

# MICROFOCUS X-RAY INSPECTION SYSTEMS



high-end closed  
tube with high  
voltage



spot down to 5  
 $\mu\text{m}$  with best  
imaging



powerful but  
simple software  
easy to use



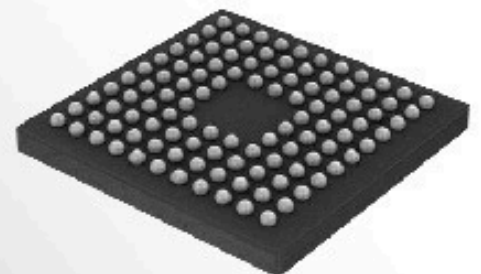
up to 500  
customers verified  
for 8 years



high efficient and  
best customers  
service



## SM-X3000A



## PRODUCT DESCRIPTION

The small-sized, inexpensive Model SM-X3000A utilizes several full-new core technology parts - the best X-ray tube from USA, long-life high-sensitive image intensifier and our own Independent R&D software. The SM-X3000A machine is simple designed to provide high resolution X-ray imaging. Mainly used for the electronics industry. Besides, wide stage ensures that it can detect big sample and much more samples in only one time. This model is simple, effective and fast for inspecting many PCBA components, included BGA, CSP, QFN, Flip Chip, COB and the wide range of SMT components. As for easily to use software interface, the SM-X3000A is capable of addressing small and large volume factory requirements.

MAKE

# OPERATORS FEEL MORE SECURE

well-sealed lead machine shell



✓ MORE STABLE

✓ MORE SECURE

✓ MORE RELIABLE



## SAFETY RADIATION

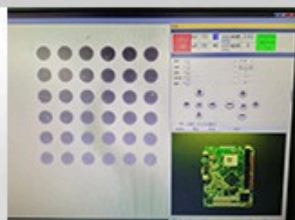
Meet international radiation safety standards. Radiation leakage  $< 1 \mu\text{Sv/h}$ , which is no harm for human body.

## SAFETY STRUCTURE

- 01 safety lock;
- 02 auto protection;
- 03 tube auto protection;
- 04 radiation safety standard;
- 05 solenoid switch protection.

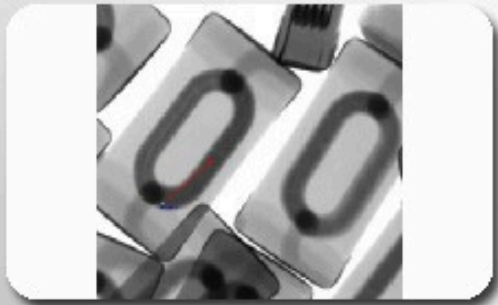
## TESTED RESULT

When the machine reach high voltage, the testing result around  $0.1 \mu\text{Sv/h}$ .

