

**MINISTRY OF EXTERNAL AFFAIRS
(GOVT. OF INDIA)**

**DISTRICT GENERAL HOSPITAL, DIKOYA,
SRI LANKA**

Tender

for

**Supply, Installation, Testing & Commissioning of Mortuary
Chamber at District General Hospital, Sri Lanka**

VOLUME – IV

TECHNICAL SPECIFICATION

June 2014



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Tender No. HSCC/SES/MEA/Sri Lanka/Mortuary/2014

TECHNICAL SPECIFICATION OF MORTUARY CHAMBER

SCOPE OF WORK- Supply, Installation, Testing & Commissioning of Mortuary Chamber including turnkey works and hand over in satisfactory condition to the client and services during Defect Liability Period

Mortuary chambers shall be used for keeping cadaver under cool condition to prevent decomposition either for the purpose of conducting postmortem or before handing it over to the relatives of the dead patient.

- Mortuary should be energy efficient and capable for storing of cadaverous for long time and ensuring best hygiene
- The outer panels of all our mortuary chamber shall be of galvanized sheets having a superior bacteria resistance film coating for greater hygiene and Polyurethane foam insulation of 35mm and inner chamber shall be of Stainless steel-AISI-304. Corrosion free exterior and interior. Mortuary Chamber shall have Front opening Doors.
- The hinged doors shall be insulated using PUF and assembled with magnetic gasket, handle and lock arrangement & keys for each dead body. The door with Double gasket seal shall be between the door and the cabinet. Insulated glass door shall remove fogging and condensation.
- Stainless Steel (AISI-304) Tray formed of one seamless sheet for dead bodies with a tubular edge and handle at both ends.
- Mortuary Chamber shall be equipped with telescopic track system along with carriage assemblies and suitable locking arrangement.
- Equipped with refrigeration unit of sealed compressor is incorporated outside the chamber. Heavy duty Air-cooled compressor. The compressor should be of low noise level and minimal vibration.
- Condenser should have automatic condensate evaporating system.
- Non-CFC environmental friendly based on compressor capacity.
- Working Temperature -2°C to $+8^{\circ}\text{C}$ and humidity control. Digital temperature indication.
- No Defrost required cycle required with balanced flow refrigeration system.
- Circulation Forced air circulation maintains chamber uniformity of $\pm 1^{\circ}\text{C}$ and provides quick recovery
- Microprocessor controlled. Control Panel shall be placed in the front top of chambers and equipped with Microprocessor based Temperature controller cum indicator with pilot lamp, switch.

- LCD/TFT display
- Audio visual alarm for high and low temperature
- Should be Ergonomically designed “easy grip” door Handle
- Interior fluorescent lighting.
- Swivel locking castors.
- The Mortuary Chamber shall be suitable for keeping 4 dead bodies and shall be complete with refrigeration system, locking arrangement, Foul Order Treatment by means of Activated Carbon filter for De-Odorizing System.

2. Loading Trolley-

Trolley Concealment (Hydraulic Lifting Option). Reliable and durable. Smooth rapid high/low operated from either side of trolley. Lightweight aluminum folds down sides and ends. Concealment sides and ends lower below the level of the body tray for easy side or end body transfers. Small wheel base for easy maneuverability.

3. Turnkey work:

- Bidder must take into consideration in its bid, costs to be incurred for any additional work pertaining to Civil, Electrical, Plumbing, Sanitary and any other protections relevant as per State/Central Govt. regulation/local authority, Servo stabilisers, **U.P.S.** etc. required for successful installation testing and commissioning of the system and the offered price should include all such costs, each Schedule is to be considered a package in itself and contractor to execute the order package on a “turn key basis”.
- **Electric distribution panel** for the above Mortuary Cabinet complete with all switchgears, wiring and controls etc complete. (Switch gears of L&T/ Siemens/ ABB/GE or Schneider make). **Earthing system** of control panel and other electrical instrument and accessories in the Mortuary area **as per standard guidelines of BIS(Latest edition)**. All cable trenches and railings should be made wherever required.
- **Electrical cabling** of IS : 1554 standard and wiring as per IS : 732 standard from MDB(Single point source) to Electric Distributional Panel and to the corresponding load points

