

 Solutions for tomorrow

TRUE X-RAY MOBILITY®



!M1 MOBILE X-RAY UNIT

TECHNICAL SPECIFICATIONS
DOCUMENT 2021

BASIC INFORMATION

TECHNICAL DATA		SPECIFICATION
Designation		!M1
Total weight		324 kg
Dimensions		
Width		580 mm
Length body		1130 mm
Length with handle		1245 mm
Height		1200 mm

MOVEMENT RANGE & SPEED

TECHNICAL DATA		SPECIFICATION
Column		
Focal spot to floor		530 - 1950 mm (option 2000 mm)
Telescopic arm		
Total reach		1340 mm
Rotation		+/- 270 °
Tube head		
Rotation		+/- 135 °
Tilt		-10 to 90 °
Collimator		+/- 90 °
Drive handle, adjustable height		120 mm
Movement backwards/forward, speed		
Transportation mode		max 5.5 km/h
Examination mode		max 3 km/h
Maximum safe slope for driving		10 °
Maximum safe slope in operational position		5 °



ELECTRICAL SYSTEM

TECHNICAL DATA		SPECIFICATION
Power Supply		
Power supply rating		800 VA
Voltage		100 - 240 VAC (+/- 10%)
Frequency		50/60 Hz
Ground resistance		<0.2 Ω
Power cord, length		4000 m
Power cord, connector		EU, GB, US, JP
Battery		
Type		Lithium-Ion
Total weight		25 kg
Lithium content		0.2 kg
Dimensions (LxWxH)		498 x 228 x 192 mm
Voltage output		Max 200V, 185 Nom
Electric charge		6.2 Ah
Rated energy		1171 Wh
Main switch		80A, characteristic B
Charging time from 0% to 100%		Approximately 90 min
Operation time		Up to 9 hours (1200 exposures of 100 kV and 10 mAs or 15 km driving)
10 min charging gives 1 hour operation time		
High voltage generator		
Type		High frequency X-ray generator
Power output		Max. 32 kW at 100 mS
Nominal power output		N/A
Power supply rating		N/A (battery operated)
Current time		0.1 - 320 mAs
Tube voltage setting range		40 - 125 kV (40 - 133 kV as option)



TECHNICAL DATA		SPECIFICATION
Wifi		
Standard		IEEE 802.11 b/g/n/ac
Frequency		2.4 GHz, 5 GHz
Transfer speed		1.73 Gbps
X-ray system		
kVp value		40 - 125 kVp in 1 kV step (40 - 133 kVp as option)
kV accuracy		+/- 2 kV
mA range		13 - 320 mA (13 - 400 as option)
mAs range		40 - 100 kV - 320 mAs
		101 - 110 kV - 200 mAs
		111 - 125 kV - 100 mAs
Shortest exposure time		4mS
Max exposure time		3200 mS
Max dose/h		2000 mAs/h at 90 kV
Radiation leakage		<500 uGy/h at 2000 mAs/h, 125 kV
Total filtration without additional filter		>2.5 mm Al - <3.5 mm Al (depending on configuration)
Maximum symmetrical radiation field		47 x 47 cm
X-ray output 40 kW version		40 kW at 100 kV 10 mS
		32 kW at 100 kV 50 mS (16 mAs)
		20 kW at 100 kV 100 mS (According to IEC 60601)
		25 kW at 125 kV 50 mS (10 mAs)
		18 kW at 125 kV 100 mS
X-ray output 32 kW version		32 kW at 100 kV 50 mS (16mAs)
		20 kW at 100 kV 100 mS (According to IEC 60601)
		25 kW at 125 kV 50 mS (10 mAs)
		18 kW at 125 kV 100 mS
X-ray output 20 kW version		20 kW at 100 kV 100 mS (According to IEC 60601)
		18 kW at 125 kV 100 mS



TECHNICAL DATA		SPECIFICATION
Miscellaneous		
Indication lights, type		LED
X-ray Tube		
Type		SFT !M1
Weight		11.6 kg
Voltage		40-125 kVp (40 - 133 kVp as option)
Focus size		0.4/1.3 or 0.6/1.3 mm
Anode angle		13.5°
Anode capacity		150 kJ (200 kHU)
Anode heat dissipation		max 200 W
Minimum filtration		1.0 mm Al equivalent
Rotation speed		70 Hz
X-ray housing heating capacity		450 kJ
X-ray housing heat dissipation		Max 50 W
Colling speed of the anode		25 kHU/min
Heat capacity of the X-ray tube		500 kHU
The power of a small focus		11 kW
The power of a large focus		32 kW



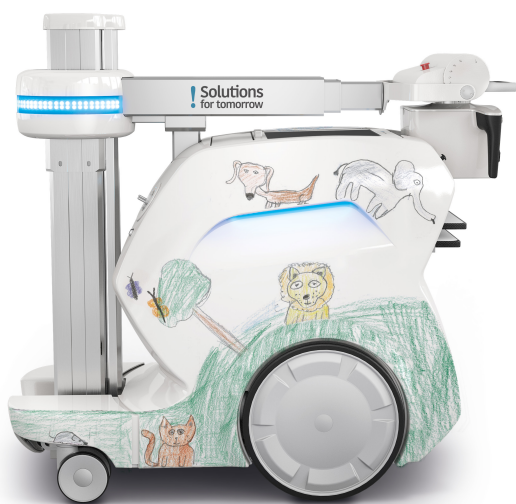
TECHNICAL DATA		SPECIFICATION
Image System		
Type		CS-7 Konica Minolta software
		Canon CXDI Control Software NE
PC		Intel NUC, i5, 2.3 - 3-8 GHz, 8 GB Ram,
		Wifi and 256 GB SSD, Windows 10 Enterprise
Collimator		
Type		Manual, single layer
Lamp type		LED
Laser		Class 1
Minimum filtration		1.6 mm Al equivalent
Light output		Light output > 20 foot-candle @ 40 Inch, equals 215.3 lumen per square meter. Edge contrast is 4:1
Image receptor		
Applicable types		Digital (DR), Computed radiography (CR), Film
Storage (2x)		17"x17", 14"x17", 10"x12"
Automatic detector charging when stored inside the mobile unit		
Integrated detector and grid storage in mobile unit		
Operator screen		
Type		TFT - LCD LED Backlight
Active screen size		17" (432.75 mm) diagonal
Pixel pitch		0.264 mm x 0.264 mm
Pixel format		1280 horiz. By 1024 vert.
Color depth		16.7 M colors
Luminance (monitor only)		White: 400 cd/m2 (center 1 point, type.)
Luminance (calculated monitor with touch)		350 cd/m2
Touch transmission		Min.91%
Viewing angle (CR>10)		R/L 179 (type.) U/D 178 (type.)
Contrast ratio		1000:1
Touch type		Capacitive



AMBIENT ENVIRONMENT

TECHNICAL DATA		SPECIFICATION
Operation		
Temperature		10 °C - 30 °C
Relative humidity		30 - 75%, non-condensing
Atmospheric pressure		800 - 1060 hPa
Storage and transporation		
Temperature		-20 °C to 50 °C
Relative humidity		10 - 90 %, non-condensing
Atmospheric pressure		> 100 - 1060 hPa
User interfaces		
Adjustable height of drive handle 120 mm (4.7")		
Indication light (sides and column top)		
Exposure indication light		
Precision drive joystick (body and tube head)		
Collision protection (front, tube and monitor)		
Options		
Wireless remote control for exposure and collimator light		
Dose Area Meter (integrated inside collimator)		
Keyless entry		
Detector lock		
Pediatric version: color scheme		
Additional fixed or removable filters		





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