5G XL

Cone Beam   3D Imaging

NewTom

what's next

5G XL

The NewTom 5G XL is the only CBCT with the patient in a lying down position that guarantees a combination of minimum X-ray exposure and unparalleled 3D image definition. It also allows 2D and X-ray video imaging. NewTom has now exceeded the limits posed by CT systems.

NewTom
Cone Beam 3D Imaging
what's next

Expanded potential, eXtra vision

Best diagnostic quality
Maximum-definition 3D examinations with multiple FOVs and 2D images.

Optimal lying down position
The only CBCT system with the patient positioned lying down, a motor-driven patient table and an open gantry.

Specialist software
A revolutionary interface makes image display easier and allows for formulation of an immediate diagnosis.

Minimum X-ray doses
EcoScan and SafeBeam™ modes safeguard patient health further by allowing diagnostic examinations to be performed with extremely low X-ray emissions.

5GXL

BEST DIAGNOSTIC QUALITY

CBCT TECHNOLOGY
NEW ONE-PIECE UNIT
NEW SENSOR
BROAD DIAGNOSTIC CAPACITY
DIAGNOSTIC SCREENING
DYNAMIC ANALYSIS (CINEX)

Best diagnostic quality

- "Native" high resolution CBCT technology (especially effective on bone tissue compared to CT)

- New high power rotating anode one-piece unit and smaller focal spot.

- New sensor with high S/N ratio (improved diagnostic quality on soft tissues with regard to CBCT, coming close to that achieved with CT).

- Broad diagnostic capacity thanks to multiple FOV suited to the various fields of application (orthopaedics for extremities and spinal column, Head&Neck - dental/maxillofacial/otorhinolaryngology- and Veterinary -extraFOV 21x28-)

- Diagnostic screening (Ray 2D).

- Dynamic analysis (CineX).

NewTom
Cone Beam 3D Imaging
what's next

5G **XL**

BEST DIAGNOSTIC QUALITY

CBCT TECHNOLOGY
NEW ONE-PIECE UNIT
NEW SENSOR
BROAD DIAGNOSTIC CAPACITY
DIAGNOSTIC SCREENING
DYNAMIC ANALYSIS (CINEX)

"Native" high resolution CBCT technology

(especially effective on bone tissue with respect to CT units)

Unlike its MSCT counterpart, CBCT technology can generate **ultra-high definition volumetric images of bone tissues**, with "native" isotropic voxel resolution, non-overlapping sections and fewer artifacts. A single cone beam scan instead of a fan beam spiral scan shortens examination times and considerably reduces X-ray exposure with respect to other CT technologies while cutting costs significantly.
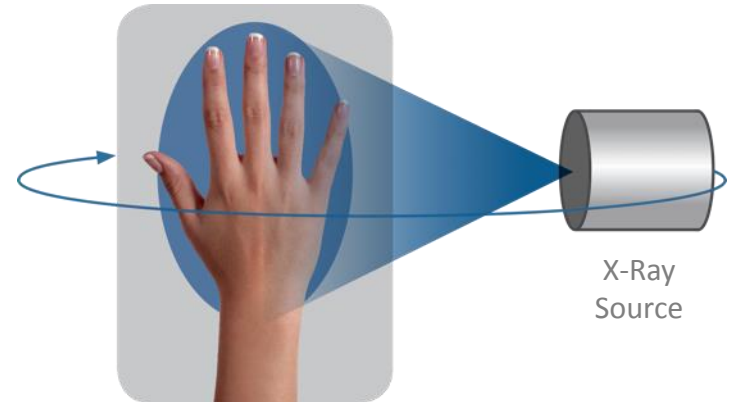
MSCT
(Multi Slice Computed Tomography)
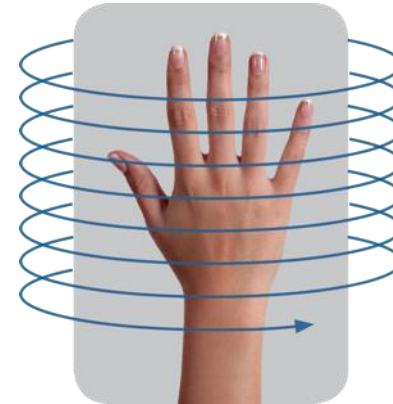
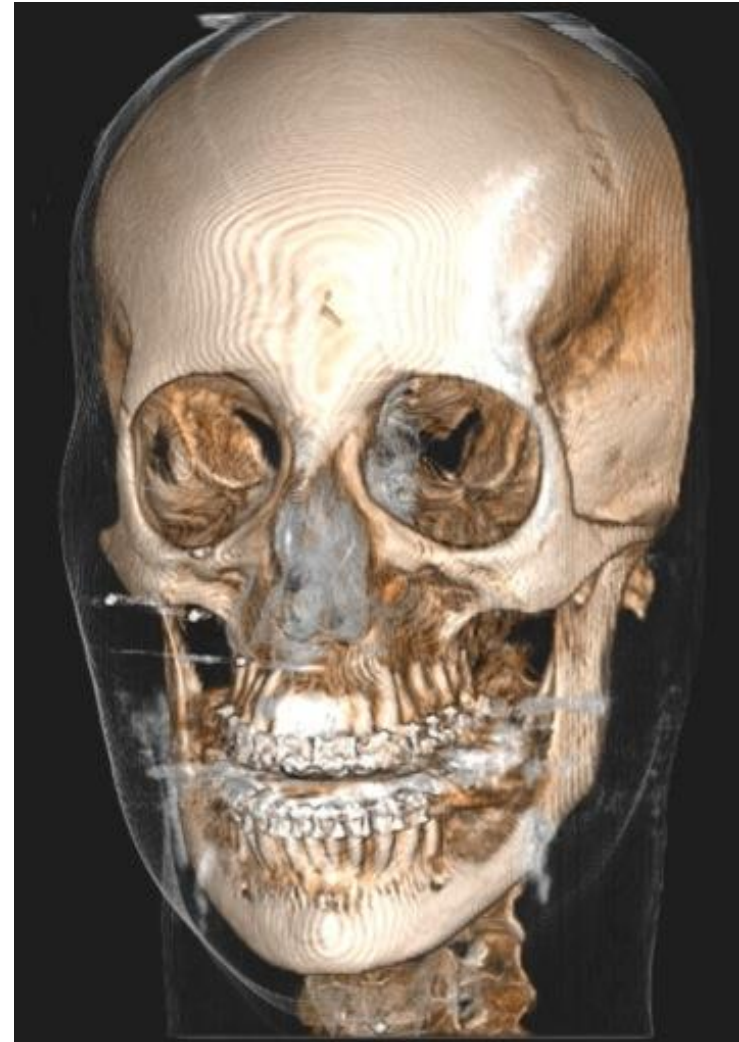Fan Beam X-ray

