

**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 (N₂), 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

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

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

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

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:

1□INTRODUCTION□	26
1.1□STUDY OBJECTIVES□	26
1.2□MARKET DEFINITION□	27
1.2.1□INCLUSIONS AND EXCLUSIONS□	27
1.3□STUDY SCOPE□	29
1.3.1□MARKETS AND GEOGRAPHICAL SEGMENTATION COVERED□	29
1.3.2□YEARS CONSIDERED□	30
1.4□CURRENCY CONSIDERED□	31
1.5□RESEARCH LIMITATIONS□	31
1.6□STAKEHOLDERS□	31
2□RESEARCH METHODOLOGY□	32
2.1□RESEARCH DATA□	32
2.2□DATA TRIANGULATION□	34
2.3□PRIMARY AND SECONDARY RESEARCH□	35
2.3.1□SECONDARY DATA□	35
2.3.1.1□Key data from secondary sources□	35
2.3.2□PRIMARY DATA□	36
2.3.2.1□Key data from primary sources□	36
2.3.2.2□Breakdown of primaries□	37
2.4□MARKET SIZE ESTIMATION□	38
2.4.1□BOTTOM-UP APPROACH□	38
2.4.2□TOP-DOWN APPROACH□	39
2.4.3□DEMAND-SIDE ANALYSIS□	40
2.4.3.1□Demand-side metrics□	40
2.4.3.2□Assumptions for demand-side analysis□	40
2.4.3.3□Calculations for demand-side analysis□	41
2.4.4□SUPPLY-SIDE ANALYSIS□	41

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

2.4.4.1	Calculations for supply side	42
2.4.4.2	Assumptions for supply-side analysis	42
2.5	MARKET SIZE FORECAST	43
2.6	RISK ASSESSMENT	43
3	EXECUTIVE SUMMARY	44
?		
4	PREMIUM INSIGHTS	51
4.1	ATTRACTIVE OPPORTUNITIES FOR PLAYERS IN CRYOGENIC VALVE ASSEMBLY MARKET	51
4.2	CRYOGENIC VALVE ASSEMBLY MARKET, BY REGION	52
4.3	ASIA PACIFIC: CRYOGENIC VALVE ASSEMBLY MARKET, BY CRYOGEN AND COUNTRY	53
4.4	CRYOGENIC VALVE ASSEMBLY MARKET, BY TYPE	54
4.5	CRYOGENIC VALVE ASSEMBLY MARKET, BY CRYOGEN	54
4.6	CRYOGENIC VALVE ASSEMBLY MARKET, BY END-USER INDUSTRY	55
4.7	CRYOGENIC VALVE ASSEMBLY MARKET, BY APPLICATION	55
4.8	CRYOGENIC VALVE ASSEMBLY MARKET, BY COMPONENT	56
5	MARKET OVERVIEW	57
5.1	INTRODUCTION	57
5.2	MARKET DYNAMICS	57
5.2.1	DRIVERS	58
5.2.1.1	Rise in demand for liquefied natural gas as clean and efficient energy source	58
5.2.1.2	Rising in investment in chemical industry	59
5.2.2	RESTRAINTS	60
5.2.2.1	Volatile raw material and metal prices and significant competition from gray market players	60
5.2.2.2	Hazards and greenhouse gas emissions resulting from leak of cryogenic fluids	60
5.2.3	OPPORTUNITIES	61
5.2.3.1	Expansion of industrial gas market	61
5.2.3.2	Growth of space, healthcare, and hydrogen industry	61
5.2.4	CHALLENGES	62
5.2.4.1	Compliance with stringent regulations and safety standards	62
5.2.4.2	High maintenance and cost challenges	62
5.3	TRENDS/DISRUPTIONS IMPACTING CUSTOMERS' BUSINESSES	63
5.4	SUPPLY CHAIN ANALYSIS	64
5.5	ECOSYSTEM ANALYSIS	65
5.6	TECHNOLOGY ANALYSIS	66
5.6.1	SMART VALVE TECHNOLOGY	66
5.6.2	ADVANCED MATERIALS AND DESIGN	66
5.6.3	BI-DIRECTIONAL FLOW CAPABILITY	66
5.6.4	LOW-LEAKAGE CRYOGENIC VALVE TECHNOLOGY BY NASA	66
5.7	CASE STUDY ANALYSIS	67
5.7.1	ENHANCING CRYOGENIC VALVE RELIABILITY WITH UNILION SEALS TO REDUCE FAILURES AND IMPROVE PERFORMANCE	67
5.7.2	PREVENTING HUMAN ERROR IN CRYOGENIC VALVE OPERATIONS WITH ALCATRAZ INTERLOCKS	67
?		
5.8	PATENT ANALYSIS	68
5.9	PRICING ANALYSIS	70
5.9.1	AVERAGE SELLING PRICE TREND, BY TYPE, 2023-2029	70
5.9.2	INDICATIVE PRICING TREND, BY REGION, 2023-2029	71
5.10	TRADE ANALYSIS	71

