

REQUESTING SERVICE: KC SURGERY SERVICE  
SHIP TO: KC-BLDG 6,WHSE,SPLY  
V.A. Medical Center  
VA MEDICAL CENTER  
4801 LINWOOD BLVD  
KANSAS CITY, MO 64128

PURCHASE ORDER: 589-B80015

Line #	Description	Qty
1	<b>Azurion 7 C20 FlexMove</b>	1
	Advanced solution to seamlessly perform a wide range of open and minimally invasive procedures in a single room	
	Key benefits	
	<ul style="list-style-type: none"><li>• Optimized utilization of your lab by procedure based workflow</li><li>• Intuitive user interaction delivering an easy to use, easy to learn system</li><li>• Efficient use of your OR space</li><li>• Positioning flexibility and clean floor</li><li>• Easy full body patient coverage</li></ul>	
	Designed to accommodate combined specialties	
	With our Live Image Guidance we aim to remove barriers to safer, effective and reproducible treatments, delivering clinical value where it's needed most - at the point of patient treatment. Intelligent and intuitive integration of live imaging, patient information, and procedure-based applications optimize real time therapy guidance.	
	The Philips Azurion 7 C20 system with FlexMove lets you seamlessly perform open, minimally invasive and hybrid procedures in a single room. Procedures can range from EVAR stenting or TAVI to open surgery. This future proof solution can be upgraded and expanded as new needs arise or requirements change. Its architecture is made to easily integrate with third party applications and devices. A new workflow approach aims to support interventional teams in carrying out procedures for their patients, consistently and efficiently with great ease of use.	
	The Philips Azurion 7 C20 with FlexMove uses a range of Procedure Cards to help optimize and standardize system set-up for your cases, from routine to mixed procedures.	
	Procedure Cards can increase the consistency of exams by offering presets (e.g. most-frequently used, default protocols and user-specified settings) on procedure-, physician- or departmental level. In addition, hospital checklists and/or protocols can be uploaded into the Procedure Cards to help safeguard the consistency of interventional procedures and help to minimize preparation errors.	
	The Philips Azurion 7 C20 with FlexMove interventional X-ray suite has been specifically designed to save time by enabling the interventional team to work on all activities in the exam room - and at one or more work spots in the control room at the same time - without interrupting each other. This leads to higher throughput and faster exam turnover and contributes to quality of care.	
	To improve dose management, Philips Zero dose positioning enables you to move the stand and table to the region of interest shown on the last clinical image hold before a new acquisition is started, without any radiation.	
	Combined movement of longitudinal and lateral movement of the X-ray system allows the user to examine the patient without the need to pan the table .The wide ceiling rails enables the user to install Laminar Airflow due to the high sterility demands of such a room.	
	The longer longitudinal ceiling rails allows the user to park the system in the corner when it is not used during a procedure.	

Line #	Description	Qty
	<p>Specifications</p> <p>The Philips Azurion series contain a number of features to support a flexible and patient centric procedural workflow.</p> <p>The Philips Azurion series (within the limits of the used Operating Room table) are intended for use to perform:</p> <ul style="list-style-type: none"> <li>Image guidance in diagnostic, interventional and minimally invasive surgery procedures for the following clinical application areas: vascular, non-vascular, cardiovascular and neuro procedures.</li> <li>Cardiac imaging applications including diagnostics, interventional and minimally invasive surgery procedures.</li> </ul> <p>Performing a complex and/or minimally invasive procedures can be a breath-taking and tense intervention. A highly versatile system which can be adapted to any situation and any type of workflow can be of support for these procedures.</p> <p>A Philips Azurion system with FlexMove option can provide this versatility. It allows placement in a normal operating theater and allows flexibility during the procedures.</p> <ul style="list-style-type: none"> <li>The ceiling construction enables the use of Laminar Airflow</li> <li>In case no imaging is needed, the system can be parked in the corner which allows a normal operating area when doing open surgery. It enables the user to make full use of the lab</li> <li>The head-end side of the patient is still available for anesthesia and therefore not blocked by Philips Azurion system.</li> </ul> <p>The 7 C20 with FlexMove system comprises five functional building blocks:</p> <ol style="list-style-type: none"> <li>Geometry</li> <li>X-ray Generation</li> <li>Image Detection</li> <li>User Interface</li> <li>Viewing</li> </ol> <p>Each functional building block is explained in further detail including accessories.</p> <p><b>1. Geometry</b></p> <p>A. 7 C20 with FlexMove stand</p> <p>The Philips Azurion stand is a stable assembly of a ceiling suspended C-arm, connected to a rotatable L-arm. Philips Azurion family with the FlexMove consists of a ceiling Philips Azurion mounted to a longitudinally and laterally moving ceiling carriage providing the following advantages:</p> <ul style="list-style-type: none"> <li>The new X-Y ceiling carriage allows the system to be steered over the patient by using a joy-stick.</li> <li>The system can be parked in a stand-by position which gives the physicians all the space they need around the patient. It can be moved into working position in a simple manner whenever needed.</li> <li>The new X-Y ceiling carriage allows the system to be moved around the patient and be brought in from any position</li> </ul>	

Line #	Description	Qty
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- When a minimally invasive procedure has to convert to open surgery, the system can easily be moved out of the way.
- Philips Azurion system with FlexMove takes only limited amount of space around the table and for that reason has limited impact on the workflow of the physicians and staff in the room

The FlexMove option is available for two different ceiling heights being 290cm and 310cm. The X-ray tube and the flat detector are integrated into the C-arm. This provides a compact assembly completely free from the floor, with maximal positioning flexibility and unrestricted access to the patient. The robust design ensures excellent reproducibility of projections, needed in for example subtracted imaging procedures and advanced 3D imaging. The L-arm can be rotated and moved in longitudinal and lateral directions allowing a three-sided patient approach and total body coverage.

- L-arm rotation around the patient table: +90, 0, -90 degrees.
- Flexmove coverage: Y stroke 440cm, X-stroke 260cm

FlexMove ceiling rails are not part of the coreblock and will be ordered as predeliverable.

#### B. Patient Support

The patient support provides very light manual float movement, even for heavy patients, thanks to the mono-bearing technology. The long flat carbon fiber tabletop provides ample space to place e.g. catheters and endovascular tools. On customer request, the standard table top can be replaced by a table top for neuro procedures. This table top has a smaller width at the head end for better imaging results in neuro procedures.

- Table top length of 319 cm, width 50 cm (neuro table top is 45cm at head end)
- Metal-free cantilever 125 cm
- Floating table-top movement of 120 cm longitudinal and +/- 18 cm transversal
- Motorized height adjustment range is 74 -102 cm for a table without swivel nor cradle/tilt. 3
- Maximum cantilever of 223 cm , for full patient coverage
- Table tilt +17 /-17 degrees (optional)
- Table cradle +15 / -15 degrees (optional)
- Pivot range 270 degrees ( -90 to +180 or +90 to -180 degrees), table can be locked at any position and has stops at 0, +/-13, +/- 90 and +/- 180 (optional)
- Table swivel, 78.2 cm longitudinal displacement, motorized (optional).
- Maximum load: 275 kg (up to 250 kg patient weight plus 25kg accessories or 225kg patient weight plus 50kg accessories) plus 500 N for CPR in any longitudinal position of the table top

The UIM modules are not accessories; make consistent with "AD7 accessories Cardiac"

The Philips Azurion system can be fitted with a comprehensive set of accessories to help you perform your procedures as conveniently as possible. Included are

- 1 cerebral filter
- 3 rail accessory clamps
- 1 drip stand
- 1 Set of Elbow Supports
- 1 Set of patient Straps
- 1 Arm Support Board
- 1 Head Support

Line #	Description	Qty
	<ul style="list-style-type: none"> <li>1 mattress</li> </ul> <p>The mattress is a slow recovery foam mattress with a density of 58 kg/m<sup>3</sup>. The mattress has a thickness of 7 cm and adapts to the body shape of the patient. It makes the pressure being divided equally and it recovers when the patient is taken off the mattress. The light yellow cover is easy to clean. Patients are more relaxed due to the comfort of this mattress.</p>	

## 2. X-ray Generation

### A. Generator

The 7 C20 with FlexMove system comprises an integrated, micro-processor controlled Certeray generator based on high frequency converter technique. The user interface control of this X-ray Generator is incorporated in the touch screen module, review module, and the on-screen displays. The Certeray generator comprises:

- X-ray generator 100 kW
- Voltage range is 40 - 125 kV
- Maximum current 1000 mA at 100 kV
- Maximum continuous power for fluoroscopy: 1.5 kW
- Program selection:
  - Pulsed X-ray up to 3.75 , 7.5 , 15 , 30, 60(optional) frames/s for digital dynamic exposures
  - Pulsed X-ray for pulsed fluoroscopy (3.75 , 7.5 , 15 , 25, 30 frames/s).
  - Frame rate extension to 30 frames per second.

Designed to enhance visualization of complex and pediatric interventions

Frame rate extension to 30Fr/sec increases the system acquisition speed up to 30 frames per second for cardio studies requiring high speed imaging.

#### Specifications

The frame rate extension increases the acquisition speed to 15fps and 30fps with a 1024x1024 matrix.

Minimum exposure time of 1 ms

- ECG triggered acquisition: allows acquiring one exposure for each QRS peak with selectable delay time
- Automatic kV and mA control for excellent image quality prior to run to save dose
- X-ray tube load incorporated in the Certeray generator
- Pulsed X-ray for (subtracted) acquisition up to 12 frames/s for vascular applications

### B. X-ray tube

The 7 C20 with FlexMove system has the Maximus ROTALIX Ceramic grid switch tube assembly MRC200+ GS 0407 integrated.

The MRC 200+ GS 04 07 tube assembly and cooling unit CU 3101 for cardiovascular systems comprises:

- 0.4/0.7 mm nominal focal spot values maximal 30 and 65 kW short time load
- Grid switching at pulsed fluoroscopy and low load exposure (to eliminate soft radiation and improve image quality)

Line #	Description	Qty
	<ul style="list-style-type: none"> <li>Continuous loadability: 3400 W (at 21 degrees C room temperature) / 4000 W (= Max assembly continuous heat dissipation)</li> <li>Application of SpectraBeam dose management</li> <li>Tube housing is oil cooled with thermal safety switch</li> <li>Maximum anode cooling rate of 1820 kHU/min</li> <li>Anode heat storage capacity of 6.4 [MHUeff]</li> </ul>	

#### C. System intrinsic

- Fully digital imaging chain in maximizing the utilization and technology of the x-ray generator, x-ray tube, flat detector and image processing.
- Customizable EPX protocols to each application according to user preferences for different composition of dose rate, pulse speed, filter setting, and image processing (noise reduction, adaptive contour enhancement, adaptive harmonization)
- Built-in SpectraBeam filtering of low energy radiation to improve image quality and dose efficiency with MRC200+ X-ray tubes
- Pre-filters of 0.2, 0.5 and 1.0 mm CU equivalent
- Automatic cardiac wedge positioning
- X-ray depth collimator with single semi-transparent wedge filter with manual and automatic positioning.
- Xper Beam Shaping, which means that both shutters and wedges can be positioned on the Last image Hold without the need for X-ray radiation.
- Xper Fluoro Storage, a grab function allows storage and archiving of both a fluoro image or the last 20 seconds of fluoroscopy run. These images or runs can be archived and reviewed as a regular run.

#### D. User selections

- removable anti-scatter grid to lower x-ray dose for pediatrics (grid ratio 13:1)
- ECG triggered acquisition, offering the possibility to acquire images at the same phase of the heart cycle. This applies to the low dose fluoro and exposure program for EP applications. This allows patient dose reduction by lowering the pulse rate to 1 pulse per heart and let the physician still focus on relevant items
- three programmable fluoroscopy modes can be selected from the control module. Each mode has a different composition of dose rate, pulse speed, filter setting, and image processing (noise reduction, adaptive contour enhancement, and adaptive harmonization)

The acquisition segment coordinates the parameters for automatic exposure control, ensuring excellent X-ray tube loading for top image quality. Different programs can be selected via the touch screen module and/or via the review module. Several exposure techniques are provided for different types of examination:

- Serial imaging for DA and DSA with automatic exposure setting
- Single shot mode, acquisition frame rates: 0.5 to 12 images/s at 2048 x 2048, 14 bit matrix

Roadmap Pro can be selected from the control module.

In the first Roadmap phase a vessel map is created by live fluoroscopy or by selecting an exposure image (SmartMask) with a vessel map which, in the second Roadmap phase, is superimposed with subtracted live fluoroscopy.

Roadmap Pro features Smart Settings in special clinical modes that are optimized to visualize special materials such as coils and glue.

Line #	Description	Qty
	<ul style="list-style-type: none"> <li>Acquisition runs can be done without losing the vessel map of Roadmap Pro.</li> <li>Live processing of the vessel map, the device map and the landmark map can be done on the touch screen module.</li> <li>Field of View (FoV) can be altered during the second phase.</li> <li>Xres for vascular procedures is standard part of Roadmap Pro.</li> </ul>	

In Roadmap Pro "Automatic Motion Compensation" (AMC) is added to the roadmap functionality. During roadmap, small movements of the patient can lead to subtraction artifacts. These artifacts might conceal important clinical information. "Automatic Motion Compensation" compensates for rigid, uniform (skeletal/table) translations and is therefore very effective in interventional (neurology) applications where subtraction imaging is applied. Disclaimer: AMC only corrects movement artifacts in 2 dimensions. 3 dimensional movements like swallowing or rotation of the head cannot be corrected.

