HAMILTON-T1

Intelligent transport ventilation

HAMILTON MEDICAL

Our passion. Intelligent Ventilation solutions

Ever since we were founded in 1983, our focus has been on supporting the frontline heroes of critical care - with ventilation technologies that are safe, effective, and lung-protective. And we want to lessen the load for those who make extraordinary efforts every day, helping seriously ill patients fight their way back to health.

That is why we are committed to helping medical teams deliver the best respiratory care - to anyone, anywhere. That commitment is present in everything we do.

Bob Hamilton
CEO

Meet the HAMILTON-T1

The HAMILTON-T1 is the first transport ventilator that combines the functionality of a fully featured ICU ventilator with the compactness and ruggedness required for transport. This combination enables you to provide optimal ventilation therapy to all patient groups during transport.

- ✓ Approvals and certificates for use in ambulances, helicopters and airplanes
- ✓ Adult, pediatric, and neonatal ventilation
- ✓ Independence from compressed air
- ✓ Up to 9 hours of battery operating time
- ✓ Noninvasive ventilation and integrated high flow oxygen therapy*
- ✓ Advanced ventilation modes, including ASV® and INTELLiVENT®-ASV
- ✓ O2 assist for continuous and responsive oxygen management
- ✓ CPR ventilation

*Always use active humidification during high flow oxygen therapy.

Designed for mobility and convenient transport

Approved for all types of transport

The HAMILTON-T1 meets the transport standards EN 794-3 and ISO 10651-3 for emergency and transport ventilators, EN 1789 for ambulances, EN 13718-1 and RTCA/DO-160G for aircraft, as well as IEC 60601-1-12 for basic safety and essential performance. It reliably accompanies your patients to any destination either within or outside of the hospital, on the ground, at sea, and in the air.

Independent from compressed air

The integrated high-performance turbine enables the HAMILTON-T1 to be completely independent from compressed air, reducing weight and saving space. Even patients ventilated noninvasively can be transported successfully across greater distances.

Up to 9 hours of battery operating time

A battery operating time of up to 9 hours is provided by one integrated and one hot-swappable battery. The battery operating time can be extended as required with additional hot-swappable batteries.

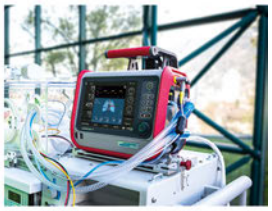
Flexible mounting and system integration options

The wide range of system integration and mounting options allows you to tailor the HAMILTON-T1 to your needs and infrastructure. Various solutions are available for all the main types of helicopters and ambulances, as well as hospital beds, stretchers, surfaces, shelves, poles, rails, and ceilings.

The most popular ventilator for intensive care transport helicopters

According to the HOVER survey (Handover of ventilated Helicopter Emergency Services [HEMS] patients in the emergency room) conducted online amongst air rescue organizations in Germany, Austria, Switzerland, Italy, and Luxemburg, 71% of those organizations chose the HAMILTON-T1 as their intensive care transport ventilator[1].

[1] Hilbert-Carius P. Notfall Rettungsmed 23, 106–112 (2020). https://doi.org/10.1007/s10049-019-0579-z



ASV
25
7.0
435
16
Modes
Controls
Alarms
Monitoring
Tools
Events
System
HAMILTON-T1
HAMILTON MEDICAL

Ease of use

In close cooperation with users and ventilation experts, our engineers have designed the user interface to be particularly intuitive. Switching between the HAMILTON-T1 and all other Hamilton Medical ventilators is easy, because they are all operated according to the same principles.

The Ventilation Cockpit on the HAMILTON-T1 consolidates the monitoring data and displays it as advanced graphics. These provide a quick overview of the patient's current ventilation status and provide a reliable basis for therapy decisions.

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About 50% of our patients go onto ASV mode. It is specifically advantageous in trauma. You have so many other fires to put out, that it is nice to just set up the ventilator and allow ASV to manage the patient from a lung standpoint.

Kyle Driesse, Critical Care Flight Paramedic
Life Link III
Minneapolis, USA

The Ventilation Cockpit

1 Main monitoring parameters

All of the main monitoring parameters at a glance. The large characters allow you to see them even from a distance.

