

XR HYBRID, VAMC TUSKEGEE, AL
PO# 619-B72020

TRADE-IN

GE PRECISION 500D, SN 1022201WK6, ACQUIRED
MAY 11, 2010, TRADE-IN OPTION 1

Qty

Item Description

1

Artis zee MP BK mounting on right

The Artis zee MP right now features PURE(r).

PURE adds smooth interaction to Siemens' smart technologies. It is designed to boost productivity and enhance outcomes for certain clinical applications while increasing image quality and reducing dose.

The Artis zee MP is a multi-functional C-arm stand with right suspension (mounting) of the positioning table and display suspension system with TFT Live- and Ref-Monitors.

The digital C-arm X-ray system for fluoroscopy as well as diagnostic and interventional angiography has an angio collimator and a high-resolution as40 flat detector.

The powerful 100 kW HF X-ray generator and MEGALIX Cat Plus X-ray tube (3-focus tube with flat emitter technology) are the prerequisites for excellent image quality.

The C-arm and patient table are tiltable and height-adjustable units and can be moved relative to the patient in cranio-caudal and orbital direction.

Isocentric object positioning is achieved through independent height adjustment of the tabletop, which can additionally be adjusted in longitudinal and transverse direction.

Programmed system positions allow fast examination procedures.

Digital acquisition technology with up to 7.5 f/s in 1k/12 bit matrix is available.

The complete CARE+CLEAR package offers optimal image quality at the lowest reasonable dose.

1

DSA acquisition mode

Digital Subtraction Angiography with frame rates of 0.5 to 7.5 f/s, including pixel shift, remask, roadmap, peak opacification for iodine contrast (MaxOpac), and CO2 contrast (MinOpac); adding of the anatomical background (landmark) from 0 to 100%.

It also includes CLEARmap and CLEARmatch.

1

PERISTEPPING / PERIVISION

Motorized stepping for real-time bolus chasing.

Gantry stepping with zeego and ceiling mounted systems, table stepping with floor mounted and biplane systems.

Peripheral digital angiography with stepping and online subtraction display.

Qty	Item Description
1	<p>syngo 3D Engine with Acquisition</p> <p>A workstation for reconstruction, post-processing and handling of 3D information.</p> <p>The package includes the following functionalities:</p> <p>3D high-contrast imaging (for e.g. contrast filled vessels or bones).</p> <p>in-room control for table-side operation of advanced applications, Expert-i functionality for remote operation of the XWP.</p> <p>Only for PURE systems, the package also includes: 3D Wizard for expert step-by-step guidance in 3D acquisition and parallel patient processing capabilities.</p>
1	<p>syngo Angio Package</p> <p>Software package consisting of DSA Angio Viewer as well as High-Speed Review for real-time display (with the same frame rate as the acquisition) of native and subtracted angiography images.</p>
1	<p>DICOM Attribute Converter</p> <p>Individual solution via software-/XML-files, to solve compatibility problems.</p>
1	<p>Laser crosshairs</p> <p>Laser crosshairs integrated in the cover of the flat detector and tableside operation for easier, quicker and dose-saving positioning of the patient (with biplane systems only plane A).</p>
1	<p>4P wireless footswitch inst. of cbl</p> <p>Wireless footswitch connection</p> <p>Note: Wireless replaces the wired connection.</p>
1	<p>Mem. enhncmnt. 3 (50k - 1k Matrix)</p> <p>Memory capacity extended by 25,000 images, from 25,000 images to 50,000 images in 1k matrix.</p>
1	<p>Vascular analysis</p> <p>Vessel analysis with determination of degree of stenosis, distance measurement and calibration.</p>
1	<p>Fluoro Loop</p> <p>Storage and review of dynamic fluoroscopic sequences (Fluoro Loop). This saves an additional acquisition and reduces dose. The maximum storable fluoroscopic time depends on the selected pulse rate, e.g. 34 s at 30 p/s, 68 s at 15 p/s.</p>
1	<p>Automap</p> <p>Automatic stand positioning depending on the selected reference image and automatic reference image selection depending on the stand positioning.</p>
1	<p>DICOM RIS-Modality Worklist</p> <p>Import of patient/examination data from an external RIS/HIS patient management system with DICOM MWL (Modality Worklist).</p>
1	<p>DICOM MPPS</p> <p>Feedback of examination status via DICOM MPPS (Modality Performed Procedure Step) to an external RIS/HIS patient management system.</p> <p>Data such as the dose-area product can be transferred to the RIS.</p>
1	<p>DICOM Print</p> <p>Provision of DICOM Print service for connection to a laser camera or a network printer (postscript-capable).</p>
1	<p>Lower body radiation protection</p> <p>This radiation shield provides protection from scattered radiation.</p> <p>The radiation protection can be attached to the accessory rail.</p>

Qty**Item Description**

The detachable upper element with a height of 24 cm/ 9.4" is slightly inclined by 30 degrees towards the patient.

It includes a stationary radiation shield with a lead of 0.5 mm/ 0.02" Pb equ (length: 77 cm/ 30.3"; width: 50 cm/ 19.7") and a detachable upper radiation shield (length: 35 cm/ 13.8"; width: 49 cm/ 19.3").

Weight: 8.5 kg/ 18.7lb

Only for use with Artis zee MP.

1

Moveable upper body rad. protection

This radiation shield protects the user from scattered radiation.

For room heights up to 290 cm/ 114.2".

It includes a ceiling rail (4m/ 157.5"), a ceiling mounted and movable stand (80 cm or 57cm/ 31.5" or 22.4"), a support arm (75 cm x 90 cm/ 29.5" x 35.4") and an acrylic glass.

The shield is made of acrylic glass with lead equivalent of 0.5 mm

(w x h: 61 cm x 76 cm/ 24" x 29.9"), which can pivot and rotate around a fixed point with a range of 360 degrees.

The operation range is limited when used with Artis floor/biplane MN.

Max. weight: 18 kg/ 39.68 lb

Product may not be used in conjunction with a TRUMPF or MAQUET surgery table.

1

LED Exam Light

Ceiling-mounted, flexible positionable examination light with focusable light system. It is fully integrated into the ceiling-installed radiation protection mounting unit.

