

# ProXima V

## Digital Radiography System



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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	$\pm 180^\circ$
Focus-floor distance	400 to 2000 mm, stroke 1600mm
Tube rotation	$\pm 135^\circ$
Lateral tube movement	$\pm 125$ mm
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

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	
<b>Manual and automatic collimator</b>	
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	<ul style="list-style-type: none"> <li>- 1mm Al + 0.1mm Cu</li> <li>- 1mm Al + 0.2mm Cu</li> <li>- 2mm Al + 0.3mm Cu</li> </ul>
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 to 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

<b>AUTO TRACKING FUNCTIONS</b>	
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	

TT open elevating patient table - 6-Way Table	
High-performance elevating radiography table with 4-way floating table top	
Smart bucky unit for 43x43 wireless detector with grid type detection, LED indication Table bucky motorization	✓
Patient tabletop	Carbon fiber
Tabletop transparency	0.5 mm Al equivalent
Tabletop dimensions	2.400 x 80.6 x 465 mm
Tabletop longitudinal travel	±505 mm
Tabletop transversal travel	±130 mm
Elevation range	495 - 900 mm
Tabletop - detector distance	70 mm
Max. patient weight	300 Kg
Horizontally adjustable bucky carriage travel	680 mm
Electromagnetic brake with footswitch control for fixing the tabletop	✓
Wireless, movable control foot pedals with easy lift foot hook	✓
Emergency stop button	✓
Integrated detector bucky housing	✓
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	✓

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	
X-ray Tube			
Brand	Varex		
Model	RAD-14/Leo	RAD-60/Sapphire	RAD-92/Sapphire
Anode heat capacity	300 KHU (210kJ)	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)	100 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

High Frequency Generator			
Brand	CPI INC, Canada		
Model	CMP200DR	CMP200DR	CMP200DR
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 450 KHz	Up to 450 KHz	Up to 450 KHz
High speed starter	✓	✓	✓
Regulation range in mAs	0.1-630 mAs	0.1-800 mAs	0.1-1000 mAs
Exposure time	1ms - 6.3 sec	1ms - 6.3 sec	1ms - 6.3 sec
AEC board	Yes, two chambers	Yes, two chambers	Yes, two chambers

DOSE AREA METER	
<b>Brand</b>	<b>IBA Kermax</b>
Digital readout into system console	✓
Equivalent filtration	0.2mm Al
Light transparency	>75%
Resolution	0.1 $\mu$ Gym=1 mGycm <sup>2</sup> , 0.01
Accuracy	25%
kV range	40 - 150

AVANSE DR - ADVANCED ACQUISITION AND IMAGING SYSTEM	
<b>Imaging Console</b>	
High performance PC	✓
Multi core processor	Intel i5 (6-cores)
RAM	16 Gb
Hard disk drive	1Tb (<125.000 images)
DVD RW for image export in DICOM format	✓
Operating system	Windows 10
WiFi router, one for each wifi detector	✓
<b>Display</b>	
LCD monitor	24"
Display resolution	1920x1280 (Full HD)
<b>Software specification</b>	
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 3.0 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	✓

### **FLAT PANEL DETECTOR: MARS1717V3**

Mars1717V3 is a lightweight wireless flat panel detector designed for digital radiographic systems. It fits standard 17" x 17" bucky trays and provides robust communication in table, above table, chest stand, and mobile cart applications.

X-ray Conversion Layer	Amorphous Silicon with TFT/PIN diode Technology, CSI premium
Active Area	42,1 (H)×42,1 (V) cm (17×17 inch)
Pixel Matrix	3072(H)×3072(V)
Pixel Pitch	139 µm
Data Interface	WiFi (802.11 ac)
Dimensions	460×460×15 (mm)
Weight	4.3 kg including battery
Static loading	150 kg uniformly
Battery capacity	8 h
A/D Conversion	16 bit
<b>Image Performance</b>	
MTF @ 1.0 LP/mm (typ.)	70%
MTF @ 2.0 LP/mm (typ.)	41%
MTF @ 3.0 LP/mm (typ.)	21%
DQE @ 1.0 LP/mm (2.5 uGy@RAQ5 typ.)	66%
DQE @ 2.0 LP/mm (2.5 uGy@RAQ5 typ.)	49%

DQE @ 3.0 LP/mm (2.5 uGy@RAQ5 typ.)	36%
Limiting resolution (without phantom or grid)	3.6 lp/mm
Workflow	
Trigger mode	AED/Software
Preview Image	Typ. 3 sec
Full image time	Typ. 5 sec
Cycle time	Typ. 8 sec



## PROXIMA V

