

# Custom solenoid valve improved lead times for a leading material characterization instrument manufacturer

## RESULTS

- The company eliminated time-consuming valve cleaning and inspection processes—significantly improving lead times
- The valve-related rejection rate for its industrial analyzer was lowered from 40-percent to zero



**To help the characterization instrument manufacturer, a custom valve was delivered which eliminated extra cleaning and inspection processes.**

## APPLICATION

Industrial analyzer, including gas control valves under vacuum conditions

## CUSTOMER

Material characterization instrument manufacturer for science laboratories

## CHALLENGE

As part of its analytical techniques, a leading material characterization instrument manufacturer works with various gases, including argon and nitrogen, and requires its valves to operate under vacuum conditions. Because these analytical processes are so delicate, even small amounts of debris can cause the valves to fail. Due to porosity issues, the valves cannot incorporate large amounts of elastomers or polymers—a problem the company faced with its incumbent valves, which exhibited a 40-percent rejection rate. To avoid rejection, the company was forced to implement additional valve cleaning and inspection processes prior to equipment delivery—extending its lead times.

## SOLUTION

To overcome these challenges, Emerson experts worked with the company to develop a custom ASCO™ Series S Miniature Solenoid Valve, which is designed for air and inert gases and incorporates a compact, lightweight architecture and low-power consumption for use in industrial gas analyzers. In this application, the custom Series S valve featured an insulated core, eliminating exposed polymers and

elastomers that had led to high rejection rates in previous valves. The valve also incorporated a custom orifice size and termination.

After customizing the valve, Emerson sent the company 150 production-ready units, which passed initial testing and are currently deployed in the field. Thanks to the ASCO valves, the company has had no rejections—eliminating the extra cleaning and inspection processes, saving hours each day and significantly improving its lead times.

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