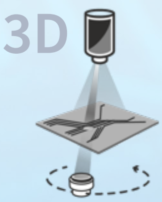
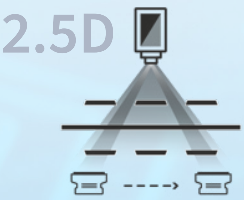
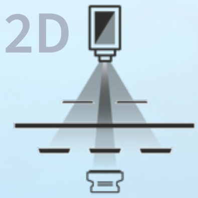
ACQUISITION MODES



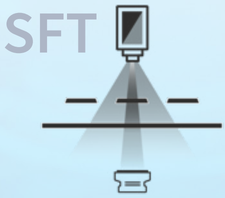
Dynamic Planar CT
The next generation of high-quality 3D inspection, employing high-speed detector motion (3 sec/FoV)



Off-Axis Oblique Angle
Off-axis inspection (≤30°) via detector movement for high performance, oblique angle imaging



Transmission
Orthogonal two-dimensional imaging with moveable sample tray and a fixed detector position



Slice-Filter-Technique™
Patented inspection technique for golden sample comparison and background removal for analysis

Wire Bond Inspection

Solder Joint Inspection

Flip Chip Inspection

AXI

XS Series

Automated X-ray Inspection

The XS Series provides a platform for inline or island automated X-ray systems covering a wide range of Automated X-ray Inspection (AXI) applications. With up to 4 advanced image acquisition modes, you have the optimum setup for all your applications and inspection requirements. Three dedicated system configurations serve the Semiconductor market:

Semiconductor - High-Resolution Wire Bond inspection.

Semiconductor Pro Strip - Ultra-High-Resolution Wire Bond and Flip Chip inspection.

Semiconductor Pro Tray - Ultra-High-Resolution Wire Bond and Flip Chip inspection with handling for JEDEC, steel and specialized carriers.

www.nordson.com/TestInspect

Nordson
Test & Inspection

XS Series **Automated X-ray Inspection**

Features & Benefits

Advanced Hardware Technologies

- Maintenance free, sealed microfocus X-ray source
- 5-axis programmable motion system
- High-resolution, high-speed digital Flat Panel Detector
- Low dose radiation filters for dose sensitive devices

MIPS Software & Inspection Tools

- 16-bit image processing
- Automatic grey-level and geometric calibration
- Teach&Go for fast and easy inspection creation
- Proprietary advanced algorithm library
- Machine learning based defect classification
- Multi-layer slice extraction and analysis
- Software based warpage compensation available

Traceability and Connectivity

- Automatic barcode read and inspection selection
- Full traceability via MES and SECS/GEM interfaces
- IPC-CFX-2591, IPC-Hermes-9852 and Industry 4.0 ready

Applications

Wire Bond Inspection

Gold or copper wire bonding (≥0.6 mil) including stacked dies. Our advanced proprietary algorithm library includes specialized wire defect inspection for sweep, loop height, shorting, depressed, sagging, missing, broken, lifted wires, and lead frame deformation.

Solder Joint Inspection

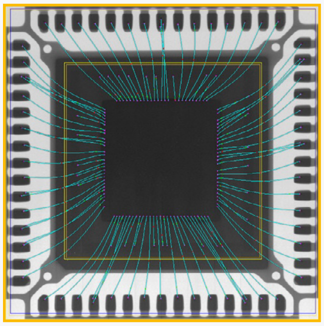
Our defect detection capabilities also cover inspection of solder coverage, multi-die shift, rotation, voiding, foreign material checking and shorting.

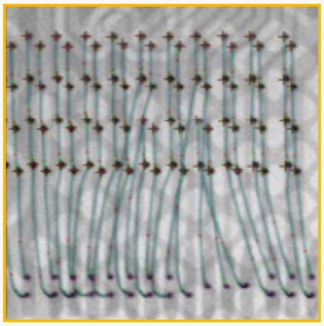
Micro-BGA and Flip Chip Bump Inspection

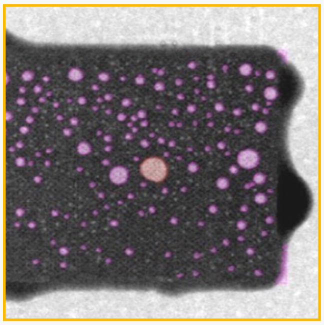
Our sophisticated ball and bump defect algorithms include inspection for bridge, foreign material, deformed, tilted and missing balls, in addition to stacked die inspection for micro-voids.