- Luminance: 60,000 Lux for 100 cm/ 39.4" distance

- Working distance: 70 to 140 cm/ 27.6" to 55.1"

- Color rendering index Ra at 4500 Kelvin: 95

- Color temperature: 4,300 Kelvin

- Focusable light field: 14 to 25 cm/ 5.5" to 9.8"

- Diameter of light head: 33 cm/ 13"

- Number of LEDs: 19

- Total input power: 20 VA

1

Sec. operation in the control room

Interface for connecting the additional system control from the control room.

Rail profile for hanging control modules (e.g. the table module) in the control room.

Safety button for switching off all system functions from the control room.

1

Secondary Hand Switch Ctrl (C Room)

Additional hand switch for radiation release and additional control functions.

1

Injector conn. in the control room

Interface for controlling the contrast medium injector in the control room.

Injectors can be offered by Siemens Healthcare Accessory Solutions

1

Arm holder (pair)

The patient's arms can be comfortably placed along the body using these two arm holders. They slide underneath the patient mattress and is held in position by the patient's weight.

It includes two pairs of arm holders of different length (540/690 mm - 21.2"/27.2") and height (85/115 mm - 3.35"/4.53"), suitable both for thick and thin patient mattresses.

Weight small arm holder: each 0.65 kg/ 1.43lb

Weight large arm holder: each 0.95 kg/ 2.09 lb.

Qty**Item Description**

Product may not be used in conjunction with a TRUMPF or MAQUET surgery table.

1

Head position (prone - adult)

During interventions requiring the patient to be positioned on the tabletop in prone (lying face down) position, the head can be positioned comfortably on a head pad filled with soft gel material. An oxygen tube can be inserted into the patient's mouth from the side.

It consists of one gel pad for adults.

Dimensions: 28 cm x 25 cm x 14 cm/ 11.02" x 9.84" x 5.5" (l x w x h)

Weight: 3 kg/ 11.02 lb.

The head positioning device can be used in combination with the kyphoplasty arm rest.

1

Body strap set

Can be used to secure patient to the patient table and to compress patient anatomy. It consists of two belts with Velcro straps (l x w: 185 cm x 10 cm/ 72.8" x 3.94").

Product may not be used in conjunction with a TRUMPF or MAQUET surgery table.

1

Compression band

This item is for fixation of the patient to the tabletop and for compression of the patients abdomen.

It includes a radiolucent plastic band which can be mounted to the sides of the tabletop and then stretched to compress the patient's abdomen. It is made of radiolucent plastic.

Length: 2300 ±5 mm/ 90.56 ± 0.2"

Width: 230 mm/ 9.06"

Weight: 2.6 kg/ 5.7 lb

It can only be mounted on Artis tabletops.

1

VA kit Artis zee systems

Second operator manual and CD-R

1

Leg holder

These supports are designed to hold the legs in position for gynaecological and urological examinations. They can be adjusted in height and are attached at the head end of the table by utilizing the mounting frame for the footboard.

Includes one mounting frame and two footrests.

Length: 58 cm/ 22.8" (+ 13 cm/ 5.1" with accessory rails)

Width: 39 cm/ 15.4"

Weight mounting frame: 7.2 kg/ 15.9 lb

Weight foot rests: 2.5 kg/ 5.5 lb

Maximum weight: 150 kg (330.69 lb).

Only for use with Artis zee MP.

1

Foot holder

In order to secure the patient in Trendelenburg positions of 20 degrees or more, foot holders are required in addition to the shoulder belt.

The two leather foot holders are padded with felt.

They are attached to the slots of the footrest.

Maximum weight: 170kg /374.79 lb

Weight: 0.6 kg /1.32 lb.

Only for Artis zee MP.

1

Shoulder belt

In order to secure the patient in Trendelenburg positions of 20 degrees or more, a shoulder belt is required in addition to the foot holder.

Qty	Item Description
	<p>The radiolucent, fiber-reinforced plastic belt can be adjusted to the patient's size. It is attached directly to the tabletop.</p> <p>Includes one belt.</p> <p>Length per strap: 2400 ± 10 mm/ 94.5" ± 0.4"</p> <p>Width: 48 mm/ 1.9"</p> <p>Maximum weight: 170 kg/ 374.8 lb</p> <p>Only for use with Artis zee MP.</p>
1	<p>Initial onsite training 32 hrs</p> <p>Up to (32) hours of on-site clinical education training, scheduled consecutively (Monday - Friday) during standard business hours for a maximum of (4) imaging professionals. Training will cover agenda items on the ASRT approved checklist. Uptime Clinical Education phone support is provided during the warranty period for specified posted hours. This educational offering must be completed (12) months from install end date. If training is not completed within the applicable time period, Siemens obligation to provide the training will expire without refund.</p>
1	<p>Follow-up training 32 hrs</p> <p>Up to (32) hours of follow-up on-site clinical education training, scheduled consecutively (Monday - Friday) during standard business hours for a maximum of (4) imaging professionals. Uptime Clinical Education phone support is provided during the warranty period for specified posted hours. This educational offering must be completed (12) months from install end date. If training is not completed within the applicable time period, Siemens obligation to provide the training will expire without refund.</p>
1	<p>Follow-up training 12 hrs</p> <p>Up to (12) hours of follow-up on-site clinical education training, scheduled consecutively (Monday - Friday) during standard business hours for a maximum of (4) imaging professionals. Uptime Clinical Education phone support is provided during the warranty period for specified posted hours. This educational offering must be completed (12) months from install end date. If training is not completed within the applicable time period, Siemens obligation to provide the training will expire without refund.</p>
2	<p>GOVT Training Class (T & L not included)</p> <p>Tuition for (1) government attendee to attend a classroom course of choice at one of the Siemens training centers. This educational offering must be completed (12) months from install end date. If training is not completed within the applicable time period, Siemens obligation to provide the training will expire without refund.</p>
1	<p>Mark 7 Arterion, Pedestal System</p> <p>The Arterion Mark 7 Pedestal contrast medium injector can be positioned anywhere at the patient positioning table on a mobile unit, for direct operation of all functions in the examination room.</p> <p>The injector system includes:</p> <p>A mobile pedestal stand with electronics unit, a contrast medium heater and a connection cable to the manual release.</p> <p>A support arm with injector head and a control lever for moving the injector head.</p> <p>A user control console with large touch screen and corresponding additional monitoring display on the injector head.</p> <p>Functions</p> <p>Pressure limitation:</p> <p>for 150 ml syringes 689 to 8273 kPa, corresponds to 100 to 1200 psi. .</p> <p>Flow rates for 150 ml syringes:</p> <p>0.1 to 45 ml/s in increments of 0.1 ml/s</p> <p>0.1 to 59.9 ml/min in increments of 0.1 ml/min</p>

Qty**Item Description**

rise/fall: 0 to 9.9 s in increments of 0.1 seconds

Release delay for injection or radiation:
0 to 99.9 s in increments of 0.1 s.

