

GLOBAL Lite

Quality performance at the right price





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Invest Small, Save Big

Demand for increasing product quality continues to grow. To meet this demand and remain competitive, manufacturers are replacing manual inspection methods with automated measurement solutions that can continually adapt to their changing quality requirements.

GLOBAL Lite is a coordinate measuring machine (CMM) that combines reliable, accurate dimensional inspection with cost reduction throughout the quality process. Readily adaptable with a range of Hexagon solutions, this future-ready CMM is designed to grow with your organisation, helping you meet new challenges and capitalise on emerging opportunities.

Offering certified quality free from human error, GLOBAL Lite cuts the risk of rejected parts and reduces scrap. Cycle times are enhanced and labour costs are reduced as operators can complete work away from the CMM while routines run automatically.

Although designed for smaller budgets, GLOBAL Lite goes beyond the essentials of quality assurance to push your inspection productivity further, with optimised accuracy, dynamics, and robustness.

The exclusive design behind thousands of CMMs

From the construction materials used, to machining and assembly, GLOBAL Lite has been crafted to give you stable and repeatable results.

GLOBAL Lite is built on the Hexagon expertise that has driven CMM innovation from the technology's beginnings to the present day. Bringing together elements of Hexagon's most successful advancements, GLOBAL Lite uses a range of innovative technologies to deliver maximum inspection efficiency and confidence.

Innovative feature	Benefits
TRICISION design on the X beam with triangular cross section	Optimum stiff-to-mass ratio for greater precision, long-term stability and higher dynamics. Lower centre of gravity and lighter weight than a conventional bridge CMM
Dovetail guideways precision-machined in granite	Enhanced accuracy and repeatability
Y-axis rail embedded in the granite table	Full access to the measuring volume
Eco Mode	Automatically power down your CMM when idle while keeping the machine ready to go to support both sustainability and productivity goals

GLOBAL Lite's multi-probing capabilities supports a wide range of applications. High-precision, self-cleaning air bearings enable smooth axis movement, reducing wear on the guideways and maximising long-term performance. The one-piece granite table construction helps resist vibrations, and remote mounted drive motors reduce moving mass for faster setting, dissipating heat away from the machine frame.

In addition to these unique Hexagon technologies, GLOBAL Lite is compatible with a full range of Hexagon solutions so the machine can continually evolve in line with your application requirements.





GLOBAL Lite specifications

Scanning probe heads HP-S- X1 CE, HP-S-X3 Articulating head with HP-S-X1SE scanning probe or HP-TM trigger probe	07.07.05 07.10.07	09.YY.08	12.YY.10
MPE(E0/E150) ¹⁾ - (18 °C - 22 °C)	1.9 + L/300	2.1 + L/300	2.7 + L/300
MPE(E0/E150) ¹⁾ - (16 °C - 26 °C)	2.2 + L/250	2.4 + L/250	3.1 + L/200
MPL(R0)	1.9	2.1	2.7
MPE(PFTU)	2.0	2.0	2.7
MPE(THP)/MPT(τ) ²⁾	3.5/45	3.5/45	4.5/45

Throughput and dynamics

	Max. 3D speed	Max. 3D acceleration
07.07.05 to 09.YY.08	520 mm/s	1730 mm/s ²
12.YY.10	430 mm/s	1000 mm/s

