

VAMC COLUMBIA, MO
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Allura Xper FD20 C Rel. 8.1	1
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Allura Xper FD20 monoplane system is a state of art X-ray imaging system that can be customized to support a wide range of applications including peripheral, abdominal, cerebral, thoracic, cardiac and non-vascular interventional and diagnostic procedures.

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

GEOMETRY

The Allura Xper FD20 Stand

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

- The L-arm can be rotated and can be 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.

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

- 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 and longitudinal movement: 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 86.5 to 123 cm.

- The stand features BodyGuard a capacitive sensing collision avoidance system for patient protection.

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 Allura Xper FD20 comprises an integrated dedicated X-ray system, micro-processor controlled Velara CFD generator based on high frequency converter technique. The user interface control of this X-ray Generator is incorporated in the Xper module, Xper Desktop Viewing Console, and the Xper on-screen displays. The Velara CFD generator comprises:

- X-ray generator 100 kW
- Voltage range is 40 - 125 kV
- Maximum current 1250 mA at 80 kV
- Program selection
 - Pulsed X-ray for pulsed fluoroscopy; 3.75, 7.5, 15 and 30 frames/s
 - Pulsed X-ray for (subtracted) acquisition up to 6 frames/s for vascular applications
 - Minimum exposure time of 1 ms
 - Automatic kV and mA control for optimal image quality prior to run to save dose
 - An X-ray depth collimator with two semi-transparent wedged filters with manual and automatic positioning

- SpectraBeam filtering of low energy radiation to optimize image quality and dose efficiency with MRC-GS 0407 X-ray tube.
- Grid switching at dynamic pulsed fluoroscopy
- Xper Beam Shaping, positioning of both shutters and wedges 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
 - Roadmap Pro can be selected from the Xper imaging module and/or Xper module.
 - A vessel map is created and superimposed with (un)subtracted live fluoroscopy. Acquisition runs can be done during Roadmap without losing the vessel map. Roadmap Pro features Smart Settings in special clinical modes that are optimized to visualize special materials such as coils and glue. Live processing of the vessel map, the device map and the landmark map can be done on the Xper Module. Xres for vascular procedures is standard part of Roadmap Pro.
 - **Disclaimer:** AMC only corrects movement artifacts in two dimensions. Three dimensional movements such as swallowing or rotation of the head cannot be corrected.
 - In Roadmap Pro R2 "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.

- 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 Allura Xper FD20 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.

Dynamic pulsed fluoroscopy 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

The Allura Xper FD20 comprises the following image detection chain:

- A 30 cm by 40 cm FD20 Dynamic Flat Detector with eight imaging modes.
 - 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 digital output of the FD20 flat detector is 2k*2.5k image matrix at 14 bits depth for the largest mode
- The flat detector subsystem features Xper Access, the detector can be rotated over 90 degrees, it moves from portrait to landscape back & forth
- DQE (Detective Quantum Efficiency) >73 %
- The pixel pitch: 154 x 154 microns

Viewing

The Allura Xper FD20 comprises the following components in order to display the clinical images in the control and examination room:

Displays

Examination Room

Two 18-inch monochrome LCD monitors designed for medical applications. The first display is used for viewing live images. The second display is the reference monitor.

- 18-inch monochrome TFT-LCD display with a 160 degree viewing angle.
- 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.

The monitor ceiling suspension in the exam room can be configured to accommodate 3, 4, 6 or 8 LCD monitors and includes motorized height adjustment. The height-adjust feature is dependent on the room ceiling height. When FlexVision XL, EP Cockpit or EP Cockpit XL is selected the monitor ceiling suspension is configured for one of those options.

- Of the two medical monochrome LCD monitors included in the MCS, one is used for viewing of live images and the other serves as the first reference display. Reference images or runs are controlled by infra-red 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. For cardiac applications, the system also monitors and displays body zone specific Air Kerma data (10 zones).

Control Room

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

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

One 18-inch monochrome LCD monitor (Xper review monitor) designed for medical applications.

- 18-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 images/s at 2048 x 2048, 12-bit matrix

The Allura Xper FD20 offers a storage capacity of:

- 50,000 images at matrix size of 1024 x 1024
- 12,500 images at matrix size of 2048 x 2048
- 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, which customizes the system to each user preferred settings. 2) Xper User Interface 3) Xper Integration, which makes advanced integration functionality available such as DICOM Query / Retrieve, background archiving, and Xper Fluoro Storage.

The Xper User Interface uses User Interface modules in the Examination Room with On-Screen Display.

The On-Screen Display is positioned on the left side of the reference monitor. The following system information is displayed

- X-ray indicator and X-ray tube temperature condition

- Gantry position in rotation, angulation, and Source Image Distance
- Detector field size display
- General System messages
- Selected Frame speed
- Fluoroscopy mode
- Integrated fluoroscopy time
- Skin Dose and Dose Area Product
- Stopwatch

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
- Image Processing

The Xper Geometry module can be positioned on all sides of the patient table, while keeping the button operation intuitive. The Xper Geometry module provides the following functionality:

- Tabletop float and table height position
- Source Image Distance selection
- Longitudinal movement of the Gantry along the ceiling
- Gantry rotation in an axis perpendicular to the ceiling

- Store and recall of two scratch gantry positions including SID
- Emergency stop button

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

- Fluoroscopy Flavor selection defined per Xper Setting
- Shutters and Wedge positioning
- Xper Fluoro Storage and Grab
- Selection of the Detector field size
- Shutter positioning
- Reset of the fluoroscopy buzzer

Pan Handle (NCVA081)

- The Pan Handle is an extension of the control facility for floating movements of the tabletop.

Control Room

The control room comprises a Xper Review Module, Xper Desktop Module, 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, and accumulative dose
- Frame speed settings, fluoroscopy mode, and accumulated fluoroscopy time
- Exposure and fluoroscopy settings as Voltage (kV), Current (mA) and pulse time (ms)
- Geometry information as rotation, angulation, and SID

Scheduling

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 Allura 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.

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 own room protocols. This preparation page makes hard copies of the protocol instructions redundant.

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

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.

Archive

Continuous Autopush (NCVA090)

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 and wishes for programming under the Xper Settings,

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 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.

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.

Clinical Education Program for the Allura Xper 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. 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 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).** The above education entitlements expire one (1) year from equipment delivery date. Ref# 106107318-091207

Structural heart procedures often rely on X-ray imaging to visualize the devices, while simultaneously relying on TEE Echo imaging of soft tissue and anatomical structures. EchoNavigator is a real time imaging product that supports the procedure by combining both X-ray and xPlane and 3D Echo in an interactive, intuitive and procedurally relevant way. The EchoNavigator is based on a real time platform that combines the 3D TEE Echo and X-ray. It provides two visual outputs, one for the control room and one for the examination room. A mouse and mouse tablet (with attachment to table) is included to operate the EchoNavigator functionality from the table side. A dedicated color 24" wide screen LCD display for the control room is included. A FlexVision XL display solution is required for the examination room. EchoNavigator

includes an Interventional Echo Link. The Interventional Echo Link provides a high speed 2D and Live 3D digital connection based on high bandwidth Ethernet network adapter with PCI express bus interface.

Features EchoNavigator:

To facilitate the interpretation of Echo images, EchoNavigator allows for multiple user-defined live views (renderings) of Echo data, showing relevant anatomical structures from different angles simultaneously in real time.

The image orientation of a selected Echo view can be automatically synchronized with the X-ray image, which defines in absolute terms the spatial relation between X-ray and Echo images. This spatial relation remains intact with 3D Follow C-arc. Follow C-arc synchronizes the Echo image orientation with the X-ray projection, automatically adjusting the viewpoint as the gantry is repositioned. 3D follow C-arc for EchoNavigator is included.

