

# HEXAGON METROLOGY 7.10.7 SF

Shop Floor Coordinate Measuring Machine



# Weights and Dimensions

Overall Dimensions with Touchscreen		
X	Y	Z
2209 mm	1754 mm	2760 mm
87 in	69.1in	108.7 in

Measuring Envelope		
X	Y	Z
710 mm	1010 mm	680 mm
28 in	39.8 in	26.8 in

Work Capacity		
X	Y	Z
876 mm	1390 mm	793 mm
34.5 in	54.7 in	31.2 in

Weight	
Standard Configuration	Maximum Part
1683 kg	680 kg
3711 lbs	1499lbs

# Performance Specifications

## According to ISO 10360-2 (2009):

$$E_{0,MPE}: 3.5 + 0.05 * \Delta T + (3.0 + 0.2 * \Delta T) * L / 1000$$

$$E_{150,MPE}: 3.5 + 0.05 * \Delta T + (3.0 + 0.2 * \Delta T) * L / 1000$$

$$R_0: 3.5\mu m$$

## According to ISO 10360-4 (2000):

$$MPE_{THP/T}: 6.5/85$$

## According to ISO 10360-5 (2010):

$$P_{FTU,MPE}: 3.5\mu m$$

## According to ASME B89.4.1b-2001:

$$R: 2.0\mu m$$

$$A_v[L]: 10 + 0.3 * \Delta T [550]$$

where,

- $\Delta T$  is the departure of ambient room temperature from 20°C (68°F) in °C.
- $E_{L,MPE}$  is the maximum permissible error of length measurement (for L = 0 and 150mm ram axis stylus tip offset)
- $R_{0,MPL}$  is the maximum permissible limit of the repeatability range
- $MPE_{THP/T}$  is scanning probing error
- $P_{FTU,MPE}$  is maximum permissible single stylus error.
- R is repeatability in  $\mu m$
- $A_v[L]$  is volumetric accuracy in  $\mu m$ , where L is the ball bar length in mm

Accuracy performance specifications valid under the following thermal conditions:

- Ambient Temperature: 15-40°C (59-104°F);
- Maximum temporal variation: 2C°/hr (3.6F°/hr) and 10°C/d (18F°/d);
- Maximum spatial variation: 1°C/m (1.8F°/m) horizontal and vertical.

