

662-B70016 XR CATH LAB SAN FRANCISCO, CA.

**Qty**

**Item Description**

**Artis zeego vascular surgery**

Artis zeego with Q Technology for vascular surgery 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 multi-axis system offers a flexible working height and unmatched positioning flexibility thanks to the flexible isocenter. The design of the Artis zeego allows imaging even for open surgical procedures without significantly interrupting the laminar air flow from the ceiling. The c-arm adapts to the angulation of the table tops and moves along tables to support a procedure dependent patient positioning.

The GIGALIX X-ray tube concentrates high pulse power on small, square-shaped focal spots (flat emitter technology for all focal spots). This provides unprecedented image quality for confidence in challenging situations.

The as4OHDR flat detector is optimized for the requirements of surgery.

Digital acquisition technology and digital subtraction angiography with up to 7.5 f/s in 1k112 bit matrix are available.

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

Live and reference images are displayed on two 19" flat screens in the exam room. In the control room live images are displayed on a third screen.

**Table OR version**

Floor-mounted swivelling patient table with telescopic foot, floating and tiltable tabletop (in two axes); motor-driven stepping for digital peripheral angiography, and power-assisted table control module.

Includes carbon fiber tabletop in wide, straight design with special foam mattress (4 cm thick) and 4-pedal wired footswitch.

Note: It is mandatory to provide UPS back up with this table in order to comply with IEC

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### **Item Description**

60601-2-43 CL. 201.15.101. Reason: In the event of power failure a neutral table position suitable for CPR must be reachable within 15 seconds. Please include a suitable UPS from Siemens as required or make sure any existing / planned UPS provision for your installation site will satisfy the requirement

### **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.

### **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.

### **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.

### **DYNAVISON DSA/DR**

Native or subtracted digital rotational angiography with angle triggering.

### **Card acq. mode w/high speed**

Fast acquisition module for DR and DSA as well as digital card acquisition technology with frame rates of 7.5, 10, 15 and 30 f/s, acquisition, display and storage in 1k matrix.

### **CLEARstent Live**

CLEARstent Live is a real-time stent enhancement tool and provides a stabilized view of the moving stent which is displayed on the Assist/Reference Monitor. CLEARstent Live allows real-time verification of stent positioning while moving the device. This enables the physician to precisely position the stent in relation to the anatomy of the heart and stents that already have been implanted. Contains both CLEARstent Live license and CLEARstent license.

The CLEARstent imaging function allows an improved display of fine stent structures, i.e. the grid of inflated stents. CLEARstent is a post-processed stent enhancement and may be used also on previously acquired images.

Using the CLEARstent function special reference images from any scene or fluoroscopy scene acquired natively will be generated. Composite images are created by averaging several frames of a scene and by considering the alignment of balloon markers. If an ECG signal is available, the heart phase will also be taken into account.

### **IVUSmap**

With IVUSmap, it is possible to coregister intravascular ultrasound images and X-ray images on the Artis system. ECG-triggered Fluoro license is included.

With this item, a display is delivered additionally for the examination room if an Artis Large Display was not ordered. If an Artis Large Display is ordered, the configuration includes a connection kit for the Artis Large Display instead of the 19" display.

### **narrow TT thick mat. ins of std. TT**

Narrow-shaped carbon fiber patient positioning tabletop with head-end recess, ideal for cardiological applications. Tabletop tapered in the thorax area for maximum freedom of C-arm angulation.

Matching the narrow tabletop, special-foam mattress, 7 cm, made of open-pore polyurethane material and a latex-free cover.

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### Item Description

Note: The narrow patient positioning tabletop with the thick mattress replaces the narrow or wide tabletop with the thin mattress described in the basic configuration.

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#### **4P wireless footswitch inst. of cbl**

Wireless footswitch connection

Note: Wireless replaces the wired connection.

#### **syngo Valve Guide Engine as40**

A workstation for reconstruction, post-processing and handling of 3D information including specific applications to support valve implantation or replacement procedures like TAVI/TAVR. The package includes the following functionalities: 3D high-contrast and CT-like soft-tissue imaging (syngo DynaCT and syngo DynaCT Cardiac triggered/ untriggered for FD as40 Large Detector). syngo DynaCT Cardiac uses proven algorithms to perform 3D reconstruction of ventricles and vessels of the heart from projection images of a rotational angiography of the Artis system. 3D roadmap for dynamic overlay of planning data and 3D volumes on live fluoroscopy workflow support for valve implantation or replacement, 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, Parallel patient processing capabilities, Fusion functionality for integration of pre-interventional 3D datasets also from other modalities into the Angio-room. Marking of points or lines on the 3D geometry or MPRs and overlay of these markings on live fluoroscopy.

#### **syngo DynaCT 360**

syngo DynaCT 360° Large Volume in conjunction with an Artis zeego system allows the acquisition of a large 3D volume for the DynaCT reconstruction in only six seconds. This results in better image quality, less motion artifacts and the possibility of saving contrast medium.

#### **syngo DynaCT Micro**

Enables unique detail resolution (+40%) in interventional 3D imaging by using all detector pixels in a 22 cm image size with reduced dose. As a result, the smallest structures such as Cochlear implants or stents can be displayed in the best possible manner.

#### **syngo Dyna3D HighSpeed**

In conjunction with Artis zeego, as the fastest 3D protocol on the market syngo Dyna3D HighSpeed enables acquisitions to be generated in less than 3 seconds. As a result, moving organs such as the lungs can be displayed with a lot fewer artifacts.

#### **syngo DynaCT SMART**

Streak Metal Artifact Reduction Technique for syngo DynaCT images.

Metal implants, like coils and stent markers, create artifacts in the reconstructed images that might make it difficult to detect bleedings or restenosis around the ends of the stent, for instance. syngo DynaCT SMART is a dedicated reconstruction algorithm to reduce metal artefacts.. This type of integrated image reconstruction protocol results in 3D volumes with reduced metal artefacts.

#### **syngo Dyna4D**

syngo Dyna4D enables the visualization of flow patterns in 3D.

With only one C arm scan it provides a view similar to virtually an unlimited number of DSA runs at no additional dose and contrast media.

syngo Dyna4D helps to expand clinical capabilities in the angio suite by optimizing patient selection and supporting individualized treatment strategies.

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#### **syngo DynaPBV Neuro**

syngo Neuro PBV IR (Parenchymal Blood Volume in Interventional Radiology) is an application for displaying the blood volume distribution in the brain.

