



## Feature of This Month: Masters of Exquisite **SMALL SCREWS**

*by Dean Tseng, Fastener World*

**S**mall screws are generally referred to as high-end fasteners used in electronics, medical equipment, automotive instrument clusters and so on, but they actually have a much wider range of application covering SEMS and special parts. You can see their traces even in aerospace and household appliances markets. Here we briefly define small screws as screws going by the size of M1 to M6. In Japan and the U.S., the development of small screws goes “downward” to the precision range of “sub-M1,” namely sizes below M1. Such screws are called miniature screws or micro-screws which would require a magnifying glass to take a closer look.

For manufacturers to produce a screw so small that we would hardly notice its existence, you can imagine how much precision they would have to strive to achieve, how much brainwork is needed for them to come up with a torque design that doesn't break the screw, and how tight the tolerance they must pursue to ensure that the screw fits the mating part in a very limited space. It's not an overstatement to say crafting small screws is like crafting exquisite products.



A lot of Taiwanese fastener companies provide screws below M6. Thanks to effective work division in Taiwan's fastener supply chain, Taiwanese small screws demonstrate quality on par with those in the U.S., Europe and Japan and have earned a position in the overseas medium and high-end markets. One of the big shot companies in small screws is ScrewTech Industry, whose extraordinary R&D capability and the ability to communicate designs with the development engineers of clients make itself a famous brand in the electronics and automotive markets. Another one providing small screws is William Specialty Industry with a reputation in the U.S., Eastern Europe, the Middle East and Latin America. Its philosophy of “accurate source control” and its own exquisite brand capture the heart of overseas customers.

Besides Taiwan, there are manufacturers from other countries such as the Indian Sanghvi Fasteners with price-competitiveness, high quality and all-inclusive supply, the Japanese Sakae Screw Manufacturing which is a master in SEMS, and the Japanese Matsumoto Industry whose founder turned his business from crops growing to self-taught screw manufacture. Check out this feature for a full coverage of small screw masters with their respective strengths in R&D, branding and supply.



# WILLIAM SPECIALTY

## is All About Precision & Accuracy: Premium Solutions Covering Quality, Cost, Lead Time

by Dean Tseng, *Fastener World*

A fastener manufacturer and exporter, WILLIAM is a reputable company in the U.S., Eastern Europe, the Mid-East and Latin America. It supplies construction fasteners, electronic fasteners and non-safety auto-part fasteners, including wood screws, self-drilling screws, trilobular thread screws, machine screws, collated screws, and special screws. In 2009 it expanded its plant, adding heading machines, threading machines and other equipment. In 2013, it rolled out its own brand “William” that captivates overseas customers with high quality and exquisite box-design. *Fastener World Magazine* talked with President, Mr. William Doong in an interview on how he captures every customer’s heart.

### Source Control— WILLIAM’s Philosophy of “Accuracy”

William asks that everyone in the company must have good understanding of customers’ demands from the moment they take incoming orders. The first thing he told *Fastener World*, “Salespeople aren’t just about sales. They should take a step further and do more than the function of a sales department.” Namely, one of the features of WILLIAM is that its sales department must acquire the knowledge of capacity, QC, lead time, manufacturing, box design, packaging etc., connecting the dots of sales, manufacturing, packaging and delivery into their specialty. “Prior to entering



production, we will have already discussed through all the details of every process to delivery. We even arrange maximized loadable quantity in every shipment for customers at the time of order acceptance to minimize their costs. They just hand over orders to us, sit back and relax while waiting for their ordered products arriving at their destination. Our goal is error-free order performance and zero customer complaint.”

Speaking of WILLIAM’s management, there is one thing you shouldn’t overlook. That is, how meticulous he is about the details of procedure control. He requires that risks must be verified, and screw drawings be approved at the point of order confirmation. Production must comply with the discussed international standard. Much more, he requires his staff to narrow dimensional tolerances, so as to ensure outgoing products make a perfect fit for every customer. For quality inspection, WILLIAM does timely checks during producing, and conducts pre-shipment inspection at its own TAF-certified lab. The products will be handed to the packaging department for shipment only if they are perfect.