CBCT
(Cone Beam Computed Tomography)

X-Ray Source

Cone Beam X-ray

NewTom
Cone Beam 3D Imaging
what's next

5GXL

BEST DIAGNOSTIC QUALITY

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NEW SENSOR
BROAD DIAGNOSTIC CAPACITY
DIAGNOSTIC SCREENING
DYNAMIC ANALYSIS (CINEX)

New high power rotating anode one-piece unit and smaller focal spot

A new **high power** generator with rotating anode and a **small focal spot** (0.3 mm) that ensures energy emissions are always adapted to specific needs, thus maximising performance.

- High speed rotating anode: 10K rpm (vs. 3K rpm)

- Focal spot: 0.3 mm

- 110 kV 1-32 mA (vs 20 mA)

5GXL

BEST DIAGNOSTIC QUALITY | CBCT TECHNOLOGY
NEW ONE-PIECE UNIT
NEW SENSOR
BROAD DIAGNOSTIC CAPACITY
DIAGNOSTIC SCREENING
DYNAMIC ANALYSIS (CINEX)

New sensor with high S/N ratio

(improves diagnostic quality on soft tissues with regard to CBCT, coming close to that achieved with CT).

A **large Flat Panel detector** with **a high signal-to-noise ratio** improves image quality, broadening 3D and 2D diagnostic capacity (multiple extended and collimated 3D FOV, Ray2D and CineX) and making soft tissues even more homogeneous and discernible.

- extended FOV: 21x19 cm (vs. 18x16)

- Improved signal-to-noise ratio and frame-rate (useful for the 2D)

- Extended dynamics: native 16bit acquisition (vs. 14-bit)

NewTom
what's next
Cone Beam   3D Imaging

5G XL

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BROAD DIAGNOSTIC CAPACITY
DIAGNOSTIC SCREENING
DYNAMIC ANALYSIS (CINEX)

Broad diagnostic capacity thanks to multiple FOV adapted to the various fields of application

(orthopaedics for extremities and spinal column, Head&Neck - dental/maxillofacial/otorhinolaryngology- and Veterinary -extraFOV 21x28-)

Innovative volumetric reconstruction algorithms give complete control over the "image chain" while maximising diagnostic potential and minimising artifacts.

Excellent device accessibility allows multiple image acquisition protocols, from Ray2D examinations and joint dynamic studies using the CineX protocol to ultra-high resolution, in-depth 3D bone tissue 1:1-scale examinations.

The 3D FOV can be set via a field and limited to the zone of interest, measuring Ø6x6 cm, up to a native diameter of 21 cm or a height of 22 cm thanks to the innovative eXtraFOV function which permits analysis of longitudinal anatomic structures.

NewTom
Cone Beam 3D Imaging
what's next

5GXL

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DIAGNOSTIC
QUALITY

CBCT TECHNOLOGY
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NEW SENSOR
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DIAGNOSTIC SCREENING
DYNAMIC ANALYSIS (CINEX)

Broad diagnostic capacity thanks to multiple FOV adapted to the various fields of application

(orthopaedics for extremities and spinal column, Head&Neck - dental/maxillofacial/otorhinolaryngology- and Veterinary -extraFOV 21x28-)

The HiRes mode provides images packed with information, essential for highlighting bone micro-fractures and examining anatomical regions with micrometric details.

360° scan capacity allows acquisition of the entire volume with a single rotation, providing a complete dataset of axial, coronal and sagittal images and 3D renderings, suitable for several clinical applications.

The outstanding diagnostic quality of the 5G XL proves useful in multiple medical and veterinary fields. In addition to examination of dental-maxillofacial pathologies and relative surgical or follow-up planning, it is also possible to examine the internal ear, fully analyse airways and maxillary sinuses and diagnose chronic or traumatic pathologies involving bones, joints and the spinal column for more in-depth orthopaedic investigation, also in emergency rooms.

5GXL

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DYNAMIC ANALYSIS (CINEX)

Broad diagnostic capacity thanks to multiple FOV adapted to the various fields of application

FOV	MODES			
	Eco	Standard	Boosted	HiRes
21 x 19 cm	•	•	•	
18 x 16 cm	•	•	•	
15 x 22 cm **eFOV**	•	•	•	
15 x 12 cm	•	•	•	
15 x 5 cm	•	•	•	•
12 x 8 cm	•	•	•	•
10 x 10 cm	•	•	•	•
10 x 5 cm	•	•	•	•
8 x 8 cm	•	•	•	•
8 x 5 cm	•	•	•	•
6 x 6 cm	•	•	•	•

NewTom what's next

5GXL

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DIAGNOSTIC SCREENING
DYNAMIC ANALYSIS (CINEX)

Broad diagnostic capacity thanks to multiple FOV adapted to the various fields of application

