



Godakhtar

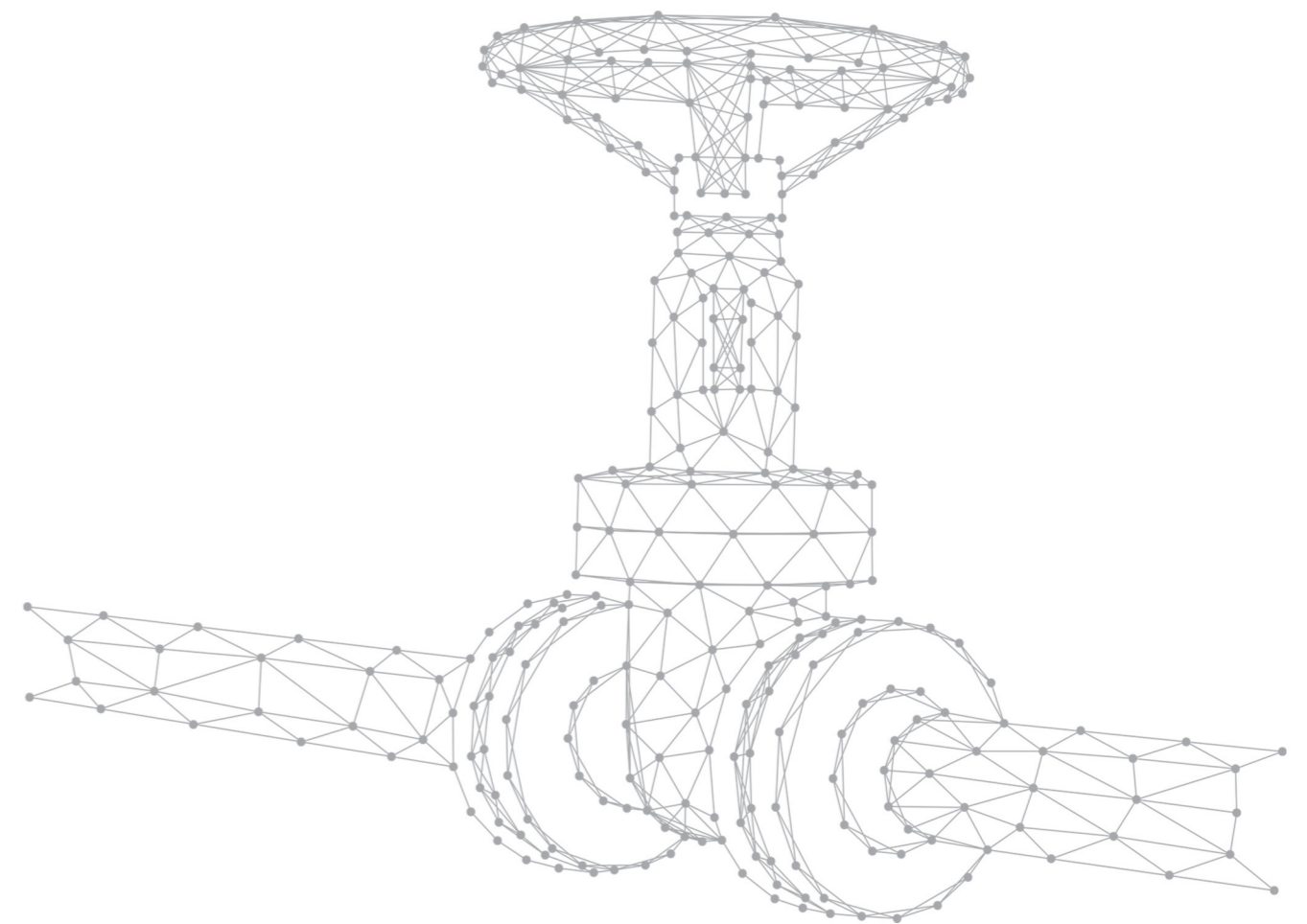
Godakhtar

INDUSTRIES DEVELOPMENT & INNOVATION

GENERAL CATALOGUE 2024

Godakhtar

INNOVATIVE SOLUTIONS IN VALVE TECHNOLOGY





**OUR INNOVATION;
YOUR EXCELLENCE**

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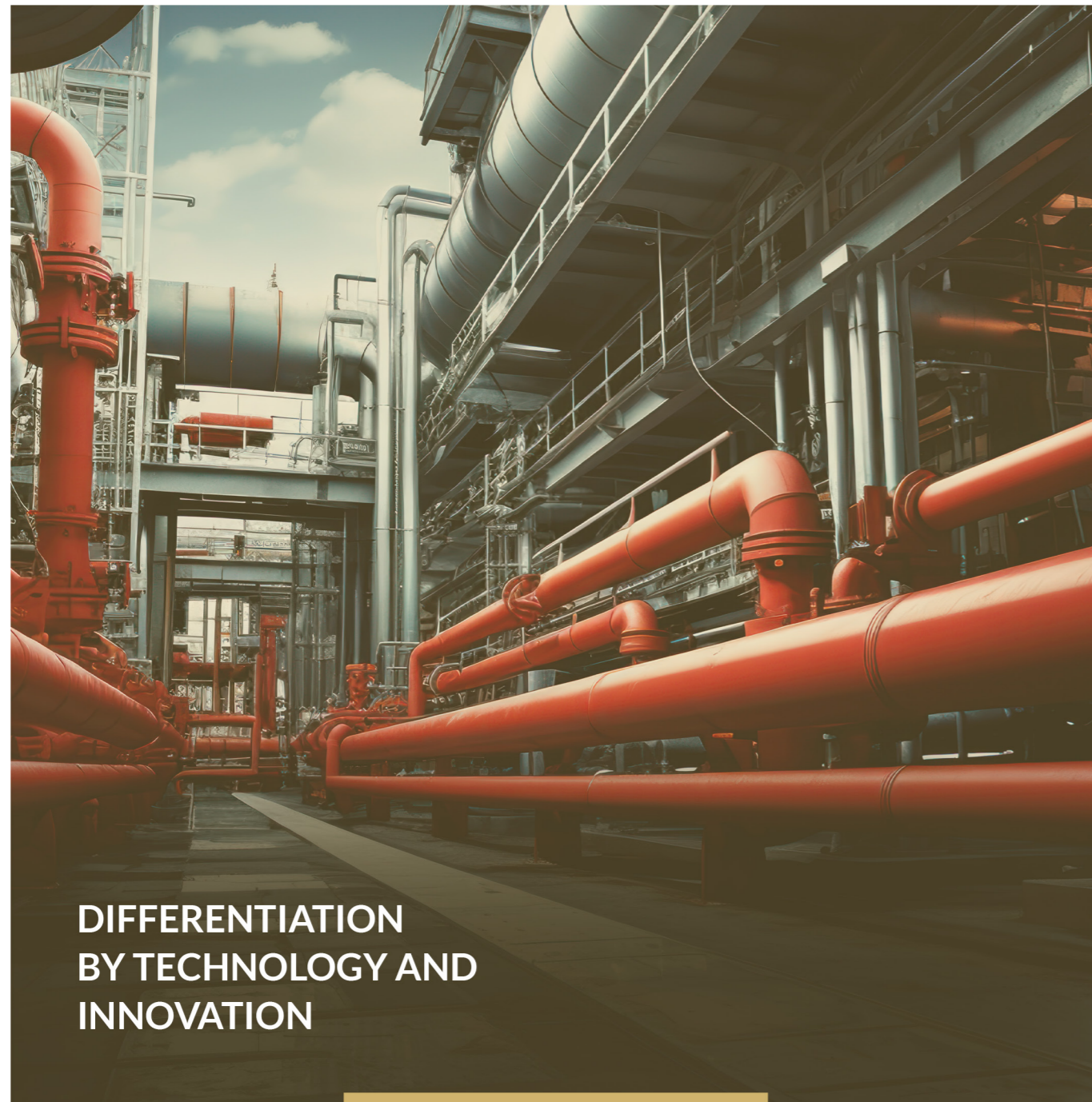
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DIFFERENTIATION BY TECHNOLOGY AND INNOVATION

PRESIDENT STATEMENT

Godakhtar Industries Development & Innovation Group, with near five decades of experience and a deep belief in business, the values that govern it, the philosophy of an economic enterprise, and its intellectual and physical assets on a challenging path, has drawn a bright future for itself.

At Godakhtar Holding, we believe that our most valuable organizational capital is our valuable human resources, which transform the organizational environment into a dynamic, growing, and motivated environment for work. Therefore, we carefully select and attract colleagues, distribute responsibilities based on competence, commitment, and accountability, strive for proper evaluation of organizational performance, and strive to keep this important and valuable organizational resource motivated.

In the Godakhtar Group, innovation and attention to changes in the path of group growth and development are part of our organizational culture, and we always strive for value creation improvements in all layers of innovation in products, innovation in services, innovation in processes, and innovation in the business model, with a focus on creating value for all stockholders and special attention to technology.

Our belief in business is to make the word "Co-competition" between colleagues and industry players a reality, and we believe that collaboration in competition and creating a network of business actors can bring the highest benefits to customers, competitors, shareholders, and the community as a whole. Therefore, we have committed ourselves to interaction, collaboration, and participation while maintaining healthy competition to enhance our position in the market.

At Godakhtar, we believe that credibility and having a positive, confident, and consistent image of the Godakhtar brand among all stockholders is another non-purchasable and non-transferable intellectual asset in any business. This image plays a role in the minds of the audience, bit by bit, and not overnight. Therefore, while paying attention to this important matter, we will spare no effort to protect our brand and deepen this positive image in the minds and hearts of stockholders.

Also, with 45 years of experience in business, we have learned that understanding and correctly perceiving the surrounding environment, learning from the environment, and adapting a business model to environmental changes are the most important principles for the continuity and sustainability of an economic enterprise and its transfer from one generation to another. Therefore, in the Godakhtar Group, we always



pay attention to monitoring external environmental changes, reviewing collection strategies, and being prepared to change and adapt to the current business conditions.

As the leader of a cohesive, convergent, and reliable team in the Godakhtar Industries Development & Innovation Group, while mentioning the five beliefs mentioned above, I declare that the group's business model for its fifth decade of activity is aimed at a platform model that, with the maximum participation of colleagues, suppliers, producers, service providers, consumers, and business actors in the field of energy equipment and services, aims to create value for our customers by reducing costs, increasing competitiveness, facilitating access, and speeding up the provision of services and products to end customers.

In conclusion, I would like to mention Godakhtar Holding's grand dream in a ten-year horizon, which, like a peak ahead, has dedicated all our activities and efforts to achieve and realize it:

Godakhtar, in a ten-year horizon, is a global brand and a leader in the innovation and technology ecosystem, with \$5 billion in sales and the support of 5,000 shareholder colleagues, Focused on the environmentally friendly energy industry.

Dr. Payam Khalili
CEO of the Group



OUR CULTURE

Culture: The renowned anthropologist, Ralph Linton, once said: «Water is the last thing that a fish notices»



Linton's point is clear: a fish, immersed in water, doesn't even feel it and takes it for granted. We can apply this analogy to organizations and say, «Culture» is the last thing that captures the attention of managers and employees! There are numerous stories of success and failure in companies that can be analyzed from a cultural perspective. The story of Nokia's downfall is a remarkable tale that dates back to the late 20th century and the early 21st century. It appears that Nokia's downfall was due to its inability to make a proper and complete transition to the 21st century and remained stagnant in the 20th century. Its confident managers increased production, expanded their sales network and marketing, and managed to increase their operational profit to over four billion dollars by 1999. Nokia established itself as the most recognized and best mobile phone brand in the world during the last years of the 20th century and continued this trend in the first few years of the 21st century.

Despite all of Nokia's successes, its managers overlooked one crucial factor—the entry of Apple into the market. From the very beginning of its entry into the mobile phone industry, Apple demonstrated its potential for innovation. Nokia's managers, preoccupied with their past successes, underestimated this new competitor. This note does not delve into the details of Nokia's decline; it simply suffices to say that, after the emergence of the iPhone, Nokia lost ground every day, and its market value plummeted by nearly 90% by 2013 when it was acquired by Microsoft. This story serves as a prominent example of a company's failure to adapt to new conditions and the experience of a significant free fall. From an organizational culture perspective, this story holds great importance. What is organizational culture? It is a collection of language, discourse, assumptions, values, norms, attitudes, behaviors, products, and how things are communicated and carried out.