#### E. User dose awareness

DoseWise program: Philips DoseWise program is a set of techniques, programs and practices built into the X-ray system that ensures excellent image quality during each interventional application, while at the same time reducing x-ray dose at every opportunity. The DoseWise comprises of three building blocks to help reduce x-ray dose without compromising diagnostic quality: system intrinsic, user selection and awareness.

On-system monitor display provides and displays body zone specific Air Kerma data (10 zones for cardiac applications) in numeric and graphical bars.

- Graph displays the accumulated Air Kerma dose for the particular body zone of the actual projection
- When the accumulated Air Kerma dose of the particular body zone reaches the critical skin dose level of 2 Gy, it will be indicated on the display and made visible to the x-ray operator.

#### Radiation Dose Structured Report

Collection of dose relevant parameters and settings and export to a DICOM database (e.g. PACS) (dose information is sent in MPPS message not as Radiation Dose Structure report), according IEC60601-2-43, 2nd Edition. The reported data can be used for, for example:

- Quality improvement: evaluating trends in X-ray dose performance per facility, system and operator. RDSR enables analysis of average dose levels & variance for routinely performed exams and procedures. Also, typical system usage can be extracted from the data, helping to identify root causes behind deviations and measures to improve.
- Analysis of individual patient cases: using dose levels and system usage per procedure
- Alerting for high dose cases, timely identifying patients at risk or deterministic effects, for proper follow-up.

#### Secondary Capture Dose Report

The Secondary Capture Dose Report function allows the user to save & transfer, manually or automatically, a patient Dose Report to PACS in DICOM secondary capture format. The dose report will be stored in the related patient image folder.

### 3. Image Detection

The system has a 20 inch flat panel image detector. This detector can be rotated over 90 degrees from portrait to landscape and vice versa.

The image chain with the 20 inch flat panel image detector comprises the following:

Line #	Description	Qty
	<ul style="list-style-type: none"> <li>• A 30 cm by 40 cm (20 in.) diagonal 8 mode Dynamic Flat Detector subsystem for fluoroscopy and cine-fluorography.</li> <li>• 8 modes 30*38/30*30/26*26/22*22/19*19/16*16/13.5*13.5/11*11 cm, Dynamic Flat Detector</li> <li>• The outer detector physical housing is 36 x 47.2 cm</li> <li>• The digital output of the Flat detector is 1904*2586 pixels at 16 bit depth.</li> <li>• The pixel pitch is 154 micron by 154 micron</li> <li>• The DQE(0) is &gt;77% providing high conversion of X-ray into a digital image, while maintaining a high MTF.</li> </ul>	

Philips Azurion offers a storage capacity of (optionally extendable) of 50,000 images at matrix size of 1024 x 1024, in 8 or 10 bit depth. With a matrix size of 2048 x 2048 this is 12,500 images. Maximum number of examinations is 999, with no limit to the maximum number of images per examination.

Xres is a multi-resolution spatial temporal noise reduction and edge enhancement filter for interventional applications. Xres exploits the full benefits of dynamic digital flat detector imaging to enhance sharpness and contrast and has been designed to reduce noise in fluoroscopy and exposure runs. The settings for Xres Cardio can be customized to improve image quality. Xres is a Philips unique image processing algorithm developed at Philips Research for medical applications. Xres is used with Philips MR and US scanners next to Philips Azurion systems.

#### 4. User Interface

##### User Interface in Examination Room

The User Interface comprises a variety of User Interface modules in the Examination Room. There is the On-Screen Display, the touch screen module, Viewpad and the control modules.

The On-Screen Display is positioned on the left side of the live/ref monitor. The following system information is displayed:

- X-ray indicator
- X-ray tube temperature condition
- Gantry position in rotation and angulation
- Source Image Distance
- Table height
- Table top tilt and cradle angle, if applicable
- Detector field size display
- General System messages ()
- Selected Frame speed ()
- Fluoroscopy mode ()
- Integrated fluoroscopy time ()
- Skin Dose: dose rate during X-ray, cumulated dose when no X-ray ()
- Dose Area Product: dose rate during X-ray, cumulated dose when no X-ray ()
- Graphical bars for Body Zone specific dose-rate and accumulated skin dose levels, related to the 2 Gy level (for cardiac applications)
- Stopwatch

The pan handle is an extension of the control possibilities for floating movements of the table top in cardio vascular and neuro systems

Key benefits

Line #	Description	Qty
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- Flexible positioning during cardio and neuro procedures
- Flexible positioning during cardio and neuro procedures

To allow more flexible positioning during cardio and neuro procedures, the pan handle option can be used to perform floating table movements. The pan handle provides a solid grip of the tabletop and can release and apply the tabletop brakes. It can be attached anywhere along the tabletop and accessory rails without affecting the floating range.

#### Specifications

Pan handle with cable and connector

Table-top attachment clamp

Accessory-rail attachment clamp

#### Touch screen module

The touch screen module is provided for use at either the tableside or in the control room. The touch screen module has a touch screen, which can be operated when covered with sterile covers. The touch screen module allows control of (depending on configuration):

- 3rd party equipment (e.g. CX50, Interventional Tools, EchoNav, DoseAware)
- Monitor layout (Flexvision, switchable viewing)
- X-Ray settings (Collimation, Projections, Table, Series and Processing)
- Quantitative Analysis (optional) User can only start QA from the touch screen module. No controls like coronary analysis, left ventricular and vessel analysis can be performed on the touch screen module.
- Operation of Xcelera, XperIM and IntelliSpace Portal viewing (optional)
- Operation of CX50 Ultrasound (optional)

#### 2nd Touch Screen Module

#### Key Benefits

- Control system operations with a second touch screen module

#### Tablet-like touch screen control

During an intervention flexible control of applications and system operations can support fast decisions and communication with team members. The touch screen module provides fast, tablet-like touch response to control system operations. Up to three touch screen modules can be connected to the X-ray system: on the table, on the pedestal and in the control room.

#### Specifications

The second touch screen module is similar to the standard touch screen module and provides touch screen control of displayed functionality. The following functions can be made available providing the relevant commercial options have been selected:

- Acquisition settings
- Image processing controls
- Channel selection for MultiVision
- Automatic position control (optional)
- Quantitative Analysis controls (optional)



Line #	Description	Qty
	<ul style="list-style-type: none"> <li>• Xcelera and IntelliSpace Portal viewing (optional)</li> <li>• Interventional tool controls (optional)</li> <li>• 3D-RA, Dynamic 3D Roadmap (optional)</li> <li>• StentBoost, 3D-CA (optional)</li> <li>• XperCT, XperGuide (optional)</li> <li>• XIM physio monitoring controls (optional)</li> </ul>	

Connectivity:

A maximum of 3 touch screen modules can be connected to the X-ray system:

- One touch screen module on the table
- One touch screen module in the Control Room
- One touch screen module on the pedestal

#### Viewpad

The Viewpad contains the preprogrammed function settings. The system is provided with two Viewpads. The following functions are provided:

- Run and image selection
- File and run cycle
- File overview
- Store to Reference image file
- Copy image to photo file
- Digital (fixed) zoom and panning
- Recall reference images, which means switching control of Viewpad function from life to reference monitor
- Laser pointer, intended to point at regions of interest on the image monitors
- LED indication of laser pointer on/off and battery low
- Subtraction on/off
- Remasking
- Landmarking

#### Control module.

The control module can be positioned at three sides of the patient table, while keeping the button operation intuitively logical. The control module single-plane provides the following functionality:

- Tabletop float
- Table height position
- Table tilt angle if function is applicable
- Source Image Distance selection
- Gantry positioning
- Gantry rotation in an axis perpendicular to the floor
- Store and recall of two scratch gantry positions including SID
- Geometry reset button, which resets stand and table to a factory-default starting position
- Emergency stop button
- Execute button of the Automatic Positioning Control (APC) if applicable

Line #	Description	Qty
	<ul style="list-style-type: none"> <li>• Unlocking button for table pivot function (if option is installed)</li> <li>• Table tilt and cradle controls (if option is installed)</li> <li>• Fluoroscopy Flavor selection defined per setting</li> <li>• Shutters and Wedge positioning</li> <li>• Manual or automatic semi-transparent wedge filter</li> <li>• Xper Fluoro Storage</li> <li>• Selection of the Detector field size</li> <li>• Reset of the fluoroscopy buzzer</li> <li>• Roadmap Pro activation if function is available</li> </ul>	

The control module is provided with a protection bar. This removable bar protects the buttons from unintended control.

- Access flat detector rotation

#### User Interface in Control Room

The control room comprises a review module, data color monitor and review monitor. The data and review functions are controlled by a single keyboard and mouse. The review module offers the basic functions for review. The most prominent functions can be controlled by the push of a button. The review module comprises the following functionality:

- Power on/off
- File and run cycle
- File, Run, and Image stepping
- Run and file overview
- Reset fluoroscopy timer
- Enable/disable X-ray
- Geo disable

Acquisition monitor. A standard keyboard and mouse control the user interface. The acquisition monitor is intended to follow live case in the ER. System information is displayed on the bottom of the monitor:

- Stopwatch and Time
- System guidance informatio
- Dose Area Product (DAP) and Skin Dose, as dose rate during X-ray and cumulative dose at no X-ray
- Frame speed settings, fluoroscopy mode, and accumulated Fluoroscopy time
- Exposure and fluoroscopy settings as Voltage (kV), Current (mA) and time (ms)
- Geometry information as rotation, angulation, and SID

The acquisition monitor is designed for standard workflow based on scheduling, preparation, acquisition, review, report, and archive.

#### Scheduling

In the scheduling page it is possible to add new patients (either querying from RIS/CIS or by creating patient locally). The patients can be listed and selected per date, physician, and intervention type. Previous DICOM patient studies can be uploaded with the DICOM Query Retrieve function in the Philips Azurion system. Patient management protocols are flexible and allow for multiple studies to be selected under one patient identification number. This means that

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new studies can be appended to an earlier patient file. Furthermore, each study can contain multiple examinations to allow for split administrative purposes. Each examination contains multiple files, like acquisition file, reference file, and QA results file.

#### Procedure Cards

Procedure Cards provide the information of room and patient preparation for each individual physician. Procedure Cards are customizable per setting and allow each physician to provide their own room protocols. Procedure Cards is intended to make hard copies of the protocol instructions redundant.

#### Acquisition

The acquisition page contains information on the currently selected patient.

#### Reviewing

The review page allows for reviewing of patients:

- Previous examination cases
- Review of other DICOM XA or DICOM SC studies.

#### Quantitative Vascular Analysis

##### Key benefits

- Allows quantitative assessment of different size vessels such as aortic and peripheral
- Aids confident decision making for device selection, approach angles and follow-up
- Designed for efficiency with single click functions and fast results

Easily obtain objective assessment of aortic and peripheral vasculature to support decision making and allow quantitative assessment of vasculature during vascular interventions, the 2D quantitative vascular analysis option supports quantification such as aortic and peripheral artery dimensions of about 5 to 50 mm from 2D angiographic images. With one click, the relevant segment is detected and a visualization of the obstruction, healthy vessel, reference diameter, stenosis diameter and plaque area is created.

##### Specifications:

- Automated vessel segmentation
- Diameter measurement along selected segment
- Automated obstruction analysis
- Stenosis diameter, stenosis length
- % stenosis diameter, % stenosis area
- Automated and manual calibration routines
- Store result page

Analysis of the targeted vessel segment has been simplified with the single click function. Position the mouse on or close to the stenotic area and click once to detect the relevant segment. The visualization shows the obstruction, healthy vessel, reference diameter, stenosis diameter and plaque area.

#### Archiving

Clinical studies can be archived to a CD/DVD, USB or a PACS. The archive process can be

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completely automated and customized with settings. Parameters like multiple destinations, archive formats can be selected to the individual needs and wishes for programming under the settings.

With Philips Azurion the control room comprises of an acquisition monitor and a review monitor. The review monitor is a 24 inch color TFT-LCD medical grade monitor.

The Graphical User Interface on the Review monitor has the following features and possibilities:

- Step through file, run, or images
- File, and run overview
- Contrast, brightness, and edge enhancement settings
- Flagging of runs or images for transfer
- Applying text annotation in images
- DICOM printing if available
- Executing Quantitative Analysis Packages if available
- Subtraction functionality if available

This system is delivered with printed instructions for use and/or electronic instructions for use, as well as a quick start leaflet. A printed paper instructions for use can also be ordered at no additional cost.

## 5. Viewing

### A. Viewing in Examination room

Philips Azurion systems come with one 27 inch high brightness color medical grade LCD monitor for clinical image display in the Examination room. This LCD monitor is intended for viewing in the examination room and is designed for medical applications. The monitors is used for combined viewing of live images and reference display. Selection and storing of live to reference monitor is controlled by the infra-red remote-control viewpad or via touch screen module.

