



Biomedical Engineering Unit

Regional Atoll Health Services Division

Ministry of Health, Male', Republic of Maldives

Technical Specification for Equipment

Equipment: Glucometer

1. Technical Specification

Glucometer

- 1.1 Should be a portable and hand held meter.
- 1.2 Should require no routine maintenance
- 1.3 Should have reading range/linearity from 20 to 600 mg/dl
- 1.4 Should have a maximum reading time of less than 10 seconds
- 1.5 Should use electrochemical technology
- 1.6 Should use a minimum blood sample less than 1.5 μ l
- 1.7 Should have a LCD display
- 1.8 Should have measuring unit in mg/dl.
- 1.9 Should have wide operating temperature
- 1.10 Should have a minimum memory of 50
- 1.11 Should have life time replacement offer
- 1.12 Should have easy code entry technique
- 1.13 Battery should be replaceable
- 1.14 Should have facility to ensure accuracy of measurements.
- 1.15 Should be supplied with three types of control solutions of each at least 20 ml

GLUCOSE STRIPS GLUCOSE STRIPS

- 1.16 Should be able to use capillary blood samples.
- 1.17 Should have a minimum 4 months shelf life after opening the strip vial.
- 1.18 All strips should have at least one-year expiry date from the date of supply.
- 1.19 At least 50 strips should be supplied along with the equipment.
- 1.20 Strips should be available in the local market.

2. Environmental factors

- 2.1 The unit shall be capable of operating continuously in ambient temperature of 20-30 deg C and relative humidity of 15-90%.
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3. Power Supply

- 3.1 Power input to be 220-240VAC, 50Hz fitted 13Amp plug.
3.2 UPS of suitable rating with voltage regulation and spike protection for 60 minutes back up.

4. Standards, Safety and Training

- 4.1 Should have safety certificate from a competent authority CE / FDA (US) / STQC CB
4.2 certificate / STQC S certificate or valid detailed electrical and functional safety
4.3 The unit and the accessories must be supplied with one year of warranty starting from the date of installation.
4.4 Application training must be provided to the users.

5. Documentation

- 5.1 User/Technical/Maintenance manuals to be supplied in English.
5.2 List of important consumables and costing.
5.3 Contact details of both local supplier and manufacture for service and maintenance and must be provided.



Ministry of Health
Male', Republic of Maldives

Technical Specification for Equipment

Equipment: Digital Thermometer: MoH/TS/EQ/007

Specification:

1. Suitable for oral and axillary use.
2. Clinical Measuring Range at least of 32-42 °C (89.6 °F - 107.6 °F).
3. Accuracy +/- 0.1 °C / °F
4. Digital display window to show the temperature in °C / °F
5. Button battery operated (battery included).
6. Beeper: sound signal approximately 8 seconds when peak temperature reached
7. Battery life at least of 1000 takes or higher.
8. Auto shut-off.
9. Water and disinfectant resistant.

Approved By Procurement Technical Committee

Name	Designation:	Signature :
ThasleemaUsman	Deputy Director General	
UbeydhullahThoufeeq	PHP Coordinator	
AishathShelna	Senior Laboratory Technologist	
Thooma Adam	Senior Microbiologist	
Ibrahim Adham	Assistant Biomedical	

22.10.14
Date and Seal





Ministry of Health
Male', Republic of Maldives

Technical Specification for Equipment

Equipment: Pulse Oximeter MoH/TS/EQ/027

Specification:

1. Continuous non-invasive monitoring of functional oxygen saturation(SpO2)
2. Portable and light weight for easy transport.
3. Battery Back up - 4 hours when fully-charged.
4. Measurement Range:
 - a. SpO2 Saturation Range 1% to 100%
 - b. Pulse Rate Range 20 to 250 beats per minute (bpm)
 - c. High Accuracy for adults and neonates
 - d. Saturation (% spO2 \pm 1 sd)
 - e. Should display SpO2 and HR on the screen
5. Safety/Alarms
 - a. Audible and visual alarms for high/low pulse rate, sensoroff, sensor

All necessary accessories for the start and functioning of the equipment has to be supplied

Power Supply

Line voltage 220 – 240 V and fitted with a 13amp UK type G plug

Standards, Safety and Training

Should be a CE / FDA Approved product and should comply with ISO standards

Warranty



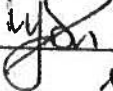
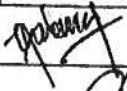
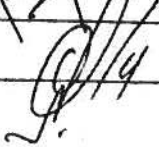
12 months from the date of handing over or installation and commissioning

User/Technical/Maintenance manuals to be supplied in English and certificate of calibration and inspection.

List of important spare parts and accessories with their part number and costing has to be provided.



