MORITA

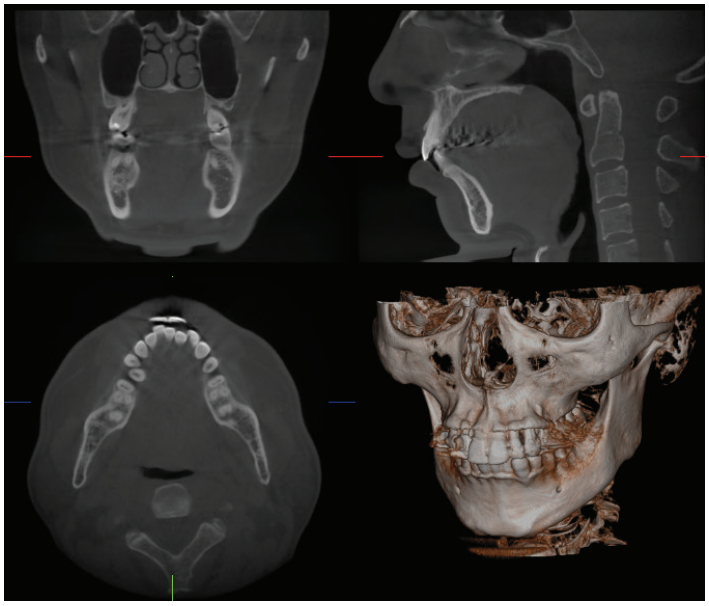
3D Accuitomo 170

Thinking ahead. Focused on life.

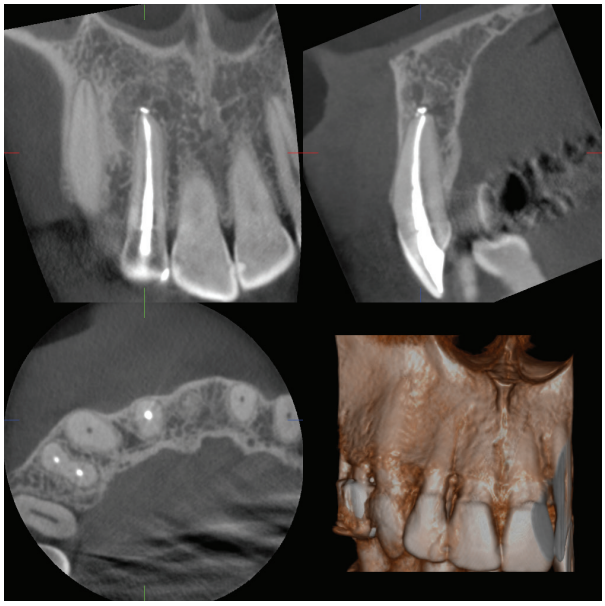
3D Accuitomo 170

Unsurpassed image clarity

The 3D Accuitomo 170 offers unsurpassed image clarity. With nine fields of view and multiple acquisition modes, the 3D Accuitomo 170 can meet all of your diagnostic needs with unparalleled quality. Its super-fine minimal voxel size of just 80 µm allows diagnosing even the most subtle details of bone and dentition. The 3D Accuitomo 170 is highly recommended by leading dental radiologists for periodontology, oral surgery, endodontics, orthodontics, and dental implants for the maxillofacial region and beyond.



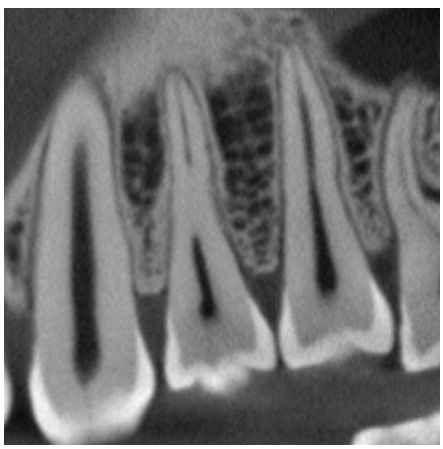
ø170 × H 120 mm (250 µm)



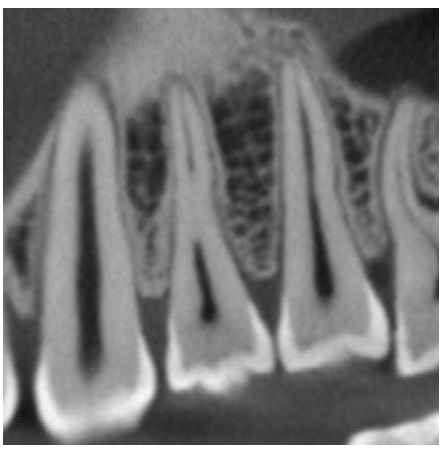
ø40 × H 40 mm (80 µm)

Stunning Clarity

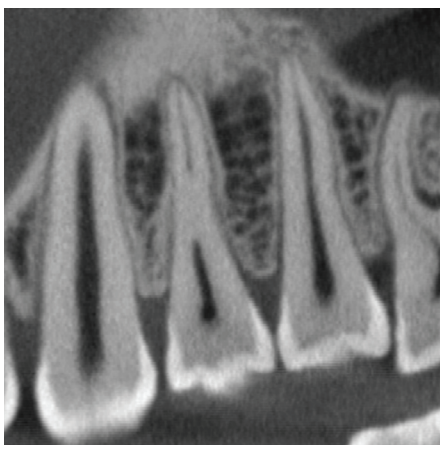
The high resolution 80 µm acquisitions provide images of stunning clarity, giving you diagnostic information like you've never seen before. Take your treatment planning to the next level.



High-resolution 360° (80 µm)



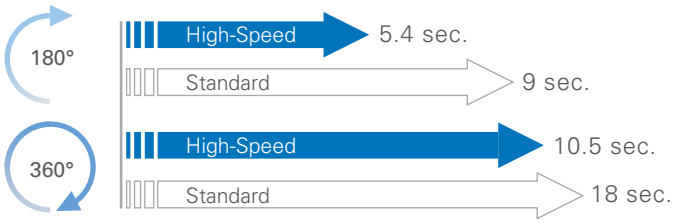
Standard-resolution 360° (80 µm)



High-speed 360° (80 µm)

Adaptable Acquisition Modes

The 3D Accuitomo 170 is equipped with four imaging modes that allow flexibility when scanning patients with a variety of diagnostic needs and clinical indications. Choose High Resolution and High Fidelity modes for the best quality images, or High Speed for patients that have difficulty remaining still. The 3D Accuitomo 170 will adapt to suit your diagnostic and your patients' needs.



*High-Speed Mode is available for ø 40 x H 40 mm and ø60 x H 60 mm fields of view only.

