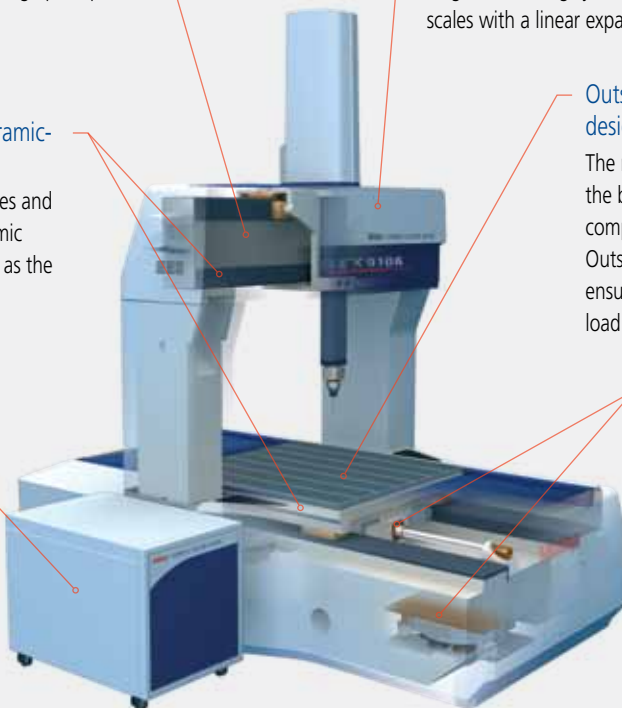
All versions in the LEGEX series are equipped with an optoelectronic length measuring system with a resolution of $0.01 \mu\text{m}$ and glass scales with a linear expansion coefficient of 0.08×10^{-6} .

Outstanding accuracy based on new design principles

The measuring table moves in the Y axis in the base using the 'moving table' principle, completely independently from the bridge. Outstanding rigidity and geometrical accuracy ensures that deformation of the base due to load movements is ruled out.

Low-vibration system provides reassuring reliability

Self-levelling high-performance shock absorbers make LEGEX machines reassuringly reliable, even when the floor itself shakes and vibrates.



CRYSTA-APEX S

The high performer.

The CRYSTA-APEX S delivers excellent accuracy, speed and functionality at an attractive price point. High drive speed coupled with good measuring speed enables high throughput, making this an ideal primary CMM for cost-effective quality control where the requirement is to inspect components manufactured to typical engineering tolerances. In addition to general 3D coordinate measurement, its ability to use any type of probe system including touch-trigger, contact scanning, vision, laser scanning and surface finish sensors enables complex 3D freeform surfaces to be efficiently characterised.

Features & Benefits

- › Three-dimensional CNC operation.
- › Measuring volumes from 500:400:400 to 2000:5000:2000 mm (X:Y:Z) available.
- › Guaranteed measuring accuracy starts at better than 1.7 μm , depending on range.
- › Built-in thermal-effect compensation enables operation over the 19–21°C temperature range.
- › Moving-bridge design means measured component is always stationary and so allows simple, or no, fixturing.
- › High drive speed and acceleration for fast part-program execution.
- › High-stability glass scales for excellent long-term accuracy.
- › Self-adjusting air bearings on all axes for zero-wear maintenance.
- › A comprehensive range of probe, and probe changing, systems is available to provide maximum versatility and measuring efficiency (see page 26 for details).
- › Premium software supplied as standard for user-friendly measurement and evaluation.



CRYSTA-APEX S122010



Mitutoyo



Self-adjusting air bearings on all axes



Dust-resistant high-precision glass scales



Dual-joystick controller



CRYSTA-APEX S

From 1.7 μm accuracy

STRATO-APEX

The high-performance scanning specialist.

The STRATO-APEX features superb accuracy and dynamic response that delivers top scanning performance with the same functionality as the CRYSTA-APEX S model. High drive speed coupled with good measuring speed enables high throughput, and the exceptional accuracy makes this premium CMM ideally suited to applications where the requirement is to inspect components manufactured to tight engineering tolerances. In addition to general 3D coordinate measurement, its ability to use any type of probe system including touch-trigger, contact scanning, vision, laser scanning and surface finish sensors enables complex 3D freeform surfaces to be efficiently characterised to a very high level of accuracy.

Features & Benefits

- Three-dimensional CNC operation.
- Measuring volumes from 505:705:405 to 1605:4005:1605 mm (X:Y:Z) available.
- Guaranteed measuring accuracy starts at better than 0.7 μm , depending on range.
- Built-in thermal-effect compensation enables operation over the 19–21°C temperature range.
- Moving-bridge design means measured component is always stationary and so allows simple, or no, fixturing.
- High drive speed and acceleration for fast part-program execution.
- High-stability glass scales for excellent long-term accuracy.
- Self-adjusting air bearings on all axes for zero-wear maintenance.
- A comprehensive range of probe, and probe changing, systems is available to provide maximum versatility and measuring efficiency (see page 26 for details).
- Premium software supplied as standard for user-friendly measurement and evaluation.



