REQUESTING SERVICE: MATERIEL MANAGEMENT
SHIP TO: VA MEDICAL CTR (695)
V.A. Medical Center
5000 W NATIONAL AVENUE
BLDG 111
MILWAUKEE, WI 53295

REQUISITION: 695-B98049

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 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 | **Stand, mntd on left inst. of right** |

With this option you will receive an Artis zee MP with a multi-functional C-arm stand with left suspension (mounting) of the positioning table instead right suspension positioning table.

This left suspension positioning table is recommended for ERCP and similar procedures.

| 1 | **Laser crosshairs** |

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).

| 1 | **Automap** |

Automatic stand positioning depending on the selected reference image and automatic reference image selection depending on the stand positioning.

| 1 | **4P wireless footswitch inst. of cbl** |

Wireless footswitch connection

Note: Wireless replaces the wired connection.

Qty	Item Description

1   **Fluoro Loop**

Storage and review of dynamic fluoroscopic sequences. This saves an additional acquisition and helps to reduce dose. The maximum storable fluoroscopic time is limited by the maximum DICOM file size of 4 Gbyte.

1   **2K acquisition**

Acquisition and storage of single images and series with a resolution of up to 4.76 megapixels (2480 x 1920) at up to 7.5 f/s.

The 2k acquisition is valid for DR, DSA, 3D acquisitions and PERIVISION, and affects full format, Zoom 1, and Zoom 2.

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 CO_2 contrast (MinOpac); adding of the anatomical background (landmark) from 0 to 100%.

It also includes CLEARmap and CLEARmatch.

1   **DYNAVISION DSA/DR**

Native or subtracted digital rotational angiography with angle triggering.

1   **syngo 3D Engine with Acquisition**

A workstation for reconstruction, post-processing and handling of 3D information.
The package includes the following functionalities:
3D high-contrast imaging (for e.g. contrast filled vessels or bones).
in-room control for table-side operation of advanced applications, Expert-i functionality for remote operation of the XWP.
Only for PURE systems, the package also includes: 3D Wizard for expert step-by-step guidance in 3D acquisition and parallel patient processing capabilities.

1   **Image storage enhancement**

Option to expand image memory by 1.1TB.

1   **syngo 3D Roadmap**

The operator can overlay any 3D volume data, or excerpts of it, onto the live fluoro image. Via a fade the degree of visibility can be determined at any time (Fade in - Fade out).

This tool offers the physician real-time three dimensional guidance for more confidence. No extra contrast is needed to make the vessel tree visible. The 3D Roadmap is automatically updated in real-time according to any table, C-arm, zoom and SID changes. Even changes due to patient movement can be manually updated.

The 3D volume can be overlaid on regular fluoro as well as on subtracted fluoro (Roadmap) or acquisition series. The overlay appears on the display so the 3D Roadmap information is available in parallel with the regular 2D images of the live display of the acquisition system.

1   **syngo Fusion Package**

A full package for fusion functionalities and overlay of 3D graphics, consisting of the following tools:

syngo Toolbox - a generic application to interactively mark structures of interest in a 3D volume, e.g. a syngo DynaCT image, using points and lines. Analogously to syngo 3D Roadmap, these markings are projected onto the live 2D X-ray illustrating the position of the 3D anatomical structure within the live X-ray.

Included functionalities:

Automatic extraction and overlay of anatomical outlines of the 3D volume on live 2D image. Overlay of any lines and dots drawn on the VRT or MPRs on live 2D image. syngo Toolbox provides an easy link between information that may only be visible in the 3D volume (VRT or MPRs) and the Fluoroscopy images.

Qty	Item Description

Preprocedural planning data from 3mensio can be fused together with a 3D dataset. Then they can be labeled, colored and individually shown or hidden.

syngo 2D/3D Fusion - spatially aligns any pre-acquired 3D volume of the patient with two 2D X-ray projections. This eases the workflow during the procedures and reduces the X-ray dose because no additional 3D acquisition is required.

syngo 3D/3D Fusion - spatially aligns two 3D volumes from the same or different modality in such way that the anatomical structures overlay each other.

1   **syngo 3D Basic SW license**

Basic 3D viewer platform for display of 3D series with Multiplanar Reconstruction (MPR), Surface Shaded Display (SSD) and Maximum Intensity Projection (MIP).

1   **syngo 3D Fly Through**

Fly-Through package integrated in the syngo 3D Card for simulation of virtual endoscopy or bronchoscopy and for Fly-Through in vascular structures, where real endoscopic procedures could be impossible.

