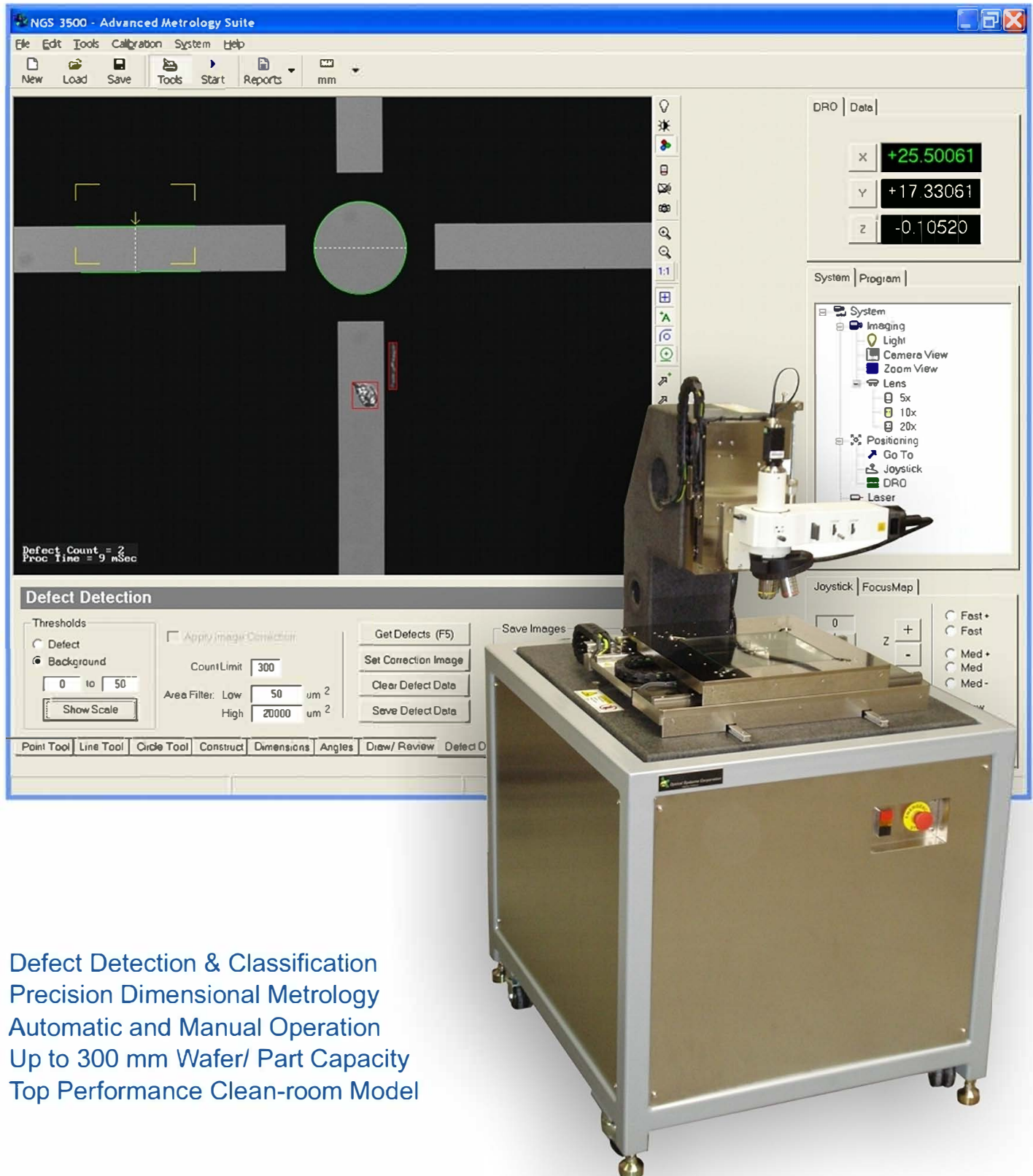


# NGS 3500L

## Advanced Metrology System



Defect Detection & Classification  
Precision Dimensional Metrology  
Automatic and Manual Operation  
Up to 300 mm Wafer/ Part Capacity  
Top Performance Clean-room Model

# NGS 3500L – Advanced Metrology System

This top performance system is designed for applications where high-speed defect detection and precision measurements on wafers and other parts are required. It is well suited for use as a dedicated production tool or as a versatile process development system. It features a powerful set of automated as well as semi-automatic optical/ video tools optimized for high accuracy, production throughput, and ease of use.