To further help the understanding of the two different images, EchoNavigator projects the ultrasound field of view (Ultrasound cone) as an outline into the X-ray view.

Multiple markings can be placed soft tissue anatomical structures in the Echo image and these marking points automatically appear in the X-ray to provide context and help guidance.

To support the workflow and the communication between the X-ray and Echo-operator, the user can interrogate the relevant anatomical structures in the Echo data from table side.

Requires:

- EchoNavigator compatible Echo system, probes, and licenses/software
- EchoNavigator compatible Allura system, hardware, and licenses/software
- FlexVision XL display solution

IXR EchoNavigator Imaging Systems OnSite Education:

Philips Imaging Systems Clinical Education Specialist will provide eight (8) hours of education for up to four (4) students, 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 #819-20121213

2 DAY USCE ENT L3D TEE w/trav

2 Day Purchased TEE University with Travel - A variety of Live 3D TEE University course offerings are available to meet your educational needs. Live 3D TEE provides cardiologists, anesthesiologists, and cardiac surgeons novel and exiting realistic views to aid in patient care. The 2 Day PUR TEE University Tuition includes both the tuition and the corresponding travel package.

Due to travel and scheduling requirements, a twenty-one (21) day notification of cancellation is required or training / education entitlements will be forfeited. Curriculum is subject to change without notice.

Travel & Accommodations for one (1) registered attendee. Includes one (1) participant's airfare from a North American customer location to a Philips North America Ultrasound Clinical Education training location with modest lodging, ground transportation and meal expenses for up to 3 days. Breakfast/dinner are provided by the hotel and lunch/breaks are catered by Philips Healthcare. All other expenses will be the responsibility of the attendee (ie. Baggage fees, meals while traveling, transportation to and from customer's home airport). Details are provided during the scheduling process.

1 DAY USCE ENT CES ONSITE

1 Day On-Site CES – Ultrasound training designed specifically to meet the customers' needs; one business day (up to 8 consecutive hours) with one of our Philips Clinical Education Specialists. Education is provided Monday-Friday during normal business hours.

*Note: Philips Healthcare personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation. The training sessions should be attended by Ultrasound Sonographers as identified by the department director. Site must be patient-ready.

2 DAY USCE ENT 400lvl w/trav

2 Day 400 Level Tuition Only - Use only for a two-day level 400 Ultrasound Clinical Education course. Travel and lodging included. NOTE: A twenty-one (21) day notification of cancellation is required or education will be forfeited. Curriculum is subject to change without notice.

3

HeartNavigator R1

1

Performing a structural heart procedure can be a breath-taking and tense intervention. HeartNavigator Release 1 provides support in planning of the procedure and additional live image guidance during the procedure. Previously acquired DICOM cardiac CT-datasets can be used as input. The CT-dataset can be presented in 3D and overlaid with the live-fluoroscopy to provide 3D real time insight during the procedure.

Planning:

DICOM Cardiac CT dataset can be used for the determination of the optimal intervention strategy. Optimal view planes for the X-ray device can be programmed with CT data. Furthermore, HeartNavigator Rel.1 is able to automatically segment anatomical structures, landmarks and planes out of DICOM cardiac CT-datasets. Different tools are available to help the user with the planning:

- Different anatomical visualization tools can be selected to visualize the desired anatomical structures
- Different anatomical landmark points are available to help the user to better understand the orientation and positioning of devices
- Different sizes of virtual devices which can be selected and projected on the CT data to give a reference on how the device would fit the patient

Image Acquisition en Procedure Execution:

During live image guidance HeartNavigator can be fully operated from table side using the XperModule. The user can overlay the acquired images on the 3D reconstruction of HeartNavigator.

The bidirectional link between the X-ray system and HeartNavigator 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 projection shown on the HeartNavigator monitor. 3D Follow C-arc allows the overlay to remain in sync with the 2D projection, automatically adjusting the viewpoint as the gantry is repositioned. Different visualization options are available like 3D volume and vessel outline to select as overlay.

Clinical Education for 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 education 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 education 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

4

Addl LCD B&W mon for CR

2

This desktop LCD monitor is intended for viewing in the control room and is designed for medical applications. The main characteristics are:

- . 19 inch monochrome TFT-LCD display
- . Native format 1280x1024 SXGA
- . 10 bit gray-scale resolution with gray-scale correction
- . Wide viewing angle (~170 degr)
- . Progressive display; high line rate, flicker-free non-interlaced display
- . High brightness with luminance stabilization (max 1000Cd/m2, default 500 Cd/m2)
- . Weight 5.6 kg (12.32 lbs) without pedestal
- . Size 42.5 (W) x 37.5 (H) x 9.68 (D) cm (16.7 x 14.8 x 3.8 inches)
- . PMS PD-format (B/W) via BNC-connector
- . VGA standard PC-format (RGBHV)
- . DVI interface standard
- . Push buttons for control functions on front
- . User programmable and standard reference setting
- . On Screen Display

- . Internal selectable lookup table for gray-scale transfer function
- . Internal power supply (100-240 VAC)
- . Pedestal with vertical rotation

Comprising:

- LCD monitor
- Monitor pedestal
- Power cable, grounding cable and video cable; 30m length.

5

FlexVision XL,XperHD,Snapshot

1

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 2 to 8 screens simultaneously from up to 16 sources (incl. third party systems) on the Philips 56-inch color LCD in the Exam Room.
- Resize and/or enlarge information at any stage during the case.
- Select and customize viewing lay-outs of the Philips 56-inch color LCD via the Xper table-side module

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
- Overview connected equipment (incl. third party systems) from a single location.

The FlexVision XL consists of:

- OmniSwitch
 - OmniSwitch allows the user to direct and switch the video output of all connected medical equipment to specific sub windows of the Philips 56-inch color LCD in the Exam Room.
 - OmniSwitch is a 16 channel video-switch operated from the Xper tableside module. 16 channels are available for a mix of up to 7 internal and up to 9 external inputs.
 - OmniSwitch supports a wide variety of display formats (up to 1600x1200).
 - External inputs are connected to OmniSwitch via Wall Connection box(es).
- Medical grade, high resolution color LCD in the Exam 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 an Allura Xper FD system for the Exam Room.
 - Main characteristics are:
 - 56 inch, 8 Megapixel color LCD
 - Native resolution: 3840x2160
 - Brightness: Max: 450 Cd/m2 (typical) stabilized: 350 Cd/m2
 - Contrast ratio: 1200:1 (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)
 - Resize and/or enlarge information at any stage during the case via the Xper tableside module in the Exam or Control Room
 - Select viewing lay-outs via the Xper table-side module in the Exam Room
 - Create new layouts by matching inputs to desired locations on preset templates. Monitor Ceiling Suspension
 - Monitor ceiling suspension for use in the Exam Room carries the 56 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.
- Isolated Wall Connection Boxes
 - Up to 8 Isolated Wall Connection Boxes can be connected to FlexVision XL.
 - Through Isolated Wall Connection Boxes, 3rd party equipment can be connected to the FlexVision Omniswitch.
- Snapshot
 - The snapshot function allows the user to store/save a screen-capture of any image on the 56" 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

3D-RA R.6

1

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 show 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 at Xper Module (option); With the Xper module the physician has all required 3D functionality at tableside. At the touch screen module functionality like rotating, panning, zooming, AVA, virtual stenting, 3D-APC and 3D Follow C-arc can be performed. With the mouse tablet all other functions can be performed so that there is no need for the Physician to leave the examination room.

3D Automatic Position Control (3D-APC); When the optimal working position has been chosen via the Allura 3D-RA interventional tool, the C-arc will automatically steer to this position.

