HEXAGON
MANUFACTURING INTELLIGENCE

PRODUCT BROCHURE

EXPLORER CLASSIC

BRIDGE COORDINATE MEASURING MACHINE

EXPLORER CLASSIC

UNSURPASSED MEASURING RANGE

Available in sizes to suit every kind of business, Explorer Classic machines combine innovative design with proven construction and patented technology. Its user-friendly operation, driven by the flagship dimensional metrology software PC-DMIS, gives an effective measurement solution for the needs of new entrants to the coordinate measuring machine (CMM) market.

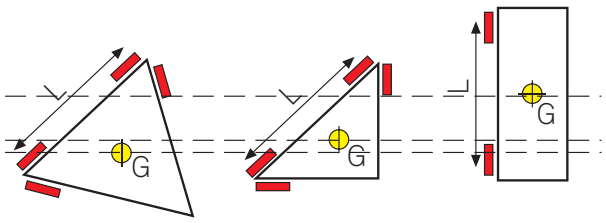
The Explorer Classic CMMs range from 400 mm x 500 mm x 400 mm to 1000 mm x 2100 mm x 800 mm, with advanced frame design, well-engineered structure, specially-designed controller technology and the latest software packages. The range balances accuracy, throughput and reliability with price/performance ratio and is designed to enable customers to improve quality control across the production process and provide great value for money.

Providing multifaceted yet cost-effective dimensional inspection capabilities, Explorer Classic is ideal for customers looking to purchase their first CMM or increase capacity for an existing quality assurance operation.

EXPLORER CLASSIC

COMPREHENSIVE SOLUTION

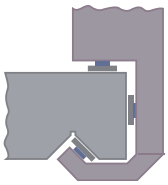
PROVEN TECHNOLOGY



Patented TRICISION® bridge design with wider bearing separation, a lower centre of gravity and lighter weight than a conventional bridge CMM beam.

European-import, high-precision optical scales installed with one end fixed and the other freely extensible.

The patented design improves the dynamic characteristics of the machine and ensures the safety of the Z axis.



Integral dovetail guideway on Y axis enhances the performance.

Patented counterbalance design improves measuring performance.

Patented TRICISION design with triangular cross section provides optimum stiff-to-mass ratio for precision and long-term stability.

Heavy, stable granite table resists vibrations.

Remote mounted drive motors reduce moving mass for faster setting, dissipating heat away from the machine frame.

Heidenhain high-resolution METALLUR® scales with PTB-certified thermal expansion coefficient.

All three axes run on high-precision self-cleaning air bearings, providing smooth movement that reduces wear on the guideways.

One-piece table construction, patented dovetail guideways are precision-machined in granite to improve accuracy and repeatability.


EXPLORER
B&S EXPLORER
INSPECTION
HEXAGON

A NEW DIMENSION IN PROBE TECHNOLOGY

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° increments and can achieve 168 unique positions without the need of 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.

The HH-A-T5 is a motorised indexable probe head featuring high-speed operation and high rotational torque. The probe head is fitted with a kinematic joint (TKJ) which can be connected to a multiwire to give multisensor support. The TKJ can be changed either manually or automatically without the need for requalification. The probe is capable of indexing in 5° increments and can achieve 3 024 unique positions.

HH-MI

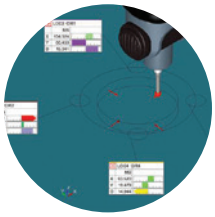
Position repeatability	1.5 µm
Probe repeatability (2σ)	0.35 µm
Increments	15°
Angular rotation	A= 0° - 90° B= ±180°
Measuring directions	±X ±Y +Z
Adjustable trigger force	0.1 N - 0.3 N
Max. stylus length	100 mm
Styli	M3
Weight	493 g

HH-A-M5/ HH-A-T5

Position repeatability	0.5 µm
Increments	5°
Total number of positions	3024
Increments	A= +90°—-115° B= ±180°
Rotations speed	90° in 2s
Maximum extension length	300 mm
Weight	700 g

THE MOST POPULAR AND POWERFUL INSPECTION SOFTWARE

PC-DMIS is the world's most powerful and widely used dimensional inspection software. Available in multiple versions and with a number of options packages, it provides the most comprehensive solution to any type of metrology application.

