XR CATH LAB, CAM SAN ANTONIO, TX
PO# 671-B60038

100227 Allura Xper FD20/15

System Type: New
Freight Terms: FOB Destination
Warranty Terms: Part numbers beginning with two (2) asterisks (**) are covered by a Per Contract. All other part numbers are third (3rd) party items.
Special Notations: Contingencies must be removed 120 days before scheduled shipment to assure delivery on specified date. Any rigging costs are the responsibility of the Purchaser.
Additional Terms:

Line #	Part #	Description	Qty
1		AlluraClarity_FD20/15 Vascular	1

The AlluraClarity FD20/15 biplane cardiovascular system comprises a floor mounted C-arm stand, a ceiling mounted double C-arm and digital imaging X-ray system for cardiovascular diagnostic and interventional procedures.

ClarityIQ technology is the foundation of AlluraClarity systems touching every part of the imaging system.

ClarityIQ incorporates powerful state-of-the-art image processing technology, developed by Philips research, all working in real-time enabled by the latest computing technology:
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- Noise and artifact reduction, also on moving structures and objects
- Image enhancement and edge sharpening;
  - Automatic real-time patient and accidental table motion correction on live images.
- Flexible digital imaging pipeline
- ClarityIQ systems have a flexible digital imaging pipeline from tube to display that is tailored for each and every application area such as Cardio or Neuro. This gives the flexibility to select virtually unlimited application-specific configurations.
- With ClarityIQ over 500 system parameters are fine-tuned for each application area; the result of years of Philips clinical leadership. It is now possible to filter out more X-ray radiation, use smaller focal spot sizes, shorter pulses, thereby fully utilizing the unique capabilities of the Philips MRC X-ray tube.

The AlluraClarity FD20/15 system uses an integrated single-host concept. The system is comprised of five functional building blocks: Geometry, X-ray Generation, Image Detection, Viewing, and User Interface. Each functional building block is explained in further detail including accessories.

GEOMETRY

The AlluraClarity Frontal Stand

The Allura stand consists of a floor mounted C-arm. The stand has the following capability:

- The L-arm can be rotated allowing a three-sided patient approach.
  - L-arm rotation around the patient table: +90, 0, -90 degrees.
  - L-arm rotation movement: motorized and manual

The Allura stand allows a very wide range of projections, including PA and AP imaging.

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- In the head position (0 degrees position, L-arm parallel to patient table):
  - C-arm rotation range (degrees): 120 LAO to 185 RAO
  - C-arm angulation range (degrees): 90 CA to 90 CR
  - (Full angulation capability determined by patient position)
- In the side position (+90 / -90 degrees position, L-arm perpendicular to patient table):
  - C-arm rotation range (degrees): 90 LAO to 90 RAO
  - C-arm angulation range (degrees): 185 CA to 120 CR or 120 CA to 185 CR
  - (Full angulation capability determined by patient position)
- The stand provides fully motorized fast movements with variable and configurable maximum speed.
  - Variable C-arm rotation speed, up to: 25 degrees per second
  - Variable C-arm angulation speed, up to: 18 degrees per second
- L-arm rotation motorized and manual
- C-arm depth is 90 cm
- The FD20 Dynamic Flat Detector features Xper Access which allows the flat detector to be positioned in either portrait or landscape imaging modes in 3 seconds.
- The variable source image distance between focus and Dynamic Flat Detector input screen is motorized from 89.5 to 119.5 cm.
- The stand features BodyGuard a capacitive sensing collision avoidance system for patient protection.

The AlluraClarity Lateral Stand

The lateral stand consists of a double C-arm mounted to a ceiling suspended carriage.

The X-ray tube and the Flat Detector are integrated into the C-arm. The double C-arm concept enables mutual independent rotation and angulation movements. The FD15 Dynamic Flat Detector on the lateral stand is mounted at the right side of the patient, which provides lower scatter radiation towards the operator.

Ceiling carriage longitudinal movement: 315 cm

The lateral stand projection ranges:

- Rotation range (degrees): 27 RAO to 117 RAO
- Angulation range (degrees): 45 CA to 45 CR

The stand provides fully motorized movements. The rotation movement can be controlled separately or synchronously with the frontal stand. The Flat Detector is counterbalanced and can be moved motorized and manually.

- Rotation speed: 8 degrees per second, fixed
- Combined rotation speed (frontal / lateral): 8 degrees per second, fixed
- Angulation speed: 8 degrees per second, fixed
- Flat detector movement: motorized and manual
- Ceiling carriage longitudinal movement: motorized and manual

- Motorized fine adjustment when the lateral stand is in the biplane application area.
- During combined rotation, the BodyGuard detection system of the frontal stand controls the rotation speed of the frontal and the lateral stand.

Patient support

The Xper Table

Patient support with flat carbon fiber tabletop

- Table top length of 319 cm, width 50 cm
- Metal-free overhang 125 cm
- Floating table-top movement of 120 cm longitudinal and 35 cm transversal range.
- Motorized height adjustment from 79 to 107 cm
- Maximum cantilever of 223 cm , for full patient coverage
- Maximum patient weight 250 kg with 25 kg of accessories plus 500 N for CPR in any longitudinal position of the table top
- Xper Geometry and Imaging Modules for exam room controls.
  - The operating modules can be attached to either side of the table.

Patient Support Accessories set

- One cerebral filter
- Three rail accessory clamps
- One IV stand
- One slow recovery foam mattress
- One Set of Arm Supports (FCV0248)
- One Set of Patient Straps (FCV0250)
- One Head Support (FCV0251)
- One Arm Support (FCV0258)
- One Table-mounted Radiation Shield
- One anti-fatigue mat with Philips logo

X-RAY GENERATION

The AlluraClarity FD20/15 utilizes a microprocessor controlled high frequency 100 kW generator. The user interface control of this X-ray Generator is incorporated in the Xper module, Xper Desktop Console, and the Xper on-screen displays.

For each plane, the Certeray generator comprises:

- X-ray generator: 100 kW
- Voltage range: 40 - 125 kV
- Program selection:
  - Pulsed X-ray up to 3.75 , 7.5 , 15 , 30, frames/s for digital dynamic exposures
  - Pulsed X-ray for pulsed fluoroscopy (3.75, 7.5, 15, 25, 30 frames/s).

- Minimum exposure time of 1ms.
- ECG triggered acquisition: allows acquiring one exposure for each QRS peak with selectable delay time
- Automatic kV and mA control for optimal image quality prior to run to save dose
- Optimal X-ray tube load incorporated in the Certeray generator

- An X-ray collimator with single semi-transparent wedged filter with manual and automatic positioning.
- SpectraBeam filtering of low energy radiation to optimize image quality and dose efficiency with the MRC-GS 0508 X-ray tube.
- 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.

