PLANMECA

Planmeca ProMax® 3D Mid

Genuine all-in-one unit

Planmeca ProMax® 3D Mid is a genuine all-in-one CBCT (Cone Beam Computed Tomography) unit including 3D imaging, digital panoramic, digital cephalometric and 3D photo, all in the same unit. One intelligent X-ray unit can meet virtually any need in maxillofacial imaging.

Adjustable volume sizes, resolution modes

Planmeca ProMax 3D Mid complies with a multitude of diagnostic requirements: those of implantology, endodontics, periodontics, orthodontics, as well as dental and maxillofacial surgery, and TMJ analysis. It is also an excellent tool for diagnosing ear, maxillary sinus, and respiratory tract diseases.

Planmeca ProMax 3D Mid provide volumes sizes for every clinical application with possibility to adjust volume position according to acquired scout images.
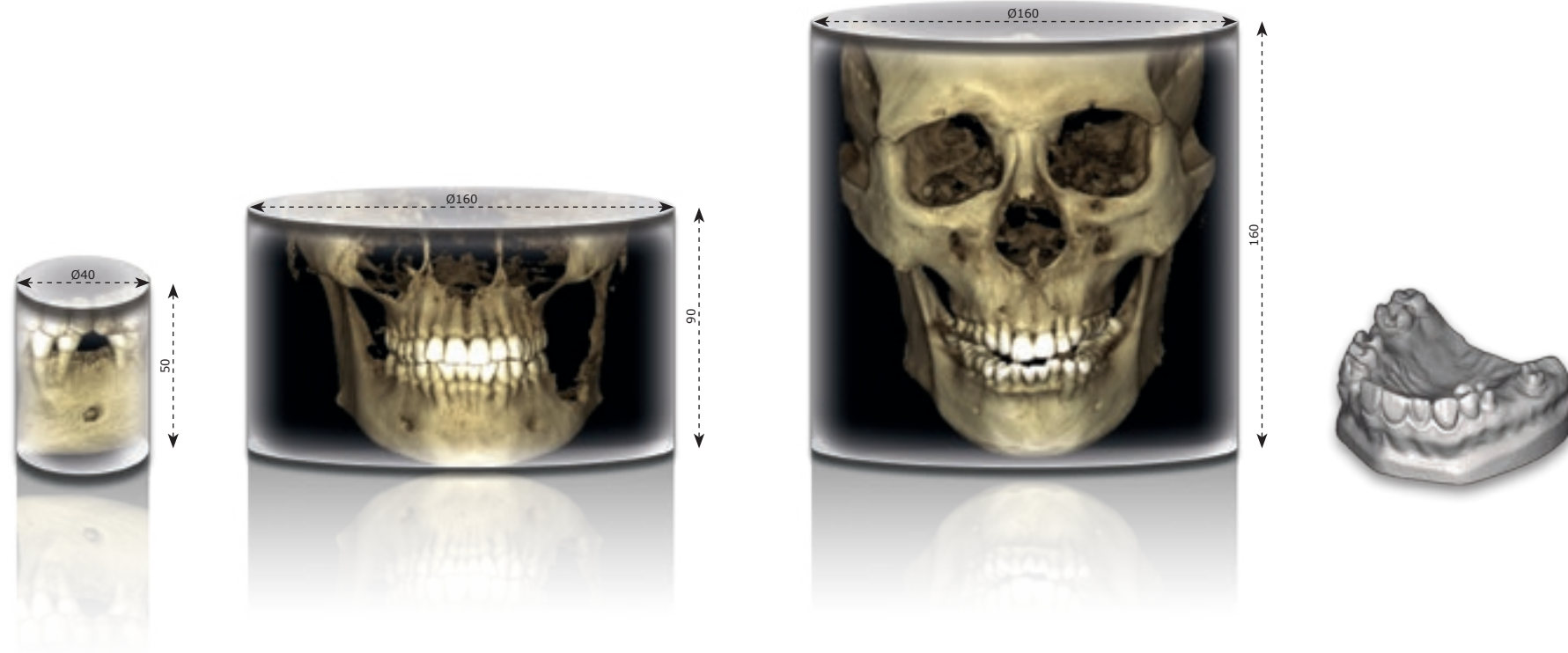
Wide volume selection

Wisdom tooth extraction

Surgical case

Versatile volume sizes

The 3D image volume range covers everything between single tooth and whole facial region. The smallest Ø34 x 42 mm volume is intended e.g. for molar area where the largest Ø160 x 160 mm volume size gives overview of the whole facial area e.g. for orthodontic applications. For every volume size, different resolution modes are available: high, normal and low dose resolutions.

High resolution, low dose

Planmeca ProMax® 3D Mid offers different imaging modes for different needs. The high resolution mode gives very high resolution, but with the cost of higher dose. The low dose mode can be used for example in orthodontic studies. A special high definition program is developed for imaging of small size ear bones. The unit also offers a special program for scanning impressions and plaster casts.

