HSI SENSING

Chickasha's family-owned HSI Sensing pioneers new applications for old technology

Over the past 50 years, Chickasha-based HSI Sensing has developed a wide array of new applications for a technology invented in the 1930s by a Bell Laboratories engineer. It is called the reed switch.

CEO Ryan Posey was deep into the story recently of how his grandfather, the late William Posey, founded HSI Sensing in 1968 when a question interrupted the monologue.

“What’s a reed switch?”

Posey patiently explained that a reed switch consists of two pieces of metal sealed in glass, designed to open and close an electrical circuit.

“It’s a magnetically operated switch,” Posey said. “In the presence of magnetism, the magnetism closes the gap between the metal pieces. If the magnetism goes away, it opens the gap. It’s a very simple concept, but surprisingly difficult to make.”

The electrical circuit activated by a reed switch can control the operation of many types of devices such as defibrillators, fluid control valves, security systems, MRI machines and countless others. Reed switches are safe for use in explosive environments because the glass seal prevents any sparking and are dependable enough to be used on high performance aircraft.

Founded as Hermetic Switch Inc., family-owned HSI Sensing is a multimillion-dollar manufacturing company that designs, develops and manufactures reed switches, proximity sensors and other sensing technologies. It employs 180 people and ships 50,000 to 100,000 custom-made reed switches and proximity sensors a week to clients around the world.

Ryan Posey, 37, is the third generation of his family to lead the business, following in the footsteps of both his grandfather and his father, David. Ryan Posey’s cousin, Travis, 39, serves as vice president of business development.

The reed switch was invented as a device to electronically connect parties on a telephone call. It replaced the switchboard in which operators manually connected calls.

At the time, William Posey was a New Jersey-based engineer for a division of GE that was hired to manufacture reed switches.

“He was very instrumental in creating the technology and the process to make the switches,” Ryan Posey said. “He fell in love with the technology.”

Eventually, William Posey followed his entrepreneurial desire and returned to his native Oklahoma to found the company in Chickasha. He began innovating reed switch improvements and was awarded five patents along the way.

David Posey, now retired as HSI Sensing CEO, owns three patents in his name.

“The reed switch has changed to grow much bigger – and smaller,” Ryan Posey said. “We’ve made it smaller so that it can fit inside a pacemaker or defibrillator. It has also gotten bigger so that we can handle higher voltages. We are still innovating.”

A tour of HSI Sensing’s manufacturing floor revealed the diversity of products it produces. In one area were sensors designed to fit on the sides of giant storage tanks to sense the level of fluids. In another, workers were using tweezers to place pieces of metal no larger than fingernail clippings into a glass enclosure.

“These are the world’s smallest reed switches,” Travis Posey said as heat was applied to a sliver of glass to seal it off. “These sensors are used in pacemakers, implantable defibrillators, nerve stimulation therapy, hearing aids and on server main frame hard drives.”

HSI Sensing also has broadened the range of technologies it produces to include other types of sensing devices that sense proximity. It employs 10 engineers who develop new products designed to solve specific customer problems.

In 2015, the company expanded by acquiring San Diego-based Genisco Filter, which manufactures electromagnetic filters that can protect electronics inside a laboratory or those in a large data center.

“We felt like it was time for us to grow beyond our own walls and take on another technology for diversification,” Ryan Posey said. “We understand and felt like a core competency of ours is custom made electronics that are in a high performance segment. And Genisco lines up with that.”

Along the way, HSI Sensing benefitted from a relationship established with the Oklahoma Center for the Advancement of Science and Technology (OCAST) and the Oklahoma Manufacturing Alliance.

“Oklahoma has been very supportive and has a great network that we’ve utilized,” Ryan Posey said. “OCAST, our career tech centers, we have a great relationship with them. The Manufacturing Alliance has been great. I feel good about Oklahoma and doing business here and as a business-friendly state all around.””

Read the article in the 3-20-18 Oklahoman

Watch the video

Go to the HSI website