1   **syngo Angio Package**

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.

2   **Lower body radiation protection**

This radiation shield provides protection from scattered radiation.

The radiation protection can be attached to the accessory rail.

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

Intended 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 (4 m / 157.5''), a ceiling mounted and movable stand (80 cm or 57 cm / 31.5'' or 22,4), a support arm (94 cm x 91 cm / 37'' x 35.8'') 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.

1   **LED Surgical Light**

Ceiling-mounted small LED OR light with variable focusing of the light field for optimum illumination. It is fully integrated into the ceiling-installed radiation protection mounting unit.

- Luminance: 100,000 Lux for 100 cm / 39,4'' distance
- Field: 60 to 150 cm / 23.6'' to 59.1''
- Color rendering index Ra at 4500 Kelvin: 95
- Color temperature: 4,500 Kelvin, single color
- Focusable light field: 14 to 28 cm / 5.5'' to 11''
- Diameter of light head: 49 cm / 19.3''

Qty	Item Description

- Number of LED lights: 21
- Total input power: 30 VA.

1   VA kit Artis zee systems

Second operator manual and CD-R

1   Intercom - Comfort

Intercom system for communication between examination room and control room.

It includes

- a microphone with a control box for the control room

- a microphone with an adaptive acoustic filter for background noise suppression for the examination room

- a footswitch for conversation selection for the examination room

1   syngo Security Package (SW lic.)

SW extension providing enhanced security features including user management and audit trail functionality.

1   Thick mattress for Artis zee-mp

Matching, special-foam mattress, 8 cm, made of open-pored polyurethane material.

Mattress including cover.

This visco-elastic comfort mattress for tabletop narrow, reacting to temperature, has the special property of adapting to the individual body shape under the influence of body weight and heat.

1   Tabletop extension

Provides additional arm support for large / obese patients. Slides underneath the patient mattress and is held in place by the patient's weight. Patient arms can be fixed with Velcro straps.

The kit includes a board made of radiolucent carbon fiber material, four arm pads (two pairs with two different heights) made of washable plastic foam material and Velcro straps of two different lengths.

The maximum weight per side is 20 kg (44.09 lb).

Length: 45 cm / 17.7''

Width: 85 cm / 33.5''

Weight: 2.3 kg / 5.07 lb

Dimension thick cushion: 10 cm x 34.5 cm x 7 cm / 3.9'' x 13.58'' x 2.76'' (l x w x h)

Weight thick cushion: 0.25 kg / 0.55 lb

Dimension thin cushion: 10 cm x 34.5 cm x 4 cm / 3.9'' x 13.58'' x 1.57'' (l x w x h)

Weight thin cushion: 0.15 kg / 0.33 lb.

Intended only for use with Artis / ARTIS tables.

1   Handle

This handgrip gives the patient a feeling of security when the tabletop is tilted.

It includes a handgrip with mounting mechanism for the tabletop.

Grip height: 10 cm / 3.9''

Maximum weight lengthwise: 64 kg / 141.1 lb

Maximum weight laterally: 10 kg / 22.05 lb

Weight: 0.5 kg / 1.1 lb

Intended only for use with Artis / ARTIS tables.

1   1444047 4   Body strap set

Can be used to secure patient to the patient table and to compress patient anatomy. It

Qty	Item Description
	consists of two belts with Velcro straps (l x w: 185 cm x 10 cm / 72.8" x 3.94").
	Intended only for use with Artis / ARTIS tables.

Sec. operation in the control room

Qty: 1

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.

Secondary Device Control (C Room)

Qty: 1

Additional control module, monoplane, for all functions of the C-arm movements and multileaf collimator. For both acquisition planes for a biplane system.

Secondary Table Control (C Room)

Qty: 1

Second control module to remote-control the patient table in the examination room. Table control within the degrees of freedom supported by the motor drive. (Release knob in connection with the standard table; joystick in connection with the OR table, the table with tilting and the table with stepping).

Secondary Hand Switch Ctrl (C Room)

Qty: 1

Additional hand switch for radiation release and additional control functions.

Secondary Footswitch Ctrl (C Room)

Qty: 1

Additional footswitch for radiation release including configurable control functions

Table secondary operat. (ex. room)

Qty: 1

For control of all table functions including power-assisted longitudinal, transversal, height and tilting settings.

DICOM RIS-Modality Worklist

Qty: 1

Import of patient/examination data from an external RIS/HIS patient management system with DICOM MWL (Modality Worklist).

19-21 display installation loc.