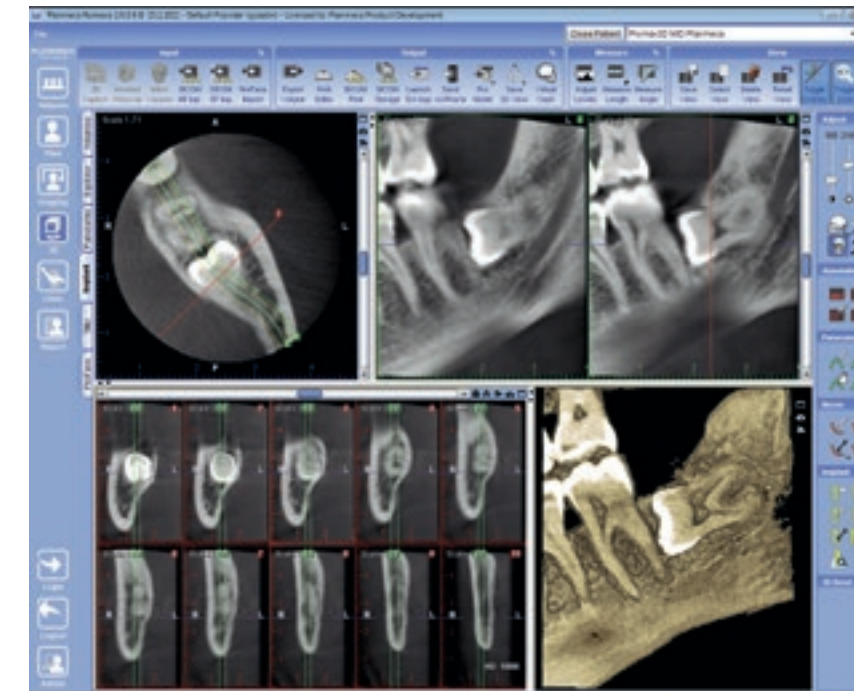### ROI reconstruction for higher resolution

The ROI (Region of Interest) reconstruction function can generate a new small voxel volume from the image data of a previously taken large voxel volume. This enables more precise diagnosis without producing any extra dose for the patient.
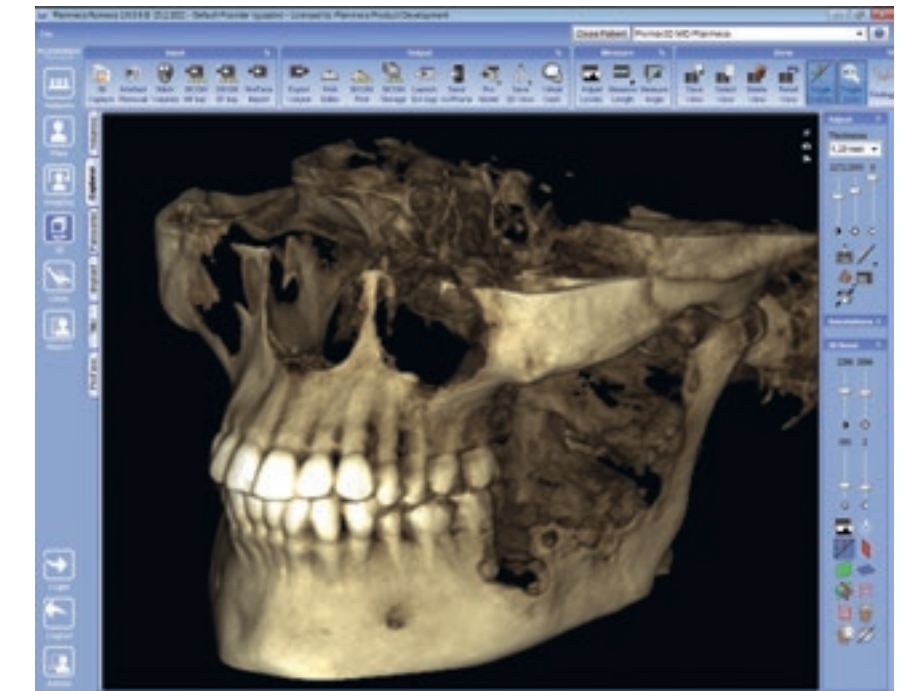
Dental programs