We are surrounded by this definition of culture during our presence and absence in the organization, during meetings, during casual conversations over lunch and tea, during conferences and events, and in every single word we use. The words we use, the way we accept our colleagues, the information we include in our letters and emails, the arrangement we give to our work desk, the stance we take in response to criticism - all of these are symbols of group culture and, collectively, symbols of our organizational culture. In another definition of organizational culture presented by Jim McCuin (2022), organizational culture is a rich system of symbols that individuals in an organization use to make sense of their work life. As stated in this definition, organizational culture is a system, and therefore, the organization must confront it like a "system" to avoid the fate of the initial fish in this note. Levels of study in an organization include individual, group, and unit, and the overall organization. Learning, while a distinctive human feature, is a double-edged sword; it can become a habit and may not necessarily be effective. Let us recall the Nokia story and review the trap into which its managers and, of course, its employees fell. Accumulated teachings, a system of beliefs, values, and behavioral norms, become implicit and, ultimately, become part of individuals' unconsciousness. This unconsciousness necessitates reflection, exploration, and, if necessary, courageous reconsideration to make the organization effective in a volatile, uncertain, complex, and ambiguous (VUCA) world. At Godakhtar, we will take a fresh and distinct look at organizational culture and its important components. In this journey, it is fitting for all managers and colleagues at the group and unit levels to actively participate so that Godakhtar can act more effectively and brilliantly than ever in its development and for our dear country.





GOREAM
CREATE OUR BIG DREAM

EIO
Innovation ecosystem

GSF
CASTING SOLUTION

GIC
Commercialization of ideas

PFE
EPC MANAGEMENT

GIT
Businesses solution

GPMCO
VALVES SERVICES

GIG
VALVE TECHNOLOGY

CVC
Smart investment

GTE
Beyond a Collage

P-ISP
Knowledge base total solution

VISION FOR THE GROUP BY 2030

To become a global brand and a sustainable innovation ecosystem in the environmentally-friendly energy industry, with sales of \$5 billion, accompanied by the participation of 5000 employee shareholders.

IP | Intellectual Property

Intellectual property in Godakhtar Industries Development and Innovation

Godakhtar Industries Development and Innovation Group known as the first and best designer, manufacturer and supplier of all types of valves in the oil, gas and petrochemical industry with more than 4 decades of experience and having a high market share as a private group with first-class knowledge. This industrial group, with a diverse business portfolio in the fields of valve production, repairs, after-sales service and valve service center, valve casting, supply and trading of special valves, and specialized training, is one of the strongest groups in the field of valves in the Iranian market. The variety of Godakhtar products and services is about 700 types like Ball, Gate, Globe, Check and Plug from 2 to 52 inches and up to 2500 pressure class. The trademark of Godakhtar Industries Development and Innovation Group has been registered under registration number 1074/M/32 on 04/19/2014 in the national office of intellectual Property Department in Iran.

This success and competitive position is based on ownership and intellectual capital in the development and innovation group of Godakhtar Industries and based on existing and developing capacities and potentials such as business model, business brand, ideas, customer information, knowledge-based management software, which consists of among them, we can point to the technology and innovation of Godakhtar Industries Development and Innovation Group in the field of product development, technical know-how to produce valves in accordance with the requirements and expectations of customers.

Godakhtar Industrial Group has succeeded in acquiring technical knowledge for the production of special valves and obtaining approval from the Scientific and Industrial Research Organization of Iran by taking advantage of the research and development departments as well as engineering design and in the shadow of close cooperation with top technology companies. Currently, Godakhtar Group has several technical and commercial cooperation with its strategic partners in the form of technical knowledge transfer contracts, technical cooperation and after-sales services in Iran. Also, Godakhtar Group is one of the cases and examples of intellectual property with the possession of knowledge for concluding international contracts in the fields of technical knowledge transfer and commercial and technical cooperation.



Research and Development Center

The Godakhtar Research and Development Center, utilizing the components of innovation, ideation, and entrepreneurship, aims to plan the next generations of Godakhtar Group's products and services by studying technological trends, monitoring global leading companies, and understanding market needs.

The process of developing new products in this center includes conceptual studies, detailed design, prototyping, validation, and certification for mass production.

Some of the newly developed knowledge-based products by this center include:

- Cryogenic valve
- Axial check valve
- Through conduit gate valve
- Orbit Valve

Furthermore, the ongoing research program of this center focuses on the development of the following products:

- Control Valve
- Upstream valves
- Offshore valves
- Actuators

The roadmap of this center is moving towards the intelligent automation of energy equipment.

GIDI Business Units

AFFILIATES & BUSINESS UNITS

GIG

GODAKHTAR INDUSTRIAL GAS VALVES

Manufacturer of Plug Valves, Ball Valves, Gate Valves, Check Valves, Globe Valves from 3/4 through 56 inches, pressure class 150, 300, 600, 800, 900, 1500, 2500 in different patterns.

GSF

GODAKHTAR SADR FOOLAD

Cast Steel parts: Valves bodies and components for oil and gas industry.

GPMCO

GODAKHTAR VALVE SERVICE

In-workshop valve repair and refurbishment, On-site valve repair, valve maintenance services, valve testing and certification, Technical consultancy.

GIT

Godakhtar International Trade

Your Professional Strategic Business Partner with Professional Solutions for All Your Business Challenges & Dilemmas, Domestically & Internationally!

EID

Energy Innovation District

Energy Innovation District (EID) is a place for co creation and creating shared value.

P-ISP

Pars Integrated Services Platform

Pars P-ISP Integrated Supply Platform for Industrial and Non-Industrial Services.

PFE

Petro Farayand Energy

well known and reputable consulting engineering company in the field of oil and gas upstream and pipelines EPC projects both as designer or as managing contractor (MC)/ ,site supervision.

CVC

Corporate Venture Capital Fund

strengthen the innovation system throughout the group while achieving the expected financial returns at the holding level.

GTE

Glory Through Education

An innovative university with the aim of training active and capable students in engineering fields.

GIC

Godakhtar Innovation Center

The innovation arm of the company in creating value through open innovation and networking in the ecosystem.

GC

Godakhtar Construction

The consultant and executive company in construction and modern construction projects in the industrial, administrative, etc. sectors based on the most up-to-date methods.



Godakhtar Valve Industries Company



This Company began its activities in 1982 in a small workshop with basic machining equipment to supply components for various manufacturers. The founder and spiritual father of this company, Mr. Morteza Khalili, worked tirelessly to transform this small startup into the first private industrial unit in the Central Industrial Pole City in 1985. This industrial unit continued its operations continuously until 1995 to standardize its activities and comply with systematic and quality thinking.



It decided to implement quality management systems and establish ISO 9002 standards. With tremendous effort, in 1996, it became the first company to obtain ISO 9002 certification from DNV Netherlands. Having foundry and machining workshops, the founders of this industry decided to manufacture cone and plug valves based on the needs of the National Gas Company for gas transmission networks. After technical studies, Godakhtar managed to get the approval of the National Gas Company for its products in 1998.

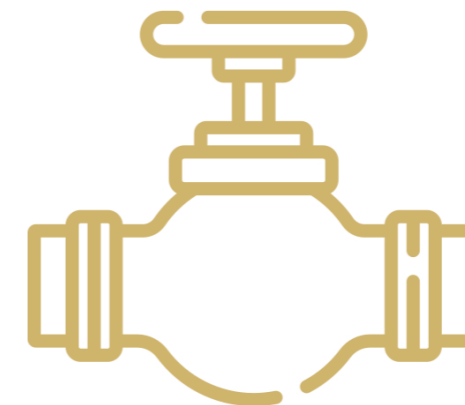


In December 1998, the first contract for the production of approximately 7,000 Plug Valves valves was signed, and from that time on, the necessary planning was carried out to launch a mass production line for valves. In 2000, with the implementation of its development plan and the transfer of machining, coating, assembly, and valve testing to a new space, mass production of valves was practically carried out in Iran for the first time.

This company, as the first producer of industrial valves for the oil, gas, petrochemical, and refinery industries, gradually expanded its target markets and increased its consumer base several-fold. It expanded its product portfolio and, with more than 750 product variations, produced and delivered over 200,000 valves annually, playing a significant role in meeting the needs of both upstream and downstream industries under the Ministry of Oil.

With multiple production halls, assembly, testing, painting, packaging, warehousing, and a safe environment, the company has created an atmosphere conducive to the well-being of its employees and collaborators. This effort to provide comfort has replaced complacency and indifference with a desire for continuous improvement and progress.

Over the years, the company has successfully obtained product quality certificates based on design standards such as API 6D, including Fire Test and Life Cycle Test, as well as management system certificates like ISO 9001, ISO 14001, and ISO 45001.





Sadr Foolad Godakhtar Company

In 1991, by purchasing and installing induction furnaces, the company started its activity in the field of steel casting. In this regard, it successfully produced heat-resistant and heat-tolerant steel castings for the country's steel industries, including Mobarakeh Steel, Isfahan Steel, and Khuzestan Steel.

As part of comprehensive structural changes, the company diversified into a group of companies active in the oil, gas, and petrochemical sectors. In July 2004, the casting unit became Sadra Steel Godakhtar Company, responsible for providing services to the oil, gas, petrochemical, steel, and aluminum industries, among others. The company, equipped with suitable facilities, has an annual production capacity of 2000 steel pieces and plans to reach a casting capacity of 400 tons per year.

With its induction furnaces, molding equipment, laboratory facilities including radiographic testing, chemical analysis, tensile testing, magnetic particle testing, and shot blasting capabilities, Sadra Steel Godakhtar Company has the ability to produce high-quality components. The company is capable of casting various materials, including heat-resistant steels, corrosion-resistant steels, various types of cast irons, aluminum alloys such as aluminum and bronze, and basic nickel alloys.

Sadr Foolad Godakhtar Company is one of the first manufacturers of special alloy components for the oil and petrochemical industries, successfully meeting the required standards and obtaining certifications for SSCC and HIC tests. Currently, with the use of the SUTCAST simulation software, the company can assist customers in adapting their design drawings for specific and complex components, reducing costs and ensuring customer satisfaction before mass production. The company's laboratory unit, equipped with state-of-the-art equipment and skilled personnel, provides a wide range of testing services, including metal analysis for steel, iron, aluminum, and copper, mechanical property testing, sand grain analysis, hardness testing, metallography, and various non-destructive tests such as PT, MT, UT, and RT.

With a 4.5 cubic meter heat treatment furnace, Sadr Foolad Godakhtar Company offers services such as normalizing, annealing, quenching, tempering, and stress relieving operations.



The company holds several certifications, including ISO 9002:1994, and has implemented management systems for excellence and quality, adhering to ISO 45001:2018, ISO 9001:2015, and ISO 14001:2015 standards.

Some of the company's achievements include being a model entrepreneur in Markazi Province, the Provincial Sample Unit in 2023, and the Sample Research Unit in 2023.

The vision of Sadr Foolad Godakhtar Company is to lead the industry in an innovative and distinctive way, creating value for its target industries through the development of physical capacity, brainpower, technical and engineering services, and strategic transformation foundations.

The mission of the company is to be a technology-driven organization in product design, material selection, and innovative processing based on customer needs.

The company's core values include investing in human capital, industrial and commercial collaborations, innovation and creativity, constructive relationships with key stakeholders, and wealth creation for both the company and the national industries it serves.

The target industries of Sadr Foolad Godakhtar Company encompass various fields, and its value creation components include business transformation based on technical and engineering knowledge, the establishment of complementary processes in production stations, the presence of a knowledge-based workforce in composite knowledge including melting, molding, heat treatment, and materials, organizational capabilities in executive procedures, modeling processes, accumulated skills, and guidelines, and specialized software (simulation) and material engineering.



GPMCO
VALVES SERVICES

Parand Godakhtar Qeshm Company

Parand Godakhtar Qeshm Company (GPMCO) was established in 1394 with the aim of providing technical and engineering services in the field of repair and maintenance of industrial valves. It is registered in the Qeshm Free Trade Zone and has repaired and reconstructed over 15,000 various types of valves used in industries such as oil, gas, refining, petrochemicals, and power plants.

