The Gradian CCV is built to ventilate critically-ill patients wherever they present—with a 7-hour internal battery, the option for a 14-hour external battery, and portability features to enable ease of use throughout the continuum of critical care.

**CCV | COMPREHENSIVE CARE VENTILATOR**

PORTABILITY FEATURES
- Bed hooks, handle, and shoulder strap for bedside use and transportation, plus a sturdy rolling cart for intra-hospital transfers.

USER-FRIENDLY INTERFACE
- Tactile, straightforward interface with programmable ventilation profiles for specific disease states.

GAS SOURCE FLEXIBILITY
- Integrated compressor and gas mixer, plus hoses and adapters for most oxygen and air sources.

OXYGEN RESERVOIR
- External oxygen reservoir that allows for use with an oxygen concentrator or flowmeter, if high-pressure oxygen sources are not available.

INTERNAL BATTERY & EXTERNAL OPTION
- Internal battery that enables 7-hours of operation without mains power and the option for a 14-hour external battery.

The Gradian CCV fulfills or exceeds most of the essential specifications recommended by the World Health Organization for ICU, transport, and sub-acute ventilators for COVID-19 care.

CE-marked & FDA cleared
## SPECIFICATIONS

### PATIENT RANGE
- Infant/Pediatric (≥ 5 kg) – Adult

### BREATHING CIRCUITS
- Single-limb, reusable (Adult and Pediatric)

### MODES
- **Ventilation Modes:**
  - Volume Assist Control
  - Pressure Assist Control
  - CPAP & BiPAP
- **Quick Start Modes:**
  - Adult & Child (programmable)
- **Custom Modes:**
  - Three (3) programmable ventilation setting profiles available for quick recall

### CONTROL SETTINGS
- **Tidal Volume:** 40 – 2000 mL
- **Respiratory Rate:** 0 or 5 – 60 BPM
- **Inspiratory Time:** 0.5 – 2.0 sec
- **PEEP/CPAP:** 0 – 25 cmH2O
- **Pressure Support/CPAP:** 0 – 25 cmH2O*
  - Flow: 5 – 60 L/min (≥ 80 L/min possible in some modes)
- **Target Pressure:** 15 – 55 cmH2O
- **Trigger Sensitivity:** -5 – -1 cmH2O
- **Pressure Relief:** ≤ 85 cmH2O
- **Set %O2:** 21% – 100%
- **Flow Wave Pattern:** Square or descending
- **Settings Lock:** On/Off

### ENVIRONMENT
- **Shock:** 100 G-Force
- **Vibration:** IEC 60068-2-6
- **Operating:** -18°C – 50°C
  - 5 – 95% RH
- **Storage:** -40°C – 60°C
- **Ingress:** IP22

### GAS SOURCES
- **Oxygen Input:**
  - High pressure port (0 – 80 psi)
  - Low pressure barb (< 10 psi)
  - Oxygen reservoir for low-flow sources
- **Air Input:**
  - Room air entrainment (internal compressor)
  - High pressure port (40 – 80 psi) DISS
- **Gas Mixing:**
  - Integrated oxygen/air mixer

### HUMIDIFICATION
- **Active:** Heated humidifier with reusable accessories
- **Passive:** Compatible with heat/moisture exchanging filters

### ACCESSORIES
- **Rolling Stand:** Two baskets, handle, locking wheels
- **Portability Features:** Handle, hooks, shoulder strap
- **Pulse Oximeter:** Hand-held (adult and pediatric probes)
- **HME Filters:** Starter kit (adult and pediatric)
- **Gas Source Adapters:** BS, AFNOR, NIST (oxygen and air)

### BATTERY PARAMETERS
- **Internal Battery:** Up to 7 hours
- **External Battery:** Up to 14 hours
- **Battery Type:** Sealed lead acid

### POWER REQUIREMENTS
- **Mains:** 110 – 240 VAC, 50/60 Hz, <1A

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### MONITORED PARAMETERS
- **Measured:**
  - Airway Pressure
  - Delivered Tidal Volume
  - Spontaneous Breath Rate
- **Calculated:**
  - I:E Ratio
  - Flow rate
  - FiO2

### ALARMS
- **High Airway Pressure:** 10 – 55 cmH2O
- **Low Airway Pressure:** 5 – 15 cmH2O
- **Apnea:** After 20 sec, enters apnea mode
- **Low Source O2 / Air:** Triggers at 40 psi
- **System Failure:** Malfunction alert
- **Critical Battery:** Approx. 20 min battery remaining
- **Audible Alarm:** ≥ 70 dB
- **Silence/Reset:** 110 sec

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### DIMENSIONS (no stand)
- **Width:** 34 cm (13.3 in)
- **Depth:** 13 cm (5.3 in)
- **Height:** 35 cm (13.8 in)
- **Weight:** 8.5 kg (18.8 lb)

### 3-YEAR WARRANTY:
- Annual preventive maintenance checks
- Local storage of spare parts for easy access
- 60+ Gradian-certified technicians
- Managed from Nairobi service hub

### HIGH-QUALITY TRAINING:
- Covers product & clinical refresher topics
- Utilizes high-fidelity simulation, real-world clinical scenarios
- Is offered in-person & online through the Gradian Training Resource Center

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**GUARANTEED WITH EVERY PURCHASE**

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