#### **syngo DynaPBV Body**

syngo Dyna PBV (Parenchymal Blood Volume) Body is an application for displaying the blood

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### **Item Description**

volume distribution in the abdomen.  
Only in connection with syngo Dyna PBV Neuro.

### **syngo NeedleGuidance**

A software module for planning and control of needle procedures.

The application enables the planning of one or multiple needle paths based on intraoperative syngo DynaCT images, or a preoperative 3D volume of a CT, PET/CT or MR system, in combination with Fusion functionality. Optimal progression views for easy control during needle insertion are calculated and suggested by the system and the planned needle path is overlaid on the live 2D image for easy guidance. Interventions such as vertebroplasties, kyphoplasties, pedicle screwing, biopsies, drainages and ablations can be performed on the angiography system with greater confidence.

### **syngo 3D Stenosis Measurement**

The application syngo 3D Stenosis Measurement allows analyzing a vessel segment using 3D views, e.g. MPR, VRT.

Based on a 3D volume the user marks the vessel of interest with two mouse clicks. The vessel is automatically segmented and the centerline of the vessel is calculated. The vessel can be displayed with a curved MPR along this centerline and key stenosis parameters are calculated such as smallest and biggest area of all cross sections along the vessel's course in the analyzed range.

Additionally, the users can "scroll" interactively along the vessel while detailed stenosis parameters are calculated for each MPR such as minimum diameter, maximum diameter and area of the vessel's stenosis cross-section as well as minimum luminal diameter and minimum luminal area.

### **syngo Aneurysm Guidance Neuro**

An integrated workflow to perform automatic 3D measurements on a cerebral aneurysm.

With three simple mouse clicks, a cerebral aneurysm and its parent vessel are segmented in the syngo Dyna3D\DynaCT image. Based on this segmentation, a complex analysis of the aneurysm is performed by the workstation and the aneurysm dome height and width, the ostium neck, angle and length as well as the ostium area and cutting plane are measured automatically. The application also determines the centerline of the parent vessel and displays the vessel as a curved MPR along this centerline.

### **syngo Embolization Guidance**

syngo Embolization Guidance is an application for planning and performing embolizations.

### **syngo Angio Package**

Software package consisting of DSA Angio Viewer as well as High-Speed Review for real-time display of native and subtracted angiography images.

### **syngo Scene Compare w/biplane**

Dual monitor support with biplane review functionality for the postprocessing of DSA scans. Both the evaluation of bi-planar scenes in synchronized mode and the comparison of scenes to single images are supported. The dynamic comparison of two scenes is also possible.

### **syngo iFlow**

syngo iFlow allows the visualization and analysis of the flow and perfusion in the examined organs. This information is based on the time-to-peak calculations from a routine DSA acquisition. The calculations can be shown as a color-map of the whole organ. It is also possible to analyze the flow and perfusion of regions of interest (ROIs) defined by the user and this information can be displayed with graphics, which might further help in understanding the flow dynamics of these ROIs.

### **Image storage enhancement**

Option to expand image memory by 1.1TB.

### **Mem. enhncmnt. 3 (50k - 1k Matrix)**

Memory capacity extended by 25,000 images, from 25,000 images to 50,000 images in 1k matrix.

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## Item Description

### Vascular analysis

Vessel analysis with determination of degree of stenosis, distance measurement and calibration.

### LV Analysis

Analysis of the left ventricular function of the heart.

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### Fluoro Loop

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.

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### Automap

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

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### DICOM RIS-Modality Worklist

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

### Lower body radiation protection

This radiation shield protects the user from scattered radiation when standing at the table, side. It can be attached to the accessory rails either on the right or on the left side of the patient positioning table.

It provides the user an additional accessory rail.

It includes a basic unit

(71.5 cm x 75 cm/ 28.2" x 29.5" (l x w); 7.7 kg/ 16.98 lb),

one lower body radiation protection pivot swivel element

(77 cm x 48 cm/ 30.3" x 18.9" (l x w); 3.8 kg/ 8.4 lb)

and three clip-on units

(57 cm/ 22.4" x 33 cm/ 12.99" (l x h), 2.2 kg/ 4.85 lb;

27 cm/ 10.6" x 33cm/12.99", 0.9 kg/ 1.98 lb and

27 cm/ 10.6" x 25cm/9.8", 1 kg/ 2.2 lb )

with a lead of 0.5 mm/ 0.02" Pb.

The maximum weight of the accessory rails is 40 kg (88.2 lb).

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

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### 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/ 31.5"), 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.

Weight acrylic glass: 9 kg/ 19.8 lb.

Weight support arm: 10 kg/ 22 lb.

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

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### 1st Large Display w/o holder

Preparation for a primary large color flat screen display installed on a third-party display holder for the examination room.

Note:

For safety reasons, third-party display holders in combination with Large Display must meet the following criteria:

**Qty****Item Description**

To prevent injuring the patient when positioning the display holder above the table, it has to be possible to manually move the third-party display holder vertically with a force of up to 85 N.

In the event that the angiography system comes into contact with the third-party display holder, it must be possible to push away the holder in a horizontal direction with a force less than 50 N. Otherwise, there is a risk of crush injury to persons or material damage.

Please note that components supplied by Siemens (displays, cables) can be installed on an existing third-party display holder only by the manufacturer of that holder.

Note: If a Large Display is selected, the Artis basic configuration includes a connection kit for the large display instead of the displays for the examination room.

The type of large display can be chosen with a separate position.

**LD High Contrast panel size 55"**

Large color flat screen display (including cables) for the examination room, with a panel diagonal of 55". This large display version provides an excellent clinical image quality due to its new IPS panel technology.

**Large Display video controller 18**

Large Display Video Controller 18 is the middle of three different video controller sizes. A maximum of 18 video signals can be connected and displayed simultaneously on the Large Display.

The Large Display video controller 18 receives various internal and external video signals for presentation to scale on the Large Display.

Up to 18 external and internal video sources can be connected (max. 14 DVI-D and 4 analog (VGA) channels).

**Quad HD to Full HD video controller**

The quad HD video signal of the Large Display with a resolution of 3840x2160 is converted to the common full HD video standard in this video standard converter (resolution 1920x1080). This signal then can be used for all common full HD video components.

Optical video isolation is part of the downscaler.

**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

**Infusion bottle holder**

This infusion bottle holder can be mounted at the accessory rail of the patient table. It holds up to 4 infusion bottles.

