HEXAGON

Brochure

Shop floor CMMs

Productive measurement solutions for the shop floor


HEXAGON

Quality insight

at the point of production

Productivity inspired by users

The shop floor CMM series was designed with users in mind. Experts in industrial manufacturing, with quality control in mind, require a machine that is designed to surpass the demanding requirements of day to day shop-floor use.

Due to the machine's robust nature, it can excel in harsh environments, such as machine shops and manufacturing cells, delivering the actionable information needed, where it's needed — right on the shop floor. Its hard-bearing design eliminates the need for shop air, while providing the confidence needed to take measurements in the heart of production. Advanced parametric thermal compensation, covered ways, built-in vibration resistance, cutting-edge software and shop-hardened design are just some of the many features that enable operators to perform measurements more efficiently.

Managers can rest easy knowing their operators can run inspection programs on the shop floor with minimal training using Hexagon's PC-DMIS software. Gaining immediate insight into quality control allows quick reaction to process variations, reducing scrap and increasing productivity.

Powered by one of the most advanced, renowned and agile metrology software packages in the industry, PC-DMIS, the Hexagon's SF CMM series will empower manufacturing operations to deliver confident results.

7.10.7 SF CMM

Largest hard-bearing shop floor CMM on the market

Every square inch of the shop floor counts, and for this reason the 7.10.7 SF has been designed to occupy as little space as possible. Creating the ultimate user experience, the computer, controller and interface boxes are housed in one self-contained unit. The 7.10.7 SF also integrates LED lighting, which illuminates the workspace. This feature further enhances the ability to be productive by letting the operator focus on those hard-to-define geometric characteristics, such as hidden surfaces or non-line-of-sight features. An optional integrated part fixture system provides flexibility by enabling the operator to locate a variety of fixture plates on the table for multiple part inspection.

The 7.10.7 SF provides accuracy and throughput, as well as the needed confidence to validate the manufacturing process before delivering the final product.

4.5.4 SF CMM

Holds 60% more weight than competition using less workspace

The 4.5.4 SF shares many of the unique user-experience benefits as the 7.10.7 SF, such as accuracy, extended temperature range and weight support. However, the most notable benefit of the 4.5.4 SF is its flexibility. The compact footprint and roll-around stand, specifically designed to fit through a standard door, allows the 4.5.4 SF to be easily relocated anywhere in the shop where a 110 V outlet is present and precise dimensional inspection is required.

TIGO SF CMM

A step toward automation

In production, manufacturers are aiming at a constant flow from milling, drilling, threading and grinding, all the way to final inspection. TIGO SF is the most accurate measurement tool to include quality assurance seamlessly in the production line. A robust design combats challenges CMMs are faced with on the shop floor. The intuitive operating system opens up the world of metrology to everyone. With TIGO SF, it's possible to measure accurately where it matters most in terms of quality: directly within production.

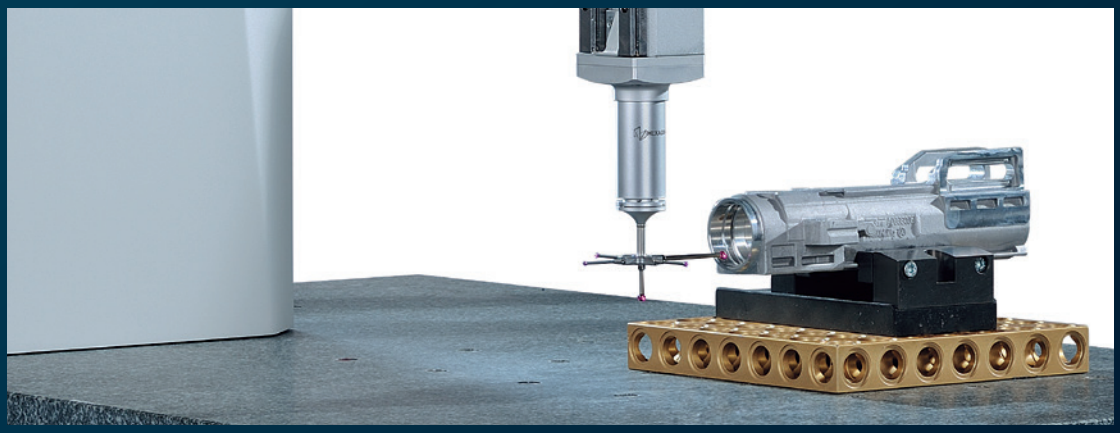
Open access to the measurement range allows for loading from all three sides, delivering the flexibility to load components manually or automatically in the production line. With enhanced user options such as data exchange capabilities, a protective machine stand for easy shop-floor integration, message lighting and Eco Mode, the TIGO SF allows for easy integration into automated inspection cells.

Measure the TIGO SF way

Open design from three sides is not the only difference that separates the TIGO SF from its shop-floor family. The integrated styli – the LSP-X1 scanning probe – aims to eliminate the need for stop and go probe changes. Specifically designed covers protect the LSP-X1 styli from dust and dirt, allowing for shop-floor measurements in harsh environments without compromising performance.