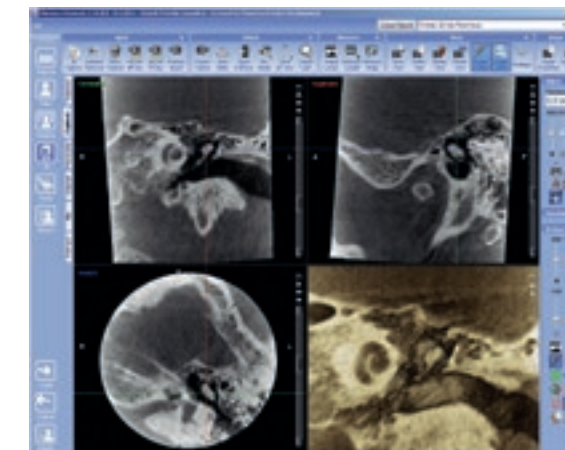| Program	Volume size (child mode)
Tooth	Ø40 x 50 mm (Ø34 x 42 mm) Ø40 x 70 mm (Ø34 x 60 mm)
Teeth	Ø70 x 50 mm (Ø60 x 42 mm) Ø70 x 70 mm (Ø60 x 60 mm) Ø90 x 50 mm (Ø75 x 42 mm) Ø90 x 90 mm (Ø75 x 75 mm)
Jaw	Ø160 x 50 mm (Ø160 x 50 mm) Ø160 x 90 mm (Ø160 x 90 mm)
Face	Ø160 x 160 mm (Ø160 x 160 mm)

ENT (Ear, Nose, Throat) programs

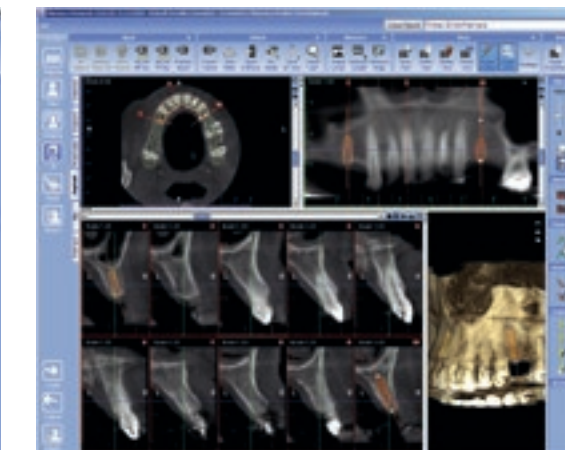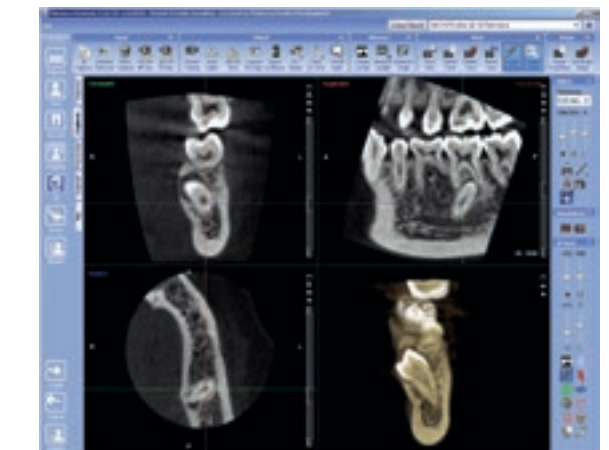| Program	Volume size (child mode)
Sinus	Ø90 x 90 mm Ø90 x 160 mm Ø160 x 90 mm Ø160 x 160 mm
Middle ear	Ø40 x 50 mm (Ø34 x 42 mm) Ø70 x 70 mm (Ø60 x 60 mm)
Temporal bone	Ø70 x 70 mm (Ø60 x 60 mm)
Vertebrae	Ø70 x 70 mm (Ø60 x 60 mm)
Airways	Ø70 x 70 mm (Ø60 x 60 mm)

Middle ear study

Implant case

Retired premolar

Planmeca Romexis® for accurate diagnosis

Implant planning made easy

Planmeca Romexis allows easy planning and verification of implant placement using realistic implant models from several manufacturers. A soft tissue surface scan and crown design can be imported and superimposed with 3D X-ray data providing a perfect environment for implant planning. The virtual treatment plan can be used to place an order for a Materialise Dental SurgiGuide® drill guide that can be used to deliver your treatment plan exactly as designed.

