

ANNEXURE - A.

No. Anaes/Pwr/W-S/RIMS-2016

16th Feb 2017

SPECIFICATIONS FOR ANAESTHESIA WORKSTATION

Gas Management:

- 1 Three Gas system : the system should have Oxygen , Air, Nitrous Oxide, Oxygen cylinder yoke and Nitrous Oxide cylinder yoke
- 2 The system should have pipeline inlet for Oxygen, Air, Nitrous Oxide
- 3 The system should have Auxillary Oxygen Flowmeter.
- 4 The system should have ACGO
- 5 Fresh Gas flow : 0 and 150 ml/min to 15 L/min
- 6 Oxygen Flush greater than 35L/min
- 7 Electronic hypoxic guard to ensure minimum 25% O2 concentration.
Should have an additional optional receptacle for accepting/ integrating Anesthesia Gas
- 8 monitoring module to monitor inspired and expired O2, N2O, CO2, Agent Concentration values
- 9 Measures MAC values
- 10 Paramagnetic sensor for Oxygen measurement
- 11 Auto identification of agent.
- 12 It should have a decision support tool for fresh gas flow setting.
- 13 It should have an option to display savings in desired currency for use of low flow setting
- 14 Electronic Gas mixing & Display - Machine shall provide electronic gas mixing with atleast 500 millisecond mixer response time with Electronic Flow Meter on Screen.

Vaporizers:

- 15 Vaporizer must be isolated from the gas flow in the off position and prevent the simultaneous activation of more than one vaporizer.
- 16 Vaporizers should need no tools to mount on a two back bar selectatec manifold.
- 17 Supplier must offer total vaporizer manufacturing capability-Desflurane, Enflurane, Sevoflurane, Halothane and Isoflurane.

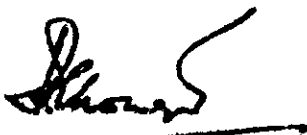
Breathing System:

- 18 Breathing system shall be fully autoclavable to 134° C and natural latex free.
It should be compact with total circuit volume not to exceed 2.7 L including absorber volume.
- 19 Breathing system shall have integrated Volume sensing shall be of a type that does not require daily maintenance.
- 20 Dual flow sensing capability at inhalation and exhalation ports.
- 21 Ventilator bellows shall be integrally mounted to the breathing system.
- 22 Should have Ascending Bellows design to alert user in case of leaks and no entrainment of air.
- 23 Adjustable pressure limiting valve shall be flow and pressure compensated.
- 24 Bag to vent switch shall be bi-stable and automatically begins mechanical ventilation in the ventilator position.
- 25

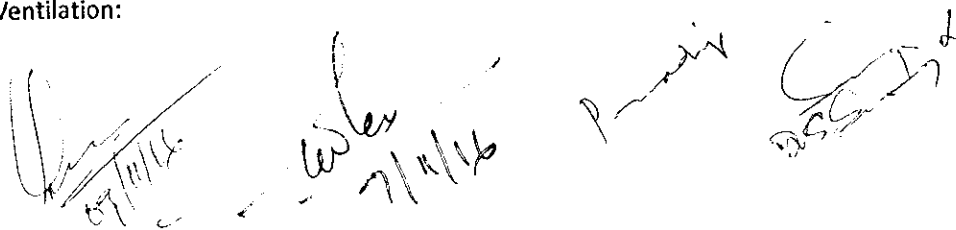
Ventilation

- 26 Should be Electronically controlled and Pneumatically driven through advanced Flow control valve

Modes of Ventilation:



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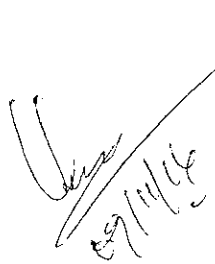


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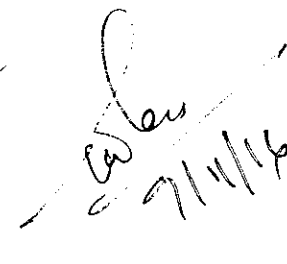
- VCV
PCV
PCV – VG
- 27 SIMV (Volume & Pressure)
SIMV with PCV-VG
PSV- Pro (PSV with Apnea Backup)
CPAP+PSV
Spirometry
Tidal Volume: 5ml to 1500ml in PCV modes & 20 ml to 1500 ml in VCV, PCV-VG & SIMV modes
Rate : 4 to 100 bpm
- 28 PEEP : Off, 4 to 30cms H2O
Settable I:E ratios 2:1 to 1:8
Pause, Trigger
Insp Pressure from 5 upto 50 cms H2O
Ventilator shall be capable of 120 L/min peak flow.
- 29 Ventilator shall have a tidal volume compensation.
- 30 Operates on a breath-by-breath basis and does not require special calibration.
- Display:**
- 31 LCD/TFT screen , minimum 15 inches with touch screen & trim knob for setting with electronic flow meter.
- 32 Waveforms of Pressure vs. Time & Flow vs. Time and CO2 from Gas module with PV Loop and FV Loop and display of all set and monitored parameter like volume, pressure, rate, timing, pressure of inlet gas, inhaled and exhaled agents gases, and MAC when AGM is connected as well as digital display of cylinder and pipeline pressure.
- 33 **Power:** Will work on electric mains & will have battery backup of atleast 50 mins on fully charged battery
- 34 **Approvals:** CE & US FDA approved.



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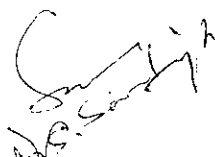


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