PURCHASE ORDER: 558-B70017

REQUESTING SERVICE: SURGICAL,OPERATING ROOM
SHIP TO: VA Medical Center
V.A. Medical Center
Warehouse
508 Fulton Street
DURHAM, NC 27705-3897

Line #	Part #	Description	Qty	Each	Price
1		**Azurion 7 C20 FlexMove**	1		

Advanced solution for vascular, non-vascular, embolization to interventional oncology procedures
Key benefits

- Optimized utilization of your lab by procedure based workflow
- Superb image quality to evaluate small details and vessels with clarity.
- Intuitive user interaction delivering an easy to use, easy to learn system

Changing interventions
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 7 series C20 ceiling system is designed to enhance all the different procedures your interventional lab faces, from vascular, non-vascular and embolization to interventional oncology procedures. This future proof solution is designed around a single, standardized hardware and software platform that 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 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 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.
Specifications
The Philips Azurion series contain a number of features to support a flexible and patient centric procedural workflow.
The Philips Azurion series (within the limits of the used Operating Room table) are intended for use to perform:

- Image guidance in diagnostic, interventional and minimally invasive surgery procedures for the following clinical application areas: vascular, non-vascular, cardiovascular and neuro procedures.

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- Cardiac imaging applications including diagnostics, interventional and minimally invasive surgery procedures.

The Philips Azurion 7 C20 system comprises five functional building blocks:

1. Geometry
2. X-ray Generation
3. Image Detection
4. User Interface
5. Viewing

Each functional building block is explained in further detail including accessories.

1. Geometry

A. 7 C20 stand

The Philips Azurion 7 C20 stand is a stable assembly of a C-arm and a ceiling suspended L-arm. 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 direction allowing a three-sided patient approach and total body coverage.

- L-arm rotation around the patient table: +90, 0, -90 degrees.
- L-arm longitudinal movement: 300 cm

This movement features auto-stops at the parking position, cardio/neuro position and lower peripheral position.

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 cm for a table without swivel nor cradle/tilt.
- 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

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- 3 rail accessory clamps
- 1 drip stand
- 1 Set of Elbow Supports
- 1 Set of patient Straps
- 1 Arm Support Board
- 1 Head Support
- 1 Mattress
  The mattress is a slow recovery foam mattress with a density of 58 kg/m3. 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.
- Table-mounted Radiation Shield
- Anti-fatigue mat with Philips logo

2. X-ray Generation
A. Generator

The 7 C20 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
- 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.

- Pulsed X-ray for pulsed fluoroscopy (3.75 , 7.5 , 15 , 25, 30 frames/s).
- 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

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B. X-ray tube
The 7 C20 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)
- Continuous loadability: 3400 W (at 21 degrees C room temperature) / 4000 W (= Max assembly continuous heat dissipation)
- Application of SpectraBeam dose management
- Tube housing is oil cooled with thermal safety switch
- Maximum anode cooling rate of 1820 kHU/min
- Anode heat storage capacity of 6.4 [MHUeff]

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)

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.

Line #	Part #	Description	Qty	Each	Price

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

- Acquisition runs can be done without losing the vessel map of Roadmap Pro.
- Live processing of the vessel map, the device map and the landmark map can be done on the touch screen module.
- Field of View (FoV) can be altered during the second phase.
- Xres for vascular procedures is standard part of Roadmap Pro.

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.

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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:

- A 30 cm by 40 cm (20 in.) diagonal 8 mode Dynamic Flat Detector subsystem for fluoroscopy and cine-fluorography.
- 8 modes 30*38/30*30/26*26/22*22/19*19/16*16/13.5*13.5/11*11 cm, Dynamic Flat Detector
- The outer detector physical housing is 36 x 47.2 cm
- The digital output of the Flat detector is 1904*2586 pixels at 16 bit depth.
- The pixel pitch is 154 micron by 154 micron
- The DQE(0) is >77% providing high conversion of X-ray into a digital image, while maintaining a high MTF.

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 uniquei mage 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

Line #	Part #	Description	Qty	Each	Price

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

- 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. Optionally, it is possible to connect in parallel up to three touch screen modules on the system. 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, EchoNavigator, 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:

Line #	Part #	Description	Qty	Each	Price

- Acquisition settings
- Image processing controls
- Channel selection for MultiVision
- Automatic position control (optional)
- Quantitative Analysis controls (optional)
- Xcelera and IntelliSpace Portal viewing (optional)
- Interventional tool controls (optional)
- 3D-RA, Dynamic 3D Roadmap (optional)
- StentBoost, 3D-CA (optional)
- XperCT, XperGuide (optional)
- XIM physio monitoring controls (optional)

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
- 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

Line #	Part #	Description	Qty	Each	Price

- 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 information
- 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 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

Line #	Part #	Description	Qty	Each	Price

- 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 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

Line #	Part #	Description	Qty	Each	Price

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/m2, default 400 Cd/m2)
- 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

If applicable included is a flat monitor ceiling suspension for 2 monitors (2F MCS). MCS includes motorized height adjustment. The ceiling suspension allows flexible monitor positioning over a range of about 360 x 300 cm. At customer request, this 2 monitor MCS can be replaced by a 4 or 6 fold MCS or an MCS integration kit HD for non-Philips MCS. The MCS integration kit HD contains vital parts for system operation.

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.

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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.

Environmental

At Philips Healthcare, we feel the responsibility towards society and the environment. The latest 7 C20 system is a perfect example of our EcoVision program. Byexamining every aspect of the 7 C20 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:

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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).

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.

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.

Education expires one (1) year from installation date (or purchase date if sold separately).
Ref#296339296340296341296342-20170209

2		**height-adjustable arm support**	**1**		

Line #	Part #	Description	Qty	Each	Price

• Enhance patient comfort during catheter usage

Enhance patient comfort during catheter usage
To support the patient's arm when a catheter is used for brachial catheterization and digital imaging techniques, the arm support can be attached to the tabletop. The support is made of X-ray transparent material and includes a mattress pad for increased patient comfort. The fixation clamp and pivot mechanism are not made of X-ray transparent material.

3 **VesselNavigator** **1**

VesselNavigator allows reuse of 3D vascular anatomical information from existing CTA and MRA datasets as a 3D roadmap overlay on a live X-ray image.