Planmeca Romexis® Surface module allows viewing and processing surface models captured using the Planmeca ProMax 3D impression scan program or imported in STL format from other sources such as desktop scanners. Before and after model comparisons can be performed and the degree of change displayed in a color map. Surface models can be superimposed with CBCT data providing soft tissue information to aid in implant planning for example.
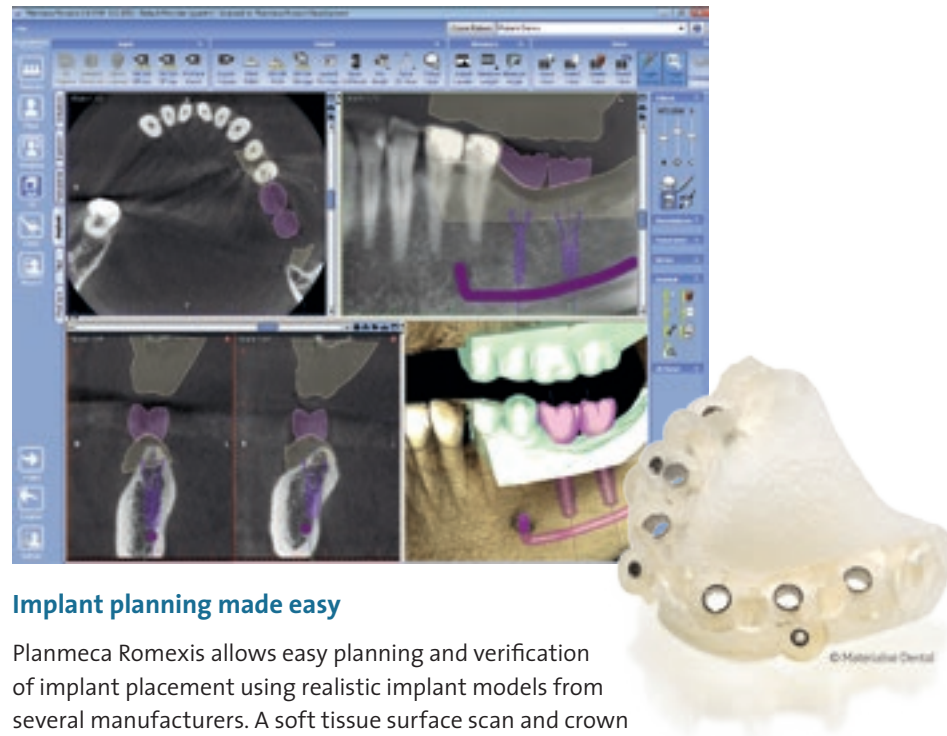
Unprecedented flexibility

Planmeca Romexis® is a comprehensive software solution for acquiring, viewing, and processing 3D radiographs, 3D photos and intraoral surface scans. The powerful combination of these modalities provides the most accurate information of patient anatomy for different needs. Planmeca Romexis software offers specially designed tools for implantologists, endodontists, periodontists, maxillofacial surgeons and radiologists.

Sharing the results

Studies can be quickly converted into multi-page printouts or handed out on the free **Planmeca Romexis® Viewer** media. Cases can be seamlessly transferred to mobile devices or partner clinics that also use Planmeca Romexis. DICOM standard compliance guarantees that images can be processed with 3rd party software or shared via hospital PACS.
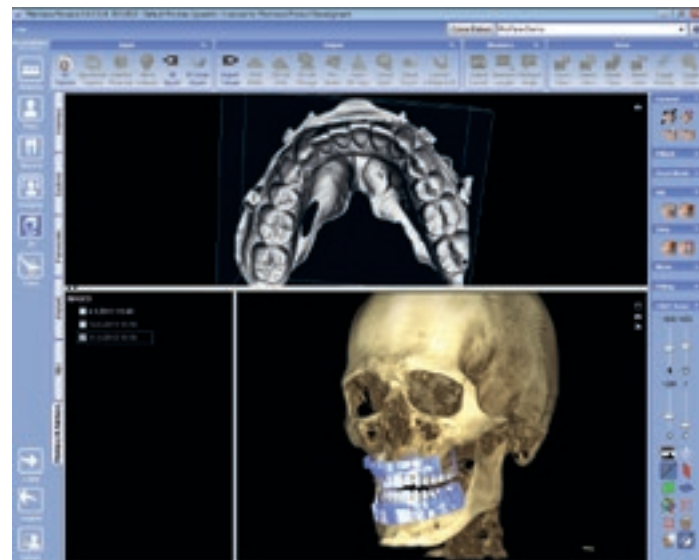
Convenient 3D diagnosis

The Planmeca Romexis 3D rendering view gives an immediate overview of the anatomy and serves as an excellent patient education tool. The images can be instantly viewed from different projections or converted into panoramic images and cross sectional slices. Measuring and annotation tools such as nerve canal tracing assist in safe and accurate planning of treatment.

