

Horizontal arms

Large-volume coordinate measuring machines








Evolving sheet metal inspection

Integrating industrial metrology in fast, modern production lines for car bodies and complex contoured shapes requires dynamic, accurate and robust systems. With hundreds of installations at the world's major carmakers, Hexagon's horizontal arm coordinate measuring machines (CMMs) integrate innovative measurement technologies into single, double and multiple arm horizontal structures that offer efficient inspection of automotive bodies-in-white, subassemblies and other large workpieces.

BRAVO HP

 HEXAGON



BRAVO HP | BRAVO HD

BRAVO HP and BRAVO HD ensure protection for the operator and parts being measured. Walkable covers along the longitudinal axes maximise access to the measurement area, simplifying part loading and unloading operations as well as programming and automatic dimensional inspection.

Main features

- Rigid steel structure maximises stability across a range of operating conditions
- Axis sliding through high-accuracy recirculating ball pads (compressed air not required)
- Rigid ram, prewired to accept anti-crash protection option
- Forced air circulation inside main beam for levelling structure temperature
- Axis motion with sturdy reliable motors coupled with rack and pinion systems for the X-axis and timing belts on the Y- and Z-axes
- Adjustable slack-free arm counterbalance
- X sliding can be installed flush to the floor
- Compatibility with HH-ACW-43MW continuous rotary wrist (up to 3 axes), for efficient control of non-contact sensors and probe extensions up to 800 millimetres
- Management of FIVE U-nique flexible fixturing system options
- BRAVO HD bellows kit is a light and flexible textile solution that guarantees maximum protection

MERCURY FX

The MERCURY FX horizontal arm CMM enables companies to leverage existing assets while adopting smarter, more automated manufacturing, powered by sensors, software and CMM controllers.

Designed to be fitted onto the existing horizontal arm base tables of Hexagon or third-party CMMs, the MERCURY FX can be installed with minimal disruption to the workplace. It's the ideal solution for manufacturers that want to retain the accuracy of a horizontal arm CMM while adopting new technologies that increase automation and productivity.



Three configurations

MERCURY FX | RUNWAY

- Ideal for measuring medium-to-very-large workpieces
- Arms on guideways decoupled from the worktable
- Single, dual or multiple arm configuration



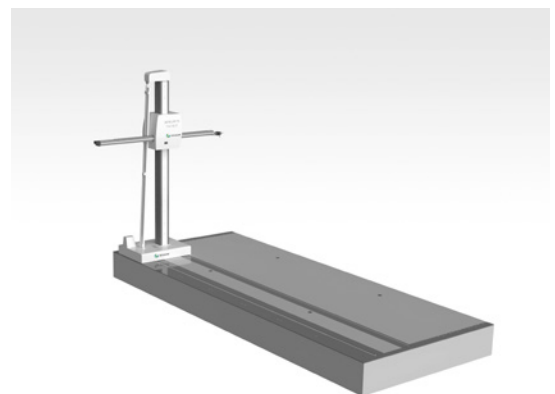
MERCURY FX | CONSOLE

- Ideal for inspecting medium-sized components
- Full table surface available for measurement
- Integration in existing worktable
- Also available with worktable
- Single or dual arm configuration



MERCURY FX | TOP MOUNTED

- Ideal for measuring medium-to-very-large workpieces
- Arms integrated into existing worktable at the top position
- Guideways can be installed on or flush to the floor for better ergonomics
- Single, dual or multiple arm configuration



Probe head and sensors

Harness the power of multiple sensors

Body-in-white inspection requires long probe extensions and special angles of approach. This is particularly important when non-contact sensors are used, as the angle of approach may considerably affect probing accuracy. Hexagon's horizontal arm CMMs are available with the HH-ACW-43MW continuous wrist and a range of motorised indexable probe heads, as well as the HP-L-10.10 laser scanner.



Continuous probe head

The HH-ACW-43MW allows full access to the part being measured and automatically changes extensions and adaptors. This continuous wrist is available in a third continuous-axis configuration for the correct application of non-contact sensors.



Indexable probe heads

The HH-A-H2.5 is capable of indexing in 2.5-degree increments and achieving 20 736 unique positions. Fitted with a heavy-duty kinematic joint (HDKJ), it can operate with extensions up to 750 millimetres long.

The HH-A-T2.5 can achieve 12 440 unique positions by indexing in 2.5-degree increments. The head is fitted with a kinematic joint (TKJ), allowing extensions up to 450 millimetres.

The HH-A-5 can rotate about two axes in 5-degree increments, which translates to a total of 3 024 possible positions. The robust aluminium construction permits extension rods with lengths over 300 millimetres.

