

South & Central America Mass Flow Controller Market Size and Forecast (2021 - 2031)

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Abstracts

The South & Central America Mass Flow Controller Market is projected to grow significantly, reaching an estimated US\$ 55.6 million by 2031, up from US\$ 42.5 million in 2024. This growth represents a compound annual growth rate (CAGR) of 4.1% from 2025 to 2031.

Executive Summary and Market Analysis

Key countries driving the mass flow controller market in South & Central America include Brazil, Argentina, and Chile. The market is anticipated to expand rapidly during the forecast period, largely due to supportive government initiatives aimed at promoting industrial automation. A notable event highlighting this trend is the EXPOMAFE 2025, organized by IEMCA, a division of Bucci Automations SpA, which will take place in São Paulo from May 6-10, 2025. This biennial metalworking trade expo is the largest in Latin America and will showcase the latest advancements in industrial automation, including mass flow controller technologies that enhance precision and efficiency in metalworking processes.

The rise of Industry 4.0, which emphasizes automation, real-time data monitoring, and digital integration in manufacturing, is further driving the demand for mass flow controllers. These devices are essential for achieving production goals by ensuring accurate control of gases and liquids in automated systems. Various sectors in South & Central America, such as pharmaceuticals, chemicals, food and beverage, and oil and gas, are increasingly adopting smart manufacturing practices. This shift is propelling the demand for mass flow controllers, which improve process efficiency, minimize waste, and enhance product quality. Additionally, the ongoing industrial investments and modernization efforts in Brazil, Argentina, and Chile are fostering market growth.

Market Segmentation Analysis

The South & Central America Mass Flow Controller Market can be segmented based on flow rate, sensor technology, and application:

By Flow Rate: The market is divided into Low, Medium, and High flow rates, with Low flow rate controllers holding the largest market share in 2024.

By Sensor Technology: The segmentation includes Thermal Mass Flow, Coriolis Mass Flow, and Differential-Pressure Mass Flow, where Thermal Mass Flow controllers dominated the market in 2024.

By Application: The applications include Semiconductors, Food and Beverages, Chemicals, Pharmaceuticals and Healthcare, Oil and Gas, and Others, with the Others category capturing the largest share in 2024.

Market Outlook

The increasing industrial demand for compact, high-accuracy, precise, and energy-efficient devices in advanced manufacturing processes has led to a growing need for ultra-thin mass flow controllers. Technological innovations are driving miniaturization in sectors such as semiconductors, pharmaceuticals, and biotechnology. This trend encourages manufacturers to develop ultra-thin mass flow controllers that help save critical space in equipment and cleanroom environments. These controllers are vital for high-precision gas flow control, particularly in processes like chemical vapor deposition and etching in semiconductor fabrication, where even minor flow irregularities can lead to significant defects or yield losses.

For example, in January 2025, HORIBA, Ltd.'s subsidiary HORIBA STEC, Co., Ltd. announced the DZ-107, a new ultra-thin mass flow controller model. This product boasts a full-scale flow improvement of approximately seven times compared to previous versions, achieving a maximum mass flow of 20 SLM while maintaining an ultra-thin profile of just 10 mm in width. The DZ-107 also increases the maximum operating temperature from 45°C to 60°C, accommodating gases used in the precision manufacturing of advanced semiconductors. Such innovations enhance system integration, reduce installation complexity, and improve thermal efficiency in high-performance applications.

The rapid growth of Internet of Things (IoT) devices and flexible electronics is also driving demand for ultra-thin mass flow controllers that can operate efficiently within compact and intelligent systems. As global sustainability efforts intensify, the energy-saving features and material efficiency of mass flow controllers are becoming increasingly appealing to various industries, leading to new market trends.

Country Insights

The South & Central America Mass Flow Controller Market is further segmented by country, with Brazil, Argentina, and the Rest of South & Central America being the primary regions. Brazil held the largest market share in 2024.

Brazil's industrial landscape is becoming more automated while increasingly relying on renewable energy sources. This dual trend is driving the adoption of mass flow controllers. The precision instruments utilized in Brazil's chemical, petrochemical, and pharmaceutical sectors are being upgraded to more reliable, safer, and efficient technologies. The country's energy transition, primarily focused on biofuels and natural gas processing, is progressing, albeit slowly, due to the need for dependable flow measurement and control systems. Mass flow controllers play a crucial role in optimizing these processes by ensuring accurate and consistent regulation of gases and liquids.

Government initiatives promoting sustainable industrial practices and advancements in smart manufacturing are further propelling the adoption of modern flow-control technologies. Additionally, Brazil's extensive food and beverage processing industry is a significant consumer of mass flow controllers, as they help maintain strict hygiene standards and accurately measure ingredient handling. As Brazil continues to modernize its industrial base, the demand for sophisticated and efficient flow control solutions is expected to rise.

Company Profiles

Key players in the South & Central America Mass Flow Controller Market include Parker Hannifin Corporation, Avantor Inc, Dwyer Instruments, Inc., Sensirion Holding AG, Teledyne Technologies Inc, Horiba Ltd, Azbil Corp, Axetris AG, MKS Instruments Inc, and Brooks Instrument. These companies are employing various strategies, including expansion, product innovation, and mergers and acquisitions, to deliver innovative products and enhance their market presence.

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