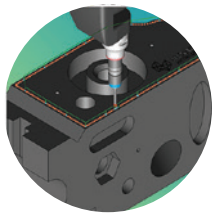


PC-DMIS PRO

Designed to enable users to perform simple inspection operations without CAD data, PC-DMIS PRO features an easy-to-use graphical user interface. Quick-start routines for probe calibration, part alignment and reporting allow operators to efficiently create part programs and perform the measurement tasks.

PC-DMIS CAD

PC-DMIS CAD is ideal for manufacturers of prismatic parts that want to integrate CAD into inspection operations. It allows users to program and inspect parts using CAD models ranging from simple 2D blueprints through to full 3D solid models. While guiding users through the programming process, CAD offers the user an interface that allows them to finalise programs more quickly, improving productivity.



PC-DMIS CAD++

PC-DMIS CAD++ enables users to measure complex parts. It includes all the capabilities of PC-DMIS CAD and adds the ability to measure complex, contoured surfaces including thin-walled sheet metal, plastic, blades, dies and moulds. PC-DMIS CAD++ supports numerous scanning devices and applications and includes algorithms for managing large amounts of data. It links to CAD, allowing users to compare measurement results directly against models for unsurpassed speed and accuracy. It is feature-rich, yet easy to use.

EXPLORER CLASSIC 04.XX.04 SPECIFICATIONS

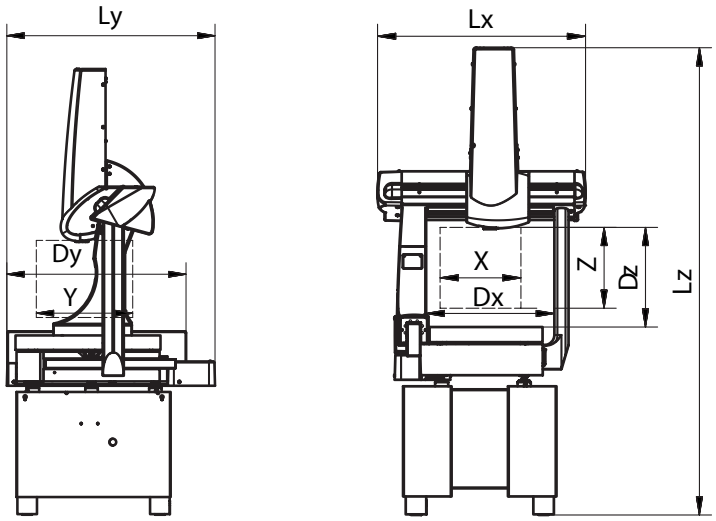
Models	MPE (µm), L(mm) HH-MI/HP-T/HP-TM		Max.3D Speed (mm/s)	Max. 3D Accel (mm/s^2)
	MPE_E(1)	MPE_P(2)		
04.xx.04	3.0 + 4.0L/1000	3.5	340	1730

(1) MPE_E according to ISO 10360-2: 2001
(2) MPE_P according to ISO 10360-2: 2001

Performance data are valid if the following specifications are met:
- Temperature range: 18 - 22°C
- Max. air temperature variation: 1°C/h - 2°C/24h
- Max. gradient in space: 1°C/m
- Relative humidity: 25% - 75%

Probe configuration for performance test:
- HH-MI: stylus length 21 mm, tip diameter 4 mm
- HP-T/HP-TM: stylus length 10 mm, tip diameter 4 mm

EXPLORER CLASSIC 04.05.04 STROKES, DIMENSIONS AND WEIGHTS



Models	Strokes (mm)			Overall Dimensions (mm)			Daylights (mm)			Max.Part Weight (kg)	CMM Weight (kg)
	X	Y	Z(1)	Lx	Ly	Lz	Dx	Dy	Dz		
04.05.04	440	490	390	1030	1160	2340	559	750	483	227	321
04.07.04	440	690	390	1030	1285	2340	559	995	483	200	423