Key benefits
• Supports navigation through complex vessel structures
• Reusing a pre-acquired CTA or MRA reduces the need for contrast enhanced runs
• Philips CTA Image Fusion Guidance may lead to shorter procedure times
• Intuitive and easy to use by providing step-by-step workflow guidance

Reduce your need for contrast medium
When delicately navigating a guidewire or inserting a stent in challenging endovasculature, seeing the full perspective of anatomy is crucial. Using X-ray and contrast medium efficiently is also very important, especially for vulnerable patients. VesselNavigator allows reuse of 3D vascular anatomical information from existing CTA and MRA datasets as a 3D roadmap overlay on a live X-ray image. With its excellent visualization, VesselNavigator 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.

Unlike 2D angiography images which can be limited by vessel superpositioning or foreshortening, VesselNavigator provides three dimensional views of vasculature that allow you to easily define the right projection angle2 for navigation and stent placement. With the use of ring markers you can easily indicate the ostia and landing zones.

Specifications
The essential components of VesselNavigator are:
• 3D roadmap navigation with a personalized visualization of a CT or MR overlay of the selected vasculature on live fluoro.
• Both 2D and 3D registration for CT or MR image fusion, allowing to choose the registration method for the user's workflow
• Easy, intuitive four step workflow, with one click vessel segmentation
• Ring markers to easily indicate the ostia and landing zones.

VesselNavigator provides the following functions:
• One click vessel segmentation
• 3D landmarks
• Plan angles
• 2D registration
• 3D registration
• Live image guidance; Real-time overlay of the 3D Vessel segmentation on the live 2D X-ray images from the Philips Azurion X-ray system of the same anatomy
• Table tracking
• Table side control

Line #	Part #	Description	Qty	Each	Price

VesselNavigator movies and snapshots can be stored/archived on:
• A PACS systems as DICOM Secondary Capture images or movies.
• USB removable memory device.
• One or multiple DVD's, CD-ROM(s) for easy archiving.
• Hard copy via the (DICOM Print) protocol.

4 **Prep table for Table Mount inj** **1**

This is only applicable when the Mark 7 Arterion Table Mount injector will be ordered locally. Prepared for Table Mount Injector prepares the XperTable with the cabling needed for a Table Mount install of the MEDRAD Mark 7 Arterion injector head. This preparation will facilitate the install of the Table Mount injector system. It will save an estimated 4 - 8 hours of installation time. The injector base unit can be placed in the technical room, and User Interface and display can be placed in the control room or on the wall of the exam room.

The prepared for Table mount injection table option cannot be purchased in combination with the Swivel AND prepared for Volcano Core option.

5 **ClarityIQ.** **1**

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

6 **Isolated Wall Connection Box** **9**

Line #	Part #	Description	Qty	Each	Price

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

Key benefits
- Stream video from other modalities on the interventional X-ray suite:
- Connect external video in the exam room

Easily stream video to other locations
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.

Specifications
The quantity of the VWCB's has to be calculated as follows:
For each video signal via MultiVision: 1 VWCB (max = 4)
For each video signal to FlexVision XL on Cardio System: 1 VWCB (max = 9)
For each video signal to FlexVision XL on Vascular System: 1 VWCB (max = 8)
For each 3rd party video signal directly connected to an LCD in the MCS: 1x VWCB.
Note:
No VWCB is required in case a video signal is connected directly to a dedicated LCD from the following sources:
1) Live/ref Slaving
2) Interventional HW (XtraVision), IntelliSpace Portal, Philips Xcelera (only if workstations are powered by Philips X-ray system)
3)XperIM

7 **coupling to video switching** **1**

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. Coupling to Video switching enables coupling of maximum 4 color outputs (e.g. Interventional tools, Xcelera, XperIM and IntelliSpace Portal).

Specifications
Video splitter box to enable coupling of maximum 4 color outputs (e.g. Interventional tools, Xcelera, XperIM and IntelliSpace Portal) to the switching concept from our partner.
In combination with the MultiSwitch option, the Video splitter box is used to connect a maximum of 3 workstation with a total power dissipation of maximum 1380 W.
For the remaining workstations, up to 4 in total, a second video splitter box needs to be ordered.
In addition, 4 splitter units are delivered to enable coupling of up to 4 of the X-ray system Live and Ref signals to the partner video switching system.
The partner system provides fully galvanically isolated DVI extender cables to connect these signals.

8 **Addl LCD Control Room** **1**

Line #	Part #	Description	Qty	Each	Price

Additional 24 inch high brightness color LCD monitor.

Key benefits
• Enhance visibility for a variety of procedures

Get a wider view of the situation
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.

Specifications
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

9 **MultiSwitch.** **1**

MultiSwitch is an option that provides the ability to share the X-ray system workspot in the Control Room with other applications that are loaded on separate PC modalities.

Key benefits
• Save space in the control room by running multiple applications on one workspot

Save space in the control room
To reduce clutter in the control room, the MultiSwitch option provides the ability to run applications that are loaded on separate (up to three) PC modalities or on the X-ray system from the X-ray system workspot in the control room. You can switch the (color LCD) data monitor, keyboard, and mouse, normally connected to the X-ray system, to a separate PC modality. This saves a great deal of space in the control room by letting you use one monitor and keyboard for multiple applications, like Xcelera, 3D RA, StentBoost, IntelliSpace Portal, as well as Radiology/Cardiology Information Systems.

Specifications
A workstation can only be connected to the MultiSwitch if it complies with the following requirements:
- preferred resolution for the color LCD display: 1920*1080 DVI
- USB keyboard- and mouse interface
- complies with UL60950 regulations and EMC level A

The MultiSwitch (5Vdc) as well as the workstations (230Vac) are supplied from the X-Ray system. The maximum power supply requirement for three workstations (including accessories) in total should not exceed 1380 Watts at 230Vac.
The MultiSwitch option comprises:
- KVM Switch box (4 inputs, 1 output)
- cable sets for video, keyboard, mouse

Line #	Part #	Description	Qty	Each	Price

The Window Switch is an option that provides the ability to integrate networked functionality in the Control Room of the X-ray system. The Window Switch provides the possibility to switch to CIS/RIS applications that are available on the network and are basically data-only oriented.

Window Switch to any RIS/CIS.

The Control Room workspot can be switched to the hospitals' Cardiology/Radiology Information System. Only the user-interface devices data monitor, keyboard, and mouse are switched via standard available solutions: "X-window", and "HTML browser" to become a standard UI for the RIS/CIS system.

