

Pressure Vessels Market Forecasts to 2034 – Global Analysis By Product Type (Boilers, Reactors, Separators, Storage Tanks and Heat Exchangers), Material, Pressure Range, Application, End User and By Geography

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Abstracts

According to Statistics MRC, the Global Pressure Vessels Market is accounted for \$63.5 billion in 2026 and is expected to reach \$90.3 billion by 2034 growing at a CAGR of 4.5% during the forecast period. Pressure vessels are engineered containers designed to hold fluids or gases under pressures that differ from the surrounding environment. They play a vital role across sectors such as petrochemicals, energy, and industrial manufacturing. Constructed using strong materials like carbon steel or advanced composites, these vessels ensure high strength and reliability under demanding conditions. Regular inspection and adherence to safety standards are essential to avoid potential hazards. Available in shapes like spheres and cylinders, pressure vessels are built according to specific operational needs and must meet stringent regulations to guarantee efficient and secure performance.

According to the International Renewable Energy Agency, renewable energy capacity surpassed 3,800 GW globally, with bioenergy and hydrogen applications increasingly utilizing pressure vessels for storage and processing.

Market Dynamics:

Driver:

Growing demand from oil and gas industry

The growth of the oil and gas sector plays a crucial role in driving the pressure vessels market, as these units are vital for handling and storing fluids under pressure. Increasing global energy requirements have intensified exploration and extraction activities, particularly in challenging environments like deep-sea reserves. Pressure vessels ensure safe operations in refineries and drilling systems exposed to extreme conditions. Moreover, upgrades to aging infrastructure and new petrochemical investments are accelerating market demand. With nations emphasizing reliable energy supply, the use of high-performance pressure vessels is steadily expanding across all stages of oil and gas operations.

Restraint:

High manufacturing and material costs

The growth of the pressure vessels market is hindered by the substantial costs involved in production and material procurement. High-quality materials like advanced alloys and specialized steels are essential to ensure durability under extreme conditions, making manufacturing expensive. Moreover, intricate fabrication methods, strict quality assurance, and regulatory compliance add to overall expenses. Smaller companies may find it challenging to sustain such high investments, restricting their participation in the market. Variability in raw material prices further complicates financial planning, affecting profitability and slowing adoption in regions where budget constraints are a major concern.

Opportunity:

Expansion of renewable energy infrastructure

Rising investments in renewable energy systems create significant growth opportunities for the pressure vessels market. These vessels play a key role in storing and managing energy forms such as hydrogen, compressed air, and biofuels. As global efforts to reduce carbon emissions intensify, the demand for reliable storage solutions is increasing. Both public and private sectors are funding clean energy projects, boosting the need for high-performance pressure vessels. Technological advancements are also improving vessel efficiency and adaptability, making them suitable for diverse renewable applications and strengthening their role in the transition toward sustainable energy solutions worldwide.

Threat:

Risk of operational failures and safety incidents

The possibility of system failures and safety-related incidents is a critical concern for the pressure vessels market. Breakdowns, leaks, or explosions can cause significant harm to people, the environment, and infrastructure. These events can negatively impact the credibility of manufacturers and lower trust among end users. Although strict standards exist to minimize risks, issues may still arise from inadequate maintenance or design limitations. Major accidents often result in stricter regulations and heightened oversight, increasing operational costs and complicating compliance. This creates challenges for companies and may slow the overall adoption of pressure vessels in various industries.

Covid-19 Impact:

The pressure vessels market experienced significant challenges during the COVID-19 pandemic, largely driven by interruptions in supply chains and industrial processes. Widespread lockdowns caused delays in production and project implementation in key sectors like energy, chemicals, and manufacturing. Lower industrial activity and reduced energy consumption negatively affected market expansion. Furthermore, limited availability of raw materials and workforce constraints added to operational difficulties. Despite these setbacks, recovery began as industries resumed operations and investments increased in healthcare and energy sectors, leading to renewed demand for pressure vessels across multiple applications globally.

The storage tanks segment is expected to be the largest during the forecast period

The storage tanks segment is expected to account for the largest market share during the forecast period because of their broad usage in storing fluids and gases across diverse industries. Sectors like petrochemicals, energy, and water management depend on these vessels for secure and efficient storage solutions. The growing need for large-scale storage, safety assurance, and smooth operational flow drives their demand. These tanks are built to withstand different pressure conditions and environmental factors, enhancing their adaptability. Their importance in maintaining industrial processes and infrastructure makes them a leading segment, contributing significantly to overall market growth and widespread adoption globally.

