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Technical Specification

Digital Mobile X-ray System

CE 0123



MobileGenius

MobileGenius adopts the leading integrated design, which can be widely used in radiology, orthopedics, medical examination, emergency room, intensive care unit, operating room, neonatal department, to meet the demands of hospitals for digital radiography systems.

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Features:

(1) High Power Generator

High-frequency and up to 50 kW high-power of the generator and large heat capacity of X-ray tube create a strong foundation for output.

(2) Various Modes of Exposure

For more free radiography, the system adopts three modes of exposure, hand switch, remote control, and time-delayed, so that operators can choose a preferred way according to their radiography demands.

(3) Motorized / Manual Drive Switching*

Motorized drive makes the system goes with relaxing and smooth. For keeping mobility at all times, manual mode is available as well.

(4) Excellent Movement Capability

MobileGenius is capable of 10° climbing and 77 km movement. The compact and lightweight design help the equipment move freely.

(5) Micro-inch Mover

For accurate positioning radiography and reducing the time cost, the system offers a micro-inch mover with just one button to help the user achieve inching movement.

(6) Safe and Reliable, Easy to Move

An all-around anti-collision sensor in the front of the system guarantees transport safety.

(7) Automatic Winding Reel Charger

The charger adopts an automatic winding reel device, which is easy to clean, disinfect, and store.

(8) Medical-grade Screen

The industry's largest touchscreen (21.5") and ultra-narrow bezels allow for excellent visualization of images. Medical-grade touch screen keeps high standard brightness control to guarantee a better and more clear display of images.

(9) Virtual Anti-scattered Grid*

The software utilizes intelligent algorithms for both low-dose and HD images.

(10) DICOM 3.0 Standard

Compatible with DICOM 3.0, the image workstation supports worklist, storage, and transfer function. The system uses a wireless network to transmit data to the workstation and/or the RIS/PACS system.

* [3] and [9] are optional.

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Configuration:

No.	Product Name	Amount	Picture
1	X- ray High Voltage Generator	1	
2	X-ray Tube	1	
3	Collimator	1	
4	Mobile Unit	1	
5	Flat Panel Detector (FPD)	1	
6	Wired Hand Switch	1	
7	Wireless Hand Switch	1	

Option:

No.	Product Name	Amount	Picture
1	Chest-radiography Stand	1	

2	Mobile Chest-radiography Stand	1	
3	Simple Mobile Flat Bed	1	
4	FPD Protector	1	
5	Grid	1	
6	DAP	1	

*This product data may contain references to products that are not available in your country. Please contact us to check the availability of these products in your country. Specifications and appearance are subject to change without notice.

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1. X- ray High Voltage Generator

Type - A		
1	Nominal power	50 kW
2	Tube voltage range	40 - 150 kV, in 1 kV steps
3	mA range	10 - 630 mA
4	Exposure time	0.001 s - 6.3 s
5	mAs range	0.1 - 360 mAs
6	Inversion frequency	High-frequency generator, 50 kHz
Type - B		
1	Nominal power	45 kW
2	Tube voltage range	40 - 150 kV, in 1 kV steps
3	mA range	10 - 560 mA
4	Exposure time	0.001 s - 6.3 s
5	mAs range	0.1 - 360 mAs
6	Inversion frequency	High-frequency generator, 50 kHz

2. X-ray Tube

Tube 1 - Canon tube		
1	Type	Rotating anode
2	Focus	0.6 / 1.2 mm
3	Anode heat capacity	150 kHU (111 kJ)
4	Maximum speeding	3200 rpm
5	X-ray tube assembly heat capacity	1250 kHU (900 kJ)
6	Anode input power	Large focus: 50 kW, small focus: 22 kW
7	Inherent filtration	1.3 mm Al / 75 kV
8	Maximum heat dissipation	475 W (667 HU/s)

