

## TECHNICAL SPECIFICATIONS FOR THE PROCUREMENT OF 6M CONTAINER BASED CLINIC WITH 2 ROOMS (1. X-RAY ROOM WITH RADIOGRAPHER CONTROL PANEL, 2. STORAGE ROOM)

### Dimensions & Specifications of Container based Clinic:

1. The total clinic size will be 6m in length (ISO container).
2. The container shall have one X-ray room with control panel (3.8m) and one additional room with cabinets for storage (2.2m).
3. 6m ISO shipping container converted to medical clinic and transportable with a flatbed truck.
4. Width of mobile clinic: 2480 mm (room width).
5. Ceiling height of room(s): 2300mm (floor to ceiling).
6. Standard Radiation warning signage.
7. Stabilizers: Landing/stabilizing leg back of each corner of truck for flatbed section.

### Outside of Container based Clinic

1. Side entry steps for entry into the X-ray room compartment of the container.
2. A foldable ramp to allow wheelchair access to the x-ray room and one entry door to the storage room.
3. Power generator, 12 kva diesel unit.
4. Power outlet 16A plug.
5. White roof painting. Enough roof mounted solar panels to operate the entire unit with air conditioning and a guard rails.
6. Frosted windows with burglar bars.
7. Belly boxes for storage of battery system, electrical generators, power cords, safety rails.
8. LED light mounted at each corner of the unit for night time operation.
9. Doors with heavy duty hinges and frames lockable with security features.
10. X-ray warning light during exposure on the x-ray entry door.

### Inside of Container based Clinic

1. Electrical system powered by solar integrated into structure (solar charger, inverter and lithium batteries).
2. Doors with heavy duty hinges and frames lockable with security features.
3. Secure mounting of equipment, furniture and fittings Locking straps and tie-downs during transport.
4. LED lights, dimmable and ceiling mounted (in X-ray room).
5. Workstations, cupboards and storage compartments.
6. Clothes hangers and curtain rail for patient change area (in X-ray room).

7. Wash basin with water and waste water tanks soap dispenser and paper towel dispenser for infection control.
8. Power distribution board for all electrical systems.
9. Solar powered air-conditioning systems in each room, individually controlled and wall mounted.
10. Anti-static vinyl floor for infection control and cleaning purposes.
11. Ultra violet lights in rooms, wall or ceiling mounted. (get guidelines)
12. Bar fridge in operator room.
13. Wall mounted power socket points (16A, single phase).
14. CAT6 network points.

### **ROOM DIMENSIONS & SPECIFICATIONS (X-RAY ROOM)**

1. Length: 3800mm.
2. Width: 2480mm.
3. Height: 2300mm
4. 2mm lead sliding lead door between the radiographer control panel / operator room & X-ray room.
5. 2mm lead equivalent lead window for the radiographer control panel /operator control room (minimum 800mm x 500mm).
6. 2mm lead panels for radiation protection (X-ray room).
7. Work bench for operator control room.
8. Coat hangers
9. UVGI - light, wall mounted.
10. LED dimmable ceiling lights in x-ray room.
11. Louvre ventilation ports in X-ray room.
12. Air conditioner unit, wall mounted.
13. 16A single phase, wall mounted power socket.
14. Minimum of 2 plug points supplied.
15. Lockable storage area for PC/Server/IT equipment.
16. Warning and safety signs as per radiation protection directorate.
17. Full lead apron
18. Half lead apron on a movable stand

### **RADIOGRAPHER OPERATOR ROOM / CONTROL PANEL**

1. Length: 1200mm.
2. Width: 2480mm.
3. Height: 2300mm
4. Window for ventilation
5. Work bench for users and equipment, including storage shelves and lockable drawers.

6. Coat hangers.
7. LED ceiling lights.
8. 16A single phase, wall mounted power socket, minimum of 4 plug points supplied.
9. Lockable storage area for PC/Server/IT equipment.
10. Secure mounting brackets for furniture & equipment.

## STORAGE ROOM

1. Length: ~2.2m.
2. Width: 2480mm.
3. Height: 2300mm
4. Lockable outside door.
5. Retractable steps.
6. Work bench for users and equipment.
7. Storage shelves and lockable drawers.
8. LED ceiling lights.
9. Solar powered Air conditioner
10. 16A single phase, wall mounted power socket. Two plug points.
11. Secure mounting brackets for furniture & equipment.

## POWER SYSTEMS

1. Solar power system with 2 x 5kva inverterchargers, 6 to 8 x 280W solar panels, 2 x 3,4kw/h.
2. Enough Lithium batteries to operate the entire unit including two air conditioners.
3. Built in 12kva generator (built into lockable belly box at the back of the unit, on sliding bracket).
4. 30m, 16A single phase (3-core) utility power cord with connection point.
5. Li-Ion batteries (7kw/h backup power).
6. Power distribution board with overload protection and circuit breakers, surge arrestors, labelling

## DIRECT DIGITAL X-RAY MACHINE

- Single phase dependable direct digital general radiographic system with a table and wall stand.