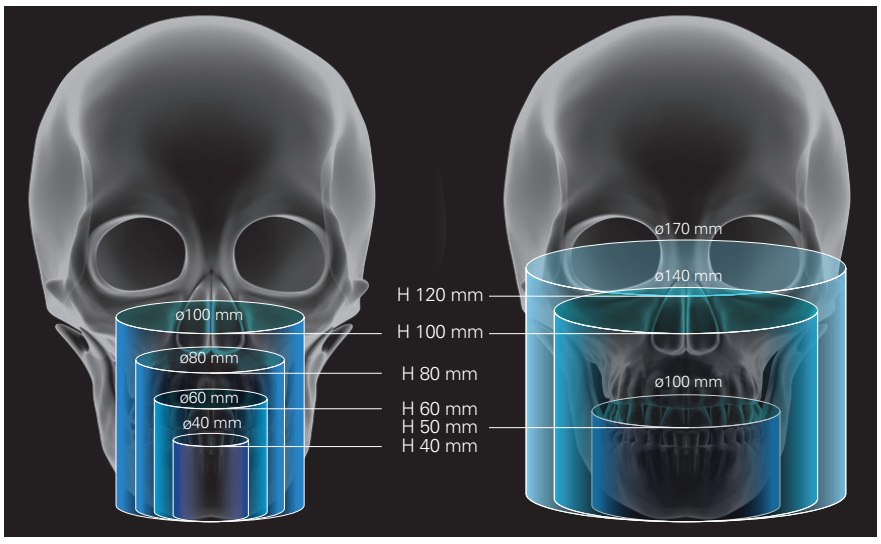
Nine different fields of view can be selected to meet a wide variety of clinical needs. From the smallest, 40 x 40 mm to the largest 170 x 120 mm, there is a size that fits your needs while always ensuring the lowest X-ray dose possible to the patient. This flexibility allows the 3D Accuitomo 170 to provide stunning images for Endodontics, Periodontics, Maxillofacial Surgery, and many more.

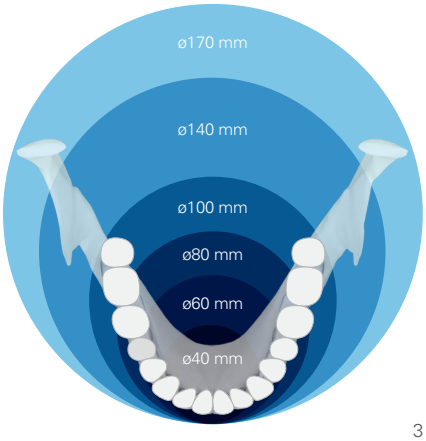
Standard Mode
360° scan: 17.5 seconds, 180° scan: 9 seconds
Standard mode offers images of exceptional clarity and is suitable for limited and wide views of temporal bone, paranasal, sinus, maxilla and mandible, individual teeth, etc.

High Resolution Mode
At 1/4 the standard pixel size, high-resolution mode produces the sharpest and clearest images the 3D Accuitomo 170 has to offer. Even in hi-res mode, 360° scans take only 30.8 seconds, and 180° scans a mere 15.8 seconds. Available for 40 x 40 mm and 60 x 60 mm FOVs.

High Fidelity Mode
Slow and steady scans at 30.8 seconds for 360 degrees and 15.8 seconds for 180° make for exceptionally clear images with minimal artifacts. Zoom reconstructions made from this acquisition are exceptionally clear.

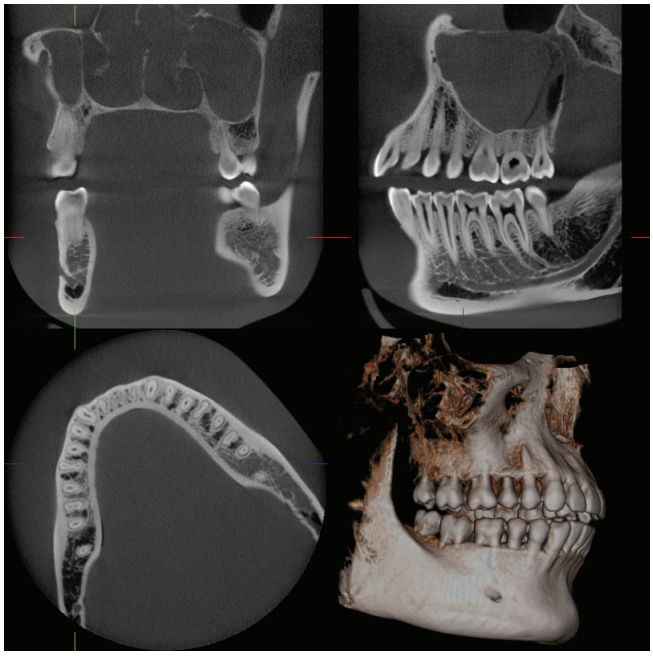
High Speed Mode
360 scan: 10.5 seconds, 180 scan: 5.4 seconds
Utilize high speed mode to reduce motion artifacts for patients that may not be able to sit still. It is a good choice for children and for patients concerned with higher X-ray dose. Available for 40 x 40 mm and 60 x 60 mm FOVs.



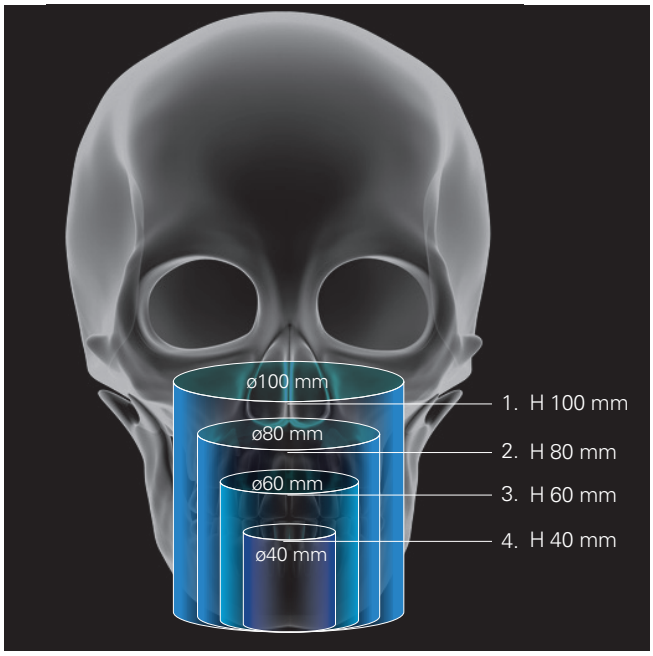


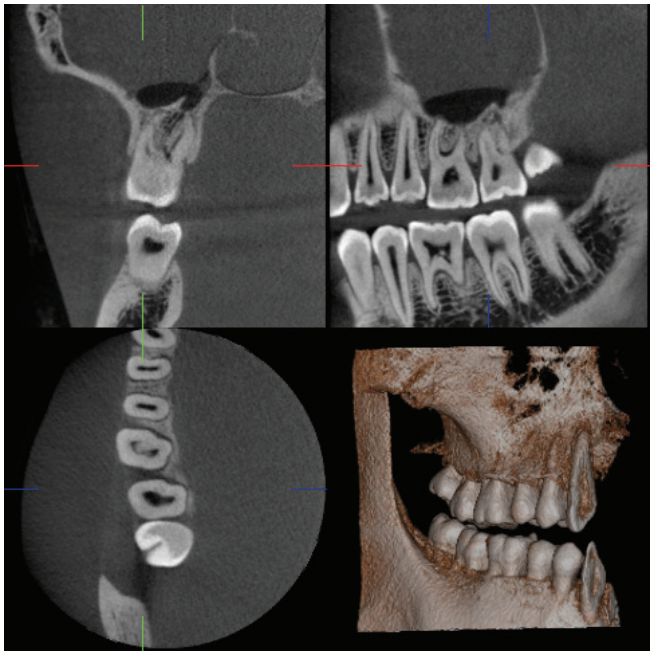
Small Fields of View

Stay focused on your region of interest by selecting the best field of view for your indication. Volume diameters as small as 40 mm or as large as 100 mm can be selected for the dentition.

