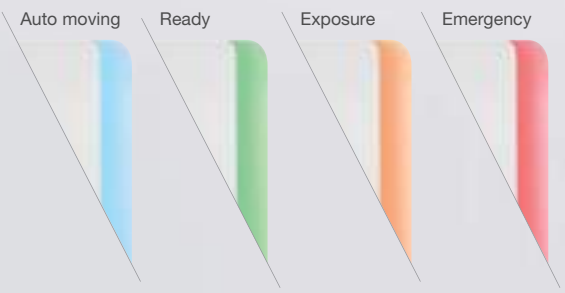
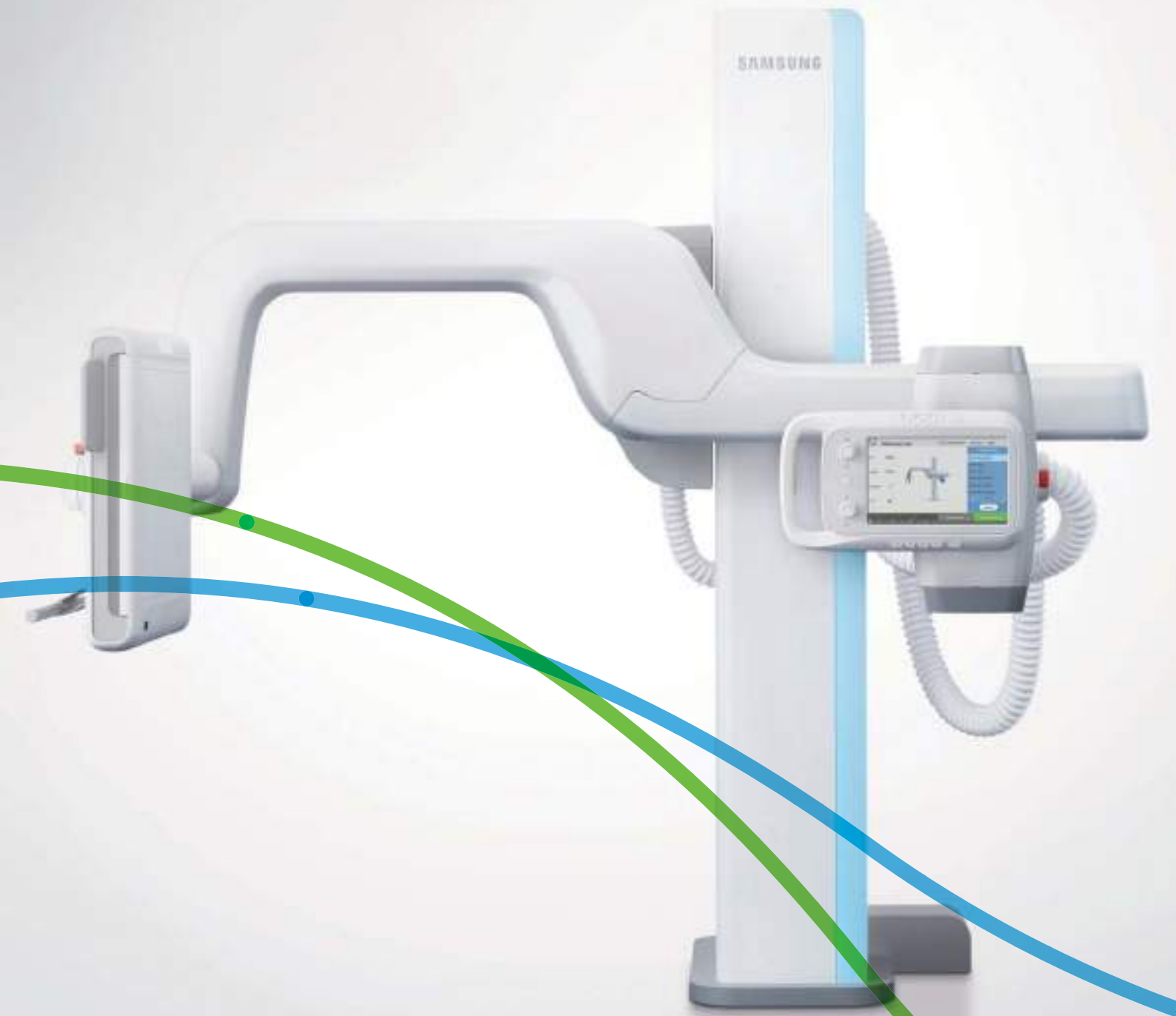


XGEO GU60A

Technical Data

PREMIUM USABILITY
IN DIGITAL
RADIOGRAPHY





Color coding enables easy testing

SMART DIGITAL RADIOGRAPHY SYSTEM

Flexible U-arm



Auto Positioning



APR (Anatomical Programmed Radiography)



Positioning Help



XGEO **GU60A**

The XGEO GU60A offers an ergonomic approach to enhance efficiency and productivity. Through advanced technology from Samsung, exposure values can be lowered, while still maintaining a higher level of imaging. In addition, real-time monitoring ensures constant high-level performance.



