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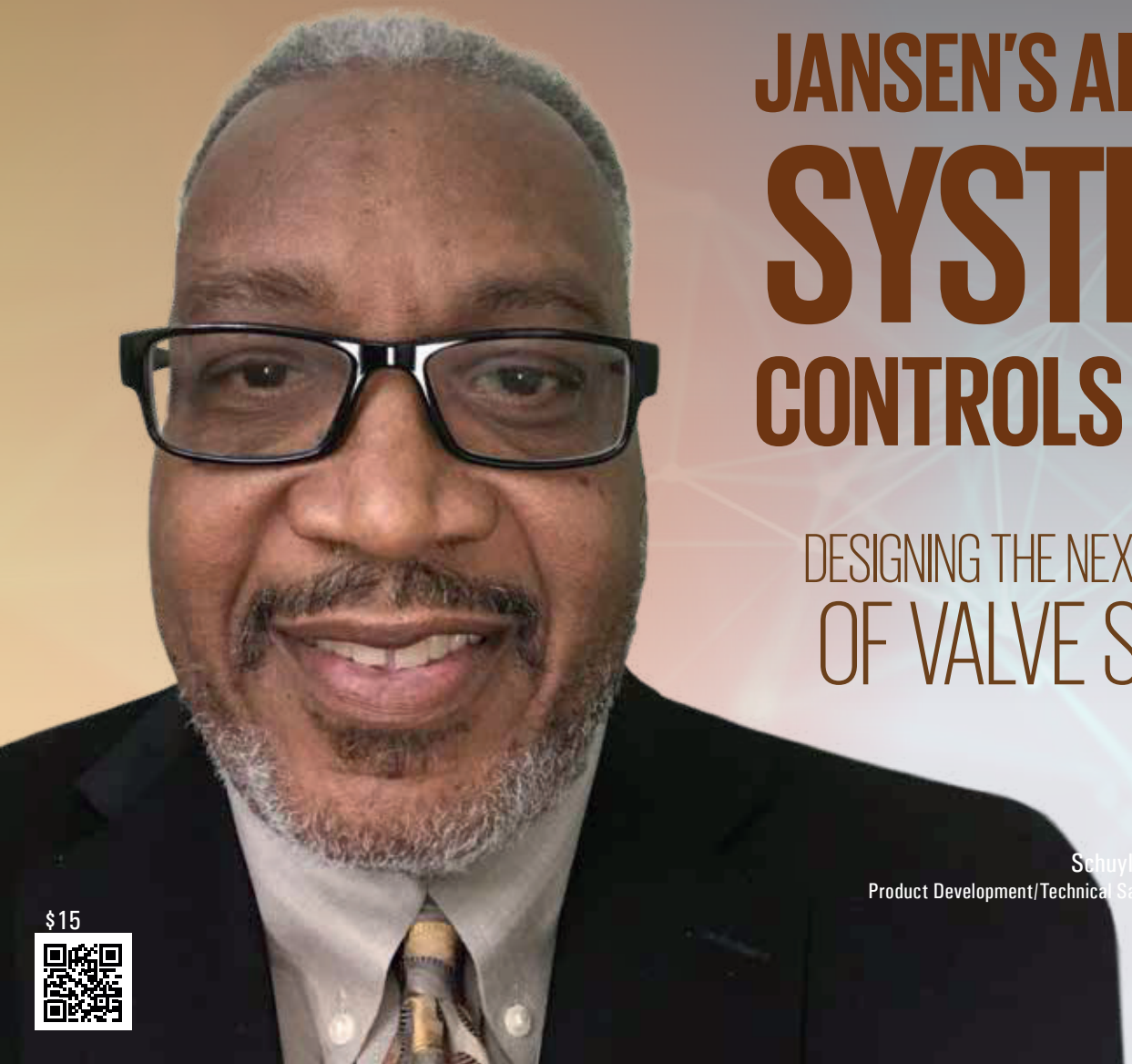
**POWER GENERATION**
*EDITION*



## JANSEN'S AIRCRAFT SYSTEMS CONTROLS (JASC)

### DESIGNING THE NEXT GENERATION OF VALVE SYSTEMS

Schuyler McElrath,
Product Development/Technical Sales Consultant

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ENERGY Tech Review
TOP 10
POWER GENERATION
SOLUTION PROVIDERS - 2021

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# JANSEN'S AIRCRAFT SYSTEMS CONTROLS (JASC)

## DESIGNING THE NEXT GENERATION OF VALVE SYSTEMS

While quick fixes seem simpler and more affordable, in the long run, they only add up to the costs without generating real results. True success waits for those that rise above temporary stopgaps and tackle a problem at its core.