Upper limbs
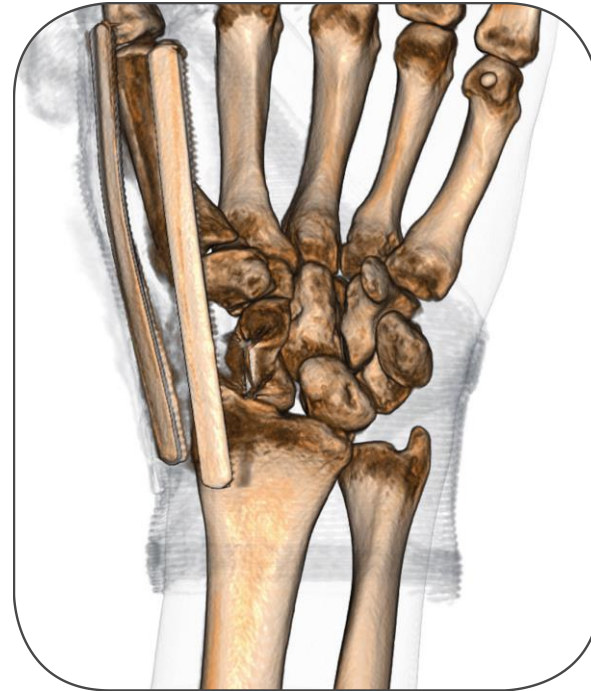
5G XL

BEST DIAGNOSTIC QUALITY

CBCT TECHNOLOGY
NEW ONE-PIECE UNIT
NEW SENSOR
BROAD DIAGNOSTIC CAPACITY
DIAGNOSTIC SCREENING
DYNAMIC ANALYSIS (CINEX)

Broad diagnostic capacity thanks to multiple FOV adapted to the various fields of application

Lower limbs

5G XL

BEST
DIAGNOSTIC
QUALITY

CBCT TECHNOLOGY
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BROAD DIAGNOSTIC CAPACITY
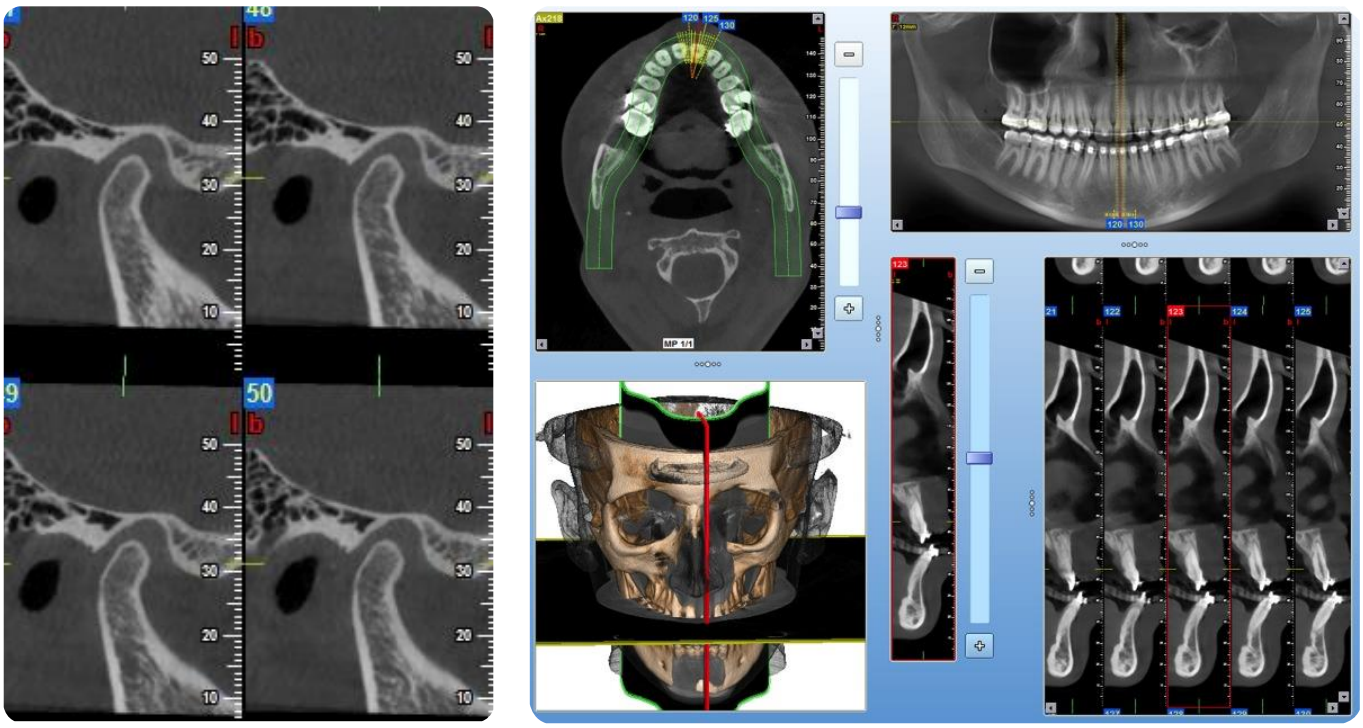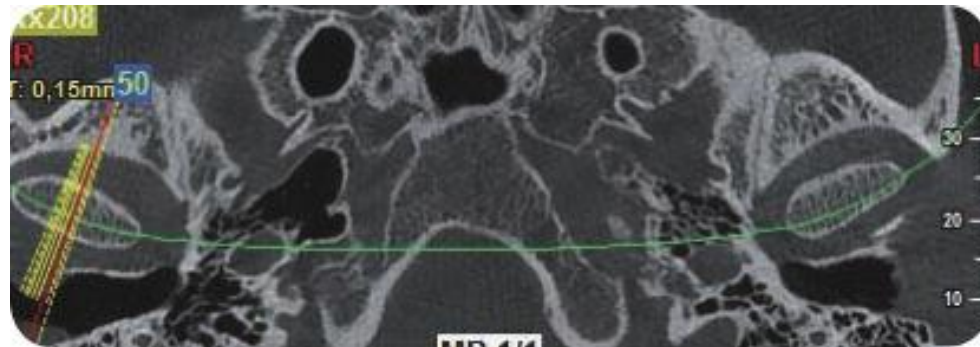DIAGNOSTIC SCREENING
DYNAMIC ANALYSIS (CINEX)