3D Follow C-arc; When the position of the C-arc (not using any X-ray) is changed, the 3D volume will automatically follow the position of the C-arc. This means the position of the C-arc (and therefore the 2D projection) and the 3D volume are always aligned. As last seen; when the user leaves the patient in the model and later selects that patient again, the Allura 3D-RA interventional tool will return to the image last used by the user.

Mouse over: When moving the mouse cursor over a button the mouse over text will show up to explain the function of that specific button.

4 Calibration

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

5 Viewing

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

Philips' CRM (Contrast Resolution Management) Technology for a considerable increase in contrast resolution in all volumes.

Various Image Rendering possibilities: Volume/Surface Rendering, MIP, Endoscopy, SUM (pseudo x-ray image) Gradient rendering; the possibility to display the vessel structure transparently.

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, sagittal 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.

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 Archiving

Transfer to:

Optional Hard Copy unit (DICOM Print)

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

Any PC in a standard PC compatible format (JPEG,AVI)

One or multiple DVD's, CD-ROM(s) for easy archiving

Store a subset of exportable objects (snapshots and AVI Movies) to a USB removable memory device.

Clinical Education Specialists will provide sixteen (16) hours of tailored CV 3DRA OnSite Education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. CEUs are not available in all cases. Please read Guidelines for more information, which will be provided to you during the scheduling process. Education Hours: Mon – Fri 8:00am to 5:00pm, except Monday and Friday are half-days to allow for trainer's travel. Note: Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation. Education expires one (1) year from equipment delivery date (or purchase date if not sold with equipment).

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
- 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

3D-CA Rel. 3

1

Allura 3D-CA is a unique interventional tool that deals with the misrepresentation of reality of 2 dimensional projection images. Improved insight in the coronary lumen has its main benefits in lesion length assessment and determination of the optimal working angles on lesions and bifurcations. As Allura 3D-CA is tightly integrated with the Allura Xper series this tool provides support in improved diagnosis, intervention preparation and intervention execution.

1. Image Acquisition:

The 3D model is based on 2 images out of one of a pre-calibrated, pre-configured cardiac rotational or XperSwing scans, in either side or head position.

2. 3D Modeling

Based on the ECG signal, the system automatically shows all images out of the cardiac rotational in the same cardiac phase and one can select 2 images at an optimal angle to generate the 3D model. The Allura 3D-CA algorithm is so unique and advanced that it allows adding as many lesions, enabling for the construction of a full cardiac tree. This ensures creating not only the optimal views on lesions, but also on the bifurcations in the model. In order to make a (partial or sub-total) coronary tree the clinical user can add other segments.

3. Workflow and viewing:

Allura 3D-CA in combination with Allura Xper series provide workflow enhancers via:

- Auto image transfer; images are automatically transferred from the Allura Xper to the Allura 3D-CA system,
- TrueLentgh; determine the exact lesion length by adapting the slide rules to the required position,
- TrueView; determine the optimal working angles, on the lesion or bifurcation, based on the Philips Unique intuitive view map,
- 3D Automatic Position Control (3D-APC); When the optimal working position has been chosen via the Allura 3D-CA system, 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 model will automatically follow the position of the C-arc.
- Adaptation of Contrast and brightness of the 2D images
- Default views contain AP, PA, Lateral Left, Lateral Right, Cranial and Caudal, enable visualization of the model in all standard projections. The ability to see the 2D and 3D images in one view to understand viewing directions.
 - With the (optional) Xper module, all 3D functionality needed is available at bedside. At the touch screen module functionality like selection of the optimal view angle in the "True View" map, determining of the exact length of the lesion, rotating, panning, zooming, 3D-APC and 3D Follow C-arc can be performed. No need for the Physician to leave the patient unattended.

4. 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

Export in VRML format

Store a subset of exportable objects (snapshots and AVI Movies) to a USB removable memory device.

9

CT Trueview Rel2

1

CT TrueView uses 3D CT segmented dataset for a more robust anatomical roadmap providing the additional perspective on the coronary vessel morphology. It helps to determine the length of the obstructive lesion, view all side branches, get the optimal projection to view a lesion or bifurcation and fit the proper stent without the use of additional X-ray dose or contrast. This allows evaluation and planning to be done prior to the start of the procedure.

The 3D model is based on a segmented coronary dataset from the Philips Extended Brilliance Workspace (R 3.5 and onwards).

Allura CT TrueView Rel 2 functionality includes, but is not limited to:

- TrueView; define the optimal working projections, of the lesion or bifurcation, based on the Philips exclusive intuitive view map.
- TrueLength; view the exact lesion length
- Unique CTO Navigator provides an overlay of a 2D exposure run over the previous acquired segmented cardiac CT data. The images are matched manually or automatically for images in the same cardiac phase.
- 3D Automatic Position Control (3D-APC); When the optimal working projection has been chosen with CT TrueView, the C-arc will automatically reach this position,

The Xper Module control to provides the physician has all CT TrueView functionality needed at tableside

- Switch image views to View Model, True View map and True Length graph
- Selection of the optimal view angle
- Select vessel lesion or bifurcation
- Vessel navigation
- Select volume rendering mode
- Show/Hide Curved MPR reformat
- Image rotation, panning and zoom
- Snapshot
- Store/recall views
- Select 3D APC / Follow stand mode, 3D Automatic Position Control (3D-APC); When the optimal working position has been chosen via the Allura 3D-CA system, 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 model will automatically follow the position of the C-arc.

Allura CT TrueView includes the following export functionality:

- Image transfer to any 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 removable memory device.
- Image transfer to any DICOM compatible device (e.g. PACS/Printer), supported are DICOM XA, DICOM SC, DICOM CT and DICOM 3D
- Image transfer to any PC in a standard PC compatible format (JPEG,AVI)

Clinical Education Program for CT Trueview R2 (CTO Navigator)

CT Trueview R2 Handover Onsite Education: Philips Education Specialist will provide sixteen (16) hours of education for up to four (4) students selected by the 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 #494-100615

2nd REF for FlexVision XL is optional on FlexVision XL. Second Ref images will be displayed on the large screen monitor.

CT TrueView multivendor prepares DICOM compatible cardiac CT scans for CT TrueView. With CT TrueView multivendor the original acquired CT scans can be segmented automatically and provides a complete cardiac evaluation package allowing simplified workflow and minimal user interaction as available on the Philips Brilliance Extended WorkSpace. It helps to visualize coronary trees, segment the heart, perform detailed coronary artery evaluations and analyze the ventricular function.

Allura CT TrueView Rel MultiVendor functionality includes, but is not limited to:

- A no-click total cardiac segmentation for all phases selected with complete cage removal.
- Globe View (Globe, 3D Map and 2D Map).
- Unique "IVUS-like" view for the central cross-sectional cut.
- Stenosis calculations.
- Volume rendering visualization with coronary tree extraction and complete vessel visualization including its origin from the aorta for ostial morphology assessment.
- Slab tools (including cut planes) on Volume Rendered image in cine.
- LV Functional Assessment, including bulls-eye presentation.
- Continuous identification of C-arm angles.

Clinical Education Program for CT Trueview Multivendor

CT Trueview Multivendor Handover Onsite Education: Philips Education Specialist will provide eight (8) hours of education for up to four (4) students selected by the 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 # 495-100615

The StentBoost Subtract improves the visualization of devices in the coronary arteries during interventions. Before and after the deployment of the devices such balloons and stents the position can be checked and stent expansion can be confirmed in the coronary lumen lumen and clear relation of the stent placement to the vessel walls. The StentBoost package enables physician to take any corrective action required immediately, while the catheter is still in place.

StentBoost automatically detects the stent delivery markers image after image. In each image StentBoost aligns the markers with the markers of the previous image.

