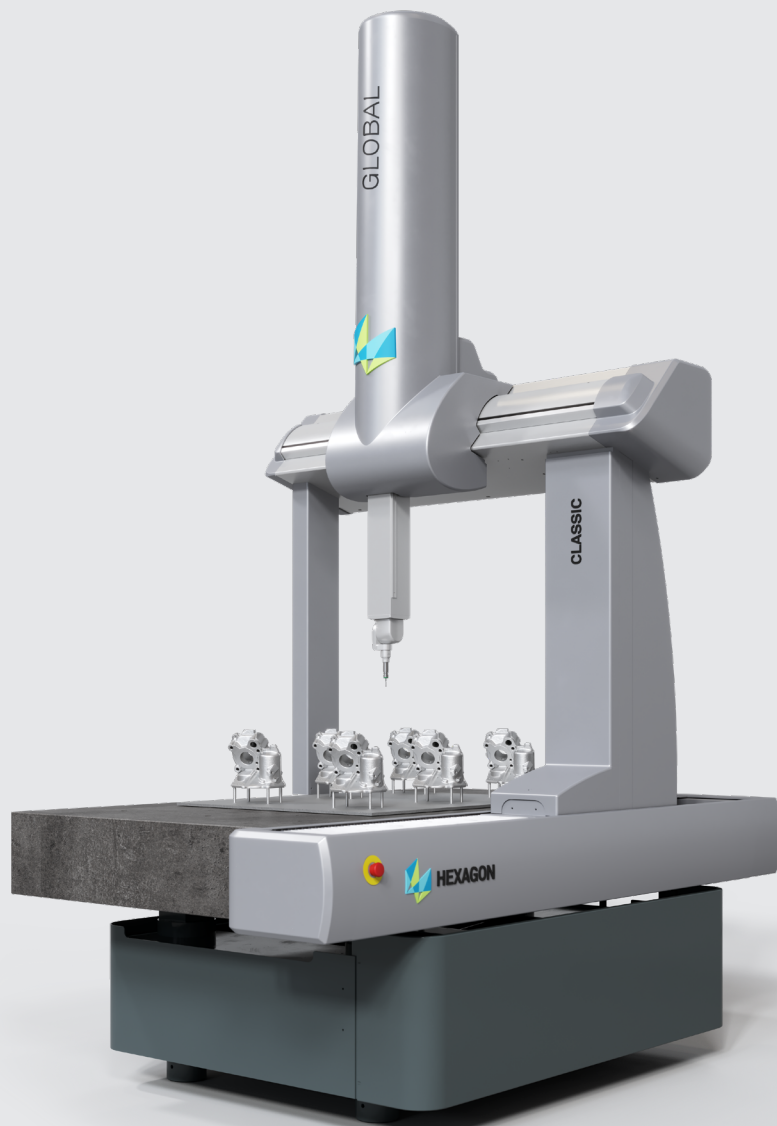


GLOBAL CLASSIC

COST-EFFECTIVE, ALL-PURPOSE BRIDGE CMM



INTRODUCTION

For manufacturers with less demanding inspection needs it is crucial that coordinate measuring machine (CMM) performance is matched by affordability.

