

A large, white, C-arm linear accelerator (Philips Azurion 7) is positioned in a modern, brightly lit treatment room. The machine's gantry is arched over a patient table. The patient table is extended and has a light blue cushion. A tablet is mounted on the table. A large monitor is visible on the right wall. The floor is a light grey. The overall scene is clean and professional.

**PHILIPS**

***Azurion 7***

Image guided therapy

With **Azurion**  
performance and  
superior care become one

Specifications Azurion 7 B20/15





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# 1 Geometry



## 1.1 Gantry / stand

The C-shape stand maximizes speed and provides excellent patient access. The rock stable stand design offers fast and easy tableside operation. The stand, monitor suspension, and operating modules can be freely positioned for full application flexibility.

Azurions's unique ceiling mounted lateral double arc can make steep cranial/caudal projections to reveal hidden pathologies or missing anatomical structures.

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 prevent collision, while allowing stand positioning at up to 25°/s.



Frontal C-arm



Lateral L-arc

### Technical specifications frontal C-arm

Iso-center to floor	Floor: 114 cm (44.88 inch)
C-arm rotation / speed	In head-end position: 120° LAO, 185° RAO, in side position: 90° LAO, 90° RAO Speed up to 25°/sec. and 55°/sec. for rotational angio
C-arm angulation / speed	In head-end position: 90° cranial, 90° caudal up to 25°/sec. In side position: 185° cranial, 120° caudal up to 25°/sec
Focal spot to iso-center	81 cm (31.9 inch)
Source Image Distance	89.5-119.5 cm (35.2-47.1 inch)
C-arm depth	90 cm (35.43 inch)
Rotation of the flat detector	Re-positioning of the Flat Detector from portrait to landscape within 3 seconds
In case of rotational scan	Maximum rotation speed in head position 55°/sec Maximum rotation angle 240°

### Technical specifications lateral L-arc

Iso-center to floor	114 cm (44.88 inch)
Double L-arc	Is motorized and manual of 315 cm (124 Inch). It includes auto stops at the park position, cardio, neuro and lower peripheral position. Motorized or manual longitudinal movement for parking or positioning. Auto-stop in Iso-center. Two speed control to 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 for lateral arc N or 0° LAO to 90°LAO for lateral arc CN
L-arc rotation speed	Is up to 8°/sec
Motor-drive angulation	45° cranial to 45° caudal, possible at any rotation angle
Source-image distance	87.5 – 130.2 cm (34.4 – 51.3 inch), motorized and manual movement

### Optional

Automatic Position Controller (APC)	<p>Functionality for the stand is accessed through the touch screen module at the patient tableside.</p> <ul style="list-style-type: none"> <li>• This option includes a programmable position extension, which allows an 'unlimited' number of positions that can be stored and recalled per clinical procedure.</li> <li>• 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.</li> </ul>
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## 1.2 Patient table

The patient table is a dedicated interventional X-ray table 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.

### Table

<b>Table height (min.-max.)</b>	74 cm - 102 cm (29.1 inch - 40.4 inch)
<b>Table top length (incl. OP Rail)</b>	319 cm (125.6 inch)
<b>Table top width</b>	50 cm (19.7 inch)
<b>Longitudinal float range</b>	120 cm (47.2 inch)
<b>Lateral float range</b>	36 cm (14.2 inch)
<b>Max. table load</b>	325 kg (715 lbs)
<b>Max. patient weight</b>	250kg (551 lbs) + 500 N for CPR. CPR can be done in any position of the table top.
<b>Table up/down speed</b>	30mm/s (1.2 Inch/s)



## Patient table options

<b>Store and recall</b>	Reproducing precise coordinates (height, longitude and latitude) is critical for obtaining accurate visualizations. The optional automatic position controller brings the table back to the original table position stored, without applying additional X-ray dose.
<b>Pivot</b>	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.
<b>Tilt</b>	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.
<b>Tilt and cradle</b>	Many electrophysiology and non-vascular procedures benefit from additional positioning options. Our patient table with isocentric tilt and cradle-tilt functionality puts your gravity oriented or guided puncture procedures at the required angle.
<b>Swivel</b>	The swivel option with pivot movement allows you to easily move the table to reach upper and lower peripherals for angiographic and interventional procedures. Swivel the table from side-to-side or pivot the table on its vertical axis. The table moves with less friction, making it easier to move larger patients. A secure mechanism locks the tabletop in place to prevent it from moving.