Broad diagnostic capacity thanks to multiple FOV adapted to the various fields of application

Head & Neck

5GXL

BEST DIAGNOSTIC QUALITY

CBCT TECHNOLOGY
NEW ONE-PIECE UNIT
NEW SENSOR
BROAD DIAGNOSTIC CAPACITY
DIAGNOSTIC SCREENING
DYNAMIC ANALYSIS (CINEX)

Broad diagnostic capacity thanks to multiple FOV adapted to the various fields of application

Head & Neck

5GXL

BEST
DIAGNOSTIC
QUALITY

CBCT TECHNOLOGY
NEW ONE-PIECE UNIT
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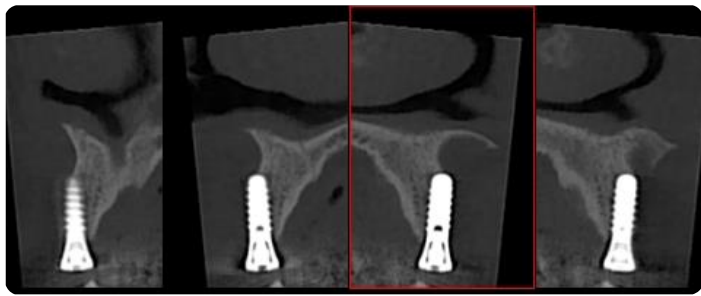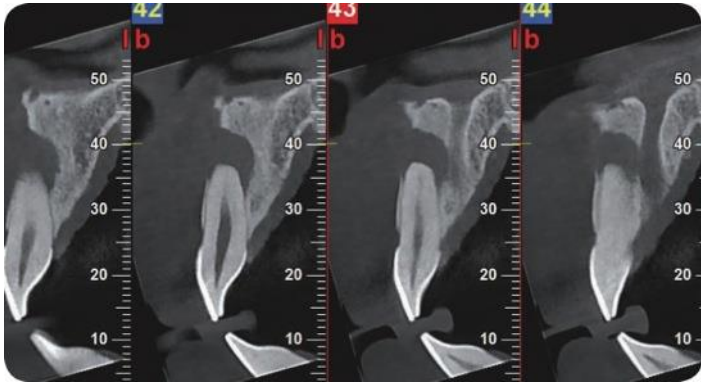DIAGNOSTIC SCREENING
DYNAMIC ANALYSIS (CINEX)

Broad diagnostic capacity thanks to multiple FOV adapted to the various fields of application

Head & Neck

5GXL

BEST DIAGNOSTIC QUALITY

CBCT TECHNOLOGY
NEW ONE-PIECE UNIT
NEW SENSOR
BROAD DIAGNOSTIC CAPACITY
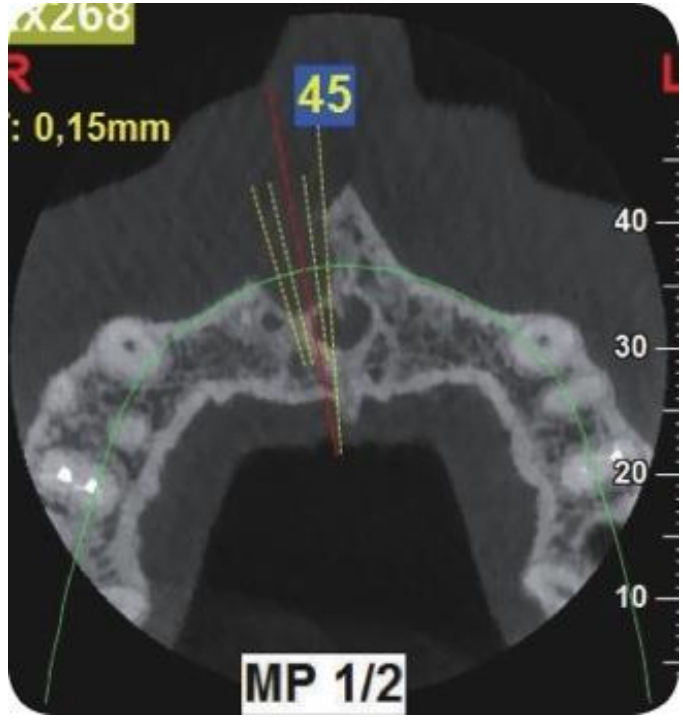DIAGNOSTIC SCREENING
DYNAMIC ANALYSIS (CINEX)

Broad diagnostic capacity thanks to multiple FOV adapted to the various fields of application

Head & Neck

5GXL

BEST
DIAGNOSTIC
QUALITY

CBCT TECHNOLOGY
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NEW SENSOR
BROAD DIAGNOSTIC CAPACITY
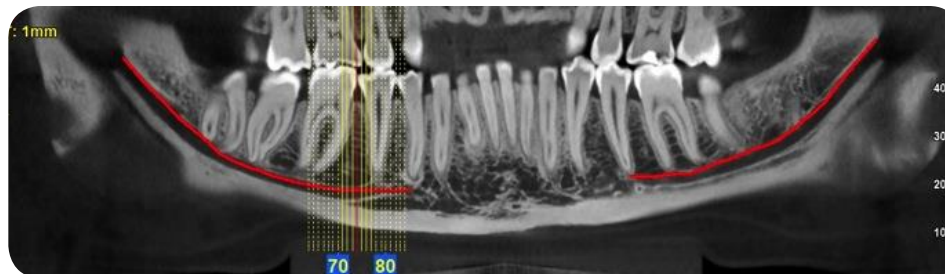DIAGNOSTIC SCREENING
DYNAMIC ANALYSIS (CINEX)