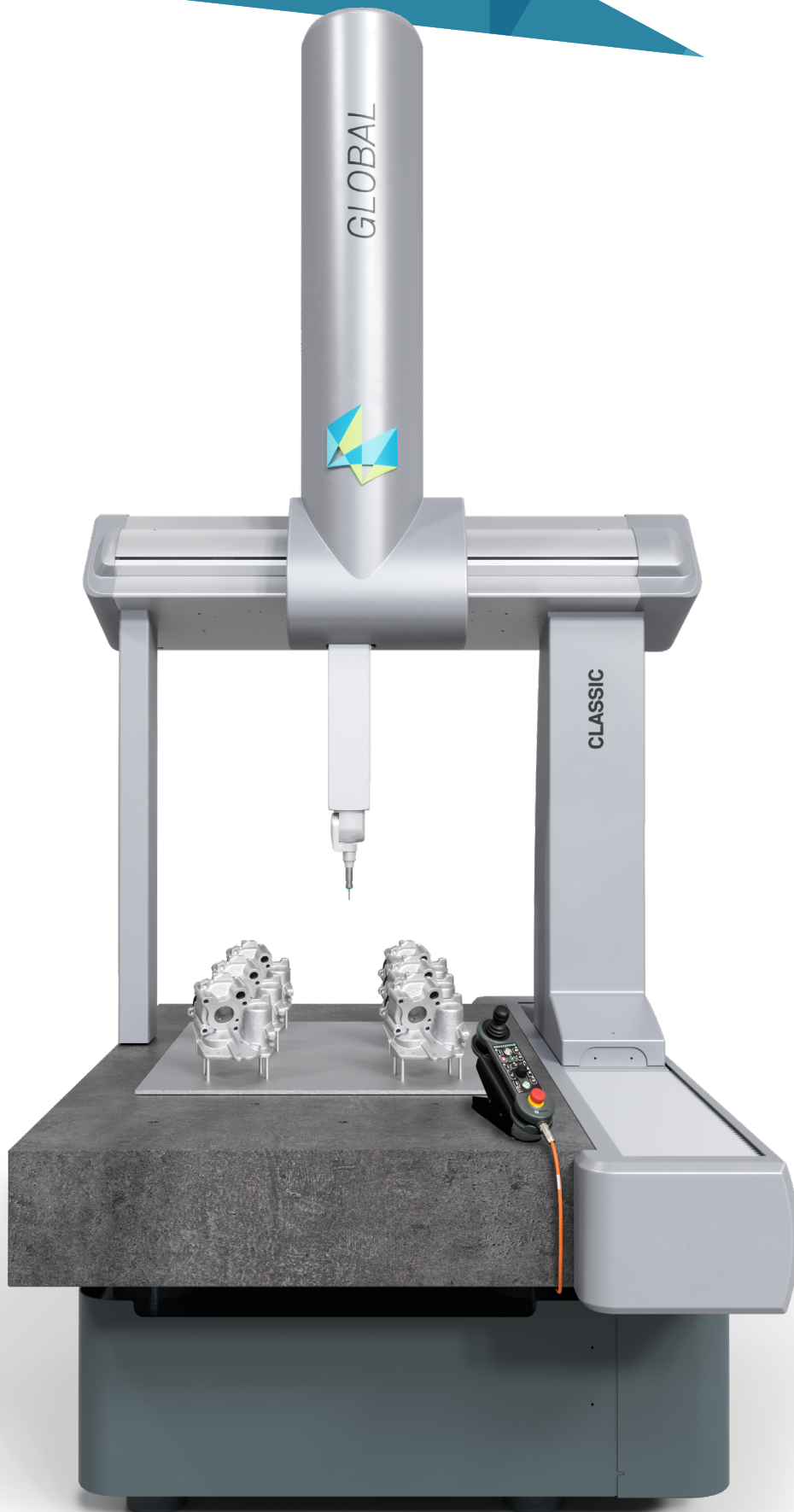
Ideal for smaller job shops, the entry-level GLOBAL Classic CMM delivers dependable accuracy and reliability in a single machine that fulfils all basic inspection requirements. With the machine design optimised to ensure the best ratio between measuring volume and footprint, the CMM easily fits into work areas, saving valuable space.

GLOBAL Classic is a versatile, all-purpose machine offering touch trigger and tactile scanning capabilities. Ideal for more standard, day-to-day accuracy and throughput requirements, the CMM can perform in a range of temperatures with its optional temperature compensation system.

GLOBAL Classic is the perfect balance between stability, accuracy and price/performance ratio.

MACHINE CAPABILITIES TO DRIVE PRODUCTIVITY

- **Maximise performance.** All-aluminium frame guarantees good speed and accuracy.
- **Increase repeatability.** Dovetail guideways precision-machined in granite increase accuracy.
- **Drive reproducibility.** High-resolution scales enhance volumetric accuracy.
- **Strengthen stability.** TRICISION design offers ideal stiff-to-mass ratio and long-term durability.
- **Optimise workflow.** Robust and ergonomic Next Jogbox (NJB) streamlines user experience and operations.
- **Boost throughput.** Touch trigger probes can be switched with optional scanning probes for greater output.
- **Improve energy efficiency.** Eco Mode automatically powers down your CMM when idle but keeps the machine ready to go to support both sustainability and productivity goals.
- **Address any application requirements.** Configure the machine with the right probe for each job and maximise efficiency with precision touch trigger probes, contact and non-contact scanning sensors, and tool changer options.
- **Enhance confidence.** PULSE gives users full confidence in their CMM results by monitoring environmental conditions surrounding their CMM like vibration, temperature variation, and air pressure.



