



MEASUREMENT SOLUTION PROVIDER



SPM-7000
SURFACE PROFILE
MEASURING MACHINE

CATALOGUE NO. SPM-E01

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PRODUCT OVERVIEW

This Surface Profile Measuring Machine is dedicated to precision inspection of geometric dimensions and geometric tolerances for 2D sectional profiles.

Adopting proven contact scanning technology and a compact mechanical structure, it delivers high-precision, cost-effective and easy-to-deploy professional profile measurement solutions for industries including bearings, auto parts, molds and hydraulic components.



High measuring accuracy



Constant force measurement



Compact all-in-one desktop design



Complete package ready to use



Precision measurement

Constant Force Measurement,
Accuracy: $\pm(1.5+|0.08H|)\mu\text{m}$



Motorized control

Motorized X & Z Axes
with Joystick Control



Stylus & Arm

Cemented Carbide Stylus
with Carbon Fiber Arm



Multi-functional accessories

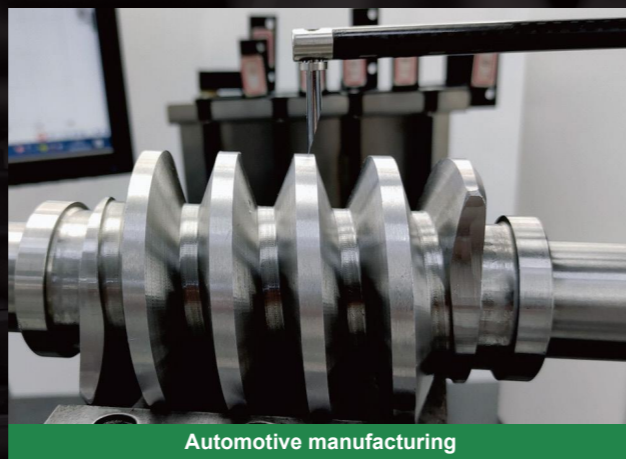
Precision Vice & Base Stage for versatile
workpiece measurement



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APPLICATION SCENARIOS

Widely used in manufacturing industries including precision molds, automotive parts, bearing components, hydraulic and pneumatic components. It fits full-process inspection scenarios such as workpiece contour dimension verification, geometric tolerance detection, finished product sampling inspection, and mass production batch quality testing, serving as an essential standard precision quality inspection instrument for the mechanical processing industry.



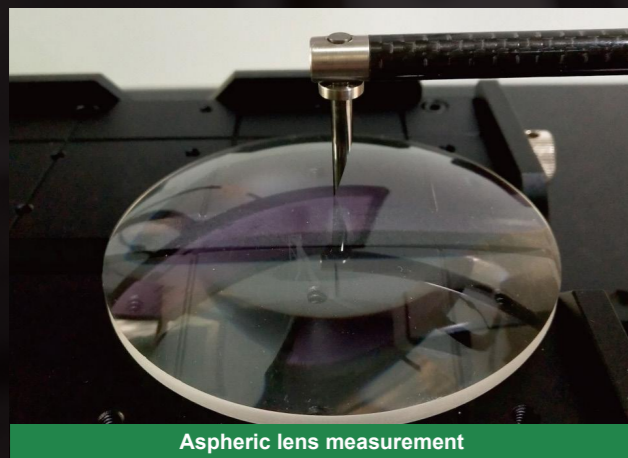
Automotive manufacturing



Machining industry



Bearing manufacturing



Aspheric lens measurement

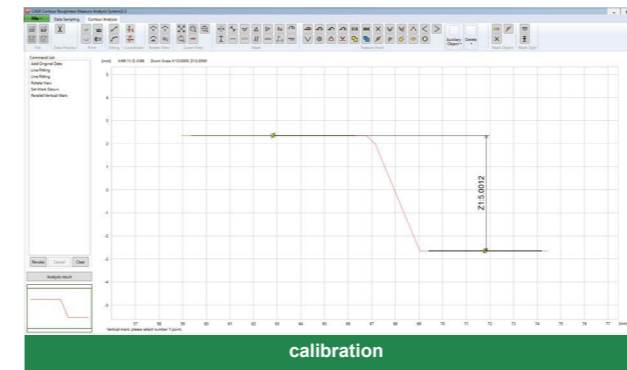


Valve components

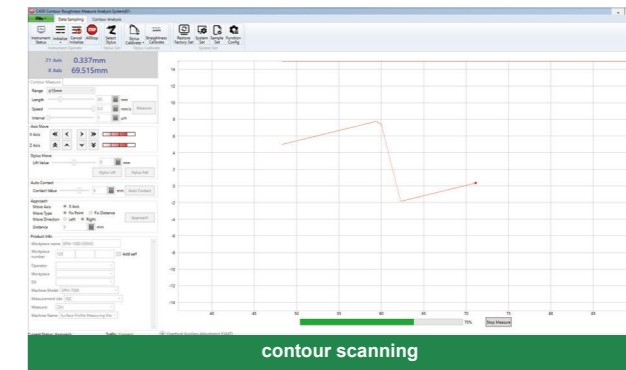
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SOFTWARE OVERVIEW