## Technical specifications options

<b>Pivot</b>	-90°/+180° or -180°/90°
<b>Swivel (includes pivot)</b>	Extended longitudinal range: 78.2 cm (30.8 inch), Table height increase: +8 cm (3.2 inch), Pivot range: -180°/90° only
<b>Tilt and cradle</b>	Tilting range: ±17° iso-centric, Cradle tilting range: ±15°, Table height increase: Min +5 cm (+1.97 inch) Max +2 cm (0.78 inch)
<b>Tilt</b>	Tilting range: ±17° iso-centric, Table height increase: Min +5 cm (+1.97 inch) Max +2 cm (0.78inch)

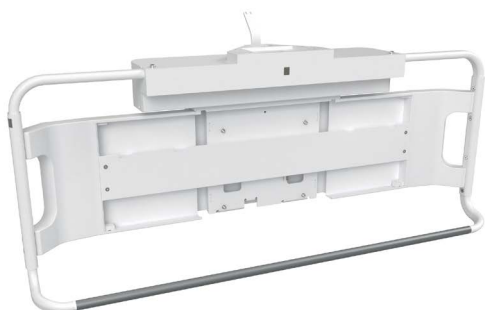






### 1.3 Philips monitor ceiling suspension

The Philips monitor ceiling suspension allows flexible, freely rotating positioning of the monitors for an excellent viewing angle. A separate integration kit is available for third party monitor suspensions and ceiling booms. Standard, a 2 Fold MCS is delivered with two 27" full HD widescreen monitors.



Azurion Monitor Ceiling Suspension



Table X-ray protection



Ceiling suspended radiation shield

#### Optional number of monitors

<b>2 Fold MCS</b>	2x 27" Full HD widescreen
<b>4 Fold MCS</b>	3 or 4x 27" Full HD widescreen,
<b>6 Fold MCS</b>	4x 27" Full HD widescreen + 1 or 2x 27" (top- or rear-viewing)
<b>3rd party boom (1,2 or 4 fold)</b>	27" or 32" Full HD widescreen monitor
<b>FlexVision MCS</b>	1 x 58" XL screen
<b>FlexVision MCS</b>	1x 58" XL + 2x 27" Full HD widescreen (top- or rear-viewing)

#### MCS features

<b>Rotation range</b>	350°
<b>Transversal movement</b>	Over a distance of 300 cm (118.1 inch)
<b>Longitudinal movement</b>	Over a distance of 330 cm (129.9 inch)
<b>Height movement</b>	Motorized 32 cm (12.6 inch)

### 1.4 Accessories

#### Standard accessories (patient table)

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

#### 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 control modules
Ratchet compressor
Additional OP-rail
Examination light
Table base accessory rail
Arm support (height adjustable)
Table X-ray protection
Peripheral X-ray filter
Pulse cath arm support
Ceiling suspended radiation shield

\*In case of OR table, other accessories may apply

# 2 User interface

## 2.1 User interface in the examination room

In the examination room, the user interface comprises the on-screen display, touch screen module (TSM) and the control module. Information is displayed on the on-screen display in the examination room. With the TSM Pro (option) images shown on the live and reference monitor can also be viewed on touch screen module itself. The control module can be positioned on three sides of the patient table. The control module adjusts to the position to retain the intuitive button operation. The control module has a protection bar that prevents unintended activation of system.

FlexVision Pro is an extension to the FlexVision large 58 inch high resolution LCD for exam room, enabling flexible screen layouts and full control (seamless mouse over) of up to 11 external sources including third party systems.