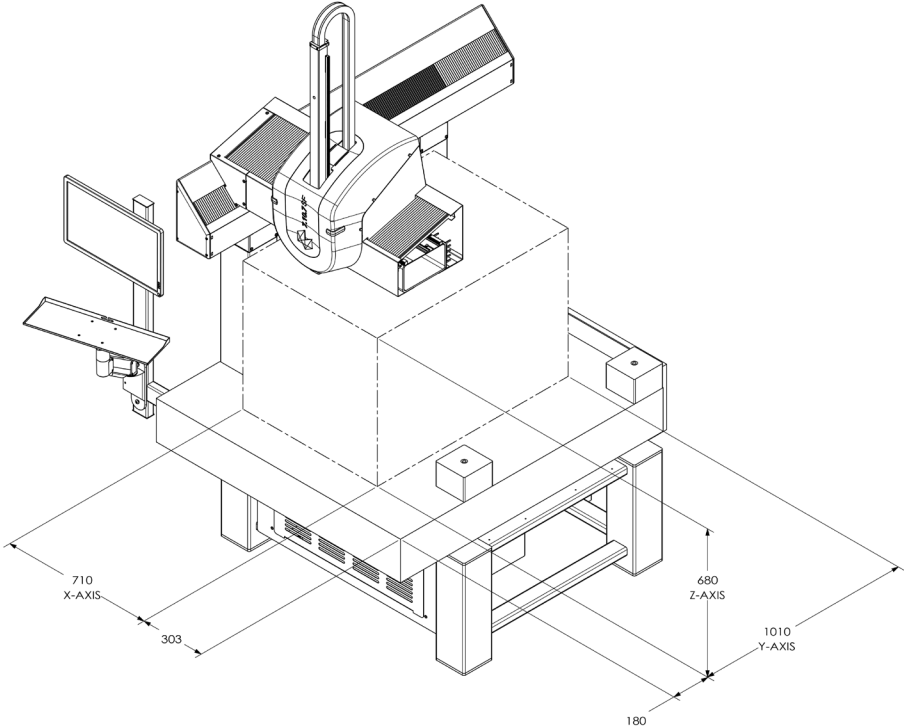
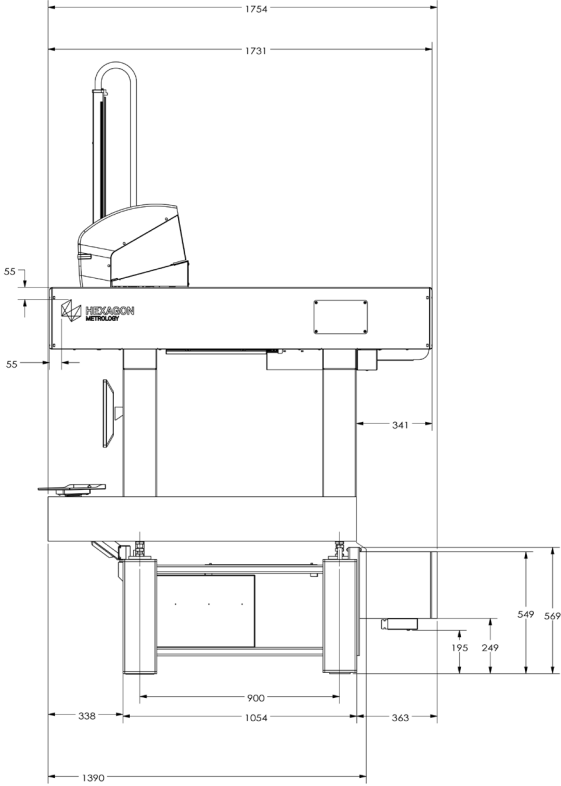
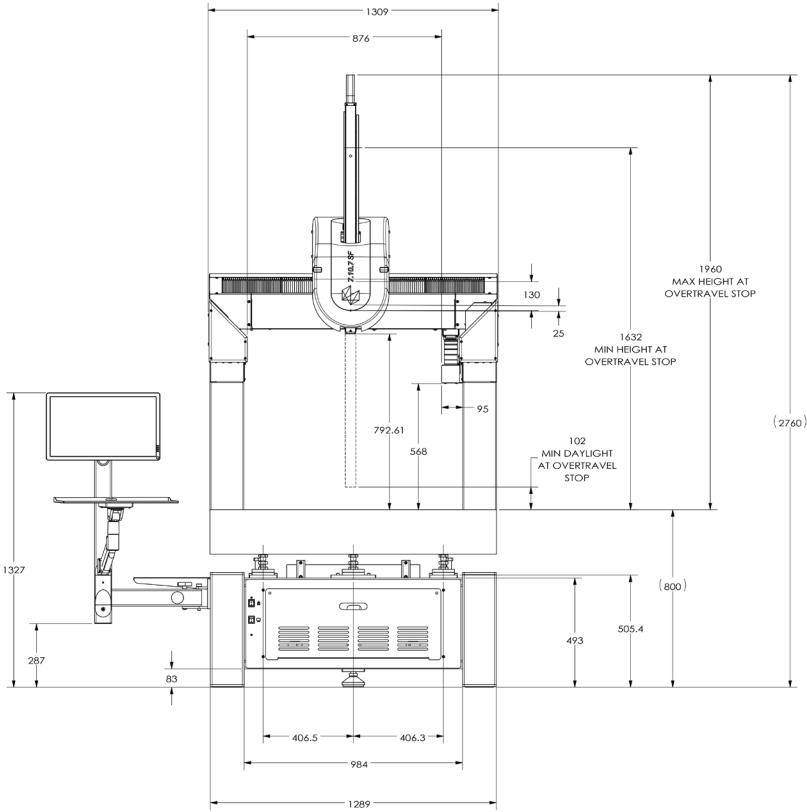
Probing configurations used for performance tests:

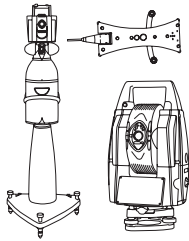
- TESASTAR, TESASTAR-i: 3mm tip, 30 mm stylus length;
- TESASTAR-mp: standard force module, 3mm tip diameter, 10mm stylus length;
- TLSP-X1c, LSP-X1h: 5mm tip diameter, 50mm stylus length.

Installation site vibration must be less than 2 $\mu m$  maximum horizontal and vertical amplitude over 5-50Hz to ensure stated performance.

Dynamic Specifications	
Maximum 3D Velocity	520 mm/s
Maximum 3D Acceleration	1732 mm/s <sup>2</sup>

# Dimensional Data

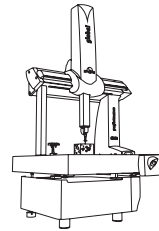




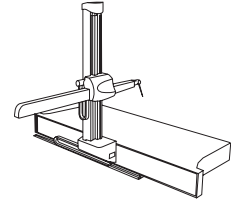
Laser Trackers & Stations



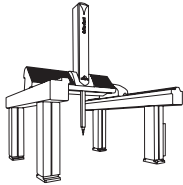
Portable Measuring Arms



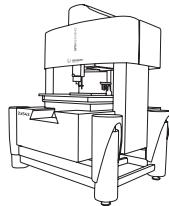
Bridge CMMs



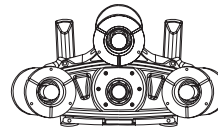
Horizontal Arm CMMs



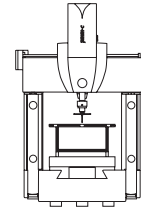
Gantry CMMs



Multisensor & Optical Systems



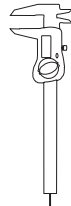
White Light Scanners



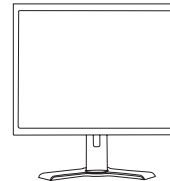
Ultra High Accuracy CMMs



Sensors



Precision Measuring Instruments



Software Solutions



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