This option is a software key which enables the specific switch functionality for only the applications, which are available on site.

10 **addl 27" LCD Exam Room** **6**

Additional 27 inch high brightness color medical grade LCD monitor.

Key benefits

• Enhance visibility for a variety of procedures

Get a wider view of the situation

Mix and match the widescreen monitors to make efficient use of your lab space. Each monitor can display input from 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.

Specifications

This LCD monitor is intended for viewing in the Examination Room and is designed for medical applications.

The main characteristics are:

- 27 inch high brightness color TFT-LCD display
- Native format 1920x1080 Full HD
- Two DVI inputs to display one or two channels (dual view)
- 10 bit gray-scale resolution with gray-scale correction
- Wide viewing angle (approx. 178 degrees)
- High brightness (max 650 Cd/m2, default 400 Cd/m2)
- 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 projection screen

11 **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

Line #	Part #	Description	Qty	Each	Price

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.

12 **video WCB on rear side 1st MCS** **2**

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.

13 **Ratchet compressor** **1**

• Decrease motion artifacts on images

Decrease motion artifacts on images

Patient movement can cause motion artifacts in images. The ratchet compressor is used to immobilize the patient on the table and thereby decrease motion artifacts on images. It can be easily attached to the side of the table. The ratchet winding mechanism is attached to one side of the table. The quick release lever lets you easily pass the compression band over the patient and under the table for symmetrical compression.

14 **pedestal** **1**

The pedestal creates an additional work spot to operate the system in the examination room.

Key Benefits

• Easy system control from different locations

Full control where you need it

To help your interventional suite work as efficiently as possible, no matter what layout or case mix it has, you can add this additional work spot to easily control the system from various locations in the Examination Room.

Line #	Part #	Description	Qty	Each	Price

Specifications

The pedestal is provided with additional geometry and imaging modules. It offers the possibility to hold the X-ray footswitch. Optionally an additional touch screen module can be mounted on the pedestal, creating a work spot with full system control. The pedestal is connected to the system by means of a wall connection box. A cable length of 8 meter allows the user to position the pedestal freely around the patient table. The pedestal has been designed with stability and ease of use in mind and can be moved towards the wall connection box when not in use.

15 **Quantitative Coronary Analysis** **1**

Key benefits

• Allows quantitative quantification of coronary artery dimensions
• 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 coronary artery

To support decision making and allow assessment of vasculature during cardiac interventions, the 2D quantitative coronary analysis supports quantification of coronary artery dimensions of about 1 to 6 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 segmentation of selected coronary
• Diameter measurement along the 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.

16 **Subtracted Bolus Chase** **1**

Helps to visualize vessel structures when blood flow is difficult to estimate.

Key benefits

• Bolus Chase improves results in case of challenging step movements, a mismatch between blood flow and selected program, or 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 hanbd-hold speed controller to adapt the speed of the table scan to the contrast flow. With biplane systems, this Bolus Chase is applied with the lateral channel.

Specifications

• Framespeed can be adapted.
• Bolusrun is followed with a maskrun, using the same speed curve and framespeed that was generated during the bolusrun.

Line #	Part #	Description	Qty	Each	Price

• Viewing is possible in the subtracted and non-subtracted mode. If subtracted viewing is not required, the maskrun can be skipped.
• Subtracted Bolus Chase gives fast, accurate results high patient throughput and efficient patient management.
• Automated exposure control and precise speed control generate high quality images and excellent subtraction cases.

17 **optional ref monoplane** **1**

Additional Ref2 and Ref3 viewport

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. Optional ref monoplane offers an additional video output of the X-ray system offering an additional Ref2 and Ref3 viewport on one LCD monitor. Combined with the Dual Fluoro license this enables users to zoom live images during acquisition, while having the Dual Fluoro image visible on the Ref3 viewport.

18 **peripheral X-ray filter** **1**

• Obtain uniform density of lower peripheral areas

Enhance consistency of lower peripheral images
To help clinicians obtain consistent images of lower peripheral anatomy, this option provides a set of flexible X-ray filters. They provide uniform density in angiographic examinations of the lower peripheral area.

19 **table pivot option** **1**

• Flexible positioning for upper extremity angiography
• Easy patient transfer

Flexible positioning and transfers
Transradial access, upper extremity angiography, and patient transfer have never been simpler with our optional Pivot feature. One finger push-to-pivot allows effortless patient positioning. It moves with less friction, making it easier to move larger patients. A secure mechanism locks the tabletop in place to prevent it from moving.

20 **Switchable Monitors** **1**

Key benefits
• Easily display any data or clinical information needed to work efficiently
• Smoothly switch screen layouts to support various procedures in one lab
• Simply drag and drop icon to switch inputs

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 Switchable Viewing option gives you full control of what you display and where you display it on your exam room monitors. You can display up to 16 monitor inputs via the touch screen module (TSM), including the live image, reference image, frontal and lateral projections, hemo data and equipment from other vendors. Simply drag and drop the input icon to switch from one input to another. Smoothly switch screen layouts to support individual procedures and physician preferences.

Line #	Part #	Description	Qty	Each	Price

Specifications
This feature offers a number of FullHD (1920x1080) monitors on which flexibly all internal and external video sources can be displayed.
- Up to 16 monitor inputs are supported (max 8 when used in combination with FlexVision)
- Users can assign a video source to a monitor through the video switching UI on the touch screen monitor
- Up to 11 external sources are supported
- The same video source can be displayed simultaneously on different monitors.

21 **FD Rotational Angio** **1**

Realtime 3D impressions of complex vasculature

Key benefits
• Use 3D imaging to quickly determine the projection angle for treatment in complex vascular interventions, surgery and radiotherapy
• Supports assessment of vascular pathologies for diagnostic and therapeutic decisions.

Revealing hidden structures
The complexity of interventional procedures lies in the fact that every person's pathology is unique. Visualization in three dimensions is therefore vital to aid decision making by the clinician. Rotational angiography provides real-time 3D impressions of complex vasculature and the coronary artery tree. Rotational Angio can be used to quickly determine the projection angle for treatment.

