



MISSION: ACCOMPLISHED

Air Products' Process Management System Enhances Sintering Operation

When your mission is to deliver highly engineered, complex, high-quality powder metal products, the answer is in the details. The employee-owners at ASCO Sintering Company in Commerce, California are detail-oriented people, and when looking to refine their quality control system, they enlisted the knowledge and capabilities of Air Products.

As ASCO's Mark Opoku-Adusei, Ph.D. (Senior Metallurgist), states, "Two things determine quality in powdered metal sintering—experience and control over the entire process." ASCO leveraged Air Products' extensive understanding of furnace operations and customized systems implementation to gain a firmer comprehension of their continuous sintering furnaces and integral quench and draw furnaces further downstream.

To do this, Air Products' team worked closely with ASCO's personnel to understand their requirements. Through an on-site audit, Air Products custom-tailored its process management system for ASCO's operation. The system helps ASCO accelerate continuous improvement programs with accurate, real-time information on numerous aspects of their operations.

Specifically, the process management system has enabled ASCO to better quantify the impact of temperature on rejects and rework. "Because of the process management system, we were able to determine that 20–30% of our size rejects are related to incorrect temperature." ASCO's Dr. Opoku-Adusei states, continuing, "This level of understanding has enabled us to focus our corrective action efforts, saving both time and money. In fact, we are looking to expand the process management system to include dew point and oxygen analyses."

Commenting on Air Products' ability to customize the process management system, ASCO's Dr. Opoku-Adusei affirmed, "It is always helpful when a supplier truly listens to the voice of a customer." High praise indeed from a customer-centric company such as ASCO, who—like Air Products—prides itself on meeting the ever-higher standards of its customers.

Identify. Improve. Optimize.

Air Products' process management system combines customized software with our exceptional heat treating industry knowledge to help you trace and organize your operation's data. It tracks and records multiple data streams from numerous operation points—and enables you to convert this data into usable and useful information.

The process management system can help you:

- identify bottlenecks to improve efficiency and accelerate continuous improvement.
- improve product management, troubleshooting, and safety.
- optimize gas management, furnace performance, labor costs, and production tracking.

Leverage Our Experience

In specialized industries like metals processing, you need the support of people who truly understand your business. Our

team of process specialists, control and instrumentation engineers, metallurgists, and technicians has worked with virtually every metal treating process and furnace system within the industry. Add to that our industry-recognized expertise in process monitoring, communication, and control garnered from three decades of experience designing, building, and operating some of the most sophisticated process production plants in the world. All of this experience is available to you, as we can work together to help achieve your profit, productivity, quality and performance objectives.



"We truly listen to our customers and their needs. Then we put our expertise to work, customizing a system to help achieve their performance and profitability objectives."

John Dwyer
Air Products
Applications Engineer

From Troubleshooting to Capacity Planning

East of the Mississippi, an aluminum troller has successfully utilized Air Products' process management system for a variety of uses. When it comes to troubleshooting their furnaces, they used the process management system to track various operating conditions so they could determine the cause of decreased yields of their end product. This ability allowed them to not only identify the root cause of the problem but also uncovered some other operational issues that were affecting production. By tracking gas flow rates and other variables, they made necessary adjustments when the stoichiometric ratio became out of sync to increase the metal yield. This enabled the aluminum processor to process more material and minimize downtime, all increasing their profitability. The system has also provided valuable data to enable the proper sizing for a future on-site gas production facility. In both cases, this versatile process management system was quickly and easily configured to send critical data to a local laptop computer and a remote server through cellular transmission.



Saving 10% on Gas Consumption

For a manufacturer of ball bearings, Air Products' process management system was able to show them savings almost immediately by demonstrating that their consumption of gases was higher than necessary. The system provided data that helped them realize that their gas flow rates were too high and inconsistent because of inadequate flow controls. It also demonstrated that the ratio of the mixed gases they thought they were putting into the furnace was off by as much as 200%. Once these issues were illustrated in graph form by the process management system, it was determined that the heat treater was able to reduce its consumption of gases by more than 10%. Additional benefits were achieved by operating the furnace at its peak efficiency, which increased quality and reduced scrapped parts. The documentation of the heat treating process through reports generated by the process management system also allowed the ball bearing manufacturer to meet its customers' strict quality program reporting requirements.



For More Information

If you're interested in learning more about how the Air Products process management system can benefit your organization, contact us at a location near you.

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