

Pressure Relief Valves Market to Grow from USD 4.4 Billion in 2021 to USD 7 Billion by 2031 at a CAGR of 4.6%

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WILMINGTON, DE, UNITED STATES, June 18, 2025 /EINPresswire.com/ -- Market Overview

The global <u>DDDDDDDDDDDDDDDDDDDDDD</u>, valued at \$4.4 billion in 2021, is projected to reach \$7 billion by 2031, registering a compound annual growth rate (CAGR) of 4.6% from 2022 to 2031, according to a report by Allied Market Research. Pressure relief valves are critical safety devices designed to protect equipment, such as pressure vessels, from excessive internal pressure that could lead to equipment failure, instrument malfunction, or fire hazards. By allowing pressurized fluid to escape through an auxiliary passage, these valves regulate and reduce pressure, ensuring operational safety across various industries.

Market Dynamics

The pressure relief valves market is driven by the surge in industrial infrastructure projects, particularly in developing nations. For instance, China's \$10 billion investment in the Guangdong oil and gas refinery, completed in March 2022, highlights the growing demand for pressure relief valves in large-scale industrial applications. The oil and gas industry, a key market segment, relies heavily on these valves for drilling and workover activities, where they ensure safety and operational efficiency. Additionally, the pharmaceutical and food and beverage sectors in developed regions like the European Union, the U.S., and China are significant consumers, as pressure relief valves are integral to the production of medical equipment and food processing systems.

The global push for energy exploration, particularly in hydrocarbons and renewable resources, further fuels market growth. For example, Egypt's \$2.5 billion investment in new petroleum refinery projects underscores the need for pressure relief valves to process hydrocarbons safely. The increasing demand for petroleum and renewable energy sources drives the adoption of these valves in energy-intensive industries. Key market players are also focusing on product innovation to meet evolving consumer needs. In November 2020, Danfoss launched the SFA 10H,

a 65-bar safety valve designed for CO2 and synthetic oil applications, offering high reliability, leak prevention, and stable pressure control, which enhances market opportunities.

However, challenges exist. The high cost of pressure relief valves from major manufacturers, ranging from \$100 to \$2,500, compared to domestic options priced between \$100 and \$200, limits adoption among cost-sensitive consumers. This price disparity encourages reliance on local manufacturers, hindering market growth for global players. The COVID-19 pandemic also disrupted the market, causing supply chain interruptions and halting manufacturing activities. These disruptions led to a temporary decline in demand, particularly in industries like oil and gas and construction. However, as global economies recover and governments relax restrictions, the market is rebounding, with full-scale operations resuming by late 2022.

Market Segmentation

By Valve Type

The market is segmented into spring-loaded, pilot-operated, dead weight, and P&T-actuated valves. In 2021, the pilot-operated segment dominated due to its precision in handling high-pressure applications and ability to maintain stable pressure levels. These valves are widely used in industries requiring accurate pressure control, such as oil and gas and power generation. Spring-loaded valves, known for their simplicity and reliability, are also significant contributors, particularly in smaller-scale applications.

By Pressure

Based on pressure, the market is divided into low, medium, and high segments. The medium pressure segment led in 2021, driven by its versatility across industries like chemical processing, manufacturing, and water treatment. Medium-pressure valves balance performance and cost, making them suitable for a wide range of applications. The high-pressure segment is expected to grow steadily, supported by demand in energy-intensive sectors like oil and gas.

By End User

The market is segmented into oil and gas, chemical, power generation, food and beverage, manufacturing, and water and wastewater industries. The power generation segment generated the highest revenue in 2021, as pressure relief valves are critical for ensuring the safety of boilers, turbines, and other high-pressure equipment. The oil and gas sector is also a major contributor, driven by increasing exploration and refining activities. The food and beverage and pharmaceutical industries are growing steadily, supported by stringent safety and hygiene standards.

By Region

Regionally, the market is analyzed across North America, Europe, Asia-Pacific, and LAMEA. Asia-Pacific dominated in 2021, driven by rapid industrialization, infrastructure development, and energy projects in countries like China and India. However, LAMEA is projected to exhibit the highest CAGR through 2031, fueled by investments in oil and gas infrastructure in countries like Egypt and Saudi Arabia. North America and Europe follow, supported by advanced industrial sectors and significant investments in oil and gas infrastructure, estimated at \$685-\$895 billion in North America from 2018 to 2035.

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Competitive Landscape

Key players in the market include AGF Manufacturing, Inc., Alfa Laval, Curtis-Wright Corp, Emerson Electric Co., General Electric, Goetze KG Armaturen, IMI PLC, Mercury Manufacturing Company Limited, The Weir Group PLC, and Watts Water Technology, Inc. These companies focus on product launches and strategic partnerships to strengthen their portfolios. For instance, Weir Oil & Gas's latch back pressure valve system, launched in December 2020, enhances safety and reliability in drilling operations, addressing critical industry needs.

Opportunities and Challenges

The market presents significant opportunities, particularly in emerging economies like India, China, and Egypt, where investments in hydrocarbon and renewable energy projects are rising. The integration of advanced technologies, such as smart valves with real-time monitoring capabilities, enhances operational efficiency and safety, creating growth prospects. The pharmaceutical and food and beverage sectors also offer opportunities, as pressure relief valves are essential for maintaining safety in production processes.

Challenges include high costs, which limit adoption among smaller enterprises, and competition from domestic manufacturers offering lower-priced alternatives. The COVID-19 pandemic exposed supply chain vulnerabilities, but the market's recovery highlights its resilience. Raw material price volatility and regulatory pressures for eco-friendly solutions pose ongoing challenges, requiring manufacturers to innovate cost-effective, sustainable products.

Key Benefits for Stakeholders

This analysis provides stakeholders with valuable insights, including:

Quantitative Insights: Market size, growth rate, and segment-wise revenue projections from 2022 to 2031.

Market Trends: Identification of drivers like industrial infrastructure growth and energy demand, and challenges like high costs and supply chain disruptions.

Competitive Analysis: Insights into major players' strategies, facilitating benchmarking and collaboration.

Regional Outlook: Mapping of revenue contributions, with LAMEA showing high growth potential.

Porter's Five Forces Analysis: Evaluation of buyer and supplier dynamics for strategic decisionmaking.

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