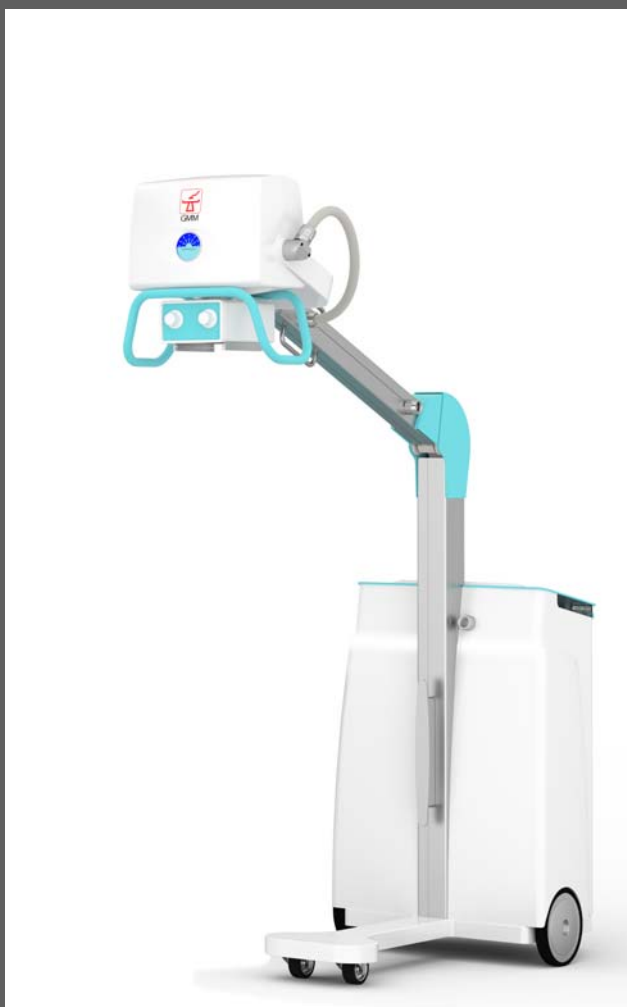




GMM General Medical Merate S.p.A.
www.gmmspa.com

Infotec



MAC

Mobile X-Ray Unit with HF Generator

- Reduced weight and encumbrance
- 32 kW power
- Digital detector option



TECHNICAL FEATURES

ELECTRICAL CHARACTERISTICS		
Single Phase Voltage	Standard: 230 Vac \pm 10%	
	Option: 110Vac	
Frequency	50/60 Hz	
Max Absorbed Current	Stand-by working	1 A
	Radiography working	12 A (@220Vac)
Line Compensation	Automatic	
Line Resistance	< 2.5 Ω	
RADIOLOGICAL CHARACTERISTICS		
Power	32 kW	
	LP (Low Power)	HP (High Power)
Max Power	7.5 kW	32 kW
Max Current	150 mA	450 mA
Exposure Time	min 1,2 ms – 6,4 s max	
Working Frequency	100 kHz	
kV range	40 \div 125 (1 kV step)	
mAs range	0.5 \div 125 standard (up to 320 optional)	
X-RAY TUBE HEAD		
Power	32 kW	
Monobloc Thermal capacity	1000 kJ (1300KHU)	
Monobloc max thermal dissipation	100 W	
Anode Type	Rotating with speed 3000 RPM	
Focal Spot	0.6/1.3 mm	
Nominal anode input power	7.5/32 kW	
Anode angle	15°	
Maximum anode heat content	80 kJ(107 kHU)	
Tube Thermal dissipation	300 W	
COLLIMATOR	Manual collimator	Manual collimator with filter
Shutters to Multiple plans	Parallels and perpendicular with manual movement	
Film coverage	From 0x0 cm to 43x43 cm at 100 cm FFD	
Timer limiting projection lamp	30 s	
Tape measure	Device to measure the focal distance	
Selectable filters	-	0 (none) 2mmAl 1mmAl+0.1mmCu 1mmAl+0.2mmCu
Lightening type	Halogen	LED

