

# X#-series 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 High Power setup focuses on the inspection of power hybrids/IGBT devices and large size batteries.

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) + SFTTM
- X2.5# Transmission (2D) + SFTTM + Off-Axis (2.5D)
- X3# Transmission (2D) + SFTTM + 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; X3# 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

- Flexible AXI system for inline 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 various Industry 4.0 MES-Interfaces
- IPC-CFX ready

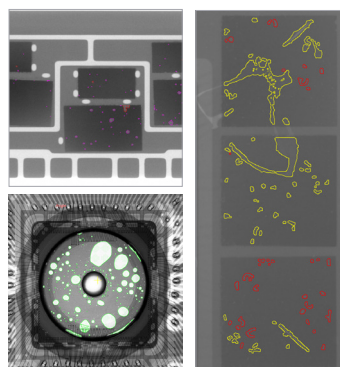
# X#-series HP setup

## Applications

### Power Hybrid (Voiding) & Battery inspection

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

- Specific voiding algorithm for hybrid applications
- 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)	890 – 980 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/ 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	High Power Setup 150 kV/75 W
Grey resolution	16 Bit
CMOS Flatpanel Detector	200 µm pixel size (1 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

### 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

### 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**

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