OTM-01 - Anesthesia equipment

**Description**

*Anaesthesia unit that can be used on adult, children and newborn patients, for administration of Oxygen, Air, Nitrous Oxide, Isoflurane, Sevoflurane, Desflurane mixtures.*

**Reference Picture**

***Note:*** *The images below are intended solely as a guiding support and should be considered as purely indicative and not restrictive of the expected item characteristics*



| Brand / Marque | |  | |
| --- | --- | --- | --- |
| Model / Modèle | |  | |
| Model code as per manufacturer classification / Numéro de référence du produit fournisseur | |  | |
| Manufacturer name / Nom du Fabricant | |  | |
| Manufacturing site / Site du Fabricant | |  | |
| Country of manufacturing / Pays de fabrication | |  | |
| Country of origin / Pays d'origine | |  | |

|  | **UNOPS Minimum technical requirements // Exigences techniques minimales de l'UNOPS** | **Complies (Yes/No) // Conforme (Oui/Non)** | **Comments/ Technical data //**  **Commentaires/Données techniques** |
| --- | --- | --- | --- |
| **A** | **Functionality and Performance / Fonctionnalité et performances** |  |  |
|  | **General description** |  |  |
| 1 | 230 V, 50Hz mono-phase electrical source with type F electrical plug. |  |  |
| 2 | Protections against over-voltage and over-current line conditions. |  |  |
| 3 | Integrated battery with at least 30 minutes of autonomy. |  |  |
| 4 | Electronic lung ventilator with at least a 12” TFT or LCD color display. |  |  |
| 5 | Mounted on a mobile cart with four (4) anti-static casters with a brake system. |  |  |
| 6 | Valves group: open (if applicable), semi-closed, closed, heated, with soda lime absorber. |  |  |
| 7 | Rapid connection device, compatible for at least 1 vaporizer. |  |  |
| 8 | In case more than one (1) vaporizer can be physically mounted on the anaesthesia machine: an interlock mechanism should be installed to allow the use of only one (1) vaporizer at a time. |  |  |
| 9 | At least two (2) empty vaporizers with agent level indicator. |  |  |
| 10 | Safe charging system that prevents waste of anesthetic agent and its evaporation when filling the vaporizer. |  |  |
| 11 | Type of vaporizers and anesthetic gases to be defined with the purchase order. Please note that it is possible that different types of vaporizers will be required for the different pieces of equipment. |  |  |
| 12 | Ventilation operating modes: manual ventilation, VC-CMV, PC-CMV, VC-SIMV. |  |  |
| 13 | Preferably breathing circuits in a circle system. |  |  |
|  | **Gas mixing system** |  |  |
| 1 | To select the mixture to be delivered (Air - O2, or N2O - O2) and the O2 enrichment for delivered mixture in case of emergency, |  |  |
| 2 | The anaesthesia module includes a device which guarantees a minimum concentration of 25% oxygen in all conditions, |  |  |
| 3 | The pressure gauges on the front panel to continuously controlling of medical gas feeding pressure coming from the gas pipelines system or the gas cylinders. |  |  |
| 4 | Accuracy of flows and mixture ratios at least within 10% of the set values |  |  |
|  | **Pneumatic Specification** |  |  |
| 1 | Flowmeters: AIR: 0-1L/min; 1-12L/min, O2: 0-1L/min; 1-10l/min, N2O: 0-1L/min; 1-12L/min. |  |  |
| 2 | Alarms: Lack or low oxygen pressure with consequent cut-off of nitrous oxide delivery. |  |  |
| 3 | Safety devices: in case of lack or low oxygen pressure cut-off, against overpressure in flowmeter, in case of lack or compressed air low pressure, against the simultaneous delivery of air and N2O. |  |  |
| 4 | Control for activation of exit of fresh gas for manual ventilations. |  |  |
| 5 | O2 emergency by-pass. |  |  |
| 6 | IN gas sockets on gas supply group: three (3) sockets for distribution system (O2 - N2O - AIR), two (2) sockets for cylinder (O2 - N2O). |  |  |
