

# WHITE LIGHT INTERFERENCE MEASURING MICROSCOPE

PART No. ISM-A8000-U

NON-CONTACT  
ROUGHNESS MEASUREMENT

SUB-NANOMETER  
VERTICAL RESOLUTION

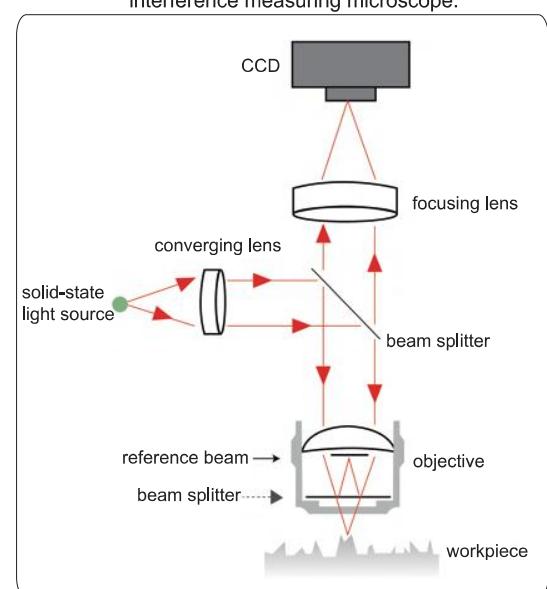
MICRO 3D MORPHOLOGY  
MEASUREMENT

MOTORIZED STITCHING



- Using white light source to combines non-coherent light interference with high-resolution microscopic imaging to generate microscopic three-dimensional profiles, by employing objectives with different magnification levels, the vertical measuring resolution can achieve the sub-nanometer range
- 3D surface micro-measurement and roughness evaluation are widely applied in precision machining, semiconductor processing, and materials analysis
- Suitable for precision optical components, micro-nano machined devices, metal machined parts, wafers, and other components
- Sub-nanometer vertical resolution, suitable for smooth surface measurement and analysis
- Including nanoscale micro-profile analysis, 2D dimensional measurement, and roughness measurement, etc.
- Using high-sensitivity, high-speed sensors and large-range, high-precision, high-speed piezoelectric ceramic units to achieve high scanning efficiency
- Supporting measurement in 2D and 3D modes
- Automatic stitching for large field view and measurement after stitching
- Measurements can be saved in reports and exported
- Vibration isolation platform is standard to ensure stable operation

working principle of white light  
interference measuring microscope:



## SPECIFICATION

Measuring mode	PSI (physiognomic scanning)/VSI (vertical scanning)/bright field						
Light source	white light, green light						
Resolution of camera	1600×1100						
View field (20X interference objective)	.016×.016"						
Travel of Z-axis	.78" motorized+1.97" manual						
Scanning range of Z-axis	.39"						
Resolution of Z-axis	.003μin/0.1nm						
XY stage	size	7.87×7.87"					
	range	1.97×1.97"					
	max. weight of workpiece	6.61lb					
	resolution	7.87μin					
	control method	motorized					
Range of horizontal adjustment	±12° manual						
Reflectance of measuring samples	0.1%-100%						
Repeatability of roughness measurement	.004μin/0.1nm						
Accuracy of height measurement	<0.75% (VSI mode)						
Measurement time	<5s (PSI mode)						
Environmental requirement	temperature: 73±5.4°F, relative humidity: 25-65%, equipment installation should be kept away from vibration sources						
Power supply	110V, 50/60Hz						
Dimension (L×W×H)	29.53×29.53×52.36"						
Net weight	220lb						

## OBJECTIVES SPECIFICATION

Objective	2.5X(optional)	5X(optional)	10X(optional)	20X(included)	50X(optional)	100X(optional)
Numerical aperture	0.075	0.13	0.3	0.4	0.55	0.7
Optical resolution@550nm	145.7μin	82.6μin	36.2μin	27.1μin	19.7μin	15.7μin
Range of depth of field	1913.4μin	637.8μin	119.7μin	67.3μin	35.4μin	22μin
Working distance	.40"	.36"	.29"	.18"	.13"	.078"

