Viza Valves: Lean Producti

The year 2019 is a promising turning point for valve manufacturers that had been impacted by the trade war that started the previous year. Faced with the relatively severe foreign trade restrictions and a saturated domestic market, the export-oriented manufacturer Viza has continued to evolve and maintain steady growth.

Recently, Valve World Americas visited Viza's headquarters and production base in Kunshan, Suzhou, China to interview chairman Mr Zong Cheng on the company's market strategy, lean production, product mix and quality control.

By Editorial Staff

As an export-oriented valve manufacturer, Viza has always targeted the mid- to high-end market globally. After years of development in the domestic and international markets, Viza has evolved into a leading valve company. Its products have been widely used in various industries including oil & gas, long-distance pipelines, petroleum refining, chemical and petrochemical production, defense, geothermal and photovoltaic power generation, LNG, shipbuilding, mining and water treatment.

Specialized in Customization

"Driven by project demand, we have applied a differentiated competitive strategy that we have adhered to for many years," Mr. Zong Cheng says. "We rarely produce large-scale standardized products. We specialize in customizing high-end valve products for challenging projects."

Giving an outline of Viza's product range, the chairman indicates that the company designs and manufactures API 6D ball valves, gate valves, check valves, API 600 gate valves, globe valves, check valves, high-performance triple eccentric butterfly valves, mid-line soft seal butterfly valves and rubber-lined gate valves. Mr. Zong Cheng: "We have a project-experienced design team that can tailor-make valves according to specific project requirements."

Complex Projects

Given the company's capacity, Viza is geared towards medium-sized projects between one to ten million dollars in 'valve value' with delivery times between three to six months. "Although the scale of a single project is not very large, the quality and delivery requirements are high. We can handle these complex and demanding projects very well due to our highly efficient flexible production mode. A single project may involve hundreds of thousands of product combinations with different sizes, weight, materials, internals, automation, paint and inspection requirements," he says. "If you happen to visit Viza from time to time, you might witness completely different scenes in the factory. Whenever a project changes, everything has to change accordingly."

Rich Project Experience

For Viza to meet a plethora of manufacturing demands in an efficient manner, the company requires flexible production methods. Viza has mastered the art of optimizing its production means (process lines, etc.).

According to Mr. Zong Cheng, Viza does not pursue efficiencies of scale, but has chosen to leverage its rich project experience and flexible production to deliver customized orders at the highest quality within budget and on time.

"Usually, we reserve five to ten per cent of our capacity for urgent customized orders. We can guarantee the quality and delivery period for these orders. That gives us bargaining powers," says Zong Cheng.

Zero-defect Valves

In order to achieve flexible production, Viza has adopted the latest technologies, including CNC machinery such as automatic welding machines, ultrasonic cleaning equipment, automatic painting systems, etc. An Enterprise Resource Planning (ERP) system is tracking every step of the valve manufacturing process. Each order is scheduled and automated from raw material purchase to product shipment.

Viza also adopts strict production process control to ensure the valve's operating performance and low failure rate. Through SIL3 certification and TA-LUFT certification, Viza ensures the safety, reliability and environmental performance of product design.

"It is our goal to manufacture zero-defect valves. We strictly control every aspect of the overall process to ensure product quality (total quality management), including the rationality and superiority of the design."

Jiangsu Taibo Casting

To ensure product quality from the very beginning of the production process, Viza acquired Jiangsu Taibo Casting in 2010. With a single casting capacity of 3000 kg and annual production capacity of 6,000 tons, the foundry is capable of casting various material combinations: carbon steel, alloy steel, stainless steel, duplex stainless steel, etc.

"Besides a highly standardized production process, post-inspection is also necessary," Mr Zong Cheng states. "We have been consistently upgrading and updating our equipment and methods for post-inspection. The entire inspection process is very long and stringent."

All testing results of materials and valves are recorded in Viza's quality system. All valve serial numbers, test procedures and operator information records are traceable. Viza's internal testing equipment enables chemical element analysis, mechanical testing, non-destructive testing (ultrasonic, magnetic particles, dye penetration and radiographic inspection), anode material identification (MPI) testing, high-pressure gas testing, low-temperature testing, high-temperature testing and fugitive emission testing.

Commitment to Quality Control

As a leading company it goes without saying that Viza has a facility for high-pressure gas testing. In order to check

on and Sound Development

In the past few years, Viza has continued to make significant steps forward, in part thanks to the policy of maintaining steady development with constant micro-innovations. Viza has increased the proportion of high-end and customized special products among all categories as a way to avoid harmful price wars.

Viza's ball valve business is growing rapidly, especially the metal-sealed, trunnion-mounted ball valve, which can be operated under high temperature, corrosive and erosive working conditions. At the same time, sales of top-entry ball valves, fully-welded ball valves and LNG cryogenic ball valves are also growing steadily.

valve integrity Viza uses high-pressure gas instead of water as a medium in the shell test. Since gas molecules are smaller than water, they will reveal potential problems more easily than is the case with hydraulic testing. With the valve immersed in water, any gas bubbles in the water will reveal the presence of pinholes in the valve body.

