

**X8011**

**Powerful  
X-ray Inspection with  
Excellent Operator Comfort**



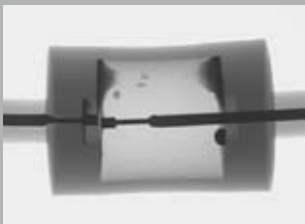
**MXI**

# Automatic X-ray Inspection

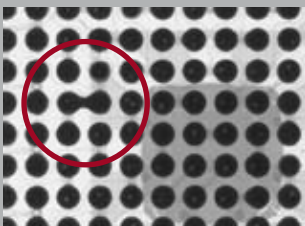
## X-ray Inspection System for Manual and Fully Automatic X-ray Inspection



Wedge bond



Salt deposits



BGA solder bridges



Electrode fusion; insufficient penetration and pores

**Manual, semi-automatic or fully automatic X-ray inspection**

**Modular, low-maintenance all-metal tube**

**Simple assembling of the handling units using the EasyClick principle; 3-axis manipulator, can be extended to include 6 axes**

**Quick and easy angular inspection with high image quality through optional use of flat panel detectors**

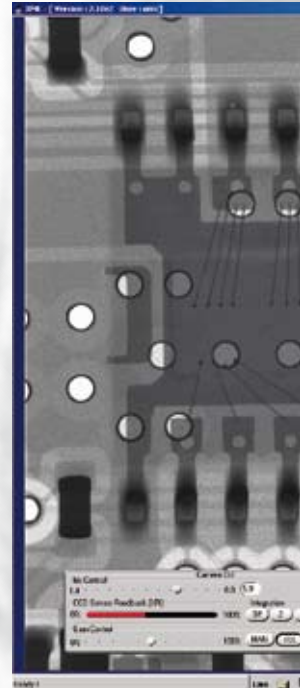
**All axes can be controlled by CNC**

**Inspection object positioning in optical general view**

**Analysis software for BGAs, wire-sweeps, area defects**

**Can be upgraded to computed tomography**

**Worldwide competent service: on site, hotline and remote support**



*Production processes in industry are becoming more and more complex. Newer and more diverse technologies necessitate inspection solutions, which are capable of making hidden and smaller structures visible.*

*The X8011's range of applications is varied and includes the most diverse sectors and inspection tasks. X-ray inspection can be used, for example, for the inspection of safety-related components in the automotive, aviation and aerospace industries. A further important point lies in the material inspection for the detection of pores and cracks in, for example, weld seams or of foreign bodies in the pharmaceutical and food industry production.*

# X8011 – used for numerous of inspection tasks

The **typical application areas** where the X8011 is used include the inspection of printed circuit board assemblies (PCBA), electronic components, but also non-destructive inspection tasks (NDT) and general quality assurance.

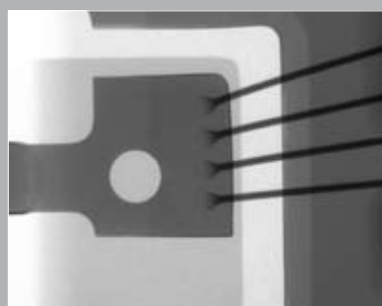
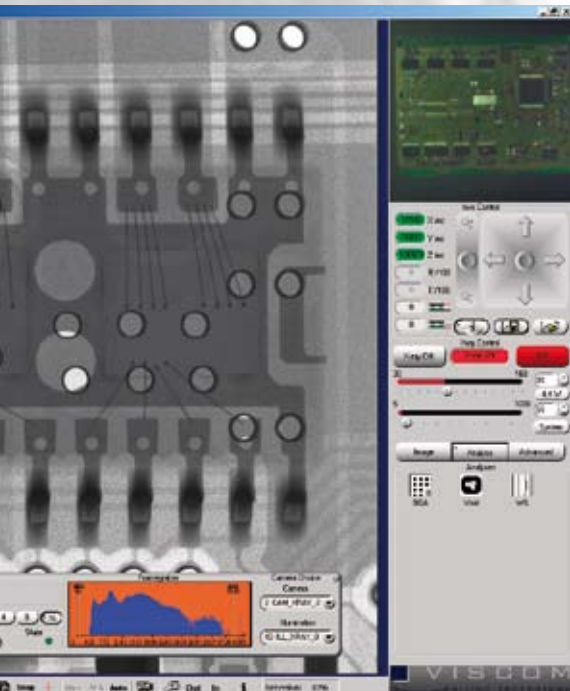
The **computed tomography (CT) option** enables 3-D inspection and representation of small inspection objects. Over and above the spatial relationship of defects and effects, this method can also make isolated layers or cross sections visible. Because of its spatial visualisation this system is particularly suitable for improved localisation of defects.

Space-saving, digital flat panel detectors allow an **angular view of the object at the biggest magnification**. The basic system can also be extended with a rotating/tilting unit. With this option the samples can be examined from any direction and from high angles. These optional axes can be assembled or disassembled simply, reproducibly, and without tools using the characteristic Viscom EasyClick principle.

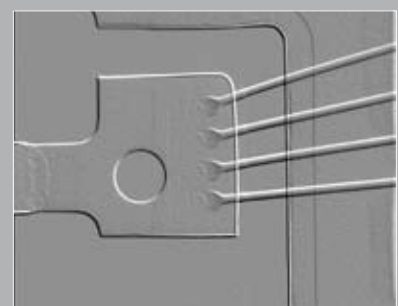
The **XMC user interface** controls and regulates all the necessary processes and can carry out tasks from simple contrast accentuation to complex analysis methods with the help of an extensive program for image enhancement and processing.

