



**25<sup>th</sup>**  
**METROLOGY**  
 anniversary



*\*\*Look for the capacities of each laboratory at [www.soprote-metrology.com](http://www.soprote-metrology.com)*

We are a service company that provides inside and outside the plant, the technical support and advice that users of Dimensional Measurement Instruments.



## **Dimensional Inspection**

CMM, Articulated Arm,  
Laser Tracker, Scanners



## **Calibration**

CMM, Articulated Arm & CNC



## **Training program**

GD&T | Measuring Software | Workshop



## **Spare Parts**

Sale and/or replacement



## **Sale and Rent**

of Equipment





Accredited by

**A2LA**

based on the standard

**ISO/IEC 17025**

"General requirements for the competence of testing and calibration laboratories":

**+20** years

of experience serving throughout Mexico, Canada, the United States and Central America.

**+20**

specialist employees

CMMs brands

**ACCURATE, Brown & Sharpe, Hexagon, DEA, Zeiss, Leitz, Poli, IMS, Starrett, Mitutoyo, Coord3, Trimek, Nikon & LK, and more.**



# Coordinate Measuring Machine Services

## Sale and Rent

Lease Purchase  
options

## 24/7

Emergency  
services

## Financial Plans

short,  
medium and  
long term

Reverse engineering

Advice for the purchase of new  
machines based on specific  
manufacturing **needs and  
standards**

Project development

Accredited Dimensional Inspection

Training in different levels

Electrical and mechanical repairs,  
as well as preventive/corrective maintenance

Installations and **set-up**

We offer the **relocation** of your  
machine, as well as the local,  
national and international transfer

Range of brands in  
**spare parts** for CMM

# UPGRADE

1 Kit of scales, encoders and cables

2 UPGRADE or change of controller

3 Software and workstation update

4 Maintenance or change of motors, belts and transmissions

5 Change of hoses and replacement of bearings

6 Probing system

7 Preventive Maintenance



## CMM Calibration

Standard: **ASME B89.4.10360-2**  
**Laser Interferometer and/or Gage Blocks**  
to test the indication errors of a calibrated test length



Probing test ISO 10360-5:2010 / ISO 10360-5:2020

E0, E150 and the CMM Repeatability error



# Articulated Arm Calibration

We have Articulated Arm laboratories conditioned for calibration under the standards:



## ASME B89.4.22

"Method for evaluating the performance of Articulated Arm Coordinate Measuring Machines"

## ISO 10360-12

"Reverification tests for coordinate measuring systems Part 12: Articulated Arm Coordinate Measurement Machines".

Tests: Euni, Pform, Psize, LDIA

## ISO 10360-8 Annex D

"Articulated Arm CMM Scanning Probing System. Articulated Location Value (LDia)".

We collect  
your AACMM  
and return it  
calibrated.

Calibration  
Instrument:  
Ball Bar



**Articulated Arm** sale and rent lease purchase options



Accredited Dimensional Inspection  
with Articulated Arm CMM

Reverse engineering

Project development

Scanning and probing

Spare parts

Training

Our equipment is traceable to primary standards





# Holding & Checking Fixtures

Fixture Certification  
(Checking & Holding).

Control  
Device  
Designs

2D and 3D  
Mechanical  
Manufacturing

Tuning via Dimensional  
Inspection (CMM)

Logistics, Collection and  
Delivery in Plant

Engineering  
changes

Component  
Addition

Modification  
of SPC's



Issuance of the Inspection  
Certificate (ASME Y 14.5)

## Dimensional Inspection



Tooling repeatability  
study.



Contact or scan sizing.



Certification of tooling  
for production lines.



Measurement of molds  
and CNC assembled  
parts in their machining  
position.



Testing of strict  
tolerances in the  
industry.



## Dimensional Inspection with **Laser** Tracker

### **Laser Tracker** Services



Station geometry check.



Alignment and layout of Conveyors up to 1km with metrological tolerances.



Construction of antennas in the aerospace industry.



Assembly assisted by metrology.



Alignment of pieces.



Adjustments and inspection of control devices.

**Rent of equipment and  
leasing purchase plan**





# CNC Calibration

The tests carried out to the CNC comply with the standard:

## ISO/IEC 17025

"General requirements for the competence of testing and calibration laboratories":



**ISO 230-2** for linear axes

**ISO 230-6** for diagonals

Equipment:  
Interferometer  
Laser Renishaw  
**XL80**

### Ballbar test in conjunction with Renishaw

- Ensure accurate CNC parts on the first try
- Reduce machine downtime and scrap and inspection costs.
- Demonstrate compliance with machine performance and quality management standards.
- Implement predictive maintenance based on facts.

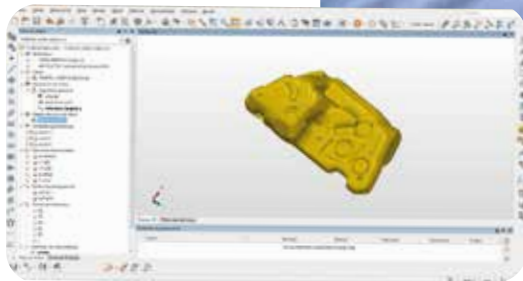
### Alignment and leveling using laser equipment

- CNC leveling during installation or periodically, using laser interferometer and laser tracker.