Additional benefits exclusively for TIGO SF

- High-speed scanning with LSP-X1 sensor or touch-trigger probing with the indexable HH-AS probe head
- Measurement at the touch of a button: touchscreen included in the standard configuration
- Additional keyboard for conventional interaction with the CMM



Inline to save time

Product highlights

In a growing industry where quality control becomes ever more important, the SF series can help reduce manufacturing cycle time by deliering the ability to execute quality control at the point of production.

As space becomes limited and accuracy requirements increase, manufacturers need the flexibility to compensate for these demands. The SF series is up for the task.

Additional benefits of the SF series include:

- Speed-up inspections by eliminating the need to travel to a climate controlled lab
- Perform real-time adjustments to equipment on the production floor
- Reduce cycle times between production and quality control
- Reduce scrap and rework
- Improve confidence in the manufacturing process
- Operational ease, designed to optimise the user experience at the operator's point of execution

See the work easily

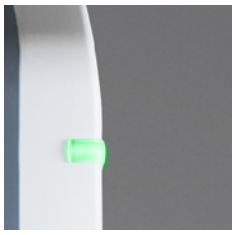
This simple workspace lighting detail greatly enhances the user experience. Cool LED lights brightly illuminate the measurement volume, making it easier to identify tough geometric features.

Easy part loading

Optional integrated kinematic fixturing supports screw into specially located table hole locations to receive kinematic fixture plates for easy part loading and unloading.

No more second guessing

Granite etching defines the measurement envelope in the X- and Y- axes. This is a feature that makes it easy to place a fixture or a part to be measured within the workspace, saving time and money.



Walk away with confidence

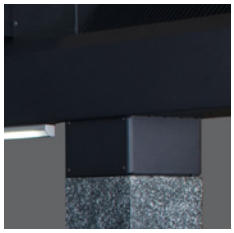
Optional integrated red and green LED lights on the Z-axis allow SF operators to quickly view the CMM status from across the shop floor. This provides peace of mind when walking away and multi-tasking. The second the SF has something to say, it will let the operator know.

No more contaminants

Bellows and covers reduce cycle times by avoiding the need to have to take trips to a separate environmentally controlled quality lab located somewhere else in the facility.

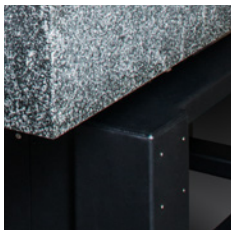
Thermal swings managed

Temperature compensation ensures accuracy is maintained in changing shop-floor temperatures, where thermal gradients occur often as a result of manufacturing operations and climate changes.



Control at the user's fingertips

A newly designed, robust, user-focused jogbox and holder make interacting with the machine more intuitive and easy to use. Its smaller size means users have the ability to walk up and measure with ease.



Confidence in accuracy by isolating vibrations

The standard elastomeric vibration isolation provides confidence of measurement in the face of on-going vibrations commonly found across shop floors because of manufacturing processes or environmental conditions, such as rail or heavy shop traffic.

Flexibility for precise measurement

Product highlights

HP-T-LF/SF/MF/EF
Touch Trigger Probes

The HP-T is a highly versatile touch trigger electronic ball probe for fast and repeatable 3D measurement. The benefits: long life, accuracy, ease of use, comparatively low cost and excellent access to difficult to reach measuring points. Their M8 connection makes them compatible with both manual and automatic probe heads.

HP-S-X1
Scanning Probes

The HP-S-X1 scanning probes offer the accuracy characteristics of a fixed head but can also be fitted to HH-A and HH-AS automatic indexable wrists capable of measuring both in point-to-point and continuous scanning modes. Available on both the TIGO SF and 7.10.7 SF models.

HH-MI
Manual Probe Head

The HH-MI is a manually indexable probe head featuring an integrated high-precision touch trigger probe. The probe head is capable of indexing in 15-degree increments and can achieve 168 unique positions without the need for requalification. The head can be easily locked, unlocked and rotated with one hand. The built in touch trigger probe can be manually adjusted to allow for a wide range of probe combinations.

HH-MI-M
Indexable Probe Head

The HH-MI-M is a probe head with an accurate indexing probe stylus. It can accept all probes and accessories with an M8 connection. The HH-MI-M can be disengaged by hand. Tactile and visual feedback lets the user know the angular position of the ball probe at all times. The assured repeatable precision means you can carry out highly accurate measurements with considerable time savings.

HH-A | HH-A-M5 Motorized
Probe Heads

This fully motorised, highly accurate probe head is a 2-axis wrist providing indexed orientations. It can be used with extension bars up to 300 mm long. Sensors can be connected to the probe head with a kinematic joint (HH-A-T7 and HH-AS-T) or a M8 threaded connection (HH-A-M and HH-AS-M). The sensors are capable of indexing either in 7.5-degree (720 positions) or 5-degree (3024 positions) increments.

Hexagon is a global leader in digital reality solutions, combining sensor, software and autonomous technologies. We are putting data to work to boost efficiency, productivity, quality and safety across industrial, manufacturing, infrastructure, public sector, and mobility applications.

Our technologies are shaping production and people-related ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

Hexagon's Manufacturing Intelligence division provides solutions that use data from design and engineering, production and metrology to make manufacturing smarter. For more information, visit hexagonmi.com.

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