Cryogenic Valve Assembly Market by Type (Gate, Globe, Ball, Check, Butterfly), Cryogen (Nitrogen, Argon, Oxygen, LNG, Hydrogen), End-user Industry (Metallurgy, Power, Chemicals, Electronics), Component, Application, and Region - Global Forecast to 2029

Market Report | 2025-05-06 | 277 pages | MarketsandMarkets

AVAILABLE LICENSES:

- Single User $4950.00
- Multi User $6650.00
- Corporate License $8150.00
- Enterprise Site License $10000.00

Report description:

The cryogenic valve assembly market is estimated to reach USD 7.21 billion by 2029 from an estimated value of USD 4.83 billion in 2024, at a CAGR of 8.3% during the forecast period. Increasing practices for cryogenic gases in medical, food preservation, and electronics manufacturing are driving the cryogenic valve assembly market. The increase in overall global demand for LNG as a cleaner fuel alternative and the increase in LNG import/export will propel market growth.

"Metallurgy: The largest segment of the cryogenic valve assembly market, by end-user industry."

By end-user industry, the cryogenic valve assembly market was segmented into five categories: energy & power, chemical, metallurgy, electronics, and transportation, apart from others. The segment, metallurgy, is expected to capture the largest share of the market by end user. Given the widespread use of cryogenic gases such as oxygen (O2), nitrogen (N?), and argon (Ar) in metallurgical processes such as steel manufacturing, welding, and fabrication, these gases are important in improving product quality, improving combustion efficiency, and also in controlling temperatures while processing metal. The increasing demand from sectors involved in manufacturing high-quality metals, including construction, automotive, and industrial metal products, increases the need for reliable cryogenic valve assemblies. The large increase in infrastructure development and more advanced treatments of metal also increases the segment growth.

"The CASU segment is estimated to remain the larger segment in terms of application."

Based on application, the cryogenic valve assembly market has been segmented into CASU and non-CASU. The cryogenic air separation unit (CASU) segment is projected to dominate the cryogenic valve assembly market owing to the significance of cryogenic valves in generating an array of high-purity industrial gases, particularly oxygen, nitrogen, and argon. The

aforementioned gases are used throughout a multitude of industries, including healthcare and medical uses, metallurgy, electronics, and chemical uses. The demand for medical-grade oxygen has also grown tremendously since the pandemic, further abating the demand for CASU installations along with improving industrial production and degree of industrialization in developing markets. The cryogenic valves are used to control and isolate the flow of extremely cold gas to the unit, which is used in these facilities that utilize cryogenic valves.

"The globe valves segment is estimated to emerge as the second-largest segment based on type."

By end use, the cryogenic valve assembly market has been segmented into gate, globe, ball, check, and butterfly valves, apart from others. Globe valves are estimated to be the second-largest cryogenic valve assembly type due to their precise throttling capabilities and effective flow regulation in cryogenic applications. Their robust design ensures reliable performance under high-pressure, low-temperature conditions, making them ideal for LNG, industrial gas, and chemical industries. Increasing demand for controlled flow systems further supports their growth.

"North America is projected to be the second-fastest-growing region in the cryogenic valve assembly market."

North America is estimated to be the second-fastest region in the cryogenic valve assembly market between 2024 and 2029. The North American market consists of the US, Canada, and Mexico. North America is projected to be the second fastest-growing region in the cryogenic valve assemblies market due to its strong LNG infrastructure, increased investment into clean energy technologies such as carbon capture and hydrogen, and important players in aerospace, healthcare, and chemicals. Continuous improvements in medical technologies and growing cryogenic gas volumes in surgical and diagnostic settings will also have a positive effect on cryogenic demand. Additionally, the US government's dedication to diversifying the energy supply and allowing for increasing exports of natural gas will especially help improve the market potential in this region. Key manufacturers are also located in this region, and upgrading industrial gas supply chains will further help drive both the adoption and acceptability of cryogenic valve assemblies, which are already increasing across North America.