It includes an infusion bottle holder made of stainless steel with 4 retaining rings.

Length: 84 - 138 cm (21.6" - 54.3")

Weight: 1.3kg (2.87 lb)

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

**Cable clips ECG**

Cable clips for securing the ECG cable to the patient tabletop.

It includes 10 cable clips.

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

**Head holder w/ pad set**

The item is used to position the patient's head during examination and treatment. The patient's head is secured with a cushion or wedge.

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**Qty****Item Description**

Length: 27 cm/ 10.6"  
Width: 23 cm/ 9.06"  
Height: 20 cm/ 7.87"  
Weight cushion set: 0.25 kg/ 0.55 lb  
Weight head support: 1.45 kg/ 3.2 lb.

Only for use in combination with narrow tabletop and the thin mattress.

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**Head module**

This is an attachable module with accessory rails for mounting control modules at the head-end of the tabletop.

It includes a carbon fiber module (lxw: 62 cm/ 24.4" x 39.5 cm/ 15.6") with accessory rails attached to the right (31 cm/ 12.2"),

left (31 cm/ 12.2") and head-end (45 cm/17.7") slides over the outer edges of the tabletop.

Weight: 5.8 kg/ 12.8lb

Maximum weight: 40 kg/ 88.19 lb

Only for use with wide tabletops.

It may not be used in conjunction with head-end lower body radiation shield.

**Acc. rail module, narrow tabletop**

This mounting frame is a table module with accessory rails for mounting control modules on, the tabletop near the patient's abdomen.

It includes a radiolucent carbon fiber board with accessory rails attached to the right and left slides over the outer edges of the patient tabletop.

Maximum weight: 40 kg/ (88.19 lb)

Weight: 5.8 kg/ (12.79 lb)

Width carbon fiber board: 47.5 cm/ 18.7"

Width with accessory rails: 54.5 cm/ 21.46"

Length accessory rails: 45 cm/ 17.7"

Length: 48 an/ 18.9 "

Can only be used with narrow tabletops.

May not be used with MediGuide Technology.

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**Acc. rail module, wide tabletop**

This is an attachable module with accessory rails for placing the control modules near the patient's abdomen.

It includes a carbon fiber module with accessory rails (45 cm /17.7") attached to the right and left slides over the outer edges of the patient positioning tabletop.

Length: 48 cm (18.9 ")

Width (without accessory rails): 47.5 cm (18.7") 55 cm/ 21.65"

Width (with accessory rails): 54.5 cm (21.5") 62 cm/ 24.4"

Length: 62 cm (24.4")

Weight: 5.9 kg (13 lb)

Maximum weight: 40 kg (88.19 lb).

Only for use with wide tabletops.

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**Head-end operation Ind trolley**

Trolley for individual head-end positioning of Adis control modules.

It includes a trolley

(l x w x h: 62cm x 64cm x 107cm/ 24.4" x 25.2" x 42.13") with two accessory rails (43cm/ 16.03"), an operation module cable extension (5m/ 196.85"), an operation module Data cable (5.2m/ 204.72"), Cable holder and a Control modules connection kit.

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**Item Description****Head-end holder**

This mounting frame is used to hold Siemens standard accessories such as shoulder supports and handgrips with support.

It includes a holder with accessory rails (17 cm x 1 cm x 2.5 cm/ 6.7" x 0.4" x 0.98"/ l x w x h) on both sides

Weight: 1.75kg/ 3.9 lb

Maximum Weight: 40 kg/ 88.2 lb

It can only be mounted on the narrow tabletop.

**Arm rest**

Arm support used for the arm approach. Length: 1 m (39.4"). Slides underneath the patient mattress and is held in position by the patient's weight.

Made of radiolucent carbon fiber material which is easy to clean. It includes two additional support pads of two different heights (4 and 7 cm).

Length pad: 60 cm/ 23.62"

Width: 9 to 20 cm/ 3.54" to 7.87"

Maximum weight: 5 kg. (11.02 lb)

Weight (with pads): 2.1 kg/ 4.63 lb.

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

**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/ 1.431b

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

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

**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

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

**Handgrips with support (2)**

The patient can hold on to these hand grips with his arms above his head resting comfortably on the supports. This is beneficial for examinations requiring the arms to be held in a specific position.

The two stainless steel hand grips with two radiolucent arm rests (12.5 x 24.5 cm/ 4.9" x 9.65") are mounted to the accessory rails of the head-end holder.

Weight: 2.35 kg/ 5.18lb

It can only be used in combination with the narrow tabletop and with the head-end holder!

**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.

**Wide tabletop with thick mattress**

This tabletop has a radiolucent Rhana

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### Item Description

It includes a carbon fiber patient tabletop and a set of three Velcro body straps for securing and compressing the patient.

Maximum weight: 290 kg / 639.3 lb.

Maximum weight in connection with tilting table: 200 kg (440.93 lb).

Weight: 12 kg/ 26.5 lb.

Length: 227811 mm/ 89.710.04" m.

Width: 52510.5 mm.

Matching this tabletop a mattress and a mattress cover is included. This mattress adapts to the individual body shape under the influence of body weight and heat.

It is made of open-pore polyurethane material.

Mattress thickness: 7015 mm/ 2.8".

Mattress weight: 10 kg/ 22 lb.

It is made of open-pore polyurethane material.

Mattress thickness: 4015 mm (1.610.2").

Mattress weight: 5 kg (11 lb).

### Arm rest for radial access small

Carbon fiber armrest for cardiology and angiography to connect at the table top. The unilateral armrest can be used for radial access and other arm rest applications. It is made of radiolucent carbon fiber material nearly free of shadows and artifacts and it is easy to clean. With an additional pad made of the similar material as the table mattress and additional form-cushions with fixation material to overextend the wrist to get an easy access to the radial arterie . The armrest is rotatable and latching in 22,5A° steps from 0° to 180° (8 steps) by slightly lifting and moving . It can be mounted on left or right side of the table top shape. This type can be mounted on small (card) tabletop and neuro tabletop. The max. load capacity is 10 kg. Weight: 2,5 kg

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### VA kit Artis Q/Q.zen systems

Second set of system documentation (operator manual, etc.)

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### Large Display diagn. Protection

The high quality laminated glass protective screen protects the panel of the monitor against mechanical damage and fluid ingress on the front.

It is suited for clinical image evaluation.

Features:

The laminated glass enforces high mechanical strength and resistivity against mechanical impact,

the special coating reduces reflections for a continuous image quality,

excellent spectral transmission of at least 98%,

can be added to existing Artis Large Display installations.