Adjustable volume for 150 ml syringes:
1 ml to the max. syringe capacity in increments of 1 ml.

Fill rate:
Variable syringe filling speed 1-20ml/s.

Injection protocols:
Up to 40 injection protocols possible.

Parameters currently displayed on the touch screen display and on the head display:
Injection speed
Injection volume
Remaining volume
Injection duration
Applied pressure

Contrast medium heating:
Nominal 35°C (95°F)±5°C (9°F)

Injection data memory
Up to 50 injection data items stored

Included in the scope of delivery
Injector standard configuration 150 ml
SIEMENS interface cable
Operator Manual
Service manual (English).

Power supply
200 V to 250 V; 50/60 Hz.

1

Arterion Pedestal Install

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Eaton Powerware 9355 15 kVA UPS

Includes UPS, battery, maintenance bypass panel, and one year on-site parts and labor coverage (24x7) by Eaton Powerware. This UPS is recommended when protection and uninterruptible power is required for the Artis' C-arm and table. Emergency fluoroscopy is not available with this UPS. If emergency fluoroscopy is required, the 9390 - 160 kVA UPS is recommended for the full system. One UPS per lab.

Additional seismic brackets are required to make this system OSHPD approved.

1

Grey anti-fatigue floor mat for hospital

1

PERI BOLUS KIT

1

Standard Rigging zee SP GOV

Offset Part AXA_INITIAL_32 Initial onsite training 32 hrs

One complimentary biomedical tuition is included with the purchase of this system. This training must be completed before the end of the warranty period.

This educational offering must be completed by the later of (12) months from purchase of training or if applicable, completion of installation. If training is not completed within the applicable time period, Siemens obligation to provide the training will expire without refund.

DCS Proposal No. 16-66-1195-1

Project # 2016-1574 GE Precision, expiration date/deinstall date 9/2018

Detailed Technical Specifications

Description

System description:

The Artis zee MP right - A PURE® system with single plane is an easy-to-use X-ray angiography system for digital acquisitions and is designed to meet the escalating demands of interventional radiology, fluoroscopy, gastroenterology and interventional cardiology.

High flexibility and fast positioning:

- Up to 5 programmed work positions and additional 50 user-defined work positions and 3 direct positions can be stored and recalled from table side.
- Overtable and undertable image receptor positioning.
- One single joystick for patient angle oriented operation of C-arm and image receptor movements.
- Integrated, computer-aided collision monitoring ICP (Intelligent Collision Protection).
- Tilting range of the stand $\pm 90^\circ$ with full functionality at any angle, including 3D acquisitions on standing patients (if the 3D option is purchased)
- Two work and one park position.
- Double oblique projections of 60° LAO to 90° RAO and $\pm 45^\circ$ cran/caud.
- Variable source-to-detector distance between 90 cm and 120 cm.
- Longitudinal travel of the C-arm system 165 cm.
- Height adjustment of the C-arm system (isocenter-floor distance) from 113 cm to 150 cm.

Image generation

X-ray generator

Microprocessor-controlled high-frequency X-ray generator with automatic dose rate control.

- Power output: 100 kW at 100 kV (IEC 60601-2-7 and IEC 60601-2-54).
- SID tracking: Automatic tube current adaptation to focus-to-detector distance.
- CAREmatic: Automatic X-ray control system for fully automatic calculation and optimization of exposure data based on fluoroscopic data.
- Patient transparency monitoring.
- Tube load monitoring with indication in the live display.

The optimal X-ray parameters depend on the transparency of the patient at the current angulation, measured during fluoroscopy. These parameters are continuously calculated and updated. Test shots are no longer required. This ensures superior image quality and minimum radiation exposure for user and patient with every exposure release.

Tube assembly MEGALIX Cat Plus 125/20/40/80

3-focus high-performance X-ray tube with flat emitter technology, metal center tube in lubricated spiral groove bearing technology for permanent, noise-free rotation.

- Maximum tube voltage 125 kV
- Focus: 0.3/0.6 x 0.6*/1.0 (17/38/80 kW)
- Anode angle 12°

Description

- Maximum anode heat storage capacity: 3,375,000 HU
- Maximum tube current for fluoroscopy: 250 mA

* Flat emitter focus for improved image quality

High tube power provides brilliant image quality even with heavier patients. In addition there is no need for X-ray pauses even during lengthy cases. The X-ray tube is completely silent, which is an additional benefit for patient and user.

Flat detector as40

The digital high-resolution dynamic flat detector with integrated removable grid is especially designed to fulfill the requirements of angiographic and interventional applications.

The as40 flat detector offers additional operating functions directly on the detector housing, such as angulation, FD rotation (cranial/caudal, RAO/LAO), and change of the focus-detector distance.

154 μ m pixel arrays provide highest spatial resolution (3.25 LP/mm) and excellent contrast. Fluoroscopy as well as image acquisition are always done in 14-bit gray scale resolution, allowing excellent detail visibility. Acquisition frame rates of up to 30 f/s are possible.

Usable input formats:

- Overview mode: 30 cm x 38 cm
- Zoom 1: 30 cm x 30 cm; diagonal 42 cm
- Zoom 2: 22 cm x 22 cm; diagonal 32 cm
- Zoom 3: 16 cm x 16 cm; diagonal 22 cm
- Zoom 4: 11 cm x 11 cm; diagonal 16 cm
- Zoom 5: 8 cm x 8 cm; diagonal 11 cm

The very compact design with integrated collision protection provides a maximum C-arm angulation range for excellent patient access.

The flat detector is mounted on a motorized rotating turntable at the C-arm. It can be rotated by 90°, so that it can be adjusted to landscape format or portrait format. Motorized adjustment of the detector-patient distance.

