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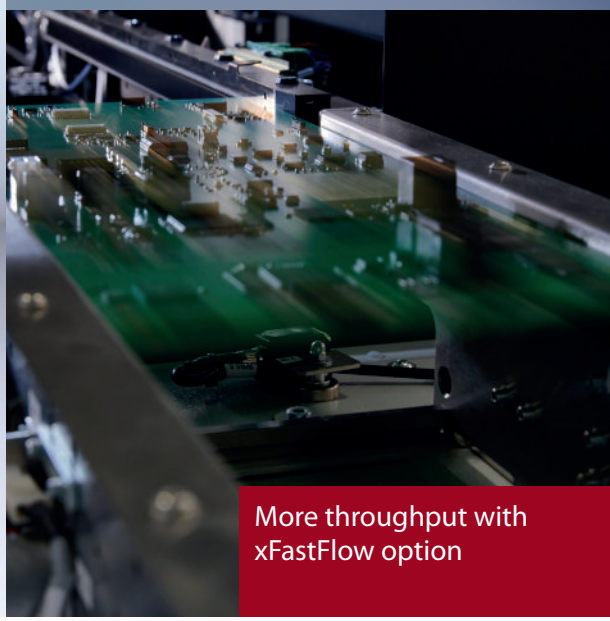
Ultra-fast Handling Meets Outstanding Image Quality



More throughput with xFastFlow option

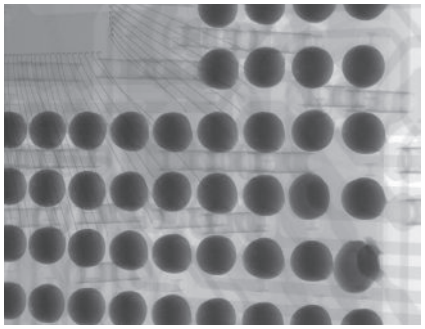
X7056-II

In-line X-ray and optical inspection for high-end electronics production

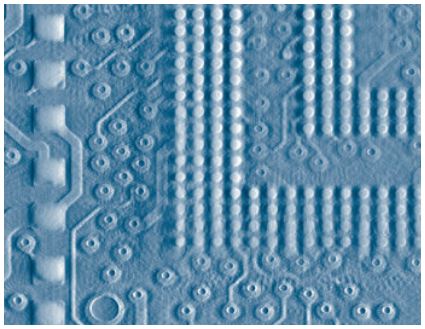
3D AXI

3D AOI

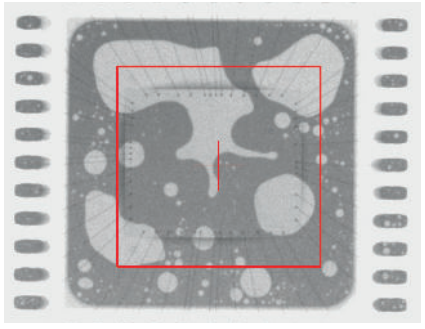
Two Efficient Technologies for Maximum Quality Control