StentBoost can be used with and without contrast. Without contrast the images are acquired with only a short cine run of 1 to 2 sec (recommended with 40 frames out) to show all radiopaque material in the close proximity of the markers will be enhanced resulting in enhanced stent visualization.

With contrast the images are acquired with a tcine run of 5 to 6 sec. Contrast media is required only for the last 3 to 5 sec (typical recommendation of total 100 frames which of 100 frames cine run of which last 60 frames are with contrast) to show all radiopaque material in the close proximity of the markers will be enhanced resulting in enhanced stent visualization.

StentBoost automatically detects the stent delivery markers image after image. In each image StentBoost aligns the markers with the markers of the previous image. By doing this all radiopaque material in the close proximity of the markers will be enhanced resulting in enhanced stent visualization. A contrast enhanced image run results in a dynamic representation of the enhanced stent in relation with the vessel wall.

The Stentboost package functionality includes, but is not limited to:

- Pre-defined Region of Interest to indicate the location of the stent/balloon markers.
- Real time link for immediate data transfer.
- Manual correction possibility for marker identification
- Review of StentBoost runs, before and after processing
- Measurements to supports decision-making in determining the percentage of remaining in the stent.
- Store image snapshot.
- Automatic pre-defined Region of Interest to indicate the location of the stent/balloon markers.
- Fading in/out of contrast vessel and StentBoost image.
- Viewing selection of StentBoost with and without contrast,
- Manual image contrast and brightness adjustment of the boost and contrast image
- Manual correction possibility for marker, boost and contrast identification.
- Create and store as movie.

StentBoost includes the following export functionality:

- Image transfer to any DICOM compatible device (e.g. PACS/Printer), supported are DICOM XA, DICOM SC.
- 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 removable memory device.
- Image transfer to any DICOM compatible device (e.g. PACS/Printer), supported are DICOM XA, DICOM SC, DICOM CT and DICOM 3D
- Image transfer to any PC in a standard PC compatible format (JPEG,AVI)
- Image transfer to any DICOM compatible device (e.g. PACS/Printer), supported are DICOM XA, DICOM SC, DICOM CT and DICOM 3D
- Image transfer to any PC in a standard PC compatible format (JPEG,AVI)

- 13** **Ceiling Rail extension set frontal** **1**
- Extension of ceiling rail at head- or footside side of the table, to enlarge the parking distance of the frontal ceiling mounted stand. Maximum extension is 1.5 meters. Movement of the frontal ceiling mounted stand is motorized over the full length of the rail.
- 14** **Xper Live/Ref Slaving** **4**
- Xper Live/Ref Slaving
- The Xper Live/Ref Slaving will enable the option to slave the Live or Ref video source from the Allura Xper. The total amount of Xper Live/Ref Slaving that can be selected is max 4.
- Xper Live/Ref Slaving is possible:
- In Control Room icw FCV0011(B/W monitor in Control Room)
 - In Philips MCS (additional monitor excluded from this option)
 - Icw FCV0519 1 or 2 MCS from Skytron/Steris
- 15** **RIS / CIS DICOM interface** **1**
- 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 or to 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.

- | | | |
|-----------|--|----------|
| 16 | Lab Reporting | 1 |
| | <p>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).</p> | |
| 17 | Dicom Print compose | 1 |
| | <p>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.</p> | |
| 18 | Aut Pos Contr Xper sys & table | 1 |
| | <p>This Automatic Position Controller (APC) combines APC for Allura Xper FD10 and FD20 systems with table APC.</p> <p>System APC provides two modes of operation:</p> <p>Preset Position Sequence: the sequence of projections is determined through personalized 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.</p> <p>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.</p> <p>Table APC</p> <p>The Automatic Position Controller (APC) for the table provides two modes of operation:</p> <p>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.</p> <p>Store/recall of a position of the table top. This includes the height-, longitudinal- and lateral position of the table top.</p> | |
| 19 | FD Rotational Angio | 1 |
| | <p>Rotational angiography provides real-time 3D impressions of complex vasculature and coronary artery tree. It acquires multiple projections with just one contrast injection via a fast rotational scan of the region of interest.</p> <p>Rotational Angiography can be used during screening procedures to quickly determine the optimal projection for the study as the angle (rotation/angulation) of the projection is indicated on each image.</p> | |

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

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

XperSwing allows dual-axis rotational coronary angiography to gather more information in less time and with less X-ray and contrast dose. XperSwing acquires simultaneous RAO/LAO cranial-caudal views in just one acquisition run by moving the C-arm in a curved trajectory instead of multiple acquisitions. XperSwing 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, providing image detail required for diagnostic and therapeutic decisions and to obtain a real-time 3D impression of the coronary artery tree.

In total seven pre-programmed trajectories are available:

- Three for Left coronary imaging
- Two for Right Coronary imaging,
- Two generic trajectories.

The choice depends on size and weight of the patient. These trajectories are designed to fully cover all conventional projections for a diagnostic coronary angiography. Rotation and angulation movements are combined in one complete scan trajectory, using the maximum rotation and

angulation speed of the Allura Xper system. (55 resp 30 degr/sec). XperSwing is possible in the side position (ceiling mounted systems) and in the head position

XperSwing functionality includes, but is not limited to

- 15 frames per seconds acquisition to allows using of less contrast.
- Wide rotation range provides a complete evaluation of the anatomy.
- Precise positioning and high reproducibility, assuring you of high quality images and excellent subtraction studies.
- Set up and executed in a matter of seconds.
- Set of dedicated acquisition programs with the trajectories available on the Xper Module
- The rotation end- and start-positions can be selected.
- Acquisition procedure is controlled from the exposure hand or footswitch.

21 Physio Viewing 1

Physio Viewing allows for the acquisition, storage and display of up to four channels of physiological data, in parallel with X-ray acquisition. The user can select one of the recorded physio signals for display, together with the acquired image.

22 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)

23 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.

24 Storage extension 1

Storage extension

Storage extension provides an increased storage capacity for

Allura Xper FD20 systems the storage is increased from:

- 50.000 to 100.000 images at 1024x1024 matrix
- 12.500 to 25.000 images at 2048x2048 matrix

Allura Centron system the storage is increased from:

- 50.000 to 100.000 images at 1024x1024 matrix

Power requirements:

refer to system configuration

25	FD Dual Fluoro	1
Dual Fluoro for Flat detector systems		
The Dual Fluoroscopy mode allows digitally processed fluoroscopy in parallel with trace subtract fluoroscopy, providing a non subtracted reference fluoro image for complex interventions.		
This option provides an additional fluoro channel in parallel to the default fluoro channel. The Dual fluoroscopy mode is selected via the Xper module.		
The trace subtracted fluoro image will be displayed on the exam monitor, the non-subtracted fluoro image is displayed on the reference monitor.		
In Dual Floro mode, The fluoroscopy image on the exam montitor can be zoomed digitally with a factor 2, providing a larger view of the region of interest for complex interventions. The fluoro zoom function is controlled via the Xper module.		
26	FD SmartMask	1
SmartMask simplifies roadmapping procedures by overlaying a selected reference image with fluoroscopy on the live monitor in the exam room.		
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		
27	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:		
<ul style="list-style-type: none">• 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		
28	Ventricular Quant.Sw pkg(Xper)	1

Left Ventricular Quantification Software Package. Software package for the analysis of single plane Left ventricular angiograms. Calculates the Ejection fraction and local wall motion parameters in different formats.

Functions:

- Various LV-volumes
- Ejection Fraction
- Cardiac Output
- Centerline Wall Motion
- Slager Wall Motion
- Regional Wall Motion
- 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.