XGEO GU60A won an
iF Product Design Award 2012.

XGEO GU60A

Technical Data

U-arm Positioner (Fully Automated)

The XGEO GU60A is a universal, fully motorized system. Its unique U-arm rotates $+120^{\circ} \sim -30^{\circ}$, and the SID travels 100cm \sim 180cm to enable any examination in any position.

Chest or shoulder X-rays are made easier for wider shoulders by rotating the detector 45° .

The XGEO GU60A also provides dual-speed movement to improve user convenience, and the fast-moving arm increases the system throughput.

Swivel arm	Vertical Transverse Distance : 1190mm Rotation Angle : $-30^{\circ} \sim +120^{\circ}$
SID (X-ray Tube Moves)	Moving Distance : 800mm Moving Range : 1000 \sim 1800mm
THU Rotation Angle	$-90^{\circ} \sim +90^{\circ}$
Receptor Rotation Angle	$0^{\circ}, 45^{\circ}$
Receptor Tilting Angle	$-45^{\circ} \sim +45^{\circ}$

X-ray Tube Assembly

Tube construction	Rhenium-Tungsten faced Molybdenum
Tube voltage	40 \sim 150kV
Anode heat storage capacity	300kHU (210kJ)
Target angle	12°
Focal spot size	0.6mm / 1.2mm
Permanent filtration	0.9mm Al @75kV

XGEO GU60A

Technical Data

High Voltage Generator

Max. Output	50kW, 65kW
Exposure voltage	40~150kV (1kV step)
Switching frequency	200kHz
Line voltage	380/400VAC, 3-Phase, 50/60Hz
mA range	10~630mA (50kW) / 10~800mA (65kW)
Time range	0.001~6.3 sec.
Generator cabinet dimensions (L×W×H)	567mm× 750mm× 1112mm

Digital Detector

With its advanced technology and expertise in TFT design, Samsung is committed to developing TFT-based flat panel detectors with built-in ALDAS*, delivering maximized image quality, immediate results, and diverse applications. Samsung's compact and light detector improves work efficiency, user convenience, and patient safety.

*ALDAS : Advanced Low Dose Amorphous silicon Sensor

Detector type	Amorphous Silicon TFT / Cesium Iodide scintillator (CsI)
Dimensions (Active field)	17"× 17" (43cm× 43cm)
Active detector matrix	3072× 3072pixels
Effective area	429mm× 429mm (3000× 3000pixels)
Pixel pitch	143 μ m
A/D conversion (Pixel depth)	14bits gray scale
Dynamic range	> 14000LSB
Spatial resolution	3.5lp/mm
Detective Quantum Efficiency (DQE)	> 65% (0lp/mm) @ RQA5 (0.05mR)
Modulation Transfer Function (MTF)	> 60% (0lp/mm) @ RQA5
Noise level (Dark signal)	2.5~3.5LSBs
Saturation dose	70 μ Gy
Installation	Fixed

XGEO GU60A

Technical Data

Automatic Collimator with Each Blade Control

Flexible and accurate function reduces radiation dose and improves functions.

Automatic collimation	
Blade control	4-axis motorized control
Copper prefilter*	0.1mm ; 0.2mm ; 0.3mm
Collimation control	Manual or automatic
Lamp	LED lamp > 160 lux

*Option

Grid

Grid*	460mm×460mm, 215lp/inch, 10:1, SID 100cm, 130cm or 180cm, Carbon cover
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*Selectable at time of order

Automatic Exposure Control (AEC)

AEC function prevents excessive radiation exposure.

Dose rate range	0.5~1000 μ Gy/s
Exposure dose range	1~100 μ Gy
Exposure time range	1ms~10s
Attenuation factor	< 1.04
Al equivalent	< 0.75mm Al
Sensitivity difference between sensor field	\leq 5%
Digital output	Differential signal(RS 422), pulse width 2 μ s
Ramp output	0~10V
Operating temperature range	10~40°C
Storage temperature	-40~60°C
Relative humidity for storage and operation	< 90%

XGEO GU60A

Technical Data

Dose Area Product (DAP)*

DAP provides patient level dose estimates and recommended exposure. Also connected to PACS system, relevant information is stored on PACS, enabling cumulative dose tracking.