Specifications
Rotational Angio acquires multiple projections with just one contrast injection via a fast rotational scan of the region of interest. A rotational scan is possible both with the X-ray 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:
Max. rotation Speed: 55 degrees/s
Max. rotation Angle: 240 degrees
Max. Frame speeds are given by the frame speed specifications of the system configuration.
The very high movement 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. Rotational Angio results are available on the X-ray system.
Operation of Rotational Angiography is straight forward: the procedure is selected, set up and executed virtually in a matter of seconds, supporting high patient throughput.
A set of dedicated acquisition programs is available on the touch screen module and can be selected at the touch of a button. The Rotational Angio is controlled from the exposure hand- or footswitch.

22 **3D-RA Complete** **1**

The 3D-RA Complete package combines 3D-RA (3D Rotational Angiography) with 3D Roadmap.

Key benefits
• Automates 3D-RA and 3D Roadmap workflow in the interventional suite to streamline procedures
• 3D-RA supports accurate assessment of vascular pathologies by providing high-resolution 3D reconstructions of small vessels and lesions

• 3D Roadmap provides full 3D view to enhance navigation of guide wire and catheter through complex vascular structures

Efficient 3D imaging workflow
Visualizing the complex spatial relationship between anatomical structures and vasculature often involves several sequential DSA acquisitions and radiation dose for the patient. To make imaging workflow efficient during procedures, the 3D-RA Complete package combines 3D-RA (3D Rotational Angiography) with 3D Roadmap. It provides a completely automated process from 3D acquisition to image reconstruction and viewing of 3D Roadmap images on the monitor. No user action is required.

3D Roadmap provides a sustainable 3D Roadmap to support interventional procedures. It matches the real-time 2D fluoro images with the 3D-RA angiography volume (3D Roadmap) or a previously acquired CT or MR data set (CT/MR Roadmap). With the roadmap a better understanding of the anatomy can be obtained for procedure planning or risk assessment. The integrated 3D solution assists physicians in decision making for treatment strategy and in assessment after treatment in endovascular procedures, neuro or vascular surgery, cardiac procedures.

Specifications
3D-RA
3D-RA (3D Rotational Angiography) provides extensive 3D visualization of anatomy and vessels in just four seconds based on one rotational angiography run and one contrast injection. Its high-resolution 3D reconstructions provide critical information about depth and the relationship of one vessel to another to support the accurate assessment of anatomy and vasculature.

Image Acquisition
Image acquisition is performed with the Rotational Angiography feature of the X-ray system with the flexibility to position the C-arm in either head or side position.
C-arm in head position: scan range of 240 degrees with a rotation speed up to 55 degrees/sec.
C-arm in side position: scan range of 180 degrees with a rotation speed up to 30 degrees/sec.

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.

Workflow
Automated 3D-RA process from 3D acquisition to 3D Viewing,
3D at touch screen module (option),
3D Automatic Position Control (3D-APC),
3D Follow C-arc.

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

Viewing
Real Time user interface.
Philips' CRM (Contrast Resolution Management) Technology.
Image rendering:
• Volume/Surface Rendering,
• MIP,

Line #	Part #	Description	Qty	Each	Price

• Endoscopy,
• SUM (pseudo X-ray image)
• Gradient rendering,
• Cut-plane function,
• Orthoviewer,
• MPR (Multi-Planar Reformatting),
• SpineView,
• 5 distance measurements calculated in the same volume, including "Quick measurement".
• Volume calculation
• Automated Vessel Analysis (AVA),
• Computer Assisted Aneurysm Analysis (CAAA),
• Catheter tip shape simulation,
• Virtual stenting,
• Annotation,
• Interpolative Zoom
• Reconstructive Zooming Technique,
• Subtraction of reconstructed volumes,
• Automatic Voxelshift,
• Set grey values WW/WL,
• Store/Recall of user defined projections.

3D-RA ON TOUCH SCREEN MODULE
From the 3D-RA menu on the touch screen module, you can rotate, translate, and take snapshots of images. Views can be stored and recalled. You can select 3D-APC (3D Automatic Position Control) and follow stand mode.
Other 3D-RA functions on the touch screen module:
• Start mouse mode
• Segmentation (window-width/window-level control)
• 3D zoom control
• Recall Anterior-Posterior view

3D AND MR/CT ROADMAP
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 or previously acquired CT/MR data of the vessel tree. 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. The MR/CT roadmap is based on visualization of the anatomy on previous acquired CT or MR data sets. Both are 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:
o The angulation of the C-arc,
o The rotation of the C-arc,
o The Field of View,
o The Source to Image Distance,
• Landmarking,
• 3D blending,
• WW/WL settings,

Line #	Part #	Description	Qty	Each	Price

• Store and review runs,
• Store snapshots and movies.

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.

23 **Wireless footswitch: mono-plane version** **1**

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.

24 **XL video slaving to 3rd p. XL** **1**

Slave FlexVision XL screen to a second large screen

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

Line #	Part #	Description	Qty	Each	Price

making and efficiency during interventions. With this option, a second Quad Full HD 3840x2160 large screen can be connected to FlexVision XL, showing an exact copy of the content of the main FlexVision XL screen.

Specifications
Quad Full HD 3840x2160 large screen
A 30m fiber video extension is included
No monitor is included.

25 **SmartMask Monoplane** **1**

Key benefits
• Simplifies roadmap procedures by overlaying fluoroscopy with a selected acquired image.
• Enables roadmap procedures to manage radiation dose and contrast media by selecting an image from an acquired series as a mask image.

Supports navigation during interventions without the need of additional contrast media.
SmartMask simplifies roadmap procedures by overlaying fluoroscopy with a selected acquired image in the Live X-ray window.

Specifications
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.

26 **Table top brake kit** **1**

• Prevents tabletop movement when power goes off

Prevents tabletop from floating during power off situation
The tabletop brake kit prevents the tabletop from floating in case of a power off situation.
A friction brake is applied to stop the tabletop from moving longitudinally or laterally.

27 **XperGuide** **1**

XperGuide provides live 3D needle guidance.

Key benefits
• Shows live advancement of needle for extra guidance
• Requires less X-ray dose than regular CT scans
• Can reduce procedure time significantly compared to regular CT interventions

Perform needle interventions in the angio suite
Having advanced live image guidance tools on your X-ray system can bring new applications to your angio suite. XperGuide provides live 3D needle guidance to support a wide range of non-vascular image-guided needle procedures. Virtual needle paths are created on an XperCT dataset or on the previously acquired CT or MR dataset. XperGuide overlays the real-time 2D fluoroscopy images with the 3D volume of XperCT, CT, or MR to visualize the actual needle path versus the virtual path previously planned.

