



Making the difference with Philips Live Image Guidance

Philips Allura Xper family FD20/15 specifications

PHILIPS

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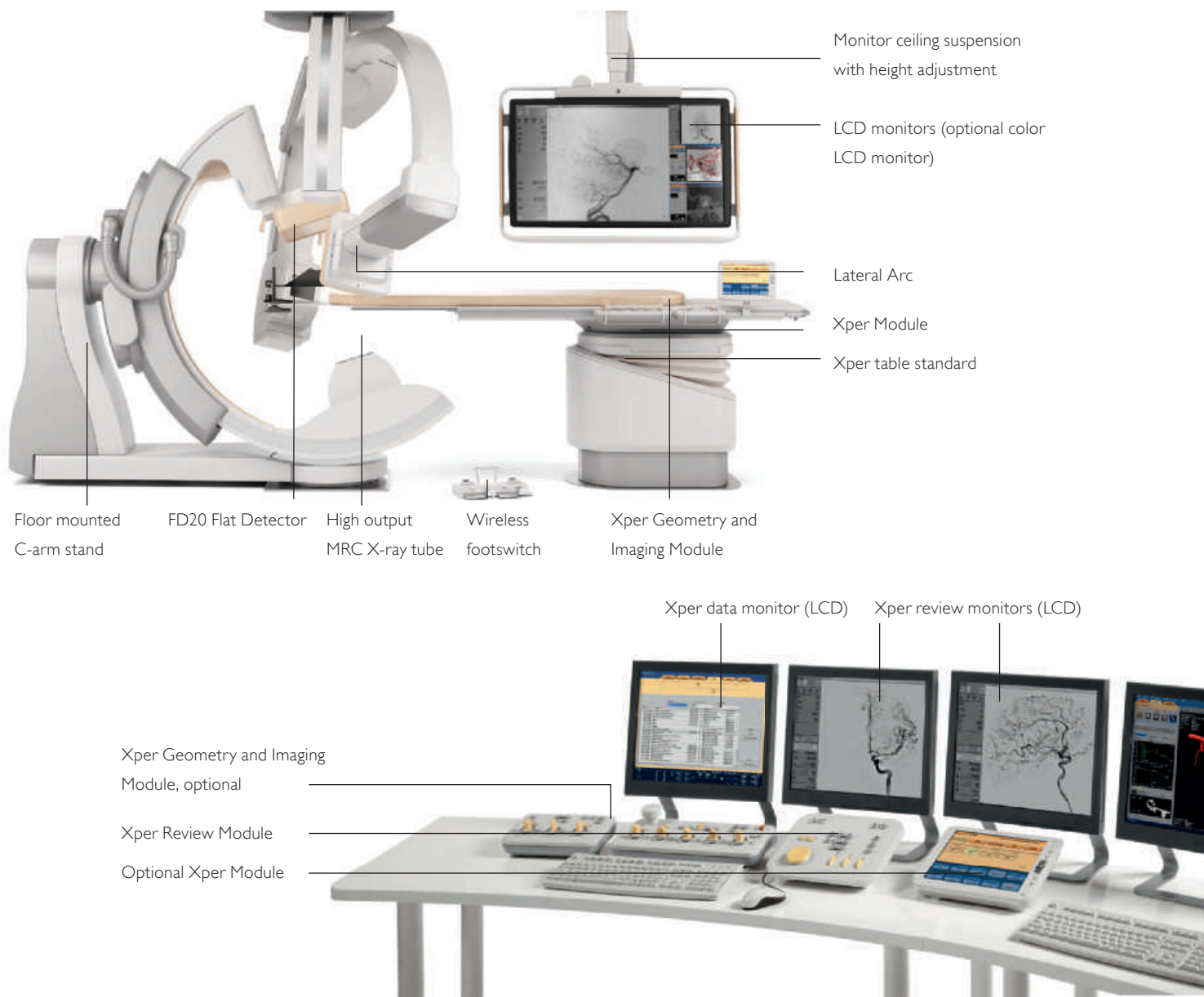
Making the difference with Philips Live Image Guidance

With Philips Live Image Guidance Together we make the difference in the treatment of cardiac diseases to improve patient outcomes and save lives. With our Live Image Guidance we aim to remove barriers to safer, effective and reproducible treatments, delivering relevant clinical value where it's needed most - at the point of patient treatment. Intelligent and intuitive integration of multi-modality imaging, patient information, and procedure specific applications in an interventional or hybrid surgical suite delivers the critical information physicians need to optimize interventions and determine the optimal course of treatment with greater predictability. Leverage 3D information to quickly assess the exact nature and location of the problem and reveal hidden risks to initial treatment strategy. Navigate

in real time to precisely target treatment and optimize decision making; and receive immediate intra-operative feedback of therapy response. Whether performing an ablation, implanting a device, treating an aneurism or racing the clock to remove a clot, our Allura Xper family enables clinicians to deliver fast, effective and simplified procedures with a more efficient clinical workflow.

Together, we drive growth and open doors to new procedures and techniques that truly make a difference in people's lives.

Example configuration for the system



1 Geometry

1.1 Gantry

Rock stable gantry design with fast and easy table side controlled operation, with full flexibility in applications by free positioning of the gantry, monitor suspension and operating modules.

The exclusive BodyGuard patient protection mechanism is designed to protect the patient from unexpected contact between the detector and the body. It uses capacitive sensing to determine patient location to prevent collision, while allowing stand positioning at up to 25°/sec.



Frontal and lateral stand



Double C-arc

Features Frontal C-arm	Specifications
Iso-center to floor	113.5 cm (44.7 inch)
L-arm rotation	Motorized and manual movement, over 180° with snap positions at 90°, -0°, -90° to allow patient access from three sides of the table
C-arm rotation	In head-end position: 120° LAO, 185° RAO, in side position: 90° LAO, 90° RAO
C-arm rotation speed	Is up to 25°/sec. and 55°/sec. for rotational scan
C-arm angulation / speed	In head-end position: 90° cranial, 90° caudal. In side position: 185° cranial, 120° caudal up to 18°/sec
Focal spot to iso-center	Is up to 81 cm (31.9 inch)
Source Image Distance	89.5 – 119.5 cm (35.2 – 47.1 inch)
C-arm depth	90 cm (35.4 inch)
Rotation of the flat detector	Xper Access allows re-positioning of the flat detector from portrait to landscape within 3 sec.
Programmable positions	Standard 2 positions
Features Lateral C-arc	Specifications
Iso-center to floor	113.5 cm (44.7 inch)
Longitudinal movement	Is motorized and manual of 300 cm (118.1 inch) at 15 cm/sec. It includes auto stops at the park position, cardio, neuro and lower peripheral position. Motorized or manual longitudinal movement for parking or positioning. Autostop in Iso-center. Two speed control to accurately position the beam longitudinally in the region of interest: 6 cm/sec (2.35 inch/sec) inside working area with neuro fine positioning 12 cm/sec. (4.7 inch/sec) outside working area
Motor-driven rotation	- 27° RAO to 115° RAO (or 0° LAO to 90° LAO for lateral arc CN).
C-arc rotation speed	Is up to 8°/sec.
Motor-drive angulation	45° cranial to 45° caudal, possible at any rotation angle
Focal spot to iso-center	Is up to 76.5 cm (30.1 inch)
Focal spot to flat detector	87.5 – 130.3 cm (34.4 – 51.3 inch), motorized and manual movement

Optional

Automatic Position Controller (APC)	Functionality for the stand is accessed through the Xper Module at the patient tableside. • This option includes a programmable position extension, which allows you up to ten different stand positions per clinical procedure • Another feature of the APC is reference-driven positioning. This allows you to recall stand positions by referring to the images at the reference monitors, which means that the rotation, angulation, SID, and detector orientation are restored to the original settings of the reference image.
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1.2 Xper tables

The Xper Table Standard and Xper Table are dedicated interventional X-ray tables that supports a full range of applications. A feather-light free floating tabletop helps maintain your region of interest and reduce effort. It has very high patient loadability and CPR can be performed on the table.

Xper Table Standard	
Table height (min.-max.)	74 cm - 102 cm (29.1 inch - 40.2 inch)
Table top length	319 cm (125.6 inch)
Table top width	50 cm (19.7 inch)
Longitudinal float range	120 cm (47.2 inch)
Lateral float range	36 cm (14.2 inch)
Max. table load	325 kg (715 lbs)
Max. patient weight	250 kg (550 lbs) + 500 N additional force max. tabletop extension in case of CPR
Vertical stiffness	38 N/mm

Optional

Auto Position Controller for Table

With this option, the X-ray beam automatically adapts to the table movement to keep the region of interest in the isocenter of rotation and angulation of the stand. This ensures that your region of interest always remains centered.

