

PLANMECA

proline xc

new

xc



*the recognized leader
in dental X-rays*

the supreme choice for panoramic X-ray

Planmeca Proline X-rays - over 30,000 installed

Since their introduction, Planmeca Proline series of panoramic X-rays set standards for high-quality, practical and user-friendly extraoral dental X-ray units. **Innovative technical solutions, easy patient positioning and exceptionally clear radiographs** have made Planmeca X-ray units incredibly popular among dental professionals. Today, there are more than 30,000 units installed all over the world.

Easy to operate

With Planmeca Proline XC, radiographic examinations are extremely rapid and easy to perform.

Here are the main reasons:

- Open and easy patient access
- Comfortable and stable patient supports
- Side entry and open view for practical and precise patient positioning
- **Triple laser beam** system for accurate alignment of reference anatomical landmarks
- The **Graphic User Interface** (GUI) for intuitive selection of exposure program and parameters
- With state-of-the-art direct digital imaging the image is available for diagnosis immediately after exposure.*

*Planmeca Proline XC is available in two versions: film-based and fully digital. A film unit can be digitalized any time in the future.

Clear and sharp images

In order to achieve accurate and undistorted panoramic radiographs, the form of the unit focal layer must follow the actual patient anatomy. In Planmeca Proline XC, the form of the **focal layer follows the scientifically defined shape of human dental arch and jaw**, which results in panoramic radiographs with clearly superior clinical quality.

The unit's imaging geometry efficiently **eliminates shadows and ghost images** caused by objects outside the image layer, which significantly increases the diagnostic value of the radiograph.

"Standard Forms of Dentition and Mandible for Applications in Rotational Panoramic Radiography", U. Welander, P. Nummikoski, G. Tronje, W.D. McDavid, P.E. Legrell and R.P. Langlais, Dento-Maxillofacial Radiology, 1989, Vol. 18, May

One-piece shipment

The Planmeca Proline XC unit is delivered completely assembled, in one package, and ready-to-mount. Therefore the installation is speedy and straightforward. All one has to do is to fix the unit on a wall, or alternatively on a free standing base, and it is ready for immediate use. The unit requires **no adjustments nor assembling** which is not the case with most X-ray units by other manufacturers.

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Laser beam assisted positioning

In Planmeca Proline, the side entry and the open positioning concept minimize errors caused by incorrect patient positioning, one of the most frequent reasons for failed radiographs. The operator can monitor the patient freely from the front and side, making **patient positioning quick, precise and easy.**

A triple laser beam system accurately indicates the correct anatomical positioning points. Here is how it works:

- The midsagittal plane positioning beam shows the correct sideways alignment of the patient's head. The image will be symmetric and undistorted in left-right direction.
- The Frankfort-horizontal plane positioning beam shows the correct forward tilt of the patient's head. On the image, the teeth will line up straight.



- Focal layer positioning beam indicates the focal layer's position in the incisor region and it helps in positioning the patient fully inside the focal layer for sharp and clear images.

Clear access for all patients

Side entry allows **easy access to the X-ray unit** for all types of patients. The exposure can be performed with a standing patient - the recommended way for short procedures - or a seated patient.

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*successful images
every single time*

It is also possible to take an exposure of a patient seated on a wheelchair or a hospital bed with upright lifted backrest. With Planmeca Proline, **no mirrors are needed for positioning.** Instead, the patient has an open and comfortable view, so that for instance a child can see an accompanying adult throughout the procedure.



Optimal exposures (AGC/AEC)

Each patient is an individual, whose bone and tissue thickness varies according to his/her size, race and age. The digital Planmeca Proline unit has the unique Automatic Gain Control (AGC), which optimizes the sensitivity of the digital sensor to produce optimum image quality from each individual.