By using an X-ray overlay with CT-like imaging to guide needle interventions, XperGuide can shorten procedure times significantly and support physicians in reducing risks during procedures.

Specifications
The volumetric dataset can be viewed in any slice direction.
A wide range of gantry projections can be used to define the needle path.
Path planning can be done:
• By drawing a virtual needle path on an XperCT, MR or CT slice
• By defining entry and target points on different XperCT, MR or CT slices
• By defining a help line on a 3D volume

Line #	Part #	Description	Qty	Each	Price

The calculated virtual needle paths can be viewed on the XperCT, MR or CT slices, to verify if this path is feasible.
XperGuide supports planning of multiple needle trajectories.
During the needle procedure, XperGuide is fully controlled at tableside.
When XperGuide is active, guidance is automatically active when the fluoro pedal is pressed. The gantry can be positioned in the calculated gantry positions or controlled manually.
The XperGuide images (live 2D fluoro projected over the XperCT, MR or CT volume) will follow the gantry projections.
At table side, XperGuide adapts in real-time to the following parameters:
• Changes in the angulation of the C-arm
• Changes in the rotation of the C-arm
• Changes in the field of view
• Changes in the source image distance

XperGuide runs are stored in the same patient file as all other patient related data. This data can be reviewed at any time.

XperGuide runs can be sent to any optional DICOM compatible device (supported are DICOM XA, DICOM SC, DICOM CT and DICOM 3D), any PC in a standard PC compatible format (JPEG,AVI) and stored/archived on:
• A PACS systems as DICOM Secondary Capture images or movies
• USB device
• One or multiple DVD's, CD-ROM(s) for easy archiving
• Hard copy via the (DICOM Print) protocol

28 **table tilt option** **1**

Table tilt option provides precise imaging of contrast medium, blood, or objects in the body.

Key benefits
• Tilts the table to support gravity oriented and puncture procedures
• Keeps the region of interest in the isocenter of rotation and angulation
• Allows more precise imaging of contrast medium, blood, or objects in the body

Precise imaging during gravity oriented and puncture procedures
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.

Specifications
• Motorized table height from 78.5 - 103.5 cm
• Maximum tilt range: -17 degrees (head down) to +17 degrees (head up).
• Tilt speed: 2 degrees/sec
• Automatic safeguarding system with manual override
• Panning range in tilted plane: equal to the standard tabletop specifications (longitudinal 120cm, lateral 36cm)
• Easy to use controls

29 **3rd touch screen module** **1**

Line #	Part #	Description	Qty	Each	Price

Key benefits
• Control system operations with a third 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, table-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 third 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)
- Xcelera and IntelliSpace Portal viewing (optional)
- Interventional tool controls (optional)
- 3D-RA, Dynamic 3D Roadmap (optional)
- StentBoost, 3D-CA (optional)
- XperCT, XperGuide (optional)
- XIM physio monitoring controls (optional)

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

30		**XL video slaving to full HD TV**	**1**		

Slave FlexVision XL screen to a 3rd party Full HD monitor

Key benefits
• Easily display any data or clinical information needed to work efficiently
• Follow procedure from outside Examination Room or Control Room

Simplify workflow with flexible viewing control
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.

Specifications
Full HD (1920x1080)
A 30m fiber video extension is included.
No monitor is included.

31		**Cradle extension**	**1**		

Line #	Part #	Description	Qty	Each	Price

• Moves the tabletop in a cradle motion from side to side to support surgical and puncture procedures
• Improves access to patients
• Allows precise imaging of contrast medium or blood

Precise imaging during surgery and puncture procedures

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.

32 **Table base Auxiliary OP rail** **1**

• Position operating modules and/or accessories conveniently
• Work comfortably at the head end of the table

Work comfortably at the head end of the table

To provide more flexibility when working at the head end of the table, the auxiliary OP (operation profile) rail can be used to position operating modules and/or accessories closer to the head end of the tabletop. This allows the user to work comfortably when performing pacemaker implantations, venous jugular catheter insertions, and other procedures near the patient's head.

33 **FD Dual Fluoro monoplane** **1**

An additional fluoro channel in parallel to the standard fluoro channel

Key benefits

• View the subtracted fluoroscopy next to the default non subtracted fluoroscopy
• View a digitally zoomed fluoroscopy image next to the default fluoroscopy image

Second fluoro image to support complex interventions

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.

Specifications

The Dual fluoroscopy mode is selected via the touch screen module.
The trace subtracted fluoro image will be displayed on the live viewport, the non-subtracted fluoro image is displayed on the reference 3 viewport.
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.

34 **storage extension** **1**

Extends image storage capacity on your X-ray system

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.

Specifications

By default 50.000 images are available, this option will give 100.000 images (this is for 1K2 image size).

35 **IW Hardware** **1**

Line #	Part #	Description	Qty	Each	Price

Key benefits
• Facilitates the interventional tools and multimodality viewing in exam room and control room
• Supports import and viewing of DICOM compatible data from CT and MR imaging modalities

View multimodality images in exam room and control room
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.

Specifications
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:
• Computer Workstation
• Control Room 24” display
• 16 GB memory
• 1.5 TB disk for the operating system, application software and application data
• Internal CD-ROM / DVD writer
• Mouse tablet to interact with all the interventional tools at the table side.
Conditionally:
FD Calibration Tool Kit for 3D-RA

36 **FlexVision XL HD, 3rd p MCS** **1**

FlexVision XL is an integrated viewing solution designed to give you full control over your viewing environment which brings High Definition viewing.
This FlexVision XL is mounted on 3rd party Monitor Ceiling Suspension.

Key benefits
• Easily access multiple, up to 8, video inputs (including third party systems) video inputs to inform decision making during procedures
• Create custom display templates to support diverse procedures
• The screen layout of the FlexVision XL HD can also be changed from the control room
• Enlarge images to reveal more details and support comfortable working positions

Diagnostic information easily made available at table side
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.

Specifications
FlexVision XL HD offers:
• Native resolution of FD20 can be displayed.
• Sharp images at full size without zoom
• High Definition display at native resolution for ultimate detail
• Up to 2k*2k image display fully integrated
• Enhanced small vessel visualization

1. DVI video composition unit.
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

Line #	Part #	Description	Qty	Each	Price

backlight in the Examination Room.
• The DVI video composition unit is operated from the touch screen module.
• The DVI video composition unit supports a wide variety of display formats (up to 1920x1200)
• Up to 11 external inputs are connected to the DVI video composition unit via wall connection box or boxes.