STRATO-APEX 163016



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COORDINATE MEASURING MACHINE
Mitutoyo STRATO-Apex



Dust-resistant high-precision glass scales



Controller positioned at rear of machine

STRATO-APEX

From 0.7 μm accuracy

LEGEX

The ultra-high accuracy measuring system.

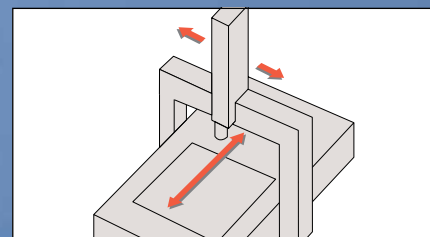
The LEGEX represents the limit in coordinate measuring accuracy available from a CMM today, combined with a dynamic response that delivers the highest scanning performance. High drive speed coupled with good measuring speed enables high throughput, and the extraordinary accuracy makes this superior CMM ideally suited to applications where the requirement is to inspect small- to medium-sized components manufactured to the tightest engineering tolerances. In addition to general 3D coordinate measurement, its ability to use any type of probe system including touch-trigger, contact scanning, vision, laser scanning and surface finish sensors enables complex 3D freeform surfaces to be efficiently characterised to an extremely high level of accuracy.

Features & Benefits

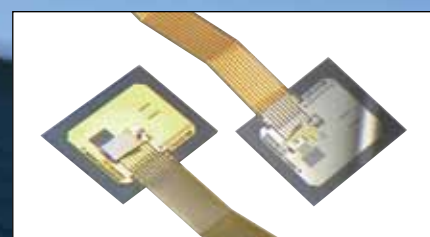
- › Three-dimensional CNC operation.
- › Measuring volumes from 505:705:450 to 1205:1205:805 mm (X:Y:Z) available.
- › Guaranteed measuring accuracy starts at better than 0.3 μm , depending on range.
- › Built-in thermal-effect compensation enables operation over the 18–22°C temperature range.
- › Moving table structure combined with advanced mechanical design principles provides basis for the highest level of geometric and kinematic accuracy to ensure superior stability of motion and ultra-high measuring accuracy.
- › High drive speed and acceleration for fast part-program execution.
- › Highly developed crystallized glass scales with a practically zero coefficient of expansion provide the ultimate in long-term accuracy.
- › Self-adjusting air bearings on all axes for zero-wear maintenance.
- › Fully digital servo control and ball-screw-nut bearing contributes to effective vibration damping for top-level scanning accuracy.
- › An Air Server is supplied that conditions the incoming factory air supply so as to deliver air at a practically constant 20°C to the machine in order to eliminate this potential source of environmental destabilisation, and hence achieve the maximum measuring accuracy of which the machine is capable.
- › A comprehensive range of probe, and probe changing, systems is available to provide maximum versatility and measuring efficiency (see page 26 for details).
- › Premium software supplied as standard for user-friendly measurement and evaluation.



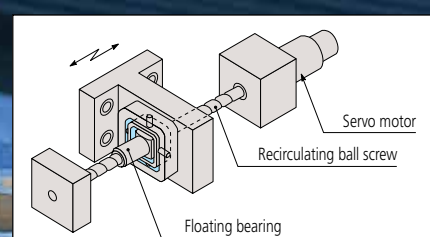
Mitutoyo



Fixed-bridge design with measuring table Y-axis movement in the base structure



Newly developed scanning sensors for maximum resolution



Actively controlled, integrated, vibration-damping measuring table

CNC

LEGEX
From 0.3 μm accuracy

MACH KO-GA-ME

The agile measuring system.