Planmeca iRomexis™

Planmeca iRomexis™ is a mobile companion application for Planmeca Romexis imaging software designed for iPhone and iPad devices. It allows viewing of 2D and 3D images, 3D renderings and **Planmeca ProFace™** images. Images can be made available for mobile use with **Planmeca Online™**, and downloaded on Wifi and 3G networks wherever you are. Experience a new level of freedom and cooperation with Planmeca iRomexis. The application can be downloaded from the App Store free of charge.
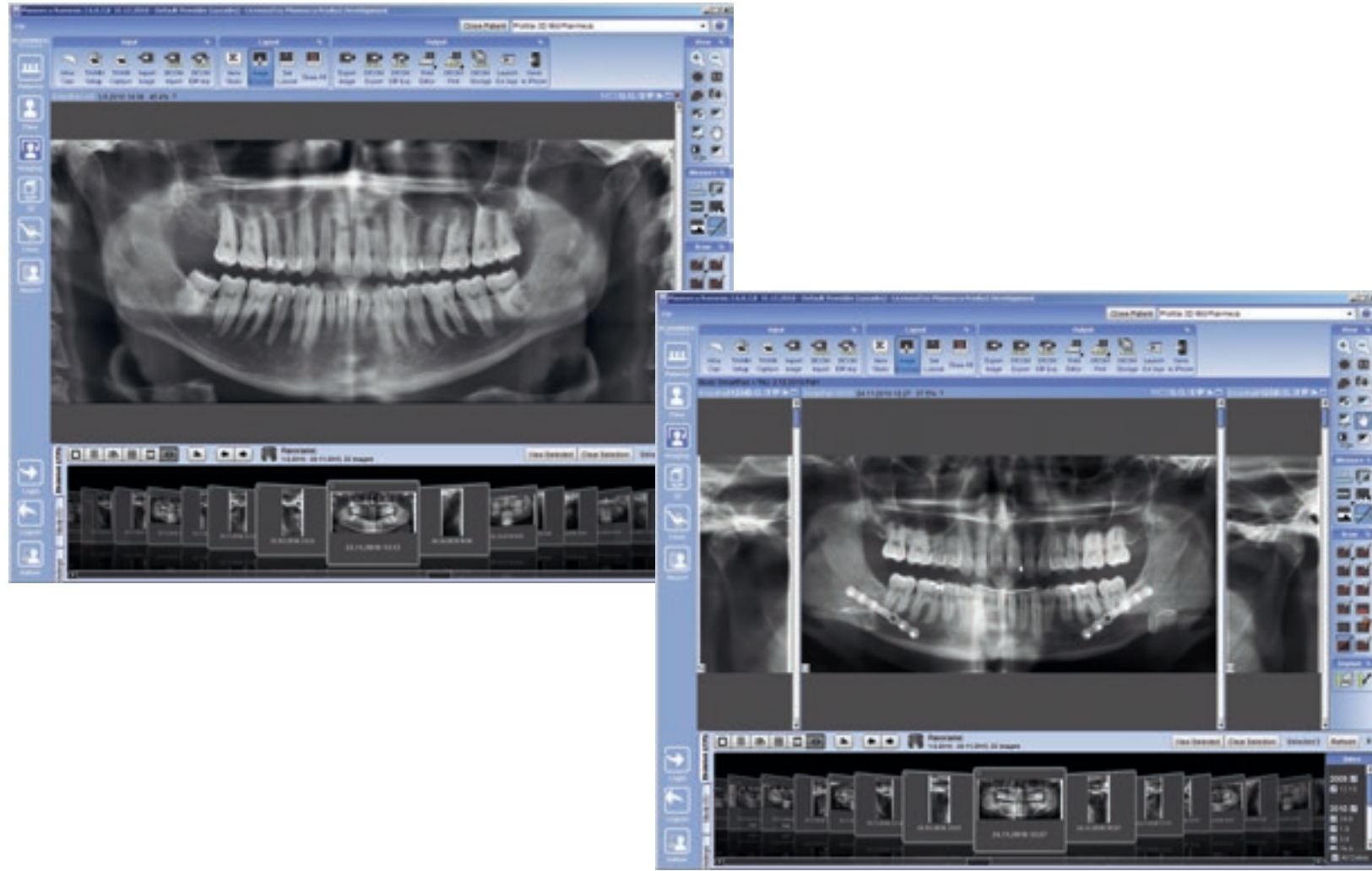
SmartPan™

SmartPan™, unique panoramic imaging

A unique **SmartPan™** imaging system uses the same 3D sensor also for panoramic imaging. This eliminates need to change sensors. The SmartPan system automatically calculates 9 different panoramic curves in 2 mm shifts from the panoramic exposure data and one layer where the sharpness is automatically adjusted for all regions. The user can browse between the panoramic images and select the most suitable for diagnosis after the exposure.

Optimised SmartPan™ exposures

The panoramic exposure is optimised only to denture area. By adjusting image height and width the image area and thus patient dose can be significantly reduced. In combined panoramic and TMJ program both temporomandibular joints will be showing in the image in an optimal and adjustable projection angle.
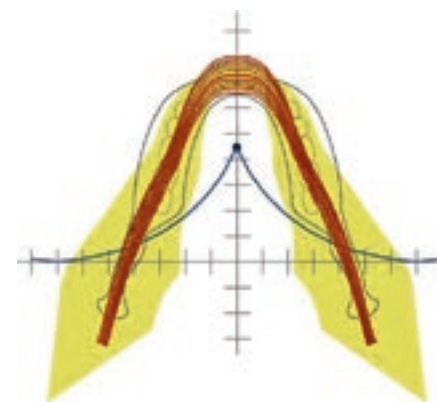
Planmeca ProFace™

Planmeca ProFace™ – a unique 3D facial photo option

Planmeca ProFace™ is a unique 3D facial photo option available for the whole **Planmeca ProMax® 3D** family*. A Planmeca 3D X-ray unit completed with Planmeca ProFace generates both a 3D photo and a CBCT volume in one imaging session. Alternatively, the 3D photo can be acquired separately in a radiation-free process: the lasers scan the facial geometry and the digital cameras capture the colour texture of the face.

