



# Praxair, Inc.



“Praxair drivers have a procedure they follow to take a look at a system to see if there are any issues. If there are, they alert Praxair customer service. (Photos courtesy: Praxair)”

# Responding quickly to heat-treat issues

Through the use of industrial gases, Praxair, Inc. endeavors to help its customers find the best way to use its gases and increase efficiency in the heat-treat industry.

By *Kenneth Carter*  
Editor | *Thermal Processing*

Atmospheric gases are often the unsung heroes of the heat-treating industry, but they are essential to successful operations.

Praxair, Inc. is a leading industrial gas company in North and South America and one of the largest worldwide.

Praxair offers a diverse portfolio of industrial gases and services for many industries, but has a strong focus on heat treating and combustion applications. These include heat treating atmospheres, purging and inerting, process gases, and oxy-fuel combustion applications. In addition to being a gas company, Praxair goes a step beyond by providing supply system on-site evaluations, supply system design, testing and installation, system start-up, and process support.

“Ultimately, we are an industrial gas company,” said Steve Mueller, associated director of business development — Metals & Materials Processing. “We’re safety conscious. Safety is a core competency of ours that guides the way we approach each application, focusing on the installation and use of our product.”

## FULL RANGE OF GASES

Praxair offers the atmospheric gases: oxygen, nitrogen, and argon. Praxair also provides rare gases including krypton, neon, and xenon and process gases such as hydrogen and carbon dioxide. These gases are provided in their highest purity in quantities required by the customer.

“The exciting part of our job is that our gases can be used for a variety of applications,” said Pat Diggins, business development manager. “Nitrogen and argon are used for inerting applications. They both displace oxygen-rich air. Hydrogen, in heat-treating applications and in other field-use applications, is used as a reducing gas. Whereas argon and nitrogen are inert,

hydrogen has a purpose of actually reacting either in the atmosphere to eliminate oxygen or to reduce oxides on the metal. These gases provide us with different tools and ways to help our customers obtain the quality that they’re looking for.”

## YEARS OF EXPERIENCE

Praxair has been in the industrial gas business for more than 100 years. A team of experienced individuals, as well as a commitment to helping customers improve their process has led to increased success in the field. There are a lot of people involved in making sure each product delivery and each installation is completed safely and reliably.

Diggins said he is one of several business development managers who hail from a wide range of backgrounds, which, in turn, brings a lot of experience into the Praxair family.

“That helps us work with the customer and identify problems,” he said. “Because we understand the process. I work with the metals industry, but I have peers who are in the food, chemical, and refining businesses.”

As a business development manager, Diggins said his goal is to help customers find the best way to use the gases and technology that Praxair offers and assist with any process problems they may have with their operation.

“We spend time with customers just to find out what problems they’re having,” he said. “We’ve got a team of men and women standing behind us who have years of experience and high-level degrees that focus on doing research on what we find, allowing us to come back and resolve customer problems quickly and efficiently.”

“The operator in the plant, the plant manager, or the maintenance manager in the shop, they are the process experts,” Diggins said. “We’re a really big resource to our customers; to be able to bring best practices to them and offer that ‘out-of-the-box thinking’ that they may not have tried.”



## INSTALLING SYSTEMS

In addition to the gases that Praxair provides, the company also installs the industrial gas supply systems. These systems range from cylinder and liquid containers for smaller or more specialized applications to bulk systems and pipeline for higher usage applications.

“We have trained customer service resources to make sure our equipment is properly sized and to provide the proper gas flows and pressures, etc,” Mueller said. “But we also have a lot of experience with helping new customers maximize their capital investment.”

As an example, Diggins explained how a company recently brought some state-of-the-art equipment from Europe.

“It was a reheat furnace, and the parts were going to go into a very large press,” he said. “Not only did we help size the system and the piping, we also made sure they had the right pressures and flows and were there for the startup. We were able to help them debug some issues during the startup because we had seen them before at another installation.”

## SAFER DELIVERIES

But it doesn't end there, because Praxair's drivers do more than just deliveries, according to Mueller.

“As far as supply systems, our drivers have a procedure they follow to take a look at the system to see if there are any issues,” he said. “And they would alert Praxair customer service if there was. Customer service, although it varies from state to state, does inspections, and we keep an eye on the equipment and make sure it's operating correctly and safely.”

Part of that safety comes from training that Praxair provides, according to Diggins.

“With hydrogen, oxygen, argon, and nitrogen, we'll conduct safety training and provide training materials where the customer can do continuous safety reviews after we leave,” he said. “Safety is important with both cryogenic and inert gases. Low temperatures and air dispersment have the potential to create hazards. With hydrogen, you have flammability issues. So, we make sure their employees understand that these gases are tools. And like any tool, you've got to treat it with respect, so it'll be safe.”

Praxair prides itself in delivering its products safely. Safety is a major focus for the company. Praxair drivers and technicians contribute to the safe handling of gas during usage and share the responsibility in making sure the customer is getting what they need, when they need it and strive to avoid gas disruptions in the customer's process.

## CONTROLLING ATMOSPHERE

“It's all time and temperature dependent,” Diggins said. “And time and temperature are fairly easy to measure. It's the atmosphere that is



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the difficult item to control, measure, and monitor. And so, we help our customers understand how they can measure the atmosphere and what instrumentation is necessary. We don't actually sell the instrumentation, but we can help guide them and make sure everything is working the way it should be.”

All of these different abilities allow Praxair to better service its customers.

“We're one of the world leaders in industrial gas supply,” Mueller said. “But we have the ability to go beyond that and provide services and some of the equipment necessary in heat-treatment. It gives us a broader range of how we can help our customers.”

“One of the things we work really hard at is to identify opportunities and work with our account managers closely,” Diggins said. “Between the account managers and us in business development, we assist customers at the very beginning of their process — what pipe size is needed, what size tank pad, and advice on where the pads should go, as well as what type of equipment will be used. We have

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pipng programs that will size the pipe and make sure they’ve got the correct pressures and flow rates. Those are some of the basics. And from there, depending on their expertise and how much they know about the equipment, we work with them on what it’s going to take in order to have a successful startup.”

### GROWING WITH THE INDUSTRY

Praxair has extensive experience in developing applications to improve customer operations through the use of industrial gases. Technologies pioneered by Praxair have improved productivity and efficiency in many industries, but as the heat-treat industry continues to grow, Praxair wants to ensure that its place is second to none.

“Heat-treating, aerospace, automotive, and general heat-treating has all been growing,” Mueller said. “It’s definitely an area we want to be working in.”

Some of that growth will come from control advancement, according to Mueller.

“A lot of traditional heat-treaters are looking at advancing their controls,” he said. “They may be looking to upgrade to a more sophisticated type of equipment, so they can get better runs out of their furnaces, greater consistency, and less waste. To be a part of that process with the inerting gases, it’s very important to be able to maximize efficiency.”

Eliminating quality problems with better equipment will help the bottom line in the long run. Praxair stands by its mission to offer products, services, and technologies that are making the planet more productive by bringing efficiency and environmental benefits to the heat-treat industry.

“Everyone is trying to drive down costs; that’s the name of the game at the end of the day,” Diggins said. “We get to be the ones who help the customer. The reason we’re successful is because we help customers improve their operations.”

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