Store and recall

Reproducing precise coordinates (height, longitude and latitude) is critical for obtaining accurate visualizations. The optional automatic position controller brings the Xper table back to the original table position stored, without applying additional X-ray dose.

Pivot

Transradial access, upper extremity angiography, and patient transfer have never been simpler with our optional Pivot feature. One finger push-to-pivot allows effortless

patient positioning. It moves with less friction, making it easier to move larger patients. A secure mechanism locks the tabletop in place to prevent it from moving.

Tilt

Our option tilt functionality allows you to tilt the table for gravity oriented or puncture procedures. As the table tilts, the X-ray beam automatically adapts to the movement to keep the region of interest in the isocenter of rotation and angulation of the stand. As a result, your region of interest always remains centered.

Tilt and cradle

Many electrophysiology and non-vascular procedures benefit from additional positioning options. Our Xper table with isocentric tilt and cradle-tilt functionality puts your gravity oriented or guided puncture procedures at the required angle.

Technical specifications

Options	
Auto Isocenter positioning	Automatic Position Controller in table
Store/Recall table position	Automatic Position Controller in table
Pivot	-90°/+180° or -180°/90°
Swivel (includes pivot)	Extended longitudinal range: 78.2 cm (30.8 inch), Height: +8.5 cm (3.3 inch), Pivot range: -180°/90° only
Tilt and Cradle	Tilting range: $\pm 17^\circ$ iso-centric, Cradle tilting range: $\pm 15^\circ$, Height: min +4 cm (1.6 inch), max +1 cm (0.4 inch), Vertical stiffness: 36 N/mm
Tilt	Tilting range: $\pm 17^\circ$ iso-centric, Table height: min. +4 cm (1.6 inch), max. +1 cm (0.4 inch), Vertical stiffness: 36 N/mm

Interface to MAGNUS OR Table

In addition to the Xper table, the Allura Xper family can be equipped with an interface to the MAGNUS operating table system (fixed column), manufactured by MAQUET. This allows you to use a fully OR compliant patient table with the Allura Xper family. This integration helps improve:

Safety

- With the integrated emergency stop, all motorized movements (including table) are stopped when the Allura emergency stop button is pressed.
- With the integrated collision detection, all motorized movements (including table) are slowed down or stopped when BodyGuard detects the patient.

Workflow

- All patient positioning movements are supported via the Xper Geometry module and MAGNUS (MAQUET) user interface controls, including transporter, table height, tilt, cradle, longitudinal/lateral movement, reset geometry, and synchronized patient orientation.

Advanced functionality includes the isocentric tilt feature that tilts the tabletop while keeping the point of rotation fixed in the isocenter of the imaging system. The syncra tilt feature synchronizes the stand orientation with the isocentric tilt movement so that the view stays perpendicular to the tabletop surface.



FD20/15 with OR Table

The OR table is available with two different tabletops, the modular tabletop for open surgery and the radio translucent tabletop for endovascular and hybrid procedures. The tabletops can be easily exchanged using the transporter, allowing smooth transfer of patients between procedures.

The exceptionally balanced, modular design of the OR tabletops facilitates extreme positioning, allowing both microsurgery and larger operations to be carried out. The special height adjustment options allow clinicians to work in a comfortable position, while providing a high level of patient comfort in all disciplines.

With the innovative slope saddle technology of the table columns and the extreme positioning options, MAGNUS already fulfills the requirements of tomorrow, today. The fixed column version is used in combination with the Allura Xper family.

Significant advantages

Thanks to its highly modular design, the OR table can be quickly adapted to meet the needs of new interventional and surgical requirements.

OR table configurations are available for every specialty. The OR table can be positioned at extreme tilt and slope angles to provide improved patient access during surgery and to reduce cut-and-stitch times during minimally invasive procedures. With the radio translucent OR table, the length and width of the radio translucent areas have been extended significantly to support larger imaging spaces.

Please see MAQUET Brochure 1180_MSW_BR_10000045 for additional specifications on the modular version and MAQUET Brochure 1180_MSW_BR_10000815 for additional specifications on the carbon fiber table top version.

1.3 Philips Monitor Ceiling Suspension

The Philips Monitor Suspension allows flexible, freely rotating positioning with a concave set-up of the monitors for optimal viewing angle which only works with Philips monitors. A separate integration kit is available for third party monitor suspensions and ceiling booms.

Feature	Specifications
Number of monitors	One, two, three, four, six or eight monitors
Rotation range	350°
Transversal movement	Over a distance of 300 cm (118.1 inch)
Longitudinal movement	Over a distance of 330 cm (129.9 inch)

1.4 Accessories

Standard accessories Xper table

Mattress
Patient straps
Set of arm supports (if cradle option is chosen)
Drip stand
OP rail accessory clamps
Cable holders (15 pieces)



Mattress (standard delivery of one piece per table)



OP rail accessory clamps

Optional

Optional accessories

Panhandle
Neuro Mattress (if Neuro tabletop)
Longer Cardio Mattress
Head support
Arm support, incl. arm pad
Neuro wedge
Table clamp
Set handgrips and clamps
Additional OP-rail with cable extension kit for Xper Modules
Ratchet compressor
Additional OP-rail
Auxiliary OP rail for table base
Examination light
Arm support (height adjustable)
Table X-ray protection
Peripheral X-ray filter
Pulse cath arm support
Ceiling suspended radiation shield



Neuro Head Holder



Ceiling suspended radiation shield



Neuro Mattress



Table X-ray protection

2 User Interface

Tailor made customized User Interface is available for each user group and for each desired application. Xper stands for "X-ray Personalized", and reflects the expert nature of the Allura Xper family, which is based on several generations of proven technology.

2.1 Xper User Interface in the examination room

In the examination room, the Xper User Interface is comprised of the On-Screen Display, the Xper Module, and the Xper Imaging and Geometry Modules. Information is displayed on the On-Screen display in the examination room.

The Xper Geometry and Imaging Module can be positioned on three sides of the patient table. The Modules adjust to the position to retain the intuitive button operation. Both the Xper Geometry and Imaging Module have a protection bar that prevents unintended activation of system.





Xper Viewpad Controls



Xper Module

Xper User Interface

X-ray indicator
X-ray tube temperature condition
Radiographic parameters: kV, mA, ms
Rotation and angulation of the stand positions
Source Image Distance (SID)
Table height
Detector field size display
General system messages
Selected frame speed
Fluoroscopy mode
Integrated fluoroscopy time
Air Kerma dose (both rate and accumulated X-ray dose)
Dose Area Product (both rate and accumulated X-ray dose)
Graphical bars for body zone specific X-ray dose rate and accumulated Air Kerma levels related to the 2Gy level for cardiac procedures
Stopwatch

Xper Viewpad controls

Run and image selection
Exam and run cycle
Review speed
Run and exam overview
Laser pointer
Active exam sub files (exposure image/runs, reference images, print file)
Flagging exam and run for storage
Digital zoom
Storing reference run or image to reference monitors
Select reference monitors for review and/or processing of previous run exposures
Subtraction and image mask selection

Xper Module

Acquisition setting
Image Processing
USB port for data transfer
Automatic Position Control (APC), optional
Quantitative Analysis (QA), optional
Table Automatic Position Controller, optional
Interventional tools table side control, optional
Xcelera table PACS side control, optional
Xper Flex Cardio table side control, optional
CX50 table side control, optional



Xper Geometry Module²



Xper Imaging Module



Xper Geometry Module

Xper Geometry Module

Tabletop float
Tabletop motorized float²
Table height position
Table tilt angle (if the tilt option is selected)
Table cradle angle (if the cradle option is selected)
Source Image Distance selection
Stand positioning per plane
Biplane rotation
Longitudinal movement of the stand along the ceiling
Frontal stand rotation in an axis perpendicular to the ceiling
Store and recall of two scratch stand positions including SID and detector orientation
Emergency stop button
Accept button of the Automatic Positioning Control
Geometry reset button, which resets stand and table to a default service configure able starting position

Xper Imaging Module

Fluoroscopy mode selection as defined via Xper settings
Positioning of shutters and wedges without radiation
Manual or automatic wedge operation for each plane, including position on the last image without radiation
Xper fluoro storage to record fluoroscopy up to 999 images
Selection of the detector field size
Preferred beam width
Reset of the fluoroscopy buzzer
Selection of Roadmap Pro function
Selection of SmartMask function
Toggle button to select the required channel for adjustments

2.2 Xper User Interface in the control room

The Xper Viewing Console consists of an LCD color data monitor for patient data and system information management, including radiographic parameters, and two monochrome review monitors and Review Module enabling efficient exam viewing and post-processing. The monitors have the ability to extend the screen area to multiple screens.