Qty: 1

A prewired installation location (DVD-D standard) for a 19 - 21 display in the examination room has been provided.

This enables an easy upgrade of a third-party display in the display holder located in the examination room.

Note the following conditions if video signals are to be shown on a third-party provider display:
- The display of external video signals depends on the operational state of the Artis system. If the Artis system has a malfunction or is shut down, the display of external video signals is no longer possible. For this reason, do not feed the video signal into the Artis system if lacking the external video signal could result in a hazardous situation.
- A third-party provider's unit may be connected only if it corresponds to the specifications of the video interface on the Siemens system.
- The connection may only be established by a Siemens service technician. Note: The connection must be made with fiber-optic cables to ensure that the unit's galvanic isolation is maintained.
- A third-party provider's unit must be connected by a technician from the third-party provider or by a hospital technician responsible for the equipment.
- It is strongly recommended that a test of image quality be performed by the third-party provider prior to start-up. This test ensures that the required image quality is achieved.
- The system configurator is responsible for ensuring that applicable standards are maintained in the current version, e.g. 4 kV insulation

Qty	Item Description
	Siemens will not be held liable for the inclusion of third-party provider units with respect to image quality and their suitability for clinical diagnosis.

Initial onsite training 32 hrs

1

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.

Follow-up training 32 hrs

1

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.

Follow-up training 12 hrs

1

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.

Eaton Powerware 9355 15 kVA UPS

1

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.

Black anti-fatigue mat 36x60

1

Black NewLife EcoPro anti-fatigue mat (36 inches x 60 inches), 3/4 inch polyurethane foam, fluid and dirt resistant with anti-micorbial properties, matte textured surface.

The ultimate employee benefit for workers who stand, are ergonomically designed to provide the perfect balance of premium comfort and optimal support. Proprietary Cellulon(r)Polyurethane Technology stands up to the tough demands of commercial environments while providing lasting comfort that won't bottom out over time. This eco-friendly line of anti-fatigue mats is certified by the National Floor Safety Institute for its high traction bottom surface.

Lower Body Prot. UT50 Artis zee MP

1

Modular lower body x-ray protection for Artis zee MP. Offers protection for physicians and medical staff e.g. in the gastrointestinal work environment.

Lower Body Prot. UT30 Artis zee MP

1

Set of three independent panels to be used with the Artis zee MP. The panels offer protection for physicians and medical staff e.g. in the gastrointestinal work environment. They can be used stand-alone or combined with the Lower Body Protection UT50.

Standard Rigging zee SP GOV

1

Qt	Item Description

1   **Artis Zee systems (w/wo PURE) Complimentary Biomed Training**

This educational offering includes system training tuition for 1 clinical engineering professional on the Artis, Artis Q, Artis ZEE, Artis ZEEGO PURE or Artis ZEEGO Q, and the syngo multimodality workstation as applicable. The training curriculum depends on and is limited to the system purchased and may include multiple courses including classroom training in USA or an international site, and/or virtual and web-based training. Additional modality basics training may be required as a prerequisite to these courses and must be purchased separately. This system training includes a 15% discount. Travel and lodging are not included. This educational offering must be completed by the later of (12) months from purchase or install end date; if training is not completed within the applicable time period, Siemens obligation to provide the training will expire without refund. This forfeiture does not apply to Federal government organizations.

Offset Artis Zee Complimentary Biomed Training

Offset Initial Training 32 hrs (

OPTIONS

Qty	Item Description
1	**Vascular analysis** Vessel analysis with determination of degree of stenosis, distance measurement and calibration.
1	**Secondary System Control (C Room)** Touchscreen control with a multi-functional joystick for the selection of the organ programs, operation of the imaging system, including post-processing and quantification
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	**RaySafe i3 package** RaySafe i3 package includes Dose Manager software, 1 RaySafe real time dispay, (4) RaySafe i3 dosimeters, power supply, cradle, dose viewer software, mount and one dosimeter rack. One year warranty and installation provided by Fluke Electronics.
1	**RaySafe i3 dosimeters** One additional RaySafe i3 dosimeters
1	**RaySafe Dose Manager software**
1	**Service Essentials X-Ray Basic** This educational offering covers BASIC modality service essential training tuition for 1 clinical engineering professional on the X-Ray imaging systems. The training curriculum depends on and is limited to the system purchased and may include multiple courses including classroom training and/or virtual and web-based training. This offering includes a 15% discount. Travel and lodging are not included. This educational offering must be completed by the later of (12) months from purchase or install end date; if training is not completed within the applicable time period, Siemens obligation to provide the training will expire without refund. This forfeiture does not apply to Federal government organizations.