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

5.10.1	HS CODE 280430	71
5.10.1.1	Nitrogen export scenario	71
5.10.1.2	Nitrogen import scenario	72
5.10.2	HS CODE 280421	73
5.10.2.1	Argon export scenario	73
5.10.2.2	Argon import scenario	74
5.10.3	HS CODE 280440	75
5.10.3.1	Oxygen export scenario	75
5.10.3.2	Oxygen import scenario	76
5.10.4	HS CODE 271111	77
5.10.4.1	LNG export scenario	77
5.10.4.2	LNG import scenario	78
5.10.5	HS CODE 280410	79
5.10.5.1	Hydrogen export scenario	79
5.10.5.2	Hydrogen import scenario	80
5.11	KEY CONFERENCES AND EVENTS, 2024-2025	81
5.12	REGULATORY LANDSCAPE	82
5.12.1	REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS	82
5.12.2	REGULATORY FRAMEWORKS	84
5.13	PORTER'S FIVE FORCES ANALYSIS	85
5.13.1	THREAT OF SUBSTITUTES	86
5.13.2	BARGAINING POWER OF SUPPLIERS	86
5.13.3	BARGAINING POWER OF BUYERS	86
5.13.4	THREAT OF NEW ENTRANTS	86
5.13.5	INTENSITY OF COMPETITIVE RIVALRY	86
5.14	KEY STAKEHOLDERS AND BUYING CRITERIA	87
5.14.1	KEY STAKEHOLDERS IN BUYING PROCESS	87
5.14.2	BUYING CRITERIA	88
5.15	INVESTMENT AND FUNDING SCENARIO	89
5.16	MACROECONOMIC OUTLOOK FOR CRYOGENIC VALVE ASSEMBLY MARKET	89
6	CRYOGENIC VALVE ASSEMBLY MARKET, BY CONSTRUCTION MATERIALS (QUALITATIVE)	91
6.1	INTRODUCTION	91
6.2	STAINLESS STEEL	91
6.3	NICKEL ALLOYS	91
6.4	STELLITE	92
6.5	POLYTETRAFLUOROETHYLENE (PTFE)	92
6.6	POLYCHLOROTRIFLUOROETHYLENE (PCTFE)	92
6.7	GRAPHITE	93
7	CRYOGENIC VALVE ASSEMBLY MARKET, BY SYSTEM TYPE (QUALITATIVE)	94
7.1	INTRODUCTION	94
7.2	STORAGE SYSTEMS	94
7.3	HANDLING SYSTEMS	94
7.4	SUPPLY SYSTEMS	94
7.5	OTHER SYSTEMS	95
8	CRYOGENIC VALVE ASSEMBLY MARKET, BY TYPE	96
8.1	INTRODUCTION	97