### On-screen display

X-ray indicator

X-ray tube temperature condition

Radiographic parameters: kV, mA, ms

Rotation and angulation of the stand positions

Table height

Detector field size display

General system messages

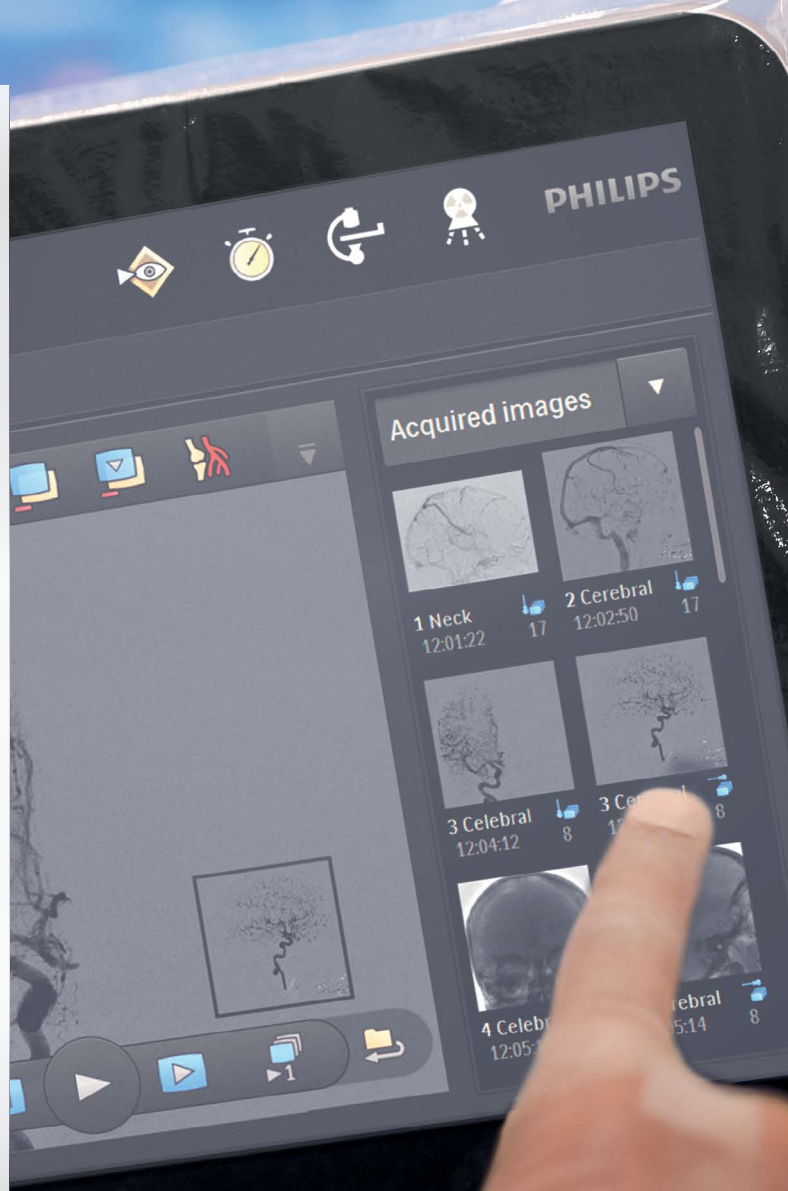
Selected frame speed

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)





**Azurion viewpad controls**

### **Azurion viewpad controls**

Run and image selection

Exam and run cycle

Review speed

Run and exam overview

Laser pointer

Flagging exam and run for storage

Storing reference image to reference monitors

Select reference monitors for review and/or processing of previous run exposures

Subtraction and image mask selection

Select reference monitors for review and/or processing of previous run exposures

Subtraction and image mask selection



**Azurion touch screen module (TSM)**

### **Azurion Touch Screen Module (TSM)**

Acquisition setting

Image Processing

Automatic Position Control (APC), 'unlimited' number of stand positions can be stored and recalled from touch screen module.

Quantitative Analysis (QA)

Table Automatic Position Controller

IntelliSpace Cardiovascular (ISCV) table side control

Interventional tools table side control

Xper Flex Cardio table side control

CX50 table side control

Table and geometry lock functions

Fluoroscopy buzzer reset

Fluoro store

Cleaning mode

Control of monitors (Switchable Viewing or FlexVision)

X-ray enable/disable

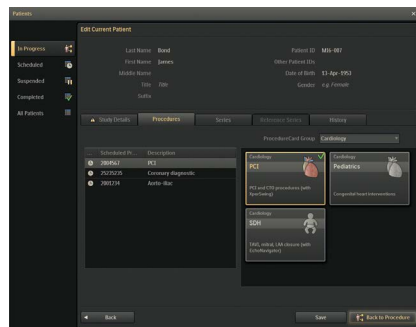
Stopwatch



Control module



Control module (OR table)



ProcedureCards (standard)



Touch Screen Module Pro

## Control module

Pivot Lock

Tabletop float

Tabletop motorized float

Table height position

Table tilt angle (if the tilt option is available)

Table cradle angle (if the cradle option is available)

Source Image Distance selection

Stand positioning

Longitudinal and lateral movements (FlexMove only)

Longitudinal movement of the stand along the ceiling

Stand rotation in an axis perpendicular to the ceiling

Store and recall of 'unlimited' number of stand positions via the touch screen module. Accept button to activate an APC position selected on touch screen module

Emergency stop button

Geometry reset button, which resets stand and table to a default service configurable starting position

Fluoroscopy mode selection as defined via settings

Positioning of shutters and wedges without radiation

Fluoro storage to record fluoroscopy up to 2000 images

Selection of the detector field size

Reset of the fluoroscopy buzzer

Selection of Roadmap Pro function (optional)

Selection of SmartMask function (optional)

## ProcedureCards

The Azurion series include a range of ProcedureCards to help optimize and standardize system set-up for your cases, from routine to mixed procedures. ProcedureCards can increase the consistency of exams by offering presets (e.g. most-frequently used, default protocols and user-specified settings) on procedure-, physician- or departmental level. In addition, hospital checklists and/or protocols can be uploaded into the ProcedureCards to help safeguard the consistency of interventional procedures and help to minimize preparation errors.

