![Assing - The research partner.]

ProXima V Digital Radiography System

SUMMARY

ASSING S.p.A.
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INTRODUCTION & TECHNICAL DATA

ProXima family of digital radiography (DR) systems covers the complete range of general and specialized radiographic imaging. Many positioning platforms make them suitable for a wide range of imaging needs from walk in clinics to trauma units and hospitals with immobile patients. Direct digital acquisition based on market leading, high sensitivity DR flat panel detectors produces exceptional quality images at a significant reduction in exposure dose compared to conventional CR systems. Automated exposure settings and powerful image post-processing with customized algorithms for each anatomy provide optimal image quality and reliability. X-ray power pack including a modern very high-frequency generator and high-speed tube provide reliable imaging with optimal dose use.

ProXima V is a floor mounted general radiography system with automatic positioning, vertical bucky stand and elevating height floating patient table.

ProXima V features tube auto tracking functions and keeping of the preset focus to detector distance.

ProXima V - POSITIONING SYSTEM FLOOR MOUNTED TUBE STAND	
Longitudinal travel	2540 mm (floor rails 3016 mm)
Rotation around tube column	± 180˚
Focus-floor distance	400 to 1930 mm, stroke 1530mm
Tube rotation	+/- 135°
Lateral tube movement	+/- 125mm
Counter-balanced tube elevation	✓
Safety system against breaking of rope	✓
Focus-detector distance on table	up to 1170 mm on standard 760 mm table height
Tube Stand has safety limits on the rails	✓
Outer system dimensions (length, width, height)	3024x1485x2156
Minimum Ceiling Height	2500mm

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Minimum room dimensions	3m x4m
10.1" touchscreen system console on tube	Information display and controls: generator parameters, stand positioning, SID, tube angle, interlock, filtering, X-ray image preview, worklist management
Buttonless all-release handle	

Manual and automatic collimator	
Automatic shutter positioning from APR for selected techniques in console worklist	✓
Adjustable shutter opening for each technique in APR	✓
Motorised additional filtration, automatically set from APR for chosen technique	- 1mm Al + 0.1mm Cu - 1mm Al + 0.2mm Cu - 2mm Al + 0.3mm Cu
Inherent filtration, Al equivalent @75kV	1.2 mm
Bucky centering light	Long life power LED
Collimator light luminance	230 lux
Leakage radiation, EN60601-1-3	≤ 0.5 mGy/hr
Two tiers of shutters for fine field definition and lo off-focal scatter radiation	✓
kV rating	Max 150 kVp
Light timer	✓
Digital read out of collimator field size and SID	With motorised system only
Centring indication	Laser crosshair and shadow crosshair

AUTO TRACKING FUNCTIONS
Tube tracking the motorised vertical movement of the wall stand
Tube tracking the motorized vertical movement of the elevating table
Table bucky tracking the MANUAL longitudinal and rotational movement of the tube
Wall bucky stand tracking the motorized movement of the tube

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6-WAYS FLOATING TABLE	
Elevating radiography table with 4-way floating tabletop	✓
Patient tabletop transparency	< 1 mm Al equivalent
Tabletop dimensions	2.300 x 806 x 515 mm
Longitudinal range	±450 mm
Transversal range	±130 mm
Elevation range	337 mm, lowest point 495 mm
Elevation from minimum to maximum height:	<10sec
Tabletop – detector distance	7 cm
Max. patient weight	300 Kg
Horizontally adjustable bucky carriage range	500 mm
Electromagnetic brake with footswitch control for fixing the tabletop	✓
Footswitches for control of table motions	✓
Fully enclosed table base	✓
Integrated detector bucky housing	✓
Emergency stop button	✓
Non-protruding edge rails for attachments	✓

Wall Stand	
Vertical bucky stand with motorized movement and EM brakes	
Vertical wall bucky stand with fully integrated detector bucky housing	✓
Buttonless manual elevation handle	✓
Counterbalanced for smooth vertical travel with easy handling	✓
Electromagnetic brake secures vertical position	✓
Vertical travel	1520 mm
Designed for easy installation	✓
Minimum height from floor to centre of detector	280 mm
Maximum height from floor to centre of detector	1800 mm
Chest PA and LAT handgrips	✓

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Automatic Exposure Control	
Measuring fields	5 fields for symmetric operations
Sensitivity	Typical at 70 kV, 21mm Al:0.6V/mG
kV range	40-150 kV
Exposure time	1ms – 6sec
Absorption	Eq. 0.8 mm Al
Detector housing integration	✓
X-ray Grid	
Anti-scatter grid in aluminium	85l/cm R10:1, ffd=110 cm
Anti-scatter grid in aluminium	85l/cm R10:1, ffd=180 cm
DAP Meter	
Digital readout into system console (display, information and storage of issued dose)	✓
Equivalent filtration	0.2mm Al
Light transparency	>75%
Resolution	0.1 µGym=1 mGycm2, 0.01
Accuracy	25%
kV range	40-150

