HUNG-YIN ENTERPRISE's Screw Straightening Machine Outperforms Other Market Competitors

by Tanya Shih, Fastener World

General manager Wu-zhang Chang of Hung-Yin Enterprise developed a screw straightening machine as a replacement for conventional hydraulic straightening machines. The conventional models could only process 8-10 pcs per min., but the new model of Hung-Yin can straighten 50 or more pcs of long screws per min. (i.e., over 20,000 pcs per 8 hours). This model with highly efficient performance is becoming more and more popular around the global fastener industry. This new straightening machine has been patented in Taiwan, China, Korea, Vietnam, and Malaysia. 2 years after its debut, Hung-Yin still maintains the sales of at least 5 sets per month. On the day of this interview, general manager Chang was still busy in arranging the power distribution of the straightening machines which were almost ready to be shipped to Poland and Turkey.

A Layman Who Knows the Fastener Industry Well Gets a "Wow" from the Market

It has been only 3 years since Hung-Yin switched its business focus from knob molds R&D to fasteners and it did not take too long for its straightening machine to overwhelm the market, which thus encouraged Chang to seek further growth. So far, Hung-Yin has moved from a small 66 m^2 manufacturing site to a larger 397 m^2 factory which can accommodate 6 sets of straightening machines. It also plans to move again to a larger 6,611 m^2 new factory and will continue to offer straightening service to fastener manufacturers in Gangshan. When the construction of the new factory is completed, Hung-Yin will have an enough manufacturing site for straightening machines before they are assembled and shipped to customers.

Hung-Yin's remarkable performance makes people curious about why a layman that started his business in a non-fastener industry could finally make a success in the fastener industry. "Customers' voices are what we care about," said Chang. Many Taiwanese knob manufacturers had relocated factories abroad, so less demand for knob molds directly impacted Chang's previous business. Noticing the potential demand from Taiwanese fastener market and customers' demand in manufacturing process, Chang with 25 years of experience in molds development then devoted himself to the fastener industry and developed a precise and highly efficient straightening machine 3 years ago.

Excellent Performance That Draws Leading Manufacturers' Attention

Compared to other oil-pressure straightening machines, this new model is automatically controlled from feeding to straightening and is applicable to materials like steel, copper, aluminum, and iron, without damaging shanks and threads. 3 machines can be operated by only 1 man, which can greatly reduce the labor and time costs. Manufacturers adopting Hung-Yin straightening machines can temper long screws with less expensive continuous furnaces and the benefits it creates include not only lower manufacturing costs, but also shorter lead time as well as better quality control, best satisfying customers' demand.

Hung-Yin specializes in design and manufacture of straightening machines. In addition to the existing standard straightening machines, it can also manufacture other straightening machines and vibratory machines for certain lengths and diameters as per customer's requirement. Hung-Yin earned its reputation in the market within 3 years. Leading fastener suppliers like Jau Yeou, Dra-Goon, Kwantex, and even fasteners from Germany are all its service targets.

Interview with Fastener Machinery Experts

by Dean Tseng, Fastener World

An American market research reveals that by 2020 the market value of industrial fasteners will grow annually to USD 104.32 billion. For many years external threaded fasteners have been the largest demand market comprising over 40% of market shares. This is attributed not only to the increased fastener demand from the construction industry and automotive OEMs, but also to the fact that the demand of fastener machinery OEMs increased as well. Accordingly, the growth curve of fastener machinery will become a future focus. In light of this and in line with the coming exhibitions like Wire Düsseldorf and M-Tech Nagoya, this time Fastener World Magazine interviewed a total of six companies to bring you the latest status of fastener machinery market—including Hung-Yin Enterprise from Taiwan; renowned forming machine maker Nakashimada Engineering Works, high-speed thread roller maker O.S. Engineering Service and patented wire machinery maker Tanisaka Iron Works from Japan; fastener packing experts Weighpack from Netherlands and Skako from Germany.

Absolute Insistence on High Value Machine Pushes Sales to Near 10,000 Units

Nakashimada Engineering Works, Ltd.

by Dean Tseng, Fastener World

High Value Insistence Shapes Nakashimada's Uniqueness

Established in 1911, Nakashimada makes cold and hot headers and parts formers, providing tool design and manufacturing service, as well as professional training for machine operators. With 105 years of company history, it now has 140 employees, and branches or authorized agents in the U.S., Germany, Italy, Russia, S. Korea, Thailand, and China besides the Fukuoka headquarters and sales and service centers in Tokyo, Nagoya, and Osaka. It's accumulated machine sale is expected to breach the 10,000-unit mark! Its products are favored by the automotive, aviation, electronics, household appliance, clothing, stationary industries and more. Speaking of corporate strength, President Masahiro Nakashimada says "We are over 70% self-productive and 100% made in Japan. We highly regard 'precision'. Besides introducing highly precise machines, we are particular about human operation. Although this creates partial costs, the world's 'top companies' understand our uniqueness, and satisfying those companies is very important."