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

8.2	GATE VALVES	98
8.2.1	ENABLING SAFE AND PRECISE ISOLATION IN CRYOGENIC APPLICATIONS	98
8.3	GLOBE VALVES	99
8.3.1	OFFERING ENERGY EFFICIENCY BY OPTIMIZING FLUID FLOW IN CRYOGENIC SYSTEMS APPLICATIONS	99
8.4	BALL VALVES	100
8.4.1	NEED FOR FAST OPERATION IN EMERGENCY SHUT-OFF SITUATIONS	100
8.5	CHECK VALVES	100
8.5.1	NEED FOR SAFE AND EFFICIENT OPERATION IN TRANSPORTATION AND STORAGE OF LIQUEFIED GASES	100
8.6	BUTTERFLY VALVES	101
8.6.1	PROVIDING LOW-PRESSURE DROPS MAKES THEM SUITABLE FOR HIGH-FLOW CRYOGENIC APPLICATIONS	101
8.7	OTHER VALVES	102
9	CRYOGENIC VALVE ASSEMBLY MARKET, BY COMPONENT	103
9.1	INTRODUCTION	104
9.2	VALVE BODY	105
9.2.1	RIISING FOCUS ON MEETING STRINGENT SAFETY AND REGULATORY STANDARDS IN CRYOGENIC APPLICATIONS	105
9.3	SEATS	106
9.3.1	DEMAND FOR HIGH-PERFORMANCE SEATS TO ENSURE ZERO-LEAK OPERATION IN CRITICAL CRYOGENIC APPLICATIONS	106
9.4	SEALS	106
9.4.1	RISE IN REQUIREMENT FOR SEALS CAPABLE OF WITHSTANDING HARSH CHEMICALS AND CORROSIVE MEDIA	106
9.5	GASKETS	106
9.5.1	ESSENTIAL FOR ENSURING LEAK-PROOF SEALS IN CRYOGENIC SYSTEMS, PREVENTING FLUID OR GAS LEAKAGE	106
9.6	BACK-UP RINGS	107
9.6.1	OFFERING INCREASED LONGEVITY OF SEALS, REDUCING FREQUENCY OF REPLACEMENTS AND MAINTENANCE COSTS	107
9.7	PIPE SLEEVES	107
9.7.1	ADDITIONAL STRENGTH IMPROVES ABILITY TO WITHSTAND HIGH-PRESSURE CONDITIONS IN CRYOGENIC SYSTEMS	107
9.8	SPACERS	107
9.8.1	ENSURING PRECISE ALIGNMENT BETWEEN COMPONENTS, IMPROVING OVERALL PERFORMANCE AND EFFICIENCY OF CRYOGENIC SYSTEMS	107
9.9	BEARINGS	108
9.9.1	MINIMIZING FRICTION BETWEEN MOVING PARTS, ENHANCING EFFICIENCY IN VALVE OPERATIONS	108
9.10	GEARS	108
9.10.1	INCREASED NEED FOR GEARS TO ENABLE ACCURATE VALVE ACTUATION AND FLOW REGULATION	108
9.11	ACTUATORS	108
9.11.1	RISE IN DEMAND FOR PRECISE CONTROL OF VALVE MOVEMENT IN CRYOGENIC APPLICATIONS	108
9.12	BONNET	109
9.12.1	EXTENDED BONNET PREVENTS FREEZING BETWEEN PACKING AND STEM, ENSURING BETTER SEALING IN EXTREME TEMPERATURES	109
9.13	DISCS/PLUGS	109
9.13.1	MAINTAINING PRESSURE AND PREVENTING LEAKAGE TO ENSURE SAFE TRANSPORT AND STORAGE OF CRYOGENIC LIQUIDS	109
9.14	STEM	109
9.14.1	MADE FROM DURABLE MATERIALS TO WITHSTAND PHYSICAL STRESSES AND CORROSIVE EFFECTS OF CRYOGENIC LIQUIDS	109
9.15	THROTTLE PLATES	110
9.15.1	ENSURING ACCURATE CONTROL OF GAS OR FLUID FLOW AT VARYING TEMPERATURES	110
9.16	OTHER COMPONENTS	110