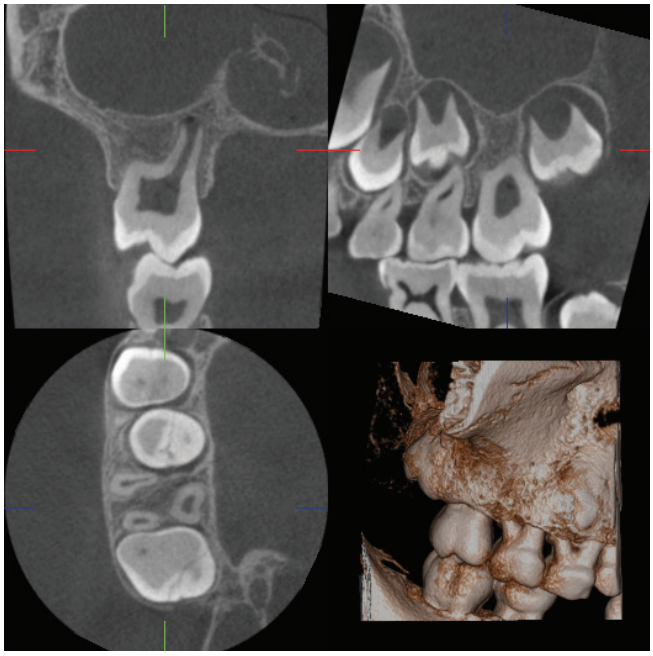


1. ø100 × H 100 mm (250 µm)





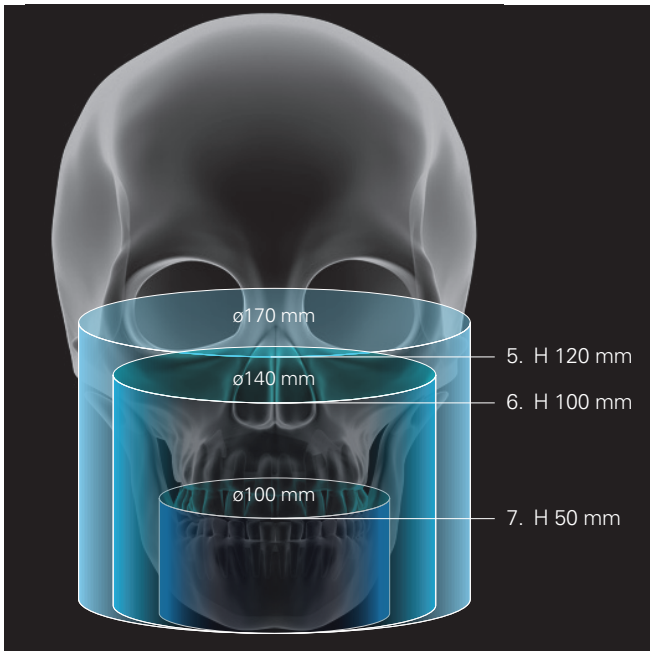
2. ø60 × H 60 mm (125 µm)

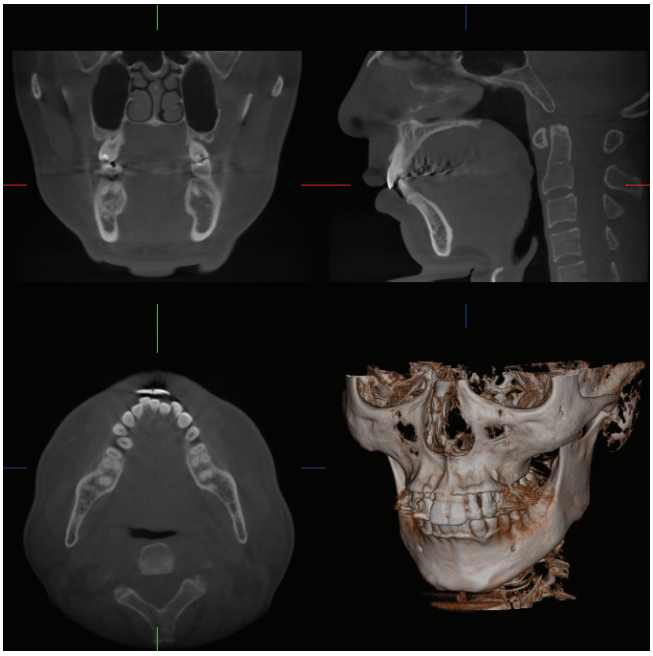


3. ø40 × H 40 mm (80 µm)

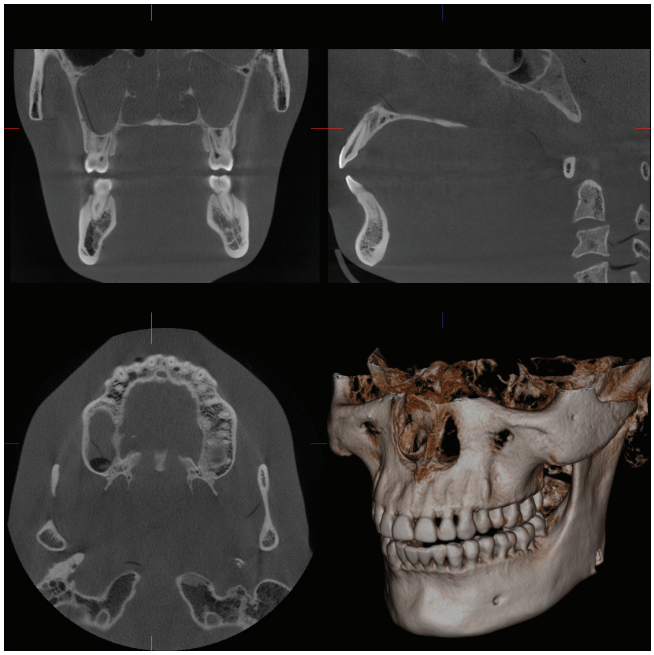
Large Fields of View

For larger maxillofacial scans, select a diameter of ø100 to ø170 to cover a wider range of maxillofacial surgeries.

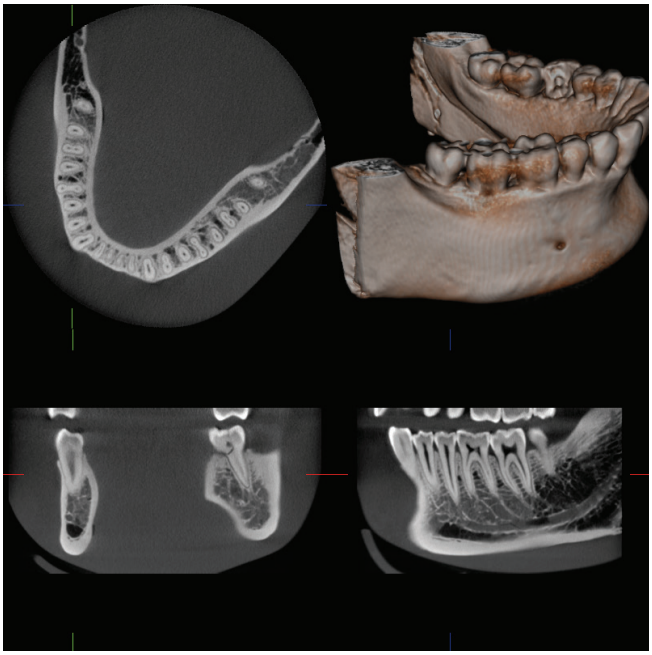




4.ø170 × H 120 mm (250 µm)

