Main features

- Small size and light weight, total weight 113 kg (249 lbs)
- Available as wall-mounted or free standing
- Unique 3 joint SCARA (Selectively Compliant Articulated Robot Arm) technology enables complicated movements and versatile imaging geometries, smooth and quiet micro-step motors
- Telescopic body column without counterweight. Maximum height adjustable.
- Constant potential, microprocessor controlled resonance mode generator
  - Very high operating frequency 80 - 150 kHz
  - Maximum ripple 670 Vpp (0.4%, 84 kV)
  - Ultra short rise time, < 3 ms
  - Very wide exposure parameters range, 1 - 16mA / 54 - 84 kV
  - Low patient dose
- Universal power input incl. Power Factor Corrector, mains voltage fluctuations automatically compensated
- Full digital control, re-programmable flash EPROM
- Microprocessor controlled self-diagnostic control system with clear help guiding to correct use and error messages announcing hardware or software problems
- Interactive, informative and intuitive colour TFT graphic user interface (GUI)
  - Technical factors and selected programs digitally displayed
  - Image preview
- Open positioning concept
  - Free view to the patient from all directions
- Three laser positioning laser beams
- Easy access also for wheelchair patients
- Motorized patient positioning and temple supports
- Automatic four blade primary collimator
- Optimised image geometry and constant magnification
- Adjustable form of focal trough
- Automatic compensation for the cervical vertebrae shadow
- Autofocus feature makes the positioning of the focal layer automatically. Autofocus takes first a short, low-dose scout image for searching landmarks and calculating the focal layer with the help of a special neural network algorithm. The user can monitor the suggested focal layer adjustment both on the control panel and on the image acquisition preview. The focal layer adjustments can be amended, or the user can simply accept the adjustments and continue to the final exposure.

**Selectable feature modules**

**Imaging mode:**
- Basic panoramic programs
- Vertical segmenting
- Advanced panoramic programs
- Tomography: Digital tomography, Transtomography
- Child mode in all imaging programs to reduce the dose and to optimise the imaging geometry

**User interface**
- Graphic interface, TFT display
- Cephalostat
- Digital Ceph Dimax4 (2 fixed sensors or 1 movable sensor)

**DEC (Dynamic Exposure Control):**
- Panoramic DEC
- Cephalostat DEC

**Autofocus**

**Additional features:**
- Accessory cabinet
- External graphic interface

**Versatile imaging programs**

**Basic panoramic programs:**
- Standard panoramic program
- Lateral double TMJ program
- PA double TMJ program
- Sinus (straight layer) program

**Advanced panoramic programs:**
- Horizontal segmenting
- Interproximal panoramic program: The beam is parallel to the interproximal teeth angulation. No overlapping of the teeth.
- Orthogonal panoramic program: The beam is orthogonal to the jaw bone. Offers advantages in implantology and traumatology and in periodontal disease diagnosis.
- Bitewing panoramic program
- Lateral-PA double TMJ program
- Lateral multiangle TMJ program, left and right
• PA multiangle TMJ program, left and right
• PA non rotational sinus program
• Lateral non rotational sinus program

Tomography:
• In addition of the linear digital tomography also an unique Transtomography system available.
• Adjustable and uniform image layer thickness in Transtomography (1, 3, 6, 9, 18, 36 or 72 mm). Layer thickness in digital tomography 6 mm. Constant magnification 1.5x maximizes the diagnostic value and provides excellent details.

• Cross-Sectional:
  • 1-4 cross-sectional images (manual)
  • 4 cross-sectional images (automatic)
  • 3 cross-sectional images with different angles (automatic). Images can be viewed as stereo pairs
  • 3 cross-sectional images from sinus (automatic). The cuttings make up one wide image
  • 3 PA images from nasal cavity (automatic). The cuttings make up one wide image.
  • 4 cross-sectional images with anatomical angles.

• Longitudinal:
  • 1-4 cross-sectional images (manual)
  • 3 longitudinal images (automatic)
  • 3 longitudinal images with different angles (automatic). Images can be viewed as stereo pairs
  • 3 longitudinal images from sinus (automatic). The cuttings make up one wide image
  • 3 lateral images from nasal cavity, automatic. The cuttings make up one image.

• Mixed Cross-Sectional Longitudinal:
  • 1 cross-sectional and 1 longitudinal image (automatic).
  • 3 cross-sectional images and one longitudinal image (automatic).
  • 3 cross-sectional images with different angles and one longitudinal image (automatic).

3D cone beam computerized tomography (optional, requires special 3D sensor)
• 3D reconstruction engine calculates the cylindrical 3-dimensional volume image
• 3D volume image size: up to 80mm (height) x 80 mm (diameter), about 120 million voxels
• selectable volume depending clinical program: mandible/maxilla, adult/child
• voxel size 160 um x 160 um x 160 um

Planmeca Dimax4 sensor system
• One single sensor for both panoramic and cephalometric imaging or two fixed sensors.
• Easy and fast change between imaging modalities
• Versatile panoramic and cephalometric imaging programs
• Fully automatic and software controlled soft tissue filter, automatic alignment for cephalometry, horizontal scanning
• Very small and adjustable pixel size, high-resolution imaging, minimised movement unsharpness
• Very sensitive capture -> low radiation dose
• Automatic Gain Control (AGC) optimizes digital sensor sensitivity to produce excellent image quality regardless the patient's tissue and bone thickness
• Dynamic Exposure Control (DEC) adapts the whole imaging chain individually for each patient's physio-anatomical characteristics to produce the optimal contrast and density. Both the X-ray source and the image receptor are automatically adjusted to produce the optimum image quality.
• Dental Image Contrast Enhancement (DICE) adjusts and optimizes the contrast of the image automatically and brings out image details on the entire grey scale.
• Fast data link of image transfer
• Radiation hardened long life sensor
• Ethernet connection to computer
• Versatile and easy-to-use Dimaxis/Romexis software, DICOM compatible
• Wide range of image processing and enhancement tools
• Upgradeable to all existing Planmeca panoramic x-rays

ProMax 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.
• Magnification scale appears on the image
• No mechanical soft tissue filter, soft tissue filtering in imaging software.

