

Middle East & Africa Mass Flow Controller Market Size and Forecast (2021 - 2031)

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Abstracts

The Middle East and Africa (MEA) mass flow controller market is poised for substantial growth, projected to reach approximately US\$ 80.7 million by 2031, up from US\$ 60.0 million in 2024. This growth trajectory indicates a compound annual growth rate (CAGR) of 4.5% from 2025 to 2031, driven primarily by increased investments in oil production and related activities across the region.

Executive Summary and Market Analysis

The MEA mass flow controllers market is expected to experience significant expansion during the forecast period, largely due to the rising investments in oil production. According to the World Energy Investment 2025 report, the Middle East is home to some of the most economically viable oil and gas resources globally, contributing around 30% of the world's oil output and 17% of natural gas production as of 2024. Notably, Saudi Arabia is leading the region with an upstream oil and gas investment projected to reach approximately US\$ 40 billion by 2025, marking a nearly 15% increase compared to 2015 levels.

Overall, the Middle East is set to invest over US\$ 130 billion in oil and gas supply by 2025, which represents nearly 15% of the global total. The share of upstream investment by Middle Eastern and Asian national oil companies has risen significantly, from 25% in 2015 to over 40% currently. This surge in investment in oil production is creating a heightened demand for mass flow controllers, which are essential for maintaining precise flow control in refining, petrochemical processing, and natural gas applications. These controllers facilitate accurate measurement and regulation of gas and liquid flows, thereby enhancing efficiency and safety in complex industrial processes.

Countries such as Saudi Arabia, the UAE, and South Africa are making substantial investments in downstream infrastructure and petrochemical expansion, which further necessitates the use of mass flow controllers for advanced flow management. As these nations pursue industrial growth and integrate automation into their production facilities, the role of mass flow controllers becomes increasingly critical for ensuring operational consistency and compliance with regulatory standards. The combination of ongoing hydrocarbon activities and the growing complexity of industrial operations is driving the demand for mass flow controllers, which are vital for maintaining precise control over productivity.

Strategic Insights

Market Segmentation Analysis

The MEA 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 the Low flow rate segment holding the largest market share in 2024.

By Sensor Technology: The market is categorized into Thermal Mass Flow, Coriolis Mass Flow, and Differential-Pressure Mass Flow, where Thermal Mass Flow is expected to dominate in 2024.

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

Market Outlook

Mass flow controllers are integral to various industries, particularly in semiconductor production and testing, where accurate gas flow control is paramount. Their advantages—such as precise flow measurement, consistent control, and waste reduction—make them ideal for advanced coating processes that require uniformity and precision. Industries including photovoltaics, pharmaceuticals, automotive, aerospace, and specialty coatings have recognized the value of mass flow controllers in achieving better deposition control in processes like physical vapor deposition (PVD), chemical

vapor deposition (CVD), atomic layer deposition (ALD), and spray coating.

In the photovoltaic and semiconductor sectors, there is ongoing research aimed at optimizing precursor gas transport during ALD and CVD to produce defect-free, ultra-thin coatings essential for high-efficiency solar cells and next-generation microchips. For instance, in June 2025, Sensirion AG initiated a collaborative research study focusing on the application of mass flow controllers in various coating processes, emphasizing their role in ensuring outstanding accuracy, long-term stability, and repeatability.

Additionally, mass flow controllers are increasingly utilized in the pharmaceutical industry for coating tablets and drug-eluting stents, where uniform film thickness is critical for therapeutic efficacy and patient safety. In the automotive and aerospace sectors, these controllers are being integrated into coating lines to apply various coatings efficiently, minimizing material waste while enhancing throughput.

Country Insights

The MEA mass flow controller market is further segmented by country, including the United Arab Emirates, Saudi Arabia, South Africa, and the Rest of the Middle East and Africa. The Rest of the Middle East and Africa segment held the largest market share in 2024.

Countries such as Iran, Israel, Iraq, Kuwait, Nigeria, and Morocco are increasingly influential in the demand for mass flow controllers. Israel, in particular, stands out due to its robust high-tech ecosystem encompassing semiconductor manufacturing, biotechnology, and a sophisticated defense industry. As a global hub for chip research and manufacturing, Israel's demand for mass flow controllers is driven by the need for precise gas and liquid flow control in fabrication and testing processes. The country's advancements in pharmaceuticals and chemicals, along with its pioneering efforts in water purification and recycling technologies, further bolster the demand for high-precision flow control systems across various sectors.

Company Profiles

Key players in the MEA 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 actively pursuing strategies such as expansion, product innovation, and mergers and acquisitions to enhance their market presence and

offer innovative solutions to their customers.

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