Fluoroscopy

- Three programmable fluoroscopy modes
  - Each mode can be set to different composition of dose rate, pulse speed, filter setting, and image processing (noise reduction, adaptive contour enhancement, and adaptive harmonization).
- Roadmap Pro (Formerly Trace Subtract Fluoroscopy)
  - A Roadmap Pro run is a vessel map an acquisition superimposed on live fluoroscopy
    - Acquisitions can be performed without losing the vessel map
  - Roadmap Pro features Smart Settings in special clinical modes that are optimized to visualize special materials such as coil and glue.
  - Automatic Motion Compensation (AMC) part of the roadmapping functionality. During roadmapping, small patient movements 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 applications where subtraction imaging is used.
    - **Disclaimer:** AMC only corrects movement artifacts in two dimensions. Three dimensional movements such as swallowing or rotation of the head cannot be corrected.
  - Xres for vascular is a standard feature of Roadmap Pro
    - Xres is a multi-resolution spatial temporal noise reduction and edge enhancement filter
    - Xres Vascular enhances sharpness, contrast, and reduces noise in non subtracted fluoroscopy runs for vascular studies.
    - The settings for Xres can be customized with regard to the image quality.
- Xper Fluoro Storage, a grab function allows storage and archiving of both a fluoro image and the last 20 seconds of Fluoroscopy, called Xper Fluoro Storage. These fluoro images or fluoro runs can be archived as a regular exposure run.

X-ray tube

The AlluraClarity FD20 biplane frontal stand has the Maximus ROTALIX Ceramic grid switch tube assembly MRC 200 GS 0407 integrated in the C-arc. This MRC tube has an anode heat storage capacity of 2.4 MHU and 0.4/0.7 mm. nominal focal spot values. The tube has a maximal loading of 30 and 67 kW.

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The lateral arc has the Maximus ROTALIX Ceramic tube assembly MRC-GS 05 08 integrated. This tube has 0.5/0.8 mm nominal focal spot values with maximal loading of 45 and 85 kW. The maximum heat dissipation of the assembly is 3400 W.

With dynamic pulsed fluoroscopy the tube uses grid switching technology to eliminate soft radiation and improve image quality. SpectraBeam allows for filtration of the x-ray beam with (a combination of) 0.2, 0.5 or 1 mm CU-equivalent filters.

Tube housing ROT-GS 1004 is for oil-cooling and has a build-in thermal safety switch. A rotor control unit is build-in for continuous rotation of the anode disk. The heat exchanger CU 3101 is for direct and continuous forced cooling with oil.

IMAGE DETECTION

Frontal imaging chain:

- A 30 cm by 40 cm FD20 Dynamic Flat Detector subsystem for fluoroscopy and fluorography procedures
- 8 imaging modes are available, 30 x 38, 30 x 30, 26 x 26, 22 x 22, 19 x 19, 16 x 16, 13.5 x 13.5, and 11 x 11 cm
- The flat detector subsystem features Xper Access, the detector can be rotated over 90 degrees, it moves from portrait to landscape back and forth
- The digital output of the FD20 flat detector is a 2k x 2.5k image matrix at 16 bits depth for the largest mode
- DQE (Detective Quantum Efficiency) >77%
- The pixel pitch is 154 x 154 microns
- Advanced Conductive Cooling technology

Lateral imaging chain:

- A 26 cm x 33 cm Dynamic Flat Detector subsystem for fluoroscopy and fluorography procedures
- Seven imaging modes are available; 29x26cm, 26x26cm, 22x22cm, 19x19cm, 16x16cm, 13.5x13.15cm, 11x11cm
- The digital output of the FD15 flat detector is a 1560 x 1420 image matrix at 16 bits depth
- DQE (Detective Quantum Efficiency) is 70 %
- The pixel pitch is 184 x 184 microns
- Advanced Conductive Cooling technology

Real time digital link

The AlluraClarity FD20/15 provides a Real Time digital image link

VIEWING

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Line #	Part #	Description	Qty

The AlluraClarity FD20/15 comprises the following components in order to display the clinical images in the control and examination rooms.

Displays

Examination Room

Four 19-inch monochrome LCD monitors designed for medical applications. There are two live display monitors, one per plane and two reference monitors, one per plane.

- 19-inch monochrome TFT-LCD display
- Native format 1280x1024 SXGA
- 10-bit gray-scale resolution with gray-scale correction

These monitors are not delivered when FlexVision XL, EP Cockpit or EP Cockpit XL is selected.

Unless otherwise stated, a Flat Monitor Ceiling Suspension (MCS) for 4 monitors is included for viewing in the examination room. It includes motorized height adjustment for most configurations and ceiling heights. At customer request, this 4 monitor MCS can be replaced by a 4, 6 or 8 fold MCS or an MCS integration kit for non-Philips MCS. The MCS integration kit contains vital parts for system operation. When FlexVision XL, EP Cockpit or EP Cockpit XL is selected the monitor ceiling suspension is configured for one of those options.

- The first reference channel is for the display of reference images or runs, controlled by infrared remote-control Xper Viewpad.
- The On-Screen Display provides status information on stand rotation, angulation, 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 skin dose.

Control Room

One 19-inch color LCD monitor used as a data monitor.

- 19-inch color TFT-LCD display
- Native format 1280x1024 SXGA

Two 19-inch monochrome LCD monitor designed for medical applications.

- 19-inch monochrome TFT-LCD display
- Native format 1280x1024 SXGA
- 10-bit gray-scale resolution with gray-scale correction

These control room monitors are not delivered when EP Cockpit or EP Cockpit XL is selected.

The Graphical User Interface on the monochrome monitor has the following features and functions:

- 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
- Optional DICOM printing
- Executing Quantitative Analysis Packages if available
- Subtraction functionality
- Zoom/pan functionality
- Electronic shutters
- Video invert
- View trace, stacking of images
- Landmarking

Acquisition

The acquisition segment coordinates the parameters for automatic exposure control. The program is selected via the Xper module or Xper Desktop Console.

Exposure techniques:

- Serial imaging for DA and DSA with automatic exposure setting
- Single shot mode
- Acquisition frame rates:
  - 0.5 to 6 fps
  - 15 and 30 fps

This Allura offers a storage capacity of:

- 50,000 images per plane at matrix size of 1024 x 1024, 10 bit
- Maximum number of examinations is 999, with no limit to the maximum number of images per examination

USER INTERFACE

Xper is comprised of three elements: 1) Xper Settings, to customize the system to each user's preferred settings, 2) Xper User Interface, and, 3) Xper Integration, making advanced integration functionality available, such as DICOM Query / Retrieve, background archiving, and Xper Fluoro Storage.

The Xper User Interface comprises a range of User Interface modules in the Examinatio n Room, including On-Screen Display.