Breakdown of Primaries

In-depth interviews have been conducted with various key industry participants, subject-matter experts, C-level executives of key market players, and industry consultants, among other experts, to obtain and verify critical qualitative and quantitative information, as well as to assess future market prospects. The distribution of primary interviews is as follows:

By Company Type: Tier 1 - 65%, Tier 2 - 24%, and Tier 3 - 11%

By Designation: C-Level Executives - 30%, Manager - 25%, and Others - 45%

By Region: North America - 27%, Europe - 20%, Asia Pacific - 33%, South America & Central America - 12%, Middle East - 4%, and Africa - 4%

Note: Others include product engineers, product specialists, and engineering leads.

Note: The tiers of the companies are defined based on their total revenues as of 2023. Tier 1: > USD 1 billion, Tier 2: From USD 500 million to USD 1 billion, and Tier 3: < USD 500 million

The cryogenic valve assembly market is dominated by a few major players that have a wide regional presence. The leading players in the cryogenic valve assembly market are PARKER HANNIFIN CORP (US), Emerson Electric Co. (US), Flowserve Corporation (US), Bray International (US), Valmet (Finland), Crane Company (US), L&T Valves Limited (India), KITZ Corporation (Japan), Baker Hughes (US), KITZ Corporation (Japan), Baker Hughes (US), XINTAI VALVE (China), Valco Group (France), cryocomp (US), and BAC VALVES (Spain).

Research Coverage

The report defines, describes, and forecasts the cryogenic valve assembly market by construction material, type, end-user, components, cryogen, application, and system type for various regions. It also offers a detailed qualitative and quantitative analysis of the market. The report provides a comprehensive review of the major market drivers, restraints, opportunities, and challenges. It also covers various important aspects of the market. These include an analysis of the competitive landscape, market dynamics, market estimates in terms of value, and future trends in the cryogenic valve assembly market.

Key Benefits of Buying the Report

-The cryogenic valve assembly market is influenced by the growing requirement for LNG infrastructure, increased focus on hydrogen-based energy solutions, and increasing utilization of cryogenic systems in the healthcare, electronics, and chemicals

segments. With the rising global focus on decarbonization coupled with government initiatives aimed at the adoption of clean energy solutions, the market growth is gaining momentum. The increase in production of industrial gas, development in valve design for extreme conditions, and greater safety requirements across all segments have also increased the demand for reliable cryogenic valve assemblies.
-Product Development/Innovation: The cryogenic valve assembly market is seeing substantial product development and innovation, driven by stringent safety and regulatory standards. Companies are investing in improved materials and technology to manufacture advanced cryogenic valve assemblies.
-Market Development: Emerson has launched the Fisher 63EGLP-16 Pilot Operated Relief Valve to meet the safety needs of storage tank applications, improving installation, maintenance, and operation for pressurized tanks. This new product extends Emerson's safety valve portfolio with enhanced features to support the specific needs of liquid propane and ammonia storage systems. This will be beneficial for cryogenic valve application, ensuring the safety of operation.
- Market Diversification: Flowserve acquired LNG submerged pump technology and R&D from NexGen Cryogenic Solutions to enhance its LNG product portfolio. This aligns with Flowserve's decarbonization goals, which are improving efficiency and reliability in the LNG market.
-Competitive Assessment: Assessment of rankings some of the key players, including PARKER HANNIFIN CORP (US), Emerson Electric Co. (US), Flowserve Corporation (US), Bray International (US), Valmet (Finland), Crane Company (US), L&T Valves Limited (India), KITZ Corporation (Japan), Baker Hughes (US), KITZ Corporation (Japan), Baker Hughes (US), XINTAI VALVE (China), and Valco Group (France).

Table of Contents:

Cryogenic Valve Assembly Market by Type (Gate, Globe, Ball, Check, Butterfly), Cryogen (Nitrogen, Argon, Oxygen, LNG, Hydrogen), End-user Industry (Metallurgy, Power, Chemicals, Electronics), Component, Application, and Region - Global Forecast to 2029

Market Report | 2025-05-06 | 277 pages | MarketsandMarkets

To place an Order with Scotts International:

- - Print this form
- - Complete the relevant blank fields and sign
- - Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User	$4950.00
	Multi User	$6650.00
	Corporate License	$8150.00
	Enterprise Site License	$10000.00
	VAT	
	Total	

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*		Phone*	
First Name*		Last Name*	
Job title*			
Company Name*		EU Vat / Tax ID / NIP number*	
Address*		City*	

Zip Code*		Country*	
		Date	2025-06-01
		Signature	