## Touch Screen Module Pro (option)

With this option the X-ray images from the live as well as reference monitors will be shown on the touch screen module.

Image navigation on the touch screen module

Intuitive control of shutters and wedges by simply dragging the lines shown on top of the image

Intuitive zooming and panning functionality (also during fluoroscopy)

Virtual keyboard and touchpad to control external equipment (optional)

Turns the touchscreen into the pointing device in order to improve communication in ER/CR: when activated the pointer is shown on corresponding monitor





Intuitive user interface with user guidance

## 2.2 User interface in the control room

The standard viewing console comprises of an acquisition monitor, review monitor, mouse and keyboard.

### System information viewable at Azurion acquisition monitor

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

Table information such as height, cradle, tilt

### Azurion acquisition monitor

Patient scheduling

Select patient for acquisition

Acquisition setting

Review runs

Archive runs

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

### Azurion review monitor

Quantitative Analysis Packages, optional

Subtraction, optional

Move or renew mask, optional

Landmarking (increase/decrease of subtraction degree), optional

View trace, optional

Reset fluoroscopy timer and switch X-ray on/off

Geometry lock

File and run cycle

File, run and image stepping

Run and file overview

Reset fluoroscopy timer and switch X-ray on/off

Parallel Working (standard)

Procedure card manager

Customization and electronic help

### Optional

**FlexSpot** FlexSpot offers an integrated workspot in the control room with up to three high-resolution QHD (2560x1440) displays.

### Review module

Power on/off

File and run cycle

File, Run, and Image stepping

Run and file overview

Enable/disable X-ray

Geo disable

Video Only mode in case of FlexSpot/FlexVision.

Reset of the fluoroscopy buzzer



**Pedestal**



**Second control module,  
third touch screen module**



**Wireless footswitch**

## User interface options

### Pedestal

- The pedestal creates a flexible workspace for operating the system from the examination room.
- The pedestal is equipped with a control module and can also hold the touch screen module, ViewPad and X-ray footswitch.
- The control module can be disconnected from the pedestal and attached to the table OP rail.
- The pedestal can be positioned freely around the patient table and can be put aside when not in use.

### Second control module, third touch screen module

The system can be extended with additional user interface modules that have the same functionality as the modules in the examination room. Adding a second control 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 footswitch streamlines workflow, reduces clutter, and simplifies preparation and cleanup where it is 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 is one of Philips Live Image Guidance solutions for X-ray environments.

### Additional Options:

Intercom  
Automatic Position Controller (system and table)





## 3 X-ray generation



## 3.1 X-ray generator

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

### Technical specifications

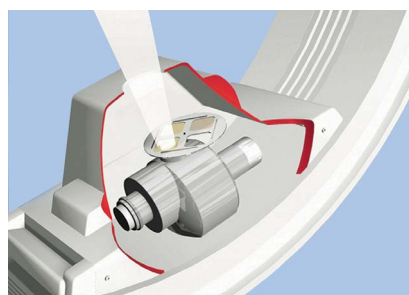
Generated power	Microprocessor-controlled, 100 kW high frequency generator with MOSFET technology
Minimum switching time	Quartz-controlled power switch, with a minimum switching time of 1 ms
Voltage range	40 to 125 kV
Maximum current	1000 mA at 100 kV
Maximum continuous power	2.5 kW for 0.25 hours, 1.5 kW for 8 hours
Nominal power (highest electrical power)	100 kW (1000 mA at 100 kV)

## 3.2 X-ray tube

The Azurion 7 B20/15 is provided with the high power MRC 200+ GS 0407 X-ray tube and MRC 200+ GS 0508, which allows for very high heat dissipation, enabling SpectraBeam filtration to manage the patient X-ray dose.