The Planmeca Proline film unit can be equipped with the optional Automatic Exposure Control (AEC), which **measures the patient's radiation transparency and correctly adjusts exposure values** to achieve the desired film darkness and contrast.

functional choice of exposure programs

Superb panoramic images

Planmeca Proline XC provides anatomically correct panoramic radiographs. The **focal layer follows the scientifically assessed form of the human jaw** which results in images with clearly superior clinical quality.*

The imaging geometry of Planmeca Proline XC fully eliminates redundant shadows and ghost images caused by objects outside the image layer.

The shadow of the cervical vertebrae is automatically eliminated in the Planmeca Proline XC. This computer-controlled correction ensures that **the image sharpness is exceptional** also in the central incisor region.

*Standard Forms of Dentition and Mandible for Applications in Rotational Panoramic Radiography", U. Welandar, P. Nummikoski, G. Tronje, W.D. McDavid, P.E. Legrell and R.P. Langlais, Dento-Maxillofacial Radiology, 1989, Vol. 18, May

Child program

Planmeca Proline XC allows the selection of the **correct exposure format, minimizing the radiation dose** for all types of patients and diagnostic purposes.

The pediatric program automatically selects a reduced area for the exposure. This results in 20% lower **patient dosage**, without loss of diagnostic information.



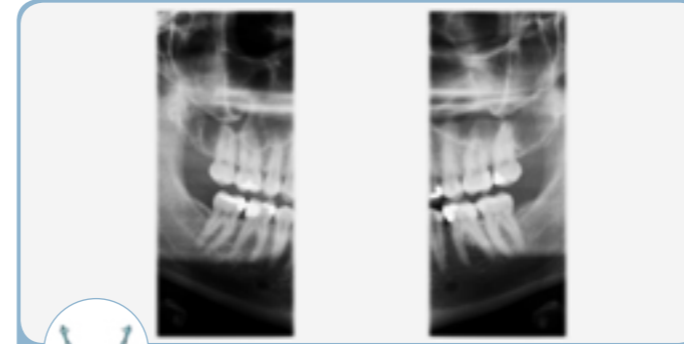
Standard Panoramic



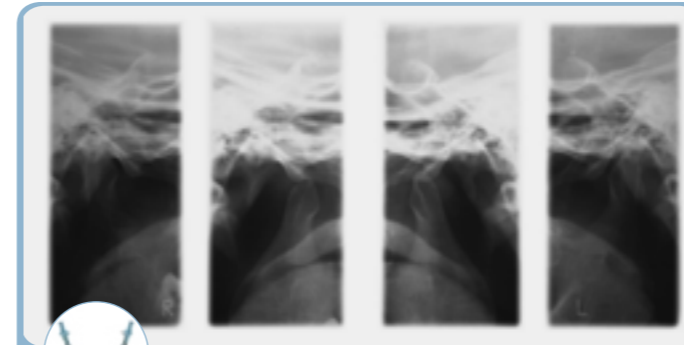
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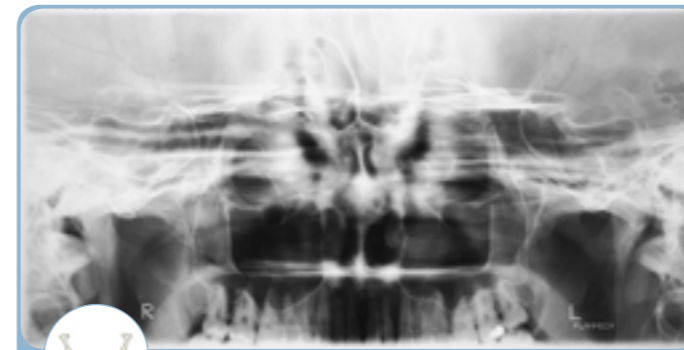
Standard Child Panoramic



Standard Panoramic, segmented



Automatic Double TMJ



Sinus

Reduced radiation by image segmenting

With vertical segmenting, the exposed area can be limited only to the area of diagnostic interest. Simple selection on the main display, and **the patient dose can be reduced by up to 80%** compared to a full area panoramic exposure. This is highly advantageous and radiation hygienic in cases where a follow-up image is needed of a limited part of the jaw.