Broad diagnostic capacity thanks to multiple FOV adapted to the various fields of application

Head & Neck

5GXL

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DIAGNOSTIC
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NEW ONE-PIECE UNIT
NEW SENSOR
BROAD DIAGNOSTIC CAPACITY
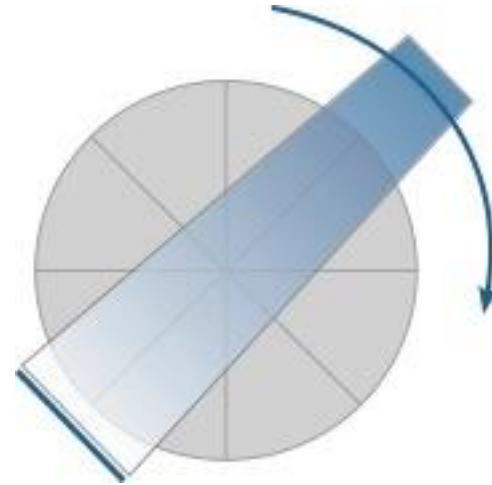**DIAGNOSTIC SCREENING**
DYNAMIC ANALYSIS (CINEX)

2D imaging: Ray 2D MED

An innovative function that provides 2-dimensional X-ray images measuring 18x19 cm, suitable for initial examination or post-surgery follow-ups. Investigation is possible from various angles. These can be selected prior to examination to obtain an image from an optimal viewpoint.

Technical specifications:

- FOV: 18x19 cm (WxH) *

- X-ray parameters:

- 75 kV (fixed)

- from 1 to 70 mA (selectable)

- Exposure time: from 10 to 500 ms (every10 ms)

- X-ray tube positioning: selectable every 45°

- Format: DICOM or JPEG

with target positioned at the centre of the rotation area of the device

5GXL

BEST DIAGNOSTIC QUALITY

CBCT TECHNOLOGY
NEW ONE-PIECE UNIT
NEW SENSOR
BROAD DIAGNOSTIC CAPACITY
DIAGNOSTIC SCREENING
DYNAMIC ANALYSIS (CINEX)

2D IMAGING: RAY 2D VET

5GXL

BEST DIAGNOSTIC QUALITY | CBCT TECHNOLOGY
NEW ONE-PIECE UNIT
NEW SENSOR
BROAD DIAGNOSTIC CAPACITY
DIAGNOSTIC SCREENING
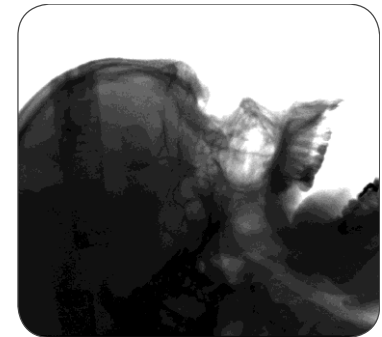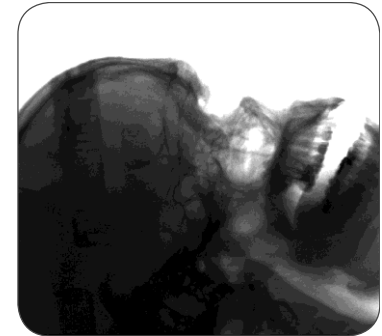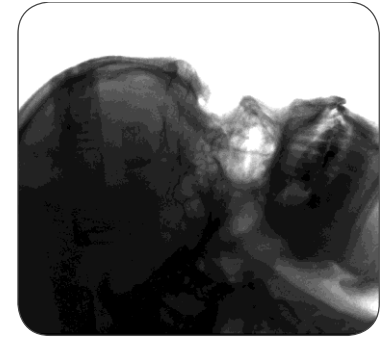**DYNAMIC ANALYSIS (CINEX)**

Dynamic Radiology: Cinex

Innovative function characterised by the dynamic acquisition of a sequence of X-ray images stored as video; this allows for the investigation of moving anatomical structures. Thanks to an 18x19 cm on-patient filming area, CineX can be used to study salivary ducts, joint mobility and:
- joint flexing/extension movement
- TMJ and meniscus mobility with radiocontrast agent

Special software allows users to select the acquisition time and check alignment of the region of interest via a scout image.

Technical specifications:

- FOV: 18x19 cm fixed

- EXAMINATION TIME: 1-36 s (stop at any moment)

- FRAME-RATE: 20 fps (up to 18s) - 10fps (over 18s)

- EXPOSURE TIME 10ms x number of acquired images

- SOFTWARE REPOSITIONING: 1 scout image

- Format: DICOM, NNT

NewTom
what's next

5G XL

| OPTIMAL LYING DOWN POSITION | FEWER MOVEMENT-INDUCED ARTIFACTS
MOTOR-DRIVEN PATIENT TABLE
SUITABLE FOR SLEEP APNEA INVESTIGATIONS
SUITABLE FOR VETERINARY APPLICATIONS |

Optimal lying down position

- Fewer movement-induced artifacts and greater comfort for sedated/post-surgery/traumatised/patients, also where radiocontrast agents are used.

- Motor-driven patient table for automatic alignment.

- Suitable for sleep apnea investigations.

- Suitable for Veterinary applications ("patient" always sedated).

NewTom
Cone Beam 3D Imaging
what's next

5GXL

OPTIMAL
LYING DOWN
POSITION

FEWER MOVEMENT-INDUCED ARTIFACTS
MOTOR-DRIVEN PATIENT TABLE
SUITABLE FOR SLEEP APNEA INVESTIGATIONS
SUITABLE FOR VETERINARY APPLICATIONS

Fewer movement-induced artifacts and greater patient comfort

The patient table is ideal for X-raying **sedated, post-surgery or traumatised patients, also with a radiocontrast agent**. Reconstructed images are less subject to movement-induced artifacts and examination does not require the use of restraining devices, thus ensuring **total comfort**.