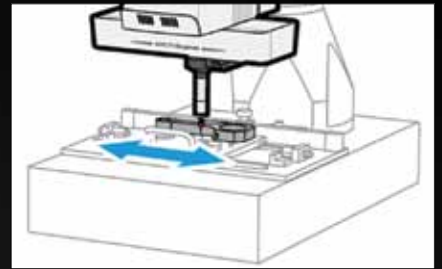
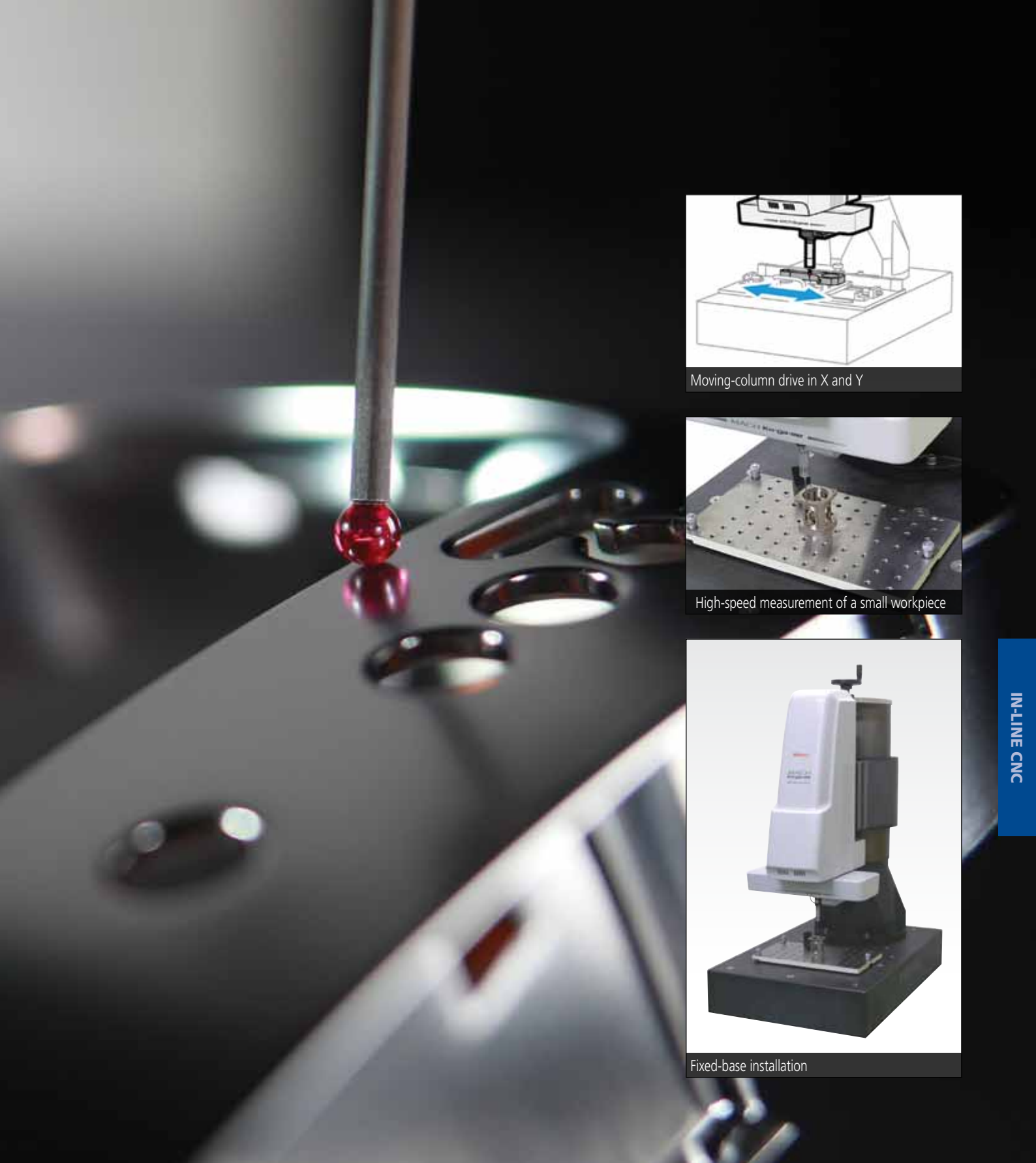
The MACH KO-GA-ME is a fully featured CMM-like 3D measuring head that does not incorporate a measuring table. Instead, the unit is designed to be attached to a rigid structure such as a machine tool or custom-built frame from which it operates. High accuracy and excellent dynamic response enable good scanning performance, while the high drive speed and acceleration coupled with good measuring speed enable high throughput. The unique features of this CMM make it ideally suited to applications where the requirement is to inspect small components manufactured to typical engineering tolerances, either within a restricted workspace or in situ on a machine tool. The MACH KO-GA-ME accepts optical and scanning probes but is optimised for use with the TP200 compact, high accuracy, touch-trigger probe system.

Features & Benefits

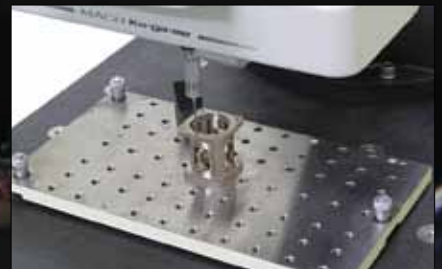
- › Three-dimensional CNC operation.
- › Measuring volume is 120:120:80 mm (X:Y:Z).
- › The MACH KO-GA-ME is an absolute measurement system as distinct from competing solutions that operate in a comparative measuring mode.
- › Guaranteed measuring accuracy is better than 2 µm.
- › Unique moving-column design means measured component is always stationary and so allows simple, or no, fixturing.
- › High drive speed and acceleration for fast part-program execution.
- › High-stability glass scales for excellent long-term accuracy.
- › No air supply is required, thus contributing to lower cost of ownership.
- › Possesses a unique ability for building onto any suitable machine tool or rigid frame to provide a solution for difficult measuring applications that no other type of CMM can provide.
- › A comprehensive range of probe systems is available to provide maximum versatility and measuring efficiency (see page 26 for details).
- › Premium software supplied as standard for user-friendly measurement and evaluation.



