

3D X-Ray Microscopic CT Scanner

TDM-1000

A single system can perform collections of tomographic images, measurements and analyses.

High spatial resolution, high contrast resolution, wide dynamic range and reliable dimensional accuracy !!

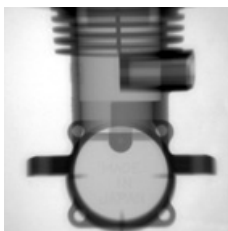
A new-generation system integrating an X-ray CT scanner equipped with functions indispensable for scientific measurements and analyses, and image processing software with wide and various functions.



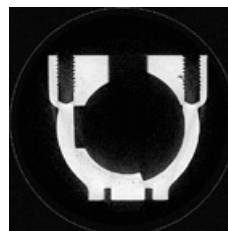
► Features

- High spatial resolution: minimum pixel size of 1 μ m
- High contrast resolution: It has brought about a revolutionary advance in differentiations of adjacent elements and imaging of materials made of light elements.
- High accuracy: Images with higher reliability compensated with the highest-accuracy standard among X-ray CT scanners.
- High-efficiency: Target image data are collected at the maximum speed by scanning in multiple modes including standard, high-speed and high-accuracy.
- Superb functionality: Continuous magnification setting, sophisticated correction software and high-accuracy image data output function.
- Multiple functions: Various measurement and analysis function have been realized by the integration with general-purpose software.
- Excellent user-friendliness: Simple and clear operation software worked out by practical operation.
- Compactified system: A rationally designed compact system with superb functionality and high performance.

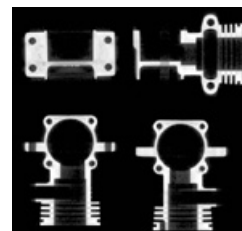
► Examples of imaging functions



Perspective image



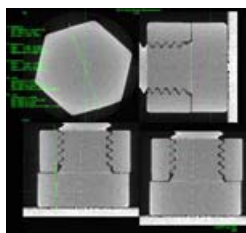
2D CT image



Arbitrarily-selected multiple-section display image



3D CT image



High-accuracy dimensional measurement image

► Examples of moving images of 3D CT

Moving image of 3D CT (BGA analysis) –1

BGA analysis of PC board for CCD camera of cell-phone (MPEG1 3,155KB 19sec.)

Moving image of 3D CT (BGA analysis) –2

BGA analysis of PC board for communication of cell-phone (MPEG1 6,498KB 39 sec.)

Moving image of 3D CT (Container cap)

Inward observation in the state that closed a cover of a food tube container (MPEG1 6,657KB 39 sec)

Moving image of 3D CT (Drug analysis) –1

Inward observation of Drug (granulated powder capsule (MPEG1 6,628KB 39 sec)

Moving image of 3D CT (Drug analysis) –2

Inward observation of tablet (MPEG1 5.983KB 39 sec)

<Caution>

Moving image is not streaming-format.

► Specifications

Description	Specification			
Analytical sample	Rotational diameter: 0.1-75mm, Height: 0.1-100mm Weight: up to 3kg, Transmissivity: Less than 40mm as aluminum			
Spatial resolution (size of a picture element)	Max. 1µm down to min. 35 µm			
Input data size	12 bits			
Image generation speed	Data collection speed (less than XX seconds / layer)	Reconstruction speed		
		2D mode	3D mode	
	High-speed scanning	60/1024	150/100	200/100
	Normal scanning	300/1024	300/100	400/100
	Fine scanning	900/1024	450/100	600/100
User-programmed scanning	-	-	-	
Image matrix	256 • 512 • 1024			

► Composition

Description	Specification
X-ray radiation	System: Air-cooling sealed micro-focus X-ray tube, Dimension of focal point: 5µm (at 4W) Tube voltage: 20-100kV, Tube current: 0-250µA, Max. power consumption: 10W
Detector	System: Image intensifier, Detecting picture element: Beryllium, Detectable surface size: 100mm or 25mm, Camera: 1.45 megapixel CCD camera, Image output: 12 bits
Manipulator	Four-axial automatic drive (X-Y-Z-φ)
Computing and controlling	Memory: 4GB, Hard disk: More 600GB, Monitor: 19 inches 1600 X 1200 color LCD, Operation: JIS standard keyboard with an optical mouse, Image saving: CD, DVD, DVD recording and network transmission. Display images: Perspective image, 2D CT image, MPR image, ROI classes: Rectangle, ellipse, line segments, ROI measurement: Length, area, angle, maximum value, minimum value, mean value, standard deviation, OS: Windows
3D Image processing and measuring	Memory: 2GB, Hard disk: More than 250GB, Monitor: 19 inches 1600 X 1200 color LCD, Operation: JIS standard keyboard with an optical mouse, Image saving: CD, DVD, recording and network transmission. Features: Visualization of 3D images from CT reconstructed data, measuring, production of animations, generation of polygonal data and input / output of such data as STL files, OS: Windows
X-ray screening box	External dimension: 1250mmW X 600mmD X 800mmH, Approx. 300kg Externally leaked dose rate: Less than 1µSV/hr. on the surface of the system
Utilities	Power supply: 100VAC, 20A (3-pin plug connector X 2), Ground: Third class grounding