X-ray Tube			
Anode heat capacity	300 KHU	400 KHU	600 KHU
Dual speed starter	2700 / 9700 rpm	2700 / 9700 rpm	2700 / 9700 rpm
Focal sport	0.6 /1.2 mm	0.6 /1.2 mm	0.6 /1.2 mm
Anode target diameter	74 mm	100 mm	100 mm
Anode target angle	12°	12°	12°
Max anode cooling rate	1750 W (60KHU/min)	120 KHU/min	140 KHU/Min
kV range	40-150 kV	40-150 kV	40-150 kV
Tube heat content	1250 KHU	1500 KHU	1500 KHU
Power characteristics	32/77 kW	40/100 kW	40/100 kW

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High Frequency Generator			
Brand	**EMD, Canada**		
Model	**EPS RAD 50**	**EPS RAD 65**	**EPS RAD 80**
Generator power	50 kW	65 kW	80 kW
mA range	10-630 mA	10-800 mA	10-1000 mA
Full microprocessor control	✓	✓	✓
Power Supply	400 VAC	400 VAC	400 VAC
Number of phases	3	3	3
Frequency	Up to 240 Khz	Up to 240 Khz	Up to 240 Khz
High speed starter	✓	✓	✓
Regulation range in mAs	0.1-1000 mAs	0.1-1000 mAs	0.1-1000 mAs
Exposure time	1ms – 10 sec	1ms – 10 sec	1ms – 10 sec
AEC board	Yes, two chambers	Yes, two chambers	Yes, two chambers

AVANSE DR – ADVANCED ACQUISITION AND IMAGING SYSTEM	
Imaging Console with dedicated UPS	
High performance PC	✓
Multi core processor	Min i6
RAM	8 Gb
Hard disk drive	256GB SSD + 1Tb HD (>50.000 images store at highest resolution
DVD RW for image export in DICOM format	✓
Operating system	Windows 10
WiFi router, one for each wifi detector	✓
Display	
LCD monitor, medical	24" Color TFT LCD Panel (IPS)
Display resolution	1920x1200 (Full HD), TFT/LCD
Max luminance	350 cd/m2 typ
Image depth	8 bits
Software specification	
APR	Up to 2000 anatomical programs can be loaded.

DICOM 3.0 MWL SCU import of modality worklists	✓
DICOM 3.0 STORE SCU export to PACS	✓
DICOM 3.0 PRINT SCU print to DICOM printer	✓
DICOM 3.O Query, Retrieve, MPPS, Storage Commitment	✓
Tools for image processing: zoom, contrast, brightness, rotate, flip, inverse, magnification	✓
Algorithm for automatic harmonization	✓
Advanced tools for image processing with enhanced visualization of bones and soft tissues	✓
Integration with PACS and RIS enabled	✓
Image printing on paper or film	✓
Image archival and export in DICOM format	✓
Image publishing on CD/DVD media in DICOM format with free DICOM viewer	✓
Patient registration	Input patient data or import from DICOM MWL Local patients database with list of search and patient load Additional info Patient details automatic fill-up Patient input emergency procedure
Patient database or patient file modification	Modify patient details Patient delete Possibility to change, replace images/series/studies in the patient data base Re-send correct DICOM images to PACS Clear database

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Image Stitching Option
Single focus stitching in stand and table technique
Stitching up to 5 images
Stitching time for 3 images exams: 45 seconds
Up to 150 cm patient coverage
Automated stand position and exposure on one button
Easy start/end point on tube side console with collimator laser
Possibility to adjust x-ray technique for each individual image
Full size stitching positioning trolley with 4 independent wheel locks
Standing step for full leg studies and step folding for safe long spine studies (patients stand of floor)
Dimension 200x86x95 cm, max patient weight 250 Kg
Positioning detents and slider for accurate ruler positioning
Radio-opaque ruler with positioning detents on stitching trolley
APR entries for whole legs and spine, additional stitching programs can be configured
Automated image registration and stitching on imaging console
Possibility to stitch all or only some of the acquired image
Manual stitching function for any two images with easy selection

FLAT PANEL DETECTOR

- **IRAY MARS 1717 V / 1417V**
- **IRAY MARS 1717X / 1417X**

- **VAREX LUMEN 4343 / 3643**

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Mars 1717V
17×17 Wireless a-Si Flat Panel Detector

