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Cover Report:

Tycon Alloy Industries: improving on high quality, and proud of it !



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Tycon Alloy Industries: improving on high quality, and proud of it!

Tycon Alloy Industries specializes in the production of metal castings for the global pump industry, and at the same time offers a wide range of related technical services. Located in Hong Kong and Shenzhen, China, Tycon Alloy covers both Eastern and Western markets, effortlessly bridging the gap between these two hemispheres with an ease its competitors can only envy. Pump Engineer recently visited the company at its headquarters in Hong Kong and spoke to Mr. Michael C.C. Lo, Senior Sales Manager, to learn more about how the company has developed and its plans for the near future.

By Andrew Peers

“Our flexibility to operate in both the East and West truly sets us apart from the competition”, says Michael with conviction at the start of the interview. “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.” 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 utilize Tycon Shenzhen to take advantage of local tax requirements,” adds Michael. “In the end, it’s all about offering the best possible service and cost efficiency for our customers.”

Well-known customers

Michael goes on to explain how products are being widely supplied to the multinational pump



manufacturers, such as Sulzer, ITT and SPX etc... "For example, we have established long-term cooperation with Sulzer Ltd. The casting products that we supply directly to their plant are then made into multi-stage pumps for power plants. We have also enjoyed good collaboration with the ITT Corporation for over a decade. Our deliveries reach its manufacturing facilities all over America, Korea, China and Brazil. New long-term customers include for example SPX: we have just started to supply their plants in the Netherlands and Denmark. Another longtime customer is a marine pump producer named Wärtsilä. Recently they have been developing offshore pumps, specifically pumps for FPSO facilities, which are very demanding in terms of material and construction. We are working with them to produce their castings.

Products and materials

Michael says that the company is currently making casing, cover and open / close type impellers for both single-stage and multi-stage pumps - the heaviest pump casing made so far is 760 Kg in weight, with impellers



