



7.10.7 SF

Shop floor coordinate measuring machine

7.10.7 SF

The 7.10.7 SF is a durable shop-floor CMM built for precise, reliable measurement directly in production environments. With robust construction, thermal stability and vibration resistance, it delivers consistent accuracy where it's needed most.

Weights and dimensions

Overall dimensions with touch screen

X	Y	Z
2209 mm	1754 mm	2760 mm
87 in	69.1 in	108.7 in

Work capacity

X	Y	Z
867 mm	1390 mm	793 mm
34.5 in	54.7 in	31.2 in

Measuring envelope

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

Weight

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

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,

- ΔT 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 μm
- $A_v[L]$ is volumetric accuracy in μm , 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: 2°C/hr (3.6°F/hr) and 10°C/d (18°F/d);
- Maximum spatial variation: 1°C/m (1.8°F/m) horizontal and vertical.

Probing configurations used for performance tests:

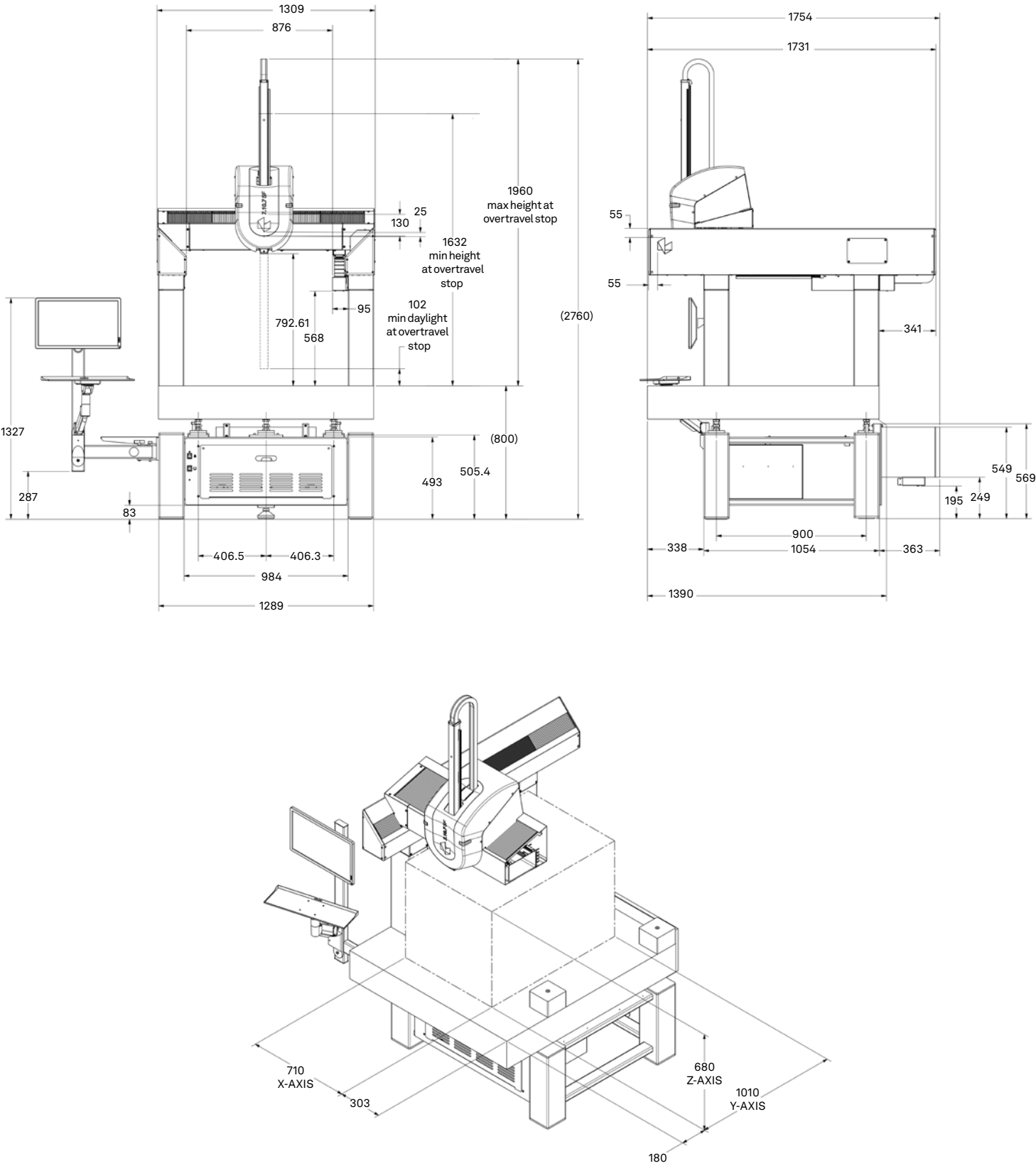
- HP-T, HH-MI: 3mm tip, 30 mm stylus length;
- HP-TMe: standard force module, 3mm tip diameter, 10mm stylus length;
- X1C, X1H: 5mm tip diameter, 50mm stylus length.

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

Dynamic specification

Maximum 3D Velocity	Maximum 3D Acceleration
520 mm/s	1732 mm/s ²

Dimensional data



Hexagon is the global leader in measurement technologies. We provide the confidence that vital industries rely on to build, navigate, and innovate. From microns to Mars, our solutions ensure productivity, quality, safety, and sustainability in everything from manufacturing and construction to mining and autonomous systems.

Hexagon (Nasdaq Stockholm: HEXA B) has approximately 24,800 employees in 50 countries and net sales of approximately 5.4bn EUR.

Learn more at hexagon.com