### Technical specifications – Frontal X-ray tube (MRC 200+ GS 0407)

Focal spot size and loadability	0.4/0.7 mm (0.016/0.028 inch) nominal focal spot values with maximal 30 kW and 65 kW loadability is based on 250 W anode reference power
Grid-switched pulsed fluoroscopy	yes
Fluoro power for 10 minutes	4,500 W
Fluoro power for 20 minutes	4,000 W
Maximum X-ray field with SID = 100	35 x 35 cm (13.8 x 13.8 Inch)
Maximum X-ray field with SID = 120	42 x 42 cm (16.5 x 16.5 Inch)
Maximum X-ray field with SID = 70	24.5 x 24.5 cm (9.7 x 9.7 Inch)
Maximum anode cooling rate	1750 kHU/min
Max. anode heat storage	6.4 MHU
Max. assembly heat storage	9.4 MHU
Anode heat dissipation	21,000 W
Continuous anode heat dissipation	3,500 W
Max. assembly continuous heat dissipation	4,000 W
Extra pre-filtration	SpectraBeam dose management with 0.2, 0.5, and 1.0 mm (0.01, 0.02, 0.04 inch) Copper equivalent SpectraBeam filters
Cooling liquid	Oil cooled X-ray tube with thermal safety switch
Anode target angle	11°
Anode cooling method	Direct anode oil cooling system with 200 mm (7.87 Inch ) anode diameter



3.2 X-ray tube



### Technical specifications – Lateral X-ray tube (MRC 200+ GS 0508)

Focal spot size and loadability	0.5/0.8 mm (0.019/0.031 inch) nominal focal spot values with maximal 45 kW and 85 kW is loadability based on 250 W anode reference power
Grid-switched pulsed fluoroscopy	yes
Fluoro power for 10 minutes	4,500 W
Fluoro power for 20 minutes	4,000 W
Maximum X-ray field with SID = 100	28 x 28 cm (11 x 11 inch)
Maximum X-ray field with SID = 120	33,6 x 33,6 cm (13.2 x 13.2 inch)
Maximum X-ray field with SID = 70	19,6 x 19,6 cm (7.7 x 7.7 inch)
Maximum anode cooling rate	1750 kHU/min
Max. anode heat storage	6.4 MHU
Max. assembly heat storage	9.4 MHU
Anode heat dissipation	21,000 W
Continuous anode heat dissipation	3,500 W
Max. assembly continuous heat dissipation	4,000 W
Extra pre-filtration	SpectraBeam dose management with 0.2, 0.5, and 1.0 mm (0.01, 0.02, 0.04 inch) Copper equivalent SpectraBeam filters
Cooling liquid	Oil cooled X-ray tube with thermal safety switch
Anode target angle	9°
Anode cooling method	Direct anode oil cooling system with 200 mm (7.87 inch) anode diameter

### DICOM Radiation Dose Structured Report

Collection of dose relevant parameters and settings with export possibility to a DICOM database (e.g. PACS, RIS). The reported data can be used for analysis, to further manage 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. secondary capture dose report function allows you to save and transfer, manually or automatically, a patient dose report to PACS in DICOM secondary capture format.

# 4 Imaging

Azurion X-ray suites are equipped with the next generation of compact dynamic flat detectors, which can easily handle complex projections. Image quality and X-ray dose management are further enhanced by dedicated image processing.

Philips DoseWise program is a set of techniques, programs and practices built into the X-ray system that allows excellent image quality during each interventional application, while at the same time managing x-ray dose at every opportunity.

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## DoseWise features include

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User quality control mode (optional)

Zero dose positioning (frontal and lateral)

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### 4.1 ClarityIQ technology (Optional)

To create a breakthrough in interventional imaging and dose management, we evaluated the performance of the system as a whole instead of its individual components. During this process the entire digital imaging pipeline was redesigned, all relevant system components were improved and in total more than 500 parameters were clinically fine-tuned.

#### 1. Powerful image processing technology

ClarityIQ technology includes state-of-the-art, real-time image processing developed by Philips Research and based on the latest parallel computing technologies.

Benefits include:

- Noise and artifact reduction, also on moving structures and objects;
- Image and edge enhancements;
- Automatic real-time patient and accidental table motion correction on live images.

#### 2. Completely redesigned, flexible digital imaging pipeline

ClarityIQ technology utilizes a flexible digital imaging pipeline from tube to display that is tailored for each and every application area such as cardio or neuro. This gives the flexibility to select virtually unlimited application specific configurations and obtain superb images on your full range of clinical applications and patient types including patients with a high BMI.