## ANALYSIS FUNCTION

Software function	laser-assisted stripe positioning automatic roughness software measurement module, capable of measuring Ra, Rq, Rz, Rp, Rv, Sa, Sa, Sq, Sz, Sp, Sv
Analysis function	profile height analysis module, capable of measuring vertical distance, horizontal distance, Pa, Pq, Pt
3D data output	height measurement, dimensional measurement, roughness analysis 3D point cloud data, grayscale image data, customized reports

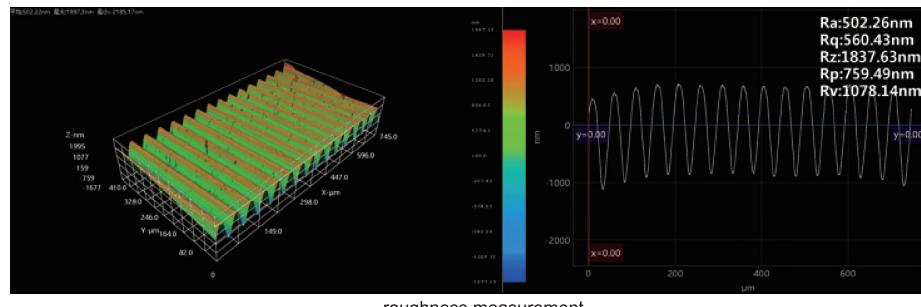
## STANDARD DELIVERY

Main unit	1pc
20X interference objective	1pc
Computer	1pc
Industrial computer	1pc
Vibration isolation platform	1pc
Air pump	1pc
Software	1pc

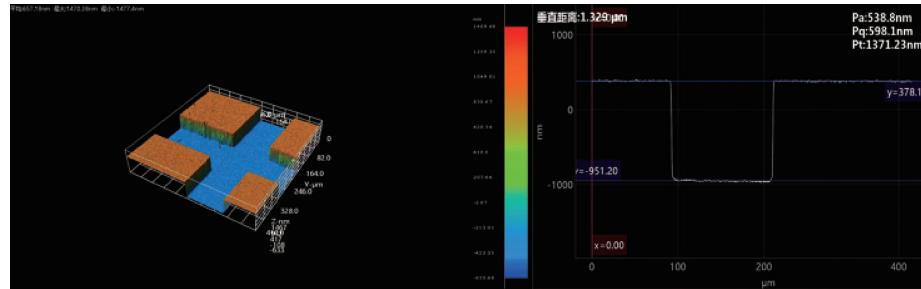
## OPTIONAL ACCESSORY

2.5X interference objective	ISM-A-IF2D5X
5X interference objective	ISM-A-IF5X
10X interference objective	ISM-A-IF10X
50X interference objective	ISM-A-IF50X
100X interference objective	ISM-A-IF100X
20X brightfield objective	ISM-A-OB20X

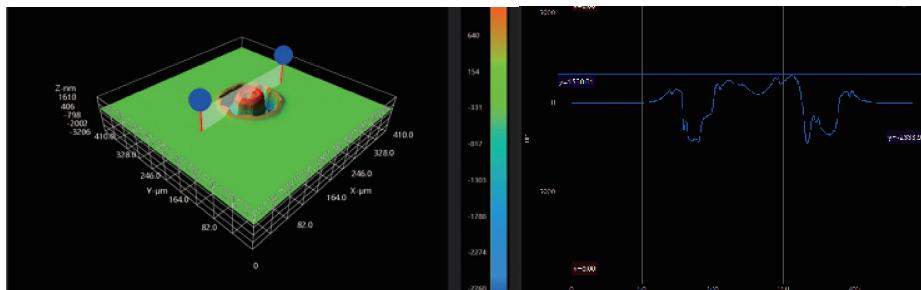
## APPLICATION



roughness measurement



height difference measurement



microstructural analysis

## SOFTWARE (INCLUDED)