The company has established a sales network with the U.S. and Europe since the 1970s, while China and Thailand are its rapidly developing markets in the last 15 years. "China has been stuck in slower growth in the past two years, but there was not much influence upon us because initially our machines were a bit pricey to China. Nonetheless, we had been insisting on our principles and refused to mass-produce low cost machines for China. Eventually the Chinese customers started to understand the competitive edge of our machines and sales started to kick off. Despite the current slowdown of Chinese and Thai economies, our customers barely decrease. Instead, we continue to receive high quality enquiries in this sector. We will continue to offer value products to customers who know our uniqueness."

Value Up— "Residual Value" Machine Lease Program

Another thing special about the company is its "Residual Value" Machine Lease Program. "Customers expect to produce different products in a short time frame and thus hope to be able to rapidly change the machines purchased a few years ago. Our machines still have very high resell value within 5 to 10 years after rollout. The basic concept of the program is — Supposing that a machine will be returned within 5 years, we predict the price that the machine will become 5 years later, and lease the machine only at the price difference. This program is the combination of customer expectation and resell value. Expensive as our machines are, from the perspective of resell value, low initial cost and low operating cost, they are not expensive at all. I believe the future lease demand for machines will increase. Most importantly, the program should bring added values to the company and benefits to customers."

"Talents" & "Confidence" are the Strongest Weapons

The company is developing 10mm-diameter multi-station formers and 6mm 2D3B machines, tapping into completely different industries and pressed products. "Top customers' requirements on our industry have 4 points in common: (1) Machine precision; (2) R&D of highly difficult tools; (3) No product damage or mixed defective products; (4) Aftermarket service. The most important task in R&D is 'talents'. Passion, experience, teamwork awareness in making excellent products, and confidence are the best weapon for corporate sustainability."

Certified by ISO9001 and 14001, the company has around 70% of components self-produced, annually investing JPY 100-200 million in equipment. This year it not only introduces new production and quality control systems but also is evaluating on establishing training centers for both employees and customers. "I often think of this priority: 'People > Equipment > Profit'. If you otherwise only first think of profits and then buy minimum equipment and finally bring in operators, this type of logic is very dangerous. Employees training, their welfare, and good equipment are the foundation for profits."

Furthermore, 13 years ago the President met a college student specialized in cosmic mechanics, and eventually got to cooperate with Tohoku University through him on supporting "DOM Project", making satellite components. The satellite will take off from a space station during June and September this year. Nakashimada has been contributing to the aerospace development! Lastly, the President told us confidently, "We will center our focus on 'excellent product offer & social welfare', not only rolling out better product and service but also cultivating new-generation talents!"

The Outstanding Expert of Japanese High-speed Rotary Rolling Machine

O.S. Engineering Service (O.S.E.S.)

by Dean Tseng, Fastener World

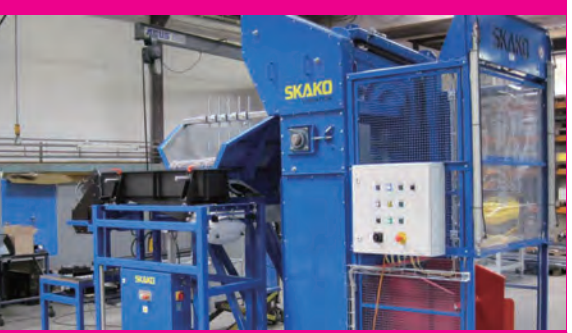
45 years ago, Mr. Koizumi Honen, the current president of O.S.E.S., entered Sakamura Machine Co., Ltd. At that time, the mainstream of mass-production type machinery in the industry was die plate rolling machine. Certainly, there were a part of the industry adopting expensive imported machines that were able to process at high speed. However, most companies in the industry at that time were small or medium sized, and therefore it was not easy for them to obtain expensive machines. Later on, as Japan entered the period of rapid economic growth, the fastener industry desperately expected Mr. Sakamura Yoshikazu, late president of Sakamura Machine Co., Ltd., to start manufacturing cheaper, easy-to-use, and high-speed domestic rotary rolling machines.

