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Multix Select DR

First time. First choice.

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Multix Select DR is the digital radiography system for customers **going digital for the first time** and for customers with **limited room space and budget.** It provides **innovative technology at an economical price level.**

Using selected technologies from **Siemens' top-of-the-line X-ray products,** Multix Select DR simply reflects **first choice in every way.**

Highlights at a glance:

- Robust design for a high system reliability and availability

- Clinical versatility with a mobile detector for the full spectrum of generalized and specialized X-ray exams

- Outstanding images enhanced with DiamondView Plus

- Very small footprint with a generator integrated in the table

So if you're planning on taking the digital leap now, don't settle for less.

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System highlights

System operation

- Intuitive user interface for easy learning and skill transference
- Automatic synchronization of image-relevant parameters between imaging station and generator
- Shorter examination times without time-consuming cassette handling

Patient table*

- Patients up to 190 cm tall can be conveniently examined from head to toe without repositioning
- The robust table design allows the examination of obese patients, with a table weight capacity of up to 200 kg
- The footswitch for the floating tabletop is integrated into the table base, ensuring patient comfort and easy access for the radiographer

Tube column stand

- The integrated tube column stand supports longitudinal travel and rotation, enabling a broad spectrum of applications including vertical, oblique, horizontal and lateral acquisitions
- Synchronized column stand and Bucky tray movements ensure constant centering of the X-ray beam for easy and fast positioning

Bucky wall stand*

- Extends the application range for e.g. chest or orthopedic examinations
- Counterbalanced, with manual height adjustment of the detector tray

X-ray generator

- High-frequency X-ray generator with automatic exposure control and high heat capacity
- Space-saving installation with generator integrated into the patient table for systems with table

Digital flat detector

- Amorphous silicon detector with a maximum of 7.75 million pixels and a resolution of 3.6 lp/mm
- Mobile flat detector that provides unlimited clinical applications
- Optimal coverage by inserting the detector in landscape or portrait format

Imaging system

- Established imaging station shared with high-end Siemens systems
- High-performance PC with flat panel display and FLUOROSPOT Compact user interface
- DiamondView Plus postprocessing software for improved contrast detail and reduced image noise
- Preset organ programs ensure appropriate parameter settings for generator and image postprocessing
- Full DICOM compatibility, allowing seamless integration into the departmental IT landscape

* Option
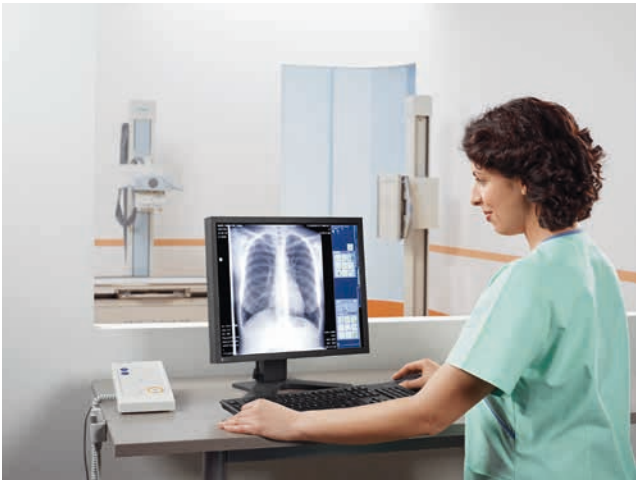
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Patient table and column stand

A system variant with column stand and Bucky wall stand only at a fixed SID is available for CE countries and China

Patient table*

Table height	75 cm
Tabletop width	80 cm
Tabletop length	235 cm
X-ray absorption	≤ 1.2 mm Al eq at 100 kV
Tabletop travel	± 46 cm, longitudinal
	± 10 cm, transverse
Max. patient weight	200 kg
Grid	Pb 10/80; f_0 = 115 cm, stationary grid
Max. patient coverage	Approx. 190 cm without patient repositioning
Detector cover range (edge-to-edge)	≥ 55 cm, movement arrested by electromagnetic brakes
Tabletop – detector distance	≤ 60 mm
Automatic exposure control	Standard, IONTOMAT with 3 measurement fields

Column stand

Horizontal travel range	138 cm, movement arrested by electromagnetic brakes
Vertical travel range	150 cm, movement arrested by electromagnetic brakes
Central beam height	35 cm to 185 cm
Rotation of tube around vertical axis	± 90°; stop positions: 0°, ± 90°
X-ray tube rotation	± 120°; stop positions: 0°, ± 90°
Max. source-image distance (SID) at table	115 cm
Tracking for longitudinal tube travel	Yes, detector follows tube movement; centering maintained