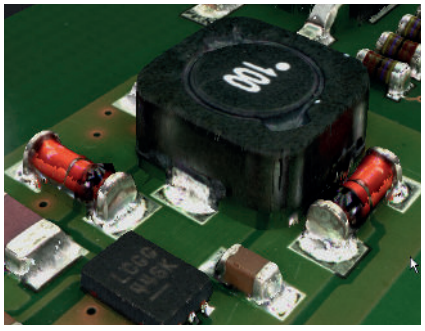
Head-in-pillow defect on BGA component



Slice image of a printed circuit board section with BGA



Surface soldering with voids



3D AOI view in the AOI / AXI combined inspection

Version as 3D AXI system or 3D AXI / 3D AOI combination

X-ray inspection with resolution as low as 6 µm

High-power 3D AOI camera technology

Handling with xFastFlow in down to 4 seconds

Simple, intuitive operation with vVision or EasyPro

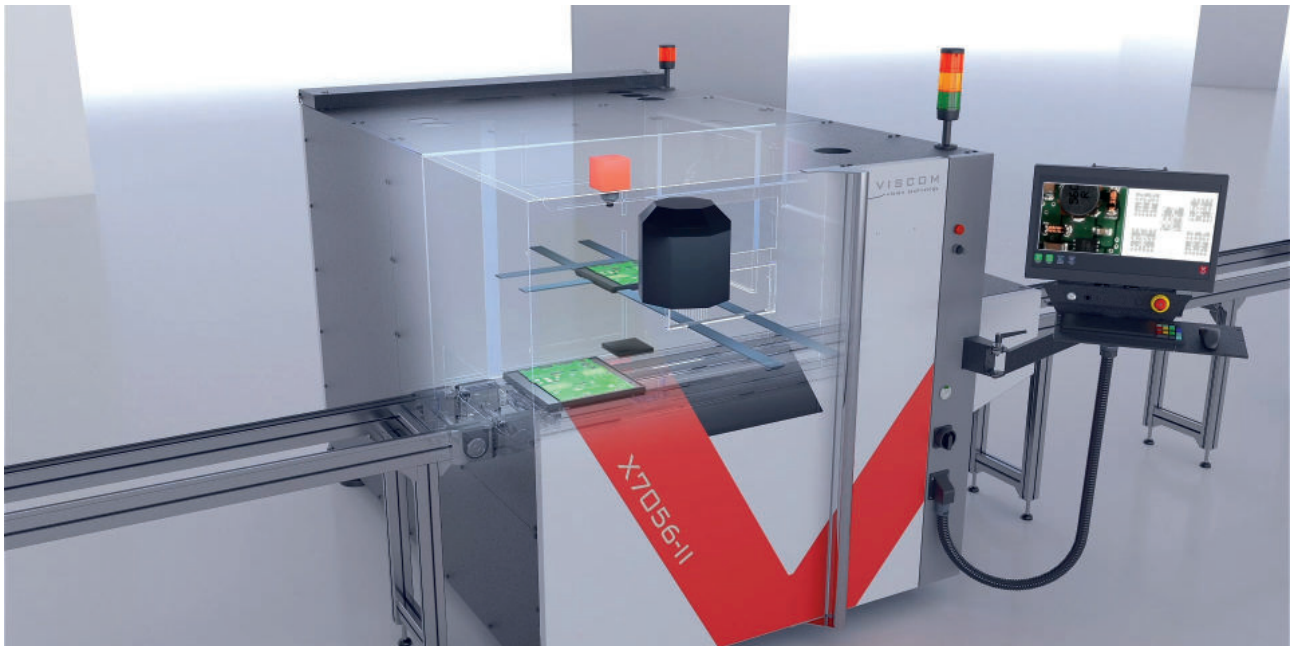
High-quality 3D AXI volume calculation with planar CT

Faster inspection program optimization through optimum 3D analysis

Versatile configuration with different FPD sizes

Remote maintenance, hotline, and on-site service, competent and worldwide

In safety-relevant areas of electronics production such as the automotive and aerospace fields, the requirement to inspect the full scope of electronics assemblies instead of just as random samples is common. For hidden solder joints, in-line X-ray is the ideal solution for the task. Consumer electronics production presents another trend: Like with automatic optical inspection, the ever-denser assembly, often on both sides, requires wide application of 3D inspection. In the X-ray inspection area, planar computed tomography is successfully used for this.



Trailblazing X-ray technology and ultra-modern XM camera technology in one system

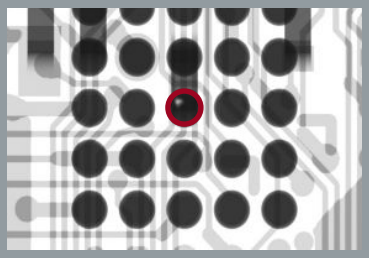
The in-line X-ray system X7056-II is primarily distinguished by **high throughput** and **first-class 3D image quality**. Its hardware components include **high-performance flat panel detectors (FPD)** available in different sizes. Different FPD configurations, e.g., with xy-table, can be selected for versatile 3D image acquisition positions. The resolution range is from **6 to 32 µm/pixel**. The revolutionary xFast-Flow handling concept cuts time for automatic printed circuit board changes down to **4 seconds**. Inspection depth and throughput can be optimally adapted to meet individual requirements. It is also possible to combine 2D and 3D inspections on one PCB.

3D reconstruction with the X7056-II is based on **planar CT**. For complex overlapping, as is virtually the rule with printed circuit boards assembled on both sides, leveraging the superb three-dimensional inspection possibilities offered by the system makes all significant features sharply visible in **clear slice images** to enable precise evaluations – even for shadowing by components or on multi-layer boards. This means false calls are effectively prevented while inspection program creation is simplified.