Digital data transfer from the detector to the imaging system is done via a high-speed Gigalink fiber-optic cable.

Removable grid:

The grid can easily be removed, saving the user time in examinations not requiring a grid. For example in pediatrics, where dose saving is especially important.

Angio collimator

Compact multileaf collimator with rectangular blade, wedge-shaped finger filters for DSA and cardiological applications and graduated filter.

- Independent rotation and shift of filter blades
- Automatic synchronous rotation of detector and collimator unit to compensate image rotation at the different examination positions of the support stand.
- Manual rotation of the detector and collimator unit using the control right on the detector housing.
- Five-step adaptive Cu pre-filtration (CAREfilter) to reduce the equivalent skin dose and improve radiation quality through dose saving for the soft radiation parts. Filter steps: 0.1; 0.2; 0.3; 0.6; 0.9 mm Cu.
- Electronics unit with DIAMENTOR dose measurement chamber integrated in the collimator housing, for acquisition of the dose-area product and the calculated patient entry air Kerma at the patient entrance reference point (CAREwatch).

Image processing

Description

- Image display as positive and negative, windowing, contrast and brightness control, electronic display shutter, image shift (roaming), vertical and horizontal image inversion, magnifying glass, and zoom functions
- Storing of single images as reference images for acquisition and fluoroscopy
- Quantification: angle and length measurements, automatic and manual calibration
- Text functions: user-definable image annotation, free annotation or by means of text components, comments line for the image, R/L display
- Fast and direct access to all series, single images, reference images, and photo file images via MULTIMAP. Access possible both in the examination and in the control room for displaying or post-processing images

Imaging system

Dual architecture

In order to provide highest level system availability, the imaging system consists of two independent computer systems that manage central tasks such as real-time image processing during fluoroscopy or acquisition as well as post-processing and networking functionality separately from one another. This ensures the best possible system performance and availability.

Image storage capacity

25,000 images in 1k/12 bit image matrix. This can be optionally extended to 50,000 / 100,000 images.

Operating modes

Fluoroscopy

- Digital pulsed fluoroscopy with pulse frequencies of 7.5 p/s, 10 p/s, 15 p/s, and 30 p/s in 1k/12 bit matrix. Pulse rates of 0.5 - 4 p/s are also possible with CAREvision.
- Overlay fade: On-line overlay of the reference image onto the active fluoroscopy. This improves efficiency and safety during interventional procedures because additional information which is clinically necessary can be displayed directly in the live fluoroscopy image.

Digital acquisition technology

Digital acquisition technology with frame rates of 0.5 to 7.5 f/s in 1k/12 bit matrix and digital real-time filtration. Single image and serial acquisitions with time-controlled and manually variable frame rate. The 1k image matrix with a bit depth of 12 bits allows an excellent image contrast by using 4,096 shades of grey. Thus, the image quality meets highest expectations in angiography and fulfills all prerequisites for precise diagnostics and safe interventions.

Accessories included in the scope of delivery

- Wired Footswitch for acquisition and fluoroscopy
- Foot rest
- 1 pair of hand grips
- Attachment part for tableside control
- Mattress
- Trolley for securing the control elements

Patient table configuration

Table

Motorized patient tabletop in carbon fiber sandwich design:

- Height adjustment from 70 cm to 120 cm
- Longitudinal travel 120 cm (within $\pm 20^\circ$)
- Transverse travel from 25 cm to -40 cm

Description

- Max. patient weight 200 kg. It is possible to attach up to 40 kg of additional accessories, plus a further 100 kg for patient resuscitation.

A maximum patient weight of only 150 kg is permitted for use in urology and in conjunction with leg holders.

Mattress

Matching, special-foam mattress, 4 cm, incl. a latex-free cover.

This visco-elastic comfort mattress reacts to temperature and has the special property of adapting to the individual body shape under the influence of body weight and heat.

CARE package

ALARA principle

Siemens follows the ALARA principle: "As Low as Reasonably Achievable"; the CARE package (Combined Applications to Reduce Exposure) was developed based on this research and development principle to protect the examiner and the patient.

Dose saving

- CAREfilter: Intelligent control software that minimizes X-ray dose. During fluoroscopy and acquisition, special copper prefilters are automatically inserted into the X-ray beam depending on current X-ray transparency, which is calculated continuously. This is necessary to ensure that the optimal prefilter value is always active. This automation makes work easier for the user because the optimal filter setting need not be adjusted manually for each case.
The adaptive Cu prefiltration has five steps (0.1, 0.2, 0.3, 0.6, 0.9 mm) and is used to lower the reference air kerma and improve radiation quality by reducing the low-energy X-ray radiation.
- CAREvision with as20 detector: Pulsed fluoroscopy with additional, reduced pulse rates of 0.5, 1, 2, 3, 4, 6 p/s. Adaptation of pulse rate to the current application requirements for significant reduction of radiation exposure, especially during interventional procedures.
- CAREvision with as40 / as30 detector: Pulsed fluoroscopy with additional, reduced pulse rates of 0.5, 1, 2, 3, 4 p/s. Adaptation of pulse rate to the current application requirements for significant reduction of radiation exposure, especially during interventional procedures.
- CAREprofile: Radiation-free positioning of the primary and semi-transparent diaphragms by means of graphic display in the LIH (Last Image Hold). Collimator shutters and semi-transparent filters can be adjusted as a graphical overlay on the last-image-hold without any need for fluoroscopy or radiation.
- CAREposition: Radiation-free object repositioning by means of graphic display of the X-ray center beam and image edges in the LIH image. With CAREposition it is possible to reposition the object under visual control without radiation.
- In case of table movements the current position of the central beam and the image edges are superimposed on the LIH image as orientation points.
- Low dose acquisition: enables dose savings of up to 67 % during the examination. The Low Dose Acquisition protocol can be released with a separate pedal on the footswitch.

