

Flowbus actuators provide rugged and reliable solutions



Production team checking the assembled actuators before painting.

Flowbus Corporation is a Korean manufacturer of heavy duty process actuators which is making a big splash in the international market. Shunning the traditional point of entry into the market, the company jumped in at the deep end with large scale products designed with care and quality in mind. Valve World visited the company at its headquarters in Kyunggi-do to find out how Flowbus has flourished in the valve automation industry.

By Sjef H. Roymans & Joanne McIntyre

The Flowbus team certainly hit the ground running when they commenced business five years ago. "From the moment we started business in mid 2002 we have only ever focused on producing large scale actuators" explains Mr. Park, at Flowbus Corporation. "Initially we produced heavy duty

actuators for large quarter turn valves such as ball, butterfly and plug valves. At the same time we concentrated on gaining most of the important international standards and approvals such as ISO 9001:2000, IP66/67, ATEX 94/9/EC, PED 97/23/EC, etc and were also certificated by TUV Germany. Recently

our EPT, A Series actuators have been certified to meet **SIL 3, 4 ratings** in accordance with IEC 61508/ 61511 which will help us support contractors and end-users in operating their plants under a licence. The EPT, A Series can be incorporated into a plant's safety instrumentation system. Our next focus



fifteen and twenty years of experience in the business. It was this experience which enabled us to identify a demand for reliable actuators in Asian markets. That gap in the market was an opportunity which meant that from day one Flowbus Corporation would logically focus on the export market.”

Daring to fill a niche

It is with obvious pride that Mr. Park reveals that the company has succeeded beyond their expectations and continues to grow much more rapidly than anticipated. So what inspired Flowbus to take the unusual step of designing and producing heavy duty actuators instead of the more usual route of starting with small products before working up to larger ones?

“There are many, many manufacturers in the valve industry, both in Asia and around the world” he explains. “However there are only a few people manufacturing actuators in the Asian market and very few of these produce large, heavy duty actuators. This meant that although it was a challenge to start out producing these unique products, it meant that there was not a large pool of competition to struggle against. We decided to become specialists in a niche market providing rugged, reliable actuators and that strategy has proven to be highly successful.”

Already Flowbus has two factories manufacturing and assembling their actuators, plus they make use of



Factory no. 1 in Kyonggi-do, Korea, where heavy duty actuators are configured to customer requirements.

outsourcing resources. The Kyonggi-Do plant is mainly responsible for conducting testing and R&D.

“Although we started business serving the Asian market we quickly became active internationally. Exports are extremely important to us: currently 30% of our products are sold on the domestic market, while 70% is destined for export” explains Mr. Park.

“The company's major market is Asia. However, actuators exported to Asia often end up in another continent. For example, although we supply to EPC contractors and valve manufacturers in Asia, they often export the product again to other countries.”

Robust tools for tough applications

The large size of the company's actuators means that they are mostly utilised in the oil, gas, petrochemical and desalination

was to develop our EPR Series of actuators and the FB gearbox. Within the past couple of years we've added a full range of pneumatic actuators to our catalogue. Our growth has been rapid but we have plenty of plans for further future growth” he says with a smile.

Like his two partners, Mr. Park has a professional background in engineering, valves and actuators. He is proud of the fact that Flowbus has designed and produced all of their products from scratch and that the company has become so successful in a relatively short period of time.

“Each of the managers in this company originates from the valve industry” Mr. Park explains. “We all have between



Final valve and actuator packages ready to be packed.



“Hydraulic spring return actuator for the rapid-response.” It returns valves back to their safe position less than 0.23 sec.

industries. “We have become very active in the refining, petrochemical markets” explains Mr. Park. “In fact, we recently completed a very large order for heavy duty actuators to be used in a new desalination plant in Saudi Arabia”. With a budding R&D department Flowbus is actively developing new products and innovations. “We have completed the manufacturing and testing of our new hydraulic quarter turn actuators. We have further produced and tested the rapid-response actuator, a new hydraulic actuator which will be back in its safe position in less than 1 second. Our new hydraulic actuator will, moreover, make our product range broader and is ready to be launched on the market. Moving on, another new project has been to develop a flange for a new range of linear Scotch Yoke actuators.” explains Mr. Park.

The Flowbus EPO, T-Series actuator is based on a modular design that enables both single and double acting units to be assembled by addition of the appropriate modules to a common yoke. To ensure long life and efficiency the actuators

contain replaceable bearings and a high performance internal coating to resist wear and corrosion.