Detailed Technical Specifications

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 ±90° 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 ±45° 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

<u>X-ray generator</u>
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 focal-spot-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°
- Maximum anode heat storage capacity: 3,375,000 HU
- Maximum tube current for fluoroscopy: 250 mA

Description

* 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.

as40 flat detector

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 µm 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
- 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

Description

- 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 ±20°)
- Transverse travel from 25 cm to -40 cm
- Max. patient weight 200 kg. It is possible to attach up to 40 kg of additional accessories, plus a further 100 kg

Description

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 or 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.

Dose documentation

Description

- 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 agreements on maintenance/service of the product apply.

Description

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 and exposure 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:

- Initial and follow-up Training.

- Instruction on system, operator and patient safety.

- Instruction on operation of the system.

- Instruction on proper cleaning of the system.

- Instruction on basic and advanced imaging.

Included in the left suspension version:

Tilting range of the stand ±90° with full functionality at any angle.

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.

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 CO_2 contrast (MinOpac); adding of the anatomical background (landmark) from 0 to 100%.

Description

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 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.

Angle-triggered digital rotation angiography enables dynamic image display with 3D effect. Dynamic subtraction with optimum alignment of masking and filling, and automatic pixel shift in the entire scene.
- Rotation speed is 60°/s (Artis zeego and Artis ceiling) and 45°/s (Artis floor and Artis biplane).
- Acquisitions with frame rates in 1k matrix from 0.5 to 7.5, 10, 15, 30 f/s (standard) and 60 f/s with reduced spatial resolution can be selected,
- Angle triggering allows a reduction in dose through a reduced acquisition frame rate while at the same time achieving better image quality.

Includes DYNAVISION DR for native rotation angiography and DYNAVISION DSA for subtracted rotation angiography. Reconstruction at the *syngo* X Workplace is not possible with this operating mode.

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

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.

Description

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.
- 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: 1.024^2 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.

Description

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

3D image generation

3D rotational angiography

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:

Description

- 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 besupported for simultaneous display of two volumes side-by-side.

Image display modes:
- VRT, Color VRT, MIP, MinIP, and MPR rendering.
- 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

Description

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 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.

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syngo Toolbox

Any change of the angulations of the C-arm or any change of the table position will cause the workstation to recalculate in real time the projection of the 3D markings to exactly match the current view of the live 2D X-ray image. This function can be used to guide the operator with his or her instruments to a target structure as the markings in the 3D image can serve as a surgical plan that is displayed during the procedure in the X-ray image.

syngo 2D/3D Fusion

While *syngo* 3D/3D Fusion requires a *syngo* DynaCT or *syngo* Dyna3D image to overlay a pre-operative CT on the live X-ray image, *syngo* 2D/3D Fusion requires only two 2D projections from different angles for such overlay. Simultaneous alignment in two views ensures overall alignment of the 3D volume and fluoro at all angulations.

syngo 3D/3D Fusion

Besides an improved diagnostic workflow, syngo 3D/3D Fusion becomes particularly powerful in conjunction with syngo 3D Roadmap and syngo Toolbox. For example, a fused CT, MR or PET image can be overlaid with live fluoroscopy in combination with syngo 3D Roadmap. If anatomical structures have been marked in the CT, MR or PET image using syngo Toolbox,

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Input check for data consistency
3D series list function with consistency check of 3D series that are suitable for 3D processing. Overlapping 3D series can be merged to a single consistent 3D series.

Data set preparation
The data to be displayed can be limited through the clip box or the function "irregular volume of interest", which filters out disturbing information.

Image processing
Multi-Planar Reconstruction (MPR) for interactive movement through 3D volumes in any direction

- Real-time reconstruction of secondary cuts in orthogonal, oblique or double oblique orientation with freely selectable slice thickness (MPR thick, MPR thin) and slice distance.
- Calculation of curved cuts is possible.
- Automatic generation of parallel or radial areas.

Description

- Frequently used area settings can be stored.
- Reference lines can be determined in the reference topogram or from a 3D surface reconstruction.

Maximum Intensity Projection (MIP) for angiographic display:

- Projection of the pixels with the highest intensity (vascular information) on any plane for display and diagnosis of e.g. aneurysms, plaques, stenoses, vascular anomalies or vascular exits.
- Thin MIP function for the projection within a slab of the data set.
- Automatic generation of radial areas. The resulting series can be viewed in three-dimensional display by means of the Movie function.

