



Dimensional metrologies

- Metrologies using CMM in accordance with method accredited by ENAC in 17025
- Metrologies using CMM in accordance with internal method
- 3D arm metrologies at CTAG or at the client's site
- Optical metrologies using 3D CNC Vision Measuring Machine (Optical CMM) with or without ENAC accreditation
- Metrologies/Digitizations using laser scanning on CMM and on portable 3D arm
- Programming and measuring services at the client's site using the client's measuring

Equipment

Three-dimensional coordinate-measuring machine CMM

- Brand: Hexagon Dea
- Model: Gloval D Image 12-22-10
- Measuring range: X = 1200 mm, Y = 2200 mm, Z = 1000 mm
- Contact Uncertainty = 1.7 + 3L/1000 µm
- Laser digitization accuracy= ± 0.009 mm
- Measuring software: Pc Dmis, Metrolog, Focus Scan
- Data processing software: Spc-light, Secciones, Geomagic Qualify and Focus Inspection





Brand: Metris
Mandala LOSS Para

Model: LC60Dx and LC50Accuracy: 0.009 mm

Scanning software: Focus Scan

Data processing software: Focus Inspection, Geomagic



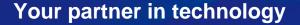




Three-dimensional coordinate-measuring machine MMC

- Brand: Hexagon Dea
- Model: Gloval D Image 07-10-05
- Measuring range: X = 700 mm, Y = 1000 mm, Z = 500 mm
- Contact Uncertainty = 1.7 + 3L/1000 µm
- Measuring software: Pc Dmis
- Data processing software: Spc-light, Secciones







Nikon 3D measuring arm 7 axes with laser scan

Brand: NikonModel: Mcax25+

Measuring range : Ø 2,5 mContact accuracy < 0,038 mm

Laser digitization accuracy = 0.009 mm

Measuring software: Pc Dmis, Focus, Inca, Geomagic







3D CNC Vision Measuring Machine (Optical CMM)

Brand: Mitutoyo

■ Model: QV – 606 pro

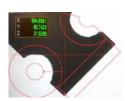
Measuring range: X = 600 mm, Y = 600 mm, Z = 250 mm for contact measuring

Contact Uncertainty = 5 + 5L/1000 μm

• Optical Uncertainty = 2,2+3L/1000 μm

Measuring software: QVPAK

Data processing software: Cosmos





Romer 3D measuring arm 6 axes

Brand: Romer

Model: Arm 2000 Sigma 2030

Measuring range: Ø 3 m

Accuracy < 0.035 mm

Measuring software: Pc Dmis, Metrolog



Products

Parts, moulds, checking fixtures, tools, etc.

Linked areas

Engineering: CAD of digitized parts

Engineering: Dimensional validation of manufacturing equipment and checking fixtures

Testing: Dimensional control before and after climatic and fatigue testing. Deformation análisis

Testing: Samples positioning in fatigue and durability testing

Accreditations and certifications

ENAC accreditation in accordance with UNE-EN ISO/IEC 17025:2005 in:

"Dimensional metrology using three-dimensional coordinate-measuring machine"

"2D optical dimensional metrology"