XS-series SMT setup

High Speed Inline AXI Platform with minimal footprint

The Nordson TEST & INSPECTION's XS-series platform with SMT setup is a small-footprint automated X-ray inspection system concept designed for sophisticated high-speed 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 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 (**S**imultaneous **A**lgebraic **R**econstruction **T**echnique).

The XS-series platform is available in the following configurations:

XS-2   Transmission (2D) + SFT™

XS-2.5   Transmission (2D) + SFT™ + Off-Axis (2.5D)

XS-3   Transmission (2D) + SFT™ + Off-Axis (2.5D) + 3D SART

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; XS-3 only)
    - 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 drives
- Digital CMOS flatpanel detector
- Automatic grey-level and geometrical calibration
- Flexible setup for inline pass through or same-side in/out configuration
- Full product traceability via various Industry 4.0 MES Interfaces
- IPC-CFX ready

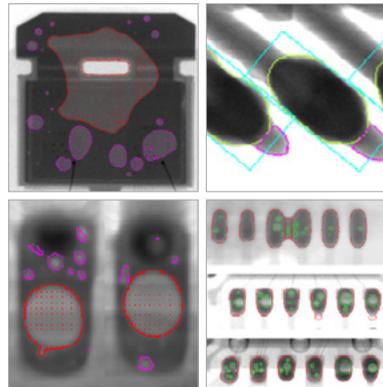**Nordson** TEST & INSPECTION

XS-series Semi Backend setup

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 / heatsink void inspection
- Pin in paste barrel fill measurement
- Discrete down to 1005 pitches

Specifications

Facilities	
Dimensions	1760 mm (H) x 1300 mm (W) x 1600 mm (D)
Weight	2.320 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	
X-ray Source (sealed tube)	
Energy	SMT-Setup 130 kV/40 W
Grey resolution	up to 14 Bit
Detector Types	
CMOS Flatpanel Detector	75 µm pixel size (3 MPix)

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	
pass through	single lane
In-out same side	dual lane

Inspection features	
Max. sample size	250 mm x 300 mm
Max. inspection area	250 mm x 300 mm
Min. sample size	60 mm x 60 mm
Sample thickness	0,8-10 mm
Max. sample weight	5 kg
Angle shot capability	0 – 40 dgr
Resolution	down to 3-4 µm / pix

Assembly clearance	
Topside (incl. sample thickness):	25 mm
Bottom side (excl. sample thickness)	25 mm
Min. edge clearance for clamping:	3 mm

Inspection speed	
Transmission (XS-2, XS-2.5, XS-3)	up to 6 views /s
Off-Axis (XS-2.5, XS-3)	up to 5 views /s
3D SART (XS-3)	up to 1 s /FoV

Options
Barcodereader
Low-dose radiation filter
Auto BCR scanning station (x-y gantry)
Semi Compliance

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