North Carolina Department of Health and Human Services
Division of Health Service Regulation
Certificate of Need Section
2704 Mail Service Center • Raleigh, North Carolina 27699-2704
http://www.ncdhhs.gov/dhsr/

Drexdal Pratt, Director

Beverly Eaves Perdue, Governor
Albert A. Delia, Acting Secretary

Craig R. Smith, Section Chief
Phone: (919) 855-3873
Fax: (919) 733-8139

December 10, 2012

Brian Moore, Director of Strategic Planning
Mission Hospital
509 Biltmore Avenue
Asheville, NC 28801

Exempt from Review - Replacement Equipment

Facility:	Mission Hospital
Project Description:	Replacement of Cardiac Catheterization Equipment in Heart Services on third floor
County:	Buncombe
FID #:	943349

Dear Mr. Moore:

In response to your letter of November 20, 2012, the above referenced proposal is exempt from certificate of need review in accordance with N.C.G.S 131E-184(a)(7). Therefore, you may proceed to acquire, without a certificate of need, the Allura Xper FD10/10 Cardiac Catheterization equipment to replace the existing Integris 9/9 II Biplane Cardiac Catheterization equipment. This determination is based on your representations that the existing unit will be removed from North Carolina and will not be used again in the State without first obtaining a certificate of need. Further please be advised that as soon as the replacement equipment is acquired, you must provide the CON Section and the Medical Facilities Planning Section with the serial number of the new equipment to update the inventory, if not already provided.

Moreover, you need to contact the Construction and Acute and Home Care Sections to determine if they have any requirements for development of the proposed project.

It should be noted that this Agency's position is based solely on the facts represented by you and that any change in facts as represented would require further consideration by this Agency and a separate determination. If you have any questions concerning this matter, please feel free to contact this office.

Sincerely,

Julie Halatek
Project Analyst

Craig R. Smith, Chief
Certificate of Need Section

November 20, 2012

Julie

MISSION HOSPITAL

Craig Smith, Chief
Certificate of Need Section
Division of Health Service Regulation
North Carolina Department of Health
and Human Services
2704 Mail Service Center
Raleigh, North Carolina 27699-2704

RE: Mission Hospital Exemption Letter: Replacement of Cardiac Catheterization Lab Equipment

Dear Mr. Smith:

Mission Hospital ("Mission") submits this letter as prior written notice that it plans to replace existing Cardiac Catheterization equipment located in Heart Services on the third floor on the Memorial Campus. The Cardiac Catheterization equipment has been in operation since 2003 and is in need of upgrading due to technological advancements. We seek confirmation that the replacement of this equipment does not constitute a new institutional health service subject to CON review within the meaning of N.C.G.S. § 131E-176(16). Please find attached the information establishing that the equipment to be acquired is consistent with the definition of replacement equipment in N.C.G.S. § 131E-176(22a) and 10A N.C.A.C. 14C.0303.

The North Carolina law defines "replacement equipment" as "equipment that costs less than two million dollars ($2,000,000) and is purchased for the sole purpose of replacing comparable medical equipment currently in use which will be sold or otherwise disposed of when replaced." N.C.G.S. § 131E-176(22a). The capital expenditures for the proposed project are $1,877,815 and includes both the replacement equipment and all necessary renovation and will not exceed $2,000,000. The capital expenditure includes the costs detailed in N.C.G.S. § 131E-176(22a). The capital cost verification form is attached detailing the probable costs for the replacement equipment on the Memorial Campus. Mission Hospital, in compliance with N.C.G.S. § 131E-176(22a), will assure the disposal of the original EP equipment.

Please find attached the information needed to determine the equipment to be acquired is consistent with the definition of replacement equipment in N.C.G.S. § 131E-176(22a) and 10A N.C.A.C. 14C.0303, as follows:

1. A comparison of the existing and replacement equipment, using the format in the table provided by the CON Section.

    a. See attached table.

2. A description of the basic technology and functions of the existing and replacement equipment, including the diagnostic and treatment purposes for which the equipment is used or capable of being used.

509 Biltmore Avenue, Asheville, North Carolina 28801 (828) 213-1111 missionhospitals.org

a. ***The basic technology and functions, and the diagnostic and treatment purposes for the existing and new equipment are the same. The differences are that the image quality of the existing equipment has degraded over time and the new has much higher image resolution.***

3. Brochures or letters from the vendors describing the capabilities of the existing equipment and the replacement equipment.

    a. ***See attachment***

4. A copy of the purchase order for the existing equipment, including all components and original purchase price.

    a. ***The purchase order is no longer available. The purchase price of the existing Cardiac Catheterization Lab was $1,289,413.32 for the equipment with total install costs totaling $1,877,815. See attachment 2 Projected Capital Cost Verification form.***

5. A copy of the title, if any, for the existing equipment or the capital lease for the existing equipment.

    a. ***Not available.***

6. If the replacement equipment is to be leased, a copy of the proposed capital lease that transfers substantially all the benefits and risks inherent in the ownership of the equipment to the lessee of the equipment, in accordance with criteria in Generally Accepted Accounting Principles (GAAP).

    a. ***Not applicable. The replacement equipment will be purchased, not leased.***

7. If the replacement equipment is to be purchased, a copy of the proposed purchase order or quotation, including the amount of the purchase price before discounts and trade-in allowance.

    a. ***See attachment - quote from Phillips dated 11/19/12.***

8. A letter from the person taking possession of the existing equipment that acknowledges the existing equipment: will be permanently removed from North Carolina, will no longer be exempt from requirements of the North Carolina Certificate of Need law, and will not be used in North Carolina without first obtaining a new certificate of need.

    a. ***The Cardiac Catheterization equipment is still in use until the replacement lab is operational. Philips will be reusing the existing hardware for purposes of performing a Catalyst upgrade. The remainder of the usable parts will be taken out of the state of North Carolina.***

9. Documentation that the existing equipment is currently in use and has not been taken out of service.

    a. ***The existing equipment has been in continuous use except for temporary periods due to maintenance and hospital construction.***

We look forward to receiving your letter confirming Mission's replacement and renovation of a Cardiac Catheterization Lab. Please contact me at (828) 213-3509 if there is any additional information I can provide to facilitate your review of this request.

Sincerely,

Brian Moore
Director of Strategic Planning

EQUIPMENT COMPARISON

	EXISTING EQUIPMENT	REPLACEMENT EQUIPMENT
Type of Equipment (List Each Component)	Cardiac Catheterization Equipment	Cardiac Catheterization Equipment
Manufacturer of Equipment	Philips	Philips
Tesla Rating for MRIs	N/A	N/A
Model Number	Integris 9/9 II Biplane	Allura Xper FD10/10
Serial Number	10	N/A
Provider's Method of Identifying Equipment	Mfg Serial Number	Mfg. Serial Number
Specify if Mobile or Fixed	Fixed	Fixed
Mobile Trailer Serial Number/VIN #	N/A	N/A
Mobile Tractor Serial Number/VIN #	N/A	N/A
Date of Acquisition of Each Component	12/27/2002	11/30/12
Does Provider Hold Title to Equipment or Have a Capital Lease?	Owned	Owned
Specify if Equipment Was/Is New or Used When Acquired	New	New
Total Capital Cost of Project (Including Construction, etc.) <Use Attached Form>	N/A	$1,877,815
Total Cost of Equipment	$1,289,413	$ 1,180,815
Fair Market Value of Equipment	NA	$ 1,180,815
Net Purchase Price of Equipment	NA	$ 1,180,815
Locations Where Operated	Mission Hospital, 509 Biltmore Ave, Asheville, NC 28801	Mission Hospital, 509 Biltmore Ave, Asheville, NC 28801
Number Days In Use/To be Used in N.C. Per Year	365	365
Percent of Change in Patient Charges (by Procedure)	N/A	0
Percent of Change in Per Procedure Operating Expenses (by Procedure)	N/A	0
Type of Procedures Currently Performed on Existing Equipment	Electrophysiology diagnostics and intervention	N/A
Type of Procedures New Equipment is Capable of Performing	N/A	Cardiac Catheterization

PHILIPS

Philips Healthcare

One Deerfield Centre
13560 Morris Road, Suite 2100
Alpharetta, GA 30004

South Zone IS Sales

October 9, 2012

To whom it may concern:

As part of the agreement between Philips Healthcare and Mission Hospital Inc., 509 Biltmore Ave, Asheville, NC. 28801, Philips is repossessing the existing Philips x-ray unit taken out of the Cath Lab and presently in storage.

Philips will be reusing the existing hardware for purposes of performing a Catalyst upgrade.

Any remaining usable parts will be taken out of the State of North Carolina, and transported back to one of the Philips refurbishment warehouses.

The iXR Philips Catalyst Conversion Program is a practical and cost effective way to transform your current system into the Allura Xper FD10/10 system.

Regards,

Steve Weiss
Region Sales Manager
Philips Healthcare
Imaging Systems
Atlanta Region / South Zone
(770)329-1926
steve.weiss@philips.com

PHILIPS HEALTHCARE
A division of Philips Electronics North America Corporation
22100 Bothell Everett Highway
P.O. Box 3003
Bothell, Washington 98041-3003

PHILIPS

Quotation #: 1-WCOMZO	**Rev:** 10	**Effective From:** 19-Nov-12	**To:** 22-Dec-12

Presented To:

MISSION MEMORIAL HOSPITAL INC
509 BILTMORE AVE
ASHEVILLE, NC 28801

MICKEY DAVIS
MANAGER
Tel: (828) 213-7058

Alternate Address:

Presented By:

Steve Wohlford
Account Manager
Tel: (865) 977-5012
Fax: (509) 696-2411

Steve Weiss
Regional Manager
Tel: (678) 924-6087
Fax: (678) 924-6003

Date Printed: 19-Nov-12

Submit Orders To:
22100 BOTHELL EVERETT HWY
BOTHELL WA 98021
Tel: (888) 564-8643
Fax:(425) 458-0390

IMPORTANT NOTICE: Health care providers are reminded that if the transactions herein include or involve a loan or discount (including a rebate or other price reduction), they must fully and accurately report such loan or discount on cost reports or other applicable reports or claims for payment submitted under any federal or state health care program, including but not limited to Medicare and Medicaid, such as may be required by state or federal law, including but not limited to 42 CFR 1001.952(h).

Quote Solution Summary

Line #	Product	Qty	Price
	100214 Allura Xper FD10/10	1	$1,180,815.00
		Equipment Total:	$1,180,815.00

Solution Summary Detail

Product	Qty	Each	Monthly	Price
100214 Allura Xper FD10/10	1	$1,180,815.00		$1,180,815.00

Buying Group: **NO CONTRACT** **Contract #:** **NONE**

Addt'l Terms:

Each Quotation solution will reference a specific Buying Group/Contract Number representing an agreement containing discounts, fees and any specific terms and conditions which will apply to that single quoted solution. If no Buying Group/Contract Number is shown, Philips' Terms and Conditions of Sale will apply to the quoted solution.

Each equipment system listed on purchase order/orders represents a separate and distinct financial transaction. We understand and agree that each transaction is to be individually billed and paid.

Payment Terms: 10% With Signed Acceptance of the Quotation, 70% Upon Delivery of Major Components, 20% Due When the Product is Available for First Patient Use, Net due 10 days from date of invoice

100214 Allura Xper FD10/10

System Type: New
Freight Terms: FOB Destination
Warranty Terms: Part numbers beginning with two (2) asterisks (**) are covered by a System 12 Months Warranty. All other part numbers are third (3rd) party items.
Special Notations: Contingencies must be removed 120 days before scheduled shipment to assure delivery on specified date. Any rigging costs are the responsibility of the Purchaser.
Additional Terms:

Line #	Part #	Description	Qty
1	**NNAE335	Conversion to FD10/10 R8	1

The iXR Philips Catalyst Conversion Program is a practical and cost effective way to transform your current system into the Allura Xper FD10/10

The Allura Xper FD10/10 biplane cardiovascular system comprises a floor-mounted G-arm stand, a ceiling suspended double C-arm stand and digital imaging X-ray system for cardiovascular diagnostic and interventional procedures.

The Allura Xper FD10/10 system is an integrated single-host concept. The system comprises five functional building blocks:
1. Geometry
2. X-ray Generation
3. Image Detection
4. User Interface
5. Viewing

1. Geometry
The geometry segment offers full cardiovascular projection possibility. It includes:

Frontal stand.
A motorized frontal floor-mounted Poly-Diagnost G-stand. A rotatable base plate (motorized and manually operated) enables a clear area around the patient table. All stand movements are motorized. The manual and motorized parking movement consists of floor-mounted rotation. Angulation and Rotation of the Poly Diagnost G-arm is also motorized at high speeds. Parking of the Poly Diagnost G stand can be done both manual and motorized, over the full range. With electronic autostop positions. This motorized movement makes positioning in the iso-center easy and accurate. It also features comfortable, single operator control of stand parking. The motorized parking provides motorized base rotation at 12 degrees/s from +105 to -105 degrees.
The projection angles for the Poly Diagnost G-arm:

- Rotation 120 degrees LAO to 120 degrees RAO
- Angulation 45 degrees cranial to 45 degrees caudal

Motorized stand movements with variable speed and configurable max speed, allowing:

- Rotation up to 25 degrees/s with the lateral stand in park position
- Angulation up to 18 degrees/s with the lateral stand in park position
- Angulation and rotation up to 8 degrees/sec in biplane operation

The depth of the Poly Diagnost G arm is 105 cm.
The stand features BodyGuard continual capacitive sensing for fast and effective positioning of the stand and the Dynamic Flat Detector. The variable source image distance between focus and Dynamic Flat Detector input screen is 86.5 to 123 cm. The Dynamic Flat Detector is counter-balanced, which means it can be positioned both manually and motorized.

Lateral stand
A motorized lateral ceiling suspended double C-arc stand. It allows longitudinal manual and motorized movement on ceiling rails for convenient parking. Operation is safe and secure due to collision protections on X-ray tube, Flat Detector and inside the double C-arc. The double C-arc enables:

- Motor-driven rotation from frontal to left oblique projections of maximum 90 degrees
- Motor-driven angulation in the cranial or caudal direction of maximum 45 degrees.

The double C-arc allows these angulations at any rotation manual- or motor-driven axial movement of the Flat Detector assembly for adjusting the patient/flat detector input screen distance focus/flat detector input screen distance 87.5-130.3 cm.

The speed of the motorized angulation/rotation movement is 8 degrees/sec whenever the double C-arc is out of its parking position. Parking of the lateral C-arc stand can be done both manually and motorized, over the full range, with electronic autostop positions. Using this motorized movement makes positioning in the iso-center easy and accurate. It also features comfortable, single operator control of stand parking. The motorized longitudinal movement is max 12 cm/sec over max 315cm.

Patient support
The Xper Table standard provides feather-light manual float movement, even for heavy patients, thanks to the unique mono-bearing technology. The long flat carbon fiber tabletop provides ample space to place e.g. catheters and guidewires.
It comprises:

- Table top length of 319 cm, width of 50 cm
- Metal-free overhang 125 cm
- Floating table-top movement of 120 cm longitudinal and 2 x 18 cm transversal
- Motorized height adjustment from 74.5 - 102.5 cm
- Maximum patient weight 250 kg plus 500 N for CPR (or 225 kg plus 1000 N) in any longitudinal position of the table top

Table accessory set includes:

- 3 rail accessory clamps.
- A patient mattress. A slow recovery foam mattress with a density of 58 kg/m3. The mattress has a thickness of 5 cm and adapts to the body shape of the patient. It makes the pressure being divided equally and it recovers when the patient is taken off the mattress. The light yellow cover is easy to clean. Patients are more relaxed due to the comfort of this mattress, supporting long interventional procedures.
- Drip-stand.
- Set of cable holders.
- Patient straps
- Set of Arm Supports (FCV0248)

2. X-ray Generation
The Allura Xper FD10/10 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.
For each plane, the Velara CFD generator comprises:

- X-ray generator 100 kW
- Voltage range is 40 - 125 kV
- Maximum current 1250 mA at 80 kV
- Maximum continuous power for fluoroscopy: 2 kW for 8 hours or 2,4 kW for 0,5 hour
- Program selection . pulsed X-ray up to 3.75 , 7.5 , 15 , 30 frames/s for digital dynamic exposures
- Pulsed X-ray for pulsed fluoroscopy (3.75 , 7.5 , 15 , 30 frames/s).
- Minimum exposure time of 1 ms
- Automatic kV and mA control for optimal image quality prior to run to save dose
- Optimal X-ray tube load incorporated in the Velara CFD generator

The Allura Xper FD10/10 includes a Maximus ROTALIX Ceramic tube assembly MRC-GS 05 08 and cooling unit CU 3101 for cardio-vascular systems for each plane. The X-ray tube assembly comprising:

- 0.5/0.8 mm nominal focal spot values maximal 45 and 85 kW short time load
- Grid switching at pulsed fluoroscopy
- Continuous loadability: 3400 W (at 21 degrees C room temp.)
- Application of SpectraBeam dose management
- Tube housing ROT 1001 for oil-cooled X-ray tube with thermal safety switch
- Cooling unit CU 3000 heat exchanger for use in oil-cooled X-ray tube systems
- High voltage cables

DoseWise program
Philips DoseWise program is a set of techniques, programs and practices built into the Allura Xper FD10/10 system that ensures excellent image quality during each interventional application, while at the same time reducing x-ray dose at every opportunity. The DoseWise comprises of three building blocks to help reduce x-ray dose without compromising diagnostic quality: system intrinsic, user selection and awareness.
System intrinsic:

- Optimized fully digital imaging chain in maximizing the utilization and technology of the x-ray generator, x-ray tube, flat detector and image processing.
- Customizable EPX protocols to each application according to user preferences for different composition of dose rate, pulse speed, filter setting, and image processing (noise reduction, adaptive contour enhancement, adaptive harmonization)
- Built-in SpectraBeam filtering of low energy radiation to optimize image quality and dose efficiency with MRC-GS 0508 X-ray tubes
- Pre-filters of 0.2, 0.5 and 1.0 mm CU equivalent can be applied for each plane
- Automatic cardiac wedge positioning
- Anti-scatter grid, ratio 13:1 in each plane

User selections:

- Three programmable fluoroscopy modes can be selected from the Xper Imaging T.S.O. Each mode has a different composition of dose rate, pulse speed, filter setting, and image processing (noise reduction, adaptive contour enhancement, adaptive harmonization)

- X-ray depth collimator with single semi-transparent wedge filter with manual and automatic ositioning.
- Xper Beam Shaping, which means that both shutters and wedges can be positioned on the Last image Hold without the need for X-ray radiation.
- Xper Fluoro Storage, a grab function allows storage and archiving of both a fluoro image or the last 20 seconds (service configurable time) of fluoroscopy run. These images or runs can be archived and reviewed as a regular run.
- Removable anti-scatter grids to lower x-ray dose for pediatrics.

User awareness
Radiation Dose Structured Report for 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 analysis, to further reduce X-ray dose. On-system monitor display provides and displays body zone specific Air Kerma data (10 zones for cardiac applications) in numeric and graphical bars.

- A graphical bar and numeric displays the actual dose rate (during x-ray) or predictive dose rate (at no radiation)
- Second graphical bar and numeric displays the accumulated Air Kerma dose for the particular body zone of the actual projection
- When the accumulated Air Kerma dose of the particular body zone reaches the critical skin dose level of 2 Gy, it will be indicated on the display and made visible to the x-ray operator.

3. Image Detection
The Allura Xper FD10/10 comprises the following image detection chain for each plane:

- A 25 cm (10 in.) diagonal triple mode Dynamic Flat Detector subsystem for fluoroscopy and cine-fluorography.
- A 6"/8"/10" triple mode Dynamic Flat Detector
- The outer detector physical housing is 37 cm diagonal square
- The digital output of the Flat detector is a 1024 x 1024 matrix at 14 bit depth.
- The pixel pitch is 184 micron by 184 micron
- The DQE(0) is 75%, providing high conversion of X-ray into a digital image, while maintaining a high MTF.

Top performance is achieved by a Dedicated Image Pipeline Processor that has an equivalent capability of more than 8000 MIPS and is designed for video speed image processing. It includes:

- Adaptive contour enhancement at 9 x 9 kernel
- Adaptive harmonization enhancement at 192 x 192 kernel
- Xres is an award-winning image processing algorithm. Xres is a multi-resolution spatial temporal noise reduction and edge enhancement filter. It exploits the full benefits of the digital detector to enhance sharpness and contrast and to reduce noise in the clinical images.

The Allura Xper FD10/10 has a storage capacity of 100,000 images at matrix size of 1024 x 1024, 10 bit for each plane. A maximum number of examinations is 999, with no limit to the maximum number of images per examination.

4. User Interface
Xper stands for PERsonalized X-ray System. This is the first flat detector system based on an expert system. Xper comprises three features: Xper Settings, which customizes the system to

each user's preferred settings. Xper User Interface, which is based Philips harmonization principles used through all clinical modalities. And finally Xper Integration, which makes advanced integration functionality available. Functionality like DICOM Query / Retrieve, background archiving, and Xper Fluoro Storage.

Xper User Interface in Examination Room
The Xper User Interface comprises a variety of User Interface modules in the Examination Room. There is the On-Screen Display, the Xper Module, Xper Viewpad and the Xper Biplane Imaging and Geometry T.S.O. Modules.
The On-Screen Display is positioned on the left side of the reference monitor. The following system information is displayed:

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

The Xper Module is provided for use at either the tableside or in the control room. It comes with a touch screen, which can be operated when covered with sterile covers. The Xper Module contains the following functionality:

- Acquisition settings
- Selection of Xper Setting, which incorporates a list of function settings to set frame rates and X-ray generation settings applicable for the type of the preferred intervention
- Automatic Position Control option for stand positioning and the Table APC option
- Image Processing parameters for adjusting on the Xper Module enable/disable X-ray
- Channel selections for viewing
- Quantification Analysis if available

The Xper Viewpad contains the preprogrammed function settings. The system is provided 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, which means switching control of Xper Viewpad function from life to reference monitor
- Laser pointer, intended to point at regions of interest on the imaging monitors
- LED indication of laser pointer on/off and battery low

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

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

The Xper Biplane Imaging T.S.O. can also be positioned at three sides of the patient table. It provides the following functionality:

- Fluoroscopy Flavor selection defined per Xper Setting
- Shutters and Wedge positioning
- Manual or automatic semi-transparent wedge filter
- Xper Fluoro Storage
- Selection of the Detector field size
- Reset of the fluoroscopy buzzer
- Road map Pro activation if function is available

Both Xper T.S.O.'s are provided with a protection bar. This removable bar protects the buttons from unintended control.

User Interface in Control Room
The control room comprises an Xper Review Module, Xper Data color monitor and two Xper Review B&W medical grade monitors. The Xper Data and Xper Review functions are controlled by a single keyboard and mouse.
The Xper Review Module offers the basic functions for review. The most prominent functions can be controlled by the push of a button. The Xper Review Module comprises 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, and Image stepping
- Run and file overview

- Delete run
- Image invert and digital zoom
- Go to original settings
- Reset fluoroscopy timer
- Enable/disable X-ray

The Xper data monitor is a 19 inch TFT-LCD color monitor. A standard keyboard and mouse control the user interface. The data monitor is intended as the patient data interface. System information is displayed on the bottom of the data monitor:

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

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

Scheduling
In the scheduling page it is possible to add new patients. 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 for 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 currently selected patient.

Review
The review page allows for reviewing of patients:

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

Archive
Biplane Continuous Autopush (NCVA587) Continuous Autopush is an archive accelerator, which ensures that background archiving continues with minimal disruptions.

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

The Xper Review monitor has an 18 inch monochrome TFT-LCD medical grade monitor. The Graphical User Interface on the monochrome monitor has the following features and possibilities:

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

Separate intercom system is connected independently from the system allowing placement at the preferred working position in the control room and examination room. The listen function can be selected separately on each intercom. Activating the talk function on one intercom automatically disables this function on the other intercom.