Bucky wall stand*

Bucky wall stand is only optional for system configurations with table

Vertical movement range	150 cm
Vertical travel range	35 cm to 185 cm
Grid	Pb 10/80; f_0 = 115 cm and 150 cm/180 cm, stationary grid
Front-cover-to-detector distance	< 40 mm
X-ray absorption	≤ 1.2 mm Al eq at 100 kV
Automatic exposure control	Standard

* Option

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Generator	
POLYDOROS RF Swing 55	
High-frequency, multipulse generator with inverter principle and automatic exposure control	
Generator frequency	100 kHz
Output	55 kW according to IEC 60601-2-7 (550 mA at 100 kV)
Exposure voltage	40 kV to 133 kV
Shortest exposure time	1 ms with IONTOMAT
mAs range	0.5 mAs to 800 mAs
Generator control fully integrated into system control	

X-ray tube		
OPTIPHOS 135/30/55R		
Max. exposure voltage (IEC 60613)	135 kV	
Focal spot nominal value (IEC 60336)	0.6	1.2
Nominal Radiographic Anode Input Power (IEC 60613)	30 kW	55 kW
Anode heat storage capacity	230,000 HU (170,000 J)	
Max. heat storage capacity of the tube housing	2,240,000 J (3,024,000 HU)	
Anode operating frequency	50 Hz/150 Hz (3,000 to 9,000 rpm)	
Total filtration (IEC 60601-1-3)	2.5 mm Al at 70 kV	

Collimator	
Inherent filtration	1 mm Al at 70 kV
Full-field light localizer	150 W halogen light, timer
Copper prefilter	Without filter, 0.1 mm, 0.2 mm, 0.3 mm Cu
Rotation	Up to a maximum of ± 45°
Collimation control	Manual

Dose area product measurement unit CAREMAX*
Measuring chamber for measuring the dose-area product and/or the standardized patient entrance dose
The dose-area product is indicated via the display

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Flat detector	
Dimensions (active field)	35.3 cm x 42.4 cm
Semiconductor material	Amorphous silicon (a-Si)
Active detector matrix	3052 x 2540 (7.75 million pixels)
Total detector matrix	3072 x 2560
Dimensions with detector housing	47.5 cm x 49.2 cm x 2.3 cm
Pixel size	139 µm
Spatial resolution (Nyquist frequency)	3.6 lp/mm
Acquisition depth	14 bits with 8-fold oversampling
Detective quantum efficiency, typical; 4 µGy	25 % at 0.05 lp/mm
Modulation Transfer Function, typical	52 % at 1 lp/mm
Data transmission	≤ 7 s preview; ≤ 9 s full image
Scintillator material	DRZ+
Weight	4.95 kg
Max. load capacity	150 kg patient recumbent; 100 kg patient standing
Clip-on grid*	Pb 10/80; $f_0 = 100$ cm
Cable	7 m; detachable

PC hardware	
The imaging station is specially designed for diagnostic radiology and delivers excellent image quality with a fast and seamless workflow	
High-resolution digital radiography system with DICOM network connection for image processing and image display on a preview monitor	

Computer	Intel-compatible dual-core microprocessor with PCI bus architecture, min. 2 GHz, 2 GB RAM, S-ATA drive, USB 2.0 and interface cards for the detector/X-ray system
Operating system	Windows XP
Image storage	10,000 images

* Option

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Displays

19" Color display*

Screen size	19" (48 cm)
Display area	37.6 cm x 30.1 cm (W x H)
High-contrast, high-resolution display	1280 x 1024
Maximum brightness, typical	300 cd/m^2
Surface	Anti-glare
Typical contrast ratio	2000 : 1
Power consumption	< 43 W
Horizontal viewing area	178° (H and V)
Housing dimensions (without base stand)	40.5 cm x 33.4 cm x 6.2 cm (W x H x D)
Weight (with base stand)	7.2 kg

19" Monochrome flat display*

19" TFT high-contrast black and white display for flicker-free, distortion-free live image and reference image display for X-ray diagnostics

Light weight, high luminance and contrast values

Screen size	19" (48 cm)
Display area (W x H)	37.6 cm x 30.1 cm
High-contrast, high-resolution display	1280 x 1024
Maximum brightness, typical	400 cd/m^2
Surface	Anti-glare
Typical contrast ratio	600 : 1
Power consumption	< 75 W
Horizontal viewing area	170° (H and V)
Housing dimensions (without base stand)	42 cm x 34.5 cm x 9.1 cm (W x H x D)
Weight (with base stand)	8.6 kg

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Patient data administration	
Patient registration	Retrieval of patient list and examination data from the hospital/radiology information system (HIS/RIS)
	Emergency patient registration
	Patient, study and image data administration
	Configurable patient registration page
	Password protected access*