STREAMLINED COLLECTION AND COMMUNICATION OF MEASUREMENT RESULTS

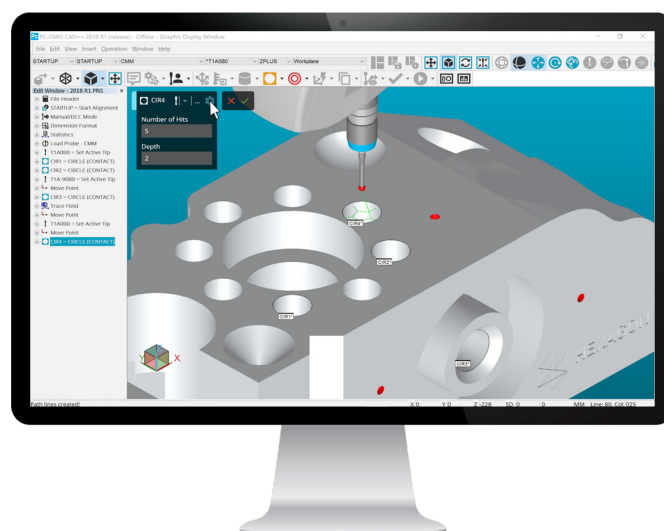
Thousands of manufacturers simplify inspection processes by using PC-DMIS metrology software. With over 70 000 seats in place worldwide, PC-DMIS performs most application tasks required by modern industry, driving productivity with quick and easy measurement routine creation and execution.

For the most efficient inspection operations, a CMM should be used mainly for measuring, not routine creation. Manufacturers save time, eliminate bottlenecks and maintain machine activity by using a PC-DMIS offline licence to develop, test and debug measurement routines away from the CMM.

With the user-friendly INSPECT interface, operators can run predefined part programs quickly, with minimal training and without having to launch PC-DMIS. INSPECT is designed for usability around three main functions: Measure, Report, and Slideshow. Slideshow reduces cycle rework times by enabling operators to quickly see and resolve manufacturing defects with its real-time graphical reporting tool. Routine integrity is protected with PC-DMIS's Single Touch Interface, which simplifies execution. PC-DMIS Wizards help users work through routines and more complex metrology challenges.

PC-DMIS QuickFeature speeds up workflows by allowing users to create features from a single click on a CAD model and to create multiple features at one time. The Path Optimiser tool quickens measuring programs by rearranging the order in which the user selected part features and automatically generating the most efficient measuring path.

For applications that are more complex, QUINDOS software is available.





HEXAGON

0 10 20 30 40 50

0 10 20 30 40 50

GLOBAL CLASSIC SPECIFICATIONS:

Scanning probe heads HP-S- X1C Articulating head with HP-S-X1 scanning probe	05.YY.05	07.YY.05 07.YY.07	09.YY.08
MPE($E0/E150$) ¹⁾ - (18 °C - 22 °C)	1.9 + L/300	1.9 + L/300	2.1 + L/300
MPE($E0/E150$) ¹⁾ - (16 °C - 26 °C)	2.1 + L/222	2.1 + L/250	2.3 + L/250
MPL($R0$)	1.7	1.7	2.0
MPE($PFTU$)	1.9	1.9	2.1
MPE(THP)/MPT(τ) ²⁾	3.5/45	3.5/45	3.5/45
Articulating head with HP-THD/ TP200 probe	05.YY.05	07.YY.05 07.YY.07	09.YY.08
MPE($E0/E150$) ¹⁾ - (18 °C - 22 °C)	2.0 + L/300	2.0 + L/300	2.2 + L/300
MPE($E0/E150$) ¹⁾ - (16 °C - 26 °C)	2.2 + L/222	2.2 + L/250	2.4 + L/250
MPL($R0$)	2.0	2.0	2.2
MPE($PFTU$)	2.0	2.0	2.2
Articulating head with HP-TM trigger probe	05.YY.05	07.YY.05 07.YY.07	09.YY.08
MPE($E0/E150$) ¹⁾ - (18 °C - 22 °C)	2.2 + L/300	2.2 + L/300	2.4 + L/300
MPE($E0/E150$) ¹⁾ - (16 °C - 26 °C)	2.4 + L/222	2.4 + L/250	2.6 + L/250
MPL($R0$)	2.2	2.2	2.5
MPE($PFTU$)	2.2	2.2	2.5



NON CONTACT SENSORS SPECIFICATIONS

	HH-A/HP-L-10.6 ³⁾	HH-A/HP-L-20.8 ³⁾	HH-A/HP-C-Ve
⁴⁾ Probing Form Error	22 μ m	25 μ m	–
⁵⁾ $P_{F2D,MPE}$	–	–	10 μ m
⁵⁾ $P_{FD2D,MPE}$	–	–	6 μ m
⁵⁾ $E_{UV,MPE}$	–	–	4 + 2L μ m

THROUGHPUT AND DYNAMICS

	Max. 3D Speed	Max. 3D Acceleration
	510 mm/s	1700 mm/s ²

TEMPERATURE SPECIFICATIONS

	Lab Temperature	Extended Temperature (option)
Ambient temperature	18 °C ÷ 22 °C	16 °C ÷ 26 °C
Max. air temperature variation	1 °C/h - 2 °C/24h	1 °C/h - 5 °C/24h
Max. gradient in space	1 °C/m	1 °C/m