| 7 | Type of medical gas connectors to be defined with the purchase order and they may be different for each piece of equipment. |  |  |
| 8 | OUT gas sockets on gas supply group: one (1) socket for O2, one (1) socket O2 - AIR for scavenger feeding, 1 fresh gas connector for external use. |  |  |
|  | **Lung ventilator** |  |  |
| 1 | Control modality: electronic by microprocessor. |  |  |
| 2 | Dead space compensation system: automatic. |  |  |
| 3 | Breathing rate: at least from 5 to 100 bpm (step 1 bpm). |  |  |
| 4 | I:E Ratio at least: 1:1, 1:1.5, 1:2, 1:3, 2:1, 3:1. |  |  |
| 5 | Inspiratory time: at least from 0.2 to 5 sec. |  |  |
| 6 | Inspiratory pause: at least from OFF,5-60% of inspiratory time. |  |  |
| 7 | Tidal volume: at least from 5 to 1500 ml (< 50ml: step 1ml / 50-100ml: step 5ml / >100ml step 10ml). |  |  |
| 8 | Minute volume: at least from 1 to 25 liters. |  |  |
| 9 | PEEP: at least OFF, 4-20 cmH2O (step 1 cmH2O). |  |  |
| 10 | Inspiratory flow: at least from 10 to 80 L/min |  |  |
| 11 | Oximeter: Minimum resolution 1%, Automatic calibration procedure. |  |  |
| 12 | Pressure gauge for indicating the pressure in the internal breathing system in the range of at least -20 to - 80 cmH2O. |  |  |
| 13 | Flow trigger: range at least from OFF, 1 to 15 L/min (step 1 L/min). |  |  |
| 14 | Pressure trigger: range at least from -1 to -9 cmH2O under the PEEP level. |  |  |
| 15 | Safety: electronic and mechanical limit of airways pressure and self-diagnosis system. |  |  |
| 16 | Accepts gas supply pressure (AIR, O2, N2O) at least in the range: 40 to 80 psi. |  |  |
|  | **Alarms and displays** |  |  |
| 1 | Low and High airways Pressure, Low and High Breathing Rate, Low and High O2 Concentration, Low and High Tidal Volume, Electric Power Supply, |  |  |
| 2 | Apnea, Low Battery, Low Gas Supply, Disconnected Patient Circuit, Can-Bus Failure, |  |  |
| 3 | Flow sensor : Internal to the valves group, by magnetic perturbance or by differential pressure, reusable, |  |  |
| 4 | Measured parameters : PAW; PEEP; Rate; I:E; FiO2; Vte; ExpMV, MAP; Pplateau; Tpause; Ti; Te; Fi; Fe; Cs; Ri; |  |  |
| 5 | Ventilation Curves: Curves: Pressure - Flow – Volume; Loops: Volume / Pressure and Flow / Volume; Measurement range: automatic; |  |  |
| 6 | Trend: Scale and 72 hours trend period setting; Foreseen Trends: PAW; PEEP; VTe; ExpMV; Rate; |  |  |
| 7 | Events: memory storage up to 100 events per machine including the alarms, |  |  |
| 8 | Gas analysis: software for analysis and display of inspired and end-tidal CO2, inspired O2, N2O, Agent-automatic identification and concentration, MAC. |  |  |
|  | **Accessories included in the offered price** |  |  |
| 1 | At least two (2) empty vaporizers as above specified. |  |  |
| 2 | O2 supply hose. |  |  |
| 3 | N2O supply hose. |  |  |
| 4 | Air supply hose. |  |  |
| 5 | O2 cylinder supply hose. |  |  |
| 6 | N2O cylinder supply hose. |  |  |
| 7 | Top Special CO2 absorber canisters. |  |  |
| 8 | O2 cell. |  |  |
| 9 | Adult silicone patient circuit. |  |  |
| 10 | Adult Mapleson C adult patient circuit. |  |  |
| 11 | Manual ventilation KIT. |  |  |
| 12 | 5 (five) adapters compatible with the anesthetic agent loading system for each Vaporizer provided. |  |  |
| **B** | **Certifications and post sales included in the offered price** |  |  |
| 1 | The Supplier, included in the offered price, will provide the post sales services described in the document “OT-PS Type III post sales requirements for Medical Devices”. |  |  |
| **D** | **ANY DEVIATIONS OR SUPERIOR CHARACTERISTICS MUST BE INDICATED BELOW // TOUTE DÉVIATION OU CARACTÉRISTIQUE SUPÉRIEURE DOIT ÊTRE INDIQUÉE CI-DESSOUS\* :** | | |
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