*Absorbed dose reduced by sliced exposure using sector selector system with rotational panoramic radiography", Y. Hayakawa, N. Kobayashi, Y. Kousuge, H. Fujimori and K. Kuroyanagi, Bull. Tokyo Dent. Coll., Vol. 35, No. 3, pp.127-131, August, 1994

Imaging of the TMJ and maxillary sinus

The automatic double TMJ program produces a lateral view of open and closed temporomandibular joints on one radiograph. The imaging procedure is straightforward, and the radiograph provides easy diagnosis of the TMJ condition in one view.

In Planmeca Proline XC, the sinus program has a specially designed image layer, which results in a radiograph with a clear view of the maxillary sinuses.

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intuitive controls with graphic user interface

Colour touch panel GUI

The full colour TFT display has a graphic user interface (GUI) that guides the operator with text and clear graphic symbols. All the exposure settings are logically grouped and easy to understand. This makes **the imaging procedure quick and allows the operator to fully focus on patient positioning** and communication. All necessary information is shown on the main display with a hygienic wipe-clean surface.

Adapts to individual jaw shape and size

The jaw size and shape varies from one patient to another depending on size, gender, race and age. Consequently, one fixed panoramic focal layer form cannot be optimal for every patient. In Planmeca Proline XC, **the operator may adjust the shape of the focal layer** according to the jaw size and shape characteristic to the patient.

"Dental and Mandibular Arch Widths in Three Ethnic Groups in Texas: A Radiographic Study", P. Nummikoski, T. Prihoda, R. P. Langlais, W. D. McDavid, U. Welander and G. Tronje, Oral Surgery & Oral Medicine & Oral Pathology 1988; 65:609-17



Self-diagnostic controls

A self-diagnostic control system continuously monitors the unit. The system displays help messages guiding the operator and enabling the correct use. The control system also displays error messages in case of abnormal operation. These error messages are stored in an error log which helps the operator as well as the technical service.

Autoprint film marking system

Autoprint is a fully automatic film marking system for panoramic radiography. During the exposure, Autoprint marks the exposure parameters, the chosen program and all the information necessary for patient identification on the film. This provides **an automatic way to document exposure values** and reproduce images at a later date.

Admark film marking system is a dark room operated extension to Autoprint, enabling printing also on other green-sensitive films such as cephalometric radiographs.

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Digital cephalometry with horizontal scanning

When you select the cephalometric imaging mode, the unit will automatically align itself for taking cephalometric exposures. If you change the place of the digital sensor, the unit will automatically enter the cephalometric mode.

The functional and easy-to-use head positioner guarantees **accurate positioning** for all cephalometric projections. The carbon fibre ear posts and nasal positioner are extremely durable, hygienic and fully transparent to radiation.



The digital cephalostat scans the patient's head horizontally with a narrow X-ray beam. This results in lower effective patient dose than in film based cephalometry. Planmeca's unique design allows **exceptional flexibility in image formats, with field sizes of up to 27 x 23 cm (11 x 9 in.)**.

easy cephalometry for quality orthodontics



Digital soft tissue filter

With the digital imaging technique and the wide dynamic range of the digital sensor, **soft tissue can be made visible by the Planmeca Dimaxis imaging software**. This means that images can be viewed with or without the filter applied.



Film-based cephalometry

Used with the film-based unit, Planmeca Proline Ceph CM provides motorized aperture and soft tissue filter selection from the main display.

A cephalometric system, be it film-based or digital, can easily be added to a Planmeca Proline XC unit any time in the future.