Weight: approx. 12kg (55") up to 16kg (60")

Note: Observe the maximum permissible load of the display suspension, a combination with other options mounted to the display suspension might be restricted.

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### Initial onsite training 32 hrs

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

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

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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**

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.

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**Additional onsite training 32 hours**

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 if applicable. 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.

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**GOVT Training Class (T & L not included)**

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.

**Mark 7 Arterion, Table Mount Injector**

The Arterion Mark 7 Table contrast medium injector allows for the remote installation of the system power supply and installation of the injector head onto a table bracket.

The injector system includes:

- Power supply and injector head with corresponding cabling
- An adjustable height table bracket for the injector head
- A desk mounted user control console with large touch screen

Functions

Pressure limitation:

for 150 ml syringes 689 to 8273 kPa,  
corresponds to 100 to 1200 psi..

Flow rates for 150 ml syringes:

0.1 to 45 ml/s in increments of 0.1 ml/s  
0.1 to 59.9 ml/min in increments of 0.1 ml/min  
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:

**Qty****Item Description**

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.

**PEDESTAL FOR INJECTOR HEAD,MARK V PROVIS**

Injector pedestal for the Medrad Arterion injector.

**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 **Powerware 9155 Seismic Kit**

1 **9355 Output Transf Cabinet Siesmic kit**

1 **Vitalinq Model 94A-07**

Vitalinq Model 94A-07 Communication System

A combination intercom and music system designed for the active acoustic environments typical of catheterization, electrophysiology and vascular and interventional radiology labs.

The Vitalinq system will include:

1 - 94A-07 Communication Console

1 - monitor microphone

1 - desk microphone

1 - corded headset

1 - headset foot switch

4 - stereo speakers

2 - communication speakers

Operations and Owner's Manual

All cables necessary to complete installation

Installation guidance and 24/7 customer support via an 800 telephone number

All equipment is designed in a modular manner and connected by supplied standard ethernet cables which have pre-installed connectors. This allows for quick and easy installation, or if necessary over the life of the system, component replacement. Customer or end user shall be

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**Item Description**

responsible for use and maintenance.  
Installation and on-site service is not included.

**Vitalinq MC-07 Console Extender**

Vitalinq MC-07 Console Extender

A device which connects to the Vitalinq 94A-07 that can be located away from the 94A-07 console (such as in another room) and to which an additional headset and/or desk microphone can be connected for two-way communication with the procedure room.

**Vitalinq wireless headset**

Wireless Headset

A high quality wireless headset with adaptor cord which can be used in lieu of a corded headset with either the Vitalinq 94A-07 console or the Vitalinq MC-07 Console Extender.

**Volcano CORE Integrated**

CORE Precision Guided Therapy System

CORE CPU, Operator's Manual, Power Transformer, Cable Pre-Install Kit, Connection Box, two (2) Standard Controller and one (1) bedrail mount, 19"NEC Monitor Kit, Phased Array PIM Body, FFR functionality, DICOM Network Connection, ChromaFlo Functionality.

-Includes VII IVUS End User License Agreement

Customer agrees that use of the VH IVUS Software is subject to the terms of the End User License Agreement. A copy of the End User License Agreement is also available from your VOLCANO representative or online at [www.volcanocorp.com/products/pdf-files/software-support-vh-ivus.pdf](http://www.volcanocorp.com/products/pdf-files/software-support-vh-ivus.pdf)

-Includes Three (3) Year IVUS Software Support Agreement and one year warranty through Volcano.

This signed Agreement provides for the purchase of the IVUS Software Support Agreement (SSA), which provides for unspecified IVUS software revisions released during for a three (3) year term (should any be commercially released) at no additional cost. In the absence of an SSA, future software revision releases will be made available at additional cost to be determined upon commercial availability.

Options:

CORE Revolution Option

Includes SpinVision PIMr and PIM Cable

CORE Control Pad Option

Bedside touchscreen controller offering system control from the sterile field

CORE Printer Option

Medical grader local printer for Volcano system

**Volcano CORE Revolution Option**

Includes SpinVision PIMr and PIM Cable

This kit includes a patient interface module (PIM-0 for connecting rotational IVUS catheters and all hardware required for the upgrade.

**Volcano CORE Control Pad Option**

Bedside touchscreen controller offering system control from the sterile field

**Volcano IFR Modality software**

iFR Hyperemia-Free Lesion Assessment Modality CORE Interface, Operator's Manual.

Volcano's proprietary instantaneous, trans-lesional pressure ratio measured during the wave-free period.

**Qty**

**Item Description**

**Standard Rigging zeego Gov**

**Offset Initial 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.

Offset Part 14434137 VA Kit Artis Q/ Q.zen systems

# Detailed Technical Specifications

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## Description

### System description:

The Artis zeego with Q Technology — A PURE® system with single plane is an easy-to-use X-ray angiography system for digital acquisitions and was designed to meet the requirements of modern angiography and interventional procedures, with a focus on vascular surgery.

### Floor-mounted robotic assisted C-arm:

New, compact, multiaxial C-arm system with adjustable isocenter height for the highest possible level of examination comfort, with flexible park positions for optimal patient access.

Stand can travel in RAO/LAO, Cran/Caud, x-, y-, and z-axes

5 programmed working positions and additional 50 user-defined working positions as well as 3 direct positions can be stored and recalled from table side.

Intelligent, computer-aided collision monitoring ICP (Intelligent Collision Protection).

Stand rotation  $\pm 90^\circ$  minimum

Double oblique projections:

- LAO/RAO  $\pm 200^\circ$  (maximum angulations vary depending on working position)
- cranial  $+45^\circ$  up  $-65^\circ$  caudal (maximum angulations vary depending on working position).

Variable C-arm positioning speeds up to  $25^\circ/s$ .

- Variable longitudinal speed up to 15 cm/s, maximum 27 cm/s (option Perivision required)
- Variable focal-spot-to-detector distance between 90 cm and 120 cm

Isocenter/floor distance adjustable between 105.4 cm and 147 cm

Focus-isocenter distance 78.5 cm

Rotational angiography (used to generate 3D datasets, optional) can be performed at head end, left side and right side for pre-calibrated starting positions

### Application-specific accessories

- Infusion bottle holder
- Unilateral armrest: Carbon fiber armrest for cardiology and arm angiography to slide underneath the positioning mattress.  
Arm holder (1 pair): Two arm holders for comfortable lateral arm positioning along the patient's body.

