



## PROCUREMENT OF TWO (2) UNITS ANESTHESIA MACHINE

ABC: PHP 6,700,000.00

IB NO. 2023-02-08 (03)

(Final Specification after Pre-Procurement Activity)

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### TECHNICAL SPECIFICATION:

#### Main Unit Anesthesia Machine

##### Patient Category

- Can ventilate Adult, Pediatrics and Neonates

#### Measuring Systems and Displays

- Screen size of 15" touch screen, configurable screen contents smart alarm management with extensive support system.

#### Gas Supply

- Must have 3 gas configuration (O<sub>2</sub>, Air and N<sub>2</sub>O)

#### Fresh Gas Delivery

- Must have mechanically controlled gas mixer with electronic flow measurement, numeric gas flow indicators and virtual flow meters.
- Fresh gas flow of 0 to at least 12L/min (O<sub>2</sub>, Air and N<sub>2</sub>O)
- O<sub>2</sub> concentration of 21 to 100 Vol%
- O<sub>2</sub> flush of 25 to 75 L/min at 2.7 to 6.9 kPa x 100 (39 to 100 psi; 0.27 to 0.69 MPa) supply pressure

#### Ventilator and Setting Parameters

- Must be electronically driven piston ventilator (E-Vent plus), fresh-gas decoupled, ventilation without drive gas, i.e. no medical gases are consumed in operating the ventilator (regardless of gas supply).
- All patient-gas leading components are autoclavable.
- Must have the following ventilation mode of:
  - Manual/Spontaneous (Man/Spon)
  - Volume Controlled (VC-CMV)
  - Pressure Controlled (PC-CMV)
  - Autoflow time Controlled (VC-CMV/AF)
  - Volume-controlled, synchronised (VC-SIMV)
  - Pressure-controlled, synchronised (PC-SIMV)
  - AutoFlow, synchronised (VC-SIMV/AF)
  - CPAP/PSV
- External Fresh Gas Outlet
- Standard Tidal Volume of 10 to 1500ml with an option for "Advanced neonatal support" that is capable of 5ml minimum.
- Respiratory rate (RR) : 3 to 100 /min
- Inspiratory time (Ti) : 0.2 to 10 s
- Ratio of inspiratory time to expiratory time (I:E) : 1:50 to 50:1
- Trigger threshold (Trigger) : 0.3 to 15 L/min
- Inspiratory flow (Flow) : Minimum 0.1 L/min, max ≥160 L/min
- Inspiratory pressure (P<sub>insp</sub>) : PEEP +5 to 80 hPa (cmH<sub>2</sub>O)
- Pressure limitation (P<sub>max</sub>) : PEEP +10 to 80 hPa (cmH<sub>2</sub>O)
- Pressure support above PEEP (Δp<sub>supp</sub>) : Off, 3 to (80 - PEEP) hPa (cmH<sub>2</sub>O)



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### **Breathing System**

- Must have integrated heated breathing system capable of low flow and minimum flow application.
- Must not need any tools for disassembly and assembly.
- Breathing system can be reprocess/autoclavable, replaceable without tools and must have less than 11 individual components.
- Volume of breathing system is approximately 3.6L including CO<sub>2</sub> Absorber when applying maximum Tidal Volume of 1500ml

### **Gas Monitoring**

- Integrated patient Gas Module Auto ID for different anesthetic gases.

#### **Anesthetic Gas Scavenging System (AGS)**

- Must have available active or passive anaesthetic gas scavenging system for operation with and without adequate scavenging system infrastructure; detection of excessive suction flows, with connector for sample gas disposal when using third-party patient gas measurement modules

### **Operating Characteristics**

- With storage space and working surface
- Power consumption must be <95 W, during mechanical ventilation, maximum 400 W
- Mains voltage 100 to 240 V AC at 50/60 Hz
- Internal battery backup time At least 45 min, typically 120 min (with new and fully charged battery)

### **Safety & Comfort Functions**

- Must have integrated device checklist and illustrated step-by-step instructions for daily machine preparation
- Must supports the safe and efficient application of low- and minimal-flfllow anaesthesia by using its Econometer to make the user aware of fresh-gas flow deficits and surpluses
- Can ventilate and give anesthetic gas even the machine is switched off.
- Mechanical ventilation with ambient air in case of complete failure of the gas supply
- Automatic start-up and self-test of machine including calibration of all sensors and testing of all control valves; normally no user action necessary after start of test
- Autoset function for adjusting all alarm limits, CBM mode (cardiac bypass mode)
- Breathing bag as an indicator of fresh-gas deficiency and leaks
- Pause mode for short-term interruptions of ventilation
- Data storage on USB storage device (alarm history, self-test results, screen shots, trends and machine configurations)
- Time-saving transfer of device default settings and configurations to other devices (export and import of configuration data via USB storage device)
- Integrated, dimmable illumination of working and documentation surfaces
- Central brake, smooth running castors

### **Technical Services as follows:**

1. SYSTEM WARRANTY must be two (2) years
2. CALIBRATION of the unit must be performed after installation with certificate.
3. SERVICE CALL within 24 hours maximum and must have repair facility within Mindanao area
4. PREVENTIVE MAINTENANCE for every quarter until unit warranty expires.



Republic of the Philippines  
Department of Health  
**CARAGA REGIONAL HOSPITAL**  
Surigao City

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5. SERVICE KITS and consumables to be included for one year. Consumable includes Filter Mat
  6. Supplier must deliver and install the unit without cost to the buyer.
  7. Training of end-user must be done on-site minimum of 7 days.
  8. The supplier must include the following
    - 1 unit Vaporizer (Sevoflurane)
    - Test lung
    - O2 hose
    - Reusable breathing circuit
    - Disposable breathing circuits
    - Bacterial filter
- Donut type head rest (Pedia & Adult)

**Completion Period** of Delivery and Installation and Commissioning: 90 calendar days

**Payment Terms:** Payment shall be made upon its completion of delivery, installation and commissioning provided all necessary documents under existing rules, laws and policy in accordance to auditing and accounting rules.