Dose monitoring

- CAREwatch: Display of the measured dose-area product and the calculated patient reference air kerma on the flat-screen display. Electronics unit with DIAMENTOR measurement chamber integrated in the collimator housing for dose acquisition.
Configurable screens on the data display and imaging system monitor:
During fluoroscopy: Reference air kerma rate.
During fluoroscopy interval: Accumulated reference air kerma or dose-area product, or percentage of the reference air kerma limit (total from fluoroscopy and acquisition).
- CAREguard: Monitoring the reference air kerma. If the accumulated reference air kerma exceeds one of the three configurable limits, a warning appears on the live display and tableside on the touchscreen control. This allows ideal monitoring of the accumulated reference air kerma during the examination.
- CAREmonitor: Special model-based monitoring of the measured skin entry dose, taking into account the geometric conditions of the system (actual device angulation, table position, patient weight, patient size). It then continually displays whether the skin entry dose applied to a specific region of the patient's body exceeds a specific configurable upper limit. CAREmonitor continually calculates and displays the actual accumulated skin entry dose as a portion of this upper limit. This helps the user to detect a potential patient hazard at an early stage. The patient is therefore better protected against the damaging effects of radiation.

Description

Dose documentation

- CAREreport: Dose information as part of the DICOM Structured Report. After each examination, the information is available in DICOM format and can be sent to a DICOM archive together with the image data, for example. Saving dose information in DICOM format also enables flexible analysis and further processing via a DICOM-capable analysis software/database.
- CARE Analytics: Standalone PC program for analyzing doses in angiography, CT, and radiological examinations. The data can be exported to statistics programs such as Microsoft Office Excel and SPSS for further analysis. CARE Analytics is available for download from the Siemens Intranet.

CLEAR package

The CLEAR package enables optimized image quality through real-time processing of the image data without increasing the radiation dose.

- CLEARcontrol: The new histogram analysis provides a more homogeneous image impression by harmonizing over- and underexposed areas of the image. This is done fully automatically, thus eliminating any further manual user corrections through windowing.
- CLEARview: Dose-dependent filtering of the image data efficiently suppresses image noise, enabling clear, sharp images, even for low-dose acquisitions.
- CLEARvessel: Every pixel is analyzed in real time, and vessel edges are shown in high contrast without adding noise to the image.
- CLEARmotion: Fine moving structures, such as small vessels and guidewires, are detected in the image and motion artifacts are suppressed efficiently. The visibility of small moving vessels and guidewires is improved significantly during fluoroscopy.

In addition there is Dynamic Density Optimization (DDO) for on-line harmonization of native series and single images.

Image export and networking

DVD/CD burner

DVD drive for automatic digital image storage in the background on DVD-/CD-ROM for off-line data exchange in DICOM format.

Networking

- Network interface (1000 BaseT) with the following integrated DICOM services:
- DICOM Send: Sending of images into the DICOM network: The DICOM Send function enables fully automatic transfer of generated image data to a DICOM archive and/or a DICOM workstation. The user can perform his examinations without interruption, while the system is fully automatically transferring the images to the archive scene by scene. This is a background process, and thus does not interfere with the ongoing fluoroscopy or acquisition.
- DICOM Storage Commitment (StC): Feedback from the image archive. The DICOM StC function automatically gives feedback on whether the generated image data were successfully transferred. This provides the necessary certainty to the user before deleting the acquired images locally in the imaging system.
- DICOM-Query/Retrieve: Retrieval of archived images from a digital archive or from a workstation: Already archived image data from a previous examination can be fully retrieved and is then available for review and processing. The user can request CT or MR system images from the archive and display the image in the examination room. There is no need for a separate workstation.
- DICOM Structured Report: All the quantification results obtained on the system as well as all dose information on the individual radiation releases can be saved in DICOM SR (enhanced SR) format and transferred to a DICOM network.

Note concerning DICOM interface(s)

The description in the DICOM Conformance Statement downloadable from the Internet is exclusively binding for the functionality of the DICOM interface(s).

Functionalities across interfaces 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.

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

Description

agreements on maintenance/service of the product apply.

ECG image data

Recording, storage, and display of an ECG lead. The ECG lead is displayed and stored together with the image information.

Display and display suspension

Displays in the exam room

Live and assist displays are 19" TFT color and gray scale flat-screen displays with high luminance and extended viewing angle.

- Screen size: 19" (48 cm)
- Resolution: 1,280 x 1,024 (pixels)
- Excellent brightness for the entire service life: 400 cd/m² at a contrast ratio of 1000:1
- Flicker-free and distortion-free image display
- Ambient light sensor for optimum adaptation of the image display to the room brightness

Reference images are shown on the assist display.

Data for device and table position, dose data, and system messages are displayed in the examination and control room on both the live and the assist display.

Displays in the control room

19" high-contrast display for live image display in the control room is included as a desktop version.

Display suspension

Ceiling-mounted, swiveling, rotating, and height-adjustable display suspension system with longitudinal travel. It features two 19" high-contrast TFT displays for live and reference image display in the examination room (Standard configuration - unless modified).

Operation

syngo

The intuitive syngo operating elements allow for managing the whole process from preparation of the patient to image post processing in a safe, reliable, and time efficient way.

Footswitch

A 4-pedal wired footswitch to release fluoroscopy, exposure, and table brake as well as a configurable additional function is included as standard.

In the examination room

For an ideal workflow, full operation capabilities for the system can be accessed directly at the patient table or on a control trolley. These include complete system operation through modular control elements for controlling C-arm movements, the patient table, and the multileaf collimator.

syngo-based touchscreen with multi-functional joystick for operation of the imaging system, including post-processing and quantification as well as selection of the organ programs. The touchscreen is specifically configurable to individual clinical requirements.

This means that the user can operate the system on their own without having to leave the examination room if this is deemed necessary by the situation.

In the control room

Standard Siemens syngo control via country-specific keyboard and mouse for all imaging system functions such as image post-processing, storing, and configuring of organ programs.

Description

Customer Care - the customer care solution from Siemens Healthcare

From the moment you purchase your Siemens system you will benefit from many services that are offered by "Customer Care". These include:

- Initial application training
- Interactive e-learning for various applications
- Free customer magazines
- Arrangements for clinical training via a global network
- Free trial licenses

You will find information on our e-learning program and further details on general "Customer Care" services on the Internet.

* The availability of "Customer Care" services may be restricted for some systems.

User Training

Siemens recognizes the significant investment you are making in purchasing a new imaging system and are determined that you are able to realize the full capability of this new system. Siemens clinical applications training ensures you have every opportunity to fully utilize your new system.