Such tests are dangerous and Viza has therefore invested in a suitable contained area. The operator is required to stand in the protection zone outside the experimental area and monitor the entire process through cameras. Mr Zong Cheng: "adopting the high-cost gas test shows our commitment to quality control."

Higher Standards

Due to Viza's production standards and rigorous post-inspection approach, the company experiences no after-sales problems, Zong Cheng states. "Our internal standards are higher than the industry's universal standards. First, our pre-production design standards are based on actual working conditions, which have a higher safety standard than others. Then, in actual production, we will adopt a higher standard, which will enhance product quality even further."

In addition to providing a competitive solution in the delivery time and product quality, Mr. Zong Cheng believes the professional service is yet another advantage Viza has to offer.

"Many times we have taken the initiative to help our clients regarding their working conditions and to optimize product designs from the very beginning. If the client is somehow unable to make the best decision on a model selection or if there are problems during operation and maintenance, we will give additional advice as soon as possible."

Professional Advice

Viza also provides technical services and complete solutions for end-users. These services include valve selection consulting, custom valve design and engineering, valve automation, onsite support, etc.

"If the customer only provides an Excel sheet to place an order, we will request a more detailed data sheet, including on-site condition data, selection books, valve requirements of the design institute, temperatures and pressures of the medium in the pipeline, the switching frequency and expected service life of the valve, etc." Zong Cheng says. "If clients are using design and selection criteria that are not optimal, or unfortunately not adopting the latest technology, we will offer our professional advice to reduce final cost and facilitate maintenance afterwards."

Improper Installation

For example, when dealing with applications in cracking facilities, Viza always helps clients by upgrading the tungsten carbide to chromium carbide, stainless steel 316 to duplex stainless steel F51 and the standard stem to a 17-4 ph stem, according to the different requirements of temperature and wear resistance of the working conditions. All of this can help users significantly increase the service life of the valve with just a minimal or even zero cost increase, thus reducing the client's end-use cost. Zong Cheng: "we are always willing to correct technical deviations for our clients, which is very time and energy-consuming for us but ultimately worthwhile."

Speaking of after-sales service, Zong Cheng says: "most of the time when clients ask us for help, it always turns out to have nothing to do with the valve itself. Usually, after-sales problems are related to improper installation and operation."

Bottleneck

As Zong Cheng has mentioned before, automation in production is an important instrument in an increasingly flexible and cost-effective production. Having said this, he also stresses the importance in hiring, developing and keeping talent.

"The lack of professional talents has always been a bottleneck that restricts further development of the valve industry in China," he says. Enterprises need to develop a solid training system for their employees while introducing talents through various channels. However, for young people, traditional manufacturing is often less attractive than other sectors, for example the internet industry.

"At Viza, the personal value of all employees in the design department, marketing department, production department and quality inspection department will increase with years of experiences under their belt. We have installed a mentoring system by which each newcomer will be trained and taught by an experienced co-worker."

Newcomers receive a wide set of skills thanks to rotational training from the technical department and the manufacturing department.

Talent Development

"For newcomers, we are very open, giving them plenty of time and opportunities. We encourage them to visit customers and EPCs all around the world, allow them to grow quickly, take on challenges and gain a sense of accomplishment. Our business is growing every year. We encourage the younger generation to persevere and invest for our benefit, for the customers benefit and ultimately for their own benefit," Zong Cheng says.

"The greatest treasure of Viza is our talents, who have accumulated rich experience in various job roles at our company over the years. Automated machines can never replace human experience and team spirit. Only experienced teams can adapt to changing project demands or requirements and communicate with clients smoothly. It is futile to build a bigger factory and buy better equipment without the accumulated experiences of talents. That is why many clients are worried about new plants, however well-equipped they may be."

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Innovation is also a matter of human ingenuity. Speaking of the innovations of the company's R&D team, Zong Cheng says it is committed to achieving 'micro-innovations constantly'. "Take our version of the drawings as an example. We update it several times per year while others do not. As we continue to get in touch with and update new projects and products, our staff's horizons are being constantly broadened. The techniques and materials we adopt also to keep improving."

Focus on Domestic Market

At present, Viza takes on an average of several hundreds of projects across different industries each year, all involving very different product lines.

Projects are mainly concentrated in developed overseas regions such as North America. Under the influence of the ongoing trade war and the encouragement of the domestic "One Belt One Road" policy, Viza has turned its focus to the domestic market while maintaining the growth rate of the overseas market.

"It is our long-term strategy to expand in the domestic market. We are fully prepared," Zong Cheng claims.

He says a significant overseas performance and rich project experience have laid a solid foundation for Viza to be successful on its home turf. "Domestic companies that focus on efficiency tend to do business with us."

Along with the releasing of the surplus domestic capacity and the policy supports of "One Belt One Road", there have been many large-scale exporting projects in China, which is also an opportunity point for the export-oriented Viza. "We are very confident in our products. Our products are popular aboard; they will also get popular at home!"

The views and opinions expressed in this article are those of the profiled company and do not reflect the position of Valve World Americas.