



Nordson XM8000TM-5

Automated X-ray Metrology

Measuring the InvisibleTM

Nordson XM8000-5 is the fastest X-ray metrology system on the market, integrated with a large field-of-view (FOV) AspireTM XL detector. It is optimized for high throughput and high accuracy inspection making it vital for highly populated semiconductor wafers.

www.nordson.com/TestInspect


Nordson
TEST & INSPECTION

Nordson XM8000™-5 Automated X-ray Metrology

Unbeatable X-ray Technology

Nordson TEST & INSPECTION produces every major component in the X-ray imaging chain including X-ray source, power supply and flat panel detector. This unrivalled level of vertical integration enables us to achieve the very best image quality and make systems that are easy to use. Our systems use world-leading technologies to achieve ever higher resolution and shorter inspection times. Benefitting our customers by ensuring product quality, maximizing return on investment and reducing long term costs.

Highest Speed Inspection

Built for interconnects in their millions, it's vital for manufacturers to identify defects buried inside multi-layer semiconductor wafers fast. Powered by an Aspire™ XL flat panel detector with enormous field of view (FOV), Nordson XM8000 can inspect

hundreds-if-not-thousands of interconnects with a single image. It offers high accuracy 2D for comprehensive analysis of solder bumping processes. It will find oversized, undersized, voiding, shorts & other solder defects. It is also capable of inspecting challenging package on package (PoP) devices with multiple angle projection 2.5D which ensures absolute integrity of measurement.

Best In Class

In the established X-ray portfolio Nordson XM8000 is the sports car, offering highest speeds and the best experience. It is also breaking new ground to improve throughput and reduce false calls with the addition of Artificial Intelligence (AI) and machine learning (ML). This makes it a critical investment for any manufacturer in the industry. If you want to stay ahead of the competition, boost your bottom line, and ensure customer satisfaction, investing in an X-ray metrology system is a wise decision.

Application benefits	XM8000-5
2D metrology	Analysis of wafer bumps
2.5D metrology	Analysis of stacked die PoP interconnects & high throughput TSV
Key attribute	High throughput, high resolution metrology and failure analysis
Primary inspection type	2D & 2.5D solder bump inspection
Max. throughput (2D)	25 WPH @ 5 FOVs 7 WPH @ 50 FOVs
Technology	
X-ray source	QuadraNT™ filament-free transmissive tube
Tube power	10 W @ 30 - 160 kV
Flat panel detector	Aspire XL Large area CMOS 50 µm pixel pitch
Size & pixel count	24cm x 27cm 4700 x 5480 pixels 26 MP
Detector mount & angle	Fixed flat up to 40 degrees inclination
Field of view (FOV)	1.0 to 25 mm
Resolution	0.2 µm/pixel
Limit of feature detection	3 µm voids
Geometric magnification	Up to 250x

Manipulator	
XY accuracy, repeatability	±1 µm, 25 µm over 300 mm
Inspection area	Entire wafer
Mechanical antivibration	AXiS (Active X-ray Image Stabilization) pneumatic mounts
ISO vibration curve	VC-B; 25 µm/s or 3 µm detail size
Miscellaneous	
Loader	Configured 150 - 300 mm dual port EFEM
Communications	SECS/GEM via RJ45 / ethernet
Display	24" Full HD monitor (1080P)
Cleanroom	ISO3 (stationary), ISO4 (in motion)
Installation	
Footprint	Cabinet only 2388mm (W) x 1895mm (D) x 2086mm (H) Including EFEM 2388mm (W) x 3131mm (D) x 2086mm (H)
Weight	Cabinet 4562 kg (10058 lbs) EFEM 543 kg (1196 lbs)
Power	Single phase 200-230 VAC 50/60 Hz 32 A
Air	0.7-0.8 MPa (7-8 bar) clean dry air
Vacuum	-65 kPa (9 psi) / 6 l/min
X-ray safety	< 1 µSv / hour

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
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