

# U.S. Fixed Refrigerant Gas Detection Market Size, Share & Trends Analysis Report By Product Type (Infrared Gas Detectors, Semiconductors gas Detectors), By Refrigerant Type, By End-use, And Segment Forecasts, 2025 - 2030

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## Abstracts

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### Market Size & Trends

The U.S. fixed refrigerant gas detection market size was estimated at USD 86.2 million in 2024 and is projected to grow at a CAGR of 7.1% from 2025 to 2030. Growing stringent environmental regulations on refrigerant emissions can be attributed to the growth of the U.S. fixed refrigerant gas detection market. The U.S. fixed refrigerant gas detection industry is significantly influenced by the transition toward environmentally friendly refrigerants such as CO<sub>2</sub>, ammonia, and hydrocarbons. As federal and state-level regulations push for the reduction of hydrofluorocarbon (HFC) and Hydrochlorofluorocarbons (HCFCs) emissions, businesses across industries are adopting low-GWP refrigerants. The increased usage of CO<sub>2</sub>, in particular driven by its low environmental impact, is prompting the installation of fixed detectors in commercial refrigeration to ensure compliance and safety.

The growing footprint of commercial refrigeration infrastructure across the U.S. is boosting demand for fixed refrigerant gas detectors. With the expansion of supermarket chains, grocery outlets, and cold storage facilities, the need for reliable monitoring systems to prevent refrigerant leaks has never been greater. These systems protect inventory and help maintain consistent environmental conditions and energy efficiency. The adoption of smart refrigeration technologies is further accelerating this trend, as

businesses seek integrated solutions that combine automation, leak detection, and real-time alerts.

Smart technology integration is transforming the U.S. fixed refrigerant gas detection industry landscape. Modern fixed detection systems are increasingly equipped with IoT connectivity, allowing for real-time monitoring, remote access, and automated alerts. These advancements enable facility managers to detect and respond to leaks more efficiently, reducing downtime and maintenance costs. Furthermore, smart detectors support predictive maintenance strategies and offer cloud-based data logging, helping businesses meet compliance requirements and optimize their refrigeration system performance through actionable insights.

The healthcare and pharmaceutical sectors in the U.S. are emerging as important drivers of the fixed refrigerant gas detection industry. Hospitals, laboratories, and pharmaceutical manufacturing facilities rely heavily on refrigeration systems for climate-sensitive processes, including vaccine storage, chemical preservation, and medical equipment operation. As a result, any refrigerant leak poses significant risks to patient safety and product integrity. With strict regulatory standards and quality assurance protocols in place, these sectors are prioritizing the installation of fixed gas detection systems to ensure uninterrupted, compliant, and safe operations, thereby driving the U.S. fixed refrigerant gas detection market growth.

However, factors such as high initial investment and maintenance costs could hamper the growth of the U.S. fixed refrigerant gas detection market. Implementing fixed refrigerant gas detection systems requires a significant upfront investment, encompassing sensor installation, calibration, and integration with existing HVAC and safety systems. These costs can be particularly burdensome for small and medium-sized enterprises (SMEs), which often operate on tighter budgets. Beyond installation, regular maintenance, sensor recalibration, and periodic replacements further contribute to ongoing expenses, increasing the total cost of ownership over time.

## U.S. Fixed Refrigerant Gas Detection Market Report Segmentation

This report forecasts revenue growth at a country level and provides an analysis of the latest industry trends in each of the sub-segments from 2018 to 2030. For this study, Grand View Research has segmented the U.S. fixed refrigerant gas detection market report based on product type, refrigerant type, and end-use:

### Product Type Outlook (Revenue, USD Million, 2018 - 2030)

Infrared Gas Detectors

Electrochemical Gas Detectors

Semiconductor Gas Detectors

Others

Refrigerant Type Outlook (Revenue, USD Million, 2018 - 2030)

Hydrofluorocarbons (HFCs)

Hydrochlorofluorocarbons (HCFCs)

Ammonia (NH<sub>3</sub>)

Carbon Dioxide (CO<sub>2</sub>)

Hydrocarbons

Others

End-use Outlook (Revenue, USD Million, 2018 - 2030)

Industrial

Commercial

Residential

Healthcare & Pharmaceuticals

## **Companies Mentioned**

Honeywell International Inc

MSA

CAREL INDUSTRIES S.p.A.

SAMON AB  
Calibration Technologies, LLC.  
R.C. Systems, Inc.  
Danfoss  
Emerson Electric Co.  
INFICON  
NevadaNano

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