Z(1): With automatic probe head: 360 mm

TECHNICAL CHARACTERISTICS

Mechanical Frame
Stiff mechanical structure made entirely of aluminum alloy

Surface Plate
Material: granite
Part locking: threaded inserts M10 x 1.25

Measuring System
METALLUR linear scales
System resolution: 0.078µm

Environment
Temperature range: 10 - 45 °C
Relative humidity: 90%, non-condensing

Thermal Compensation
Linear: 18 - 22 °C

Air Supply
Minimum air supply pressure: 5.2 bar~8.0bar
Air consumption: 90NL/min

Sliding System
Air bearing on all axes

Ram Counterbalance
Pneumatic, adjustable

Power
Voltage: 220 V/50Hz

EXPLORER CLASSIC 05.07.05, 07.10.XX SPECIFICATIONS

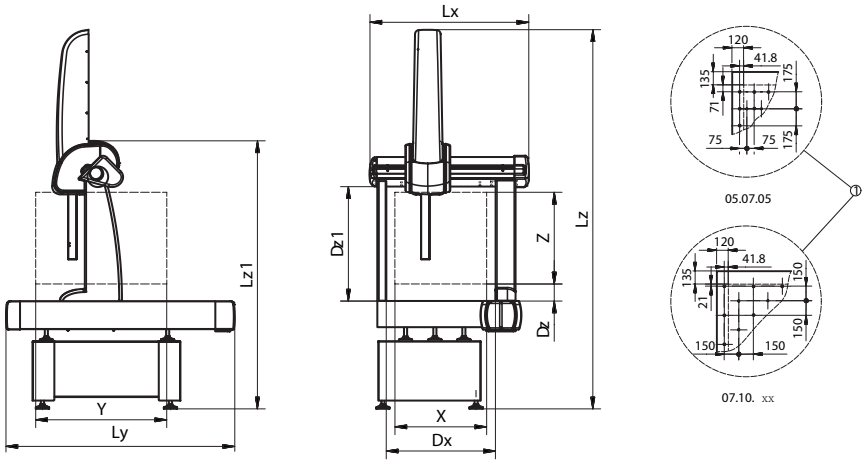
Models	MPE (µm), L(mm)				Max.3D Speed (mm/s)	Max. 3D Accel (mm/s²)
	HH-MI		HP-T/HP-TM			
	MPE_E[1]	MPE_P[2]	MPE_E[1]	MPE_P[2]		
05.07.05	2.7 + 3.5L/1000	3.0	2.5 + 3.5L/1000	2.8	520	780
07.10.05	2.9 + 3.5L/1000	3.1	2.7 + 3.5L/1000	2.9	520	780
07.10.07	2.9 + 3.5L/1000	3.1	2.7 + 3.5L/1000	2.9	520	780

(1) MPE_E according to ISO 10360-2: 2001
(2) MPE_P according to ISO 10360-2: 2001

Performance data are valid if the following specifications are met:
- Temperature range: 18 - 22°C
- Max. air temperature variation: 1°C/h - 2°C/24h
- Max. gradient in space: 1°C/m
- Relative humidity: 25% - 75%

Probe configuration for performance test:
- HH-MI: stylus length 21 mm, tip diameter 4 mm
- HP-T/HP-TM: stylus length 10 mm, tip diameter 4 mm

EXPLORER CLASSIC 05.07.05, 07.10.XX STROKES, DIMENSIONS AND WEIGHTS



Models	Strokes (mm)			Overall Dimensions (mm)			Daylights (mm)			Max.Part Weight (kg)	CMM Weight (kg)
	X	Y	Z	Lx	Ly	Lz	Dx	Dz	Dz1		
05.07.05	500	700	500	999	1445	2562	633	130	680	227	655
07.10.05	700	1000	500	1199	1740	2562	833	130	680	900	1375
07.10.07	700	1000	700	1199	1740	2915	833	130	873	900	1390

TECHNICAL CHARACTERISTICS

Mechanical Frame
X and Z: granite construction
Y: integral dovetail guideways, machined into the table

