

THE TURNKEY SOLUTION

... for highest demands at minimum costs



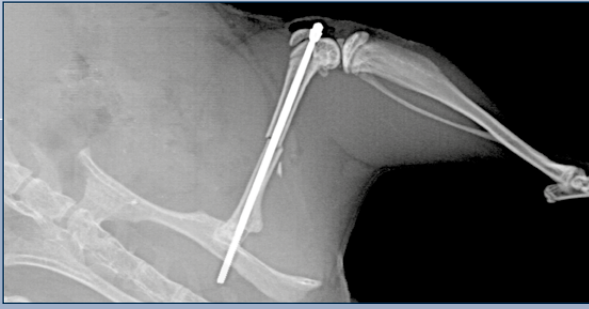
DIGITAL X-RAY CABINET DXC 3000

WITH CMOS DETECTOR FOR ULTIMATE IMAGE QUALITY

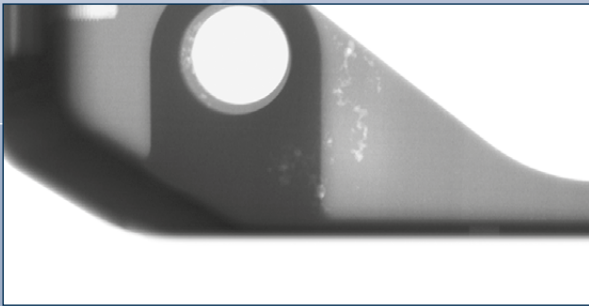


- **LOW OPERATING COSTS**
direct digital image acquisition
no film, no chemicals
- **COMPACT DESIGN**
fits through a normal door
all system components integrated
- **SAFE**
radiation leakage lower than the
strictest safety standards
- **LARGE IMAGE AREA**
up to 480mm x 627mm
- **EXCELLENT IMAGE QUALITY**
up to 42 Megapixel
12 pixel/mm, 12 bit A/D conversion
- **EASY TO OPERATE**
intuitive software fully
controls the system

:: APPLICATION EXAMPLES ::



MEDICINE



MATERIAL TESTING



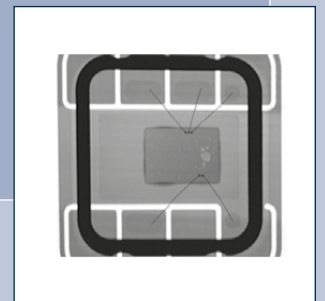
ARCHEOLOGY



ELECTRIC



ELECTRONICS



BIOLOGY



:: DIGITAL X-RAY CABINET ::

:: DESCRIPTION ::



The DXC 3000 is a complete and ready-to-use unit for x-ray inspection. The combination of robust mechanics and modern design makes it equally suitable for laboratory use as well as for industrial applications.

The DXC 3000 provides excellent x-ray images with high resolution and wide dynamic range. The direct digital camera system eliminates the need for film processing: No overhead costs for film, chemicals and waste disposal. No costs for additional equipment like film processor or light box. The acquired images are instantly displayed on the connected PC, where the user can easily process, analyze and store the images with the fully integrated software.

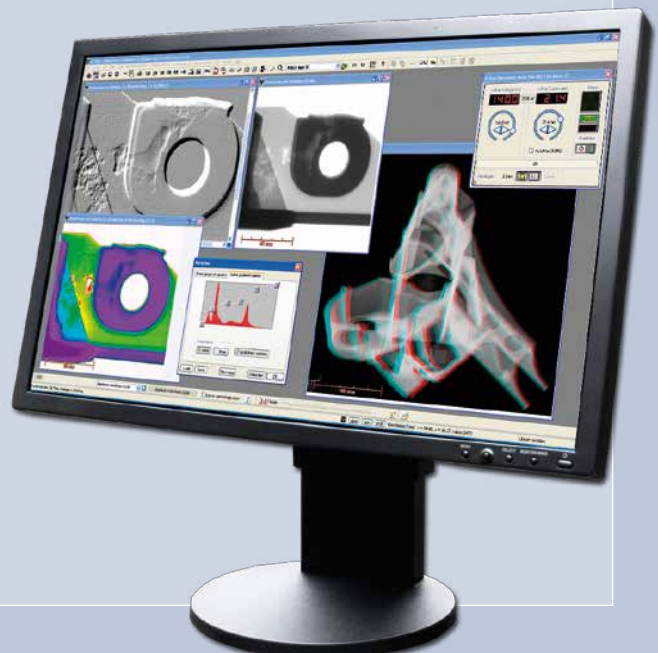


- ① sliding door
- ② x-ray source
- ③ manipulation
- ④ object table
- ⑤ x-ray camera
- ⑥ water chiller
- ⑦ PC
- ⑧ x-ray generator

:: SOFTWARE ::



- Optimized for 12 bit x-ray imaging
- Image processing functions like grey level variation (linear and non-linear), contrast and edge enhancement, emboss, noise reduction
- Scalable geometrical measurements in millimetres, inches or pixels
- Grey level profiles
- For Windows



:: SAFETY ::

The DXC 3000 has been designed with a strong emphasis on safety:

Radiation Safety

The x-ray cabinet in sandwich-design (steel-lead-steel) prevents a leakage of radiation. The local dose rate directly on the cabinet surface is far below $1\mu\text{S/h}$. For comparison: The typical dose rate for passengers in an airplane at an altitude of 33,000 feet is about $5\mu\text{S/h}$.

