



AOI and AXI for Wire Bonds and Other Inspection Areas

The inspection system X7056BO effectively combines optical in-line wire bond control with automatic X-ray inspections. This comprehensive inspection strategy enables higher efficiency and optimizes cycle times, thus improving production. Where the bottom line is concerned, procurement costs are significantly lower than purchasing two separate inspection systems.

The Viscom inspection software is designed for maximum inspection depth and accuracy. The standard library contains inspection patterns for die, ball-wedge, wedge-wedge and security bonds. The inspection scope can be individually extended. During the inspection, high-resolution AOI cameras capture all bond sites and wires. The automatic X-ray inspection then follows seamlessly. Thus, for example, hidden connection sites can also be reliably inspected in one run.

The quality of wire paths, dies, component positions and other features are inspected. It makes no difference whether the connections are of copper, aluminum or gold, or whether ribbon or thick or thin wires are involved. Damaged and misplaced components are also reliably detected. Viscom also offers the full scope of high-powered verification, offline programming and SPC evaluation for this system.

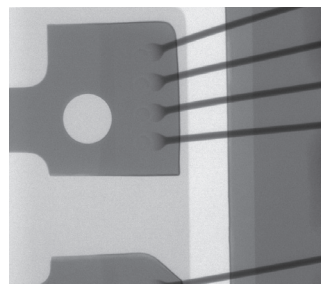
Bond AOI and bond AXI combined in one system

High-performance inspection software from Viscom

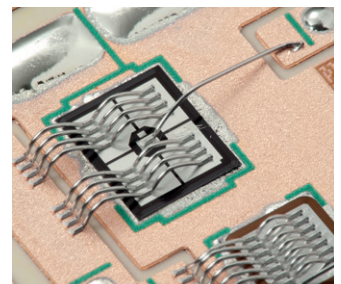
Extremely high accuracy and inspection depth

Versatile camera module selection for thick and thin wires

Optional sealed or open microfocus X-ray tube



Wire bond inspection on the X-ray image



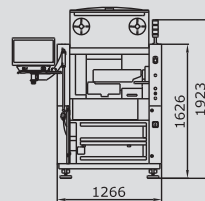
Defect detection on multiwire connections and multiple loops

Bond

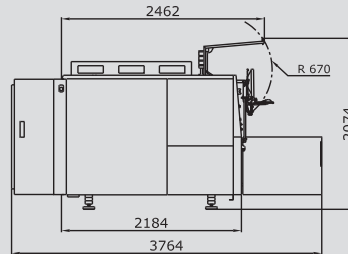
Technical Specifications



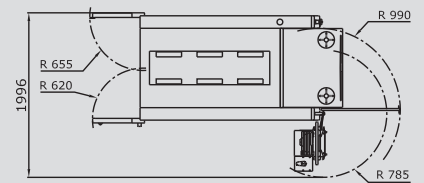
Front view



Side view



Top view



Dimensions in mm

X7056BO

X-ray technology	X-ray tube	Sealed or open X-ray tube
	High voltage	60 - 130 kV or 10 - 160 kV
	Tube current	50 - 300 μ A or 5 - 1000 μ A
	Detector	Flat panel detector (FPD), 14-bit grayscale depth
	Resolution	8, 10 or 20 μ m/pixel, switchable
	Z-axis adjustment	Motorized tube z-positioning
	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 μ Sv/h
Camera technology*	XM module – orthogonal camera	
	Field of view	40 mm x 40 mm (1.6" x 1.6")
	Resolution	8 μ m
	Number of megapixel cameras	1
	XM module – angled view cameras	
	Resolution	16 μ m (standard)
	Number of megapixel cameras	4/8 (optional)
	XM 3D camera technology	
	Z-range	Up to 30 mm (1.2")
	Z-resolution	0.5 μ m
Software	User interface	Viscom EasyPro/vVision-ready
	Verification station	Viscom HARAN
	SPC	Viscom SPC (statistical process control), open interface (optional)
	Remote diagnosis	Viscom SRC (software remote control) (optional)
	Off-line programming	Viscom PST34 (external programming station) (optional)
	Systematic defect analysis and continuous system monitoring	Viscom PDC (process data control), TCM (technical chain management)
System computer	Operating system	Windows®
	Processor	Intel® Core™ i7
Substrate handling	Substrate size	Up to 450 mm x 350 mm (17.7" x 13.8") (L x W)
	Transport clearance	850 - 980 mm \pm 20 mm (33.5" - 38.6" \pm 0.8")
	Double track operation	Possible with external PCB modules
	Substrate clamping	Mechanical clamping
	Substrate support width	3 mm (0.1")
	Upper transport clearance	Max. 35 mm (1.4"); FPD with 8 μ m resolution: 20 mm (0.8")
	Lower transport clearance	55 mm (2.2")
Inspection speed	AOI	30 - 50 cm ² /s
	AXI	Depending on application
Other system data	Positioning/handling unit	Synchronous linear motors
	Interfaces	SMEMA, SV70, customer-specific
	Power requirements	400 V (other voltages on request), 3P/N/PE, 8 A, 4 - 8 bar working pressure
	System dimensions	Approx. 1266 mm x 1626 mm x 2184 mm (49.8" x 64" x 86") (W x H x D)
	Line integration dimension	+25 mm (1")
	Weight	Approx. 2500 kg (5512 lbs)

*Other camera technologies on request