2. Medical grade, high resolution color LCD in the Examination Room
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.
Main characteristics are:
- 58-inch, 8 Megapixel color LCD
- Native resolution: 3840x2160
- Brightness: Max: 700 Cd/m2 (typical) stabilized: 400 Cd/m2
- Contrast ratio: 1:4000 (typical)
- Wide viewing angle (approx. 176 degrees)
- Constant brightness stabilization control
- Lookup tables for gray-scale, color and DICOM transfer function
- Full protective screen Ingress Protection: IP-21

3. Large color LCD control (touch screen module)
• Enlarge information at any stage during the case via the touch screen module in the Examination Room or Control Room.
• Select viewing lay-outs via the touch screen module in the Examination Room.
• Create new layouts by matching inputs to desired locations on preset templates.
• Adjust the screen layout during the procedure without going into configuration
• 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

4. Monitor ceiling suspension
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.

5. Snapshot
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.

37 **CO2 VIEW TRACE** **1**

Software package enabling tracing (stacking) of images acquired with CO2 injections. This function can be used during postprocessing next to view trace of images acquired with CO2 injections.

38 **HeartNavigator R3** **1**

HeartNavigator R3 automatically segments anatomical structures, anatomical landmark points and anatomical planes from previously acquired DICOM compliant CT datasets.

Key benefits
• Deeper anatomical understanding to plan and perform TAVR/TAVI, mitral valve replacement and LAAC procedures
• Immersive user experience and fully automated tasks simplify planning, measurement, device selection and choice of X-ray viewing angle
• Enhanced insight into calcification distribution

Insightful planning and guidance for Structural Heart Disease procedures
When planning a structural heart disease (SHD) procedure, an objective assessment on vascular anatomy can help you work with greater confidence and avoid complications. Understanding the patient’s individual anatomy when planning a transcatheter aortic valve replacement or implantation (TAVR/TAVI), mitral valve replacement, left atrial appendage closure (LAAC) or other procedure helps you select the appropriate approach, and size and type of a device. In addition,

Line #	Part #	Description	Qty	Each	Price

safely navigating the valve delivery devices through anatomy and deploying the valve in the correct position are recognized as technical challenges when performing TAVR/TAVI procedures.

HeartNavigator Release 3 automatically segments anatomical structures, anatomical landmark points and anatomical planes from previously acquired DICOM compliant CT datasets to support a wide variety of structural heart disease procedures. Different visualization tools, including anatomical landmarks, virtual devices, viewing planes and measurements are available to support precise planning.

Specifications

• Automatic segmentation of tissue, anatomical structures, landmarks, calcium, anatomical planes and viewing angles within the cardiac CT data for TAVI/TAVR
• Automatic distance, diameter, area and perimeter measurements for TAVI/TAVR
• Automatic Free centerline measurement along the ascending aorta for TAVI/TAVR
• Segmentation, measurements and viewing angles for other SHD procedures, e.g. mitral valve replacement and left atrial appendage closure
• Up to date virtual device library for TAVI/TAVR procedures
• Report with all relevant measurements, viewing angles and selected device as print for use in exam room or stored on the PACS.
• Live guidance with CT overlay and automatic viewing angles
• Highly automated intuitive workflow
• Enhanced anatomy visualization

Please contact your local sales person for any CT compatibility details.

39		**XperCT Dual**	**1**		

XperCT Dual allows two scans to be made on the X-ray system at a defined interval, resulting in CT-like images.

Key benefits

• Aids in assessment of soft tissue, bone structure, and stent deployment
• Fast reconstructions support fast decisions during procedures
• DualPhase acquisitions allow visualization of arterial and post-arterial contrast enhanced images to support oncology interventions

Supports assessment of soft tissue, bone structure, and stent deployment

One of the challenges during interventional procedures is to treat the region of interest without affecting healthy tissue or organs. XperCT Dual is a version of XperCT, which allows two scans to be made on the X-ray system at a defined interval, providing high resolution, high contrast images within seconds. Physicians can use the CT-like images of XperCT Dual to assess soft tissue, bone structure, and stent deployment before, during, and after interventions. This aids in avoiding structures and identifying feeder vessels.

Specifications

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 touch screen module.

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.

XperCT Dual acquires up to 60 frames/sec. (frame rate extension to 60frames/sec is included) and supports fast abdominal protocols with 5 to 8 second acquisition times for the X-ray system, thereby minimizing respiratory artifacts. The XperCT volume is displayed automatically within 8 to 15 seconds after acquisition. No user interaction is required.

XperCT Dual includes Metal Artifact Reduction to reduce the artifacts caused by metal presence in the region of interest. BMI Noise Reduction is included to reduce the noise caused by large size patients (only available when Abdominal XperCT runs are selected).

Line #	Part #	Description	Qty	Each	Price

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 touch screen module and the mouse at tableside.

The XperCT volume can be matched with (when additional options are available) 3D-RA (3D Rotational Angiography) 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 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 working position is selected from the XperCT volume the C-arc steers itself to the selected position
• 3D Follow C-arc at tableside
• 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 exported to:
• Any optional DICOM compatible device (e.g. PACS/Printer), supported are DICOM XA, DICOM SC, DICOM CT and DICOM 3D
• Support archive on one or multiple DVD's, CD-ROM(s)
• Image transfer to a standard PC compatible format (JPEG, AVI)
• Store a subset of exportable objects (snapshots and AVI Movies) to a USB device.

40		**Long mattress cardio**	**1**		

• Enhances patient comfort
• Adapts to the shape of the patient’s body

Enhance patient comfort during cardio exams
To enhance patient comfort during cardio exams, the inflatable, latex free mattress can be used. It is extra-long to accommodate the patient on the tabletop, and adapts to the shape of the patient’s body. The pressure within the mattress is evenly distributed so that it recovers its original shape quickly.

Dimensions of the mattress:
Length: 3165mm
Width: 500mm
Height: 70mm
Radius: 150mm

Line #	Part #	Description	Qty	Each	Price

41 **add. table access. rail (US)** **2**

• Position operating modules and/or accessories conveniently
• Work comfortably at the head end of the table

Work comfortably at the head end of the table

To provide more flexibility when working at the head end of the table, the auxiliary OP (operation profile) rail can be used to position operating modules and/or accessories closer to the head end of the tabletop. This allows the user to work comfortably when performing pacemaker implantations, venous jugular catheter insertions, and other procedures near the patient's head. This version of the OP rail is designed for use in the US only.