5. Viewing
Viewing in the Examination room
The Allura Xper FD10 system comes with two 18 inch monochrome medical grade LCD monitors for clinical image display in the Examination room. These LCD monitors are intended for viewing in the examination room and are designed for medical applications. One of the monitors is used for viewing of live images. The second monitor serves as the reference display. Selection and storing of live to reference monitor is controlled by the infra-red remote-control Xper Viewpad. The On-Screen Display provides status information on stand rotation-angulation, table height, display of system messages, X-ray tube load status, selected fluoroscopy mode, selected detector Field of View, and both the rate and accumulation of the dose area product and Air Kerma dose. The main characteristics are:

- 18 inch monochrome TFT-LCD display
- Native format 1280x1024 SXGA
- 10 bit gray-scale resolution with gray-scale correction
- Wide viewing angle (approx. 160 degrees)
- High brightness (max 600 Cd/m2, default 500 Cd/m2)
- 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 (110-240 VAC)
- Integrated LCD protection screen

Included is a flat monitor ceiling suspension for 3 monitors (3F MCS). MCS includes motorized height adjustment. The Ceiling suspension allows flexible monitor positioning over a range of about 360 x 300 cm.

Viewing in Control room
The Allura Xper FD10 includes a 19 inch color LCD monitor and an 18 inch monochrome LCD monitor. The color monitor is for patient data interface and the monochrome monitor is for image display.
The main characteristics for color monitor are:

- 19 inch color TFT-LCD display
- Native format 1280x1024 SXGA
- Controlled brightness (200 Cd/m2) with ambient light
- Wide viewing angle (approx. 160 degrees)

The main characteristics for monochrome monitor are:

- 18 inch monochrome medical grade TFT-LCD display
- Native format 1280x1024 SXGA
- 10 bit gray-scale resolution with gray-scale correction
- Wide viewing angle (approx. 160 degrees)
- High brightness (max 600 Cd/m2, default 500 Cd/m2), with ambient light.

Included is a flat monitor ceiling suspension for 4 monitors (4F MCS) MCS includes motorized height adjustment. The Ceiling suspension allows flexible monitor positioning over a range of about 360 x 300 cm.

DICOM compatibility
The Allura Xper FD10 system includes the Xper DICOM Image Interface which enables the export of clinical images to a DICOM destination like a CD-Medical station or a PACS server. The export formats are based on DICOM 3.0 protocols.
The system exports clinical studies in Cardiac DICOM XA Multi-Frame or DICOM Secondary Capture formats. The Xper DICOM Image Interface transfers through its fast Ethernet link, making images available on-line within seconds.
The archive process can be configured by Xper Settings. The images are sent out either in the background, or manually upon completion of the examination.
The export format is configurable in 512x512 or 1024x1024 matrix in 8 or 10 bit depth. 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 Allura Systems

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

Line #	Part #	Description	Qty

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# 106107-071214

2 **NCVB630 FlexVision XL,Snapshot 1

FlexVision XL is an integrated viewing solution designed to improve workflow efficiency in a variety of interventional settings.

The FlexVision XL provides the ability to:

- Display information from up to 8 sources simultaneously (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
- 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 boxe(s).
- 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 Xper 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.
- 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 Room as separate DICOM Secondary Capture images

- 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.
- Wall Connection Boxes
  Up to 9 Wall Connection Boxes can be connected to FlexVision XL.
  Through Wall Connection Boxes, 3rd party equipment can be connected to the FlexVision Omniswitch.
  The Wall Connection Boxes have Power (230V, 50Hz, max. 500 Watt), Grounding, Video (DVI), Network (RJ45) and Keyboard/mouse (USB) connections.
  The Wall Connection Boxes can be located in the Technical Room, Control Room and/or Exam Room.
  In case of an Equipment Rack: 1 x Wall Connection Box is permanently placed on the Equipment Rack.
  The Wall Connection Boxes for FlexVision XL can be used to connect 3rd party equipment that complies with the following requirements:
  - Qualified medical electrical equipment [IEC 60601-1]
  - IEC 950 only if connected to an FlexVision Wall Connection Box mains (230V) connection in the Control Room or otherwise isolated from hospital mains according IEC60601-1.
  - Connected to the same earth as the Philips Protective Conductor Bar (PPCB).
  - Can be operated with a standard AT 101-key US English keyboard connected through a PS/2 connection.
  - Provide video-output that matches the display range of the Color monitor that is used for display. Most display formats up to 1600x1200 are supported
- Option: NCVB294 set of 2 additional 21 inch LCDs
  For FlexVision XL and EP Cockpit XL a set of 2 additional 21 inch LCDs is available as an option.
  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.
- Option: NCVB591 = 2nd REF for FlexVision XL is optional on FlexVision XL. Second Ref images will be displayed on the large screen monitor

Line #	Part #	Description	Qty
3	**FCV0627	**Bracket for Rad. Shield (ER)**	1

Accessory bracket for mounting a radiation shield

Line #	Part #	Description	Qty
4	**NCVB879	**Aut Pos Contr Xper sys & table**	1

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

Line #	Part #	Description	Qty
5	**NCVB163	**Existing rails 200cm distance**	1

Existing rails 200cm distance

Line #	Part #	Description	Qty
6	**NCVB294	**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.

100214 Allura Xper FD10/10

Line #	Part #	Description	Qty
7	**NCVA781	**Dicom Print compose**	1

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

8	**NCVB157	**Yes, Existing room is Philips**	1
9	**NCVA013	**MRC-GS 05/08 X-Ray Tube**	1

Featuring:

- SpectraBeam pre-filter
- SyncraPulse Pulsed Progressive Fluoroscopy
- 2.4 MHU anode heat storage capacity
- 900 kHU/min heat dissipation

Comprising:

- Maximus ROTALIX Ceramic tube (MRC-GS 05/08 with Grid Switch for pulsed fluoroscopy)
- Tube Housing (ROT1001)
- Cooling Unit (CU3000)
- MRC Rotor Control
- High Voltage Cables

10	**NCVA019	**MRC-GS 05/08 X-Ray Tube**	1

Featuring:
· SpectraBeam pre-filter
· SyncraPulse Pulsed Progressive Fluoroscopy
· 2.4 MHU anode heat storage capacity
· 900 kHU/min heat dissipation
Comprising:
· Maximus ROTALIX Ceramic tube (MRC-GS 05/08 with Grid Switch for pulsed fluoroscopy)
· Tube Housing (ROT1001)
· Cooling Unit (CU3000)
· MRC Rotor Control
· High Voltage Cables

11	**FCV0587	**Xper Live/Ref Slaving**	2

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

12	**NCVA097	**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.

Line #	Part #	Description	Qty

13 ****NCVA783** **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

14 ****FCV0017** **CABLE CARRIER CS** **2**

Additional carrier for suspension of cable hose from X-ray tube assembly or TV monitor.

15 ****FCV4894** **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.

16 ****NCVA165** **1st Xper Module in Exam.Room** **1**

17 ****NCVA856** **No room prepared for IVUS** **1**

Line #	Part #	Description	Qty
18	**989801292278	**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.

19	**980306640009	**Blue Anti-Fatigue Floor Mat w/ Logo**	2

Blue Anti-Fatigue Floor Mat w/ Logo

20	**980406041009	**Rad Shield w/ Arm (Contoured) 61X76**	1

Contoured Rad Shield with Arm rest. 61X76

21	**989801220076	**Exam Lamp 220v**	1

Spring arm mounted examination light for cardiovascular applications

22	**989801220080	**Portegra 2 360 Ceiling Column**	1

Portegra 2 360 Column w/ trolley and ceiling track

23	**980406121009	**Double LCD Monitor Cart**	1

Stand alone monitor cart for two LCD Monitors

24	**NNAE390	**FlexVision XL 9 Input Package**	1

The FlexVision XL9 input package provides nine isolated wall connection boxes and nine legacy converters.

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

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

For each video signal to FlexVision XL on Cardiac System: 9 VWCB
Note:
No VWCB is required in case a video signal is connected directly to a dedicated LCD from the following sources:
1) Xper Live/ref Slaving
2) Interventional HW (XtraVision), ViewForum, Xcelera (only if workstations are powered by Allura Xper)
3)Xper IM
Legacy Video Convertor
The Legacy Video Convertor enables conversion from VGA towards DVI for supported input resolutions, as listed in the table below.
Signal type Native resolution Image Aspect Ratio
VGA 640x480 4:3

Line #	Part #	Description	Qty

SVGA 800x600 4:3
XGA 1024x768 4:3
SXGA 1280x1024 5:4
SXGA+ 1400x1050 4:3
UXGA 1600x1200 4:3
WXGA 1280x800 16:10 (8:5)
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

25 **NNAE218 **Cardiology Loyalty Package** 1

Digtal subtracted Angio

The DSA-option allows to extend the application functions with additional vascular studies. DSA features real-time digital subtraction at low frame speeds of 0.5, 1, 2, 3, or 6 frames per second. The DSA prgrams can be selected per Xper Settings.
It offers exposure technique for uncompromised image quality of subtracted images.
In addition, this option also allows subtraction on run basis (run-subtract), which can be applied in the Rotational Scan and Bolus Chase Subtract options

This function will comprise following functionality:

- Fluoro-Trace
- Fluoro-Subtract
- Exposure subtract on individual image or run basis
- Mask selection
- Landmarking
- Pixel shift

Compatible with:
. Allura Xper FD10 Rel 3 onwards
. Allura Xper FD10/10 Rel 2 onwards

RIS/CIS Dicom Interface

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

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

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

100214 Allura Xper FD10/10

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

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 withDICOM Work List Management and Modality Performed Procedure Step.

Full autocall (Xper)

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

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

Ventricular Quant.Sw pkg(Xper)

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

Coronary Quant.Sw pkg(Xper)

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

Rotational Scan

Rotational Scan provides real-time 3D impressions of complex vasculature and the coronary artery tree. It acquires multiple projections with just one contrast injection.

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

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

Rotational Scan is possiblewith the Allura Xper systems in the side position (ceiling mounted systems) and in the head position which provides the flexibility to perform procedures virtually from head to toe.

With Allura Xper FD20

C-arm in side position:

- Max. rotation speed: 30°
- Max. rotation angle: 180°

C-arm in head position:

- Max. rotation Speed: 55°
- Max. rotation Angle: 305°

With Allura Xper FD10:

Poly G in side position (ceiling version):

- Max. rotation Speed: 30°
- Max. rotation Angle: 90°

Poly G in head position:

- Max. rotation Speed: 55°
- Max. rotation Angle: 240°

Maximum speeds are given by the framespeed specifications of the system configuration.

Line #	Part #	Description	Qty

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.

The stand is designed forvery high mechanical stability. It offers precise positioning and high reproducibility assuring you of high quality images and excellentstudies.

Operation of Rotational Scan is extremely easy. The procedure is selected set up and executed virtually within 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 endand start positions are easily selected. The procedure is controlled from theexposure hand

- or foot-switch.

26	**SP059D**	**System Admin**	**1**

Includes 3 month equipment warranty extension

27	**SP059B**	**Universal Power Supply**	**1**

Flouro-Only UPS

28	**Third Party Item**	**Sony UP-990AD B/W Printer**	**1**

Sony UP-990AD B/W Printer

********PROMOTIONS********

Promotion Name	Description
Biplane Closer Q4, 2012	All orders for this promotion must be received on or before December 28, 2012.

NET PRICE $1,180,815.00

Buying Group: NO CONTRACT Contract #: NONE

Addt'l Terms:

Each Quotation solution will reference a specific Buying Group/Contract Number representing an agreement containing discounts, fees and any specific terms and conditions which will apply to that single quoted solution. If no Buying Group/Contract Number is shown, Philips' Terms and Conditions of Sale will apply to the quoted solution.

Each equipment system listed on purchase order/orders represents a separate and distinct financial transaction. We understand and agree that each transaction is to be individually billed and paid.

Price above does not include any applicable sales taxes.

The preliminary delivery request date for this equipment is:_____.

If you do not issue formal purchase orders indicate by initialing here_____.

Tax Status:

Taxable_____ Tax Exempt_____

If Exempt, please indicate the Exemption Certification Number:_____, and attach a copy of the certificate.

Delivery/Installation Address:

_____

_____

_____

Invoice Address:

_____

_____

_____

Contact Phone #:

_____

Contact Phone #:

_____

Purchaser approval as quoted:

_____

Date:

_____

Title:

_____

This quotation is signed and accepted by an authorized representative in acknowledgement of the system configuration, terms and conditions stated herein.

Philips Standard Terms and Conditions of Sale

The products and services listed in the quotation are offered by Philips Healthcare, a division of Philips Electronics North America Corporation ("Philips") only under the terms and conditions described below.

1. Price; Taxes. The purchase price stated in the quotation does not include applicable sales, excise, use, or other taxes in effect or later levied. Customer shall provide Philips with an appropriate exemption certificate reasonably in advance of the date the product is available for delivery otherwise, Philips shall invoice Customer for those taxes, and Customer shall pay those taxes in accordance with the terms of the invoice.

2. Cancellation. Philips' cancellation policies are set forth in the applicable schedule attached to these Terms and Conditions of Sale.

3. Payment Terms.
3.1 Unless otherwise specified in the quotation, Philips will invoice Customer, and Customer will immediately pay such invoice on receipt for each product in accordance with the payment terms set forth in the applicable schedule attached to these Terms and Conditions of Sale:
3.2 Orders are subject to Philips' on-going credit review and approval.
3.3 Customer shall pay interest on any amount not paid when due at the maximum rate permitted by applicable law. If Customer fails to pay any amount when due, in addition to any other rights or remedies available to Philips at law or in equity, Philips may discontinue the performance of services, discontinue the delivery of the product, or deduct the unpaid amount from any amounts otherwise owed to Customer by Philips under any agreement with Customer. In any action initiated to enforce the terms of the quotation following a Customer default or product cancellation under an order arising from the quotation, Philips shall be entitled to recover as part of its damages all costs and expenses, including reasonable attorneys' fees, in connection with such action.
3.4 Credit Card. Philips, at its discretion, will accept a credit card for payment on orders with a net value of $50,000 or less.

4. Trade - In. If Customer will be trading-in any equipment ("Trade-In"), then:
4.1 Customer represents and warrants that Customer has good and marketable title to such Trade-In;
4.2 Title to the Trade-In shall pass from Customer to Philips upon Philips making the new equipment available for first patient use. Removal of the Trade-In from Customer's site shall occur no later than the date Philips makes the new product available for first patient use, unless otherwise agreed in writing between Philips and the Customer; and
4.3 Notwithstanding anything to the contrary in any Business Associate Addendum ("BAA"), Customer represents and warrants that Customer has removed or de-identified all Protected Health Information ("PHI") from the Trade-In equipment as of the date the equipment is removed. To the extent Customer has not done so, Customer agrees to reimburse Philips for any out-of-pocket costs Philips incurs to remove or de-identify PHI from the Trade-In.
4.4 If (a) the condition of the Trade-In is not substantially the same when Philips removes the Trade-In (ordinary wear and tear excepted) as it was when Philips quoted the Trade-In value; or (b) Customer delays the removal of the Trade-In, then Philips may reduce the price quoted for such Trade-In or cancel the Trade-In and Customer will pay the adjustment amount within thirty (30) days of receipt of invoice.
4.5 If Philips does not receive possession of the Trade-In, Philips will charge Customer, and Customer will pay within thirty (30) days of receipt of invoice, the amount of the Trade-In allowance.
4.6 Evidence that Customer intends to trade in an asset as part of the purchase or lease of any product(s) shall be in the form of, but not limited to: (a) receiving a trade in quote and/or authorization from Philips on the value of the asset to be traded in; (b) providing Philips with serial numbers of assets to be traded in; and/or, (c) providing Philips with a de-installation date to remove an existing asset in order to install Philips quoted equipment.

5. Leases. If Customer desires to convert the purchase of any product to a lease, Customer will arrange for the lease agreement and all other related documentation to be reviewed and approved by Philips not later than ninety (90) days prior to the date of the availability for delivery of major components of the product. The Customer is responsible for converting the transaction to a lease, and is required to secure the leasing company's approval of all of these Terms and Conditions of Sale. No product will be delivered to the Customer until Philips has received copies of the fully executed lease documents and has approved the same.

6. Security Interest. Customer hereby grants to Philips a purchase money security interest in the products until all payments have been made. Customer shall sign any financing statements or other documents necessary to perfect Philips' security interests in the products. Where permitted by applicable law, Customer's signature on the quotation or on a purchase order issued as a result of the quotation gives Philips the right to sign on Customer's behalf and file any financing statement or other documents to perfect Philips' security interest in the product.

7. Shipment and Risk of Loss.
7.1 The applicable schedule attached to these Terms and Conditions of Sale shall apply for delivery.
7.2 Title to any product (excluding software), and the risk of loss or damage to any product shall pass to the Customer F.O.B. destination. Customer shall obtain and pay for insurance covering such risks at destination.

8. Installation, Site Preparation, Remote Services.
8.1 **Installation.** Customer shall provide Philips full and free access to the installation site and suitable and safe space for the storage of the products before installation. Customer shall advise Philips of conditions at or near the site, including any hazardous materials, that could adversely affect the installation or pose a health or safety risk to Philips' personnel, and shall ensure that those conditions are corrected and hazardous materials removed, and that the site is fully prepared and available to Philips before installation work begins. Customer shall ensure, at no charge to Philips, that there are no obstacles preventing Philips from moving the product from the entrance of the Customer's premises to the installation site. Customer shall be responsible, at its expense, for rigging, the removal of partitions or other obstacles, and restoration work. The products will be installed during normal working hours. Philips will unpack the product, construct applicable pads (if required for certain products), connect the product to a safety switch or breaker to be installed by the Customer, and calibrate and test the product. If local labor conditions, including but not limited to a requirement to utilize union labor, require the use of non-Philips employees to participate in the installation of the product, then such participation of non-Philips employees shall be at Customer's expense. In such case, Philips will provide engineering supervision during the installation.

8.2 **Site Preparation.** Except where Philips has agreed in writing to provide construction services for a fee pursuant to a construction agreement and scope of work signed by Customer, Customer shall be responsible, at its expense, for the preparation of the installation site where the product will be installed including any required structural alterations. Customer shall provide any and all plumbing, carpentry work, conduit, wiring including communications and/or computer wiring, network equipment, power supply, surge suppression and power conditioning (except to the extent they are expressly included in the quotation), fire protection and environmental controls, ground fault and isolation system, and other fixtures and utilities required to properly attach, install, and use the product. Site preparation shall be in compliance with all safety, electrical, RF or magnetic shielding and acoustical suppression and building codes relevant to the product and its installation and use. The sufficiency of any installation site plans shall be the responsibility of Customer. Customer, at its expense, shall obtain all permits and licenses required by federal, state, or local authorities in connection with the installation and operation of the product, including any certificate of need and zoning variances. PHILIPS MAKES NO WARRANTY AND ASSUMES NO LIABILITY FOR THE FITNESS OR ADEQUACY OF THE SITE IN WHICH THE PRODUCT IS TO BE INSTALLED OR USED. CUSTOMER INDEMNIFIES PHILIPS AGAINST ANY CLAIMS, INCLUDING SUBROGATION CLAIMS, ARISING FROM CUSTOMER'S SITE PREPARATION RESPONSIBILITIES.
8.3 **Remote Services Network ("RSN").** Customer will (a) provide Philips with a secure location at Customer's premises to store one Philips RSN router (or a Customer-owned router acceptable to Philips at Customer's option) for connection to the equipment and to Customer's network; and (b) at all times during the warranty period provide Philips with full and free access to the router and a dedicated broadband Internet access node, including but not limited to public and private interface access, suitable to establish a successful connection to the products through the Philips RSN and Customer's network for Philips' use in remote servicing of the product, remote assistance to personnel that operate the products, updating the products software, transmitting automated status notifications from the product and regular uploading of products data files (such as but not limited to error logs and utilization data for improvement of Philips products and services and aggregation into services). Customer's failure to provide such access at the scheduled time will constitute Customer's waiver of the scheduled planned maintenance service and will void support or warranty coverage of product malfunctions until such time as planned maintenance service is completed or RSN access is provided. Customer agrees to pay Philips at the prevailing demand service rates for all time spent by Philips service personnel waiting for access to the products.

9. Product Warranty.
9.1 If a separate product warranty page prints as part of this quotation, that product warranty applies to your purchase and is incorporated herein; otherwise Section 9.2-9.7 shall apply.
9.2 **Hardware/Systems.** Philips warrants to Customer that the Philips equipment (including its operating software) will perform in substantial compliance with its performance specifications in the documentation accompanying the products, for a period of 12 months beginning upon availability for first patient use.
9.3 **Stand-alone Licensed Software.** For a period of ninety (90) days from the date Philips makes Stand-alone Licensed Software available for first patient use, such Stand-alone Licensed Software shall substantially conform to the technical user manual that ships with the Stand-alone Licensed Software. "Stand-alone Licensed Software" means sales of Licensed Software without a contemporaneous purchase of a server for the Licensed Software. If Philips is not the installer of the Stand-alone Licensed Software, the foregoing warranty period shall commence upon shipment.
9.4 If the start of the installation is delayed for any reason beyond the control of Philips for more than thirty (30) days following the date that Philips notifies Customer that the major components of the product are available for delivery, the warranty period begins on the thirty-first (31st) day following that date.
9.5 Philips' sole obligations and Customer's exclusive remedy under any product warranty are limited, at Philips' option, to the repair or the replacement of the product or a portion thereof within thirty (30) days after receipt of written notice of such material breach from Customer ("Product Warranty Cure Period") or, upon expiration of the Product Warranty Cure Period, to a refund of a portion of the purchase price paid by the Customer, upon Customer's request. Any refund will be paid to the Customer when the product is returned to Philips. Warranty service outside of normal working hours (i.e, 8:00 A.M. to 5:00 P.M., Monday through Friday, excluding Philips' observed holidays), will be subject to payment by Customer at Philips' standard service rates.
9.6 This warranty is subject to the following conditions: the product (a) is to be installed by authorized Philips representatives (or is to be installed in accordance with all Philips installation instructions by personnel trained by Philips); (b) is to be operated exclusively by duly qualified personnel in a safe and reasonable manner in accordance with Philips' written instructions and for the purpose for which the products were intended; and (c) is to be maintained and in strict compliance with all recommended and scheduled maintenance instructions provided with the product; and Customer is to notify Philips immediately if the product at any time fails to meet its printed performance specifications. Philips' obligations under any product warranty do not apply to any product defects resulting from improper or inadequate maintenance or calibration by the Customer or its agents; Customer or third party supplied interfaces, supplies, or software including without limitation loading of operating system patches to the Licensed Software and/or upgrades to anti-virus software (except DAT file changes) running in connection with the Licensed Software without prior validation approval by Philips; use or operation of the product other than in accordance with Philips' applicable product specifications and written instructions; abuse, negligence, accident, loss, or damage in transit; improper site preparation; unauthorized maintenance or modifications to the product; or viruses or similar software interference resulting from connection of the product to a network. Philips does not provide a warranty for any third party products furnished to Customer by Philips under the quotation; however, Philips shall use reasonable efforts to extend to Customer the third party warranty for the product. The obligations of Philips described herein and in the applicable product-specific warranty document are Philips' only obligations and Customer's sole and exclusive remedy for a breach of a product warranty.
9.7 THE WARRANTIES SET FORTH HEREIN AND IN PHILIPS' WARRANTY DOCUMENT WITH RESPECT TO A PRODUCT (INCLUDING THE SOFTWARE PROVIDED WITH THE PRODUCT) ARE THE ONLY WARRANTIES MADE BY PHILIPS IN CONNECTION WITH THE PRODUCT, THE SOFTWARE, AND THE TRANSACTIONS CONTEMPLATED BY THE QUOTATION, AND ARE EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, WHETHER WRITTEN, ORAL, STATUTORY, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Philips may use refurbished parts in the manufacture of the products, which are subject to the same quality control procedures and warranties as for new products.

10. Philips Proprietary Service Materials. Any Philips maintenance or service software and documentation provided with the product and/or located at Customer's premises is intended solely to assist Philips and its authorized agents to install and to test the products or to assist Philips and its authorized agents to maintain and to service the products under warranty or a separate support agreement with Customer. Customer agrees to restrict access to such software and documentation to Philips' employees and those of Philips' authorized agents only and to permit Philips to remove its Proprietary Service Materials upon request.