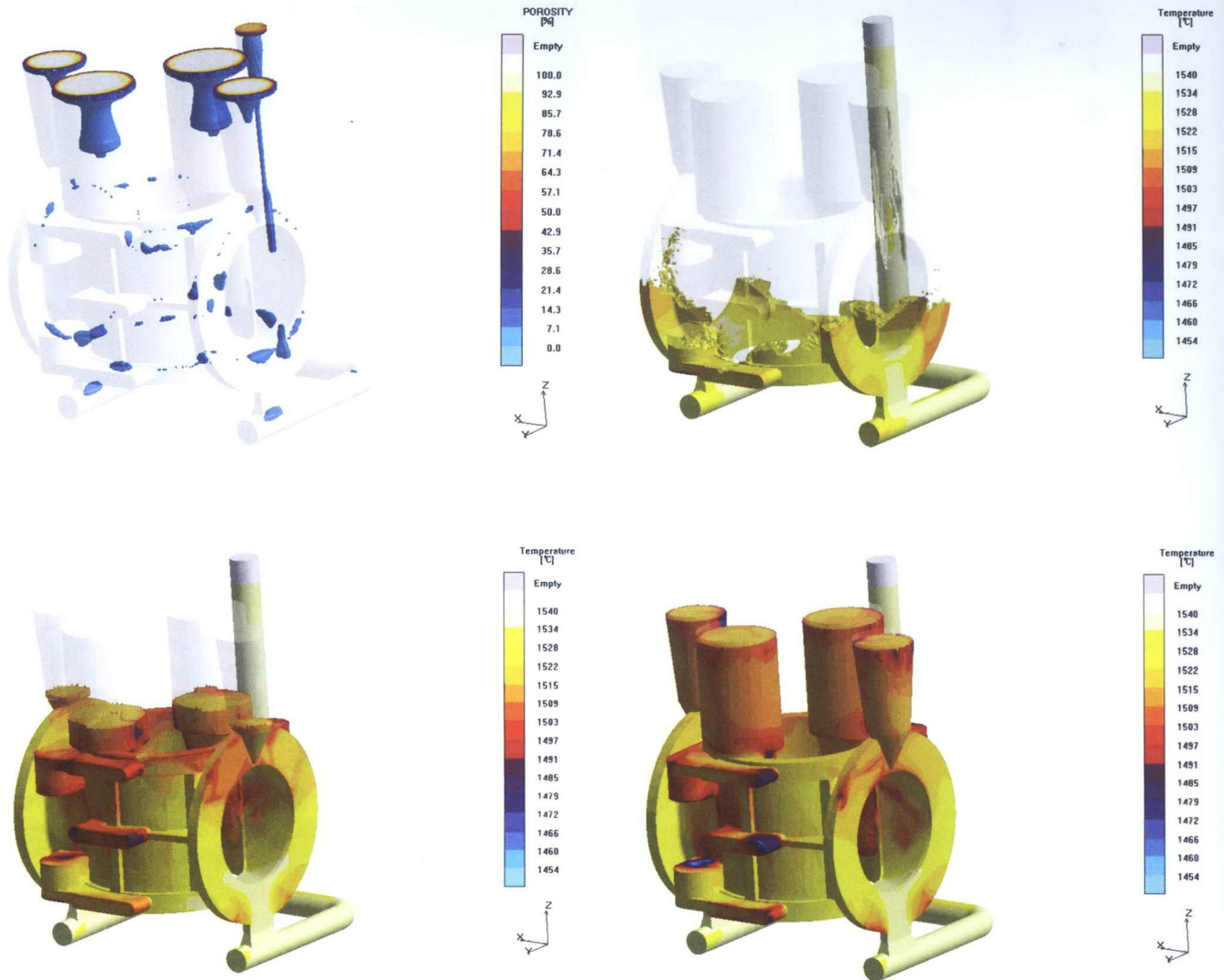
"Our sister company can provide us directly with qualified material to our group company, which acts as the raw material for the equipment we produce. So our raw material quality is assured."

100 Kg net, OD 550 mm. "We are now studying a more advanced technique called ceramic core. Once we succeed with this, even larger size impellers will fall into our product category. The pumps made with our castings are mainly used in chemical plants and power stations. We also plan to make sand casting up to three tons in weight. After we set up larger size facilities, the size of our products will increase accordingly. We will also set up a precision casting line with a higher automation level to reduce labor costs." Tycon normally uses stainless steel for pump components e.g., martensitic stainless steel, which can be used for pumps in power stations. "We also use duplex steel and nickel-based alloys. Aluminum bronze is also an option. For example a company in Singapore uses aluminum bronze to produce marine balance pumps and we are supplying them with aluminum bronze impellers."

Quality control

Michael said that in order to supply all these companies, the company has to have the necessary ISO9001 and PED 97/23/EC certificates. Rigorous inspection procedure covers the whole cycle from raw material, production through to the finishing stage. "We have the unique advantage that our sister company can provide us directly with stainless steel. This company provides qualified material to our group company, which acts as the raw material for the equipment we produce. So our raw material quality is assured. However, part of our materials is provided by outsourcing to qualified suppliers already in a long stable relationship with us. In this way we can obtain melted materials with a very low level of foreign substance at relatively low cost. However, this never makes us compromise our





Extensive use of computer assisted design ensures an efficient and effective casting process.

inspection criteria.” Michael said that a spectrum analysis is conducted on every batch of material received. “We also do penetration and hydraulic tests on each type of product that we supply to Sulzer.” Tycon has been conducting internal improvements during the past five years and have specifically set up an optimization team. They perform site management with the objective of reducing costs, improving efficiency and assuring quality. “We have always invested and this year we bought nine machining centers, as well as some vertical lathes. So we’ve both extended our product range and further secured product quality.”