The On-Screen Display provides status information on stand rotation-angulation, table height, display of system messages, X-ray tube load status, selected fluoroscopy mode, selected detector Field of View, and both the rate and accumulation of the dose area product and Air Kerma dose. The main characteristics are:

- 27 inch high brightness color TFT-LCD display
- Native format 1920x1080 Full HD
- 10 bit gray-scale resolution with gray-scale correction
- Wide viewing angle (approx. 178 degrees)
- High brightness (max 650 Cd/m<sup>2</sup>, default 400 Cd/m<sup>2</sup>)
- Long term luminance stability through backlight stabilization circuit
- Automatic brightness control with backlight sensor
- Control functions on side
- User programmable and standard reference setting
- On-Screen Display
- Internal selectable lookup table for gray-scale transfer function, including DICOM
- Internal power supply (100-240 VAC)
- Integrated LCD protection screen

Unless otherwise stated, with FlexMove an integration kit HD is supplied for a Monitor Ceiling Suspension (MCS) containing crucial parts for operating the equipment.

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#### B. Viewing in Control room

Philips Azurion includes two 24 inch high brightness color LCD monitors. The color monitors are for acquisition and reviewing display.

The main characteristics for color monitor are:

- 24 inch color TFT-LCD display
- Native format 1920x1080 Full HD
- High brightness (max 400 Cd/m2, default 350 Cd/m2)
- Wide viewing angle (approx. 178 degrees)
- Long term luminance stability through backlight stabilization circuit
- Automatic brightness control with backlight sensor
- Control functions on side
- User programmable and standard reference setting
- On-Screen Display
- Internal selectable lookup table for gray-scale transfer function, including DICOM
- Internal power supply (100-240 VAC)
- Integrated USB hub

A Philips Azurion system includes the DICOM Image Interface which enables the export of clinical images to a DICOM destination like a CD-Medical station or a PACS server. The export formats are based on DICOM 3.0 protocols. The system exports clinical studies in Cardiac DICOM XA Multi-Frame or DICOM Secondary Capture formats.

The DICOM Image Interface transfers through its fast Ethernet link, making images available on-line within seconds. The archive process can be configured by X-ray settings. The images are sent out either in the background, or manually upon completion of the examination. The export format is configurable in 512x512 or 1024x1024 matrix in 8 or 12 bit depth. The examination can be sent to multiple destinations for archiving and reviewing purposes. The DICOM Image Interface provides DICOM Storage and DICOM Storage Commitment Services. The DICOM Query/Retrieve function allows older DICOM XA MF and DICOM SC studies to be uploaded in the system. Furthermore, additional information can be appended to a study while keeping the patient identification the same.

Remote Intercom for the Azurion System. The option includes a separate intercom, which is connected independently from the system. This allows placement of the intercom at the preferred working position in the control room and examination room. The listen function can be separately selected on each intercom. Activating the talk function on a selected intercom automatically disables this function on the other intercom.

#### Uninterruptable Power System (UPS)

Ensures data integrity

A power failure of the hospital mains during an intervention can cause loss of data. If this occurs, the single phase Uninterruptable Power System (UPS) enables a proper shut-down of the X-ray system processor units.

Specifications

In case a full three phase UPS is selected, the single phase UPS is not delivered.

#### Remote service

Access to the system from a Remote location is possible via network or modem connection. Remote access to a system can shorten the time needed for e.g. changing system settings or problem diagnosis.

Line #	Description	Qty
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#### Environmental

At Philips Healthcare, we feel the responsibility towards society and the environment. The latest 7 C20 with FlexMove system is a perfect example of our EcoVision program. By examining every aspect of the 7 C20 with FlexMove design and development through a green eye, we drastically reduced the products environmental impact.

#### System & table APC

Helps to save time and manage X-ray dose with automatic positioning

Positioning the X-ray system to visualize relevant anatomy from different perspectives can involve a great deal of time and many scout images during interventional procedures. To help save time and manage X-ray dose while working, the Automatic Position Controller (APC) provides an easy way for interventional team members to store and recall stand-related positions.

#### Specifications

The system APC stand and table positions need to be stored and recalled separately.

#### Clinical Education Program for Azurion System:

The purchase of the Azurion System includes a StartRight entitlement pool that allows for the customized delivery of educational events to improve staff time to proficiency, knowledge on system features, and improve overall lab efficiency. For new users, the recommended series of educational events includes:

Essentials OffSite Education: Philips will provide up to two (2) Cardiovascular Technologists, Registered Technologists, Registered Nurses, or other system operator as selected by customer, with in-depth didactic, tutorial, and hands-on training covering basic functionality and work-flow of the cardiovascular imaging system. In order to provide trainees with the ability to apply all fundamental functioning on their system, and to achieve maximum effectiveness, this class should be attended no earlier than two weeks prior to system installation. This twenty-eight (28) hour class is located in Cleveland, Ohio, and is scheduled based on your equipment configuration and availability. Due to program updates, the number of class hours is subject to change without notice. Customer will be notified of current, total class hours at the time of registration. This class is a prerequisite to your equipment handover OnSite Education. CEU credits may be available for each participant that meets the guidelines provided by Philips. Please refer to guidelines for more information. In the event that an EP Navigator workstation has also been ordered, the offsite training course will be tailored to focus on the electrophysiology functionality of the FD system and the EPN workstation. Travel and lodging are not included, but may be purchased through Philips. It is highly recommended that 989801292102 (CV Full Travel Pkg OffSite) is purchased with all OffSite courses

Initial Handover OnSite Education: The primary Philips Education Specialists will provide twenty-eight (28) hours of education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. Students should attend all 28 hours, and must include the two OffSite education attendees. CEU credits may be available for each participant that meets the guidelines provided by Philips. Please refer to guidelines for more information. Note: Site must be patient-ready. Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation. It is highly recommended for systems that are fully loaded or for customers with a large number of staff members to also purchase 989801292099 (CV Add OnSite Clin Educ 24h).

Line #	Description	Qty
	<p>FollowUp OnSite Education: Philips Education Specialists will provide sixteen (16) hours of education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. Students should attend all 16 hours, and must include the two OffSite education attendees. CEU credits may be available for each participant that meets the guidelines provided by Philips. Please refer to guidelines for more information. Note: Site must be patient-ready. Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation.</p> <p>Assessment OnSite Year 1: The primary Philips Education Specialist will perform a two day onsite assessment at the customer site on or close to the first anniversary of the Initial Handover. The Specialist will assess through various means not limited to; physical observation of procedure workflow, tool usage data analysis and staff interviews. The Specialist will then review findings with department head and make recommendations thereof. The Specialist may perform refresher training if required.</p> <p>Education expires one (1) year from installation date (or purchase date if sold separately). Ref#296339296340296341296342-20170209</p>	
2	<b>Azurion FlexVision10 Input</b>	1
	<p>Eight Isolated Wall Connection box to support the display of an external video source on a monitor in the examination room.</p> <p>Key benefits</p> <ul style="list-style-type: none"> <li>• Stream video from other modalities on the interventional X-ray suite:</li> <li>• Connect external video in the exam room</li> </ul> <p>Easily stream video to other locations</p> <p>Many interventional facilities use video to record and stream images from other modalities on the interventional X-ray suite for training or presentation purposes. The Video Wall Connection Box facilitates connection of the video source via a standard DVI cable/connector and lossless transfer of the video signal over the approximate 30 meter long cable. It can be mounted in the examination room or in the control room, depending on the location of the video source.</p> <p>Specifications</p> <p>The quantity of the VWCB's has to be calculated as follows:</p> <p>For each video signal via MultiVision: 1 VWCB (max = 4)</p> <p>For each video signal to FlexVision XL on Cardio System: 1 VWCB (max = 9)</p> <p>For each video signal to FlexVision XL on Vascular System: 1 VWCB (max = 8)</p> <p>For each 3rd party video signal directly connected to an LCD in the MCS: 1x VWCB</p> <p>Note:</p> <p>No VWCB is required in case a video signal is connected directly to a dedicated LCD from the following sources:</p> <ol style="list-style-type: none"> <li>1. Live/ref Slaving</li> <li>2. Interventional HW (XtraVision), IntelliSpace Portal, Philips Xcelera (only if workstations are powered by Philips X-ray system)</li> </ol>	

Line #	Description	Qty
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### 3. XperIM

Two Isolated Wall Connection box on the rear side of the monitor ceiling suspension to support the display of an external video source on a monitor in the examination room.

#### Key benefits

- Easily connect external video in the exam room

#### Specifications

A wall connection box to connect external video (input only), USB and Ethernet. One or two WCB's (option) can be attached on the rear side of the 1st MCS with a bracket. A cable box (also attached to rear side of 1st MCS) can be used to store connected equipment cables. A maximum of two WCBs/cable boxes can be attached.

3

### Flexmove XL extension

1

FlexMove XL is an extension to FlexMove of 100cm ceiling rail.

#### Key benefits

- Expands range of movement for the X-ray system to accommodate large operating rooms and clean air fields
- Lateral standby position for quick access to X-ray system and extended parking position to free up operating area when X-ray system is not used
- Can accommodate laminar air flow units and frees up floor space to simplify room cleaning

#### The freedom you need

As Hybrid operating rooms get larger, the working area around the operating table needs to be larger as well. The Extension to FlexMove XL option adds 100 cm to the ceiling rails on the head or foot end of the table, greatly expanding the range of movement for the X-ray system. The X-ray can be parked outside the clean air field, in the corner of the examination room when not used to free up the operating area.

#### Specifications

FlexMove XL is an extension to FlexMove of 100cm ceiling rail. It enables the enlargement of parking distance on head side or foot side of the table. This extension consists of extended rail sections and cannot be added onto FlexMove standard.

- Rail length FlexMove 6621mm, rail length FlexMove XL 7621mm
- Outside dimensions FlexMove 3700mm, outside dimensions FlexMove XL 3700mm
- Longitudinal-stroke FlexMove 4356mm, longitudinal-stroke FlexMove XL 5356mm
- Lateral-stroke FlexMove 2600mm, lateral-stroke FlexMove XL 2600mm
- Ceiling height FlexMove 2900mm/3100mm, ceiling height FlexMove XL 2900mm/3100mm
- Flexible positioning of the patient table in a room layout
- Head side or foot side rotation
- Patient table and Magnus table supported
- Philips offers room layout consultancy for efficient room design for FlexMove and FlexMove XL.

4

### live/ref slaving for ER

4

Live/ref slaving for Exam Room.

#### Key benefits

- Easily display any data or clinical information needed to work efficiently

#### Simplify workflow with flexible viewing control

Having patient data and clinical information easily available on screen can enhance decision making and efficiency during interventions. The live/ref slaving will enable the option to slave the



Line #	Description	Qty
	<p>Live and Ref video source from the X-ray system. The total amount of live/ref slaving that can be selected is max 5, minus the number of FCV0807 Live/ref slaving for CR.</p> <p><b>Specifications</b>            Live/ref slaving for ER is possible:            - On Philips MCS (additional monitor excluded from this option)            - In combination with FCV0519 1 or 2 MCS from Skytron/Steris</p>	
5	<p><b>Addl LCD Control Room</b></p> <p>Additional 24 inch high brightness color LCD monitor.</p> <p><b>Key benefits</b></p> <ul style="list-style-type: none"> <li>• Enhance visibility for a variety of procedures</li> </ul> <p><b>Get a wider view of the situation</b>            Mix and match the widescreen monitors to make efficient use of your lab space. Each monitor can be connected to different sources so you can see just what you need for different phases and types of procedures. The high definition color widescreen monitors enhance the visibility of fine details and vital signs.</p> <p><b>Specifications</b>            The main characteristics for the color monitor are:            - 24 inch color TFT-LCD display            - Native format 1920x1080 Full HD            - High brightness (max 400 Cd/m2, default 350 Cd/m2)            - Wide viewing angle (approx. 178 degrees)            - Long term luminance stability through backlight stabilization circuit            - Automatic brightness control with backlight sensor            - Control functions on side            - User programmable and standard reference setting            - On Screen Display            - Internal selectable lookup table for gray-scale transfer function, including DICOM            - Internal power supply (100-240 VAC)            - Integrated USB hub</p>	1
6	<p><b>VesselNavigator</b></p> <p>VesselNavigator            Reduce your need for contrast in complex endovascular procedures</p> <p>VesselNavigator allows reuse of 3D vascular anatomical information from existing CTA and MRA datasets as a 3D roadmap overlay on live X-ray images. With its sophisticated visualization, it provides an intuitive and continuous 3D roadmap to guide you through vasculature during the entire procedure. This reduces the need for a contrast enhanced run to create a conventional roadmap and potentially shortens procedure times.            The essential components of VesselNavigator are:</p> <ul style="list-style-type: none"> <li>• 3D roadmap navigation with a personalized visualization of a CT or MR overlay of the selected vasculature on live fluoro.</li> <li>• Both 2D and 3D registration for CT or MR image fusion, allowing to choose the optimal registration method for the user's workflow</li> <li>• Easy, intuitive four step workflow, with one click vessel segmentation</li> <li>• Ring markers to easily indicate the ostia and landing zones.</li> </ul>	1