***"The periodic calibration of the CNC is key to maintain equipment accuracy and repeatability..."***

# Training

Optimization and technical support in Dimensional Metrology software



## Advice & Training

**Workshop on Site**  
**GD&T Geometric Tolerances**  
ASME Y 14.5 Standard Measurement of Geometric Tolerances with CMM, AACMM and Laser Tracker.

**Personalized courses in**  
**Dimensional Metrology Software**  
on site and/or at our facilities

**Uncertainty Course**  
in Dimensional Metrology.

Personalized  
advisory  
workshops for  
your piece





# SOPORTE METROLOGY

Dimensional Metrology



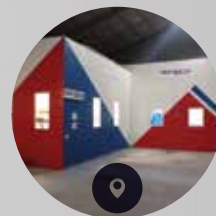


@SoporteMetrology



**CENTER**

27 Poniente N° 511  
Col. Chula Vista C.P. 72420  
Puebla, Pue.



**NORTH**

Manzana 8, Lote 6  
Parque Ind. FINSA C.P. 25904  
Saltillo, Coah.



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**ACCURATE**  
Partnering Quality

## Equipment

CMM equipment distributors:  
**Gantry, Bridge, Arm.**  
Integration of dedicated Dimensional inspection equipment.



**pantec**

**Pantec/Wenzel** Control System  
for CMM: Controllers, Joysticks &  
probing accessories.



**RENISHAW**  
apply innovation™

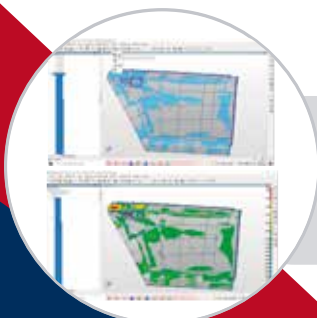
RDI **Renishaw Distributor Integrator**  
Software, accessories, heads,  
controllers for CMM & CNC.



## Software

**Universal 3D Metrology Platform**  
DataLoop, licenses, configuration,  
advice & training.

**PolyWorks**  
The Smart 3D Metrology  
Digital Ecosystem™



**Measurement Software**  
Configuration, installation & training.  
**CMM Manager, Modus, VDMIS, PCDMIS**

**QXSOFT**

**VDMIS**

**MODUS**



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## Non Contact

Sale and Rental of last generation  
**Articulated Arms** with  
palpation & scan.



### KSCAN-Magic & Trackscan-P

Sale, rent, integration,  
Reverse engineering and training.



Non-contact Dimensional Inspection  
Technology: **Scanner L100, LC15Dx,  
XC65Dx, APDIS Laser Radar.**  
Project Integration.



## Projects

**Modular clamping equipment**  
(Holding Fixtures)  
for CMM. For free & dedicated inspection




Our national reference laboratory.  
**Partner for the development of new  
calibration and assurance methods**  
of the quality of our results.





