

nSpec™ LS

Automated Optical Inspection System
with nTelligence™



+1 831 630 0700
sales@nanoinspections.com
nanoinspections.com



The nSpec™ LS includes Nanotronics' proprietary Artificial Intelligence Software, nTelligence™. The platform is highly flexible in its ability to detect defects on a variety of wafers, substrates, and materials. Any defects observed using the system's various imaging modalities can be labeled and used to train customer-specific automatic classification models.

Nanotronics' sophisticated AI adds the ability to not only detect defects but also classify them, helping to assign causality and provide fast feedback to correct the manufacturing process. Tuned for speed and high-quality inference from limited data, the software utilizes customized enhancements for deep learning and convolutional networks. In addition to nTelligence™, the nSpec™ LS also includes a suite of computer vision analyzers.

The nSpec™ LS platform is designed to streamline R&D efforts and optimize process improvement for customers working across any precision manufacturing industry. nSpec™ LS is equipped with user-friendly software that makes it easy to configure recipes and allows for effortless modification and saving of recipes as needed.

Semi automated inspection for:

- Substrate, epi, and patterned wafers
- Transparent and opaque materials
- Si, SiC, GaN, InP, Glass, Graphene, and more
- Die on film tape, trays, gel-pak or waffle packs
- Photomasks
- Sample fragments

Features:

- Consistent resolution settings, ranging from 0.3 µm and greater
- Rapid scanning
- Computer vision analyzers
- nTelligence™ defect classification
- Customizable defect reports
- Customizable export formats
- Variety of sample chucks to meet specific needs
- Robust analysis for defect or feature of interest detection and classification
- Inspection and review procedures
- Small footprint and minimal facilities requirements
- Rack mount controls
- Field upgradeable to nSpec™ PS system

SYSTEM

...

Weight	240 kg
Dimensions (W x D x H)	165cm x 157cm x 194cm
Min. Vacuum Requirement	-21 in. Hg (-70 kPa)
Power Supply (UPS included)	208-230VAC, 15A, 50-60Hz

OPTICS

...

Illumination Modes	Brightfield, Darkfield, Automated DIC (Nomarski)
Light Source	Green LED (other options available)
Objectives	5x included, 1.25, 2, 2.5, 10, 20, 50x, user selectable (5-position turret)

STAGE

...

Travel, typical	200 mm X and Y direction
Positioning	Linear servo motors with closed loop encoders (50 nm resolution)
Repeatability	+/- 2 µm
Travel Flatness	30 µm
Centered Load Capacity	2.27 kg

OPTIONS

...

SECS/GEM
Transmitted light with automated polarizer
12-Position Filter Wheel
CleanCube (Modular Clean Environment)
Offline Workstations