Content of user training: Handover Training and Follow-up Training

- Introduction to the functions, options, and handling of the Angiography system
- Instruction on the use of the Angiography system together with modern, highly-developed applications

Delivery & duration of the user training varies and may be country specific so for additional information please contact your local Siemens representative.

Digital acquisition technology

Digital acquisition technology with frame rates of 0.5 to 7.5 f/s in 1k/12 bit matrix and digital real-time filtration. Single image and serial acquisitions with time-controlled and manually variable frame rate. The 1k image matrix with a bit depth of 12 bits allows an excellent image contrast by using 4,096 shades of grey. Thus, the image quality meets highest expectations in angiography and fulfills all prerequisites for precise diagnostics and safe interventions.

Digital Subtraction Angiography:

Digital Subtraction Angiography with frame rates of 0.5 to 7.5 f/s, including pixel shift, remask, roadmap, peak opacification for iodine contrast (MaxOpac), and CO₂ contrast (MinOpac); adding of the anatomical background (landmark) from 0 to 100%.

Includes the "Advanced Roadmap" additional function which offers the following clinical benefits:

- DSA image can be selected as a mask for Roadmap
- Zoom can be changed during Roadmap
- Catheter and vascular contrast can be changed separately

Unexpected patient movements in DSA acquisitions can be corrected easily with Auto Pixelshift. This saves time for the user and improves image quality.

CLEARmap

Special 2D Roadmap operating mode creating a vessel map from a DSA-scene using Maximum Opacification technique. As an additional operating mode, you can also decide to pick one frame out of a DSA run (i.e. for venous access in Roadmap).

This provides improved image quality compared to conventional Roadmap, and reduces x-ray dose and contrast media.

CLEARmatch

Automatic/Online pixel shift processing for most accurate subtracted image display during Roadmap and DSA

Description

based on real time movement detection and compensation.

Six degrees of freedom - vertical, horizontal, rotational, zoom and shearing movement (left and right) - allowing highest possible efficacy. In order to show the most recent information in raw format, the pixel shift operation is applied to the mask image. This optimized way of pixel shifting ensures a perfect match of Roadmap image and native fluoro image, being shown at the Assist monitor.

Excellent image quality from the abdomen to the feet is due to the fact that adjustable parameters such as acquisition frame rate, measuring fields, position of collimator blades and semitransparent filters are stored specifically for each table position. That way the different X-ray transparencies for abdomen, legs and feet can be compensated and a consistent image quality with best possible contrast is achieved. Just one single injection of contrast media protects the health of the patient and gives the physician an instant, subtracted image display of the peripheral blood vessels.

PERISTEPPING:

Peripheral digital stepping angiography with only a single contrast medium injection under visual control of the bolus flow.

Gantry stepping with zeego and ceiling mounted systems, table stepping with floor mounted and biplane systems.

- Position-dependent variable frame rates.
- Fully automatic exposure control.
- Automatic storage of the collimator setting for each step.

PERIVISION:

Peripheral digital stepping angiography with online subtraction display in an examination procedure with only one single contrast medium injection under visual control of the bolus flow.

- Only one single automatically acquired mask image for each individual position.
- Position-dependent variable frame rates.
- Fully automatic exposure control.

Automatic storage of the collimator setting for each step

syngo X Workplace

The syngo X Workplace is a dedicated workstation for image postprocessing. Its functionality can be extended with additional software functions to suit specific user or clinical needs in angiography, surgery, and cardiology. The use of the licensed software is limited exclusively to the specific syngo X Workplace included with this configuration.

syngo X Workplace PC

The high-performance workstation is equipped with an Open GL accelerator board to support 3D applications. To exchange medical images on DICOM-compatible CD-Rs and DVDs, the system is equipped with a CD/DVD burner.

syngo X Workplace can be connected to an existing network via 1000/100/10 Mbit Ethernet.

Examination room: 19" color flat display or Artis Large Display connection kit

With this configuration, if an Artis Large Display is ordered - the configuration includes a connection kit for the Artis Large Display. If an Artis Large Display was not ordered - a display is delivered additionally for the examination room...

Control room: 19" color flat display or Artis Cockpit connection kit

In this configuration, there is also one display for the control room or one connection kit for an Artis Cockpit.

The Siemens 19" LCD color display features very high contrast even under very bright ambient light conditions. The Gamma curve was precisely adapted to the CIE/DICOM recommendation and is thus especially suited for gray scale display.

LCD color display

- 19" (48 cm) screen size
- Resolution: 1,280 x 1,024 (pixels)
- Excellent brightness for the entire service life: 137 cd/m² at a contrast ratio of 300:1.

Description

- Flicker-free and distortion-free image display
- Anti-glare screen

The controlled background lighting provides stable lighting throughout the entire product life cycle.

syngo X Workplace Basic User Software

The *syngo X Workplace* software features an intuitive and thus easy to learn user interface developed from prototypes tested in close cooperation with users.

Standard functions such as filming or image review, and optional clinical application software, are performed in individual processes on dedicated task cards. A number of functions and input parameters, as well as the language used, can be selected according to individual requirements.

Package includes the following software licenses

Basic software with CD and dongle for the following functions:

- Patient Browser
- Filming
- Viewer
- System services

Patient Browser:

- Patient management.
- DICOM communication with Send, Receive, Query/Retrieve, Print.
- Reading and importing image data from CDs/DVDs.
- Module for writing DICOM CDs/DVDs for data exchange. Writing is in background mode.

Filming:

A virtual filmsheet shows a 1:1 display of the film sheets to be printed. This permits an effective preview of the filming job and the windowing of images, as well as providing a large number of evaluation functions.

Viewer:

The Viewer supports interactive 2D review, evaluation, and documentation functions. Multiple studies from the same patient can be displayed side-by-side for comparison.

- Image display: 1.024² screen matrix, configurable with up to 64 image segments.
- CINE display: Automatic or interactive dynamic presentation technique for the visualization of time and volume series.
- Synchronized viewing of multiple series.
- Measurement and annotation: Text annotation; distance, angle, circle, ROI and pixel lens, depending on information available from the acquisition system.

System services:

Microsoft Office Word, Excel, PowerPoint plus Outlook are supported (not provided!).

