Why work with a fuel and pneumatic systems integrator?

As a recognized industry leader in fuel and pneumatic systems, Parker believes that our proven system approach to fuel tank inerting is advantageous for several key reasons.

Lower cost

Because we've spent more than 40 years developing fuel, pneumatic, and inerting system solutions, we have a methodology to determine component and process permutations that can leverage the already-established systems to reduce design complexity and minimize the cost of inerting systems for vertical integration.

Lower risk

Our solid pedigreed in fuel, pneumatic, vent, and distribution systems simplifies the daunting task of successful fuel inerting system integration. Our years of unraveling the complexities of fuel-system-based issues make Parker the go-to team when it comes to addressing fuel-tank inerting questions. No other company can equal our track record of providing horizontal, integrated fuel inerting solutions. All of this minimizes the risk of adopting such innovative technology.

Faster time to market

No other supplier knows fuel and pneumatic systems like Parker. Unlike other suppliers who have to spend time learning the fuel side, our knowledge base includes a technology database of existing components and proven processes that can be easily adapted for specific applications and requirements. This is a process that sidesteps design complexities and minimizes risk, saving both time and money.

Our expertise in fuel and pneumatic systems gives Parker the ability to design, implement, integrate, install, and support the entire fuel inerting system.

New developments sooner

Finding the right inerting systems partner has as much to do with ongoing development as it does ongoing support. Innovative advancement of fuel tank inerting technology requires a fuel and pneumatic systems expert who understands all aspects of the inerting system—an expert with the talent, resources, and infrastructure to develop answers to the questions that have yet to be formed. Parker is that partner.

Why work with a fuel and pneumatic systems integrator?
Parker has charted all of this experience into an unequalled fuel system expertise. In fact, no other aerospace company can offer the breadth or depth of Parker’s proven inerting and fuel system experience.

**Why Parker for fuel tank inerting systems?**

- Fuel tank volumes
- Air source (ECS, bleed air, or air separation modules)
- Ullage volume changes
- Temperature extremes
- Fuel vapor exposure to high-temperature conditions
- Flammability of fuel
- Cold sealing
- Temperature extremes
- Fuel and vent system interfaces
- Multi-fuel tank connectivity
- Vent house
- Air source ECS ( bleed air, or compressor)
- Fuel system functions
- Fail-safe
- Engine feed
- Transfer
- Cruise, climb, and dive profile analysis
- Interconnectivity with vent systems
- Fuel tank volumes
- Mode Cycle analysis

Parker also offers the added benefit of intimate familiarity with all components, and certifications with the FAA and IATA regulatory agencies.

**System integration capability**

Because we approach fuel inerting from system perspective, Parker has developed extensive analytical capability to ensure that we provide a horizontal, integrated solution. This kind of expertise makes Parker a preferred partner with the ability to bring systems to market faster. A wide array of analytical tools, including CFD (computational fluid dynamics), OBIGGS (obligation gas generation system), and Monte Carlo analysis, which determines the minimum thresholds of flammability allow us to properly size our inerting systems while ensuring the design is in accordance with all regulations. Consequently our systems can provide the required inert gas based on demand without the need for storage tanks.

**On-site testing and development**

We allow our customers to participate in the development process as an integral part of the Parker solution. Parker's comprehensive testing regimen ensures that an inerting system works as a horizontal, integrated solution. This kind of expertise allows working systems to be exposed to simulated flight conditions.

**Parker's pedigree: a sampling of our flight-proven technology**

- Aspiscrub Shut-off and check valve
- Solenoid valve
- OBIGGS pressure and vent regulator
- OBIGGS air separation module
- Proprietary technology
- Functional computerized modeling
- Validated computational fluid dynamics (CFD); ensures that an inerting system works as a horizontal, integrated solution.

**Engineering partnerships**

In addressing customer concerns about design-cost requirements, maturity of entry into service, and on-time delivery, we have found partnerships to be particularly effective. Parker team members work hard in hand with customers, frequently collaborating, creating teams at our facilities to share ideas, enhance communication, and promote efficiency.

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**Parker’s fuel tank inerting system experience**

Parker’s fuel tank inerting system experience began with the A-10A in the mid-1980s. Parker developed a liquid nitrogen fuel system for the successful tests on the KC-135, DC-9, and DC-10 aircraft. In 1982, Parker was selected by the United States Air Force as the prime contractor for the C-5 aircraft inerting system support of fuel systems enables it to bring systems to market faster. A wide array of analytical tools, including CFD (computational fluid dynamics), OBIGGS (obligation gas generation system), and Monte Carlo analysis, which determines the minimum thresholds of flammability allow us to properly size our inerting systems while ensuring the design is in accordance with all regulations. Consequently our systems can provide the required fuel based on demand without the need for storage tanks.

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