

The sky's the limit for ozone company Plasma Technics

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RACINE — Chuck Smith remembers well the day Bud Francis, an inventor and president of Plasma Technics here, sent him an ozone generator to try. It was almost 10 years ago, said Smith, president of Guardian Manufacturing in Cocoa, Fla. Guardian integrates components into ozone systems; ozone is widely used in industry and by municipalities as a powerful disinfectant.

“It essentially can sterilize water just like boiling,” Francis said, “but with very low energy because no heat is required.” So ozone has built-in advantages over heat and harsh chemicals for disinfecting.

However, Smith said, “traditionally, ozone generators over the years had a reputation for being very unreliable.”

He set up that early ozone generator from Francis in an onion storage facility in Vidalia, Ga. — ozone is used to keep produce from ripening — to give it the toughest test he could.

In that onion storage building, Smith said, “there’s tons of particulate matter floating around in the air, it’s about 120 degrees inside, and you don’t really have operators that are trying to take care of the equipment.”

His verdict: “I put it in the harshest environment I could, and it did fine.

“Everything I ever built didn’t survive,” Smith said. “I quit building what I was building and immediately ordered his product.”

Guardian, a company with about \$20 million in annual revenues and 60 employees, still buys its ozone cells and generators from Plasma Technics, 1900 William St.

“I have bought probably well over 1,000 of his ozone-generating systems,” Smith said. “They’re reliable, reasonably priced and you just can’t buy that kind of product, with that kind of quality, anywhere else in the world.”

Smith’s enthusiasm about Plasma Technics’ ozone components make some of Francis’ statements about his company sound less like hyperbole and more plausible. For example, Francis, whose background is electrical engineering and who holds about 14 U.S. and international patents, said, “We really have no competitors. No one else does what we do.”

He also said the company he started about 20 years ago — which is about to start an addition that will double square footage — has had 20 percent to 50 percent growth every year.

But Francis keeps it small, about eight people currently, by buying parts from Racine and Milwaukee area shops and buying outside technical services from about a dozen engineers.

“If you look at the amount of production, we probably look like we have 150 people,” Francis said.

Ozone is naturally formed by ultraviolet radiation or by lightning, he said. His method is closest to using lightning: High voltage excites pure oxygen to create ozone.

Plasma Technics components are built into systems suited to particular uses.

“It’s like we’re providing an engine and transmission” for another company’s car, said Francis’ son, Eric, the operations manager.

Their ozone-generating components are only about one-third the size of others making the same amount, the Francises said. And Bud Francis said his firm has the broadest product range in ozone subsystems.

Product prices can range from \$25 to \$30 for a hot-tub unit to \$12,000 to \$15,000 for an ozone-making plasma block. The block uses include municipal water and wastewater treatment, ship ballast water purification, industrial odor removal and many others.

“What we really have is an industrial-strength product that is energy-efficient, silent and compact” — silent because they operate at a frequency above the human audible range, Bud Francis said.

“To work at a high frequency, it must be mechanically very precise.”

Another claim from him that could seem like exaggeration: “We have as efficient a product as anybody’s ever made.”

Paul Overbeck, executive director of the International Ozone Association, said Plasma Technics products are indeed compact and efficient. And he said silence is unusual in smaller ozone-generating systems.

Overbeck said Plasma Technics is probably one of fewer than 30 companies worldwide making the key components — the power supplies and generating cells — for ozone systems.

Guardian Manufacturing's Smith said of Bud Francis: "I think he will wind up being the leader in this industry, if he's not already."

Bud Francis said Plasma Technics also has something that will be "seriously big:" a joint development agreement with an unnamed multinational company. They want to develop shipboard ozone systems to treat ballast water at the discharge rate.

"We have the only system that will do that," Bud Francis said, "and (shipping) is a \$35 billion industry."

"This 50 percent growth," he predicted, "will be trivial pretty soon."