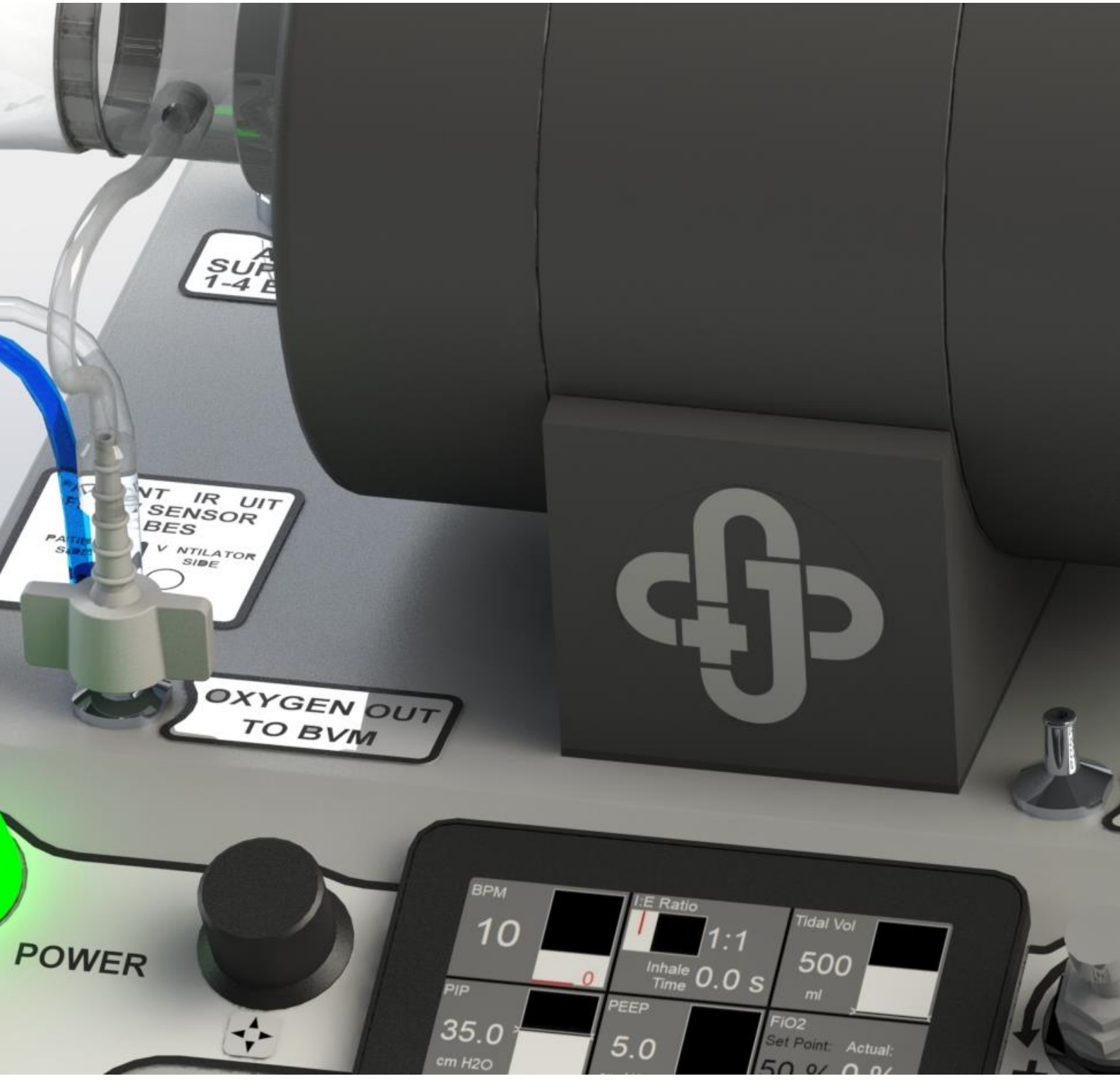
OzVader

# Emergency Use Pandemic Ventilator




**OzVader – saving lives, anywhere.**

**Document Version 2.1**

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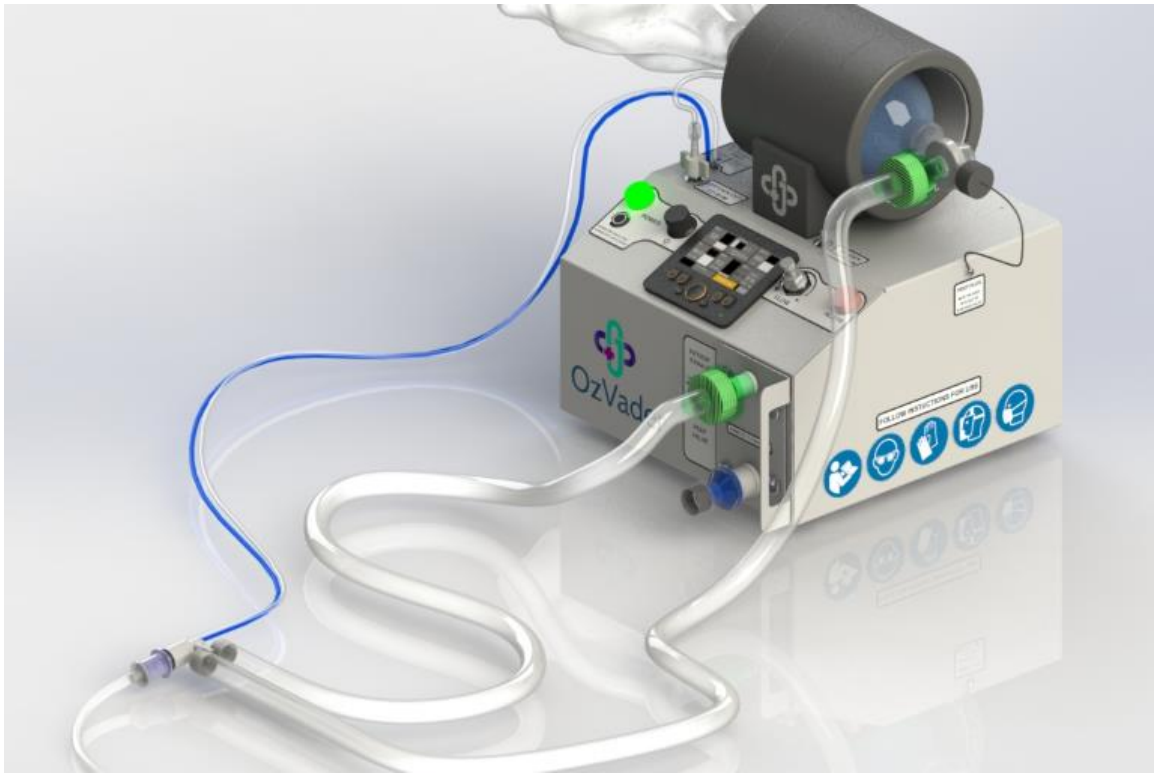
**OzVader V1 Pandemic Ventilator**

- Emergency use pandemic ventilator designed specifically to support global medical disaster situations
- Engineered to provide stable function in a wide variety of use locations (ie. medical disaster zones, hospital overflow treatment centers, during transport or regional medical clinics with limited hospital infrastructure)
- System does not require hospital pressured gas infrastructure or constant electrical power supply
- Flexible power systems including:
    - 110-240V AC
    - 12V DC
    - 12V internal battery
    - Air powered (medical or industrial)
- Intelligent robotic control system actuates a conventional Bag-Valve-Mask (BVM) to give precise control over key ventilation parameters.
- Automatically adapts to any adult BVM type (supplier agnostic)