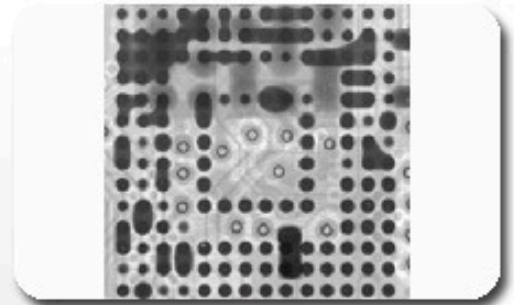


# APPLICATIONS

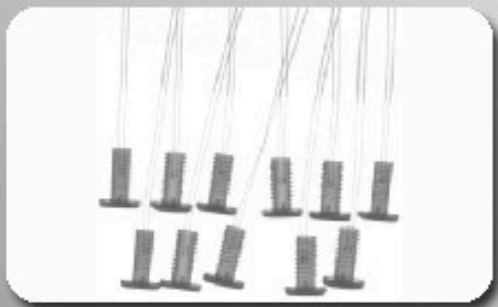
## SM-X3000A CAN FULLY DETECT



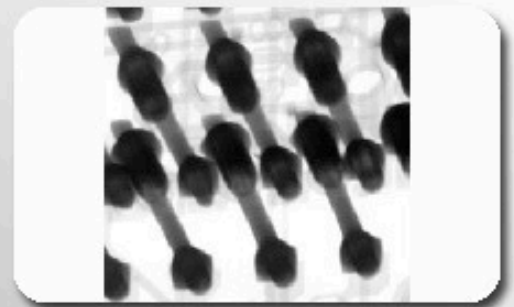
*inductor*



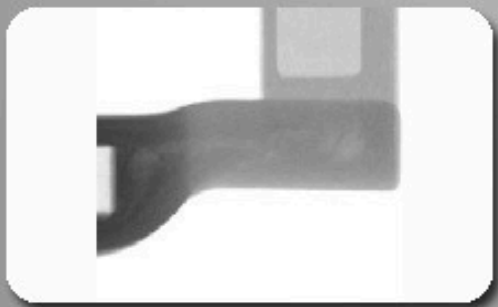
*BGA bridge*



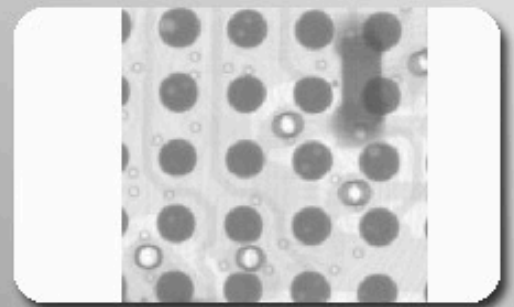
*diode*



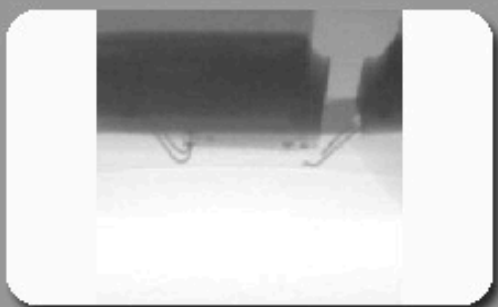
*PCB through-hole*



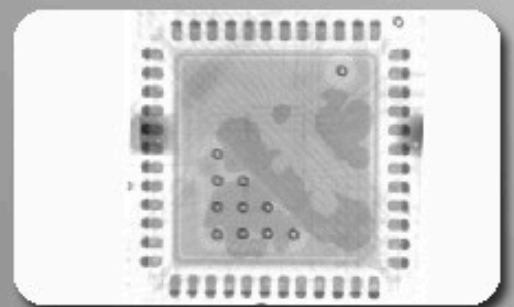
*fiberglass*



*BGA solder voids*



*LED gold wire crack*

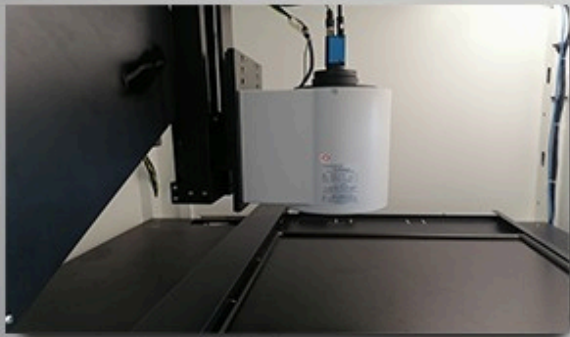


*IC voids*

# X-RAY SYSTEM'S CORE TECHNOLOGY&PARTS

## X-RAY TUBE

*original imported top brand from USA,which is the microfocus X-RAY closed tube (80~100Kv) ensure that the detection effect meets international standard.*



## IMAGE INTENSIFIER

*original imported top brand from Japan ,which is high sensitive for imaging and ensure the image with best clear effect.*

## INDUSTRIAL CCD

*2~5 million high-speed industrial digital CCD camera with long lifetime.*



## SOFTWARE

*simple software is easier for operation and faster detection,which ensure your efficient production.There are 5 core functions and built-in 15 common automatic detection methods,can fully meet your detection needs.*

# X-RAY SYSTEM'S CORE PARTS SPECIFICATIONS

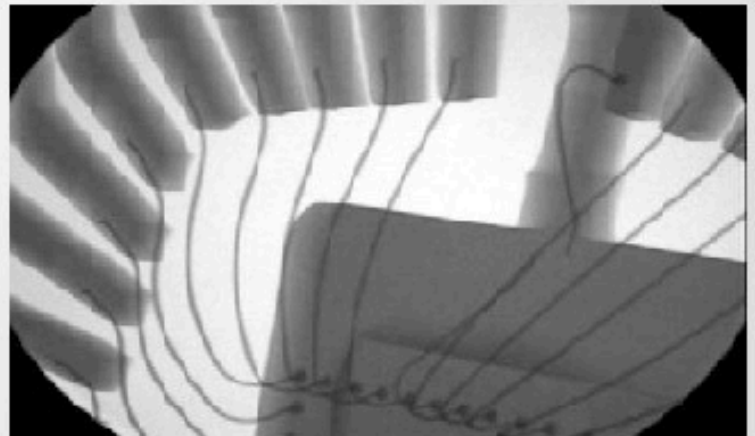
## X-RAY DESCRIPTION

Imported with original packaging, the most significant core component, is a 80~100kV microfocus X-Ray source for use in high resolution imaging applications. The small spot size and high magnification, combined with stable output allow superior quality 2D and 3D images. It combines the X-Ray tube, high-voltage power supply, and controller in one compact package powered from a 12 VDC source.