Temperature specifications

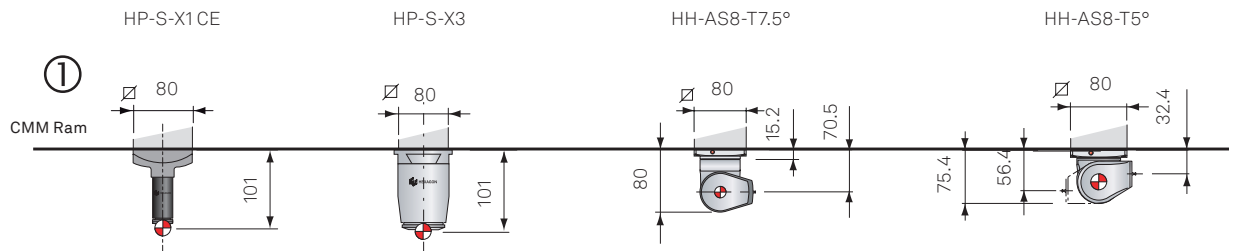
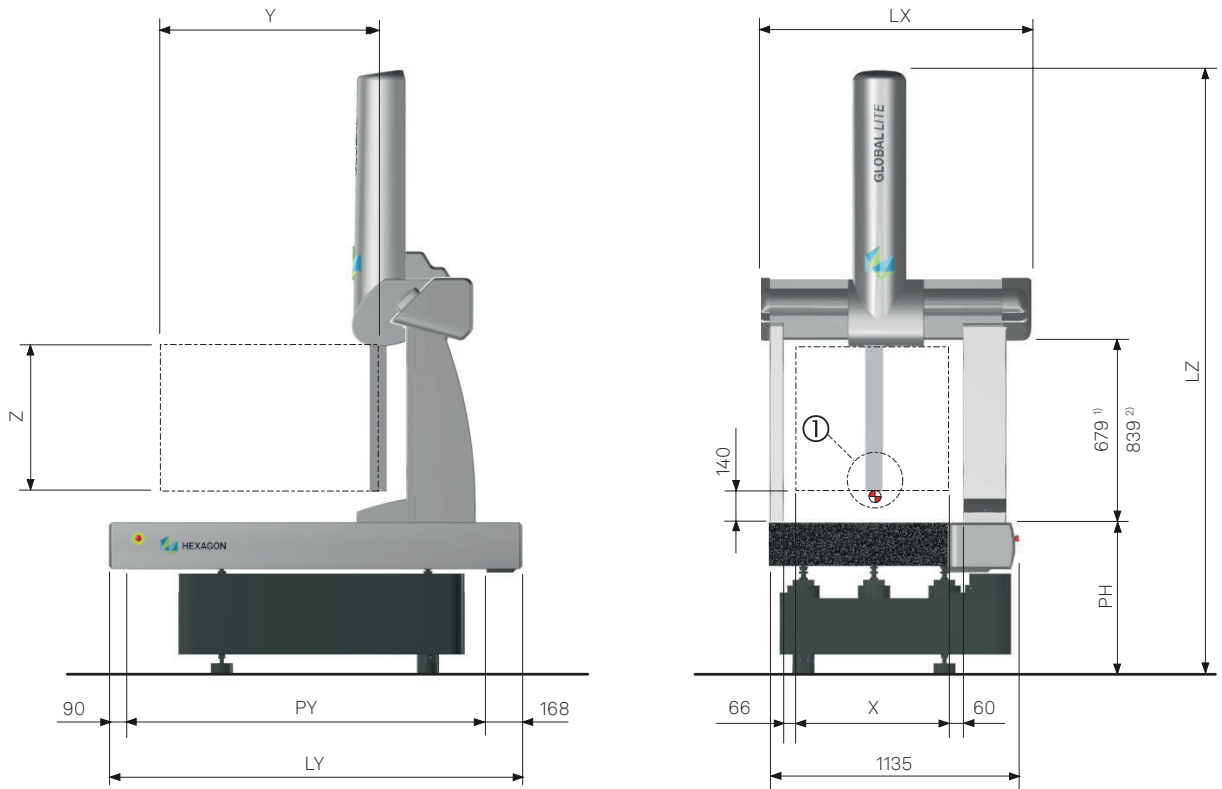
	Lab temperature	Extended temperature (option)
Ambient temperature	18 °C ÷ 22 °C	16 °C ÷ 26 °C
Max. air temperature variation	1 °C/h - 2 °C/24h	1 °C/h - 5 °C/24h
Max. gradient in space	1 °C/m	1 °C/m

¹⁾ MPE(E0/E150) specifications are to be formally understood as MPE(E0E150)* 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



