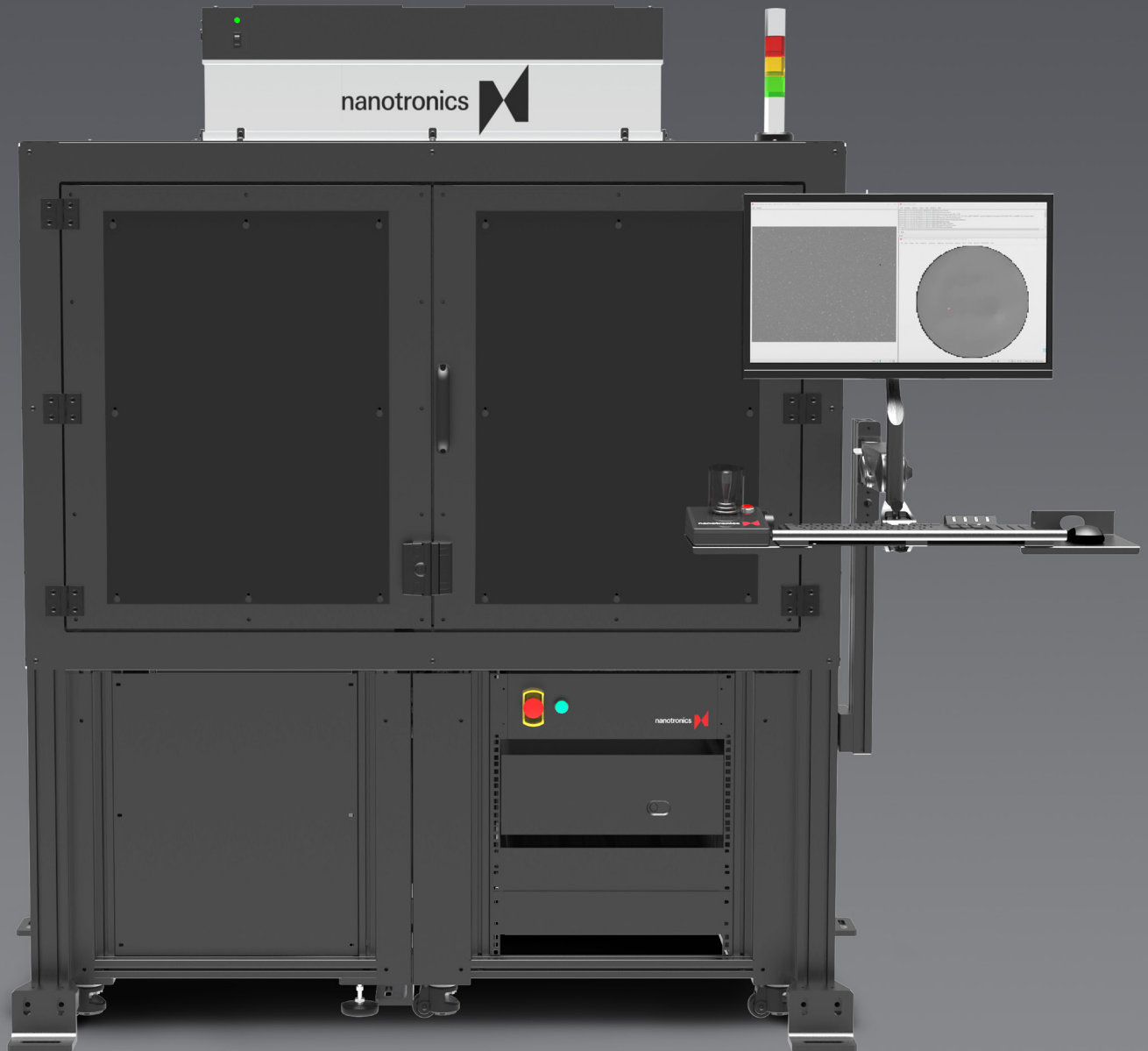


nSpec PRISM™

Ultraviolet Photoluminescence Inspection
with nTelligence™



+1 212 401 6208
sales@nanotronics.co
nanotronics.co
CALIFORNIA | OHIO | NEW YORK | MUNICH



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Ultraviolet Photoluminescence Inspection
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The nSpec PRISM™ 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.

nSpec PRISM™ offers a complete solution for SiC frontend wafer manufacturing from unpolished substrates to epitaxy and device manufacturing. By introducing a new illuminator, Nanotronics can deliver more power to the sample plane. The illuminator enables operators to utilize existing imaging modalities while adding UV and IR illumination to inspection processes. The system specializes in pairing transmission and PL microscopy for high volume inspection of killer defects such as micropipes and dislocations.

Fully automated inspection for:

- Substrate, epi, and patterned wafers
- Transparent and opaque wafers
- Diced wafers on film tape, trays, gel-pak or waffle packs
- Photomasks
- Sample fragments

Features:

- Automatic wafer loader
- Consistent resolution settings, ranging from 0.3 µm and greater
- Rapid scanning
- Customizable defect reports
- Settings for single image capture and scans
- Variety of sample chucks to meet specific needs
- Robust analysis for defect or feature of interest detection and classification

SYSTEM

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Weight	363 kg
Dimensions (W x D x H)	236 cm x 157 cm x 194 cm
Min. Vacuum Requirement	-21 in. Hg (-70 kPa)
Power Supply (UPS included)	208VAC, 15A, 50-60Hz

OPTICS

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Illumination Modes	Brightfield, Darkfield, Automated DIC (Nomarski) Ultraviolet Photoluminescence
Light Source	White light LED (other options available) Reflected UV LED
Filter Slider Objectives	6-position 5x included, 1.25, 2, 2.5, 4, 10, 20, 50x, user selectable (5-position linear nosepiece)

STAGE

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Travel, typical Positioning	200 mm X and Y direction Linear servo motors with closed loop encoders (50 nm resolution)
Repeatability	+/- 0.5 µm
Travel Flatness	30 µm
Centered Load Capacity	2.27 kg

WAFER LOADER

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Cassette	25 wafers / cassette, single Standard H-Bar
Standard Wafer Sizes	50, 75, 100, 125, 150, and 200 mm
Wafer Alignment	Automatic by notch or flat

OPTIONS

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LS & CPS Compatible
Infrared LED
SECS/GEM
Transmitted Light with Automated Polarizer
12-Position Filter Wheel
OCR (Frontside and/or Backside)
Ergonomic Cassette Loader
Sample Specific Fixtures
Offline Workstations