Probe Configuration:

- HP-S-X1C: stylus length 20 mm, tip diameter 5 mm
- HP-S-X1S/H: stylus length 50 mm, tip diameter 5 mm
- HP-THD/ TP200 / HP-TM: Standard Force Module, stylus length 10 mm, tip diameter 4 mm

¹⁾ MPE($E0/E150$) specifications are to be formally understood as MPE($E0/E150$)* for the case where non-normal CTE material calibrated test lengths are used. Length unit measure (L) in mm.

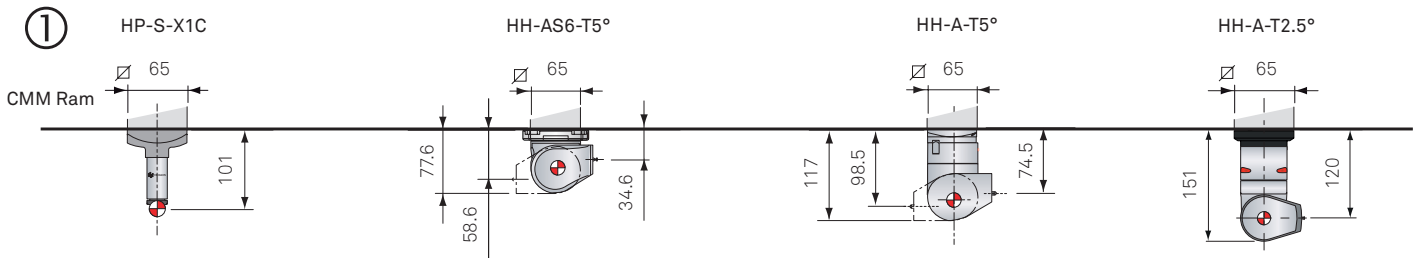
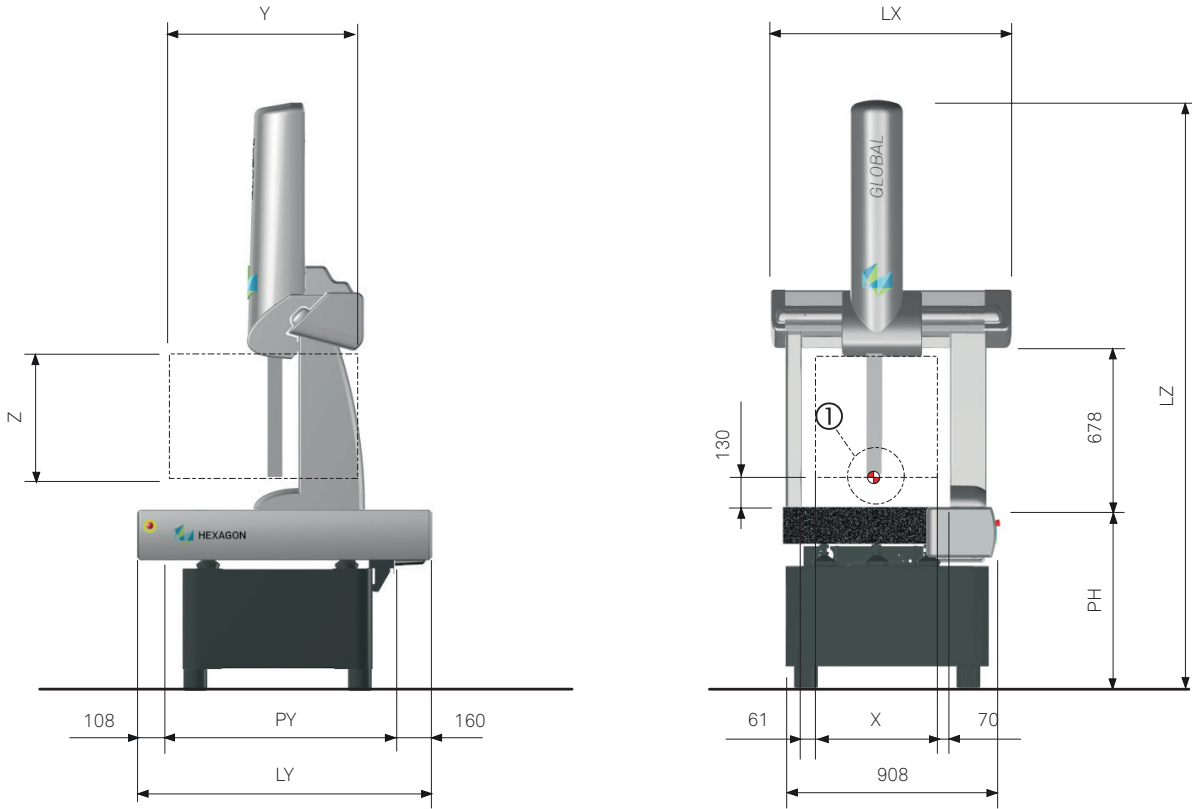
²⁾ MPE(THP) and MPT(τ): test sphere placed in the centre of measuring volume