- Providing fixing of **Electrical Gadgets** like ELCB, MCB, Fluorescent Light, Power points, Fans, Cool air Fans, Exhaust fan etc in the Laundry room. Number of fans, power point, bulbs/tube light. Apart from these supplies to the individual equipments with ELCB & MCB in the Mortuary room.
- Installation of MCB, ACB, ELCB & OCB of Havell/Siemens/L&T/Schneider etc for Control Panel for Laundry.
- Construction/laying of **Draining system** from all the equipments to the main drain (outside the Mortuary) with **SS Grating**, proper trap and flow system and tapping.
- Necessary Ducting of GI sheet with grills at the suitable places for fresh air at the working place inside the Mortuary Room. Exhaustion of inside air for creating comfortable working zone within the Mortuary Room. Motors shall be of continuous duty S1 type of IS: 325 standard (Latest version) and of Kirloskar/NGEF/Siemens/ABB/GEC/ Crompton Greaves make.

In addition to the above mentioned equipment/appliances, if the contractor thinks it necessary to include any other equipment/appliances, accessories etc. for the Mortuary then that may be provided after approval from Engineer in-charge.

The sizes are approximate. Minor variations in sizes shall be acceptable subject to prior approval of the Engineer.

Manufacturer – Bionics/Rattan Sales Corporation/Biomate/Acmas Technology /Advanced Technocracy

APPROVED MAKES

- | | | |
|----|---------------------------------|--|
| 1. | Air Blower | SWAM/ EVEREST/ KAY/Beta |
| 2. | Blower/Suction Motor | KIRLOSKAR/ NGEF/ SIEMENS/CROMPTON/ABB |
| 4. | Cable | SKYTONE/KEI/UNIVERSAL/NATIONAL/RR CABLE |
| 5. | Control Panel | L & T/ SIEMENS/ SCHNEIDER |
| 6. | Valve | LEADER/ ZOLOTO /CRI |
| 7. | PVC Pipe Class III with Fitting | FINOLEX/ SUPREME/ PRINCE/ ORI-PLAST |
| 8. | G.I. / M.S. Pipe Heavy Class- | TATA/ JINDAL(HISSAR)/SAIL /SURYA PRAKASH |
| 9. | MCCB/Contactor/Relay | L&T/ABB/SIEMENS/SCHNEIDER |

10. Pressure Gauges	H.GURU /FIEBIG
11. Stainless Steel	TATA/SALEM/JINDAL/MUKUND/BHAYANDER/AMBICA
12. Aeration System	NORTON/ UEM/ V.K.ENVIROTECH/MM AQUA
13. Butter Fly Valve	AUDCO/ KEYSTONE/ KSB/CRI/Castle
14. GI Sheets	TATA/SAIL/JINDAL/BHUSHAN STEEL
15. Aluminium Sheet	BALCO/NALCO/HINDALCO
16. Grills/Diffusers	RAVISTAR/CARYAIRE/ MAPRO/DYNACRAFT

Note :

- **The contractor shall be responsible for the complete works including submission of working drawing and walk through view.**
- **Bidder should provide complete Operation manual, Equipment manual, Service manual and manuals for all systems and subsystems.**
- **Final electrical and pressure and other safety test, system test and calibration should be done by authorized person with test instruments.**
- **All electrical accessories like cable wire, electrical outlets, switches etc, should be fire proof of reputed make, certified for electrical safety.**
- **Wherever makes have not been specified for certain items, the same shall be as per BIS and as per approval of HSCC.**
- **Training of personnel of the Institute should be 7days at least**
- **The contractor should prepare and submit layout plan for Electrical Wiring, Plumbing, to HSCC for approval before beginning of supply and installation and As built drawing after installation.**
- **The contractor should provide test certificate for all materials along with manufacturer's test certificate and equipments used for Mortuary.**