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modern high-tech digital imaging system

Advantages of digital imaging

Direct digital radiography offers broad advantages for the patient and the imaging workflow. Here are some of them:

- Direct digital X-ray imaging saves time. The image is displayed on the computer screen within seconds and is immediately available for diagnosis.
- Since films, film processing and darkrooms are abandoned, the most common reasons for image errors are eliminated.
- Digital images can be enhanced by imaging software, which results in more accurate diagnoses.
- Digital archives and networks enable efficient image communications.

Planmeca Dimaxis imaging software

The digital Planmeca Proline XC unit is delivered with the Planmeca Dimaxis imaging software.

Planmeca Dimaxis includes the following **powerful and easy-to-use image processing tools**:

- Adjustments of the image greyscale for optimal image contrast and darkness
- Filters for image sharpening and noise reduction
- Angle, length and level measurements
- Imaging communications through annotations, diagnose window, image export and printing.

Secure image storage

Planmeca Dimaxis comes with Solid server database, a professional solution for image storage. The Solid database provides **automated and secure storage of all image information**. Automated back-ups meet the strictest requirements of data security and prevent all loss of clinical information.

DICOM compatibility

DICOM (Digital Imaging Communications in Medicine) is a worldwide standard for image transfer in medical information systems. **Planmeca's system is 100% DICOM compatible and fully ADA compliant** and provides, as option, the widest possible DICOM functionalities.

Planmeca TWAIN driver

Planmeca TWAIN Driver allows for direct digital X-ray image acquisition into a third party imaging software. Planmeca TWAIN Driver allows another vendor's TWAIN compliant imaging software to directly acquire digital Planmeca Proline X-ray images.

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Open positioning

The open positioning concept makes patient alignment fast, easy and accurate. This results in successful images every single time.



Triple laser beams

The triple laser beam system provides accurate alignment of reference anatomical landmarks for flawless images.



Graphic user interface (GUI)

The colour main display with GUI guides the operator with text and clear graphic symbols. This makes the imaging procedure quick and easy.



Wheelchair access

Thanks to side entry and face-to-face positioning, the patient can be seated on a wheelchair or a hospital bed.



Film and digital

Planmeca Proline XC is available in two versions: film-based and fully digital. The film-based unit can be digitalized any time in the future.



Optimal images

The imaging geometry follows the scientifically assessed shape of the human jaw. The jaw size and shape selection allows optimal images of all types of patients.

Enhanced diagnostics

Digital imaging and the versatile image enhancement tools of the Planmeca Dimaxis software open new possibilities diagnostics.

Full digital capabilities

Both the panoramic and the cephalometric imaging are available also digital. This enables all the unrivalled advantages of digital imaging for the dental offices.

Cephalometry

Digital cephalometry with functional head positioners and unique "whole-skull" image formats make Planmeca Proline XC the best choice for quality orthodontic imaging.

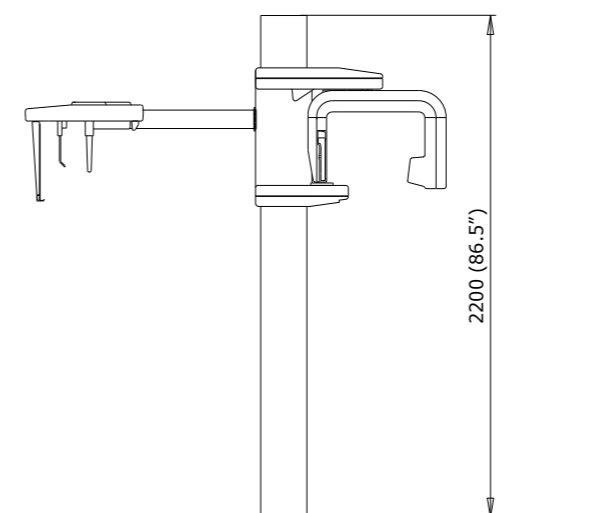
One or two sensors

Cephalometric units can be equipped either with one movable or with two fixed sensors according to user's preference.