A case in point is an OEM specializing in the development of industrial gas turbines. They identified a recurring issue in their finished products. Although their turbines were designed to withstand very high temperatures, the fuel valves utilized in the turbines were not able to deliver the needed durability and efficiency. During operation, the high combustion temperature in the turbines were causing stagnant diesel fuel in the valves to carbonize and form coke layers on their inner surface, interfering with fuel flow into the turbines. As quick fixes, the fuel valves had to be frequently replaced or refurbished, which only added to the turbines' long-term maintenance costs.

This was when the OEM decided to find a more sustainable solution and contacted Jansen's Aircraft Systems Controls (JASC)—one of the most sought-after valve solution providers in the power generation sector.

With its extensive expertise and unparalleled design knowledge, JASC developed a unique water-cooled valve for the OEM that suited their turbine's higher operational temperatures without compromising the performance. The cooling medium (water) ensured that the valve temperature always remained below the coking threshold of diesel fuel, allowing it to function seamlessly even at high temperatures. The result? The new valves enabled the OEM to successfully overcome their problem for good, while also upgrading its product portfolio. Today, thanks to JASC's upgraded fuel valves, the OEM is witnessing even greater productivity, optimal cost savings, and better output.

This is but one of the scenarios; JASC is penning similar success stories for a multitude of companies every day. JASC's practical engineering solutions are designed to address the specific component challenges of its clients leveraging gas turbines across power generation, airline, and aerospace industries. Whether it is an OEM seeking to upgrade a critical fuel component in their gas turbines or a utility client seeking a more permanent fuel system upgrades in their functioning equipment, JASC is their go-to specialist.

### Enhancing Reliability through Innovation

According to Schuyler McElrath, product development/technical sales consultant at JASC, "For the last 30

years, power generation and utility companies have been spending millions of dollars (in addition to the actual cost of their gas turbine equipment) to upgrade their fuel valve capabilities." However, the durability of gas turbine valves in the market has been relatively slow, refusing to deliver reliabilities beyond 40 percent.

But JASC is turning around these numbers with its new-age solutions. The company's robust fuel check valves come with active cooling and passive damping capability, which significantly increase the reliability of turbine fuel systems by up to 95 percent no matter the size of the turbine. The active cooling feature keeps the temperature well below the carbonization threshold, preventing the formation of coke and facilitating the seamless transfer of fuels. On the other side, the passive damping action of the valves eliminates high-frequency oscillation or chatter in the check valves, thus preventing damage and enhancing operational capability of adjoining systems such as purge air.

The company's robust range of check valves is also accompanied by a broad portfolio of impeccable fuel system valves, purge air valves, valve monitoring and protection systems, water injection systems, and sealing solutions, all optimized to boost the performance of clients' gas turbines significantly.

## What Makes JASC a Partner of Choice for OEMs and Industrial Clients?

When it comes to the power generation industry, JASC is perfectly positioned to address the component design and development needs of its diverse clientele. "What differentiates JASC is our long history of designing fluid control systems for gas turbines across multiple sectors," says McElrath. Backed by its combination of industry-leading skillset and field experience, JASC has witnessed significant growth since its inception in 1990. Today, the company operates from its headquarters in Tempe, AZ, serving clients from the aerospace and power generation industries. As it is located near the Sky Harbor International Airport, and in close proximity to major suppliers, JASC is conveniently accessible to clients from across the globe.

Complementing this is the company's belief in continuous improvement and customer support. While providing refurbishment services for clients, JASC also pinpoints the damaged areas that need to be focused on during its next development cycle. "Everything we do at JASC, it is with the intent that our clients can conduct their operations without interruption or failure," mentions McElrath.

## Illuminating the Path to Operational Success

Even amid the pandemic challenges, the company's long-term innovation and growth strategy is keeping its course steady. "We have been positively utilizing the pandemic slump to gather real-time insights from clients regarding our products, applying the same to improve our portfolio and serve them better," adds McElrath. In the upcoming years, the company intends to continue scaling its offerings to the broader market beyond the U.S.

JASC's growth strategies are equally being bolstered by their 'total participation philosophy,' which encourages employees to be partakers in the company's business innovation journey. Adding to this, the team's several decades' worth of experience in the design and engineering of gas turbines control valves is enabling JASC to get a stronger foothold in the power generation space. "We, as market leaders in flow control systems, are on a mission to make a mark on the already changing world through our technological innovation and collaboration," concludes McElrath. ET

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## TOP POWER GENERATION SOLUTION PROVIDERS 2021

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