Mitutoyo



Moving-column drive in X and Y



High-speed measurement of a small workpiece



Fixed-base installation

MACH KO-GA-ME
From 2 μm accuracy

MACH-3A

The horizontal-arm production-line CMM.

A very fast, accurate, horizontal-arm type CMM specifically designed for measuring components while keeping pace with your CNC machine tools. This is a CMM that can take its place right on the production line, working over the temperature range typically found on the shop floor and with a robust construction that minimises downtime, so important in the production environment. The MACH-3A accepts optical and scanning probes but is optimised for use with the TP7, which is a compact, high accuracy, touch-trigger probe system designed to operate under the high acceleration forces that this machine generates.

Features & Benefits

- › Three-dimensional CNC operation.
- › Measuring volume is 605:505:285 mm (X:Y:Z) for the standard machine. Other models are available.
- › Ultra-high drive speed and acceleration for fast part-program execution.
- › Enclosed design for high-environmental resistance with a space-saving integrated controller, PC and touchscreen to provide the minimum footprint.
- › Guaranteed measuring accuracy is better than 2.5 µm, depending on environmental conditions.
- › Intended to integrate with automated production processes, loading systems and indexing tables in a shopfloor, production-line environment.
- › Pilot lamp may be used to indicate status of machine and measurement results.
- › High-stability glass scales for excellent long-term accuracy.
- › Sealed guideways on all axes for operation in harsh environments.
- › Touchscreen control for easy operation.
- › No air supply is required, contributing to lower cost of ownership.*
- › A comprehensive range of probe systems is available to provide maximum versatility and measuring efficiency (see page 26 for details).
- › Premium software supplied as standard for user-friendly measurement and evaluation.

* An air supply is required if an optional indexing table is used.



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COORDINATE MEASURING MACHINE

MACH-3A 653



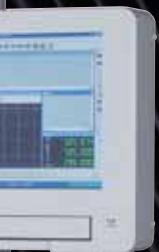
Built for integration with a production line



Enclosed design for best environmental resistance



Touchscreen for easy control



MACH-3A

From 2.5 μm accuracy

MACH-V

The gantry production-line CMM.

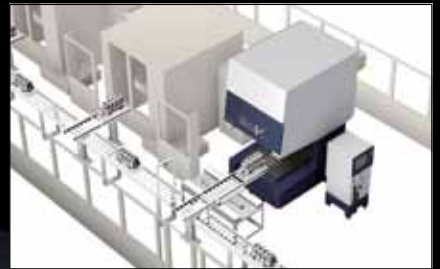
A very fast, accurate, enclosed-gantry type CMM, the MACH-V maximises machining performance by accomplishing in-line, high-speed coordinate measuring while keeping pace with your CNC machine tools. These high-throughput machines can be incorporated right into the production line, working over the temperature range typically found on the shop floor and with a robust construction that minimises downtime, so important in the production environment. The MACH-3A accepts optical and scanning probes but is optimised for use with the TP7, which is a compact, high accuracy, touch-trigger probe system designed to operate under the high acceleration forces that this machine generates.

Features & Benefits

- › Three-dimensional CNC operation.
- › Measuring volume is 500:600:500 to 900:1000:600 mm (X:Y:Z).
- › Ultra-high drive speed and acceleration for fast part-program execution.
- › Enclosed design with sealed guideways on all axes for operation in harsh environments.
- › Guaranteed measuring accuracy is better than 2.5 µm, depending on environmental conditions.
- › Vertical spindle, gantry and central Y-axis drive provide high rigidity, speed and accuracy at lower cost.
- › Intended to integrate with automated production processes, loading systems and indexing tables in a shopfloor, production-line environment.
- › Height of base unit is adjustable to suit transfer line.
- › High-stability glass scales for excellent long-term accuracy.
- › No air supply is required, contributing to lower cost of ownership.
- › A comprehensive range of probe systems is available to provide maximum versatility and measuring efficiency (see page 26 for details).
- › Premium software supplied as standard for user-friendly measurement and evaluation.



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Built for integration with a production line



Frame design allows unobstructed throughput



Compatible with overhead transfer systems



Protected guideways

IN-LINE CNC

MACH-V
From 2.5 μm accuracy

CRYSTA G

The gantry CMM for large components.

