

# Haun Specialty Gases' High Efficiency—and Very Large—Gas Fill Plant

## A CryoGas International Business Report

For four generations, the Haun family has been a major supplier of welding and industrial gas products, training, and repair for Upstate New York, Western and Northern Vermont, and Northern Pennsylvania. Haun Welding Supply's 16 stores are relied upon by multiple industries, including construction, fabrication, manufacturing, commercial, medical laboratories, education, and even homeowners.

Gas supply is one of Haun's major market segments, and increasing demand led to the creation in 2005 of Haun Specialty Gases, a high-efficiency gas fill plant that supplies high pressure industrial and medical gases, as well as high purity specialty gases. Haun recently moved the gas plant into a new headquarters that boasts what is believed to be the largest fill island in the country at 120 feet long and 20 feet wide. In addition, the new plant is fully automated for all high pressure and liquid gases—also a first in the industry.

*CryoGas International* sat down with company President Mark Haun and Vice President of Operations Al Dohrn, along with CryoVation President Ric Boyd, to learn more about what the state-of-the-art plant means for Haun and his customers.

**CryoGas International (CryoGas):** Mark, the new facility is very impressive. What was your original goal for moving and expanding the plant?

**Mark Haun (Haun):** We needed more room, both indoors and outdoors. We handled too many cylinders and had too many trucks for the space we had to work in. Half of the cylinders waiting to be filled had to spend time outside before they could come in for filling because of the lack of space. Staging cylinders outside in the Northeast is not a good idea. We have to remove snow and ice from the tops before they can be filled during winter months. Additionally, there

wasn't enough room in the plant to stage for truck loading, or to sort efficiently. Cylinders had to be touched far too many times before they could be filled, wasting time and money. Another side benefit to increasing our space was to bring everyone under one roof to make them feel more like a part of the larger organization.

**CryoGas:** What prompted you to decide that the new plant should be completely automated for all products—high pressure, liquids, and carbon dioxide?

**Haun:** This is simple to answer—to improve productivity. There is no value to the



Automated oxygen filling system

customer in a high-cost producer. We expect to be about 30 percent more efficient with our new fill plant.

**CryoGas:** We understand that this is where CryoVation comes in. It provided the design, manufacture, and installation of the plant and the technology. Ric Boyd, CryoVation's founder, has been developing automated control systems for more than three decades. Ric, what were the design challenges for the Haun plant, and how did you meet them?

**Ric Boyd (Boyd):** With every new plant, we always attempt to improve upon the last and incorporate ideas that are important to the cus-



Fully automated mix gas system



New Haun Specialty Gases plant boasts a 120 x 20-foot fill island with traversing manifolds.

***“Once you get the recipes established, the computer controls the filling process. Our guys can move on to the next piece of work and concentrate on managing cylinder distribution and setting up for the next fill instead of being tied to the pumping process.”***

**—Mark Haun**

tomers. With the Haun system, it was important that the traversing manifold structure accommodate as many cylinders as possible and that all would be mounted from above to eliminate any obstructions, such as legs and cylinder supports. We designed their system accordingly, with a 20-foot-wide by 120-foot-long structure.

Aside from the actual automation, it was important to Haun to have these systems networked together to provide data. CryoVation networked the plant's automated high pressure (oxygen and mixes), automated liquid cylinder filling, and automated CO<sub>2</sub> filling together to accomplish this.

**CryoGas:** Mark, can you tell us how these advanced computerized control systems give you more consistent accuracy?

**Haun:** We get more consistent accuracy because the processes are repeatable. Once

you get the recipes established, the computer controls the filling process. Our guys can move on to the next piece of work and concentrate on managing cylinder distribution and setting up for the next fill instead of being tied to the pumping process.

**CryoGas:** That leads to the next question: the Haun fill island is arguably the largest in the country, accommodating around 1,400 cylinders, yet it is highly efficient due to the traversing manifold system. Al, can you outline the benefits of that system in terms of cost reductions and production efficiency?

**Al Dohrn (Dohrn):** Originally, we would sort cylinders by gas and size, storing them outside until filling. Upon completion, we could possibly split the pallet for delivery to other branches. We now sort cylinders by type and not necessarily by DOT pressure, due to the variable pressure ability this system offers.

Cylinders to be filled don't have to wait for space to clear from previously filled cylinders that haven't been removed yet, because the fill manifold allows specific gases to be filled in several different locations. With the traversing system we are now able to load cylinders of different types and sizes to pallets directly from the fill island, saving the time of breaking pallets and having to move them to separate staging, or sorting, points. Sorting is now part of the filling process, not a separate step. We only use pallets now to move cylinders within the plant and to distribute cylinders to the branches.

**CryoGas:** What are some of the other details that make this plant unique?

**Haun:** Once cylinders are unloaded from trucks, we can move them quickly through the fill process. Cylinders now come directly to the fill island, whereas before they had to be sorted first. So the whole sorting step has been eliminated. Also as part of this plant's design, the bulk tanks were placed away from the building on the pad outside to allow room for the high pressure, centrifugal, and CO<sub>2</sub> pumps to be placed close to the building, under cover from the weather.

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LiquiFill for automated low-loss filling of cryogenic liquids

**CryoGas:** The move and installation of the plant was quite a feat, given its size and plant-wide technology. Once the new facility was up and running, what were the initial differences and advantages you noticed, compared to the old plant?

**Dohrn:** We moved from about 11,000 square feet of production space into 40,000 square feet of space, a large difference that has helped productivity tremendously. At

the new plant, we also were able to eliminate all unnecessary cylinder movements, and we have no more cylinder storage outside. We now bring empty cylinders directly to the fill island instead of to staging areas as was done in the old plant. And the new plant also has much less dust, dirt, and excess water. These elements were brought in from the outside by lift truck traffic at the old plant.

**CryoGas:** The plant is still very new. Are you getting feedback yet from your customers?

**Dohrn:** We are. They are happy because we haven't let anyone run out of gas. And we will get better and better at supply and service as we get fully up to speed.

**CryoGas:** What are your production and efficiency expectations over the next year?

**Haun:** We are still learning how to use our new space. We're making improvements daily. Our goal in everything we do is to be safe, accurate, and efficient. These factors drive all of our decisions when trying to improve how we use the new plant.

**CryoGas:** It's great to see a long-time, family-owned company like Haun be a leader in the industry, particularly with the technology being utilized throughout the plant. We look forward to hearing more in the future about how your new productivity and efficiency is impacting the company and its customers.

*For more information on Haun Welding Supply visit [www.haunweldingsupply.com](http://www.haunweldingsupply.com)*