Xper Data Monitor

Scheduling
Preparation
Acquisition
Review
Report
Archive

System information

Stopwatch and Time
System guidance information
Dose Area Product (DAP) and Air Kerma X-ray Dose (both rate and accumulated X-ray dose)
Frame speed settings, fluoroscopy mode and accumulated fluoroscopy time
Exposure and fluoroscopy settings, such as Voltage (kV), Current (mA) and pulse time (ms)
Stand position information, such as rotation, angulation and SID

Xper Review Monitor

The Xper review monitor is a monochrome LCD monitor that has the ability to extend the screen area to multiple screens.



Xper Review Module

The Xper Review Module is a review station for basic interventional X-ray viewing needs. The most often used functions can be controlled by the touch of a button.



Xper Review Monitor

- Step through file, run or images
- File and run overview
- Image processing features such as contrast, brightness and edge enhancement
- Flagging of runs or images for transfer
- Image annotation
- Automatic printing
- Video invert
- Zoom and pan image
- Electronic shutters
- Toggle switch physio
- Store/delete images/runs
- Store fluoro
- Pixel shift
- Quantitative Analysis Packages, optional
- Subtraction, optional
- Move or renew mask, optional
- Landmarking (increase/decrease of subtraction degree), optional
- View trace, optional

Xper Review Module

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

2.3 User Interface options

Optional

Xper Pedestal

The Xper Pedestal creates a flexible workspace for operating the system in the examination room. The pedestal is equipped with an Xper Geometry and Imaging Module and can also hold the X-ray footswitch. The Xper Pedestal can be positioned freely around the patient table and can be put aside when not in use.

Second Imaging or Geometry Module.

Third Xper Module

The FD20/15 biplane can be extended with additional Xper Modules that have the same functionality as the Xper Module in the examination room. Adding a second Imaging or Geometry Module in the control room works in a master-slave configuration.

Contrast Injectors

The system can be connected to contrast injectors to enhance procedures.

Wireless Footswitch

Our Wireless Footswitch¹ streamlines workflow, reduces clutter, and simplifies preparation and cleanup where it's needed most – at the point of patient treatment. Clinicians can wirelessly control the X-ray system from any convenient position around the table. No sterile covers are needed with the IPX8 certified waterproof design. It's one of Philips Live Image Guidance solutions for X-ray environments.



Xper Pedestal with Xper Module and Footswitch



Up to three Xper Modules



Second Xper
Geometry Module



Second Xper
Imaging Module



Wireless Footswitch

3 X-ray generation

3.1 X-ray generator

The Certeray generator is optimized for the latest interventional X-ray needs.

Features	Specifications
Generated power	Microprocessor-controlled, 100 kW high frequency generator with MOSFET technology
Minimum switching time	Quartz-controlled power switch, with a minimum switching time of one ms
Voltage range	40 to 125 kV
Maximum current	1000 mA at 100 kV
Maximum continuous power	2.5kW for 0.25hrs, 1.5kW for 8 hrs
Nominal power (highest electrical power)	100 kW (1000 mA at 100 kV)

With Xper settings on the Xper Module, different exposure protocols can be customized for every clinical application.

3.2 X-ray tubes

The Allura Xper FD20/15 biplane systems are provided with the legendary high power MRC-GS 0407 X-ray tube which allows for very high heat dissipation, enabling SpectraBeam filtration to reduce the patient X-ray dose.

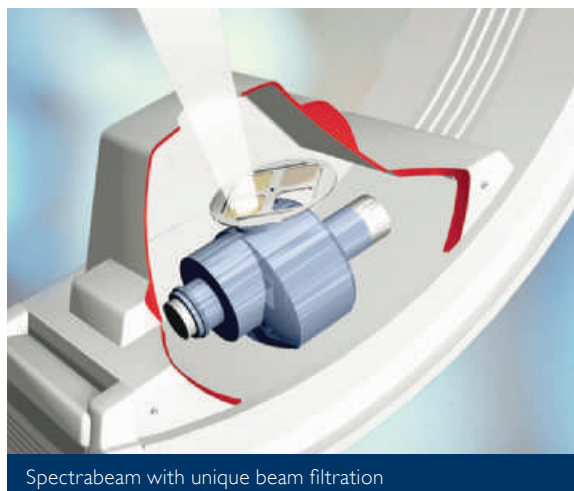


MRC-GS 0407 X-ray tube

Features	Specifications
Focal spot size and loadability	MRC-GS 0407 X-ray tube for frontal plane is 0.4/0.7 nominal focal spot values with max. 30 and 65 kW loadability. MRC-GS 0508 X-ray tube for lateral plane is 0.5/0.8 nominal focal spot values with max. 45 and 85 kW loadability.
Grid-switched pulsed fluoroscopy	Yes
Fluoro power for 10 minutes	4,500 W
Fluoro power for 20 minutes	3,500 W
Maximum anode cooling rate	910 kHU/min
Max. anode heat storage	2.4 MHU
Max. assembly heat storage	5.4 MHU
Anode heat dissipation	11,000 W
Continuous anode heat dissipation	3,200 W
Max. assembly continuous heat dissipation	3,400 W
Extra pre-filtration	SpectraBeam dose management with 0.2, 0.5, and 1.0 mm Copper equivalent SpectraBeam filters
Cooling liquid	Oil cooled X-ray tube with thermal safety switch
Anode cooling method	Direct anode oil cooling system with 200 mm anode diameter

4 Dose Management

Philips interventional X-ray systems, the Allura Xper family incorporates a set of techniques, programs, and practices that ensure excellent image quality, while reducing radiation exposure to people in X-ray environments.



SpectraBeam

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 interventional X-ray applications, while maintaining the same excellent image quality.

Specifications

Copper filters: 0.2, 0.5, and 1.0 mm CU equivalent
The filters can be programmed via Xper settings
Three fluoroscopy/cine modes per application can be selected at tableside

Xper Beam Shaping

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

Double shutters / wedge filters

Double wedge filters provide outstanding image quality in all projections. The wedge filters allow exceptional exposure and hence excellent image quality is maintained (with minimal patient entrance X-ray dose).

Anatomical filters

Filters designed to compensate for large absorption differences in the object. There are special filters for cerebral angiography and the optional lower peripheral angiography.

Automatic wedge positioning

Wedge filters can be positioned automatically according to stand positions.

X-ray indicator light

The Allura Xper FD20/15 has an integrated “X-ray On” indicator light located above the LCD monitors that is clearly visible from virtually anywhere in the room.

4.1 Dose Awareness

Real-time dose information at tableside

Relevant dose information is integrated in the On-Screen User Interface of the LCD exam room monitors of the FD10 system. It provides the user with all relevant X-ray dose information, including accumulated and rate values of patient Air Kerma and X-ray Dose Area Product. In addition, body zone specific X-ray dose rates are displayed for cardiac procedures. X-ray dose rates can be controlled by the user at tableside, by choosing a different fluoro mode.

X-ray dose information in the control room

X-ray dose information is also available in the control room. Cumulative X-ray dose is displayed on the Xper data monitor.

X-ray dose information in the examination report

Examination report data can be provided via the RIS/CIS DICOM two-way interface, to the RIS/CIS (MPPS protocol). A X-ray dose report can optionally be printed or e-mailed (in background) at the end of each examination at the touch of a button. Body zone specific information is included.

DICOM Radiation Dose Structured Report

Collection of dose relevant parameters and settings and export to a DICOM database⁷ (e.g. PACS, RIS). The reported data can be used for analysis, to further reduce X-ray dose. The DICOM RDSR function collects and exports the required data. The software to provide the DICOM data for analysis and alerting needs to be acquired separately.

The Secondary Capture Dose Report function allows you to save & transfer, manually or automatically, a patient Dose Report to PACS in DICOM secondary capture format.



DoseAware family

Real-time dose feedback to increase radiation awareness and promote healthier working practices. Philips DoseAware³ family of real-time dose feedback tools is designed to make it easier for people working in X-ray environments to monitor their radiation exposure in daily work and adopt healthier working practices.

DoseAware Xtend is a dedicated solution for rooms with Philips FlexVision XL display that provides feedback on scattered X-ray dose per procedure received by staff and proactively encourages healthy radiation practices. DoseAware is a flexible solution that can be used in any X-ray room to provide real-time feedback on scattered X-ray exposure.

Together we can make a difference to the health of medical professionals who work in the interventional environment.

5 Imaging

The Allura Xper FD20/15 biplane systems are equipped with next generation dynamic flat detectors, whose compact size easily handle complex projections. Image quality and X-ray dose reduction are further enhanced by dedicated image processing.

5.1 Dynamic Flat Detector

The dynamic flat detector of Philips provides excellent image quality.