Technical Specifications

<table>
<thead>
<tr>
<th>Generator</th>
<th>Constant potential, microprocessor controlled, resonance mode, operating frequency 80 -150 kHz, Power Factor Corrector, complies with the standard IEC 601-2-7/198</th>
</tr>
</thead>
<tbody>
<tr>
<td>X-ray tube</td>
<td>Toshiba D-054SB-P</td>
</tr>
<tr>
<td>Focal spot size</td>
<td>0.5 x 0.5mm, according to IEC 336</td>
</tr>
<tr>
<td>Total filtration</td>
<td>min. 2.5 mm Al eq</td>
</tr>
<tr>
<td>Anode voltage</td>
<td>Panoramics 54 - 84 kV Cephalometry 60 – 84 kV Tomography 50 – 80 kV</td>
</tr>
<tr>
<td>Anode current</td>
<td>Panoramics 1 - 16 mA Cephalometry 1 - 16 mA Tomography 0.5 - 15 mA</td>
</tr>
<tr>
<td>Exposure time</td>
<td>Panoramics 2.5 -16 s Cephalometry 0.2 - 5 s Tomography 3 - 12 s Transtomography 24 – 95 s</td>
</tr>
<tr>
<td>SID</td>
<td>Panoramics and Tomography 500 mm (20&quot;) Cephalometry 1700 mm (67&quot;)</td>
</tr>
<tr>
<td>Focus to skin distance</td>
<td>Panoramics min. 150 mm Cephalometry 1500 mm</td>
</tr>
<tr>
<td>Magnification</td>
<td>Panoramics constant 1.2 TMJ programs 1.35, 1.45 or 1.5 Sinus programs 1.35 or 1.4 Tomography constant 1.5 Cephalometry 1.13</td>
</tr>
<tr>
<td>Line voltage</td>
<td>100 - 240 V~ ±10 %, 50 or 60 Hz Power Factor Corrector</td>
</tr>
<tr>
<td>Line current</td>
<td>8 - 15 A</td>
</tr>
<tr>
<td>Electrical classification</td>
<td>Class I, type B</td>
</tr>
<tr>
<td>Weight</td>
<td>113 kg (249 lbs) 128 kg (282 lbs) with Cephalostat</td>
</tr>
<tr>
<td>Chin rest level</td>
<td>96 – 178 cm</td>
</tr>
<tr>
<td>Cephalostat ear post level</td>
<td>97 – 179 cm</td>
</tr>
</tbody>
</table>
Sensor specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCD pixel size</td>
<td>48 µm</td>
</tr>
<tr>
<td>Image pixel size</td>
<td>48/96/142 µm (selectable)</td>
</tr>
<tr>
<td>CCD active surface</td>
<td>6 x 142 mm, panoramic</td>
</tr>
<tr>
<td></td>
<td>6 x 270 mm, cephalometric</td>
</tr>
<tr>
<td>Resolution</td>
<td>max. 9 lp/mm, pan (Nyquist limit)</td>
</tr>
<tr>
<td></td>
<td>5.0 – 3.8 lp/mm, ceph</td>
</tr>
<tr>
<td>Image field</td>
<td>14 x 30 cm, panoramic</td>
</tr>
<tr>
<td></td>
<td>24/27 x 18/30 cm, cephalometric</td>
</tr>
<tr>
<td>Data transmission</td>
<td>10 MB/s</td>
</tr>
<tr>
<td>Interface</td>
<td>Ethernet</td>
</tr>
<tr>
<td>File size (uncompressed)</td>
<td>Panoramic: 8251 kB enhanced resolution (16 bit)</td>
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<tr>
<td>Pixel matrix</td>
<td>Panoramic: 1435 x 2943 pixels, enhanced resolution</td>
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<tr>
<td></td>
<td>Cephalostat 30x27: 2174 x 1930 pixels, normal resolution</td>
</tr>
<tr>
<td>Soft tissue filter</td>
<td>Software operated</td>
</tr>
<tr>
<td>Scan time</td>
<td>2.5 – 16 s, pan</td>
</tr>
<tr>
<td></td>
<td>6 - 18 s, ceph</td>
</tr>
</tbody>
</table>

Dimensions

<table>
<thead>
<tr>
<th>Physical space requirements</th>
<th>Width</th>
<th>Deep</th>
<th>Height*</th>
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</thead>
<tbody>
<tr>
<td>panoramic</td>
<td>cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>panoramic with cephalostat</td>
<td>cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>in</td>
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<td></td>
</tr>
<tr>
<td>Minimum operational space requirements</td>
<td>cm</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>in</td>
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<tr>
<td>panoramic</td>
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</tr>
<tr>
<td>panoramic with cephalostat</td>
<td>cm</td>
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<tr>
<td></td>
<td>in</td>
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</tbody>
</table>

* maximum height is adjustable