MOBILE UNIT CAN BE CHOOSE IN ANALOG OR DIGITAL VERSION

OPERATING MODES AND FUNCTIONALITY		
	Analog version	Digital version
User interface	Polycarbonate flat keyboard with alphanumeric display or Touch screen 8 inches for all operative parameters and messages – microprocessor controlled	Panel PC 19" SXGA LCD. Acquisition system with image post-processing and generator management
Operating modes	Keyboard: Two-points techniques (kV-mAs) Approx. 40 programmable anatomic technique.	Two and Three-points techniques (kV – mA – Time) More than 1000 programmable anatomic techniques
	Touch screen: Three-points techniques (kV – mA – Time) Approx. 1000 programmable anatomic techniques.	
X-Ray Control	Hand-switch with double – click and extensible cable (≥4m)	Hand-switch with double – click and extensible cable (≥4m) In option, hand switch control with double click button wireless.
Safety	Filament current mA_{min} and mA_{max} Maximum exposure time Temperature maximum X-ray tube head Count thermal units X-ray tube head Max kV, min kV, max ΔkV , max I Anode rotation Microprocessor self – test	
Dose monitoring (DAP)		optional
DAP printer	optional	-
External potter (220V o 24V)		optional



Languages available		
	Analogic	Digital
Keyboard	Italian English French Spanish	Italian English French Spanish Russian
Touch Screen:	Italian English French Spanish German Polish Russian Portuguese	

Panel PC (Digital)	
CPU	Intel® Core™ i3 - 1.6 GHz
System memory	4 GB
Storage Disk Drive	2.5" SATA Hard Disk Drive 300GB Slim DVD-RW Drive
Degree of Protection	IP65, IPx1
Power Requirement	DC 12~24V

MAC is a mobile radiographic unit that can be configured with different types of detectors.

The configuration available are the following:

- Configuration with one detector with cable or a **Wi-Fi detector**
- Configuration with double **Wi-Fi detector**

AVAILABLE CONFIGURATIONS		
Single detector	FDX3543RP (with cable)	
	FDX3543RPW (Wi-Fi)	
	PIXIUM 3543 EZ (Wi-Fi)	
	PIXIUM 2430 EZ (Wi-Fi)	
Double detector	PIXIUM 3543 EZ (Wi-Fi)	PIXIUM 2430 EZ (Wi-Fi)

Available detector – with cable	FDX3543RP
Technology	Amorphous silicon
Scintillator	CsI
Pixel area	35X43 cm
Matrix size (pixel)	2448 x 2984
Pixel pitch	143 µm
A/D conversion	16
DQE	> 70 %
Weight	3 kg (about)

Detettori Wi-Fi	FDX3543RPW	Pixium 3543EZ-C	Pixium 3543EZ-G	Pixium 2430 EZ
Technology	Amorphous silicon			
Scintillator	CsI	Gadox		CsI
Pixel area	35 x 43 cm			24X30
Matrix size (pixel)	2466 x 3040	2400x2880		1920X1560
Pixel pitch	140 µm	148 µm		
A/D conversion	14 bit	16 bit		
DQE	> 70 %	66%	37%	66%
Weight	3,1 Kg	2,8 kg		1,58
Autonomy	1200 images for about 4 hours (@12 sec/cycle)	1000 images for about 5,5 hours (@20 sec/cycle)		950 images for about 5 hours (@20 sec/cycle)



POST PROCESSING

- Single image display.
- Multi-image overview.
- Dedicated LUT for any exam.
- Zoom and lens function with magnification factor from 1 to 3.
- Windowing /contrast adjustment.
- Level/brightness adjustment.
- Grey scale inversion.
- Image flips Left/right and Up/Down.
- Image rotation in 90° steps.
- Sharp and smooth spatial filters with kernel dimension selectable from 3x3 up to 11x11.
- Electronic collimator with square/circular shutters.
- Text and markers annotation on the image.
- Graphic calculation of: angles and relative distances.
- Optional orthopedic measures.

DICOM – standard package

STORE

PRINT

WORKLIST

MPPS

STORAGE COMMITMENT

CD/DVD

DICOM - option

QUERY/RETRIEVE

Transport and storage conditions	
Maximal Temperature	-10°C ÷ 55°C
Recommended Temperature	0°C ÷ 40°C
Relative Humidity	20% ÷ 90%
Atmospheric Pressure	500 hPa ÷ 1060 hPa

Operating conditions	
Temperature	10°C ÷ 40°C
Relative Humidity	30% ÷ 75%
Atmospheric Pressure	700 hPa ÷ 1060 hPa