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

10	CRYOGENIC VALVE ASSEMBLY MARKET, BY CRYOGEN	111
10.1	INTRODUCTION	112
10.2	NITROGEN	113
10.2.1	HIGH ADOPTION OF NITROGEN IN ENERGY & POWER SECTOR	113
10.3	ARGON	113
10.3.1	RISE IN DEMAND FOR ELECTRONICS TO DRIVE REQUIREMENTS FOR ARGON-HANDLING CRYOGENIC VALVE ASSEMBLY	113
10.4	OXYGEN	114
10.4.1	INCREASE IN STEEL AND IRON PRODUCTION TO CREATE HIGH DEMAND FOR OXYGEN-RELATED CRYOGENIC EQUIPMENT	114
10.5	LNG	115
10.5.1	EFFICIENCY AND SAFETY TO BE VITAL FOR LNG STORAGE, TRANSPORTATION, AND REGASIFICATION PROCESSES	115
10.6	HYDROGEN	115
10.6.1	INCREASE IN PRODUCTION OF HYDROGEN-POWERED VEHICLES TO NECESSITATE ADVANCED CRYOGENIC VALVES FOR SECURE HYDROGEN HANDLING	115
10.7	OTHER CRYOGENS	116
11	CRYOGENIC VALVE ASSEMBLY MARKET, BY END-USER INDUSTRY	118
11.1	INTRODUCTION	119
11.2	METALLURGY	120
11.2.1	NEED FOR PRECISE REGULATION OF EXTREMELY LOW-TEMPERATURE LIQUIDS AND GASES IN METAL PROCESSING	120
11.3	ENERGY & POWER	121
11.3.1	INCREASED DEMAND FOR LIQUEFIED NATURAL GAS (LNG) FOR POWER GENERATION AND TRANSPORTATION	121
11.4	CHEMICALS	122
11.4.1	PRODUCTION OF SPECIALTY CHEMICALS, OFTEN INVOLVING LOW-TEMPERATURE PROCESSES, TO SUPPORT ADOPTION OF VALVES FOR PRECISE CONTROL	122
11.5	ELECTRONICS	123
11.5.1	GROWING SEMICONDUCTOR INDUSTRY TO REQUIRE ULTRA-PURE CRYOGENIC GASES SUCH AS NITROGEN AND HELIUM	123
11.6	TRANSPORTATION	124
11.6.1	GLOBAL INCREASE IN BUILDING LNG AND HYDROGEN REFUELING STATIONS	124
11.7	OTHER END-USER INDUSTRIES	125
12	CRYOGENIC VALVE ASSEMBLY MARKET, BY APPLICATION	126
12.1	INTRODUCTION	127
12.2	CRYOGENIC AIR SEPARATION UNIT (CASU)	128
12.2.1	NEED FOR OXYGEN AND NITROGEN IN POWER GENERATION, NATURAL GAS PROCESSING, AND LNG PRODUCTION	128
12.3	NON-CRYOGENIC AIR SEPARATION UNIT (NON-CASU)	128
12.3.1	BEING SMALLER AND MORE COMPACT TO ALLOW FOR EASIER INSTALLATION IN LIMITED SPACES	128
13	CRYOGENIC VALVE ASSEMBLY MARKET, BY REGION	129
13.1	INTRODUCTION	130
13.2	ASIA PACIFIC	132
13.2.1	CHINA	136
13.2.1.1	Increase in LNG infrastructure to meet rising energy demand	136
13.2.2	INDIA	137
13.2.2.1	Increase in investments in space missions	137
13.2.3	AUSTRALIA	138
13.2.3.1	Australia's LNG export leadership to fuel demand for cryogenic valves in storage and transport	138
13.2.4	JAPAN	139
13.2.4.1	Initiatives to become global leader in hydrogen technology and infrastructure	139

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

13.2.5	MALAYSIA	140
13.2.5.1	Government's push for cleaner energy sources to necessitate efficient valve systems with expanding natural gas networks for transportation and distribution	140
13.2.6	REST OF ASIA PACIFIC	141
13.3	NORTH AMERICA	142
13.3.1	US	144
13.3.1.1	US leadership in LNG exports, supported by expanding terminal capacities, to drive demand in storage and transportation	144
13.3.2	CANADA	145
13.3.2.1	Construction of LNG export facilities to generate significant demand for cryogenic equipment	145
13.3.3	MEXICO	146
13.3.3.1	Pioneering energy transformation with robust LNG and hydrogen infrastructure advancements	146
13.4	EUROPE	146
13.4.1	RUSSIA	150
13.4.1.1	Investments in LNG by energy giants	150
13.4.2	UK	151
13.4.2.1	Government's commitment to net-zero carbon emissions	151
13.4.3	GERMANY	152
13.4.3.1	Germany's hydrogen economy to drive demand for cryogenic valves for liquid hydrogen storage and transport	152
13.4.4	FRANCE	153
13.4.4.1	National low-carbon strategy with five-year carbon budgets and multiannual plan for energy investments	153
13.4.5	REST OF EUROPE	154
?		
13.5	MIDDLE EAST	155
13.5.1	GCC COUNTRIES	157
13.5.1.1	Saudi Arabia	157
13.5.1.1.1	Initiation of LNG projects to diversify its energy portfolio and strengthen its position in global energy market	157
13.5.1.2	UAE	158
13.5.1.2.1	Investments in natural gas infrastructure, including LNG production and storage	158
13.5.1.3	Qatar	159
13.5.1.3.1	Qatar's ongoing investments in LNG terminals, export facilities, and storage tanks require advanced cryogenic valves	159
13.5.1.4	Rest of GCC	160
13.5.2	REST OF THE MIDDLE EAST	160
13.6	AFRICA	161
13.6.1	SOUTH AFRICA	163
13.6.1.1	Growth in metallurgy, chemicals, and healthcare to drive demand for industrial gases	163
13.6.2	NIGERIA	164
13.6.2.1	Increase in demand for LNG and nitrogen from oil & gas and shipping industries	164
13.6.3	ALGERIA	165
13.6.3.1	Upcoming offshore projects, increasing LNG export volumes, and ongoing enhancements in liquefaction and storage facilities	165
13.6.4	REST OF AFRICA	166
13.7	SOUTH AMERICA	167
13.7.1	BRAZIL	168
13.7.1.1	Energy transition and oil production from offshore sources	168
13.7.2	ARGENTINA	169