The vision of this subsidiary of the Godakhtar Industrial Group is to provide comprehensive solutions in all aspects of repair and maintenance to customers, leveraging knowledge-based

expertise to offer reliable capabilities. In this regard, they plan to implement an integrated knowledge-centric valve management system.

Our mission is to identify all customer needs, whether the customer is aware of them or not, and provide suitable solutions through acquired knowledge and sufficient experience. In 1400, the company obtained an operating license for the repair and reconstruction of industrial valves from the Ministry of Industry, Mine, and Trade, along with other relevant licenses.

Some of the company's objectives include:

- Technical documentation and issuance of failure handbooks for each equipment.
- Expanding valve repair services, especially for valves, pumps, compressors, and engineering components.
- Providing training services in the valve field and developing standard valve management procedures.
- Precise and coherent planning for pre-failure maintenance and repair activities.
- Extraction, counting, and analysis of data related to valves used in customer plant sites.
- Establishing a centralized database for cost-effective and precise information access.
- Designing and implementing integrated valve management software and maintenance programs based on reliability-centered maintenance (RCM).

Currently, this company offers extensive services related to the repair and reconstruction of various industrial valves, inspection and testing of valves, production of spare parts for valves, issuance of performance certificates for valves, and the supply of specialized workforce for the repair and testing of valves in refinery, petrochemical, and power plant sites, as well as maintaining valves in gas pressure reduction and boosting stations, among other activities.

Some of its customers and employers include the Bushehr Nuclear Power Plant, Bandar Imam Petrochemical Company,

Petroghar Farsaheleh Kish, Karun Oil and Gas Exploitation Company, Iran Chemical Industries, Abresani Jonoob, Aghajari Oil and Gas Operation Company, Kurdistan Power Generation, Maroun Petrochemicals, Kermanshah, Tandgoyan, Shazand, and Razii Power Plants, Lorestanco Oil and Telecommunication, Refsanjan, and Arak, as well as various gas transfer zones and pipeline projects. With the help of the Almighty and the efforts of all employees, GPMCO aims to become one of the knowledge-based companies in the field of oil, gas, and petrochemical repairs by the end of 1402.



GIT

Businesses solution

GODAKHTAR INTERNATIONAL TRADE

Introducing Godakhtar Trading, a distinguished name in the realm of project equipment and material supply. Specializing in catering to the diverse needs of the Oil, gas and petrochemical, Energy and Utility, water and wastewater treatment, Infrastructure, Mining, Agricultural Mechanization, Automotive Industry, and Railway Development sectors, Godakhtar Trading stands as a reliable partner for project success. With a commitment to excellence, we provide a comprehensive range of high-quality equipment, ensuring optimal performance and efficiency in every venture. Our extensive portfolio is designed to meet the unique demands of each industry, emphasizing innovation, durability, and sustainability. Backed by a team of experts, Godakhtar Trading is dedicated to delivering tailored solutions that contribute to the growth and success of projects across various sectors. Trust us to be your preferred supplier for top-notch equipment, facilitating progress and excellence in every endeavour.

01 Oil, Gas, and Petrochemical

Godakhtar Trading stands as a reliable partner for oil, gas, and petrochemical projects, delivering a robust lineup of essential equipment. Our offerings include state-of-the-art refining units, pipelines, valves, pumps, heat exchangers, and storage tanks. With a focus on quality and compliance, we provide solutions that meet the stringent requirements of the industry. Trust Godakhtar Trading to supply the critical equipment necessary for the success and efficiency of your oil, gas, and petrochemical ventures.



02 Energy and Utility

Godakhtar Trading is a leading supplier of energy and utility projects, offering a comprehensive range of high-quality equipment. Our expertise encompasses generators, transformers, switchgear, power distribution systems, and cables and wires. With a commitment to excellence, we ensure that our clients receive top-tier solutions for their energy infrastructure needs. Trust Godakhtar Trading to provide the essential equipment that powers success in every energy and utility project.



03 Infrastructure

Godakhtar Trading is a premier provider of equipment and materials for infrastructure projects, offering a comprehensive range to meet diverse construction needs. Our catalogue includes heavy machinery such as excavators, loaders, and bulldozers, essential for earthmoving and site development. We also supply construction materials like steel reinforcements, and asphalt for robust infrastructure development. Count on Godakhtar Trading to deliver the essential equipment and materials necessary for the successful execution of infrastructure projects, ensuring durability, efficiency, and excellence at every step.



04 Water and Wastewater Treatment

Godakhtar Trading is a leading supplier of water and wastewater treatment projects, delivering a comprehensive range of high-quality equipment and materials. Our offerings include advanced treatment systems, pumps, filtration units, and chemical dosing systems, ensuring the efficient purification and management of water resources. Additionally, we provide essential materials such as pipes, valves, and pumps for the seamless integration of comprehensive water treatment solutions. Trust Godakhtar Trading to be your reliable partner, providing the essential equipment and materials needed for the success of water and wastewater treatment projects, with a focus on sustainability and environmental stewardship.



05 Mining

Godakhtar Trading is a leading provider of equipment and materials for mining projects, offering a comprehensive range to support efficient and sustainable operations. Our catalogue includes essential mining machinery such as excavators, and haul trucks, ensuring optimal extraction and processing. Additionally, we supply crucial materials like conveyor belts, and wear-resistant components to enhance mining productivity. Count on Godakhtar Trading for a reliable source of the main equipment and materials necessary for the success of mining projects, providing durability, performance, and excellence in every endeavour.



06 Agricultural Mechanization

Godakhtar Trading is a key player in supporting agricultural mechanization projects, offering a diverse array of top-quality equipment and materials. Our inventory includes essential machinery such as tractors, Plows, and harvesters, ensuring precision and efficiency in farm operations. Additionally, we provide agricultural materials like irrigation systems, fertilizers, and crop protection solutions to enhance productivity. With a commitment to modernizing agriculture, Godakhtar Trading stands as a reliable source of the main equipment and materials essential for successful and sustainable agricultural mechanization projects. Trust us to contribute to the advancement and efficiency of your agricultural initiatives.



07 Car Industry

Godakhtar Trading is a reliable partner for car and transportation industry projects, offering a diverse range of top-quality materials. Our inventory includes tires, car batteries, and car engine oil.



Godakhtar



Pars P-ISP Integrated Supply Platform for Industrial and Non-Industrial Services



• **Objective and Strategy**

The goal is to create more added value and achieve a shorter and faster supply chain for specialized industrial services such as procurement, repair, maintenance, construction, and support needed by active industries in the Pars South region and neighboring domestic and international areas through an innovative business model. Providing non-industrial services such as hospitality, transportation, and other welfare services is also another part of the objectives of this major project.

• **Project Stakeholders**

The main stakeholders of this business in the Pars Energy Economic Zone include service providers (contractors, builders, knowledge-based centers, welfare service companies, inspection training units, etc.) and service recipients (employers in the oil and gas petrochemical sectors, local communities, government and private customers located in the region, Pars Energy Economic Zone, and individual and legal investors in the project and their collaborators). Implementation Planning and Financial Justifications: The project is planned to be implemented over a 5-year period, on a land area of 50 hectares adjacent.

• **Business Model**

The main model of the P-ISP project is to create integrated physical and software infrastructures on a platform that connects and communicates service providers and service seekers. In this platform, expectations such as specialized business spaces, skilled workforce, suitable and key equipment and technologies, logistics and support facilities, along with the necessary cyber infrastructures, will be provided.

PETRO FARAYAND ENERGY (PFE) is an Engineering company, active in the fields of design, procurement and construction services for Oil, Gas and Petrochemical industries. PETRO FARAYAND ENERGY has been ranked by Iranian governmental planning & management organization for Oil & Gas, pipelines, production units, Refinery, Petrochemical and booster stations. PFE has achieved exceptional results by making extensive use of highly advanced and developed systems in design, procurement and construction activities. Efficient coordination between engineering and procurement activities, has resulted meeting time schedule for effective cost control and benefit of clients. PFE has carried out several oil & gas EPC projects. As EPC contractor consultant is fully familiar with EPC projects problems and well equipped for the challenges. PFE is committed with environmental attitudes by providing clients with environmental assessment reports and using environmental friendly technologies in design. PFE has attained government environmental permits for his projects wherever requested.

PFE offers the following major services to clients:

- Feasibility study
- Basic design
- Detail design
- Planning and Scheduling
- Procurement services
- Construction management
- Site supervision
- Technical assistance services
- Projects Environmental assessment reports

Company Scope of Service

• **PROJECT AND CONSTRUCTION MANAGEMENT**

Our services in this regard includes: Project control, scheduling, planning, estimating, cost control, quality control and assurance, construction supervision and also inspection activities.

• **ENGINEERING**

PFE provides Feasibility Studies and Conceptual engineering services, basic and detailed engineering design, construction supervision services.

• **PROCUREMENTS SERVICES**

Sourcing of materials and equipment, vendor's qualification technical clarifications, vendors bids evaluation, placement and administration of purchase orders, material expediting and inspection, material control and warehousing.

Belief in Quality Management

To meet with quality demands of today's industries, PFE strives to maintain quality of its activities by applying ISO 9001:2015 & 29001:2020 quality management standard to its projects. We endeavor to meet or exceed the client's requirements by putting our best efforts in every stage of the job, and constantly improving our services. In order to be fully successful in "continuous improvement" we need the client's feedback as an essential component.

Care for the Environment

PFE is committed to environment care policies as needed in design procurement and construction of projects. PFE holds ISO 14001:2015, ISO 45001:2018, IMS & HSE-MS certificates for adaptation to environmental and HSE care rules.



EID

Innovation ecosystem

Energy Innovation District

Energy Innovation District (EID) is a place for co-creation and creating shared value. In this district, with the establishment of approximately 500 actors in the field of energy innovation, a fully private platform accelerator will be set up which will accelerate the flow of capital, human resources, and ideas towards the development of a knowledge-based energy economy. With its network services, it will significantly increase the growth rate of companies on the verge of a breakthrough.



CVC

Smart investment

Corporate Risk Taking Fund

In line with the realization of its grand vision in a ten-year horizon, which focuses on guiding the innovation and technology ecosystem in the energy sector and transforming its business model into a platform model, the Development and Innovation Group of Godakhtar Industries has established a fund with the mission of undertaking bold corporate investments. This fund aims to provide intelligent financial support for startups and companies within the group's value chain.

The main objective of this fund is to strengthen the innovation system throughout the group while achieving the expected financial returns at the holding level. We seek strategic development at the group's value chain level in order to foster synergy and maximize market opportunities for the companies within the group. Through this, we aim to attract top talents, identify innovative business ideas that address market needs, expand the group's product portfolio, enhance competitiveness within the organization, and create a competitive advantage internationally.

Furthermore, this fund strives to identify and monitor investment opportunities in advanced and emerging technologies in the energy sector. By maintaining our leading position, we aim to transform technological disruptions into fruitful opportunities within the industry.

The fund has been established to manage and allocate the generated capital and financial resources within Godakhtar. It serves as a specialized and professional financial institution, guiding the group's development projects and evaluating external proposals for investment. It plays a crucial role as the financial arm of the group, providing funding for both internal and external ventures.



GTE

GLORY THROUGH EDUCATION Next Generation University

For the first time around the year 2000, MIT University in the United States introduced a new style of education. This world-renowned university, in collaboration with three other universities, designed and implemented the CDIO (Conceive, Design, Implement, Operate) educational system based on four principles: conception, design, implementation, and operation. In this system, students not only studied academic and theoretical courses but also participated in creative and practical activities for a real subject, such as idea generation, design, and practical work. This method was introduced to ensure the scientific education of students who, after graduation, would not be strangers to creativity, practical skills, soft skills, and the work and industrial environment.

Now, after 23 years, the Godakhtar Development and Innovation Group has decided to start this path in Iran. A project called "Faraa" (Tomorrow's Education) is being designed and implemented at Arak University. Faraa, which is more than just a university project, aims to accept individuals interested in studying with this innovative approach in the fields of mechanical engineering and materials engineering. Accepted students in the Faraa project will be considered as Arak University students and will receive a degree from this university upon graduation, just like other students of this university.

