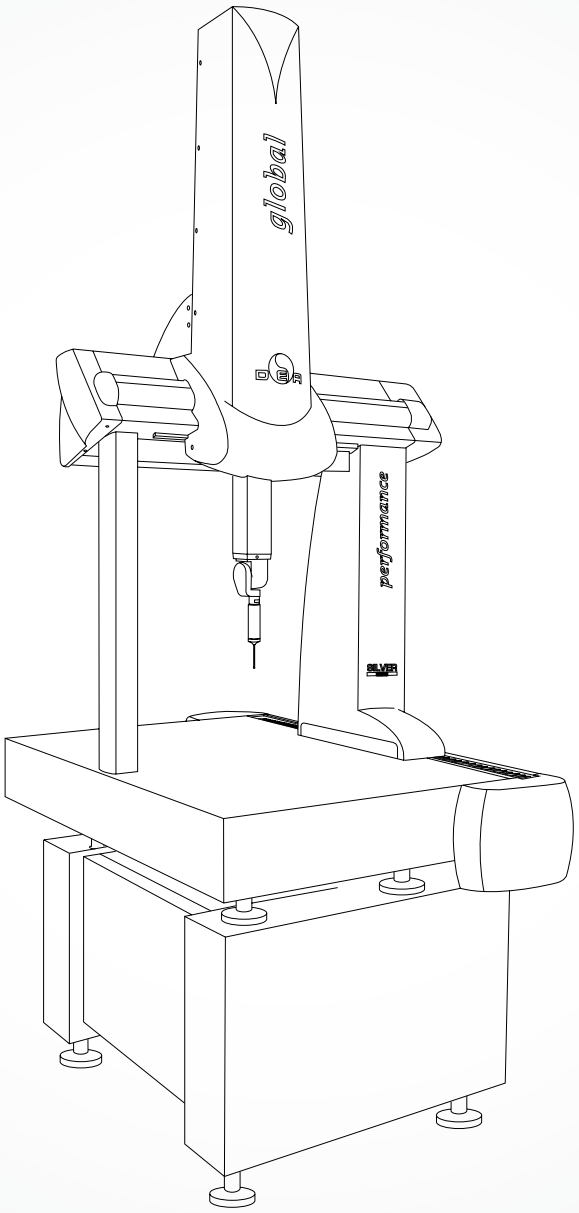
DATA SHEET

HEXAGON METROLOGY

DEA GLOBAL SILVER

05.XX.05



Specifications according to ISO 10360-2:2001, second edition and ISO 10360-4:2000 first edition

DEA GLOBAL Silver Classic 05.05.05, 05.07.05

Probe Configuration	Standard Temperature Range 18 ÷ 22 °C			CLIMA Temperature Range 16 ÷ 26 °C			Max. 3D Speed (mm/s)	Max. 3D Accel. (mm/s²)
	MPE_E	MPE_P	$MPE_{THP/\tau}$	MPE_E	MPE_P	$MPE_{THP/\tau}$		
TS-m, TS-sm/TS-p, TS-mp, TP200	2.3 + L/300	2.3	–	2.4 + L/222	2.3	–	516	1700
TS-m, TS-sm/LSP-X1s, m, h	1.9 + L/300	1.9	3.5/68	2.1 + L/222	1.9	3.5/68	516	1700
LSP-X1c	1.9 + L/300	1.9	3.5/68	2.1 + L/222	1.9	3.5/68	516	1300

DEA GLOBAL Silver Performance 05.05.05, 05.07.05

Probe Configuration	Standard Temperature Range 18 ÷ 22 °C			CLIMA Temperature Range 16 ÷ 26 °C			Max. 3D Speed (mm/s)	Max. 3D Accel. (mm/s²)
	MPE_E	MPE_P	$MPE_{THP/\tau}$	MPE_E	MPE_P	$MPE_{THP/\tau}$		
TS-m, TS-sm/TS-p, TS-mp	1.9 + L/333	2.0	–	2.2 + L/222	2.0	–	516	1700
TS-m, TS-sm/TP200	1.7 + L/333	1.9	–	1.9 + L/222	1.9	–	516	1700
TS-m, TS-sm/LSP-X1s, m, h	1.5 + L/333	1.6	2.9/45	1.7 + L/222	1.6	2.9/45	516	1700
LSP-X3c	1.5 + L/333	1.6	2.9/45	1.7 + L/222	1.6	2.9/45	516	1300

