



महाराष्ट्र शासन  
GOVERNMENT OF MAHARASHTRA

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दिनांक - 10/02/2026

संस्थेच्या संकेतस्थळावरून दरपत्रके मागणी

शासकीय वैद्यकीय महाविद्यालय, सिंधुदुर्ग येथील बधिरिकरणशास्त्र विभागा करीता आवश्यकता असलेल्या "Anaesthesia Workstation with Mulitpara monitor" च्या खरेदी करीता दरपत्रके मागविण्यात येत आहेत.

कामाची संख्या	कामाचे नाव	तांत्रिक वैशिष्ट्ये	नगसंख्या	रक्कम सर्व करासहीत
१	"Anaesthesia Workstation with Mulitpara monitor" खरेदी		१	

आवश्यक असलेल्या "Anaesthesia Workstation with Mulitpara monitor" तांत्रिक वैशिष्ट्यांची यादी सोबत जोडली आहे.

अटी व शर्ती-

- १ दरपत्रक भरणान्या व्यक्तीकडे / संस्थेकडे पॅनकार्ड, सक्रिय असलेले दुकान कायदा परवाना, आधारकार्ड व राष्ट्रीयकृत बँकेमध्ये सक्रिय असलेले बँक खाते आवश्यक आहे. (सर्व कागदपत्रे स्वयं प्रमाणित स्वाक्षरीसह सादर करण्यात यावीत.)
- २ दरपत्रके (लागू असल्यास) जी.एस.टी. रक्कमेसह द्यावीत / नसल्यास तश्या आशयाचे स्वयं प्रमाणित स्वाक्षरी सह प्रमाणपत्र सादर करावे.
- ३ दरपत्रक दिलेल्या नमुन्यात सिलबंद लिफाफ्यावर खालीलप्रमाणे लिहावे-  
लिफाफ्यावर दरपत्रक देणाऱ्या व्यक्तीचे / संस्थेचे नाव नमुद करुन "Anaesthesia Workstation with Mulitpara monitor" असा उल्लेख करुन, "दरपत्रकाचे अंतिम दिनांक १८/०२/२०२६ असे नमुद करावे" सदर लिफाफा दिनांक १८/०२/२०२६ रोजी दुपारी ५.०० वाजेपर्यंत अधिष्ठाता, शासकीय वैद्यकीय महाविद्यालय, सिंधुदुर्ग यांच्या कार्यालयात हस्तपोच सादर करावा. उशीरा प्राप्त होणाऱ्या अर्जाचा विचार केला जाणार नाही, याची नोंद घ्यावी. स्थानिकांना प्राधान्य देण्यात येईल.
- ४ कोणताही लिफाफा स्विकारणे अथवा नाकारणे, तसेच सदरची प्रक्रिया रद्दकरण्याचे सर्व अधिकार अधिष्ठाता, शासकीय वैद्यकीय महाविद्यालय सिंधुदुर्ग यांना राहतील.

10/02/2026

(डॉ. अनंत डवंगे)

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शासकीय वैद्यकीय महाविद्यालय, सिंधुदुर्ग

सिंधुदुर्ग

प्रति,

श्री. हेमंत चव्हाण, निम्नश्रेणी लघुलेखक, उपरोक्त नमुद "Anaesthesia Workstation with Mulitpara monitor" बाबत दरपत्रके मागविण्याबाबतचा मजकूर या संस्थेच्या संकेतस्थळावर दिनांक १०/०२/२०२६ रोजी प्रासिद्ध करण्यात यावा.