The water & wastewater treatment segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the water & wastewater treatment segment is predicted to witness the highest growth rate, driven by rising concerns over water availability and environmental protection. Increased investments in treatment plants aim to provide clean water and manage waste effectively. Pressure vessels are essential in processes such as filtration and desalination, ensuring reliable performance under pressurized conditions. Factors like urban growth, expanding industries, and population increase are accelerating the need for improved water systems. This strong focus on sustainable practices and infrastructure development is fueling rapid growth in the adoption of pressure vessels within this segment.

Region with largest share:

During the forecast period, the Asia-Pacific region is expected to hold the largest market share, owing to its fast-paced industrial growth and increasing demand for energy across major economies. Nations including China, India, and Japan are significantly investing in industrial expansion and infrastructure, driving the need for pressure vessels. Growth in industries such as petrochemicals, power generation, and water treatment further boosts demand. Favorable government initiatives and rising project investments enhance market development. Moreover, the availability of low-cost manufacturing and the presence of major industry players contribute to the region's strong position, establishing Asia-Pacific as the leading market globally.

Region with highest CAGR:

Over the forecast period, the Rest of the World (RoW) region is anticipated to exhibit the highest CAGR, driven by intensified oil and gas activities and substantial investments in petrochemical industries. Nations in this region are upgrading and expanding refining capabilities, increasing the need for reliable pressure containment systems. Growth in desalination plants and water treatment infrastructure also supports market expansion. Furthermore, economic diversification strategies and strong government support for industrial development are boosting demand. These factors collectively make the Middle East & Africa a high-growth region for pressure vessels across various industrial applications.

Key players in the market

Some of the key players in Pressure Vessels Market include Babcock & Wilcox Enterprises, Inc., Mitsubishi Heavy Industries, Ltd., Larsen & Toubro Limited, Doosan Heavy Industries & Construction, IHI Corporation, General Electric, Hitachi Zosen,

McDermott International, Ltd., Samuel, Son & Co., KNM Group Berhad, Alfa Laval AB, Bharat Heavy Electricals Limited, Mersen, JSW, CIMC Enric, Morimatsu, Linde Engineering and Pentair PLC.

Key Developments:

In November 2025, Mitsubishi Heavy Industries, Ltd. and ICM, Inc. have entered into a strategic alliance to accelerate innovation in ethanol dehydration. The collaboration focuses on integrating MHI's Mitsubishi Membrane Dehydration System (MMDS™) with ICM's bioethanol process design. Together, the companies aim to increase efficiency in ethanol production by reducing energy consumption, enhancing process reliability, and supporting the industry's efforts to lower carbon intensity.

In May 2023, Hitachi Zosen Corporation (Hitachi Zosen) and Hexagon's Autonomy & Positioning division are proud to announce that they have signed an agreement to bring the TerraStar-X Enterprise correction service to Japan. As a regional leader in the GNSS industry, Hitachi Zosen manages a nationwide network of 1,300 reference stations operated by the Geospatial Information Authority of Japan (GSI). Nippon GPS Data Service (NGDS), a subsidiary of Hitachi Zosen, will provide Hexagon with GNSS data from this network.

Product Types Covered:

Boilers

Reactors

Separators

Storage Tanks

Heat Exchangers

Materials Covered:

Steel

Composite Materials

Other Materials

Pressure Ranges Covered:

Low Pressure (300 bar)

Applications Covered:

Oil & Gas

Chemical & Petrochemical

Power Generation

Food & Beverage

Pharmaceuticals

Water & Wastewater Treatment

Other Applications

End Users Covered:

Energy & Utilities

Manufacturing

Healthcare

Agriculture

Other End Users

Regions Covered:

North America

United States

Canada

Mexico

Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of Africa

What our report offers:

Market share assessments for the regional and country-level segments

Strategic recommendations for the new entrants

Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034

Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)

Strategic recommendations in key business segments based on the market estimations

Competitive landscaping mapping the key common trends

Company profiling with detailed strategies, financials, and recent developments

Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

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