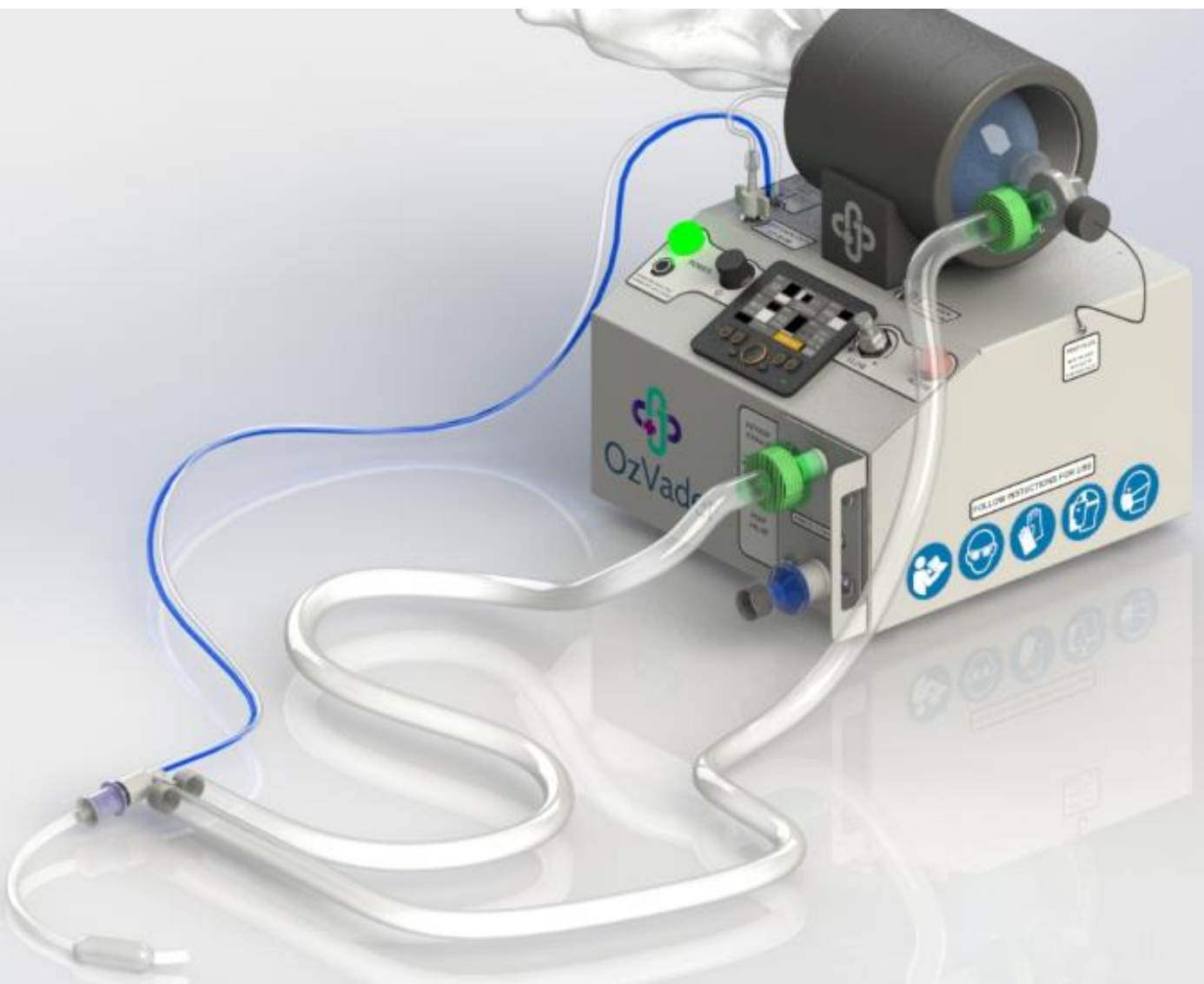


Emergency Use Ventilator

Document Version 1.9

OzVader

- OzVader V1 is an Australian designed & manufactured intermittent mandatory ventilator (IMV) developed specifically for critical patients.
- OzVader V1 is engineered to function in all usage locations from ICU to remote field settings. Its flexible power systems (110-240V AC, 12V DC, 12V battery backup and air) are combined with an intelligent control system and the globally familiar Bag-Valve-Mask (BVM).