³⁾ From GLOBAL Classic 07.YY.07. Some restrictions to workpiece size and machine configuration may apply when used on GLOBAL Classic 07.YY.07

⁴⁾ Maximum Permissible Probing Form Error $P_{Form,Sph,1x25.Tr,ODS,MPE}$ according to ISO10360-8:2013. Values are including expanded measurement uncertainty according ISO/TS 17865:2016. Measured using a manufacturer supplied sphere- and plane artefact, each certified by an independent accredited lab.

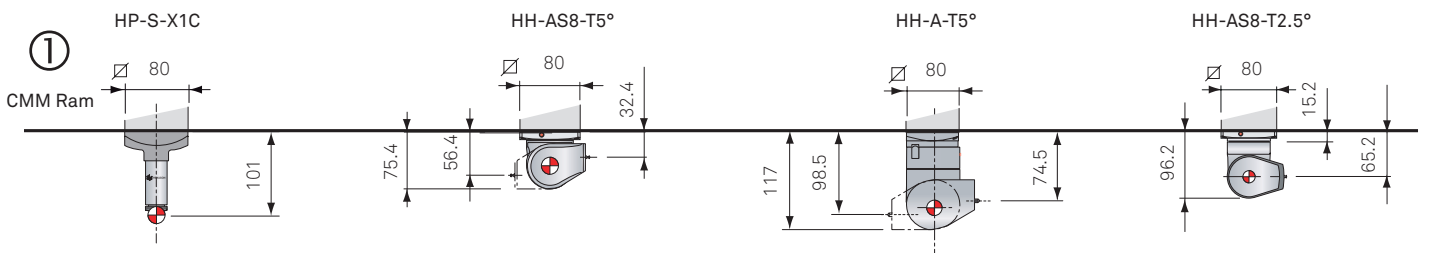
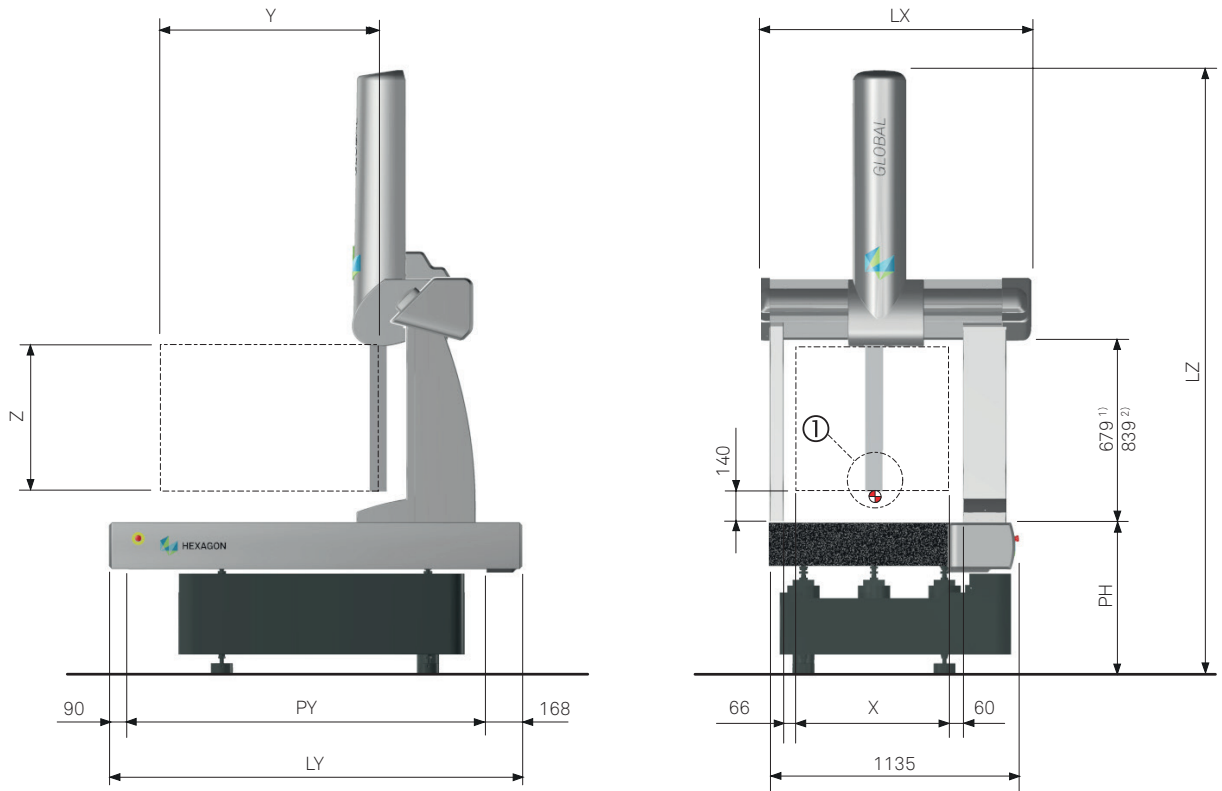
⁵⁾ According to ISO10360-7:2011