### Delivering Products in Exquisite Packages

As the interview continued, we found another attraction of WILLIAM in its packaging department. There is no doubt about WILLIAM’s completely standardized packaging process running at high speed with square and fit pack boxes. The point, however, is the labels on the boxes. “There’s a standard format for our box labels. We can custom design boxes or cartons at their own logos on clients’ demands, their specified fonts, barcodes, product images, color markings and so on will be also included. You can already tell which product of which specification from which company is inside by a look of a box or a carton, without opening it.” Hence, it is evident to say that thoughtfulness, meticulous attitude and sense of trust are William’s secrets to captivating customers.

### WILLIAM Gets Closer to Every Demand & Pursues Excellence in 21st Anniversary

William said his company has entered its 21st year and continues to get its ISO, CE and TAF certificates audited every year and necessarily renewed. New products are under development and hopefully will be patented in the future. The “William” products are marketed throughout 5 continents across the world with numerous loyal clients. In addition to existing clients, William welcomes global traders for export collaboration.



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# The Big Shot Company in Exquisite Level Small Screws

## SCREWTECH

ScrewTech started with small screws when it opened business in 1998. In the last 21 years, it rolled out electronic/automotive/medical fasteners, special precision fasteners, special SEMS, lathed parts, and springs within M1 to M14. Among its product line are small screws mostly applied in electronics (e.g., fastening solid-state drives), medical industry, automobile (e.g., fastening instrument clusters or car lamps), and other high-end applications.

### Extraordinary R&D Capability Recognized Worldwide

In my interview with CEO Fion Peng, she pointed out from the beginning that the top strength of ScrewTech is the ability to communicate custom design (including fastening length, thread shape, mating parts, design for restricted space) directly with

by Dean Tseng, Fastener World

the development engineers of domestic and foreign clients. ScrewTech can open a direct discussion with the R&D staff of overseas clients, and then the clients will hand over the discussed design to OEMs for unified and compliant manufacture. This provides reduced development time frame, cost and errors for ScrewTech, clients and OEMs.

Fion gave an example that her company is developing a screw with a special function allowing clients to quickly tell if the screw has already been used. This function will be used to determine whether a product is eligible for warranty. The development is going well and the screw is expected to become a patented product of ScrewTech.

### Ensuring High Standard Quality

ScrewTech has acquired ISO9001 and IATF16949 and is working on acquiring QC080000 (Hazardous Substance Process Management), HSF (Hazardous Substance Free), and ISO 14001. The company is equipped with various inspection equipment including KEYENCE 3D measurement instruments, torque testers, hydrogen embrittlement testers, concentricity gages, and salt spray testers. Also, the products will go through AQL-certified random check, optical sorting and full inspection. Before entering production, drawings are handed to at least 3 people for assessment and checks to make sure the designs are compatible to clients' desired torque and other requirements.

"I often say to employees that our products ought to be the representation of high standard quality. Our people should think of themselves as working at an exquisite goods factory and they should deliver products that are worth the high value of exquisite goods," said Fion. She requires her production line operators to pursue perfection in product appearance and performance: "Treat the screws like you would care for your own children."

### Flexibility & Barrier-free Communication

ScrewTech offers flexible lead times corresponding to your immediate orders. Fion told that she had booked a whole line of furnaces just to complete a client's immediate order. Furthermore, she hired a Canadian sales manager to be a contact exclusively for overseas customers. The manager ensures barrier-free communication with them and seeks more American and European orders for ScrewTech. "Come to ScrewTech and we welcome domestic and overseas customers looking for any customized precision fasteners."