11. Patent Infringement Claims.
11.1 Philips shall indemnify, defend, and hold harmless Customer against any new claim that a Philips Product provided in the quotation infringes, misappropriates, or violates any third party intellectual property right, whether patent, copyright, trademark, or trade secret, provided that Customer: (a) provides Philips prompt written notice of the claim; (b) grants Philips full and complete information and assistance necessary for Philips to defend, settle, or avoid the claim; and (c) gives Philips sole control of the defense or settlement of the claim.
11.2 The provisions of this section shall not apply if the product is sold or transferred.
11.3 If (a) a Philips' Product is found or believed by Philips to infringe such a claim; or, (b) Customer has been enjoined from using the Philips Product pursuant to an injunction issued by a court of competent jurisdiction, Philips may, at its option, (i) procure the right for Customer to use the product, (ii) replace or modify the product to avoid infringement, or (iii) refund to Customer a portion of the product purchase price upon the return of the original product. Philips shall have no obligation for any claim of infringement arising from: Philips' compliance with Customer's designs, specifications, or instructions; Philips' use of technical information or technology supplied by Customer; modifications to the product by Customer or its agents; use of the product other than in accordance with the product specifications or applicable written product instructions; use of the product with any other product; if infringement would have been avoided by the use of a current unaltered release of the products; or use of the Philips Product after Philips has advised Customer, in writing, to stop use of the Philips Product in view of the claimed infringement. Philips will not be liable for any claim where the damages sought are based directly or indirectly upon the quantity or value of products manufactured by means of the products purchased under this quotation, or based upon the amount of use of the product regardless of whether such claim alleges the product or its use infringes or contributes to the infringement of such claim. The terms in this section state Philips' entire obligation and liability for claims of infringement, and Customer's sole remedy in the event of a claim of infringement.

12. Limitation of Liability. THE TOTAL LIABILITY, IF ANY, OF PHILIPS AND ITS AFFILIATES FOR ALL DAMAGES AND BASED ON ALL CLAIMS, WHETHER ARISING FROM BREACH OF CONTRACT, BREACH OF WARRANTY, NEGLIGENCE, INDEMNITY, STRICT LIABILITY OR OTHER TORT, OR OTHERWISE, ARISING FROM A PRODUCT, LICENSED SOFTWARE, AND/OR SERVICE IS LIMITED TO THE PRICE PAID HEREUNDER FOR THE PRODUCT, LICENSED SOFTWARE, OR SERVICE.
THIS LIMITATION SHALL NOT APPLY TO:
(a) THIRD PARTY CLAIMS FOR BODILY INJURY OR DEATH CAUSED BY PHILIPS' NEGLIGENCE OR PROVEN PRODUCT DEFECT;
(b) CLAIMS OF TANGIBLE PROPERTY DAMAGE REPRESENTING THE ACTUAL COST TO REPAIR OR REPLACE PHYSICAL PROPERTY DAMAGE;
(c) OUT-OF-POCKET COSTS INCURRED BY CUSTOMER TO PROVIDE PATIENT NOTIFICATIONS, REQUIRED BY LAW, TO THE EXENT SUCH NOTICES ARE CAUSED BY PHILIPS' UNAUTHORIZED DISCLOSURE OF PHI; and,
(d) FINES/PENALTIES LEVIED AGAINST CUSTOMER BY GOVERNMENT AGENCIES CITING PHILIPS' UNATHORIZED DISCLOSURE OF PHI AS THE BASIS OF THE FINE/PENALTY, ANY SUCH FINES OR PENALTIES SHALL CONSTITUTE DIRECT DAMAGES.

13. DISCLAIMER. IN NO EVENT SHALL PHILIPS OR ITS AFFILIATES BE LIABLE FOR ANY INDIRECT, PUNITIVE, INCIDENTAL, CONSEQUENTIAL, OR SPECIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR PROFITS, BUSINESS INTERRUPTION, LOSS OF DATA, OR THE COST OF SUBSTITUTE PRODUCTS OR SERVICES WHETHER ARISING FROM BREACH OF CONTRACT, BREACH OF WARRANTY, NEGLIGENCE, INDEMNITY, STRICT LIABILITY OR OTHER TORT.

14. Confidentiality. Each party shall maintain as confidential any information furnished or disclosed to one party by the other party, whether disclosed in writing or disclosed orally, relating to the business of the disclosing party, its customers and/or its patients, and the quotation and its terms, including the pricing terms under which Customer has agreed to purchase the products. Each party shall use the same degree of care to protect the confidentiality of the disclosed information as that party uses to protect the confidentiality of its own information, but in no event less than a reasonable amount of care. Each party shall disclose such confidential information only to its employees having a need to know such information to perform the transactions contemplated by the quotation. The obligation to maintain the confidentiality of such information shall not extend that (a) is or becomes generally available to the public without violation of this Agreement or any other obligation of confidentiality or (b) is lawfully obtained by the receiving Party from a third party without any breach of confidentiality or violation of law.

15. Compliance with Laws & Privacy.
15.1 Each party shall comply with all laws, rules, and regulations applicable to the party in connection with the performance of its obligations in connection with the transactions contemplated by the quotation, including, but not limited to, those relating to affirmative action, fair employment practices, FDA, Medicare fraud and abuse, and the Health Insurance Portability and Accountability Act of 1996 ("HIPAA"). Health care providers are reminded that if the purchase includes a discount or loan, they must fully and accurately report such discount or loan on cost reports or other applicable claims for payment submitted under any federal or state health care program, including but not limited to Medicare and Medicaid, as required by federal law (see 42 CFR 1001.952[h]).
15.2 In the course of providing project implementation related services and/or warranty services to Customer, hereunder, it may be necessary for Philips to have access to, view and/or download computer files from the products that might contain Personal Data. "Personal Data" means information relating to an individual, from which that individual can be directly or indirectly identified. Personal Data can include both personal health information (i.e. images, heart monitor data, and medical record number) and non-health information (i.e. date of birth, gender). Philips will process Personal Data only to the extent necessary to perform and/or fulfill its project implementation related service, warranty service and/or warranty obligations hereunder.
15.3 It is Customer's responsibility to notify Philips if any portion of the order is funded under the American Reinvestment and Recovery Act ("ARRA"). To ensure compliance with the ARRA regulation, Customer shall include a clause stating that the order is funded under ARRA on its purchase order or other document issued by Customer.

16. Excluded Provider. Philips represents and warrants that Philips, its employees and subcontractors, are not debarred, excluded, suspended or otherwise ineligible to participate in a federal health care program, nor have they been convicted of any health care related crime for the products and services provided under this Agreement (an "Excluded Provider"). Philips shall promptly notify Customer when it becomes aware that Philips or any of its employees or subcontractors, providing services hereunder, have become an Excluded Provider whereupon Customer may terminate this order by express written notice for product and services not yet shipped or rendered.

17. General Terms. The following additional terms shall be applicable to the purchase of a product:
17.1 **Force Majeure.** Each party shall be excused from performing its obligations (except for payment obligations) arising from any delay or default caused by events beyond its reasonable control including, but not limited to, acts of God, acts of third parties, acts of any civil or military authority, fire, floods, war, embargoes, labor disputes, acts of sabotage, riots, accidents, delays of carriers, subcontractors or suppliers, voluntary or mandatory compliance with any government act, regulation or request, shortage of labor, materials or manufacturing facilities.
17.2 **Bankruptcy.** If Customer becomes insolvent, is unable to pay its debts when due, files for bankruptcy, is the subject of involuntary bankruptcy, has a receiver appointed, or has its assets assigned, Philips may cancel any unfulfilled obligations, or suspend performance; however, Customer's financial obligations to Philips shall remain in effect.
17.3 **Assignment.** Customer may not assign any rights or obligations in connection with the transactions contemplated by the quotation without the prior written consent of Philips, which consent shall not be unreasonably withheld, and any attempted assignment without such consent shall be of no force or effect.
17.4 **Export.** Customer shall assume sole responsibility for obtaining any required export authorizations in connection with Customer's export of the products from the country of delivery.
17.5 **Governing Law.** All transactions contemplated by the quotation shall be governed by the laws of the state where the equipment will be installed, without regard to that state's choice of law principles, and expressly excluding application of the Uniform Computer Information Transactions Act ("UCITA"), in any form. EACH PARTY, KNOWINGLY AND AFTER CONSULTATION WITH COUNSEL, FOR ITSELF, ITS SUCCESSSORS' AND ASSIGNS, WAIVES ALL RIGHT TO TRIAL BY JURY OF ANY CLAIM ARISING WITH RESPECT TO THIS AGREEMENT OR ANY MATTER RELATED IN ANY WAY THERETO.
17.6 **Entire Agreement.** These Terms and Conditions of Sale, the terms and conditions set forth in the quotation and the applicable Philips' product-specific warranty document constitute the entire understanding and agreement by and between the parties with respect to the transactions contemplated by the quotation, and supersede any previous understandings or agreements between the parties, whether written or oral, regarding the transactions contemplated by the quotation. The pricing in the quotation is based upon the terms and conditions in the quotation. No additional terms, conditions, consents, waivers, alterations, or modifications shall be binding unless in writing and signed by the parties. Customer's additional or different terms and conditions, whether stated in a purchase order or other document issued by Customer, are specifically rejected and shall not apply to the transactions contemplated by the quotation.
17.7 **Headings.** The headings in the quotation are intended for convenience only and shall not be used to interpret the quotation.
17.8 **Severability.** If any provision of the quotation is deemed to be illegal, unenforceable, or invalid, in whole or in part, the validity and enforceability of the remaining provisions shall not be affected or impaired, and shall continue in full force and effect.
17.9 **Notices.** Notices or other communications shall be in writing, and shall be deemed served if delivered personally, or if sent by facsimile transmission, by overnight mail or courier, or by certified mail, return receipt requested and addressed to the party at the address set forth in the quotation.
17.10 **Performance.** The failure of Customer or of Philips at any time to require the performance of any obligation will not affect the right to require such performance at any time thereafter. Course of dealing, course of performance, course of conduct, prior dealings, usage of trade, community standards, industry standards, and customary standards and customary practice or interpretation in matters involving the sale, delivery, installation, use, or service of similar or dissimilar products or services shall not serve as references in interpreting the terms and conditions of the quotation.
17.11 **Obligations.** Customer's obligations are independent of any other obligations the Customer may have under any other agreement, contract, or account with Philips. Customer will not exercise any right of offset in connection with the terms and conditions in the quotation or in connection with any other agreement, contract, or account with Philips.
17.12 **Additional Terms.** The Product specific schedules listed below are incorporated herein as they apply to the equipment listed on the quotation and their additional terms shall apply solely to Customer's purchase of the products specified therein.
If any terms set forth in a schedule conflict with terms set forth in these Terms and Conditions of Sale, the terms set forth in the schedule shall govern:
(a) Schedule 1: Xcelera, Xper IM, Cardiovascular Information System (CVIS) and TraceMasterVue EKG Storage System (TMV) Products.

LICENSED SOFTWARE

1. License Grant.
1.1 Subject to any usage limitations for the Licensed Software set forth on the product description of the quotation, Philips grants to Customer a nonexclusive and non-transferable right and license to use the computer software package ("Licensed Software") in accordance with the terms of the quotation. The License shall continue for as long as Customer continues to own the product, except that Philips may terminate the License if Customer is in breach or default. Customer shall return the Licensed Software and any authorized copies thereof to Philips immediately upon expiration or termination of this License.
1.2 The License does not include any right to use the Licensed Software for purposes other than the operation of the product. Customer may make one copy of the Licensed Software in machine-readable form solely for backup purposes. Philips reserves the right to charge for backup copies created by Philips. Except as otherwise provided under section 1.6, Customer may not copy, reproduce, sell, assign, transfer, or sublicense the Licensed Software for any purpose without the prior written consent of Philips. Customer shall reproduce Philips' copyright notice or other identifying legends on such copies or reproductions. Customer will not (and will not allow any third party to) decompile, disassemble, or otherwise reverse engineer or attempt to reconstruct or discover the product or Licensed Software by any means whatsoever.
1.3 The License shall not affect the exclusive ownership by Philips of the Licensed Software or of any trademarks, copyrights, patents, trade secrets, or other intellectual property rights of Philips (or any of Philips' suppliers) relating to the Licensed Software.
1.4 Customer agrees that only authorized officers, employees, and agents of Customer will use the Licensed Software or have access to the Licensed Software (or to any part thereof), and that none of Customer's officers, employees, or agents will disclose the Licensed Software, or any portion thereof, or permit the Licensed Software, or any portion thereof, to be used by any person or entity other than those entities identified on the quotation. Customer acknowledges that certain of Philips' rights may be derived from license agreements with third parties, and Customer agrees to preserve the confidentiality of information provided by Philips under such third party license agreements.
1.5 The Licensed Software shall be used only on the product(s) referenced in the quotation.
1.6 Customer may transfer the Licensed Software in connection with sale of the product to a healthcare provider who accepts all of the terms and conditions of this License; provided that Customer is not in breach or default of this License, the Terms and Conditions of Sale, or any payment obligation to Philips.

2. Modifications.
2.1 If Customer modifies the Licensed Software in any manner, all warranties associated with the Licensed Software and the products shall become null and void. If Customer or any of its officers, employees, or agents should devise any revisions, enhancements, additions, modifications, or improvements in the Licensed Software, Customer shall disclose them to Philips, and Philips shall have a non-exclusive royalty-free license to use and to sub-license them.
2.2 The Licensed Software is licensed to Customer on the basis that (i) Customer shall maintain the configuration of the products as they were originally designed and manufactured and (ii) the product includes only those subsystems and components certified by Philips. The Licensed Software may not perform as intended on systems modified by other than Philips or its authorized agents, or on systems which include subsystems or components not certified by Philips. Philips does not assume any responsibility or liability with respect to unauthorized modification or substitution of subsystems or components.

071612 (Rev I)

Schedule 1

Interventional X-Ray (iXR), Diagnostic X-Ray (DXR), Computed Tomography (CT), Magnetic Resonance (MR), Positron Emission Tomography (PET), Nuclear Medicine (NM), Radiation Oncology (PROS), Women's Healthcare (WHC), and Ultrasound (US) products (including Image Guided Intervention and Therapy (IGIT) Products)

1. Payment Terms.
Unless otherwise specified in the quotation, Philips will invoice Customer, and Customer will pay such invoice on receipt, as follows:
1.1 For Interventional X-Ray (iXR), Diagnostic X-Ray (DXR), Computed Tomography (CT), Magnetic Resonance (MR), Positron Emission Tomography (PET), Nuclear Medicine (NM), Radiation Oncology (PROS), and Women's Healthcare (WHC):
(a) 10% of the purchase price shall be due with Customer's acceptance of the quotation.
(b) 70% of the purchase price shall be due on delivery of the major components of the product. Product installation will not begin until Customer has paid this portion of the purchase price.
(c) 20% of the purchase price shall be due when the product is available for first patient use. Available for first patient use means the product has been installed and substantially meets Philips' published specifications.
1.2 For Ultrasound(US) products (including IGIT Products):
(a) 100% of the purchase price shall be due thirty (30) days from Philips' invoice date.
1.3 If the start of the installation is delayed for any reason beyond the control of Philips for more than thirty (30) days following the date that Philips notifies customer that the major components of the product are available for delivery, the unpaid portion of the purchase price shall be due on the thirty-first (31st) day following such date.

2. Cancellation. The quotation is subject to change or withdrawal prior to written acceptance by Customer. All purchase orders issued by Customer are subject to acceptance by Philips. If Customer cancels an order prior to product shipment, Customer shall pay a cancellation charge of fifteen percent (15%) of the net order price. Orders are non-cancellable for products shipped.

3. Delivery.
3.1 Philips will use reasonable efforts to ship the product to the Customer by: (a) by the mutually agreed upon shipment date; or (b) by the date stated in the quotation; or (c) as otherwise agreed in writing. Philips will ship the product according to Philips' standard commercial practices. Philips will deliver the equipment during normal working hours, 8:00 - 5:00 PM, in the time zone where the Customer is located. Philips may make partial shipments. Philips will pay shipping costs associated with product shipment.
3.2 Prior to the shipment of any product, Philips may change the construction or the design of the product without notice to the Customer so long as the function, footprint, and performance of the product are not substantially altered.
3.3 If Customer requests a delay in the date major components of the product are available for delivery, then Philips will place the product in storage and the unpaid portion of the purchase price shall be due. Customer will reimburse Philips for all storage fees incurred upon receipt of invoice.

4. Additional Customer Installation Obligations for Magnetic Resonance.
4.1 Customer shall provide any and all Site preparation and shall be in compliance with all RF or magnetic shielding and acoustical suppression and building codes relevant to the product and its installation and use.
4.2 Customer's contractor or Customer's architect is required to provide detailed information on the proposed Helium Exhaust Pipe for their MRI system prior to installation to ensure safety specifications are being met.
Required Details include:
(a) Architectural drawing or sketch with complete dimensions including lengths, bending radii, bending angles, and pipe diameters for entire Helium Exhaust Pipe run from RF enclosure to discharge location.
(b) Completed Helium Exhaust Pipe Verification Checklist (Provided by Local Philips Project Manager)
(c) Picture showing the area where the Helium Exhaust Pipe will discharge.
4.3 Magnets will not be released for delivery unless and until Helium Exhaust Pipe details are provided for verification and have been confirmed to meet all life safety specifications.

5. Additional Terms Related to Sales of IGIT Products.
5.1 As part of installation, Philips will connect the IGIT product to such DICOM compatible scanners as Customer may designate (in writing), including CT and MR scanners and, if ultrasound navigation is included in the product, an iU22 ultrasound system.
5.2 If Customer requires that Philips connect the IGIT product to more than two (2) scanners or other devices, then Philips shall invoice Customer and Customer shall pay for installation services at Philips' then-current daily service rate. Additionally, Customer shall (a) make the scanner(s) the Customer has designated available to Philips' installation representative, (b) create and provide a data set of the installation phantom on or before the installation date, and (c) have its IT representative available to assist in connecting the IGIT product to Customer's DICOM devices during the agreed installation time. If such installation and connection is delayed due to Customer failing in its obligations described in this section, then Philips may invoice Customer and Customer shall pay either for (a) any time that Philips spends waiting at the site for such obligation to be fulfilled, at Philips' then-current service rate, or (b) reasonable travel expenses if Philips has to reschedule such installation.
5.3 Training on the IGIT Product is not included with the purchase of the IGIT product unless it is separately identified on the quotation.

6. Additional Terms Related to Sales of the IntelliSpace Breast Solution, including the MammoDiagnost VU.
6.1 **Installation.** Philips will install the IntelliSpace Breast Solution and perform installation tests on the application running with the hardware provided as part of the solution, including the MammoDiagnost VU. Philips also configures and provides interfaces to the equipment and information systems set forth in a statement of work signed by Philips and the Customer. Interfaces set forth in Subsection 6.2 below are Customer's responsibility and are not part of Parts installation deliverables.
6.2 **Customer's Interface Obligations for Third Party RIS and MIS Applications.** Customer is responsible to develop and implement interfaces from the Licensed Software running on the client workstation to any third party Radiology Information System ("RIS") or Mammography Information System ("MIS") or to contract with the RIS and/or MIS vendor to have them perform these interface obligations on Customer's behalf. Interfacing the solution from the solutions server is not permitted. Philips shall provide Customer an API toolkit for the Licensed Software to aide Customer to perform such interface tasks. The successful and reasonably timely completion of these projects takes good faith efforts on the part of both Philips and Customer, especially when Customer has third party interfaces to develop and implement. A project implementation plan is based on completion dates mutually agreed by the parties that should be

reflective of the obligations of both parties. These dates are entered into the project implementation plan for this solution (the "Project Implementation Plan"). In the event Customer has not fulfilled its interface obligations by the dates set forth in the Project Implementation Plan, Customer will sign Philips' acceptance (MDIR) document for the Philips deliverables sold and pay the final payment described in Subsection 1.1(c), provided that Philips has installed the Philips deliverables and provided the interfaces Philips is responsible for pursuant to Subsection 6.1, and that the Philips deliverables substantially meet Philips' published specifications.

6.3 **Prior Validation of Operating System Updates and/or Upgrades.** Patches introduced by operating system oem's or upgrades to anti-virus software can impact the performance and functionality of the applications that run on them and affect patient safety. Philips shall perform validation testing of certain Microsoft operating systems and MacAfee anti-virus software during the warranty period. Philips shall have no obligation to validate any other third party operating system or anti-virus software. Customer shall not install or use (a) operating system patches, updates or upgrades; (b) anti-virus updates (except to the DAT files, i.e., virus definitions); or, (c) upgrades to anti-virus search engines, collectively (a)-(b) prior to validation testing and approval by Philips ("Unauthorized Updates"). Philips shall have no liability, including, without limitation, for warranty claims, arising from use of the Licensed Software with Unauthorized Updates. In the event Philips discovers that Customer is using an Unauthorized Update with the Licensed Software, Philips shall have the right to require Customer to roll back to the most recently validated versions of operating systems and anti-virus, prior to performing any support.

6.4 **Customer's Network Connectivity Obligations.** Customer must have network connectivity between the IntelliSpace Breast solution server, the client workstation, and the optional DynaCAD server of not less than 1GB/s, and all three systems must be on the same subnet. A connection of no less than 100 MB/s is required between the IntelliSpace Breast solution and the hospital network. However for optimal performance a 1GB/s network between the IntelliSpace Breast and the hospital network is recommended.

6.5 **RSN Warranty Condition Requirement.** As a condition to receiving warranty service on this solution, Customer agrees it shall use Philips Remote Service Network ("RSN") service to enable Philips to access the system to perform its support obligations.

PHILIPS PRODUCT WARRANTY

CARDIOVASCULAR (CV) SYSTEMS

This product warranty document is an addition to the terms and conditions set forth in the quotation to which this warranty document is attached. The terms and conditions of the quotation are incorporated into this warranty document. The capitalized terms herein have the same meaning as set forth in the quotation.

TWELVE-MONTH SYSTEM WARRANTY
Philips warrants to Customer that the Philips Vascular and Cardiac Systems (the "System") as delivered to Customer will perform in substantial compliance with its performance specifications for a period of twelve (12) months upon first patient use. Any glassware or flat detectors provided with the System is subject to special warranty terms set forth below.

PLANNED MAINTENANCE
During the warranty period, Philips personnel will schedule planned maintenance visits, in advance, at a mutually agreeable time on weekdays, between 8:00 A.M. and 5:00 P.M. local time, excluding Philips observed holidays.

SYSTEM UPGRADES
Any commercially available upgrade to the System which is hereafter installed by Philips during the original term of the System warranty shall be subject to the warranty terms contained in the first paragraph of this warranty, except that such warranty shall expire on the later of: a) upon termination of the initial twelve (12) month warranty period for the System on which the upgrade is installed or b) after ninety (90) days for parts only from the date of installation.

MRC X-RAY TUBES
Philips warrants to Customer, for the warranty periods further specified in this section, that the Philips X-Ray tube will be substantially free from defects in material and manufacturing workmanship, which impair performance under normal use as specified in Philips product descriptions and specifications.

The warranty period for MRC tubes provided with Customer's purchase of a new or refurbished X-ray system shall be the shorter of thirty-six (36) months after installation or thirty-eight (38) months after date of shipment from Philips. The warranty period for purchases of replacement tubes shall be the shorter of twelve (12) months after installation or fourteen (14) months after date of shipment from Philips.

MRC TUBE WARRANTY EXCLUSION
The above warranty shall not apply to X-ray tubes outside the United States and Canada. Philips' obligations under the product warranty do not apply to any product defects resulting from: improper or inadequate maintenance or calibration by Customer or its agents; Customer or third party supplied software, interfaces, or supplies; use or operation of the product other than in accordance with loss, or damage in transit; improper site preparation; unauthorized maintenance or Philips' applicable product specifications and written instructions; abuse, negligence, accident, modifications to the product; or, to viruses or similar software interference resulting from the connection of the product to a network.

MRC TUBE WARRANTY REMEDIES
If a tube is found to fail during the warranty period, and if, in the best judgment of Philips, the failure is not due to neglect, accident, improper installation, use contrary to instructions, or the exclusions stated above, Philips' tube warranty liability hereunder is limited to, at Philips option, the repair or replacement of the tube. Any replacement tube would have a warranty period equal to the balance of the warranty period left on the tube replaced.