*Note: This accessory set is only delivered in combination with the OR version Siemens table.*

### 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.

## Description

### 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<sub>2</sub> 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 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.

### **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 asZO 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 as4OHDR 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

## **Description**

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**

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.

CLEARpulse optimizes the X-ray pulse in two ways: the high pulse power allows for additional filtration to reduce radiation. In addition CLEARpulse shortens the X-ray pulse through the use of grid-pulsed flat emitter technology in concert with a high anode rotation speed. The required X-ray energy can be provided in a shorter period of time, thereby shortening the X-ray pulse by up to 43% at constant tube voltage. Moving objects like coronary arteries can be visualized sharper and with less blurring artifacts.

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.

## Description

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 focal-spot-to-detector distance.

CAREnnatic: 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.

### GIGALIX 125/30/40/90 - X-ray tube assembly

Triple-focus high-performance X-ray tube assembly with unique flat emitter technology for generating extremely high tube currents of max. 250 mA in fluoroscopy and 1000 mA in acquisition. This provides very good image quality even with heavier patients or steep angulations. The focus is always quadratic and permits, outstanding perceptibility of small structures with a nominal quadratic focus of 0.3/0.4/0.7. The anode has a high heat storage capacity of 5.2 MHU and the metal center tube with liquid bearing technology allows a maximum cooling power of 1520 KHU/min. This means that pauses are not required during radiation, even for lengthy procedures. The X-ray tube is almost silent, which is an additional benefit for patient and user.

### as4OHDR flat detector

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

The detector features 16-bit analog-to-digital conversion, resulting in a gray scale resolution of 65,536 gray scales. This in turn improves contrast resolution in 3D imaging with *syngo* DynaCT.

The increased scintillator layer thickness of 750 µm results in a high DQE (Detective Quantum Efficiency) of 77%, thereby improving image quality at low radiation doses.

154 µm pixel arrays provide highest spatial resolution (3.25 LP/mm) and excellent contrast. Acquisition frame rates of up to 60 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 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. Any angle in between can be adjusted. Motorized adjustment of the detector-patient distance.

The as4OHDR 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.

Removable grid:

The grid can easily be removed, saving the user time in examinations not requiring a grid. For example in

## **Description**

pediatrics, where dose reduction is especially important.

### **Anglo 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.

Rotation also possible via table side control enabling upright images of objects or body parts not aligned with the table e.g. arms.

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).

### **StraightView**

The flat detector and the multileaf collimator are installed on a motorized rotating turntable on the C-arm. They automatically line up with the table swivel, thus ensuring upright images of objects which are in line with the table. The flat detector and multileaf collimator can also be rotated together at any angle relative to the table, enabling upright presentation and collimation of objects which are not in line with the table.

### **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

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.

### **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

## **Description**

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.

## **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/m<sup>2</sup> 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).

The double-articulated arm of the display suspension system provides greater flexibility and a larger display positioning range.

## **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.

## Description

### 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 (Siemens table). 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.

### **Siemens Remote Service SRSTM**

Prepared for Siemens Remote Service SRSTM (during warranty, then with service contract):

- Hardware and software remote diagnosis.
- System remote configuration, e.g. adding of a DICOM node.

Early warning system ensuring system operation.

### ***syngo Evolve***

*syngo Evolve* is a service feature that is offered as a separate sales option. It is a key component of our upgrade strategy and allows you to take advantage of technological advancements.

### **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.

## **Description**

Floor-mounted patient table designed for angiographic examinations and interventions:

Direct patient access from all sides, both through the swiveling table and large tabletop cantilever.

±15° head up/head down positioning.

±15° lateral tilting range.

Iso-tilt functionality for maintaining the projection during table tilt along the patient axis.

Motorized, power-dependent table movement in longitudinal direction when the table is tilted (power-assisted control).

Electromechanical release of table swivel at the touch of a table button.

Telescopic foot with motor-driven height adjustment.

Max. patient weight 200 kg. It is possible to attach accessories of up to 40 kg.

Tabletop made of carbon fiber in wide, straight design for universal use, is straight up to the head area. The special foam mattress (including cover) is tailored specifically to the tabletop for maximum positioning comfort. The visco-elastic comfort mattress for the wide and straight tabletop reacts to temperature and has the special property of adapting to the individual body shape under the influence of body weight and heat.

There is a wired 4-pedal footswitch to trigger fluoro, acquisition, and the table brake, as well as a configurable additional function.

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

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 DYNAVISON DR for native rotation angiography and DYNAVISON 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.

## Description

IVUSmap uses coregistration to localize information about vessels, lumina, and the wall structure in the coronary tree. Expanding angiography with the IVUS information in this way provides efficient support for therapy planning because IVUSmap is performed via an automated process on the touchscreen. In addition, setting bookmarks in the coregistered images can facilitate the precise positioning of stents, thereby improving clinical results. Areas, diameters, and lengths can be measured as well.

The IVUSmap application contains additional components required for coregistration: ECG interface and ECG-triggered acquisition and fluoroscopy as well as the VOLCANO s5i cable set.

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

### Contents:

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 interventional cardiology, interventional radiology and surgery. 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: 1280 x 1024 (pixels)

Excellent brightness for the entire service life: 137 cd/m<sup>2</sup> 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

## **Description**

### **- 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<sup>2</sup> 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**

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.

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 and less than 42 seconds for soft tissue DynaCT images. Subsequent secondary reconstructions are available even faster.

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

## Description

### **syngo DynaCT Cardiac**

*syngo* DynaCT Cardiac for FD as40HDR allows the use of proven *syngo* DynaCT 3D reconstruction for contrasted X-ray projection images of ventricles and vessels of the heart. *syngo* DynaCT Cardiac for FD as40HDR contains reconstruction algorithms for

ECG-triggered 3D acquisitions (multiple C-arm rotations, approx. 30 seconds exposure time) as well as for

- untriggered 3D acquisitions (one C-arm rotation, approx. 5 seconds exposure time).

ECG-triggered DynaCT acquires all projection images in the same cardiac phase. As a consequence, even areas of the heart that are subject to considerable motion can be reconstructed to a sharp DynaCT volume with negligible motion artefacts.