The **open gantry** minimises any sensation of claustrophobia or anxiety. Where the clinical application so requires, it is also possible to carry out examinations with the patient seated on the side opposite the patient table.

5GXL

OPTIMAL
LYING DOWN
POSITION

FEWER MOVEMENT-INDUCED ARTIFACTS
MOTOR-DRIVEN PATIENT TABLE
SUITABLE FOR SLEEP APNEA INVESTIGATIONS
SUITABLE FOR VETERINARY APPLICATIONS

Motor-driven patient table for automatic alignment

The NewTom 5G XL is characterised by a **motor-driven patient table made of carbon fibre**, controlled via a panel on the machine or via the PC. The patient table adapts perfectly to all acquisition requirements, ensuring correct patient positioning in a prone or supine, cranial-caudal or caudal-cranial position.

This perfect combination of performance ensures maximum results.

The positioning and lock device has specifically been designed for the various dental and medical disciplines. The user-friendly control panel allows for easy 3-axis movement of the patient table, allowing easy patient entry into the scan area.

The alignment lasers activated via the instrument panel provide exact references for the area of interest.

Assisted alignment occurs via the acquisition of two scout images. Correct positioning is ensured by automatic adjustment of the motor-driven patient table by acting directly on scout images from the workstation.

5GXL

OPTIMAL
LYING DOWN
POSITION

FEWER MOVEMENT-INDUCED ARTIFACTS
MOTOR-DRIVEN PATIENT TABLE
SUITABLE FOR SLEEP APNEA INVESTIGATIONS
SUITABLE FOR VETERINARY APPLICATIONS

Suitable for sleep apnea investigations.

3D examinations with the patient lying down are particularly suitable for the investigation of pathologies associated with sleep apnea.

5G XL

OPTIMAL
LYING DOWN
POSITION

FEWER MOVEMENT-INDUCED ARTIFACTS
MOTOR-DRIVEN PATIENT TABLE
SUITABLE FOR SLEEP APNEA INVESTIGATIONS
SUITABLE FOR VETERINARY APPLICATIONS

Suitable for Veterinary applications ("patient" always sedated)

Veterinary: extraFOV 21x28 for full-body scans of small animals

5G XL

SPECIALIST SOFTWARE

"NATIVE" VOLUMETRIC RECONSTRUCTION ALGORITHMS
SOFTWARE MODULES
IMAGE PROCESSING
COMPLETE CONNECTIVITY

Specialist software

- "Native" volumetric reconstruction algorithms.

- Specific NNT software modules for DENT, MED and VET.

- Specific image processing for DENT, MED and VET.

- Complete connectivity (DICOM3.0-IHE).

5GXL

SPECIALIST SOFTWARE

"NATIVE" VOLUMETRIC RECONSTRUCTION ALGORITHMS
SOFTWARE MODULES
IMAGE PROCESSING
COMPLETE CONNECTIVITY

"Native" volumetric reconstruction algorithms

**Maximum diagnostic efficiency
(image quality/time to obtain image)**

Experience in native volumetric reconstruction algorithms and advanced image filters allows optimisation of final quality, reduces any artifacts and minimises reconstruction times.
All with full control of the diagnostic image.

5GXL

SPECIALIST
SOFTWARE

"NATIVE" VOLUMETRIC RECONSTRUCTION ALGORITHMS
SOFTWARE MODULES
IMAGE PROCESSING
COMPLETE CONNECTIVITY

Specific NNT software modules for DENT, MED and VET

The software allows adaptation of the work interface according to the specific requirements of the radiologist or specialist physician.

It is extremely simple to analyse images in compliance with required display standards thanks to dedicated analysis functions.

NewTom's experience in native volumetric reconstruction algorithms and advanced image filters allows optimisation of final quality, reducing artifacts and reconstruction times. All with full control of the diagnostic image.

5GXL

SPECIALIST SOFTWARE	"NATIVE" VOLUMETRIC RECONSTRUCTION ALGORITHMS
	SOFTWARE MODULES
	IMAGE PROCESSING
	COMPLETE CONNECTIVITY

Specific NNT software modules for DENT, MED and VET

Selects the most suitable modules from among the following:

•Dental and maxillofacial surgery

•X-ray and maxillofacial imaging centre

•Medical specialities

•Veterinary applications

NewTom
what's next

5GXL

SPECIALIST
SOFTWARE

"NATIVE" VOLUMETRIC RECONSTRUCTION ALGORITHMS
SOFTWARE MODULES
IMAGE PROCESSING
COMPLETE CONNECTIVITY
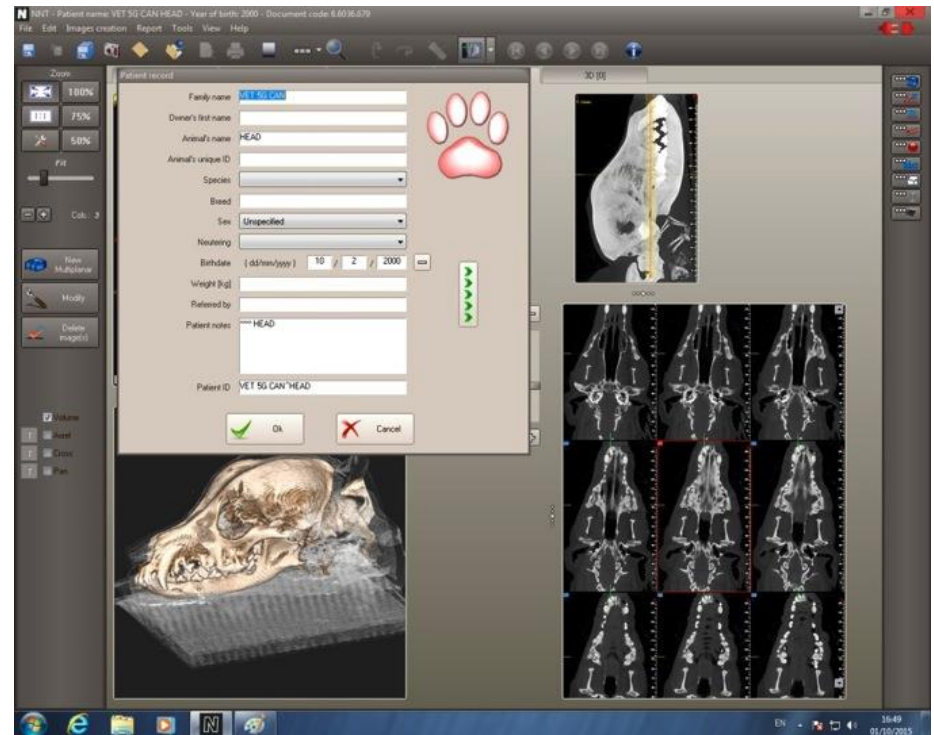
Specific image processing for DENT, MED and VET