Line #	Description	Qty
	<p>VesselNavigator can be used for any type of endovascular procedure, except for coronaries and intracranial vessels. It is especially beneficial for complex and tortuous vasculature where it is challenging to accurately navigate and place stents or for procedures where contrast use should be minimized.</p> <p>VesselNavigator provides the following functions:</p> <p>One click vessel segmentation; the user can select the relevant vessels for the overlay in the CT or MR volume in one click</p> <p>3D landmarks. In the planning step the user can place ring markers for denoting ostia or landing zones and markers for denoting specific structures like calcifications</p> <p>Plan angles; VesselNavigator provides three dimensional views of vasculature that allow you to easily define the right projection angle. These angles can be recalled during the procedure for optimal navigation and stent placement.</p> <p>2D registration; The CT or MR volume needs to be matched with the X-ray image for continuous live overlay. This can be performed with 2 X-ray images from different orientations. Once the 2 images are acquired, the user must manually match the bones on the preoperative scan with the X-ray image.</p> <p>3D registration; The existing CTA or MRA volume needs to be matched with the X-ray image for continuous live overlay. This can be performed with a rotational angiogram or cone beam CT. The user has to identify 3 identical anatomical points on the rotational scan and the CTA or MRA volume. The software automatically matches the identified points to register the pre-operative scan with the X-ray system.</p> <p>Live image guidance; Real-time overlay of the 3D Vessel segmentation on the live 2D X-ray images from the Allura X-ray system of the same anatomy. For optimal viewing, the user can personalize the visualization of the overlay. The overlay can provide additional 3D image guidance to help the user with navigating the device/catheter to the target, enhancing clinical outcomes.</p> <p>Table tracking; The overlay will be aligned with the live X-ray image, irrespective of table movements.</p> <p>Table side control; Registration and live guidance can be controlled from table-side to provide efficient work-flow during the interventional procedures</p> <p>Image data for VesselNavigator is stored together with the VesselNavigator movies and snapshots and can be sent to any optional DICOM compatible device (e.g. PACS/IntelliSpace Portal/Xcelera). Supported are DICOM XA, DICOM SC, DICOM CT and DICOM MR and any PC in a standard PC compatible format (JPEG, AVI). All this data can be reviewed at any time.</p> <p>VesselNavigator movies and snapshots can be stored/archived on:</p> <ul style="list-style-type: none"> <li>• A PACS systems as DICOM Secondary Capture images or movies.</li> <li>• USB removable memory device.</li> <li>• One or multiple DVD's, CD-ROM(s) for easy archiving.</li> <li>• Hard copy via the (DICOM Print) protocol.</li> </ul>	

Line #	Description	Qty
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**Clinical Education Program for Vessel Navigator:**

Philips Imaging Systems Clinical Education Specialist will provide sixteen (16) hours of education for up to four (4) students, as selected by customer, including technologists from weekend/night shifts as necessary. CEU credits are not available for this portion of training. Please refer to guidelines for more information. Note: Site must be patient ready. Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation.

Education expires one (1) year from equipment installation date (or purchase date if sold separately). Ref#296273-20150805

<b>7</b>	<b>ClarityIQ.</b>	<b>1</b>
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Significantly lower dose- across clinical areas, patients and operators.

**Key benefits**

- High-quality imaging at low dose levels
- Enhanced work environment for staff through active management of scatter radiation
- Expands treatment options – enables longer procedures to treat obese and high-risk patients with confidence

**See with confidence every time**

Interventions are becoming increasingly complex, which lengthens fluoroscopy time and increases the need for high resolution imaging. New devices can be more difficult to visualize, making it harder to position them precisely. The prevalence of patients with a high BMI can also require increased dose levels to visualize anatomy. All of these factors inspired us to completely redefine the balance in interventional X-ray with AlluraClarity.

AlluraClarity with its unique ClarityIQ technology gives you exceptional live image guidance during treatment. What's more, you can confidently manage low X-ray dose levels without changing your way of working. In short, you can see what you have to regardless of patient size.

**Specifications**

ClarityIQ technology is the foundation of Philips X-ray systems with AlluraClarity. It offers:

- Noise and artefact reduction, also on moving structures and objects
- Image enhancement and edge sharpening
- Automatic real-time patient and table motion correction on live images
- A flexible digital imaging pipeline from tube to display that is tailored for each application area
- Over 500 clinically fine-tuned system parameters making it possible to filter out more X-ray radiation and use smaller focal spot sizes and shorter pulses with the grid switching technology of Philips MRC tube and accompanying generator

<b>8</b>	<b>Subtracted Bolus Chase</b>	<b>1</b>
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For visualization of vessel structures when the blood flow is difficult to lower peripherals.

Bolus Chase solves the problem of cumbersome step movements, the mismatch between blood flow and selected program, and lack of real-time image information.

During digital acquisition in non-subtracted mode with uninterrupted real-time image display, the contrast bolus is followed (chased) interactively by a motorized table scan movement using a

Line #	Description	Qty
	<p>hand-hold speedcontroller to adapt the speed of the table scan to the contrast flow.The framespeed can be adapted as well.</p> <p>The bolus run is followed with a mask run while using the same speedcurve and framespeed as generated during the bolus run. Viewing is possible in the subtracted and non-subtracted mode. If subtracted viewing is not required, the mask run can be skipped.</p> <p>Subtracted Bolus Chase gives fast, accurate results for increased patient throughput and improved patient management. Automated exposure control and precise speed control assure a high quality images and excellent subtraction studies.</p> <p>Comprising:</p> <ul style="list-style-type: none"> <li>• automatic exposure control</li> <li>• tabletop motordrive and hand-held speed controller (tableside)</li> <li>• technique selection using Xper module, available both tableside and in control room (Xper FD20, FD20/10)</li> </ul>	
9	<p><b>3D RA Control for Xper Module</b></p> <p>Table Side Module functionality for Allura Xper FD20 used with Integris 3D-RA Release 4.2. For further improvement of interventional procedures efficiency the following workflow enhancers are made available in the examination room: With the Xper touchscreen module the physician has all 3D functionality needed at tableside. Functionality like rotating panning zooming AVA Virtual stinting 3 and 3D Follow C-arc can be performed. No need for the Physician to leave the examination room. 3D Automatic Position Control (3D-APC); when the optimal working position has been chosen via the Integris 3D-RA interventional tool the C-arc will automatically steer to this position.3D Follow C-arc: When the position of the C-arc (not using any X-ray) is changed the 3D volume will automatically follow the position of the C-arc. This means the position of the C-arc (and therefore the 2D projection) and the 3D volume are always aligned.</p>	1
10	<p><b>Peripheral X-ray Filter</b></p> <p>Set of flexible x-ray filters to provide an uniform density in angiographic examinations of the lower peripheral area.</p> <p>Comprising:</p> <ul style="list-style-type: none"> <li>• one central filter, at the top edge provided with sizing markers at every 5 cm, length : 1 m</li> <li>• two side filters, length: 1 m</li> </ul>	1
11	<p><b>3D-RA R.6</b></p> <p>Allura 3D-RA assists physicians in decision making for treatment strategy in endovascular procedures, neuro or vascular surgery or even radiotherapy. Allura 3D-RA reduces the number of DSA acquisitions and fluoroscopy time needed to perform an examination. This means less X-Ray dose for the patient and the medical staff and a reduced quantity of dye, leading to reduced procedure costs. Allura 3D-RA provides a unique assessment after treatment due to the use of non-subtracted images that allows to shows devices stents, coils, clips and provide the optimal stand projection for endovascular treatment.</p> <p>Allura 3D-RA provides a wide range of communication facilities to export 3D images.</p> <p>1 Image Acquisition</p> <ul style="list-style-type: none"> <li>• Image acquisition is performed with the Rotational Angiography feature of the Allura Xper FD series with the flexibility to position the C-arm in either head or side position.</li> </ul>	1

Line #	Description	Qty
	<ul style="list-style-type: none"> <li>C-arm in Head position: the Rotational Angiography run is performed over a scan range of 240 degrees with a rotation speed up to 55 degrees/sec.</li> <li>C-arm in Side position: the Rotational Angiography run is performed over a scan range of 180 degrees with a rotation speed up to 30 degrees/sec.</li> </ul>	

## 2 3D Vessel Reconstruction

The rotational run is automatically transferred and displayed as a 3D vessel model: with the Real-Time digital link (option) 120 images are reconstructed into a 3 dimensional model within seconds. Additional reconstructions, using the Reconstructive Zooming Technique, can be performed as well.

## 3 Workflow:

- Allura 3D-RA in combination with the Allura Xper FD series will provide an optimal workflow via the following workflow enhancers:  
Complete automated 3D-RA process from 3D acquisition to 3D Viewing: no user interaction needed.
- 3D at Xper Module (option); With the Xper module the physician has all required 3D functionality at tableside. At the touch screen module functionality like rotating, panning, zooming, AVA, virtual stenting, 3D-APC and 3D Follow C-arc can be performed. With the mouse tablet all other functions can be performed so that there is no need for the Physician to leave the examination room.
- 3D Automatic Position Control (3D-APC); When the optimal working position has been chosen via the Allura 3D-RA interventional tool, the C-arc will automatically steer to this position.
- 3D Follow C-arc; When the position of the C-arc (not using any X-ray) is changed, the 3D volume will automatically follow the position of the C-arc. This means the position of the C-arc (and therefore the 2D projection) and the 3D volume are always aligned. As last seen; when the user leaves the patient in the model and later selects that patient again, the Allura 3D-RA interventional tool will return to the image last used by the user.
- Mouse over: When moving the mouse cursor over a button the mouse over text will show up to explain the function of that specific button.

## 4 Calibration

Allura 3D-RA calibrations are performed by Philips Healthcare Customer Support. Allura 3D-RA calibration data are stable over at least 6 months time.

## 5 Viewing

A Real Time user interface is available with 3D-RA, providing 3D object viewing in any space direction. A graphical display of (C-arm) stand position including

- angulation/rotation for any projection.
- Philips' CRM (Contrast Resolution Management) Technology for a considerable increase in contrast resolution in all volumes.  
Various Image Rendering possibilities: Volume/Surface Rendering, MIP, Endoscopy, SUM (pseudo x-ray image) Gradient rendering; the possibility to display the vessel structure transparently.

Line #	Description	Qty
	<ul style="list-style-type: none"> <li>• Cut-plane function to get a precise insight of the shape of the pathology</li> <li>• Orthoviewer providing a multi-planar visualization of objects using the different Image Rendering possibilities.</li> <li>• MPR (Multi-Planar Reformatting): enables visualization of the volume in all three standard projections (coronal, sagittal and axial) Especially useful for optimal viewing of spine procedures (e.g. Vertebroplasty)</li> <li>• SpineView: special acquisition protocol for optimal viewing of the spine, especially osteoporotic vertebrae</li> <li>• CalciView: allows visualization of Hyper dense plaque in 3D, separately or in relation to the lumen.</li> <li>• 5 different distance measurements calculated in the same volume, including "Quick measurement" feature</li> <li>• Volume calculation <ul style="list-style-type: none"> <li>• Automated Vessel Analysis (AVA), provides information on vessel segment diameter, area and length with only three mouse-clicks. Endoscopic and cross sectional views are available.</li> </ul> </li> <li>• Computer Assisted Aneurysm Analysis (CAAA), providing information on Aneurysms, like volume, neck size etc..</li> <li>• Catheter tip shape simulation, providing information on how to shape the catheter tip.</li> <li>• Virtual stenting; Ability to simulate a stent placement in a selected vessel segment for proper stent sizing. All relevant data of the simulated stent are displayed</li> <li>• Annotation: text can be added to a volume to capture comments.</li> <li>• Interpolative Zoom</li> <li>• Reconstructive Zooming Technique, 2 additional user defined reconstructions focused on the Volume Of Interest (VOI) using different cube size and voxel resolution.</li> <li>• Subtraction of reconstructed volumes, allowing to visualize vessels without embolization devices (stents, coils, clips,..) to assess the outcomes of treatment</li> <li>• Automatic Voxelshift: compensates for movement when rendering subtracted or superimposed volumes</li> <li>• Set the grey values WW/WL</li> <li>• Store/Recall of user defined projections.</li> </ul>	

## 6 Archiving

Transfer to:

- Optional Hard Copy unit (DICOM Print)
- Any optional DICOM compatible device (e.g. PACS/ViewForum/Xcelera), supported are DICOM XA, DICOM SC, DICOM CT and DICOM 3D
- Any PC in a standard PC compatible format (JPEG,AVI)
- One or multiple DVD's, CD-ROM(s) for easy archiving
- Store a subset of exportable objects (snapshots and AVI Movies) to a USB removable memory device.