IMAGE INTENSIFIER TUBES
Philips warrants the image intensifier tubes provided with the System, if any, will be free from defects in material and manufacturing workmanship for twenty-four (24) months. Claims must be made within twenty-four (24) months after installation or twenty-seven (27) months after date of shipment from Philips, whichever occurs first. If an image intensifier tube fails to meet this warranty, as Customer's sole and exclusive remedy, upon return of the tube, Philips will provide a prorated credit towards the purchase of a replacement tube from Philips as follows:

USAGE				CREDIT
0	to within	12	months	100%
12	to within	13	months	50%
13	to within	14	months	46%
14	to within	15	months	42%
15	to within	16	months	37%
16	to within	17	months	33%
17	to within	18	months	29%
18	to within	19	months	25%
19	to within	20	months	21%
20	to within	21	months	17%
21	to within	22	months	12%
22	to within	23	months	8%
23	to within	24	months	4%

Tubes received by Philips under this warranty that are found to meet all test specifications will be returned to the Customer and the warranty will continue as of the original date of installation. Examination of the returned tube may necessitate its destruction, but Philips' liability shall, in any case be limited to repair or replacement as aforesaid, only if in its sole opinion the tube has been properly used, installed and applied and has not been subjected to neglect, accident, or improper installation, or use. Transportation charges and risk of loss, both ways, of returned or replaced tubes shall be at the expense of the Customer.

DYNAMIC FLAT DETECTORS
Philips warrants the flat detectors provided with the System, if any, will be free from defects in material and manufacturing workmanship for twelve (12) months. Claims must be made within twelve (12) months after installation or fifteen (15) months after date of shipment from Philips, whichever occurs first. If a detector fails to meet this warranty, as Customer's sole and exclusive remedy, upon return of the detector, Philips will provide Customer a replacement detector at no additional charge.

SYSTEM SOFTWARE AND SOFTWARE UPDATES
The software provided with the System will be the latest version of the standard software available for that System as of the 90th day prior to the date the System is delivered to Customer. Updates to standard software for the System that do not require additional hardware or equipment modifications will be performed as a part of normal warranty service during the term of the warranty.

All software is and shall remain the sole property of Philips or its software suppliers. Use of the software is subject to the terms of a separate software license agreement. Customer must sign all such license agreements prior to or upon the delivery of the product. No license or other right is granted to Customer or to any other party to use the software except as set forth in the license agreements.

Any Philips maintenance or service software and documentation provided with the product and/or located at Customer's premises is intended solely to assist Philips and its authorized agents to install and to test the System, to assist Philips and its authorized agents to maintain and to service the System under a separate support agreement with Customer, or to permit Customer to maintain and service the System. Customer agrees to restrict the access to such software and documentation to Philips' employees and those of its authorized agents, and to authorized employees of Customer only.

WARRANTY LIMITATIONS
Philips' obligations under the System warranty are limited, at Philips' option, to the repair or the replacement of the System or a portion thereof, or to a credit or refund of a portion of the purchase price paid by Customer. Any refund or credit will be paid to Customer when the System is returned to Philips. Certain of the parts used in the manufacture or installation of, or in the replacement parts for, this System may contain refurbished components. If such components are used, they will be subject to the same quality control and inspection procedures as all other components in the System. Any System warranty is made on condition that Philips receives written notice of a System defect during the warranty period, and within thirty (30) days following the discovery of the defect by Customer. Philips' obligations under the System warranty do not apply to any System defects resulting from: improper or inadequate maintenance or calibration by Customer or its agents; Customer or third party supplied software, interfaces, or supplies; use or operation of the product other than in accordance with loss, or damage in transit; improper site preparation; unauthorized maintenance or Philips' applicable product specifications and written instructions; abuse, negligence, accident, modifications to the System; or to viruses or similar software interference resulting from the connection of the product to a network. Philips does not provide a warranty for any such third party products furnished to Customer by Philips; however, Philips shall use reasonable efforts to extend to Customer the third party warranty for the product. The obligations of Philips described above are Philips' only obligations and Customer's sole and exclusive remedy for a breach of a System warranty. Repairs or replacement parts do not extend the term of this warranty.

Project Name: MC Cath lab 5
Date: 11/14/12
Estimator: Naguib Chitour

	CFR category	Cost	CON category
Design			
Master Planning	01001		17.4
Programming	01002		17.4
Basic Srvcs	01003	80,100	17.1
Civil Engr	01006		17.1
Survey	01007		3
Landscape	01008		17.4
Geotechnical Engr	01009		4
Structual Engr	01010		17.1
Mechanical Engr	01011		17.1
Electrical Engr	01012		17.1
Equipment Planning	01013	6,900	17.4
Interior Design	01014		17.4
Graphics/Signage	01015		17.4
Rendering/Model	01016		17.4
Estimating/Schedule	01019		17.4
Communications	01020		17.4
Traffic Engineer	01021		17.4
Industrial Hygenist	01022		17.4
	Subtotal Design	87,000	
Equipment & Furnishings			
Clinical Equipment	02001	1,180,815	13
Maintenance Equip	02002		13
Communications	02004		13
Furniture	02005	5,000	15
Misc Furnishings Equip	02006	5,000	15
Plant Equipment	02008		13
Automobiles	02009		14
Signage	03003	1,000	13
Nurse Call	03004		13
Security System	03005		13
Music System	03006	2,000	13
	Subtotal Equip & Furnishings	1,193,815	
Software	02003	1,000	13
Computer Hardware	02007	1,000	13
	Subtotal Information Systems	2,000	
New Construction			
New Construction	04001		8, 9
Asbestos Abatement	04002		10
Phasing Construction	04003		10
In-House Construction	04004		8, 9
Demolition	04005		10
Telecomm Wiring	04006		10
Equipment Removal	04007		10
Test & Balance	04008		10
Electrical	04009		8, 9
Mechanical	04010		8, 9

ing	04011		8, 9
edule Acceleration	04012		8, 9
	Subtotal New Construction	0	
Renovation			
Renovation	04001	413,000	8, 9
Asbestos Abatement	04002		10
Phasing Construction	04003		10
In-House Construction	04004	2,000	8, 9
Demolition	04005		10
Telecomm Wiring	04006		10
Equipment Removal	04007		10
Test & Balance	04008	2,000	10
Electrical	04009		8, 9
Mechanical	04010		8, 9
Plumbing	04011		8, 9
Schedule Acceleration	04012		8, 9
	Subtotal Renovation	417,000	
Project Development			
Permit/Inspection Fees	05001	9,000	8, 9
Travel/Education/Training/Meetings	05004		10
Warehouse Rental	05005		10
Moving	05006		10
Legal	05009		17.2
Cleaning	05010	1,000	10
Mockups	05011		10
Drawing Reproduction	05013	1,000	10
Project Management	05016	17,000	10
Start-Up Costs	05017		10
Record Drawings	05018	2,000	17.4
Staff Hours	05019	2,000	10
Appraisal	05020		2
Environmental Testing	05021	1,000	17.4
Insurance	05022		10
CON Application Prep.	05023		17.4
Business Planning	05024		17.4
Constr Insp/Testing	06001		17.4
Commissioning	06002	10,000	17.4
Developer	06003		17.4
Land Purchase	06004		17.4
Existing Business Value	06005		
	Subtotal Proj Dev	43,000	
Contingency			
Contingency	07001	76,000	20
Escalation	07002	59,000	20
	Subtotal Contingency	135,000	
Interest			
Capitalized Interest		0	
Total		**1,877,815**	

Plumb
Sch

PROJECTED CAPITAL COST

Project Name: MC Cath Lab 5

Proponent: Brian Moore_

A.	**Site Costs**			
(1)	Full purchase price of land		$_____	
	Acres _____ Price per Acre	$_____		
(2)	Closing costs		$_____	
(3)	Site Inspection and Survey		$_____	
(4)	Legal fees and subsoil investigation.		$_____	
(5)	Site Preparation Costs			
	Soil Borings	$_____		
	Clearing-Earthwork	$_____		
	Fine Grade For Slab	$_____		
	Roads-Paving	$_____		
	Concrete Sidewalks	$_____		
	Water and Sewer	$_____		
	Footing Excavation	$_____		
	Footing Backfill	$_____		
	Termite Treatment	$_____		
	Other (Specify)	$_____		
	Sub-Total Site Preparation Costs		$_____	
(6)	Other (Specify)		$_____	
(7)	**Sub-Total Site Costs**			$_____
B.	**Construction Contract**			
(8)	Cost of Materials			
	General Requirements	$_____		
	Concrete/Masonry	$_____		
	Doors & Windows/Finishes	$_____		
	Thermal & Moisture Protection	$_____		
	Equipment/Specialty Items	$_____		
	Mechanical/Electrical	$_____		
	Other (Specify)	$_____		
	Sub-Total Cost of Materials		$ 254,400	
(9)	Cost of Labor		$ 169,600	
(10)	Other (Specify)		$ 23,000	
(11)	**Sub-Total Construction Contract**			$447,000
C.	**Miscellaneous Project Costs**			
(12)	Building Purchase		$ 0	
(13)	Fixed Equipment Purchase/Lease		$ 1,185,815	
(14)	Movable Equipment Purchase/Lease		$ 0	
(15)	Furniture		$ 10,000	
(16)	Landscaping		$ 0	
(17)	Consultant Fees			
	Architect and Engineering Fees	$ 80,100		
	Legal Fees	$ 0		
	Market Analysis	$ 0		
	Other (Specify)	$ 19,000		
	Sub-Total Consultant Fees		$ 100,000	
(18)	Financing Costs (e.g. Bond, Loan, etc.)		$ 0	
(19)	Interest During Construction		$ 0	
(20)	Other (contingency)_		$ 135,000	
(21)	**Sub-Total Miscellaneous**			$ 1,430,815
D.	**Total Capital Cost of Project**			**$ 1,877,815**

I certify that, to the best of my knowledge, the costs of the proposed project named above are complete and correct.

Eugene B. Edwards MD Date Certified: 11/19/12

(Signature of Licensed Architect or Engineer)

I assure that, to the best of my knowledge, the above costs for the proposed project are complete and correct and that it is my intent to carry out the proposed project as described.

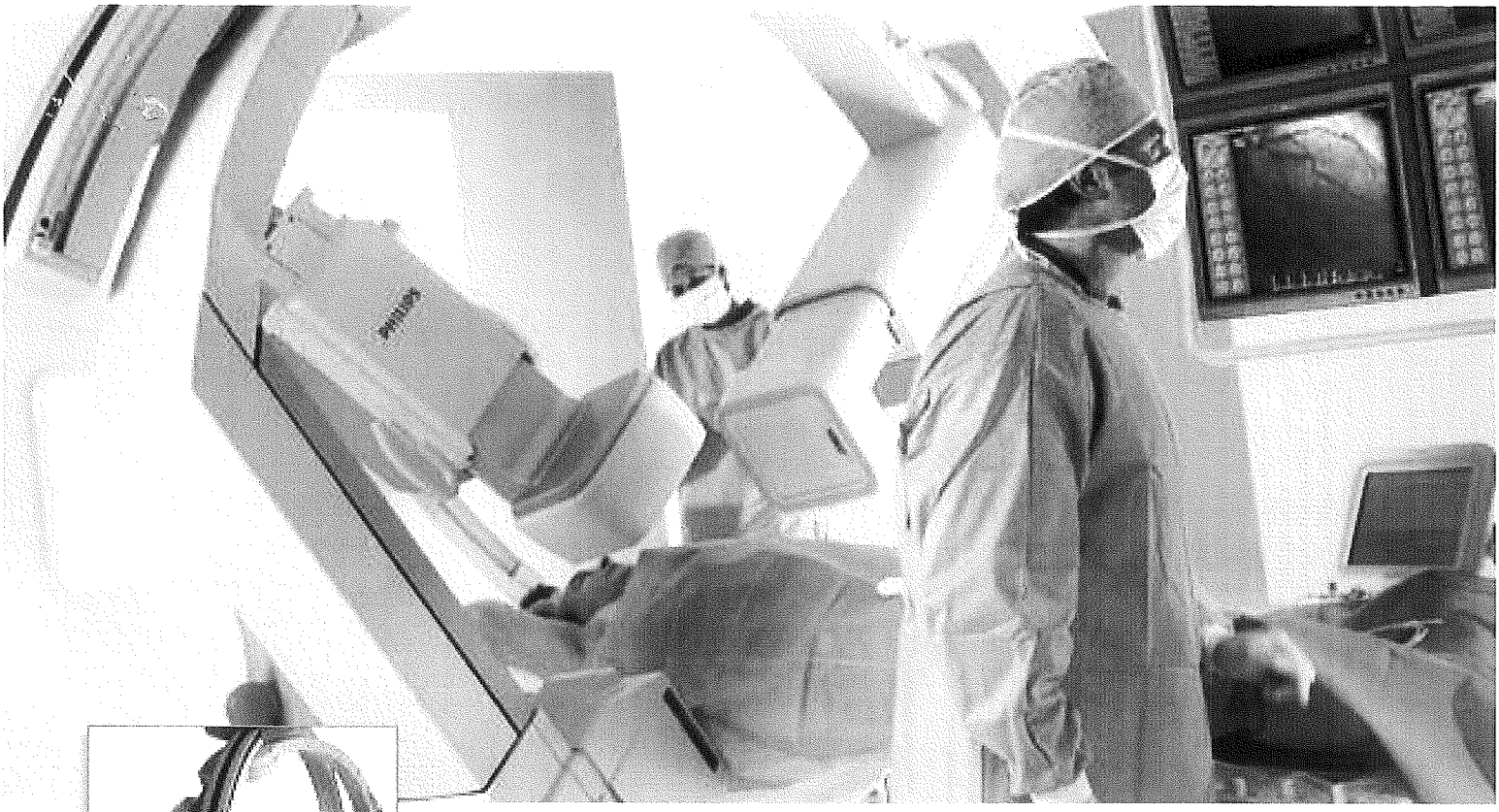
_____ Date Signed: _____

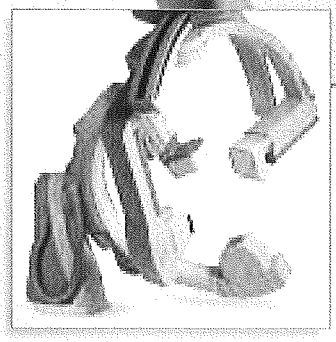
(Proponent - Signature of Officer) (Title of Officer)

Effective: 5/16/06

Project Name: MC Cath lab 5
Date: 11/14/12
Estimator: Naguib Chitour

CON category					
A		Site			
	1	land purchase			
	2	closing costs	0		
	3	site insp/survey	0		
	4	legal/subsoil	0		
	5	site prep			
	6	other			
	7	subtotal site			0
B		Construction Contract			
	8	constr cost mat'ls		254,400	
	9	constr cost labor		169,600	
	10	other		23,000	
	11	subtotal constr			447,000
C		Misc Project Costs			
	12	bldg purchase			
	13	fixed equip		1,185,815	
	14	moveable equip		0	
	15	furniture		10,000	
	16	landscaping			
	17.1	A/E consultant fees	80,100		
	17.2	legal fees	0		
	17.3	market analysis			
	17.4	other	19,900		
		Subtotal consultant		100,000	
	18	finance costs			
	19	interest		0	
	20	other, contingency		135,000	
	21	subtotal misc			1,430,815
D		total project cost			1,877,815

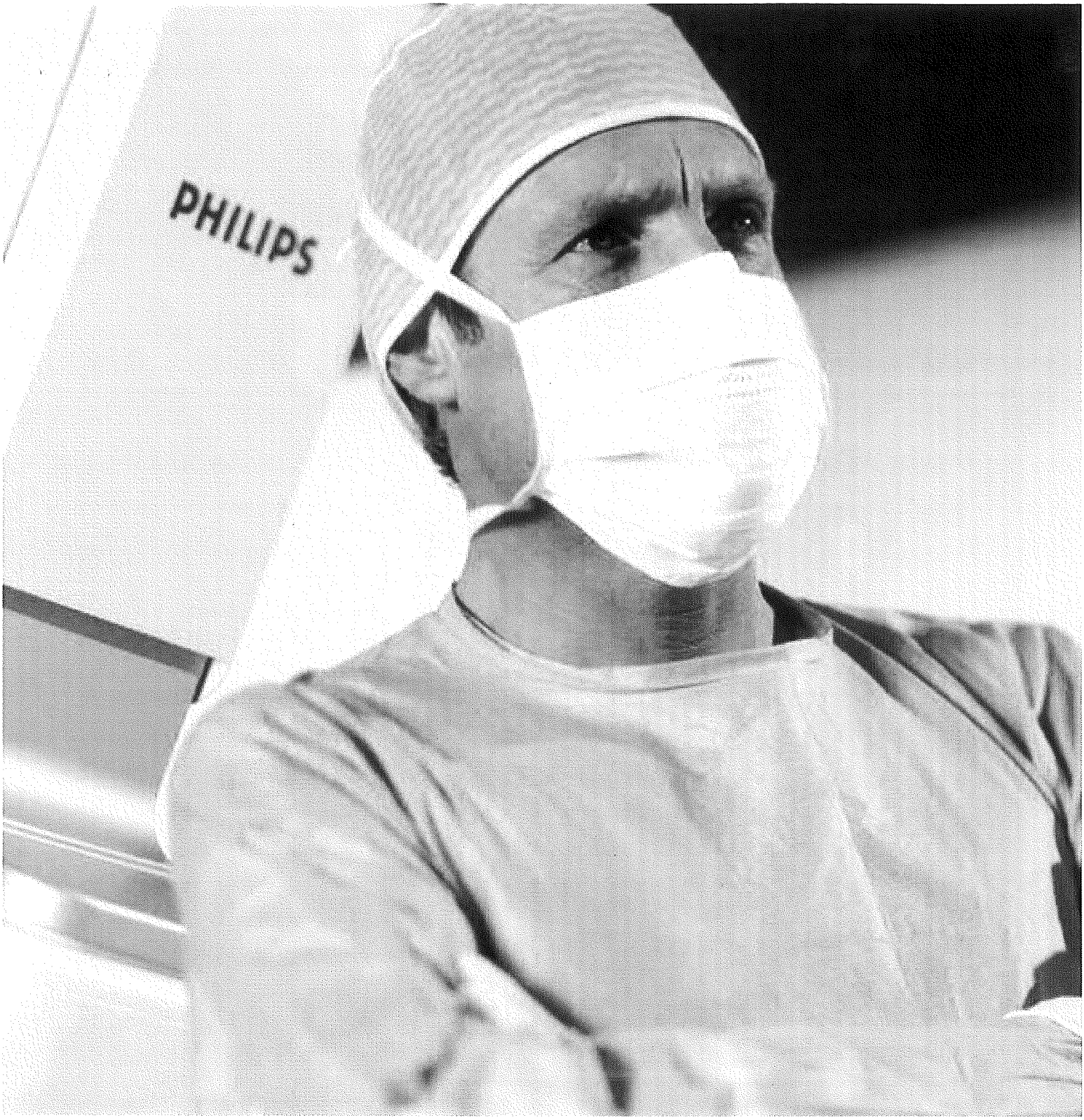




Xperience the future

Philips Allura Xper FD10/10 Functional description

PHILIPS



The evolution of interventional cardiology is creating growing demand for increasingly complex interventions. In addition to ensuring excellent patient management, procedures have to be quick and efficient. To achieve this, cardiologists need superb image quality at a low X-ray dose, instant access to multi-modality information, as well as advanced and easy-to-use image processing tools. Through partnerships with busy cath labs around the world, Philips has developed the Allura Xper FD10/10

Contents

4 Speed with flat detector image quality
5 Bi-plane viewing power and safety
Safety is critical for pediatric use
Integration
6 Xper provides excellent customization to meet your needs
DoseWise
Xper Module
6 Xper in the examination room
On-Screen Display
7 Xper Geometry Module
Xper Imaging Module
7 Xper in the control room
Xper Review Module
Xper data monitor and Xper review monitor
8 The image quality you want with low X-ray dose
Dynamic Flat Detector
Xres
MRC tube
SpectraBeam filtration
Monitors
MultiVision video switch
Fluoro storage
Xper Beam Shaping
Rotational Scan
9 Integration features that enhance workflow
Xper DICOM Image Interface
Continuous autopush
RIS/CIS DICOM Interface
MultiSwitch / Xper Window Switch
Quantitative Analysis Packages
12 Technical information - Geometry
G-shaped Gantry
Double C-arc (LARC)
BodyGuard Patient Protection
13 Rotational Scan
Xper table
14 Technical information - Geometry
Table tilt
Table tilt & cradle
Table Automatic Position Controller
15 Pivot
PAN handle
Monitor Ceiling Suspension
Ceiling Suspended Radiation Shield
Table Mounted Radiation Shield
17 Technical information - User Interface
17 Xper User Interface in the examination room
Xper Module
18 Technical information - User Interface
Xper Biplane Geometry Module
19 Xper Biplane Imaging Module
19 Xper User Interface in the control room
Xper Review Module
20 Technical information - User Interface
Xper data monitor
Scheduling
21 Technical information - User Interface options
Xper review monitor
Second Xper Biplane Imaging Module
Second Xper Biplane Geometry Module
Second or third Xper Module
22 Technical information - Integration
Storage capacity
MultiSwitch, option
Lab Reporting, option
23 Technical information - Image Detection
Dynamic Flat Detector
Xres
Fluoroscopy
Subtraction package
24 Technical information - X-ray Generation
Velara X-ray generator
Xper Beam Shaping
X-ray tube
MRC-GS 0508
SpectraBeam
25 Technical information - Viewing
26 Technical information - Options
MultiVision
Physio Viewing
Continuous autopush
DICOM Print
Intercom
RIS/CIS DICOM Interface
Biplane standard line rate video input/output
Real-time digital link
27 Quantitative Analysis Packages
Biplane Left Ventricular Quantification software package
Right Ventricular Quantification software package
Coronary Quantification software package
Vascular Quantification software package
Autocall
28 StentBoost
Allura 3D-CA
CT TrueView
Allura 3D-RA
EP navigator
Examination Light
29 Accessories
30 Technical information - Dimensions
31 Technical information - Room Layout

Speed with flat detector image quality

The Allura Xper FD10/10 combines exceptional speed and performance of the geometry with superb flat detector image quality. Whether your focus is Interventional Cardiology, Pediatric Cardiology or Electrophysiology (EP), Philips has developed special features and protocols for the Allura Xper FD10/10 that help you achieve superb clinical results.