## X-RAY APPLICATIONS

- Manual inspection of printed circuit boards and electronic devices
- Nondestructive test requiring high-resolution imaging of metal and plastic parts
- Micro-CT imaging for industrial and life sciences applications
- Rotating gantry Micro-CT systems



## X-RAY BENEFITS

- Small, round spot optimized over the range of operating voltage and power for distortion free images
- 12 mm spot-to-window spacing for high geometric magnification and high resolution
- X-Ray tube, power supply, and control electronics in one compact package make system integration easy
- Highly stable spot location and flux for consistent image quality in Micro-CT applications

# X-RAY SM-X3000A IMAGING ANALYSIS SYSTEMS



**X-RAY solution for non-destructive testing**



**small size X-RAY image intensifier**

## IMAGE INTENSIFIER

Imported with original packaging from Japan, is a high performance X-ray Image Intensifier (I.I.) using the following advanced technology; The CsI direct deposit input screen makes X-ray scatter extremely reduced and X-ray detective efficiency improved. Because the CsI input screen is deposited directly on the input window instead of an aluminum substrate. It is graded up according to this new technology with current technologies of a thick input screen with a very fine pillar shape structure and a thin output screen on a single thick glass output window with an anti-reflective coating. It provides outstanding performances in contrast, resolution and noise. Having such high performances, it is an X-ray image intensifier suitable to the applications of industrial non-destructive inspection.

## ADVANTAGES

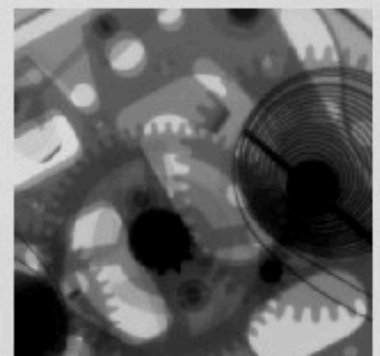
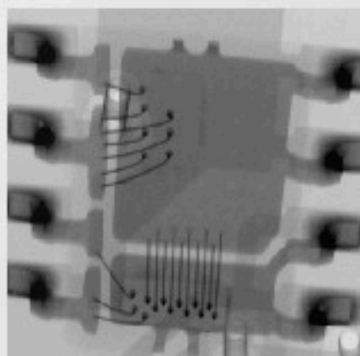
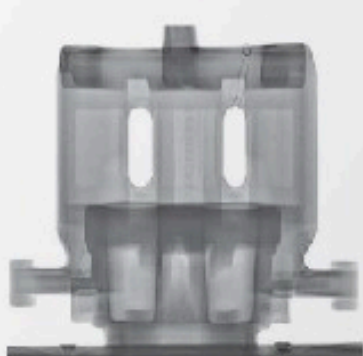
Allowing for easier penetration of soft X-rays

High speed imaging.