For this purpose, 150 math and physics entrance exam students who are interested in studying in the planned fields of mechanical engineering and materials engineering were invited to an interview with the presence of university professors and experts from the Godakhtar Knowledge-Based Foundation. The invited students were primarily evaluated from a psychological perspective and their readiness to enter such courses was assessed by the interview panel to measure their interest and aptitude for working in these industrial

fields and participating in the planned courses of the Faraa project. Finally, nearly 50 students were selected to study in these two fields and were introduced to the Higher Education Assessment Organization to start their studies in the academic year 2023 with innovative and practical methods. These two university majors have a different approach compared to the country's previous experiences in technical, vocational, scientific, and applied fields. In previous experiences, students would work in a symbolic workshop environment far from the real industrial environment, creating small-scale workshop and laboratory samples. However, in the planned fields of the Faraa project, students must actively engage with real industrial subjects and materials, requiring them to adapt and excel in an industrial setting.

To facilitate the education of students, Godakhtar has designed and implemented a highly equipped and unique classroom at Arak University. This interactive classroom provides students with up-to-date communication facilities, allowing them to engage with the course materials beyond a traditional classroom setting.

In the first semester, Faraa students, in addition to attending some conventional university classes at Arak University,

participate in practical classes in industrial environments at Godakhtar's facilities in the two industrial towns named Ghotb-e-sanati and HajiAbad in Arak. They become familiar with the basics of working in this and later they will be involved in making real components of industrial valves as Godakhtar's products in the machining workshop of Mashin-Sazi company.

In the second term, students assemble the manufactured components to create their own real handmade valve. This is a sweet beginning for them to use their creativity to create new products and contribute to the development of industrial innovation.

Although the Faraa project participants are not obligated to work in the industry during their studies or repay any financial assistance they receive, they will benefit from industry support throughout their education in the form of educational grants, support grants for project-based and course-based activities, and similar forms of assistance. At the end of the program, if desired and upon positive evaluation by the industry, Faraa graduates can work as skilled and capable engineers in Godakhtar and industrial centers, continuing the production of industrial valves as young and experienced graduates in the fields of materials engineering and mechanical engineering.



GIC

Commercialization of ideas

Godakhtar Innovation Center

Considering the approach of open innovation and the need to use all capacities of the ecosystem on the one hand and the significant capacities of Sharif University of Technology, member companies of sharif technology park located in innovation district and the high capacity of Godakhtar Holding as a knowledge-based company with a history in the field of energy development market formed the idea of cooperation and collaboration between parties.

This center was designed as a platform to make a joint innovation center using the capacities of the parties between Sharif tech Park and Godakhtar Holding in cooperation with the faculty of energy to Adoption and growth of energy innovators to reinforce product development, market development and commercialization capacities as a leading pioneer. The office is located in sharif energy innovation center.



GC

Building dreams

Godakhtar Construction Company

As a consultant and executive company in civil and modern construction projects in the industrial, administrative, and residential sectors, it is responsible for design and architecture, construction, contracting for the construction of buildings and industrial towns based on the most up-to-date methods and materials for development projects. It is responsible for Godakhtar Group and other clients and employers.

The difference in architectural style and the creation of modern and minimal construction projects and leading in the use of details is one of the distinctive features of this company, which is done by understanding and recognizing and studying the client's needs in the form of customized and special design for each project, conceptual model and architecture of each project.

Social Responsibilities

The Godakhtar Development and Innovation Group understands well that it cannot continue its activities in isolation from society and, in this regard, considers itself responsible for events at the community level and its needs, and strives to fulfill its responsibility towards the surrounding community.

In Godakhtar, we adhere to seven principles in the field of social responsibilities, including responsiveness, transparency, ethical behavior, respect for stakeholders' interests, respect for the rule of law, respect for international laws and human rights, and behavior.

We strive to create a socially responsible behavior by deep understanding of needs and the participation of all stakeholders in important issues such as human rights, the environment, fair work practices, community participation and development, and the transformation of the environment in which we live, and to serve as a model for other organizations.

In order to implement sustainable, ethical, and long-term development of Godakhtar and become a multi-generational organization, we have high expectations from our surrounding community in an innovative approach in the social field, including attention to the environment, philanthropic activities, and assistance to communities and grassroots organizations, especially in the field of health and treatment, skill training and employment, and social entrepreneurship with a focus on vulnerable groups, transformation in the country's higher education system, community education and awareness, increasing hope and motivation with a focus on youth, increasing loyalty, honesty, and employee morale, improving the safety and health of workers, crisis management, promoting a culture of saving and optimizing energy consumption, recycling waste and by-products, and we prioritize them in our implementation.

We want to communicate the achievements of the Godakhtar Group in this field to all stakeholders and the community in a desirable manner through social media networks, and we strive to introduce this model of responsible governance as a new model for managing organizations, so that the perception and perspective of other organizations towards social responsibilities can change more than ever before to achieve balanced and sustainable development at the community level.



Asset Management

Asset management in the context of valves refers to the systematic and strategic approach to maintaining, operating, upgrading, and disposing of valve assets within an organization. This involves the effective management of the entire lifecycle of valves, from procurement to decommissioning. Key aspects of valve asset management include:

- **Inventory and Condition Assessment**
Maintaining an accurate inventory of valves and conducting regular condition assessments to identify maintenance and refurbishment needs.
- **Maintenance and Refurbishment**
Implementing proactive maintenance plans and refurbishment programs to ensure valves are in optimal working condition.
- **Performance Monitoring**
Monitoring the performance of valves to identify potential issues and optimize their operation.
- **Compliance and Safety**
Ensuring that valves comply with industry standards and safety regulations, and implementing measures to mitigate risks.
- **Lifecycle Planning**
Developing long-term strategies for valve replacement, upgrades, or decommissioning based on their lifecycle and performance data.
- **Cost Management**
Managing costs associated with valve maintenance, repair, and replacement to optimize asset performance while controlling expenses.

Effective valve asset management aims to maximize the reliability, efficiency, and safety of valve systems while minimizing operational risks and lifecycle costs. It often involves the use of asset management software and data-driven decision-making to optimize asset performance.

SERVICES

Overhaul

Overhaul services for valves typically include disassembly, cleaning, inspection, repair or replacement of worn or damaged parts, reassembly, and testing to ensure proper functioning. These services are important for maintaining the reliability and performance of valves in various industrial applications, such as oil and gas, petrochemical, power generation, and water treatment. Overhauling valves can help prevent leaks, malfunctions, and downtime, ultimately contributing to the overall efficiency and safety of the systems in which they are used.

Maintenance and Refurbished

Maintenance and refurbishment of valves are essential for ensuring their proper functioning and extending their lifespan. This process involves inspecting the valves for wear, corrosion, or damage, and then performing necessary repairs or replacements. Refurbishment may include cleaning, re-machining, recoating, or resealing components to restore them to their original condition. Additionally, parts that are beyond repair may be replaced with new ones. Proper maintenance and refurbishment of valves help to prevent leaks, improve efficiency, and ensure the safety and reliability of the systems in which they are used.

SERVICES

Testing and Certification

Testing and certification of valves are critical processes to ensure their reliability, safety, and compliance with industry standards. These processes typically involve the following:

- **Performance Testing**

Valves undergo various performance tests to assess their functionality under different operating conditions. This may include tests for pressure, flow rate, leakage, and operational cycle testing to ensure they meet specified performance criteria.

- **Material and Construction Testing**

Valves are subjected to material and construction testing to verify their integrity, durability, and resistance to corrosion, erosion, and other environmental factors.

- **Certification**

Once the valves have successfully passed the required tests, they are granted certification to signify that they meet industry standards and regulations. This certification may be issued by regulatory bodies, independent testing organizations, or industry associations.

Testing and certification are essential to validate the quality and performance of valves, providing assurance to end-users, regulators, and other stakeholders that the valves are fit for their intended purpose and meet safety and environmental requirements. It also helps in maintaining compliance with industry standards and regulations, ensuring the reliability and integrity of valve systems in various applications.



Periodic Services

Periodic services refer to the scheduled maintenance and inspection of valves to ensure their proper functioning and prevent potential issues that may cause downtime or safety hazards. The frequency of these services depends on the type of valve, its application, and the operating conditions. Some common periodic services for valves include:

- **Lubrication**

Applying lubricants to valve components to reduce friction and wear.

- **Cleaning**

Removing debris, dirt, and other contaminants from valve components to prevent damage or malfunctions.

- **Inspection**

Regular visual inspection of valve components to detect signs of wear, corrosion, or other damage that may require repair or replacement.

- **Testing**

Conducting performance tests to ensure valves are functioning correctly and meeting specified performance criteria.

- **Calibration**

Adjusting valve components to ensure they are operating within specified tolerances.

- **Record Keeping**

Maintaining accurate records of valve maintenance and inspection activities to track their performance and identify trends or issues.

Periodic services help to extend the lifespan of valves, prevent malfunctions, and ensure their reliability and safety. They also help in identifying potential issues before they become major problems, reducing downtime and maintenance costs.



Training

Valve training is essential for ensuring that personnel involved in the operation, maintenance, and management of valve systems have the necessary knowledge and skills to perform their roles effectively. Training programs for valves may cover a range of topics, including:

- **Valve Types and Applications**

Understanding the different types of valves, their functions, and their applications in various industries and processes.

- **Valve Operation and Maintenance**

Learning about the operation, maintenance, and trouble-shooting of different types of valves, including manual, automated, and control valves.

- **Safety and Compliance**

Understanding safety protocols, industry standards, and regulatory requirements related to valve operation and maintenance to ensure compliance and minimize risks.

- **Valve Testing and Inspection**

Training on conducting performance tests, inspections, and condition assessments of valves to ensure their proper functioning and reliability.

- **Emergency Procedures**

Training on responding to valve-related emergencies, such as leaks, failures, or other critical incidents.

- **New Technologies and Innovations**

Staying updated on advancements in valve technology, including smart valves, digital control systems, and predictive maintenance tools.

Training programs for valve operations and maintenance may be conducted by valve manufacturers, industry associations, technical training institutes, or in-house by organizations with specific expertise in valve systems. These programs can be tailored to different levels of expertise, from basic introductory courses to advanced technical training for maintenance and engineering professionals. Investing in comprehensive valve training can help organizations improve the reliability, efficiency, and safety of their valve systems while enhancing the skills and knowledge of their personnel.



Spares Part Supply

The supply of spare parts for valves is a crucial aspect of ensuring the ongoing operation and maintenance of valve systems in various industrial applications. This involves the availability and provision of replacement components, such as seals, gaskets, actuators, stems, and other valve parts that may wear out or require replacement due to damage or malfunction. Key aspects of spare parts supply for valves include:

- Inventory Management**
 Maintaining an inventory of spare parts to ensure that critical components are readily available when needed.
- OEM and Aftermarket Parts**
 Supplying original equipment manufacturer (OEM) parts as well as aftermarket components that are compatible with a wide range of valve models and brands.
- Rapid Delivery**
 Providing efficient and timely delivery of spare parts to minimize downtime and ensure the continuity of operations.
- Technical Support**
 Offering technical expertise and support to assist in identifying the correct spare parts and providing guidance on their installation and replacement.
- Quality Assurance**
 Ensuring that spare parts meet quality standards and specifications to ensure compatibility and performance.

Effective spare parts supply for valves is essential for maintaining the reliability, efficiency, and safety of valve systems. It helps in minimizing downtime, reducing maintenance costs, and ensuring that critical components are available when needed for maintenance, repair or replacement.