“Due to the wide torque range of the EP-Series and the flexibility of its modular construction the actuation of large valves is simple and actuator selection is optimised. Manufacture and assembly of the EP-Series actuator is strictly controlled by our QA systems allowing us to offer a reliable, high quality actuator produced to our own unique design” Mr. Park explains.

“The EPA-Series pneumatic actuator provides a rugged and compact solution for quarter-turn valve actuation. The scotch yoke design offers high torque output while reducing maintenance requirements. Finally our EPR-Series rack and pinion actuator is a tailored solution for automating quarter-turn valves. The actuator has been designed with an inherently safe spring return unit to prevent accidental release of the spring force. The incorporated hard anodizing treatment, permanently lubricated bearings and single spring design extend the actuator’s life in the most severe and

demanding conditions.”

Complementing the Flowbus portfolio is its compact FB declutchable gearbox which provides efficient, precise performance for quarter-turn manual override duties. The gearbox is specially designed to offer quick and simple operation of the highest torque valves when the air or power supply fails. Installation of the FB override between the actuator and the valve/damper ensures the overall valve package volume is minimised, reducing the space required for installation.

“The factors which make us stand out from the competition are the level of technical back up we offer, the technical solutions we can supply, and the fact that we can offer the best delivery time. We offer a total solution; a reliable, technical, well designed product with superior back up.”

Automation packages

With the valve industry displaying an overall tendency to utilise increasing levels of automation, Flowbus have followed this trend by focussing on supplying valve automation packages. “Essentially this means we supply valve manufacturers with a complete package tailored made to the clients specifications. Within the market our focus is on actuators and automated valve packages. When a client comes to us with their requirements we assess these then recommend some ideas for their systems. It is important to us to establish a good rapport with the customer so that we can



Actuator final assembly.

co-operate to determine the best system for them and then supply it. Our technical team will therefore supply the necessary schematic drawings and documentation back up. We visit the clients and their contractors and hold technical meetings together with both parties to determine exactly what they want, and then custom-make it. One of our strengths is our ability to provide small series of custom-made products. Whilst an actuator is made to a basic design, an automated valve system can, in fact, be a unique design and we are very good at creating this" says Mr. Park.

"When supplying a system we meet with both EPC contractors and end-users and thoroughly discuss the project with them so that we are able to design the best possible solution to meet the needs of the customer. Its something in which we excel for we are very conscious of trying to help both contractors and end-users by providing quality, technical support and back-up. These are very important factors on the priority lists for industrial plants.



Flowbus has developed a unique digital torque tester which enables them to accurately measure an actuator's torque output.

Location, location, location

Being located in Korea has proved to be a strategic base for Flowbus. "This is an ideal location for us to source the difference accessories we include in our systems" explains Mr. Park. "There are many European, American and Asian distributors in Korea and we can cooperate together with them to get our clients the product they need. Korea also has good manufacturing capabilities. It is home to the worlds' top shipbuilding industry, and we supply our systems to several shipbuilders. All the ingredients we need are in Korea: it's both a good market and a good source for products."



Flowbus offers the optimum choice of actuator for a client duty from our extensive range.

Whilst Asia is a very important market for Flowbus it is keen to expand its operations into Europe. "We feel that the European market is important because there are both on and offshore markets. It's a good epicentre for end-users. In the near future we plan to open an automation centre in Europe. This centre will be used to conduct testing and assembly of actuators. The modular design of Flowbus actuators means that assembly can easily be completed in any location. We've also set our sites on the US market and plan to set up a centre in Houston in the medium term."



Stocks for the rapid response.

Although Flowbus is still relatively small, the company prides itself on its flexibility and level of commitment. "Our employees are really able to multi-task. They are very committed and work extremely hard for the company. Each one of us has a feeling of partnership in the company which sometimes makes it possible to achieve even more than expected. This also keeps us very flexible. We work very hard but that's because we are dedicated to our

clients; we're willing to put in long hours to get the best result and to make a delivery. Our flexibility and compact is one of our key selling points. If you take a look inside many of the larger companies you will see that most people leave at 5pm and go home, regardless of how much work remains to be done. At Flowbus our people are very different and far more ambitious. Completing a clients' order is our top priority regardless of how hard we have to work. The company still has a family feeling which makes us a close unit and gets the maximum productivity out of all of us. We're all very proud of what we have achieved so far and where we are heading in the future."

Facts & Figures

Name:	Flowbus Corporation
Founded:	2002
Headquarters:	Kyounggi-do, Korea
Sales office:	Seoul, Korea
Products:	Pneumatic, Hydraulic Valve Actuators, Manual Overrides, Control Systems and Accessories.
Key Markets:	Oil, gas, refining, petrochemical, chemical, desalination, marine, steel, waterworks