Software able to handle a multitude of data

Powerful software allows processing of various data types (2D, 3D images and X-ray videos) as well as the tracing and measuring of anatomical structures.

3D: "Native" CBCT technology makes it possible to select the different application modes. The multiple FOV and settable parameters have been tailor-made for specialists in a variety of applications. The 3D image display tool allows analysis with MPR (MED-LIKE) and 3D rendering views by applying advanced filters that improve and simplify formulation of diagnosis and treatment planning.

The software features an application for implant planning to ensure safe, precise treatment. It's also possible to carry out qualitative analysis of the bone tissue thanks to indication of the value, on the Hounsfield scale, of the selected part.

Specific image processing for DENT, MED and VET

CINEX: NewTom 5G XL offers customers the CineX function, characterised by the dynamic acquisition of a sequence of X-ray images that are stored as video; this allows for the investigation of moving anatomical structures. This function, thanks to a 19x17 on-patient filming area, can be used to study the saliva ducts, joint mobility, pathologies linked to the mobility of the temporomandibular joint and to assess vertebral extension. A dedicated software menu lets users:
- select the acquisition position (AP or LL);
- select the acquisition time;
 - check alignment of the area of interest with a scout image.
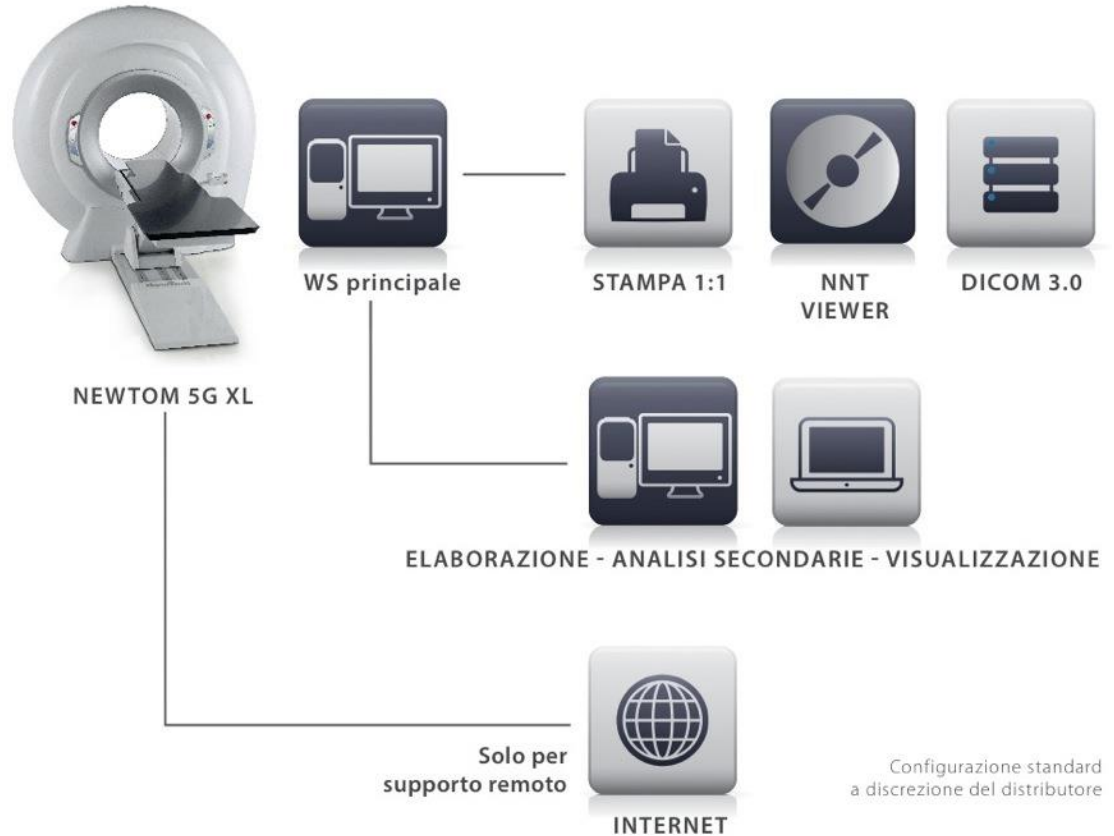
RAY 2D: The RAY 2D protocol provides 2D images suitable for initial screening or surgery follow-up checks. The device sensor can be positioned at any angle to allow attainment, with just one exposure, of a 2D image of the area of interest.

5G XL

SPECIALIST SOFTWARE | "NATIVE" VOLUMETRIC RECONSTRUCTION ALGORITHMS
SOFTWARE MODULES
IMAGE PROCESSING
COMPLETE CONNECTIVITY

Complete connectivity (DICOM3.0-IHE)

Total connectivity

2D and 3D images and videos can be saved in personalised reports or distributed using the NNT Viewer version of the software. It is just as easy to share images with third party software.