At that time, Koizumi Honen was an employee of Sakamura Machine Co., Ltd. He was in charge of developing "SAKAMURA Rotary Rolling Machine". Although he left Sakamura Machine afterwards, he never quit developing rotary rolling machines, even up to this date. O.S.E.S. not only sells all-new SAKAMURA rotary rolling machines, but also refurbishes old models and resells them whose quality are parallel to the current models. O.S.E.S. sells to the domestic market as well as Asia and the U.S. Does O.S.E.S. also provide value-added products besides mass-production type fastener processing machines? Koizumi Honen answers, "We respond to clients' needs and supply products with high added value, such as drain plugs used during rolling to prevent fasteners below 0.08mm from overturning. The use of drain plugs improves the degree of adhesion and reduces the use of sealing gaskets."

Koizumi Honen says, "Nowadays, mass-produced products in Japan are mostly processed by rotary rolling machines, while the rolling process after heat treatment adopts die plate rolling machines." On the other hand, what is the situation in other Asian countries? He adds, "In other Asian countries, die plate rolling machines are the overwhelming mainstream. Why is that? It is because the cost of tools has become a bottleneck for companies. Our tools, with their application range to M6 and above, are in no way inferior to other counterparts. No matter what it is, our rotary rolling machines are superior to tool costs in terms of maneuverability and maintenance, which is widely recognized throughout the industry. Especially when it comes to big sizes above M16, bonding with bolt forming machine makes consistent production possible and enables rotary rolling machines to achieve an overwhelming high-speed productivity." Bolt forming machines use high-speed press, while die plate rolling uses lower speed and increases product inventory. In order to maintain machinery precision for customers, O.S.E.S. implements regular check service under the ISO standards. Koizumi Honen told confidently, "We know every detail about rotary rolling machines. That is the technical capability we proudly have for our customers!"

SKAKO GmbH

SEMI-AUTOMATIC PACKAGING



The Semi-Automatic Packaging machine is a weighing and packaging system that can fill different kinds of carton boxes and plastic or steel returnable boxes (KLT's).

The system is easy to operate and reprogram and it has a compact, single floor design. The machine has an open construction which makes the process both accessible and easily monitored.

The system consists of a vibrating storage feeder, a vibrating conveyor feeder with special chute system and a table with integrated load cells and integrated sample/check weighing platform. The whole system is controlled by a Siemens PLC.

This flexible system can be configured in different sizes and can also be supplied with a lift and tip unit for easy loading. The lift tipper can be configured according to the customer's specific containers.

- LIFT TIPPER LTD200 + FEEDER FVR1120/2000
- Material: Fasteners such as Bolts, Nuts, Screws and Rivets
- Capacity: 2-4 Bulk boxes/min, 6-8 Small boxes/min
- Market: Hardware, Automotive Industry

Japanese Wire Machine Maker Favored Domestically & Abroad

Tanisaka Iron Works, Ltd.

by Dean Tseng, Fastener World

Tanisaka Iron Works is a secondary processing machinery company mainly manufacturing nail making machines, headers, thread rollers, wire drawing machines, supply stands, mechanical descalers, take-up device and more, as well as special machines including barbed wire machines and galvanized sheet corrugating machines. In 1914 the first former president Mr. Tanisaka Tokuichiro set up an iron factory in East Osaka, manufacturing wire drawing machines and reducers. In 1947, he started to repair transformers for Kansai Electric Power Co., Inc. In 1953 a succeeding former president established Tanisaka Iron Works, supplying machines to Japan, Southeast Asia, the U.S., Latin America, and Africa. Later on, the company started to produce horizontal thread rollers and then developed its own compact vertical thread rollers that could process 400 units of 4mm screws or nails per minute. The incumbent president, Mr. Tanisaka Akihiko says, "The development of our thread roller focuses on high speed and application to heat treated hardened screws, and therefore we have developed M8/M16 compliant machines and now are developing M12 compliant machines." The machines of Tanisaka Iron Works feature sturdiness, long life, high speed, and rigidity, and are supplied to construction and automotive material makers.

Patented Machine Development & Added Value

The company's wire take-up device has acquired a patent long ago. The mechanism of this device is- Drop the wire (up to 350 mpm) from the wire drawing portion down, and the take-up device below rotates synchronically and retrieves the wire, evenly placing the wire onto the carrier for storage. With this device, the packing of wire is improved, moving the wire is easier, and entanglement is eliminated during wire feeding in the next step.

Tanisaka Akihiko says, "The development of new machines originates from our customers' needs. For example, the longer the screw or nail, the larger the crank rod's eccentricity has to be modified. If the processing material has to be changed from iron to stainless steel, the use of bigger torque is imperative. If a customer complains that the slide component wears out too quickly, we will have to change the oil feeding method, alter the slide material, embed the temperature detector, add the protective device, or add a cooler for the slide component, making improvement through trials and errors."