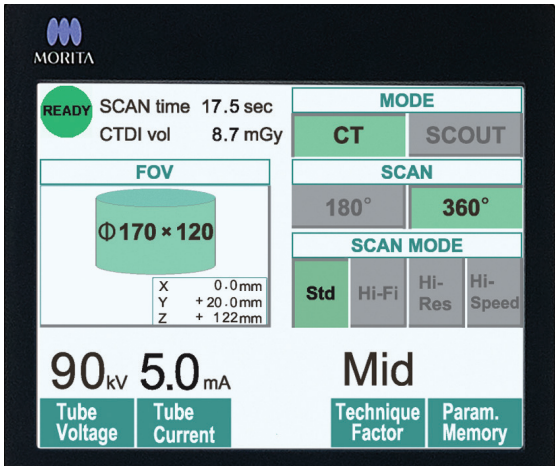


5. ø140 × H 100 mm (250 µm)



6. ø100 × H 50 mm (250 µm)

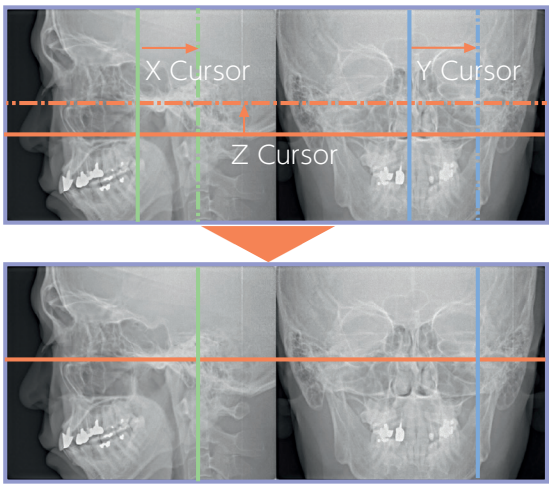
Simple, Accurate Positioning



The three positioning laser beams and an LCD make patient positioning easy. The chinrest stabilizes the patient`s head to avoid movement. Scout images enable even more accurate positioning.

Easy as One, Two, Three

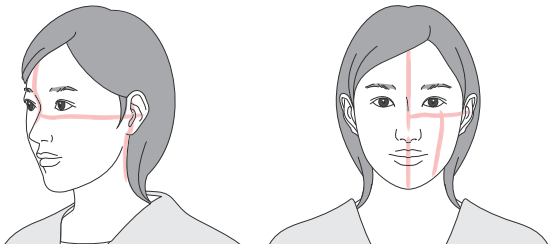
First, the patient`s initial position is set and recorded using the three positioning laser beams. Then, the region of interest is aligned in the LCD. The chair automatically moves into the optimal position. During the X-ray exposure, the patient is stabilized by the chinrest and the headrest.

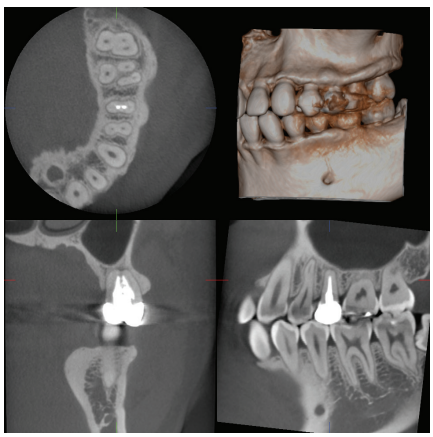


2- direction scout

For even more accurate positioning, scout images can be utilized. After positioning, two still X-ray images of coronal and sagittal views can be taken to confirm that the position is accurate. If adjustment is necessary, positioning can be changed by dragging the cursor on the monitor and moving it to the center of the region of interest.

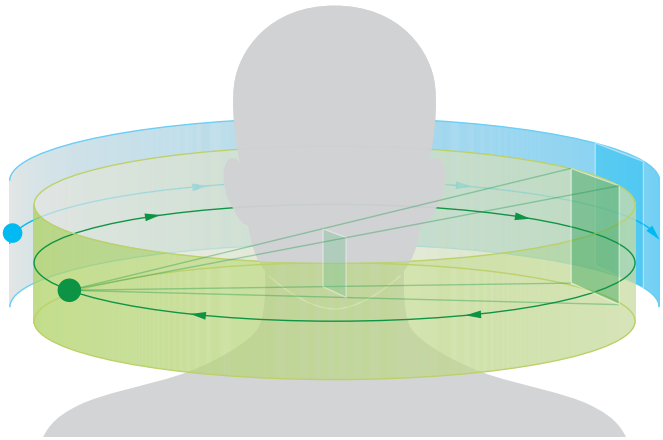
The scout exposure (80 kV and 2.0 mA) will increase the total X-ray dose of a Standard Mode CT exposure (90 kV and 5.0 mA) by about 2%.





3D-CT image region of interest is perfectly positioned.

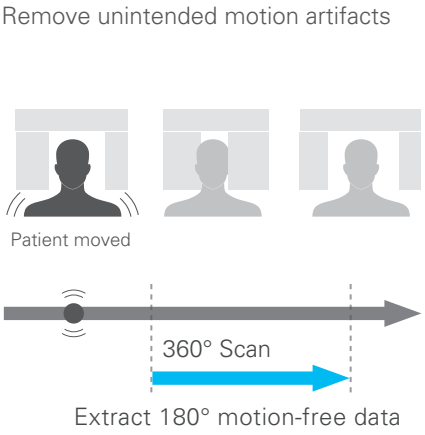
Acquisition is only the beginning

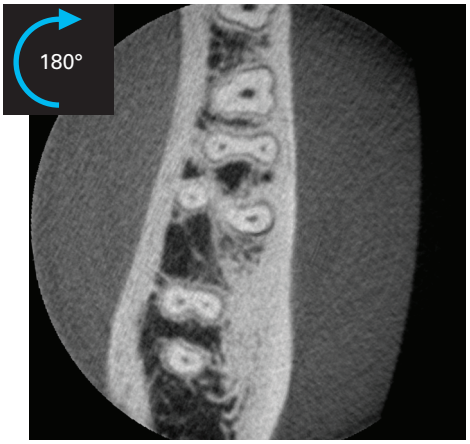


180° reconstruction to reduce motion artifacts

Did the patient move during acquisition? Do you have to scan them again? Not anymore! The 3D Accuitomo 170 allows you to extract 1/2 of a 360° scan at any point to remove that initial jolt or that unintended swallow at the end of the acquisition. (For 360° acquisitions only.)

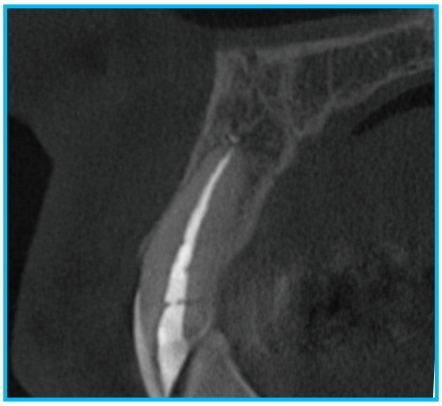
360° scan exhibiting patient movement artifacts





180° of motion-free data extracted.