COVID-19 Emergency Ventilator

OzVader V1 Technical Specifications

Ventilator modes

Invasive ventilator
Intermittent mandatory ventilation (IMV)
Volume controlled ventilation (VCV)

Operational summary

Pneumatically actuated mechanical ventilator
Pneumatic air pump (BVM) actuated by the OzVader pressure chamber. Compatible with the majority of adult sized bag-valve-mask (BVM) types; supplier agnostic.

Maintains precise control over key ventilation variables:

- ❖ Tidal volume (V_t)
- ❖ Respiratory rate
- ❖ Flow
- ❖ IE ratio
- ❖ PEEP
- ❖ FiO_2
- ❖ Peak inspiratory pressure (PIP)

Backup 12V internal air pump when compressed air (hospital or industrial) is unavailable

Controller: on-board micro-processor based controller with system health monitoring

User Interface: simple design with ICU clinicians in mind for functionality & usability

Sensors: flow and pressure sensors monitor ventilator and patient variables with integrated alarm functions

Electronic valves provide accurate control of air pressure and flow.

Contamination control

Removable patient exhalation module compatible with standard low temperature sterilization processes

Compatible with viral filters on exhalation & inhalation limbs

Compatible with invasive intubation

Reliability & flexibility	<p>Designed for reliability, durability and flexibility with minimal moving parts and inbuilt power system redundancy</p> <p>Minimum of 14 days continuous run-time on a single BVM</p> <p>110-240V, 12V DC, backup 12V DC battery, backup air pump</p>
Oxygen & FiO₂	<p>Recommended oxygen flow rate provided to user based on measured air flow. User sets the external wall/bottle mounted O₂ flow control between 0% and 100%</p> <p>Internal oxygen flow sensor monitors FiO₂% with integrated oxygen visual and audible alarms</p>
Tidal volume	<p>Adjustable range of 200ml to 800ml (validated)</p> <p>Maximum range to 950ml (not formally validated)</p>
Respiratory rate	5 to 30 breaths per minute – adjustable
Flow	<p>5L/min to 100L/min – adjustable</p> <p>Up to 100L/min achievable when connected to external compressed air supply</p>
Inspiratory rate	0.5 to 2sec inspiratory time - adjustable
Inspiratory to expiratory time ratio (I:E)	1:1 to 1:3 ratio – adjustable
Peak inspiratory pressure (PIP)	<p>Direct measurement of peak inhalation pressure up to 80cm H₂O - adjustable</p> <p>Mechanical fail-safe pressure valve at 80cmH₂O maximum</p> <p>Target plateau pressures < 30cmH₂O</p> <p>Driving pressure < 15cmH₂O</p>
Positive end expiratory pressure (PEEP)	<p>Adjustable PEEP between 2-25cmH₂O – adjustable</p> <p>Compatible with standard disposable & re-usable PEEP valves</p>
Ventilation circuit	<p>Twin tube ventilation circuit - inspiratory and expiratory limbs</p> <p>Compatible with all standard 22 mm diameter (OD) 'male' standard connectors</p>
ICU clinician functionality	<p>Clinical override function of 35cm H₂O PIP cut-off while performing diagnostic procedures</p> <p>Inspiratory pause function allowing setting of safe tidal volumes and</p>

PEEP (plateau pressure measurement) – 10sec

Alarms

- Power-off
- External power supply failure
- Back-up battery
- Patient disconnect / patient circuit leak
- Low FiO₂
- Maximum PIP exceedance
- Tidal volume not met or exceeded
- PEEP high/low

Power modes

110V-240V AC (plug type provided to suit delivery destination)

Internal 12V DC battery backup

External compressed air (hospital air)

External compressed air (industrial compressed air)

2 hours backup operation achieved via external compressed air tanks or connection with external power source



OzVader V1 Ventilator





Contact Details

Phone **OzVader Sales & Support**

+61 7 3260 5390

Email support@ozvader.com

Address OzVader
248 Earnshaw Road
Northgate
Brisbane, Queensland, Australia

