Digital radiography

with the **Amadeo S-DR** U-arm system
for X-ray imaging without cassettes

Amadeo S-DR

Ideal for installation in very confined spaces

Amadeo DR complete X-ray system for digital X-ray imaging

 Amadeo S-DR

Compact U-arm system for confined spaces

Digital X-ray systems offer the advantage of an efficient and economical workflow. Compact systems require minimal space and are easy to operate, which makes them ideally suited for private practices. It goes without saying that they deliver perfect image quality as well.

The **Amadeo S-DR** U-arm X-ray system is a universal imaging stand with an optional mobile patient table. Images of patients in a standing, sitting or lying position can be taken effortlessly thanks to the special cross arm and the long vertical operating range. The compact design of the **Amadeo** X-ray stand allows it to be installed in very confined spaces.

The unit is impact resistant and easy to clean due to its powder coated surface. Its ergonomic handles allow it to be moved and rotated safely with just one hand. Electromagnetic brakes dampen all movements, except when tilting the bucky device which locks at 0°. The **Amadeo S-DR** is completely counterbalanced and fitted with roller guides, making it particularly smooth running and silent.

The **dicom**PACS®**DX-R** control panel operates the entire X-ray system from controlling the X-ray generator to the finished, high quality image ready for diagnostic evaluation, and including all necessary settings. In addition, the integrated multimedia X-ray positioning guide offers many tips on the correct adjustment technique and positioning of the patient.

Benefits
Digital X-ray imaging with **Amadeo S-DR**

Ideal for small rooms

The X-ray system has been designed for small rooms – images of patients in a standing, sitting or lying position can be taken effortlessly thanks to the special cross arm and the long vertical operating range.

Benefit: Fully functional in confined spaces.

Excellent image quality

The standard high quality direct radiography detector operating on the basis of a caesium iodide (CsI) scintillator provides excellent quality even in the case of low X-ray dose parameters.

Benefit: In particular when comparing images directly to the commonly used GadOx ($Gd_2O_2S{:}Tb$) detectors, this enhanced quality is clearly visible.

Fast

The X-ray image is available for viewing and diagnosis within 6 – 8 seconds after the exposure is triggered.

Benefit: Fast work flow with optimal documentation.

Easy to operate

The X-ray unit can be moved and rotated safely with one hand. Electromagnetic brakes dampen all movements, except when tilting the bucky device which locks at 0°. The Amadeo S-DR is completely counterbalanced and fitted with roller guides, making it particularly smooth running and silent.

Benefit: Safe and easy operation
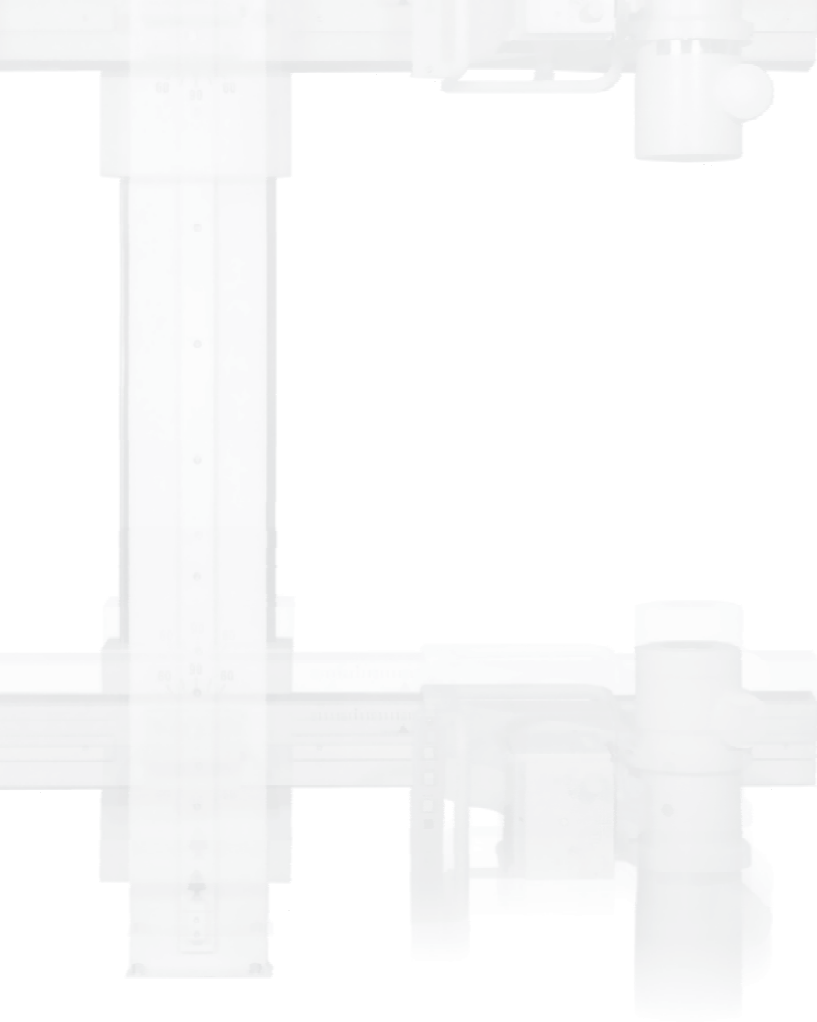
User-friendly