Designed to fulfil the most diverse diagnostic needs of today's maxillofacial and dental professionals, Planmeca ProFace gives the medical or dental professional the opportunity to plan operations and document follow-up images.

Safer and faster facial surgeries

The 3D photo visualises soft tissue in relation to dentin and facial bones, providing an effective follow-up tool for maxillofacial operations. As both a CBCT image and a 3D photo are generated in one imaging session, the patient position, facial expression, and muscle position remain unchanged, resulting in perfectly compatible images. Careful preoperative planning, where the medical professional can study the facial anatomy thoroughly using **Planmeca Romexis®** software, facilitates a detailed operation and enhances the aesthetic results.

*Planmeca ProMax 3D s, Planmeca ProMax 3D, Planmeca ProMax 3D Mid, and Planmeca ProMax 3D Max

Ease of operation

Simple, effortless patient positioning

Patient positioning is made incredibly easy.

- The intuitive graphical user interface offers preprogrammed target sites and exposure values for different image types and targets.

- Positioning laser and joystick are used for fine adjustment. A scout image can be used to verify correct positioning.

- Full view open patient positioning

- Side entry for easy access; wheelchairs easily accommodated

Motorised patient support

The motorized patient support further improves the already easy patient positioning as the imaging arm automatically drives itself to correct height. It takes stitching of several basic volumes into a new level. The patient positioning system keeps the patient stationary while the unit drives from imaging position to another.

Easy cephalometry

With **Planmeca ProMax®** Cephalostat cephalometric imaging is easier and more accurate than ever before. By changing the place of the digital sensor the unit switches from panoramic to cephalometric imaging modality. The unit can also be equipped with two fixed digital sensors.

The functionally designed, easy-to-use head support guarantees accurate patient positioning in all cephalometric projections. The carbon fibre ear posts and nasal support are extremely durable, hygienic, and fully transparent to radiation.
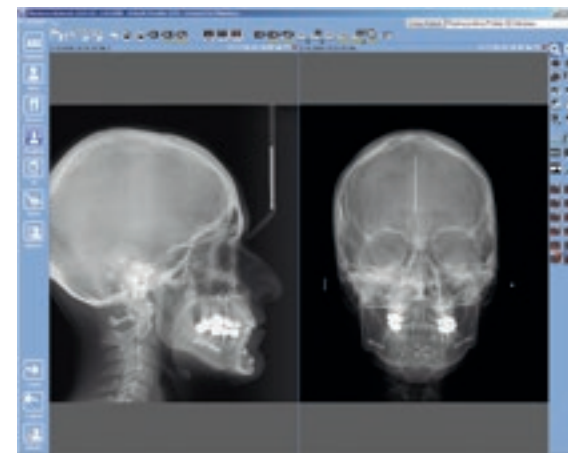
Wide range of image sizes

The unique design allows an exceptional range of image sizes and formats with field sizes of up to 30 x 27 cm (11.8 x 10.6 in.) making digital lateral radiographs of the whole skull very easy. With the soft tissue filter applied in the **Planmeca Romexis®** imaging software the images can be viewed with or without the filter.

