

Planmeca Viso G5 CBCT unit

1. Introduction

The Planmeca Viso G5 X-ray unit uses cone beam computerized tomography (CBCT) to produce three-dimensional X-ray images. Panoramic and cephalometric techniques are used for two-dimensional X-rays. The images can be used for examination of dentomaxillofacial anatomy.

2. Features

Planmeca Viso platform has patented SCARA3 construction. The SCARA robot arm movements enable the exact location of the image volume and thus the adjustment of the volume size. The SCARA3 also enables more complex imaging geometries in 2D imaging protocols.

Live virtual FOV patient positioning. Well-designed pre-programmed imaging protocols for easy and fluent workflow. Custom programmable protocol pre-sets.

Automatic vertically driving patient positioning system makes the positioning and stitching of the volumes easy.

Pulsed exposure, which is accurately synchronized to the image capturing, enables short effective exposure time and low dose.

Proprietary Feldkamp based back projection reconstruction algorithm.

Planmeca AINO™ Adaptive Image Noise Optimizer removes noise from CBCT images without losing valuable details.

Planmeca ARA™ Artefact Removal Algorithm reduces high contrast object artefacts.

Planmeca CALM™ detects and removes patient movement during 3D imaging.

Planmeca Ultra Low Dose™ imaging protocol reduces the patient dose to minimum.



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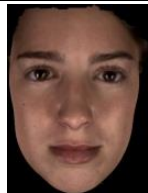
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3. Imaging capabilities

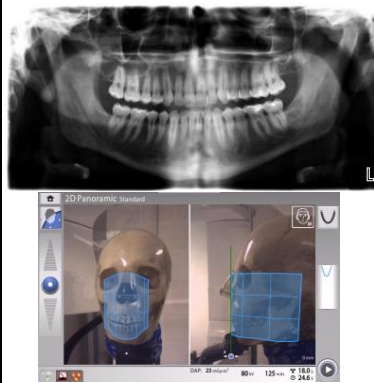
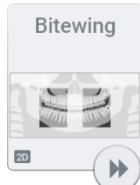
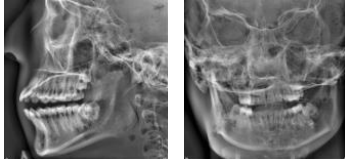
3.1. 3D imaging

Check the availability of the features in Planmeca Sales.

Planmeca Viso G5 provides high resolution volumetric 3D images of the mandible and maxilla and whole maxillofacial area.	
Planmeca ProFace 3D photograph capture in the same session with radiograph or separately.	

3.2. 2D imaging

Check the availability of the features in Planmeca Sales.

The SmartPan system uses the same 3D sensor for 2D panoramic imaging. Available: Standard panoramic program Segmenting	
True bitewing program	
Planmeca ProCeph for cephalometric images	
2D view with 3D program provides 2D images with diagnostic quality taken with 3D sensor.	

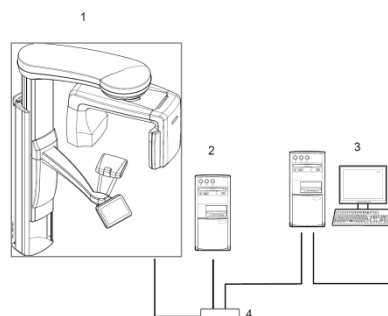
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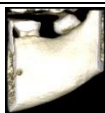
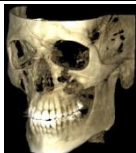
4. Planmeca Viso G5 system components

- Planmeca Viso G5 unit including 3D sensor (1)
- 3D reconstruction computer (2)
- Stool for patient (optional)
- Work station (3), switch (4)