Response	
- Without additional absorber	800pC/ μ Gy \cdot m ²
- With additional absorber	920pC/ μ Gy \cdot m ²
Response versus radiation equality	-6% / +0%(50 ~ 150kV, acc. IEC 60580)
Quality equivalent filtration	0.2mm Al
Transparency	> 70%
Active area (max)	1~200mm ²
Chamber voltage	300V
Distance of the electrodes	6mm
Stabilization time	5min
Transportation temperature	-20 ~ 60°C
Transportation humidity	10~80% (max. 20g/m ³ ; not condensing)

*Option

Smart Stitching* - Spine and long bone imaging

The X-ray tube and the detector move automatically when a full body image is being captured. It captures 2 or 3 images consecutively and then stitches the images into one. The Smart Stitching function can be operated in tube rotation mode.

Average acquisition time for a 3-images exam	< 27sec
Image pasting and processing time for a 3-image exam	< 3sec from last exposure

*Option - Include Auto Stitching Stand

XGEO GU60A

Technical Data

Imaging Workstation - XGEO Station

Hardware

– CPU	Intel® Core™ i5-2400 Processor (3.10GHz, 1333MHz, 6MB)
– RAM	4GB
– HDD	1TB
– Operating system	Windows 7 pro®
– Accessories	Keyboard, Mouse
– Monitor	Full HD 21" LCD Monitor (1920×1080)
– CD/DVD recorder	For digital image storage on CD/DVD
– USB export	4 USB ports

Software

– Image processing times	< 5sec. (times include acquisition and image processing)
– Post processing	Adaptive Local COntrast Stretching (ALCOS)
– Display functions	Window level control Zoom / Magnifier Flip / Rotate Invert Annotations (Marker / Free text / Arrow / Line / Length / Angle / Cobbs angle / Rectangle / Ellipse) Shutter (Fixed / Auto / Manual) Layout (1×1, 1×2, 2×1, 2×2)
– Auto cropping	Auto shutter
– Auto APR(Anatomical Programmed Radiography) matching	X-ray conditions, Mechanical position, Image processing parameters, Marker etc
– Multi-language	English, Korean, French, German, Italian, Spanish, Russian, Simplified Chinese, Portuguese

Control Interface Box (CIB)

Power On/Off switch	For U-arm, HVG
X-ray exposure indicator	Standby : Blue Ready : Orange Exposure : Red
Emergency stop button	Yes

XGEO GU60A

Technical Data

Network Specifications

DICOM functions

– DICOM Verification	
– DICOM Modality worklist	Interface with HIS / RIS with auto refresh option
– DICOM MPPS	Send the status of exams to HIS/RIS
– DICOM Storage	Send Image (DR or CR IOD) and GSPS to PACS
– DICOM Storage commitment	
– DICOM Grayscale print	Support non-DICOM printers
– DICOM Query/Retrieve	Query and retrieve DR and CR images from PACS
– DICOM GSPS	Send overlay information along with the image
– DICOM Media exchange (DICOM DIR)	Patient images export to DVD/CD

XGEO GU60A

Technical Data

Remote Management System (RMS)

The remote management system analyses performance and emerging technical issues.

Real-time use information	Rounds of filming, distribution of use, operating ration new, re-filming rate and accumulated radiation dose.
Remote access	Real-time monitoring system enables quick responses to problematic situations. Remote assistant service allows auto-diagnosis and remote repairment.

Installation data

The entire system is powered via a single line voltage connection.

Power connection	3-phase, 380/400VAC, 50/60Hz
Power consumption	90kVA (max.)
U-arm	2239mm × 1705mm × 2200mm Approx. 550kg
Generator cabinet dimensions (L × W × H)	567mm × 750mm × 1112mm Approx. 177kg
Examination room	Temperature range : +10~+40°C Relative humidity : 30~75% Air pressure : 70~106 kPa
Imaging system	Storage / Transport <ul style="list-style-type: none">– Temperature range : -10~+55°C– Humidity range : 10~80%– Pressure range : 70~106 kPa Operating <ul style="list-style-type: none">– Temperature range : +10~+40°C– Humidity range : 30~75%– Pressure range : 70~106 kPa

