

V.A. MEDICAL CENTER  
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PO# 664-B30007

## Ysio - 1 detector system

All items listed below are included for this system: *(See Detailed Technical Specifications at end of Proposal.)*

| Qty | Item Description   |
|-----|--|
| 1   | <b>Ysio 1 detector fully synch 3m</b><br>Universal digital radiographic workplace for skeletal radiography of the recumbent, standing or seated patient. One high-resolution flat detector as a basis for a fully digital imaging chain with a digital imaging system, an image and control station with application and evaluation programs and DICOM network connection. Tube assembly support fully motorized in all projection-relevant axes with up to 220 cm transverse travel. OPTITOP 150/40/80 X-ray tube assembly and multileaf collimator with full field and laser line light localizer. |
| 1   | <b>Software Version VC10</b>   |
| 1   | <b>Bucky Wall Stand #RAD</b><br>Floor-mounted Bucky wall stand with height-adjustable and tiltable detector Bucky with flat detector for digital acquisitions. With IONTOMAT three-field chamber and Bucky frame. Detector Bucky operated from the right side. Vertical height adjustment and detector tilt possible from both sides.  |
| 1   | <b>Pax Detector FL-C Interface</b><br>Interface to adapt the FLUOROSPOT Compact to a Ysio system with a PAXSCAN detector.  |
| 1   | <b>Transparent grid 13/92, F115</b><br>Highly selective anti-scatter grid for scattered radiation reduction: Pb 13/92 (grid ratio 13:1, 92 lines/cm). Grid focusing for SID 115 cm. Recommended for use in the table and Bucky wall stand when using the wi-D detector   |
| 1   | <b>Transparent grid 13/92, F180</b><br>Highly selective anti-scatter grid for scattered radiation reduction: Pb 13/92 (grid ratio 13:1, 92 lines/cm). Grid focusing for SID 180 cm. Recommended for use in the Bucky wall stand when using the wi-D detector   |
| 1   | <b>Generator R80</b><br>High-frequency 80 kW X-ray generator for diagnostic procedures at workplaces with automatic exposure control.  |
| 1   | <b>Caremax plus HS Integrated</b><br>Caremax plus dose-area product meter for recording the dose-area product and/or standardized patient entrance dose, connected to the collimator via Caremax adapter cable. For radiography and fluoroscopy systems with POLYDOROS L generator. The dose-area product (DAP) is displayed on the monitor of the FD imaging system   |
| 1   | <b>19"Color Flatscreen Display</b><br>19" LCD color flatscreen display with high luminance and extended field of view.   |

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# Detailed Technical Specifications

## Ysio - 1 detector system

| Part No. / Product                         | Description   |
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| 14417042<br>Ysio 1 detector fully synch 3m | <p><b>System configuration</b><br/>Ysio is a universal digital radiographic workplace with one flat detector for image acquisition. Thanks to the flat detector, no cassettes with film transparency systems or storage phosphor screens are required.</p> <p>The Ysio digital workplace is especially suited for a high patient load. As a universal workplace, the system is primarily used in X-ray departments of hospitals, in radiological and partly radiological offices with high patient throughput and standardized acquisition technology.</p> <p>Basic system components:</p> <ul style="list-style-type: none"> <li>- A ceiling-mounted tube assembly support with X-ray tube assembly and motorized multileaf collimator.</li> <li>- An imaging and control station with application and evaluation programs, as well as DICOM system interfaces.</li> <li>- CD/DVD drive for automatic, digital image storage on CD-R/DVD for offline data exchange in DICOM format.</li> </ul> <p><b>Tube assembly support</b><br/>with X-ray tube assembly and motorized collimator.</p> <p>All projection-relevant tube assembly positions can be manually adjusted with handles symmetrically mounted to the tube assembly collimator unit.</p> <p>The ceiling-mounted tube assembly support can be adjusted in 3 axes for longitudinal, transverse, and height adjustment (x, y, and z-axes).</p> <ul style="list-style-type: none"> <li>- Horizontal travel range in longitudinal direction 346 cm.</li> <li>- Horizontal travel range in transverse direction 220 cm.</li> <li>- Vertical lift 180 cm.</li> </ul> <p>In 2 further axes (<math>\alpha</math>- and <math>\beta</math>-axes) the tube assembly collimator unit can be manually adjusted for oblique acquisitions of the recumbent patient, or for horizontal, oblique, or lateral acquisitions on the portable detector, or for free bedside acquisitions.</p> <ul style="list-style-type: none"> <li>- Rotation around the vertical axis of the ceiling-mounted support from +154° to -182°. Lock-in positions every 90°.</li> <li>- Rotation around the horizontal axis of the tube assembly support arm <math>\pm 140^\circ</math>. Lock-in positions at 0° and <math>\pm 90^\circ</math>.</li> </ul> <p>X-ray tube assembly OPTITOP 150/40/80 HC-100:<br/>Single-track dual-focus rotating anode tube with compound anode (rhenium-tungsten, molybdenum, graphite), with high heat storage capacity and high load capacity for small focal spots. Integrated overpressure safety device in the tube protective housing.</p> <ul style="list-style-type: none"> <li>- 150 kV nominal voltage acc. to IEC 613.</li> <li>- Nominal power (focal spot nominal values acc. to IEC 336):<br/>40 kW: small focus 0.6<br/>80 kW: large focus 1.0</li> <li>- Anode speed <math>\geq 8,500</math> r/min, anode angle 12°.</li> <li>- Heat storage capacity of the anode 580 kJ (783 kHU) acc. to IEC 613.</li> <li>- Total filtration (IEC 601-1-3) <math>\geq 2.5</math> mm Al equiv.</li> </ul> <p>Multileaf collimator:<br/>With full field and laser line light localizer. Rectangular collimation, manual and motorized, via organ programs.</p> <ul style="list-style-type: none"> <li>- Multileaf collimator rotatable by <math>\pm 45^\circ</math> around the center beam axis, e.g. for correct positioning of objects.</li> <li>- A tape measure is integrated to check the focus-to-object distance.</li> <li>- To improve radiation quality through dose reduction of the soft radiation parts, Cu filters (0.1Cu; 0.2 Cu and 0.3 Cu) are inserted into the primary beam projection, depending on the organ program selected. They can</li> </ul> |