5. 3D Imaging programs and volume sizes

5.1. 3D Dental programs

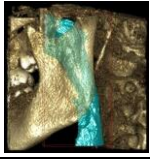
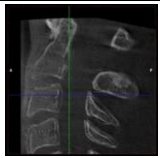
Program	Volumes	Example	Resolution /voxel
Tooth	Ø30×30 – Ø60x60 mm 5 mm steps Default: Ø50 x 50, 150 µm		75 – 150 – 300 – 450 µm
Teeth	Ø70×30 – Ø90x90 10 mm steps Default: Ø90 x 90 mm, 150 µm		150 – 300 – 450 µm
Jaw	Ø100×30 – Ø200x100 10 mm steps Default: Ø140 x 100 mm, 300 µm		150 - 300 – 450 - 600 µm
Face	Ø140×130 – Ø200x170 10 - 20 mm steps Default: Ø160 x 160 mm, 450 µm		200 - 300 – 450 - 600 µm

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5.2. 3D ENT programs

Program	Volumes	Example	Resolution /voxel
Nose	Ø70x50 – Ø90x90 10 mm steps Default: Ø80 x 80 mm, 300 µm		150 – 300 – 450 µm
Sinus	Ø100x110 – Ø200x150 10 - 20 mm steps Default: Ø130 x 130 mm, 450 µm		300 – 450 - 600 µm
Middle ear	Ø30x30 – Ø60x60 mm 5 mm steps Default: Ø50 x 50 mm, 150 µm		75 – 150 - 300 µm
Temporal bone	Ø70x50 – Ø90x90 10 mm steps Default: Ø80 x 80 mm, 150 µm		150 – 300 - 450 µm
Airways	Ø90x80 – Ø110x100 10 mm steps Default: Ø90 x 100 mm, 450		150 - 300 – 450 µm
Vertebrae	Ø90x80 – Ø110x100 10 mm steps Default: Ø90 x 100 mm, 300 µm		150 – 300 – 450 µm

6. Planmeca ProCeph Digital Cephalostat (optional)

- Factory installed or retrofitted
- Steady and stable construction.
- Automatic alignment of radiation source
- Functionally designed and easy-to use head positioner, swivelling nasal support, low absorption carbon fibre ear posts.
- No mechanical soft tissue filter, soft tissue filtering in imaging software.
- Image size from w20xH18 cm to W30xH25 cm
- All projections possible: Lateral, AP/PA, Oblique, Submento-vertex, Hand & wrist

7. Planmeca Romexis 3D Software

The Planmeca Romexis® software platform includes modules and tools for a wide range of dental specialties – from 2D and 3D imaging to CAD/CAM dentistry.

7.1. Planmeca Romexis software features

- Planmeca Romexis 2D Imaging (intraoral, panoramics, cephalometry, intraoral camera)

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- Romexis Smile Design
- Romexis 2D Implant
- Romexis Cephalometric Analysis
- Planmeca Romexis 3D Imaging
 - Romexis 3D Standard
 - Romexis 3D Advanced
 - Romexis 3D Implant
 - Romexis 3D Implant Guide
 - Romexis 4D Jaw Motion
 - Romexis CMF Surgery
 - Romexis 3D Ortho Studio Advanced
- CAD/CAM
 - Romexis Model Analyser
 - PlanCAD Easy – Scan
 - PlanCAD Easy – Design & Mill
 - PlanCAD Easy – Complete
 - PlanCAD Easy – Mill only
- Clinic efficiency
 - Romexis Clinic Management
 - Romexiws Insights
- Additional options
 - DICOM Print
 - DICOM Full
 - Romexis Cloud
 - Romexis Dental PACS