This automated and versatile platform features a standard Nikon/ Olympus bright/ dark field microscope with optional Nomarski, and precise part staging. This system offers significant and unique advantages for dual production/ engineering use, and provides the perfect solution when both defect detection and dimensional metrology are required.

The system can be configured or customized to meet your exact requirements with a variety of optical and illumination accessories, custom wafer/part fixtures, as well as custom operator interface, data formats and reports.

## APPLICATIONS

- Wafer level defect detection & measurement
- Precision MEMS and HD component inspection
- Advanced microelectronics package inspection

## POWERFUL

- Designed for automatic/ semi-automatic operation
- Extensive Defect Detection features & capability
- Integrated Dimensional Metrology features

## PRECISE

- Sub-micron precision optical measurements
- High accuracy staging with 0.02 um linear encoder resolution

## FAST

- 50-100 defects/ measurements per second typical per field of view
- 200mm/ second part staging speed

## USER FRIENDLY

- Very easy to use, program and set up
- Highly visual data with rich color graphics & Video

## FLEXIBLE

- Nomarski Microscope and other advanced options
- Optional Wafer and other part types handling
- Customizable for application specific solutions

# Specifications

## SYSTEM SPECIFICATIONS (Summary)

- 200mm (optional 300mm) wafer/ part size capacity
- Maximum stage Load capacity: 50 lb
- 250mm/ second maximum staging speed
- Granite base and Z-column, stainless steel finish
- Class 100 (10 optional) clean room compatible
- Closed loop linear stages, with position feedback from 0.05 um resolution linear glass encoders
- Non-linear 2D accuracy error correction
- Accuracy U2 (XY): 1.5+0.6L/100 um, U1 (Z): 1.5+3L/100 um. Where L is length in mm
- Computer: Windows High Performance PC
- Platform: High Performance 3000L
- Software: NGS 3500L Advanced Metrology Suite
- Optical System: Flat Field objectives, with optional motorized 5 position turret
- Camera: High resolution CCD array 60+db S/N ratio
- Image Processing 256 grayscale with 1:5-1:50 sub-pixel ratio. Optional 5 MP Color or 5MP Grayscale
- Video and optional Laser Auto focus
- Illumination: software controlled Coaxial & backlight
- Environmental: 17-23 deg C, 20-80% Humidity
- Electrical 120/240 VAC, 15A single phase
- Footprint: WxD: 32x36 inch. Height: 67 inches
- Weight: 1500 lb crated

## SOFTWARE FEATURES

- Automatic defect detection and classification
- Graphical Defect maps, Image Archival, offline review of defects, and reprocessing of archived images
- Flexible part scanning for operator convenience and throughput optimization
- High Precision vision based part alignment
- Dimensional Metrology Tools:
  - Video Tools:** Point, Line, Circle, Arc edge detectors with built in best fit and defect removal
  - Constructions:** Extensive geometric constructions, with distance and angle measurements (e.g. line to line, etc.)
  - Origin & Skew:** Unlimited reference frames
  - Tolerancing:** Dimensional, Angular, Geometric True Position (MMC, LMC, RFS)
  - Units:** Metric & inches
  - Coordinates:** Cartesian & Polar
  - Step & Repeat:** Repeat Loops for repeating features and multiple parts
  - Reports:** Data on screen, text file, or exports to Excel
  - SPC:** Average, SD, Range, Min, Max, Cp, Cpk
  - Graphics & CAD:** Drawing import/ Export
  - Other:** Auto Focus, Auto Lighting & Outlier Removal