The professional **dicom*PACS*®*DX-R*** acquisition software appeals through an intuitive and modern graphical user interface. Examinations may be conducted comfortably at the monitor while all the necessary adjustments of the X-ray parameters are automatically communicated to the generator.

Benefit: You work with only one control console.

Cleverly designed

Due to the 43cm x 43cm detector, the extra effort of rotating from vertical to horizontal images is no longer necessary. When the grid is removed, it is, of course, also very easy to take images of extremities etc.

Benefit: No extra effort is required to rotate the detector.

Software

Advantages of the professional *dicomPACS*®*DX-R*
X-ray acquisition software

- Modern graphical user interface (GUI) adaptable to almost **any language**

- Capture of patient data via **DICOM Worklist, BDT/GDT, HL7** or other protocols – data may also be captured manually

- Use of **DICOM Procedure Codes** for the transfer of all relevant examination data directly from the connected patient management system (HIS/RIS)

- **Freely configurable** body parts with more than **200 projections** and numerous possible adjustments

- Safe and fast **registration of emergency patients**

- Allows the user to **switch between examinations** of a patient, for instance to avoid having to re-position the patient frequently

- Integrated **measuring, special image filters and many other tools** for measuring and image optimisation

- Allows the user to **subsequently add images** to an examination, even after that examination has already been completed

- Entry of recurring **examination procedures as macros**, e.g. thorax screenings

- **Fully integrated radiographic positioning guide** for each examination in human and veterinary medicine incl. comprehensive notes, photos, videos and correct X-ray images

- A single workstation with installed *dicomPACS*®*DX-R* software may be upgraded the following options (selection):
  - Tools for taking images of an entire leg or spine (full leg/ full spine) **(image stitching)**
  - Planning and working with **digital prostheses templates/ operation planning**
  - Connection of several diagnostic monitors
  - Capturing additional patient and examination data and their freely configurable statistical evaluation
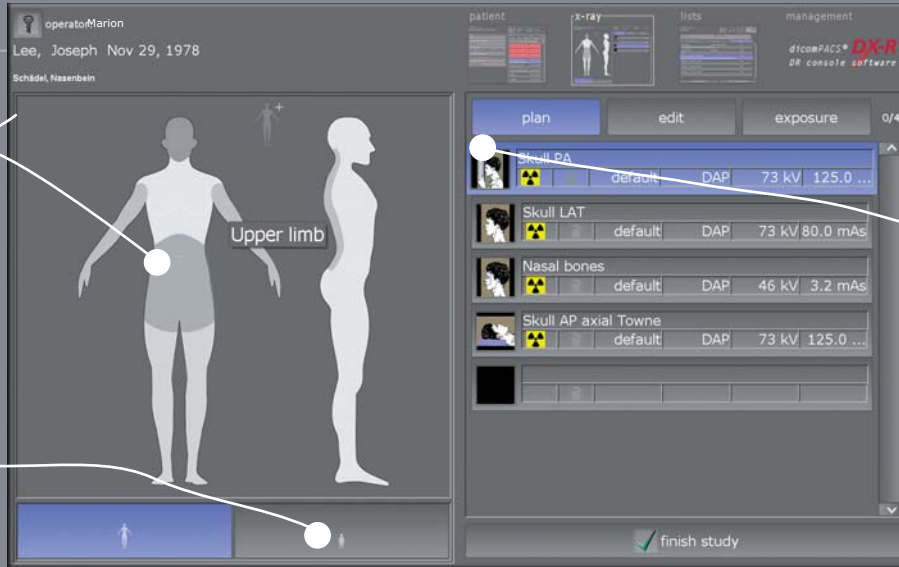
Chart for the planning of an individual X-ray job