Valves Conference

A valve conference is an industry event that brings together professionals, experts, researchers, and stakeholders involved in the design, manufacturing, operation, maintenance, and regulation of valves and related systems. These conferences provide a platform for knowledge sharing, networking, and discussions on the latest developments, best practices, and emerging trends in the valve industry. Key aspects of valve conferences include:

- Technical Presentations**
 Experts and industry professionals present technical papers, case studies, and research findings on topics such as valve design, materials, performance, reliability, and operational best practices.
- Industry Trends and Innovations**
 Discussions on new technologies, innovations, and trends shaping the valve industry, including smart valves, digitalization, predictive maintenance, and sustainability initiatives.
- Regulatory Updates**
 Insights into evolving standards, and compliance issues impacting the valve industry, including safety, environmental regulations, and industry certifications.
- Networking Opportunities**
 Valuable networking sessions, workshops, and social events that allow attendees to connect, share experiences, and build professional relationships with peers, industry leaders, and solution providers.
- Exhibition and product showcases**
 Opportunities for valve manufacturers, suppliers, and service providers to showcase their products, technologies, and solutions to a targeted audience of industry professionals.
- Training Workshops**
 Hands-on workshops, training sessions, and educational programs focused on specific aspects of valve design, operation, maintenance, and safety.

Valve conferences play a crucial role in fostering collaboration, knowledge exchange, and professional development within the valve industry. They provide a platform for industry stakeholders to stay informed about the latest advancements, address common challenges, and explore opportunities for innovation and improvement in valve systems and applications.

Valve Magazine

Valve Magazine is a publication that focuses on the valve industry, providing in-depth coverage of valve technology, applications, trends, and best practices. The magazine serves as a valuable resource for professionals involved in the design, manufacturing, operation, maintenance, and regulation of valves and related systems. Key features of Valve Magazine include:

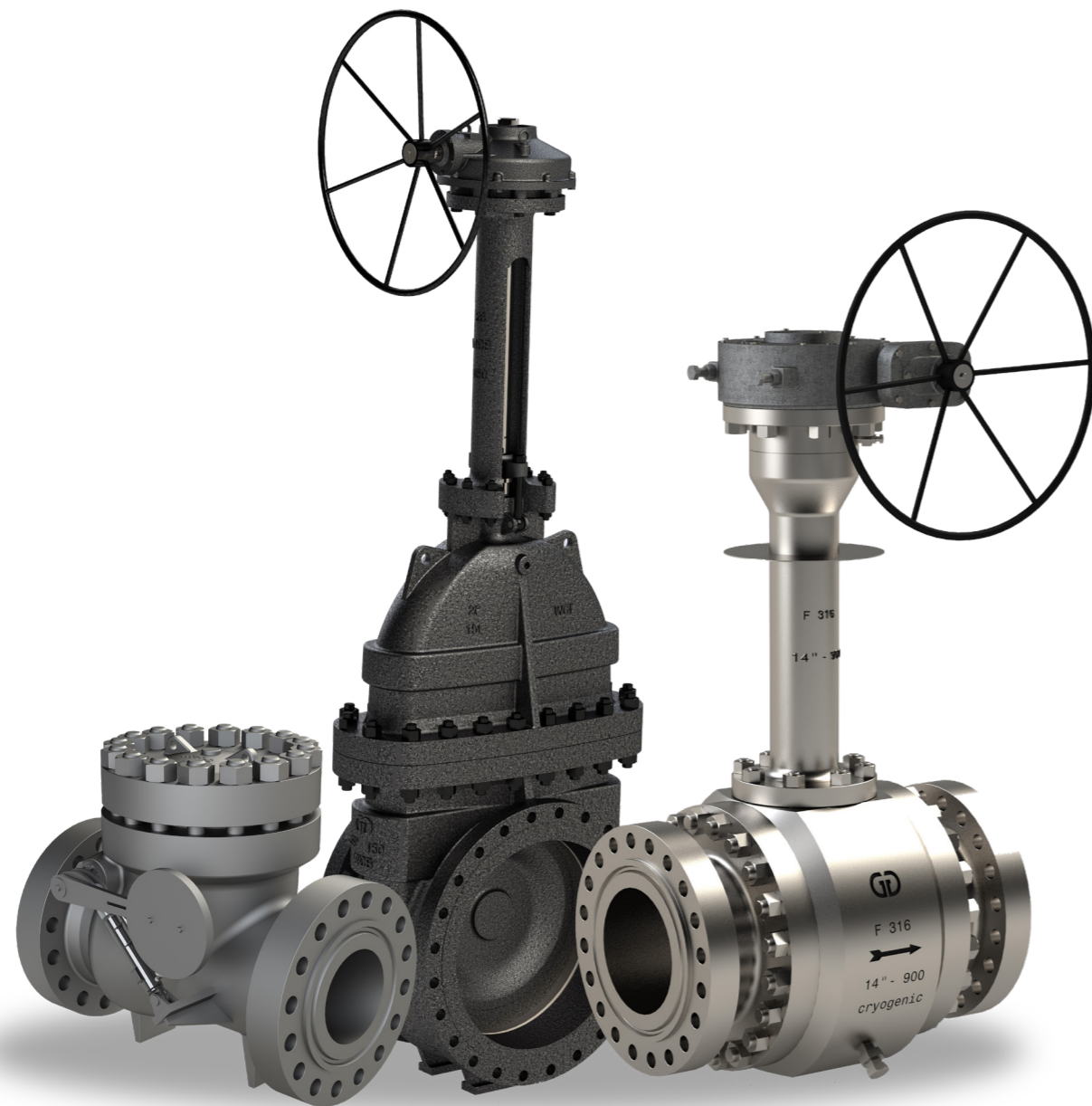
- Technical Articles**
 In-depth articles written by industry experts, engineers, and researchers covering a wide range of topics related to valve design, materials, performance, reliability, and operational best practices.
- Industry News and Updates**
 Coverage of the latest developments, innovations, and trends in the valve industry, including new technologies, regulatory changes, market insights, and industry events.
- Case Studies**
 Real-world examples of valve applications, challenges, and solutions across various industries, providing practical insights and lessons learned.
- Product Spotlights**
 Reviews and analysis of new valve products, technologies, and solutions offered by manufacturers and suppliers.
- Industry Insights**
 Interviews with industry leaders, thought leaders, and professionals offering perspectives on industry trends, challenges, and opportunities.
- Educational Content**
 Information on training programs, certifications and professional development opportunities relevant to the valve industry.

Valve Magazine serves as a platform for knowledge sharing, industry networking, and professional development within the valve industry.



PRODUCTS

LEAD THE WAY BY INNOVATION AND TECHNOLOGY



GENERAL VALVES

01 Plug Valve

Technical Specifications

Plug valves contain cylindrical plugs that can be rotated within the valve body to control the flow. These plugs have one or more hollow passageways, allowing fluid to flow when the plug is in the open position.

- Standard Type
- Pressure Balance
- Regular
- Venturi
- Round Port
- Underground Plug Valve
- Non-Lubricated Plug Valve
- Lubricated Plug Valve
- Jacketed Plug Type
- Multi way plug Valve



Specifications

VALVE DESIGN	Based on API 6D, API 599 and Customer Requirements
TEMPERATURE RANGE	-29 to 180°C
SIZE	NPS ½"-32"
PRESSURE RATING	ASME 150 - ASME 900
END CONNECTIONS	RF, RTJ as per B16.5 & B16.47 A & B BW as per ASME B 16.25 SW, NPT
SEAT DESIGN	Soft or Metal Seated with Hard Facing on Plug
FEATURES	Compact Vent and light weight size for fast and easy installation Conical Sealing System for Low Torque Firesafe Design Anti-Static Device Anti-blowout Lifting Lugs/Valve Support NACE service in accordance with MR-75-01 or MR-03-01
OPERATOR	Manual: Wrench or Gear Actuated: Pneumatic/ Hydraulic/ Electric

Excellence Cannot be Bought or Given...
It is EARNED

02 Ball Valve

Ball valves are commonly employed in industries such as oil & gas, petrochemical, nuclear, and power plants, where quick operation is required. These valves offer fast control, tight shut-off, and low pressure drop. Godakhtar ball valves are designed to meet a wide range of requirements from any customer, ensuring reliability across various service conditions, from general to severe.

- Top Entry
- 2-pieces
- 3-piece
- Fully Welded
- Multiway
- Orbit Valve
- Cryogenic Ball Valve
- DBB-Twin Ball Valve
- Underground Ball Valve
- Motor Operated Ball Valve
- On-Off Ball Valve



Ball Valve

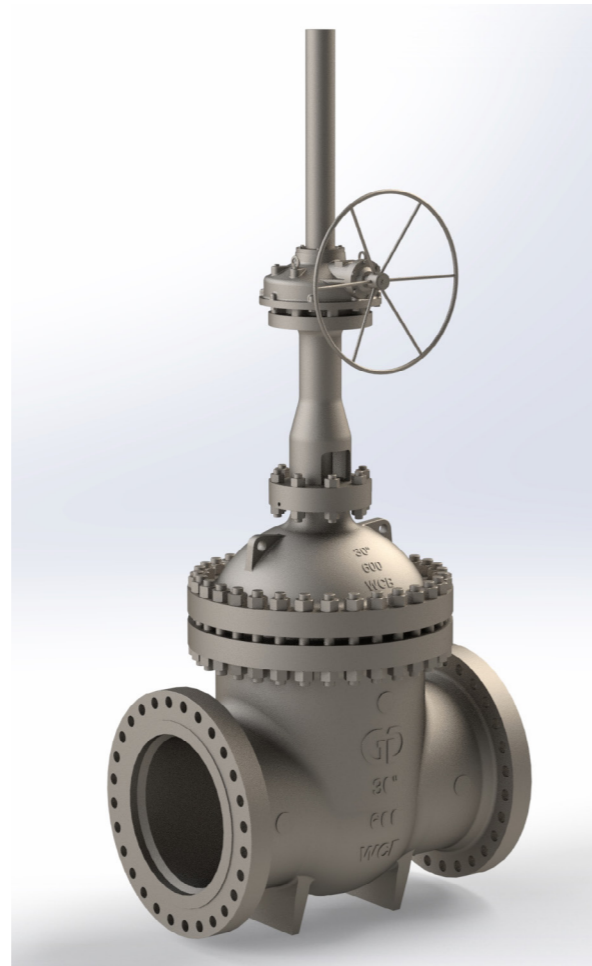
Specifications

VALVE DESIGN	Based on API 6D and Customer Requirements
	Based on API 6A and Customer Requirements
TEMPERATURE RANGE	-101 to 350°C
SIZE	NPS 56-2/1
	NPS 4/16.3– 16/1.13
PRESSURE RATING	ASME 150 - ASME 2500
	API 5000-API 10000
FACE-TO-FACE	As per API 6D, ASME B16.10 standard/As per API 6A standard
END CONNECTIONS	RF, RTJ as per B16.5 & B16.47 A & B
	BW, Butt Welded as per B16.25
	SW, Socket Welded as per B16.11
BODY DESIGN	6B, 6BX as per API 6A
	Side entry: Two-piece, three-piece and fully welded
SEAT DESIGN	Top entry
	Soft or metal seated with Hard facing on ball and seats
FEATURES	Self-relieving seats
	SINGLE PISTON EFFECT (SPE)
	DOUBLE PISTON EFFECT (DPE)
	Double block and bleed design (DBB)
	Secondary seals in pure Graphite
	Firesafe Design
	Anti-Static Device
	Anti-blowout stem
	Full or Reduced Bore
	Seat Pocket Overlay
	Lifting Lugs/Valve Support
	Emergency sealant injection on seats and stem available
Extended bonnet for low & high temperature available	
Extended Stem for Underground Installation	
Endurance coating: ENP, stellite 6, tungsten carbide	
NACE service in accordance in accordance with MR-75-01 or MR-03-01	
OPERATOR	Manual: wrench or Gear
	Actuated: Pneumatic/ Hydraulic/Electric

03 Gate Valve

Gate valves are used when the requirements are: low flow resistance, simple design, high capacity, low cost and hermetic closing. The main feature of gate valves is the sealing surfaces between the gate and seats. Godakhtar gate valves, known for their reliability, offer tight shut-off and low pressure drop. Their versatile design caters to a wide range of requirements, meeting customer needs across various service conditions.

