

# Confocal Microscope

**ATM8600**

## Features

- Super fun of 3D measuring on the confocal microscope
- Precision fabrication: 3D profile, angle of high precision stylus tip
- Glass panel: 3D profile, profile size of light guide plate (LGP)
- Optical communication: 3D profile, Radius of curvature of microlens
- Photovoltaic: 3D profile, tile height & width of grid-lines solar system
- high precision angular sample

## Application

- Semi-conductor manufacturing and encapsulation processing
- Glass panel display and high precision component of electronic products
- Optics manufacturing, micron-sized nano-materials manufacturing
- Car parts manufacturing
- Microelectromechanical systems (MEMS) component manufacturing
- High precision fabrication sectors
- Aerospace, defense and military
- Scientific research

## Description

ATM8600 3D Laser Scanning Microscope is self-designed to perform non-contact profile, roughness, and film thickness measurements with nanometre-level resolution on any material or shape. It's principle of confocal technology, combined multiple holes disk for parallel scanning technology, high precision z-direction scanning module, and 3D modelling algorithm can scan on the object surface non-contact profile and 3D images, the software process 3D images to process and analyze data, result in ATM8600 used for 2D, 3D optical measuring instrument.

Confocal microscope is used to measure various from smooth to rough, from low to high reflectivity object surface, from nano-level to micron-level parts roughness, flatness, geometric profile microscopy, curvature etc. Measure result can be fully compliant with ISO, ASME, EUR, GBT international standards.



## 1. Technical Specification

<b>Principle</b>		Confocal Microscopy Optics System
<b>Objectives</b>		10×, 20×, 50×, 100×
<b>FOV range</b>		160×160 μm~1.6×1.6 mm
<b>Scan rate</b>		≥10HZ In the temperature 20±2°C, 20x objectives, measure 4.7μm golden tile sample
<b>Height</b>	<b>Repeatability</b>	20×: 40nm / 50×: 20nm / 100×: 20nm In the temperature 20±2°C measure 4.7μm golden tile sample
	<b>Accuracy</b>	± (0.2+L/100) μm
	<b>Display resolution</b>	0.5nm
<b>Width</b>	<b>Repeatability</b>	20×: 100nm; 50×: 50nm; 100×: 30nm In the temperature 20±2°C measure 4.7μm golden scale line sample
	<b>Accuracy</b>	± 2%
	<b>Display resolution</b>	1nm
<b>XY stage</b>	<b>size</b>	210×210 mm
	<b>Move range</b>	100×100 mm
	<b>loading</b>	10kg
	<b>Control mode</b>	Electric
<b>Z-direction range</b>		100 mm
<b>Objectives head</b>		5 holes electric
<b>Illumination</b>	<b>Light source</b>	LED
	<b>Max. output</b>	840mW
<b>Dimension</b>		590×390×540mm
<b>Weight</b>		45kg
<b>Power supply</b>		AC220V/50Hz
<b>Working condition</b>		Temp: 10°C~35°C, temperature gradient < 1°C/15 minutes, Humidity: 30~80%, vibration<0.002g, <15Hz

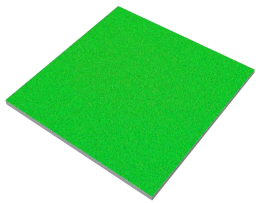
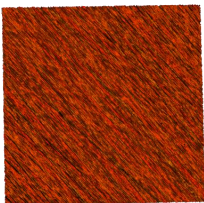
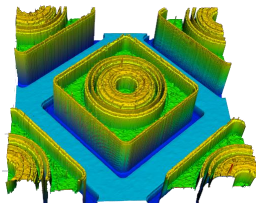
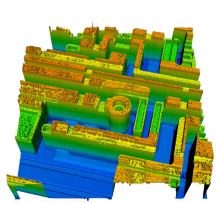
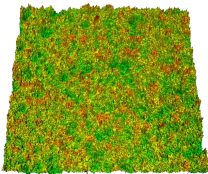
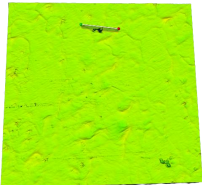
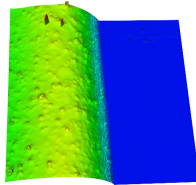
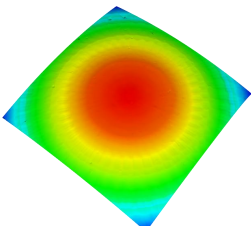
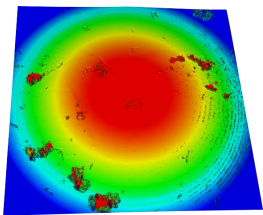
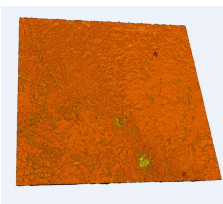
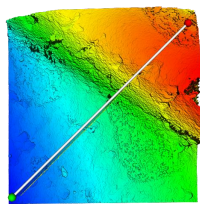
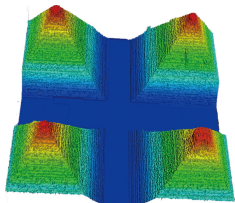

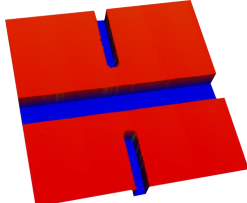
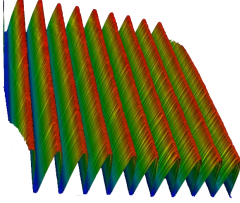
## 2. Objectives specification:

Models	FOV	Working Distance ( W.D. )	Numeric Aperture ( N.A. )
10X	1600×1600 μm	10.6 mm	0.25
20X	800×800 μm	1.3 mm	0.40
50X	320×320 μm	0.38 mm	0.75
100X	160×160 μm	0.21 mm	0.90

## 3. Application

It's widely applied to measure surface profile, surface flaws, wear, corrosion, flatness, roughness, waviness, slit or space, tile height, bent or distortion, fabrication process of products, components, and material surface profile.

### Examples:

Semiconductor: polished silicon, thinned silicon, wafer IC			
			
Electronic products: surface roughness of sapphire Surface defects of cell metallic housing, ink screen height of smartphone			
			
High precision fabrication: optics lens		High precision fabrication: Generator impeller blade	
			
High precision fabrication: Diamond magnetic head		Standard sample: single-scale line step / multiscale line step roughness	
			

## 4. Attachments list

- Standard attachments:

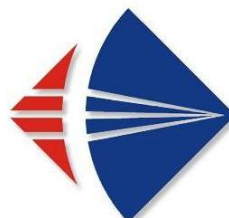
Items	Quantities
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ATM8600 Confocal microscope	1
Auto XY move stage	1
Computer	1
Calibration module	1
Operating grip	1
Carrying case	1
Confocal microscope software	1
Manual, Qualified card, Warranty card	1+1+1

● **Optional attachments:**

Items	Description
objectives	10×, 20×, 50×, 100×
Vacuum stage for semiconductor wafer	6 inch, 8 inch
Auto-measure modules, splicing-measure module	1+1

## 5. Customers Reference:



Product data information is current as of publication data.  
Products conform to specifications per the terms of Optosky  
Standard warranty.