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| <p><b>(Continued)</b><br/> <b>14417042</b><br/> <b>Ysio 1 detector fully synch 3m</b></p> | <p>also be selected manually.</p> <p>Option:<br/> A measuring chamber for the dose area product can be integrated into the multileaf collimator.</p> <p><b>Controls and displays</b><br/> The control elements at the tube assembly and the multileaf collimator are ergonomically arranged for single-handed operation.</p> <p>Controls and displays at the tube assembly support (MaxTouch):<br/> Multifunctional control display with color touchscreen for adaptation of acquisition parameters directly in the examination room.<br/> Displays include:</p> <ul style="list-style-type: none"> <li>- The collimation size of the acquisition field (in cm x cm).</li> <li>- The selected SID.</li> <li>- The selected Cu additional filters.</li> <li>- Rotation from the 0-position.</li> <li>- Tube assembly and detector centering.</li> <li>- Operating states such as "ACSS/Manual", "Ready", "Selected", etc.</li> </ul> <p>The display follows the tube assembly orientation.</p> <p>The following functions can be set manually at the multileaf collimator:</p> <ul style="list-style-type: none"> <li>- Full field light localizer with timer for optical display of the collimated acquisition format and an optionally coverable laser line light localizer.</li> <li>- The collimation of the acquisition format set last can be retrieved via a memory button.</li> <li>- The rectangular collimation of the radiation field is pre-defined through the organ program and can be set manually by means of two dials.</li> <li>- The motorized insertion of the Cu additional filters is controlled via the organ program, but can also be selected freely.</li> </ul> <p><b>Imaging and control station</b><br/> The entire control and communication of the radiography system incl. digital image processing takes place from a central operating site - the imaging and control station.</p> <p>It includes:</p> <ul style="list-style-type: none"> <li>- A high-end PC imaging system, based on Windows XP with syngo user interface.<br/> Storage of original data 14 bit.<br/> Storage of image data 12 bit.<br/> Storage capacity approx. 10,000 images.</li> <li>- Keyboard and mouse.</li> <li>- One 19" color flat-screen or diagnostic display as control display.</li> <li>- Manual button for exposure release.</li> </ul> <p><b>Functions of the imaging and control station</b><br/> Patient and study administration:</p> <ul style="list-style-type: none"> <li>- Importing of patient lists and examinations from the HIS/RIS.</li> <li>- Manual patient registration.</li> <li>- Patient, study and image data management.</li> <li>- Configuration functions.</li> </ul> <p>Acquisition and postprocessing:</p> <ul style="list-style-type: none"> <li>- Organ program selection and configuration.</li> <li>- Selection of generator and diaphragm parameters.<br/> Parameterization of image preprocessing: enhancement, harmonization, edge enhancement and look-up tables (LUT).</li> <li>- Display of current acquisition in 5 s max. (preview); complete image 10 s maximum.</li> <li>- Display of image markings (L/R, a-p/p-a).</li> </ul> |