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ScrewTech's contacts

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# SANGHVI FASTNERS

## All-in-One Fastening Solutions

### Straight from India

by Dean Tseng, Fastener World

Sanghvi Fasteners was established in 1985 with a vision to give all round fastening solutions to various OEMs and provides 360 degree one-stop solution to various requirements of industrial hardware. Since that day it has evolved into a renowned manufacturer and dealer of various types of fastening hardware. With experience of 33 plus years, more than 600 clients and a product range of 900 types of threaded hardware, the company is a reputed name in the industry today. Its main focus is to provide customised kitting solutions to various OEMs according to their bill of materials (BOM) per machine requirements. Also the ability to give technical assistance as well as the adaptability to customised requirements is its unique selling point. I was approached by the company's quality manager and interviewed Mr. Bhaumik Sanghvi, president of Sanghvi Fasteners, straight from the exhibition ENGIMACH 2019 in India.

### Assorted Fasteners Providing 360 Degree Solutions At Your Disposal

### Low Cost, High Quality & Flexible Response

"We are primarily into different types of screws and Allen bolts, said Bhaumik, "ranging from No. 2 to No. 12 in self tapping screws and from 2 mm to 8 mm in machine screws. The length we can provide is from 5 mm to 120 mm. For Allen bolts, they vary from 6 mm to 12 mm in diameter. All types of consumer electronics, automotive parts manufacturers and furniture makers are our major clients."

"Along with screws we deal in high tensile Allen bolts, MS washers, ME and HT hex bolts and nuts. Our product range has more than 900 types of fastening hardware. You pick it and we manufacture/ procure it for you. That's why we say we are a 360 degree fastening solution company."

### ISO 9001-certified with Material Test Certificate

The president added that his company is certified to ISO 9001 and that his products are quality-guaranteed with material test certificate. "We have qualified quality check managers who are on their toes at every stage of production to test the samples. We make sure



we don't overuse the tooling and change it before it has more wear and tear."

Sanghvi Fasteners understands the specific requirement and does reverse calculation on the quantity, design and complexity of products. Based upon that, it decides whether to manufacture or import/procure. This is very individual and case-to-case and depends on what is required and in how much quantity.

### Open for Direct Export & More Appearance in Exhibitions

"Right now we are not selling directly to other countries, said the president, "but the dealers to whom we supply and the machines in which our products are used are exported to countries like Brazil, Mexico, Saudi Arabia, South Africa, Australia and a few countries in Eastern Europe. However, we are open for direct export if and when an opportunity arises."

That being said, the company is looking to exhibit in a couple of fasteners and electronics-related exhibitions. For 2020 it is targeting a 25 percent growth on topline and planning to increase the number of clients by 10 percent. "Do contact us or visit us in person when you are here in India!"

#### Sanghvi Fasteners' contact:

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# Expert-grade Customizable SEMS Provider from Japan

## SAKAE SCREW MANUFACTURING CO., LTD.

*by Dean Tseng, Fastener World*



The '60s was the heyday for Japan strutting its stuff when it marked the record of the highest and unrivaled economic growth at the time in the world. In 1968 the nation swept the world with not only its economic success but also its national athletes making historical achievements in Mexico Olympics. That was the year the founder of the company "Sakae" kicked off his career as an OEM in Eastern Osaka. 50 years later, Sakae has grown into a maker of assorted fasteners including hexagon bolts, weld bolts, rivets, tapping screws, threaded rods and special screws, with a primary focus on SEMS.

### Having a Request for Special SEMS?

#### Sakae Got You Covered!

"We can produce special fasteners that other rivals find difficult to manufacture and give up on," said the company. "To produce special fastener shapes, we would propose the materials for use and repeatedly correct the shapes. The final products we make are highly acclaimed by our clients. This is a high challenge that we find very much rewarding."

A typical example of the high challenge is producing



special SEMS used for thin plates. The company did it by shrinking the incomplete threads portion to a width even smaller than the width of the assembled pan washer or spring washer so that the SEMS can fasten up very thin plates. Generally, shrinking the incomplete threads portion to make it thinner than the assembled washer could cause damage on the washer, but Sakae utilizes unique craftsmanship to produce damage-free SEMS used for thin plates. Today Sakae's thin plate SEMS are widely used on hybrids produced by a renowned carmaker.