Features	Specifications for the FD20 detector
Size of detector housing	67 cm (26 inch) diagonal, including BodyGuard
Physical detector size	50 cm (20 inch) diagonal
Maximum field of view	48 cm (19 inch) diagonal
Image matrix	2480 x 1920 pixels at 16 bit depth
Detector zoom fields	42, 37, 31, 27, 23, 19, 16 cm (19, 17, 15, 12, 11, 9, 7.5, 6 inch) diagonal square formats
Pixel pitch	154 μm x 154 μm
Detector bit depth	16
Nyquist frequency	3.25 lp/mm
DQE (0)	77% at 0 lp/mm
Digital output	2k ² , 1k ² and 512 ² at 16 bit depth resolution
MTF at 1 lp/mm	> 60%
Features	Specifications for the FD15 detector
Size of detector housing	42.1cm x 38.1cm (including bodyguard cover)
Physical detector size	392mm x 338mm x 84mm
Maximum field of view	29 cm x 26 cm
Image matrix	1560 x 1440 pixels at 16 bit depth
Detector zoom fields	37, 31, 27, 23, 19, 16 cm (15, 12, 11, 9, 7.5, 6 inch) diagonal square formats
Pixel pitch	184 μm x 184 μm
Detector bit depth	16
Nyquist frequency	2.72 lp/mm
DQE (0)	70% at 0 lp/mm
Digital output	1k ² and 512 ² at 16 bit depth resolution
MTF at 1 lp/mm	> 59%

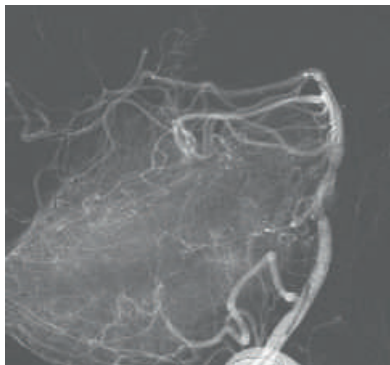
5.2 Fluoroscopy

Per application, three fluoro modes are available at tableside which 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.

Features	Specifications for the FD15 detector
Extra pre-filtration	SpectraBeam filters: 0.2, 0.5 and 1.0 mm Copper equivalent
Fluoroscopy image processing	Recursive filtering, localized contrast-adaptive contour enhancement, SPIRIT filters and Xres algorithm
Pulse rates	Default at 3.75, 7.5, 15 and 30 pulses per second
Frame grabbing of static fluoroscopy images	Yes
Fluoroscopy storage	Default storage of the last 20 sec. of fluoroscopy for reference or archiving
Grid-switched pulsed fluoroscopy	Yes

Roadmap Pro

Advanced subtraction angiography techniques are now being used to support highly complex procedures throughout the body. A roadmap is created by superimposing a live fluoro image on an angiographic image. Roadmap Pro is a software tool that provides a flexible range of features to support all anatomical areas and types of interventions. It offers insight into anatomy, and aids interventionalists in carefully positioning tools and materials, evaluating their effect, and provides information to help their decision making process. Automatic Motion Compensation has been added to the roadmapping functionality. It compensates for subtracted artifacts that might conceal important clinical information during Roadmapping due to small movements of the patient.



The roadmapping tool tailored for specific clinical applications

5.3 Digital acquisition

The Allura Xper FD20/15 biplane systems can be customized with a virtually unlimited number of acquisition programs for digital angiography and digital subtraction angiography. Image resolution is up to 2048 x 2048 pixels for vascular imaging and 1024 x 1024 pixels for interventional X-ray imaging.

Acquisition frame rates

	1024 x 1024 matrix	2048 x 2048 matrix
Standard configuration	0,5 to 6 images/sec.	0,5 to 6 images/sec.

Up to 60 images/sec. acquisition at a 512 x 512 matrix is optionally available in monoplane and biplane mode.

Storage capacity

	1024 x 1024 matrix	2048 x 2048 matrix
Standard configuration	100,000 images	25,000 images
Storage extension	200,000 images	50,000 images

The storage capacity is divided equally per channel

Optional

SmartMask

SmartMask simplifies roadmapping procedures by overlaying fluoroscopy with a selected reference image on the live monitor. The reference and fluoro images can be faded to taste on the monitors.

Biplane Dual Fluoroscopy

The Biplane Dual Fluoroscopy mode allows side-by-side display of digitally processed non-subtracted fluoroscopy and trace-subtract fluoroscopy for visualization and catheter guidance during complex procedures.

The dual fluoro option offers live digital zoom capabilities. Images can be zoomed by a factor of two to enlarge the display of the region of interest. With the second reference monitor option, an additional reference image can be displayed next to the two live monitors.

Cardiac Imaging

Cardiac Imaging comprises of XresCardio and Frame Rate Extension. Xres Cardio is a real-time processing algorithm that provides excellent image quality through improved contrast and sharpness. It exploits the benefits of the fully digital detector to reduce noise in clinical images for cardiac applications. Frame rate extension increases the system acquisition speed for cardiac applications that require high speed imaging.

The acquisition speed can be increased to 15fps and 30fps.

6 Viewing

6.1 Monitors

The system is delivered standard with four monochrome LCD monitors in the examination room. These monitors are mounted on the Philips Monitor Ceiling Suspension. Two monochrome LCD monitors and a LCD color monitor are standard in the control room.



	Monochrome LCD monitor	Color LCD monitor
Features	Specifications	Specifications
Format	Native format of 1280 x 1024 SXGA	Native format 1280 x 1024 SXGA
Grey-scale resolution	10 bit with grey-scale correction	
Wide viewing angle	Yes (approximately 170°)	Yes (approximately 170°)
High brightness	Yes (max 600 Cd/m ² with 18 inch, max 1000 Cd/m ² with 19 inch, default 500 Cd/m ²), with ambient light dependent brightness control	Controlled brightness (200 Cd/m ²) with ambient light dependent brightness control
Protection screen	Yes, in the examination room	
Video signal	Compatible with video signals up to 1920x1200 and from Ultrasound and IVUS	Compatible with video signals up to 1920x1200 and from Ultrasound and IVUS

Optional

Second reference monitor

A second reference monitor (monochrome) in the examination room can display both reference images and reference runs. The User Interface on this reference monitor is accessed via the Xper ViewPad.



Optional

MultiSwitch

Xper MultiSwitch enables the Xper workspace in the control room to be shared with other applications that are loaded on separate PC modalities. The MultiSwitch option lets you switch the color LCD data monitor, keyboard and mouse that are normally connected to the Allura Xper system.

The Xper data monitor can be switched to Radiology/Cardiology Information Systems via the web-based browser (HTML) or X-window (Exceed). It makes full use of the RIS/CIS facilities and existing support for automatic handling of logistic tasks (e.g. automatic tracking, purchasing of supplies and billing) that are available.

MultiVision

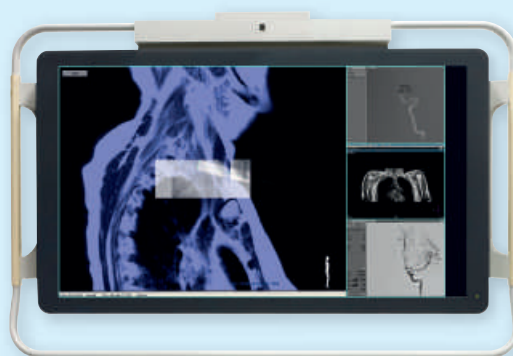
The MultiVision video switch is the integrated video switch for high quality, progressive display video sources on the color LCD monitor. It can switch either black and white or color signals, and supports up to four inputs to one output. MultiVision enables an extra color monitor in the ceiling suspension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

FlexVision XL

FlexVision XL is a new viewing concept that provides outstanding viewing flexibility, using a high definition 58-inch LCD screen, it allows you to display multiple images in a variety of layouts - each tailored for your specific procedure. The SuperZoom feature lets you enlarge small details of anatomy, devices and data (ECG signals and hemodynamic data) for better visibility to enhance decisions during challenging procedures.



FlexVision XL allows you to display multiple images in variety of layouts



Now you are able to see a complete overview of all the relevant images without having to leave the examination room all the time

7 Additional options

7.1 Clinical enhancement options

Subtracted Bolus Chase

Routine examinations can be performed quickly and confidently with Bolus Chase. A hand-held speed controller is used to constantly match table speed to the speed of the contrast run-off, which is displayed in real-time on the monitor screen. After the contrast run, the recorded speed profile can be used to acquire mask images with the subtraction results. The result is an efficient, run-off study that may eliminate the need for repeat exposures. Bolus Chase gives fast results for increased patient throughput and improved patient management.