On-Screen Display

The On-Screen Display is positioned on the left side of each reference monitor.

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The following system information is displayed:

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

The Xper ViewPad contains the preprogrammed function settings. The system is provides with two Xper 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
- Laser pointer, intended to point at regions of interest on the imaging monitors
  - LED indication of laser pointer on/off and battery low
- Subtraction on/off
- Remasking
- Landmarking

Remote Intercom

The separate intercom which is connected independently from the system that allows separate placement of the intercom at the preferred working position in the control room and examination room.

Table Side Modules

Two Xper Modules are provided for use. The first Xper Module is mounted tableside. The Second Xper Module (NCVA778) is located in the control room. These modules use a touch screen, which

can be operated when draped with sterile covers. The Xper Module contains the following functionality:

- Acquisition settings
- Selection of Xper Setting allows the user to set frame rates and x-ray generation settings applicable for the type of the preferred intervention
- Automatic positioning recall to allow the stand position to match the reference image.
- Image Processing

The Xper Biplane Geometry T.S.O. module can be positioned at three sides of the patient table, while keeping the button operation intuitive. The Xper Geometry T.S.O. provides the following functionality:

- Tabletop float
- Table height position
- Source Image Distance selection per plane
- Gantry positioning per plane
- Biplane rotation of the two gantries
- Frontal gantry rotation in an axis perpendicular to the floor and longitudinal movement of the lateral gantry
- Store and recall of two scratch gantry positions including SID
- Emergency stop button
- Geometry reset button, which resets stand and table to a factory-default starting position

The Xper Biplane Imaging T.S.O. module can also be positioned at three sides of the patient table, while keeping the button operation intuitive. The Xper Imaging T.S.O. provides the following functionality:

- Fluoroscopy Flavor selection defined per Xper Setting
- Shutters and Wedge positioning
- Manual or automatic semi-transparent wedge filter
- Xper Fluoro Storage and Grab
- Selection of the Detector field size
- Shutter positioning
- Reset of the fluoroscopy buzzer
- Subtraction and other vascular processing factors
- Channel selection for the shutter and wedge control

Pan Handle (NCVA081)

The Pan Handle is an extension of the control facility for floating movements of the table

Control Room

The control room comprises a Xper Review Module, Xper Viewing Console, a keyboard, and a mouse. The Xper Review Module offers the basic functions for review. The Xper Review Module contains the following functionality:

- Power on/off
- Tagarno wheel to control the review of a patient file

- File and run cycle
- Contrast, Brightness, and Edge enhancement settings
- File, Run, Image stepping and run and file overview
- Delete run
- Image invert and digital zoom
- Reset fluoroscopy timer and enable/disable X-ray

System information is displayed on the bottom of the data Monitor:

- Stopwatch and Time
- System guidance information
- Dose Area Product (DAP) and Skin Dose, as dose rate during X-ray, and accumulative dose
- Frame speed settings, fluoroscopy mode, and accumulated fluoroscopy time
- Exposure and fluoroscopy settings per plane, like Voltage (kV), Current (mA) and time (ms)
- Geometry information per plane, like rotation, angulation, and SID

Vascular Quantification Software Package (NCVA786)

- Vessel diameter / stenotic index
- Automated vessel analysis
- Calibration routines

The workflow is divided into scheduling, preparation, acquisition, review, and archive.

Scheduling

The patients can be added, listed and selected per date, physician, or intervention type. Previous DICOM patient studies can be uploaded with the DICOM Query Retrieve function.
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. 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.

Preparation

The preparation page provides the information of the room and patient preparation of each individual physician. The preparation page is customizable per Xper Setting and allows each physician to provide his or her own room protocols

Acquisition

The acquisition page contains information on the current selected patient.

Review

The review page allows for reviewing of patients:

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

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Vascular Quantification Software Package

Functions:
- vessel diameter / stenotic index
- automated vessel analysis
- calibration routines

In addition the package allows manual measurements of line lengths (absolute and ratio's) and angulations. Multiple measurements in one image are possible.

RIS/CIS DICOM Interface

This package allows communication of the Allura Xper system with a local information system (CIS or RIS). The interface uses the DICOM Worklist Management (DICOM WLM) and Modality Performed Procedure Step (DICOM MPPS) standards.

If a hospital has an Allura Xper system and an information system it can receive patient and examination request information from the information system and report examination results in order to:

-Eliminate the need for retyping patient information on the Allura Xper
-Prevent errors in typing patient names and registration numbers (ensuring consistency with IS information to prevent problems in archive clusters auto-search for a name in case of later retrieval)
-Inform the IS about the acquired images and radiation dose

Upon request from the Allura Xper system the complete worklist with all relevant patient and examination data is returned from the IS to the Allura Xper system. For each patient the following information will be shown on the Allura Xper after it has been retrieved from the IS:

Patient Identification:

- Patient name
- Patient ID
- Birth date
- Sex

Examination/Request Information:
- Accession number
- Scheduled procedure step start time
- Scheduled performing physician's name

It is possible at all times to enter patient demographics information manually within the Allura Xper system in case of an emergency or in case the local Information System connection is down.

On request of the clinical user the Allura Xper will report the following information about the selected patient to the IS:
Patient Identification:
- Patient name
- Patient ID
- Birth date

- Sex

Examination/Request Information:

- Accession number
- Performed procedure step status start/end date and time
- Performing physician's name
- Referenced image sequence

Radiation dose:

- Total time of fluoroscopy
- Accumulated fluoroscopy dose
- Accumulated exposure dose
- Total dose
- Total number of exposures
- Total number of frames

Further detailed information can be found in the Allura Xper DICOM Conformance Statement.

The interface requires an EasyLink (hardware and software) if the IS is not compliant with DICOM Work List Management and Modality Performed Procedure Step.

Radiation Dose Structured Report

Collection of dose relevant parameters and settings and export to a DICOM database (e.g. PACS, RIS), 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.
- Typical system usage can be extracted from the data.

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.

Archive
Biplane Continuous Autopush (NCVA587)

Continuous Autopush is an archive accelerator, which ensures that background archiving continues with minimal disruptions.

Clinical studies can be archived to a CD or a PACS. The archive process can be completely automated and customized with Xper Settings. Parameters like multiple destinations; archive formats can be selected to the individual needs.

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The Xper DICOM Image Interface enables the export of clinical images to PACS. The export formats are based on DICOM 3.0 protocols. The system exports clinical studies in Cardiac DICOM XA Multi-Frame or DICOM Secondary Capture formats.

- The export format is configurable in 512x512, 1024x1024 or 2048 x 2048 (unprocessed) matrix.
- The examination can be sent to multiple destinations for archiving and reviewing purposes.
- The Xper 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.

Real Time Digital Link

The AlluraClarity FD20/15 includes Real Time Digital Link which enables real time image transfer to the optional Interventional Hardware.

