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GASGUARD® Direct Blender

Bob Ford

Welcome to another podcast from Air Products. I'm Ed McKendry, and once again, I'm speaking with Bob Ford. Bob has been with Air Products for 25 years, and during that time he has had extensive experience in the field of specialty gases. Bob has been the Bulk Specialty Gas Systems commercial manager for the last 14 years. Bob, thanks very much for talking with us today.

My pleasure, Ed.

I understand that Air Products is now proposing an on-site dopant blender option, can you explain what that is?

Well it's called the Gasguard Direct Blender, and we are basically offering an option of moving the manufacturing of these dopant mixes from the Specialty Gas plants right to the customer site. This new product line consists of equipment that makes the mix, precludes handling large amounts of cylinders on-site, plus it is more cost effective to do so. The blender cabinet itself houses the dopant source cylinder, the PLC controls, the QC analytical but it's not much larger than a 3 cylinder gas cabinet. So it can be installed in the same gas room as

What's the driver to do this on-site?

Dopants are what chemist called hydrides and they are very reactive compounds, hence they have a limited shelf life once that mix is made inside a steel cylinder. But these dopant blends are primarily a hydrogen base gas at 99% composition, so the active dopant ingredient is only a small proportion of the total volume.

Transporting compressed cylinders consisting of mostly hydrogen is not cost effective, plus these mixes are expensive. The Gasguard Direct Blender takes advantage of the cheaper hydrogen bulk source on site at the customer to make the mixes as needed. So with cheaper hydrogen that makes up the majority of the mix, and transportation being reduced to only shipping the pure source gas, costs are greatly reduced with the savings passed on to the customer.

Why not just do this with Bulk Specialty Gas Supply that Air Products pioneered 14 years ago?

That's been the recent global approach using our market leading BSGS supply. However, its only using larger containers of mostly Hydrogen. It's more cost effective than cylinders, but we feel the blender is a better way. Since the bulk hydrogen is at the customer site, that's the cheapest source of hydrogen base gas there is, the primary component. That's why we are taking advantage of that. BSGS is not going away, in fact it may be used to start up the fab or later retrofit with the blender to improve costs. The BSGS can be back up for enhanced reliability and supply options. Just like you and I, our customers like options they can choose for specific circumstances.

Gas blenders have been in use in the industrial gas markets for years, how is this Direct Blender different?

The Direct Blender takes advantage of Air Product's experience not only in gas production, but analytical services. These blenders include an analytical component that monitors the mix real-time, which ensures that it dynamically adjusts for ambient conditions. This helps with process consistency and film quality, improving the customer's costs over time.

You've mentioned the term "cost effective" a number of times, is this because of the current economic conditions?

Actually no, this idea was hatched 3 years ago. Being the market leader in supplying BSGS, we are always looking for ways to improve our offerings, or you don't stay number one for long. Our Customers are driven to lower costs, because we as consumers asking them to do the same. We saw an opportunity to not only save costs via the on-site bulk H2 supply to make these mixes, but also with decreased requirements for inventory, cylinder handling, and manpower. For example with the larger Flat Panel manufacturers and now the Photovoltaic fabs, dopant mix requirements would drive Air Products to expand our Specialty Gas plant, as well as our container fleet, and that cost money. Not having to make that investment saves the customer. But the customer also saves with the decreased inventory and manpower to handle those increased container changes.

What are the risks to doing this blending on-site instead of buying prepackaged mixes.

With Air Products' blender design, we are basically providing the same equipment that we use today to make and to QC at our Spec Gas plants, something we have been doing for decades. The Gasguard Direct Blender is a "copy exact" of our most recent production plant, so we are using the most up-to-date technology. Fundamentally, there is plenty of operating experience already. Doing so at the customer's site is nothing new, since we have similar on-site offerings with air separation plants and for BSGS, something we are famous for doing via our Megasys on-site services. We also offer options for backing up the blender, either with a second duplicate blender for complete redundancy, or on-site storage capacity to deal with any type of shutdown and repair, or even the optional BSGS back up. So with the experience and appropriate back up, there is no more risk that traditional supply. But in fact we're changing out less containers, since only the dopant source container needs to be changed on occasion, there is less risk. Studies have shown that people changing containers at higher frequencies are at highest risk. So our blender approach lowers those container change outs, hence risk of contamination and exposure.

How do you make sure that everything you just mentioned translates the reliability and lower risk to the customer's site?

We are offering the Gasguard Direct Blender as an on-site service at one "all in" price inclusive, lower than what the customers are paying for cylinder supply today. The contract guarantees the mix will be there as required, at the cost savings. In addition with the mix made fresh as needed, there are no shelf life issues, so no inventory obsolescence or management, nor requirements such as space and monitoring of that storage for that large volume of cylinders that have traditionally been required. Saving precious space, inventory cost, manpower and potential shelf life obsolescence are all very important to customers, especially in this economic environment.

So assuming our customers continue to grow, will they have to make additional investments?

That's another attractive feature of the offering - no additional investments are required as the fab grows until the blender reaches its maximum capacity, which is an extremely large flow rate. Even then with the on-site storage capacity and the backup strategy, there is capacity to handle larger peak flow rates.

Sounds like a new offering for customers at just the right time. If listeners want more information, who should they contact?

They can go to our web page at www.airproducts.com/electronics - they can certainly contact me direct at 610-481-7953 or via e-mail at Fordrw@airproducts.com

Well Bob, thank you very much for that information. And once again for our listeners, we want to give you those numbers and Bob's email address one more time – his phone number is 610-481-7953, his e-mail address is fordrw@airproducts.com . I'd like to encourage our listeners to continue visiting www.airproducts.com/electronics and our eLearning website, where you'll also be able to hear another presentation that Bob did on this subject as a Webcast PowerPoint presentation. I'm sure you'll find that information helpful.

Thank you for listening to this Air Products podcast.