Ø170 × H 120 mm (250 µm)

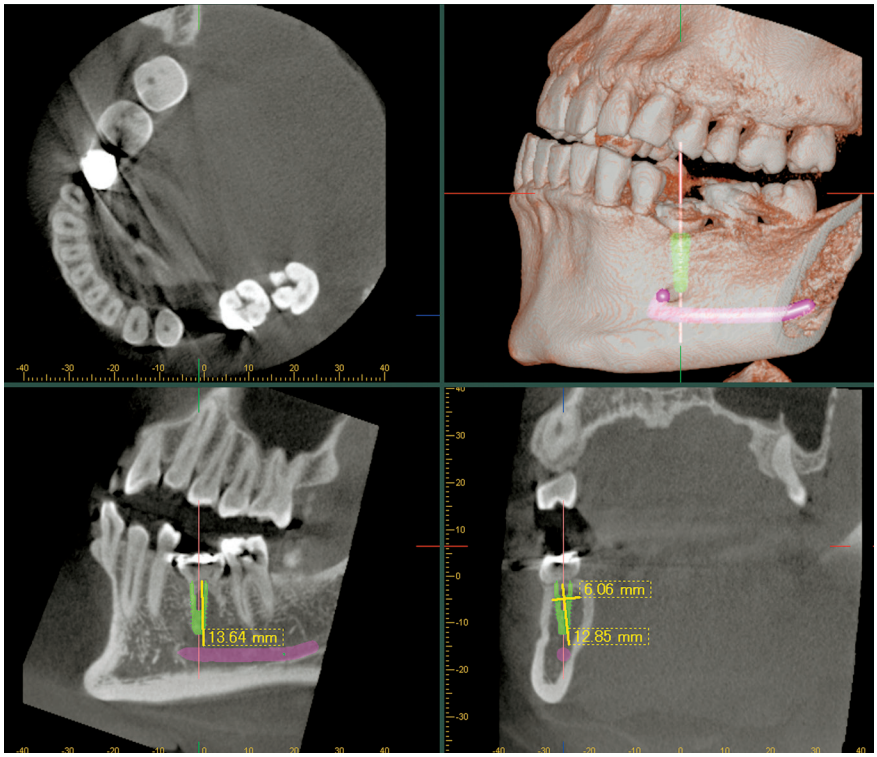


Ø40 × H 40 mm (80 µm)

Zoom reconstruction

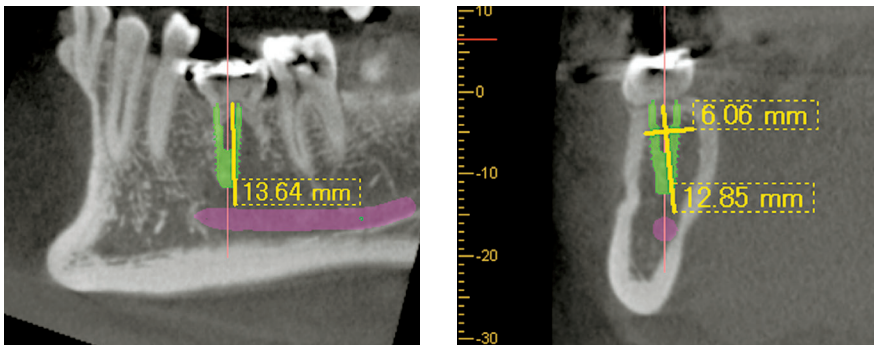
The Accuitomo series is equipped with a unique zoom reconstruction function allowing you to zoom in and reconstruct a new volume from the original scan, without the need for additional acquisitions. The new volume can be reconstructed with a resolution of up to 80 µm improving diagnostic accuracy with no additional X-ray exposure to the patient.

i-Dixel



Volume Rendering

Volume rendering displays a solid 3D image showing the bone structure and dental arch. The volume rendered image is linked to the slices and moves in real time whenever a slice is adjusted.



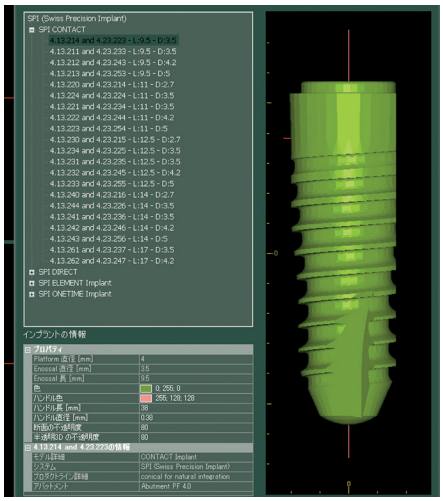
From multiplanar reconstructions to implant presentations

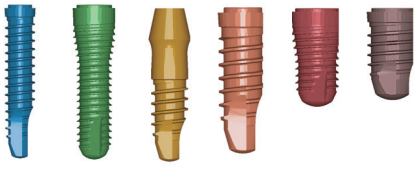
Implant Presentation

Select from a variety of popular implant manufacturers and place the implant directly in the CT slice for presentation. This presentation can be easily understood by patients and helps with case acceptance.

Acquisition to diagnosis made simple

The i-Dixel imaging software offers a wide variety of features to help you quickly and easily create comprehensive treatment plans and explain those plans to your patients. Mandibular canal marking, implant presentation, and multiplanar reconstruction are just a few of the features that i-Dixel provides for diagnosis. i-Dixel is also fully DICOM compliant and provides quick and easy integration with both practice management software and advanced treatment planning tools.

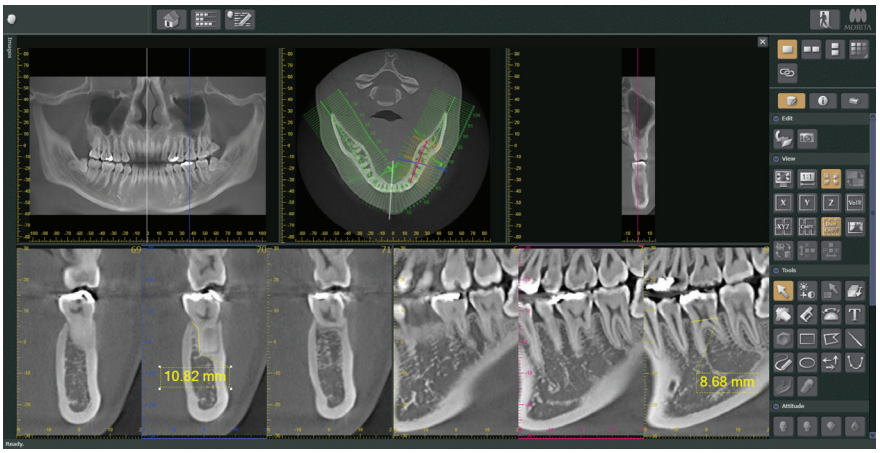




i-Dixel WEB

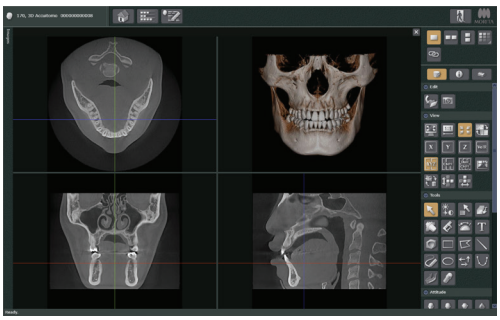
Freedom from platform and simplicity of design

i-Dixel WEB runs as a web service on an X-ray server PC included with your Morita X-ray system. It serves as a local and secure web-based dental image processing service that you can access throughout your practice on a wide range of devices.