Clinical applications currently supported by DynaCT Cardiac:

Electrophysiology:

- 3D visualization of the left atrium to support ablation of atrial fibrillation (segmentation of the left atrium using electrophysiology guidance, must be ordered separately)
- 3D visualization of the coronary venous tree to support biventricular pacemaker implantation

Structural Heart Disease:

- Planning, support and follow-up for heart valve implantation or replacement through 3D visualization of the mitral and aortic valve, and coronary ostia
- Planning, support and follow-up for Left Atrial Appendix closure

Congenital Heart Disease:

- 3D visualization of the congenital heart defects before and after interventions: There are low-dose organ programs especially developed for pediatric acquisitions available.

*syngo* DynaCT Cardiac is especially suited for the planning, performance and follow-up of interventions through display of current cardiac 3D morphology directly in the cath lab or hybrid environment.

The *syngo* DynaCT Cardiac Volume can also serve as a basis for magnetic navigation systems (e.g., Niobe Navigant) or can be used by electroanatomical mapping systems (CARTO, Ensite NavX) for increased precision as well as time savings (optional electrophysiology guidance Segmentation required).

### **syngo DynaCT**

*syngo* DynaCT is especially suited to support radiologists and neuro-radiologists during interventional procedures in the angiography suite with both endovascular and non-endovascular procedures. *syngo* DynaCT provides enhanced decision making during oncology procedures such as chemoembolization and RF-ablations. In neuroradiology, *syngo* DynaCT allows the visualization of bleedings, the ventricular system of the brain and microstent placement.

With *syngo* DynaCT it is possible to visualize a soft tissue difference of 10 HU (Hounsfield Units) of an object 5 mm in size, or 5 HU for an object 10 mm in size, in a Thick-MPR display (measured with a CATPHAN 16 CT phantom with the CTP 515 module). Homogeneous image quality is achieved across the entire image. As a result, critical regions such as the base of the skull can be displayed with a lot fewer artifacts.

DynaCT also offers:

- a new reconstruction algorithm optimized for fan beam geometry
  - a 20sDR-H 109 kV DynaCT acquisition reducing beam hardening artifacts and therefore improving e.g. detection of bleedings in DynaCTs with intravenous injection of contrast material
- faster 3D acquisition in 4x4 Binning mode

In conjunction with Artis zeego, *syngo* Dyna3D HighSpeed — being the fastest 3D protocol on the market — enables acquisitions to be generated in less than 3 seconds. As a result, moving organs such as the lungs can be displayed with a lot fewer artifacts. In addition, —30% of contrast material can be saved which is important esp. in procedures requiring injection of a high volume of iodine (e.g. for enhancement of the aorta).

## **Description**

### **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 cardiology, radiology and surgery, 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 are supported 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

## Description

- Sending of parallel ranges results to PACS.

### **3D accessories**

Includes the accessories required for 3D setup and calibration:

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

### **3D roadmap**

The operator can overlay any 3D volume or planning data, or excerpts of it, onto the live fluoro image. Via a Fade in — Fade out with the joystick the degree of visibility of the overlaid information can be determined at any time This tool offers the physician real-time three dimensional guidance for more confidence. It avoids repeated injection of contrast material during fluoroscopy by overlaying a 3D vessel tree instead. 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 of the *syngo* X Workplace so the 3D Roadmap information is available in parallel with the regular 2D images of the live display of the acquisition system.

### **Workflow support for valve replacements**

Automatic segmentation of the aortic root takes place after intraoperative 3D acquisition. The anatomical markers included on the segmentation results enable determination of the optimum C-arm projection angle for improved orientation. The system automatically moves the C-arm so that it is aligned perpendicular to the aortic root without additional fluoroscopy. Various display options are available for the subsequent 3D overlay of the aortic root with the fluoro image.

### **For PURE systems only: fusion functionality also included:**

A fused CT, MR or PET image can be overlaid with live fluoroscopy in combination with 3D roadmap functionality providing information during interventional procedures that are available neither in 2D X-ray nor in 3D rotational angiography.

The package includes 2D/3D Fusion as well as 3D/3D Fusion:

2D/3D Fusion - allows to spatially align 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.

3D/3D Fusion — allows to spatially align two 3D volumes from the same or different modality in such way that the anatomical structures overlay each other. Any *syngo* DynaCT or *syngo* Dyna3D image can be fused with datasets from e.g., CT, MR or PET.

### **For PURE systems only: toolbox functionality also included:**

Toolbox is 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.

This functionality provides an easy link between information that may only be visible in the 3D volume (VRT or MPRs) and the fluoroscopy or roadmap images.

### **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.

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.

For applications in the abdomen or thorax, the larger field of view (FOV 35 cm x 25 cm, 13.8" x 9.8") allows complete visualization of tumors, their feeding vessels and the surrounding tissue, e.g. in chemoembolizations. The larger FOV also optimally supports vascular treatments in the abdomen such as the placement of stent prostheses. The short acquisition time makes it easier for patients, especially those that are critically ill, to hold their breath during the acquisition.

Based on a special *syngo* DynaCT acquisition program with automatic processing, the blood volume is displayed color-coded. This offers special advantages during neuroradiological interventions (e.g., stroke/malformation) because it allows under- and oversupplied parenchymal areas to be displayed.

Based on a special *syngo* DynaCT acquisition program with automatic processing, the blood volume is displayed color-coded. Under or oversupplied parenchymal areas in the abdomen can be displayed.

*syngo* DynaPBV Body provides physiological image information regarding lesions. As a result, individually differing response behavior to embolization can be better identified.

In conjunction with Artis zeego: as the fastest 3D protocol on the market, *syngo* Dyna3D HighSpeed enables acquisitions to be generated in less than 3 seconds. As a result, moving organs such as the lungs can be displayed with a lot fewer artifacts.

*syngo* Needle Guidance workflow provides a guided intuitive 3 step approach, for consistent needle positioning results:

#### Step 1:

Definition and check of the needle path on a DynaCT or an external CT or MR or PET-CT dataset.

#### Step 2:

Check of automatically proposed progression views that will be used for monitoring the needle procedure.

#### Step 3:

Alignment and progression of the needle under fluoro control while the planned needle path is overlaid on the live image of the acquisition system. Easy switch between the defined progression views to control the real needle position and direction in all three dimensions.

Subsequently, a control scan can be performed and automatically fused with the planning volume using fusion

## Description

functionality. syngo DynaCT, CT, PET or MR images are accepted for the image fusion.

Based on a 3D acquisition, relevant vessels are marked and a vascular midline calculated. The ability to graphically overlay it with the current fluoroscopy image supports embolization of e.g. tumor-feeding vessels. Includes the license for *syngo* Embolization Guidance.