Comprising:

- software license

Compatible with:

- . Allura Xper FD 10 Rel 3 and FD10/10 Rel 2 onwards
- . Allura Xper FD20 Rel 2, FD20/10 Rel 2 onwards

29 **Coronary Quant.Sw pkg(Xper)** 1

Functions:

- diameter measurement along the selected segment
- cross sectional area
- %-stenosis
- pressure gradient values
- stenotic flow reserve
- 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.

Comprising:

- software license

Compatible with:

- . Allura Xper FD 10 Rel 3 and FD10/10 Rel 2 onwards
- . Allura Xper FD20 Rel 2, FD20/10 Rel 2 onwards

30 **Vascular Quant.Sw pkg(Xper)** 1

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.

Compatible with:

- Allura Xper FD10 Rel 3 and FD10/10 Rel 2 onwards
- Allura Xper FD20 Rel 2 and FD20/10 Rel 2 onwards
- Allura CV20 R1 onwards

31	Second Table-side Imaging Module	1
Extension of imaging control at table side with a second imaging module connected in a parallel master/slave configuration. Includes table-side operation module for imaging with cable and connector identical to the standard imaging module.		
32	Second Table-side Geometry Module	1
Extension of geometry control at tableside with a second geometry module connected in a master/slave configuration. Any action at the master module will deactivate the slave module at once. Includes table-side operation module for geometry with cable and connector identical to the standard geometry module.		
33	CX50 Video and UI coupling	1
The CX50 Integrated Ultrasound feature has been designed to easily and efficiently integrate ultrasound into the interventional suite.		
Patient data: Allura Xper patient information automatically transfers to the CX50 X-Ray and ultrasound patient studies may be configured with unique or identical study IDs to easily store and locate studies in DICOM Image display: The CX50 video output displays on the exam room LCD monitor Integrated controls: The Allura Xper Tableside Module remotely controls specific ultrasound modes and functions, including: Modes: 2D, Color Doppler, Color Power Angio (CPA), Clinical presets Functions: Zoom, Focus, Depth, Gain, iSCAN one-button optimization, Freeze, Acquire, Caliper, Replay, 2D Sector Width, Color Region of Interest, Biopsy Angles Mouse interaction: remotely control the CX50 at the tableside using a mouse and tablet		
34	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.		
35	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

36

Pivot for table base.

1

For angiographic- and interventional procedures of the upper peripherals.

Provides improved table access for patient transfer.

Allows pivoting of the table base around its vertical axes.

Pivot range from -90 degrees to + 180 degrees (or -180 to +90 degrees) with locked positions on 0, -13/+13 (facilitating arm-angiography) and -90/+90 and 180 degrees.

Comprising:

- pivot device with graduated scale to be mounted on the universal floor plate of the table.

Compatible with Xper Table

37

Xper Table Tilt

1

This innovating SyncraTilt enhances the accuracy and efficiency of gravity-oriented procedures. It is available as an option for the Xper table in Allura Xper series systems.

SyncraTilt is ideal for interventional, myelography, phlebography and head down procedures because it provides more precise imaging of contrast medium, blood, or objects in the body.

With SyncraTilt, the isocentre is automatically located at the isocentre of rotation and angulation of the stand. If the longitudinal position of the stand changes, the tilt isocentre is changed to match with the new stand position. As a result, the region of interest is always centred

As the table tilts, the X-ray beam automatically coordinates to the movement.

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, SyncraTilt enables phlebography to be performed with a head-up tilted patient.

The option provides:

- 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 35cm)
- easy to use controls

Comprising:

- Tilt drive with user controls`

Compatible with:

- . Xper table in Allura Xper FD series Rel 3 onwards (monoplane versions) and Rel 2 onwards (biplane versions)
- . Bolus Chase
- . Pivot for table base
- . swivel for table base

38

Cradle extension

1

This extension provides the possibility to cradle the table top.

This allows optimal positioning of the patient for f.i. more invasive (surgical) or guided puncture procedures.

Functionality:

- . isocentric cradle with maximum cradle range: -15 degrees to +15 degrees for the full tilt range
cradle speed: 3 degrees/sec
- . automatic safeguarding system with manual override
- . easy to use controls

39

Add.op-rail with cable ext.kit

1

The content of the additional OP-Rail kit is:

- [A] One additional OP-Rail (mechanical)
- [B] Cable Extension for OP-Rail
 - One Extension cable for Geo Module
 - One Extension cable for Imaging Module
 - One connection box (wherein the extension cables are coupled with the UI-Module cables).

[A]

- An extension for the table op-rail (30cm).
- The additional op-rail can be mounted at the both sides of the tabletop part where no op-rails are mounted.
- The additional op-rail is compatible with AD5 and XperTable (cardio and neuro) patient-tabletops.
- The op-rail has the same profile /dimensions as the current standard op-rail
- The maximum load (downwards) on the additional op-Rail is 100 N ($F=100N$)
 - (this is limited by the tabletop of the Patient Table)
- The maximum mechanical moment on the additional op-Rail is 40Nm downwards and 20Nm upwards
 - (this is limited by the tabletop of the Patient Table)

[B]

- The cable extension consists out of two cables with a length of 1.3 m; one for the Geo and one for the Imaging module, and an interface box were the coupling to the
- Geo and Imaging module cables can be made.

40

Interventional Tools Hardware

1

The interventional tools hardware is the computer that enables the 3D interventional tools, it allows to import and view DICOM compatible data from other imaging modalities The interventional Hardware comprises at least a Harddisk containing operating system and application software.

41	Real time image link	1
<p>Real Time digital image link to an off-line Allura Interventional Hardware station. This applies on the applications 3D-RA, StentBoost and 3D-CA on the Interventional Hardware. This dedicated digital link sends raw or processed image data (depending on the application) real time during monoplane exposures to the connected Interventional Hardware station, to allow instant results of the applicable reconstruction after the exposure run.</p> <p>In biplane systems, this digital link is available for the frontal channel only.</p>		
42	3D RA Control for Xper Module	1
<p>Table Side Module functionality for Allura Xper FD20 used with Integris 3D-RA Release 4.2.</p> <p>For further improvement of interventional procedures efficiency the following workflow enhancers are made available in the examination room: With the Xper touchscreen module the physician has all 3D functionality needed at tableside. Functionality like rotating panning zooming AVA Virtual stenting 3 and 3D Follow C-arc can be performed. No need for the Physician to leave the examination room. 3D Automatic Position Control (3D-APC); when the optimal working position has been chosen via the Integris 3D-RA interventional tool the C-arc will automatically steer to this position. 3D Follow C-arc: When the position of the C-arc (not using any X-ray) is changed the 3D volume will automatically follow the position of the C-arc. This means the position of the C-arc (and therefore the 2D projection) and the 3D volume are always aligned.</p>		
43	3D Roadmap	1
<p>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 fluoroscopy 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. 3D roadmap has automatic motion compensation for the neuro runs. When the automatic motion compensation function is active, this functionality will constantly correct the motion artifacts which can be present in the 3D Roadmap image.</p> <p>Image Acquisition</p> <p>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.</p> <p>Intuitive, fully controlled from tableside:</p> <p>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</p> <ul style="list-style-type: none"> • 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. <p>3D Roadmaps can be sent to:</p> <p>Any optional DICOM compatible device (e.g. PACS/ViewForum/Xcelera), supported are DICOM XA, DICOM SC, DICOM CT and DICOM 3D</p> <p>Any PC in a standard PC compatible format (JPEG,AVI)</p>		

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

44

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 (Xper 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:

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 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 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.

45

3DCA on Xper Mod.

