Hamilton Medical
Intelligent Ventilation since 1983
In 1983 Hamilton Medical was founded with a vision: To develop intelligent ventilation solutions that make life easier for patients in critical care and for the people who care for them. Today, Hamilton Medical is a leading manufacturer of critical care ventilation solutions for a wide variety of patient populations, applications, and environments.

The right ventilation solution for any situation

The ventilators from Hamilton Medical ventilate all of your patients; in the intensive care unit, during an MRI procedure and in all transport situations, from the neonate to the adult. Each of these ventilators is equipped with the same standardized user interface and uses the same Intelligent Ventilation technologies. This enables Hamilton Medical ventilators to help you to:

- Increase the comfort and safety of your patients
- Make life easier for the caregivers
- Increase efficiency and return on investment

Continuous research and development close to the patient ensure cutting edge technology. To ensure highest quality standards all our devices and proprietary components are produced in-house.
It makes me extremely proud that our ventilation solutions have made a difference for many of our customers and I sincerely hope they make a difference for you too.

Bob Hamilton, President
Hamilton Medical, Inc., Reno (NV), USA
ASV is adapting to the patient’s needs while maintaining a safe ventilation range. It provides all levels of ventilation regardless what the patient’s needs are.

Ken Hargett, Director Respiratory Care
The Methodist Hospital, Houston (TX), USA
More safety and comfort for your patients

Enhanced patient comfort

Each Hamilton Medical ventilator features a variety of tools to improve patient comfort by adapting the ventilation breath by breath to the patient’s activity, continuously optimizing cuff pressure in real-time, and by automatically compensating air leaks.

Lung-protective ventilation

Hamilton Medical’s intelligent ventilation mode ASV, automatically employ lung-protective strategies to minimize complications such as AutoPEEP and volutrauma/barotrauma. Within the rules of this lung-protective strategy, they encourage the patient to breathe spontaneously.

According to several studies, these intelligent ventilation modes help reduce ventilation time in various patient groups. They decrease work of breathing and improve patient-ventilator synchrony.

P/V Tool Pro offers you additional support to carry out your lung-protective ventilation strategy.

ASV decreases ventilation time

Clinical publications show that

✓ ASV supports earliest possible spontaneous breathing by the patient ¹, ²
✓ ASV shortens ventilation time in various patient groups ¹, ²

² Chen CW. Respir Care. 2011 Jul;56(7):976-83.
Ease of use

Intuitive operation

In close cooperation with users and ventilation experts, our engineers have designed the user interface to allow intuitive operation and direct access to important settings. All Hamilton Medical ventilators are operated according to the same principles, which makes switching between different devices very easy.

Easy-to-understand monitoring

Ventilators display large amounts of data that is often difficult to interpret. The configurable touch screen display, referred to as the Ventilation Cockpit, consolidates the diverse monitoring data, and presents it numerically and in various graphic panels. These easy-to-understand views provide an at-a-glance overview of the patient’s current ventilation status, and offer a reliable basis for therapy decisions.

More time for your patients

In ASV mode, the ventilator continuously adjusts to the patient’s lung condition and breathing activity. This means fewer user interactions are required1 and fewer alarms are generated2, giving you more time for your patients.

2 Zhu F. Anesthesiology. 2015 Apr;122(4):832-40.
I would recommend the Hamilton Medical ventilators primarily due to the transferability of their operating platform. All ventilators have basically the same user interface, just in a different case. That makes the training of the staff very efficient.

Thomas Berlin, Director of Respiratory Care
Florida Hospital Orlando, Orlando (FL), USA
Increased efficiency

Integrated commercial considerations

Ventilators are capital goods that need to be evaluated for cost efficiency. Aspects such as treatment costs and the use of human resources play an important role in this process. Assembled with an extensive standard equipment package that is easy to maintain, Hamilton Medical ventilators are an attractive investment with respect to purchase price and operating costs.

Reduction of treatment costs

Each eliminated ventilation day significantly reduces treatments costs – on average by 1,500 USD. It has been shown that the use of Hamilton Medical ventilators and ASV can reduce ventilation time. In addition, the ventilator is now available for the next patient much earlier. A shorter ventilation time also reduces the risk of ventilator associated pneumonia (VAP), which may result in costs of up to 57,000 USD per case.

Improved use of human resources

Hamilton Medical ventilators, along with ASV, can reduce the time needed for standard settings and alarm management while maintaining ventilation quality. This frees up time for other aspects of patient care. Thanks to ease of operation, consistent operating concepts across devices and the free e-learning offerings from Hamilton Medical, the demand for education and training is also reduced.

