

nSpec[®]

Automated Optical Inspection System



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A fully automated, optical inspection system for analyzing transparent and semi-transparent wafers for defects. nSPEC® offers fast quantification and qualification of defects with detailed reporting and mapping.

nSPEC® can image and analyze substrate and epi wafers as well as patterned and diced wafers as well as individual devices. The system has multiple magnifications to fully characterize defect frequency and type. nSPEC® also offers complete rapid scanning and mosaicing of wafers. Users can easily define reports and statistical functions.

The inspection system design allows for easy set up of repeated quality control testing, in addition to settings for single image capture or scans. Configuration options include wafer size, types of defects to be identified, and resolution of scan. Various sample chucks are available to meet specific needs as well as an optional wafer loader.

The system is delivered fully functional and includes installation and training. The nSpec® has a one year warranty which includes software maintenance and updates.

Optics

White light illumination	LED (other lighting options available)
Brightfield/darkfield objectives	5, 10, 20 or 50x, user selectable
Differential interference contrast	(Nomarski)

Options

AFM	Specs available upon request
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Camera

Pixel size, typical	4.54 microns
Image size, typical	2752 x 2200 pixels
Maximum frame rate	17.4fps

Control

Stage	Computer and joystick controlled
Focus	Automated and manual
Nosepiece	Computer controlled, optional
Illumination	Computer controlled, optional
Camera	Automated and manual

Stage

Travel, typical	200 mm X and Y direction
Precision lead screws	2 mm pitch, preloaded ball screws
Centered load capability	2.27 kg
Repeatability	+/- 2 microns
Construction	a) Precision ground alum plates b) Stainless steel raceways with cross roller bearings
Step Size	0.04 microns
Travel flatness	Better than 30 microns
Weight	5.44 kg
Limit switches	Mechanical, non-adjustable
Wafer vacuum chuck (optional)	Adjustable to 50, 75, 100 or 150 mm
Warranty	1 year

Optional Wafer Loader

Runs one cassette at a time	25 wafers/cassette
Standard wafer sizes	75, 100 or 150 mm
Dimension (width x length)	36 cm x 75 cm
Weight	34 kg
Minimum vacuum requirement	20 in. Hg
Power Supply	110v/220v

**Specifications subject to change without notice, please contact Nanotronics Imaging for current specifications.*