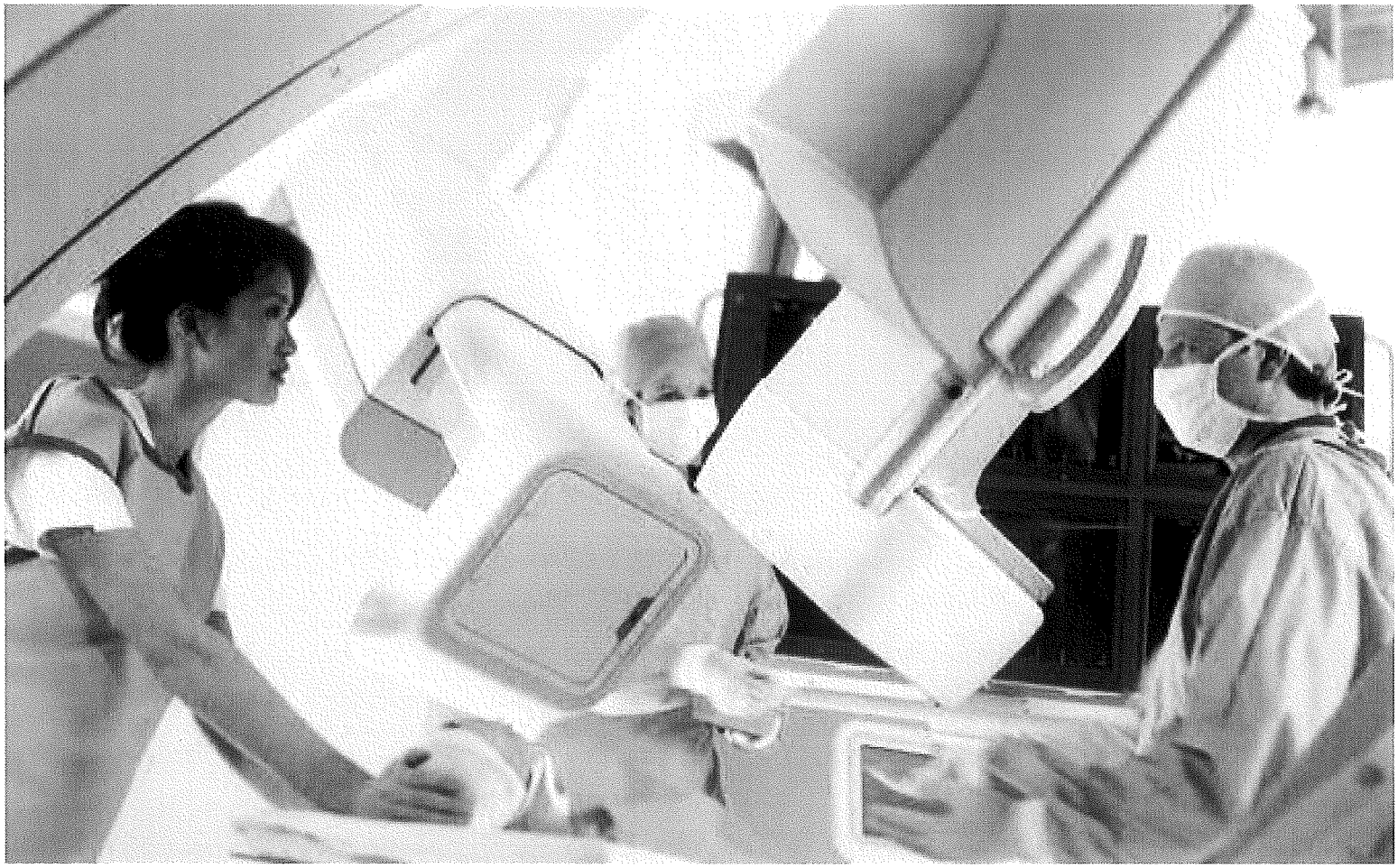
Based on the popular Allura Xper FD10, this biplane system features Xper (X-ray Personalized) so you can do your procedures your way. Xper technology enhances the quality of care, streamlines workflows and saves valuable time. Xper settings customize the system to match the interventional cardiologist's workflow and procedures, while the intuitive Xper Module provides all controls at tableside. Xper Integration brings multi-modality information into your work area. The options are virtually unlimited: view 2D, 3D and fluoroscopy alongside MR, CT, and Ultrasound.

Clinicians benefit from advanced diagnostic and interventional tools – such as Philips' Rotational Scan, Allura 3D-CA and StentBoost – which can be controlled and viewed at tableside.

For electrophysiology studies, Xper integrates with the EP-Workmate® with optional Real-Time Management (RPM™) system to control EP recording at tableside and allow the transfer of patient demographics.

Xres is Philips' image processing algorithm that increases image contrast and sharpness, while reducing noise. Its superb image quality further boosts clinical confidence and efficiency.

Xper Integration also creates instant access to previous patient studies across modalities, on demand. This ultimate time-saver delivers critical clinical information, anytime, anywhere.



Bi-plane viewing power and safety

The Allura Xper FD10/10 brings flat detector technology to biplane viewing. This system delivers superb image quality in both the frontal and lateral plane, enabling cardiologists to view them side-by-side. The Allura Xper FD10/10 saves valuable time when capturing accurate 3D information while also reducing x-ray dose and contrast medium.

Safety is critical for pediatric use

In pediatric applications where cardiac anomalies are the norm, biplane imaging provides tremendous benefits. It delivers twice the information with a single contrast injection. Moreover, the system offers full patient access to larger clinical teams. The Allura Xper FD10/10 also offers special pediatric programs and settings developed in partnership with pediatric cardiologists. The Xper table offers optional Tilt and Cradle functionality as well.

Imaging tools optimize care and efficiency. For Interventional Cardiology, the Allura Xper FD10/10 combines multi-modality information and a unique package of diagnostic and interventional tools. Philips' Rotational Scan gives you multi-dimensional views in real-time for more precise diagnosis of vessels.

StentBoost improves visualization of stents in coronary arteries while the guide wire is still in place. StentBoost images help to confirm stent expansion in relation to the vessel lumen and visualize nearby objects, enabling the interventional cardiologist to take any corrective action that is required while the patient is still in the exam room.

Allura 3D-CA, available only from Philips, uses two slices from a Rotational Scan acquisition to instantly construct a 3D model of the heart's vasculature. This model can help the clinician in assessing optimal viewing/working angles and in determining the accurate lesion length. CT Trueview, also a unique Philips' option, provides identical clinical results based on a Philips' Brilliance CT scan.

Allura 3D-RA provides extensive, three-dimensional insight into vascular pathologies from a single Rotational Scan acquisition. It allows the development of better treatment strategies and the selection of the best stand projections for treatment.

Integration

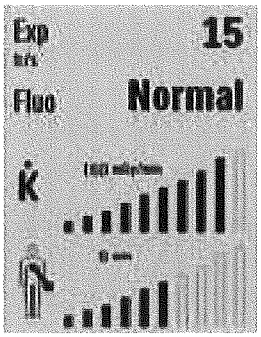
Multi-modality integration saves time and lives. Integration of the Allura Xper FD10/10 system with Xcelera (Image Management System), CT, MR, and Ultrasound means that clinicians and other members of the care team can get the information they need from the exam room and control room to their office or laptop – anytime and anywhere.

Saving space is another critical issue. The Xper Window Switch and MultiSwitch option enable you to share the control room workspot with RIS/CIS, PACS, and Interventional Tools. MultiVision allows images from other modalities to be viewed on the LCD monitors in the exam room, eliminating the need for additional monitors.

Xper provides excellent customization to meet your needs

DoseWise

Philips' DoseWise philosophy is the foundation of the Allura Xper FD10/10's design. The legendary **MRC X**-ray tube with **SpectraBeam** filtration achieves optimum image quality at a low X-ray dose. To further reduce dose, **Xper Beam Shaping** positions shutters and wedges on the last image without using radiation. **Xper fluoro storage** allows recording of fluoro sequences for recall and/or review, eliminating the need for additional runs. The unique dose display makes users much more aware of dose that is used in relation to control of the system, thus protecting patients against radiation skin burns.



- Easy to understand graphical dose data display
- Provides predictive and actual DAP dose rate indication
- Provides AirKerma patient X-ray dose per body zone:
  - Aimed to help prevent skin burns
  - 10 Cardiac zones defined
  - Graphical AK dose level indication for the actual zone, related to the 2 Gy critical dose level

Other safety features include Philips' **BodyGuard** technology, which senses the patient's position so the stand can rotate safely at high speeds. Also, Philips' unique patient support system is designed so that you can instantly apply CPR to the patient with the tabletop in any position.

The more demanding your cath lab environment, the more you need the Allura Xper FD10/10. It features Xper technology which is designed to improve your personal and departmental efficiency.

- Xper settings provide an advanced level of customization so users can create an interventional lab that meets their individual needs and preferences
- The Xper User Interface provides intuitive system controls and all relevant functionality at the tableside to enhance ease of use
- Xper Integration provides bi-directional information exchange

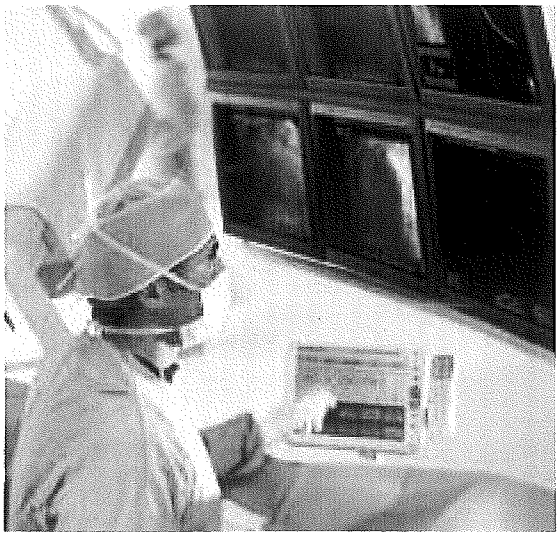
Xper Module

Available in both the examination and/or control room, the Xper Module communicates user preferences for acquisition settings, automatic position control and processing. An additional option also allows very easy tableside control of quantitative analysis, Allura 3D-CA / StentBoost / Xcelera PACS / Allura 3D-RA and hemodynamics (Xper IM) via the touch screen controls or integrated joystick.

Xper in the examination room

On-Screen Display

The On-Screen Display provides information that includes X-ray indication, rotation and angulation stand positions, Source Image Distance, Air Kerma (rate and accumulated dose per body zone, as well as a predictive value), frame speed, and fluoroscopy mode.



On the reference monitor, the On-Screen Display contains the user interface of the Xper ViewPad, which is used to carry out functions like run and image selection, review speed, active file selection and digital zoom.

Xper Geometry Module

To make operation as convenient as possible, the Xper Geometry Module can be positioned on all sides of the patient table. The Geometry Module automatically adjusts itself to the position to retain the intuitive button operation. It controls tabletop float, table height, Source Image Distance, stand positioning (including memory positions) and optionally, tilt and cradle functionality.

Xper Imaging Module

Like the Xper Geometry Module, the Xper Imaging Module can be positioned on all sides of the patient table, while retaining its intuitive button operation. The Xper Imaging Module allows the user to activate shutter and wedge positioning, fluoroscopy mode as defined via Xper settings, detector field size and beam width.

Both Xper Modules have a removable protection bar that prevents unintended activation of the system.

Xper in the control room

Xper Review Module

The Xper Review Module serves cardiovascular viewing needs. It offers direct control of basic viewing controls like exam and run cycle, contrast, brightness, edge enhancement, and viewing speed (tagarno wheel).

Xper data monitor and Xper review monitor

The Xper data monitor and Xper review monitor use a shared screen and the mouse can be moved over the two monitors. The data monitor provides patient and exam data to assist with all stages of workflow, including scheduling, preparation, acquisition, reviewing, reporting, and archiving. System information is displayed on the bottom of the data monitor.

The intuitive review monitor enables efficient review of exams and control of image processing and Quantitative Analysis Programs.

The image quality you want with low X-ray dose

The Allura Xper FD10/10 features advanced algorithms, a next generation flat detector, and Philips' renowned imaging chain to ensure superb image quality at a low patient X-ray dose.

Dynamic Flat Detector

Philips' 14-bit virtually distortion-free dynamic flat detector offers 184 micron pixels for higher resolution and a DQE(O) of 75% that provides better image quality, especially for low dose fluoroscopy. The compact design with a very large field of view of 25 cm (10 in.) is the optimal size for dedicated cardiology and EP applications. It also offers a refresh light that provides temporal virtually artifact-free imaging by "blanking" the detector, thereby eliminating image glow during dynamic studies.

Xres

Xres is Philips' real-time image processing algorithm. Xres was developed by the Philips Research Laboratories and has been applied in several Philips products, e.g. Ultrasound and MRI. This image processing algorithm provides billions of calculations per frame and is applied to each clinical image in real-time. Xres provides excellent image quality through improved contrast and sharpness. It exploits the benefits of the fully digital detector to reduce noise in clinical images. Each user can customize Xres via Xper settings according to their preferred image quality settings.

Xres also harmonizes the background of an image to provide excellent visualization of coronary arteries in complex projections.

MRC tube

The Allura Xper FD10/10 is equipped with the legendary high power MRC-GS 0508 X-ray tube. The tube's exceptional design provides long life and allows it to withstand high continuous loads, while maximizing heat dissipation. This enables virtually unlimited X-ray sessions without forced cool down delays.

SpectraBeam filtration

The MRC tube works in tandem with SpectraBeam filtration to allow increased X-ray output with better filtration of soft radiation. SpectraBeam offers four levels of filtration - up to one mm Cu equivalent - to reduce patient X-ray dose, while maintaining image quality. The filtration level can be programmed via Xper settings. The fluoroscopy mode can be selected at tableside.

Monitors

The LCD progressive display monitors are virtually flicker-free to prevent physician eyestrain. In the control room, the 19-inch LCD color monitor and two 18-inch LCD black and white monitors are standard. In the exam room, four 18-inch LCD black and white monitors are standard. For each plane it provides the live monitors and the reference monitors.

MultiVision video switch

MultiVision allows images from different image sources to be viewed on the monitor in the exam room, eliminating the need for multiple monitors.

Fluoro storage

Xper fluoro storage lets you store and review the last fluoroscopy run (service configurable time).

Xper Beam Shaping

Xper Beam Shaping allows the wedges and shutters to be positioned without using X-ray radiation.

Rotational Scan

Rotational Scan saves time, contrast medium and X-ray dose by creating real-time 3D impressions of complex vasculature and coronary arteries with multiple projections – all from just one contrast injection. The Rotational Scans can be sent to an interventional tool for a 3D reconstruction.

Integration features that enhance workflow

The combination of advanced integration features and Xper settings, which personalizes image transfer, archiving and printing, make the Allura Xper FD10/10 an excellent workflow-friendly system. Now your department can run the way you want it to, with efficiency enhancers that give you more time for patient care.

Xper DICOM Image Interface

The Xper DICOM Image Interface provides fast export of clinical images in Cardiac DICOM XA Multi Frame or DICOM Secondary Capture. Images can be sent in different formats to any DICOM-compatible device, and can be sent to several destinations, as configured via Xper settings. In addition, with DICOM Query/Retrieve, older DICOM studies can be uploaded into the system.

Continuous autopush

The continuous autopush option allows uninterrupted image transfer in the background during procedures, so that you do not have to wait for the system after each case or delay archiving until the end of the day.

RIS/CIS DICOM Interface

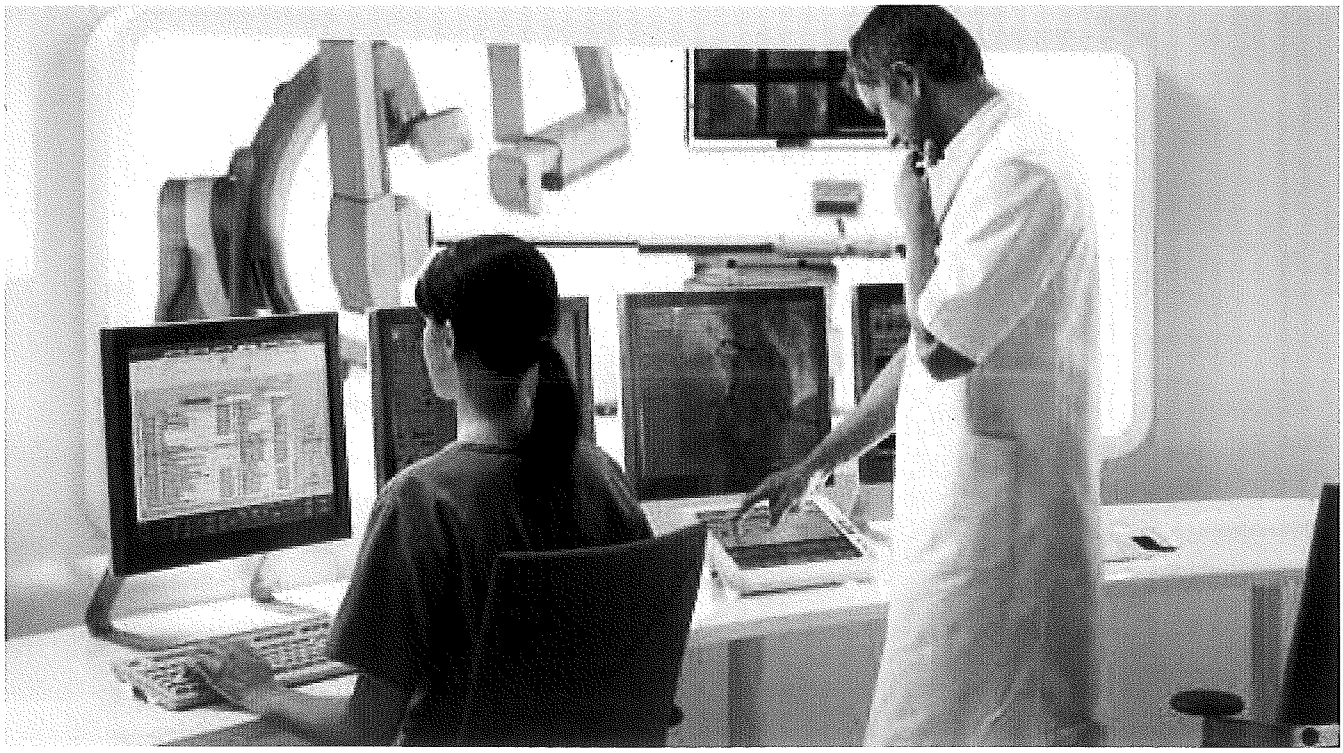
The RIS/CIS DICOM interface option uses DICOM Worklist Management (DICOM WLM) and Modality Performed Procedure Step (DICOM MPPS) standards to enable two-way communication between the system and a local Information System.

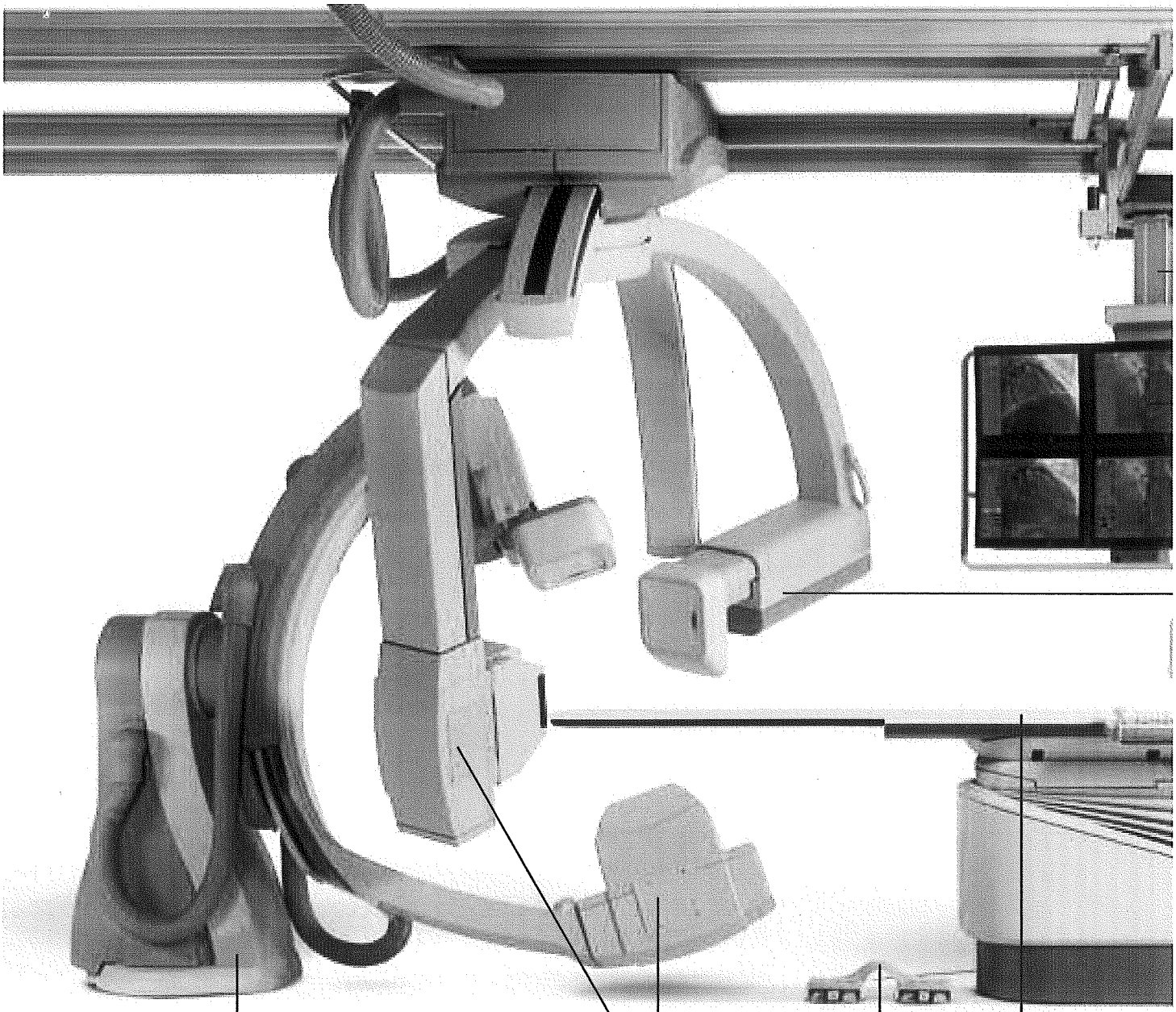
MultiSwitch / Xper Window Switch

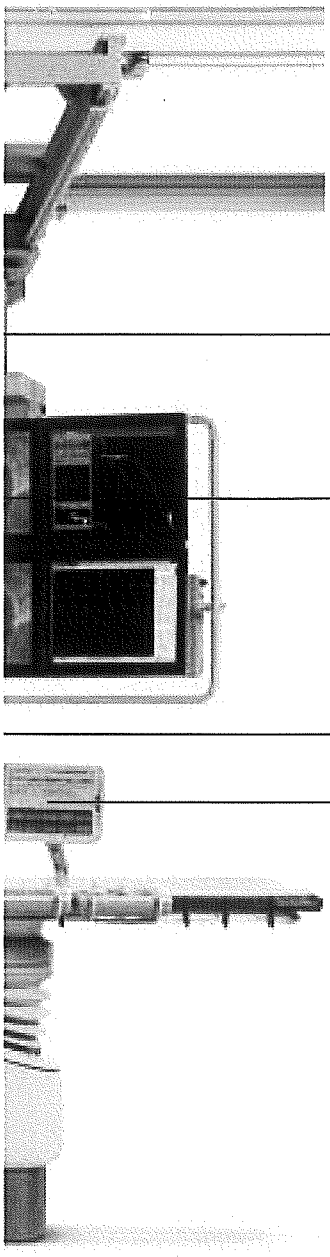
The MultiSwitch option lets you share the Xper workspot in the control room with other applications that are loaded on separate PC modalities, such as StentBoost / Allura 3D-RA / Allura 3D-CA / Xcelera and Xper IM. Xper Window Switch functionality is included standard and enables integrated network functionality in the control room. It lets you switch to data-oriented CIS/RIS applications that are available on the network.

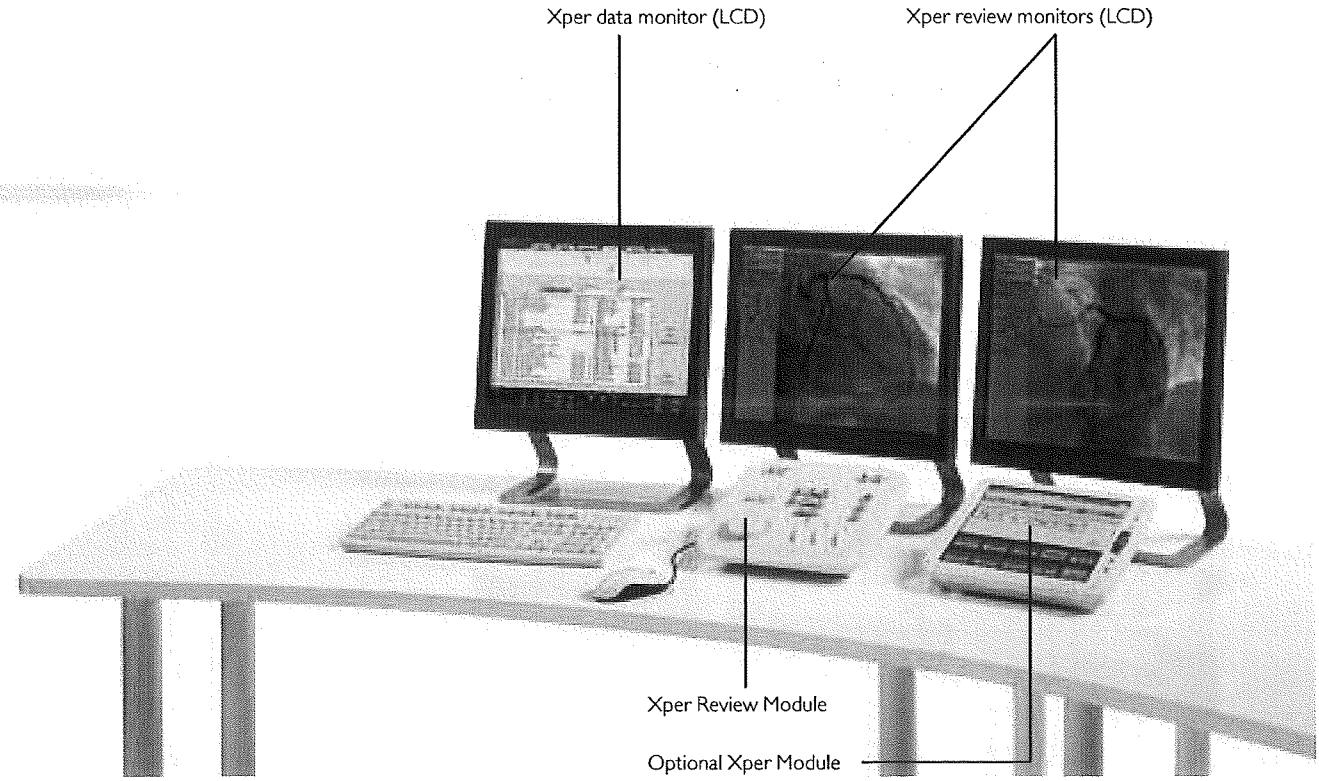
Quantitative Analysis Packages

The optional software packages are clinically validated and aid reliable diagnoses. The Coronary Quantification package measures stenosis of the coronary arteries, while the Left Ventricular Quantification and Right Ventricular Quantification software packages calculate ejection fraction and wall motion parameters.




