GUM-V

Everyone Deserves To Breathe

The *GUM-V* is an effective respirator to treat patients with respiratory diseases. It meets the internationally recommended requirements for protective lung ventilation in the context of the Covid-19 pandemic but can be applied for any type of ….. . Due to its easily disinfectable and rugged design, the *GUM-V* is especially fit for challenging circumstances where contamination prevention is critical.

Made in Belgium

PATENT PENDING - NO CLINICAL USE APPROVAL YET TO DATE | Version 3.0 - October 2020

Meet GUM-V

Versatile

The ventilator is suitable for operating theatres, ICU's, field hospitals, intramural transport, ambulance transport as well as for emergency assistance on location.

State-of-the-art Ventilation Modes

The therapy applications include *non-invasive ventilation* (mask or hood) as well as *invasive ventilation* (endotracheal tube). The ventilator enables the standard *pressure controlled* and *volume controlled* ventilation modes. The built-in patient synchronized and weaning technology consists of a flow and pressure triggering system to provide comfortable breathing support.

Durability At an Affordable Price

By focusing on *the essential functions* to obtain a qualitative ventilator, the ventilator can be made economically. The *sturdy design* of the ventilator yields a solid construction that requires little maintenance. After long and intensive use, the worn components can be easily replaced.

Ventilation cockpit

Intuitive

The ventilator can be easily installed and operated intuitively due to its clear interface. This consists of a big touch screen and a combination of push buttons with a jog wheel. The conveniently placed color coded connectors are non-interchangeable.

Complete Patient Monitoring

The patient's *ventilation status* is monitored in real time to support well-informed therapy decisions. The key parameters of Pressure, Flow, PEEP and FiO2 are visualized both numerically and graphically. The *capnography set** with volumetric mainstream CO2 sensor provides numerical and graphical data about the metabolic state of the patient as well as feedback about the execution quality of the intubation. *The SpO2 sensor** enables plethysmography of the lungs and monitoring of the heart rate. Monitoring via local network is possible via an ethernet connection.*

* Optional future feature

Ventilation ranges

Ventilation frequency	1-60/min
Tidal Volume	0,1-1 L
Inspiratory pressure	1-80 cm H2O
I/E ratio	1/1 – 1/3
PEEP	0-20 cm H2O
FiO2	21-100 Vol %

Secure

Power and Backup

The ventilator operates at *a power supply of 100-240 VAC* and 50-60hz. Alternative connections are a *24V DC* external battery unit or the power supply of an ambulance. The ventilator switches to the *Uninterruptible Power Supply (UPS)* of 5h (standard) to facilitate intramural patient transport or as backup during an electricity supply interruption. This feature could be upgraded to 10h* to extend power safety in locations with an unstable electricity supply.

* Optional feature

Safety

Controls are placed in such a way to discourage inadvertent adjustments. Buttons can be locked and a switch-off protection during ventilation feature is standard. The pressure measurement and overpressure protection systems are designed in a redundant way. Also the power supply monitoring system is made redundant.

Alarms

The built-in audio-visual alarm system guarantees optimal safety. The alarm is triggered by the following situations:

- Deviating respiratory parameters (volumes, pressures, flow, FiO2, EtCO2)
- Apnea in both invasive and non-invasive ventilation will automatically start mandatory ventilation.
- Leak detection
- Interrupted oxygen supply or disconnection of sensors
- Electricity supply failure

Universal

Compatibility

The device can be installed on a table, attached to a hospital bed, mounted on a trolley* or used in an ambulance. Oxygen supply can come from the hospital wall connection or from an oxygen bottle. The device's respiratory set-up is compatible with widely available conventional sensor types. Filters, masks, tubes and connectors are in accordance with international standards and compatible with most ICU breathing systems. The breathing tube can be connected to an external humidifier.

* Trolley available as an option

Contamination Prevention

The *smooth surfaces* are easy to disinfect and resistant to most medical cleaning agents. The full respiratory system can be either *disinfected* or *disposed* of completely. Healthcare staff and visitors are protected by the *filters* on the exhaled air tube.

Certification

The ventilator is designed in line with IEC 60601-1:2006 and IEC 60601-1-2:2015, the essential requirements of ISO 80601-2-12:2011, the MHRA requirements for Rapidly Manufactured Ventilator System (UK) and the AAMI Emergency Use Resuscitator Systems Design Guidance (AAMI/CR503:2020).

Our Mission

With the *GUM-V* project, the non-profit organization Gear Up Medical vzw has the mission to help fight the worldwide Covid-19 pandemic by providing hospitals in need with durable and affordable respirators.

The project, which is supported by entrepreneurs, volunteers and well established industry partners, exists thanks to our valued donors.

Gear Up Medical vzw is headquartered near Ghent, Belgium in close proximity to its key academic and clinical stakeholders, the University of Ghent and Belgian Hospitals

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