HEXAGON



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
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BRAVO HD
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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
- BRAVO HD bellows kit is a light and flexible textile solution that guarantees maximum protection

TORO HP

TORO HP is a cost-effective, flexible horizontal arm CMM designed for large-scale sheet metal inspection, from bodies-in-white to subassemblies, doors and closures. Its robust, shop-floor-ready structure and open horizontal arm architecture simplify part loading and unloading. A modular design delivers the speed, reliability and intuitive operation needed to keep quality aligned with demanding cycle times.



Main features

- Four standard configurations (Touch, Speed, A+/T+ Touch and A+/T+ Speed) for single- and dual-arm systems, with laser scanning available on Speed models for increased throughput
- A+/T+ variants offer enhanced dynamics, increased accuracy and a wider operating temperature range
- DC servo-driven axes with a rack-and-pinion X-axis and synchronous belt-driven Y/Z axes for smooth, slip-free positioning
- Geometric error compensation and linear temperature correction maintain accuracy directly on the shop floor
- Integrated Z-axis balancing system with an innovative fall-safety device, plus protected guideways that shield against environmental contamination


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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

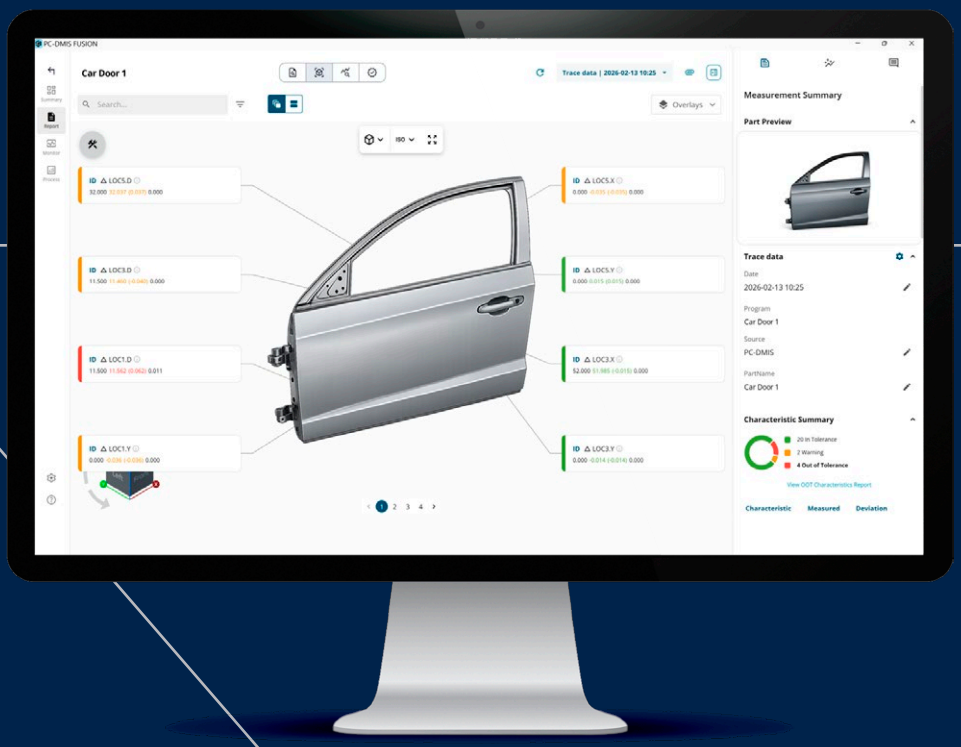
Hexagon is the largest software developer in the industry, offering platforms that turn measurement data into actionable information. Developed in-house, these packages ensure efficient part programming and accurate, interpretable outputs. Combined with Hexagon's horizontal arm CMMs, they support a seamless flow of information from inspection to insight-led process control.

PC-DMIS

PC-DMIS has the largest installed base of metrology software worldwide and is the reference package for horizontal arm installations. Its scalable suite of solutions addresses measurement requirements from the simplest to the most complex. Powerful CAD-based workflows and automated routine creation increase productivity, ensure consistency and reduce the potential for error. An offline version is available for virtual programming, with features including colour mapping of tolerances and thickness.

PC-DMIS FUSION

Fully integrated with PC-DMIS, PC-DMIS FUSION connects, visualises and contextualises measurement data through real-time dashboards and intuitive, interactive reporting. It gives immediate visibility across operations, so users can identify trends, detect deviations early and act with confidence. By connecting data across systems, devices and workflows, it delivers greater process transparency, faster decision-making and sustained confidence in manufacturing quality.





MyCare Service Plans

Investing in a measurement system is only the beginning. Ensuring that it continues to perform at its best overtime is just as important. MyCare cuts the risk of unplanned downtime, raises productivity and reduces the total cost of ownership – helping you get the most from your investment over its lifetime. Choose from MyCare's three different service plans to find the mix of services that best meet your equipment and budget needs.

MyCare Basic

With this software-focused plan, you receive all metrology software updates and access to our technical support hotline.

MyCare Essential

Everything from the Basic plan, plus annual coverage for hardware preventive maintenance, calibration and recertification.

MyCare Premium

The most comprehensive plan gives you all of MyCare Essential's benefits and adds repair labour, service parts and major machine component coverage.

There are even more benefits to discover for MyCare Essential and Premium. For complete details, please contact your local Hexagon customer relationship representative.



Hexagon is the global leader in measurement technologies. Our precision measurement, positioning, and autonomous solutions transform the world's most vital industries. From aerospace & defence, automotive, construction, general manufacturing, to mining and more, we provide the confidence that customers rely on to build, navigate, and innovate.

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

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