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Flexcon Industries

Tank manufacturer's success stems from people, innovation, quality.

By Jennifer Strawn

If you ask George Simas, president and chief operating officer of Flexcon Industries, there are three keys to the company's success — people, innovation, and quality.

And he feels like he can't stress those three things enough.

Those three components, he says, were what Flexcon Industries was founded upon and are what makes the company one of the largest producers of diaphragm tanks in the Western Hemisphere.

If he were to rank the importance of each part of the equation, though, people would come out on top. After all, good employees help fuel innovation and ensure quality.

"When I make a list, I always like to put people first," Simas says. "Our employees are our most important asset."

People — the Company's Foundation

But it's not just the employees who have made Flexcon Industries the company it is today, but also the customers.

In fact, Flexcon Industries grew out of customer suggestions. In the early 1980s, Emerson-Swan, a manufacturer's representative owned by the Swan Group, began asking its customers what products they would like to see Emerson-Swan sell. A significant number of customers responded that they had a need for expansion tanks for use in forced hot water heating systems.

At the time only one company sold such tanks in the United States, so when they couldn't locate a domestic producer, Emerson-Swan began importing tanks from a leading European company, Flamco. The tanks became so popular that the Swan Group decided it wanted to branch out into the water systems market with a brand new product line.

Innovation Fuels the Company's Product Lines

So, Flexcon Industries began in 1988 as a partnership between the Swan Group and Flamco. When the company first started, though, it didn't exactly have a product for the water well industry. Its plan was to design an innovative tank, one that wasn't simply another version of what was already available on the market, and then develop the manufacturing facility around that design.

"What we did was look at the products that were available on the market — the single diaphragm tank and the bladder tank — and we identified the strengths and weaknesses of each," explains Gerry Duggan, vice president of sales and marketing at Flexcon. "We looked at the diaphragm-type tank and there were a lot of things we liked about it, one of the most important being the fact that it used a butyl rubber diaphragm."

Butyl rubber is good for diaphragm-type tanks because of its mechanical properties; it bends and



A Flexcon Industries employee welds a steel tank. Each tank is made with a three-piece construction.

stretches, and it doesn't let air pass through it very easily. But diaphragm-type tanks had some weaknesses, which Flexcon felt a bladder design answered.

"In a bladder tank, water was totally encapsulated in one water chamber. It didn't rely on the tank wall for the structural integrity of the water chamber like a single diaphragm-type tank would," Duggan describes.

Thus, Flexcon Industries designed what it calls a controlled action diaphragm (CAD), which took the best of what each tank type had to offer and combined it into one pre-pressurized diaphragm expansion tank. The patented double-diaphragm was made entirely of butyl rubber and was placed in a pre-pressurized steel tank that was designed to reduce condensation on the outside of the tank and force the diaphragm to expand and contract the exact same way with every cycle.

Once the company had come up with the design, it settled into its new headquarters and manufacturing facility in Randolph, Massachusetts — just outside of Boston — and prepared to introduce it to the ground water industry at the 1988 NGWA Ground Water Expo.

The patented CAD design took off because installers understood its advantages, and within a few years Flexcon Industries had become the second largest manufacturer of diaphragm tanks in the United States.

By 2000, the Swan Group bought out Flamco and became the sole owner of Flexcon. Shortly thereafter, focusing on opportunities in the international market, Flexcon partnered with a manufacturing company in Taichung, Taiwan, which produces smaller-capacity

The patented CAD 2 design features a water chamber with a copolymer polypropylene bottom and a butyl rubber upper chamber. It also addresses some limitations of the original CAD design. For one, it eliminates any rubber-to-rubber abrasion that may have occurred in a water chamber made completely of rubber and it also reduces the permeable surface area of the water chamber by 50 percent, both of which lead to longer tank life.

"Two years ago we decided to make a considerable investment in composite tank technology to offer the market a better choice. By combining the proven features of our CAD design with the latest developments in composite vessel design, we feel we have produced the finest composite tank available today," says Tom Swan, founder and chief executive officer of Flexcon Industries

Some customers choose composite tanks over steel because they are corrosion resistant and lighter than a steel tank. A 120-gallon steel tank weighs 153 pounds whereas a composite tank of the same size weighs only 91 pounds.

"It may become important to our contractors because a lot of times when they're installing or changing a pressure tank they'll send one man out on the job. When you see the physical size of a 120-gallon steel tank — it takes more than one man to handle it," Duggan explains. "The composite tank is still big, but it weighs less than 100 pounds."

Ensuring Quality Through Testing

Quality is another key to Flexcon Industries' business strategy. One way it ensures quality is to sell only through the professional market. Flexcon sells to major industry wholesalers and large original equipment manufacturers (OEMs). You won't find

their tanks sitting on the shelves of your local Home Depot or Lowe's.

Another part of maintaining quality is testing the tank throughout the design and production process. Before a new product even makes it to the market, it's tested in real-world situations — even if that means installing it on an employee's private well.

Ten years ago, Duggan moved to a home with a private well system, and since moving he has had several tanks tested at his home.

"The tanks are designed to last 10 years or more, but since I've moved I have probably had four different prototype tanks," he laughs.

But in all seriousness, the testing helps the company to design a better quality product, he explains. "We use my house as part of our field testing and examine the tanks in the lab after they have been in service."

Testing also occurs throughout the production process. Each tank is quality tested at four different stages on the production line. The materials are tested before the construction of the tank even starts. Every tank undergoes helium and high pressure tests to ensure the structural integrity of the product.

And what if a tank still fails for some reason? Flexcon uses what Duggan describes as the company's "crime scene laboratory" to find the exact reason the tank didn't work the way it should. This helps them to identify any areas that would need to be addressed.



The company's composite tanks are primarily constructed by robot arms. The Flex-Lite tanks are the only composite tanks on the market featuring a double-diaphragm.

Thus, it circles back to the customer. Flexcon tests each tank so that the contractor can be sure that when they install the tank for a consumer it's going to work the way it should.

That's probably the reason why company president Simas points to people as the No.1 component. Employees and customers have been instrumental to almost every part of Flexcon's history, whether it's customer requests that sparked the Swan Group's interest in water systems, customer suggestions that fueled product improvements and product innovations, or a four-step testing process that ensures the customer receives a quality tank every time.

"We believe in our people, the quality of our products, and the market that we are serving," Simas concludes. "That's something you cannot talk about for long unless you really believe it." [WWW](http://www.flexcon.com)



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