High Resolution: 77/ 110 Lp/cm

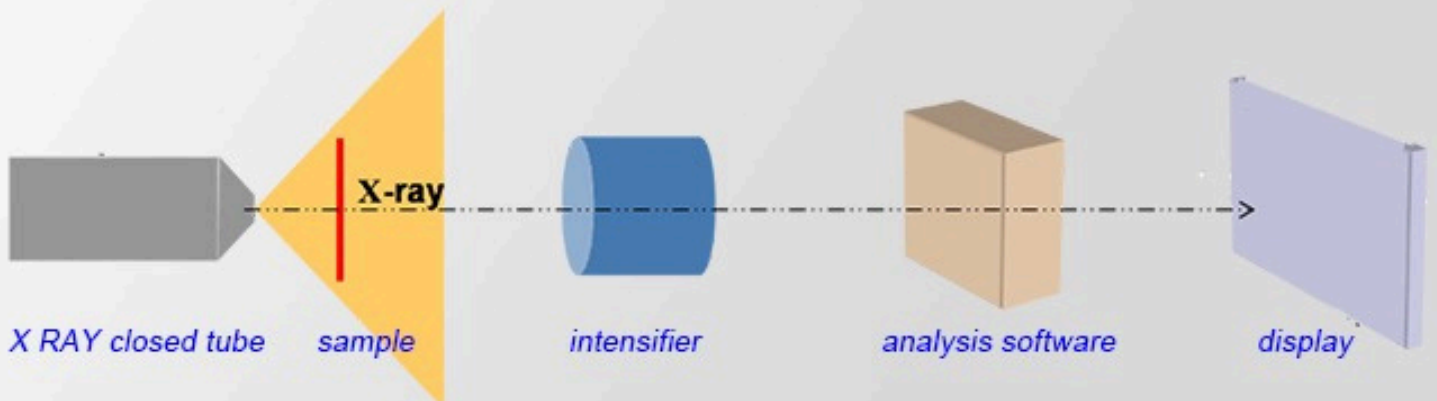
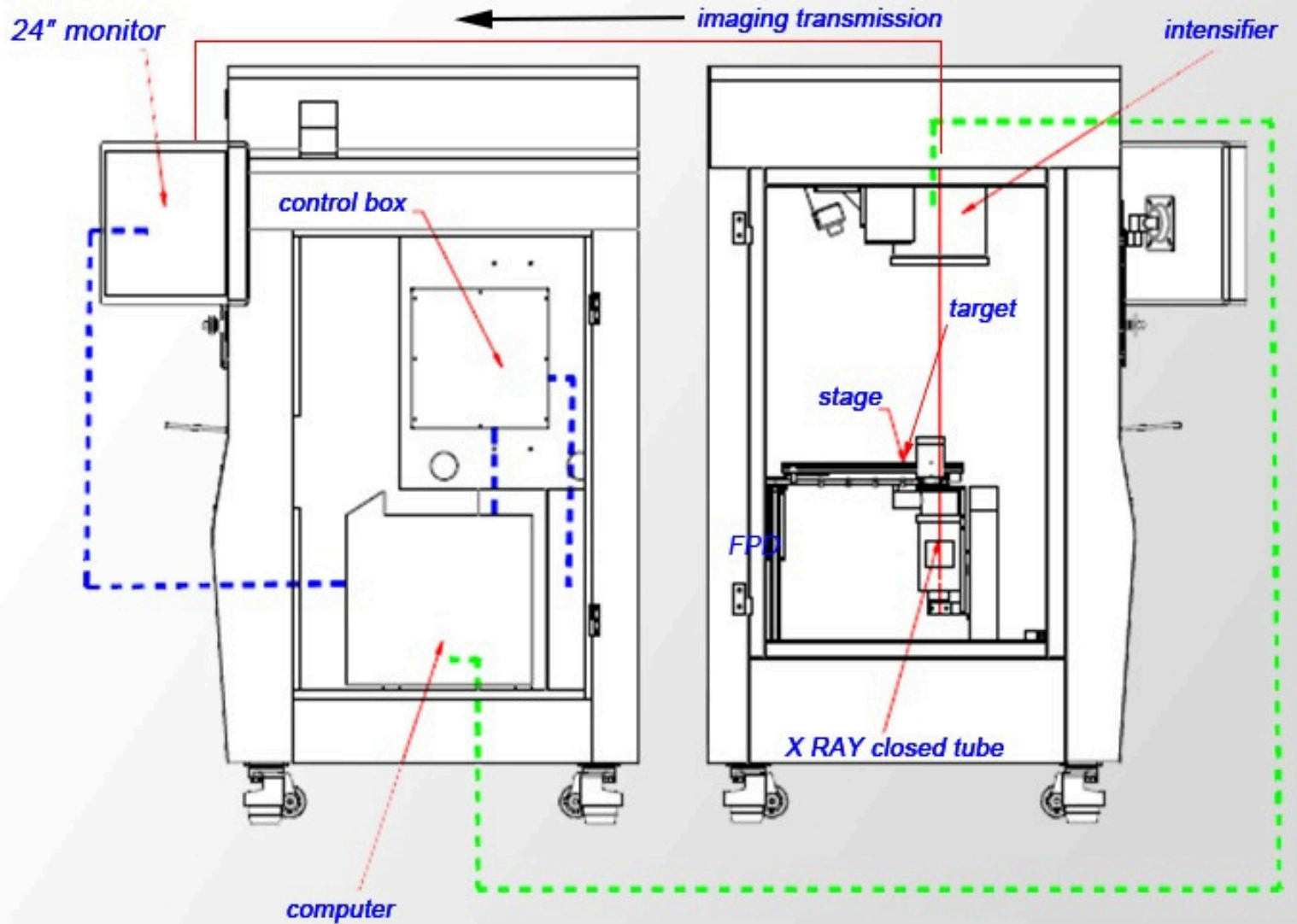
Small Size with 4 inch, Lightweight down to 8KG

Long lifetime.