**SPECIFICATION FOR ANAESTHESIA WORK STATION WITH MULTIPARA MONITOR (MEDIUM END)**

**Technical specifications**

**A. Basic Unit:**

1. **General description:** - The unit should be a cost-effective, flexible anaesthesia workstation for performing and monitoring inhalation anaesthesia, suitable for Adult, Child and neonate.
2. **Integrated systems:** - The Anaesthesia Workstation should have:
  - A. In-built Ventilator with Coloured TFT display.
  - B. Integrated CO<sub>2</sub> Absorber.
  - C. In-built & Integrated Anaesthesia Gas Monitoring Facility
  - D. All these components should be of the same manufacturer or brand with their label on each component.
3. **Gas supply:** - The unit should be able to connect Central pipeline & there should be provision of one PIN Index Yoke to connect to one emergency gas cylinder of O<sub>2</sub> & N<sub>2</sub>O each.
4. **Trolley:** - The unit should have Powder Coated Steel Trolley with 4 Wheels & 2 Drawers & the front wheels should have locking device. The unit should have Rail on one side to mount other equipment.
5. **Flow meters:** - Machine should provide electronic gas mixing with digital /manual control for O<sub>2</sub>, N<sub>2</sub>O and Air and eco flow system.
6. **Hypoxia guard:** - It should have proven hypoxia guard design using the Pin-valve Mechanism or equivalent mechanism. The unit should be equipped with Integrated Ratio System to maintain 25% Vol% O<sub>2</sub> in Fresh Gas & on accidental opening of only N<sub>2</sub>O flow with O<sub>2</sub> valve closed, the Ratio system should automatically Open O<sub>2</sub> Valve to maintain 25 Vol% O<sub>2</sub> in Fresh Gas.
7. **Water & Particle Trap:** - The unit should have water & particle trap to the inlet, Central Gas Pipe-line connections of O<sub>2</sub>, N<sub>2</sub>O & AIR.
8. **Patient Module:** - It should have fully autoclavable patient module having anodized metallic casing. It should have 34°C Heated Patient Module to deliver Warm Fresh Gas to Patient & to prevent condensation. The Patient Module should have Pressure Graduated Metallic APL Valve, Inspiratory Valve, and Expiratory Valve & Active Gas Scavenging Port with accessories.
9. **CO<sub>2</sub> Absorber:** - Patient Module should be integrated to the CO<sub>2</sub> absorber of 800gms & CO<sub>2</sub> absorber should be Single/Double chamber design having screw type threading for CO<sub>2</sub> bypass.
10. **O<sub>2</sub> Flush:** - The unit should have O<sub>2</sub> Flush facility to give approximately 50Ltr/min flow.
11. **Common gas outlet:** - The unit should have Common Gas Outlet for using open circuit & the unit should have easy change over from open circuit to closed circuit or vice-versa.
12. **Vaporizers:** - It should have provision to connect Two Selectatec mount vaporizers & the unit should be provided with two vaporizers equivalent to TEC-7 type, One of Isoflurane & One of Sevoflurane.

**B. Inbuilt Anaesthesia Ventilator:**

1. **Ventilator:** - It should have Integrated Pneumatic Driven, electronically controlled Ventilator with bellows and the same bellows should be useful for Paediatric & Adult application, thus avoiding change of bellows.

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2. Modes: - It should offer Ventilation Modes such as Manual, Spontaneous, CMV (PC/ VC (for adult and paediatric), SIMV( PC/VC ), PCV Adult & PCV Child, and SIMV & PSV.
3. I:E ratio:- The unit should offer I/E Ratios : 1:1, 1:1.5, 1:2, 1:2.5, 1:3, 1:4, 1:5 with I/E Inverse Ratios: 2:1, 3:1 & above (PCV), PEEP: 0-15mbar, Tidal Volume: 20-1400ml.
4. Display: - It should have a high contrast colour TFT Display of more than 12 inches or more
5. Self test: - It should be equipped with self test routines and automatic calibration of all sensors
6. Display (medical grade): - Display should indicate measured values: O<sub>2</sub> (Paramagnetic), real time capnography, anaesthetic agents (Isoflurane/Sevoflurane/ Desflurane /Halothane/ Enflurane), Tidal Volume, Minute Volume, Frequency, PEEP, Mean pressure- in graphic form with numerical display.
7. Gas Monitoring: - The In-Built Anaesthesia Gas Monitoring Facility should be base on side-stream technology; using Infra-Red Photometry Principal & also it should offer Automatic Anaesthesia Agent Identification.  
The unit should offer In-Built Anaesthesia Gas monitoring with following specifications:
  - i. CO<sub>2</sub> (ET. & In): Display: 0-10%, 0-76mmHg
  - ii. Accuracy: +/- 0.5Vol% or +/- 12% rel.
  - iii. Reaction Time: <500ms 150ml/min
  - iv. O<sub>2</sub> (paramagnetic) In & Et.: Display: 0-100%
  - v. N<sub>2</sub>O In & Et.: Display: 0-100
  - vi. Accuracy: +/-2 Vol% or +8%rel.
  - vii. Anaesthesia Agent:
 

o Halothane, Isoflurane	Display: 0-8.5 Vol%
o Enflurane, Sevoflurane	Display: 0-10 Vol%
o Desflurane	Display: 0-22%
o Accuracy	0-1.15% or 15%rel
  - viii. MAC:- It should have a display of MAC (Minimum Alveolar Concentration)
8. Alarms: - It should have clear alarms and user information as text messages. It is essential that unit should prompt user for corrective action rather than giving only alarm with no diagnostic message.
9. Test: - The unit should perform the Leak Test & Sensor Test on Start of the unit to know the leak volume or dead space volume of tubing, compliance etc. & thus deliver exact Tidal Volume to the Patient.
10. Fresh Gas De-coupling:- The unit should have Fresh Gas De-coupling or Continual fresh gas flow with fresh gas flow compensation during mechanical ventilation.
11. International Standards: - The unit should comply with International Standards & should have CE Marking, DIN EN ISO 9001:2000 Certification & EN ISO 13485:2003 Quality systems should be European CE Markings & USFDA approved.

