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Facility design and demands

Trends and considerations in the specialty gas eco-system

By Hector Villarreal

In the late 1990s a trend began that has continued all the way through the last decade. Global gas providers purchased smaller independents, in various segments of the North American industrial and specialty gas market. This trend created a vast disruption in the specialty gas provider eco-system. Traditional supply to a large number of independents was either delayed or in some cases completely cut-off.

Almost immediately, and in direct response to that trend, a number of independent gas distributors, who had never been in the specialty gas business, began to make the necessary investments in order to provide specialty gases

and related services. This micro trend of self-reliance has accelerated into this decade.

To every action there is always a reaction Interestingly enough, as the independent distributors have made the investments necessary in order to enter this highly lucrative market, the majors have redoubled their efforts not only in the M&A arena but just as aggressively, they have made substantial internal investments in order to meet the increasing market demand.

The demand on the street is seemingly providing a vast hunting ground for the majors seeking the large institutional clients and

for the independents seeking small to mid-size niche players. The result has been an increased demand for highly trained, quality lab technicians, specialty gas sales professionals and the equally talented people to manage them.

This shortage of talented people, in the wake of aggressive market growth, has lead directly to the development of automated systems in a market segment where historically few existed.

The precise response

Precision Specialty Gas Products, a division of Weldcoa, developed the first commercially available Automated Specialty Gas Blending ▶



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► System in 2010, the Sur-Fill IQ-S.

The IQ-S was a client request; they wanted us to design a high-end automated system specifically for the filling of EPA Protocols.

Today, Precision has taken to market three different versions of its IQ-S; Inert, Reactive and Flammable automated blend cells. Even as Precision works on it's fourth version of the IQ-S, for Oxidizer's, the market place has directed Precision to provide more automated solutions to further support the growing demand.

Analytical automation

Most recently, Precision Specialty Gas Products developed a Programmable Analytical Sampling System (PASS).

The system has the capabilities to program a system and analyze a number of cylinders sequentially. It is able to program sequential multiple analyses and to reduce the labor requirements of repetitive analyses (UHP

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gases, lung diffusion mixtures). Best of all, it gives our clients the ability to schedule long analyses on unmanned shifts.

The immediate and long-term benefits are vast. The client is provided with more consistent analyses, which reduces the analytical uncertainty. It gives them the ability to transfer the responsibility for repetitive analyses from a chemist to a lab technician (or operator) without loss of reliability. This results in a reduction in labor expense and increases the amount of

analyses that can be conducted by shifting work to unmanned shifts.

Sophisticated end-user

In an industry where change can sometimes be glacier, slow new players entering the competitive specialty gases market are aggressively treating their facility investments as sales tools.

Many of our clients are using their new Precision-designed specialty gas facilities and labs as part of their sales process; nexAir, Toll and Butler Gases are some of our most recent clients. All three are actively promoting their state-of-the-art facilities as a market differential in order to entice new clients.

The message from our clients to us is clear: The end-users tend to have very sophisticated facilities and they want their providers facilities to echo their level of commitment to excellence.

Focus is the key to success

Most companies entering or expanding into this market have the idea that they want to have the capabilities to fill the entire product line of specialty gases.

What they need to realize is that this is not practical or feasible. There are numerous reasons why this is not an achievable goal; costs, resources, building codes, environmental, logistics, and so on make it nearly impossible. Every single specialty gas product line comes with its own set of issues that must be addressed. Companies should focus on the higher volume products they sell and specific product lines. Focusing on niche markets, as opposed to trying to do everything, is the key to success.

For your consideration

Anyone that is considering an investment in specialty gases needs to consider at least three things:

1. Do I currently have a reliable and consistent specialty gas supplier that is cost-effective? If so, why would you want to compete against a reliable source?
2. Do you have the resources or know-how to establish best safe practices and best sales practices in this market? Buying the equipment is only part of the puzzle. Do you have the people and disciplines necessary to maintain this business?
3. Do you have a plan for an efficient distribution/ shipping model for supplies and finished cylinders? This business is not the same as the traditional industrial business most distributors work in. **SGR**