Door Interlocks

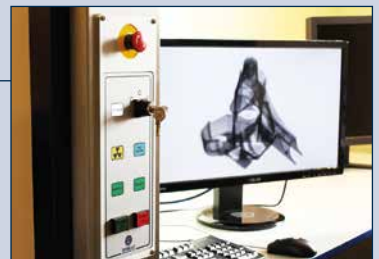
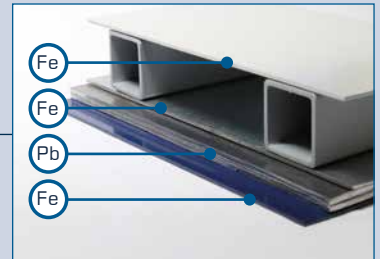
The DXC 3000 is equipped with two redundant door interlocks. The interlocks prohibit turning on the x-ray radiation while the door is open. Also, they immediately shut off the radiation when the door is opened during x-ray inspection.

Radiation Lamps

Two clearly visible "x-ray on" warning lights are embedded in the columns of the DXC 3000. The warning lights are made with LEDs, which have a much higher failure safety than usual incandescent light bulbs. In addition, the functionality of the warning lights is monitored by optical sensors.

Key Switch

The key switch on the control panel prevents the DXC 3000 from being used by unauthorized people.



:: Customization ::

The DXC 3000 is highly customizable in regards to the customer's requirements. For instance, the following options are available:

- Various x-ray sources
- Linear x-ray cameras in various lengths
- A second x-ray camera for stereoscopic 3D images
- Object table with drawer for easier loading of the cabinet

If requested, the entire construction design of the cabinet can be changed.



Object table with drawer

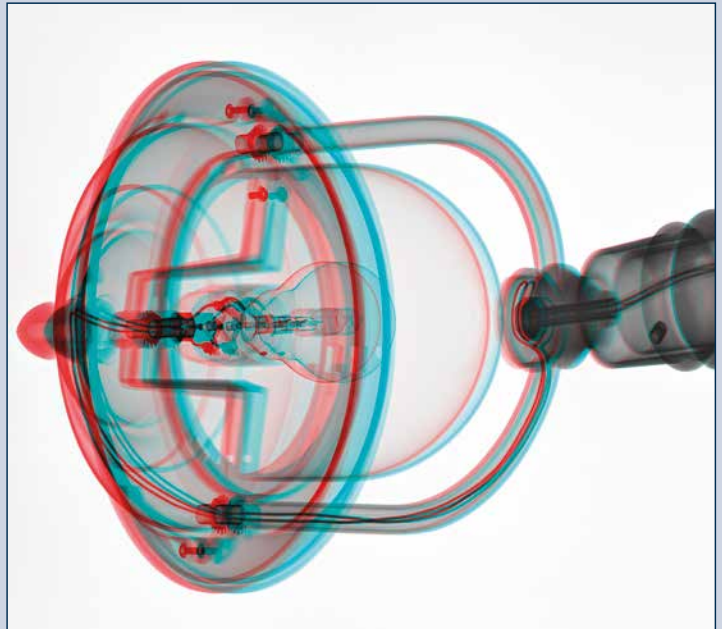
:: ADVANTAGE BY 3D ::

With stereoscopic 3D imaging, the operator sees the test item as a transparent, three-dimensional object with spatial depth.

The 3D images are taken in full resolution without expenditure of time, and they considerably simplify the evaluation:

