# X-series SMT setup

Solder Joint Inspection

PTH

Power devices Cooling plates

## Flexible High-Speed Inline AXI Platform

With the X-series platform Nordson Test & Inspection presents a dedicated high speed automatic X-ray inspection system concept for the inspection of PCB-assembly boards for single/multipanels or samples in trays.
All solder joints of SMD and PTH components are covered by a dedicated AXI algorithm library.

The Nordson Test & Inspection system solutions present a modular inspection concept. The platforms feature up to 5 advance technologies in one system: Transmission X-ray imaging (2D) with patented Slice-Filter-Technique™ (SFT), Off-Axis technology (2.5D) and 3D SART (Simultaneous Algebraic Reconstruction Technique), Dynamic Planar CT.

**The X-series platform is available in the following configurations:**

| | |
|---|---|
| **X2.5** | **Transmission (2D) + SFT™ + Off-Axis (2.5D)** |
| **X3** | **Transmission (2D) + SFT™ + Off-Axis (2.5D) + 3D SART + Dynamic Planar CT** |

## Inspection & Process Software

- PC-Station with multi-core processor setup
- Windows 10 platform
- MIPS 5 Inspection Platform
  - Advanced algorithm library
  - CAD import for automatic inspection list generation
  - Simultaneous Algebraic Reconstruction Technique (3D SART; X3 only) Dynamic Planar CT.
  - Machine Learning based" Automatic Tree Classification (ATC) for Auto-Rule-Generation
  - Offline programming for AXI program generation & simulation, tuning and defect reference catalogue
- Verification & Process control
  - MIPS Verify link with closed loop repair
  - MIPS Process with real time SPC

## Features and Benefits

- High Speed AXI system for inline setups
- Microfocus X-ray tube (sealed tube / maintenance free)
- Multiple programmable motion system with linear motor axes
- Digital CMOS flatpanel detector
- Automatic grey-level and geometrical calibration
- Barcode scanner for serial number and product type selection
- Full product traceability via various MES Interfaces
- Industry 4.0 ready

Nordson
TEST & INSPECTION

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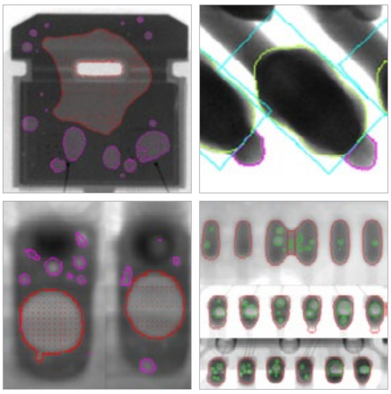
## Applications

**Electronic components and solder joint**

A unique advanced algorithm library is available for electronic applications, specifically for component and solder-joint inspection on PCB, hybrid or chip level assembly processes.

All standard IPC based SMD and THT/PTH components:

- QFN, QFP, PIP inspection
- Void inspection for Cooling plates
- HIP inspection for BGAs
- PTH and press fit component inspection



## Specifications

### Facilities

| | |
|---|---|
| Dimensions: | 1630 mm (H) x 1800 mm (W) x 1575 mm (D) |
| Adjustable conveyor height (SMEMA) | 950 mm |
| Weight: | 2.800 kg |
| Safe Operating Temperature: | 15° - 28 °C optimal 20° - 25° C |
| Power Consumption: | max. 6 kW |
| Line Voltage: | 400 VAC, 50/60 Hz 3 phase, 16 A/<br>208 VAC, 50/60 Hz 3 phase, 25 A |
| Air: | 5-7 Bar, < 2 l/min, filtered (30µ), dry, oil free |

### X-ray Image Chain

| | |
|---|---|
| X-ray Source (sealed tube) | |
| Energy: | SMT-Setup<br>130 kV/40 W |
| Grey resolution: | 14 Bit |
| Detector Types: | |
| CMOS Flatpanel Detector | 50 µm pixel size (6 MPix) |

### Inspection features

| | |
|---|---|
| Max. sample size: | 460 mm x 360 mm |
| Max. inspection area: | 460 mm x 360 mm |
| Min. sample size | 80 mm x 80 mm |
| Sample thickness | 0,8-10 mm |
| Max. sample weight: | 5 kg |
| Angle shot capability: | up to 50 deg |
| Resolution | 3-4 µm/pix |

### Inspection speed

| | |
|---|---|
| Transmission (X2, X2.5, X3) | up to 6 views /s |
| Off-Axis (X2.5, X3) | up to 5 views /s |
| 3D SART (X3) | up to 1 s /FoV |
| Dynamic Planar CT (X3) | up to 3sec/ROI |

### Motion System

| | |
|---|---|
| Multiple axes programmable motion system | |
| Installed axes | |
| x,y (linear drives) | sample table |
| z (servo) | magnification |
| u,v (linear drives) | detector movement |
| Conveyor setup | |
| Inline set-up | automatic width adjustment |

### Assembly clearance

| | |
|---|---|
| Topside (incl. sample thickness): | 35/50 mm |
| Bottom side (excl. sample thickness): | 35/20 mm |
| Min. edge clearance for clamping: | 3 mm |

### Included

- Barcodereader
- Low-dose radiation filter
- UPS

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

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