#### 3. More than 500 clinically fine-tuned system parameters and enhanced relevant system components across the entire imaging chain

With ClarityIQ technology over 500 system parameters are fine-tuned for each application area; the result of years of Philips' clinical leadership. ClarityIQ technology also enhances some essential system components. It is now possible to manage radiation by increased filtering, use small focal spot sizes as well as shorter pulses with the grid switching technology of Philips MRC tube and accompanying generator.

### 4.2 Dynamic Flat Detector

The dynamic Flat Detector of Philips provides excellent image quality.

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#### Specifications Frontal

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Size of detector housing	68 cm (27 Inch) diagonal, including BodyGuard
Maximum field of view	48 cm (19 inch) diagonal
X-ray sensitive area	1904 x 2586 pixels
Detector zoom fields	42, 37, 31, 27, 23, 19, 16 cm (17, 1, 12, 11, 9, 8, 6 inch) diagonal formats
Pixel pitch	154 µm x 154 µm
Detector bit depth	16 bits
Nyquist frequency	3.25 lp/mm
DQE (0)	77% at 0 lp/mm
MTF at 1 lp/mm *	59% (Typical)

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#### Specifications Lateral

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Size of detector housing	57 cm (22.4 inch) diagonal
Maximum field of view	39 cm (15.2 inch) diagonal
Image matrix	1420 x 1560 pixels
Detector zoom fields	38, 31, 26, 23, 19, 16 cm (15, 12, 10, 9, 8, 6 inch) diagonal formats
Pixel pitch	184µm x 184µm
Detector bit depth	16 bits
Nyquist frequency	2.72 lp/mm
DQE (0)	70% at 0 lp/mm
MTF at 1 lp/mm *	59% (Typical)

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\* According to IEC 62220-1-3, at highest gain

### 4.3 Fluoroscopy

Per application, three fluoro modes are available at tableside, which can be programmed via settings. Each mode can be programmed with a different composition of ClarityIQ parameters. ClarityIQ technology provides a flexible digital image pipeline, powerful image processing technology and clinically fine-tuned parameters across the entire imaging chain.

#### Specifications

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 (non Clarity) at 3.75, 7.5, 12.5 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

### 4.4 Digital Acquisition

The system can be customized with a virtually unlimited number of acquisition programs for digital angiography and digital subtraction angiography. Xres is a real-time processing algorithm that provides excellent image quality through enhanced contrast and sharpness. It exploits the benefits of the fully digital detector to reduce noise in clinical images.

#### Specifications

Standard configuration	0,5 to 6 images/sec
Image storage	50.000 images (based on 1k <sup>2</sup> )
Storage extension (optional)	100.000 images (based on 1k <sup>2</sup> )

#### Optional:

Image & Processing	ClarityIQ QA Rotational Angio CardiacSwing Physio Viewing Bolus Chase Subtract Bolus Chase Reconstruction Image rate 25/30 images/sec Image rate 50/60 images/sec Roadmap pro/SmartMask Dual Fluoro Data integrity UPS
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# 5 Viewing

## 5.1 Monitors

The system is delivered standard with two 27" LCD monitors for live and ref signal. The monitors are mounted on the Philips Monitor Ceiling Suspension including motorized height adjustment. Two 24" LCD color monitors with parallel working are standard in the control room.

### 27" LCD Monitor ER and 24" LCD Monitor CR

Format	Native Format 1920 x 1080
Wide viewing angle	Yes (approximately 178°)
High brightness	Default controlled brightness
Video signal	Compatible with video signals up to 1920x1200 and from Ultrasound and IVUS

## Optional monitors

### FlexVision XL

FlexVision XL is a viewing concept that provides outstanding viewing flexibility, using a large, high definition 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 excellent visibility for confident decisions during challenging procedures.



FlexVision XL

### FlexVision XL

Size	58-inch, 8 Megapixel color LCD
Format	Native resolution: 3840x2160
High Brightness	Max: 700 Cd/m <sup>2</sup> (typical) stabilized: 400 Cd/m <sup>2</sup>
Contrast ratio	1:4000 (typical)
Wide viewing angle	Approx. 176 degrees
Stabilization control	Constant brightness stabilization control
Lookup table	Lookup tables for gray-scale, color and DICOM transfer function
Protection screen	Full protective screen Ingress Protection: IP-21

### FlexVision Pro

With FlexVision Pro, the user can control FlexVision XL and video sources on FlexVision XL through wireless mouse in examination room as well as virtual keyboard and touchpad on the touch screen module in the examination room. An operator can resize images and adjust the screen layout during the procedure without going into configuration.