Floor mounted G-stand
High output MRC X-Ray tube
Biplane foot switch
Xper table


Flexible monitor ceiling suspension with height adjustment
LCD monitors
Lateral Arc (LARC)
Xper Module

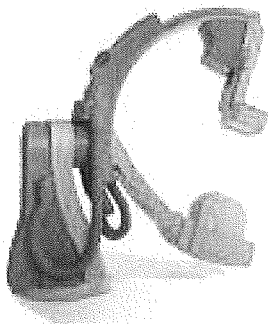

Xper data monitor (LCD)
Xper review monitors (LCD)
Xper Review Module
Optional Xper Module

Technical information - Geometry

The geometry of the Allura Xper FD10/10 is designed for fast and flexible imaging. The system is equipped with a very compact, fast-moving gantry that provides excellent patient access and speeds up procedures, as well as a dedicated patient support table and very flexible, ceiling-suspended TFT-LCD monitors.

G-shaped Gantry

The compact, motorized, floor-mounted G-arm provides excellent patient accessibility from all sides. The large diameter of the G-arm allows virtually all cardiac projections, even with obese patients. Two projections can be stored and recalled for faster positioning.



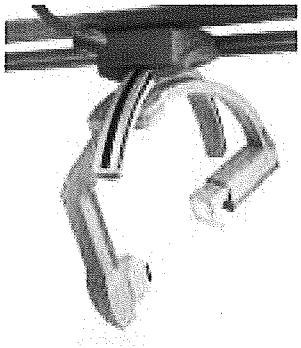
Specifications:

- Suitable for all ceiling heights
- Depth of G-arm: 105 cm (41,3 in.)
- Ultra-flexible projection angles
  - Angulation from 45° cranial to 45° caudal, rotation from 120° LAO to 120° RAO
- Motorized rotation speed: maximum speed up to 25°/second with variable speed, configurable via Xper settings (max 8°/second in biplane operation)
- Motorized angulation speed: maximum speed up to 18°/second with variable speed, configurable via Xper settings (max 8°/second in biplane operation)
- Storage and recall of two single plane or biplane scratch positions
- Isocenter to floor distance: 106.5 cm (41.9 in.)
- Focal spot to isocenter distance: 76.5 cm (30.1 in.)
- Focal spot to flat detector distance: 86.5 to 123 cm (34.1 to 48.4 in.). The detector can be positioned manually or via motorized movement
- The Gantry can be rotated for parking to provide system-free patient accessibility
  - Can be moved manually or motorized at a speed of 12°/second, with autostop
  - Automatic snap positions at -90°, 0° and 90°

Double C-arc (LARC)

Philips' unique ceiling-mounted, double C-arc can be independently rotated and angulated to provide full caudal and cranial angulations for all LAO projections. The C-arc is moved via a precision motorized drive. The counterbalanced flat detector delivers precise motorized and fast manual movements. The C-arc is easily parked by moving it manually along the ceiling rails.

Motorized parking is also available with an autostop in the isocenter. The compact flat detector and the design of the ceiling mounting create maximum floor space and unprecedented accessibility around the patient.

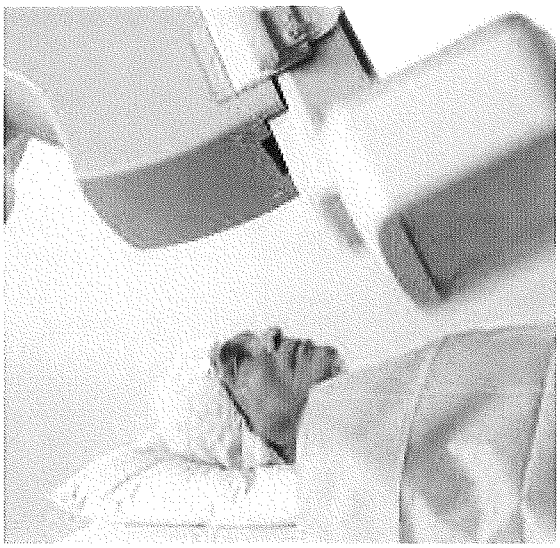


Specifications:

- Ceiling suspended double C-arc
- Motor-driven rotation: 0° LAO to 90° LAO
- Motor-driven angulation: 45° cranial to 45° caudal
- Rotation speed: 8°/second
- Isocenter to floor: 106.5 cm
- Focal spot to isocenter: 76 .5 cm
- Focal spot to flat detector: 87.5-130.3 cm, manual and motorized movement
- Manual or motorized longitudinal movement for parking or positioning.
  - Autostop in Iso center
  - Motorized movement:
    6 cm/second inside working area
    12 cm/second outside working area
- Nominal ceiling height: 29 0 cm

BodyGuard Patient Protection

In single plane, with the LARC in a park position, BodyGuard enables the use of high-speed rotation and angulation. It uses "non-contact" proximity sensors to detect the position of the patient or objects. The combination of G-arm geometry and Philips' exclusive BodyGuard sensing achieves a level of



control that is not possible with conventional high-speed motorized C-arm configurations. These high-speed stand designs use a pre-set "one-size-fits-all" program, resulting in a so-called "safety envelope" that is too large to be practical.

With BodyGuard's continual capacitive sensing, the system adapts to individual patient size. The system slows down or stops moving when a patient or object gets too close. BodyGuard has an override function to allow full gantry positioning control at all times. In addition, BodyGuard uses motor current sensing (the electronic equivalent of a slip clutch) to safeguard all stand movements.

The counterbalanced flat detector incorporates these sensing technologies, along with a mechanical slip clutch, to control motorized and manual movements.

Rotational Scan

Rotational Scan is performed with the floor mounted G-stand only and the LARC in park position.
The optional Rotational Scan acquires a range of projections with just one contrast injection to create real-time, 3D impressions of complex vasculature and coronary arteries. It can save considerable time and contrast medium, while providing the image detail that is required for diagnostic and therapeutic decisions.
The high speed Rotational Scan decreases contrast medium, while the wide rotation range provides a complete evaluation of the anatomy. The stand's excellent stability enables precise positioning and high reproducibility which results in high quality images.

Specifications:

- Poly Diagnost G
  - Maximum rotation speed: 55°/second
  - Maximum rotation angle: 240°
- Frame speeds: 15 fps to 30 fps. Xper settings can be used to set speed, as well as a start and end position
- The clinical images from the Rotational Scan are the basis for the interventional tools that provide a reconstruction of static vasculature (Allura 3D-RA) or a coronary 3D model (Allura 3D-CA)

Automatic Position Controller

Automatic Position Controller (APC) functionality is accessed through the Xper Module, normally at table side. The APC provides two modes of operation:

- Sequence mode:
  A sequence of up to 10 projection positions (angulation/rotation) per acquisition protocol can be preprogrammed (service configurable) via Xper settings and selected via the Automatic Position Control. Each position can be a single plane or biplane projection. The sequence can be defined for routine diagnostic procedures, but each projection can also be randomly selected, and thus efficiently support interventional procedures.
- Reference-driven mode:
  This mode is geared to support interventional procedures: single or biplane stand position can be recalled in relation to the actual image on the reference monitors, which means that the rotation, angulation, and SID of the stand(s) are restored to the original settings of the reference image.

Xper table

The Xper table is a dedicated cardiovascular table with a free-floating tabletop. This table has very high patient loadability and can make a large longitudinal floating movement.

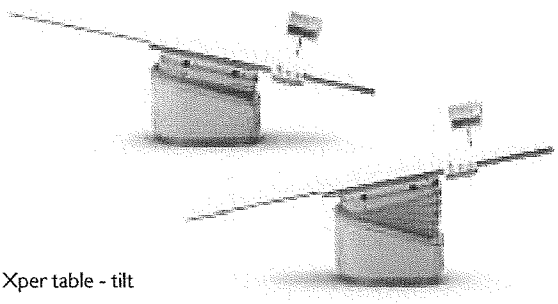
Technical information - Geometry

Specification:

- Radio translucent carbon fiber tabletop
- Tabletop length: 319 cm
- Tabletop width: 50 cm
- Motorized height movement: From 79 – 107 cm
- Tabletop metal free overhang: 125 cm
- Free float at 0 degrees tilt
- Longitudinal float: 120 cm
- Transversal float: 36 cm
- Maximum allowable patient weight: 250 kg (550 lbs) with additional force of 500 N (100 kg/220 lbs) allowed in case of CPR. CPR can be performed while the tabletop is set in any longitudinal position
- Pivot over 270 degrees
- Comfortable patient mattress
- The Xper Module, Xper Imaging, and Xper Geometry Modules can be positioned on three sides of the patient support
- Cables incorporated in the table to allow maximum operational flexibility

Table tilt

The optional isocentric table tilt enhances the accuracy and efficiency of gravity-oriented procedures. It 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. As the table tilts, the X-ray beam automatically coordinates to the movement to keep the region of interest in the isocenter of rotation and angulation of the stand. If the longitudinal position of the stand changes, the tilt isocenter is changed to match with the new stand position. As a result, the region of interest is always centered. As the table tilts, the X-ray beam automatically coordinates to the movement.



Xper table - tilt

Specifications:

Maximum tilt range: -17° (head-down) to +17° (head-up). Tilt speed: 2 degrees/second

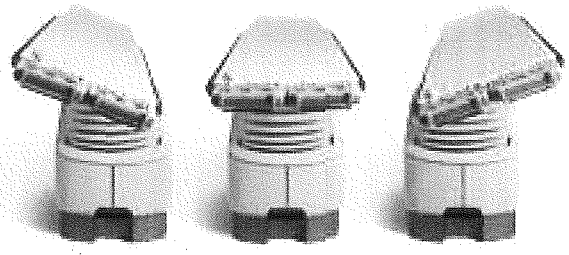
- Automatic safeguarding system with manual override
- Panning range in tilted plane: equal to standard panning range

Table tilt & cradle

In addition to the table tilt functionality, this option enables you to tilt the tabletop in a cradle movement. This enables optimal positioning of the patient for procedures, such as more invasive (surgical) or guided puncture interventions.

Specification:

- Isocentric cradle
- Maximum cradle range: -15° to +15° for the full tilt range
- Cradle speed: 3 degrees/ second



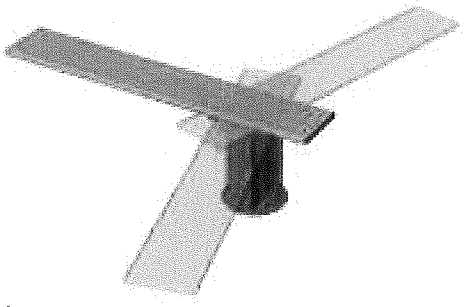
Xper table - cradle

Table Automatic Position Controller

This feature provides Auto Isocenter height positioning, based on the patient weight that has been entered. After the patient weight is entered in the Xper system (manually or automatically via the RIS interface), the table height will be adjusted to the level that puts the center of the heart in the isocenter of the X-ray system. This especially saves time and X-ray dose for the start of an exam. This feature is based on an advanced algorithm from the clinical University of Kiel (Study by Professor R. W.R. Simon). It also offers store and recall functionality of the height, longitudinal, and lateral position of the tabletop. This allows you to return to your exact previous position, without using X-ray dose.

Pivot

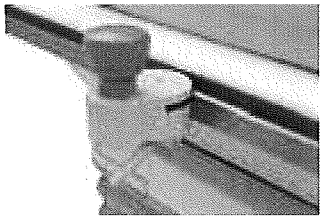
The table-based pivot option is designed for angiographic and interventional procedures of the upper peripherals. It provides improved table access for patient transfer. This option also enables the table to pivot around its vertical axes. The pivot range moves from -90° to +180° (or -180° to +90°) with locked positions at 0°, -13°, and +31° (to facilitate arm angiography) and -90°, +90°, and 180°.



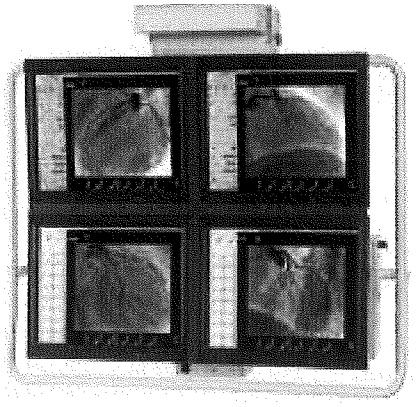
Pivot

PAN handle

The PAN handle is a tabletop float control extension, which can be attached to any side of the table. This additional PAN handle works in a master/slave configuration.



Ergonomic PAN handle



Monitor Ceiling Suspension

Monitor Ceiling Suspension

The Monitor Ceiling Suspension enables you to freely rotate and adjust the height of two, four or six monitors.

- Monitors rotate freely on the ceiling suspension over a range of 350°
- Suspension moves transversely over a distance of 300 cm (118.1 in.) and longitudinally over a distance of 330 cm (129.9 in.)
- Allows motorized height adjustment over a maximum range of 32 cm

Ceiling Suspended Radiation Shield

This radiation shield protects against scatter radiation to the eyes and to the upper body of the physician and staff. The shield is mounted on the ceiling monitor carriage with a two-section suspension arm that allows free positioning of the shield. It can be used in combination with the table mounted, lower body radiation shield.

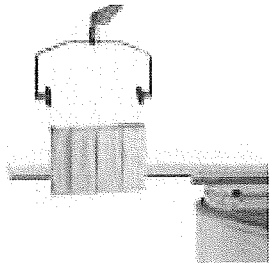


Table Mounted Radiation Shield

The table mounted radiation shield provides additional protection for the physician and staff against scatter radiation. The shield consists of two protective parts: a lower shield and an upper shield.

Specifications:

- Can be mounted on the right or left table accessory rails
- Can be pulled into the required working position and parked underneath the tabletop to facilitate patient preparation
- The upper shield can be positioned upright for optimal protection or can be folded down to allow free access to the patient

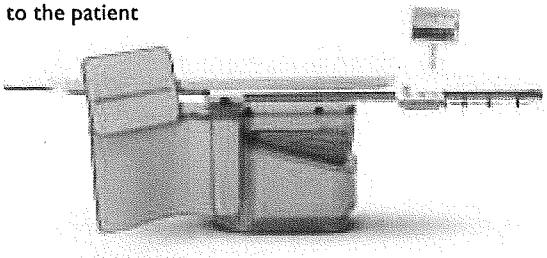
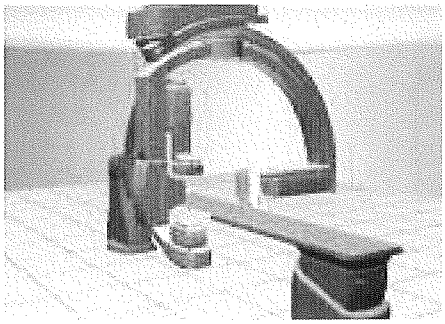
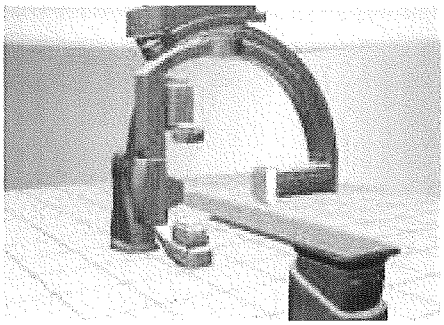
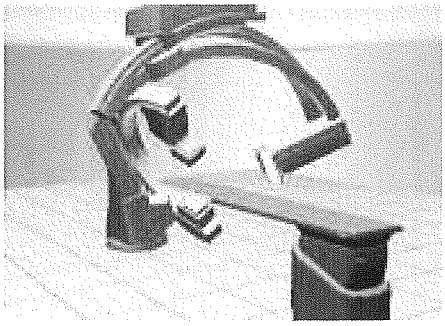


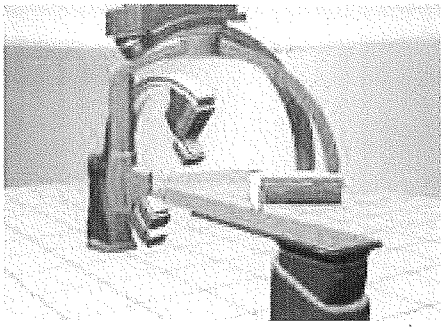
Table Mounted Radiation Shield



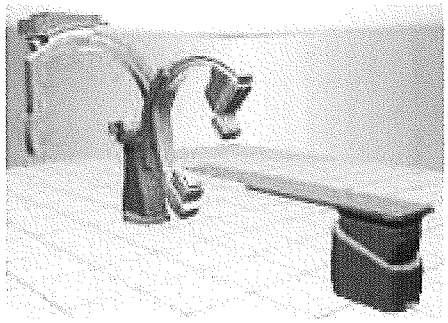


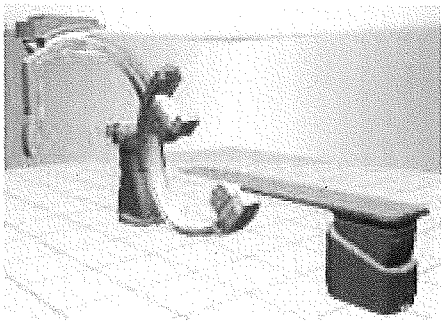
The focal spot to flat detector distance is variable over a wide range



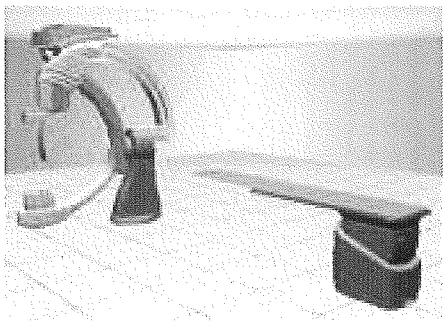


In both channels the stand can rotate and angulate independently

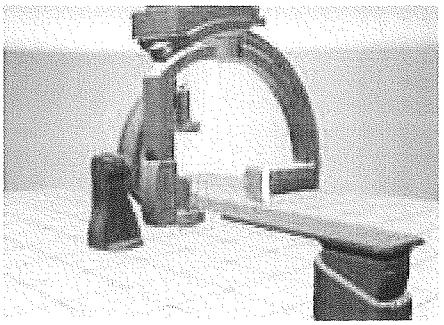


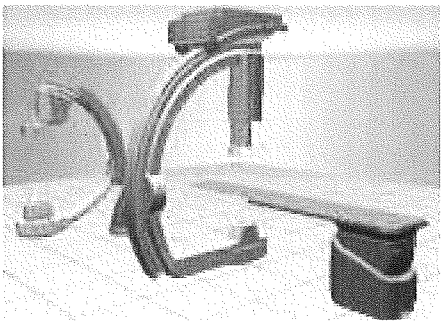


The frontal stand can be angulated from 45° to 45° caudal



Both the frontal and lateral stand can be parked away, leaving the patient support isolated with open space all around





While the frontal stand is in the left or right parked position, the LARC offers full body coverage in both AP and lateral projections

Technical information - User Interface

Xper User Interface in the examination room

Xper stands for X-Ray Personalized, and reflects the expert nature of the Allura Xper FD10/10 system. The three components of Xper are:

- Xper settings, which customize the system to each cardiologist's preferred settings
- Xper User Interface, which is based on Philips Vequion design principles
- Xper Integration, which includes highly advanced integration functionality, such as MultiSwitch, and Xper Window Switching

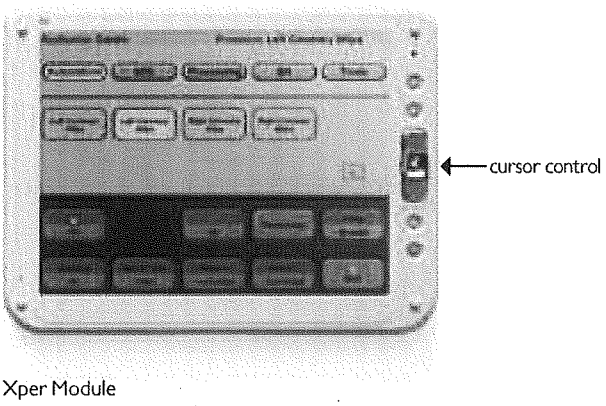
In the examination room, the Xper User Interface comprises the On-Screen Display, the Xper Module, and the Xper Imaging and Geometry Modules.

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

- X-ray indicator
- X-ray tube temperature
- Gantry position during rotation and angulation
- Source Image Distance for each channel
- Table height
- Tabletop tilt and cradle angle, if the table tilt/cradle option is installed
- Detector field size display for each channel
- General system messages
- Selected frame speed
- Fluoroscopy mode
- Integrated fluoroscopy time
- Air Kerma: dose rate during X-ray, accumulated dose with no X-ray
- Dose Area Product: dose rate during X-ray, accumulated dose with no X-ray
- Graphical bars for Body Zone specific dose rate and accumulated Air Kerma levels, in relation to the 2 Gy threshold
- Stopwatch

The On-Screen Display on the live monitor in the examination room contains the Xper ViewPad, which stores the pre-programmed function settings. The Xper ViewPad controls the following:

- Run and image selection
- Exam and run cycle
- Review speed
- Run and exam overview
- Active exam selection
- Flagging exam and run for storage
- Subtraction and image mask selection if subtraction option package is available
- Digital zoom
- Storing reference run or image to reference monitors
- Switching to the On-Screen Displays



Xper Module

Xper Module

The Xper Module can be positioned both at the tableside and in the control room. Up to three Xper Modules can be connected to the system. The Xper Module contains the following functionality:

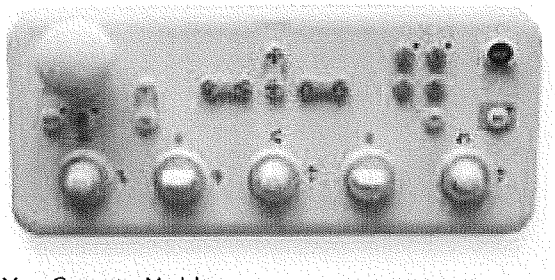
- Acquisition settings

  Settings for frame rates and X-ray generation that apply to the type of intervention. These are programmed in the Xper settings. This is also where the specific Xper setting for the StentBoost / Allura 3D-CA / Allura 3D-RA / Xper IM options can be programmed. If the option(s) is/are available on your system, this setting sends the acquired images directly to the interventional workstation for reconstruction.