**Clinical Education Program for 3DRA**  
**CV 3DRA Handover OnSite Education:**

Line #	Description	Qty
	Philips Education Specialists will provide sixteen (16) hours of education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. CEU credits may be available for each participant that meets the guidelines provided by Philips. Please refer to guidelines for more information. Note: Site must be patient-ready. Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation. Education expires one (1) year from equipment installation date (or purchase date if sold separately). Ref# 222-100615	
12	<b>Pivot for table base.</b> For angiographic- and interventional procedures of the upper peripherals. Provides improved table access for patient transfer. Allows pivoting of the table base around its vertical axes. Pivot range from -90 degrees to + 180 degrees (or -180 to +90 degrees) with locked positions on 0, -13/+13 (facilitating arm-angiography) and -90/+90 and 180 degrees.  Comprising: <ul style="list-style-type: none"> <li>• pivot device with graduated scale to be mounted on the universal floor plate of the table.</li> </ul> Compatible with Xper Table	1
13	<b>extension to FlexVision Pro</b> Extension to Flexvision large 58 inch high resolution LCD for exam room, enabling flexible screen lay outs and full control (seamless mouse) of up to 11 external sources including third party systems. <b>Key benefits</b> <ul style="list-style-type: none"> <li>- Full control at table side of all applications with seamless mouse control or via touch screen module</li> <li>- Full flexibility of screen layouts (live resize, drag and drop, unlimited number)</li> <li>- To simplify and standardize system set-up for your FlexVision Pro, your personalized layout will come up automatically with ProcedureCards.</li> </ul> <b>Easy tableside control</b> With FlexVision Pro, user can control FlexVision and video sources on FlexVision through wireless mouse in Examination Room as well as virtual keyboard and touchpad on the touch screen module in the Examination Room. An operator can resize images and adjust the screen layout during the procedure without going into configuration.  <b>Specifications</b> Full control at table side of all applications in the interventional lab (view and control) with a single wireless mouse or with a Touch Screen Module <ul style="list-style-type: none"> <li>• Integration: control of up to 11 external sources</li> <li>• Possibility to configure unlimited flexible screen layouts</li> <li>• Screenshots: with single click all displayed inputs can be captured</li> <li>• Live resize the video window and adjust the screen layout during the procedure without going into configuration</li> <li>• Operate all the video sources displayed on the monitor using the wireless mouse at tableside</li> <li>• Mouse and keyboard function on the touch screen module (TSM) to control (external) sources</li> </ul>	1
14	<b>MR/CT Roadmap</b>	1

Line #	Description	Qty
	Philips MR-CT Roadmap tool allows re-use of the vessel tree image from previously acquired MRA (MR angiography) or CTA (CT angiography) scans for endovascular navigation.	
	<b>Key benefits</b> <ul style="list-style-type: none"> <li>• Roadmap on previously acquired MR and CT angiography datasets, reducing the need for additional X-ray dose and contrast medium</li> <li>• Reduce treatment risks for patients with renal insufficiency or young patients who are considered X-ray dose sensitive</li> <li>• Perform procedures with a high level of precision thanks to real-time compensation for gantry and table movement</li> </ul>	
	<b>Accurate 3D guidance for complex interventions</b> <p>Patients undergoing complex vascular interventions often receive high-resolution CT or MR scans in the diagnostic phase. To manage patients' exposure to additional X-ray dose and contrast medium during the intervention, Philips MR-CT Roadmap tool allows re-use of the vessel tree image from previously acquired MRA (MR angiography) or CTA (CT angiography) scans for endovascular navigation.</p>	
	<b>Specifications</b> <p>MR/CT Roadmap extends the capabilities of the integrated 3D product by providing a sustainable 3D roadmap based on previous acquired CT or MR scans to support interventional procedures.</p> <p><b>Image Acquisition</b></p> <p>A previously acquired CT or MR scan can be imported into the system and matched with a low dose 3D-RA or XperCT scan. The MR/CT Roadmap is activated with one button touch at tableside on the touch screen module. The "live" 2D fluoroscopy image is overlaid with the MR/CT volume presented in 2D or 3D and is automatically displayed on the roadmap monitor in both the examination room and control room.</p> <p>Intuitive, fully controlled from tableside:</p> <p>The bidirectional link between the X-ray system and the MR/CT Roadmap allows the user to select the stand position for the procedure in two ways. 3D Automatic Position Control allows the gantry to automatically move to the best interventional projection as shown on the MR/CT Roadmap monitor. 3D Follow C-arc allows the MR/CT Roadmap to remain in sync with the 2D projection, automatically adjusting viewpoint as the gantry is repositioned.</p> <ul style="list-style-type: none"> <li>• Easy 2 step registration of the MR/ CT volumes</li> <li>• Landmarking to adjust the intensity of the anatomical reference surrounding the vessels and tissue</li> <li>• 2D and 3D blending to fade in/out the 2D or 3D view</li> <li>• WW/WL settings to control the contrast/brightness</li> <li>• Store and review runs for reporting and archive purposes</li> <li>• Store snapshots and movies</li> </ul> <p>MR/CT Roadmap data can be exported to:</p> <ul style="list-style-type: none"> <li>• Any optional DICOM compatible device(e.g. PACS/Printer), supported are DICOM XA, DICOM SC, DICOM CT and DICOM 3D</li> <li>• Support archive on one or multiple DVD's, CD-ROM(s)</li> <li>• Image transfer to a standard PC compatible format (JPEG, AVI)</li> <li>• Store a subset of exportable objects (snapshots and AVI Movies) to a USB device.</li> </ul>	



Line #	Description	Qty
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One wireless footswitch in the examination room.

#### Key benefits

- Reduces clutter around the examination table
- Simplifies preparation and cleanup
- Streamlines workflow in the interventional suite

#### Reduce clutter and streamline workflow

The wireless footswitch option streamlines workflow, reduces clutter, and simplifies preparation and cleanup in the interventional suite. Clinicians can use the footswitch to wirelessly control the X-ray system in the examination room, from any convenient position around the table. No sterile covers are needed with the IPX8 certified waterproof design.

#### Specifications

- The mono-plane wireless footswitch is a 3 pedal version; one pedal for fluoroscopy, one for exposure and one to control the room light/single shot. The pedals can be configured according customers preferred lay-out.
- The wireless footswitch is working via RF technology and is fully tested and released for medical use. It has an active range up to 10 meters, depending on structures within this range.
- The wireless footswitch has a lithium battery which only needs to be recharged once per week. During recharging the footswitch still can be used and is fully functional. In parallel, a wired footswitch can also be used.
- The status of the battery is indicated by an LED-indication on the footswitch itself, so that the user can decide when the footswitch needs to be recharged.
- The wireless footswitch has high water ingress protection standard (IPX8), it can easily be cleaned in water.

The wireless footswitch has an on/off switch. It can be switched off when not in use. When the footswitch is active, but not in use, it will go into a sleep-mode. It will be re-activated when touched or when one of the pedals is pressed.

16	<b>FD Rotational Angio</b>	<b>1</b>
Rotational angiography provides real-time 3D impressions of complex vasculature and coronary artery tree. It acquires multiple projections with just one contrast injection via a fast rotational scan of the region of interest.		

Rotational Angiography can be used during screening procedures to quickly determine the optimal projection for the study as the angle (rotation/angulation) of the projection is indicated on each image.

Compared with traditional angiography, Rotational Angiography can save considerable time, dose and contrast, while providing image detail required for diagnostic and therapeutic decisions.

A rotational scan is possible both with the Allura Xper systems in the side position (ceiling mounted systems) and in the head position, providing the flexibility to perform procedures virtually from head to toe.

C-arm in side position:

- Max. rotation Speed: 30 degrees/s
- Max. rotation Angle: 180 degrees

C-arm in head position:

Line #	Description	Qty
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- Max. rotation Speed: 55 degrees/s
- Max. rotation Angle: 305 degrees

Max. Frame speeds are given by the framespeed specifications of the system configuration.

The speed and range of rotation are the highest available (see table). The very high speed allows using less contrast, whereas the very wide rotation range provides a complete evaluation of the anatomy.

A contrast run can be followed up with a mask run, to allow image/run subtraction.

The stand is designed for a very high mechanical stability. It offers precise positioning and high reproducibility, assuring you of high quality images and excellent subtraction studies.

Operation of Rotational Angiography is extremely easy. The procedure is selected, set up and executed virtually in a matter of seconds, supporting the highest patient throughput.

A set of dedicated acquisition programs is available on the Xper Module and can be selected at the touch of a button. The rotation end- and start-positions are easily selected. The procedure is controlled from the exposure hand- or footswitch.

17	<b>3D Roadmap</b>	<b>1</b>
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3D Roadmap overlays real-time 2D fluoroscopy images on a 3D reconstruction of the vessel tree

#### **Key benefits**

- Provides full 3D view to enhance navigation of guide wire and catheter through complex vascular structures
- Helps to overcome the limitations of 2D roadmaps in visualizing overlapping vessels
- Offers a high level of precision thanks to real-time compensation for gantry, table, and small patient movements

#### **Live 3D image guidance**

Diagnosing and treating vascular diseases without a clear picture of the relationships between overlapping vessels is a daily challenge for interventionists. 3D Roadmap was developed to overcome the limitations of 2D roadmap images in visualizing overlapping vessels and eliminate the need to perform multiple DSA runs. This technique offers a real-time roadmap alternative that provides dynamic 3D image guidance for navigating through vascular structures anywhere in the body.

3D Roadmap overlays real-time 2D fluoroscopy images on a 3D reconstruction of the vessel tree acquired with 3D-RA or XperCT, both available on the X-ray system. The resulting roadmap shows the progress of a guide wire, catheter, or coil in real-time. It is designed to improve visualization and navigation for complex neuro, vascular, and oncology interventions.

#### **Specifications**

3D Roadmap is based on the visualization of the vessel tree from 3D-RA acquisitions, activated with one button touch at tableside.

#### **Viewing:**

Table side control: bidirectional link between the X-ray system and 3D Roadmap,  
 3D Automatic Position Control,  
 3D Follow C-arc,  
 The 3D roadmap provides the freedom to change:  
 The angulation of the C-arc,

Line #	Description	Qty
	<p>The rotation of the C-arc,  The Field of View,  The Source to Image Distance,  Landmarking,  3D blending,  WW/WL settings,  Store and review runs,  Store snapshots and movies.</p> <p>Transfer/ export to:  Optional Hard Copy unit (DICOM Print)  DICOM compatible device, supported are DICOM XA, DICOM SC, DICOM CT and DICOM 3D  Any PC in a standard PC compatible format (JPEG,AVI)  One or multiple DVD's, CD-ROM(s)  USB device.</p>	
18	<p><b>SmartMask Monoplane</b></p> <p><b>Key benefits</b></p> <ul style="list-style-type: none"> <li>• Simplifies roadmap procedures by overlaying fluoroscopy with a selected acquired image.</li> <li>• Enables roadmap procedures to manage radiation dose and contrast media by selecting an image from an acquired series as a mask image.</li> </ul> <p><b>Supports navigation during interventions without the need of additional contrast media.</b>  SmartMask simplifies roadmap procedures by overlaying fluoroscopy with a selected acquired image in the Live X-ray window.</p> <p><b>Specifications</b>  The reference image can be faded in/out with variable intensity, controlled from tableside.  SmartMask uses the reference image displayed on the reference monitor. Any previously acquired image can be used as reference. SmartMask facilitates pre- and post- intervention comparisons to assess treatment results.</p>	1
19	<p><b>XL video slaving to full HD TV</b></p> <p>Slave FlexVision XL screen to a 3rd party Full HD monitor</p> <p><b>Key benefits</b></p> <ul style="list-style-type: none"> <li>• Easily display any data or clinical information needed to work efficiently</li> <li>• Follow procedure from outside Examination Room or Control Room</li> </ul> <p><b>Simplify workflow with flexible viewing control</b>  Having patient data and clinical information easily available on screen can enhance decision making and efficiency during interventions. With this option, a Full HD (1920x1080) downscaled copy of the FlexVision XL large screen content can be displayed on a 3rd party Full HD monitor.</p> <p><b>Specifications</b>  Full HD (1920x1080)  A 30m fiber video extension is included.  No monitor is included.</p>	1
20	<p><b>table tilt option</b></p> <p>Table tilt option provides precise imaging of contrast medium, blood, or objects in the body.</p> <p><b>Key benefits</b></p> <ul style="list-style-type: none"> <li>• Tilts the table to support gravity oriented and puncture procedures</li> <li>• Keeps the region of interest in the isocenter of rotation and angulation</li> <li>• Allows more precise imaging of contrast medium, blood, or objects in the body</li> </ul>	1

Line #	Description	Qty
	<b>Precise imaging during gravity oriented and puncture procedures</b> To obtain high quality results and avoid re-takes during gravity oriented or puncture procedures, it's important to keep the region of interest centered at all times. The tilt option allows you to tilt the table. As the table tilts, the X-ray beam automatically adapts to the movement to keep the region of interest in the isocenter of rotation and angulation of the stand. As a result, your region of interest always remains centered to allow more precise imaging of contrast medium, blood, or objects in the body. The table floats even when tilted, and the region of interest can be followed by panning the tabletop. When combined with the Bolus Chase option, the table tilt option enables phlebography to be performed with a head-up tilted patient.	
	<b>Specifications</b> <ul style="list-style-type: none"> <li>• Motorized table height from 78.5 - 103.5 cm</li> <li>• Maximum tilt range: -17 degrees (head down) to +17 degrees (head up).</li> <li>• Tilt speed: 2 degrees/sec</li> <li>• Automatic safeguarding system with manual override</li> <li>• Panning range in tilted plane: equal to the standard tabletop specifications (longitudinal 120cm, lateral 36cm)</li> <li>• Easy to use controls</li> </ul>	
21	<b>Cradle extension</b>	1
	<ul style="list-style-type: none"> <li>• Moves the tabletop in a cradle motion from side to side to support surgical and puncture procedures</li> <li>• Improves access to patients</li> <li>• Allows precise imaging of contrast medium or blood</li> </ul> <b>Precise imaging during surgery and puncture procedures</b> To obtain high quality imaging results and help in avoiding re-takes during surgical or puncture procedures, it can be useful to swing the tabletop from side to side in a cradle movement. This extension moves the tabletop in a cradle motion to improve access to patients. It also allows precise imaging of contrast medium or blood.	
22	<b>Touch Screen Module Pro</b>	1
	Extension of Touch Screen Module for easy control of X-Ray images at table site  <b>Key benefits</b> <ul style="list-style-type: none"> <li>- Imaging parameters can be quickly and easily adjusted at table side</li> <li>- Clinical image are shown to support easy navigation. Collimate on the clinical image with one finger. Pinch, zoom, pan and flag images for processing. Position shutters and wedges by simply swiping the image on screen.</li> <li>- All X-ray settings can be easily adjusted to help you effectively manage patient and staff dose</li> </ul> <b>Enhance image navigation on the touch screen module</b> This option extends the functionality of the touch screen module, allowing live X-ray images and source images from reference monitors to be displayed on the touch screen module. Shutters and wedges can also be easily positioned with a fingertip by simply dragging them into position. A pointer is also available on screen to improve communication in and between the exam room and control room.	
	<b>Specifications</b> <ul style="list-style-type: none"> <li>- enhance image navigation on the TSM</li> <li>- intuitive control of shutters and wedges by simply dragging the lines shown on top of the image</li> </ul>	

