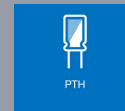




X-Series SMT setup

High Speed Inline AXI platform



With the **X-series platform** Nordson MATRIX presents a dedicated high speed automated X-ray inspection system concept for the inspection of PCB-assembly boards for single/multipanel or samples in trays. All solder joints of SMD and PTH components are covered by a dedicated AXI Algorithm Library.

The Nordson MATRIX system solutions present a modular inspection concept. The platforms feature up to 4 advanced 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).

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

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



Features and Benefits

- High Speed AXI System for In-line and Off-Line setups
- Microfocus X-ray tube (sealed tube / maintenance free)
- Multiple programmable motion system with servo drives
- Digital CMOS flatpanel detector
- Automatic grey-level and geometrical calibration
- Flexible setup for In-line pass through
- Barcode scanner for serial number and product type selection
- Full product traceability via customized MES-Interface

Inspection & Process Software

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

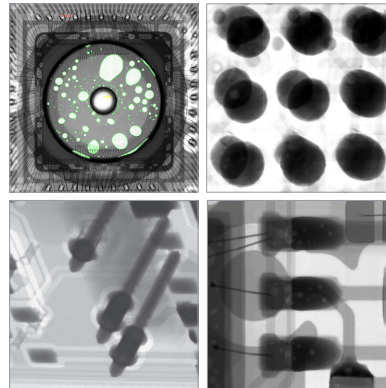
Applications

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 SMD and THT/PTH components

- BGA & dedicated off-axis head-in-pillow (HIP) algorithm
- Comprehensive QFN & gullwing algorithm
- Robust solder surface / heatsink void inspection
- Pin in paste barrel fill measurement
- Discrete down to 1005 pitches



Specifications

| Facilities | |
|---|---|
| Dimensions: | 1535 mm (H) x 1800 mm (W) x 1575 mm (D) |
| Adjustable conveyor height (SMEMA) | 950 mm |
| Weight: | 3.000 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/ 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 | |
|-----------------------------------|--|
| <u>X-ray Source (sealed tube)</u> | |
| Energy: | SMT-Setup 130 kV/40 W |
| Focal Spot Size: | 5 microns |
| Grey resolution: | 14 Bit |
| <u>Detector Types:</u> | |
| CMOS Flatpanel Detector | 50 µm pixel size (5 MPix) 75 µm pixel size (3 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: | 5kg |
| Angle shot capability: | 0 – 40 dgr |
| Resolution | down to 5 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 |

| Motion System | |
|--|-------------------|
| Multiple axes programmable motion system | |
| <u>Installed axes</u> | |
| x,y (linear drives) | sample table |
| z (servo) | magnification |
| u,v (linear drives) | detector movement |
| <u>Conveyor setup</u> | |
| pass through | single lane |

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

| Options | |
|---------------------------|--|
| Barcodereader | |
| Low-dose radiation filter | |

For more information, speak with your Nordson MATRIX representative.

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