GLOBAL 05.YY.05: MEASURING RANGE, DIMENSIONS AND WEIGHTS



Models	Measuring Range (mm)			Overall Dimensions (mm)			Surface Plate (mm)		Max. Part Weight (kg)	CMM Weight approx. (kg)
	X	Y	Z	LX	LY	LZ	PH	PY		
05.05.05	500	500	500	1024	1255	2540	800	990	230	510
05.07.05	500	700	500	1024	1455	2540	800	1190	230	625

GLOBAL 07.YY.05 - 07.YY.07: MEASURING RANGE, DIMENSIONS AND WEIGHTS

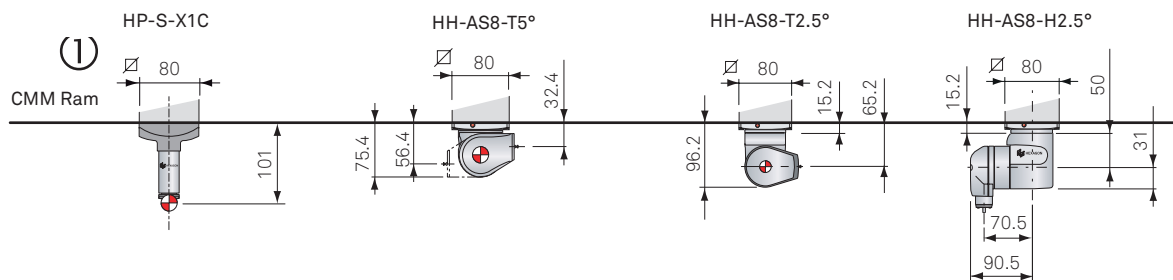
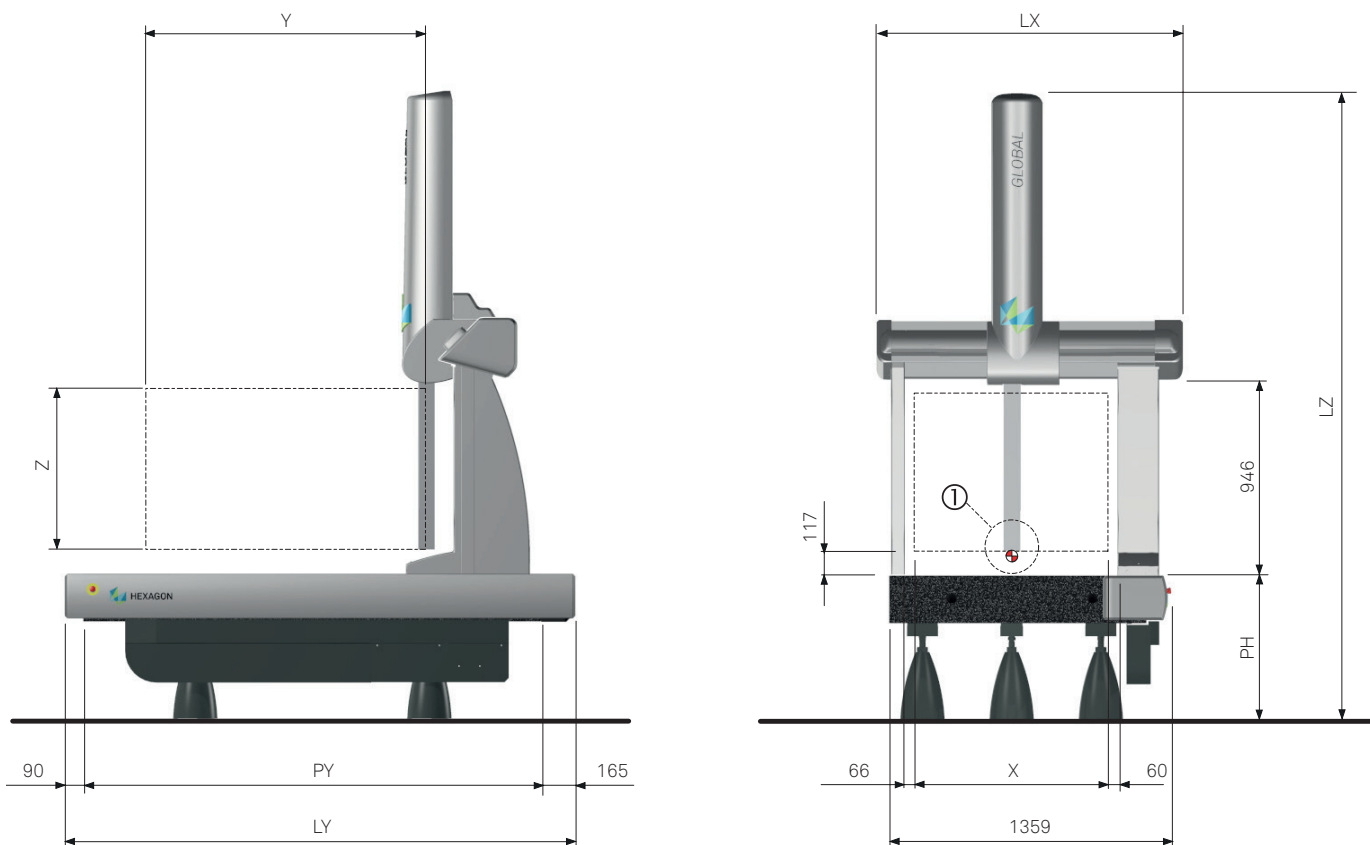