### C. Specifications for Multi Parameter Patient Monitor

1. Parameters: - Should be capable of Monitoring Heart rate, SPO<sub>2</sub>, NIBP, ECG, Temp, RR
2. Display (medical grade): - Should have a touch screen TFT Display of 15 inch and above.
3. Operating system: - Should operate through Rotary knob & Membrane keyboard.
4. Fields: - Should have 8 waveform fields.
5. ECG: - Should have provisions to connect 3 or 5 Lead ECG cables
6. NIBP: - Should have NIBP measurement by Oscillometric method.
  - Should have Manual / Automatic modes of measurement.
  - Should have a measurement range of 20 to 250 mm Hg.
7. Temperature: - Should have provision for 2 temperatures with display of T1 & T2.

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8. Respiration: - Respiration to be measured /detected by Impedence method.

9. SPO<sub>2</sub>:- It must be based on (SET /Nelcor), to measure oxygen saturation with accuracy during motion artefacts, low perfusion state like shock, bradycardia and hypothermia. Should have SPO<sub>2</sub> measurement with plethysmograph , digital value & perfusion index and SPO<sub>2</sub> values with range 50% to 100%. Adult and neonate SpO<sub>2</sub> sensors-2 sets.

11. Alarm facility:- Should have Alarm facility (Audible and visual low to high) for HR limits, Arrhythmias, ST Segment limit, and all other parameter limits. The facility should be based on side-stream technology, using infra Red photometry Principle.

12. Graphs & Trends:- should have 24 hours of graphical and tabular trend for NIBP,HR, ST , SPO<sub>2</sub>, RR, T<sub>1</sub>,T<sub>2</sub>, AWRR,ST Segment and CSI%.

13. System Configuration Accessories, spares and Consumables: should be supplied with the following Standard Accessories.

- i. Anaesthesia workstation with integrated ventilator, integrated anaesthesia gas analyzer and monitor.
- ii. Electronic Flow meters with digital control of FiO<sub>2</sub> with Alternate O<sub>2</sub> flow meter for manual override.
- iii. Integrated, fully autoclavable Advanced Breathing System with absorber.
- iv. Colour-coded Pipeline Hoses and Inlets for Oxygen, N<sub>2</sub>O and Air.
- v. Oxygen & N<sub>2</sub>O Cylinder Yoke
- vi. Auxiliary Common Gas Outlet to connect open/semi circuits.
- vii. Integrated Passive Anaesthesia Gas Scavenging System (AGSS)
- viii. AC Power inlet with additional outlets.
- ix. Integrated High end Electronic Ventilator.
- x. CO<sub>2</sub> Bypass mechanism with condenser to take care of moisture.
- xi. 3 Lead ECG cable-02 nos. & 5 Lead ECG cable-02 nos.
- xii. Adult reusable patient circuit- 2 nos Adults.
- xiii. Paediatric reusable patient circuit- 2 nos Paediatric.
- xiv. Reusable Facemask of all sizes-0, 1, 2,3,4,5. (2 sets)
- xv. Extra-flow sensors- 5 no.
- xvi. Anaesthesia Monitor, 15 inch colour touch screen with 8 waveforms.
- xvii. 5 lead ECG with electrocautery filter and trunk cable-2 sets.
- xviii. SPO<sub>2</sub> finger probe for Adult and Paediatric application-2 each
- xix. SpO<sub>2</sub> Neonatal Probe-2
- xx. NIBP cuff for Adult and Paediatrics. NIBP cable (Hose pipe/cable 2 in quantity.) 5 Nos.
- xxi. 2 Temperature Probes-skin and naso-pharyngeal core probe.
- xxii. Recorder paper-10 rolls
- xxiii. Selectatec mounting Isoflurane vaporizer
- xxiv. Selectatec mounting Sevoflurane vaporizer
- xxv. Disposable domes-50
- xxvi. Disposable Adult and Paediatric circuits (100 Adults, 50 Paediatrics as per user requirement )
- xxvii. HME Filters-100
- xxviii. EtCO<sub>2</sub>- 200 sampling lines with 50 water traps.

16. Environmental Factors: - The unit shall be capable of operating continuously in ambient temperature of 10-40 deg C and relative humidity of 15-90%. The unit shall be capable of being stored continuously in ambient temperature of 0-50deg C and relative humidity of 15-90%. Shall meet IEC-60601-12:2001 (Equivalent BIS) General requirements of safety for Electromagnetic compatibility or should comply with 89/366/EEC; EMC directive.

17. Power Supply: - Should provide Suitable electrical stabilizer.

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18. Standards Safety & Training:-Should be USFDA & European CE approved product. The safety requirements should be as per IEC 60601-2-27:1994- Medical electrical equipment - part 2. Manufacturer/Supplier should have ISO certification for quality standards. Local service facility should be available. The service provider should have the necessary equipment recommended by the manufacturer to carry out. Back to back warranty should be taken from the supplier to supply spares for a minimum period of 10 years.

*Signature*

*10/02/2026*

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