Patients in the medical intensive care unit could be extubated earlier following the introduction of ASV.

ASV - Adaptive Support Ventilation

ASV automatically adapts to the patient’s lung mechanics and activity employing lung-protective strategies to minimize complications. Since 1998, ASV has been well established as a standard mode for adult and pediatric patients, from intubation to extubation.

**Your benefits**
- ✔ Improves patient/ventilator interaction\(^9, 5\)
- ✔ Shortens ventilation time
- ✔ Requires fewer manipulations

IntelliTrig - Automatic leak compensation

IntelliTrig limits leak-related complications by automatically compensating for leaks. This improves patient/ventilator synchrony and reduces alarms during ventilation.

**Your benefits**
- ✔ Safe ventilation mode for your patients
- ✔ Fewer alarms and less user interaction – especially in NIV
- ✔ Increased patient comfort

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ASV target window

![ASV target window](image)

IntelliTrig - Automatic leak compensation

![IntelliTrig](image)
Powerful enhancements

Protective ventilation with the P/V Tool and transpulmonary pressure measurement

The Protective Ventilation (P/V) Tool is a respiratory mechanics maneuver that records a quasi-static pressure/volume curve. It allows an easy assessment of lung recruitability, and provides a simple and safe way to perform lung-recruitment maneuvers.

In combination with transpulmonary pressure measurement (available on some ventilators), the P/V Tool allows you to more precisely assess lung recruitability and perform recruitment maneuvers in ARDS patients.

Your benefits
✓ Easier assessment of patient's lung mechanics
✓ Support for correctly setting PEEP, tidal volume, and inspiratory pressure
✓ Automated and reproducible lung-recruitment maneuvers

IntelliCuff® - Automatic cuff pressure controller

IntelliCuff assists your efforts to reduce ventilator-associated pneumonia (VAP) and tracheal injuries by monitoring and automatically adjusting cuffed tracheal and tracheostomy tubes, providing a continuous real-time optimization of cuff pressure.

Your benefits
✓ Simplified, reliable cuff pressure measurement
✓ Decreases VAP and tracheal injuries

P/V Tool Pro for lung assessment and recruitment maneuvers
Continuous cuff pressure management with IntelliCuff
Additional services

Hamilton Medical College - Advanced e-learning

Hamilton Medical offers a free e-learning platform for mechanical ventilation. The modules are designed to help the users of Hamilton Medical products develop a better understanding of the functions and controls of our ventilators, as well as providing an overview of the ventilation-related physiology. The e-learning modules can also help staff to meet competency requirements.

User trainings

Comprehensive on-site user training is offered by a trained clinical application specialist to ensure that the ventilators are safely used and operated.

Clinical expert workshops

Hamilton Medical frequently hosts clinical expert workshops to provide advanced training for respiratory experts from all over the world. These workshops encourage the exchange of know-how and expertise about the latest developments in mechanical ventilation.
One solution. Every situation.

For all patient populations

All Hamilton Medical ventilators provide safe ventilation solutions for all patient populations from neonates\(^1\) to adults, and can be used for almost all patient conditions where mechanical ventilation is necessary.

For all critical care environments

No matter in which environment your patients need outstanding ventilation performance, the Hamilton Medical ventilators can accompany them: in the intensive care unit, in the emergency department, during an MRI procedure, and in all transport situations inside and outside the hospital.

All modern and traditional ventilation modes

Whether your patients are intubated and passive or noninvasively ventilated and active, the Hamilton Medical ventilators provide a wide range of modern and traditional ventilation modes to perfectly meet the needs of your ventilated patients as well as the ventilation protocols of your hospital.

1. Neonatal function for HAMILTON-MR1: 510k pending
What surprised me the most about the HAMILTON-C1 was that the battery lasted for four hours. It made it easier to transport the patients without having to bag them and we can even take them outside.

Gail Spencer, Senior Respiratory Therapist
BridgePoint Hospital National Harbour, Washington D.C., USA
Standard on all ventilators

Cross-platform-consistent user interface

All Hamilton Medical ventilators work with the same intuitive user interface, which makes switching between different devices very easy for the user. This reduces the time for training and also the probability of user errors.

Your benefits

✔ Same approach in all clinical settings, including during patient transport
✔ Shorter training time for healthcare professionals and lower costs

Universal ventilator consumables

Most Hamilton Medical consumables can be used on all Hamilton Medical ventilators. You can choose between reusable and disposable products, according to your institutional policies. This technical consistency enables an easier management of the Hamilton Medical ventilators, with a favorable economic impact throughout the equipment lifetime.