42 **Accessory rail + cable ext.kit** **1**

• Extend the length of the OP rail to fit cardio and neuro tabletops
• Position operating modules and/or accessories conveniently
• Work comfortably at the head end of the table

Extend the length of the OP rail

To provide more flexibility when performing procedures, the additional OP rail accessory with cable extension kit is equipped with everything needed to mount operating modules and/or accessories next to the tabletop.

Specifications

This option includes the following items:
• One additional OP rail (mechanical) of 500 mm
• Cable extension set for OP rail
• Extension cable for control module, 1.3 meters long
• One connection box to connect the user interface cables to the module cables
• An extension for the table op rail of 500 mm

The additional OP rail can be mounted on either side of the tabletop where no OP rails are mounted. The additional OP rail is compatible with AD5 and AD7 Table (cardio and neuro) patient tabletops. The OP rail has the same profile and dimensions as the current standard OP rail. The maximum load (downwards) on the additional OP rail is 100 N (F=100N), the maximum mechanical moment on the additional OP-Rail is 40Nm downwards and 20Nm upwards, determined by the tabletop of the patient table.

43 **EPIQ7Ci integration kit** **1**

This integration kit is required to connect the EPIQ 7Ci and EchoNavigator with anatomical intelligence fusion imaging to an Allura or Azurion system.

Key benefits

• Easy single cable connection between EPIQ7 Ci and Allura or Azurion system.
• Enables EchoNavigator workspot on the EPIQ7 Ci, which allows the Echo cardiologist to operate the EchoNavigator fusion imaging from the EPIQ7Ci console.
• Enables EchoNavigator anatomical intelligence fusion imaging for intuitive Structural Heart Disease guidance.

The EPIQ 7Ci integration kit enables the connection of the EPIQ 7Ci with EchoNavigator (Note: the EPIQ 7Ci is a separate product that should be ordered separately in Ultrasound catalogue). The EPQI7Ci with EchoNavigator anatomical is a real time imaging product that supports the procedure by combining both X-ray and 3D TEE echo in an interactive, intuitive, and procedurally relevant way. It is designed to help you intuitively guide your device in the 3D space more quickly.

Specifications

The EPIQ 7Ci integration kit provides:

Line #	Part #	Description	Qty	Each	Price

• Cables to connect the EPIQ7 Ci to the cath lab.
• Hardware, software, and license.
• Interventional Echo Link which provides a high speed live 2D and 3D digital connection between the Echo unit and the EchoNavigator imaging platform.
• A mouse and mouse tablet (with table attachment) is included to operate the EchoNavigator functionality from the X-ray system table side.
• A Wall Connection Box is included, in case the maximum number of Wall Connection Boxes for the X-ray system is not reached and/or no free Wall Connection Box is available. Note: when the maximum of Wall Connection Boxes is reached, a Wall Connection Box needs to be freed up.
• Creates two visual outputs (with 1920*1080 display resolution), one for the Control Room and one for the Examination Room. The visual output for the Control Room is connected to a dedicated color 24” wide screen LCD display and is part of the solution (unless it is connected to an Azurion system with FlexSpot control room option).

EPIQ 7Ci integration kit requires
• Compatible Echo unit (i.e. EPIQ 7Ci and X8-2ti transducer).
• For Allura systems: FlexVision XL.
• One available Wall Connection Box in the Control Room (to connect the EchoNavigator system).

44 **EchoNav AI license for X8-2t** **1**

NCVC655 EchoNav R3 license
EchoNavigator R3 with anatomical intelligence combines 3D TEE Echo images (from a X8-2t probe) with X-ray images.
Key benefits
• Live Image Guidance lowers barriers when treating structural heart disease.
• Enhance communication and teamwork in the lab helps simplify procedures with the integrated EchoNavigator workspot on the EPIQ CVxi, allowing Echo operator to take control of Echo and Fusion imaging.
• Enhance confidence in anatomy and device targeting with SmartFusion anatomical intelligence, giving quick understanding of Echo anatomy
• Easy to use and easy to understand, so interventional cardiologists and cardiac surgeons can utilize live 3D echo efficiently.

Enhance communication and confidence
Structural heart procedures often rely on X-ray imaging to visualize the devices, while also using TEE echo imaging to visualize soft tissue and anatomical structures. These images, however, are represented differently, so valuable time and effort was often channeled into mentally aligning them. But not any more…
EchoNavigator is a real time imaging product that supports the procedure by combining both X-ray and 3D TEE echo in an interactive, intuitive, and procedurally relevant way. The SmartFusion anatomical intelligence facilitates/provides an easy understanding of 3D anatomical heart structures and how they relate to the X-ray image. It is designed to help you intuitively guide your device in the 3D space more quickly.
Specifications
EchoNavigator anatomical intelligence includes the Integrated workspot that can display and operate from the EPIQ CVxi console. It allows for multiple views of Live 3D TEE, segmented heart structures, fluoro, EchoNavigator fusion, and localization of the echo target on fluoro.

Features EchoNavigator:
• EchoNavigator allows for multiple user-defined live views of Echo data, showing relevant anatomical structures from different angles simultaneously in real time.
• The image orientation of the ‘C-arm” view synchronizes Echo images with the X-ray images.
• The Echo viewpoint is adjusted as the gantry is repositioned (follow C-arc).

Line #	Part #	Description	Qty	Each	Price

• SmartFusion projects the ultrasound field of view into the X-ray view.
• SmartFusion anatomical intelligence allows to segment heart structures on the fly, based on the 3D
Echo data. It projects this anatomical model into the X-ray view.
• DICOM export of fused X-ray and Echo images via the EPIQ archiving functionality
• EchoNavigator projects the ultrasound field of view (Ultrasound cone) as an outline into the X-ray view.
• Multiple markers can be placed on soft tissue anatomical structures in the Echo image and these markers automatically appear in the X-ray image to provide context and help guidance.
• An elliptical shape, in addition to single point markers, can be selected as annotation to mark anatomical regions of interest.
• A movie of the main display area can be recorded to capture interesting events and sequences during
the intervention.
• Prospective (whole case) recordings are supported.
• The EchoNavigator user interface is optimized for use from the table side and from EPIQ console.