Clinical Education Program for the AlluraClarity System

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.

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.

In the event that your main FD system will be dedicated to Cardiac applications your offsite training course will be tailored to focus on the Cardiac functionality.

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. **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.**

Handover OnSite Education: 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

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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).**

Education expires one (1) year from equipment installation date (or purchase date if sold separately). Ref# 106107-110915

2 **Windows Embedded Standard 7** **1**

Allura Release 8.2 will be produced with Windows Embedded Standard 7 starting January 1, 2017.

3 **FlexVision_XL 8 Input Package** **1**

The FlexVision XL8 input package provides eight isolated wall connection boxes.

Isolated Wall Connection Box

This Isolated Wall connection Box facilitates connection of the video source via standard DVI cable/connector and lossless transfer of the video signal over the approximate 30 m cable distance. It can be mounted in the exam room or in the control room, depending on the location of the video source.

The quantity of the VWCB's has to be calculated as follows:

For each video signal to FlexVision XL on Vascular System: 8 VWCB

Note:

No VWCB is required in case a video signal is connected directly to a dedicated LCD from the following sources:

1) Xper Live/ref Slaving

2) Interventional HW (XtraVision), ViewForum, Xcelera (only if workstations are powered by Allura Xper)

3)Xper IM

4 **Single Phase UPS** **1**

The single phase UPS (Uninterruptable Power System) enables a proper shut-down of the Allura system processor-units in case of a hospital mains power failure.

Note:
In case a (local) three phase UPS is used, the single phase UPS is not required.

5 **FlexVision XL,XperHD,Snapshot** **1**

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FlexVision XL is an integrated viewing solution designed to give
you full control over your viewing environment.
The FlexVision XL provides the ability to:
• Display information from up to 8 sources simultaneously (incl.
third party systems) on the Philips 58-inch color LCD with LED backlight in the Exam Room.
• Resize and/or enlarge information at any stage during the case.
• Select and customize viewing lay-outs of the Philips 58-inch
color LCD via the Xper table-side module
• Overview connected equipment (incl. third party systems) from
a single location.
XperHD on FlexVision XL brings High Definition viewing for
clinical images. Native resolution of FD20 can be displayed.
Excellent sharp and crisp clinical images can be displayed at full
size without digital zoom.
Xper HD brings:
• High Definition imaging
- Sharp images at full size without zoom
• High Definition display at native resolution
- Up to 2k*2k image display fully integrated
• High Definition for the ultimate detail
- Enhanced small vessel visualization
The FlexVision XL consists of:
• DVI video composition unit.
o The DVI video composition unit allows the user to direct and switch the video output of all
connected medical equipment to specific sub windows of the Philips 58-inch color LCD with LED
backlight in the Exam Room.
o The DVI video composition unit is operated from the
Xper tableside module.
o The DVI video composition unit supports a wide variety of display formats (up to 1920x1200)
o Up to 9 external inputs are connected to the DVI video composition unit via Wall Connection
Box(es).
• Medical grade, high resolution color LCD in the Exam Room
o This display supports the image quality requirements for
monochrome X-ray images as well as color images and replaces
all displays normally delivered with an Allura Xper FD or
AlluraClarity system for the Exam Room.
o Main characteristics are:
- 58-inch, 8 Megapixel color LCD
- Native resolution: 3840x2160
- Brightness: Max: 700 Cd/m2 (typical) stabilized: 400 Cd/m2
- Contrast ratio: 4000:1 (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
• Large color LCD control (Xper Module)
o Resize and/or enlarge information at any stage during the case
via the Xper tableside module in the Exam or Control Room
o Select viewing lay-outs via the Xper table-side module in the
Exam Room
o Create new layouts by matching inputs to desired locations on
preset templates.

• Monitor Ceiling Suspension
o Monitor ceiling suspension for use in the Exam Room carries
the 58-inch color LCD screen, providing highly flexible viewing

Line #	Part #	Description	Qty

capabilities. The monitor ceiling suspension is height-adjustable and moveable along ceiling rails. It can be positioned on either side of the table.

• Snapshot
o The snapshot function allows the user to store/save a screen-capture of any image on the 58-inch display as a DICOM Secondary Capture image to a connected PACS. The snapshot-all function allows the user to store/save a screen-capture for each displayed image in the Exam Room / Control Room as separate DICOM Secondary Capture images .

6 **Aut Pos Contr Xper sys & table** **1**

This Automatic Position Controller (APC) combines APC for Allura Xper FD10 and FD20 systems with table APC.
System APC provides two modes of operation:
Preset Position Sequence: the sequence of projections is determined through personnalized Xper Settings. Each set contains a maximum of 10 positions. Positions can be recalled in sequence or directly. The projection sequence comprises rotation angulation and SID settings related to the selected reference image.
Reference driven positioning: The projections on the reference monitors can be recalled with the push of a button. The reference driven positioning recollects the C-arm rotation angulation Flat detector image format and SID.
Table APC
The Automatic Position Controller (APC) for the table provides two modes of operation:
Auto positioning. The tabletop position and table height will be adjusted automatically to the pre-defined default point of interest. This to save time and x-ray dose at the start of an exam or for setting up the system for rotation scans.
Store/recall of a position of the table top. This includes the height-, longitudinal- and lateral position of the table top.

7 **Set of 2 additional 21in. LCDs** **1**

Two 21inch additional displays are located on top of the monitor ceiling suspension frame which carry the 56 inch large screen color LCD display.

These 2 additional LCD’s can be used to display additional video sources or used as display back up for Hemo and Xray Live images. These LCD’s have a fixed content.

Main characteristics of back-up displays are:

- 21.3 inch, 2 Megapixel color LCD display
- Max. resolution: 1600x1200
- Brightness: 450 Cd/m2
- Contrast ratio : 550:1

Line #	Part #	Description	Qty

- Wide viewing angle (approx. 170 degrees)
- Constant brightness stabilization control
- Independently selectable brightness settings for monochrome and color images
- Independently selectable lookup table for gray-scale, color and DICOM transfer function

FCV0587, "XPer Live/Ref Slaving" required when displaying X-Ray Live as back-up.

8 **FD Rotational Angio** **1**

Rotational angiograpy provides real-time 3D impressions of complex vasculature and coronary artery tree. It acquires multiple projections with just one contrast injection via a fast rotational scan of the region of interest.

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

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

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

C-arm in side position:

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

C-arm in head position:

- Max. rotation Speed: 55 degrees/s
- Max. rotation Angle: 305 degrees

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

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

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

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

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

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

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Line #	Part #	Description	Qty

9 **Subtracted Bolus Chase** **1**

For visualization of vessel structures when the blood flow is difficult to estimate, in particular in the lower peripherals.