Tube 1 - Canon tube (Only available for- 45kW)		
1	Type	Rotating anode
2	Focus	0.6 / 1.2 mm
3	Anode heat capacity	300 kHU (210 kJ)
4	Maximum speeding	3200 rpm
5	X-ray tube assembly heat capacity	1056 kHU (750 kJ)
6	Anode input power	Large focus: 46 kW, small focus: 20 kW
7	Inherent filtration	1.0 mm Al / 75 kV
8	Maximum heat dissipation	870 W (1226 HU/s)

3. Collimator

1	Type	Manual collimator
2	Inherent filtration	1.2 mm Al
3	Light field indicate	Collimator is equipped with LED lights (30s auto-off timer)
4	Measurement	Built-in tape measure
5	Illumination	More than 160 Lux
6	Radiation filed	45 x 45 cm @ SID 1m

4. Mechanical Parameters

1	Movement mode	• Motorized with infinitely variable speed; • Support micro-inch control of the machine forward and backward movement;
2	Structure	Rotating column with three-section telescopic arm
3	Tube focus distance to the ground	610 mm to 1800 mm, ± 5 %
4	Telescopic arm length	730 mm to 1250 mm, ± 5 %
5	Column rotation range	± 315 °
6	Tube tilting angle	± 180 °

7	Collimator rotation	± 100 °
8	Tube vertical rotation	- 30 °(down) to + 90 °(up)
9	Dimension	1260 x 550 x 1840 mm (L x W x H) ± 5 %
10	Charger cable	Automatic winding reel, more than 3 meters long
11	Weight	380 kg ± 10 %
12	Collision prevention	Obstacle contact sensor
13	Exposure mode	Support hand switch, remote control and time-lapse exposure

5. Detector

FPD 1: 1417_150um		
1	Technology	WIFI connection, Amorphous Silicon, whole panel technology
2	Active area	14 × 17 inch
3	Pixel size	150 μm
4	Pixel matrix	2304 x 2800 pixels
5	Spatial resolution	3.4 lp / mm
6	A/D conversion	16 bits
7	Weight	3.4 kg
8	DQE (Typical values)	61 % @ 0.0 lp / mm
9	Imaging time	8 s full image
10	Loading capacity	150 kg
11	Full charging time	Less than 3 hours
12	Battery capacity	5 hours
FPD 2: 1717_139um		
1	Technology	WIFI connection, Amorphous Silicon, whole panel technology
2	Active area	17 × 17 inch
3	Pixel size	139 μm
4	Pixel matrix	3072 × 3072 pixels
5	Spatial resolution	3.6 lp / mm
6	A/D conversion	16 bits

7	Weight	4.6 kg
8	DQE (Typical values)	66 % @ 0.0 lp / mm
9	Imaging time	7 s for full image
10	Loading capacity	150 kg
11	Full charging time	3.5 hours
12	Battery capacity	5 hours

6. Digital Image Workstation

1	CPU frequency	• Core i3 or better; • More than 3.2 GHz;
2	Memory capacity	4 GB or more
3	Hard drive capacity	500 GB or more
4	Display size	21.5-inch medical grade touch screen

7. Image Acquisition Software

1	Log in	Different accounts can be created with different permissions.
2	Patient information	Enter patient information manually
		Acquisition from RIS/HIS through Worklist function
		Support emergency registration
3	Parameters setting	Multiple APRs can be selected
		kV, mA, ms, focus size can be adjusted
4	Image processing	Brightness and contrast adjustment
		Zoom, cropping, rotation, inversion, etc.
		Modify the LUT setting
4	DICOM functions	DICOM 3.0 compatible
		Storage, Export / Import, Send, Worklist, MPPS, Print, Query / Retrieve, etc.
5	Status indicator	Working status of X-ray tube, detector, etc.
		Error messages will be shown

8. Power Specification

1	Power supply mode	• AC power supply • Built-in lithium-ion battery power supply
2	Input voltage	100-240 VAC ±10%, Single Phase
3	Frequency	50 Hz / 60 Hz
4	Input power	1.2 kVA
5	Resistance	≤ 0.55 Ω