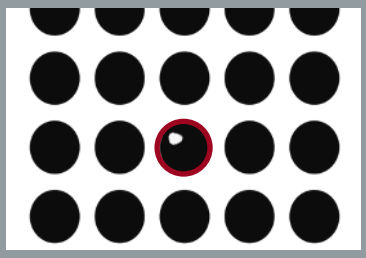
The X7056-II **reliably detects defects** such as **air inclusions** (voids), **bridge, HiP** (head in pillow) and others. The Viscom user interfaces **vVision** and **EasyPro** can be selected for system operation. **Viscom Quality Uplink** enables very effective networking and process optimization. Statistical process control is ideally realized with **Viscom SPC**.

The X7056-II can be upgraded to a combined solution with **additional 3D AOI.** With this approach, a single system can be deployed for different inspection tasks, covering practically all typical defect types. In addition to more open production area comes the advantage of **uniform operation**. The proportion of 3D AXI to 3D AOI can be individually determined depending on requirements. The same technical **high-end options** already successfully used around the world in pure 3D AOI systems from Viscom, such as the S3088 ultra, are available for equipping the X7056-II with an optical component.

Comparison of 2D and 3D X-ray:



2D image of a BGA: structures from the back side are present in the image



3D image of a BGA: slice image with no interfering structures

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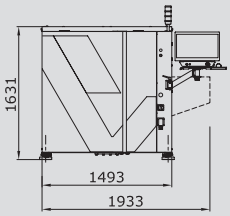
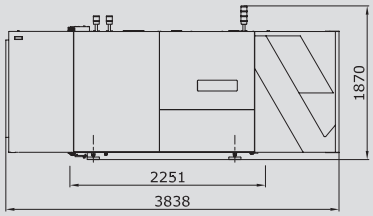
Technical Specifications

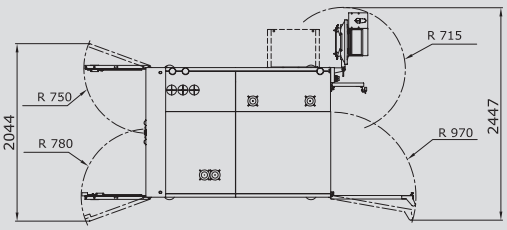
Front view



Side view



Top view



Dimensions in mm

		X7056-II
AXI	**Camera technology**	
	X-ray tube	Sealed X-ray tube
	High voltage	60 - 130 kV
	X-ray current	50 - 300 µA
	Detector	Flat panel detector (FPD), 14-bit grayscale value depth
	Resolution	6 - 32 µm/Pixel*
	X-ray cabinet	Designed to meet requirements for fully protected devices in accordance with German Radiation Protection Act (StrlSchG) and German Radiation Protection Ordinance (StrlSchV). Radiation leakage rate < 1 µSv/h
	Detector configuration	1 FPD on xy-table, 5 fixed FPDs (additional on request)
AOI	**XM camera technology**	
	Image field size	40 mm x 40 mm (1.6" x 1.6")
	Resolution	Up to 8 µm
	Number of megapixel cameras	Up to 9
	3D AOI	
	3D height measurement area	Up to 30 mm
	Z-resolution	0.5 µm
	Number of megapixel cameras	4 (8, optional)
	XMplus camera technology (optional)	
Software	User Interface	Viscom vVision/EasyPro
	Statistical process control	Viscom vSPC/SPC, open interface (optional)
	Verification station	Viscom vVerify/HARAN
	Remote diagnosis	Viscom SRC (Software Remote Control) (optional)
	Programming station	Viscom PST34 (optional)
	Operating system	Windows®
	Processor	Intel® Core™ i7
Inspection speed	AOI	Up to 65 cm²/s
	AXI	Depending on application, handling time ≥ 4 s (with xFastFlow)
PCB handling	PCB dimensions	Up to 450 mm x 350 mm (17.7" x 13.8") (L x W)*
	Transport height	850 - 950 mm ± 20 mm (33.5" - 38.6" ± 0.8")
	Width adjustment	Automatic during setup
	PCB clamping	Pneumatic
	PCB support area	3 mm (0.1")
	Upper transport clearance	Up to 50 mm (2")
	Lower transport clearance	50 mm (2")
Other system data	Positioning/handling unit	Synchronous linear motors
	Interfaces	SNEMA, SV70, customer specific
	Power requirements	400 V (other voltages on request), 3P/N/PE, 8A, 4 - 6 bar working pressure
	System dimensions	1493 mm x 1631 mm x 2251 mm (58.8" x 64.2" x 88.6") (W x H x D); width incl. xFastFlow: 1933 mm (76.1")
	Line integration dimension	+25 mm (1")
	Weight	2245 kg (4949 lbs)

*Depending on the configuration

Our international subsidiaries and representatives can be found at:

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