

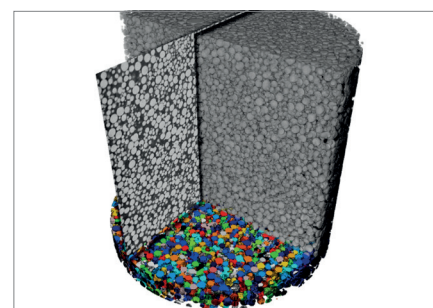


ZEISS Xradia Versa Family

Your 3D X-ray Microscope for Advanced Discovery



Zebrafish, <700 nm resolution and high contrast to view cellular structures



Analysis of Ti-6Al-4V raw powder used in additive manufacturing applications.

Laboratory-based, Synchrotron Quality Image

ZEISS X-ray microscopes (XRM) are advanced imaging solutions that have removed major hurdles for 3D imaging by achieving high contrast and submicron resolution imaging even for relatively large samples. The Xradia Versa family uses a two-stage magnification technique and breakthrough innovations in source technology to enable you to simultaneously and uniquely achieve resolution at a distance (RaaD) and faster time-to-results. These ground-breaking advances in non-destructive, 3D imaging empower a breadth of technical disciplines with diverse range of sample sizes, geometries and compositions. The versatility of the platform enables unique applications like phase contrast, 4D *in situ* and crystallographic imaging. ZEISS X-ray microscopy products are built upon upgradeable, extendible, and reliable platform that helps protect your capital investment.

ZEISS Xradia 620 Versa

The flagship product of the award-winning Xradia Versa family provides the most advanced and highest performing non-destructive, 3D imaging and analysis capabilities. Xradia 620 Versa extends the boundaries of non-destructive 3D imaging with higher X-ray flux across operating conditions, advanced contrast tuning capabilities, extensive filtering options, and advanced acquisition modalities for maximum flexibility and workflow automation.

ZEISS Xradia 610 Versa

With breakthrough source technology, Xradia 610 Versa builds on the established Xradia 510 Versa and provides higher X-ray flux that results in enhanced throughput and image quality

ZEISS Xradia 510 Versa

Xradia 510 Versa is the foundation of the Xradia Versa family for those who need the best 3D imaging capability without the advanced features of the flagship product.

ZEISS Xradia 410 Versa

Xradia 410 Versa bridges the gap between high-performing 3D X-ray microscopy solutions and traditionally lower-cost, less capable projection-based computed tomography (CT) systems. Multiple source options provide flexibility for imaging a wide range of sample sizes and types.



Imaging	ZEISS Xradia 410 Versa	ZEISS Xradia 510 Versa	ZEISS Xradia 610 Versa	ZEISS Xradia 620 Versa
Spatial Resolution ^[a]	0.9 µm	0.7 µm	0.5 µm	0.5 µm
Resolution at a Distance (RaaD™) ^[a,b]	1.5 µm	1.0 µm	1.0 µm	1.0 µm
Minimum Achievable Voxel ^[c] (Voxel size at sample at maximum magnification)	100 nm	70 nm	40 nm	40 nm
X-ray Source				
Architecture	Sealed Reflection	Sealed Transmission	Sealed Transmission, Fast Activation	Sealed Transmission, Fast Activation
Voltage Range	20 – 90 kV	30 – 160 kV	30 – 160 kV	30 – 160 kV
Maximum Output	8 W	10 W	25 W	25 W
Detector System				
ZEISS X-ray microscopes feature an innovative detector turret with multiple objectives at different magnifications. Each objective features optimized scintillators that deliver the highest absorption contrast details.				
Standard Objectives	0.4x, 4x, 10x, 20x	0.4x, 4x, 20x	0.4x, 4x, 20x	0.4x, 4x, 20x
Optional Objectives	40x	40x, Flat Panel Extension (FPX)	40x, Flat Panel Extension (FPX)	40x, Flat Panel Extension (FPX)
Stages				
Sample Stage (load capacity)	25 kg	25 kg	25 kg	25 kg
Sample Stage Travel (x, y, z)	50, 100, 50 mm	50, 100, 50 mm	50, 100, 50 mm	50, 100, 50 mm
Features				
Scout-and-Scan™ Control System	■	■	■	■
Scout-and-Zoom	■	■	■	■
Vertical Stitch	■	■	■	■
XRM Python API	■	■	■	■
Automated Filter Changer (AFC)				■
High Aspect Ratio Tomography (HART)				■
Dual Scan Contrast Visualizer (DSCoVer)				■
ZEISS LabDCT for Diffraction Contrast Tomography				Optional
Wide Field Mode	0.4x	0.4x	0.4x	0.4x and 4x
GPU CUDA-based Reconstruction	Single	Single	Dual	Dual
ZEISS Autoloader	Optional	Optional	Optional	Optional
<i>In Situ</i> Interface Kit	Optional	Optional	Optional	Optional
ZEISS OptiRecon	Optional	Optional	Optional	Optional
ZEISS ZEN Intellesis	Optional	Optional	Optional	Optional
ORS Dragonfly Pro	Optional	Optional	Optional	Optional

^[a] Spatial resolution measured with ZEISS Xradia 2D resolution target, normal field mode, optional 40x objective. [b] RaaD working distance defined as clearance around axis of rotation.

^[c] Voxel is a geometric term that contributes to but does not determine resolution, and is provided here only for comparison. ZEISS specifies resolution via spatial resolution, the true overall measurement of instrument resolution.

Benefits

- Non-destructive 3D imaging
- Highest resolution at the largest working distance from the source with unique RaaD (Resolution at a Distance) capability
- Multi-length scale imaging of the same sample across a wide range of magnifications
- Advanced contrast solutions, including unprecedented laboratory diffraction contrast tomography with LabDCT option
- Source technology advancements with high X-ray flux providing faster throughput and better signal-to-noise
- Industry-leading 4D and *in situ* capabilities for flexible sample sizes and types
- Scout-and-Scan control system for easy-to-use workflow set-up, ideal in multi-user environments

- Minimal need for sample preparation
- Program up to 14 samples at a time to run sequentially with optional Autoloader
- XRM Python API for customized instrument control

Field of Application

Materials Research

Characterize materials in 3D, observe failure mechanisms and degradation, investigate properties at multiple length scales, quantify and analyze microstructural evolution with 4D and *in situ* studies.

Life Sciences

Visualize and characterize tissues, cells and microstructures within entire plants and small animals.

Natural Resources

Characterize and quantify pore structures, measure fluid flow, acquire multi-phase particle information and large volume statistics for oil and gas, mining and other natural resources requirements.

Electronics and Semiconductor

Identify regions of interest during failure analysis on intact packages before cutting or polishing.

Manufacturing Technology

Analyse internal tomographies of 3D printed parts, perform *in situ* mechanical testing.

Battery and Energy Storage

Failure analysis, quality inspection of separator and electrode for defects and inclusions, track aging mechanism.



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