1

Following 3D-CA functions are available on the Xper module:

- ## Length graph

- Compatible with:

- Allura Xper FD10 Rel2
- Allura Xper FD10/10 Rel 1
- Allura 3D-CA Rel 1.0 onwards

Table Side Module functionality for Allura Xper FD20 used with StentBoost Release 1.0

47	Xper CT R2	1
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The XperCT imaging process is fully automated in the Xper system. The XperCT 3D volume is displayed automatically within 1 minute (from acquisition to display): no user interaction required. Especially in critical cases it is important to obtain a fast overview.

In addition the XperCT volume can be matched with Allura 3D-RA. This view combines soft tissue information with high-resolution vessel information. The optimal view can be chosen with the orientation of the 3D volume: the C-arc follows automatically.

- Interventional HardWare
- Real Time Link
- FD Rotational Angio
- Frame rate extension

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

48

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 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 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/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

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

49

DoseAware Bundle

1

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

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

Base Station Package

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

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

The Base Station package includes also:

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

10 Personal Dose Meters

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

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

Dose Manager Package

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

Core functionality is:

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

50	CV Add OnSite Clin Educ 16h	1	Clinical Education Specialists will provide sixteen (16) hours of CV OnSite Education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. CEU credits may be available for each participant that meets the guidelines provided by Philips. Note: Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation. Education expires one (1) year from the earlier of equipment delivery date or purchase date.
51	CV Full Travel Pkg OffSite	5	Includes one (1) participant's airfare from North American customer location to Cleveland, Ohio, with lodging, ground transportation, and meal expenses. Breakfast/dinner provided by the hotel, and lunch/breaks are catered by Philips. All other expenses will be the responsibility of the attendee. Details are provided during the scheduling process. Note: Cancellation/rescheduling policy strictly enforced. Education expires one (1) year from equipment installation date (or purchase date if sold separately).
52	CV Add OnSite Clin Educ 28h	1	Clinical Education Specialists will provide twenty-eight (28) hours of CV OnSite Education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. CEU credits may be available for each participant that meets the guidelines provided by Philips. Please refer to guidelines for more information. Note: Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation. Education expires one (1) year from the earlier of equipment delivery date or purchase date.
53	Vasc Interventional Tools OffSite 20h	2	A Philips Clinical Instructor will provide 20 hours (2.5 days) of in-depth didactic, tutorial and hands on training covering the Vascular Interventional Tools used in conjunction with the FD system. This course is designed to provide basic functionality, workflow and application knowledge necessary to fully utilize the Vascular Interventional Tools programs. Due to software release levels, the software used for training may slightly differ from software used at the trainee's facility. This course is highly recommended and will compliment your standard On-site training for Vascular Interventional Tools.

This 20 hour course is located in Cleveland, Ohio at the Cleveland Training Center. Due to program updates, the number of class hours is subject to change without notice. The customer will be notified of current total class hours at time of registration. CEU credits may be awarded if the participant meets the ASRT guidelines. **Travel and lodging are not included, but may be purchased through Philips. It is highly recommended that 989801292445 (CV Partial Week Travel Pkg Offsite) is purchased.**

- 54 CV Add OffSite Educ 28h 1**
- Philips will provide one (1) Cardiovascular Technologist, Registered Technologist Registered Nurse, 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. 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.
- Education expires one (1) year from equipment installation date (or purchase date if sold separately).
- 55 Airfare to Cleveland for Biomed Training 5**
- Includes one (1) participant's airfare from North American customer location to the Cleveland Training Center (CTC) in Cleveland, Ohio. All other expenses will be the responsibility of the attendee. Details are provided during the scheduling process. Note: Cancellation/rescheduling policy strictly enforced. Expires one (1) year from the earlier of equipment delivery date or purchase date.
- 56 Food Transpt Lodging for Cleveland Biomed Training 29**
- Includes one (1) day of modest lodging, ground transportation, and meal expenses in Cleveland, Ohio for one (1) attendee. All other expenses will be the responsibility of the attendee. Details are provided during the scheduling process. Note: Cancellation/rescheduling policy strictly enforced. Although this part is only for one day, it is sold in multiple quantities to account for entire length of course. Expires one (1) year from the earlier of equipment delivery date or purchase date.
- 57 XD3908EPCOCKPITNAVFLEX4 D 1**
- Course Number: XD3908
- System Codes: 722010, 722011, 722012 and 722013
- Course Title: EP Cockpit, EP Navigator & FlexVision
- Course Length: 4 days (excludes Saturdays, Sundays, and Philips holidays)
- Delivery Method(s): ILT
- Modality: iXR
- Location: PHC, CTC
- Target Audience: Service Engineers.

DESCRIPTION:

The EP Cockpit part trains the engineer to a technical and application level which will enable the engineer to do room preparation, mechanical and electrical installation, configuration and connectivity on the EP Cockpit parts of an Allura Xper FD system, following the System Manual Installation and Setting To Work.

The EP Navigator part trains the engineer to a technical and application level which will enable the engineer to do the Installation and the Setting To Work activities between the Allura Xper FD Cathlab, EP Navigator workstation and an Xcelera, following the Setting To Work.

The engineer will be able to connect an Allura Xper FD modality to the EP navigator who can retrieve the CT images of the patient from the Xcelera or 3D-ATG images from the Allura. The EP Navigator will match these reconstructed 3D images with the fluoroscopy images coming from the Cathlab.

The FlexVision part will train the engineer to a technical level which will enable the engineer to do the Installation, Setting To Work and Corrective Maintenance of the FlexVision option on an Allura Xper FD system according the Service Manuals.

All knowledge and skills for the configuration, connectivity and interoperability functions are practiced during the lab sessions.

PREREQUISITES:

XD3971 or XD9065

COURSE OBJECTIVES:

During this course the field service engineer will be provided with the needed competencies to install an Allura Xper EP Cockpit lab with an EP Navigator workstation & FlexVision 56" monitor.

The engineer will learn the following knowledge and skills:

- Hardware Installation of the EP Navigator components
- Installation of the EP Navigator Operating Software and Application Software
- Configuration of an EP Navigator towards an Xcelera for query and import
- Configuration of an Xcelera towards an EP Navigator for query and send
- Configuration of a Real Time Output (RTO) link of a Cathlab towards the EP Navigator
- Configuration of the Control network of a Cathlab towards the EP Navigator
- Execution of the DICOM verification tests for Query and Import
- Configuration of the Xper settings of the Cathlab for a correct automatic EP workflow with the Cathlab in application mode
- Testing of the total workflow with all systems in Application mode
- Mechanical /Electrical Installation Monitor Ceiling Suspension with FlexVision 56" monitor
- Mechanical /Electrical Installation B-Cabinet
- Configuration of the FlexVision 56" monitor
- Adjustments of the FlexVision 56" monitor
- Corrective Maintenance issues of the FlexVision 56" monitor

PHILIPS PROPRIETARY MATERIALS SUCH AS DIAGNOSTIC SOFTWARE AND SERVICE DOCUMENTATION ARE NOT INCLUDED IN THE TRAINING AND WILL NOT BE AVAILABLE FOR USE OUTSIDE OF THE TRAINING ENVIRONMENT. THE TRAINEE MUST RETURN ALL PROPRIETARY MATERIALS RECEIVED DURING THE TRAINING AT THE END OF THE TRAINING. CUSTOMER ACKNOWLEDGES AND AGREES THAT NEITHER CUSTOMER NOR TRAINEE WILL RECEIVE A LICENSE TO SUCH PROPRIETARY MATERIALS AND THAT THE

TRAINEE MAY NOT BE ABLE TO FULLY UTILIZE THE TRAINING WITHOUT THE USE OF SUCH PROPRIETARY MATERIALS. (CERTAIN LICENSES MAY BE OBTAINED THROUGH PURCHASE OF AN ALLIANCE CO; OP AGREEMENT.) Course dates and location to be finalized by Philips. Philips shall attempt to accommodate Customer requested dates and training location. The price quoted includes course tuition. Travel and living expenses are not included, but may be purchased separately through Philips.

