

Cephas is a specialised manufacturer of butterfly valves that can produce large diameter products with a comprehensive product lineup. The company's strength is its industrial butterfly valves used in power plants, oil & gas fields, desalination and water treatment plants and ships. Last year, the South-Korean company was acquired by the Japanese KITZ corporation.

Laura Wang



Cephas just focuses on developing triple and multi offset butterfly valves because we believe the future market potential will be huge.

Cephas Pipelines: strong in butterfly valves

Valve World has interviewed Masanori Fukumitsu, President, In-Chul Song, Senior Executive Vice President, Katsuaki Miyake, Senior Managing Director, Chun-Gyu Lee, Engineering Director of the company, and learnt about the overall situation of Cephas and its development strategy that came into place after joining the KITZ Group.

Established in 1990, Cephas manufactured not only butterfly valves at the beginning but also many other types of products. Later on, Cephas focused solely on butterfly valves. "With the increasingly drastic competition in the Asian valve market, Korean manufacturers gradually became less competitive against rivals from China and other countries. So we decided to focus on butterfly valves only," Mr. Song says. "Time proved that

it was a promising choice. Up to the start of the new millennium, our clients normally used butterfly valves for low-pressure applications. But in between 2000 and 2005, the working conditions of butterfly valves became more severe with higher pressures, higher temperatures and so on."

Larger pipes

Especially in recent years, there has been an increase in demand for larger pipe diameters as more large scale plants emerged, Mr. Song states. "This indicates a need for butterfly valves suitable for these pipelines. As butterfly valves are lightweight and compact in a piping installation compared to other types of valves, these are increasingly employed in various plants. Accordingly, there is now a need for butterfly valves



compatible with various fluids. We believe that the demand for butterfly valves will continue to increase. Based on customer demand, we have been persistently working on the research and development of all kinds of butterfly valves. We have developed these to respond to changes in market demand such as high-performance butterfly valves and triple offset valves, and so on. These efforts have laid a solid foundation for our reputation as a 'butterfly expert.'

Four sectors

As Mr. Song mentions, to satisfy the customer demand, Cephaz has expanded the product family covering various industrial applications based on in-house technological development and manufacturing equipment suitable for large size products. Mr. Miyake: "Currently, we mainly supply butterfly valves to four fields: from infrastructure to petrochemical, namely desalination and water treatment projects (up to DN4000), power generation (nuclear, water, combined, etc.), oil & gas application and shipbuilding (marine application, VLCC, LNG, Cargo liner etc.). Cephaz enjoys a good reputation in the industry and has established a global reach, serving the Middle East and South-East Asia markets, as well as South Korea, Japan, Europe and America."

A brief history in highlights

Year	Area	Descriptions
Jul-90		Established Company Named As "Cephaz Pipelines Corp." In Busan, Korea
1998		Registered In K.O.P.E.C for Nuclear Power Plant
2002		Acquired Ce Mark For Whole Butterfly Valves from SGS. (Vs 01035/04/01)
2002		Developed Cryogenic Butterfly Valve
2010	Oil & Gas	Hyundai E&C - IGD Habshan (Gasco) - DN1050 (1pcs) - Triple Offset
2016		Dow Chemical - Sadara - DN100 ~ DN750(30pcs) - Triple Offset
2003		Developed Triple Offset Butterfly Valve
2010		Obtained Fire Test Certificate For Triple Offset Butterfly Valve (SGS)
2010	Oil & Gas	Ruwais Refinery Expansion #7 (Takreer) - Manual / Mov (190 Pcs) - Triple Offset
2016		Talara(Petroperu) - DN80 ~ DN1300 Manual (200 Pcs) - Triple Offset
2016		- Gt-5(KNPC) - DN80 ~ DN1800 Manual (530 Pcs) - Triple Offset Kinder Morgan Canada Terminal - DN750 ~ DN900 (72 Pcs) - Triple Offset
2015		CFP (K.N.P.C) - DN100 ~ DN1200(Upto 900lb): Mov/Pneu(286pcs)
2004		Developed Rubber-Coated Metal Seated Butterfly Valve
2011	Water	Pn40 Chilled Water Application in Dubai - DN80 ~ DN650 (130 Pcs) Manual - Double Offset
2012		Rc Ras Azour Project Cooling Water DN100 ~ DN300(200pcs) Manual/Mov - Double Offset
2006		Developed Low Torque Concentric Large Bore Butterfly Valve for High Pressure
2009~2018	Water & Power	PUB Projects in Singapore DN1600 ~ DN2200 (More Than 100pcs) Pn16 - Manual- Concentric
2010~2017		Ge Power (Alstom) - DN1500 ~ DN2400 Manual/Mov (8 Projects) - Concentric
2012~2018		Talin, Jimah, Tanjung Jati (Toshiba) - DN1500 ~ DN3000 - Concentric
2015		Developed High Pressure & Temperature Butterfly Valve (2500lb / 538°C)
2017	Fertiliser	Mcec - Unf Project - Mechanical Stop Valve 20" 2500lb BW
2018		Developing High-Pressure Cryogenic Butterfly Valve (600lb / -196°C)
2018		KITZ Corporation Merged Cephaz Pipelines Corporation.