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

13.7.2.1	Reviving oil & gas sector to bring opportunities for cryogenic valves and component providers	169
13.7.3	VENEZUELA	170
13.7.3.1	Vast natural gas reserves, including Orinoco Belt, drive LNG production and export	170
13.7.4	REST OF SOUTH AMERICA	171
14	COMPETITIVE LANDSCAPE	172
14.1	OVERVIEW	172
14.2	KEY PLAYER STRATEGIES/RIGHT TO WIN, 2020-2024	172
14.3	MARKET SHARE ANALYSIS, 2023	174
14.4	REVENUE ANALYSIS, 2020-2024	177
14.5	BRAND/PRODUCT COMPARISON	178
14.6	COMPANY VALUATION AND FINANCIAL METRICS, 2024	179
?		
14.7	COMPANY EVALUATION MATRIX: KEY PLAYERS, 2023	180
14.7.1	STARS	180
14.7.2	EMERGING LEADERS	180
14.7.3	PERVASIVE PLAYERS	180
14.7.4	PARTICIPANTS	180
14.7.5	COMPANY FOOTPRINT: KEY PLAYERS, 2023	182
14.7.5.1	Company footprint	182
14.7.5.2	Regional footprint	183
14.7.5.3	Type footprint	184
14.7.5.4	Cryogen footprint	185
14.7.5.5	Application footprint	186
14.7.5.6	End User Footprint	187
14.7.5.7	Component footprint	188
14.8	COMPANY EVALUATION MATRIX: STARTUPS/SMES, 2023	190
14.8.1	PROGRESSIVE COMPANIES	190
14.8.2	RESPONSIVE COMPANIES	190
14.8.3	DYNAMIC COMPANIES	190
14.8.4	STARTING BLOCKS	190
14.8.5	COMPETITIVE BENCHMARKING	192
14.8.5.1	List of key startups/SMEs	192
14.8.5.2	Competitive benchmarking of key startups/SMEs	193
14.9	COMPETITIVE SCENARIO	195
14.9.1	PRODUCT LAUNCHES	195
14.9.2	DEALS	196
14.9.3	EXPANSIONS	197
14.9.4	OTHER DEVELOPMENTS	199
15	COMPANY PROFILES	200
15.1	KEY PLAYERS	200
15.1.1	PARKER HANNIFIN CORP	200
15.1.1.1	Business overview	200
15.1.1.2	Products/Solutions/Services offered	202
15.1.1.3	Recent developments	205
15.1.1.3.1	Product launches	205
15.1.1.4	MnM view	205
15.1.1.4.1	Key strengths	205