- Through Conduit Gate Valve
- Non-rising Stem Gate Valve
- Knife Gate Valve
- Flexible Wedge
- Solid Wedge
- Pressure Seal Bonnet
- Cryogenic Gate Valve
- Bellows Gate Valve
- Motor Operated Gate Valve
- On-Off Gate Valve



Gate Valve

Specifications	
VALVE DESIGN	API 6D, API 600, API 602, BS 1414, BS 5352, ASME B16.34 and customer requirements based on API 6A and customer requirements
TEMPERATURE RANGE	-46 to 350°C
SIZE	NPS 4/16.3– 16/1.13 NPS 60 -1.2
PRESSURE RATING	ASME 150 - ASME 2500 API 5000-API 10000
FACE-TO-FACE	As per API 6D standard As per API 6A standard
END CONNECTIONS	RF, RTJ as per B16.5 & B16.47 BW, Butt Welded as per B16.25 SW, Socket Welded as per B16.11 6B, 6BX as per API6A
BODY DESIGN	Forged or cast one-piece
DISC TYPE	Flexible type Solid type
SEAT DESIGN	Metal-seated with hard facing on wedge and Seats Soft seat
FEATURES	Anti-blowout stem Easy in-line maintenance Union Bonnet, Welded Bonnet, Bolted Bonnet, Pressure seal Bonnet OS & Y, IS & Y Bellows seal NACE services as per MR-0175 and MR-0103 Cryogenic services lifting lug / Valve Support
OPERATOR	Manual: Gear with Handwheel Actuated: Linear Pneumatic/ Hydraulic/Electric/Power Handwheel
TESTING & CERTIFICATIONS	Compliance with API 6D & ISO 5208 & API 598 inspection and testing Compliance with API 6A inspection and testing Fire safe and fire tested as per API 6FA/ 607 Fugitive Emission as per ISO15848
AVAILABLE AS PER API 6A STANDARD	Product specification levels (PSL 3, 3, 2, 1G and 4) Performance requirement levels (PR1, PR2) Design validation as per PR2F

04 Globe Valve

Globe valves are widely chosen for their short travel distance. The fundamental principle of globe valve operation is the perpendicular motion of the disc away from the seat. This ensures that the ring-shaped space between the disc and seat ring gradually narrows as the valve is being closed. This feature provides globe valves with reasonably good throttling capability, making them suitable for starting, stopping, and regulating flow.

- Cryogenic Globe Valve
- Pressure Seal Bonnet Globe Valve
- Bellows Globe Valve
- On-Off Globe Valve

Specifications

VALVE DESIGN	based on API 623, API 602, BS 1873, BS 5352 and customer requirements
TEMPERATURE RANGE	-46 to 350°C
SIZE	NPS 24 -1.2
PRESSURE RATING	ASME 150 - ASME 2500
END CONNECTIONS	RF, RTJ as per B16.5
	BW, Butt Welded as per B16.25
	SW, Socket Welded as per B16.11
BODY DESIGN	Forged or cast one-piece
DISC TYPE	Swivel Plug Type
	Ball type
	Flat type
SEAT DESIGN	Metal-seated with hard facing on Disc and Seats
FEATURES	Anti Blow out stem
	Easy in line maintenance
	Union Bonnet, Welded Bonnet, Bolted Bonnet, Pressure seal Bonnet
	OS&Y, IS&Y
	Bellows Seal
	NACE services as per MR-0175 and MR-0103
	Cryogenic services
	lifting lug/valve support
OPERATOR	Manual: Gear with Handwheel
	Actuated: Linear Pneumatic/ Hydraulic/Electric/Power Handwheel
TESTING & CERTIFICATIONS	Compliance with API 598 inspection and testing
	Compliance with API 6A inspection and testing
	Fire safe and fire tested as per API 6FA
	Fugitive Emission as per ISO15848



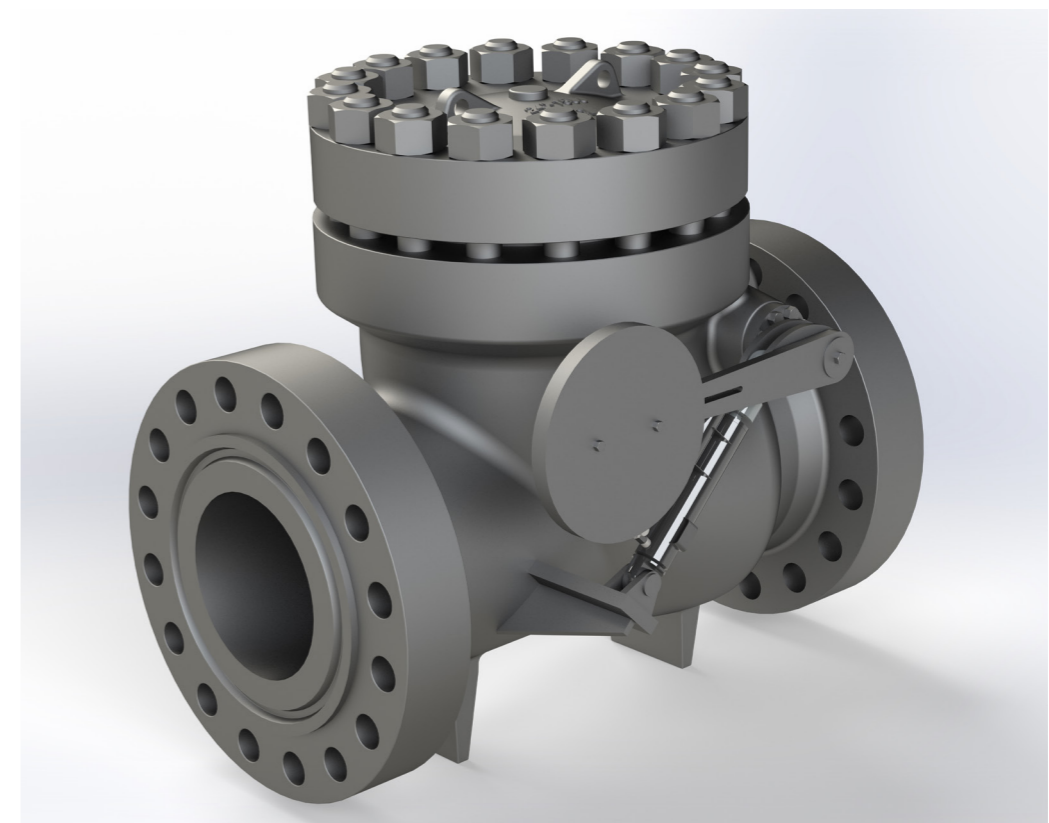
05 Check Valve

Check valves normally allow fluid to flow through it in only one direction. They are two-port valves that operate automatically and are not controlled by a person or any external means. Check valves are used in various applications, including onshore and offshore installations, cryogenic and water treatment services, as well as in oil and gas and power generation plants.

- Through Conduit Swing type
- Wafer Type
- Lifting Type
- Non-slam Check Valve
- Cryogenic
- Pressure Seal Cover

Specifications

VALVE DESIGN	based on API 6D, API 594, API 602, BS 1868, BS 5352 and customer requirements
TEMPERATURE RANGE	-46 to 350°C
SIZE	NPS 52-1.2
PRESSURE RATING	ASME 150 - ASME 2500
END CONNECTIONS	RF, RTJ as per B16.5, B16.47
	BW, Butt Welded as per B16.25
	Wafer Type Lug Type
BODY DESIGN	SW, Socket Welded as per B16.11
	Forged or cast one-piece
DISC TYPE	Swing Type
	Single Plate
	Dual Plate
	Piston Type Ball Type
SEAT DESIGN	Metal-seated with hard facing on Disc and Seats
	Soft seat
FEATURES	Bolted Cover, Pressure seal Cover
	Non-slam
	Through Conduit
	NACE services as per MR-0175 and MR-0103
	Cryogenic Services
	Lifting Lug/ Valve Support
TESTING & CERTIFICATIONS	Compliance with API 6D & API 598 inspection and testing
	Compliance with API 6A inspection and testing
	Fire safe and fire tested as per API 6FA



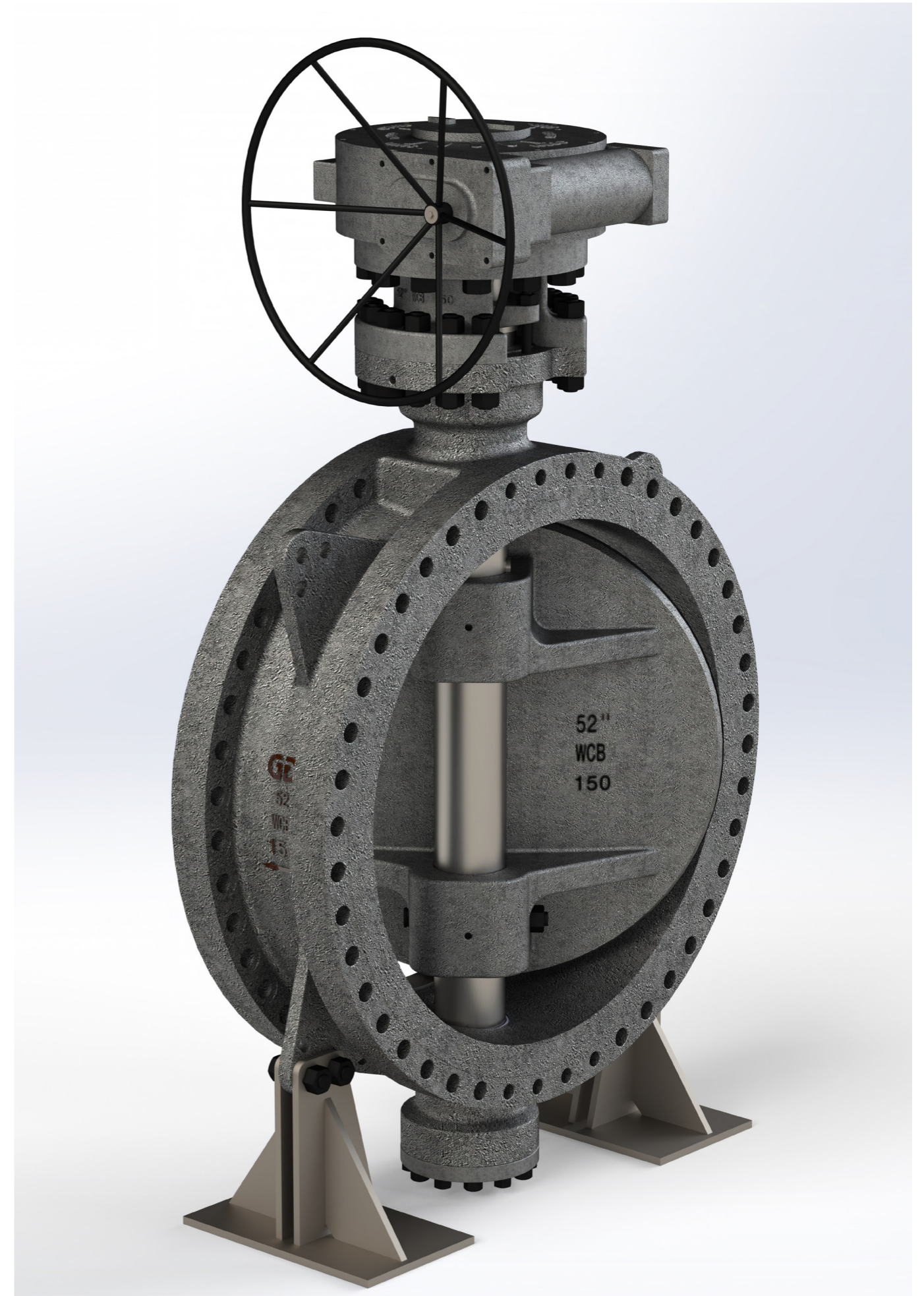
06 Butterfly Valve

Technical Specifications

Butterfly valves can be used for both on/off service and throttling/balancing applications. They are lighter in weight than other types of valves and require relatively low pressure drops. They can be used with gas, liquid, and solid materials.