Line #	Description	Qty
	<p>- provides intuitive zooming and panning functionality (also during fluoroscopy)</p> <p>- turns the touchscreen into the pointing device in order to improve communication in ER/CR: when activated the pointer is shown on corresponding monitor</p> <p>!!! Note: Touchpad and Keyboard control from the TSM is NOT part of this option but 'FlexVision Pro' option.</p> <p>!!! Note: Images shown on the TSM are not meant for diagnostic purposes (image is downscaled, compressed and latency during live/replay maybe higher than on the live monitor)</p>	
23	<b>addl FlexVision XLHD 3rd p MCS</b>	<b>1</b>
	Additional FlexVision XL HD Philips 58 inch monitor, for 3rd party MCS. The content is a slave of the 1st FlexVision XL HD screen.	
24	<b>FD Dual Fluoro monoplane</b>	<b>1</b>
	An additional fluoro channel in parallel to the standard fluoro channel	
	<b>Key benefits</b> <ul style="list-style-type: none"> <li>• View the subtracted fluoroscopy next to the default non subtracted fluoroscopy</li> <li>• View a digitally zoomed fluoroscopy image next to the default fluoroscopy image</li> </ul>	
	<b>Second fluoro image to support complex interventions</b> <p>For complex interventions, it can be useful to view the subtracted fluoroscopy image next to the normal fluoroscopy image. The Dual Fluoro option provides an additional fluoro channel in parallel to the default fluoro channel. The dual fluoro option allows to view live digitally zoomed fluoroscopy next to non-zoomed fluoroscopy.</p>	
	<b>Specifications</b> <p>The Dual fluoroscopy mode is selected via the touch screen module.</p> <p>The trace subtracted fluoro image will be displayed on the live viewport, the non-subtracted fluoro image is displayed on the reference 3 viewport.</p> <p>In Dual Fluoro mode, the live fluoroscopy image can be zoomed digitally, providing a larger view of the region of interest for complex interventions. The zoomed live fluoroscopy image will be shown on the live viewport, while the entire non zoomed image will be shown on the reference 3 viewport. The fluoro zoom function is controlled via the touch screen module.</p>	
25	<b>FlexVision XL HD, 3rd p MCS</b>	<b>1</b>
	<p>FlexVision XL is an integrated viewing solution designed to give you full control over your viewing environment which brings High Definition viewing.</p> <p>This FlexVision XL is mounted on 3rd party Monitor Ceiling Suspension.</p>	
	<b>Key benefits</b> <ul style="list-style-type: none"> <li>• Easily access multiple, up to 8, video inputs (including third party systems) video inputs to inform decision making during procedures</li> <li>• Create custom display templates to support diverse procedures</li> <li>• The screen layout of the FlexVision XL HD can also be changed from the control room</li> <li>• Enlarge images to reveal more details and support comfortable working positions</li> </ul>	
	<b>Diagnostic information easily made available at table side</b> <p>In today's interventional setting, as you perform more complex procedures with smaller devices in complex anatomy, you rely on various types of diagnostic information to guide you. To inform decision making in the exam room, Philips offers an advanced digital workspace called FlexVision HD. You can display multiple images in a variety of custom layouts on a large, high-definition LCD screen. Zoom in and out to enhance fine details, while maintaining an overview of all information. Create custom display templates for specific procedures/physician preferences to easily support diverse procedures.</p>	
	<b>Specifications</b> <p>FlexVision XL HD offers:</p>	

Line #	Description	Qty
	<ul style="list-style-type: none"> <li>• Native resolution of FD20 can be displayed.</li> <li>• Sharp images at full size without zoom</li> <li>• High Definition display at native resolution for ultimate detail</li> <li>• Up to 2k*2k image display fully integrated</li> <li>• Enhanced small vessel visualization</li> </ul> <p>1. DVI video composition unit.</p> <p>The DVI video composition unit allows the user to direct and switch the video output of all connected medical equipment to specific sub windows of the Philips 58-inch color LCD with LED backlight in the Examination Room.</p> <ul style="list-style-type: none"> <li>• The DVI video composition unit is operated from the touch screen module.</li> <li>• The DVI video composition unit supports a wide variety of display formats (up to 1920x1200)</li> <li>• Up to 11 external inputs are connected to the DVI video composition unit via wall connection box or boxes.</li> </ul> <p>2. Medical grade, high resolution color LCD in the Examination Room</p> <p>This display supports the image quality requirements for monochrome X-ray images as well as color images and replaces all displays normally delivered with the system for the Examination Room.</p> <p>Main characteristics are:</p> <ul style="list-style-type: none"> <li>- 58-inch, 8 Megapixel color LCD</li> <li>- Native resolution: 3840x2160</li> <li>- Brightness: Max: 700 Cd/m2 (typical) stabilized: 400 Cd/m2</li> <li>- Contrast ratio: 1:4000 (typical)</li> <li>- Wide viewing angle (approx. 176 degrees)</li> <li>- Constant brightness stabilization control</li> <li>- Lookup tables for gray-scale, color and DICOM transfer function</li> <li>- Full protective screen Ingress Protection: IP-21</li> </ul> <p>3. Large color LCD control (touch screen module)</p> <ul style="list-style-type: none"> <li>• Enlarge information at any stage during the case via the touch screen module in the Examination Room or Control Room.</li> <li>• Select viewing lay-outs via the touch screen module in the Examination Room.</li> <li>• Create new layouts by matching inputs to desired locations on preset templates.</li> <li>• Adjust the screen layout during the procedure without going into configuration</li> <li>• 20 layouts; each layout is customizable, size of viewports can be customized by end user X-ray status area visible with all X-ray details</li> </ul> <p>4. Monitor ceiling suspension</p> <p>Monitor ceiling suspension for use in the Examination Room carries the 58-inch color LCD, providing highly flexible viewing capabilities. The monitor ceiling suspension is height-adjustable and moveable along ceiling rails. It can be positioned on either side of the table.</p> <p>5. Snapshot</p> <p>The snapshot function allows the user to store/save a screen-capture of any image on the FlexVision HD as a photo image to the current acquisition patient study.</p>	

26	<p><b>storage extension</b></p> <p><b>1</b></p> <p><b>Extends image storage capacity on your X-ray system</b></p> <p>As imaging data becomes larger, you can quickly reach the limit of the storage capacity on your interventional X-ray system. The Storage extension extends the storage capacity of your interventional X-ray system.</p> <p><b>Specifications</b></p> <p>By default 50.000 images are available, this option will give 100.000 images (this is for 1K2 image size).</p>	
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27	<b>IW Hardware</b>	<b>1</b>
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Line #	Description	Qty
	<p><b>Key benefits</b></p> <ul style="list-style-type: none"> <li>• Facilitates the interventional tools and multimodality viewing in exam room and control room</li> <li>• Supports import and viewing of DICOM compatible data from CT and MR imaging modalities</li> </ul> <p><b>View multimodality images in exam room and control room</b></p> <p>Images from a variety of sources are being increasingly used during interventions for a variety of Live Image Guidance tools. The Interventional Tools Hardware option provides the hardware for our interventional tools. It enables DICOM compatible data from other imaging modalities to be imported and viewed in the exam room and control room. To support fast results, a real-time digital image link is provided between the Interventional Hardware workstation and the X-ray system.</p> <p><b>Specifications</b></p> <p>The Interventional hardware is the hardware for the 3D interventional tools that includes Real Time Link. It enables import and viewing of DICOM compatible data from other imaging modalities. The Interventional Hardware comprises at least:</p> <ul style="list-style-type: none"> <li>• Computer Workstation</li> <li>• Control Room 24" display</li> <li>• 16 GB memory</li> <li>• 1.5 TB disk for the operating system, application software and application data</li> <li>• Internal CD-ROM / DVD writer</li> <li>• Mouse tablet to interact with all the interventional tools at the table side.</li> </ul> <p>Conditionally:</p> <p>FD Calibration Tool Kit for 3D-RA</p>	
28	<p><b>CO2 View Trace Software</b></p> <p>Software package which enables tracing (stacking) of images acquired with CO2 injections. This function can be used during postprocessing next to view trace of images acquired with iodine injection.</p>	1
29	<p><b>XperCT Dual</b></p> <p>XperCT Dual extends the capabilities of the interventional suite offering CT like imaging to visualize bone, soft tissue and vessels in case of contrast enhanced acquisition. XperCT Dual protocols are available covering routine procedures such as biopsies and drainages but also advanced procedures such as abdominal oncological imaging up to neuro high resolution stenting. All protocols can be selected at the tableside via the XperModule.</p> <p>The DualPhase dual view functionality allows the simultaneous visualization of two 3D datasets acquired at different times of the procedure such as the arterial and post-arterial contrast enhancement in oncologic liver imaging. In this DualView, XperCT Dual allows the segmentation of multiple lesions at the same time in the viewed datasets.</p> <p>XperCT Dual acquires up to 60 frames/sec. (frame rate extension to 60frames/sec is included) and supports fast abdominal protocols with 5 to 10 second acquisition time for Allura release prior to 8.2 and even 5 to 8 second acquisition times for Allura release 8.2 or higher, thereby minimizing respiratory artifacts. The XperCT volume is displayed automatically within 8 to 15 seconds after acquisition. No user interaction is required.</p> <p>XperCT Dual includes Metal Artifact Reduction to reduce the artifacts caused by metal presence in the region of interest. In case the original XperCT shows metal artifacts, the interventional radiologist can perform a second reconstruction and select for Metal Artifact Reduction, which will remove the artifacts caused by the metal present. The most typical examples of metal presence are: metal implants, coils or stents with stainless steel structures. Moreover, BMI Noise Reduction is included to reduce the noise caused by large size patients.</p> <p>Note: BMI Noise Reduction is only available when Abdominal XperCT runs are selected</p>	1

Line #	Description	Qty
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The XperCT volume can be viewed in the control room and in the examination room. The viewing package comprises:

- 3D volume viewing in any desired orientation
- Slice viewing in any desired orientation
- Slice viewing at any slice thickness with a minimum of 0.5 mm
- Five distance measurements calculated in the same volume, including "Quick measurement" feature
- Cut-plane functionality to provide precise insight into anatomical structure
- Unique high-resolution reconstructive zoom technique
- Graphical display of stand position including rotation and angulation parameters
- Contrast and brightness control
- Contrast resolution 5-10 Hu
- Spatial resolution of the initial reconstruction: 10 lp/mm
- Contrast range -1000 to 2000 Hu
- High resolution imaging mode produces
- 512x512x512 volume rendered reconstructions
- XperCT Dual can be controlled via the Xper module and the mouse at tableside.

The XperCT volume can be matched with (when additional options are available) Allura 3D-RA and pre acquired CT, PET/CT or MR volumes. This view allows combining multiple images from different modalities in order to provide additional anatomical insight. This multimodality volume can be viewed with the following functionalities:

- Registration of the two volumes from the same patient
- The resulting volume can be viewed with complete 3D-RA viewing functionality
- The XperCT slice can be overlaid onto the 3D vessel for better assessment of the region of interest
- Three different contrast rendering options to allow optimal viewing of the 3D vessel in the soft tissue structure
  - (128x128x128, 256x256x256, 384x384x384 and 512x512x512 volumes)
- Movie clip recording functionality (AVI) to capture dynamic views
- 3D automatic position control at tableside: When an optimal working position is selected from the XperCT volume the C-arc steers itself to the selected position
- 3D Follow C-arc at tableside: When selected, the XperCT volume automatically follows the position of the C-arc.
- XperCT data and 3D-RA with XperCT Dual overlay is stored in the same patient file as all other patient related data. All this data can be reviewed at any time

XperCT data can be sent to:

- Any optional DICOM compatible device (e.g. PACS/ViewForum/Xcelera), supported are DICOM XA, DICOM SC, DICOM CT and DICOM 3D
- Any PC in a standard PC compatible format (JPEG,AVI)  
XperCT datasets can be stored/achieved on:
  - A PACS systems as DICOM Secondary Capture images or movies
  - USB removable memory device



Line #	Description	Qty
	<ul style="list-style-type: none"> <li>One or multiple DVD's, CD-ROM(s) for easy archivingHard copy via the (DICOM Print) protocol</li> </ul>	

### **Clinical Education Program for XperCT**

#### **CV XperCT Handover OnSite Education:**

Philips Education Specialists will provide eight (08) hours of education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. CEU credits may be available for each participant that meets the guidelines provided by Philips. Please refer to guidelines for more information. Note: Site must be patient-ready. Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation. Education expires one (1) year from equipment installation date (or purchase date if sold separately). Ref# 335-100615

<b>30</b>	<b>DoseAware Bundle</b>	<b>1</b>
	DoseAware is a unique solution providing staff working in an X-Ray environment with direct, real time dose feedback, enabling them to optimize their behaviour and reduce exposure to scattered dose. The DoseAware bundle comprises:	

- 1 BaseStation Package
- 10 PDMs
- DoseManager
- 2 PDM racks.

