



Tycon Alloy Industries – improving high quality!

With an advert saying “casting a better world”, Tycon Alloy Industries has set itself a high goal to achieve. The company, which specialises in the production of metal castings and providing related technical services, serves the global valve industry. Located in Hong Kong and Shenzhen, China, Tycon Alloy services both Eastern and Western markets and effortlessly bridges the gap between these two hemispheres with an ease its competitors can only envy. Valve World visited Tycon Alloy at its headquarters in Hong Kong and spoke to Mr Frederick Chan, Sales Director of Tycon Alloy Industries, and Mr Tim Chen, Project Engineer of Tycon Alloy Industries, to learn more about how the company has developed since 1995 and its plans for the near future.

By Sjeff H. Roymans and Christian Borrmann

“Our flexibility to operate in both the East and West truly sets us apart from the competition. Hong Kong, where Tycon’s parent company, Fong’s Industries Co., Ltd. is listed on the Hong Kong Stock Exchange, has traditionally been a cultural melting pot and continues to be an ideal location for setting up our headquarters,” says Mr Chan with conviction at the start of the interview. Tycon is actually a ‘dual identity’ enterprise with operations in both Hong Kong and Shenzhen, mainland China. “This gives us increased flexibility when trading with foreign companies, which are best serviced through our Hong Kong office, while Chinese customers can utilise Tycon Shenzhen to take advantage of local tax requirements,” adds Mr Chan. “In the end, it’s all about offering the best possible service and cost efficiency for our customers.”

Another major benefit is that Hong Kong has a legal system which is very similar to most European countries and the US, so copyright and intellectual property rights are well protected. “It’s important our clients realise that their designs are in safe hands. All of our contracts are signed under the

protection of Hong Kong law so our customers never need worry about copyright issues. Their ideas are safe with us. This is clearly an important issue in the valve industry, particularly when dealing with exclusive designs,” Mr Chan affirms.

The company’s core business is stainless steel casting. Although Tycon has made over 10,000 different types of castings since 1995, the year the company started off, they ended up with a strong focus on casting components for use in the global valve industry.

Successful investments

Over the past years, Tycon has invested heavily in an ambitious expansion plan which has been accelerated following explosive growth in 2006, which is still felt by the company today in 2009. “At the moment we are able to produce up to 700 tonnes per month at the Shenzhen plant, 90% of which is dedicated to stainless steel casting. The expansion plan covered the foundry, machining, human resources and the computer systems,” says Mr Chen. He continues: “Let me give you an example: We invested a lot in upgrading our machines and doubled our capacity in



Recently, Tycon invested heavily in upgrading the machine shop to be able to produce more castings, due to the increasing demand from the customers.

the manufacturing plant. We make use of a new computer simulation programme for the moulding process and we use robotic technologies for our castings. In addition to this we obtained expertise from overseas into Tycon, in order to stay at the point where we are now, which is on top." To be more concrete, the company installed 19 new CNC machines at the Shenzhen facility and also expanded the available space. But not only technology and space investments have been carried out - the number of people working for Tycon has also been on the increase since the company started in 1995. At that time, only a handful of people were working for the company, yet by the end of 2005 some 650 staff worked at the plant and in the headquarters. By now, we have around 1,200 people employed by Tycon.

Most of Tycon's production capacity is dedicated to castings for the valve industry. The company's most important markets geographically are Europe - which accounts for over 60% of sales - and the USA, which is Tycon's leading export destination country. Comments Mr. Chan: "Europe and the US are the two leading valve manufacturing regions.

However more recently we got more into the Asia market as well. For example, we are heavily into the Japanese market, which is generally regarded as one of the most difficult ones to get in because this market is internally focussed. We are witnessing a trend for rapid growth in the US and the fact that we sell directly to valve manufacturers and suppliers make this a very important market for us." Tycon has ambitious plans to increase its market share in both Europe and the

US even more. "Despite the global economic situation - which let's face it affects all industries with sometimes more or less direct consequences - the valve industry in general is good for us. We are very well prepared and due to our global sales, especially on the Western markets, we are quite stable," explains Mr Chan about Tycon's current position. "Most applications which require valves are enjoying strong growth, either be through maintenance or replacement works; waste water, oil



Mr Frederick Chan (right) and Mr Kevin Fong (middle) Managing Director during the interview with Valve World Director Sjeff Roymans.



A selection of Tycon Alloy Industries' products.

and gas, marine and power generation including nuclear." Although major Chinese manufacturers are potential clients for Tycon, the company recognises that developing a quality-focused share in the local market will probably still take some time albeit not as long as some years ago.