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

During digital acquisition in non-subtracted mode with uninterrupted real-time image display, the contrast bolus is followed (chased) interactively by a motorized table scan movement using a hand-hold speedcontroller to adapt the speed of the table scan to the contrast flow.The framespeed can be adapted as well.

The bolus run is followed with a mask run while using the same speedcurve and framespeed as generated during the bolus run. Viewing is possible in the subtracted and non-subtracted mode. If subtracted viewing is not required, the mask run can be skipped.

Subtracted Bolus Chase gives fast, accurate results for increased patient throughput and improved patient management. Automated exposure control and precise speed control assure a high quality images and excellent subtraction studies.

Comprising:

- automatic exposure control
- tabletop motordrive and hand-held speed controller (tableside)
- technique selection using Xper module, available both tableside and in control room (Xper FD20, FD20/10)

10 **CO2 View Trace Software** **1**

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

11 **Addl 21'' Color Monitor for CR** **2**

Ultra high-brightness, medical grade, color LCD displays for control room

These displays support the image quality requirements for monochrome X-ray images, color EP signals as well as other images.

Main characteristics are:

- 21.3 inch, 2 Megapixel color LCD display
- Display resolution (up to) : 1600x1200
- Input resolution (up to) : 1920x1200
- Brightness: 550 Cd/m2
- Contrast ratio : 800:1
- Wide viewing angle (approx. 170 degrees)
- Constant brightness stabilization control
- Independently selectable brightness settings for monochrome and color images
- Independently selectable lookup table for gray-scale, color and DICOM transfer function

Please note that for radiology departments Black/White monitors are recommended

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Line #	Part #	Description	Qty
12		**Biplane FD Dual Flouro**	**1**

The Biplane Dual Fluoroscopy mode allows monoplane or biplane digitally processed fluoroscopy in parallel with trace subtract fluoroscopy, providing a non subtracted reference fluoro image for complex interventions.
This option provides an additional biplane fluoro channel in parallel to the default biplane fluoro channel.
The subtracted fluoro image will be displayed on the live monitor, the non-subtracted image is displayed on the reference monitor.
Comprising:
· Hardware and software

13		**Wireless footswitch: bi-plane version**	**1**

The wireless footswitch is an option for our Allura systems. It provides the possibility to have one wireless footswitch in the exam room.
A wireless footswitch provides workflow optimization, flexibility at table-side, removes cable clutter on the floor and provides easier cleaning of the footswitch.

The bi-plane wireless footswitch is a 6 pedal version;
1. Bi-plane fluoro
2. Channel selection
3. Roomlight control/Single shot
4. Frontal fluoro
5. Exposure
6. Lateral fluoro

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 can easily be cleaned in water. It has the highest water ingress protection standard (IPX8).

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.

14		**Xper Live/Ref Slaving**	**2**

This option contains a kit to split the Live or Ref video source from the Allura Xper. The total amount of Xper Live/Ref Slaving that can be selected is maximal. 4. Additional monitors are not included in this option and must be ordered separately. This kit contains a video splitter and a cable set for one slave monitor. The Slave monitor is not powered by Allura.

15		**Bipl stand.line rate video out**	**1**

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Line #	Part #	Description	Qty

Biplane Standard line rate video input/output

Standard 625 (525) lines, 50 (60) Hz. video interface board. Required for connection of standard line rate video peripherals for each plane, such as VCR and/or video printer.

The interface provides controls for automatic biplane recording of Fluoro and/or exposures with a VCR medical DVD recorder, and for replay of VCR or DVD images (or any SLR video source) on the system monitors. One video channel is connected to the frontal channel at life recording and replay.
The other video channel is connected to the lateral channel at life recording and replay.

16 **Lab Reporting** **1**

Lab Reporting allows the user to generate and print simple reports in modality stand-alone situations. The user is able to incorporate free text and clinical images. The reporting functionality is suited for local printing and email. Part of the report is generated automatically from administrative data (e.g. patient/exam data hospital name) and required data (e.g. run-log dose information and event-log).

17 **Dicom Print compose** **1**

Dicom Print provides the possibility to interface to any DICOM Printer. This is an automated printing protocol. The option provides Print Manual Overrides, Print Job submission, and Print Job management.

18 **Biplane FD SmartMask** **1**

SmartMask simplifies roadmapping procedures by overlaying a selected reference image with fluoroscopy on the live monitor fluoroscopy in the exam room. Smartmask can be applied to both the frontal and lateral channel simultaneously.

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.

Compatible with
. Allura Xper FD10/10 rel.2 onwards.
- Allura Xper FD20/10 rel.1 onwards

. Allura Xper FD20/15

19 **FULL AUTOCAL** **1**

The AutoCal option is a software package to be used in conjunction with quantitative analysis software packages. It provides an auto calibration procedure for an object to be analyzed that is placed in the iso-center. When the object to be analyzed (e.g. Left Ventricle Vessel Segment) is placed in the iso-center AutoCal avoids the need to:

- acquire an additional image series containing a sphere or grid for calibration purposes
- calibrate manually on a calibration object (e.g. catheter) displayed in the image or image series to be analyzed

20 **Cath Arm Support** **1**

For brachial catheterisation and digital imaging technique
The support is made of X-ray transparent material with exception of the fixingclamp and pivots.

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Line #	Part #	Description	Qty
21		**Pulse Cath Arm Support**	**1**

Facilitates catheterization trough the pulse and provides room for placing catheterization instruments. It is a flat radio translucent board and is placed under the patient while a part projects at either the left or right side of the tabletop to support the arm.

Size: 100 x 85 cm
Material: carbon-fibre reinforced material

22		**Peripheral X-ray Filter**	**1**

Set of flexible x-ray filters to provide an uniform density in angiographic examinations of the lower peripheral area.
Comprising:
- one central filter, at the top edge provided with sizing markers at every 5 cm, length : 1 m
- two side filters, length: 1 m

23		**Swivel for table base.**	**1**

For angiographic- and interventional procedures of the upper and lower peripherals, in systems with the floor-mounted C-arm.
Allows:
Motorized longitudinal movement of the table base of 78.2 cm with locks on both end positions.
Pivoting of the table base around its vertical axis.
Pivot range is 180 degrees counter clock wise and 90 degrees clockwise
with swivel the table height range is 82-111 cm or 87-112 cm with tilt and/or cradle (optional).

24		**3D-RA R.6 3D-Roadm. Integr. R2**	**1**

The integrated 3D solution extends the interventional capabilities of the 3D-RA applications. To achieve this the 3D imaging channel has been integrated into the X-ray system and operates in parallel with the 2D X-ray imaging chain providing a breakthrough in performance.

