

Reliable And Accurate Anaesthesia

The Universal Anaesthesia Machine (UAM) delivers safe anaesthesia in any hospital, including those where inadequate resources, unreliable electricity and shortages of compressed medical gases preclude the use of conventional machines. It combines elements from continuous flow and draw-over designs and generates its own oxygen from an integrated oxygen concentrator. In addition, the UAM provides standard connectors for cylinder, pipeline and portable oxygen. If no source of oxygen is available the machine automatically draws in room air. A real-time monitor displays the oxygen content of inspired air, adding convenience and a crucial safety feature for draw-over anaesthesia. The low-resistance vaporizer provides calibrated delivery of anaesthetic agent and the manual bellows ensures safe assisted respiration for adults and children without requiring a high pressure gas source.

The UAM is CE-certified and manufactured in an ISO-qualified factory. It is compatible with standard anaesthesia accessories to promote low annual operating costs.

Designed for simple field-based service, components in the UAM can be replaced using standard tools by local technicians without removing the workstation from the hospital. Gradian Health Systems provides on-line and telephone service support, courier delivery of spare parts and regional service representatives.

Visit www.gradianhealth.org for more information on the UAM and to read case studies about its use around the world. You can contact us at info@gradianhealth.org.



No Compressed Gas Or Electricity Required

A built-in oxygen concentrator produces up to 10 liters per minute of 95% oxygen. If power and compressed gas are unavailable, the UAM automatically converts to draw-over mode, continually delivering consistent anaesthesia.

Integrated Safety

The oxygen monitor lasts up to ten hours on battery backup, displaying inspired oxygen content. If using nitrous oxide, the system automatically disables N₂O gas flow if a hypoxic mixture is detected.

Support At Every Level

Gradian Health Systems trains local biomedical technicians to perform first line service. We also offer Internet and phone support, spare parts by courier shipment and regional service providers.



Integrated oxygen concentrator delivers 10 liters per minute of 95% O₂
Compatible with cylinder, pipeline and portable oxygen as backup sources
Accepts all standard pediatric and adult breathing systems connections
Seamless transition to draw-over mode using room air during power outages and O₂ shortages
Accurate, low resistance draw-over vaporizers work without compressed gas
Calibrated delivery of isoflurane or halothane
Built-in oxygen monitor displays O₂ concentration of inspired gas and warns of hypoxic mixtures
Nitrous oxide can be used optionally and automatically shuts off if hypoxic mixture is detected
Hand-operated bellows allows ventilation without electric power or compressed gas
Compact, rugged design and proven quality demonstrated by the CE Mark

Physical And Electrical

Dimensions: 146cm x 53cm x 69cm; 130kg
Aluminum frame with vertical dove mount side rails
Mains power supply: 240V, 50-60Hz
Oxygen monitor power: CE-marked, fused, medical grade
Isolator and surge protected components & sockets
3.5" touch screen for oxygen monitor & alarms
Front lockable castors

Oxygen Supply And Monitoring

Integrated oxygen concentrator with dual filters
O₂ flow rate: 0.1 to 10 liters per minute
Maximum O₂ concentration: 95%
Maximum concentration available at all flow rates
Alternative O₂ sources: cylinder, pipeline or portable
Multi-diameter hose connector for portable O₂ source
Permits adjustment of air /oxygen mixture
Room air intake when minute volume > fresh gas flow
Glass flow meter accurate to +/- 2.5% at 100% O₂
Integrated, calibrated inspiratory oxygen monitoring
Pressure sensitive apnea alarm
Adjustable minimum and maximum O₂ alarm settings
Ten hour battery backup, trickle charge from mains power

Optional Use Of Nitrous Oxide

Pipeline or cylinder sources
N₂O automatically shut off if O₂ falls below 25%
Differentiated flow control knob
Independent glass flow meter accurate to +/- 2.5%

Ventilation

Unique bellows for adult and pediatric ventilation
Made from durable, long-lasting silicone rubber
1600cc capacity
Inspiratory pressure relief valve at 55cm water
Silicone inflating balloon valve at the expiratory port
Standard adult and pediatric breathing systems
Accepts standard scavenging devices

Vaporizers

Stainless steel and plated brass construction
Separate units for isoflurane and halothane
Seamless transition from continuous to draw-over mode
120ml capacity

Rear Panel Connectors

Mains isolator switch, 2 UK style power sockets
Oxygen and nitrous pipeline and cylinder connectors
Multi-diameter external oxygen hose connector