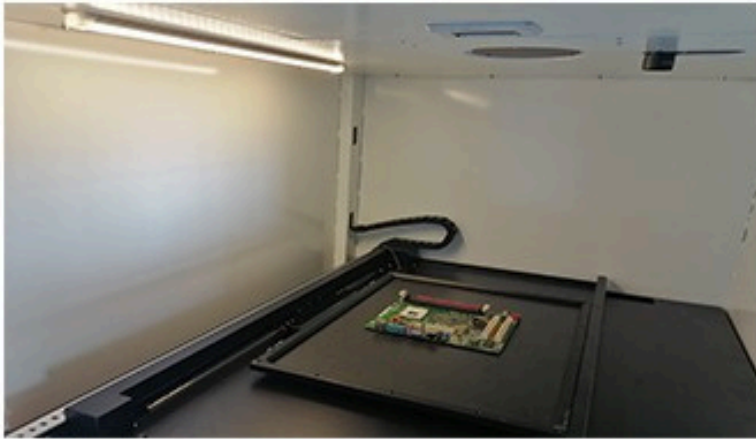
# X-RAY SM-X3000A

## IMAGING PRINCIPLE & STRUCTURE



SM-X3000A

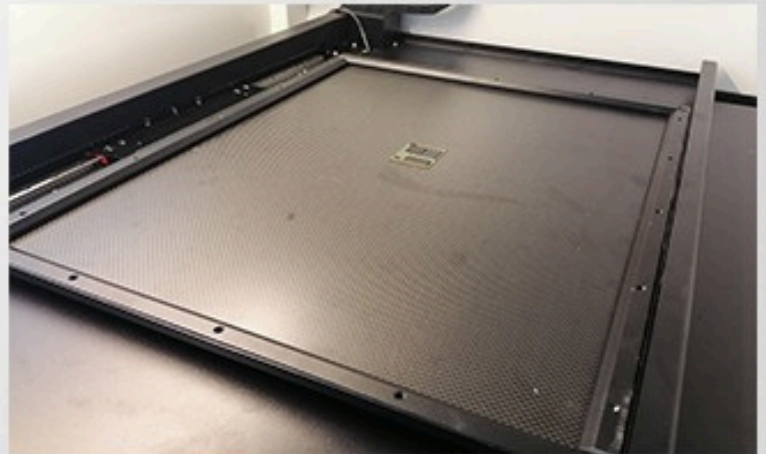
# WIDE AND FLEXIBLE STAGE



460mm\*360mm

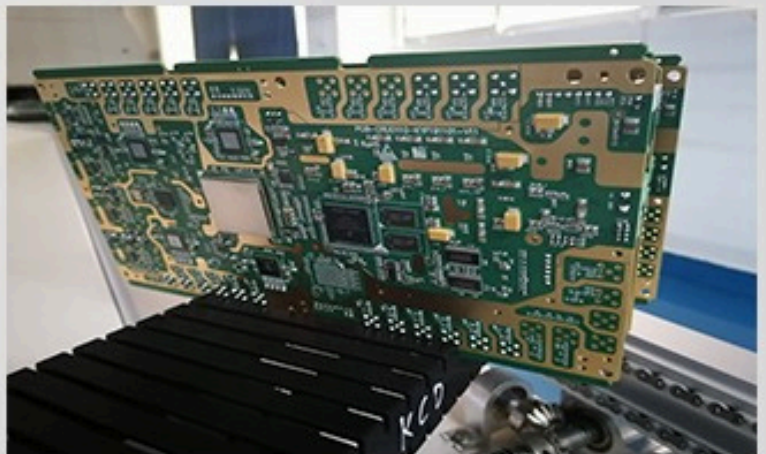
## STAGE

*The dimension of stage up to 900mm\*800mm, the detectable area size is up to 460mm\*360mm, can be hold much more sample or wide sample within 10 KG for inspection. This model is capable of addressing small and large volume inspection requirements.*



## MOTION

*The super large stage moves flexibly under multi-axis motion, and can detect samples without dead ends without affecting the automatic navigation.*