Mars 1717V is a smart 17×17-inch wireless, cassette-sized FPD for radiographic imaging. It features reliable AED, dependable wireless performance, and a long battery life. The Mars 1717V supports a fast work flow, and is the optimal choice for both retrofit and new DR system solutions.
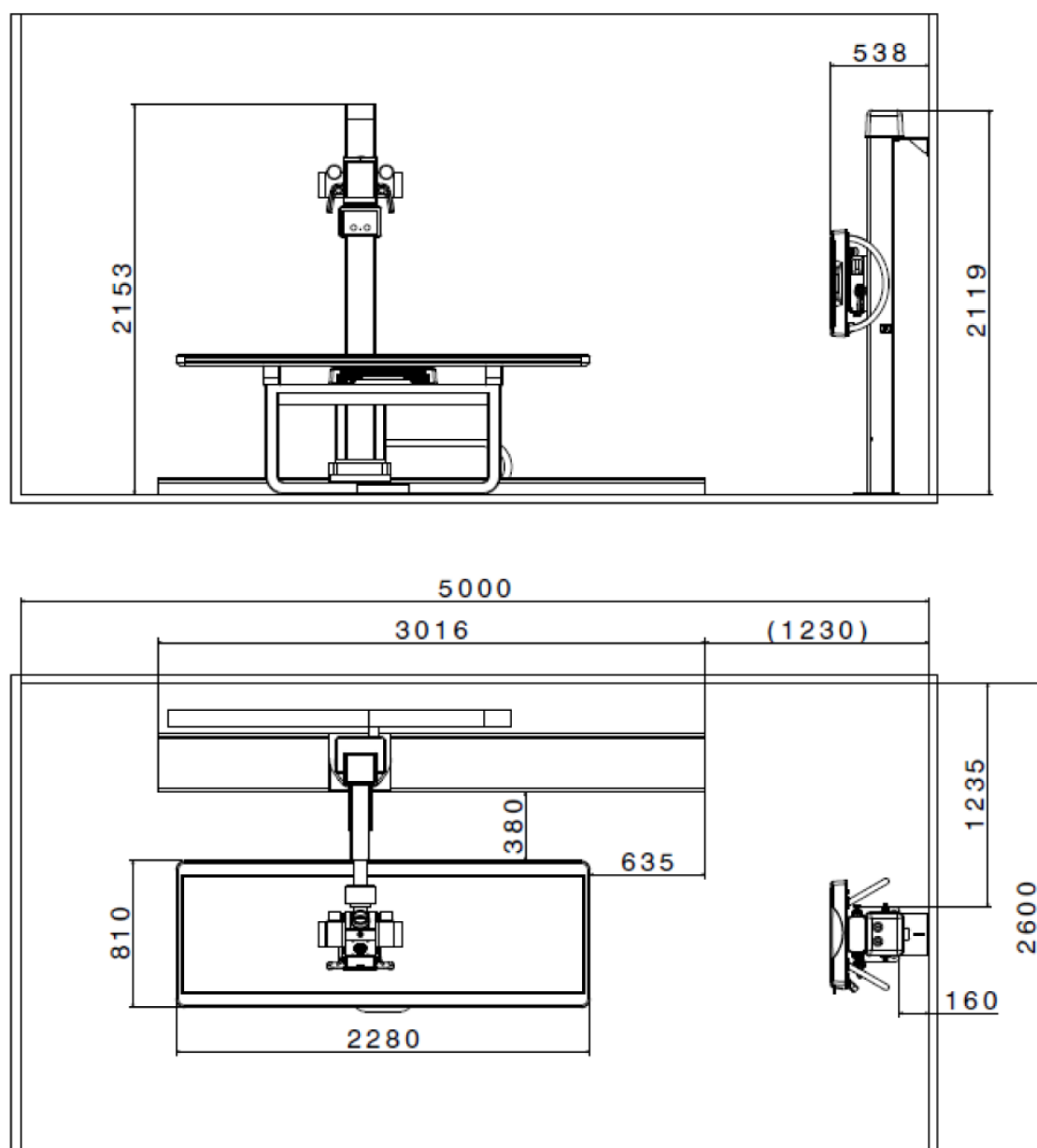
Features

- Wireless cassette detector per ISO 4090, fits in bucky
- Stable iSync+ Automatic Exposure Detection (AED)
- 139 μm pixel pitch, with 16 bit ADC for more image details
- Long battery life and smart workflow
- Dual band (2.4 and 5 GHz) wireless support with easy sharing
- Direct deposition CsI for better image quality with lower dose

Detector Technology	Amorphous Silicon
Scintillator	CSI
Active Area (inch)	17 × 17
Pixel Matrix	3072x3072
Pixel Pitch (μm)	139
Limiting Resolution (lp/mm)	3.6
AD Conversion (bit)	16

DQE @ 0 lp/mm	66%
MTF @ 1 lp/mm	70%
Battery Autonomy (h)	8
WIFI	2.4G and 5G - IEEE802.11 a/b/g/n/ac
Trigger Mode	AED (optional) / Software
Full Image Time (s)	5
Dimension (mm)	460 x 460 x 15
Weight (kg)	4.6
Static Loading (kg)	150 Uniformly
Ingress Protection	IPX1
Operating Temperature (℃)	5~35
Storage & Transport	-20~55
Operating Humidity（% RH）	10~90 (Non-Condensing)
Storage & Transport Humidity with Package （% RH）	5~95 (Non-Condensing)

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PROXIMA V

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