

Carbon Dioxide (CO₂) Sensor-Controlled Bin Fan Market Projected to Witness a Growth of US \$1.99 Billion by 2029 | TBRC

*The Business Research Company's
Carbon Dioxide (CO₂) Sensor-Controlled
Bin Fan Global Market Report 2025 –
Market Size, Trends, And Global Forecast
2025-2034*

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Carbon Dioxide (CO₂) Sensor-Controlled Bin Fan Market Growth Forecast: What To Expect By
2025?



The Business Research
Company's Latest Report
Explores Market Driver,
Trends, Regional Insights -
Market Sizing & Forecasts
Through 2034"

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The [market size of the carbon dioxide \(CO₂\) sensor-controlled bin fan](#) has experienced swift growth in recent years. It is projected to expand from a worth of \$1.09 billion in 2024 to a value of \$1.24 billion in 2025, indicating a compound annual growth rate (CAGR) of 13.0%. The historical growth in this market can be linked to a heightened awareness of the potential for grain spoilage, increased demand for improved storage conditions, an overall reliance on grain storage, a rising need for energy-efficient ventilation, and the growing importance of

climate-resilient storage solutions.

In the upcoming years, the market size for bin fans controlled by carbon dioxide (CO₂) sensors is predicted to witness swift progression. By 2029, the market is anticipated to increase to \$1.99 billion, with a compound annual growth rate (CAGR) of 12.7%. Factors contributing to growth during the forecast period include an increase in grain production, stronger governmental support for post-harvest management, higher demand for economical storage solutions, higher emphasis on farmer profitability, and enhanced consumer awareness about food quality. Major

trends that will mark this period are advancements in automatic fan control systems, integration of storage bins with the internet of things (IoT), progress in cloud-based monitoring platforms, advancements in predictive analytics for spoilage detection, and the incorporation of weather data with fan control.

Download a free sample of the carbon dioxide (CO₂) sensor-controlled bin fan market report:

<https://www.thebusinessresearchcompany.com/sample.aspx?id=28562&type=smp>

What Are Key Factors Driving The Demand In The Global Carbon Dioxide (CO₂) Sensor-Controlled Bin Fan Market?

The escalating focus on food safety is anticipated to fuel the expansion of the market for bin fans controlled by carbon dioxide (CO₂) sensors. This focus on food safety involves measures and practices that restrict food handlers, preparation, and storage methods from causing contamination and disease. This trend is fueled by the increasing frequency of food-related illnesses, which pose serious health hazards, emphasizing the need for more robust health, tracking, and regulatory measures across the food supply chain. CO₂ sensor-controlled bins boost food safety by autonomously controlling ventilation, ensuring optimal storage circumstances, and preventing deterioration and unhealthy microbial growth. For example, the European Food Safety Authority illuminated in May 2024 that in 2022, the EU experienced 5,763 foodborne outbreaks, 48,605 illnesses, 2,783 hospitalizations, and 64 fatalities, which were comparably higher by 43.9%, 49.4%, and 106.5% respectively versus 2021. This growing emphasis on food safety, thus, is propelling the market for CO₂ sensor-controlled bin fans. Furthermore, the increasing implementation of precision farming is set to spur the growth of the CO₂ sensor-controlled bin fan market. Precision farming incorporates cutting-edge technology, like sensors, GPS, and data analysis, to oversee and enhance crop growth, ensuring that resources like water, fertilizer, and pesticide usage are efficient. This surging implementation is due to the growing need for improved crop yield, with farmers turning to data-supported methods to enhance inputs, mitigate waste, and amplify productivity. CO₂ sensor-controlled bin fans improve precision farming by offering real-time surveillance and automatic regulation of grain storage conditions, guaranteeing the best crop quality, mitigating losses, and enabling data-driven decision-making. For instance, in January 2024, the US Government Accountability Office reported that in 2023, 27% of American farms and ranches employed precision farming practices for managing crops or livestock. Thus, the growing implementation of precision farming is contributing to the expansion of the CO₂ sensor-controlled bin fan market.

Who Are The Leading Players In The Carbon Dioxide (CO₂) Sensor-Controlled Bin Fan Market?

Major players in the Carbon Dioxide (CO₂) Sensor-Controlled Bin Fan Global Market Report 2025 include:

- Siemens AG
- Broan-NuTone LLC
- Carel Industries S.p.A.
- Vaisala Oyj
- Calian Agriculture Limited

- Fantech Pty Ltd.
- Kruger Ventilation Inc.
- Chore-Time Equipment
- Grain Systems Inc.
- PCE Instruments UK Ltd.

What Are The Key Trends And Market Opportunities In The Carbon Dioxide (CO₂) Sensor-Controlled Bin Fan Sector?

Leading firms in the carbon dioxide (CO₂) sensor-controlled bin fan market are zeroing in on the creation of novel solutions such as digital cable sensors. These are aimed at improving real-time CO₂ monitoring and refining the conditions for grain storage. Digital cable sensors function via a cable-based system, and their role is to constantly monitor CO₂ levels along their length and provide accurate digital information for monitoring and control purposes. For example, in July 2022, The GSI Group Inc., a manufacturing firm from the US, launched the GrainVue management system. The system, which has been designed to assist farmers in preserving grain quality and improving profitability, operates by providing real-time, automatic monitoring and management of storage bin conditions. It utilizes sophisticated digital sensors to monitor the temperature, moisture, and CO₂ levels of the grain, combining this data with weather information to maximize fan operation for various purposes such as drying, cooling, storage, or rehydration. By providing automated, real-time control of these crucial parameters, the system aids in the reduction of spoilage and the preservation of grain quality. The system's cloud-based platform enables farmers to manage grain bins remotely from any location, while the rehydration function is capable of restoring lost value to excessively dry soybeans.

Analysis Of Major [Segments Driving The Carbon Dioxide \(CO₂\) Sensor-Controlled Bin Fan](#) Market Growth

The carbon dioxide (CO₂) sensor-controlled bin fan market covered in this report is segmented as

- 1) By Product: Portable, Fixed, Integrated Systems
- 2) By Sensor: Non-Dispersive Infrared (NDIR), Chemical, Infrared, Other Sensors
- 3) By Application: Agriculture, Grain Storage, Industrial, Commercial, Other Applications
- 4) By Distribution Channel: Online, Offline
- 5) By End-User: Farmers, Grain Storage Facilities, Food Processing Units, Other End -Users

Subsegments:

- 1) By Portable: Handheld Units, Battery Operated Units, Compact Mobile Units
- 2) By Fixed: Wall Mounted Systems, Ceiling Mounted Systems, Outdoor Stationary Systems
- 3) By Integrated Systems: Smart Bin Integration, Automated Climate Control, Internet of Things Connected Systems

View the full carbon dioxide (CO₂) sensor-controlled bin fan market report:

<https://www.thebusinessresearchcompany.com/report/carbon-dioxide-co2-sensor-controlled-bin-fan-global-market-report>

Which Region Is Expected To Lead The Carbon Dioxide (CO₂) Sensor-Controlled Bin Fan Market By 2025?

In 2024, North America dominated the global market for carbon dioxide (CO₂) sensor-controlled bin fans as the largest region. The fastest-growing region in the coming forecast period is projected to be Asia-Pacific. The report analyzes various regions which include Asia-Pacific, Western Europe, Eastern Europe, North America, South America, Middle East, and Africa.

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