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

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

There is one additional display for the control room or one connection kit for an Artis Q 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 flatscreen display

- 19" (48 cm) screen size
- Resolution: 1280 x 1024 (pixels)
- Maximum brightness (typ.): 280 cd/m<sup>2</sup>
- Flicker-free and distortion-free image display
- Anti-glare screen

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

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.

Scientific measuring program integrated in the imaging system for evaluation of the functionality of the left ventricle.

- Automated and manual contour detection.
- Automatic end-diastole/end-systole detection.  
Calculation of ejection fraction, volumes and indices (area, length and Simpson methods).
- Centerline, radial and regional wall movement analyses
- Automatic and manual calibration methods.
- Distance and angle measurement.

<p><b>Description</b></p>
<p>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.</p>
<p><b>Note concerning DICOM interface(s)</b>  For diagnostic purposes, only hardcopy cameras/laser printers explicitly approved for this system may be used.</p> <p>The description in the DICOM Conformance Statement downloadable from the Internet is exclusively binding for the functionality of the DICOM interface(s).</p> <p>Functionalities across 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.</p> <p>A modification of the interface that might be required is not included in the offer; e.g. for the rare case that available configurations are not sufficient.  With regard to expenses for interface configurations that might be required, the agreements on maintenance/service of the product apply.</p>
<p>The lower body radiation protection can be attached to the accessory rails either on the right or on the left side of the patient positioning table.  It consists of the following shielding units:</p> <ul style="list-style-type: none"> <li>- A basic unit shielding the area between accessory rails and the floor. It is flexible and can be adapted to the examiner's preferences.</li> <li>- One LB radiation protection pivot swivel element that can move out of the way during collisions with the tube and still retain its protective function.</li> <li>- Two clip-on units pointing upwards from the upper edge of the basic unit with a length of 57 cm and 27 cm.</li> </ul> <p>The scattered radiation shielding units can be attached to the basic unit in an overlapping and fan-shaped way to allow closed, adapted scattered radiation protection even in the lower thorax area.  The maximum load of the accessory rails is 40 kg, the weight of the attached scattered radiation protection is 8 kg.</p>
<p>Radiation protection attached via a ceiling-mounted, mobile stand for protection against scattered radiation; incl. 4 m ceiling rail.</p> <ul style="list-style-type: none"> <li>- Swivable and rotatable around the fixed point, range of rotation 360°.</li> <li>- Counter-balanced, height-adjustable support arm.</li> <li>- Acrylic glass with Pb equivalent of 0.5 eq (w x h: 61 cm x 76 cm), with recess for interventional examinations.</li> </ul>
<p>Preparation for the large display.</p> <p>The large display area allows for both large display and the free positioning of examination-relevant video signals. The fully integrated tableside control allows for selection from among twelve layout variants.</p> <p>For the diagnostic color display in TFT technology, with high luminance and extended viewing angle, the gamma curve has been adapted particularly for gray scale display according to the CIE / DICOM recommendation.</p> <p>Video signals such as live, assist and reference images, <i>syngo</i> X Workplace, Sensis/recording systems, PACS, HIS/RIS, ultrasound, ECG, external video, endoscope, mapping systems, system and table position, system messages and dose information can be individually positioned and displayed on the Large Display, if connected.</p> <p>The extended Roadmap function is included, if DSA is available:</p> <ul style="list-style-type: none"> <li>- Native live fluoro image during fluoroscopy; otherwise Last Image Hold.</li> <li>- Native live fluoro image during roadmap / subtracted fluoroscopy; otherwise Last Image Hold.</li> <li>- Native live acquisition during DSA acquisition; otherwise native max-fill image.</li> </ul> <p>If the dual reference function is available, parallel static reference images are displayed on both' reference monitors</p>

## Description

Technical specification for the 60" display:

Display size (W x H) 60 ", 133 cm x 74.8 cm

Screen size 60 " 153 cm

Resolution: 3840 x 2160 (pixels); 8 megapixels at 4 x HD.

Color depth 16.7 10<sup>6</sup> colors.

excellent brightness over the lifetime: 300 cd/m<sup>2</sup> at a contrast ratio of 4000:1.

Flicker-free and distortion-free image display.

Technical specification for the 55" display:

Display size (W x H) 55 ", 121 cm x 68 cm .

Screen size 55 ", 139 cm

Resolution: 3840 x 2160 (pixels); 8 megapixels at 4 x HD.

Color depth 1.07 10<sup>6</sup> colors.

excellent brightness over the lifetime: 350 cd/m<sup>2</sup> at a contrast ratio of 1450:1.

Flicker-free and distortion-free image display.

Technical specification for the 56" display:

Display size (W x H) at 56", 124.4 cm x 70 cm

Screen size at 56" (142.2 cm)

Resolution: 3840 x 2160 (pixels); 8 megapixels at 4 x HD.

Color depth 16.7 10<sup>6</sup> colors.

excellent brightness over the lifetime: 300 cd/m<sup>2</sup> at a contrast ratio of 800:1.

Flicker-free and distortion-free image display.

### Bypass concept

In case of error, such as controller failure, the Large Display switches automatically to bypass mode and emergency fluoroscopy is displayed on the Large Display.

### Backup concept

The Large Display has a backup concept to ensure against power supply failure (2 separate power supplies for the left and right sides of the Large Display).

Note: *The type of large display can be chosen with a separate position.*

## Large color flat display

The IPS panel technology combined with the large display area represents a new dimension in medical image display.

This technology combines high luminance and high contrast, consistent for all viewing angles. It provides an incomparable image impression especially for gray scale images.

For the diagnostic color display in TFT technology, with high luminance and extended viewing angle, the gamma curve has been adapted particularly for gray scale display according to the CIE / DICOM recommendation.

Technical specification for the 55" display:

Display size (W x H) 55 ", 121 cm x 68 cm .

Screen size 55 ", 139 cm

Resolution: 3840 x 2160 (pixels); 8 megapixels at 4 x HD.

Color depth 1.07 10<sup>9</sup> colors.

excellent brightness over the lifetime: 400 cd/m<sup>2</sup> at a contrast ratio of 1450:1.

Flicker-free and distortion-free image display.