Switch to the planning of X-ray jobs for children

The correct settings for adults and children at a mouse click

operator: Marion
Lee, Joseph Nov 29, 1978
Schädel, Nasenbein

Upper limb

plan | edit | exposure | 0/4

Skull PA — default — DAP — 73 kV — 125.0 ...
Skull LAT — default — DAP — 73 kV — 80.0 mAs
Nasal bones — default — DAP — 46 kV — 3.2 mAs
Skull AP axial Towne — default — DAP — 73 kV — 125.0 ...

✓ finish study

dicomPACS®DX-R job creation

Video with sound for the step by step positioning of the patient

Shows an example of a correct X-ray image

Presentation of helpful hints for the positioning of the patient, central beam, tips and tricks, frequent errors etc.

Radiographic Positioning Guide   Foot supine   Back
Positioning and centering

Material: 24/30, S 200 (400), appropriate side marker, lead apron, weights
Bucky: cassette/detector
Exp. EU: 45-52 kV
Exp. CH: 42-46 kV
Speed class: S200
Format: 24/30 or 18/24
TFD (=FFD, =SID) EU: 105 cm
TFD (=FFD, =SID) CH: 120 cm
TFD (=FFD, =SID) USA/UK: 100 cm
TFD (=FFD, =SID) WHO: 130 cm
Grid: no
Filter: no
Measuring chamber:
Focus: small

Drawing   Correct X-ray

Positioning, Errors, Further Information

Patient position: The patient is half recumbent, the lateral foot contacts the film, the plantar surface is perpendicular to the film. Use weights if needed. To localize foreign bodies, mark the site of entry (put a paperclip or a pen onto the cassette).

Central ray: Perpendicular to the base of the first metatarsal and the center of the film.

dicomPACS®DX-R radiographic positioning guide

Opens examples of inaccurate X-ray images with comments

Preview of the current X-ray image

operator:
Steve Miller
Yabara, Olivia Apr 11, 1990
Shoulder L, Abdomen, Pelvis

plan | edit | exposure | 3/6

Shoulder AP — 1 — default — DAP — 66 kV — 20.0 mAs
wrong position — default — DAP — 66 kV — 20 mAs
Clavicle PA — default — DAP — 63 kV — 16.0 mAs
Abdomen AP upright — default — DAP — 85 kV — 125.0 ...
Pelvis AP — default — DAP — 81 kV — 320.0 ...
Hip joint AP — default — DAP — 77 kV — 200.0 ...
Sacroiliac joint (Barsony) — default — DAP — 81 kV — 200.0 ...

✓ finish study

100%

Preview of the X-ray image and worklist in dicomPACS®DX-R

Image processing
Automatic image processing for optimal quality

- Perfect images at all times - generally **no adjustment** required

- Integrated software for **automatic image optimisation**

- Professional, **adaptable image processing** for each individual examination to obtain best possible image settings for the needs of each customer

- Due to specially developed processes, the image processing allows the user to **vary the X-ray settings on a large scale** while the image quality remains virtually the same (**possibility of reducing the dosage**)

- **Bones and soft tissue** in one image - this enables the user to significantly improve his diagnosis

- **Details of bones and microstructures are very easy to recognise**

- Noise suppression

- **Black mask** (automatic shutters)

- Automatic **removal of grid lines** when using fixed grids

*Exposure with **standard** image processing*   *Exposure with **dicomPACS**®**DX-R** image processing*