7.2 2D Quantifications packages

Quantitative Coronary Analysis (QCA)

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
- Pressure gradient values
- Stenotic flow reserve
- Calibration routines

Left Ventricular Analysis (LVA)

The Left Ventricular package quantifies the status of the left ventricle using various relevant. It includes the following functions:

- Various Left Ventricular volumes
- Ejection Fraction
- Cardiac Output
- Wall Motion (Centerline, Regional, Slager)
- Calibration routines

Right Ventricular Analysis (RVA)

This software package is used to assess ejection fraction and right ventricular volumes. It allows you to perform right ventricular analysis from angiograms. The calculations can be executed from single plane 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
- Wall Motion (Centerline, Regional, Slager)

Quantitative Vascular Analysis (QVA)

QVA is an analytical software package for quantitative analysis. It includes the following functions:

- Calibration routines to enter the scale into the programs (based on the size of the catheter visible in the image).
- Automated Vessel Analysis. This program uses contour detection to calculate vessel dimensions and analyzes stenosis.
- Vessel diameter and stenotic index. This program measures vessel size and calculates the degree of stenosis.

Full Autocal

The Full Autocal option can be used in conjunction with the quantitative analysis packages. When the object to be analyzed (e.g., Left Ventricle, Vessel Segment) is placed in the iso-center, full autocal avoids the need to:

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

CO₂ view trace

This software package enables tracing (stacking) of images acquired with CO₂ injections. This package can be used during post-processing, next to "View Trace" images acquired with iodine injections.

Measurement

Measurement is an analytical software package for different kinds of measurement, except from stenotic measurements. This option includes angle-, length-, ratio-, and density measurements.

7.3 XperSwing

During a dual axis rotation scan, the C-arm operates on two axes simultaneously, enabling it to swing in a three-dimensional arc around the patient, providing a flexibility of movement that allows it to capture the required coronary images in fewer 'runs'. The system rotates with curved trajectories around the patient, thereby allowing imaging in all desired anatomical views in a single run. The trajectories are pre-programmed and are optimized to maximize the clinical image content, while staying within its boundaries in order to avoid any collisions. Dedicated trajectories are available for the left and the right coronary arteries.

7.4 Rotational Angio

Rotation image data can be used for advanced post processings, like 3D reconstructions. Rotational Angiography acquires a range of projections to create real-time, 3D impressions of complex 'cardiovascular' vessels.

A contrast vascular run can be followed up with a mask run to allow image/run subtraction. Rotational Angiography can save considerable time and contrast, while providing the image detail required for diagnostic and therapeutic decisions. A rotational scan can be done in both the head and side positions as a result of rotational scan. The high speed acquisition decreases the amount of contrast medium, while the wide rotation range provides a complete evaluation of anatomy.

7.5 Integrated CX50 compact ultrasound

To provide additional support for your interventional procedures, you can extend the power of your Philips Allura Xper system with unique compact xtreme ultrasound integration solution. The CX50 is a compact ultrasound system that enables you to have premium image quality ultrasound available right where you need it, when you need it. The CX50 system can be fully integrated into the Allura Xper system via a one-click connection. The CX50 is controlled at the table side by the Xper module with the ultrasound image displayed on the Allura's ceiling suspended monitor system. In addition, all patient data is shared automatically between the X-ray and ultrasound system eliminating workflow duplication.

Features Rotational Angio		Specifications
C-arm in head position	Maximum rotation speed	55°/sec.
	Maximum rotation angle	305°
C-arm in side position (ceiling mounted only)	Maximum rotation speed	30°/sec.
	Maximum rotation angle	180°
Frame speeds		15 to 30 and 60 fps.

Users can designate speed, as well as a start and end position, through Xper settings.

The acquired images from the rotational scan or XperSwing can be sent automatically to Allura 3D-CA for a 3D reconstruction.

7.6 Physio Viewing with ECG triggering

Physio Viewing provides acquisition, storage and display of physiological signals on the FD20/15 biplane system. Four physiological data signals can be acquired and stored. One signal can be displayed when reviewing images.

Physio Viewing includes ECG triggering that offers the possibility to acquire one fluoroscopic image per heart cycle, each at the same phase (e.g. end-diastolic or end-systolic). For each heartbeat the system generates a trigger pulse and only one image is acquired. Acquiring only one image per cardiac cycle phase has two major advantages:

- Reduces patient and operator X-ray dose.
- Cardiac motion is eliminated from the images.

This allows the physician to focus on relevant items only (e.g. moving catheters) without the movement caused by the cardiac contraction being visible.

7.7 Workflow enhancer options

EP cockpit

EP cockpit creates a comfortable EP lab working environment, integrates EP information across the EP care cycle and supports new complex therapies. The EP cockpit brings the following innovations to your EP lab:

- Organize EP equipment on one moveable ceiling mounted rack to reduce EP clutter
- Mix and match images from Philips and 3rd party equipment on any exam or control room monitor
- Operate equipment (incl 3rd party systems) centrally from one workspace in control room
- Store and retrieve all information used during EP procedure in a central place
- Resize and enlarge information with EP cockpit XL. The large 58 inch, high resolution colour display, lets you select and personalize all relevant procedure information from up to eight sources simultaneously. With the advanced Super Zoom feature you can resize and enlarge information at any time and at any position on the screen.

Xper Flex Cardio

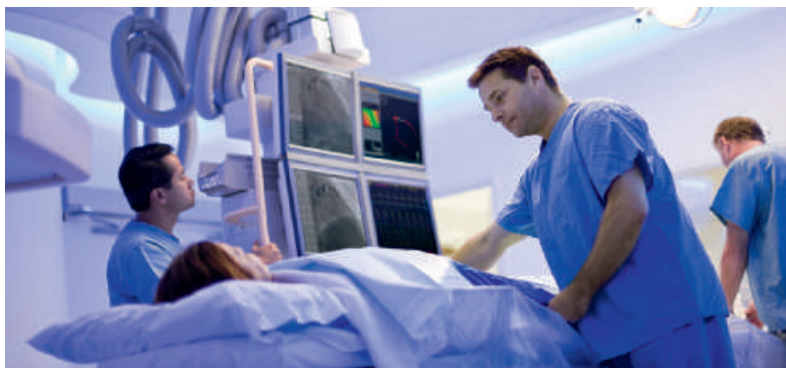
Your need for a small, compact, and reliable hemodynamic measurement system that saves floor space and moves with the table is realized with the Xper Flex Cardio. This system seamlessly integrates with your Philips Allura X-ray system to optimize workflow in your interventional lab. Xper Flex Cardio may be small in size, but it will have a big impact on your clinical practice thanks to the integrated Fractional Flow Reserve (FFR) measurements and proven Philips ECG capabilities.

Ambient Experience

Ambient Experience is a purposely designed healthcare environment. With a refreshingly creative eye, Ambient Experience integrates technology, spatial design, and workflow improvements to create a more comfortable, relaxing environment for both patients and staff. Patients relinquish control to relative strangers when they agree to any catheterization procedure. Fear of the unknown fosters nervousness and anxiety.

With Ambient Experience, the patient can be an active participant in the process. The opportunity to personalize the environment provides a sense of control that increases comfort and reduces anxiety. It helps make the entire process go smoothly. It's relaxing for the patient and makes the job of the clinician easy, potentially reducing procedure time and enhancing efficiency by improving layout and decluttering of the room.

Ambient Experience also contributes to a positive staff experience and patient satisfaction; sets your hospital apart from the competition and helps increase staff retention.



Ambient Experience, a purpose-fully designed environment that makes patients and staff feel more comfortable.

8 Interventional Tools

In close partnership with our clinical partners, Philips continues to enhance the capabilities of the Interventional Tools on Allura Xper systems. Recent Philips innovations have expanded the clinical utilization by further improving the acquisition protocols and reducing reconstruction times, while expanding the range of applications for cardiovascular and electrophysiology procedures.

8.1 Innovative radiology tools

Interventional radiology is rapidly evolving requiring better insight and precision to perform an increasing number of interventions, with greater efficiency. Precise navigation is crucial, whether maneuvering through tortuous pelvic vasculature or performing a tumor biopsy. To mitigate risks our unique imaging capabilities provide detail-rich insight so you can effectively plan the procedure, select devices and vascular routes. With our innovative cardiovascular tools, you can now reach target areas, deploy devices, and gauge treatment in real-time with more accuracy and predictability.

Allura 3D-RA

Allura 3D-RA provides extensive three-dimensional (3D) visualization into vascular pathologies and great vessels in congenital heart disease from a single rotational angiographic X-ray acquisition. Paired with the unique whole body coverage of the Allura Xper system, which is specifically designed for 3D imaging, Allura 3D-RA is able to cover any anatomy, including cerebral, abdominal and peripheral vasculature.

The 3D-RA functionality is fully integrated with the Allura Xper system, and can be fully controlled at the table side.