New foundry under construction

“Our plan is to carry out this investment after we move to the new plant which is now under construction in Zhongshan city”, said Michael. This new plant will be ready in 2014 and will be 100,000 m² with a floor area of about 85,000 m². It will be able to carry out more strategic and advanced designs there so as to optimize management and production efficiency. With regard to the production facility in the new plant, Michael said that the company had already made contact with a UK

supplier who can provide automatic sand casting lines. The product range at the new plant will be same with that of the Shenzhen plant, but the largest casting will reach the weight of 3 tons. “Our plan is to raise the annual production of our precision casting and sand casting to 4600 tons and 4000 tons respectively in 2018. The geographical markets for the new plant will be mainly Europe, the Americas and Japan. There is a trend that more and more companies from those place are coming to China to build factories. We hope to supply their future plants. We have arranged that several senior engineers serve the China market in the role of sales persons and that they continue to pay careful attention to sales training, to ensure smooth communication with clients and speedy solutions.” Tycon uses professional casting software to simulate production processes. This is also a precautionary measure to ensure quality control. The company also pays great attention to our service. “Our salesmen are all with engineering-related background and they often visit customers to explain difficult issues as well as to listen to their feedback as this helps us to improve too. We go abroad 4-5 times every year and visit our key accounts at least 2 or 3 times every year.



Customers often come to visit us also. Sulzer came here several times a year at the beginning of our cooperation in order to provide machine operation training.”

Strength and expertise

Tycon provide services containing many engineering elements, so the company has a strong technical team. Their job is to review drawings provided by customers and generally analyze and predict any potential problems. “They then submit feedback to customers and work out solutions with them. A customer once requested us to make a product but we couldn’t meet their requirements. So we communicated the fact together with an alternative solution. They agreed to our alternative and the product produced was approved. In another case, our project engineering team found that a design provided by a customer was defective. After providing our analysis and corrective measures, the customer approved our solution. With both new and regular customers, we always provide this kind of value added service. Communication is a very important factor. With products like pump components, it’s necessary for us to obtain a thorough knowledge about customers’ needs in order to communicate our feedback about the design and production methods. Good communication is critical.”

Doing business in the future

Michael says that Tycon is determined to establish long-term business relationships and that the company had invested resources and energy accordingly. “We also cooperate with customers to work out technical difficulties and produce sound products. I believe that this attitude has strengthened trust in us. We study production progress in every weekly meeting. Our target is to raise the on-time delivery to achieve 100%. With products with a zero tolerance delay, we make specific arrangements to ensure their punctual delivery. The biggest challenge is costs. Both labour costs and the currency keep increasing, forming a significant challenge to export oriented enterprises like us. Our counter strike is to optimize production process and management with the aim of reducing costs. We wish to provide a more one-stop service. Besides the products that we produce, we also hope to further utilize our technical



Zhongshan – the new foundry’s planned location.

advantage and provide more professional services and value-added solutions. Our aim is to obtain more customers who pursue high value products because this enables us to make maximum use of our resources and skills. As for new products, in the future we hope to master the ceramic core technique and so produce more complicated components. We wish to become a professional supplier of stainless steel castings, especially high performance pump castings for the chemical, LNG, power generation, oil & gas, and food industries. We aim to be the preferred casting suppliers of more leading pump manufacturers. I’d like to emphasize that Tycon’s clients have our commitment that they receive only qualified products, which they can deploy immediately without any worry. Customer praise is the reason behind our sense of pride.”

TOTAL AREA - 100,000 m²
 Gross Floor Area (GFA) – 85,000 m²
 Office GFA – 6,700 m²
 Foundry GFA – 75,000 m²



Tycon Alloy: New Foundry Plan.

About Tycon Alloys



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: 1200 staff including 200 QA/QC and technicians.
 Locations: Hong Kong and Shenzhen, China
 Key markets: chemical, Power Generation, oil and gas, marine, food processing, medical.
 Website: www.tyconalloy.com