2 Dynamic Lung

One quick look shows you tidal volume, lung compliance, patient triggering, and resistance in real-time. The lungs expand and contract in synchrony with the actual breaths.

3 Customizable user interface

You can configure the display layout with different waveforms, loops, trends, or intelligent panel graphics to suit your institution's needs and protocols. Nurses and clinicians can have their own preferred layout.

4 Direct access to main controls

Access and adjust the most important controls for the current mode directly on the main display.

For transporting all patients, even the smallest

State-of-the-art ventilation therapy for newborns

- ✓ Noninvasive ventilation modes and therapies developed especially for neonatal patients (synchronized noninvasive ventilation, demand-flow nCPAP modes, Volume Support mode, and high flow oxygen therapy)
- ✓ Invasive ventilation modes developed for neonatal patients, including volume-targeted ventilation
- ✓ Leak compensation in every mode

Continuity of care for newborns from the delivery room to the NICU, as well as for transport

- ✓ In combination with a transport incubator, it represents an advanced solution for intra- and interhospital transport
- ✓ Monitoring parameters specific to neonates (SpO2 measurement with Oxygen Saturation Index, SpO2/FiO2-ratio, and CO2 measurement)

Dedicated interfaces and consumables for neonates

- ✓ Interfaces for noninvasive ventilation specifically for neonates
- ✓ Robust proximal sensor for accurate flow measurement with low dead space
- ✓ Single-use consumables that may help in controlling infections

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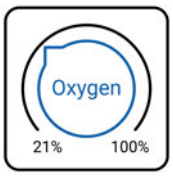
The HAMILTON-T1 transport ventilator is very small and compact, but still has all the features of a conventional ICU ventilator.

Thomas Burren, Chief Nurse Rega Jet
Rega - Swiss Air Rescue
Zurich, Switzerland



Oxygen adjustable from 21% to 100%

allows you to replicate the bedside settings one-to-one during transport. The adjustment to 21% even makes it possible to ventilate your patient with ambient air only.

CPR ventilation

adapts ventilation settings to situations where CPR is being performed. It supports the CPR workflow with quick access to preconfigurable settings, adequate alarm and trigger adjustment, CPR-timer display, and display of the relevant main monitoring parameters and curves.

Integrated high flow oxygen therapy

can be applied using the same device and breathing circuit, simply by changing the patient interface. With the optional integrated high flow oxygen therapy, the ventilator offers you a range of ventilation and therapy options in one device.

O2 assist

is available at the touch of a button. Take control of oxygen management by setting individualized SpO2 targets for your patients. The system continuously adjusts the oxygen supply to meet your patient's real-time needs, potentially protecting against both hyperoxemia and hypoxemia. This enables you to dedicate more time to other important tasks at the bedside.

High-performance noninvasive ventilation (NIV)

is enabled by the ventilator’s integrated high-performance turbine and peak flow rate of up to 260 l/min. Optimal flow delivery is ensured even in the event of large leaks.

NIV-only option: The complete solution for noninvasive ventilation

offers just the modes you need for high-performance noninvasive ventilation support. It enables you to transition seamlessly between noninvasive modes and high flow oxygen therapy (optional) for pediatrics and adults, without changing the device or even the breathing circuit.

Features and options

Adult, pediatric, and neonatal ventilation

Configurable loops and trends

High-performance turbine

Compatible with conventional speaking valves

Hot-swappable battery backup

Night vision goggles (NVG)

Serial interface for connection to PDMS or patient monitors

Approval for all types of transport

Mainstream (volumetric) and sidestream capnography

Real-time patient synchronization with IntelliSync+

Pulse oximetry
(SpO2 and pulse measurement)

INTELLiVENT-ASV for bedside assistance

nCPAP modes

Integrated pneumatic and optional Aerogen nebulizer

From the ventilation specialist

Academy

Our Academy provides free, open-access educational content about mechanical ventilation and ventilators. Join here: www.hamilton-medical.com/Academy.

Universal ventilator consumables

Our accessories and consumables are specially developed for the highest possible patient safety and ease of use. Choose between reusable and disposable parts according to your institutional policies.

Peripheral devices

Our ventilation portfolio includes an active humidifier, the HAMILTON-H900, as well as our automatic cuff pressure controller, IntelliCuff. Both devices may be used with all kinds of mechanical ventilators.

More information:
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