The integrated 3D solution offers:
Real time 3D reconstruction: This allows instant availability of the 3D reconstruction immediately after the exposure run. 3D follow C-arc: The 3D volume automatically follows the position of the C-arc, so the 2D view and 3D volume are always aligned.
3D automatic position control: When the user selects an optimal working position from the 3D volume, the C-arc automatically steers itself to the selected position.
Worklow automation: The complete 3D process is fully automated. Acquired images are reconstructed automatically and the volume appears instantly on the monitor: No user action is required.

The integrated 3D solution is a key enabler for advanced interventional 3D functionality such as 3D-roadmapping.

Allura 3D-RA assists physicians in decision making for treatment strategy in endovascular procedures, neuro or vascular surgery or even radiotherapy.
Allura 3D-RA reduces the number of DSA acquisitions and fluoroscopy time needed to perform an examination. This means less X-Ray dose for the patient and the medical staff and a reduced quantity of dye, leading to reduced procedure costs.
Allura 3D-RA provides a unique assessment after treatment due to the use of non-subtracted images that allows to shows devices stents, coils, clips and provide the optimal stand projection for endovascular treatment.
Allura 3D-RA provides a wide range of communication facilities to export 3D images.

1 Image Acquisition
Image acquisition is performed with the Rotational Angiography feature of the Allura Xper FD

series with the flexibility to position the C-arm in either head or side position.
C-arm in Head position: the Rotational Angiography run is performed over a scan range of 240 degrees with a rotation speed up to 55 degrees/sec.
C-arm in Side position: the Rotational Angiography run is performed over a scan range of 180 degrees with a rotation speed up to 30 degrees/sec.

2 3D Vessel Reconstruction
The rotational run is automatically transferred and displayed as a 3D vessel model: with the Real-Time digital link (option) 120 images are reconstructed into a 3 dimensional model within seconds. Additional reconstructions, using the Reconstructive Zooming Technique, can be performed as well.

3 Workflow:
Allura 3D-RA in combination with the Allura Xper FD series will provide an optimal workflow via the following workflow enhancers:
Complete automated 3D-RA process from 3D acquisition to 3D Viewing: no user interaction needed.
3D Automatic Position Control (3D-APC); When the optimal working position has been choosen via the Allura 3D-RA interventional tool, the C-arc will automatically steer to this position.
3D Follow C-arc; When the position of the C-arc (not using any X-ray) is changed, the 3D volume will automatically follow the position of the C-arc. This means the position of the C-arc (and therefore the 2D projection) and the 3D volume are always aligned. As last seen; when the user leaves the patient in the model and later selects that patient again, the Allura 3D-RA interventional tool will return to the image last used by the user.
Mouse over: When moving the mouse cursor over a button the mouse over text will show up to explain the function of that specific button.

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

5 Viewing
A Real Time user interface is available with 3D-RA, providing 3D object viewing in any space direction. A graphical display of (C-arm) stand position including
angulation/rotation for any projection.
Philips' CRM (Contrast Resolution Management) Technology for a considerable increase in contrast resolution in all volumes.
Various Image Rendering possibilities: Volume/Surface Rendering, MIP, Endoscopy, SUM (pseudo x-ray image) Gradient rendering; the possibility to display the vessel structure transparently.
Cut-plane function to get a precise insight of the shape of the pathology
Orthoviewer providing a multi-planar visualization of objects using the different Image Rendering possibilities.
MPR (Multi-Planar Reformatting): enables visualization of the volume in all three standard projections (coronal, sagital and axial) Especially useful for optimal viewing of spine procedures (e.g.Vertebroplasty)
SpineView: special acquisition protocol for optimal viewing of the spine, especially osteoporotic vertebrae
CalciView: allows visualization of Hyper dense plaque in 3D, separately or in relation to the lumen.
5 different distance measurements calculated in the same volume, including "Quick measurement" feature
Volume calculation
Automated Vessel Analysis (AVA), provides information on vessel segment diameter, area and length with only three mouse-clicks. Endoscopic and cross sectional views are available.
Computer Assisted Aneurysm Analysis (CAAA), providing information on Aneurysms, like volume, neck size etc..
Catheter tip shape simulation, providing information on how to shape the catheter tip.

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Line #	**Part #**	**Description**	**Qty**

Virtual stenting; Ability to simulate a stent placement in a selected vessel segment for proper stent sizing. All relevant data of the simulated stent are displayed
Annotation: text can be added to a volume to capture comments.
Interpolative Zoom
Reconstructive Zooming Technique, 2 additional user defined reconstructions focused on the Volume Of Interest (VOI) using different cube size and voxel resolution.
Subtraction of reconstructed volumes, allowing to visualize vessels without embolization devices (stents, coils, clips,..) to assess the outcomes of treatment
Automatic Voxelshift: compensates for movement when rendering subtracted or superimposed volumes
Set the grey values WW/WL
Store/Recall of user defined projections.

6 3D-RA on Xper Module
The 3D-RA on XPER MODULE integrates the off-line 3D-RA application in the Allura Xper system. It allows operation of 3D-RA with the Xper module in the examination room during an examination. Display of 3D-RA imaging in the examination room has to be arranged for the monitor ceiling suspension with an additional monitor or with MultiVision (sharing an existing monitor). Following 3D-RA functions are available on the Xper module:
Image rotation
Image translation
Start mouse mode
Snapshot
Segmentation (window-width/window-level control)
3D zoom control
Store/recall views
Recall Anterior-Posterior view
Select 3D APC / Follow stand mode

7 3D Roadmap
3D Roadmap extends the capabilities of the integrated 3D product by providing a sustainable 3D roadmap to support interventional procedures. The 3D Roadmap option matches the real-time 2D fluoro images with the 3D-RA reconstruction of the vessel tree. It provides a 3D real time insight of the advancement of the guide wire, catheter and coils through complex vessel structures.
Image Acquisition
The 3D Roadmap is based on the visualization of the vessel tree out of 3D-RA The 3D Roadmap is activated with one button touch at tableside (Xper Module). Select the 3D Roadmap function on the touch screen module, activate fluoroscopy and the 3D Roadmap is activated. The “live” 2D fluoroscopy image is overlaid with the 3D volume of the vessel tree and is automatically displayed on the 3D roadmap monitor in both the examination and control room.

Table side control
The bidirectional link between the X-ray system and the 3D Roadmap allows the user to select the optimal stand position for the procedure in two ways. 3D Automatic Position Control allows the gantry to automatically move to the best interventional projection as shown on the 3D Roadmap monitor. 3D Follow C-arc allows the 3D Roadmap to remain in sync with the 2D projection, automatically adjusting viewpoint as the gantry is repositioned

The 3D roadmap is dynamic, providing the freedom to change:

- The angulation of the C-arc;
- The rotation of the C-arc;
- The Field of View;

Line #	Part #	Description	Qty

- The Source to Image Distance.
  i.e. if the geometry system is changed, the image angle changes accordingly, real-time.