The core of the X-ray technology is its **high performance open X-ray tube**, developed for **peak versatility, superb image quality** and stable **continuous operation**. Its construction features high user-friendliness. It guarantees a practically unlimited service life and simple, quick maintenance, so that additional costs are kept to a minimum.

For the X8011 a wide choice of **Viscom's own analysis tools** is available, for example, for ball grid arrays (BGAs), for area soldering or bonds (Voiding Calculation) and for wire-sweep analysis of bond wires.



Wedge bond – X-ray image



Wedge bond – Pseudo 3-D

# Technical Specifications

X8011-12 | X8011-16 | X8011-20

## X-ray technology

X-ray tube	Viscom XT9000-T series open all-metal tube with transmission target		
High voltage	10 - 120 kV	10 - 160 kV	10 - 200 kV
Tube current	5 - 1000 $\mu$ A		
Target loading	Max. 40 W		
Focal spot size	< 3 $\mu$ m / < 1 $\mu$ m		
Detail recognition	< 1 $\mu$ m / < 500 nm		
Magnification	Direct geometric magnification without collimator > 2500 x		
X-ray detector	6" or 9" image intensifier with real-time MP camera (12 bit) or high-resolution digital flat panel detectors (12/14/16 bit)		
Option	0 - 60° angled view with digital flat panel detector		
X-ray cabinet	Fully protected device according to RöV (German X-ray regulations) from 30 April 2003 and US Standard 21 CFR § 1020-40 and additional international standards. Radiation leakage rate < 1 $\mu$ Sv/h		

## Software

User interface	Viscom XMC
Optional	BGA analysis BGA-S Area analysis software (void calculation) ACA-S THT analysis software THT-S Wire sweep analysis software WSA-S $\mu$ CT module for all available detectors listed above

## Analysis computer

Operating system	Windows®
Processor	PENTIUM® processor technology
Connection	Ethernet
Monitor	19" TFT display

## Sample handling

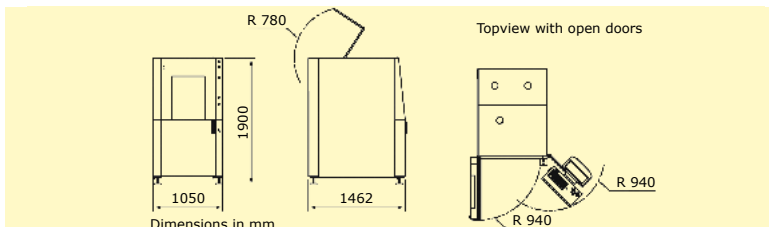
Manipulator	3 axes (X-Y-Z)
Horizontal X/Y- axis	Travel range: 415 x 460 mm (16.3" x 18.1") Inspection surface: 325 x 460 mm (12.8" x 18.1")
Vertical Z-axis	Move range: 280 mm (11.0")
Rotating/tilting axis	n x 360° ± 45°
Rotating platform	n x 360°
Max. sample size	460 x 580 mm (18.1" x 22.8") (L x W)
Max. test piece weight	10 kg (22 lbs), with CT axis or rotating table 5 kg (11 lbs), with rotation/tilt axis 3 kg (7 lbs)
Sample change	Pneumatic front window
Option	Tilting PCB holder
CT axis	n x 360°, high precision

## Inspection speed

Variable

## Other system data

Voltage	230 VAC; 1 P, N, PE; 16 A; 50/60 Hz; 3 kVA; compressed air 6 - 8 bar (90 psi) (oil-free)
System dimensions	1050 x 1462 x 1900 mm (41.3" x 57.6" x 74.8") (W x D x H)
Weight	1600 kg (3527 lbs)
Environmental conditions	Temperature: 10 - 35°C (50 - 95°F), relative humidity: 20 - 80 % non-condensed



**Headquarters:**  
**Viscom AG**  
Carl-Buderus-Str. 9 - 15  
30455 Hanover · Germany  
Tel.: +49 511 94996-0  
Fax: +49 511 94996-900  
Email: [info@viscom.de](mailto:info@viscom.de)  
<http://www.viscom.de>

**The Americas:**  
**Viscom Inc.**  
1775 Breckinridge Parkway  
Suite 500 · Duluth/Atlanta  
GA 30096  
Tel.: +1 678 966-9835  
Fax: +1 678 966-9828  
Email: [info@viscom.com](mailto:info@viscom.com)  
<http://www.viscom.com>

**Viscom Inc.**  
Applications Center San Jose  
San Jose, CA 95131  
Tel.: +1 408 441-0605  
Applications Center Guadalajara  
Zapopan, Mexico  
Tel.: +52 33 3110-1567

**Asia:**  
**Viscom Machine Vision Pte Ltd.**  
150 Kampong Ampat  
#01-02, KA Centre  
Singapore 368324  
Tel.: +65 6285-9891  
Fax: +65 6285-9321  
Email: [info@viscom.com.sg](mailto:info@viscom.com.sg)

**Viscom Machine Vision (Trading) Shanghai Co., Ltd.**  
Applications Center Shanghai  
Shanghai, 200052 P. R. China  
Tel.: +86 21 6161-9368  
Service Center Shenzhen  
Shenzhen, China  
<http://www.viscom.cn>

**France:**  
**Viscom France S.A.R.L.**  
6, Rue Saint Simon  
Zone du Vert Galant  
95310 Saint-Ouen-L'Aumône  
Tel.: +33 13464-1616  
Fax: +33 13464-0195  
Email: [viscom@viscom.fr](mailto:viscom@viscom.fr)