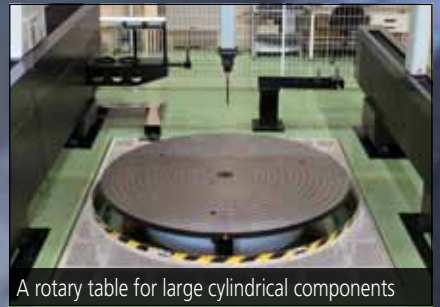
This is a CMM designed for accurate measurement of large components, especially those from the automotive, aerospace, shipbuilding and heavy machinery industries. Lightweight materials and an innovative moving-gantry structure provide high motion stability, accuracy and affordability. In addition to general 3D coordinate measurement with touch-trigger probes this CMM excels with laser scanning probe systems when measuring complex 3D freeform surfaces.

Features & Benefits

- › Three-dimensional CNC operation.
- › Measuring volumes from 2000:3000:1200 to 3000:6000:2000 mm (X:Y:Z) available.
- › Guaranteed measuring accuracy starts at better than 6 µm, depending on range.
- › Built-in thermal-effect compensation enables operation over the 18–22°C temperature range.
- › Moving-gantry design provides good accuracy and high motion stability.
- › Lightweight material frame and guideways enable good dynamic performance and lowest cost.
- › High-stability glass scales for excellent long-term accuracy.
- › Self-adjusting air bearings on all axes for zero-wear maintenance.
- › A comprehensive range of probe systems is available to provide maximum versatility and measuring efficiency (see page 26 for details).
- › Premium software supplied as standard for user-friendly measurement and evaluation.



Mitutoyo



A rotary table for large cylindrical components



CRYSTA-APEX C203016G

CRYSTA G

From 6 μ m accuracy

FALCIO G

The high-accuracy gantry CMM for large components.

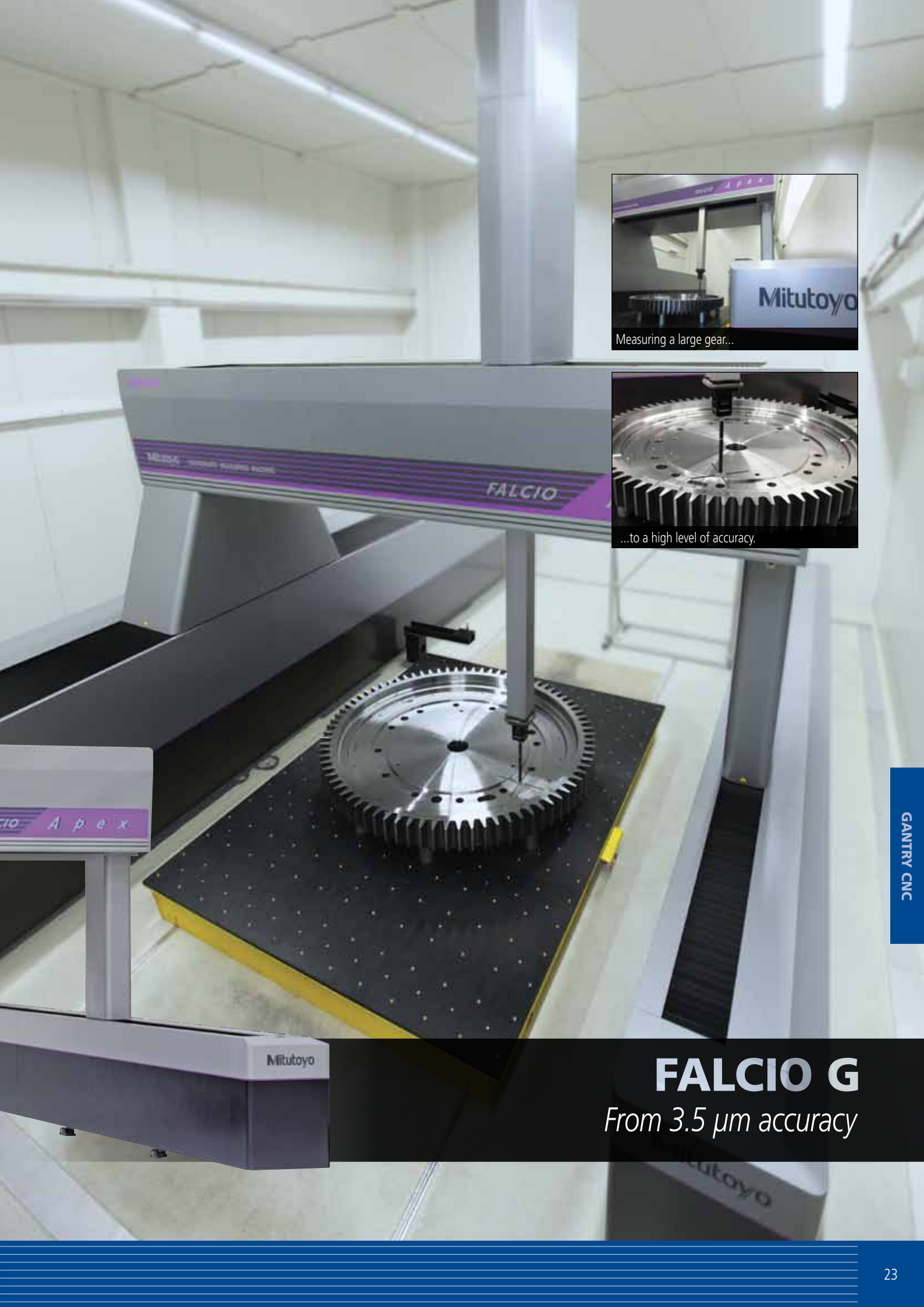
This is a CMM designed for measuring large components to a high level of accuracy, especially those from the automotive, aerospace, shipbuilding and heavy machinery industries. Lightweight materials and an innovative moving-gantry structure provide high motion stability, accuracy and affordability. In addition to general 3D coordinate measurement with touch-trigger probes this CMM excels with laser scanning probe systems when measuring complex 3D freeform surfaces.