### 27" LCD ER

Size	27 inch high brightness color TFT-LCD display
Format	Native format 1920x1080 Full HD
Grey-scale resolution	10 bit gray-scale resolution with gray-scale correction
Wide viewing angle	Wide viewing angle (approx. 178 degrees)
High Brightness	High brightness (max 650 Cd/m <sup>2</sup> , default 400 Cd/m <sup>2</sup> )
Luminance stability	Long term luminance stability through backlight stabilization circuit
Brightness control	Automatic brightness control with backlight sensor
Control functions	Control functions on side
Setting	User programmable and standard reference setting
On-screen display	Yes
Lookup table	Internal selectable lookup table for gray-scale transfer function, including DICOM
Power supply	Internal power supply (100-240 VAC)
Protection screen	Yes , Ingress Protection: IP-21

### 24" LCD CR

Active screen size (diagonal)	598.6 mm (23.6")
Active screen size (H X V)	521.3mm X 293.2mm (20.5" X 11.5")
Resolution	2MP (1920 X 1080)
Wide viewing angle	Wide viewing angle (approx. 178 degrees)
Maximum Luminescence	400 cd/m <sup>2</sup> typical
DICOM calibrated luminescence	350 cd/m <sup>2</sup>
Contrast ratio	1000:1 typical, 700:1 minimum
Tilt	+5°/+20°
Optional accessories	None

### 32" LCD ER (optional requires 3<sup>rd</sup> party boom)

Size	32 inch high brightness color TFT-LCD display
Format	Native format 1920x1080 Full HD
Grey-scale resolution	10 bit gray-scale resolution with gray-scale correction
Wide viewing angle	Wide viewing angle (approx. 178 degrees)
High Brightness	High brightness (max 500 Cd/m <sup>2</sup> , default 400 Cd/m <sup>2</sup> )
Luminance stability	Long term luminance stability through backlight stabilization circuit
Brightness control	Automatic brightness control with backlight sensor
Control functions	Control functions on side
Setting	User programmable and standard reference setting
On-screen display	Yes
Lookup table	Internal selectable lookup table for gray-scale transfer function, including DICOM
Power supply	Internal power supply (100-240 VAC)
Protection screen	Yes , Ingress Protection: IP-21

## Optional monitors in control room

### FlexSpot

Integrated work spot in the control room to view, control and manipulate all applications within a single view



FlexSpot

### FlexSpot

Size	27 inch color TFT-LCD display
Format	Native format 2560x1440 Quad HD
High Brightness	High brightness (max 500 Cd/m <sup>2</sup> , default 350 Cd/m <sup>2</sup> )
Wide viewing angle	Wide viewing angle (approx. 178 degrees)
Luminance stability	Long term luminance stability through backlight stabilization circuit
Brightness control	Automatic brightness control with backlight sensor
Control functions	Control functions on side
Setting	User programmable and standard reference setting
On-screen display	Yes
Lookup table	Internal selectable lookup table for gray-scale transfer function, including DICOM
Power supply	Internal power supply (100-240 VAC)
Connectivity	Integrated USB hub

### Additional FlexSpot

This feature adds a second FlexSpot workspot with its own high resolution Quad HD (2560x1440) display as well as its own keyboard and mouse.

- Up to 1 video source can be displayed at a time on the add-on FlexSpot display.
- The X-ray status area with all X-ray details can be shown/hidden.



Additional FlexSpot and 2nd display

### 2nd display for FlexSpot

This feature adds a second high resolution Quad HD (2560x1440) monitor to the primary FlexSpot workspot. It enables the user to show up to 8 video sources on a single FlexSpot workspot by combining 2 high resolution displays. Keyboard and mouse control is seamless across the 2 displays.

## Optional viewing

MultiSwitch (control room)

MultiVision (exam room)

Optional ref monoplane

### Switchable Monitors

The Switchable Monitor option gives you full control of what you display and where you display it on your exam room monitors. Display up to 16 monitor inputs via the touch screen module (TSM), including the live image, reference image, frontal and lateral projections, hemo data and equipment from other vendors.