# ONE-TOUCH EASIER AND FLEXIBLE OPERATION



## ONE-CLICK

*Keyboard + mouse complete all functions in one-touch. Eliminates complicated operation modes, so that freshman or experienced person can easily get started.*



## SIMPLE INTERFACE

*The X-ray can be turned on or off by clicking a button with the mouse, and the real-time voltage and current values are displayed next to it. The user can click the up and down buttons, or drag the slide bar, or manually enter the adjustment. The brightness, contrast and gain of the image can be adjusted freely to achieve satisfactory results.*

# SOFTWARE

## MORE COMPLETE FUNCTIONS

<i>Automatic analysis for bad welding</i>	<b>BGA bubbles</b>	<i>Preset the NG image BGA parameters to identify by automatic comparison through the software.</i>
	<b>BGA Cold Soldering</b>	<i>Preset the NG image BGA parameters to identify by automatic comparison through the software.</i>
	<b>BGA short circuit</b>	<i>Preset the NG image BGA parameters to identify by automatic comparison through the software.</i>
	<b>BGA False welding</b>	<i>Preset the NG image BGA parameters to identify by automatic comparison through the software.</i>
	<b>Graph</b>	<i>Help to judge the BGA pseudo soldering</i>
<i>CNC function</i>	<b>Motor pattern programming</b>	<i>Set one or more product testing scripts, which can detect mass line BGA with high detection accuracy.</i>
<i>Navigation function</i>	<i>Quick navigation and positioning, point to where you want to find.</i>	
<i>Measuring functions</i>	<b>Dimension measuring</b>	<i>Distance, radian, slope, Angle, etc.</i>
	<b>Area measuring</b>	<i>Preset the area dimension standard and the prompt function for NG products.</i>
	<b>3D simulation</b>	<i>3D effect display the BG.</i>
	<b>Bubble measuring</b>	<i>In single plant or multi-strain measuring, you can automatically measure by preset the bubble standard area.</i>
<i>Motion control</i>	<b>Five axis auto-positioning</b>	<i>Importing one of the product testing scripts set before, which achieves the quick auto-positional function and detect and manager the mass line products.</i>
	<b>Step function</b>	<i>Browse the step function of some products.</i>
	<b>Operating mode</b>	<i>CNC auto-control mode, mouse or keyboard mode, etc.</i>
	<b>security door lock</b>	<i>Software recognizes the switch state of the door lock and guarantees the operation safety.</i>