Features & Benefits

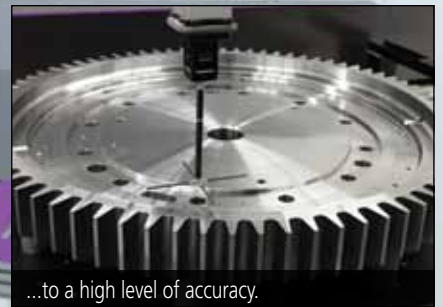
- › Three-dimensional CNC operation.
- › Measuring volumes from 2000:3000:1200 to 4000:6000:2500 mm (X:Y:Z) available.
- › Guaranteed measuring accuracy starts at better than 3.5 μm , depending on range.
- › Built-in thermal-effect compensation enables operation over the 18–22°C temperature range.
- › Moving-gantry design provides good accuracy and high motion stability.
- › Lightweight material frame and guideways enable good dynamic performance and lowest cost.
- › High-stability glass scales for excellent long-term accuracy.
- › Self-adjusting air bearings on all axes for zero-wear maintenance.
- › A comprehensive range of probe systems is available to provide maximum versatility and measuring efficiency (see page 26 for details).
- › Premium software supplied as standard for user-friendly measurement and evaluation.



Mitutoyo



Measuring a large gear...



...to a high level of accuracy.

FALCIO G

From 3.5 μ m accuracy

SPECIAL MODELS

For when the requirements exceed the usual.