Standard Accessories

P-bar for lateral patient
Grid holder
Patient Moving Table*
Barcode Scanner*

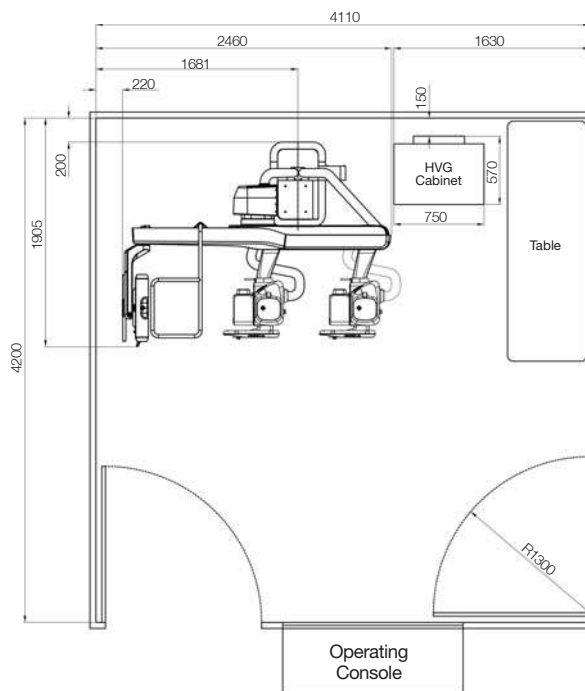
*Option

XGEO GU60A

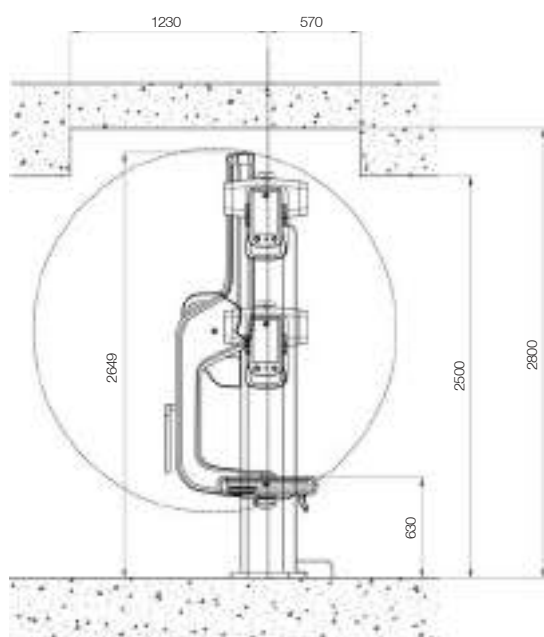
Technical Data

Room Considerations

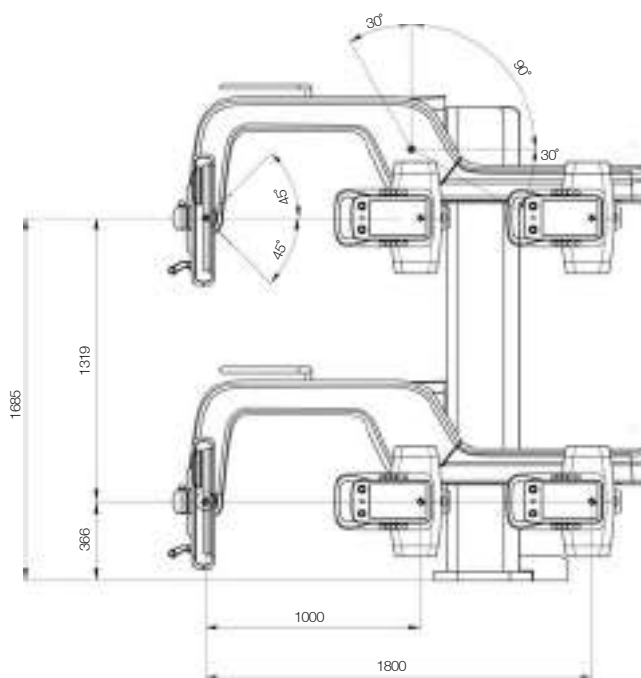
Typical room layout



Top View



Height



Front View



Since its foundation in 1969, Samsung has been a leader in the fields of IT and audio-visual. Now Samsung has begun to contribute to the medical industry by using the technological capabilities it has already built up. We are focusing on time engineering that enhances the efficiency of all products being used in hospitals.

Samsung has developed innovative digital radiography solutions for the benefit of users and patients alike. The philosophy of Samsung is that the best products and services should be created based on outstanding human resources and advanced technology, and those products must be able to contribute to society. By following this philosophy, Samsung will develop the best in medical devices, and we will become a global leader in the field of healthcare.



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