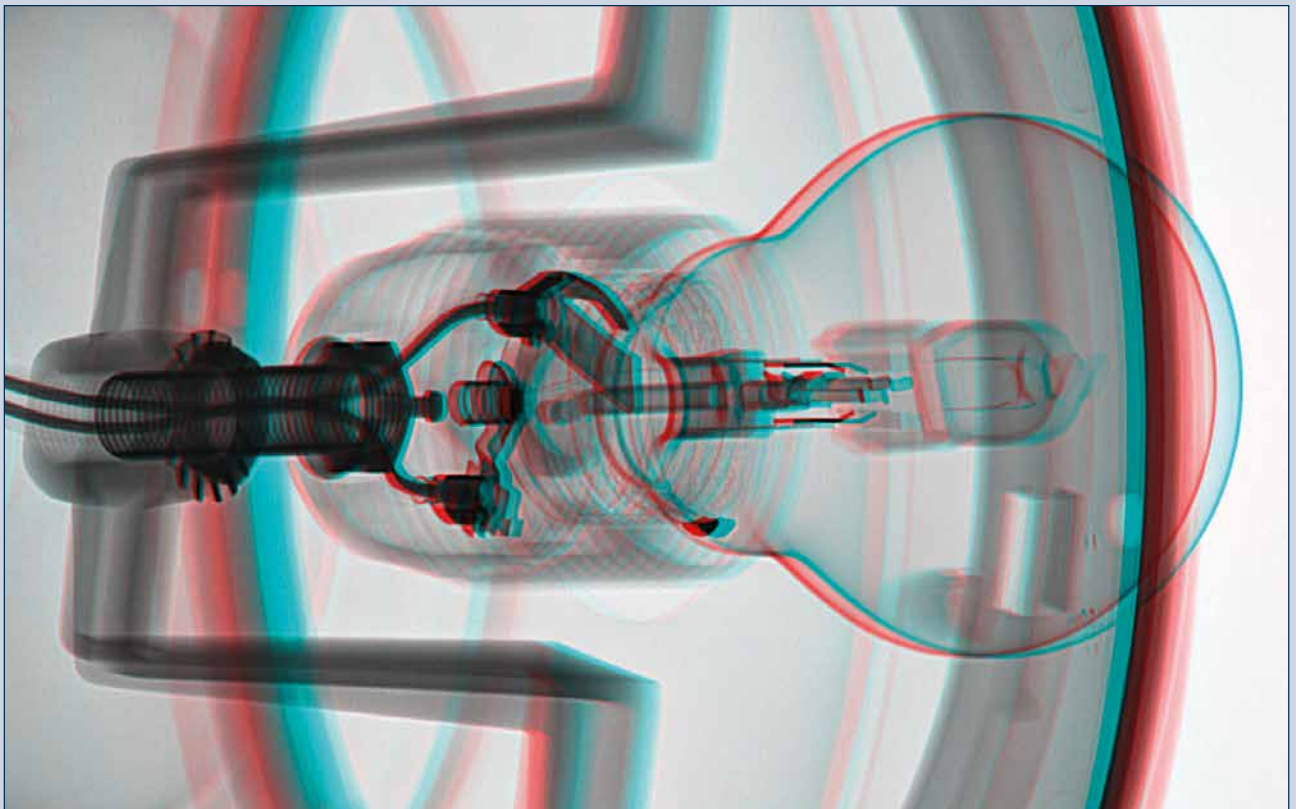
- Defects become more prominent, or are even only perceptible in 3D.
- 3D images of complex structures are significantly easier to understand.
- Shape and position of shrinkages, course of cracks, position of internal components, etc. become evident.

The 3D images shown here, viewable with red-cyan glasses, can only provide a first impression. Real systems are equipped with modern 3D monitors, whose image quality and 3D impression are by far higher.



3D X-ray image of a lamp

Simply close one eye to see the difference between 2D and 3D.



:: TECHNICAL DATA ::

Cabinet DXC 3000

Focus detector distance	960mm
Dimensions (W x H x D)	1.34m x 1.93m x 0.89m
Object table size	Standard Table: 500mm x 520mm Extended Table: 500mm x 666mm
Maximum object weight	Standard Table: 20kg Extended Table: 30kg
Power supply	230V +/- 10% 50Hz
Weight	850kg - 1100kg

Standard Cameras

Type	NTB SEZ T3-320	NTB SEZ T3-480	NTB SEZ T3-640
Image size	480mm x 313mm	480mm x 470mm	480mm x 627mm
Resolution	12 pixel/mm (83µm)		
Dynamic range	12 bit A/D conversion		

other camera lengths on request

Standard X-ray Sources

Type	Bosello Monoblock	Bosello Monoblock	rtw MCD 100-H3	rtw MCD 100-H3	Comet MXR-160/21
X-ray voltage	30kV – 120kV	30kV – 100kV	20kV – 100kV	20kV – 100kV	30kV - 160kV
X-ray power (max)	500W	1000W	1000W	1500W	1600W
X-ray current (max)	7mA	10mA	30mA	30mA	20mA
Cabinet power input (max)	2300VA (10A)	3700VA (16A)		4600VA (20A)	
Focal spot size (EN 12543)	0.8mm	1.2mm	3.0mm	3.0mm	1.0mm & 3.0mm
Inherent filter	1.5mm glass + 7mm oil + 3mm plastic		1.0mm Be	1.0mm Be	0.8mm Be
Cabinet radiation leakage (max)	1µSv/h				2µSv/h

other x-ray sources on request

Scope of supply: Cabinet for digital x-ray inspection, fully equipped and ready to use

Completely closed and shielded x-ray cabinet	Manipulation system for object movement
Digital x-ray camera system (linescan camera with equipment)	X-ray inspection software
X-ray system (x-ray source, generator and equipment)	Workstation (PC with monitor)

Options

Stereoscopic 3D	Extendible object table for up to 30kg object weight
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Subject to change without notice

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