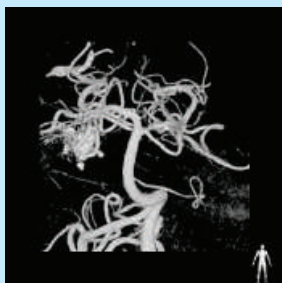
3D-RA volumes can be matched with any previous acquired CT and/or MR scan, enabling improved procedure management for aneurysms, AVMs, stroke, congenital heart disease or surgical planning.

Dynamic 3D Roadmap and MR/CT roadmap

Dynamic 3D Roadmap is based on the visualization of the vessel tree from a 3D-RA, CTA or MRA scan combined with a live 2D fluoroscopy image. Integrated 3D-RA functionality rapidly reconstructs the rotational angiography X-ray run into a 3D volume. A previously acquired CT angio or MR angio scan can be imported into the system and registered with a low dose 3D-RA scan. The “live” 2D fluoroscopy image is overlaid with the 3D volume of the vessel tree and is automatically displayed on the 3D roadmap monitor in both the examination and control rooms.

XperCT

Philips introduces the next generation XperCT, designed to improve visualization also for challenging cases and difficult anatomies, during neuro, oncology and endovascular interventions. Clinicians can visualize bone, soft tissue, and



Allura 3D-RA: reconstruction to assist decision making for treatment strategy



Dynamic 3D Roadmap: 3D-RA combined with live fluoro with imported CT

contrast enhanced vessels with great clarity using the range of clinically fine-tuned XperCT protocols at fast acquisition and reconstruction times. XperCT assists clinicians in the interventional suite before, during, and after treatment. It helps to assess the treatment results already in the interventional suite and thereby often eliminates the need for a separate post-interventional control CT exam. Philips next generation XperCT allows thorax and abdominal scans in just 4 and 5 seconds. These protocols targets to increase image quality while ensuring higher patient comfort with less motion artifacts and x ray dose exposure.

XperGuide

Philips exclusive XperGuide, provides live 3D guidance by combining real-time fluoroscopy with XperCT, CT or MR soft-tissue imaging in one view for a wide range of clinical procedures from biopsies and drainages to RF ablations. Virtual needle paths are created on an XperCT dataset or on the original previous acquired CT or MR data. The volumetric dataset and the virtual needle paths can be viewed in any slice orientation. A wide range of projections can be used to define the needle path. Multiple targets can be defined at once and requires no additional navigation or tracking devices to assist in guided procedures.

The XperGuide functionality is fully integrated with the Allura system, and can be controlled at the table side.

StentBoost – enhance accuracy with instant stent visualization

StentBoost with its unique StentBoost Subtract* feature allows you to clearly see your stent in relation to the vessel wall. So you can immediately check positioning, before and after deploying balloons and stents, and confirm stent expansion.

StentBoost is an excellent alternative to intravascular ultrasound (IVUS) when it is not available or when a quick result is required. Potential problems can be corrected immediately, without applying additional fluoroscopy.

Vascular StentBoost

Cardiac labs that also perform peripheral procedures can now use the unique Vascular StentBoost – based on the enhanced workflow and technology of StentBoost – to advance visualization of balloons and stents for vascular interventions.

VasoCT

VasoCT is an advanced imaging technique, which supports treatment of ischemic stroke in the interventional X-ray lab. It uses high resolution soft tissue imaging technology to reveal key information about cerebral vascular structures in a very high level of detail. VasoCT is designed to help you quickly identify and assess the size and direction of an occlusion in case of an ischemic stroke. This allows treatment to be carried out as quickly as possible to enhance patient care. VasoCT is based on a 3D rotational scan and a special injection protocol. VasoCT can also be used to visualize stents apposition to the vessel wall and fast follow up scans without the need for hospitalization. The more you can see, the more you can do.



Visualize location, size and direction of an occlusion when dealing with an ischemic stroke



XperGuide: planning on a low X-ray dose XperCT, matched with previous acquired CT image

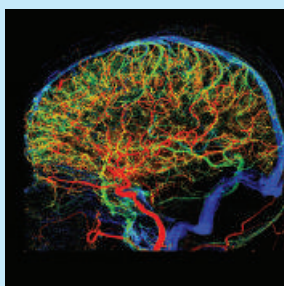
2D Perfusion

2D Perfusion brings perfusion imaging into the interventional suite, allowing the assessment of tissue perfusion during interventions. It is based on a digital subtraction angiography (DSA) run, and calculates the transit time of the contrast through the vessels, which is displayed at a very high level of detail on a full color image. 2D Perfusion can be used to identify perfusion differences in tissue during the assessment of vascular pathologies or to verify the perfusion behavior of tumors and arteriovenous malformations (AVMs).

These visualizations support clinicians in identifying areas at risk of being under or over perfused. By comparing pre, peri and post-procedural perfusion images, clinicians can verify if the required level of perfusion has been achieved in order to define the treatment endpoint. Clinicians can draw a region of interest (ROI) and analyze the perfusion within the ROI using the time density curve. After the ROI is selected, the time density curve is generated in real-time and the average value of the selected parameter is calculated and displayed. When comparing pre and post-intervention images, the user can draw a region of interest and it will be automatically drawn in the comparative image. The software will also calculate the time density curve of both images, for easy assessment of pre and post intervention differences.

The functional parameters available are:

- | | |
|---------------------|--------------------|
| • Mean Transit Time | • Arrival Time |
| • Time to Peak | • Wash-in Rate |
| • Width | • Area Under Curve |



2D Perfusion: post carotid artery stenting

Allura 3D-CA

Allura 3D-CA creates a 3D model of 2D coronary artery images. It can help with diagnosis by providing optimal insight into the structure of the coronary tree that leads to improved assessment of lesions and bifurcations. It also gives you insight into the exceptional working angles

Enhance interventional preparation to assist the user to:

- Select the right stent length
- Select view of lesion or bifurcation with “TrueView” map

Enhance interventional execution to assist you/the physician to

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

HeartNavigator

Philips HeartNavigator is an interventional planning and guidance tool designed to increase clinician confidence in carrying out complex structural heart disease procedures like trans-catheter aortic valve replacements.

- Simplifies planning, device selection and choice of X-ray projection.
- Provides insight into calcified plaque distribution in the ascending aorta and ostia of the coronaries
- During the procedure, it combines previously acquired CT images with live fluoroscopy to provide live image guidance during device placement
- Tracks table and L-arm movement to maintain registration during procedure

EchoNavigator

EchoNavigator fuses live TEE and live fluoroscopic images, in real-time. This unique feature, known as SmartFusion, allows you to intuitively and quickly guide your device in the 3D space.

The TEE transducer position and orientation is automatically tracked in the X-ray image, allowing the echo and X-ray images to move in sync when the C-arm is repositioned. Markers placed on the soft tissue structures within the echo image automatically appear on the X-ray for context and guidance. The TEE field of view (cone) is also displayed as an outline for additional reference.



An intuitive combination of live X-ray and 3D TEE that provides greater confidence in anatomy and device targeting.

CT TrueView

CT TrueView is a feature of Allura 3D-CA that 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:

- Excellent C-arc positioning on Philips CT data sets to minimize foreshortening when assessing lesions or bifurcations.
- CTO Navigator provides an overlay of a 2D exposure run over the previous acquired segmented cardiac CT data. The images are matched manually or automatically for images in the same part of the ECG signal.
- Easy to use user interface, on the EBW and interventional tools.

8.2 Innovative electrophysiology tools

In the dynamic field of electrophysiology, exceptional skill and creativity is needed to perform an increasing number of new and challenging procedures. The ability to orchestrate disparate technologies and move quickly from one procedure to another is critical. Afib ablation requires clear visualization of the left atrium. CRT implant scheduling needs rapid analysis and fast room turnaround. Our advanced imaging support delivers immediate in-suite 3D reconstruction overlays with live fluoro to guide precise catheter navigation.

EP navigator

EP navigator provides insight into complex cardiac anatomies and facilitates intuitive 3D catheter image guidance during AF ablation procedures. It provides detailed 3D anatomy, which can be overlaid onto live fluoroscopy, removing the need for a mapping system, or exported to a compatible mapping system to help minimize dose and reduce mapping time.

3D EP Rotational Scan

3D EP Rotational Scan is a feature within EP navigator. An up-to-date view of the cardiac anatomy is vital for guiding EP interventions. Obtaining good CT scans is often difficult, time consuming and expensive, and it requires a high X-ray dose. With 3D atrigraphy, you can create 3D images of the left atrium in your own lab and use this information to guide your catheters.