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| <p><b>(Continued)</b><br/> <b>14417042</b><br/> <b>Ysio 1 detector fully synch 3m</b></p> | <ul style="list-style-type: none"> <li>- DiamondView Plus: multi-scaling procedure for image post-processing with high detail contrast and reduced noise.</li> </ul> <p>DiamondView is a multi-scale procedure, i.e. filter size and strength are weighted differently and are used for adaptation to the overall image content.</p> <ul style="list-style-type: none"> <li>- DiamondView enhances the signal exploitation of the dynamic range and improves the organ-specific detail contrast (soft tissue and bone).</li> <li>- DiamondView can be selected via the "Pre-processing card".</li> <li>- By entering "0", the image can be displayed without DiamondView.</li> </ul> <p>Image processing functions:</p> <ul style="list-style-type: none"> <li>- Image rotation.</li> <li>- Horizontal/vertical image mirroring.</li> <li>- Image zoom.</li> <li>- Pan.</li> <li>- Windowing.</li> <li>- Filters for edge enhancement and noise reduction.</li> </ul> <p>Image documentation and archiving:</p> <ul style="list-style-type: none"> <li>- Image transfer into the network.</li> <li>- Automatic, user-configurable data distribution (DICOM Send, see also system interfaces DICOM).</li> <li>- Automatic filming with virtual film sheet (DICOM Print, see also system interfaces DICOM).</li> <li>- Image data export (12 bit) on CD/DVD.</li> </ul> <p><b>Workflow</b></p> <p>The routine workflow is mostly automated, manual operations such as loading and transportation of cassettes are no longer necessary:</p> <ul style="list-style-type: none"> <li>- Prior to exposure the patient data is transferred via the patient management system (HIS/RIS: option) or entered through the control console. The exposure parameters are selected through the organ programs.</li> <li>- Then the patient or the acquisition system is positioned and exposure is released.</li> <li>- The exposure released at the central system control is read out within a few seconds by the detector. It is displayed at the control display for orientation and made available in DICOM format at the imaging system output for sending e.g. to reporting workstations, image networks, laser cameras, etc.</li> <li>- Clinical Assurance Program (CAP): Collection of deleted images, studies and patient data, including evaluation capabilities.</li> </ul> <p>Password protection:<br/>System access protected by password.</p> <p>Option:<br/>Security Package: SW option with enhanced security features such as User Management and Audit Trail function (if offered, see text of the corresponding components).</p> <p><b>DICOM system interfaces</b></p> <ul style="list-style-type: none"> <li>- DICOM Send: sending of images into the DICOM network.<br/>The DICOM Send function enables fully automatic transfer of generated image data to a DICOM archive or a DICOM workstation. The user can perform his examinations without interruption while the system fully automatically transfers the images to the archive. This image data transfer takes place entirely in the background and thus does not affect acquisitions performed at the same time.</li> <li>- DICOM Storage Commitment (StC): feedback from the image archive.<br/>The DICOM StC function automatically gives feedback on whether the generated image data were successfully transferred. This way the user can be sure that the acquisitions stored locally in the imaging system can be deleted.</li> <li>- DICOM Print: printing of images by means of a virtual filmsheet on a DICOM laser camera.<br/>Selecting "Auto-Print" automatically forwards the images stored in the virtual filmsheet to the laser camera. This optimizes the workflow, eliminating the need for user interaction. In addition, a specific layout can be configured on the virtual filmsheet, which the user can review and edit on the monitor at any time. As a result, printing is only required after the layout has been optimized on the monitor, saving time and costs.</li> </ul> |