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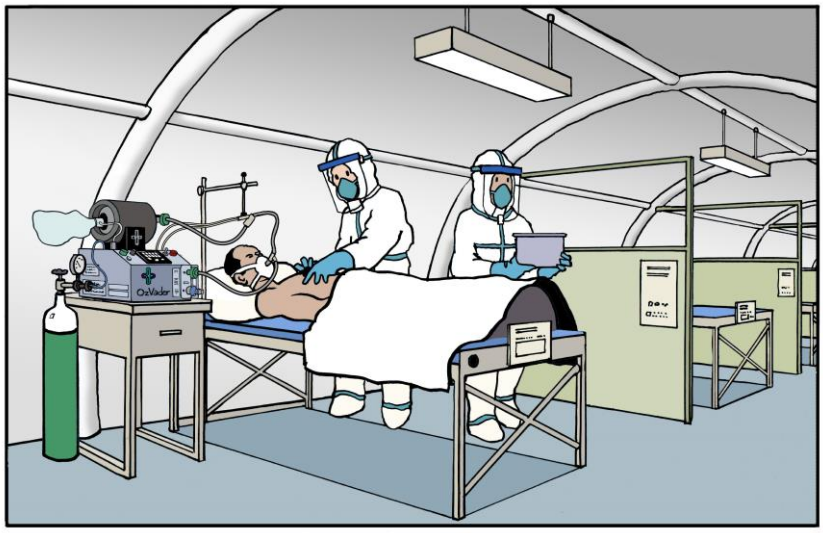
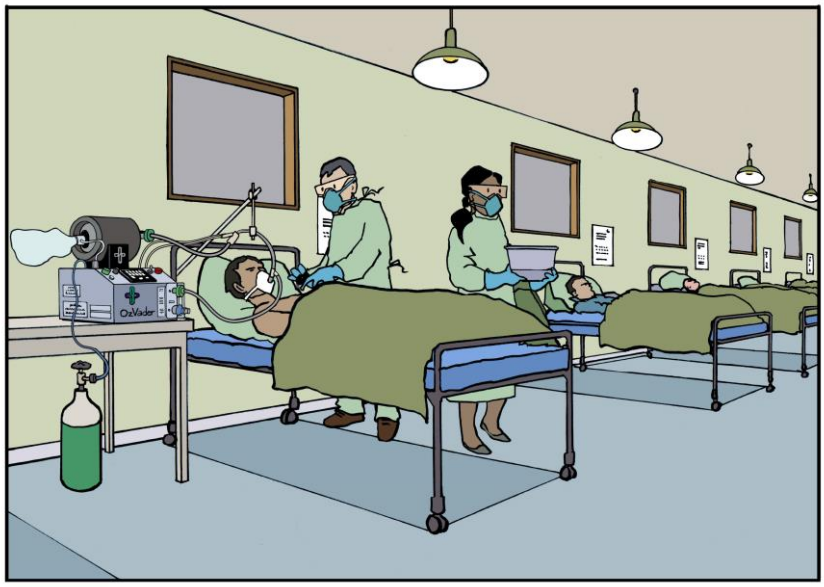
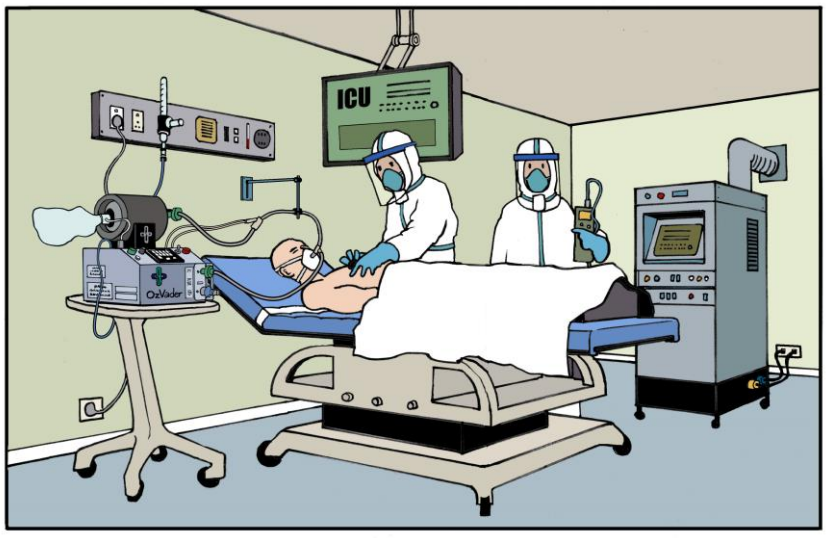
# OzVader – saving lives, anywhere.