GLOBAL Lite 07.07.05-07.10.07: Measuring range, dimensions and weights

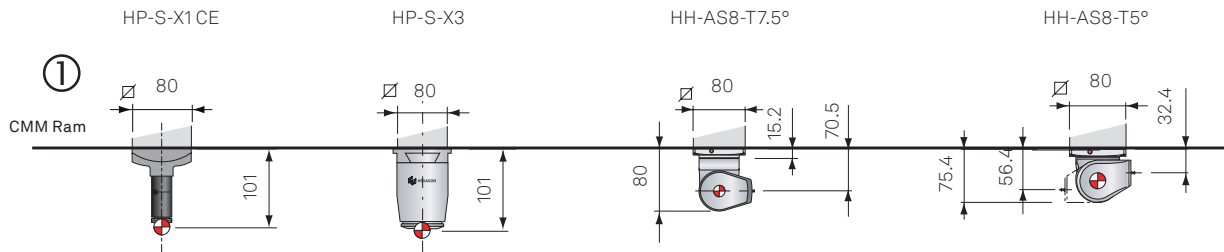
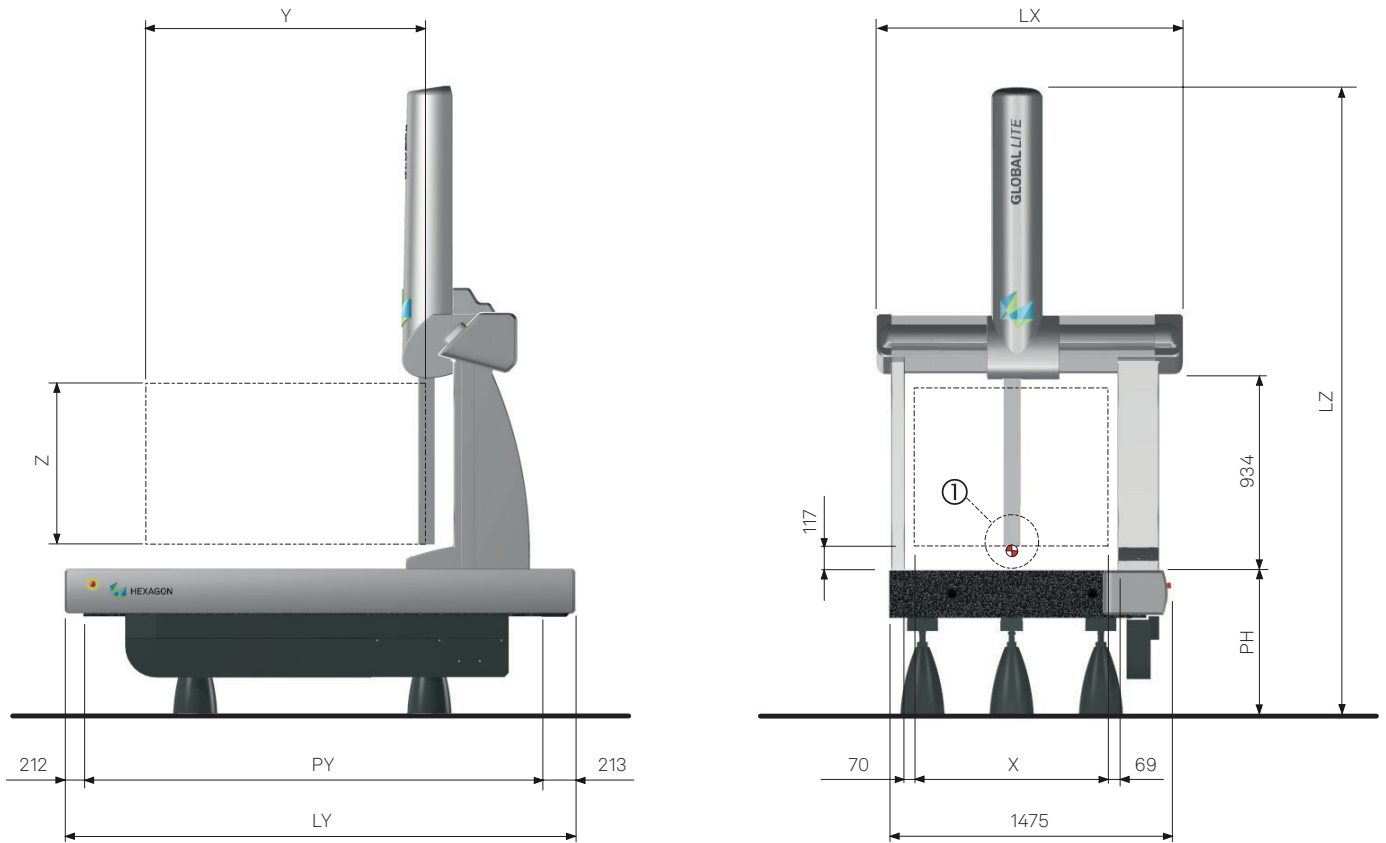