### Quality Policy Compliant to Users' Stringent Requirements

"Lately our users have higher and stricter requirements. To that end, our heading and threading machines are integrated with a device inspecting incompliant workpieces. We are incorporating visual sorting machines as well, and holding training sessions to improve quality awareness of our employees."

"The success of our business is supported by 4 of our top strengths," continued the company, "and they are the proposal capability backed by our knowhow, our catering to the clients in their standpoint, our spirit of taking on challenges and not fearing failures, and our joy in manufacturing as well as our contribution to the society."

### Expert Challenge Taker in Manufacturing

In recent years Sakae added equipment and set up a new plant to quickly cope with the increasing users demand. Although Sakae has not traded with overseas companies so far, given the current decreasing demand in the Japanese market, the company is actively preparing for transactions with overseas users. Looking ahead, "We are not complacent with the status quo and we will keep ourselves a step ahead of rivals. As we continue to provide satisfactory products, we are hardwired to our spirit of taking challenges and strive to take a leap forward."

#### Sakae's contact:

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# Self-taught 0.6mm-4mm Small Screw Expert MATSUMOTO INDUSTRY CO., LTD.

by Dean Tseng, Fastener World

The founder of Matsumoto Industry is Mr. Shinichi Matsumoto, a 3rd-generation farmer who decided to cut off from the unpromising farming business and started a new career as a fastener trader. He built a small factory on his land and went from a seller to a manufacturer of fasteners. Unlike some who used to be apprentices at other fastener companies, he never stayed elsewhere but his own factory where he taught himself the know-how to manufacture fasteners. Now the torch of the family business is in the palms of Mr. Shinsuke Matsumoto, the current president of the company which produces 100 million pieces of fasteners per month available in 20 thousand types.

The company provides small screws (metric/inch), tapping screws, and micro/minature screws in materials including iron, stainless steel, brass, titanium, aluminum, and copper, and sizes from 0.6mm to 4mm in diameter. Besides orders for batch production, the company accepts orders even for as few as only one piece of custom-made fastener.

About 3 years ago, Shinsuke's small screws were used on a Brazilian nanosatellite called "SERPENS" (10cm in width, 30cm in length, and 4kg in mass) used for collecting weather data transmitted from ground sensors. The precision and quality of Matsumoto Industry's products is a proven fact.

## Acquired Manufacturing License of "Noji Lock", The Anti-loosening Screw

The patent holder of Noji Lock anti-loosening screw is Fastener Giken in Saitama Prefecture of Japan. Matsumoto Industry acquired the manufacture, marketing and sales license of Noji Lock in 1996. Without the use of adhesives, Noji Lock was designed to prevent loosening using its own structure. Viewing from the thread crests to the thread roots you see something like a fish gill or fishhook. As time passes, the engaged female threads wrap the threaded portion of Noji Lock, creating better locking. Depending on various female threads, the longer the time, the higher loosening torque is required to loosen the threads, and hence better locking performance.



## Coping with Customized Requests

For custom orders, the company assesses and determines whether to process the whole order or outsource a part of it to collaborators, and asks customers about their budget. "If you want to try out our quality, you are welcome to order just one piece of our products from our stock or online shop. We have actually had customers from Taiwan who did this and we expect to see more of such customers especially from Asia such as Hong Kong, China, Malaysia, Thailand, Singapore, South Korea, and some other regions of the world," said Shinsuke. "We even accept difficult orders rejected by other counterparts."

## Opening up Sales Abroad

Shinsuke said his greatest achievement for this company was when he launched an online shop and began transaction with overseas customers. "Previously our orders had been domestic, but lately we have exported products and completed orders from overseas customers. I'm surprised the online platform has brought inquiries from people who I would have never expected." He continued, "We stand in the shoes of customers to manufacture fasteners that satisfy them. We look forward to your orders for trial or batch production."

### Matsumoto Industry's contact:

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