Surface Plate
Material: granite
Part locking: threaded inserts M8 x 1.25

Measuring System
METALLUR linear scales
System resolution: 0.078µm

Environment
Temperature range: 10 - 45 °C
Relative humidity: 90%, non-condensing

Thermal Compensation
Linear: 18 - 22 °C

Air Supply
Minimum air supply pressure: 5 bar
Air consumption: 90NL/min

Sliding System
Air bearing on all axes

Ram Counterbalance
Pneumatic, adjustable

Power
Voltage: 220 V/50Hz

EXPLORER CLASSIC 06.XX.06, 08.XX.06 SPECIFICATIONS

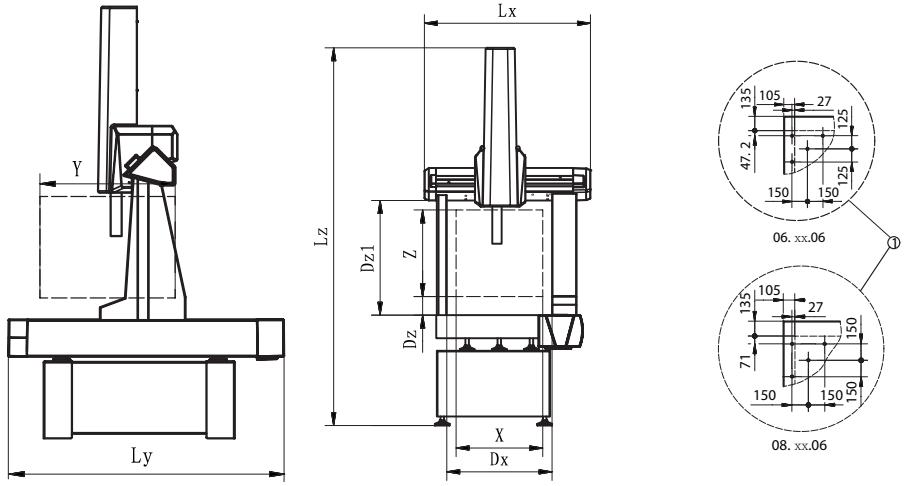
Models	MPE (µm), L(mm)				Max.3D Speed (mm/s)	Max. 3D Accel (mm/s²)
	HH-MI		HP-T/HP-TM			
	MPE_E[1]	MPE_P[2]	MPE_E[1]	MPE_P[2]		
06.xx.06	2.6 + 3.3L/1000	2.9	2.5 +3.3 L/1000	2.7	520	1730
08.xx.06	2.8+3.3L/1000	3.0	2.6 +3.3L/1000	2.8	520	1470

(1) MPE_E according to ISO 10360-2: 2001
(2) MPE_P according to ISO 10360-2: 2001

Probe configuration for performance test:
- HH-MI: stylus length 21 mm, tip diameter 4 mm
- HP-T/HP-TM: standard measuring force, stylus length 10 mm, tip diameter 4 mm

Performance data are valid if the following specifications are met:
Temperature range: 18 - 22°C;
Max. air temperature variation: 1°C/h 2- ° C/24h;
Max. gradient in space: 1°C/m
Relative humidity: 25% - 75%

EXPLORER CLASSIC 06.XX.06, 08.XX.06 STROKES, DIMENSIONS AND WEIGHTS



Models	Strokes (mm)			Overall Dimensions (mm)			Daylights (mm)			Max.Part Weight (kg)	CMM Weight (kg)
	X	Y	Z	Lx	Ly	Lz	Dx	Dz	Dz1		
06.08.06	600	800	600	1150	1623	2638	734	144	794	300	730
06.10.06	600	1000	600	1150	1823	2658	734	144	794	300	890
08.10.06	800	1000	600	1350	1823	2658	934	144	794	500	1074
08.12.06	800	1200	600	1350	2023	2658	934	144	794	500	1196

TECHNICAL CHARACTERISTICS

Mechanical Frame
X and Z: micromachined anodised light alloy extrusion
Y: integral dovetail guideways, machined into the table