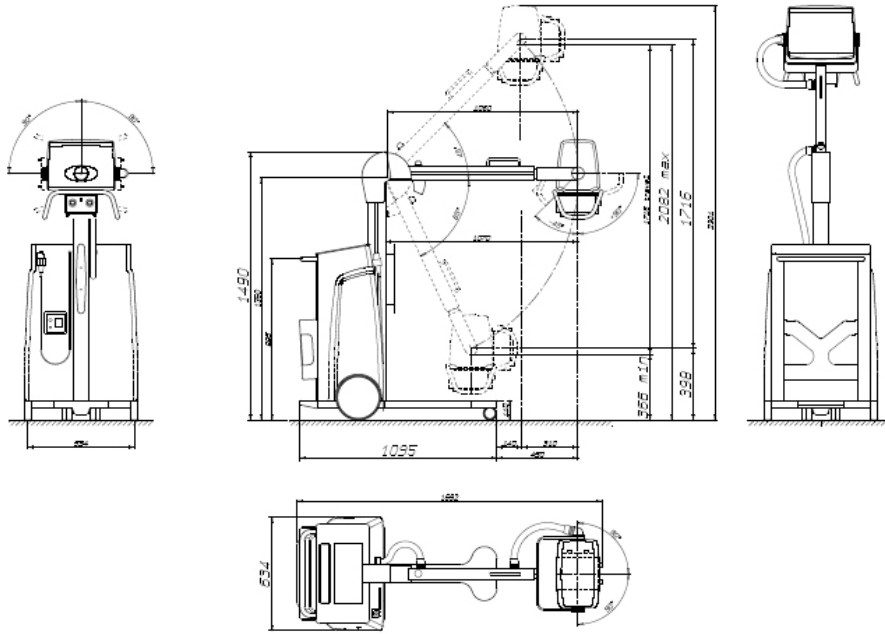
Mechanical Characteristics	
Width	63 cm
Length in transport position	109 cm
Height in transport position	149 cm
Min source-floor distance	36.6 cm
Max source-floor distance	208 cm
Max range	171.6 cm
Harm length	106cm
Collimator rotation	± 90°
Pivoting front wheels	Ø 7.5, 360°
Back wheels diameter	Ø 25 cm
Height difference overcome	Ø 6 cm
Weight	Analog 170 kg Digital: Approx. 175 kg
Movement	Manual
Cassette / detector holder	Analog: four 35x43 cassettes Digital: one detector and detector cover with grid

Classification – EN 60601-1	
Type of protection against short circuit	Class I
Degree of protection against direct and indirect contact	Type B
Use conditions	Continuous working with Intermittent load
Unit not to be used in the presence of an inflammable anaesthetic mixture with air or nitrous oxide.	

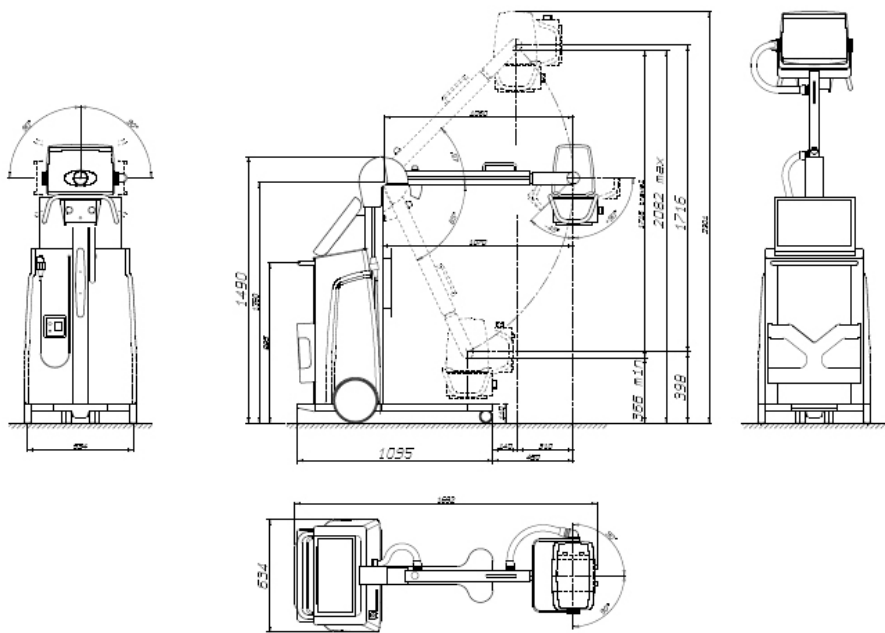
Classification – 93/42/EEC Directive	
In according with Annex IX	Class II b



ANALOG VERSION



DIGITAL VERSION





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In compliance with the essential requirements of MEDICAL DEVICES DIRECTIVE 93/42EEC and supplements
Conforme ai requisiti essenziali della DIRETTIVA DISPOSITIVI MEDICI 93/42CEE e sue integrazioni