

X#-series Ultra-High Power setup



Solder Joint Inspection



Power devices Cooling plates



Batteries

Flexible Inline AXI Platform

The X#-platform series is an inline automated X-ray system which covers a wide range of AXI applications. It is a flexible platform with very versatile fields of use depending on the application requirements. The Ultra-High Power setup focuses on the inspection of power hybrids/IGBT devices and large size batteries.

Nordson TEST & INSPECTION's 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#** Transmission (2D) + SFT™
- 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)
 - 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

- Flexible AXI system for inline and island 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
- Barcode scanner for serial number and product type selection
- Flexible setup for inline pass through or same-side in/out configuration
- Full product traceability via SECS/GEM and various MES interfaces.
- Supports IPC-CFX and IPC-Hermes communication
- Industry 4.0 ready

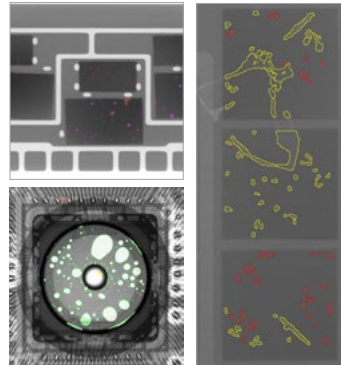
X#-series UHP setup

Applications

Power Hybrid (Voiding) & Battery inspection

A unique advanced algorithm library is available for electronic applications, specifically for power hybrids and battery components. Special Ultra-High Power setup to penetrate dense material.

- Sophisticated Multi layer void inspection
- Advanced cooling plates / heatsink
- Void inspection
- Battery inspection: Measuring of Anode-Cathode overhang and number of layers



Specifications

Facilities

Dimensions	1775 mm (H) x 3100 mm (W) x 1760 mm (D)
Adjustable conveyor height (SMEMA)	950+/-30mm
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/ 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	Ultra-High Power Setup 180kV/90W
Grey resolution	16 Bit
CMOS Flatpanel Detector	125 µm pixel size (4 MPix)

Inspection features

Max. sample size	510 mm x 400 mm
Max. inspection area	480 mm x 400 mm
Min. sample size	100 mm x 80 mm
Sample thickness	0,8-10 mm
Max. sample weight	10 kg
Angle shot capability	up to 25 deg
Resolution	down to 6 µm / pix

Inspection speed

Transmission (X2#, X2.5#, X3#)	up to 3-4 views /s
Off-Axis (X2.5#, X3#)	up to 2-3 views /s
3D SART (X3#)	up to 3 s /FoV
Dynamic Planar CT	up to 8sec/ROI

Motion System

Multiple axes programmable motion system	
Installed axes	
x,y	sample table
z (servo)	magnification
u,v	detector movement
Conveyor setup	
Pass through	single lane, island setup
In-out same side	dual lane

Assembly clearance

Topside (incl. sample thickness)	100 mm
Bottom side (excl. sample thickness)	40 mm
Min. edge clearance for clamping	3 mm

Options

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

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

Nordson Test & Inspection Europe, SEA, Africa
ti-sales-eu@nordson.com

Nordson Test & Inspection Americas
ti-sales-us@nordson.com

Nordson Test & Inspection China
ti-sales-cn@nordson.com

Nordson Test & Inspection Japan
ti-sales-jp@nordson.com

Nordson Test & Inspection Singapore
ti-sales-eu@nordson.com

Nordson Test & Inspection Taiwan
ti-sales-tw@nordson.com

Nordson Test & Inspection Korea
ti-sales-korea@nordson.com