Intuitive, fully controlled from tableside:

- Landmarking to adjust the intensity of the anatomical reference surrounding the vessels;
- 3D blending to fade in/out the 3D view;
- WW/WL settings to control the contrast/brightness;
- Store and review runs for reporting and archive purposes;
- Store snapshots and movies

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

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

Line #	Part #	Description	Qty
25		XperCT Dual	1

XperCT Dual extends the capabilities of the interventional suite offering CT like imaging to visualize bone, soft tissue and vessels in case of contrast enhanced acquisition. XperCT Dual protocols are available covering routine procedures such as biopsies and drainages but also advanced procedures such as abdominal oncological imaging up to neuro high resolution stenting. All protocols can be selected at the tableside via the XperModule.

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 10 second acquisition time for Allura release prior to 8.2 and even 5 to 8 second acquisition times for Allura release 8.2 or higher, thereby minimizing respiratory artifacts. The XperCT volume is displayed automatically within 8 to 15 seconds after acquisition. No user interaction is required.

XperCT Dual includes Metal Artifact Reduction to reduce the artifacts caused by metal presence in the region of interest. In case the original XperCT shows metal artifacts, the interventional radiologist can perform a second reconstruction and select for Metal Artifact Reduction, which will remove the artifacts caused by the metal present. The most typical examples of metal presence are: metal implants, coils or stents with stainless steel structures. Moreover, BMI Noise Reduction

is included to reduce the noise caused by large size patients.
Note: BMI Noise Reduction is only available when Abdominal XperCT runs are selected

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

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

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

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

XperCT data can be sent to:

- Any optional DICOM compatible device (e.g. PACS/ViewForum/Xcelera), supported are DICOM XA, DICOM SC, DICOM CT and DICOM 3D

Line #	Part #	Description	Qty

- Any PC in a standard PC compatible format (JPEG,AVI)
  XperCT datasets can be stored/achieved on:
  - A PACS systems as DICOM Secondary Capture images or movies
  - USB removable memory device
  - One or multiple DVD's, CD-ROM(s) for easy archivingHard copy via the (DICOM Print) protocol

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

26 **Interventional Tools Hardware** **1**

The Interventional hardware is the hardware for the interventional tools and enables import and viewing of DICOM compatible data from other imaging modalities.

The processing platform provides two visual outputs, one for the control room and one for the examination room.

An available color LCD display, or an EP cockpit, EP cockpit XL or FlexVision XL display solution is required for the examination room.

The Interventional Hardware comprises at least:
• Computer Workstation
• CR 19” display • 16 GB memory
• 2 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 and/or XperCT.

27 **MR/CT Roadmap** **1**

MR/CT Roadmap extends the capabilities of the integrated 3D product by providing a sustainable 3D roadmap based on previous acquired CT or MR scans to support interventional procedures. The MR/CT Roadmap option matches the real-time 2D fluoroscopy images with the 3D volume of CT or MR.

The CT or MR data can visualize in either 3D (e.g vascular structure) or with 2D slice in the same orientation as the 2D fluoro image. It provides a 3D real time insight of the advancement of the guide wire, catheter and coils through complex vessel and anatomical structures

Image Acquisition
A previously acquired CT or MR scan can be imported into the system and matched with a low dose 3D-RA or XperCT scan The MR/CT Roadmap is activated with one button touch at tableside (touch screen module). Select the MR/CT Roadmap function on the touch screen module, activate fluoroscopy and the MR/CT Roadmap is activated. The "live" 2D fluoroscopy image is overlaid with the MR/CT volume presented in 2D or 3D and is automatically displayed on the roadmap monitor in both the examination and control room.
Intuitive, fully controlled from tableside:

Line #	Part #	Description	Qty

The bidirectional link between the X-ray system and the MR/CT Roadmap allows the user to select the optimal stand position for the procedure in two ways. 3D-APC (3D Automatic Position Control) allows the gantry to automatically move to the best interventional projection as shown on the MR/CT Roadmap monitor. 3D Follow C-arc allows the MR/CT Roadmap to remain in sync with the 2D projection, automatically adjusting viewpoint as the gantry is repositioned.
• Easy 2 step registration of the MR/ CT volumes
• Landmarking to adjust the intensity of the anatomical reference surrounding the vessels and tissue
• 2D and 3D blending to fade in/out the 2D or 3D view;
• WW/WL settings to control the contrast/brightness;
• Store and review runs for reporting and archive purposes;
• Store snapshots and movies.

MR/CT Roadmaps can be exported:
• Any optional DICOM compatible device (e.g. PACS/ViewForum/Xcelera), supported are DICOM XA, DICOM SC, DICOM CT and DICOM 3D.
• Any PC in a standard PC compatible format (JPEG,AVI).

And stored/archieved 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 **XperGuide Rel 2 SW** **1**

XperGuide enables real-time needle guidance in the angio suite.
Virtual needle paths are created on an XperCT dataset or on the previous acquired CT or MR dataset.XperGuide option matches 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.

This 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 XperGuide automatically calculates the optimal gantry projections for the path and transfers them to the planning to draw the needle path.

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 live 2D image is projected over the XperCT, MR or CT volume The gantry can be positioned in the calculated gantry positions or controlled manually. The XperGuide images (live 2D flouro 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

Line #	Part #	Description	Qty

XperGuide run are in the same patient file as all other patient related data. All this data can be reviewed at any time.
XperGuide runs are stored together with the XperGuide movies and snapshots can be sent to:

- Any optional DICOM compatible device (e.g. PACS/ViewForum/Xcelera), supported are DICOM XA, DICOM SC, DICOM CT and
  DICOM 3D
- Any PC in a standard PC compatible format (JPEG,AVI)

And stored/archieved 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

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

Physician Taught XperGuide Workshop

This physician taught and hands-on workshop provides instruction and practice using XperCT and XperGuide. It also covers the technical aspects and benefits of using CT/MR matching along with fluoroscopy for live guidance purposes.
You will get hours of hands-on practice, working with your own workstation, as well as live case participation in a small group setting and you discuss best practices with other participants to gain new insights and avoid common pitfalls.

The 12 hour/1.5 day workshop is located at Cincinnati Children's Hospital in Cincinnati, OH.
This package includes tuition for one clinician and one X-ray tech to attend this workshop. Travel packages and additional attendee packages can be purchased separately.

29		**Rad Shield w/ Arm (Contoured) 61X76**	**1**

Contoured Rad Shield with Arm rest. 61X76

30		**Medrad Xper Cable Rack Mnt**	**1**
31		**Cable Spooler**	**1**
32		**10 Meter DVI Cable Set**	**1**

10 meter DVI cable set with zipper hose cover.