Examination preparation	
Exam manager	Selection of exams; adding, deleting or replacing organ programs
	Automatic acquisition mode/workstation selection
Organ program and exam set editor	More than 1000 organ programs can be stored, customized and arranged in exam sets using the advanced organ program and exam set editor
	Organ programs consist of multiple imaging and workflow parameters for particular body parts and imaging sequences
	Exam sets consist of one or more organ programs whereby the system automatically selects the next organ program in the chosen exam set as each exam step is completed
Organ programs	The following parameters can be set:
	X-ray parameters:
	E.g., acquisition mode, exposure technique, tube voltage, dose, focus, tube load
	Image processing parameters:
	E.g., window values, positive/negative image display, DiamondView Plus, rotation, mirror, cropping

* Option

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Image acquisition/display/processing	
Acquisition and preprocessing	Selection of generator parameters, setting of parameters for image preprocessing (amplification, harmonization, edge enhancement and LUT) or DiamondView Plus
	Display of image markers
Image display	≤ 7 s preview; ≤ 9 s full image
	Fit to window view of full image
Image processing functions	Rotation, vertical and horizontal reversal, zoom, windowing for contrast/brightness, black/white image inversion
DiamondView Plus	DiamondView Plus is a specially developed image processing method (multispatial filtering) that optimizes the image display specifically for different organ regions
	Structures of different frequency ranges are weighted differently, allowing precise detail visualizations even with large differences in absorption, such as in bone and soft tissue
Graphic functions	Quantification with angle/distance measurement
Text functions	Marking, annotation, image comments, R/L markers

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Data transfer and documentation	

DICOM network interface

DICOM Send/StC	Transmission of images to a DICOM network for viewing and archiving
	Confirmation from the image archive (StC = Storage Commitment)
DICOM Print	Printing of images to a DICOM laser camera via virtual film sheet
DICOM Query/Retrieve*	Retrieval of images from a picture archival system (PACS)
DICOM Worklist/MPPS*	Get Worklist function for importing patient data from a data management system (RIS/HIS). XRF, CR and DX worklist entries supported, configurable
	Modality Performed Procedure Step (MPPS) function for sending examination statistics and dose information to a data management system
DICOM Dose Structured Report	Sending of dose values for each study to an archiving system

Documentation

Image data management	Transmission of images to network
	Automatic and selective printing with virtual film sheet
	Available layout formats for printing: 2 x 1; 3 x 1; 3 x 2; 1 x 1; 1 x 2; 1 x 3; 2 x 2; 2 x 3
	Up to 3 network nodes at the same time and one laser camera configurable
	Export of image data (12 bit) to CD/DVD recorder in:
	- DICOM format with integrated DICOM reader recorded on the disk
	- TIFF and AVI format
	- Proprietary format (raw data)
	Export to USB device in DICOM or TIFF format
	USB hard disk available as optional accessory
Background functionality	Imaging functions such as DICOM Send/Print, CD-R or DVD-R/DVD+R burning are performed in background mode
Recycle bin	This feature can be enabled or disabled
	Stores rejected and deleted images that are not archived and not printed in a separate folder
Clinical Assurance Program (CAP)	Provides statistics of rejected images
Exposure index (EXI) monitoring	Provides minimum and maximum EXI value for export
Printer connection*	For paper printing to a Level 2 PostScript printer

Remote Service*
Preparation for Siemens Remote Service (SRS):
Allows hardware and software remote diagnosis
Allows remote system configuration, e.g., adding a DICOM node
Early warning system to help ensure system operation (Guardian)

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Optional accessories	
Manual release switch	
Detector holder, lateral	Detector holder for cross-table direct exposures with lateral beam path and horizontal tabletop
Detector holder, mobile	Trolley with detector holder for lateral acquisitions, independent of the patient table
Clip-on grid	Grid with clips for attachment to the portable detector incl. attachment to the outside of the unit
CAREMAX	Measuring chamber for measuring the dose-area product and/or the standardized patient entrance dose
Table comfort package	Consisting of compression belt, lateral detector holder for lateral exposures, and patient mattress
Patient handle	Overhead patient handgrip for the Bucky wall stand
Wall stand	Compression belt for immobilizing patients
	Overhead patient handgrip for optimal positioning of the patient during lateral exposures
	Grid, Pb 10/80; $f_0 = $ 115 cm
	Grid, Pb 10/80; $f_0 = $ 150 cm/180 cm