IMPORTANT Notes Regarding Admission to Philips Customer Engineer Training Courses:

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

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**XD3970ALLURAFD7.6PART1C
TC9**

1

Course Number: XD3970

System Codes: 722010, 722011, 722012, 722013

Course Title: Allura Xper Rel 7.6 Part 1

Course Length: 9 days (exclude Saturday, Sunday, and Philips holiday)

Delivery Method(s): Instructor-Led

Modality: iXR

Location: PHC, SLC, CTC

Target Audience: Service Engineers.

DESCRIPTION:

Part 1 trains the Customer Support engineer to a technical level which will enable him/her to perform Planned Maintenance (PM) and basic Corrective Maintenance (CM) on Allura Xper systems, according to the Customer Support philosophy. He / She will also be able to assist during a system installation.

Part 1 can be followed up by part 2, intended for dedicated Cardio Vascular modality Engineers.

Part 2 focuses on setting to work (configuration) and extended Corrective Maintenance.

The following Allura Xper systems are covered:

FD10 release 7.6

FD10/10 release 7.6

FD20 release 7.6

FD20/10 release 7.6

FD20/20 release 7.6

PREREQUISITES:

CS9020 BASIC NETWORKING

XC3002 X-RAY SYSTEMS BASIC PART 2

COURSE OBJECTIVES:

The engineer will learn how to:

- Operate the system, as far as required to perform service tasks.
- Make use of the service documentation.
- Make use of basic functionality of the service tools.
- Perform Planned Maintenance:
 - Safety checks
 - Performance checks
 - Adjustments(Not included: Mechanical checks)
- Create a backup of the system.
- Perform a restore of the system.
- Perform basic CM with help of the service documentation and service tools.

- Faultfinding using the System Manual Corrective Maintenance.
- Focus on replacement of parts with a high exchange rate.
- Retrieve the log file from the system to escalate a problem.
- Customize positions for Automatic Position Control in the EPX-database.

MAJOR TOPICS:

Introduction Allura Xper systems
 Operating
 Service documentation
 Service tools
 Planned Maintenance
 Corrective Maintenance
 System Architecture
 X-ray generation
 Geometry
 Operator controls
 Power supply
 Imaging
 System control
 Radiation safety
 Image quality
 Customization
 Software

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

IMPORTANT Notes Regarding Admission to Philips Customer Engineer Training Courses:

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

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XD3971ALLURAFDREL7.6PAR T2CTC8

1

Course Number: XD3971
 System Codes: 722010, 722011, 722012, 722013
 Course Title: Allura Xper Rel 7.6 Part 2
 Course Length: 8 days (exclude Saturday, Sunday, and Philips holiday)
 Delivery Method(s): Instructor-Led
 Modality: iXR
 Location: PHC, SLC ,CTC
 Target Audience: Service Engineers.

DESCRIPTION:

This course is a follow up on the Allura Xper Part 1 course and is intended for dedicated Cardio Vascular modality Engineers. Before attending this part 2, it is strongly recommended that the engineer has some field experience on Allura Xper systems, e.g. 1 installation and some pm- and cm visits.

Part 2 trains the Customer Support engineer to a technical level which will enable him/her to perform extended Corrective Maintenance and the Setting to Work on Allura Xper systems, according to the Customer Support philosophy.

Not covered are the Mechanical Installation and Cabling of the Allura Xper System. These topics are covered in the e-learning: Allura Xper Mechanical Installation.

The following Allura Xper systems are covered:

FD10 release 7.6

FD10/10 release 7.6

FD20 release 7.6

FD20/10 release 7.6

FD20/20 release 7.6

PREREQUISITES:

- XD3866 or XD3966 or XD3970

COURSE OBJECTIVES:

For Allura Xper systems, the engineer will learn how to:

- Perform the Setting To Work
- Perform extended Corrective Maintenance; with help of Analytical Trouble Shooting, service documentation, and service tools.
 - Distinguish technical problems from incorrect operating.
 - Focus on replacement of parts with a low exchange rate.
- Customize most common parameters of the Xper database.

MAJOR TOPICS:

Installation

- Installation aspects
- Setting to work
- Customization

Corrective Maintenance

- Operating
- System Architecture
- X-ray generation
- Geometry
- Movement
- Acquisition

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

IMPORTANT Notes Regarding Admission to Philips Customer Engineer Training Courses:

1. Trainee must meet all prerequisites
2. Course expires one (1) year from equipment installation date (or purchase date if sold separately)
3. Customer must sign Philips Nondisclosure statement
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XD3972 Interventional ToolsR8 1
CTC3

Course Number: XD3972

System Codes: 722010, 722011, 722012, 722013

Course Title: Interventional Tools R8

Course Length: 3 days (excludes Saturdays, Sundays, and Philips holidays)

Delivery Method(s): Instructor-Led

Modality: iXR

Location: PHC, SLC, CTC

Target Audience: Service Engineers.

DESCRIPTION:

This course is a follow up on the Allura Xper Part 2 course and is intended for dedicated Cardio Vascular modality Engineers.

This course trains the Customer Support engineer to a technical level which will enable him/her to perform complete Installation, Planned Maintenance and Corrective Maintenance on Interventional Tools.

The following Interventional Tools are covered:

3DRA rel.x / 3D Road mapping

Stent Boost rel x / Stent Boost subtract

3DCA

CT True View

XperCT / Xper Guide

Multi Modality Matching

PREREQUISITES:

XD3967 or XD3971 or XD3875 or XD3879

COURSE OBJECTIVES:

For Interventional Tools, the engineer will learn how to:

- Perform a complete installation, including setting to work
- Make use of the service documentation.
- Operate Interventional Tools as far as required to perform service tasks
- Perform Planned Maintenance.
- Perform Corrective Maintenance; with help of the service documentation and service tools.
 - Distinguish technical problems from incorrect operating.
 - Faultfinding using the System Manual Corrective Maintenance.
 - FRU replacement.

MAJOR TOPICS:

- Operating

Installation aspects

Service tools

Corrective Maintenance

System Architecture

User Interface

System control

Interoperability

Customization
Software

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**XD3007XRaySystemsBasicPart
2CTC5D**

1

Course Number: XD3007

Course Title: X-Ray Systems, Basic part 2

Course Length: 5 days

Delivery Method(s): ILT

Modality: DXRLocation: Best

Target Audience: Field Service Engineers

System codes:

DESCRIPTION:

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

PREREQUISITES:

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

COURSE OBJECTIVES:

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

- Medical application
 - The physics of X-rays
 - Radiation protection
 - The building blocks of X-ray systems
 - X-ray tubes
-

- Generators
- Image performance parameters
- The documentation systems of X-ray systems
- Planned Maintenance
- Installation

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62 Rad Shield w/ Arm (Contoured) 2
61X76

Contoured Rad Shield with Arm rest. 61X76

63 PIVOTING TABLE-MOUNTED 1
RADIATION SHIELD

Table-mounted radiation shield for additional protection of physician and staff against scatter radiation. The shield consists of two protective parts: a lower shield and an upper shield. The shield is specially designed for use with the AD5 patient table.

The table mounted radiation shield provides the following features:

- Mounting to either the right or left table accessory rails;
- Pivoting into the required working position;
- Pivoting into the parking underneath the tabletop facilitating patient preparation;
- The upper shield can be positioned upright providing optimal protection or can be folded down for free access to the patient.