### Generator

1. 40kW, high frequency generator (100kHz)
2. 40-125kV, in 1kV steps
3. 500 mA
4. 0.001-6 secs
5. 0-500 mAs

6. Two bucky capability
7. Self-diagnostic circuitry with error code for fast troubleshooting
8. Tube protection circuitry
9. Anatomical Programs

**X-ray Tube, table and stand**

1. Manual collimator with electronic timer and meter
2. High voltage cables
3. Floor mounted tube stand with longitudinal and vertical travel
4. Four way floating top table
5. Transverse and longitudinal travel
6. Maximum patient weight of 200kg
7. Cassette / detector tray 43 X 43
8. Elevating patient wall stand, electro-hydraulic with to/down movement.
9. Grid with high speed bucky
10. Full size bucky detector compatible with the X-ray unit.
11. 43 X 43 Wireless flat panel detector
12. Detector must be compatible to use for both wall stand and table patients.
13. Workstation / radiographer control panel
14. X-Ray PC workstation with Image software. Computer i7
15. 32 GB main memory
16. 1TB internal hard drive
17. Keyboards and mouse
18. CD / DVD writer
19. 3 Mega pixel X-ray reading monitor
20. Custom anatomical pre-programmed sequences for exposure values.
21. AED (automatic exposure detection) with option for manual exposure.
22. DICOM Tele-radiology ready system.
23. PACS system. (teleradiology software to manage to send images off site destination for viewing and reporting)
24. 2KVA UPS for X-Ray PC systems.

Full installation, training and support included.

**SUMMARY OF SPECIFICATION (CONTAINER X-RAY CLINIC)**

No	Items	Description
1	Container Facility	<p>Conversion new ISO 6m shipping container into custom built X-Ray Clinic including radiation shielding.</p> <p>Two room configuration.</p> <p>Includes all lead shielding.</p> <p>Includes built-in backup petrol generator.</p> <p>(Includes solar power main system.</p> <p>Includes custom painting and branding.</p>
2	X-Ray Modality	<p>Single phase dependable direct digital general radiographic system with a table and wall stand.</p> <p>40kW, high frequency generator (100kHz)</p> <p>40-125kV, in 1kV steps</p> <p>500 mA</p> <p>0-500 mAs</p> <p>Two bucky capability</p> <p>Self-diagnostic circuitry with error code for fast troubleshooting</p> <p><b>X-ray Tube, table and stand</b></p> <p>Manual collimator with electronic timer and meter</p> <p>Floor mounted tube stand with longitudinal and vertical travel</p> <p>Four +way floating top table</p> <p>Maximum patient weight of 200kg</p> <p>Cassette / detector tray 43 X 43</p> <p>Elevating patient wall stand, electro-hydraulic.</p> <p>X-Ray generator with operator control panel.</p> <p>Includes custom anatomical pre-programmed sequences for exposure values.</p> <p>40kV – 125kV.</p> <p>43x43cm FPD (flat panel detector),</p> <p>AED (automatic exposure detection).</p> <p>X-Ray PC workstation with Image software.</p> <p>DICOM Tele-radiology ready system.</p> <p>2KVA UPS for X-Ray PC systems.</p> <p>Full installation, training and support included.</p>

SERVICE AREA / ROOMS	EQUIPMENT / FURNITURE	QTY
Outside Clinic	Branding as per client's requirements	1
OPERATOR ROOM	Domestic under counter fridge (min 65L).	1
	X-Ray PC Workstation.	1
	3G/4G LTE router-modem.	1
	24-port Network switch with network cabinet.	1
	3KVA UPS for X-ray PC & PACS PC.	1
	2x Chairs, with back rest gas assisted.	2
	Desks, storage shelves, work tops (both sides of room).	1
	Fire extinguisher.	1
	Notice boards, wall mounted.	2
	Dustbin. UV-light.	1
	Soap dispenser.	1
	Paper towel dispenser.	1
	First Aid kit.	1
Single phase dependable direct digital general radiographic system with a table, wall stand, X-ray tube, collimator, tube-stand, erect stand, operator console, X-ray generator and associated accessories.	1	
X-RAY ROOM	Dry Pix film printer with 24X30 and 35 X 45 films trays	1
	UVGI - light.	1

SERVICE AREA / ROOMS	EQUIPMENT / FURNITURE	QTY
	Desks, storage shelves, work tops.	1
	Notice board.	1
	0,35mmPb full coat apron;	1
	0,35mmPb half coat apron;	1 1
	0,35mmPb gonad shield	
	Coat hanger	
	5kVa Inverter/Charger unit	2
<b>PLANT ROOM / POWER SYSTEMS</b>	(optional) 280W solar panels roof mounted (6 to 8x)	<b>6 to 8</b>
	3,4kW/h Li-Ion battery	2
	Lithium batteries	
	Inverter	
	Battery charger with Bluetooth reading	
	12,5kVa petrol generator	1
	30m, 16A, 3-core power cord for main/utility power	1