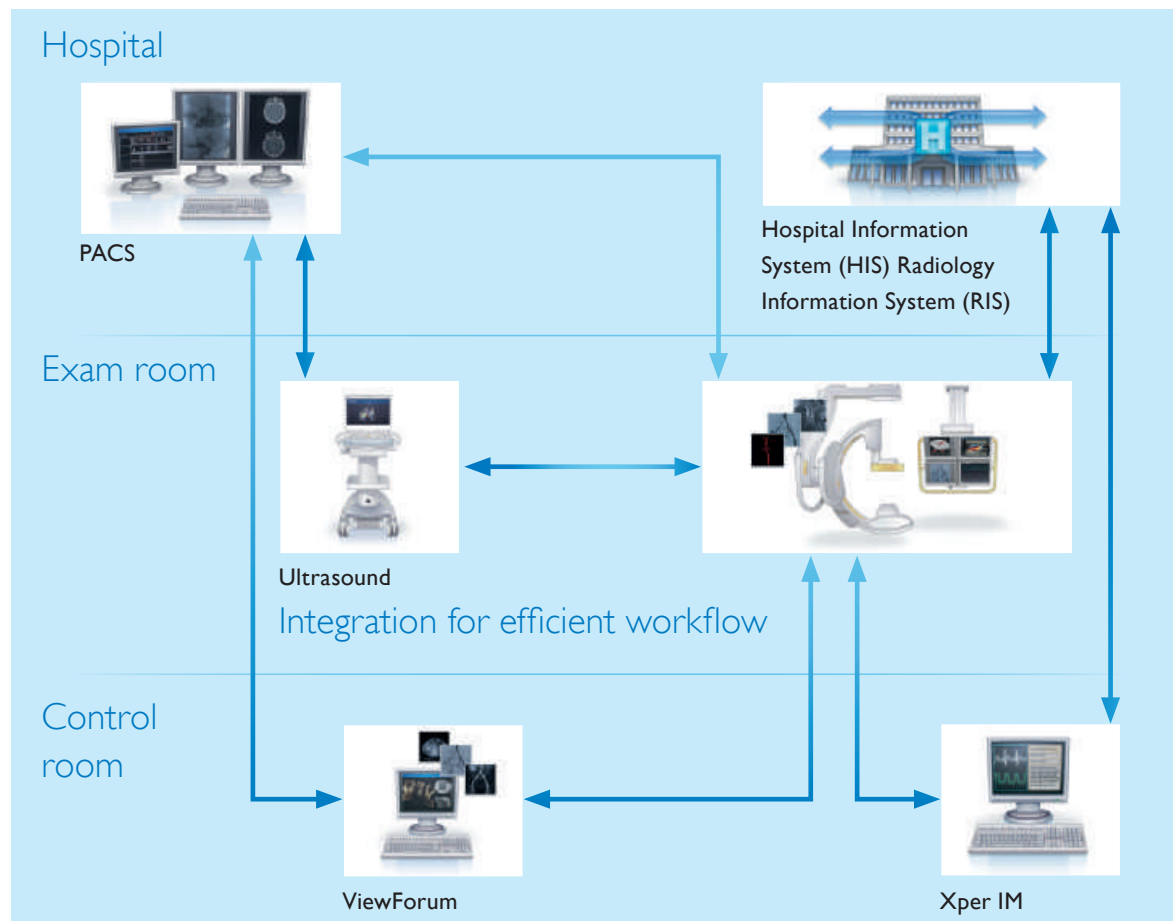


9 Integration solutions

The Xper DICOM Image Interface enables clinical images to be exported to a destination, such as ViewForum, Xcelera or any third party PACS. The system exports clinical studies in DICOM XA Multi Frame or DICOM Secondary Capture formats.

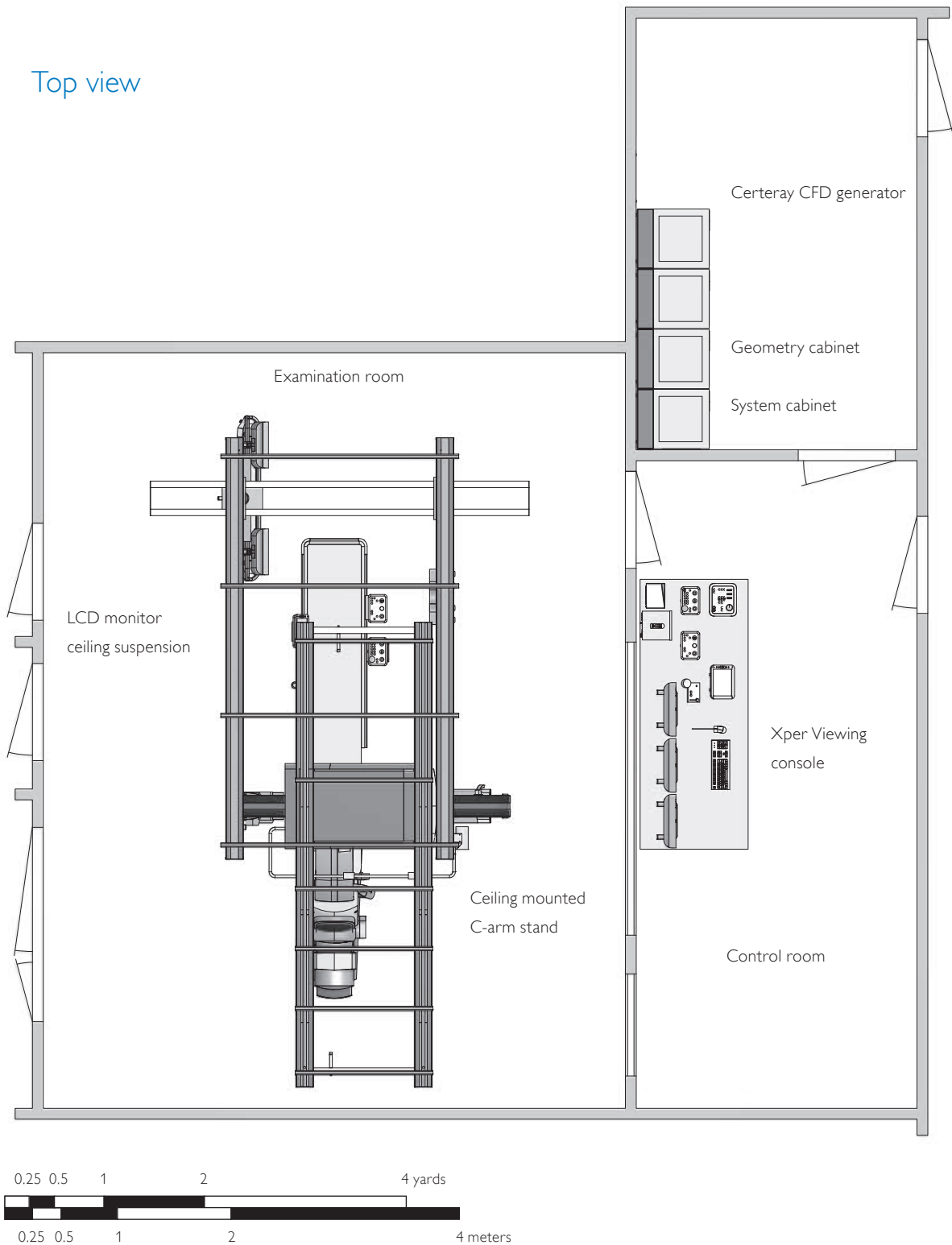
The Xper DICOM Image Interface speeds up image transfer through its fast Ethernet link, making images available on-line within seconds. The archiving process can be configured via Xper settings:

- The image archiving is done in the background during or after the procedure
 - The images can be archived automatically in the background with the Continuous Autopush option
 - The export format is configurable in 512², 1024², or 2k² (unprocessed) matrix
 - The Xper DICOM Image Interface can distribute the examination images to multiple destinations for archiving and reviewing purposes
- The Xper DICOM Image Interface provides DICOM Store and DICOM Store Commitment Services
 - The Query/Retrieve function allows older DICOM studies to be uploaded in the system
 - The DICOM Radiation Dose Structured Report collects dose relevant parameters and settings and export them to a DICOM database⁴
 - The Secondary Capture Dose Report function allows you to save & transfer, manually or automatically, a patient Dose Report to PACS in DICOM secondary capture format.