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- 15.1.1.4.2 Strategic choices 205
- 15.1.1.4.3 Weaknesses and competitive threats 205
- ?
- 15.1.2 EMERSON ELECTRIC CO. 206
- 15.1.2.1 Business overview 206
- 15.1.2.2 Products/Solutions/Services offered 207
- 15.1.2.3 Recent developments 209
- 15.1.2.3.1 Product launches 209
- 15.1.2.4 MnM view 209
- 15.1.2.4.1 Key strengths 209
- 15.1.2.4.2 Strategic choices 210
- 15.1.2.4.3 Weaknesses and competitive threats 210
- 15.1.3 FLOWSERVE CORPORATION 211
- 15.1.3.1 Business overview 211
- 15.1.3.2 Products/Solutions/Services offered 212
- 15.1.3.3 Recent developments 214
- 15.1.3.3.1 Deals 214
- 15.1.3.3.2 Other developments 216
- 15.1.3.4 MnM view 216
- 15.1.3.4.1 Key strengths 216
- 15.1.3.4.2 Strategic choices 216
- 15.1.3.4.3 Weaknesses and competitive threats 216
- 15.1.4 CRANE COMPANY 217
- 15.1.4.1 Business overview 217
- 15.1.4.2 Products/Solutions/Services offered 218
- 15.1.4.3 Recent developments 220
- 15.1.4.3.1 Deals 220
- 15.1.4.4 MnM view 220
- 15.1.4.4.1 Key strengths 220
- 15.1.4.4.2 Strategic choices 220
- 15.1.4.4.3 Weaknesses and competitive threats 221
- 15.1.5 VALMET 222
- 15.1.5.1 Business overview 222
- 15.1.5.2 Products/Solutions/Services offered 224
- 15.1.5.3 Recent developments 225
- 15.1.5.3.1 Other developments 225
- 15.1.5.4 MnM view 226
- 15.1.5.4.1 Key strengths 226
- 15.1.5.4.2 Strategic choices 226
- 15.1.5.4.3 Weaknesses and competitive threats 226
- 15.1.6 VELAN 227
- 15.1.6.1 Business overview 227
- 15.1.6.2 Products/Solutions/Services offered 228
- ?
- 15.1.7 BAKER HUGHES 229
- 15.1.7.1 Business overview 229
- 15.1.7.2 Products/Solutions/Services offered 231

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

15.1.7.3	Recent developments	233
15.1.7.3.1	Product launches	233
15.1.7.3.2	Expansion	234
15.1.7.3.3	Other developments	234
15.1.8	KITZ CORPORATION	235
15.1.8.1	Business overview	235
15.1.8.2	Products/Solutions/Services offered	236
15.1.8.3	Recent developments	236
15.1.8.3.1	Deals	236
15.1.8.3.2	Expansion	237
15.1.9	BRAY INTERNATIONAL	238
15.1.9.1	Business overview	238
15.1.9.2	Products/Solutions/Services offered	238
15.1.10	BAC VALVES	240
15.1.10.1	Business overview	240
15.1.10.2	Products/Solutions/Services offered	240
15.1.11	CRYOCOMP	245
15.1.11.1	Business overview	245
15.1.11.2	Products/Solutions/Services offered	245
15.1.12	SLB	247
15.1.12.1	Business overview	247
15.1.12.2	Products/Solutions/Services offered	248
15.1.12.3	Recent developments	249
15.1.12.3.1	Expansion	249
15.1.13	L&T VALVES LIMITED	250
15.1.13.1	Business overview	250
15.1.13.2	Products/Solutions/Services offered	250
15.1.14	POWELL VALVES	252
15.1.14.1	Business overview	252
15.1.14.2	Products/Solutions/Services offered	252
15.1.15	HABONIM	254
15.1.15.1	Business overview	254
15.1.15.2	Products/Solutions/Services offered	254
15.1.16	HEROSE	256
15.1.16.1	Business overview	256
15.1.16.2	Products/Solutions/Services offered	256
?		
15.2	OTHER PLAYERS	260
15.2.1	SAMSON AKTIENGESELLSCHAFT	260
15.2.2	VALCO GROUP	260
15.2.3	OSWAL INDUSTRIES LIMITED	261
15.2.4	MAVERICK VALVES	262
15.2.5	CRYOGENIC SPECIALTY MANUFACTURING	263
15.2.6	ROCHELLES TECHNOMATICS INDIA PVT. LTD.	264
15.2.7	XHVAL GROUP VALVE CO., LTD.	265
15.2.8	XINTAI VALVE	265
15.2.9	MECA-INOX	266

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

16 APPENDIX 267

16.1 INSIGHTS OF INDUSTRY EXPERTS 267

16.2 DISCUSSION GUIDE 268

16.3 KNOWLEDGESTORE: MARKETSANDMARKETS' SUBSCRIPTION PORTAL 273

16.4 CUSTOMIZATION OPTIONS 275

16.5 RELATED REPORTS 275

16.6 AUTHOR DETAILS 276

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

**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*	<input type="text"/>	Phone*	<input type="text"/>
First Name*	<input type="text"/>	Last Name*	<input type="text"/>
Job title*	<input type="text"/>		
Company Name*	<input type="text"/>	EU Vat / Tax ID / NIP number*	<input type="text"/>
Address*	<input type="text"/>	City*	<input type="text"/>

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

Zip Code*	<input type="text"/>	Country*	<input type="text"/>
		Date	2025-06-01
		Signature	<div></div>