Technical information - User Interface

- Automatic Position Control (APC), optional
- Image Processing
  Image Processing parameters, like contrast, brightness, edge enhancement and image invert can be adjusted.
- Quantitative Analysis (QA), optional
  If QA packages are available on the system, the analysis can be performed on the Xper Module. The package may contain Quantitative Coronary Analysis, Left and Right Ventricular Analysis.
- StentBoost on Xper module, optional
  Allows operation of StentBoost via the Xper Module in the examination room during the examination.
- Allura 3D-RA on Xper Module, optional
  Allows operation of Allura 3D-RA via the Xper Module in the examination room during the examination.
- Allura 3D-CA on Xper Module, optional
  Allows operation of Allura 3D-CA via the Xper Module in the examination room during the examination.
- Xcelera on Xper Module, optional
  Integrates the Xcelera network application in the Allura Xper system. It allows operation of the Xcelera Viewer with the Xper Module in the examination room during the examination.
- Hemo on Xper Module
  Integrates Xper IM Physiomonitoring in the Allura Xper system. It allows the physician and staff to perform a complete hemodynamic study tableside via the Xper Module. The "Hemo" menu contains the following subset of Xper IM physiomonitoring features:
  - SNAP (Auto record)
  - Obtain/Capture and store hemodynamic waveforms and ECG's
  - Cardiac output measurements
  - Monitor scale and sweep speed
  - NIBP measurement

Xper Biplane Geometry Module

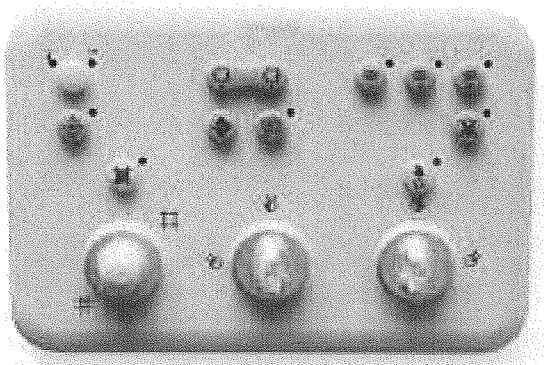


Xper Geometry Module

The Xper Geometry Module can be positioned on all sides of the patient table. The module automatically adjusts to the selected position and retains the intuitive button operation. The Xper Geometry Module provides the following functionality:

- Tabletop float
- Table height position
- Table tilt angle (if table tilt option is provided)
- Table cradle (if table tilt + cradle option is provided)
  - Source Image Distance (SID)
- Stand positioning per plane
- Biplane rotation
- Store and recall of two stand positions, including SID
- Emergency stop button
- Accept button of the Automatic Positioning Control.
  - Geometry reset button, which resets stand and table to a default starting position

Xper Biplane Imaging Module



Xper Imaging Module

The Xper Imaging Module can also be positioned at all sides of the patient table, while retaining intuitive button operation. The Xper Imaging Module provides the following functionality:

- Fluoroscopy mode selection as defined via Xper settings
- Shutters and wedge positioning per plane
- For each plane, manual or automatic wedge operation, including positioning of the displayed image without radiation
- Xper fluoro storage to record the last ten or twenty seconds of fluoroscopy (free configurable length)
- Fluoro Grab to store the last fluoro image
- Shutter setting per plane
- Selection of the detector field size per plane
- Reset of the fluoroscopy buzzer
- Real-time subtraction and fluoro trace subtract, if the subtraction package is provided
- Toggle button to select the required channel for adjustments

Both Xper Modules have a removable protection bar that prevents unintended activation of the system.

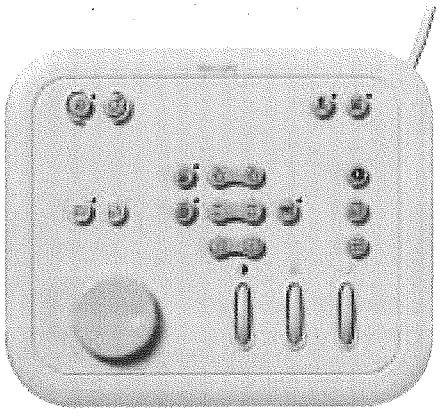
Xper User Interface in the control room

In the control room, the Xper User Interface includes an Xper Review Module, two LCD monitors, the keyboard, a mouse, and monitor pedestal to align the monitor heights. The monitors have shared screens: the left color screen is the data monitor, and the black and white screen is the review monitor.

Xper Review Module

The Xper Review Module is a review station for basic cardiovascular viewing needs. The most prominent functions can be controlled by the touch of a button. The Xper Review Module comprises the following functionality:

- Power on/off of the system
- Tagarno wheel to control the review of a patient exam
- Exam and run cycle
- Adjustment of contrast, brightness, and edge enhancement
- Exam, run, and image stepping
- Run and exam overview
- Delete run
- Basic review functionality, like image invert and digital zoom
- Go to basic settings
- Reset fluoroscopy timer and switch X-ray on/off



Xper Review Module

Technical information - User Interface

Xper data monitor

Xper data monitor

The Xper data monitor is a 19-inch LCD color monitor. It shares a screen with the Xper review monitor. A standard keyboard and mouse control the user interface. The data monitor is intended as the patient data interface. The workflow is divided into scheduling, preparation, acquisition, reviewing, reporting, and archiving. System information is displayed on the bottom of the data monitor:

- Stopwatch and time
- System guidance information
- Dose Area Product (DAP) and Air Kerma: dose rate during X-ray and cumulative dose with no X-ray per plane
- Frame speed settings, fluoroscopy mode, and accumulated fluoroscopy time per plane
- Exposure and fluoroscopy settings as Voltage (kV), current (mA) and time (ms) per plane
- Geometry information, including rotation, angulation, and SID per plane

Scheduling

On the scheduling page, new patient data can be added manually or loaded from the CIS or HIS via DICOM Work List Management (DICOM WLM). Patients can be listed and selected per day, physician, or type of intervention.

Patient management protocols are exceptionally flexible and allow multiple exams to be selected under one patient identification number, so that new exams can be appended to an earlier patient file. Furthermore, each patient folder can contain multiple examinations to accommodate split billing and split administrative purposes. Each examination contains multiple files, such as acquisition, reference, and QA files. Patient information can also be sent from the modality to the information systems with DICOM Modality Performance Procedure Step (DICOM MPPS).

Preparation

The preparation page provides the room and patient preparation preferences of each individual physician, eliminating the need for hard copy protocols. Physicians' preferences are programmed in the Xper settings and the information resides permanently in the system unless a change is made.

Acquisition

The acquisition page contains information on the current selected patient. The page shows a full overview of all acquired runs and allows you to do QA. The history file of the patient can be reviewed at the touch of a button.

Review

The review page lets you review the following information from patients:

- Previous exams
- Exams from other imaging modalities

Report

For systems with the Lab Reporting option, the report page lets you create a patient report. The report contains information on patient X-ray dose, written text from the intervention, and appended clinical images. It can be printed or sent out by electronic mail.

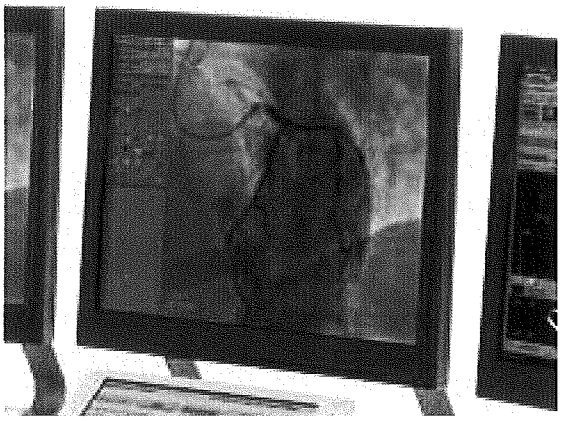
Archive

Clinical studies can be transferred to an optional Xcelera DICOM Recorder (IDR) or to a PACS, like the Xcelera PACS. The archive process - including multiple destinations, archive formats, and background transfer (optional) - can be completely automated and customized with Xper settings.

Technical information - User Interface options

Xper review monitor

The review monitor is an 18-inch black and white LCD monitor that is shared with the color data monitor.



Xper review monitor

The Graphical User Interface on the black and white monitor has the following features:

- Step through exam, run, or images
- Exam and run overview
- Image processing features, such as contrast, brightness, and edge enhancement
- Flagging runs or images for transfer
- Exam annotation
- Automatic printing
- Quantitative Analysis Packages, if available
- Subtraction functionality, if available

Second Xper Biplane Imaging Module

Extension of the imaging controls in the control room with a second module in a master-slave configuration.

Second Xper Biplane Geometry Module

Extension of the geometry controls in the control room with a second module in a master-slave configuration.

Second or third Xper Module

Additional Xper Modules can be connected in the control room or in the examination room at tableside. Up to two Xper Modules can be connected in the control room, but only one Xper Module can be connected in the examination room.

The specifications and information on the Xper Module are similar for all Xper Modules connected to the system. If more than one Xper Module is connected to the system, each Xper Module can be operated independently.

Product Security

McAfee Virus-Scan software has been validated for use with our CV products. Please refer to Philips' service and security documentation for specific product details regarding McAfee usage and installation.

Philips offers:

- Online security resources to address your privacy, security, and regulatory concerns
- Access to security professionals who can assist with your IT department's compliance efforts and risk assessment
- Vulnerability monitoring and 24x7 incident response to help ensure that cyber security threats to medical devices and systems do not interfere with patient care

Technical information - Integration

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

- The Xper DICOM Image Interface transfers through its fast ethernet link, making images available on-line within seconds. The archiving process can be configured in the Xper settings
- The images are sent out, either in the background or manually, upon completion of the examination
- The export format can be configured to a 512x512 or 1024x1024 matrix, at 8- or 10 bit resolution
- The examination can be sent to multiple destinations for archiving and reviewing purposes
- The Xper DICOM Imaging 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 to the system. Additional information can be appended to a study without changing the patient identification

Storage capacity

The Allura Xper FD 10/10 has a standard storage capacity of approximately 100 cardiac examinations, which can store up to 100,000 images in a 1024^2 10-bit matrix.

MultiSwitch, option

MultiSwitch enables the Xper workspot in the control room to be shared with other applications that are loaded on separate PC modalities. The MultiSwitch enables you to switch to the color LCD data monitor, keyboard and mouse that are normally connected to the Allura Xper system. This saves significant space in the control room by enabling only one monitor and keyboard to be used for multiple applications, like StentBoost, Allura 3D- RA, Allura 3D-CA, Xcelera, Xper IM and ViewForum.

MultiSwitch includes Window Switch functionality. Xper Window Switch is a web based-browser (HTML) or X-window (Exceed) application that allows the Xper Viewing Console to be switched to Radiology/ Cardiology Information Systems. The Xper Window Switch option makes full use of the available RIS/CIS facilities and existing support for automatic handling of logistic tasks (e.g., automatic tracking, purchasing supplies, and billing).

Lab Reporting, option

This option allows the clinical user to generate and print a report in modality stand-alone situations. The user can incorporate free text, clinical images, and X-ray dose information. The report is sent out via Dicom MPPS and contains:

- Total Fluoroscopy Time in minutes
- Radiation dose
- Total number of Exposures in numbers
- Accumulated Fluoroscopy Dose in mGy
- Accumulated Exposure Dose in mGy
- Total Dose in mGy
- Total Number of Frames in numbers
- Image Area Dose Product in mGy
- Entrance dose and Air Kerma in mGy

Detailed exposure information:

- Number of Exposure Results
- Exposure-related information, including Exposure Channel, Exposure Start Time, KVP, Distance Source to Detector (SID), Exposure Time, X-ray Tube Current, Positioner Primary Angle, Positioner Secondary Angle, and Frame Rate

Part of the report is generated automatically from administrative data (e.g., patient/exam data, hospital name), and acquired data (e.g., run-log and event-log).

Technical information - Image Detection

The Allura Xper FD10/10 is equipped with the latest generation dynamic flat detector, whose compact size can easily handle complex projections. Image quality and X-ray dose reduction are further enhanced by Xres techniques.

Dynamic Flat Detector

Philips' next generation dynamic flat detector provides excellent quality at a low patient X-ray dose.

Specifications for each plane:

- Size of detector housing, including BodyGuard: 37 cm (14 in.) diagonal
- Field Of View: 25 cm (10 in.), diagional square
- Detector zoom fields: 19 and 15 cm (8 and 6 in.) diagonal square format
- Pixel size: 184 x 184 microns to allow visualization of the smallest details
- Detective Quantum Efficiency DQE(0): 75%
- Output digital video frame: 1024^2 at 14-bit depth resolution
- Acquisition speeds can not be customized per system: 3.75, 7.5, 15 and 30 frames/second
- Digital video frame out for archiving purposes is customizable via Xper settings in different formats: 1024^2, 512^2, and 8 or 10 bit

Xres

Xres is a real-time image processing algorithm originally developed by Philips Research. Xres exploits the benefits of the fully digital detector to reduce noise in clinical images. It uses spatial filtering and does not compromise in image quality. Xres provides excellent visualization of coronary arteries in complex projections by harmonizing the background image. Plus, it improves the visualization of the region of interest. For example, it visualizes the fine details in the coronary arteries in situations where the arteries are projected over the diaphragm or spine.

Specifications:

- Real-time processing for X-ray fluoro and exposure speeds of up to 30 fps
- Xres can be customized for different image profiles via Xper settings. This customization allows each clinical user to choose their preferred image quality

Fluoroscopy

Three fluoro modes are available at tableside and these can be programmed via Xper settings. Each mode can be programmed with a different composition of X-ray dose rate, digital processing, and filter settings.

Specifications:

- Fluoroscopy image processing: recursive filtering, localized contrast-adaptive contour enhancement and Xres algorithm
- Pulsed X-ray modes with a Fast Fluoro Reset function, which quickly returns the system to fluoroscopy if there is an unexpected system reset
- Pulse rates: system-customized at 3.75, 7.5, 15 and 30 pulses per second
- Choice of Last Image Hold during fluoroscopy or a loop of the last fluoroscopy run (service configurable time)
- Frame grabbing of static fluoroscopy images or Xper fluoro storage to store the fluoroscopy run (service configurable time) for reference or archiving

Subtraction package

The Digital Subtraction Angiography (DSA) option extends the vascular applicational functionality of the Allura Xper system. DSA features real-time digital subtraction at low frame speeds of 0.5, 1, 2, 3, or 6 frames per second. The DSA programs can be selected via the Xper settings.

This option's exposure technique provides exceptional image quality for Subtracted images. It also offers run-subtract to perform subtraction per run.
This feature can be applied in the Rotational Scan and Bolus Chase Subtract options. DSA includes the following functionality: Fluoro-Trace, Fluoro-Subtract, Exposure Subtract on individual images or runs, mask selection, landmarking, and pixel shift.

Technical information - X-ray Generation

X-ray generation consists of the following elements: X-ray generator, X-ray tube, collimator (including SpectraBeam beam filtration), and dose protection mechanism. The complete dose protection mechanism is part of the DoseWise program.

Velara X-ray generator

The Velara generator is optimized for the latest cardiovascular needs.

Specifications for each plane:

- Microprocessor-controlled, 100 kW high-frequency converter generator
- Quartz-controlled IGBT-power-switch, with a minimum switching time of 1 ms
- Voltage range: 40 to 125 kV
- Maximum current: 1250 mA at 80 kV
- Maximum continuous power: 2.5 kW for 0.5 hours, 2kW for 0.8 hours
- Nominal power (highest electrical power): 100 kW (1000 mA at 100 kV)

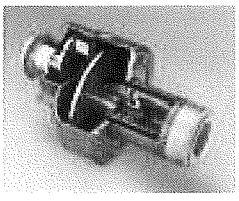
The Xper settings for X-ray generation control can be selected on the Xper Module.

Xper Beam Shaping

Xper Beam Shaping provides virtual collimation of the shutters and wedges on the last X-ray image, eliminating additional X-ray dose during collimation changes.

X-ray tube

The Allura Xper FD10/10 features the legendary high power MRC-GS 0508 X-ray tube. In the last seven years, Philips has installed more than 5000 MRC X-ray tubes with customers around the world. Data shows that on average, the MRC X-ray tube lasts significantly longer than conventional tubes.



MRC-GS 0508X-ray tube

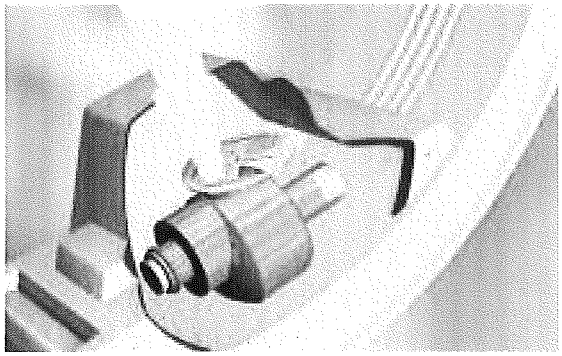
MRC-GS 0508

The powerful MRC-GS 0508 X-ray tube allows very high heat dissipation, enabling SpectraBeam filtration to reduce patient dose significantly.

Specifications:

- 0.5/0.8 nominal focal spot values with maximum loadability of 45 kW and 85 kW
- Grid Switching with pulsed fluoroscopy
- Anode heat dissipation in continuous mode: 3200 W
- Fluoro power for 10 minutes: 4500 W
- Fluoro power for 20 minutes: 3500 W
- Maximum heat dissipation of assembly: 3500 W
- SpectraBeam dose management
- Oil-cooled X-ray tube with thermal safety switch

SpectraBeam



SpectraBeam minimizes soft radiation with unique beam filtration

The combination of SpectraBeam with the MRC-GS 0508 tube allows increased X-ray output with better filtration of soft radiation. This reduces patient X-ray dose for cardio and vascular applications, while maintaining the same excellent image quality.

Specifications:

- Copper filters: 0.2, 0.5, and 1.0 mm copper equivalent. The filters can be programmed via Xper settings and the fluoroscopy mode can be selected at tableside

Technical information - Viewing

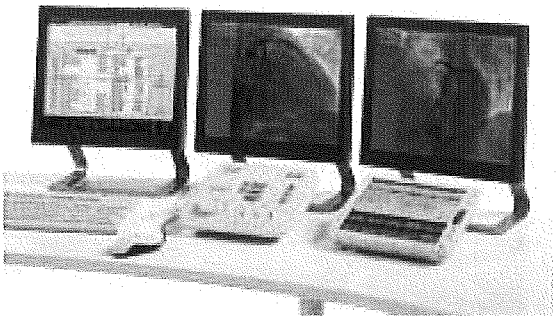
The system is delivered standard with four black and white 18-inch LCD monitors in the examination room. One 19-inch LCD color monitor and two 18-inch black and white LCD monitors are standard in the control room.

Specifications of color LCD monitor:

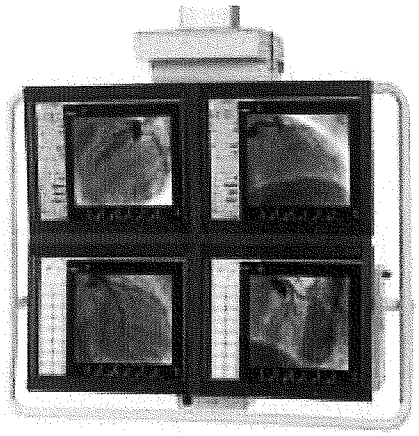
- 19-inch color LCD display
- Native format: 1280 x 1024 SXGA
- Wide viewing angle: approximately 170°
- Controlled brightness: typically 270 Cd/ m^2, with ambient light dependent brightness control
- On-screen display of control functions operated via push buttons
  - Audio output 0.5 Watt
  - Contrast typically 800 on 1

Specifications of monochrome LCD monitor:

- 18-inch monochrome LCD display with a native format of 1280 x 1024 SXGA
- 10 bit grey-scale resolution with grey-scale correction
- Wide viewing angle: approximately 160°
- High brightness: maximum 600 Cd/ m^2, with ambient light dependent brightness control
- On-screen display of control functions operated via push buttons
- Examination room LCD monitors include protection screen and motorized height adjustment



LCD monitors in the control room



LCD monitors in the examination room

Delivering clinical excellence with Philips CUSTOMerCARE service agreements

Philips **CUSTOMerCARE** service agreements deliver the flexibility and choice for you to succesfully manage your business. We offer customized solutions that enhance the quality of your care, increase your productivity, and improve your financial performance.

Philips Comprehensive service agreements meet the intensive requirements of your high performance environment and offer advanced total solution support, increased uptime, clinical education, and exceptional overall value.

Philips Alliance agreements fully leverage the value of your in-house biomedical and clinical engineering staff.

Philips Basic coverage plans are available for essential needs, such as planned maintenance or equipment repair.

Technical information - Options

MultiVision

The MultiVision video switch is the integrated video switch for high quality, progressive display video sources. It can switch either black and white or color signals, and supports up to four inputs to one output. MultiVision enables an extra color monitor in the ceiling suspension in the examination room to be shared between the system and other sources, such as a DICOM viewer, an Ultrasound system, StentBoost, a Allura 3D-RA or Allura 3D-CA interventional tool, etc. The switch is controlled via the acquisition manual on the Xper Module.

Physio Viewing

Physio Viewing provides acquisition, storage and display of physiological signals on the Allura Xper FD10/10 system. Four physiological data signals can be acquired and stored. One signal of choice can be displayed when reviewing images.

Continuous autopush

The continuous autopush option provides additional processor boards that are dedicated to archiving to minimize interruptions caused by other functions that require the image processor, such as patient review. Using this option speeds up archiving and the availability of clinical images for reviewing at other PACS destinations.

DICOM Print

DICOM Print provides an interface to any DICOM Printer. It provides Print Preview, Print Manual Overrides, Print Job submission, and Print Job management via automated printing protocols.

Intercom

Remote Intercom is used for communication between the examination and control room.

RIS/CIS DICOM Interface

This interface option enables two-way communication between the system, a local Information System (CIS or RIS), or hemodynamic system. The interface uses the DICOM Worklist Management (DICOM WLM) and Modality Performed Procedure Step (DICOM MPPS) standards. If a hospital has an information system, it is possible to receive patient and examination (request) information and to report the examination results. This option provides the following benefits:

- Eliminates the need to retype patient information on the system
- Prevents errors in typing patient name or registration number, which ensures consistency of information throughout the department to prevent problems in archive clusters
- Provides information to and from the information system about the acquired images and radiation dose

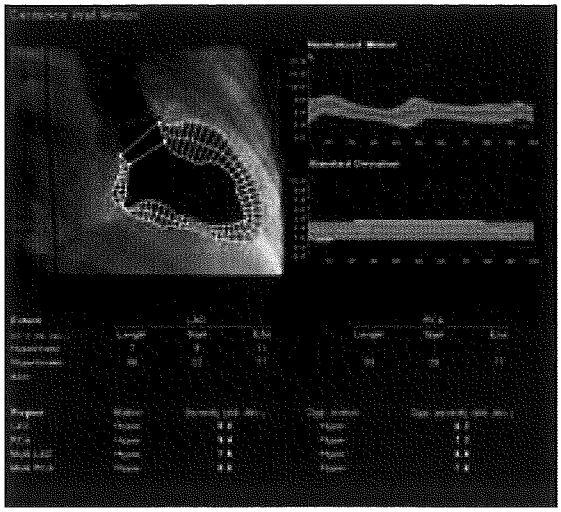
Upon request from the system, the complete worklist with all relevant patient and examination data is returned to the system.

Biplane standard line rate video input/output

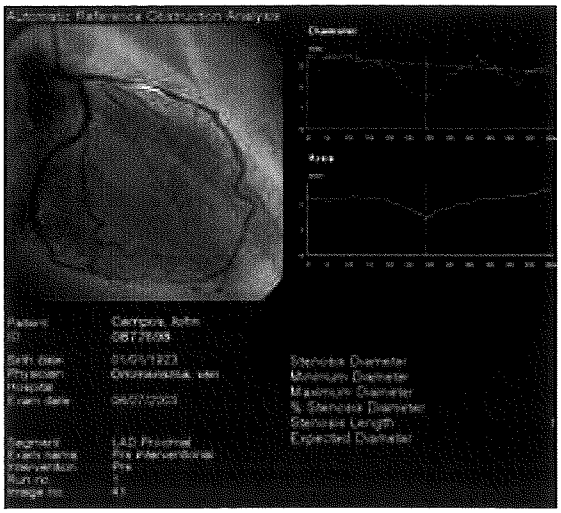
The standard line rate video output is 625 (525) lines for a 50 (60) Hz video interface board. This option is required to connect standard line rate video peripherals for each plane, such as a VCR and/or video printer. The interface provides control for automatic biplane recording of fluoro and exposures with a VCR medical DVD recorder, and for replay of VCR or DVD images (on any SLR video source) on the system monitors.