- Concentric
- Single Offset
- Double Offset
- Triple Offset
- On-Off Butterfly Valve
- Motor Operated Butterfly Valve

Specifications	
VALVE DESIGN	based on API 609 and Customer requirements
TEMPERATURE RANGE	-46 to 350°C
SIZE	NPS 60-2
PRESSURE RATING	ASME 150 - ASME 900
END CONNECTIONS	RF, RTJ as per B16.5 & B16.47 A & B Wafer Type Lug Type
BODY DESIGN	CAT A: Concentric butterfly valve CAT B: Double Offset/ triple Offset butterfly valve
SEAT DESIGN	Soft or metal seated with Hard facing on disc and seats
FEATURES	Resilient seat provides bi-directional bubble tight close off ANSI Class VI
	Compact and light weight size for fast and easy installation
	Double offset design extends seat life and reduces down time
	Metal to Metal Seat
	Firesafe Design
	Anti-Static Device
	Anti-Blow out stem
	NACE service in accordance to MR-75-01 or MR-03-01
OPERATOR	Cryogenic service
	lifting lug/ valve support
TESTING & CERTIFICATIONS	Manual: wrench or Gear
	Actuated: Pneumatic/ Hydraulic/Electric
TESTING & CERTIFICATIONS	Compliance with API 609 & API 598 inspection and testing
	Fire safe and fire tested as per API 6FA/ 607
	Fugitive Emission as per ISO15848



SPECIAL VALVES

01 Through Conduit Gate Valve

A through conduit gate valve is a type of gate valve designed for fluid to flow straight from the inlet to the outlet port. Through conduit gate valves can be operated manually or using actuators such as hydraulic, electric, or pneumatic actuators. They can have either an expanded gate or a slab gate. These valves are widely used in water supply, mining, oil and gas, and pharmaceutical industries.



Specifications	
VALVE DESIGN	API 6D based on API 6A
TEMPERATURE RANGE	-46 to 350°C
SIZE	NPS 42-2 NPS 4/16.3– 16/1.13
PRESSURE RATING	ASME 150 - ASME 2500 API 5000-API 10000
FACE-TO-FACE	As per API 6D standard As per API 6A standard
END CONNECTIONS	RF, RTJ as per B16.5 & B16.47 BW, Butt Welded as per B16.25 6B, 6BX as per API 6A
BODY DESIGN	cast one-piece
DISC TYPE	Slab type
SEAT DESIGN	Expanding type Metal-seated with hard facing on slab and Seats Soft seat
FEATURES	Anti Blow out stem Antistatic Design Fire Safe Design Double Block & Bleed Outside Screwed & Yoke Rising Stem Full Bore Easy in line maintenance NACE services as per MR-0175 and MR-0103 lifting lug/ valve support
OPERATOR	Manual: Gear with handwheel Actuated: Linear Pneumatic/ Hydraulic/Electric/Power Handwheel
TESTING & CERTIFICATIONS	Compliance with API 6D & ISO 5208 & API 598 inspection and testing Compliance with API 6A inspection and testing Fire safe and fire tested as per API 6FA/ 607 Fugitive Emission as per ISO 15848
AVAILABLE AS PER API 6A STANDARD	Product specification levels (PSL 3, 3.2, 1G and 4) Performance requirement levels (PR1, PR2) Design validation as per PR2F



02 Cryogenic Valves

A cryogenic valve is one of the few elements which connect the cold pipeline with the liquid gas to the environment at ambient temperature.

Cryogenic valves are designed to be used in very cold applications. They are thus most popularly used by companies that work with Liquefied Natural Gas (LNG) or Compressed Natural Gas (CNG).

- Cryogenic Ball Valve
- Cryogenic Gate Valve
- Cryogenic Globe Valve
- Cryogenic Check Valve
- Cryogenic Butterfly Valve

Specifications

VALVE DESIGN	Based on BS 6364, MSS SP 134
TEMPERATURE RANGE	-196 to 350°C
SIZE	NPS 48 - 2
PRESSURE RATING	ASME 150 - ASME 2500
END CONNECTIONS	RF, RTJ as per B16.5 & B16.47 A & B
	BW, Butt welded as per 16.25
	Wafer Type
	Lug Type
SEAT DESIGN	SW, NPT
SEAT DESIGN	Soft or metal seated with Hard facing on disc and seats
	Extension bonnet with sufficient gas column length
	Cavity Pressure Relief
	PCTFE seat with excellent low-temperature characteristics
	Compact and light weight size for fast and easy installation
	Metal to Metal Seat
	Firesafe Design
	Anti-Static Device
	Anti-blowout stem
	NACE service in accordance to MR-75-01 or MR-03-01
OPERATOR	Manual: Wrench or Gear
TESTING & CERTIFICATIONS	Compliance with BS 6364 & API 598 Inspection and Testing
	Fire Safe and Fire Tested as per API 6FA/ 607
	Fugitive Emission as per ISO15848



CONTROL VALVES

A control valve is a key part of a control loop, a critical control element in industrial processes. It consists of a pneumatic, electric, or hydraulic actuator with a valve that regulates the flow capacity, fluid temperature, upstream and downstream pressure, or level of fluid. These valves throttle the flow to achieve the desired controlling effect.

Selection of a control valve is primarily dependent on the service conditions and necessary load properties of the application and must be sized according to it.

Flow characteristics of a control valve refers to the way it opens and its effect on the flow.

Actuators provide force in the control valve, and the mostly used actuators are pneumatic. However, electric, hydraulic, and even manually operated types are also available.

Standards & Codes:

ASME B16.34	Valve-Flanged, Threaded, and Welding End
ASME B16.5	Pipe Flanges and Flanged Fittings
ISA-75.01.01	Flow Equation for Sizing Control Valves
ANSI/ISA-75.02	Control Valve Capacity Test Procedures
ANSI/ISA-575.03	Face-to-Face Dimension for Flanged Globe Style Control Valve Bodies
ASME/ANSI FCI 2-70	Control Valve Seat Leakage
API 598	Valve Inspection and Testing

Flow Characteristics

- **Linear Characteristics**

A control valve is labelled LINEAR if its inherent flow characteristics can be represented by a straight line on a rectangular plot of flowrate

- **Equal Percentage Characteristics**

The flow rate is related to the percent the valve opening changed in an incremental manner

- **Quick Opening**

The Quick-Opening characteristic control valve has a flat disk instead of a contoured valve plug

03 Globe Control Valve

The globe control valve is specifically designed to provide excellent flow control rangeability. Its cast steel body is carefully proportioned to withstand high pipe stresses without distortion. It is capable of accepting high pressure drops, and additional mechanisms to prevent cavitation and noise are also available.

Specifications

TEMPERATURE RANGE	-46 to 350°C
SIZE	NPS 24-2
PRESSURE RATING	ASME 150 - ASME 1500
END CONNECTIONS	RF, RTJ as per B16.5
SEAT DESIGN	Metal Seated with Hard Facing on Disc and Seats
FEATURES	Anti-noise
	Anti-Cavitation
	Metal to Metal Seat
	Firesafe Design
	Anti-Static Device
	Anti-Blow out stem
OPERATOR	Pneumatic, Electric, Hydraulic
TESTING & CERTIFICATIONS	ASME/ANSI FCI 2-70, API 598
	Fire safe and fire tested as per API 6FA/ 607 Fugitive Emission as per ISO15848



04 Multiway Valves

Three-way and four-way ball valves, designed for use as three-way selectors for hydraulic applications. Multi-way valve with trunnion-style ball for the high-pressure range.

4 & -3-Way Ball & Plug Valves

Specifications

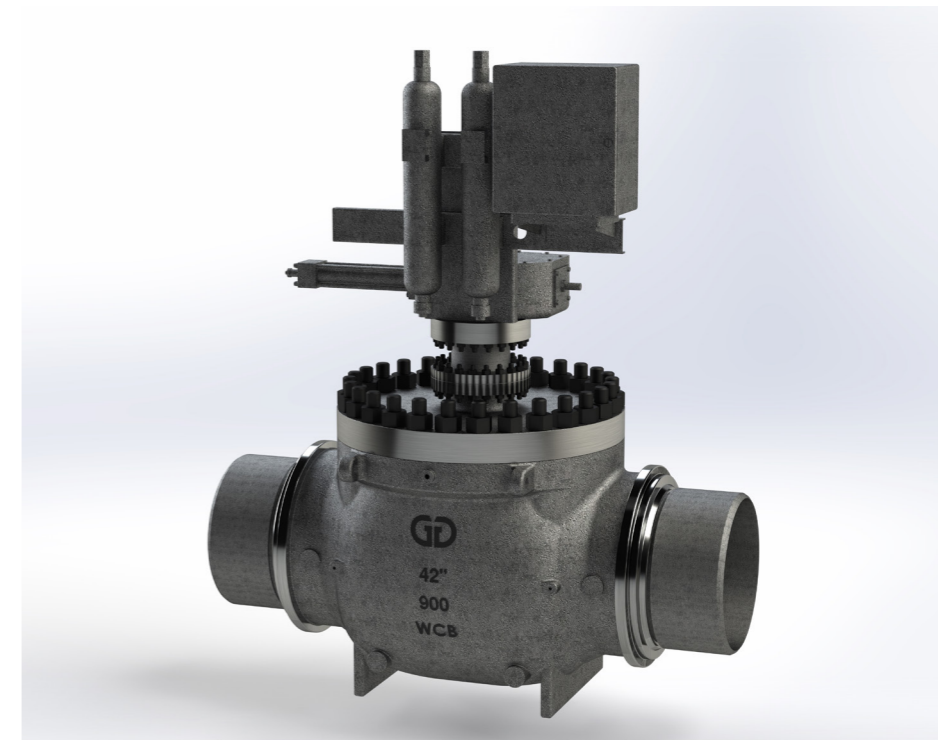
TEMPERATURE RANGE	-29 to 350°C
SIZE	NPS 10-2/1
PRESSURE RATING	ASME 150 - ASME 2500
END CONNECTIONS	RF, RTJ as per B16.5
	SW, NPT
SEAT DESIGN	Soft seat or metal seated with Hard facing on disc and seats
	Firesafe Design
FEATURES	Anti-Static Device
	Anti-Blow out stem
	NACE service in accordance to MR-75-01 or MR-03-01
OPERATOR	Wrench or Gear, Pneumatic, Electric, Hydraulic
TESTING & CERTIFICATIONS	Compliance with ISO 5208 & API 598 inspection and testing
	Fire safe and fire tested as per API 6FA/ 607
	Fugitive Emission as per ISO15848



05 Top Entry Ball Valve

Specifications

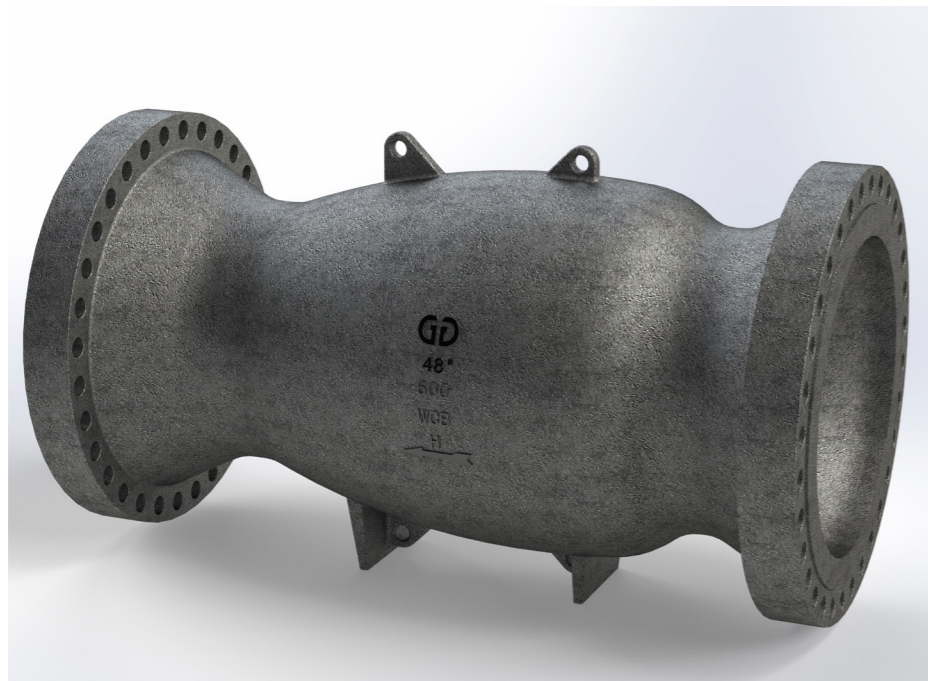
TEMPERATURE RANGE	-29 to 350°C
SIZE	NPS 42 inch
PRESSURE RATING	ANSI 900
END CONNECTIONS	BUTT welding end as per B16.25
SEAT DESIGN	Soft seat DIB & DPE
FEATURES	In line maintenance
	Anti-Static Device
	Anti-Blow out stem
	NACE service in accordance to MR-75-01 or MR-03-01
OPERATOR	Gas over oil Actuator
TESTING & CERTIFICATIONS	Compliance with ISO 5208 & API 598 inspection and testing
	Fire safe and fire tested as per API 6FA/ 607



06 Non-Slam Check Valve

An axial flow check valve is a crucial valve used in liquid services to prevent water hammer effects and in gas services to prevent reverse flow into the compressor. Its short stroke length and rapid response speed make it highly effective in ensuring optimal performance.