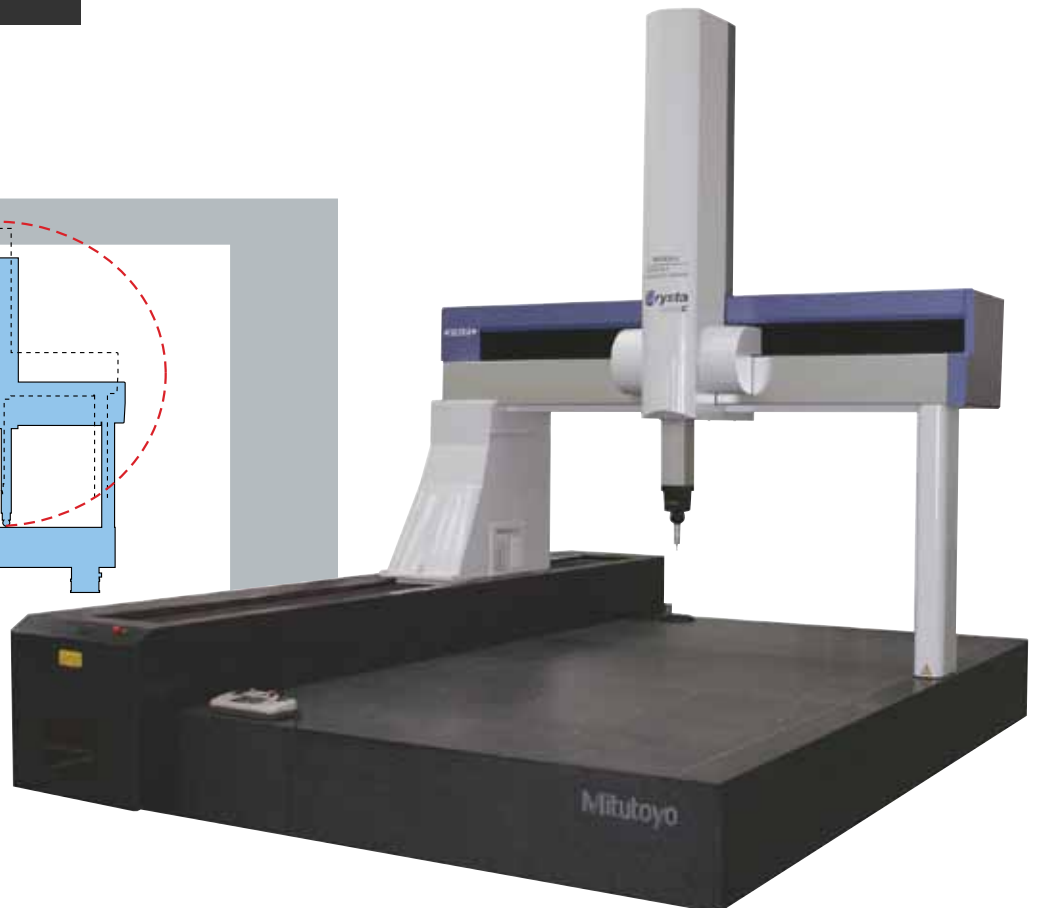
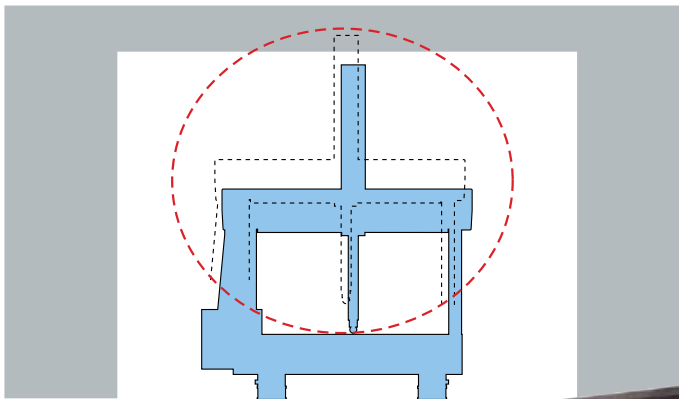
Based on our high-performance standard coordinate measuring machine technology we design, develop and manufacture coordinate measuring machines to extended specifications in response to customer demand. These specials may involve higher accuracy, higher loading capacity, extra measuring length or restricted measuring height specifications.

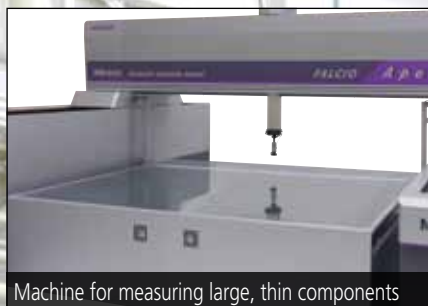


CRYSTA 7506 (700:5000:600 mm)

Typical Special Machine Specifications

- Extra-heavy duty machines for workpieces that are too heavy to load on a standard machine. These have a base that will not become significantly deformed, and therefore less accurate, due to the high loading.
- Enhanced accuracy specification machines.
- Low aspect-ratio machines where the available ceiling height is proportionally lower than the workpiece size.
- Specially sized machines for measuring large, thin or particularly long workpieces.
- Machines with a rotary table embedded in the measuring table so the measuring volume is not reduced.

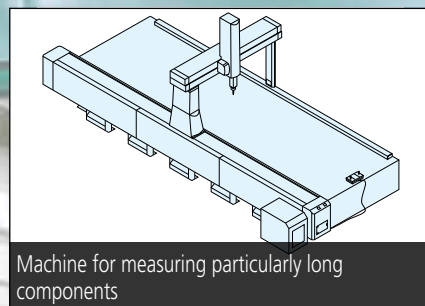




Machine for measuring large, thin components



Machine for measuring straightness of long components



Machine for measuring particularly long components



SPECIAL MODELS
Non-standard solutions for special applications

PROBE SYSTEMS

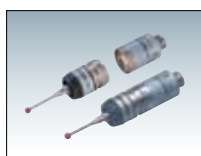
Quality and diversity for all situations.

To ensure you find the best solution for any of your measuring tasks, Mitutoyo offers a comprehensive range of contact and non-contact measuring systems that make maximum use of the multi-sensor-technology capability of a Mitutoyo CMM. These highly expandable systems are supported by fixed and motorised swivelling probe heads, electronic probes, extensions and modules for use in conjunction with efficient probe-changers.

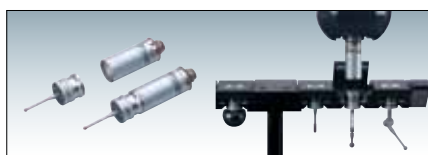
Touch-trigger probe systems



TP7M
High-accuracy type.



TP20
Compact type.



TP200
Compact and high-accuracy (stylus change) type.



Micro Touch Probe
UMAP-CMM.