9. Environment Specification

1	Operating temperature	10 ℃ - 40 ℃
2	Operating humidity	30 % - 75 %
3	Operating atmospheric pressure	700 hPa - 1060 hPa
4	Transportation and storage temperature	-10 ℃ - 50 ℃
5	Transportation and storage humidity	10 % - 95 %
6	Transportation and storage atmospheric pressure	700 hPa - 1060 hPa

10. After sales Service

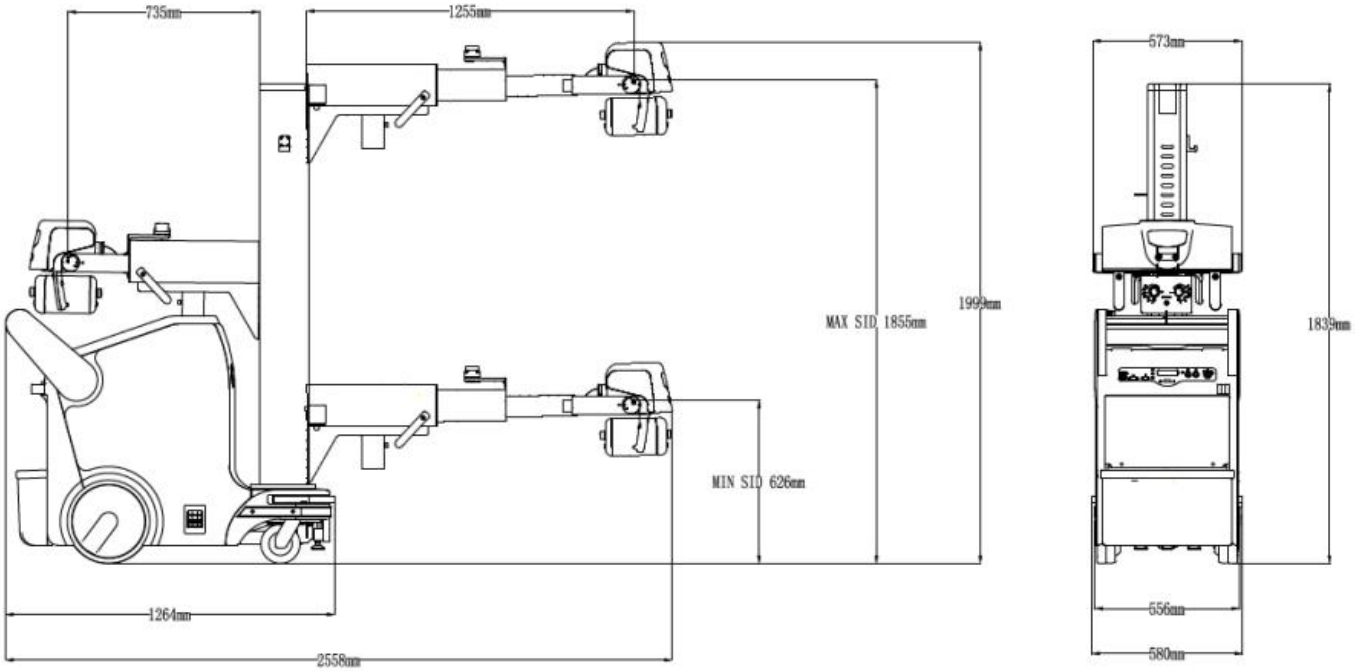
1	The machine warranty 1 year
2	1 set of complete operation and maintenance manual
3	Free service hot line

11. International Certificate

1	CE Certificate
2	ISO 13485:2016 Medical devices - Quality management systems - Requirements for regulatory purposes
3	ISO 9001:2015 Quality management systems - Requirements
4	ISO 14001:2015 Environmental management systems - Requirements with guidance for use

Dimension:

Unit: mm ±5%



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