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Line #	Part #	Description	Qty
33		**Mark 7 Arterion, Table Mount**	**1**

The Mark 7 Arterion Injection System is the latest in MEDRAD's "Mark" series of angiographic injectors. Compared to earlier systems, the Mark 7 Arterion injector head is lighter and easier to use so you can focus more on the patient.
The clear and intuitive user interface guides you through proper set-up, and highlights the information you need to perform safe procedures.
Unique to the market, the front load system simplifies set-up and makes for a cleaner tear down.
The clear syringe provides a higher level of confidence that you are ready to inject.

Made from a clear material, the Mark 7 Arterion syringe (Catalog ART 700 SYR) allows you to easily view the inside of the syringe for smoother purging of air. And MEDRAD's famous fluid dots are still there to help-round for fluid, oval for air.
The table mount injector solution ensures the contrast injector is conveniently placed and always available when it is needed. It provides a clean workspace without occupying valuable floor space.
System includes:

- Table Mount
- display control panel
- 6 ft. coiled hand switch
- operation manual (CD)
- 10 ft. head cable
- syringe heat maintainer
- imaging system interface cable for the Allura / Allura Xper
- consumables starters kit

For the MEDRAD Mark7 Injector system Philips is only the distributor. MEDRAD provides the service as well as the application support of both versions unless stated differently in the Philips Service Agreement

System Specifications:

- Flow Rate 0.1-45.0 ml/s in 0.1 ml increments
- 0.1-59.9 ml/m in 0.1 ml increments
- Volume 1-150 ml in 1 ml increments
- Pressure Limit 100-1200 psi in 1 psi increments
- (150ml syringe) 689-8273 kPa in 1 kPa increments
- Rise Time 0.0-9.9 seconds in 0.1 increments
- Delay Time 0.0-99.9 seconds in 0.1 increments
- Fill Speed 1-20 ml/s
- Fill Volume 1-150 ml
- Syringe Size 150 ml
- Syringe Heat Maintainer 35 °C (95 °F) ± 5 °C (9 °F)
- Protocol Memory 40 Protocols
- Injection Memory History

34		**Ceiling Track w/Column & Handle Ext**	**1**

Mavig 2.5m Ceiling Track with Ceiling trolley, 360 degree column, and brake handle extension.

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Line #	Part #	Description	Qty
35		**LED Single Color Exam Lamp**	**1**

LED Single Color M LED130F
Examination Lamp

Portegra2 Extension/Spring Arm Combination with M LED 130F,
Single Color, incl. Power Supply

Light in new dimension LED lamps support your daily operations through innovative technology and design. In addition to advantages provided by MAVIG with all light equipment, LED technology offers the following enhanced features:

- Faceted multi-lens system
- In-depth illumination
- Superior color rendition
- Extension arm 750mm
- Spring arm 900mm
- LED-Examination-light
- Operating voltage is 24V DC. The lamp is supplied with a transformer, should it be used with 230V.

Technical data LED 130F:

- Light intensity at 1 meter distance: 60.000 Lux
- Color rendering index: Ra = 95
- Focusable: yes
- Focusable size of the light field: 14-25 cm
- Color temperature: 4500 Kelvin
- Electronic light intensity control at the lamp head: standard dimming range: 50 - 100 %
- Temperature increase in head area: 0.5° C
- Mains: 230 V / 60 Hz
- Power consumption: 28 W
- Number of LEDs: 19
- Life-span of the LEDs: > 40.000 h
- Diameter of the lamp head: 33 cm
- Working distance: 70 - 140 cm
- Height Adjustment: 117 cm

36		**10 Meter DVI Cable Set**	**1**

10 meter DVI cable set with zipper hose cover.

37		**Double LCD Monitor Cart**	**1**

Stand alone monitor cart for two LCD Monitors

38		**Black Anti-Fatigue Floor Mat w/ Blue Logo**	**1**

Blue Anti-Fatigue Floor Mat w/ Logo

39		**25 kVA Fluoro add plane 24v supply**	**1**

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Line #	Part #	Description	Qty

25 kVA Fluoroscopy Only Solution, Release 8.2 Ready.

DC Power Supply

- Artesyn/Emerson Part Number 73610129
- Single Unit Included for Mono Plane Systems
- Dimensions: 13.9”L x 6”W x 3”H
- Weight: 40 lbs (approximate).

Note:

This item for use on Certeray Generators (BiPlane System)

40 **25 kVA Fluoro only UPS - UPC** **1**

25 kVA Fluoroscopy Only Solution, Release 8.2 Ready.
This system includes the following components:

25 kVA UPS

- 480v AC 3 phase input; 480v AC 3 phase output
- Fully rated Static Bypass Switch
- Input Isolation Transformer; Output AutoTransformer
- Dimensions: 36.3D x 20”W x 59.8H”
- Weight: 998 lbs (approximate).

Universal Power Controller (UPC)

- Combines the Battery Cabinet and Universal Transfer Switch Functions.
- Provides 12.5 Minutes of runtime at full load on battery
- Provides all interconnections to fully integrate into CV Lab.
- All previous 480V system functionality retained from previous separate component design.
- All connections are via external terminal blocks, rear access.
- All breakers are externally accessible from front.
- Isolated compartments for Battery and Switch sections.
- Fully ETL tested and certified UL, cUL and CSA Compliant.
- Dimensions: 31.5”D x 17.2”W x 59.8”H
- Weight: 1020 lbs (approximate).

DC Power Supply

- Artesyn/Emerson Part Number 73610129
- Single Unit Included for Mono Plane Systems
- Dimensions: 13.9” L x 6” W x 3” H
- Weight: 40 lbs (approximate).

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Line #	Part #	Description	Qty

Wiring Harness

- Complete Harness connecting UPC and UPS to MA Cabinet, includes control and Auxiliary connections and wire sizes per schematics. 50ft UPC to MA and 15ft UPC to UPS.
- Shipping Dimensions: Approx 31”L x 28”W x 22”D
- Weight: 140 lbs (approximate).

R8.2.1 UPS Control Kit

- Knife Switch rated 100A at 600V
- 120V rated Aux Switch Contacts
- Wall Mounted NEMA Enclosure
- Dimensions: 20”Hx 15”W x 8”D
- Weight: 25lbs

Included in UPC:

- Contactor MC3

41 **Remote Status Alarm Panel UPS** **1**

Wall Mounted Remote Status Alarm Panel for use with 4200 and 4400 Series UPS

- 120V AC Power Adaptor
- 100 ft of 9 conductor cable for dry contacts and 12VDC Power.
- DB9 Connector included for 4200 and 4400 Series UPS connection.
- Contacts include: Input On, Bypass On, Inverter On, Low Battery,
- AC Fail, Alarm Annunciation,
- Battery Backup included in Monitor.
- Part Number RSAPTICHP
- Dimensions: 4.31” L x 8.31”W x 8.25” H Weight: 10 lbs