

Mechanical Ventilators Market Growth Fueled by AI & Non-Invasive Care to \$4.92B by 2033 | DataM Intelligence

AI-enabled and non-invasive ventilators enhance ICU efficiency and patient care, driving the global mechanical ventilators market to \$4.92B by 2033.

LEANDER, TX, UNITED STATES, October 6, 2025 /EINPresswire.com/ -- In recent years, mechanical ventilators have evolved significantly, enhancing both efficiency and user-friendliness across care settings. A standout development is the incorporation of non-invasive delivery modes such as High-Flow

Nasal Cannula (HFNC) and High-Flow Oxygen Therapy (HFOT), which offer a more comfortable alternative to intubation. Many modern ventilators now embed HFNC capability alongside traditional Non-Invasive Ventilation (NIV) and invasive options within a single device, enabling healthcare professionals to adapt treatment seamlessly based on patient needs.

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Advances in AI-driven, non-invasive, and multifunctional ventilators are transforming critical care, improving outcomes, and reducing clinical workload worldwide.”

*Gopinadh Gundreddy |
Research Head*

- Innovations in closed-loop ventilation systems use AI and advanced algorithms to monitor patients' lung dynamics and adjust ventilator settings, promoting personalised care and reducing manual intervention. These systems also support complex ventilation protocols and offer tools for lung-protective strategies, such as transpulmonary pressure measurement and real-time EtCO₂ and SpO₂ monitoring. These features help clinicians manage the weaning process more effectively, potentially improving patient outcomes in intensive care environments.



Mechanical Ventilators Market

According to DataM Intelligence, the global mechanical ventilators market size was valued at US\$3.05 billion in 2024 and is expected to reach US\$4.92 billion by 2033, growing at a CAGR of 5.5% during the forecast period 2025-2033.

Analyst Concludes: Mechanical ventilation advancements are focusing on smarter, patient-centric systems that balance efficiency, safety, and comfort. The integration of HFNC/HFOT with non-invasive and invasive modes in a single device enhances clinical flexibility. Closed-loop ventilation and AI-driven monitoring represent automation and precision in critical care. These innovations reduce clinical workload and optimise patient outcomes through tailored respiratory support. The market is expected to see strong adoption of multifunctional, intelligent ventilators, especially in intensive care and emergency settings.

Recent Developments:

- In May 2025, Medtronic announced the launch of its upgraded Puritan Bennett 980 ventilator system with enhanced artificial intelligence features designed to improve patient-ventilator synchrony and reduce complications in critical care.
- In April 2025, Philips Healthcare expanded its non-invasive ventilation portfolio by introducing a portable ventilator aimed at both hospital and home-care settings. The device was developed to address the increasing burden of COPD and sleep apnea patients requiring flexible respiratory support outside the ICU.

Major Companies:

The major players in the mechanical ventilators market include Medtronic, Philips Healthcare, Hamilton Medical AG, GE Healthcare, Drägerwerk AG & Co. KGaA, Vyair Medical, Inc., Smith's Medical, ResMed Inc., Fisher & Paykel Healthcare Corporation Limited, Allied Healthcare Products, Inc and among others.

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