- Medical Disaster Zones
- Hospital Overflow Treatment Centers



- Regional Medical Clinics




- Conventional Hospital Environments

OzVader

# COVID-19 Emergency Use Pandemic Ventilator

## OzVader V1 Technical Specifications

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| **Basic ventilation modes** | Intermittent mandatory ventilation (IMV)<br>Volume controlled ventilation (VCV) |
| **Operational summary** | Robotic bag-valve-mask (BVM) actuation<br>BVM actuated by the OzVader bellows system for long duration use<br>Compatible with all adult sized BVM models (supplier agnostic).<br>Set and monitor ventilation variables:<br>▪ Tidal volume (Vt)<br>▪ Respiratory rate<br>▪ Flow rate<br>▪ I:E ratio<br>▪ PEEP<br>▪ FiO2<br>▪ Peak inspiratory pressure (PIP) |
| | Backup internal air pump when compressed air is unavailable (12V) |
| | On-board micro-processor based controller with safety monitoring |
| | Simple user interface designed with ICU clinicians in mind for functionality & usability |
| | Flow and pressure sensors monitor ventilator and patient variables with integrated alarm functions |
| **Contamination control** | Removable patient exhalation module compatible with low temperature sterilization processes<br>Compatible with viral filters on exhalation & inhalation limbs<br>Compatible with invasive intubation |
| **Reliability & flexibility** | Designed for medical disaster situations requiring reliability, durability and flexibility with minimal moving parts and inbuilt power system redundancy<br>Minimum 14 days continuous run-time on a single BVM |
| **Oxygen & Fi02** | Recommended oxygen flow rate provided to user based on measured air flow. User sets the external wall/bottle mounted O2 flow control |

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| | between 0% and 100%<br>Internal oxygen flow sensor monitors Fi02% with integrated oxygen visual and audible alarms |
| **Tidal volume** | Adjustable range of 200ml to 800ml (validated)<br>Maximum range to 950ml (not formally validated) |
| **Respiratory rate** | 5 to 30 breaths per minute – adjustable |
| **Flow** | 5L/min to 100L/min – adjustable<br>Up to 100L/min achievable when connected to external compressed air supply |
| **Inspiratory rate** | 0.5 to 2sec inspiratory time - adjustable |
| **Inspiratory to expiratory time ratio (I:E)** | 4:1 to 1:9 ratio – adjustable |
| **Peak inspiratory pressure (PIP)** | Direct measurement of peak inhalation pressure up to 80cm H20 - adjustable<br>Mechanical fail-safe pressure valve at 80cmH2O maximum<br>Target plateau pressures < 30cmH2O<br>Driving pressure < 15cmH2O |
| **Positive end expiratory pressure (PEEP)** | Adjustable PEEP between 2-25cmH2O – adjustable<br>Compatible with standard disposable & re-usable PEEP valves |
| **Ventilation circuit** | Twin tube ventilation circuits (inspiratory and expiratory limbs)<br>Compatible with all standard 22 mm diameter (OD) 'male' standard circuit connectors |
| **ICU clinician functionality** | Clinical override function of 35cm H2O PIP cut-off while performing diagnostic procedures<br>Inspiratory pause function allowing setting of safe tidal volumes and PEEP (plateau pressure measurement) – 10sec |
| **Alarmed functions** | ▪ Power-off while ventilating<br>▪ External power supply failure<br>▪ Back-up battery<br>▪ Patient disconnect / patient circuit leak<br>▪ Low Fi02 |

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| | ▪ Maximum PIP exceedance<br>▪ Tidal volume not met or exceeded<br>▪ PEEP high/low |
| **Power modes** | 110V-240V AC (plug type provided to suit delivery destination)<br>Internal 12V DC battery backup<br>External compressed air (hospital air / industrial compressed air) |