Models	Measuring Range (mm)			Overall Dimensions (mm)			Surface Plate (mm)		Max. Part Weight (kg)	CMM Weight approx. (kg)
	X	Y	Z	LX	LY	LZ	PH	PY		
07.07.05	700	700	500	1277	1608	2438	680	1350	900	960
07.10.05	700	1000	500	1277	1908	2458	700	1650	900	1245
07.10.07	700	1000	660	1277	1908	2777	700	1650	900	1265

¹⁾ GLOBAL Classic 07.YY.05

²⁾ GLOBAL Classic 07.YY.07

GLOBAL 09.12.08, 09.15.08, 09.20.08: MEASURING RANGE, DIMENSIONS AND WEIGHTS



Models	Measuring Range (mm)			Overall Dimensions (mm)			Surface Plate (mm)		Max. Part Weight (kg)	CMM Weight approx. (kg)
	X	Y	Z	LX	LY	LZ	PH	PY		
09.12.08	900	1200	800	1477	2165	3027	700	1910	1300	1700
09.15.08	900	1500	800	1477	2465	3027	700	2210	1500	1900
09.20.08	900	2000	800	1477	2965	3027	700	2710	1800	2300

PROBE HEADS AND SENSORS



Technical Characteristics	HP-S-X1C
Overtravel range	± 2 mm in all axes
Stylus joint	M3
Max. stylus weight	33 g
Max. stylus length	Vertical: up to 225 mm Horizontal: up to 100 mm



Technical Characteristics	HH-AS and HH-A-T5° Indexable Probe Head	HH-AS8 and HH-A-T2.5° Indexable Probe Head	HH-AS8-H2.5° Indexable Probe Head
Angular rotation	A axis: +90° / -115° B axis: ±180°	A axis: ±105° B axis: ±180°	A axis: ±180° B axis: ±180°
Angular rotation step	5°	2.5°	2.5°
Max. applied torque	0.6 Nm	1.4 Nm	1.7 Nm
Max. extensions length	300 mm	450 mm	750 mm

Technical Characteristics	HP-L-10.6	HP-L-20.8
Laser	Visible red, class 2	Visible red, class 2
Standoff and depth of FOV	170 ± 30 mm	180 ± 40 mm
Width of FOV user selectable	24, 60, 124 mm	25, 51, 63, 130, 220 mm
T range for specified accuracy	15 ~ 32 °C	15 ~ 32 °C
Sensor size L x W x H	134 x 72 x 60.5 mm	137 x 76 x 85 mm

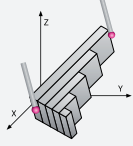


Technical Characteristics	HP-C-VE
Nominal FOV size	6.5 mm x 5 mm
Nominal pixel size	approx. 8.5 µm
Optical magnification	x 0.73
Working distance	75 mm
Ring light configuration	2 rings, each with 4 sectors. 1 LED per sector on the inner ring, 2 LED per sector on the outer ring
Sensor size Ø x L	max. Ø 75 mm x 137.5 mm (with TKJ mount)



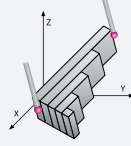
PERFORMANCE VERIFICATION

MPE(E0): maximum permissible error of length measurement



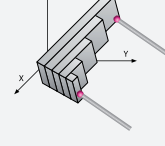
5 gauges have to be measured 3 times with one probing at each end, in 7 different directions. All measuring results must be within MPE(E0).