45 **AVIDIS Smart Cable** **1**

NCVC654 AVIDIS Smart Cable

The AVIDIS Smart Cable connects the “EPIQ CVxi” with the “EPIQ CVxi integration kit” of the Allura or Azurion system.

Key benefits

• Easy single cable connection between EPIQ and Allura or Azurion system which have the EPIQ CVxi
integration kit installed

• Fewer issues when connecting the two systems

Enhance workflow

Connecting peripheral equipment in the cath-lab can require multiple cables which can be a hassle and can be prone to failure. But not anymore…

With the AVIDIS Smart Cable the hospital staff can easily connect the echo unit. It is possible to use the echo unit equipped with the Smart Cable EPIQ in any room which has the EPIQ CVxi integration kit.

Specifications

Line #	Part #	Description	Qty	Each	Price

The AVIDIS Smart Cable connects the video, network and USB interfaces of EPIQ CVxi and Azurion or Allura systems via a single cable.

AVIDIS Smart Cable requires:

• EPIQ CVxi Integration Kit

46 **DoseAware bundle** **1**

Key benefits:
- Real time dose feedback
- Enabling dose awareness for staff and optimizing behavior to manage scattered dose exposure.

The Base station 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. The information can be retrieved by the DoseAware Dose management software via a standard network interface to complete the DoseAware system with archiving and reporting functions.

Specifications: The following elements are included in this bundle.
• 1 Base station.
• 10 PDM
• Dose view software
• Dose management software
• 2 PDM racks.
• Mounting material (to connect Base station to either MCS, Trolley, wall)

The PDM has built-in radio-frequency wireless communication (868.3 Mhz for Europe version, 918.3 Mhz for USA version) to connect to the DoseAware Base station for real time dose-rate indication. 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. The Dose management software automatically saves application and dose data to the database you are working on (on your PC) and you need to store the database in a PC location that is backed up.

The PDM has a user replaceable battery and can be configured via the Dose view software and/or Dose management software. It also has an automatic power saving using a build-in accelerometer.

The related software can be installed on a local PC (not included), which has an operating system; Windows – XP, -7,- 8.1 or -10

47 **Medrad Mark 7 Arterion Pedestal** **1**

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.

The injector system includes:
- A mobile pedestal stand with electronics unit and a connection cable to the manual release.
- A support arm with injector head and a control lever for moving the injector head.
- A user control console with large touch screen and corresponding additional monitoring display on the injector head.

Line #	Part #	Description	Qty	Each	Price

Functions
Pressure limitation:
- for 150 ml syringes 689 to 8273 kPa,
corresponds to 100 to 1200 psi. .

Flow rates for 150 ml syringes:
- 0.1 to 45 ml/s in increments of 0.1 ml/s
- 0.1 to 59.9 ml/min in increments of 0.1 ml/min
- rise/fall: 0 to 9.9 s in increments of 0.1 seconds

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

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

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

Injection protocols:
- Up to 40 injection protocols possible.

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

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

Injection data memory
- Up to 50 injection data items stored

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

Power supply
100-240 VAC 50/60 Hz 1000VA.

48		**Lower Body Protection**	**1**		

UT70-10WS Lower body protection, width 1410 mm incl. wide extension

Lower body protection of the model series UT70 with a modular design to provide a maximized protective zone for the physician and staff.

49		**CVX-300 Excimer Laser System**	**1**		

Line #	Part #	Description	Qty	Each	Price

CVX-300 Excimer laser system

The CVX-300 Excimer laser system has a broad range of clinical applications, including peripheral atherectomy, coronary atherectomy and lead extraction, allowing the physician to treat a variety of disease states. Using low temperature pulsed bursts of 308 nm UV light, physicians can modify a wide range of lesion morphologies safely and effectively. Initial placement of a laser system includes:

- CVX-300 Excimer laser system, operator's manual, power cord, temporary extension cord (USA only), keys (2), footswitch, cover, reference catheter, danger signs (2), safety glasses (10)

50 **Full Load Remote UPS** **1**

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.

51 **XperGuide OnSite Educ 08h** **1**

Clinical Education Program for XperGuide

CV XperGuide 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 # 336-100316
This training is provided only with the purchase of XperGuide. If the option is not ordered, the training will not be provided.

52 ****NNAE049** **XperCT OnSite Clin Ed** **1**

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
This training is provided only with the purchase of XperCT. If the option is not ordered, training will not be provided.

53 ****NNAE121** **CV 3DRA OnSite Educ 16h** **1**

Line #	Part #	Description	Qty	Each	Price

Clinical Education Program for 3DRA

CV 3DRA Handover 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. 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
This training requires the purchase of 3DRA.

54 ****NNAE278** **Heart Navigator OnSite Education** **1**

Clinical Education Program for iXR Heart Navigator:

iXR Heart Navigator OnSite Education: Philips Education specialist will provide sixteen (16) hours of education for up to (4) students selected by the customer . The Physicians performing the procedures are required to be part of the training session. CEU credits may be available for each participant that meet 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 the equipment during the educations sessions except to demonstrate proper equipment operation.

iXR Heart Navigator OnSite Live Case Follow Up Education: Philips Education Specialist will provide twenty -four (24) hours of education for Physicians and staff for live case use of the Heart Navigator software. This will be a follow up visit to the initial training of the Heart Navigator software. It is required that Live Valve implantation studies be performed during this education session. No CEU credits will be available for this session. 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 the equipment during the educations sessions except to demonstrate proper equipment operation.

Education expires one (1) year from equipment installation date (or purchase date if sold separately). Ref # 694698-20110915
This training is provided only with the purchase of Heart Navigator.

55 ****NNAE503** **Clinical Education Program for Vessel Navigation** **1**

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
This training requires teh purchase of Vessel Navigator.

56 ****NNAE623** **IGT EchoNavigator 8 hr** **1**

Line #	Part #	Description	Qty	Each	Price
		IGT EchoNavigator Imaging Systems OnSite Education: Philips Imaging Systems Clinical Education Specialist will provide eight (8) 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. This Clinical education is provided with the purchase of EchoNavigator option only. If the EchoNavigator is not purchase this training will not be provided. Education expires one (1) year from equipment installation date (or purchase date if sold separately). Ref #6416-25072018			
57		**AD5 TO XPER TABLE ADAPT. PLATE**	**1**		