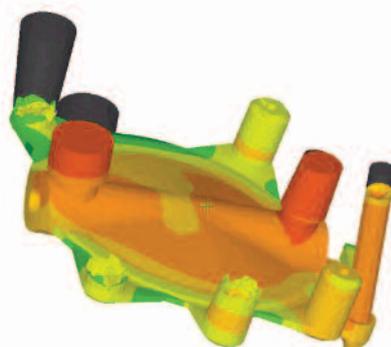
Flexibility is the key

One of Tycon's strengths is that it is capable of producing very complicated castings. "Some valve castings can be difficult to manufacture," continues Mr Chan. "For example, we are able to produce high quality, smooth and polished surfaces which are critical to get the required performance out of a valve. In order to achieve this, we implemented the Japanese Kaizen philosophy within our work, which means that we have an internal improvement system, Kaizen, that enables us to continuously improve our tasks and working processes. That is, by training our staff to utilize the Kaizen trial-and-tested method of working, we have an avenue to constantly upgrade on quality, reduce lead time and also increase productivity."

Flexibility also means providing the extra services that customers require, for instance machining components. "Our on-going investment in sophisticated equipments is just one way that we can add more value to our products," says Mr Chan. Our castings

are not only very precise, we also provide added services such as machining to ensure that the product dimensions will meet – or even exceed – the customers requirements."

In addition to a range of material choices Tycon also offers clients two types of castings; sand casting (resin sand) and investment casting (lost wax). Mr Chan explains: "For some valve castings it is more cost effective to use investment casting, whereas for larger components sand casting can be financially more attractive. We can also cover a huge size range, from 0.5 to 1,000 kg castings which helps us to serve the market – and particularly the increasing power generation industry in the US – even better." And Mr Chan adds proudly: "basically, Tycon Alloy Industries is a one-stop shop able to offer the dimensions, material choice



Casting simulation to perfect gating design

and complementary services that our customers demand. Of course, we are constantly seeking to further improve, such as for example utilising robotics technology as I mentioned before."

A guaranteed quality

As casting quality is without doubt a key determinant for the performance of any valve, Tycon is constantly investing in both time and money on testing. "European customers are always concerned about the quality of products coming from the East. Personally, I like to compare casting with cooking; you need good ingredients to make good dishes and the same is true for the casting of valves and their components" smiles Mr Chan. "We are fortunate in that we have access to very good ingredients, by which I mean scrap metals. One of our sister companies, Fong's Steels Supplies Co., Ltd., is able to keep us amply supplied. This enables us to closely monitor the quality of the scrap we use, affording us better raw material control than others. We do not want to get in such a position that we have to tell our customers that we do not know where our raw materials come from. Another advantage is that this is a secure and direct source, allowing us to offer significantly shorter delivery times; it is very unusual for us to suffer from a shortage of raw materials."

During the casting process, Tycon has implemented many controls and is very



The 4-axis and 5-axis machine centre in the Tycon Shenzhen plant.

Facts & Figures

Name:	Tycon Alloy Industries (Hong Kong) Co., Ltd.
Product Range:	valve and pump parts, precision machine components, marine equipment & accessories, food & pharmaceutical equipment, water & wastewater equipment, oil & gas equipment and instrument etc.
Staff:	1,200
Locations:	Hong Kong and Shenzhen, China
Key markets:	Power Generation, marine, oil and gas, chemical, textile, food processing, medical



The use of new robotic technology enables Tycon to remain an important player in the valve casting market.

particular about safeguarding the quality of its products. For instance, the Shenzhen plant has a spectrometer which can test a wider array of metal and non metal elements meaning that it can make a diverse range of products. In addition, the company is continually improving its casting ability and providing an increasingly precise casting service. "We have reached the stage where our casting service is so precise that very little work needs to be done to the valve or its component afterwards, which reduces costs for the client by avoiding further machining," explains Mr Chan.

Of course, the price/quality ratio is an important element when customers make their final purchase decisions. Especially now in this heavy economic situation which the industry is in, customers look for high quality in order to saving costs. According to Mr Chan, the Tycon policy is therefore to provide a higher quality product, and so put itself in a better position than its competitors. "Tycon is able to produce better quality than many of our Chinese competitors, due to the emphasis we put on testing, examination, and quality to ensure we get the ideal price/quality ratio," he says.

But not only quality costs are important for the company as Mr Chan points out: "We always want to stay in close contact with our customers, even if they are halfway around the world in the US. Usually we do this in two ways: most of our customers we approach directly. Our sales staff travels extensively, visiting valve companies to represent Tycon Alloy in the best possible way and there they explain what are the advantages are of working with us. In some other areas the best route however is to work through trading companies." At the end of the interview, an upbeat Mr Chan is quick to point out that it is Tycon's ability to consistently provide high quality products that keeps customers returning to them time and time again. "It is imperative to maintain our quality to meet our customers' demands. Customers will only keep coming back if a company can demonstrate that it can maintain the quality of its products."