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<i>Name</i>	<i>Designation:</i>	<i>Signature :</i>
ThasleemaUsman	Deputy Director General	
UbeydhullahThoufee	PHP Coordinator	
AishathShelna	Senior Laboratory Technologist	
Thooma Adam	Senior Microbiologist	
Ibrahim Adham	Assistant Biomedical	

26.10.14
Date and Seal





Ministry of Health
Male', Republic of Maldives

Technical Specification for Equipment

Equipment: Ear Thermometer: MoH/TS/EQ/011

Specification:

1. Tympanic thermometer with rapid measuring time.
2. Clinical Measuring Range at least of 35-42 °C
3. Accuracy +/- 0.5°C / °F or better
4. Digital display window to show the temperature in °C / °F
5. Measuring time no greater than 10 sec.
6. Battery operated (battery included).
7. Battery life at least of 1000 takes.
8. Auto shut-off.
9. Water and disinfectant resistant.
10. Including 1000 disposable covers

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22.10.14

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Biomedical Engineering Unit

Regional Atoll Health Services Division

Ministry of Health, Male', Republic of Maldives

Technical Specification for Equipment

Equipment: Ambulance portable stair lift

1. Description of Function

- 1.1 Stair chair is designed to help EMTs transport patients through tight spaces and up or down stairs, safely and efficiently.
- 1.2 Non-slip grips on the rear and front handles help rescuers maneuver the Aluminum EMS Stair Chair easily.
- 1.3 Compact folding allows to stow the stair chair in the ambulance without taking up a lot of space.

2. Technical Specification

- 2.1 Lightweight and durable aluminum alloy construction
- 2.2 Should have a positive locking hinge mechanism
- 2.3 Should have two handles in front, adjustable lift bar and two folding handles behind the seat to provide various carrying positions
- 2.4 Ergonomic design of the seat and back rest areas.
- 2.5 High stability while loading and unloading
- 2.6 Easy patient transport on stairs, in lifts and corridors
- 2.7 Easy folding and unfolding
- 2.8 Easy storage in ambulance
- 2.9 Washable and waterproof seat fabric
- 2.10 Should have an electromagnetic safety brake system.
- 2.11 Weight capacity: 180 to 200kgs

2.12 Should be motorized with a rechargeable battery.

3. Environmental factors

3.1 The unit shall be capable of being stored continuously in ambient temperature of 0-50deg C and relative humidity of 15-90%

4. Power Supply

4.1 Power input to be 220-240VAC, 50Hz fitted 13Amp plug.

5. Standards, Safety and Training

5.1 The unit and the accessories must be supplied with one year of warranty starting from the date of installation.

5.2 Application training must be provided to the users.

6. Documentation

- User/Technical/Maintenance manuals to be supplied in English.
- List of important spare parts and accessories with their part number and costing.
- Contact details of both local supplier and manufacture for service and maintenance and must be provided.



Biomedical Engineering Unit

Regional Atoll Health Services Division

Ministry of Health, Male', Republic of Maldives

Technical Specification for Equipment

Equipment: CO2 detector

1. Operational Features:

- 1.1 Must be easy to Use with Minimum training required
- 1.2 Must be light weight
- 1.3 No warm up time and calibration should be required
- 1.4 Must be handheld type for emergency use/ patient transfer
- 1.5 Should be rugged to withstand daily use at emergency care

2. Technical Specification

- 2.1 Color display
- 2.2 Working temperature: 5° to +40°C
- 2.3 Humidity: 10 – 95%
- 2.4 Battery Type: Lithium Ion internal battery, rechargeable: Charging time must be specified
- 2.5 Must have 5 hours of battery life or higher
- 2.6 Respiration range: 1-60 breaths per minutes or higher
- 2.7 CO2 range: 0 to 70mmHg or higher. Accuracy must be specified
- 2.8 Update frequency: Once every breath and no breath alarm must be present.
- 2.9 Nasal Sampling cannulas from infant to adult range must be present
- 2.10 Sensors and Extension Cables – Full range of sensors (neonatal through adult) and cables for a variety of placement sites must be present

2.11 All the standard accessories must be present

3. Environmental factors

3.1 The unit shall be capable of being stored continuously in ambient temperature of 0-50deg C and relative humidity of 15-90%

4. Power Supply

4.1 Power input to be 220-240VAC, 50Hz fitted 13Amp plug.

5. Standards, Safety and Training

5.1 The unit and the accessories must be supplied with one year of warranty starting from the date of installation.

5.2 Application training must be provided to the users.

5.3 Manufacturer standard biomedical technical must be given to MoH Biomedical Engineers within one year of installation.

6. Documentation

- User/Technical/Maintenance manuals to be supplied in English.
- List of important spare parts and accessories with their part number and costing.
- Contact details of both local supplier and manufacture for service and maintenance and must be provided.