Shaded Surface Display (SSD) for the surface display of complex anatomies:

- Three-dimensional display of surfaces from a series of adjacent slices by means of an adjustable threshold value with quick preview and high image quality mode. It is used to display and analyze different anatomies, such as the interior of the skull, pelvis, hips, etc. in order to plan surgical procedures.
- The 3D objects can be tilted and rotated on the monitor in real-time by means of a virtual trackball.
- Automatic generation of radial series of SSD displays.

Since MPR, MIP or SSD are different visualization filters of the same data set, the user is free to switch between these modes and can also magnify the current display segment. Reconstructed images or areas can be stored or transferred to film sheets.

The Fly-Through package includes:

- Quick endo view mode with one-click display of internal anatomy as perspective VRT or SSD image at position indicated by reference lines in MPR images
- Orientation control with correlation of MPR reference lines and colored beam projections in perspective VRT or SSD image
- Interactive navigation on endoscopic view or reference segments with push/pull, fly around, look around or zoom/pan mode
- Path creation with key frames at points of interest
- Automatic or interactive fly mode along created path or along automatically found path
- Possibility to store path or range of perspective VRT images

Standard and perspective VRT settings can be modified independently and stored in VRT gallery.

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

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 2SC OR light with focusable light system, can be positioned flexibly. 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 VC21/Q/Zen family.

Description

- Luminance: 100,000 Lux for 100 cm distance
- Field: 60 to 150cm
- Color rendering index Ra: 95
- Color temperature: 4,500 Kelvin, single color
- Focusable spot size: 14 to 28cm
- Diameter of light head: 49cm
- Number of LED lights: 21
- Total input power: 30 VA
- Max. reach of the spring arm combination: 185 cm
- Weight without grip sleeve: 12,5kg

OR lamp power connection 230V or 115V possible

Communication / Intercom system for communication between examination room and control room, with additional footswitch for conversation selection in the examination room.
Microphone and control box on the console in the control room.
With adaptive acoustic filter for background noise suppression in the examination room.
Microphone in the examination room installed on the ceiling.

Ordering information that can be deleted from the final version of the offer follows:
Intercom - Comfort replaces the old intercom system (without adaptive acoustic filter for background noise suppression).
Delivered as an option only, not included in the basic configuration

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This SW license enables your system to support enhanced user and system management, including:

- User authentication to prohibit unauthorized access
- Privileges to define user/role based functionality
- Permissions to control data access
- Audit trails to log system and data access

The lateral table extension is used especially in angiography and general radiology for big and obese patients as an additional armrest. It is slid underneath the positioning mattress and fixed by the patient's weight.

The lateral table extension consists of radiolucent carbon fiber material, which avoids disturbing edges and shadows in the image. Arm pads made of washable plastic foam material are available on both sides. The patients's arms are immobilized by Velcro straps.
Max. load per side 20 kg.

Ordering information that can be deleted from the final version of the offer follows:
Not in conjunction with the Surgery table
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 Surgery table.
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.

Description

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

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

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.

It includes the following components:
- A DVI to fiber-optic cable converter
- A fiber-optic cable (36 meters)
- A fiber-optic cable to DVI converter
- Two 5 volt power supplies for the adapters

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.

Description

The lower shield sections are comprised of overlapping protective sway panels, which self-adjust to different table inclinations of up to 15°. The new multi-functional side handles allow the user to easily carry, position, and firmly lock the lower shields in place.

The various top shields of the UT5001-SI can be combined and strategically placed to allow for multiple interventional methods and procedures. For comfortable patient positioning or in case of emergency, the shields can be removed quickly.

Scope of delivery:
- Frame
- Lower protection side (width 1140 mm, height 684 mm, lead equivalent 0,5 mm)
- 2x top shield side long (width je 186 mm, height 351 mm, lead equivalent 0,5 mm)
- 2x top shield side short (width je 186 mm, height 301 mm, lead equivalent 0,5 mm)
- Lower protection front (width 725 mm, height 684 mm, lead equivalent 0,5 mm)
- Top shield front (width 703 mm, height 301 mm, lead equivalent 0,5 mm)
- 2x wall mount top shield
- 2x wall mount lower shield

The universally applicable set consists of three panels adaptable to table rails of the Artis zee MP. The radiation protection panels are securely held in place. The design of the panel bracket ensures that all movements of the table are synchronously followed.

Specifications:
- Lead equivalent: 0,5 mm
- Panel height: 750 mm
- Panel width: 290 mm

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.