MPL(R0): maximum permissible limit of the repeatability range



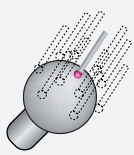
Extreme value of the repeatability range of the length measurement error, calculated by three repeated measurements on each size for a total of 35 values. The 35 repeatability range results must be within MPL(R0).

MPE(E150): maximum permissible error of length measurement



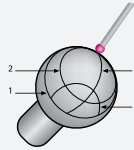
5 length gauges have to be measured 3 times in the YZ- or XZ plane with opposite styli, mounted 150 mm off the Z spindle axis. All measuring results must be within MPE(E150).

MPE(PFTU): maximum permissible single stylus form error



A precision sphere has to be measured with 25 probings. PFTU is the range of all radii. The range of all radii must be within MPE(PFTU).

Maximum permissible scanning probing error

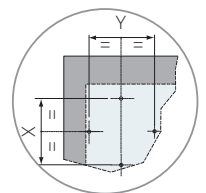


MPE(THP)/MPT(τ): A precision sphere has to be scanned with 4 defined lines. THP is the range of all radii with the predefined path. The range of all radii and the scanning time must be within MPE(THP) and MPT(τ).

Max. Permissible Error MPE (μm) and Max. Permissible Limit MPL (μm) according to ISO 10360-2:2009:
 - Volumetric length measuring error: MPE(E0/E150); Repeatability range: MPL(R0)
 Max. Permissible Error MPE (μm) according to ISO 10360-5:2010:
 - Single stylus form error: MPE(PFTU)
 Max. Permissible Error MPE (μm) and Max. Permissible Time MPT (s) according to ISO 10360-4: 2000
 - Single stylus form error, scanning: MPE(THP)/MPT(τ)
 ISO 10360-2 test with maximum part weight performed as an option upon request only.

TECHNICAL CHARACTERISTICS

Mechanical Frame	X: Micromachined anodized light alloy extrusion Y: Integral dovetail guideways, machined into the table Z: Micromachined anodized light alloy extrusion	
Surface Plate	Material: Granite Flatness: according to DIN 876/III Part Locking: threaded inserts M8 x 1.25 Diagonally staggered hole pattern: GLOBAL Classic 05.YY.05: X = 350 mm ; Y= 150 mm GLOBAL Classic 07.YY.05-07.YY.07: X = 300 mm ; Y= 300 mm GLOBAL Classic 09.YY.08: X = 350 mm ; Y= 350 mm	
Sliding System	Air bearings on all axes	
Measuring System	METALLUR® linear scales. System Resolution: 0.039 μm	
Temperature Compensation	Extended temperature 16 - 26 °C: Multi-sensor technology (optional)	
Ram Counterbalance	Pneumatic, adjustable	
Controller	DC241, IP54	
Supply Requirements	Power	100/120/220/240 V ± 10% - 50/60 Hz - 1.6 KVA
	Air	0.5 MPa minimum - Class 4 according to ISO 8573/1
Consumption	Power	0.35KVAh
	Air	70 NL/min (for 05.YY.05); 90 NL/min (for all other models)
Operating Specifications	Ambient temperature: 10 - 40 °C Relative humidity: 20% - 90 % non-condensing	














HEXAGON

MANUFACTURING INTELLIGENCE

Hexagon Manufacturing Intelligence helps industrial manufacturers develop the disruptive technologies of today and the life-changing products of tomorrow. As a leading metrology and manufacturing solution specialist, our expertise in sensing, thinking and acting – the collection, analysis and active use of measurement data – gives our customers the confidence to increase production speed and accelerate productivity while enhancing product quality.

Through a network of local service centres, production facilities and commercial operations across five continents, we are shaping smart change in manufacturing to build a world where quality drives productivity. For more information, visit HexagonMI.com.

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-  PORTABLE MEASURING ARMS
-  SERVICES
-  LASER TRACKERS & STATIONS
-  MULTISENSOR & OPTICAL SYSTEMS
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-  DESIGN AND COSTING SOFTWARE