No software installation needed

With the latest advancements in web technology, i-Dixel WEB gives you the freedom to view your images wherever you want and however you want. Gone are the days of complicated chairside PC setups, and limited choices of hardware. Mac OS X and even iPads can be used to view and edit data from a Morita X-ray system.



3D image processing

Even though i-Dixel WEB is a fully web-based system, the features you've come to expect are not compromised. View Morita's signature high quality images on the device of your choice!

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Implantology

Image 1a: Clinical photo at the initial examination

Case 1: Female patient referred for 3-dimensional analysis of an esthetic complication in the left maxillary incisor region (a).

The clinical status exhibits a mucosal recession as well as a flattening and discoloration of the facial mucosa at the implant crown. The patient complained about recurrent peri-implant infections.

*: Nasal palate tube

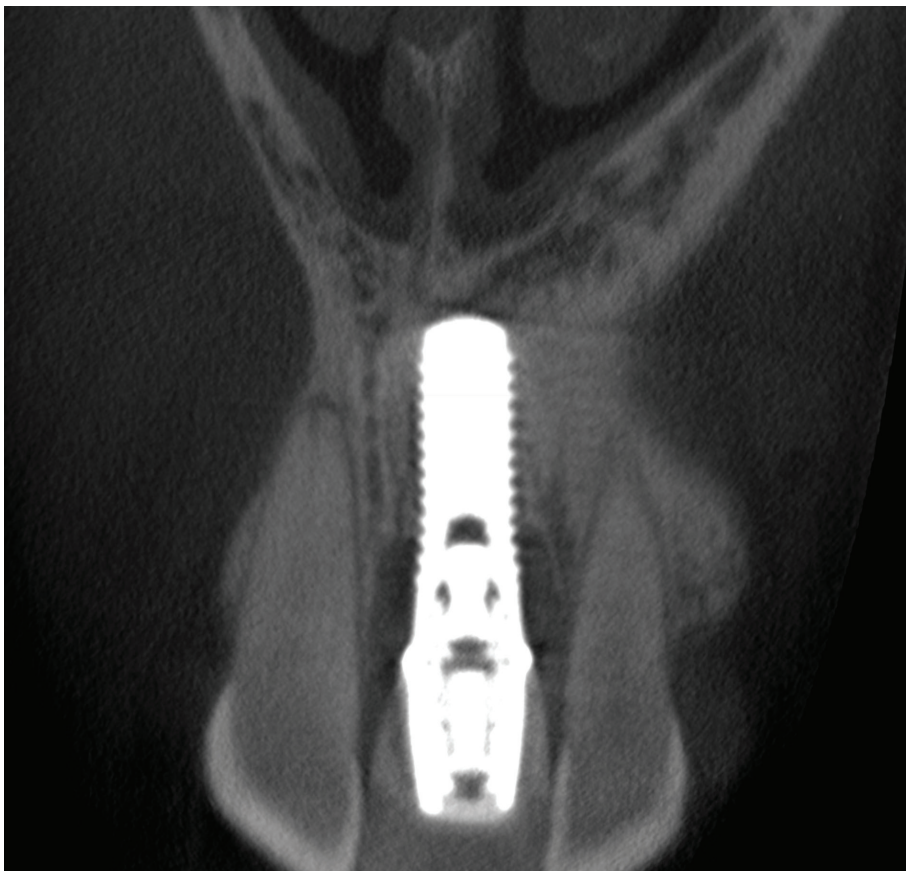


Image 1b: Coronal CBCT slice

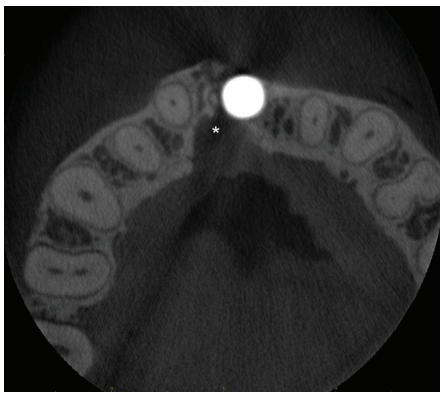


Image 1c: Axial CBCT slice

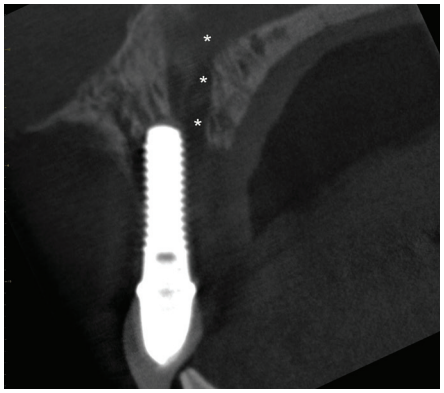


Image 1d: Sagittal CBCT slice

Case courtesy Prof. em. Dr. Daniel Buser, Clinic for oral surgery and somatology University Bern Prof. Dr. Michael Bornstein, Department of Oral Health & Medicine, University Center of Dental Medicine Basel UZB, University of Basel (Switzerland) and Honorary Professor in Oral and Maxillofacial Radiology, Faculty of Dentistry, The University of Hong Kong (Hong Kong SAR, China)