DEA GLOBAL Silver Advantage 05.07.05

Probe Configuration	Standard Temperature Range 18 ÷ 22 °C			CLIMA Temperature Range 16 ÷ 26 °C			Max. 3D Speed (mm/s)	Max. 3D Accel. (mm/s²)
	MPE_E	MPE_P	$MPE_{THP/\tau}$	MPE_E	MPE_P	$MPE_{THP/\tau}$		
TS-m, TS-sm/TS-p, TS-mp	1.9 + L/333	2.0	–	2.2 + L/222	2.0	–	866	4300
TS-m, TS-sm/TP200	1.7 + L/333	1.9	–	1.9 + L/222	1.9	–	866	4300
TS-m, TS-sm/LSP-X1s, m, h	1.4 + L/333	1.4	2.5/45	1.6 + L/222	1.4	2.5/45	866	4300
LSP-X3c	1.4 + L/333	1.4	2.5/45	1.6 + L/222	1.4	2.5/45	866	1300

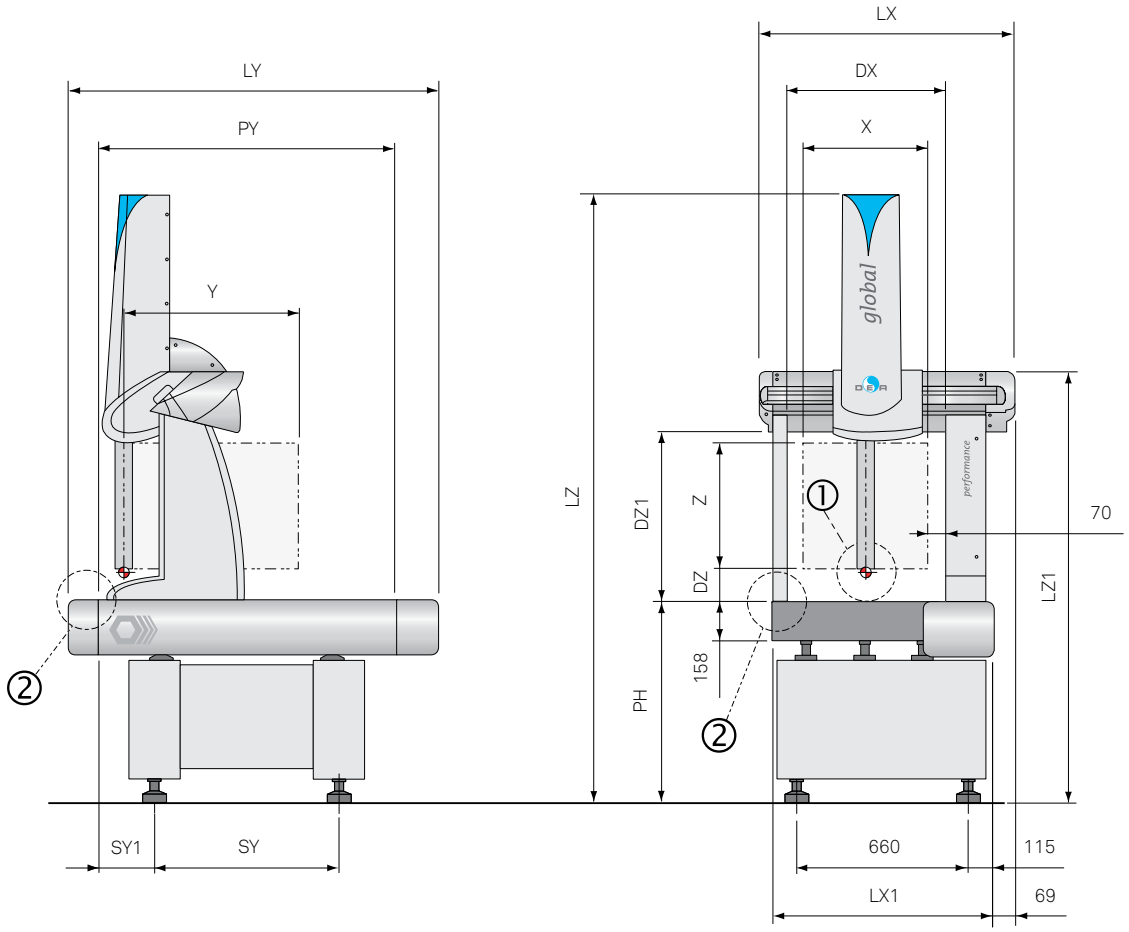
Probe Configuration for performance test:

- TP20/TP200: Standard Force Module, stylus length 10 mm, tip diameter 4 mm
- TESASTAR-p: Standard Force, stylus length 10 mm, tip diameter 4 mm
- TESASTAR-mp: Standard Force Module, stylus length 10 mm, tip diameter 4 mm
- LSP-X1s: without extension, stylus length 50 mm, tip diameter 5 mm
- LSP-X1m/LSP-X1h: with an extension of 100 mm, stylus length 20 mm, tip diameter 5 mm
- LSP-X1c: stylus length 20 mm, tip diameter 5 mm
- LSP-X3c: stylus length 60 mm, tip diameter 5 mm

Max. Scanning speed: 300 mm/s

Performance data are valid if the following specifications are met:

Standard Temperature Range		CLIMA Temperature Range	
Ambient temperature	18 ÷ 22 °C	Ambient temperature	16 ÷ 26 °C
Max. air temperature variation	1 °C/h - 2 °C/24h	Max. air temperature variation	1 °C/h - 5 °C/24h
Max. gradient in space	1 °C/m	Max. gradient in space	1 °C/m



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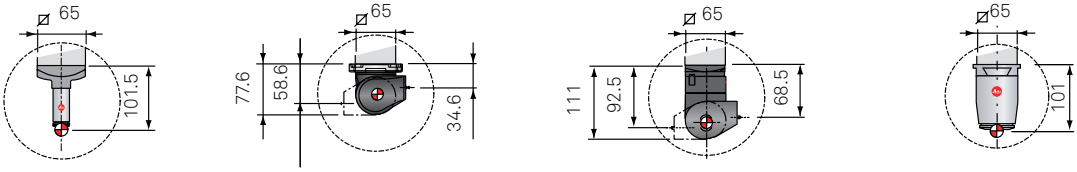
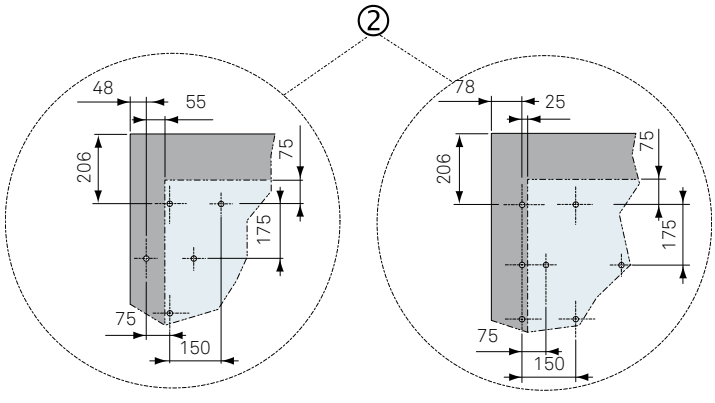


LSP-X1c | TESASTAR-sm 65 | TESASTAR-m | LSP-X3c



05.05.05 | 05.07.05

Strokes, Dimensions and Weights

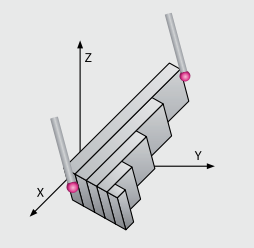
Modells	Strokes (mm)			Overall Dimensions (mm)					Surface Plate (mm)		Daylights (mm)			Supports (mm)		Max. Part Weight (kg)	CMM Weight (kg)
	X	Y	Z	LX	LX1	LY	LZ	LZ1	PH	PY	DX	DZ	DZ1	SY	SY1		
05.05.05	500	500	500	1025	900	1280	2431	1727	800	990	633	130	679	600	175	227	543
05.07.05	500	700	500	1025	900	1480	2431	1727	800	1190	633	130	679	835	298	227	619

Probe Heads and Sensors

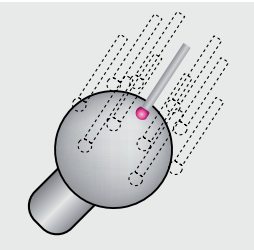
Technical Characteristics	TESASTAR-sm 65 Probe Head	TESASTAR-m Indexable Probe Head
Angular rotation	A axis: +90°/ -115° B axis: ±180°	
Angular rotation step	5°	
Rotation speed	90° in 2 seconds	
Positioning repeatability	0.5 µm	
Max. applied torque	0.6 Nm	
Extensions	Max. length 300 mm	