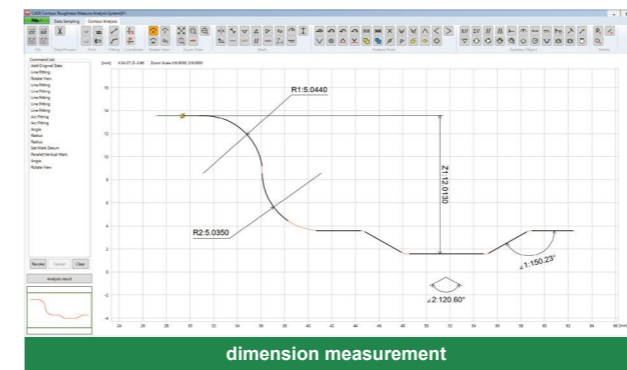
The measurement and analysis software can extract and label basic geometric elements including points, straight lines and circular arcs, suitable for routine inspection of most mechanical parts. It automatically identifies contour features, with marking points snapping to endpoints, intersections, extreme points, circle centers and other positions to reduce errors from manual point selection, improving marking efficiency and measurement consistency. It supports one-click export of measurement reports in PDF and Excel formats for quality traceability, data archiving and customer delivery. Equipped with a comprehensive built-in calibration system, the software enables overall machine precision calibration and circular arc grating compensation.



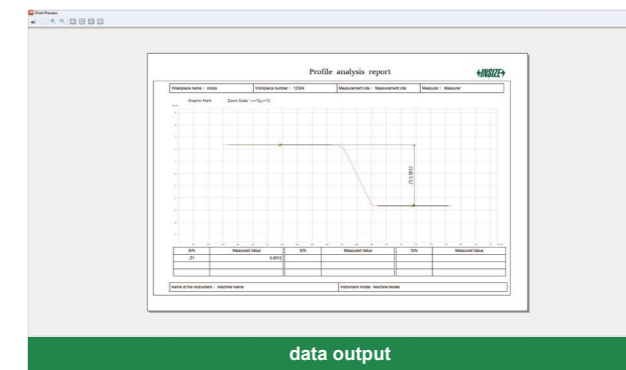
calibration



contour scanning



dimension measurement



data output

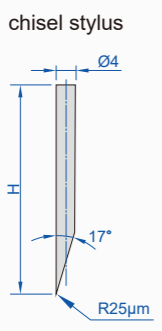
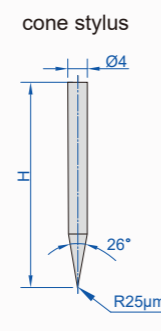
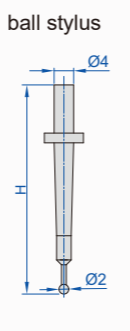
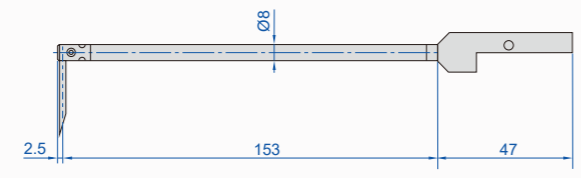
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SPECIFICATION

X axis measuring range	100mm
X axis resolution	0.1 μ m
X axis straightness	0.8 μ m/100mm
X axis moving speed	0.5~10mm/s
Z axis measuring range	\pm 20mm
Z axis resolution	0.1 μ m
Z axis moving speed	0.5~20mm/s
Linear accuracy	\pm (1.5+ 0.08H) μ m, H is measuring height in mm
Angular measuring accuracy	\pm 2'
Arc measuring accuracy	\pm (2+R/6) μ m, R is 2~10mm standard ball
Radius of probe tip	25 μ m
Moving direction	backward
Measuring unit	mm/inch
Traceable angle	72° (upward), 87° (downward)
Drive mode	motor
Travel of Z axis	320mm
Dimension (L×W×H)	600×400×920mm
Power supply	220 \pm 5%V, 50Hz
Net weight	131kg

SPECIFICATION OF PROFILE PROBES

unit: mm

 <p>chisel stylus</p> <p>code SPM-1000-T01 (H=32mm, included) code SPM-1000-T02 (H=48mm, optional)</p>	 <p>cone stylus</p> <p>code SPM-1000-Z01 (H=32mm, optional) code SPM-1000-Z02 (H=48mm, optional)</p>	 <p>ball stylus</p> <p>code SPM-1000-R01 (H=32mm, optional) code SPM-1000-R02 (H=48mm, optional)</p>
 <p>standard arm, code SPM-7000-SP (included), stylus is not included</p>		

STANDARD DELIVERY

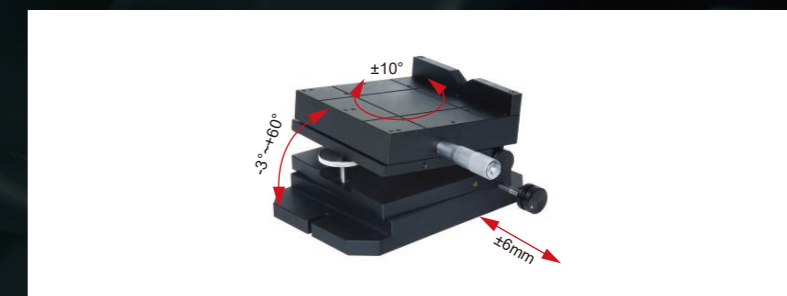
Main unit	1 pc
Standard probe and arm	1 pc of each
Standard block	2 pcs
Standard ball	2 pcs
Standard shaft	1 pc
Stage	1 pc
Vise	1 pc
Computer	1 pc
Measurement software	1 pc
Installation tools	1 set

OPTIONAL ACCESSORY

Workbenches	7911
Probe	see details



standard balls (included)



stage (included)



standard blocks (included)



vise (included)



standard shaft (included)



workbenches (optional)



MEASUREMENT SOLUTION PROVIDER

www.insize.com



+86-512-68099993

sales@insize.com

80 Xiangyang Road, Suzhou New District, 215009 China