Functional technology
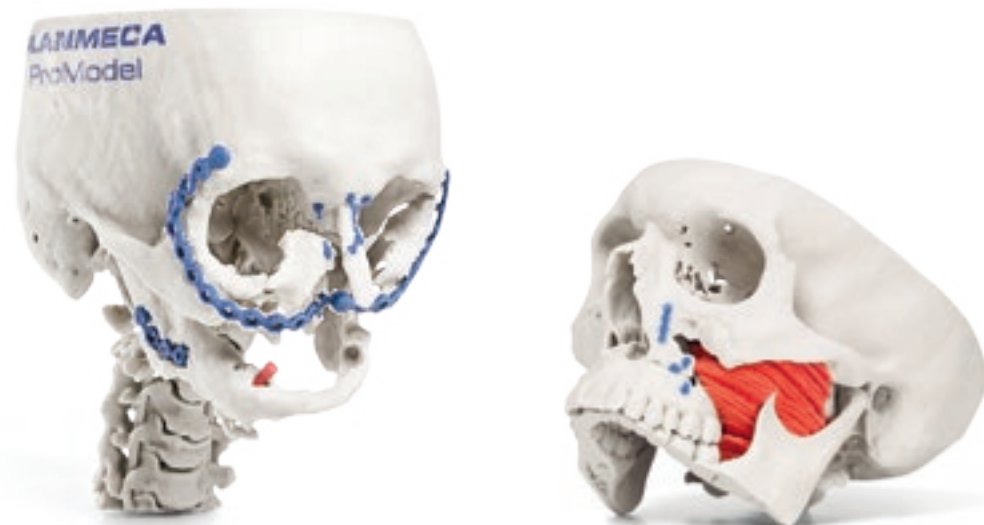

Advanced SCARA Technology

The **Planmeca ProMax™** platform's unique SCARA technology (Selectively Compliant Articulated Robot Arm) enables free image geometry formation. Planmeca's patented, computer-controlled SCARA robotic arm can produce any movement pattern required, ensuring perfectly accurate and reliable image volume positioning and enabling image volume diameter adjustment.

Pulsed X-ray – increased image quality, reduced patient dose

Pulsed X-ray reduces patient radiation dose considerably and forms stroboscopic X-ray effect which, together with the short rotation scan, virtually eliminates artefacts, contributing to outstanding image quality. The total scanning time is 18-26 seconds for one volume, but the actual exposure time is only 3 seconds at shortest.

Planmeca ProModel™

The image data can also be used for ordering **Planmeca ProModel™**, a patient specific physical model that serves as a beneficial tool for preoperative planning of advanced implant, oral and maxillofacial surgeries.

Planmeca ProMax® 3D Mid in detail

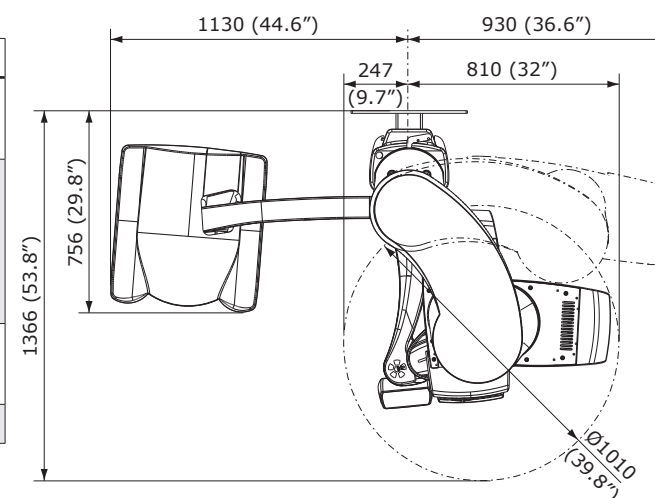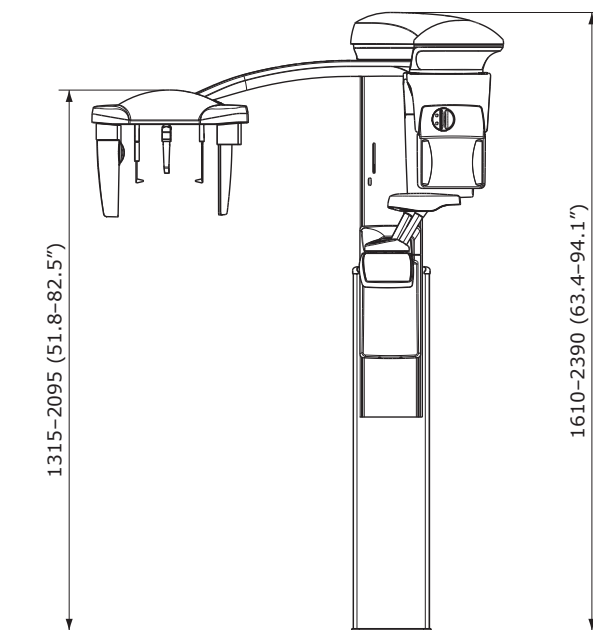| X-ray beam	Cone
Anode voltage	54–90 kV
Anode current	1–14 mA
Focal spot	0.5 mm, fixed anode
Image detector	Flat panel
Gray scale	15 bit
Detector resolution	127 µm
Image acquisition	210 / 360 degree rotation
Total scan time	18–26 s, pulsed X-ray
Reconstruction time	15 s at minimum
3D reconstruction server	Proprietary Feldkamp type back projection reconstruction algorithm Improved Artefact Removal (IAR) for high contrast object compensation