Technical Characteristics	LSP-X1c	LSP-X3c
Resolution	<1 µm	<1 µm
Measuring range	± 2 mm in X, Y and Z	± 1 mm in X, Y and Z
Overtravel range	± 2 mm in all axes	± 1.25 mm in all axes
Linear stiffness	1.2 N/mm	5 N/mm
Stylus joint	M3	M5
Max. stylus weight	33 g	150 g
Max. stylus length	Vertical: 20 - 115 mm Horizontal: up to 50 mm	360 mm

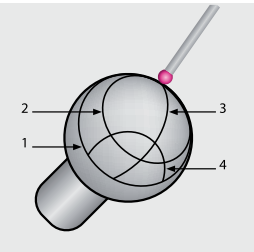
Performance Verification



MPE_E: Maximum permissible Error of indication for size measurement
Measurement of a set of 5 sizes, taken through two opposite probing points on two nominally parallel planes.
The set of 5 sizes is placed in 7 different positions/directions within the measuring volume.
Each size is measured three times for a total of 105 measurements.
All 105 measurement results (100%) must be within the specified MPE_E.



MPE_P: Maximum permissible probing error
A reference sphere is measured with 25 equally distributed probings. The probing performance shall be verified in one single position, located in the middle of the CMM working volume.
Using all 25 measurements, compute the Gaussian associated sphere. For each of the 25 measurements, calculate the Gaussian radial distance, R. Calculate the probing error, P, as the range of the 25 Gaussian distances, R_{max} - R_{min}. The probing error P must be within the stated MPE_P.



$MPE_{THP/\tau}$: Maximum permissible scanning probing error
$MPE_{THP/\tau}$ is the Maximum Permissible Scanning Probing Error of the range of all radii (sphere form error), with high point density and predefined path scanning, where τ is the specified time (in seconds) needed to perform the verification test. The scanning probing performance shall be verified in one single position, located in the middle of the CMM working volume. A reference sphere is measured by scanning four target scan lines to determine the range of the radial distance R. The scanning probing error THP is calculated as the range of radii between the measured centre and all of the assessed scan points. The measured THP and the time needed to perform the scanning test must be within the specified $MPE_{THP/\tau}$.

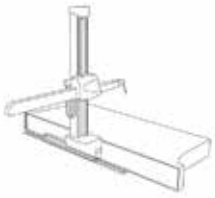
Technical Characteristics

Guideway:	X: Micromachined anodized light alloy extrusion Y: Integral dovetail guideways, machined into the table Z: Micromachined anodized light alloy extrusion
Surface Plate:	Material: Granite Part Locking: Threaded inserts M8x1.25 Flatness: According to DIN 876/III
Sliding System:	Air bearings on all axes
Measuring System:	METALLUR® linear scales. System Resolution: 0.039 µm
Temperature Compensation:	CLIMA, Multisensor Temperature Compensation Technology
Ram Counterbalance:	Pneumatic, adjustable
Air Supply:	Minimum air supply pressure: 0.55 MPa Air consumption: 73 Nl/min
Environment:	Metrological specification temperature range: Standard: 18 ÷ 22 °C and CLIMA: 16 ÷ 26 °C Operating Temperature: 10 ÷ 45 °C Relative humidity: 20% - 90 % non condensing
Probe Heads and Sensors:	TESASTAR-m, TESASTAR-sm 65, LSP-X1c, LSP-X3c TP200, TESASTAR-p, TESASTAR-mp, LSP-X1s, LSP-X1m, LSP-X1h

LASER TRACKERS & STATIONS

PORTABLE MEASURING ARMS

BRIDGE CMMS

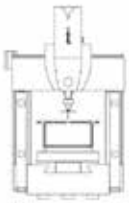


HORIZONTAL ARM CMMS

GANTRY CMMS

MULTISENSOR & OPTICAL SYSTEMS

WHITE LIGHT SCANNERS



ULTRA HIGH ACCURACY CMMS

SENSORS

PRECISION MEASURING INSTRUMENTS

SOFTWARE SOLUTIONS

HEXAGON
METROLOGY

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Printed in Germany. November 2012

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