Periodontics

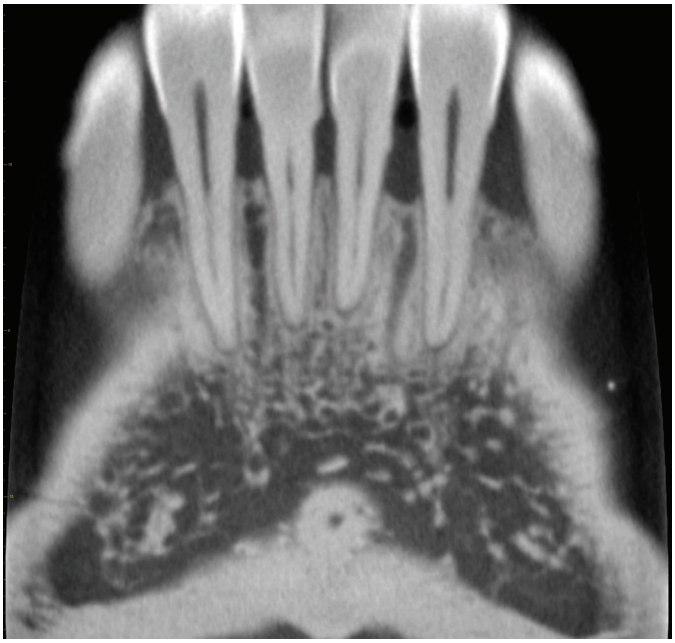


Image 2a: Para-coronal view

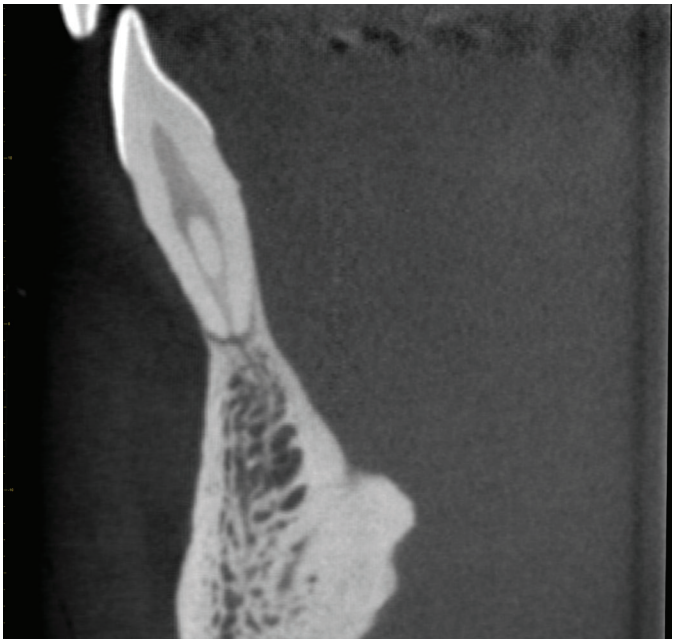


Image 2b: Cross-sectional view

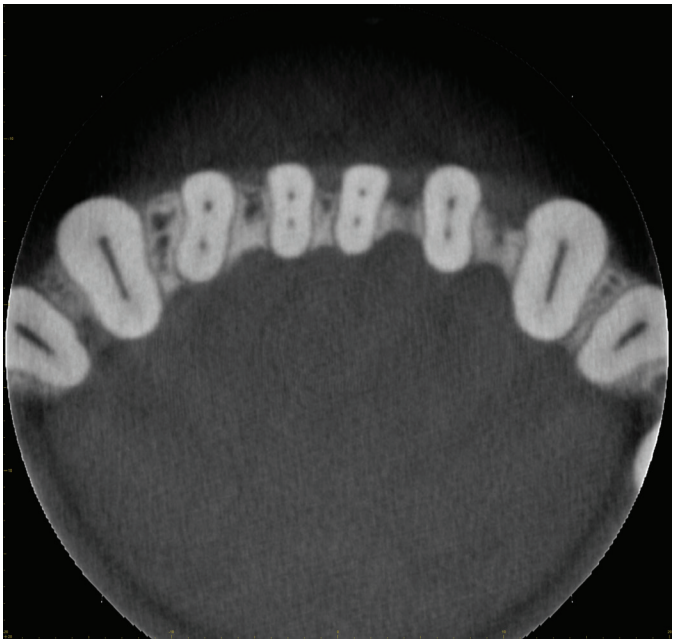


Image 2c: Axial view

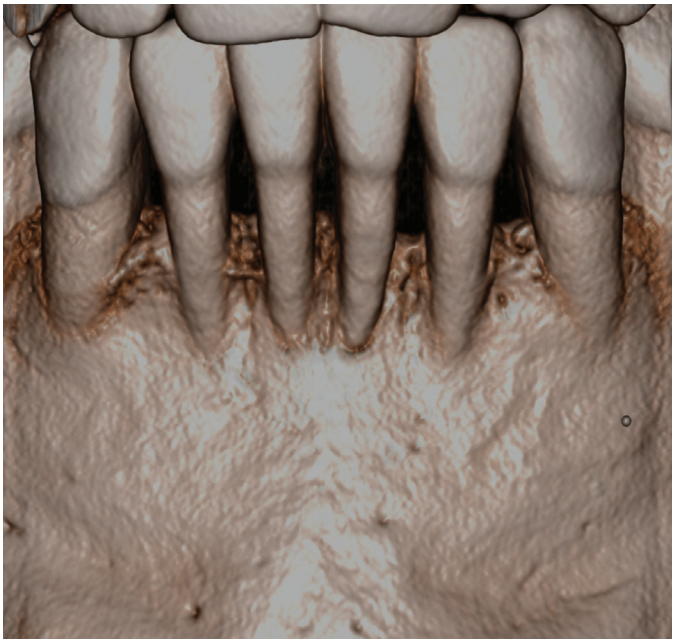


Image 2d: Volumetric Rendered view

An asymptomatic 51-year-old male presents with numerous complaints associated with the mandibular anterior teeth including unesthetic "black triangles" between the teeth, shrinking gums making the teeth look long and "loose". The patient reports an extensive dental history of periodontal bone loss and therapy. A 4 cm x 4 cm FOV at 0.08 nominal voxel size was acquired and para-coronal (a), cross-sectional (b), axial (c), and three dimensional volumetric rendered (d) images clearly show the presence of calculus on the mandibular central incisors and generalized alveolar peri-circumferential radiographic bone loss extending to the middle third of the root and beyond consistent with a diagnosis of Periodontitis Stage III, localized incisor pattern. The patient was referred to a periodontist for management.

Case courtesy, Drs William C. Scarfe and Gustavo Santaella, Louisville Kentucky

Endodontics

Image 3a: Cross-sectional view

Image 3b: Para-sagittal view

An asymptomatic 27-year-old female presents immediately after fixed orthodontic appliance therapy with bitewing imaging showing diffuse radiolucent increase in the middle third of the pulp chamber of the maxillary right canine compared to the contralateral side. An 8 cm x 8 cm FOV at 0.25 nominal voxel size was acquired and a suspicious opacification of the pulp canal of the maxillary right canine noted. A 4cm diameter "zoom reconstruction "was performed at a nominal 0.08 mm voxel resolution centered on the maxillary canine. Cross-sectional (a), and para-sagittal (b) images clearly identify dentin resorption on the mesio-palatal aspect of the root extending peri-circumferentially around the pulp canal and chamber and loss of the root continuity at the level of the cervical third of the root indicative of Class III invasive cervical resorption. The patient was referred to an endodontist for management.

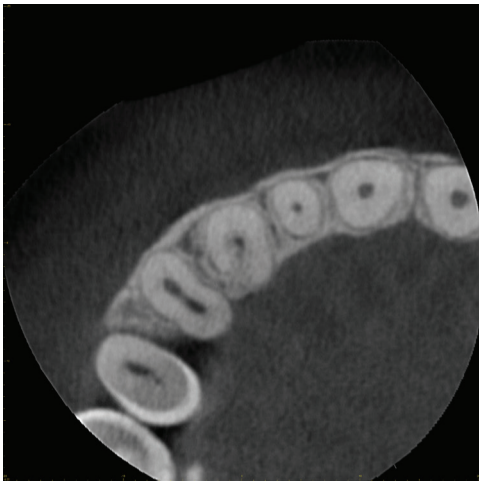


Image 4a: Axial view

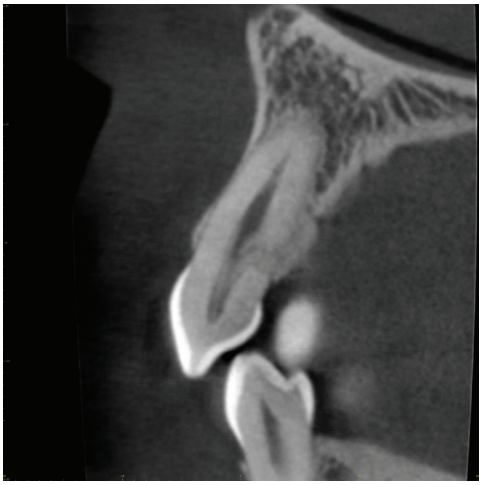


Image 4b: Cross-sectional view

A 24-year-old female presents with vague tooth sensitivity in the maxillary right region. Her dental history reveals active orthodontics more than 8 years previously involving extrusion of her right maxillary canine. Intraoral imaging is noncontributory. An 8 cm x 8 cm FOV at 0.25 nominal voxel size was acquired and a suspicious opacification of the pulp canal of the maxillary right canine noted. A 4cm diameter "zoom reconstruction "was performed at a nominal 0.08 mm voxel resolution centered on the maxillary canine and these indications are noted on axial (a) and magnified cross-sectional (b) images. This image serves as a baseline for periodic, limited field, high resolution CBCT imaging to determine progression.