Surface Plate
Material: granite
Part locking: threaded inserts M8 x 1.25

Measuring System
METALLUR linear scales
System resolution: 0.078µm

Environment
Temperature range: 10 - 45 °C
Relative humidity: 90%, non-condensing

Thermal Compensation
Linear: 18 - 22 °C

Air Supply
Minimum air supply pressure: 5 bar
Air consumption: 90NL/min

Sliding System
Air bearing on all axes

Ram Counterbalance
Pneumatic, adjustable

Power
Voltage: 220 V/50Hz

EXPLORER CLASSIC 10.XX.08 SPECIFICATIONS

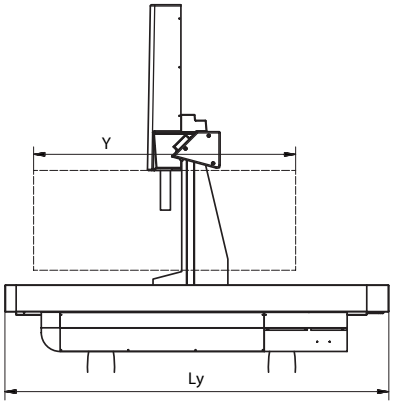
Models	MPE(µm), L(mm)				Max.3D Speed (mm/s)	Max. 3D Accel (mm/s²)
	HH-MI		HP-T/HP-TM			
	MPE_E(1)	MPE_P(2)	MPE_E(1)	MPE_P(2)		
10.xx.08	3.0 + 4.0L/1000	3.2	2.8 +4.0 L/1000	3.0	520	1470

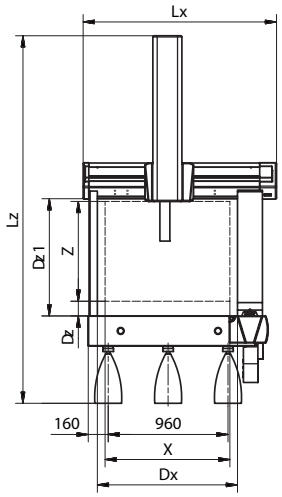
(1) MPE_E according to ISO 10360-2: 2001
(2) MPE_P according to ISO 10360-2: 2001

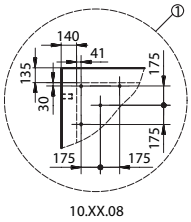
Probe configuration for performance test:
-HH-MI: stylus length 21 mm, tip diameter 4 mm
-HP-T/HP-TM: standard measuring force, stylus length 10 mm, tip diameter 4 mm

Performance data are valid if the following specifications are met:
Temperature range: 18 - 22°C;
Max. air temperature variation: 1°C/h 2- ° C/24h;
Max. gradient in space: 1°C/m
Relative humidity: 25% - 75%

EXPLORER CLASSIC 10.XX.08 STROKES, DIMENSIONS AND WEIGHTS







Models	Strokes (mm)			Overall Dimensions (mm)			Daylights (mm)			Max.Part Weight (kg)	CMM Weight (kg)
	X	Y	Z	Lx	Ly	Lz	Dx	Dz	Dz1		
10.12.08	1000	1200	800	1600	2177	2936	1130	118	940	1300	1785
10.15.08	1000	1500	800	1600	2477	2946	1130	118	940	1500	2090
10.21.08	1000	2100	800	1600	3077	2946	1130	118	940	1800	2625

TECHNICAL CHARACTERISTICS

Mechanical Frame

X and Z: Micromachined anodized light alloy extrusion
Y: integral dovetail guideways, machined into the table

Surface Plate

Material: granite
Part locking: threaded inserts M8 x 1.25

Measuring System

METALLUR linear scales
System resolution: 0.078µm

Environment

Temperature range: 10 - 45 °C
Relative humidity: 90%, non-condensing

Thermal Compensation

Linear: 18 - 22 °C

Air Supply

Minimum air supply pressure: 5 bar
Air consumption: 90NL/min

Sliding System

Air bearing on all axes

Ram Counterbalance

Pneumatic, adjustable

Power

Voltage: 220 V/50Hz

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**.

Hexagon Manufacturing Intelligence is part of Hexagon (Nasdaq Stockholm: HEXA B; **hexagon.com**), a leading global provider of information technologies that drive quality and productivity across geospatial and industrial enterprise applications.

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- SENSORS
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- LASER TRACKERS & STATIONS
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- WHITE LIGHT SCANNERS
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- DESIGN AND COSTING SOFTWARE

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