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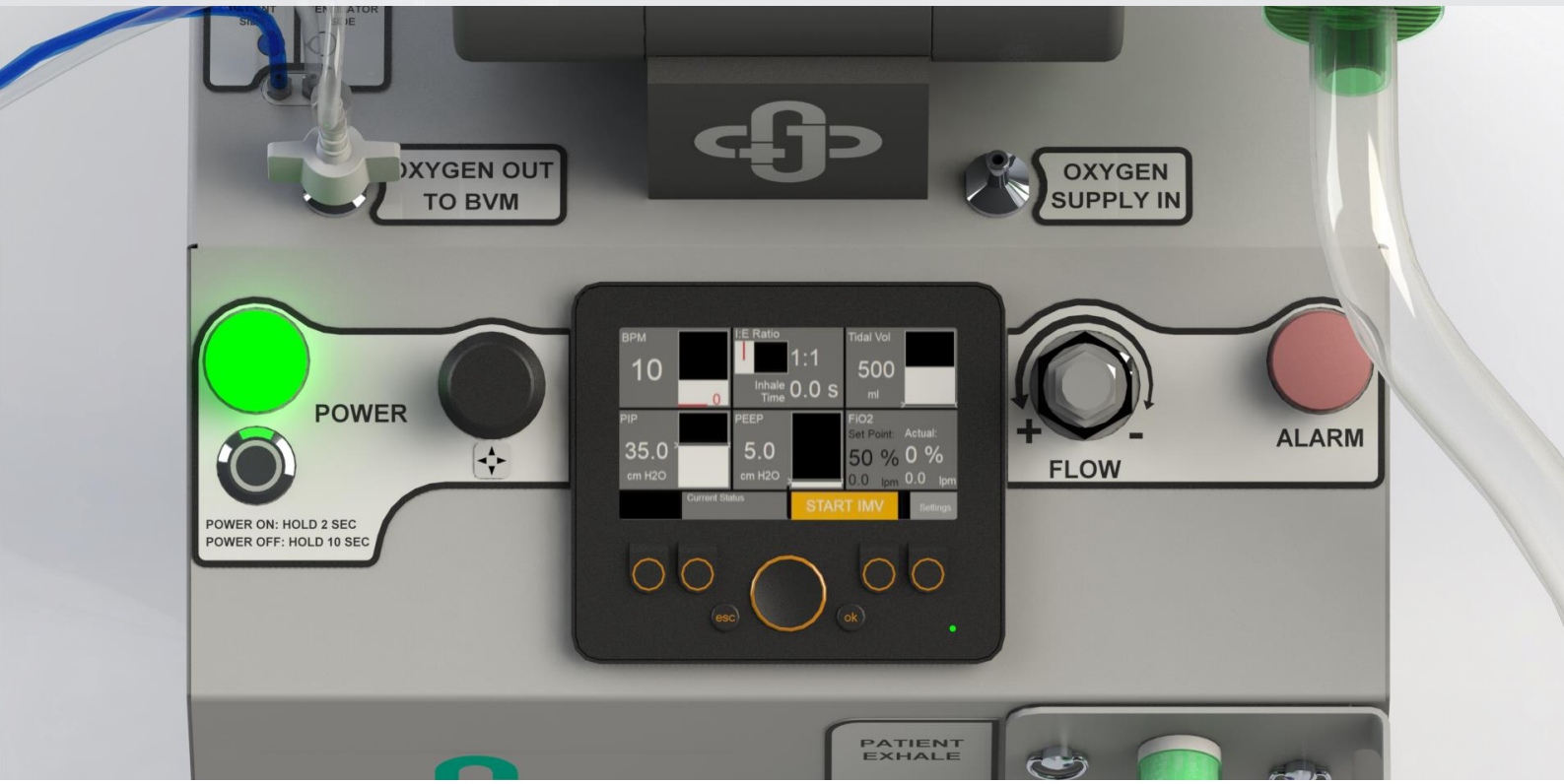


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# Contact Details


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