Your benefits

✔ Easier equipment management
✔ Lower operating costs
The product range

The modular high-end ventilation solution

The HAMILTON-G5 is Hamilton Medical’s most modular high-end mechanical ventilator. A large set of standard features and options allow you to tailor the HAMILTON-G5 to your needs.

- Comprehensive monitoring capacities
- Automated cuff pressure control with IntelliCuff
- Transpulmonary pressure measurement
- P/V Tool for lung assessment and recruitment
- SpO2 measurement
- Heliox application
- HAMILTON-H900 humidifier control

The compact high-end ventilation solution

The HAMILTON-C3 mechanical ventilator is a compact high-end ventilation solution for all patient groups. The HAMILTON-C3 features a 12.1-in high-resolution display that shows all relevant patient data at a glance.

- P/V Tool Pro for lung assessment and recruitment
- Integrated high flow oxygen therapy
- Tidal volumes as low as 2 ml
- Independent air supply
- High-performance NIV ventilation
The product range

The universal ventilation solution

The HAMILTON-C2 is a universal ventilator for all patient groups. Its compact design and independence from external power and air supplies allow for maximum mobility throughout the hospital.

- Tidal volumes as low as 2 ml
- Over 6 hours of battery operating time
- Independent air supply
- High-performance NIV ventilation

Minimum size for maximum performance

Requiring only a minimum of space, the HAMILTON-C1 combines high reliability, ease of use, and maximum mobility with high performance. This makes it an ideal companion for your ventilated patients in the intensive care unit, emergency ward, recovery room, in intermediate care, and for intrahospital transport.

- Small, easy to operate, and fits into any space
- Independent air supply
- High-performance NIV ventilation
- > 4 hours of battery operating time
- Speaking valve compatibility (510(k) pending)
The product range

The breath of life

The HAMILTON-C1 neo is a versatile ventilator for neonates that combines invasive and noninvasive modes with the additional options of nCPAP. Due to its compact design, it is an ideal companion for your smallest patients in various environments from the delivery room to the intensive care unit.

- State-of-the-art invasive ventilation modes
- Synchronized noninvasive ventilation
- Demand-flow nCPAP modes
- Leak compensation in every mode
- Integrated high-performance turbine

A fully featured transport ventilator

The HAMILTON-T1 combines, for the first time, the functionality of a fully featured ICU ventilator with the compactness and ruggedness required for transport.

- Performance of a fully featured ICU ventilator
- Approved for use in ambulances, helicopters and airplanes
- Adult, pediatric, and neonatal ventilation
- Independence from gas cylinders or compressors
- > 9 h of battery operating time
- High-performance NIV ventilation
The product range

The MR Conditional ventilator

The HAMILTON-MR1 guarantees uncompromised continuous ventilation care from the ICU to the MRI scanner and back. Its reliability and high performance, with advanced lung-protective strategies and patient-adaptive modes, make the HAMILTON-MR1 the ideal choice for any critical care department that needs to transport ventilated patients to the MRI department.

- MR Conditional (up to 50 mT)
- Integrated TeslaSpy® gaussmeter
- Over 9 hours of battery operating time
- Independent air supply
- All classic and modern ventilation modes

Intelligent humidification

The HAMILTON-H900 humidifier has been developed with focus on ease of use and patient safety allowing caregivers to focus on the important aspects of patient care. It offers an innovative two-step set up to get you started quickly. All connections on the humidifier are in a single breathing set, enabling one-hand operation. Due to the ergonomic design, the user interface can be easily seen and provides all needed information at a glance.

- Integrated temperature probe
- Wall-heated, all-in-one breathing circuits
- Adjustable temperature and humidity settings
- Pre-assembled and ready for use
- Water level low alarm
The product range

Ensuring optimal cuff pressure

The IntelliCuff® pressure controller continuously measures and automatically adjusts the cuff pressure during mechanical ventilation. It assists your efforts to reduce ventilator-associated pneumonia (VAP) and tracheal injuries. IntelliCuff is designed for immediate use in various clinical situations with any kind of mechanical ventilator. You just set the desired cuff pressure, which is then maintained automatically.

- Automatic measurement and adjustment of cuff pressure
- Reduced risk of ventilator associated pneumonia (VAP) and tracheal injuries
- Easy and intuitive operation
- For critical care, interhospital transport, and anesthesia
Specifications are subject to change without notice. ASV, and IntelliCuff are trademarks of Hamilton Medical. Depending on your country, some features may only be available as additional options or may not be available. ©2016 Hamilton Medical AG.