Moreover, thanks to a comprehensive interface with DICOM 3.0 (IHE) communication standards, compatibility of obtained images is guaranteed. Simplifies and speeds up device communication with hospital storage and management systems.

NEWTOM 5G XL

WS principale — STAMPA 1:1 — NNT VIEWER — DICOM 3.0

ELABORAZIONE - ANALISI SECONDARIE - VISUALIZZAZIONE

Solo per supporto remoto — INTERNET

Configurazione standard a discrezione del distributore

5GXL

MINIMUM
X-RAYS
DOSES

"NATIVE" CBCT TECHNOLOGY
VARIABLE COLLIMATION
LOW-EMISSION SCAN PROTOCOLS
SAFEBEAM TECHNOLOGY
SCREENING OPPORTUNITIES

Minimum X-ray doses

- "Native" CBCT technology with lower doses and more effective resolution on bone tissues with respect to CT technology

- Variable collimation to limit exposure to regions of interest only.

- Low emissions scan protocols (ECOscan) for post-surgery follow-ups and paediatric applications.

- Safebeam technology (automatic recognition of patient type to prevent overexposure).

- Low-dose diagnostic screening opportunities (Ray 2D).

NewTom
Cone Beam   3D Imaging
what's next

"Native" CBCT technology with lower doses and more effective resolution on bone tissues with respect to CT technology

CBCT technology ensures X-ray doses up to 10 times lower than those emitted by MSCT, with better diagnostic quality on bone tissues. A dose comparable to two 2D X-rays (AP and LL) generally needed for an initial examination.

5GXL

MINIMUM
X-RAYS
DOSES

"NATIVE" CBCT TECHNOLOGY
VARIABLE COLLIMATION
LOW-EMISSION SCAN PROTOCOLS
SAFEBEAM TECHNOLOGY
SCREENING OPPORTUNITIES
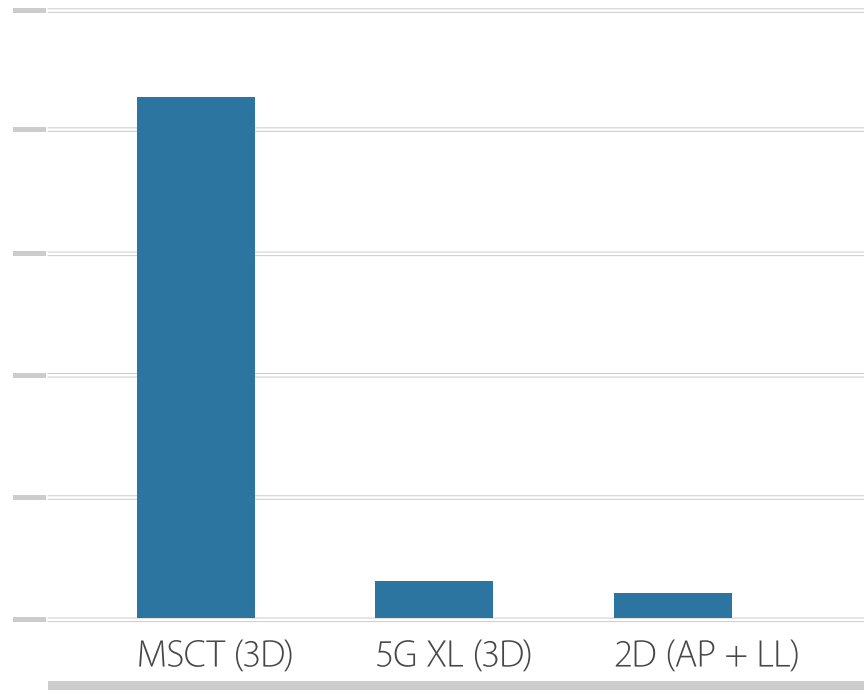
Variable collimation to limit exposure to regions of interest only.

More specifically, the NewTom 5G XL adopts a **high power generator with high filtration** that protects against more harmful low energy radiation; also, thanks to the use of **pulsed emissions**, the X-ray source is activated optimally during scanning for an extremely limited time. Moreover, **variable collimation** makes it possible to limit exposure to regions of interest only.

5G XL

MINIMUM
X-RAYS
DOSES

"NATIVE" CBCT TECHNOLOGY
VARIABLE COLLIMATION
LOW-EMISSION SCAN PROTOCOLS
SAFEBEAM TECHNOLOGY
SCREENING OPPORTUNITIES

Low emissions scan protocols (ECOscan) for post-surgery follow-ups and paediatric applications.

NewTom 5G XL features low emissions scan protocols (**ECOscan**) for post-surgery follow-ups and paediatric applications.
Utilisation of pulsed emissions means that the X-ray source is only activated when necessary, with standard examination ray emission lasting just 1.2 seconds.

5GXL

MINIMUM
X-RAYS
DOSES

"NATIVE" CBCT TECHNOLOGY
VARIABLE COLLIMATION
LOW-EMISSION SCAN PROTOCOLS
SAFEBEAM TECHNOLOGY
SCREENING OPPORTUNITIES

Safebeam Technology

(automatic recognition of patient type to prevent overexposure).

SafeBeam™ technology automatically adapts exposure according to the patient's build, thus eliminating any risk of overestimated dosages and ensuring maximum quality.

5GXL

MINIMUM
X-RAYS
DOSES

"NATIVE" CBCT TECHNOLOGY
VARIABLE COLLIMATION
LOW-EMISSION SCAN PROTOCOLS
SAFEBEAM TECHNOLOGY
SCREENING OPPORTUNITIES

Low-dose diagnostic screening opportunities (Ray 2D)

Low-dose diagnostic screening opportunities (Ray 2D). To obtain correct formulation of certain diagnoses, it is possible to start with a Ray2D screening and only then proceed (where necessary and/or only in the area where doubts remain) with a high resolution volumetric exam to assess every minimum detail, localized within the region of interest only without necessarily having to scan an extensive area.

Cone Beam   3D Imaging

NewTom

what's next