#### **Base Station Package**

The Base Station is the heart of the DoseAware system. It offers Online View, which displays real time dose rate and immediate dose data for any Personal Dose Meter (PDM) in range. The Walk-Up View enables easy access to personal dose history and PDM settings.

The Base Station has a touch screen interface and wireless communication with the PDM. The PDM dose information is stored within the Base Station and can be retrieved by the DoseAware Dose Manager software via a standard network interface to complete the DoseAware system with archiving and reporting functions.

The Base Station package includes also:

- a cradle and the DoseView software package that can be installed on a local PC (not included), which has Windows XP or Vista as operating system.
- Mounting material for the Base Station, facilitating mounting on a wall or on a Philips Monitor Ceiling Suspension or a Philips mobile C-arm system.

#### **10 Personal Dose Meters**

The Personal Dose Meter (PDM) is a small and easy to wear active X-ray dose meter intended to measure and store received X-ray dose of staff, present in an X-ray room during radiation. The PDM has build-in radio-frequency wireless communication (868.3 Mhz for Europe version, 915 Mhz for USA version) to connect to the DoseAware Base Station for real time dose-rate indication and has a long battery life for maintenance-free usage. In addition it can be personalized to increase interest and awareness. The PDM not only records warning level profiles every second for a total of 3600 sec (cyclic overwritten), but also stores accumulated dose data every hour for maximum 5 years. A clip and a lanyard holder are included to facilitate easy wearing.

The PDM can be configured via the cradle, DoseView, and Dose Manager Software.

Line #	Description	Qty
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### **Dose Manager Package**

The Dose Manager is a software program that serves as archive and reporting facility for all dose data of the DoseAware system. It allows tracking of multiple PDM's at a location.

Core functionality is:

- Store and manage dose history for multiple PDM's
- Collect all dose history from connected Base Stations via the network
- Browse dose history of PDM's as graph or table
- Export dose data for personal analysis with other software tools, like Windows Excel
- Create and print reports of dose history

<b>31</b>	<b>MOBILE RADIATION SHIELD</b>	<b>1</b>
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Mobile radiation protection shield on 4 casters with adjustable clear acrylic window. Base is 78cm wide and 107cm high and has 1 lead equivalency. Window is 70cm wide and is adjustable from 115 to 190cm high and has 0.5mm lead equivalency.

<b>32</b>	<b>Volcano CORE IVUS - Cardiac Bundle</b>	<b>1</b>
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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 VH IVUS End User License Agreement

The 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)

iFR Hyperemia-Free Lesion Assessment Modality CORE Interface, Operator's Manual. Customer agrees that use of the iFR Application Software License Application with interface to CORE 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](http://www.volcanocorp.com)

CORE Control Pad

Bedside touchscreen controller offering system control from the sterile field

<b>33</b>	<b>SyncVision</b>	<b>1</b>
	<b>SyncVision IVUS Co-registration System</b>	

SyncVision IVUS and IFR Co-registration System

SyncVision Workstation CPU, Power Supply, Isolation Transformer Medical Grade, Joystick Controller, Optical USB Mouse and Keyboard, LCD Monitor 19" Philips, Cable Kit, SyncVision System Operator's Guide.

Line #	Description	Qty
	<p>End User License Agreement</p> <p>Customer agrees that use of the SyncVision software is subject to the terms of the End User License Agreement, as it may be updated by VOLCANO from the time to time ("EULA"). A copy of the EULA is also available online at <a href="http://www.volcanocorp.com/products/pdf-files/end-user.pdf">www.volcanocorp.com/products/pdf-files/end-user.pdf</a>. The terms of the EULA are incorporated herein by reference.</p> <p>Three (3) Year Software Support Agreement</p> <p>Customer agrees that the initial term of the Software Support Agreement (SSA) is three (3) years, which term shall automatically commence upon installation of SyncVision, This three-year term may be extended upon mutual agreement of the parties and is subject to earlier termination as provided in the SSA. The SSA provides for unspecified updates to the SyncVision software released during the Term of the SSA at no additional cost (should any be commercially released). In the absence of an SSA, future Updates will be made available at additional cost to be determined by VOLCANO). A copy of of the SSA is available from your Volcano Sales Representative on online at <a href="http://www.volcanocorp.com/products/pdf-files/software-support.pdf">www.volcanocorp.com/products/pdf-files/software-support.pdf</a>. The terms of the SSA are incorporated herein by reference.</p>	
34	<p><b>Medrad Mark 7 Arterion Pedestal</b></p> <p>The Arterion Mark 7 Pedestal contrast medium injector can be positioned anywhere at the patient positioning table on a mobile unit, for direct operation of all functions in the examination room.</p> <p>The injector system includes:</p> <ul style="list-style-type: none"> <li>- A mobile pedestal stand with electronics unit and a connection cable to the manual release.</li> <li>- A support arm with injector head and a control lever for moving the injector head.</li> <li>- A user control console with large touch screen and corresponding additional monitoring display on the injector head.</li> </ul> <p>Functions</p> <p>Pressure limitation:</p> <ul style="list-style-type: none"> <li>- for 150 ml syringes 689 to 8273 kPa, corresponds to 100 to 1200 psi. .</li> </ul> <p>Flow rates for 150 ml syringes:</p> <ul style="list-style-type: none"> <li>- 0.1 to 45 ml/s in increments of 0.1 ml/s</li> <li>- 0.1 to 59.9 ml/min in increments of 0.1 ml/min</li> <li>- rise/fall: 0 to 9.9 s in increments of 0.1 seconds</li> </ul> <p>Release delay for injection or radiation:</p> <ul style="list-style-type: none"> <li>- 0 to 99.9 s in increments of 0.1 s.</li> </ul> <p>Adjustable volume for 150 ml syringes:</p> <ul style="list-style-type: none"> <li>- 1 ml to the max. syringe capacity in increments of 1 ml.</li> </ul> <p>Fill rate:</p> <ul style="list-style-type: none"> <li>- Variable syringe filling speed 1-20ml/s.</li> </ul> <p>Injection protocols:</p> <ul style="list-style-type: none"> <li>- Up to 40 injection protocols possible.</li> </ul> <p>Parameters currently displayed on the touch screen display and on the head display:</p> <ul style="list-style-type: none"> <li>- Injection speed</li> <li>- Injection volume</li> <li>- Remaining volume</li> <li>- Injection duration</li> <li>- Applied pressure</li> </ul> <p>Contrast medium heating:</p> <ul style="list-style-type: none"> <li>- Nominal 35°C (95°F)±5°C (9°F)</li> </ul>	1

Line #	Description	Qty
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Injection data memory  
- Up to 50 injection data items stored  
Included in the scope of delivery  
- Injector standard configuration 150 ml  
- Philips interface cable  
- Operator Manual  
- Service manual (English).  
Power supply  
100-240 VAC 50/60 Hz 1000VA.

35	<b>IXR Additional Training 24 Hours OnSite</b>	<b>1</b>
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Clinical Education Specialists will provide twenty-four (24) hours of CV OnSite Education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. CEU credits may be available for each participant that meets the guidelines provided by Philips. Note: Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation. Education expires one (1) year from the earlier of equipment delivery date or purchase date.

36	<b>XD3071 Interventional Workspot CTC3</b>	<b>1</b>
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Course Number: XD3071  
Course Title: Interventional Workspot  
CSIP Level: All course materials are on CSIP level 1  
Course Length: 3 days  
Delivery Method(s): ILT  
Modality: IGT Systems  
Location: PHC, CTC, SLC, HCA

**DESCRIPTION:**

This course provides the engineer with knowledge and skills which will enable him/her to perform the service tasks. He/she will be able to execute the Setting to Work, perform Planned Maintenance, Corrective Maintenance and Upgrades.

This training is valid for the following workstation release(s):  
- Interventional Workspot R1.4

including following products:

- 2D Perfusion
- Allura 3D-CA
- Allura 3D-RA
- CT TrueView
- Dynamic 3D roadmap
- EmboGuide
- HeartNavigator
- Roadmap Pro
- StentBoost
- VasoCT
- XperCT Dual
- XperGuide
- XperGuide Ablation
- AneurysmFlow
- VesselNavigator
- VesselNavigation Complete

**PREREQUISITES:**

Line #	Description	Qty
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All of the below courses:

- FC9002 – Safety
- FC9003 – Imaging Systems Safety
- XD3894 – Allura Xper release 8.2 Essentials or XD3970 – Allura Xper Rel 7.6 part 1

#### COURSE OBJECTIVES:

Upon successful completion of the course the learner will be able to:

- Operate the Interventional Workspot in order to execute the service tasks.
- Execute the Setting to Work of the Interventional Workspot.
- Perform Planned Maintenance on the Interventional Workspot.
- Perform Corrective Maintenance on the Interventional Workspot.
- Execute FCO's and Commercial upgrades on the Interventional Workspot.

\* PHILIPS PROPRIETARY MATERIALS SUCH AS DIAGNOSTIC SOFTWARE AND SERVICE DOCUMENTATION ARE NOT INCLUDED IN THE TRAINING AND WILL NOT BE AVAILABLE FOR USE OUTSIDE OF THE TRAINING ENVIRONMENT. THE TRAINEE MUST RETURN ALL PROPRIETARY MATERIALS RECEIVED DURING THE TRAINING AT THE END OF THE TRAINING. CUSTOMER ACKNOWLEDGES AND AGREES THAT NEITHER CUSTOMER NOR TRAINEE WILL RECEIVE A LICENSE TO SUCH PROPRIETARY MATERIALS AND THAT THE TRAINEE MAY NOT BE ABLE TO FULLY UTILIZE THE TRAINING WITHOUT THE USE OF SUCH PROPRIETARY MATERIALS. (CERTAIN LICENSES MAY BE OBTAINED THROUGH PURCHASE OF SUPPORT OR ASSIST AGREEMENT.) Course dates and location to be finalized by Philips. Philips shall attempt to accommodate Customer requested dates and training location. The price quoted includes course tuition. Travel and living expenses are not included, but may be purchased separately through Philips.

#### IMPORTANT Notes Regarding Admission to Philips Customer Engineer Training Courses:

1. Trainee must meet all prerequisites
2. Course expires one (1) year from equipment installation date (or purchase date if sold separately)
3. Customer must sign Philips Nondisclosure statement
4. Trainee must sign Philips Nondisclosure statement
5. Customer must sign Philips terms and conditions of training

<b>37</b>	<b>XD3007XRaySystemsBasicPart 2CTC5D</b>	<b>1</b>
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Course Number: XD3007

Course Title: X-Ray Systems, Basic part 2

Course Length: 5 days

Delivery Method(s): ILT

Modality: DXRLocation: Best

Target Audience: Field Service Engineers

System codes:

#### DESCRIPTION:

The ILT provides fundamental information on the generation and application of X-rays for diagnostic imaging.

#### PREREQUISITES:

English Language,  
XD9115, X-Ray Systems, Basic part 1

Line #	Description	Qty
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#### COURSE OBJECTIVES:

After successful completion of this eLearning, the learner will have knowledge on the basics of:

- Medical application
- The physics of X-rays
- Radiation protection
- The building blocks of X-ray systems
- X-ray tubes
- Generators
- Image performance parameters
- The documentation systems of X-ray systems
- Planned Maintenance
- Installation

\* PHILIPS PROPRIETARY MATERIALS SUCH AS DIAGNOSTIC SOFTWARE AND SERVICE DOCUMENTATION ARE NOT INCLUDED IN THE TRAINING AND WILL NOT BE AVAILABLE FOR USE OUTSIDE OF THE TRAINING ENVIRONMENT. THE TRAINEE MUST RETURN ALL PROPRIETARY MATERIALS RECEIVED DURING THE TRAINING AT THE END OF THE TRAINING. CUSTOMER ACKNOWLEDGES AND AGREES THAT NEITHER CUSTOMER NOR TRAINEE WILL RECEIVE A LICENSE TO SUCH PROPRIETARY MATERIALS AND THAT THE TRAINEE MAY NOT BE ABLE TO FULLY UTILIZE THE TRAINING WITHOUT THE USE OF SUCH PROPRIETARY MATERIALS. (CERTAIN LICENSES MAY BE OBTAINED THROUGH PURCHASE OF AN ALLIANCE CO; OP AGREEMENT.) Course dates and location to be finalized by Philips. Philips shall attempt to accommodate Customer requested dates and training location. The price quoted includes course tuition. Travel and living expenses are not included, but may be purchased separately through Philips.