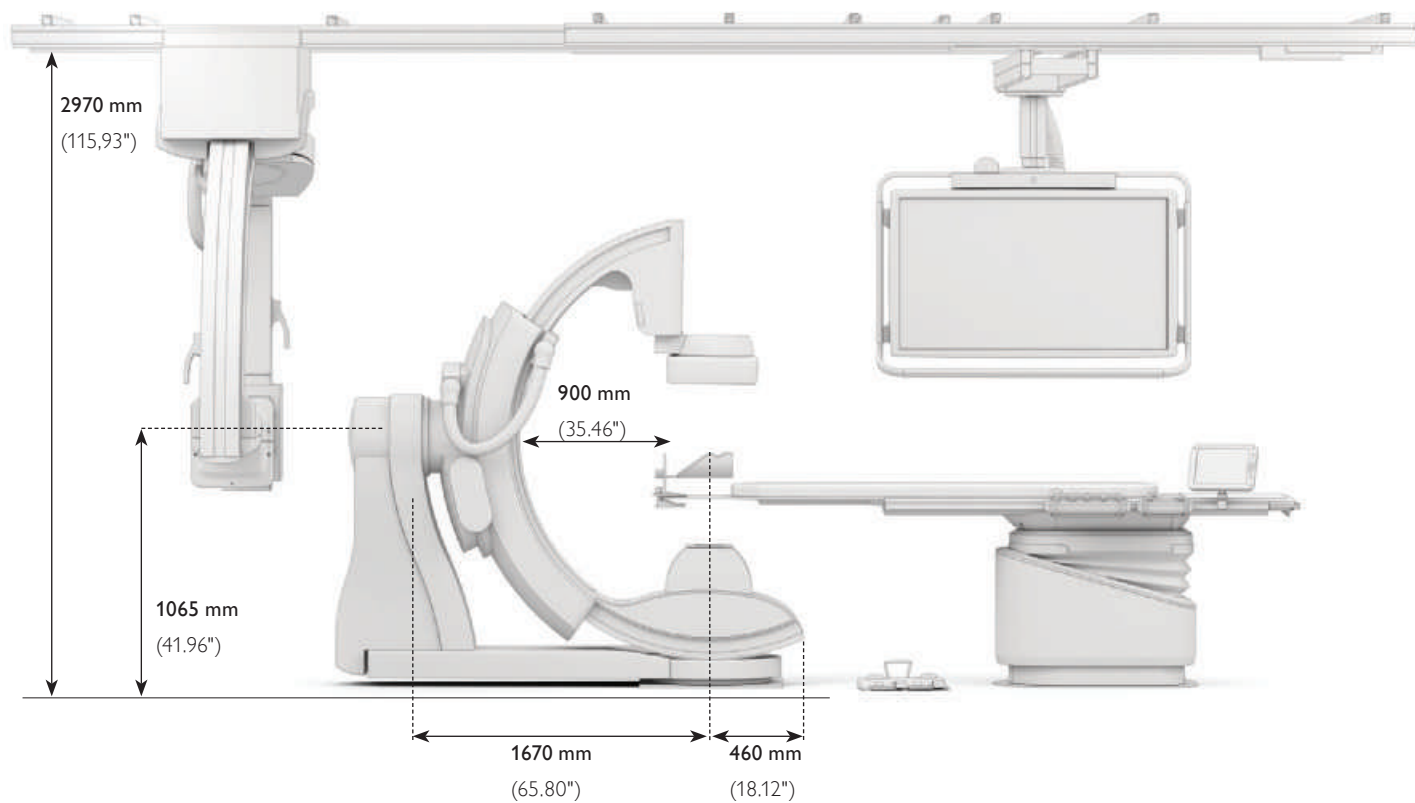


10 Room layout

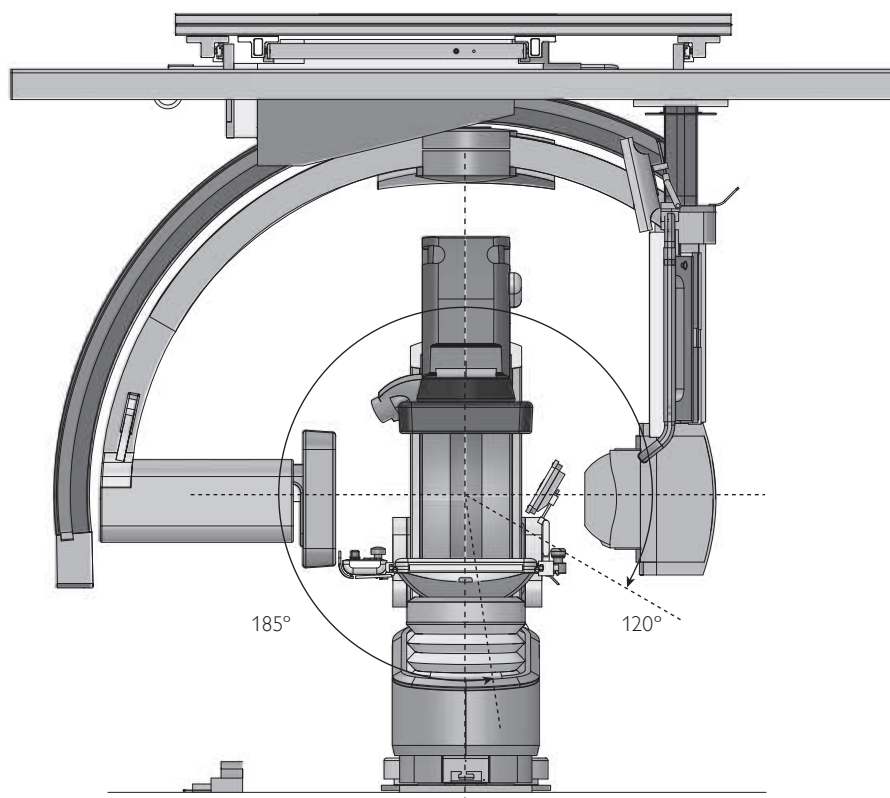
Top view



Front view



Side view



Optional

Biplane continuous autopush

The biplane continuous autopush option provides an additional processor board that is dedicated to archiving. This minimizes interruptions that are caused by other functions that require the image processor, such as patient review. Using the continuous autopush option speeds up archiving and availability of clinical images for review at other PACS destinations.

DICOM Print

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

Intercom

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

Lab reporting

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 printed or sent by e-mail. Part of the report is generated automatically from administrative data (e.g. patient/exam data, hospital name) and acquired data (e.g. run log, X-ray dose information and event log).

RIS/CIS DICOM Interface

This interface option enables two-way communication between the system and 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 an information system is present, it is possible to receive patient and examination (request) information and to report examination results.

This option provides the following benefits:

- Eliminates the need to retype patient information on the system
- Can help prevent errors in typing patient name or registration number, which allows for 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.

Standard line rate video output

The standard line rate video output option is 625 (525) lines for a 50 (60) Hz video output unit. This option is available as a monoplane (frontal) or biplane version. This option is required to connect a medical DVD/VCR or an additional TV monitor. This option enables you to store fluoro and acquisition data on a DVD/CD as X-ray is being generated during fluoroscopy and exposure.

Cath lab experience

The Philips cath lab experience is based on a simple yet powerful concept: The procedures you perform are increasingly complex, so using advanced technologies that assist you in diagnosing and treating your patients should not be. Our offerings for interventional X-ray interventions are designed to simplify cath lab workflow, and may help you deliver faster accurate diagnosis and treatment. With advanced image acquisition and visualization tools, multimodality access, hemodynamic monitoring and integrated reporting, the Philips cath lab experience creates a fluid workflow that works for you and your patients.

Xcelera

The ultimate goal of using information solutions is to streamline workflow and provide access to all relevant images and information at one location. Philips can help you do just that with one of the most interfaced interventional X-ray image management and reporting solutions on the market. Philips unites interventional X-ray care, offering one access point for all relevant information - X-ray, ultrasound, CT, MR, nuclear medicine, ECG, and electrophysiology. One workspace for documentation, viewing, quantification and reporting tasks. Philips gives you everything you need to manage and enhance your interventional X-ray operations.

11 SmartPath

Your Philips imaging system is designed to be reliable and efficient. Ensuring that it remains so from day one forward, is our commitment to you.

Philips SmartPath is a way to give you easy access to the latest updates, upgrades and innovations throughout the cycle of product ownership. By maintaining your equipment at peak performance, you can realize your full clinical and operational potential and be ready to quickly benefit from next-generation solutions.

From small enhancements to major system conversions, we help you maximize your investment, for success today and into the future.

Please visit www.philips.com/Smartpath for more information

Optimize

Update for Allura Xper customers

Improved remote service capabilities to optimize uptime.



Enhance

FlexVision XL upgrade

Flexible Viewing, Sharp Images and Easy to Operate



Transform

Catalyst conversion

Bring your II system to the latest technology. Transform cost effectively.



www.philips.com/SmartPathtoAlluraClarity



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References

- ¹ The Wireless Footswitch is available for versions of the Philips Allura Xper family of X-ray systems onwards. It is not available with Philips X-ray systems that are combined with the Niobe Remote Magnetic Navigation System.
- ² Only in combination with Philips Allura FD20/15 OR Table
- ³ These products do not replace the thermoluminescent dosimeter (TLD) as a legal dosimeter.



asimpleswitch.com

Not for distribution in the USA.

Availability in other countries subject to local approvals, please contact your local representative.

Please visit www.philips.com/interventionalxray



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