Backup concept

The Large Display has a backup concept to ensure against power supply failure (2 separate power supplies for the

<b>Description</b>
<p>left and right sides of the Large Display).</p>
<p>The Large Display video controller 18 receives various internal and external video signals for presentation to scale on the Large Display. Up to 18 external and internal video sources can be connected (max. 14 DVI-D and 4 analog (VGA) channels).</p> <p>Important images for diagnostic purposes can be displayed to scale in their original size on the Large Display. Less important, non-diagnostic information can be displayed at a reduced size by the interpolation algorithm for image information integrated in the video controller.</p> <p>An enlarged or reduced display can be selected individually via the display configurations at the fully integrated tableside control. The video controller then takes over interpolation and adaptation of image size.</p> <p>In waveform images with high resolution, such as for electrophysiological recording systems, the curves are displayed free of artifacts because of a special interpolation algorithm.</p>
<p>The infusion bottle holder serves for attaching a maximum of 4 infusion bottles directly at the accessory rail of the patient positioning table.</p> <ul style="list-style-type: none"> <li>- No obstruction due to additional stands in the room.</li> <li>- Safe administration of infusions even with the table moving or tilting.</li> </ul> <p><i>Ordering information that can be deleted from the final version of the offer follows: Not in conjunction with the Surgery carbon tabletop. Already included in the basic configuration. Can also be ordered as an option.</i></p>
<p>The ECG cable is locked directly onto the patient positioning tabletop by means of the cable clips made of easy-to-clean plastic material. That means, the cables follow the tabletop movements and do not interfere with the C-arm angulations during an examination.</p> <p><i>Ordering information that can be deleted from the final version of the offer follows: Not in conjunction with the Surgery table. Already included in the following basic configurations:</i></p> <ul style="list-style-type: none"> <li>- Interventional cardiology</li> <li>- Electrophysiology</li> <li>- Pediatric cardiology</li> <li>- Combination Interventional cardiology/ radiology</li> <li>- Combination Interventional radiology/ cardiology</li> <li>- Cardiothoracic surgery</li> </ul> <p><i>Can also be ordered as an option.</i></p>
<p>The head holder is used to position the patient's head during the examination. Using the cushions or wedges, the patient's head is secured in the head holder. Cushions with large, medium, and small dimensions are included to support the head. The head holder is attached to the narrow tabletop with two knurled screws and a mounting device. Possible only with the 4 cm thick special foam mattress.</p> <p><i>Ordering information that can be deleted from the final version of the offer follows: Possible only in connection with the narrow tabletop and thin mattress, the neuro tabletop used previously is no longer possible. Not in conjunction with the Surgery table. Already included in the following basic configurations:</i></p> <ul style="list-style-type: none"> <li>- Neuroradiology</li> </ul>

## Description

- Neurosurgery  
Can also be ordered as an option.

The insert with accessory rails attached to the right, left, and head end slides over the outer edges of the patient positioning tabletop.  
It is locked in place through two screws on either side. The part to be inserted underneath the tabletop consists of radiolucent carbon fiber material, which avoids disturbing edges in the image.  
Max. load capacity of the accessory rails: 40 kg.  
Length of the accessory rails: 45 cm.

*Ordering information that can be deleted from the final version of the offer follows:  
For wide tabletops.  
Delivered as an option only, not included in the basic configuration.  
Not in conjunction with the Surgery table.*

The insert with accessory rails attached to the right and left slides over the outer edges of the patient positioning tabletop.  
It is locked in place through two screws on either side. The part to be inserted underneath the tabletop consists of radiolucent carbon fiber material, which avoids disturbing edges in the image.  
Max. load capacity of the accessory rails: 40 kg.  
Length of the accessory rails: 47 cm.

*Ordering information that can be deleted from the final version of the offer follows:  
For narrow tabletops.  
Not to be used in conjunction with head holder.  
Not in conjunction with the Surgery table.  
Delivered as an option only, not included in the basic configuration.*

The insert with accessory rails attached to the right and left slides over the outer edges of the patient positioning tabletop.  
It is locked in place through two screws on either side. The part to be inserted underneath the tabletop consists of radiolucent carbon fiber material, which avoids disturbing edges in the image.  
Max. load capacity of the accessory rails: 40 kg.  
Length of the accessory rails: 45 cm.

*Ordering information that can be deleted from the final version of the offer follows:  
For wide tabletops.  
Delivered as an option only, not included in the basic configuration.  
Not in conjunction with the Surgery table.*

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

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*

<b>Description</b>
<p><i>metal/carbon tabletop RoW.</i></p> <p><i>Already included in the following basic configurations:</i></p> <ul style="list-style-type: none"> <li>- <i>Combination Interventional cardiology/ radiology</i></li> <li>- <i>Interventional radiology</i></li> <li>- <i>Neuroradiology</i></li> <li>- <i>Combination Interventional radiology/cardiology</i></li> <li>- <i>Vascular surgery</i></li> <li>- <i>Neurosurgery</i></li> </ul> <p><i>Can also be ordered as an option.</i></p>
<p><i>Ordering information that can be deleted from the final version of the offer follows:</i></p> <p><i>Not in conjunction with the Surgery table.</i></p> <p><i>Delivered as an option only, not included in the basic configuration.</i></p>
<p>In order to be able to move the image receiver (1.1. or flat detector) as closely as possible to the object during cardiological examinations, the patient's arms must be held in a specific position above his head. With this positioning aid the patient can hold on to the hand grips, his arms resting comfortably on the supports. The stainless steel hand grips and the radiolucent support are mounted to the accessory rails of the head-end holder.</p>
<p><i>Ordering information that can be deleted from the final version of the offer follows:</i></p> <p><i>Not in conjunction with the multi-section Surgery metal /carbon tabletop or the multi-section Surgery metal carbon tabletop RoW.</i></p> <p><i>Delivered as an option only, not included in the basic configuration.</i></p>
<p>The visco-elastic comfort mattress for narrow tabletop reacts to temperature and has the special property of adapting to the individual body shape under the influence of body weight and heat.</p>
<p>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.</p> <p><b>Operation:</b></p> <ul style="list-style-type: none"> <li>- 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".</li> <li>- 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.</li> <li>- 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.</li> </ul> <p>Includes UPS, battery, maintenance bypass panel, and one year on-site parts and labor coverage (24x7) by Eaton Powerware.</p> <p>Additional seismic brackets are required to make this system OSHPD approved.</p>
<p>The Powerware 9155 UPS Seismic Kit protects the UPS and Extended Battery Modules (EBMs) through Zone 4 seismic activity, based on NEBS GR-63-CORE Seismic Zone 4 Testing.</p>