Dimensions of the U-arm X-ray stand

Front

min. 1000
max. 2000

ca. 2850*

min. 440, max. 1635

200

30

1210*

ca. 2260

Profile

ca. 1015

273

2246

2147

50

280

1300

ca. 1780*

650

Top view

170

ca. 192*

478

Profile

1635

1050

85

338
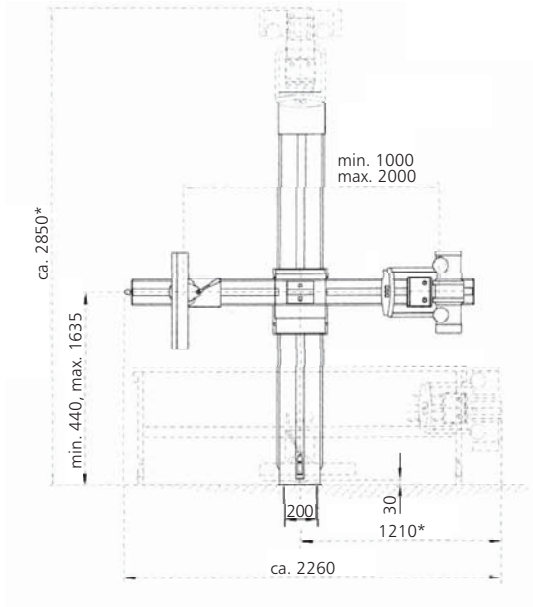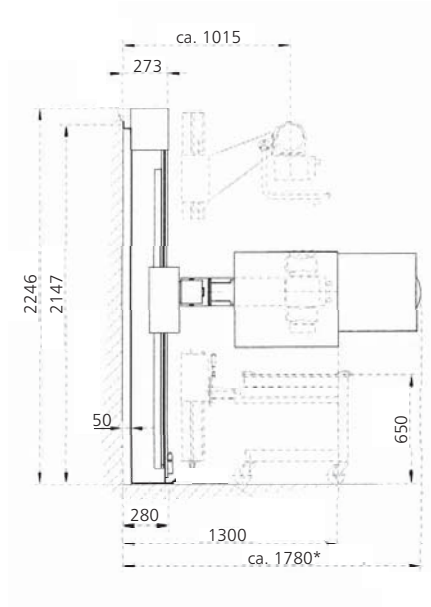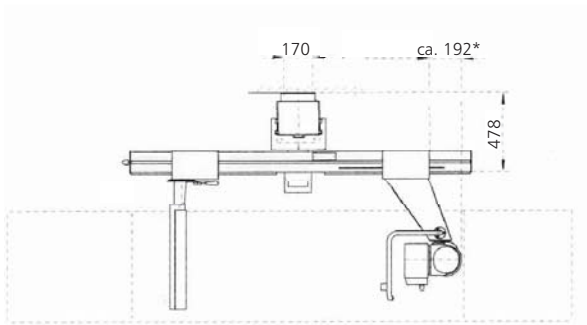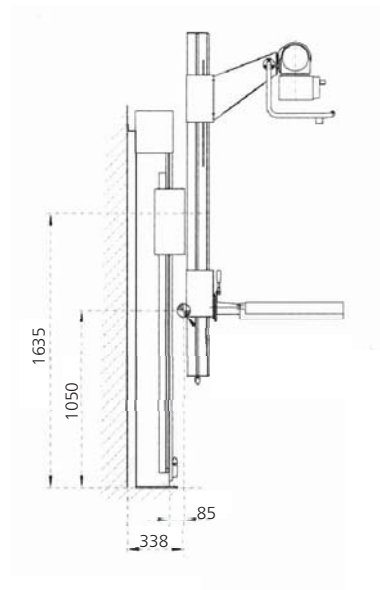
*Dependent of components

[dimensions may vary]

Delivery includes

The **Amadeo S** systems includes the following components:

Components	Amadeo S-DR DR system with integrated fixed flat panel	Amadeo S-AX System for film/ CR cassettes without generator control	Amadeo S-DRw System with CR cassettes/ wireless flat panel with generator control
50 KW HF generator	✓	✓	✓
Measuring chamber (AEC field)	✓	✓	✓
U-arm X-ray stand ▪ The central beam is permanently centred on the bucky tray ▪ Film focus distance can be adjusted from 1.0 m to 2.0 m ▪ Central beam ground clearance from 420 mm minimum to 1630 mm maximum. ▪ Tube cross arm can be rotated from +135° to – 35° ▪ Electromagnetic brakes dampen movements ▪ Particularly smooth running and silent	✓	✓	✓
X-ray tube 150 kVp ▪ Optical focal spot: 0.6 and 1.2 ▪ Anode revolutions: 2 850 rpm ▪ Anode angle: 12° ▪ Heat capacity: 300 KHU ▪ Focal spot: 0.6/ 1.2 mm ▪ Peak voltage: 150 kVP	✓	✓	✓
Manual Collimator	✓	✓	✓
Motorised bucky with removable grid	✓	✓	✓
Grid for SID 86 to 112 cm	✓	✓	✓
Grid for SID 100 to 180 cm	✓	✓	✓
Flat panel detector 17" x 17" CsI Detector with excellent image quality and immediate image availability	✓	–	–
Flat panel detector 14" x 17" wireless Wireless X-ray imaging! Fits into an existing X-ray system without requiring modification (in conformity with the X-ray film cassette), fast charging, long life batteries	–	–	✓

Components		Amadeo S-DR	Amadeo S-AX	Amadeo S-DRw
Operation by dicomPACS®DX-R acquisition station *Mini PC with 19" touch screen monitor, dicomPACS®DX-R console software with modern graphical user interface including basic software package*		✓	–	✓
Operation via PC with generator control software		–	✓	–

Optional components to upgrade the Amadeo S system:

Component		Amadeo S-DR	Amadeo S-AX	Amadeo S-DRw
DAP meter (Dose Area Product meter)		●	●	●
Upgrade from 50 KW to 65 KW		●	●	●
Upgrade from 50 KW to 80 KW		●	●	●
Motorised collimator without filter exchange		●	●	●
Motorised collimator with filter exchange		●	●	●
LWS/ BWS filter - to replace manual		●	●	●
Patient table I • *Mobile patient table with power driven height adjustment,* • *Dimensions L/W/H: 2300/ 753/ 580-890 mm* • *Weight: 123 kg* • *Max. patient weight: 225 kg* • *X-ray transparent area: 2296 x 588 mm* • *Attenuation equivalent 100 kv: <0,75 mm AL*		●	●	●
Patient table II • *Light and flexible patient table* • *Rollers are equipped with block brakes* • *Patient load max. 150 kg (300 lbs.)* • *Dimensions L/W/H: 2000/700/760 mm*		●	●	●
Patient table Z-Table • *Patient table with smoothly mobile floating table top* • *Rollers are equipped with block brakes* • *Patient load max. 150 kg (300 lb.s)* • *Dimensions L/W/H: 2000/660/760 mm, weight: 80 kg (177 lbs.)*		●	●	●

Portfolio
Overview - products of OR Technology

Medici DR Systems

DR retrofits - digital upgrade set for existing X-ray systems incl. *dicomPACS®DX-R* acquisition software, also available for stationary and mobile X-ray machines

Leonardo DR Systems

DR suitcases - compact suitcase solutions for portable X-ray incl. *dicomPACS®DX-R* acquisition software

Amadeo X-ray Systems

Complete digital X-ray systems (incl. stand, bucky, generator, flat panel incl. *dicomPACS®DX-R* acquisition software etc.) as well as mobile and portable X-ray solutions

Divario CR Systems

CR solutions - CR systems for digital X-ray with cassettes incl. *dicomPACS®DX-R* acquisition software

X-ray Accessories

Accessories for X-ray (e.g. radiation protection walls, gloves etc.)

dicomPACS®

Image management (PACS) - comprises acquisition, processing, diagnosis, transfer and archiving of image material

ORCA

Cloud-based archive solution - safe, long-term archiving of patient data with intelligent usage of internal databases, communication platform with colleagues and specialists and transfer of image data to patients

dicomPACS®DX-R
X-ray Acquisition Software

X-ray acquisition software [only for OEMs] - acquisition and diagnostic software for X-ray images from flat panels or CR systems

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OR Technology
Digital X-ray and
Imaging Solutions

Info hotline: +49 381 36 600 600

OR Technology (Oehm und Rehbein GmbH)
18057 Rostock, Germany, Neptunallee 7c
Tel. +49 381 36 600 500, Fax +49 381 36 600 555
www.or-technology.com, info@or-technology.com

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