# COMPARISON OF DIFFERENCES

**SM-X3000A**

*X-RAY tube original imported*

*easier to operate software*

*lifetime up to 10 years*

*micro-spot down to 5  $\mu\text{m}$*

*high-precision fast navigation*

*easy to use for freshman*

*5 axis motor*

*24" digital image display*

*more safer*



**others**

*X-RAY tube sources unknown*

*complicated software interface*

*lifetime less than 5 years*

*micro-spot down to 10  $\mu\text{m}$*

*low-precision navigation*

*complex for freshman*

*3 axis motor*

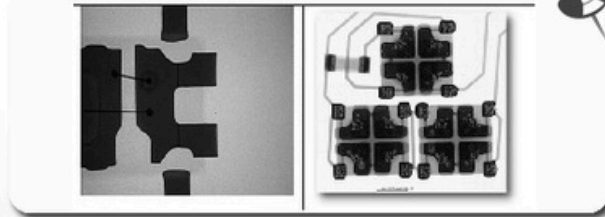
*22" ordinary display*

*safety unknown*

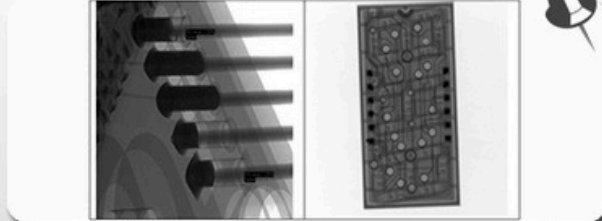


APPLICATIONS  
**X RAY 3000A IMAGING SHOW**

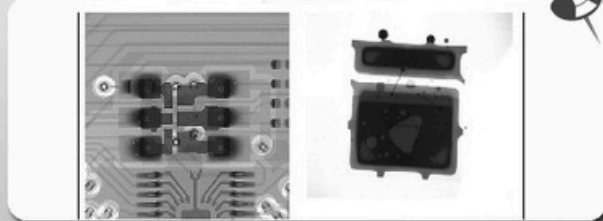
*LED bead*



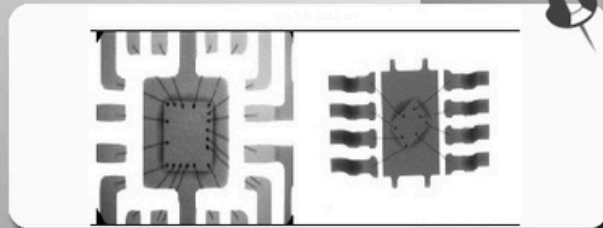
*PTH through-hole*



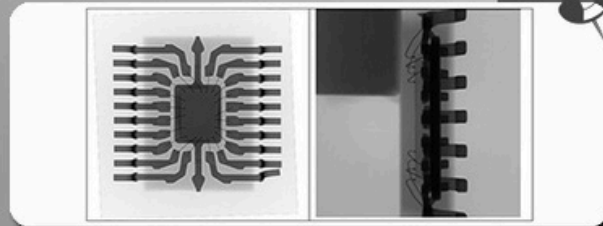
*IC component*



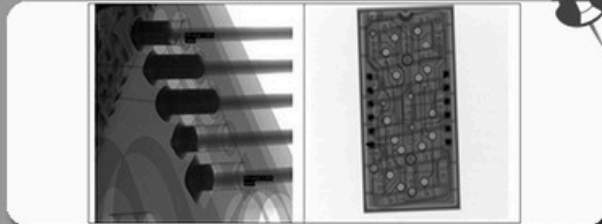
*IC packing*



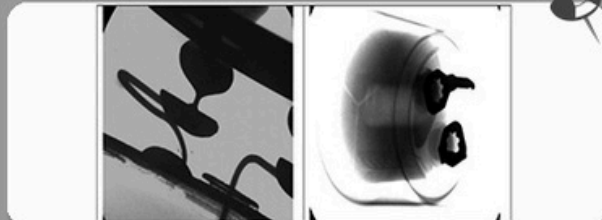
*IC inside*



*PTH through-hole*



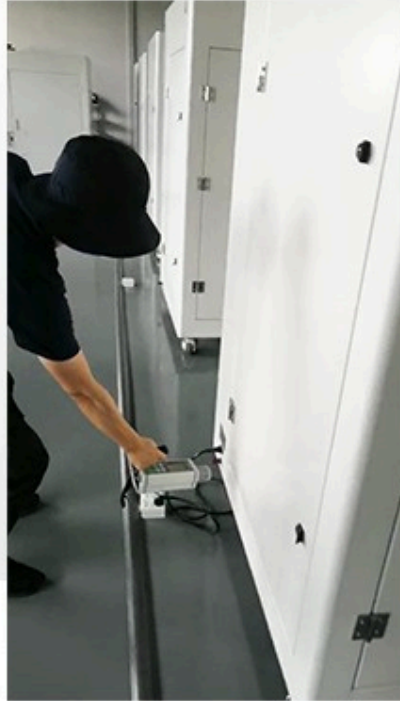
*capacitor*



# ENDORSEMENT FROM NATION

## SECURITY ENDORSEMENT

Our machines are regularly tested by the officer of the Ministry of Environmental Protection PRC and obtained their permission and endorsement.



## SAFE EX-FACTORY

Our company always takes product quality as the core. Products are tested again and again before Ex-factory, and all surfaces are fully tested to ensure zero radiation leakage.

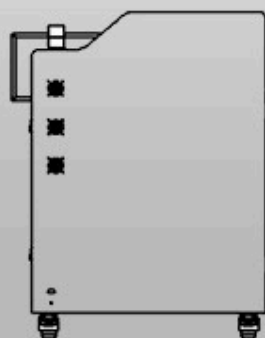
## RESULT OF EACH FACE

The following tested results are from government officials.

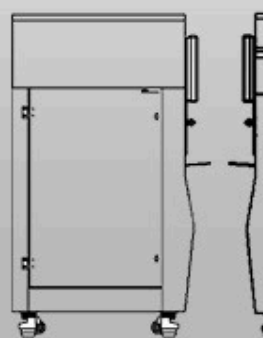
NOTE: the radiation data as follow are only for references.