- Any user-selectable file, such as cardiac or angiographic acquisitions, DSA or 3D AVI video sequences, can be burned to CD, or exported to USB stick, to prepare quality presentations and demos of pathologies.
- Network module: For connection to a local Ethernet (Gigabit or 100 Mbit) for communication with networked archives, printers, diagnostic and therapy workstations, and teleradiology routers.

Scope of functions

- Network stations can be configured.
- Unlimited selection of stations.

3D image generation

3D rotational angiography

Description

In 3D rotational angiography, a sequence of 2D projection images is acquired by a C-arm performing a fast rotation around the isocenter in which the patient is positioned. Image data are transferred automatically to a *syngo* X Workplace for time-optimized 3D image data reconstruction.

- All parameters required for the 3D reconstruction are included in the organ program. This enables optimized image quality and easy handling, as well as the fastest possible 3D reconstruction.
- Rotation speed is up to 88°/s (Artis zeego with *syngo* Dyna3D HighSpeed), 60°/s (Artis ceiling), and 45°/s (Artis floor and Artis biplane).
- Angle triggering allows a reduction in dose through a reduced acquisition frame rate while at the same time achieving better image quality. In addition, it allows for accurate subtracted rotational scans.

3D reconstruction and visualization of a volume are performed in real time in volume rendering technique, MPR, and MIP. 3D Rotational angiography is used in particular as support in interventional radiology and neuroradiology in the angiography laboratory. Based on dedicated acceleration hardware the primary reconstruction results are available in full diagnostic quality in the examination room within 19 seconds for high contrast images. Subsequent secondary reconstructions are available even faster.

Note: For biplane systems rotation angiography is available in plane A only.

3D Image Manipulation

The 3D XWP comes with applications that facilitate interactive volume rendering, accelerated by a high-end 3D graphics card. It offers support for large data records of up to 1,600 images (512 x 512 matrix).

In angiography, surgery, and cardiology, the three-dimensional information is used for diagnosis, planning of therapy and documentation.

Diagnosis and treatment can be performed in one session. This offers a significant advantage thanks to the fully-integrated workflow, for example the

- Transfer of the projection angle (that has been adjusted by the user in the XWP 3D volume) to the C-arm stand.
- Realtime synchronization between reconstructed volume and C arm position (Volume following the C arm position)
- Indication whether the angulation can be achieved at the C-arm without collision with the patient or table.
- Interventional volume measurement.

Features:

- Reconstruction protocols for visualization of vessels, bones, clips and coils.
- The result of the reconstruction can be native or subtracted.
- Modification of reconstruction area to allow zoom via reconstruction.
- Visualization with shading and light source for an improved three-dimensional impression.
- Interventional volume measurement.
- Link between C arm geometry and reconstructed volume: driving the C arm to exact projection position according to the view of the reconstructed volume and/or setting the volume to follow realtime C arm positions

Image data:

- Viewing of volume data from AX, CT, MR, and PET modalities.
- Loading of two volume data sets simultaneously.
- Multiple Layouts: single (1on1), double (2 on1) and quadruple (4on1) for MPR display.
- Two displays can be supported for simultaneous display of two volumes side-by-side.

Image display modes:

- VRT, Color VRT, MIP, MinIP, and MPR rendering.

Description

- Thin slice renderings for VRT, MIP, and MinIP.
- Variable light source.
- Shading effects.

Volume editing:

- Cut planes.
- Editing of clip planes and control volumes.
- ROI punching.

Presets:

- Series-specific bookmarks, to store and retrieve volume visualization parameters.
- Global presets for series-unspecific application of volume visualization parameters.

Output:

- Radial ranges, including macro range definitions.
- 2D and 3D measurements, measurement grid, distance measurement and annotations.
- AVI format export with selectable compression format and compression ratio.
- TIFF, PNG, BMP, JPEG image export.
- Send to film sheet.
- Sending of parallel ranges results to PACS

3D accessories

Includes the accessories required for 3Dsetup and calibration :

- Plexiglas calibration phantoms
- Line phantom for image quality control
- Form filter
- 3D data link

Dual volume visualization

Enables the differentiation between two high-contrast 3D objects that have virtually the same contrast density by choosing different visualization presets for the two simultaneously loaded volumes. This enables clear differentiation between e.g. contrast-filled vessels, bones, stents, clips or coils.

Furthermore, it allows the display of one low-contrast and one high-contrast volume in one view, often realized as embedded MPR where the high-contrast volume is visualized in VRT and the soft-tissue information is shown as MPR slice. This can be used e.g. for visualization of anatomical structure such as tumors in relation to the feeding vessels

Common functions

Inroom control functionality

Allows for remote control of the *syngo* X-Workplace from the examination room via touchscreen and joystick mounted table-side or on a trolley.

For this, a set of functions is offered inroom for e.g. 3D image assessment and manipulation, 3D navigation, multimodality image integration, or for actively following the steps of a pre-defined workflow.

syngo Expert-i

syngo Expert-i enables the physician to interact with the *syngo* X -Workplace from virtually anywhere.

When clinical questions arise at the *syngo* X-Workplace, a second user with a Windows PC can quickly and efficiently access the *syngo* X-Workplace via the network. He or she can assume full control of every application on the *syngo* X-Workplace and can see all screen content that is displayed for the local user on the main monitor. This allows the parties involved to discuss clinical questions via phone and quickly reach solutions on a joint basis.

DICOM

Industrial standard for the transmission of information between DICOM-compatible units from different

Description

manufacturers. The scope of functions is described in detail in the DICOM Conformance Statement and in the standard version includes the Transmission/ Reception, Query/ Retrieve and Basic Print functions.

Note concerning DICOM interface(s)

For diagnostic purposes, only hardcopy cameras/laser printers explicitly approved for this system may be used.

The description in the DICOM Conformance Statement downloadable from the Internet is exclusively binding for the functionality of the DICOM interface(s).

Functionalities across interfaces 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.

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.

The *syngo* Angio Viewer enables dynamic review of DSA scenes (in native or subtracted display) and their postprocessing at the *syngo* Workplace, with functions such as:

- Remasking.
- Pixelshift.
- Anatomic background.
- Opacification etc.
- Review of DYNAVISION and PERIVISION scenes

Measuring program integrated in the imaging system for objective, precise and reproducible evaluation of vessels.