Stronger position

When talking about the significance of the cooperation between KITZ and Cephac, Mr. Fukumitsu says: "The acquisition of Cephac enables KITZ Group to expand in the realm of butterfly valve products. For sure, KITZ can manufacture its butterfly valve products. Under an integrated production policy from casting to completed valves, our butterfly valves are mainly used for the building construction market in low pressure and small size products. However, the market situation has changed, and customer demand for butterfly valves has been increasing. To better serve the market, KITZ decided it must strengthen its position. It's worth mentioning that Cephac has achieved a sound balance between cost and quality, which will also contribute to KITZ's competitiveness. This cooperation will further improve KITZ Group's capacity

and level of supply, and support the company to create new value for clients all over the world."

Close cooperation

"And for Cephac", Mr. Fukumitsu continues, "it's a good opportunity. Cephac has provided butterfly valves to KITZ since 2014. Previously, Cephac only sold through their own sales channels and agents. But it would be very challenging for a small company to compete with larger companies on the international stage. Just the availability of quality products is insufficient; production capacity and sales resources are also critical factors. In this case, KITZ Group will build the structure for undertaking production in the most suitable locations for its operations and increase the sales of our butterfly valves through the KITZ global network in the future. In other words, Cephac and KITZ need each other."

As for the near future, the target is to manufacture products according to the KITZ quality level by 2021, Mr. Song explains. "Cephac can serve the overseas business of Japanese customers. However, for the domestic market, we can supply, but it's not easy to achieve 100% customer satisfaction. Our target is to achieve KITZ-quality against a Cephac price. KITZ's professionals are working closely together with us to improve quality, production and even engineering."

Smart manufacturing

KITZ is renowned for its smart factory. Something Cephac can learn from and utilise. The Japanese company employs Lean Management: a culture of continuous improvement practised at each level of the organisation and by each team.

It will not be easy for Cephac to adopt this approach as the company mainly designs and manufactures engineered valves. As the company is famous for customised products and service - making butterfly valves ranging from 50mm to 4000mm diameters - it's difficult for the company to adopt automatic production fully.

"This doesn't stop us," Mr. Song says. "We never stop trying to improve ourselves. KITZ is supporting us to establish a flexible production system covering a variety of product types with certain ranges up to DN200. We call it SA-1line. We are engaged in other activities that will greatly improve production efficiency. And for the near future, we plan to separate the common range and the big size ones, and adopt intelligence manufacturing accordingly."





LNG booming

Talking about where future growth areas are, Mr. Lee mentions LNG as one of the most promising sectors for the valve industry. “We are developing new products for large sizes and up to class 900 valves. Actually, for low-pressure applications, we already supply up to class 150 cryogenic valves. From class 300 and above, we don’t have a good reference at the moment. So we’re devoting a lot of R&D to this topic. The test temperature for a cryogenic valve is -196 Celsius, but the actual temperature in operation is -162 Celsius. Shell Global has the strictest standard, which requires both-direction sealing up to class 600. We can do one-way sealing, but we’re not able to achieve both-direction sealing on high pressure yet. Now we are developing a high-pressure class cryogenic valve, which is also the most challenging job. We are

using our full capacity to advance in the field of modelling and analysis. In the long term, there is so much potential for high-performance and/or specialized butterfly valves.”

Strong service support

As for service, Cephas has always attached great importance to this aspect of the business. Even in difficult times, the company has never ignored its after-sale service, Mr. Lee says. Since KITZ has offices in many countries, Cephas is now connecting each sales manager to coordinate business promotion and service backup, which has dramatically improved its service capability. Mr. Miyake: “There is a trend that customers demand lifecycle management according to their respective plants. After the guarantee period given by EPCs has ended, end users

still need someone to continue with the maintenance. In recent times, some end users have strengthened their relationship with instrumentation companies before the construction period, and these companies manage the entire plant life cycle after the end of the EPC’s guarantee period. Plant life cycle management is becoming more and more important. The trend is to engage in predictive maintenance, which requires strong support and service capability. KITZ has ample experience in providing solutions, and now it’s supporting Cephas in this regard.”

Butterfly is the future

By coupling their product range and expertise, KITZ and Cephas aim to grow in an already prospering market segment. As Chun-Gyu Lee, Engineering Director, puts it: “butterfly valves have many merits. First of all, the price level is very competitive. When it comes down to the function, normally it’s equal to a gate, ball and sometimes a globe valve.

Furthermore, butterfly valves need a shorter operation space and less operation time. Therefore, I think the market potential for butterfly valves is huge, especially considering that there is room for development. Take for example, the advent of multi-offset valves. With this type, the possibilities are infinite.”

Masanori Fukumitsu: “We believe that demand for butterfly valves will continue to increase in the future. Cephas and KITZ will for sure keep pace with our clients’ changing demands and benefit from each other’s strengths to compete in a global market.”

