



## **Notice Inviting e-Tender**

**West Bengal Medical Services Corporation Limited**  
**Swasthya Sathi**  
**GN-29, Salt Lake, Sector-V**  
**Kolkata-700091**

Phone No (033) 40340307/320  
E mail: procurement@wbmsc.gov.in

**Supply and Commissioning of different types of Medical Equipment for the Dept. of**  
**General Medicine at Burdwan Medical College & Hospital**

(Submission of Bid through *online*)

**Bid Reference No.: WBMSCL/NIT-538/2025**

**Dated-23.06.2025**

**AMENDMENT-I**

**Schedule-I1**

**REVISED Technical Specification of Ventilator**

**1. System Configurations**

ICU Ventilator for Paediatric to Adult, complete unit with all standard accessories.

**2. Technical Specifications**

- Air source may be from compressor (>35 psi /2.4 bar) that should provide a means to limit reverse gas flow rate (leakage).

Each high-pressure input ports should have a filter

Should have possibility for using external low-pressure oxygen as source

Colour touch screen of 10"or more.

Automatic compliance & leakage compensation for circuit and ET tube.

➤ **Display parameters:**

- End tidal CO2 with capnography.
- 3 Waves: Pressure &Time, Volume &Time and Flow &Time
- 2 Loops: P-V, F-V with facility of saving of 2 loops for reference.

- FiO<sub>2</sub>.
- Airway pressures (peak, plateau mean and PEEP, Auto PEEP)
- Tidal volume (expired).
- Minute volume (expired)
- I:E ratio
- RR (spontaneous and mechanical)
- Status indicator for ventilator mode, battery life, patient data, alarm settings, clock etc
- Display easily readable in low ambient light and sunlight.
- **Must have following settings for all age groups (pediatric to adult):**
- Tidal Volume at least 20ml to 1500ml.
- Pressure setting: approx. 0-40 cm H<sub>2</sub>O
- Respiratory rate: 6-60 breaths per minute.
- Internal PEEP range: 0-20cm H<sub>2</sub>O (minimum)
- FiO<sub>2</sub>:21-100%
- I:E inverse ratio
- I:E Ratio:1:10 to 4:1
- Inspiratory hold manoeuvre to measure plateau pressure;
- Expiratory Hold to measure Auto PEEP
- Leak compensation
- Peak pressure limitation/pressure-cycling mechanism adjustable range of 5-20 cmH<sub>2</sub>O above measured peak pressure
- Sigh function
- Suction control
- Control Panel lock
- Alarms: should have audio visual alarms for
- High/low tidal volume (not achieved or exceeded);
- High/lowFiO<sub>2</sub>
- High/low inspiratory pressure and PEEP
- Apnoea,
- High/low respiratory rate
- Continuously high pressure/occlusion
- Breathing circuit disconnect
- Low minute volume
- Gas supply failure
- Power failure and low battery
- Self-diagnostics failure alarm
- **Should have following modes of ventilation:**
- Volume control ventilation (VCV)
- Pressure control ventilation (PCV)
- Pressure support ventilation (PSV)
- Non-Invasive ventilation (CPAP and BIPAP)
- Pressure regulated volume control (PRVC) or equivalent
- Synchronized intermittent mandatory ventilation (SIMV) with Pressure Control (PC)
- Synchronized intermittent mandatory ventilation (SIMV)
- APRV-Optional

- It should be with in-built nebulization
- Shall have apnoea /backup ventilation
  - Shall have automatic patient detection facility
- Event log for errors traceability
  - Trending facility for 72 hours with 5 minutes or less resolution for recent 24 hours
- At least IP21 degree of protection to harmful ingress of water
  - Shall have built-in rechargeable battery with battery operating mode with standard ventilation not less than 1 hour
  - Total recharging time not greater than 6 hours
  - Ventilator should have Proximal / distal Flow sensor technology for precious volume delivery and minimize work of breathing.

### 3. Accessories, spares and consumables:

- **Consumables**
  - Breathing circuits for adult and pediatric: double-limb with standard outlet/inlet connectors with 22mm outside diameter with double water traps: 10 nos each
  - Exhaled gas filter: 10nos
  - Heat moisture exchanger filters (HMEF):10nos
  - Viral/Bacterial filters of minimum efficiency 99.97% of all 0.3microns particles inspiratory and expiratory: 10 nos each
  - Non-invasive ventilation masks of medium and large sizes for both adult and pediatric: 10nos
  - Filter paper for humidifier for 50uses
  - T-piece connector: 10nos
- **Reusable:**
  - Beathing circuits for paediatric and adult: reusable, autoclavable double-limb with standard outlet/inlet connectors with 22mm outside diameter with double water traps: 2each
  - Active humidifier with relevant connectors: 1no
  - Expiratory housing with in-built bacteria filters; as well as the possibility to accommodate heat moisture exchanger (HMEs)
  - CO2 sensors: 1 no. (optional)
  - Exhalation valve
- Standards hoses and connectors for oxygen and medical air wall outlet
- Cylinders Pressure regulators (from wall outlet to ventilator) to avoid damaging ventilator as required to operate: 1no.
- Reusable Masks (Medium, and Large) with textured dual flap silicone cushion flap for easy fit:
- Removable forehead support and pad to match the angle of patient's forehead
- Silicone test lung adult and child size: 01 set each
- Flow sensors: 1no
- in-built nebulizer, autoclavable: 1no
- O<sub>2</sub> Sensor: Paramagnetic /galvanic O<sub>2</sub> Cell - 1no

- Imported hinged arm holder for holding the circuit
- Non corrosive imported trolley with wheels & brakes and hinged arm: 01 no.

All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specify the quantity of every item included in their offer (including items not specified above).

#### **4. Operating Environment**

The system offered shall be designed to be stored and to operate normally under the conditions of the purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.

- Power supply: 220-240VAC, 50-60Hz fitted with appropriate plug. The power cable must be at least 3 meter in length.

#### **5. User Training**

Must provide user training (including how to use and maintain the equipment).

#### **6. Maintenance Service During Warranty Period**

During the warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required

#### **7. Installation and Commissioning**

The bidder must arrange for the equipment to be installed and commissioned by certified or qualified personnel; any prerequisites for installation to be communicated to the purchaser in advance, in detail.

#### **8. Documentation**

- User (Operating) manual in English.
- Service (Technical /Maintenance) manual in English.
- List of important spare parts and accessories with their part numbers and costing. Certificate of calibration and inspection from factory.

9. **Certification:** The bidder/ OEM should have valid CDSCO Certificate/Registration/License for both the manufacturer(s) and importer(s) as applicable.