Models	Measuring range (mm)			Overall dimensions (mm)			Surface plate (mm)		Max. part weight (kg)	CMM weight approx. (kg)
	X	Y	Z	LX	LY	LZ	PH	PY		
07.07.05	700	700	500	1277	1608	2438	680	1350	900	960
07.10.07	700	1000	660	1277	1908	2777	700	1650	900	1265

¹⁾ GLOBAL Lite 07.YY.05

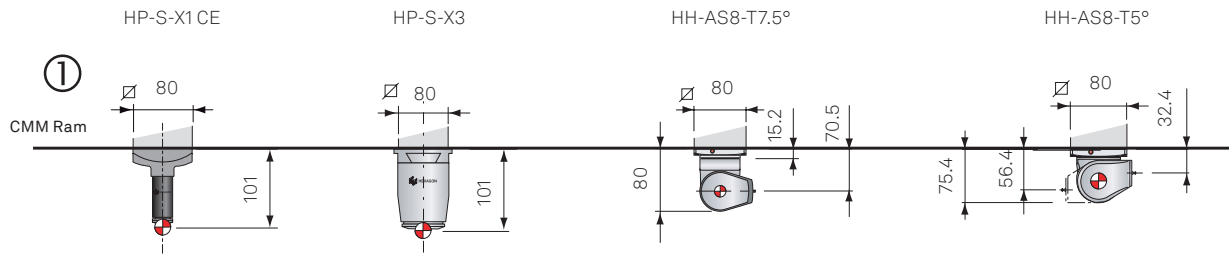
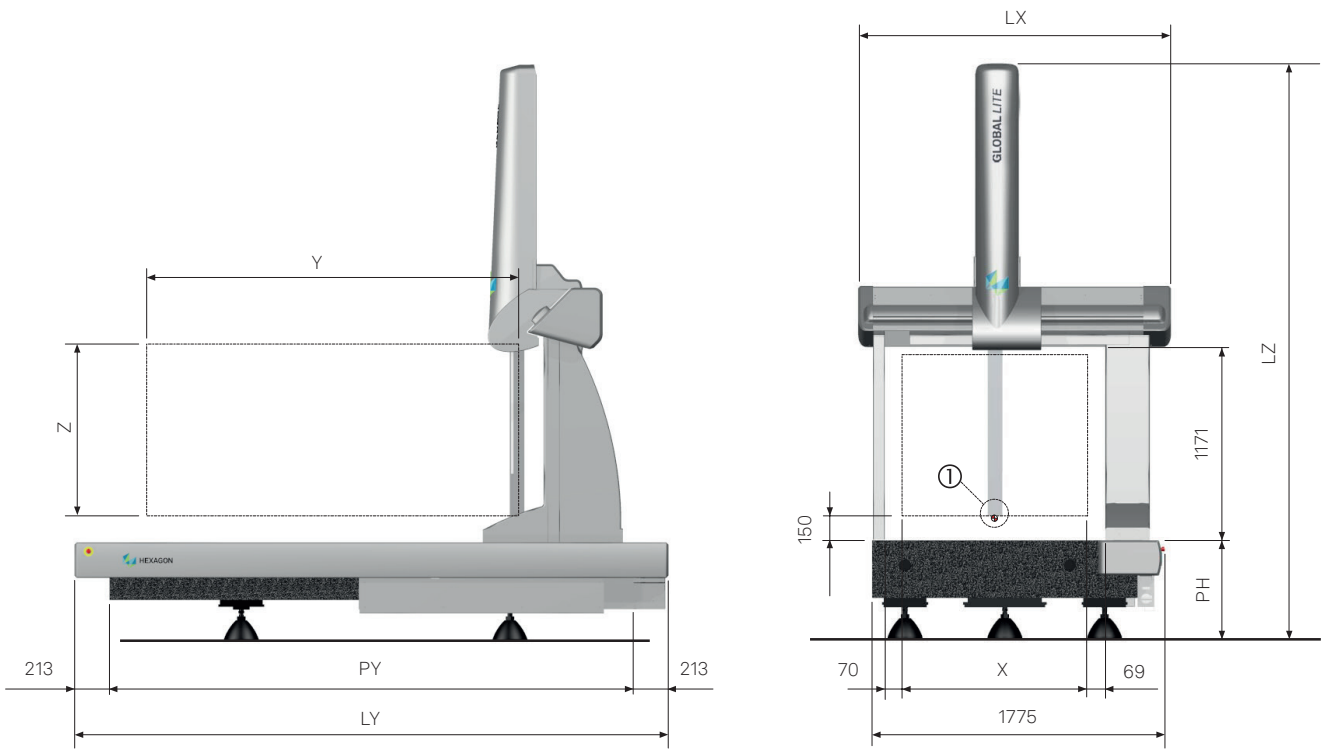
²⁾ GLOBAL Lite 07.YY.07