Case courtesy, Drs William C. Scarfe and Gustavo Santaella, Louisville Kentucky

Oral Surgery

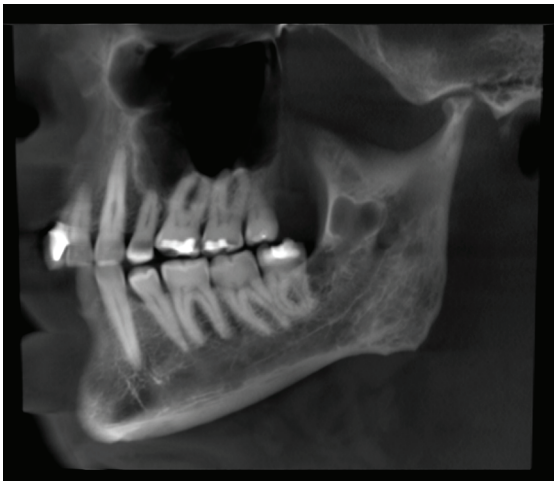


Image 5a: MPR Panoramic view

Image 5b: Para-sagittal view

An asymptomatic 56 year-year-old male presents with a history of incidental discovery of possible mandibular pathology in the left mandible on routine panoramic imaging taken 1 month previously. A 10 cm x 10 cm FOV at 0.25 nominal voxel size was acquired, A reformatted MPR panoramic (a), and para-sagittal (b) images clearly show a single, well-defined, corticated, irregularly-shaped bilobular low density lesion anterior to the lingula and mandibular foramen within the left ascending ramus with extension inferiorly through the intramedullary bone to include the entire alveolus posterior to the distal root of the left mandibular third molar. There is lingual cortical expansion but no perforation. The mandibular canal is intact throughout its course within the ramus and the mandible. The patient was referred to an oral surgeon and excisional biopsy reveals an odontogenic keratocyst.

Case courtesy, Drs William C. Scarfe and Gustavo Santaella, Louisville Kentucky

Image 6a: Axial view

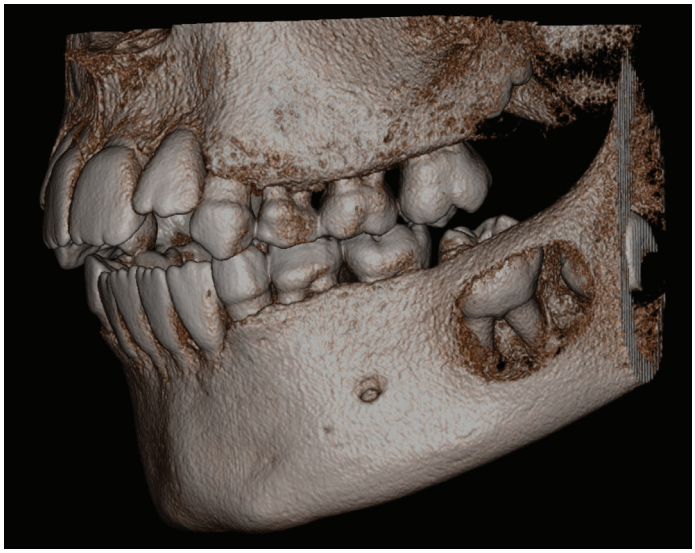


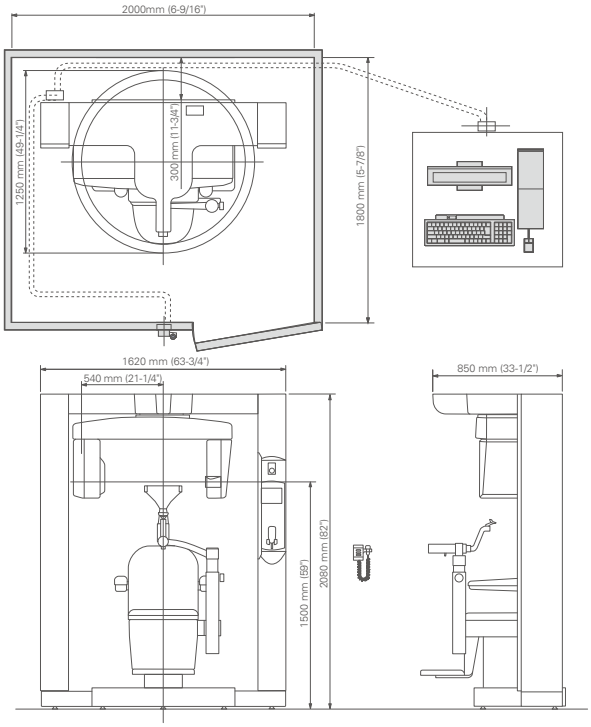
Image 6b: Volumetric Rendered view

Buccal bifurcation cyst. Buccal localization of the lesion with an extended resorption of the vestibular cortical plate and a periosteal reaction.

Case courtesy, Prof. Dr. Reinhilde Jacobs, Center for Dentomaxillofacial Imaging, University Hospitals Leuven and Department of Imaging & Pathology, OMFS-IMPATH Research Group, KU Leuven, Leuven, Belgium

Specifications

Trade Name:	3D Accuitomo
	XYZ Slice View Tomograph
Model:	MCT-1
Type:	EX1/2 F17
Power Supply:	AC 100/ 110/ 120 V
	AC 220/230/240 VAC
Power Consumption:	max 2.0 kVA
Dimensions:	
Main Unit:	W 1,620 mm x D 1,250 mm x H 2,080 mm
	(63-3/4″ x 49-1/4″ x 82″)
Control Box:	W 100 mm x D 40 mm x H 115 mm
	(4″ x 1-5/8″ x 4-1/2″)
Weight:	Approx. 400kg (Approx. 882lbs)
X-ray Head	
Tube Voltage:	60-90 kV
Tube Current:	1-10 mA
	(Max 8mA : Hi-Fi, Hi-Res Mode)
Focal Spot Size:	0.5
Exposure Time:	Std Mode: 17.5 / 9.0 sec
(360°/180°)	Hi-Fi Mode : 30.8 / 15.8 sec
	Hi-Res Mode : 30.8 / 15.8 sec
	Hi-Speed Mode : 10.5 / 5.4 sec
Field of View	ø40 x H 40 mm
	ø60 x H 60 mm
	ø80 x H 80 mm
	ø100 x H 50 mm
	ø100 x H 100 mm
	ø140 x H 50 mm
	ø140 x H 100 mm
	ø170 x H 120 mm
Voxel Size	80 µm / 125 µm / 160 µm / 250 µm



** X-ray protection should be provided for the patient when X-rays are emitted.*
** Design and specifications are subject to change without notification.*

Diagnostic and Imaging Equipment

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Subject to technical changes and errors.

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