

### Technical Specifications for **Anesthesia Machine**

1. Should have provision for delivery of oxygen and nitrous oxide with Pressure gauges.
2. Should have independent attachments for connecting central gas supply and pin indexed cylinders.
3. Should have analogue display of cylinder and pipeline gas pressures.
4. Should have provision to attach two cylinder for Oxygen and one for Nitrous Oxide.
5. Oxygen and Nitrous oxide should be linked to ensure a minimum of 25% oxygen delivery at all times to avoid delivery of hypoxic mixture. Lever based anti hypoxic device is not acceptable.
6. Should have depiction of O<sub>2</sub>, NO<sub>2</sub>. Twin Cascaded Flowmeters with mechanical hypoxic Guard and should have minimum mandatory flow of 250 ml/min of Oxygen.
7. Should have back bar with ISO pin type to attach vaporisers easily.
8. Should have top shelf and a table top to keep drugs and equipments.
9. Machine should have ventilator with battery backup.
10. Castor wheels should be durable and moisture resistant as well as antistatic.
11. Unlockable oxygen flush to deliver oxygen flow of approximately 40-70 l/min.
12. Should have drawers with easy maneuverability.
13. Compliant with ultra-low flow anesthesia.
14. Colour coded cylinder and pipeline pressure gauges

### **B. Standard Circle Absorber System**

1. Should have adjustable pressure limiting valve & breathing circuit pressure measuring device.
2. Should have bag / vent selecting valve integrated onto the absorber and should automatically turn on the ventilator when positioned to vent mode.
3. Should be suitable to use ultra low flow techniques.
4. Should have facility to attach oxygen sensor.
5. Should have fully autoclaveable CO<sub>2</sub> absorbent canisters and bellows.

### **C. Vaporiser**

1. Temperature, pressure and flow compensated.
2. Should provide keyed filler based Halothane, Isoflurane, & Sevoflurane vaporisers.

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3. Should be easy to mount and dismount form the back bar.

4. Should have ISO pin type (Selectatec) back bar mount.

5. Vaporiser should be maintenance free for ten years.

#### **D. Ventilator**

1. Integrated Ventilator

2 Volume Controlled Ventilation

3. Integrated Compact breathing system

4. Latex-free and autoclavable bellows

5. Compact autoclavable sodalime canister

6. LED Display

7. Audio Visual alarms

8. Pressure, Volume Monitoring

9. Airway Pressure Gauge

10. Monitor shelf

11. Quick changeover from mechanical to manual Ventilation

12. Compatible with open and semi-closed circuits

13. Should have tidal volume range from 20 ml to 2500 ml.

14. Should be able to set TV, RR and I:E ratio.

15. Ventilator should provide all user alarms.

16. Ventilator should provide Fresh gas compensation and Compliance compensation.

17. Ventilator shall have an active proportional exhalation valve to prevent the potential of over delivery during pressure modes of ventilation.

18. Should be supplied with necessary reusable and disposable breathing circuits

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**TECHNICAL SPECIFICATION OF DEFIBRILLATOR WITH CARDIAC MONITOR (ITEM NO.7)**

Sl.No.	Specification
1.	Biphasic, Manual and AED with voice prompt, compact and light weight
2.	Energy selection 5] to 200] in steps.
3.	Momentary energy selection access on front panel.
4.	Should have adult and pediatric paddles integrated on same handle
5.	Momentary charge key on front panel and on the apex hand
6.	Monitor should display selected and delivered energy
7.	Should have disarm facility.
8.	Energy should be delivered within 30 ms after the detected R wave in synchronization mode.
9.	Charging time maximum 5 sec. for 200]
10.	Should have battery back up for 50 discharges of 200]
11.	Should have ECG input through paddles or 3 lead cables.
12.	Should have display for selected ECG input source (I, II, III paddles)
13.	Lead off message should appear with alert tone.
14.	Amplitude gain of ECG waveform should be adjustable
15.	Should have display for heart rate.
16.	Should have alarm for high and low HR.
17.	Should have an inbuilt thermal recorder.
18.	Should have enable /disable option for printer.
19.	Should supply 2 bottle of jelly, 12 roll of thermal paper.
20.	Should supply three pairs of AED pads.
21.	Should operate on mains 230V, 50 Hz.

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