The company's customers continue to use its machines even 30 or 50 years after they were manufactured. The customers ask for maintenance and component supply service, and the company keeps the original drawings and production lists. "Perhaps preserving these intellectual properties like we do is our added value." Additionally, with its long term experience in machine manufacturing and maintenance, the company also offers repair service for other machine brands.

China's Slowdown

The company once temporarily exported to China in the past. In recent years, China's economy and demand has slowed down, and that more or less has affected machinery demand. As I asked Tanisaka Akihiko about his opinion, he explained, "Generally speaking, the decreasing market demand in China led to decreased capacity in Japan and reduced domestic order intakes for Japanese makers, which correspondingly reduced the transactions of our company. In light of China's slowdown, if the Japanese companies in China shift their focus of production back to homeland Japan and aim at expanding Japan's market demand, perhaps they will be able to reduce the impact."

At the end of the interview, Tanisaka Akihiko would like to tell our dear readers: "For many years we have been in the wire forming related machine industry. In the future we will continue to respond to our customers' expectation, and improve and develop products with our unique ideas. I sincerely welcome your visits."

Weighpack- Not Only a Leap Forward

Years' Experience & Professional Team

Weighpack is a specialist in the design and manufacturing of inspection, weighing machines and complete packaging lines. The family of the current founder and owner Mr. Andries P. Kout started importing screws from the U.S. just after WWII. It was in that business that he first hand-packed and sorted screws using a simple balance scale. At that time Andries Kout learned the importance of sorting screws. In 1974 there was nothing on the market that could pack high unit weight, low volume products like fasteners, so Weighpack created a robust packaging machine that would cope with the weight of the product and the requirement for short runs and multiple changeovers every day.

Weighpack was, is and will be exclusively focusing on the design and manufacturing of hardware packaging systems. It has a network of reliable, knowledgeable agents across the world; each understanding the local market, speaking the local language, developing new and supporting established relationships. "Our after sales department will accompany the packaging machine from the factory acceptance test onwards throughout the complete operating life of the machine. At our after sales service the customer will find the right contact person for all topics related to his machine," said Mr. Andries Kout.

Innovative Designs and Better Technical Support

Weighpack has recently released an innovative nail packing solution with "a magnetic belt conveyor" design. Via a floor-stand bulk storage hopper, products are supplied to a magnetic belt conveyor, as an efficient way of lifting products to the weighing system and reducing the total height of the installation. The weighing system then supplies the correct weight to be dumped into the box, during which it will be magnetic orientated. Magnetic orientation means saving packaging volume and therefore increasing storage space.

Weighpack also offers its unique "WP Connect." "With our system we can create direct access to our PLC control units using Ethernet technology. Because usually not every machine and plant manufacturer has the necessary IT infrastructure for an own VPN server, therefore a central VPN access for software engineers, machine and service technicians is an ideal solution. It is a safe meeting point so to speak. This service assigns every wpNET router to a list and to a user group, so only specific users may access certain wpNET router," explained Mr. Andries Kout.

"Thinking Ahead"

Weighpack has accumulated an extraordinary depth of knowledge of packaging solutions for specific and demanding market sectors, which can be attested by over 1,200 systems installed worldwide (around 80% of them in fastener applications). Weighpack offers custom built packaging machines as per customer's request. Recent customers' requests are mainly for the DIN-Norm and DIY products in box packing and for non-standard and automotive fasteners in returnable boxes.

Worldwide Markets

Weighpack's main European market demands currently come from suppliers to the German automotive industry. The companies packing products in returnable (KLT) boxes are confronted with a growing demand for short, just-in-time flexibility of the packaging department. This requires an intelligent overall management software to safely handle sometimes up to 3 orders running on the same packaging line. The demand for corrosion free packing also has a growing demand for overseas transport of goods in returnable boxes. Weighpack will introduce a new concept for this type of corrosion free bag packing at Wire Düsseldorf.

The Asia markets show a higher demand for automations, although the Chinese needs are different from Europe and changing now it was all about productivity and less about accuracy. Although business slowed down after the anti-dumping duties were imposed, it sees that in Asia now it's about meeting the increasingly sophisticated requirements of domestic fastener and hardware consumers. For Weighpack this is an interesting development in the Chinese fastener industry. Cartons might still be hand assembled and the packed boxes will be manually stacked onto pallets. In between, automation has become crucial to ensure product quality, accurate pack count and consistent packaging and labelling presentation.

Weighpack's products have been adopted in Americas, Europe, Asia, Africa and the Middle East. The fact that its customers run their equipment all year long without problems is the best feedback and acknowledgement of its solutions. With a new company logo after 40 years of existence, Weighpack will highlight an era of new technological developments and constant improvements.

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