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8. Technical Specifications

Classification	Medical Device Directive: 93/42/EEC (Class IIb) RoHS: 2011/65/EU IEC60601-1: Class I, type B CISPR: Class B IP Classification: IPX0
Generator	Constant potential, microprocessor controlled, resonance mode, operating frequency 80 -160 kHz, Power Factor Corrector, complies with the standard IEC 60601-2-7: 1998
X-ray tube	D-059SBR or SXR 130-10-0.5 SC
Focal spot size	0.5×0.5mm, according to IEC 60336: 2005
Total filtration	3D: Total 2.5 mm Al + 0.2/0.5 mm Cu Pan: Total 2.5 mm Al Tube housing front cover quality equivalent filtration: 0.3 mm Al @ 70 kV / HVL 2.6 mm AL
Anode voltage	3D: 60 – 120 kV ± 5% Pan: 60– 84 kV ± 5%
Anode current	D-059SBR: 1 – 14 mA (3D: 1 – 12.5 mA) SXR 130-10-0.5 SC: 1 – 16 mA (mAs steps with R20 series: 2.0, 2.2, 2.5, 2.8, 3.2, 3.6, 4.0, 4.5, 5.0, 5.6, 6.3, 7.1, 8.0, 9.0, 10, 11, 12.5, 14, 16, 18, 20, 22, 25, 28, 32, 36, 40, 45, 50, 56, 63, 71, 80, 90, 100, 110, 125, 140, 160, 180, 200, 220, 250)
Exposure time	3D: 1.5 – 36 s effective, pulsed Pan: 2.5 – 15.6 s Ceph: 0.1 – 1.6 s
Scan angle	210° / 360°
SID	700 mm
Focus to skin distance	min. 150 mm
Magnification	3D: 1.40x - 1.71x Pan: 1.40x Ceph: 1.13x
Line voltage	100 – 220 V~/ 50 or 60 Hz, Power Factor Corrector 230 – 240 V~/ 50 Hz, Power Factor Corrector
Line current	8 – 17 A

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9. Sensor specifications

3D	
Sensor	Amorphous Silicon Flat Panel Detector
Pixel size	127 μm
Active surface	16 x 16 cm
Pixel matrix	1280 x 1280
Conversion	16 bit
ProCeph	
Pixel size	139 μm
Active surface	300 x 250 mm
Resolution	max. 4.1 lp/mm, (Nyquist limit)
Image sizes	Panoramic, adult: 16.3 x 31.9 cm, real anatomical size 11.6 x 24.8 cm Panoramic, child: 13.8 x 28.9 cm, real anatomical size 9.9 x 20.6 cm ProCeph: 20 x 18 cm to 30 x 27 cm, real anatomical size 17.7 x 15.9 cm to 26.5 x 22.1 cm

10. The 3D Reconstruction Server

3D reconstruction server is a zero maintenance Linux based high-performance computer, which captures images from imaging device and performs a 3D reconstruction routine. This automated routine converts the original image frames acquired into the 3D volume, which is then transmitted to the Modality Workstation (Planmeca Romexis Image Acquisition Workstation) and to Planmeca Romexis Server for storage.

3D Reconstruction Server is included in all deliveries.