TP8
Manually indexable probe.



MH20
High-accuracy type.



MH20i
High-accuracy type.



PH20
5-axis control touch-trigger type.

Contact-scanning probe systems



MPP-310Q
Ultra-high accuracy and low measuring-force type.



REVO
High speed 5-axis scanning-head type.



SP25M
Compact and high-accuracy type.



SP80
High accuracy type and available with 500 mm extension.

Optical (non-contact) probe systems



Surface Measure 606
Laser scanning probe.



QVP
Video probe.

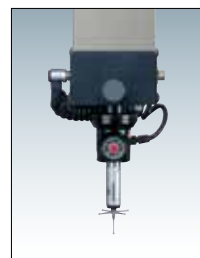


CF20
Video camera system.



CF20
Centering microscope system.

Probe heads



PH1*
Simple manual type.



PH10M / PH10MQ*
Motor-drive indexing type.



MIH*
Manually indexable type.

* Probes shown mounted on these probe heads are optional.



MRS-FCR25 probe change system



MRS-ACR3 probe change system



SCRMPP probe change system



SCR200 probe change system

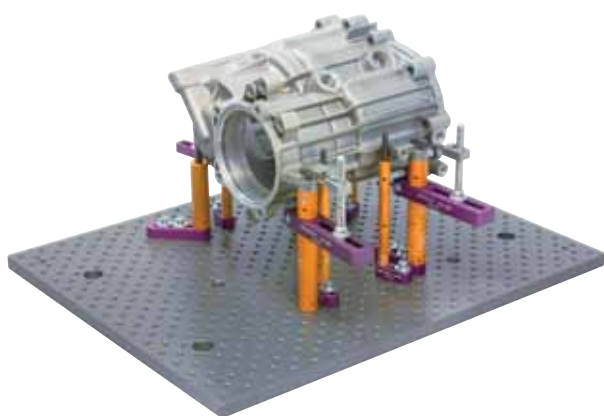
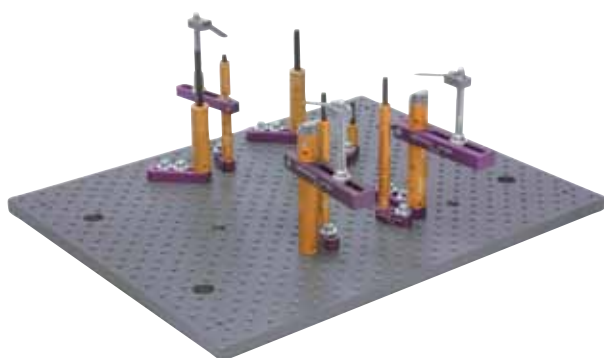
PROBE SYSTEMS

Multi-sensor capability enhances productivity

ECO-FIX

Modular, efficient and economical component clamping.

Mitutoyo supports CMM operations with the stylish eco-fix modular clamping system that combines function with colour-coded elements, creating a practice-oriented concept to deliver an economical workpiece clamping solution. System elements build up in a logical, user-friendly way for confusion-proof assembly.



Features & Benefits

- Logically based elements cover practically every clamping task in a simple and user-friendly way, building up on the solid foundation of a tapped baseplate.
- Modular, colour-coded system allows confusion-proof handling to save time and promote productivity.
- No additional elements are required due to state-of-the-art construction.
- The distinctive modern colouring enables excellent optical differentiation of the clamping elements against the workpiece, which is a big advantage for interactive documentation purposes.
- Identification of system components during setup and storage is easier and faster than conventional solutions, thus contributing to productivity.
- Baseplates are made from coated steel and the receptacle modules from anodised aluminium for durability and long-lasting operation even under tough operating conditions.
- Lightweight elements ensure easy and safe handling as well as simple storage.
- Complements, and is compatible with, Mitutoyo's repro-fix clamping system featuring receptacle modules made from hardened steel – approved and successful for many years.



Logically sized clamping elements



Logical selection of clamping elements



Clearly differentiated clamping elements

ECO-FIX
Flexible fixture system



Whatever the challenge, Mitutoyo supports you from start to finish.

Mitutoyo is not only a manufacturer of top-quality measuring products but one that also offers qualified support for the lifetime of the equipment, backed up by comprehensive services that ensure your staff can make the very best use of the investment.

Apart from the basics of calibration and repair, Mitutoyo offers product and metrology training, as well as IT support for the sophisticated software used in modern measuring technology. We can also design, build, test and deliver bespoke measuring solutions and even, if deemed cost-effective, take your critical measurement challenges in-house on a sub-contract basis.

Coordinate Measuring Machines	
Vision Measuring Systems	
Form Measurement	
Optical Measuring	
Sensor Systems	
Test Equipment and Seismometers	
Digital Scale and DRO Systems	
Small Tool Instruments and Data Management	

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