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| <p><b>(Continued)</b><br/> <b>14417042</b><br/> <b>Ysio 1 detector fully synch 3m</b></p> | <p>Options:</p> <ul style="list-style-type: none"> <li>- DICOM Modality Worklist/MPPS (if offered, see tender further down).</li> <li>- DICOM Query/Retrieve (if offered, see tender further down).</li> </ul> <p><b>Note concerning DICOM interface(s)</b><br/> For diagnostic purposes, only hardcopy cameras/laser printers explicitly approved for this system may be used.</p> <p>The description in the "DICOM Conformance Statement" downloadable from the Internet is exclusively binding for the functionality of the DICOM interface(s).</p> <p>Functionalities across system borders with/between partner systems require explicit validation, since the interpretation of the interface by the partner/target system is not part of the product's responsibility.</p> <p>A modification of the interface that might be required is not included in the offer; e.g. for the rare case, that available configurations are not sufficient. With regard to expenses for interface configurations that might be required, the agreements on maintenance/service of the product apply.</p> <p><b>syngo Remote Assist</b><br/> syngo Remote Assist is a standalone service option.<br/> With syngo Remote Assist, Siemens uses a secure broadband VPN connection (VPN = virtual private network) to establish a connection to your Siemens imaging console in order to offer you direct, real-time support and training. This seamless and simultaneous virtual interaction will contribute to improvements in image quality and optimization of system use.</p> <p><b>Siemens Remote Service</b><br/> Prepared for optional Siemens Remote Service SRS™ (during warranty period, subsequently with service contract):</p> <ul style="list-style-type: none"> <li>- Hardware and software remote diagnosis.</li> <li>- System remote configuration, e.g. adding of a DICOM node.</li> <li>- Early warning system to secure system operation.</li> <li>- Functions according to the selected maintenance package.</li> </ul> <p><b>Customer Care. Life - the customer care solution by Siemens Healthcare</b><br/> From the moment you purchase your Siemens system you will benefit from many services that are offered by Customer Care. Life* offers, e.g.:</p> <ul style="list-style-type: none"> <li>- initial application training,</li> <li>- interactive e-learning for various applications,</li> <li>- free customer magazines,</li> <li>- arrangements for clinical training via a global network,</li> <li>- and free trial licenses</li> </ul> <p>You will find detailed information on our e-learning program and further details on general Customer Care. Life services on the internet.</p> <p>* Not all services of the Customer Care. Life offerings are necessarily available for all systems.</p> |
| <p><b>14418471</b><br/> <b>Bucky Wall Stand</b><br/> <b>#RAD</b></p>                      | <p><b>System configuration</b><br/> The Bucky wall unit is a floor-mounted, stand-alone or wall-mountable grid acquisition system with a height-adjustable and tiltable detector Bucky with Bucky support and an integrated detector as the digital image acquisition system.</p> <p>It is especially suited for acquisitions of skeletal radiography of the standing and seated patient:</p> <ul style="list-style-type: none"> <li>- Orthopedic diagnostics.</li> <li>- Thorax and general diagnostics.</li> <li>- Trauma and ER diagnostics.</li> </ul> <p>With this Bucky wall stand, more profound diagnostic requirements for acquisitions of thorax (lungs), abdomen, pelvis, spine, skull and extremities are met.</p>   |