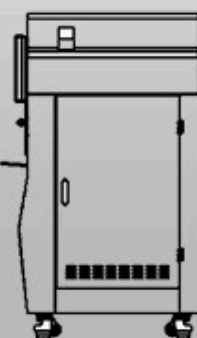
0.11  $\mu$ Sv/h



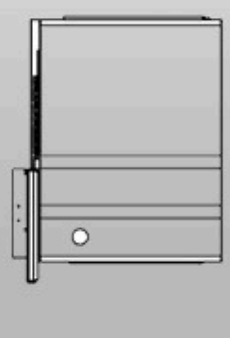
0.11  $\mu$ Sv/h



0.12  $\mu$ Sv/h



0.10  $\mu$ Sv/h



0.12  $\mu$ Sv/h

# CORE CERTIFICATES ENSURE QUALITY

## CERTIFICATES SHOW

We has pass various of international certificates such as CE,FDA,ISO,X RAY anti-radiation protection and safety radiation certificate.



## CUSTOMERS COVERING

With more than eight years of market experience, so far, our X-RAY testing equipment has been exported overseas, and our products cover more than 500 customers and up to 30 countries and regions, such as China, the United States, Australia, India, and the Philippines. Brazil, Canada, Argentina, Mexico and other countries.



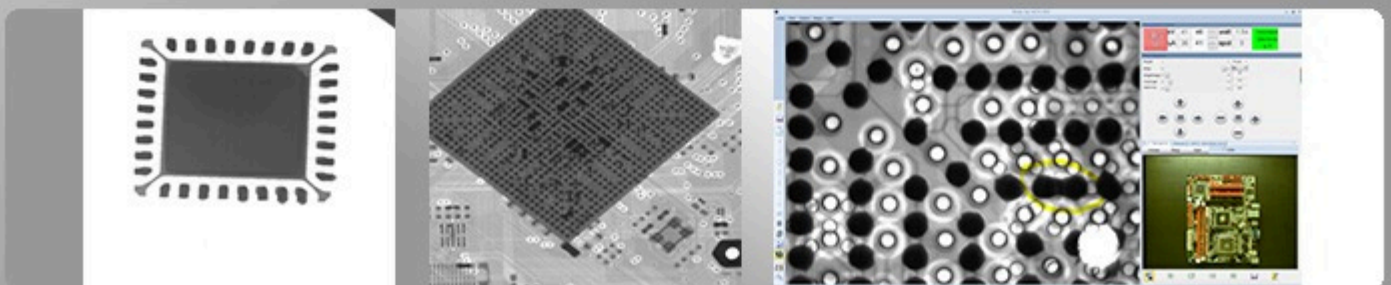
# PRESENTATIONS WHAT USERS SAY

## FROM HONOR USERS

*"With the development of innovative technology, ultra-high-resolution, automated X-ray inspection equipment will not only provide time-saving, worry-free, and reliable guarantee for the assembly of BGA components, but also play a key role in the analysis of common failures of electronic equipment. Improve the efficiency of common fault checking."*

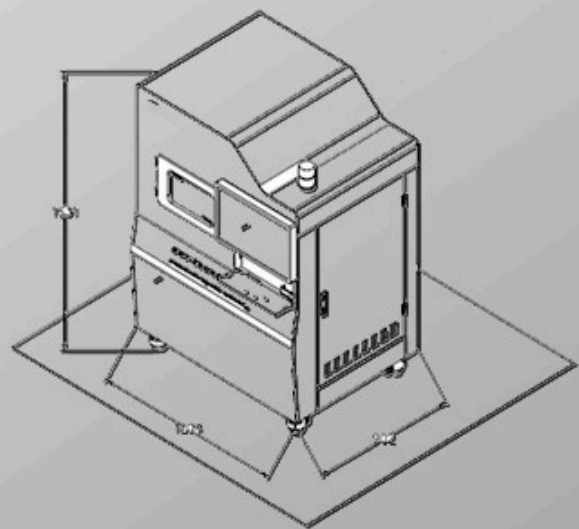


*"With X-Ray non-destructive testing technology, problems such as defect detection and analysis and failure analysis have been solved, meeting the testing requirements of manufacturing technology, helping to improve production process technology, and greatly increasing the pass rate."*



## MACHINE DIMENSION

Dimension	1220*1030*1700mm
Weight	850 KG
Power supply	Single phase AC 110~220V / 50~60HZ
Magnification	120 (Geometric) / 1000 (System)
Image area	460*360 mm
Testable weight	Sample < 5kg
Safety	Leakage $\leq 0.5\mu$ sv/h



## DETAILS PICTURES



# BEST TURNKEY TRAINING&SERVICE

## DOCUMENTS FOR FRESHMAN

*We enclosed a complete documents package for training freshman,which included tutorial videos,operation manual,maintenance handbook,security manual and so on.It help to freshman easily to get start without face-to-face training.*

