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Technology

Nitrogen gas company bumps up technology

By Andrew Gray

June 26, 2009

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South-Tek Systems, a Wilmington-based nitrogen generator engineering and manufacturing company, now offers customers a digital meter that can accurately verify a customer's nitrogen requirements.

The meter ensures that any new equipment will be sized accurately and appropriately for the flow requirements of a customer's application.

According to Charles Metzler, company co-founder, nitrogen gas is used as part of a wide range of applications. For example, nitrogen gas is used to inflate bags of potato chips, to aid the growth of embryos in fertility clinics, to protect sophisticated military optics systems from harsh environments and ensure the last bit of beer is sold from a keg.

South-Tek Systems provides nitrogen generation equipment that removes the 22 percent of the atmosphere that is not nitrogen to create pure N2 gas. According to Metzler, South-Tek's equipment replaces traditional bottled liquid nitrogen systems, by producing the nitrogen on site.

Liquid nitrogen is produced by cooling air to -320 degrees F, the point at which nitrogen converts from a gas to a liquid, and is stored under pressure. South-Tek offers equipment using two different methods to extract nitrogen from air. Pure nitrogen (99.9 percent pure) is produced with special membrane that only allows nitrogen to penetrate.

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South-Tek was started in 1997, where Metzler and three others built nitrogen generators in their garage.

Now employing 17 people in their new 10,000-square-foot manufacturing facility in Wilmington and four in Raleigh, the company provides nitrogen generation for industrial, military and retail applications.

South-Tek is a government supply agency contract holder and provides nitrogen generation equipment for military night vision equipment currently being used in Iraq and Afghanistan.

In these applications, nitrogen helps to drive out air and moisture to protect the equipment from the environment.

Metzler estimates that 40 percent of their business is based on generating nitrogen for bar beverage systems.

According to Metzler, the company has 3,500 of their patented BeerBlast, beer serving systems, in the field.

The system uses a mix of nitrogen and compressed CO2 to improve the percentage of beer that can be removed from a keg.

Metzler explained that CO2 alone produces too much foam inside a keg and can cause up to 15 percent of the volume of beer to remain inside. "N2 allows CO2 to come out of solutions, since it is a large molecule," said Metzler.

South-Tek plans to expand to 20-25 employees in Wilmington by the end of the year and is currently looking to hire another engineer.

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