GLOBAL Lite 09.YY.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	1598	2455	3150	700	2030	1300	2215
09.15.08	900	1500	800	1598	2755	3150	700	2330	1500	2455
09.20.08	900	2000	800	1598	3255	3150	700	2830	1800	2855

GLOBAL Lite 12.YY.10 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		
12.15.10	1200	1500	1000	1898	2905	3513	625	2480	1800	3840
12.22.10	1200	2200	1000	1898	3605	3488	600	3180	2250	5740
12.30.10	1200	3000	1000	1898	4405	3513	625	3980	2250	7640

Probe heads and sensors



Technical characteristics	HP-S-X1 CE	HP-S-X3
Overtravel range	± 2 mm in all axes	± 1.25 mm in all axes
Stylus joint	M3	M5
Max. stylus weight	33 g	150 g
Max. stylus length	Vertical: up to 225 mm Horizontal: up to 100 mm	360 mm

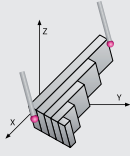


Technical characteristics	HH-AS8-T7.5° Indexable probe head	HH-AS8-T5° Indexable Probe Head
Angular rotation	A axis: +105° to -0° B axis: ±180°	A axis: +90° / -115° B axis: ±180°
Angular rotation step	7.5°	5°
Max. applied torque	0.6 Nm	0.6 Nm
Max. extension length	300 mm	300 mm



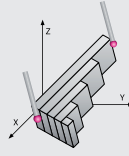
Performance verification

MPE(E0): maximum permissible error of length measurement



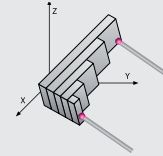
5 gauges have to be measured 3 times with one probing at each end, in 7 different directions. All measuring results must be within MPE(E0).

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



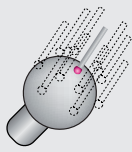
Extreme value of the repeatability range of the length measurement error, calculated by three repeated measurements on each size for a total of 35 values. The 35 repeatability range results must be within MPL(R0).

MPE(E150): maximum permissible error of length measurement



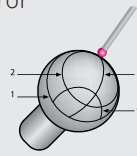
5 length gauges have to be measured 3 times in the YZ- or XZ plane with opposite styli, mounted 150 mm off the Z spindle axis. All measuring results must be within MPE(E150).

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).

Probe Configuration:

- HP-S-X1 CE: stylus length 20 mm, tip diameter 5 mm
- HP-S-X1 SE/H: stylus length 50 mm, tip diameter 5 mm
- HP-TM: Standard Force module, stylus length 10 mm, tip diameter 4 mm
- HP-S-X3: stylus length 20 mm, tip diameter 5 mm

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)

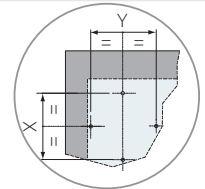
Max. Permissible Error MPE (μm) and Max. Permissible Time MPT (s) according to ISO 10360-4: 2000

- Single stylus form error, scanning: MPE(THP)/MPT(τ)

ISO 10360-2:2009 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 Lite 07.07.05 - 07.10.07 X = 300 mm ; Y= 300 mm GLOBAL Lite 09.YY.08 - 12.YY.10 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. 90 NI/min
Operating Specifications	Ambient temperature: 10 - 40 °C Relative humidity: 20% - 90% non-condensing





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

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

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

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