The table mounted radiation shield includes:

- Lower shield measuring 70 cm high 80 cm wide 0.5 mm Pbequivalence;
- Upper shield measuring 40 cm high 50 cm wide 0.5 mm Pbequivalence;
- Mounting clamp;

Docking device for wall mounting.

64	Horizon SF Medical Imager	1	The Horizon SF Multi-Media Dry Imager is an intelligent, desktop sized, grayscale and color output device that produces diagnostic quality medical hardcopy of film and medical paper in small formats (8"x10" and 8.5"x11"). Any three medial types may be printed to simultaneously. The imager accepts many industry standard file formats including DICOM and incorporates networking, high-speed image processing and spooling capabilities.
65	Spectre Encrypted Wireless Footswitch	1	Spectre Series Wireless Encrypted Footswitch system for Philips H5000, V5000, Allura, FD Series
			Equipment consisting of the following:
			<ul style="list-style-type: none"> • 3 pedal footswitch with auto-connect • Receiver system with Philips interface • Wall mounted footswitch rack with charger • Instruction manual
66	Exam Lamp 220v	1	Spring arm mounted examination light for cardiovascular applications
67	ACIST CVi Contrast Del Syst	1	CVI Contrast Delivery System - System includes injector head, touch screen monitor, transducer back plate, power supply floor mount, adjustable arm kit, utility tray kit, table mounting brackets, User/Training Manual, and one year warranty).
68	Portegra 2 360 Ceiling Column	2	Portegra 2 360 Column w/ trolley and ceiling track
69	Volcano Control Console	1	A full-size control console that can be used in the patient room. While one control console is found in the s5i core bundle, some accounts wish to add a second control console to their system. This can be mounted on the bedrails. Connects directly to the CPU via USB or in the patient room via the USB extender. Note: if mounting on bedrails, requires the ordering of "Control Console Rail Bracket Kit"
70	Volc Cont Console Rail Brkt Kit	1	Used in conjunction with the full-size control console to allow the console to be mounted to the patient bedrails.
71	Volcano Joystick Option Kit	1	A compact joystick that comes with a clamp to be mounted on the patient bedrails. Some physicians prefer to control the IVUS system via a joystick, and this option provides this functionality. Can be operated under the sterile drape.

72	Volcano Print Kit	1	A compact color thermal printer that is used to print IVUS images for physician reference, the patient file, or to provide to the patient. Connects directly to the CPU in the control room via USB.
73	Volcano IVUS s5i	1	<p>The base components required to operate a Volcano IVUS s5i system, including: the system CPU; a control console for the control room; a bedside touchpad controller; a patient interface module (PIM); an isolation transformer through which power is supplied to the CPU; a USB extension kit which transmits data and power between the CPU and patient bedside-mounted peripherals; a 19" LCD monitor for the control room. The core bundle also includes installation of components, excluding pulling cables, which will be done by Philips.</p> <p>Cables required to operate the Volcano IVUS s5i system. The kit includes a patient interface module (PIM) cable, a shielded CAT5 Ethernet cable, an ECG cable, and a grounding cable. These cables need to be laid in the dedicated pipe connecting the patient table area to the control room. All cables in this kit are 30 meters in length.</p> <p>Patient interface module (Pimmett) for FFR wires and all hardware required for the Fractional Flow Reserve</p> <p>Fractional Flow Reserve for IVUS system. FFR measures pressure changes in the vessel to assess lesion significance. System is compatible with Volcano's PrimeWire™ product. Includes FFR PIM and FFR cable.</p>
74	FlexVision XL 8 Input Package	1	<p>The FlexVision XL8 input package provides eight isolated wall connection boxes and eight legacy converters.</p> <p>Isolated Wall Connection Box</p> <p>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.</p> <p>The quantity of the VWCB's has to be calculated as follows:</p> <p>For each video signal to FlexVision XL on Vascular System: 8 VWCB</p> <p>Note:</p> <p>No VWCB is required in case a video signal is connected directly to a dedicated LCD from the following sources:</p> <p>1) Xper Live/ref Slaving</p> <p>2) Interventional HW (XtraVision), ViewForum, Xcelera (only if workstations are powered by Allura Xper)</p> <p>3)Xper IM</p> <p>Legacy Video Convertor</p> <p>The Legacy Video Convertor enables conversion from VGA towards DVI for supported input resolutions as listed in the table below.</p> <p>Signal type Native resolution Image Aspect Ratio</p> <p>VGA 640x480 4:3</p> <p>SVGA 800x600 4:3</p> <p>XGA 1024x768 4:3</p> <p>SXGA 1280x1024 5:4</p> <p>SXGA+ 1400x1050 4:3</p> <p>UXGA 1600x1200 4:3</p> <p>WXGA 1280x800 16:10 (8:5)</p>

WSXGA 1440x900 16:10 (8:5)
 WSXGA+ 1680x1050 16:10 (8:5)
 WUXGA 1920x1200 16:10 (8:5)
 2K 2048x1080 19:10
 TV1080I/P 1920x1080 16:9
 TV 480I 720x480 4:3
 TV 480P 704x480 4:3

- | | | | |
|----|---|---|--|
| 75 | HP Color Laserjet 2550 N Post Script Printer | 1 | <ul style="list-style-type: none"> • Not approved for diagnostic purposes • Mounting and/or installation is the customer's responsibility • Philips does not warrant such items but will make best efforts to pass manufacturer warranties directly to the customer |
|----|---|---|--|

- | | | | |
|----|-------------------------------|---|------------|
| 76 | Universal Power Supply | 1 | 25kVA UIPS |
|----|-------------------------------|---|------------|

- | | | | |
|----|--------------------------|---|-------------------|
| 77 | CFI Table Widener | 1 | CFI Table Widener |
|----|--------------------------|---|-------------------|

- | | | | |
|----|---------------------------|---|--|
| 78 | Trade in Allowance | 1 | |
|----|---------------------------|---|--|

Customer represents and warrants that (i) Customer has, and shall have when title passes, good and marketable title to the equipment being traded in and (ii) has the authority to effect such trade in.

Product: 722006 Allura XPER FD20
 Serial Number: 537296
 Manufacturer: PHILIPS HEALTHCARE

Trade-In authorization number: 29812

De-install Date: Not later than 180 days after receipt of Order

Customer will be trading-in equipment that is described on the attached System Disclosure Form (the "Trade-In"), which Trade-In the parties agree (i) will be removed on the De-install Date and (ii) is currently in the condition as represented on the System Disclosure Form. In addition, the parties agree as follows:

1. Customer represents and warrants that Customer has good and marketable title to the Trade-In as of the date of this Quotation and will have good and marketable title when Philips removes the Trade-In from Customer's site (the "Removal Date");
 2. Title to the Trade-In shall pass from Customer to Philips on the Removal Date, unless otherwise agreed by Philips and the Customer;
 3. Notwithstanding anything to the contrary in any Business Associate Addendum, Customer represents and warrants that as of the Removal Date all Protected Health Information will have been de-identified or removed from the Trade-In;
 4. Philips may test and inspect the Trade-In prior to de-installation. If the condition of the Trade-In is not substantially the same on the Removal Date (ordinary wear and tear excepted) as it is identified on the System Disclosure Form, then Philips may reduce the price quoted for the Trade-In;
 5. If the removal date is delayed until after the De-Install Date, unless Philips causes the delay, then Philips may reduce the price quoted for the Trade-In by six percent (6%) per month.
 6. Philips is responsible for normal de-installation costs of the Trade-In.
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7. The trade-in value will not include costs associated for any facility modifications and/or rigging required for de-installation and must be accounted for separately.
8. Customer is responsible for all plumbing necessary to properly drain coolant from chiller system and cap the lines.
9. Prior to the Removal Date, Customer shall remove from the room all equipment that is not being de-installed.