# 6 Additional options

## General additional options

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Subtracted Bolus Chase
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CO <sub>2</sub> View Trace
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IntelliSpace Portal
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CX50
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IE33
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EPIQ
------

EchoNavigator
---------------

DoseAware
-----------

Ambient Experience
--------------------

RIS/CIS DICOM interface
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DVD writer
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Medical DVD recorder
----------------------

CardiacSwing
--------------

Rotational Angio
------------------

Hemodynamic system
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Xper Flex Cardio
------------------

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### 2D Quantification packages

Quantitative Coronary Analysis (QCA)
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Left Ventricular Analysis (LVA)
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Right Ventricular Analysis (RVA)
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Quantitative Vascular Analysis (QVA)
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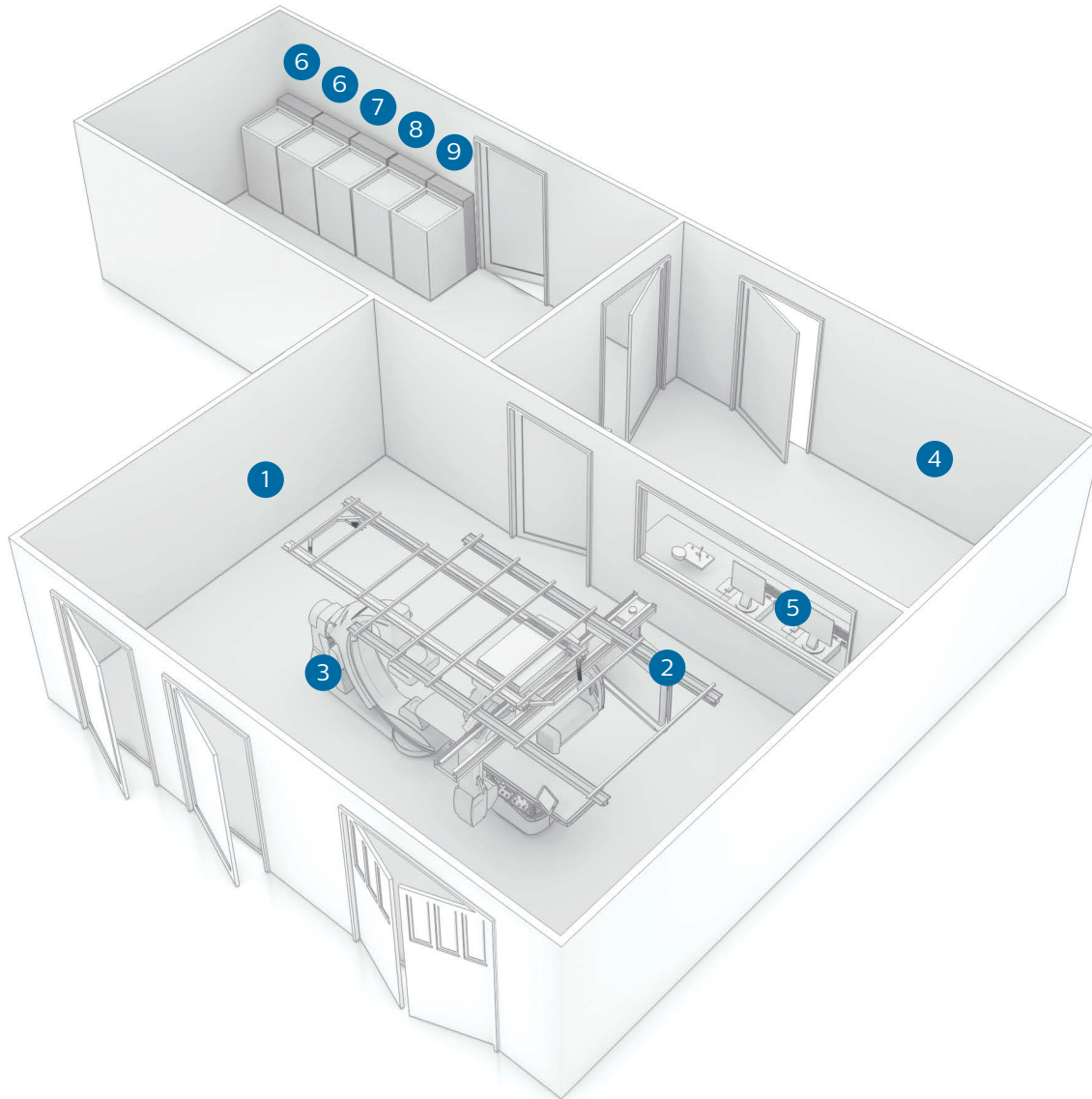
QA Basic measurements
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Full Autocal
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Measurement
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# 7 Room layout



## Top view

1. Examination room
2. LCD monitor ceiling suspension
3. Ceiling mounted C-arm stand
4. Control room
5. Xper Viewing console
6. Certeray generator (2x)
7. Geometry cabinet
8. System cabinet
9. FlexVision cabinet

Conceptual drawing of a room layout

Front view