Real-time digital link

The real-time digital link is a dedicated image link to an interventional tool, such as Allura 3D-RA, StentBoost, and/or Allura 3D-CA. This dedicated digital link sends raw or processed image data (depending on the application) in real-time during exposures to the connected interventional tool. This provides instant results of the applicable reconstruction after the exposure run.



Left Ventricular Quantification software package



Coronary Quantification software package

Quantitative Analysis Packages

Biplane left Ventricular Quantification software package

This software package enables the assessment of ejection fraction and left ventricular volumes. It combines the single plane and the biplane left ventricular software: the calculations can be executed from single plane or biplane projections.

Ventricular Quantification software package
The functions are:
- Various Left Ventricular volumes
- Ejection Fraction
- Cardiac output
- Centerline Wall Motion
- Slager Wall Motion
- Regional Wall Motion
- Calibration routines
  - -Biplane Ejection Fraction automatic
  - -Biplane Ejection Fraction manual

Right Ventricular Quantification software package

This software package is used to assess ejection fraction and right ventricular volumes. It enables you to perform right ventricular analysis from angiograms. The calculations can be executed from single plane or biplane projections. The package is intended especially for pediatric cardio applications and focuses on easy and efficient wall contour detection. It includes the following functions:
- Calibration routines
- Various Right Ventricular volumes
- Ejection Fraction
- Cardiac output
- Centerline Wall Motion
- Slager Wall Motion
- Regional Wall Motion
- Biplane Ejection Fraction automatic
- Biplane Ejection Fraction manual

Coronary Quantification software package

This software package provides quantification of stenosis measurements in the coronary arteries. It includes the following functions:

- Diameter measurement along the selected segment
- Cross sectional area
- Percentage of stenosis
- Stenotic flow reserve
- Pressure gradient values
- Calibration routines

Vascular Quantification software package

This is a clinically validated analytical software package for quantitative analysis. It includes the following functions:
- Vessel diameter and stenotic index
- Automated Vessel Analysis
- Calibration routines

Autocall

The Autocall option can be used in conjunction with the Quantitative Analysis packages. When an object to be analyzed, like the left ventricle or vessel segment is placed in the isocenter, full autocall eliminates the need to:
- Acquire an additional image series containing a sphere or grid for calibration purposes
- Calibrate manually on a calibration object, like a catheter that is displayed in the image or image series to be analyzed

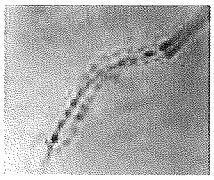
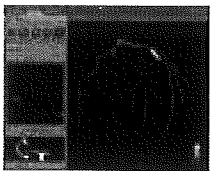
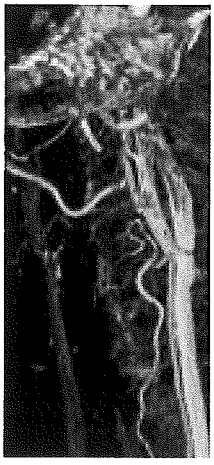


Image after StentBoost



Allura 3D-CA



Allura 3D-RA

Examination light

StentBoost

StentBoost is a simple, quick, and cost-effective tool to enhance visualization of stents in the coronary arteries. It shows the stent in relation to the vessel wall. StentBoost uses markers on the balloon or stent delivery catheter to better visualize objects in the direct environment of the markers. It improves:

- Stent positioning in lesions and bifurcations
- Stent deployment
- Stent-in-stent placement
- Assessment of stent artifacts (like fractures)

Allura 3D-CA

Allura 3D-CA creates a 3D model of 2D coronary artery images. It can help improve diagnosis by providing:

- Optimal insight into the structure of the coronary tree
- Improved assessment of lesions and bifurcations
- Insight into the optimal working angles

Enhance interventional preparation:

- Select the right stent length
- Select optimal view of lesion or bifurcation with "TrueView" map

Enhance interventional execution:

- Work with optimal viewing angles of lesions and/or bifurcations
- Place the right stent with the right length in the right place

Via the real-time link and seamless integration with the Allura Xper FD10/10, the interventional tools work perfectly in sync with the system.

CT TrueView

CT TrueView connects the Cath lab to the CT room. It provides all the benefits of Allura 3D-CA based on a CT diagnostic image. It offers:

- Optimal C-arc positioning on Philips CT data sets to minimize foreshortening when assessing lesions or bifurcations
- Full integration with Philips products. This option is available in the extended Brilliance workspot in the CT Room and it can be controlled from tableside or from the control room in the Cath Lab. It is one easy to use user interface on the EBW and interventional hardware

Allura 3D-RA

The Allura 3D-RA interventional tool provides extensive three-dimensional insight into vascular pathologies from a single Rotational Scan acquisition. It allows:

- Development of better treatment strategies using superb images
- Selection of the best stand projections for treatment
- Treatment progress to be monitored in 3D: visualization of deployment of embolization material
- Reduction of exam time, X-ray dose, and contrast medium by eliminating the need for multiple DSA/ fluoro exposures

EP navigator

EP navigator shows the catheter and the 3D anatomy in real-time in one image, allowing electrophysiologists to instantly confirm the position of any catheter or lead with respect to detailed 3D cardiac anatomy in the EP intervention lab. This information can support the electrophysiologist in performing complex EP procedures with greater confidence, in a more intuitive way. During the procedure, EP navigator helps the electrophysiologist:

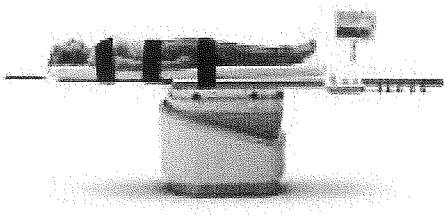
- Guide mapping procedures with more confidence
- Get to ablation points that are difficult to reach more confidently
- Perform complex procedures when you don't have access to mapping

Examination Light

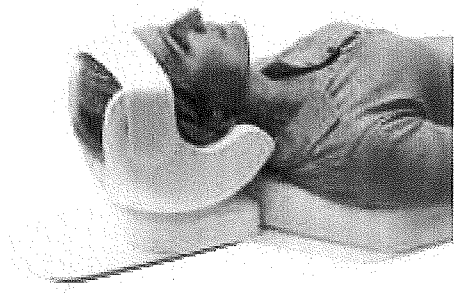
This light enables the optimal visualization of the region of interest under daylight conditions. The light's intensity is 30,000 Lux. The handgrip is removable and can be sterilized for use with a disposable cover.

Accessories

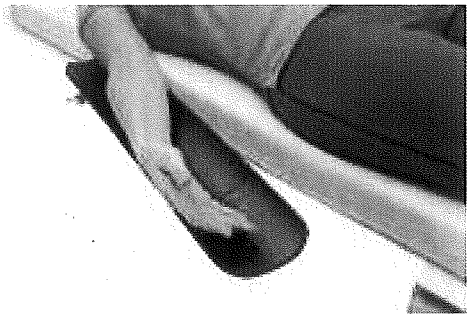
- Peripheral X-ray filter
- Cath arm support (adjustable)
- Ratchet compressor
- Table X-ray protection
- Pulse cath arm support
- Pan handle
- Ceiling-suspended radiation shield
- MCS bracket ceiling Radiation Shield
- Examination light
- Drip stand
- Arm support
- Mattress
- Neuro Mattress
- Set of arm supports
- Table clamp
- Patient straps
- Head support
- Set hand grips & clamps
- Cerebral filter
- Neuro wedge
- Cable holders (15 pieces)



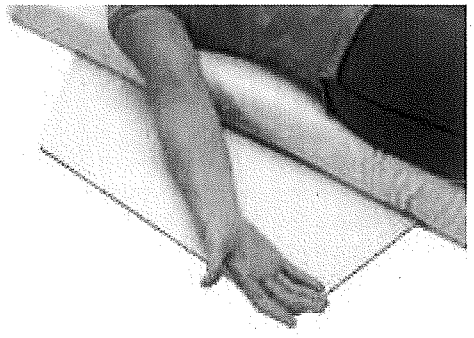
Patient straps



Head support

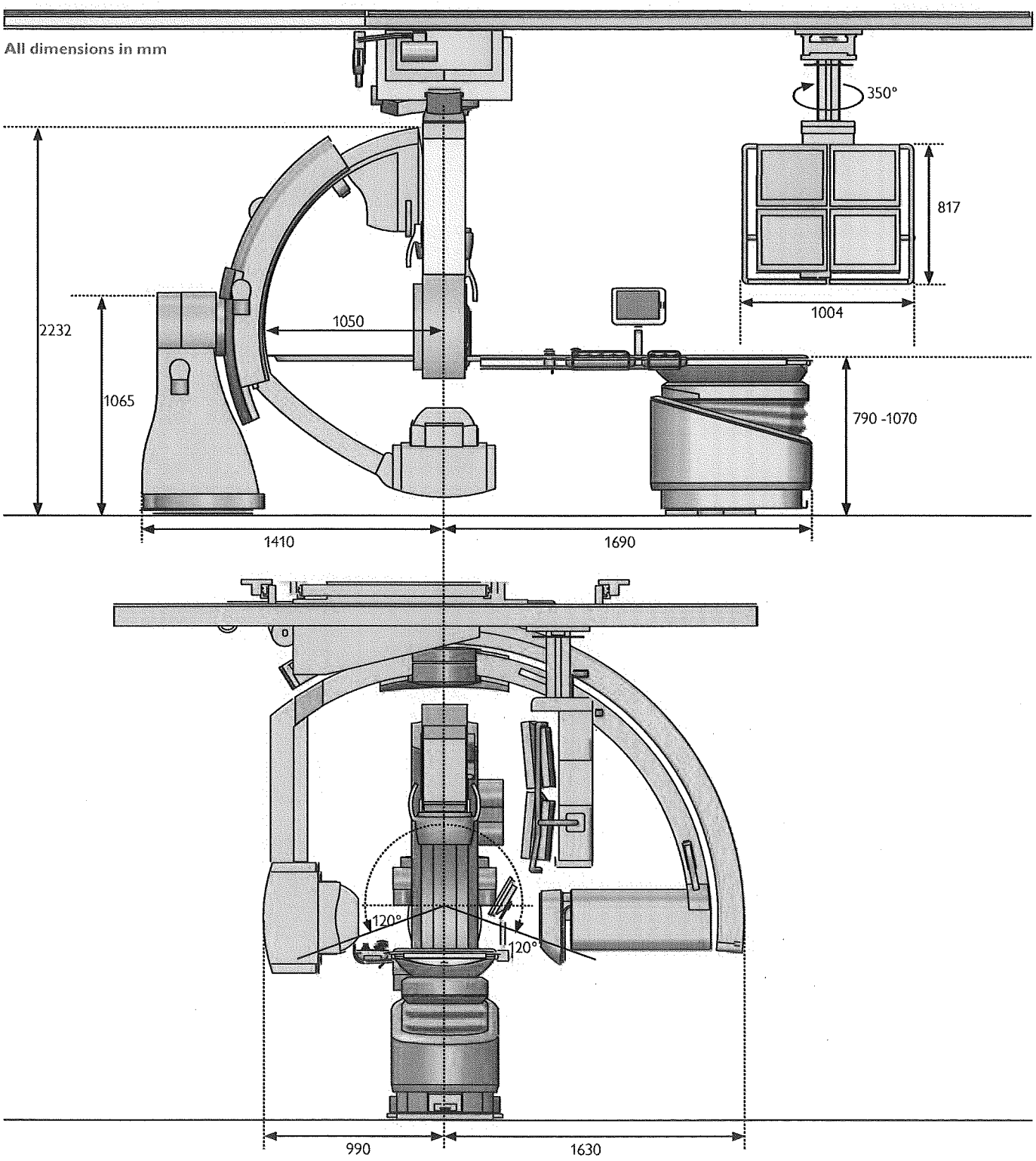


Arm support

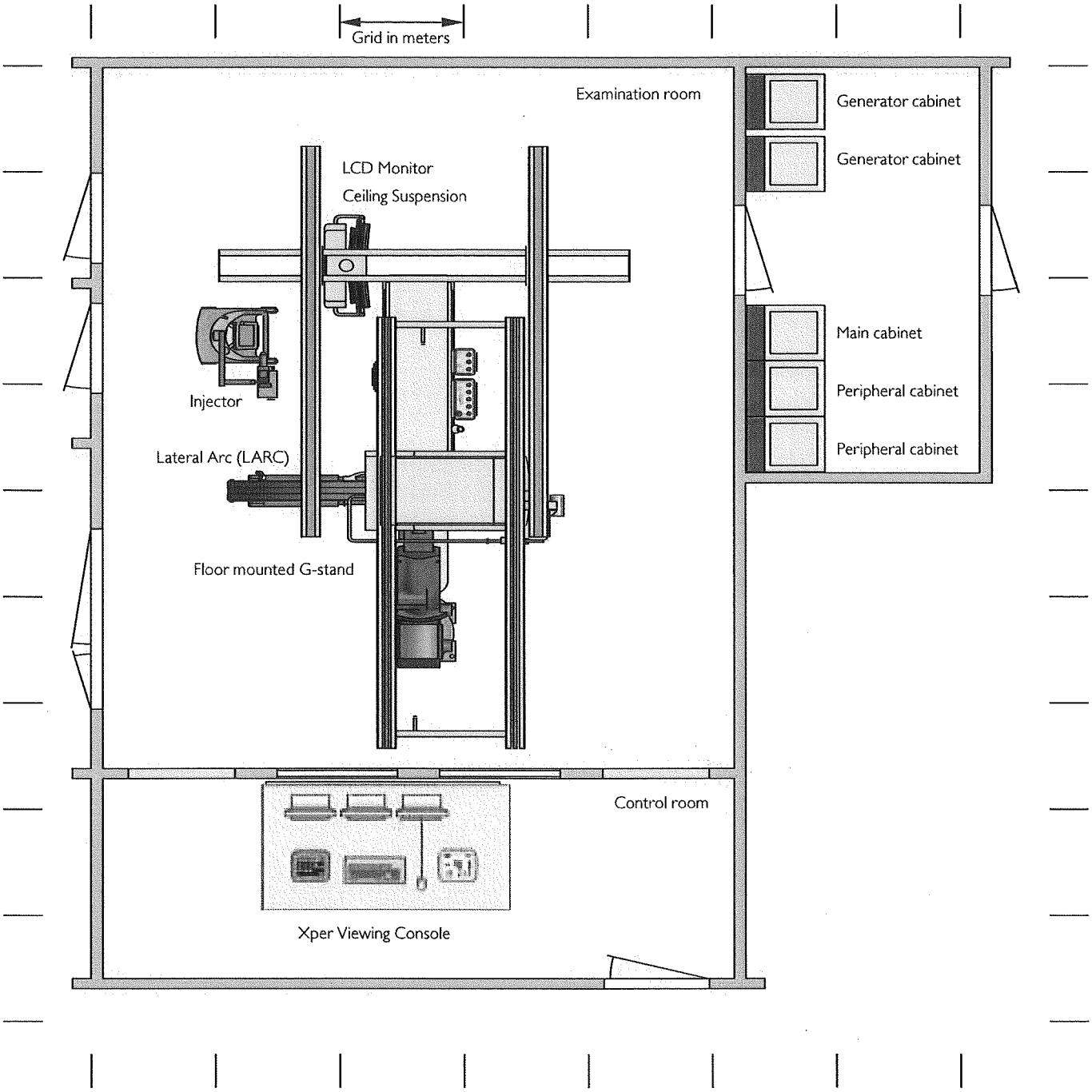


Pulse cath arm support

Technical information - Dimensions



Technical information - Room Layout



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On the web
www.philips.com/healthcare

Via email
healthcare@philips.com

By fax
+31 40 27 64 887

By mail
Philips Healthcare
Global Information Center
P.O. Box 1286
5602 BG Eindhoven
The Netherlands

By phone
Asia
Tel: +852 2821 5888

Europe, Middle East, Africa
Tel: +49 7031 463 2254

Latin America
Tel: +55 11 2125 0764

North America
Tel: +1 425 487 7000
800 285 5585 (toll free, US only)

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Non Disclosure Agreement for Philips Confidential Pricing Information

The parties specified below agree to the following terms:

A. Philips

Name	Philips Healthcare, a division of Philips Electronics North America Corporation
Address	22100 Bothell-Everett Highway, Bothell, WA 98021 United States of America

B. Company

Name	MISSION MEMORIAL HOSPITAL INC
Address	509 BILTMORE AVE ASHEVILLE, NC 28801

C. Confidential Information

Authorized Purpose	To evaluate Philips' confidential information relating to pricing for imaging equipment ("Pricing") in connection with the potential purchase of such imaging equipment.
Period	Begins on the date Pricing is first disclosed and continues for 5 years from date Pricing is last disclosed.

D. Philips Contact

Name	Steve Wohlford
Title	
Telephone	(865) 977-5012
Fax	(509) 696-2411
e-mail	
Signature	

Company Contact

Name	
Title	
Telephone	
Fax	
e-mail	
Signature	

1. The following terms and conditions (the "Agreement") apply to Pricing disclosed by Philips and its Affiliates ("Philips") to Company and its Affiliates ("Company"), in connection with the Authorized Purpose.

   (a) Subject to Philips' prior written consent, Company may disclose, or request that Philips disclose, Pricing to Company's Affiliates that need to know the Pricing for carrying out the Authorized Purpose, provided they are advised of and agree to be bound by this Agreement. Company is responsible for any breach of this Agreement by its Affiliates.

   (b) An Affiliate is any corporation, company, or other entity, that: (i) is under the Control of a party hereto; or (ii) has Control of a party hereto; or (iii) is under common Control with a party hereto. For this purpose "Control" means that more than fifty percent (50%) of the controlled entity's shares or ownership interest representing the right to make decisions for such are owned or controlled, directly or

2. Philips may disclose Pricing to Company with respect to the Authorized Purpose in writing, orally, or otherwise. All information is assumed to be Pricing, and confidential, if the confidential or proprietary nature is reasonable under the circumstances.
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4. Company shall:
   (a) not use the Pricing for any purpose other than the Authorized Purpose;
   (b) not disclose the Pricing to any third party;
   (c) protect the Pricing against disclosure in the same manner and with the same degree of care with which Company protects its own confidential information but not less than a reasonable degree of care; and
   (d) limit circulation of the Pricing to Company's employees as have a need to know in connection with the Authorized Purpose.

   These obligations shall survive the termination of this Agreement. Philips may terminate this Agreement at any time by means of a written notice to Company. Company shall return to Philips, or certify destruction of, all Pricing, immediately upon termination or expiration of this Agreement.
5. Information disclosed by Philips to Company pursuant to this Agreement shall not be confidential to the extent that the information:
   (a) is or becomes part of the public domain without violation of this Agreement or any other obligation of confidentiality;
   (b) is known by Company prior to disclosure by Philips;
   (c) is lawfully obtained by Company from a third party without any breach of confidentiality or violation of law; or
   (d) is developed by Company completely independently of any such disclosure by Philips.
6. If Company is required, pursuant to administrative or judicial action or subpoena, to disclose the Pricing, Company shall use its best efforts to maintain the confidentiality of the Pricing, e.g. by asserting in such action any applicable privileges. Immediately after gaining knowledge or receiving notice of such action or subpoena, Company shall notify Philips and give Philips the opportunity to seek any other legal remedies so as to maintain such Pricing in confidence, including a reasonable protective order.
7. Company may not transfer or assign any or all of its rights and/or obligations or delegate the performance of any or all of its obligations under this Agreement, directly or indirectly, through acquisition, merger or otherwise, without the prior written consent of Philips. Any transfer, assignment or delegation in contravention of the foregoing shall be void.
8. Company shall not disclose, export or release the Pricing in contravention of any applicable laws or regulations.
9. This Agreement shall be governed and construed in accordance with the laws of the State of New York, without giving effect to its conflict of laws provisions.
10. This Agreement contains the entire understanding of the parties and supersedes any previous understandings or agreements with respect to the subject matter hereof. This Agreement may be amended only in writing signed by authorized representatives of each party.

THE WARRANTIES SET FORTH IN THIS WARRANTY DOCUMENT WITH RESPECT TO THE SYSTEM (INCLUDING THE SOFTWARE PROVIDED WITH THE SYSTEM), GLASSWARE, AND DETECTORS ARE THE ONLY WARRANTIES MADE BY PHILIPS IN CONNECTION WITH THE SYSTEM, SOFTWARE, GLASSWARE, DETECTORS, AND THE TRANSACTIONS CONTEMPLATED BY THE QUOTATION, AND ARE EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

ACCESS TO SYSTEM
Philips shall have full, free and safe access to the System and Customer's operation, performance and maintenance records for the System, on each scheduled or requested warranty service visit. Philips shall also have access to and use of any machine, service, attachment, features or other equipment required to perform the necessary service contemplated herein at no charge to Philips. Customer waives warranty service if it does not provide such access to the System and Customer's records. Should Philips be denied access to the System and Customer's records at the agreed upon time, a charge equal to the appropriate hourly rate will be accepted by Customer for "waiting time."

WARRANTY SERVICE
In the event it is not possible to accomplish warranty service within normal working hours (8:00 A.M. to 5:00 P.M., Monday through Friday, excluding Philips observed holidays), or in the event Customer specifically requests that warranty service be performed outside of Philips normal working hours, Customer agrees to pay for such services at Philips standard service rates in effect. Maintenance Agreements are available for extended coverage.

TRANSFER OF SYSTEM
In the event Customer transfers or relocates the System, all obligations under this warranty will terminate unless Customer receives the prior written consent of Philips for the transfer or relocation. Upon any transfer or relocation, the System must be inspected and certified by Philips as being free from all defects in material, software and workmanship and as being in compliance with all technical and performance specifications. Customer will compensate Philips for these services at the prevailing service rates in effect as of the date the inspection is performed. Any System which is transported intact to pre-approved locations and is maintained as originally installed in mobile configurations will remain covered by this warranty.

CONDITIONS
This warranty is subject to the following conditions: the System (a) is to be installed by authorized Philips representatives (or is to be installed in accordance with all Philips installation instructions by personnel trained by Philips), (b) is to be operated exclusively by duly qualified personnel in a safe and reasonable manner in accordance with Philips written instructions and for the purpose for which the products were intended, (c) is to be maintained and in strict compliance with all recommended and scheduled maintenance instructions provided with the System, and (d) Customer is to notify Philips immediately in the event the System at any time fails to meet its printed performance specifications.

LIMITATIONS OF LIABILITY AND DISCLAIMERS
The liability, if any, of Philips AND ITS AFFILIATES for damages whether arising from breach of the terms in the quotation, breach of warranty, negligence, indemnity, strict liability or other tort, or otherwise with respect to the products and services is limited to an amount not to exceed the price of the product or service giving rise to the liability.

IN NO EVENT SHALL PHILIPS OR ITS AFFILIATES BE LIABLE FOR ANY INDIRECT, PUNITIVE, INCIDENTAL, CONSEQUENTIAL, OR SPECIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR PROFITS, OR THE COST OF SUBSTITUTE PRODUCTS OR SERVICES WHETHER ARISING FROM BREACH OF THE TERMS IN THIS QUOTATION, BREACH OF WARRANTY, NEGLIGENCE, INDEMNITY, STRICT LIABILITY OR OTHER TORT. PHILIPS SHALL HAVE NO LIABILITY FOR ANY GRATUITOUS ADVICE PROVIDED TO THE CUSTOMER.

FORCE MAJEURE
Philips and Customer shall each be excused from performing its obligations arising from any delay or default caused by events beyond its reasonable control including, but not limited to: acts of God, acts of third parties, acts of the other party, acts of any civil or military authority, fire, floods, war, embargoes, labor disputes, acts of sabotage, riots, accidents, delays of carriers, subcontractors or suppliers, voluntary or mandatory compliance with any government act, regulation or request, shortage of labor, materials or manufacturing facilities.

Philips system specifications are subject to change without notice Document Number 4535 983 03234 999