- Automated contour detection.
- Determination of degree of stenosis.
- Automatic and manual reference diameter determination.
- Automatic and manual calibration methods.
- Distance and angle measurement.

The Vessel analysis allows precise quantification under sterile conditions, direct at table side with the touchscreen control. This speeds up the intervention and makes the procedure safer for the patient. The reports can be easily stored in the patient folder for documentation and to show the correct analysis of dilatations etc.

Especially to be used for vessel sizes between 0.5 mm and 50 mm.

Automap optimizes the procedure workflow, especially during interventions. A selected reference image displaying the needed medical information (e.g. before dilatation) is used as the basis for moving the system to the correlated position automatically. The intervention can be continued immediately without manually repositioning the patient. On the other hand, the system is able to select a reference image for the current device position. In case of changes in device position, this enables the user to see the corresponding reference images quickly and safely.

Note concerning DICOM interface(s)

For diagnostic purposes, only hardcopy cameras/laser printers explicitly approved for this system may be used.

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Description

Sent in MPPS:

- **Total dose-area product**
- **Number of exposures**
- **kV** per image (DICOM Exposure Dose Sequence)
- **ms** per image
- **mA** per image

Note concerning DICOM interface(s)

For diagnostic purposes, only hardcopy cameras/laser printers explicitly approved for this system may be used.

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Functionalities across interfaces 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.

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With regard to expenses for interface configurations that might be required, the agreements on maintenance/service of the product apply.

Printing Acquisitions using a Virtual Filmsheet

Selecting "Auto-Print" automatically forwards the images stored in the virtual filmsheet to the printer. 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.

Note:

For diagnostic purposes, only hardcopy cameras/laser printers explicitly approved for this system may be used.

The description in the DICOM Conformance Statement downloadable from the Internet is exclusively binding for the functionality of the DICOM interface(s).

Functionalities across interfaces 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.

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.

Radiation protection attached via a ceiling-mounted, mobile stand for protection against scattered radiation; incl. 4 m ceiling rail.

- Swivable and rotatable around the fixed point, range of rotation 360°.
- Counter-balanced, height-adjustable support arm.
- Acrylic glass with Pb equivalent of 0.5 eq (w x h: 61 cm x 76 cm), with recess for interventional examinations.

Mach LED 130F examination light with focusable light system. Can also be installed on the Portegra2 ceiling support of the portable radiation protection panel.

It is therefore fully integrated into the ceiling-installed radiation protection system of the Artis Zee/Q/Zen family.

- Luminance: 60,000 Lux for 100 cm distance
- Working distance: 70 to 140cm
- Color rendering index Ra: 95
- Color temperature: 4,300 Kelvin
- Focusable spot size: 14 to 25cm

Description

- Diameter of light head: 33cm
 - Number of LEDs: 19
 - Total input power: 20 VA
 - Max. reach of the spring arm combination: 185 cm
 - Total weight of light head with grip sleeve: 2,4kg
- Lamp power connection 230V or 115V possible

Rail profile (short table attachment) for table operation

- Weight: 1.4 kg
- Rail length: 12 cm
- Width: 20 cm
- Height: 14.5 cm

Rail profile (long table attachment) for device operation (with or without table operation)

- Weight: 2.8 kg
- Rail length: 25 cm
- Width: 20 cm
- Height: 14.5 cm

For Artis tabletops, the two arm holders help to laterally position the arms comfortably along the patient's body. They are slid laterally underneath the mattress, level with arms, and fixed by the patient's body weight. The patient's arms can be immobilized with commercially available securing straps (not included). Two pairs of arm holders of different length and height (matching the mattress height) are supplied, that are suitable both for thick and thin mattresses.

An arm holder weighs 8 kg.

Ordering information that can be deleted from the final version of the offer follows:

Not in conjunction with the Surgery table and multi-section metal / carbon tabletop or the multi-section Surgery metal / carbon tabletop RoW.

Already included in the following basic configurations:

- Combination Interventional cardiology / radiology
- Interventional radiology
- Neuroradiology
- Combination Interventional radiology / cardiology
- Vascular surgery
- Neurosurgery

Can also be ordered as an option.

During interventions requiring the patient to be positioned on the tabletop in prone position, the head can comfortably be positioned on a head pad filled with soft gel material.

An oxygen tube can be inserted into the patient's mouth from the side.

Ordering information that can be deleted from the final version of the offer follows:

The head positioning device can be used in combination with the kyphoplasty armrest.

Delivered as an option only, not included in the basic configuration.

Ordering information that can be deleted from the final version of the offer follows:

Not in conjunction with the multi-section Surgery metal / carbon tabletop or the multi-section Surgery metal / carbon tabletop RoW.

Delivered as an option only, not included in the basic configuration.

Description

Compression is achieved through a radiolucent, easy-to-clean plastic belt by means of a tensioning device with locking.

Advantages of compression:

- Fast and secure fixation of patient to the tabletop.
- Reduction of patient thickness, i.e. improvement of image quality through reduction of scattered radiation.

Ordering information that can be deleted from the final version of the offer follows:

Can be placed directly on all ARTIS tabletops (Narrow = Card, Wide = Comfort, Long = Comfort + 30 cm, MP tabletop),

Not in conjunction with the Surgery table.

Delivered as an option only, not included in the basic configuration

This UPS is recommended when protection and uninterruptible power is required for the C-arm and table. Emergency fluoroscopy is not available with this UPS. If emergency fluoroscopy is required, the 9390 - 160 kVA UPS is recommended for the full system. One UPS per lab.

Operation:

- Since this UPS is working completely uninterrupted, a power failure is observed when no radiation is available and the display shows "No X-ray please wait".
- The Emergency power lamp (red) will light on the power display during a power failure. All stand movements are possible and the image system functions are protected against data loss. Guaranteed back up time: 10 min.
- Restoring of hospital's main power supply is indicated when the generator boots again (also green Hospital power lamp lights). Full exposures are available after apx. 75 seconds.

Includes UPS, battery, maintenance bypass panel, and one year on-site parts and labor coverage (24x7) by Eaton Powerware.

Additional seismic brackets are required to make this system OSHPD approved.

Industrial-grade anti-fatigue floor mat that provides comfort and durability. As a high-quality product designed to fight fatigue, it provides support for tired, aching feet, legs and back. Beveled edges for safety. Size 3'x5'.