#### IMPORTANT Notes Regarding Admission to Philips Customer Engineer Training Courses:

1. Trainee must meet all prerequisites
2. Course expires one (1) year from equipment installation date (or purchase date if sold separately)
3. Customer must sign Philips Nondisclosure statement
4. Trainee must sign Philips Nondisclosure statement
5. Customer must sign Philips terms and conditions of training

38	<b>XD9078</b>	<b>1</b>
	<b>FLEXMOVEXYCEILINGSUSPENSION E-LEARNING</b>	

Course Number: XD9708  
System Codes: 722010, 722012, 722022, 722023  
Course Title: FlexMove XY Ceiling Suspension  
Course Length: 2 hours  
Delivery Method(s): e-Learning  
Modality: iXR  
Location: n.a..  
Target Audience: Mechanical Installers

#### DESCRIPTION:

This course is about the installation of the FlexMove XY Ceiling Suspension that is integrated with

Line #	Description	Qty
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the Allura Xper system (monoplane only)

**PREREQUISITES:**

Engineers are strongly recommended to do the following elearnings:

XD9040 Mechanical Installation Allura Xper Fundamentals

XD9041 Mechanical Installation Allura Xper FD10 part 1

XD9043 Mechanical Installation Allura Xper FD20 part 1

39	<b>XD3894 ALLURA XPER REL8.2 ESSENTIAL</b>	<b>1</b>
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PHILIPS PROPRIETARY MATERIALS SUCH AS DIAGNOSTIC SOFTWARE AND SERVICE DOCUMENTATION ARE NOT INCLUDED IN THE TRAINING AND WILL NOT BE AVAILABLE FOR USE OUTSIDE OF THE TRAINING ENVIRONMENT. THE TRAINEE MUST RETURN ALL PROPRIETARY MATERIALS RECEIVED DURING THE TRAINING AT THE END OF THE TRAINING. CUSTOMER ACKNOWLEDGES AND AGREES THAT NEITHER CUSTOMER NOR TRAINEE WILL RECEIVE A LICENSE TO SUCH PROPRIETARY MATERIALS AND THAT THE TRAINEE MAY NOT BE ABLE TO FULLY UTILIZE THE TRAINING WITHOUT THE USE OF SUCH PROPRIETARY MATERIALS. (CERTAIN LICENSES MAY BE OBTAINED THROUGH PURCHASE OF SUPPORT OR ASSIST AGREEMENT.) Course dates and location to be finalized by Philips. Philips shall attempt to accommodate Customer requested dates and training location. The price quoted includes course tuition. Travel and living expenses are not included, but may be purchased separately through Philips.

**IMPORTANT Notes Regarding Admission to Philips Customer Engineer Training Courses:**

1. Trainee must meet all prerequisites
2. Course expires one (1) year from equipment installation date (or purchase date if sold separately)
3. Customer must sign Philips Nondisclosure statement
4. Trainee must sign Philips Nondisclosure statement
5. Customer must sign Philips terms and conditions of training

Course Number:

XD3894

Course Title:

Allura Xper release 8.2 Essentials

CSIP Level:

All course materials are on CSIP level 1

Line #	Description	Qty
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Course Length:

9 days

Delivery Method(s):

ILT

Modality:

iXR

Location:

PHC, CTC, SLC, HCA

Target Audience:

Field Service Engineers (multi-modality)

Licensed Representatives

System Code(s):

Associated system codes: 722-026, 722-027, 722-028, 722-029, 722-033, 722-034, 722-035, 722-036, 722-038, 722-039, 722-058, and 722-059

Document Date:

2015-05-26

#### DESCRIPTION:

After successfully finishing this training the Engineer reaches compliance to work on the above mentioned system codes. The training is performed on "basic" system configurations. Commercially available system options are only partially covered; these are offered as separate courses.

Aims of this training are :

- The engineer will learn how to:
  - perform planned maintenance.
  - execute a repair of the system.
  - perform 1st line fault diagnosis on the system.
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Line #	Description	Qty
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Topics covered:

- Planned Maintenance
- plan visits
- perform preparation:
- customize planned maintenance modules
- determine visit type
- get latest planned maintenance instructions
- determine needed tools and materials
- operate the system; basic understanding of system operation
- use software service tools; field service framework and the Xper management tool on a basic level.
- perform the following planned maintenance instructions:
- general planned maintenance
- adjust generator, adjust image detector and perform level 1 Image Quality measurements
- adjust geometry
- patient support AD7X(N)T
- radiation safety
- electrical safety
- XtraVision release 8.8.1/9.0.x
- finishing activities

#### Repair

For these repairs it is assumed that the fault diagnosis has been done by remote support, tier 2 or tier 3.

- Identify "all" Field Replaceable Units of the Allura Xper rel. 8.2 system
- Find the correct service instruction to replace a Field Replaceable Unit
- Identify connections between parts using the corrective maintenance manual
- Perform replacement cases; demonstrate replacement of various parts using the appropriate repair manual.

#### First line fault diagnosis

Use the Corrective maintenance manual for faultfinding

- diagnostic flows (90%)
- functional diagrams (5%)
- led indications (5%)
- Learn how power is distributed
- Escalate to helpdesk
- Perform various fault finding cases
- power on problems
- movement problems
- acquisition problems

#### PREREQUISITES:

All of the below courses:

Line #	Description	Qty
	<ul style="list-style-type: none"> <li>• FC9002 – Safety</li> <li>• FC9003 – Imaging Systems Safety</li> <li>• XD3007 – X-Ray Systems basic part 2</li> <li>• XD9903 – Anatomy and pathology of the heart and bloodvessels</li> <li>• XD9904 – Allura Xper Operation and Clinical Workflow</li> <li>• FC9017 – Basic Networking</li> </ul>	

#### COURSE OBJECTIVES:

Upon successful completion of the course the learner will be able to:

- perform planned maintenance on the system according the planned maintenance instructions.
- execute a repair of the system with the help of available repair manuals.
- perform 1st line fault diagnosis on the system using the corrective maintenance manual.

<b>40</b>	<b>Full Load Remote UPS</b>	<b>1</b>
MGE Galaxy 5000 80 kVA Full Load – 40kW UPS with remote capability. Includes top feed cabinet and optional side panels, ISX0001369526 G5TUPSU80KPAdjacent MGE Galaxy 5000 Battery Cabinet with one full string of batteries and standard Galaxy 5000 Adjacent battery Temp sensor. High Voltage 6 Alarm Relays Card MGE GALAXY 5000 Remote Alarm Status Panel MGE SNMP/Web Communication Card Top Feed Auxiliary Cabinet In the event of a power loss the UPS provides emergency power to allow system function and full X-Ray exposure and fluoroscopy for up to 15 minutes.		

Line #	Description	Qty
1	<b>Xper Flex Cardio Flex Cardio 2010</b> - Complete, pre-configured FC2010, geared for quick system repairs - Device only (does not include installation cables or patient cables)  Monitoring Parameters: - Four (4) invasive pressure channels - 12 Lead ECG - Respirations - Body Temp - NIBP - SPO2 - Integrated Cardiac Outputs	1
2	<b>Xper Flex Cardio Control Room</b> Xper Flex Cardio Control Room configuration is a physiomonitoring/hemodynamic system that is optimized for the cath lab environment. The system allows for monitoring the patient's vital signs as well as allows for hemodynamic measurements required during interventional procedures. This Control Room configuration consists of a signal acquisition unit that is installed within the procedure room and a computer workstation in the x-ray control room. This configuration is typically used within the cath lab, hybrid OR and multi-purpose labs where cardiac monitoring is required. User logins allow for networking to a central database server for archival of case procedure information. The system outputs the monitored signals to a boom display within the procedure room, while dual LCDs displays connected to the control room workstation can be used for all of the hemodynamic and information management functionality.  Software Features: -Physiomonitoring, manual or automated entry of patient information in case details, sampling of waveforms, charting, hemodynamics -Non-clinical functionality available via Xper Information Management modules loaded on the control room workstation  Xper Information Management modules included: -Hemodynamic control software -Charting for case procedure documentation -Hemodynamic calculations -Vitals capture -Scheduler  Optional Features: -FFR Measurement for Volcano or St. Jude -End Tidal CO2 (Side Stream and/or Main Stream) -16 Lead ECG -ECG Analysis using Philips DXL Algorithm	1

Line #	Description	Qty
	<p>Optional Modules:</p> <ul style="list-style-type: none"> <li>-Xper IM Documentation Workflow Modules</li> <li>-Xper IM Registries</li> <li>-Xper IM Patient Status Viewer</li> </ul> <p>Minimum Hardware included:</p> <ul style="list-style-type: none"> <li>-Flex Cardio device (Model FC2010)</li> <li>-Workstation</li> <li>-Dual LCD Displays</li> <li>-Keyboard</li> <li>-Mouse</li> <li>-Patient cable kit</li> </ul> <p>Minimum Software included:</p> <ul style="list-style-type: none"> <li>-Microsoft Windows 7 or greater</li> <li>-Current version of Xper IM software for workstation</li> <li>-PC Anywhere v12.5 or greater</li> <li>-McAfee Antivirus</li> </ul> <p>Monitoring functionality included:</p> <ul style="list-style-type: none"> <li>-NIBP</li> <li>-Respiration</li> <li>-Temperature</li> <li>-12-lead ECG</li> <li>-SpO2</li> <li>-Cardiac output (Thermodilution)</li> <li>-Invasive pressures (4 channels)</li> </ul> <p>Requires purchase of:</p> <ul style="list-style-type: none"> <li>-Xper IM Data Center SW</li> <li>-Table Mount</li> <li>-4:3 LCD HQ Display</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>- Pressure transducers, or adapter cables, are not included.</li> <li>- Contact: Fogg System Company</li> </ul> <p>USA: 1-800-525-0292  <a href="http://www.foggssystem.com/">http://www.foggssystem.com/</a></p>	
3	<p><b>Side Stream ETCO2</b></p> <p>Incorporates Side Stream End Tidal CO2 monitoring capabilities to Xper Flex Cardio devices via external Philips Sidestream cable (M2741A)</p> <ul style="list-style-type: none"> <li>- Monitoring accomplished via nasal canula.</li> </ul> <p>Include:</p> <ul style="list-style-type: none"> <li>-One box (10 each) disposable Adult CO2/O2 Nasal Canulas (M2750A)</li> <li>-One box (10 each) disposable Pediatric CO2/O2 Nasal Canulas (M2751A)</li> </ul>	1
4	<p><b>FFR Measurement St. Jude</b></p>	1

Line #	Description	Qty
	<p>The FFR Measurement for St. Jude option enables a St. Jude (RADI) Aeris(tm) device to be connected to Xper Flex Cardio physiomonitoring system for integrated Fractional Flow Measurements.</p> <p>Features</p> <ul style="list-style-type: none"> <li>-Compatibility with St. Jude Aeris(tm) device allowing use of St. Jude (RADI) guide wires for monitoring pressure waveforms</li> <li>-Ability to record a sample of the pressure waveform</li> <li>-Real time, dynamic FFR measurement and capture</li> <li>-Retrospective review of FFR pressure waveform</li> </ul> <p>Requires</p> <ul style="list-style-type: none"> <li>-St. Jude Pressure Wire Receiver 12722</li> </ul> <p>* Customer is responsible for purchasing the Aeris device and compatible guide wires directly from St. Jude Medical (RADI).</p>	
5	<p><b>Total Number Xper Concurrent User Licenses</b></p> <p>The quantity shown for this item indicates the TOTAL number of Concurrent Users customer would have after purchasing additional licenses offered within this proposal.</p> <p>This total is derived by taking into account any existing concurrent users licenses the customer currently owns, and adding that number to the quantity being offered under a separate line item. For this reason the TOTAL number may be more than the quantity offered herein.</p>	6
6	<p><b>DC3 Use Existing Data Center</b></p> <p>Use customers existing Data Center.</p> <p>Data Center server hardware must meet or exceed minimum specifications.</p>	1
7	<p><b>Xper IM Concurrent User License</b></p> <p>Xper Concurrent User licenses provide floating access to interact with a single server. While the quantity of clients is uncontrolled, the total number of concurrent user licenses available determines the maximum amount of simultaneous users on the network at any moment in time.</p> <ul style="list-style-type: none"> <li>- Allows access to all purchased Xper Information Management workflow modules at networked workstations</li> <li>- Hospital to provide network card(s), hub ports, cable to node(s), and implement installation of hardware</li> </ul> <p>Requires:</p> <ul style="list-style-type: none"> <li>- Client Workstation HW</li> <li>- Data Center SW</li> </ul>	3
8	<p><b>4:3 LCD HQ Display (19 inch)</b></p> <p>19" Medical Grade LCD Color Display (1280 x 1024 resolution) for mounting on suspension boom in procedure room, or for use with client workstations</p> <p>- Includes VGA Cable (To be pulled / installed by customer). Cable not included with Boom monitor if purchased with a hemodynamic system, as the cable is included with that product.</p>	1
9	<p><b>Customer Provided Workstation HW</b></p> <p><i>Customer to provide hardware that meets or exceeds the current recommended specifications.</i></p> <p><b>Xper Flex Cardio Table Mount</b></p>	1

Line #	Description	Qty
	<p>This Xper Flex Cardio Table Mount is a customized mounting system and is required to mount FC2010 to x-ray table. The mount includes cable management to minimize clutter of cables connected to the FC2010 device.</p> <p>*This wall mount is optimized for the Philips Allura X-ray table, but could be used for x-ray tables from other manufacturers.</p>	
11	<b>CAI Onsite Professional Services</b>	<b>50</b>
	<p>This item represents onsite implementation services. The Statement of Work (SoW) or Project Scope Document (PSD) describes the implementation deliverables.</p>	
12	<b>CAI Onsite Training Professional Services</b>	<b>32</b>
	<p>This item represents onsite training services. The Statement of Work (SoW) or Project Scope Document (PSD) describes the implementation deliverables.</p>	
13	<b>CAI Remote Professional Services</b>	<b>112</b>
	<p>This item represents remote based implementation services. The Statement of Work (SoW) or Project Scope Document (PSD) describes the implementation deliverables.</p>	
14	<b>Total number of Facilities</b>	<b>1</b>
15	<b>Customer Note</b>	<b>1</b>
	<p>64 hours of Professional services quoted for assisting customer on customizing their Xper reports. 32 hours of remote and 32 hours of on site training.</p>	