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| <p><b>(Continued)</b><br/> <b>14418471</b><br/> <b>Bucky Wall Stand</b><br/> <b>#RAD</b></p> | <p>The basic configuration consists of a radiography system with a vertically positioned and tiltable detector Bucky for horizontal, oblique or lateral patient acquisitions.<br/> The additional tilting range of the detector Bucky extends the diagnostically relevant acquisition projections.</p> <ul style="list-style-type: none"> <li>- Vertical height adjustment of the counter-balanced, easily movable detector Bucky from detector center approx. 27 cm to 172 cm above floor: Operation possible from both sides.</li> <li>- Tilting range between 0° and +90°, and up to -20° continuously around the horizontal axis; lock-in position at 0°. Operation possible from both sides.</li> </ul> <p><b>Detector Bucky</b><br/> The detector Bucky with single-handed operation includes a IONTOMAT three-field chamber for automatic exposure control (incl. three-field templates) and a device for symmetric positioning of the flat detector.</p> <ul style="list-style-type: none"> <li>- Front plate - detector distance ≤45 mm.</li> <li>- Radiation absorption of the front plate ≤0.5 mm Al.</li> <li>- A stationary, exchangeable transparent grid for scattered radiation reduction; Pb 15/80. Optionally for SID 115 cm and/or 150 cm and/or 180 cm (see tender further down).</li> </ul> <p><b>Integrated flat detector 43x43</b><br/> Integrated, fixed flat detector for digital image acquisition, CsI-scintillator, amorphous silicon (a-Si).</p> <ul style="list-style-type: none"> <li>- Detector acquisition matrix 3040 x 3040</li> <li>- Pixel size 139 µm</li> <li>- Acquisition depth (gray scales) 14 bit with 8x oversampling.</li> <li>- Acquisition formats up to 42.2 cm x 42.2 cm.</li> </ul> <p><b>Accessories</b><br/> Scope of delivery:</p> <ul style="list-style-type: none"> <li>- Lateral patient handles for optimum patient positioning, e.g. during PA thorax exposures.</li> <li>- Patient overhead handle, swiveling around the horizontal axis, for optimal patient positioning for lateral acquisitions.</li> </ul> |
| <p><b>14409329</b><br/> <b>Generator R80</b></p>   | <p>High-frequency X-ray generator with multipulse voltage waveform for diagnostic acquisition procedures at workplaces without FL function. The multi-pulse voltage waveform enables high data accuracy, precise reproducibility and short exposure times.</p> <ul style="list-style-type: none"> <li>- Multi-processor system for organ programs.</li> <li>- Free selection of radiographic parameters.</li> <li>- Electronic generator monitoring during exposure.</li> <li>- Tube load computer with acoustic alarm and interval display.</li> <li>- Integrated automatic exposure control.</li> </ul> <p>Generator control fully integrated in the system console.</p> <p>Rating:</p> <ul style="list-style-type: none"> <li>- 80 kW at 100 kV acc. to IEC 601.<br/>max. 800 mA at 100 kV</li> <li>- Tube voltage: between 40 kV and 150 kV</li> </ul> <p>Workplaces:</p> <ul style="list-style-type: none"> <li>- max. 3 selectable workplaces (Bucky table, Bucky wall stand, and free acquisition).</li> <li>- One (1) dual focus X-ray tube assembly can be connected.</li> </ul> <p>Power connection:<br/> 3 phase current: 380 V, 400 V (±10%); 50/60 Hz.</p>  |
| <p><b>14409330</b><br/> <b>19"Color Flatscreen Display</b></p>                               | <p>The Siemens 19" LCD color flatscreen display features a very high contrast even under very bright ambient light conditions. The Gamma curve was precisely adapted to the CIE/DICOM recommendation and is thus suited especially for gray scale display.</p>   |

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| <b>(Continued)</b><br><b>14409330</b><br><b>19"Color Flatscreen Display</b> | LCD flatscreen display <ul style="list-style-type: none"> <li>- 19" (48 cm) screen size</li> <li>- Resolution: 1,280 x 1,024 (pixel)</li> <li>- Maximum brightness (typ.): 280 cd/m<sup>2</sup></li> <li>- Flicker-free and distortion-free image display</li> <li>- Anti-glare screen</li> </ul> <p>The controlled background lighting provides stable lighting throughout the entire product life cycle.</p>  |
| <b>04434028</b><br><b>DICOM WORKLIST &amp; MPPS</b>                         | <p><b>DICOM MWL (Modality Worklist):</b><br/>Import of patient/examination data from an external RIS/HIS patient management system.</p> <p><b>DICOM MPPS (Modality Performed Procedure Step):</b><br/>Sending of dose data, patient data, and examination data to an external RIS/HIS patient management system.</p> <p><b>Note concerning DICOM interface(s)</b><br/>The description in the "DICOM Conformance Statement" downloadable from the Internet is exclusively binding for the functionality of the DICOM interface(s).</p> <p>Functionalities across system borders with/between partner systems require explicit validation, since the interpretation of the interface by the partner/target system is not part of the product's responsibility.</p> <p>A modification of the interface that might be required is not included in the offer; e.g. for the rare case, that available configurations are not sufficient.<br/>With regard to expenses for interface configurations that might be required, the agreements on maintenance/service of the product apply.</p> |
| <b>04453838</b><br><b>DICOM QUERY RETRIEVE - C</b>                          | <p><b>Note concerning DICOM interface(s)</b><br/>The description in the "DICOM Conformance Statement" downloadable from the Internet is exclusively binding for the functionality of the DICOM interface(s).</p> <p>Functionalities across system borders with/between partner systems require explicit validation, since the interpretation of the interface by the partner/target system is not part of the product's responsibility.</p> <p>A modification of the interface that might be required is not included in the offer; e.g. for the rare case, that available configurations are not sufficient.<br/>With regard to expenses for interface configurations that might be required, the agreements on maintenance/service of the product apply.</p>  |
| <b>14409342</b><br><b>Security Package</b>                                  | <p>This SW license enables the Workplace System to support enhanced user and system management, including:</p> <ul style="list-style-type: none"> <li>- user authentication to prohibit unauthorized access</li> <li>- privileges to define user/role based functionality</li> <li>- permissions to control data access.</li> <li>- audit trails to log system and data access.</li> </ul>  |