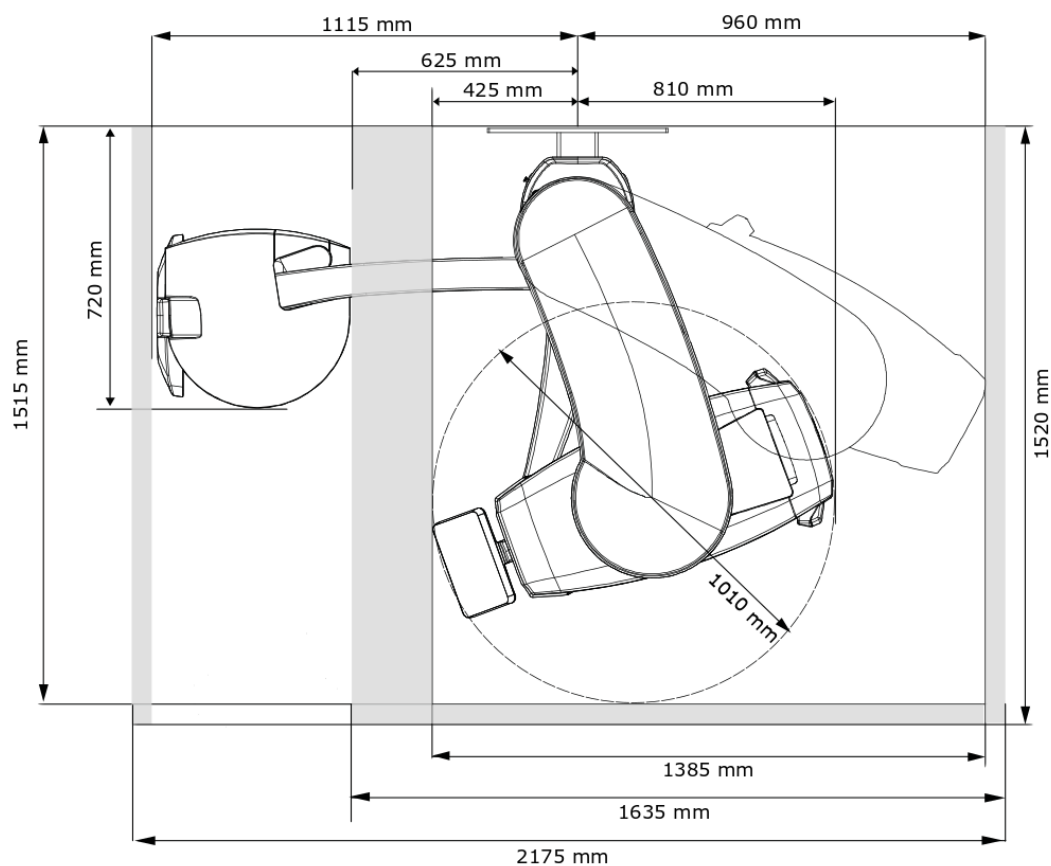
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11. Dimensions

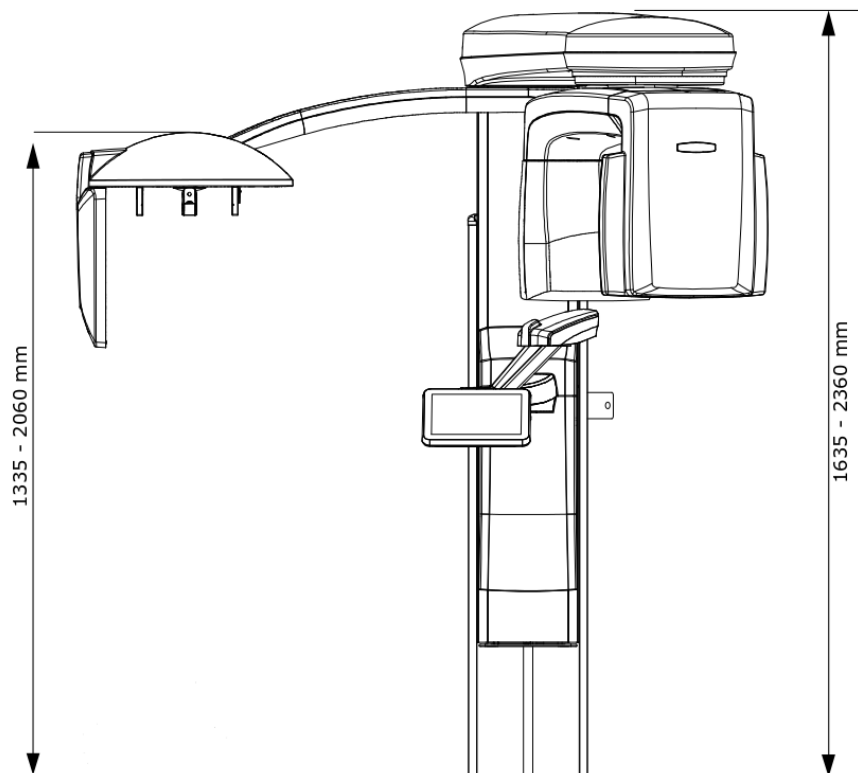
The following figures illustrate the X-ray unit dimensions and the minimum empty space required (grey area) to enable the fluent operation.



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Weight	Planmeca Viso 165 kg Planmeca ProCeph 20 kg
Chin rest level	95 – 167 cm
Cephalostat ear post level	97 – 177 cm

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