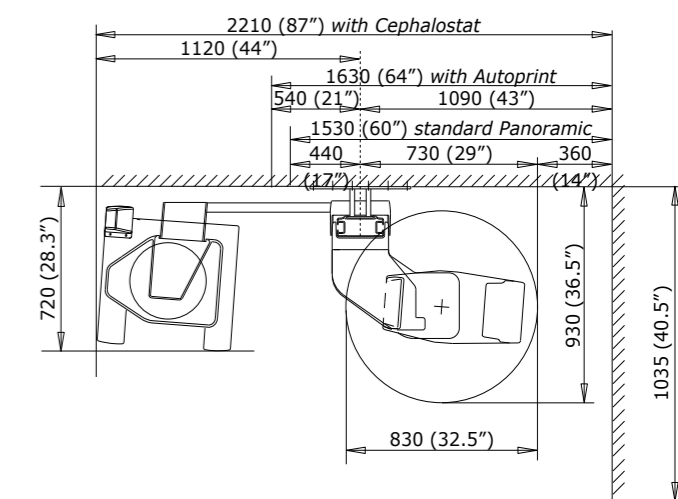
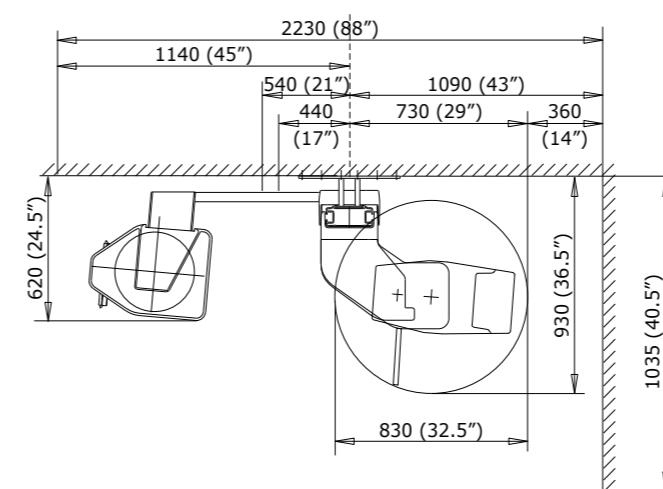
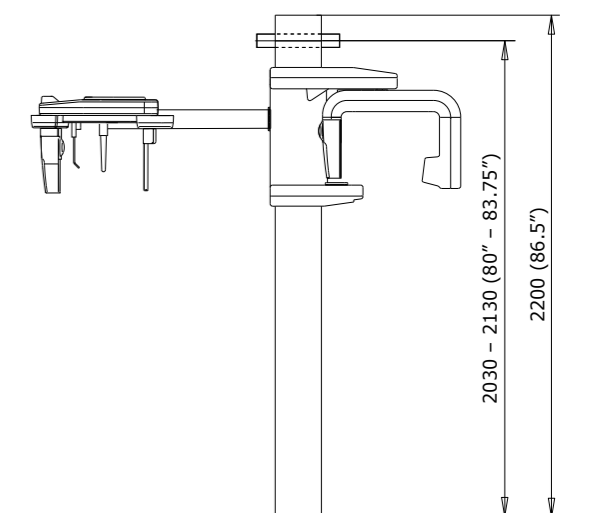
dimensions

space requirements

Planmeca Proline XC with film-based Cephalostat



Planmeca Proline XC with digital Cephalostat



	Physical space requirements			Weight
	Width	Depth	Height	
Planmeca Proline XC Panoramic	153 cm (60 in.)	103.5 cm (40.5 in.)	220 cm (86.5 in.)	108 kg (lbs 237)
Planmeca Proline XC Panoramic with Autoprint	163 cm (64 in.)	103.5 cm (40.5 in.)	220 cm (86.5 in.)	112 kg (lbs 249)
Planmeca Proline XC with Cephalostat	223 cm (88 in.)	103.5 cm (40.5 in.)	220 cm (86.5 in.)	126 kg (lbs 278)