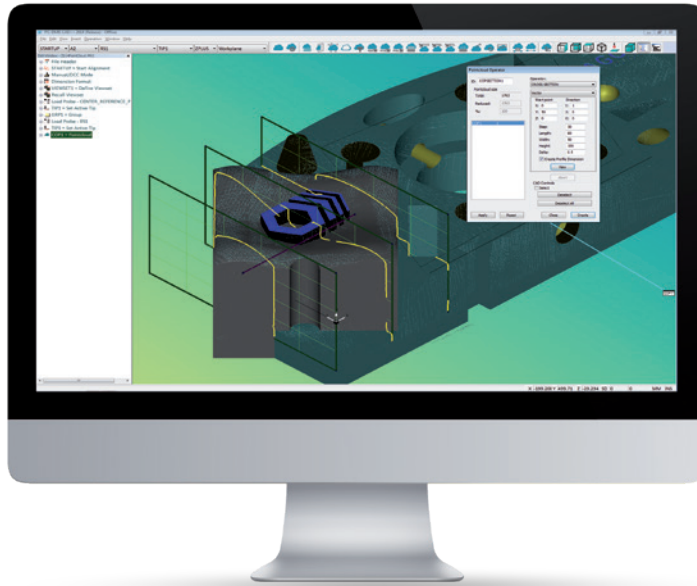


HP-L-10.10 laser scanner

The HP-L-10.10 laser scanning sensor delivers the most accurate results combined with the highest speed and unique handling features. It's especially powerful when measuring complex surfaces and workpieces made of materials that are typically difficult to measure. The HP-L-10.10 collects up to 600 000 points per second with a probing form error of just 8 microns, which makes it the most powerful laser scanning solution on CMMs.

Software

Collect, analyse and use metrology data



Hexagon is the largest software developer in the industry and offers several platforms for turning measurement data into actionable information. Developed in-house, these software packages ensure efficient part programming and accurate and interpretable outputs.

PC-DMIS, for example, has the largest installed base of metrology software worldwide. It offers a scalable suite of solutions to efficiently and effectively address measurement requirements, from the simplest to the most complex. Available in an offline version for virtual programming, features include colour mapping of tolerances and thickness. Its flexibility and versatility make PC-DMIS the reference package for horizontal arm installations.

Metrology Asset Manager



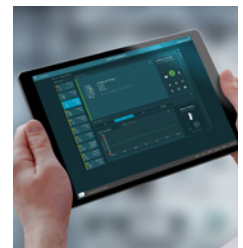
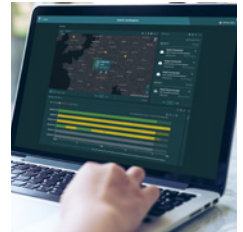
Real-time performance data in a centralised user-friendly dashboard, now as standard

Metrology Asset Manager delivers a simple, accurate and reliable way to monitor and analyse how key assets are performing via a centralised, user-friendly dashboard, whether on a single site or distributed across multiple locations around the world.

This future-proof solution provides manufacturers with easy and intuitive access to important information in real-time to allow for better informed decision making. Smart measurement and smart monitoring are the future of smart manufacturing.

- Monitor and manage device status, usage and performance
- Securely access information from anywhere in real time
- Identify production bottlenecks and other sources of inefficiency
- Receive customisable critical event notifications
- Track assets across a single site or at multiple worldwide locations.

BRAVO HD and BRAVO HP horizontal arm machines now come bundled with a one-year Metrology Asset Manager Advanced subscription. Contact your local Hexagon representative for more details.



Accessories

Making the most of multisensor technology

Driven by a truly end-to-end approach to innovation, Hexagon's wide range of accessories for horizontal arm products reaches from added functionality to improved productivity while covering every need in between.

Hexagon's Manufacturing Intelligence online shop offers a streamlined search, order and delivery service for a wide range of these accessories and spare parts in many countries worldwide. Whether you're buying single items or in bulk, **shop.hexagonmi.com** takes the time and stress out of securing the measuring equipment you need.

Please direct any questions about Hexagon products or accessories to an authorised local sales representative to receive guidance and assistance in making an appropriate purchasing decision.

shop.hexagonmi.com

Service and support



World-class products to rely on

Drawing on decades of research and development experience, CMM technology from Hexagon's Manufacturing Intelligence division is built on a long history of outperforming technological innovation. Deriving quality from experience to drive productivity is what keeps Hexagon in front and able to deliver first-class solutions for industries around the world.

That's why every horizontal arm product in this brochure comes with a 12-month factory warranty as standard, as well as a guaranteed 10 years of serviceability through official Hexagon service channels.

World-class support delivered locally

The international presence of Hexagon guarantees comprehensive aftersales support and services across the globe. With the largest dedicated service team of any metrology equipment manufacturer and an emphasis on locally delivered solutions, Hexagon is unmatched from service, repair, certification and calibration through operator training and software maintenance and upgrades.

● Customer and demo centre





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.

Learn more about Hexagon (Nasdaq Stockholm: HEXA B) at hexagon.com and follow us [@HexagonAB](https://twitter.com/HexagonAB).