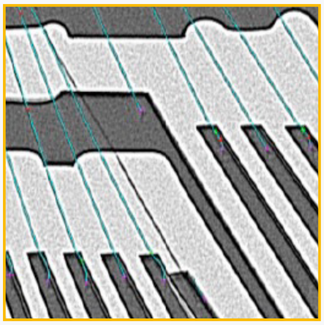
Dynamic Planar CT

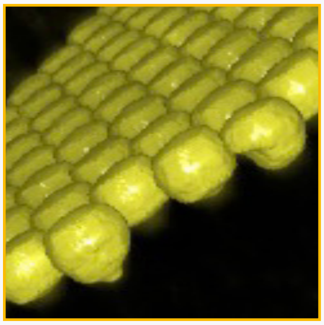
Ultra high-resolution 3D inspection with incredible speed and quality

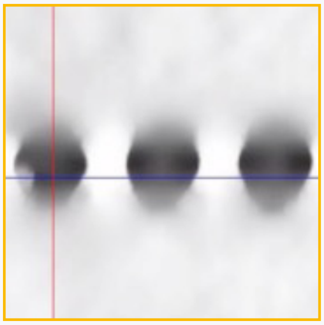












Installation		Installation	
System Dimensions (H, W, D)	1760 × 1300 × 1600 mm	Max. Power Consumption	2 kVA
Conveyor Height (SMEMA)	950 mm ± 30 mm	Air Supply	5-7 Bar, <2 l/min, filtered (30 µ), dry, oil free
System Mass	2500 kg	Line Voltage	400 VAC, 50/60 Hz 3 Phase, 16 A 208 VAC, 50/60 Hz 3 Phase, 25 A
Safe Operating Temperature Range	15-32°C, optimal 20-25°C	Clean Room Options	ISO6 and ISO7

X-ray Imaging Chain	Semiconductor	Semiconductor Pro Strip	Semiconductor Pro Tray
Microfocus X-ray Source (sealed tube)	100 kV, 20 W	160 kV, 20 W	160 kV, 20 W
Detector	Aspire CMOS FPD	Aspire CMOS FPD	Aspire CMOS FPD
Detector Pixel Pitch	50 µm	50 µm	50 µm
Detector Active Area	120 × 140 mm, 2400 × 2782 pix	120 × 140 mm, 2400 × 2782 pix	120 × 140 mm, 2400 × 2782 pix
Detector Max. Frame Rate	25 fps	25 fps	25 fps
Detector Bit Depth	14-bit / 16-bit	14-bit / 16-bit	14-bit / 16-bit

Max. Inspection Speed	Semiconductor	Semiconductor Pro Strip	Semiconductor Pro Tray
Transmission (2D)	6 views/sec	6 views/sec	-
Off-Axis (2.5D)	5 views/sec	5 views/sec	-
Dynamic Planar CT (3D)	3 sec/FoV	3 sec/FoV	3 sec/FoV

Inspection Parameteres	Semiconductor	Semiconductor Pro Strip	Semiconductor Pro Tray
Max. Sample Size (L × W)	330 × 200 mm	330 × 150 mm	330 × 200 mm
Max. Inspection Area (L × W)	330 × 200 mm	330 × 145 mm	330 × 200 mm
Min. Sample Size (L × W)	80 × 20 mm	80 × 20 mm	80 × 50 mm
Max. Sample Mass	0.3 kg	0.3 kg	2 kg
Max. Inspection Angle	30°	30°	30°
Max. Resolution (2D, 3D)	<3 µm/pix, <3 µm/vox	<0.8 µm/pix, <0.8 µm/vox	<1 µm/pix, <1 µm/vox

For more information, speak with your Nordson representative or contact your Nordson regional office

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