Dental programs

Program	Volume size (child mode)	Voxel size, isotropic
Tooth	Ø40 x 50 mm (Ø34 x 42 mm) Ø40 x 70 mm (Ø34 x 60 mm)	100 µm, 150 µm, 200 µm, 400 µm
Teeth	Ø70 x 50 mm (Ø60 x 42 mm) Ø70 x 70 mm (Ø60 x 60 mm) Ø90 x 50 mm (Ø75 x 42 mm) Ø90 x 90 mm (Ø75 x 75 mm)	150 µm, 200 µm, 400 µm
Jaw	Ø160 x 50 mm (Ø160 x 50 mm) Ø160 x 90 mm (Ø160 x 90 mm)	200 µm, 400 µm, 600 µm
Face	Ø160 x 160 mm (Ø160 x 160 mm)	200 µm, 400 µm, 600 µm

ENT (Ear, Nose, Throat) programs

Program	Volume size (child mode)	Voxel size, isotropic
Sinus	Ø90 x 90 mm Ø90 x 160 mm Ø160 x 90 mm Ø160 x 160 mm	200 µm, 400 µm, 600 µm
Middle ear	Ø40 x 50 mm (Ø34 x 42 mm) Ø70 x 70 mm (Ø60 x 60 mm)	100 µm, 150 µm, 200 µm
Temporal bone	Ø70 x 70 mm (Ø60 x 60 mm)	150 µm, 200 µm
Vertebrae	Ø70 x 70 mm (Ø60 x 60 mm)	200 µm, 400 µm
Airways	Ø70 x 70 mm (Ø60 x 60 mm)	200 µm, 400 µm

Physical space requirements

	Planmeca ProMax 3D Mid	Planmeca ProMax 3D Mid with cephalostat
Width	118 cm (47 in.)	206 cm (82 in.)
Depth	137 cm (54 in.)	137 cm (54 in.)
Height*	161–239 cm (64–94 in.)	161–239 cm (64–94 in.)
Weight	131 kg (lbs 289)	146 kg (lbs 322)

Minimum operational space requirements

	Planmeca ProMax 3D Mid	Planmeca ProMax 3D Mid with cephalostat
Width	158 cm (63 in.)	225 cm (89 in.)
Depth	175 cm (69 in.)	175 cm (69 in.)
Height*	239 cm (94 in.)	239 cm (94 in.)

*The maximum height of the unit can be adjusted for offices with limited ceiling space.

Dimensions

1315–2095 (51.8–82.5")
1610–2390 (63.4–94.1")

1130 (44.6")
930 (36.6")
247 (9.7")
810 (32")
756 (29.8")
1366 (53.8")
Ø1010 (39.8")

Planmeca Romexis® imaging software

Supported 2D X-ray modalities	Intraoral
	Panoramic
	Cephalometric
	2D linear tomography
Supported 3D modalities	3D CBCT
	3D photo
	3D surface scan
Supported photo sources	Intraoral camera
	Digital camera or scanner (import or TWAIN capture)
Operating systems	Windows XP
	Windows Vista
	Windows 7
	Windows 2003 Server
	Windows 2008 Server
	Mac OS X*
	For detailed information please see system requirements of Planmeca Romexis www.planmeca.com
	*Planmeca Romexis Cephalometric Analysis module is not supported on Mac OS.
Image formats	JPEG or TIFF (2D image)
	DICOM (2D and 3D image)
	STL (3D image import/export)
	TIFF, JPEG, PNG, BMP (import/export)
Image size	2D X-ray image: 1–9 MB
	3D X-ray image: typically 50 MB–1 GB
DICOM 3.0 support	DICOM Import/Export
	DICOM DIR Media Storage
	DICOM Print SCU
	DICOM Storage SCU
	DICOM Worklist SCU
	DICOM Query/Retrieve
	DICOM Storage Commitment
	DICOM MPPS
Interfaces	TWAIN Client
	PMBridge (patient information and images)
	VDDS (patient information and images)
	InfoCarrier (patient information)
	Datagate (patient and user information)
Installation options	Client–Server
	Java Web Start deployment

Example installation

Included in delivery	Planmeca ProMax 3D Mid with 3D reconstruction server
Minimum set up	Client workstation and database server • Planmeca Romexis 3D Explorer • Database server • Planmeca Romexis Image Database The client workstation and database server can also be in separate computers.
Additional equipment	Additional diagnostic workstations with different software configurations Planmeca Romexis tools: • 3D Explorer • 3D Cross Sections module • 3D TMJ module • 3D Implant Planning module • DICOM module

Ethernet

Printer

Planmeca ProMax® 3D family

Discover also the other innovative products in the **Planmeca ProMax® 3D** family and find the perfect unit for your imaging needs.

Planmeca ProMax® 3D s

Planmeca ProMax® 3D

Planmeca ProMax® 3D Max

Planmeca Oy designs and manufactures a full line of high technology dental equipment, including dental care units, panoramic and intraoral X-ray units, and digital imaging products. Planmeca Oy, the parent company of the Finnish Planmeca Group, is strongly committed to R&D, and is the largest privately held company in the field.

PLANMECA

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