# Accredited Capacities

Services	Unit Under Test	Parameter	Method	Measuring instrument	Range	CMC	Output formats	Industry
Dimensional Testing / Calibration	Checking Fixtures & Workpieces	GD&T	ASME Y 14.5	CMM DEA Ghibli 152614	X, Y, Z: Up to (2600, 1500, 1400) mm	(11 + 5.9L) µm	A2LA Dimensional Inspection Report	
				CMM Zeiss Prismo VAST HTG	X, Y, Z: Up to (900, 1500, 700) mm	(2.2 + 6 L) µm		
				CMM Zeiss Prismo	X, Y, Z: Up to (1200, 2000, 1000) mm	(2.1 + 6.8L) µm		
				CMM Accurate Mega	X, Y, Z: Up to (1000, 750, 800) mm	(9.5 + 4.8L) µm		
				CMM Mitutoyo BRT-910	X, Y, Z: Up to (1000, 750, 800) mm	(3.2 + 3.6) µm		
Dimensional Testing	3D Measurement	GD&T	ASME Y 14.5	AACMM Faro Quantum S 4.0m	Up to 3700 mm	-	A2LA Dimensional Inspection Report	Automotive
	Distances and 3D Measurements	GD&T	ASME Y 14.5	Laser Tracker Leica AT-401				
					Up to 80 000 mm	-	A2LA Dimensional Inspection Report	
Dimensional Calibration	Coordinate Measuring Machine	Length Measurement Error E0 E150 R0	ISO 10360-2 ASME B89.4.10360-2	Laser interferometer Renishaw XL80 & Gage Blocks 30mm Mitutoyo / Koba	Up to 18 000 mm	(2 + 0.25L) µm	A2LA Calibration Report	Aerospace
				Gage Blocks Set 30-500mm Mitutoyo / Koba	Up to 1500 mm	(0.27 + 1.3L) µm		
	CMM Probing System	Single-Stylus and MultiStylus Probing Error	ISO 10360-5:2010	Test Sphere Ceramic Accurate 30mm	Sphere Size: 30 mm diameter	0.76 µm	A2LA Calibration Report	Aeronautics
		Single-Stylus Form Error Single-Stylus Size Error Multi-Stylus Form Error Multi-Stylus Size Error Location Error	ISO 10360-5:2020	Test Sphere Ceramic Accurate 30mm	Up to 50 mm	1.3 µm 0.88 µm 1.4 µm 0.88 µm 0.98 µm		
	Articulated Arm Coordinate Measuring Machines	SPAT	ASME B89.4.22	Test Sphere Ceramic Accurate 30mm	Up to 50 mm	2.5 µm 2.3 µm	A2LA Calibration Report	Oil Industry
		Effective Diameter		Ball Bar Trapet Precision 2700 mm	Up to 4000 mm	(3.2 + 0.4L) µm (4.0 + 0.33L) µm		
		Volumetric Performance		Test Sphere Ceramic Accurate 30mm	Up to 51 mm Up to 51 mm Up to 51 mm	3.8 µm   5.0 µm 2.4 µm   2.1 µm 3.6 µm   3.5 µm		
		Probing Size Error (Psize) Probing Form Error (Pform) Articulated Location Error (LDia)	ISO 10360-12	Ball Bar Trapet Precision 2700 mm	Up to 4000 mm	(3.2 + 1.7L) µm (2.9 + 2.4 L) µm		
		Length Measurement Error Unidirectional (Euni)						
	Articulated Arm Coordinate Measuring Machines Scanning Probing System	Articulated Location Value (LDia)	ISO 10360-8 Annex D	Test Sphere Ceramic Accurate 30mm	Sphere Size: 30 mm diameter	(6.6L) µm	A2LA Calibration Report	Energy generation
	Numerically Controlled Machines	X, Y, Z Axial Positional Deviation	ISO 230-2	Laser interferometer Renishaw XL80	Up to 18 000 mm	(1.6 + 0.2L) µm	A2LA Calibration Report	Die Casting
		Volumetric Performance on Body and Face Diagonals	ISO 230-6	Laser interferometer Renishaw XL80	Up to 18 000 mm	(2.1 + 0.3L) µm		
	3D Optical Measurement Systems*	PF Probing error (form) PS Probing error (size) E Length measurement error SD Sphere spacing error	VDI/VDE 2634-3	Dumbbell 700x50 mm Reference Sphere 50 mm	700 mm	TBD	A2LA Calibration Report	Casting Inspection
							Machinery	
							Design inspection	
							Architecture sculpture	
							Academic research	

\*TBD



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**SOPORTE**  
METROLOGY

\*\*Visit the capabilities of each laboratory at [www.soporte-metrology.com](http://www.soporte-metrology.com)



# Equipment Scopes

Equipment	Brand	Sale	Rent	Accredited Calibration	Dimentional Inspection	Scanning / Probing	UPGRADE / Maintenance	Reverse Engineering	Training	Spare part	Manufacturing	Project development
Coordinate Measuring Machine	Accurate*, B&S, Hexagon, DEA, Zeiss, Leitz, Polj, IMS, Starret, Mitutoyo, Wenzel, Coord3, Trimek, Nikon, LK, entre otras.	✓	✓	✓	✓	Scanning Probing	✓	✓	✓	✓	✓*	✓
CMM Controller	Pantec Renishaw	✓	NA	NA	NA	NA	NA	NA	✓	✓	NA	NA
Articulated Arm	Faro Romer	✓	✓	✓	✓	Scanning Probing	✓	✓	✓	✓	NA	✓
Laser Tracker	Leica	✓	✓	✓	✓	Scanning	✓	✓	✓	✓	NA	✓
CNC	Multiple Brands	NA	NA	✓	NA	NA	NA	NA	✓	✓	NA	✓
Scanners	Scantech	✓	✓	✓	✓	Probing	✓	✓	✓	✓	NA	✓
Laser Radar	Nikon	✓	✓	NA	✓	Scanning	✓	✓	✓	✓	NA	✓
Measuring Software	PolyWorks	✓	✓	NA	✓	Scanning Probing	✓	✓	✓	NA	NA	✓
Measuring Software (Others)	Modus, QXSOFT, VDMIS, Tutor, Pcdemis, others	✓	✓	NA	✓	Scanning Probing	NA	✓	✓	NA	NA	✓
Fixtures Control Devices	Soporte Metrology	✓	✓	✓	✓	NA	✓	✓	✓	✓	✓	✓

NA: Not applicable

Description												
Alliances	CENAM	Partner for the development of new calibration methods and quality assurance in our results.										✓

Description	
Laboratory Accessories ELECTRICAL ELECTRONICS	Motors, Power Source, Drivers, UPS, others.
Laboratory Accessories PNEUMATICS	Filters, Maintenance Units, Dryers, others.
Laboratory Accessories MANUAL	Dial indicators, Torque meters, Shims, others.
Outsourcing Calibration	Calibration spheres, vernier, nanometers, others.