Specifications	
TEMPERATURE RANGE	-46 to 350°C
SIZE	NPS 48-2
PRESSURE RATING	ASME 150 - ASME 1500
END CONNECTIONS	RF, RTJ as per B16.5, B16.47 A & B BW as per B16.25
SEAT DESIGN	Metal to Metal Seat
FEATURES	Non-slam operation Low pressure loss Tight shut-off NACE service in accordance to MR-75-01 or MR-03-01 Fire safe design
TESTING & CERTIFICATIONS	Compliance with API 6D, ISO 5208 & API 598 inspection and testing Fire safe and fire tested as per API 6FA/ 607 Fugitive Emission as per ISO15848

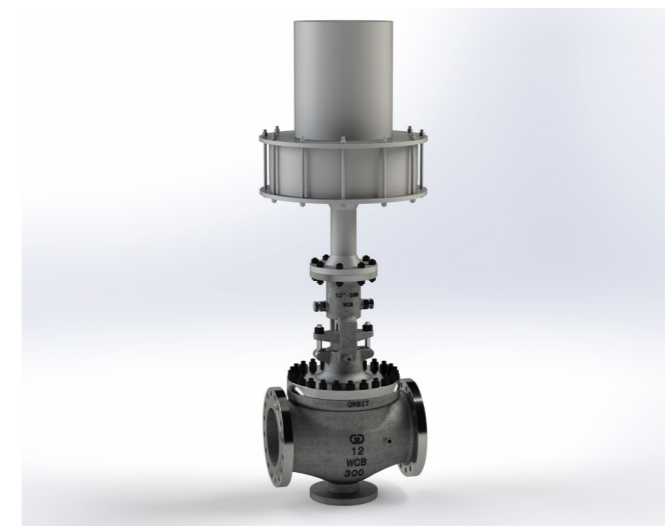


07 Rising Stem Ball Valve

(single seat or Orbit Valve)

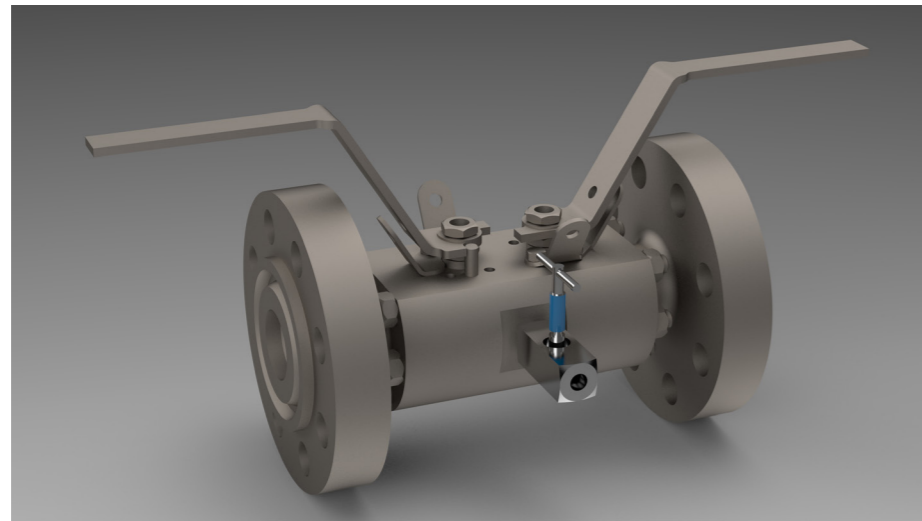
The rising stem ball valve is designed with an extended stem that rises above the valve body. It offers smooth ball and seat movement, resulting in minimal friction and low torque requirements for operation. These versatile valves are suitable for various applications, including water, acids, solvents, and natural gas.

Specifications	
TEMPERATURE RANGE	-46 to 350°C
SIZE	NPS 24-2
PRESSURE RATING	ASME 150 - ASME 1500
END CONNECTIONS	RF, RTJ as per B16.5 BW as per B16.25
SEAT DESIGN	Metal to Metal Seat
FEATURES	No rub between sealing surfaces Single-seat design Top-entry design Dual stem guides Wear-resistant hard facing on core Low-torque operation Tight shut-off NACE service in accordance to MR-75-01 or MR-03-01 Fire safe design
TESTING & CERTIFICATIONS	Compliance with API 6D, ISO 5208 & API 598 inspection and testing Fire safe and fire tested as per API 6FA/ 607 Fugitive Emission as per ISO15848



08 Twin Ball DBB Valves

Godakhtar offers floating ball valves equipped with two balls in one body, available in three-piece, long or short patterns to meet diverse installation requirements. The DBB compact manifold ball valve design reduces weight and space, providing a safer application compared to installing two separate conventional valves. Users often specify these valves for enhanced isolation and reliability beyond standard single valves.



Specifications

TEMPERATURE RANGE	-46 to 350°C
SIZE	NPS 10-2
PRESSURE RATING	ASME 150 - ASME 1500
END CONNECTIONS	RF, RTJ as per B16.5
	BW as per B16.25
	FE/SW
SEAT DESIGN	FE/NPT
	Soft seat or Metal to Metal Seat
	Floating/ Trunnion ball
FEATURES	Full bore/ reduce bore
	Low-torque operation
	Tight Shut-off
	NACE service in accordance to MR-75-01 or MR-03-01
	Fire Safe Design
TESTING & CERTIFICATIONS	Compliance with API 6D, ISO 5208 & API 598 inspection and testing
	Fire safe and fire tested as per API 6FA/ 607
	Fugitive Emission as per ISO15848

TECHNICAL AND ENGINEERING SERVICES



DESIGN, SIMULATION AND MODELING

A valve is a device that regulates, directs, or controls the flow of a fluid, including gases, liquids, fluidized solids, or slurries, by opening, closing, or partially obstructing passageways. Understanding the flow characteristics inside a valve is becoming increasingly essential. With advancements in flow simulation and numerical techniques, it has become possible to observe the flow inside a valve and estimate its performance.

Valve simulation outcomes for better valve design include:

- Pressure loss reduction through identification of separations and blockages
- Optimization of geometry for improved fluid flow
- Noise reduction
- Mitigation of risks related to cavitation and choked flow
- Weight reduction
- Deeper look into the operation of the valve
- Testing under extreme conditions (high pressure, high temperature)
- Providing Cv (Valve Flow Coefficient)
- Optimization of torque calculation
- Water Hammer & Surge Analysis

Casting

Casting is the process of pouring liquid metal into a mold cavity that matches the desired shape of the parts. The metal solidifies within the mold to obtain parts with specific shapes, sizes, and surface quality. Casting offers great flexibility and adaptability, allowing for the production of various metal materials such as iron, carbon steel, low alloy steel, copper, copper alloy, aluminum, aluminum alloy, titanium alloy, and more. Unlike other molding methods, casting is not limited by the weight, size, or shape of the parts. With over 40 years of casting experience, we provide a wide range of materials tailored to our customers' specific application needs.



• ENP Coating

Electroless Nickel Plating (ENP) is a process that deposits a nickel-alloy coating through chemical reduction, without the use of electric current found in electroplating. This (ENP) method significantly enhances the object's resistance to galling and provides a uniform, predictable nickel coating ideal for high-precision parts. It can be applied to both ferrous and non-ferrous surfaces of any geometry or intricate shape.

With over 40 years of plating experience and the largest ENP setup in the Middle East, Godakhtar offers a diverse range of electroless nickel coatings tailored to meet your specific application needs.



• Cryogenic Test

Cryogenic valve testing involves checking valves for leakage at extremely low temperature levels. With over 10 years of experience in testing cryogenic valves, Godakhtar company offers valuable expertise in problem-solving and testing for both valve manufacturers and end-users, specific to their needs and requirements.



• Fire Safe Test

Valves used in industries like petrochemicals face the potential danger of fire and require special design considerations to maintain sealing and operating performance under high-temperature fire conditions. Conducting fire safe tests is crucial to assess the fire resistance of these valves.

Today, we have learned about the requirements for API fire resistance tests, namely API 607, API 6FA, and API 6FD. These tests are specifically designed for valve types 6D and 6A, and they play a significant role in evaluating the fire resistance capabilities of valves.



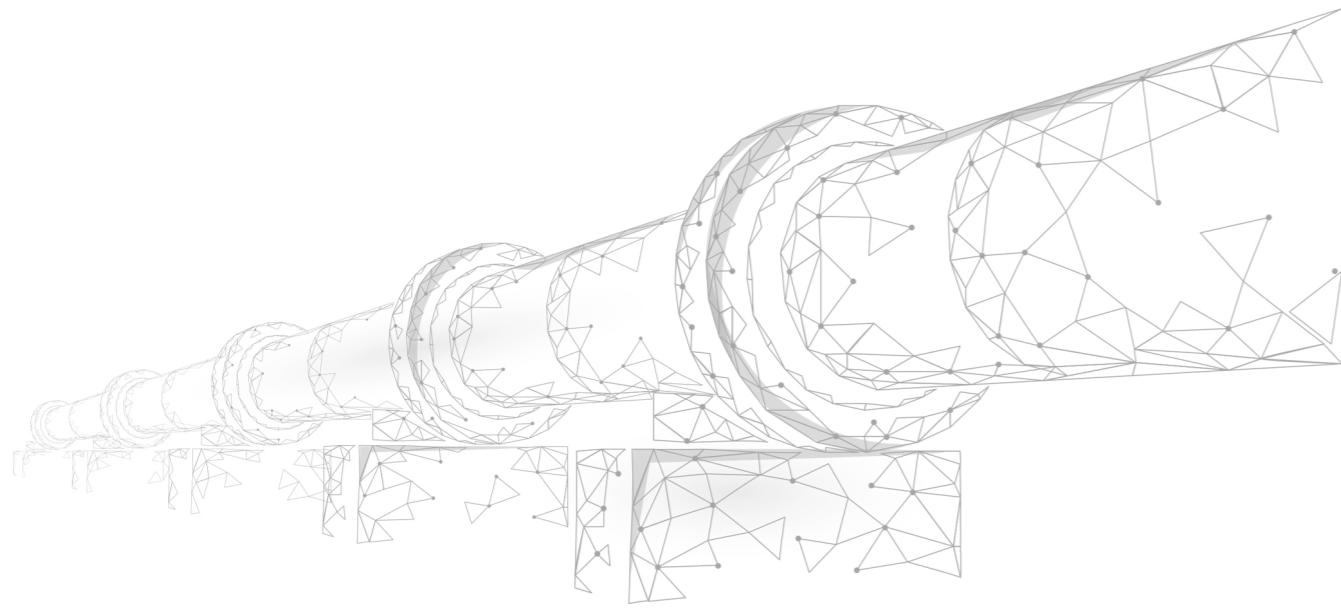
• Fugitive Emission Testing

Fugitive emission control is crucial to reduce leaks in valves, which contribute %60-50 of process plant emissions. Fugitive emission tests evaluate the external leakage of valve stem seals and body joints in isolating and control valves, specifically for volatile air pollutants and hazardous fluids.

ISO 15848 regulation provides comprehensive guidelines for measuring, testing, and qualifying fugitive emissions in industrial valves. It consists of two parts: ISO 1-15848, which establishes a classification system and qualification procedures for type testing of valves, and ISO 2-15848, which specifies production acceptance tests for valve manufacturers. Adhering to these standards ensures compliance with rigorous fugitive emission control measures.



**Lead the way by innovation
and technology;**



OUR INNOVATION; YOUR EXCELLENCE

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