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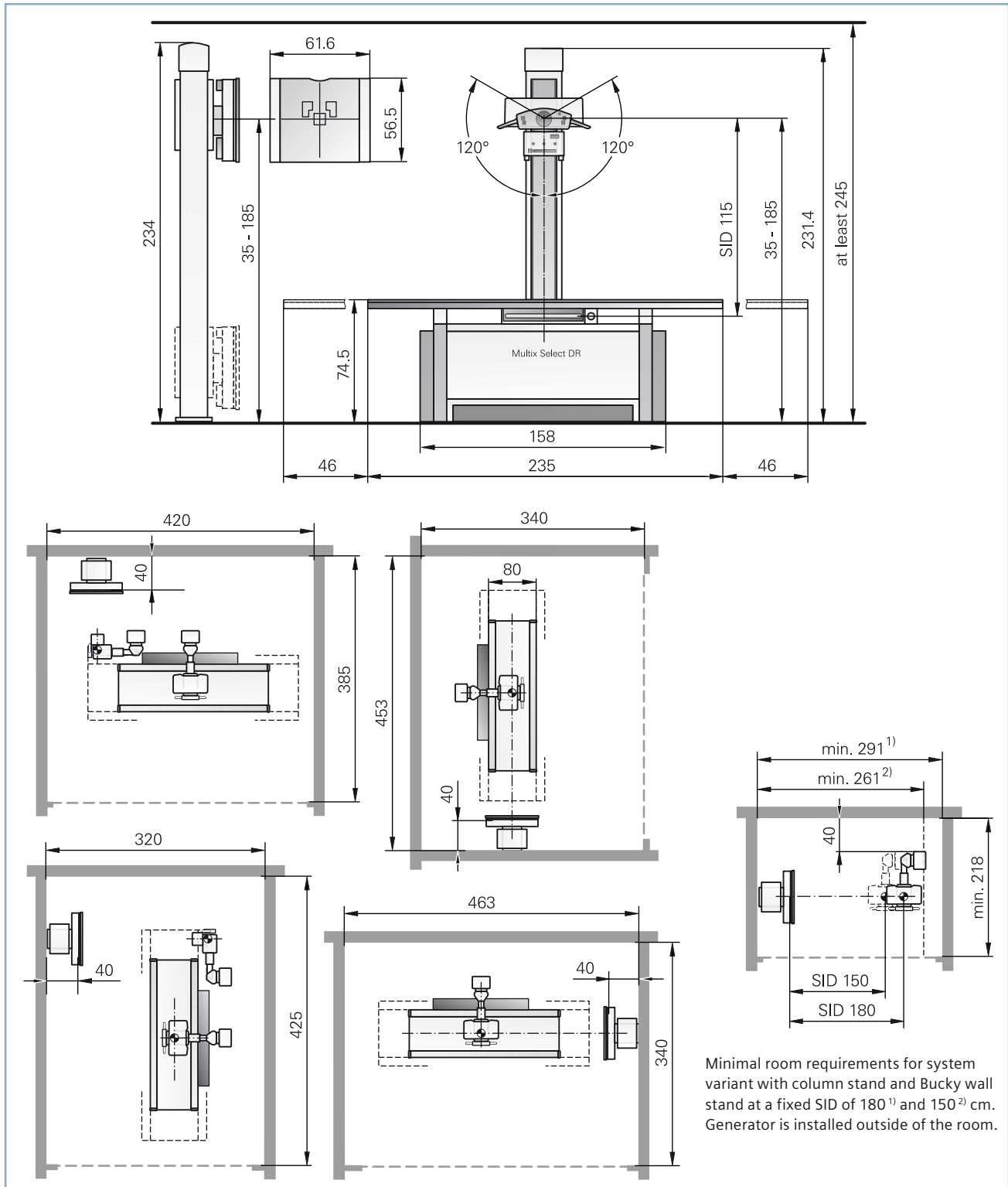| Installation data	
Power requirements	3-phase, 380/400 V ±10%, 50/60 Hz
	3-phase, 440/480 V ±10%, 50/60 Hz with pre-transformer*
Power consumption	max. 96 kVA POLYDOROS RF Swing 55
Room height	min. 245 cm

Weights	
System	596 kg (not including wall stand)
Tube column stand	245 kg
Generator	132 kg (without pre-transformer)
Wall stand	245 kg

Ambient conditions (operation)	
Temperature range	+ 10 °C to + 30 °C
Relative humidity	20 % to 75 %
Barometric pressure	700 hPa to 1060 hPa

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Dimensions in cm

61.6

56.5

234

35 - 185

74.5

120°   120°

SID 115

35 - 185

231.4

at least 245

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158

46   235   46

420

40

385

340

80

40

453

320

40

425

463

40

340

min. 291 1)

min. 261 2)

40

min. 218

SID 150

SID 180

Minimal room requirements for system
variant with column stand and Bucky wall
stand at a fixed SID of 180 1) and 150 2) cm.
Generator is installed outside of the room.

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