

Optimize Sorbent Performance ADAir-Mixer™ Technology



From expert evaluation and advice to best-in-class coal pile-to-stack solutions, ADA provides products and services designed to achieve worry-free compliance and advance **cleaner** energy.

It's at the heart of everything we do.



ADAir-MIXER™

The ADAir-Mixer is an in duct static mixing technology that improves sorbent dispersion to increase pollutant capture and decrease sorbent consumption as part of an optimized compliance strategy. The fixed vanes of the ADAir-Mixer induce counter rotating flow and intersecting turbulence patterns to improve gas mixing and sorbent contact with pollutants without using any moving parts or additional compressed air or blowers.

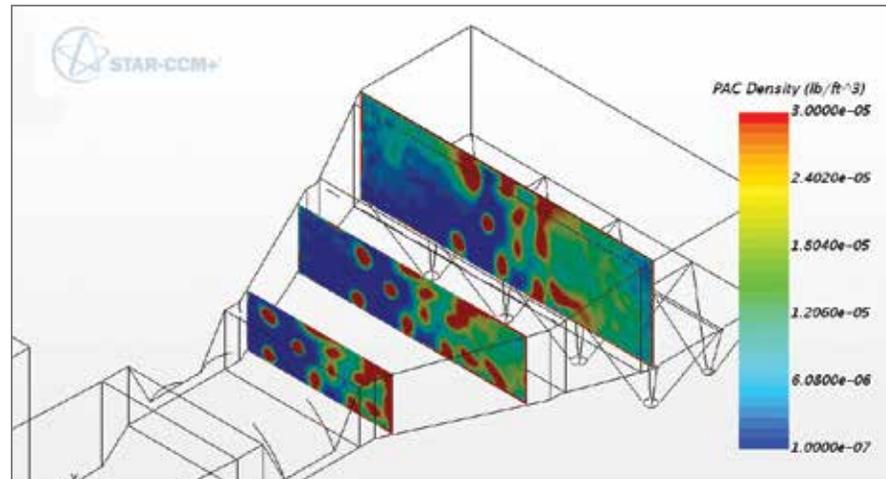
BENEFITS OF THE ADAir-MIXER

- Optimize sorbent injection for mercury and acid gas control
- Reduce sorbent consumption by up to 40%
 - Reduce sorbent system maintenance
 - Reduce fly ash disposal costs
- Improve reliability of compliance equipment
- Mitigate velocity and temperature variations
 - Reduce corrosion and plugging due to cold spots
 - Improve PAC performance by eliminating hot spots
 - Improve ESP performance

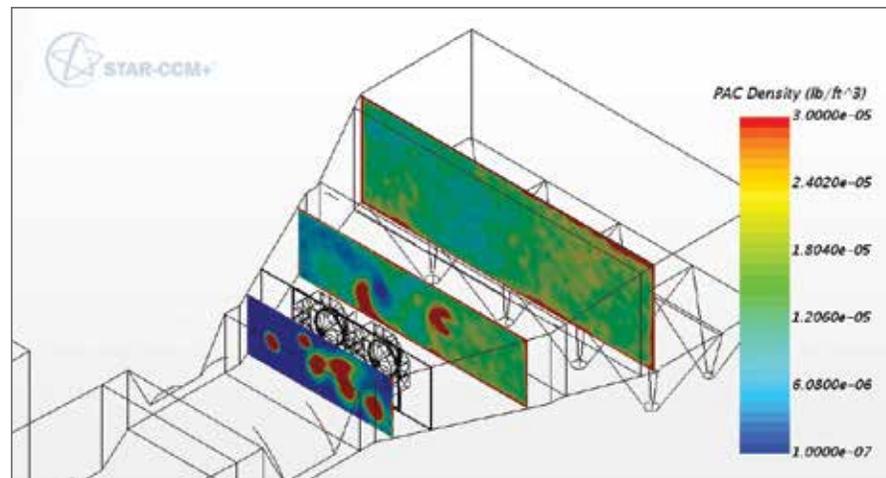
Call today and learn more about the ADAir-Mixer!



Uniform sorbent distribution achieved in 1-2 duct diameters



Sorbent mass loading without mixer



Sorbent mass loading with mixer

DESIGN FLEXIBILITY

- Modular design for easy installation
- Variable vane angles to balance mixing performance and pressure drop.
- Arrays of mixers used to improve sorbent distribution on short duct sections or difficult injection lance locations
- Larger mixers for temperature and velocity stratification improvements

ADAir-MIXER™ TECHNOLOGY

- Counter rotational mixing pattern improves mixing with minimal pressure drop
- Influences mixing on the entire flue gas stream
- No additional compressed air or blowers required
- CFD modeling to predict and guarantee performance



ADVANCING CLEANER ENERGY THROUGH STATE-OF-THE-ART SOLUTIONS

ADA-ES, Inc., an Advanced Emissions Solutions, Inc. company, was founded in 1996 to provide emissions control solutions for coal-fired plants. Since then, ADA has established one of the most highly recognized teams of industry experts, and is the most recommended and trusted name in the emissions control industry.

For nearly two decades, ADA has conducted more than 130 full-scale sorbent injection demonstrations at coal-fired plants, and sold 180 sorbent injection systems to control mercury and acid gases. Our portfolio of products has grown to address limitations in coal composition, balance-of-plant impacts from alternate approaches, and operational challenges introduced by other technologies. We were the first to understand these environmental issues, provide a range of commercial solutions to the industry, and today have the most sorbent injection systems in operation in the US.

ADA delivers an important combination of hands-on experience, industry expertise, demonstrated commercial products, and commitment to collaborating with customers. Our track record includes securing more than 30 US patents with additional US and International patents pending and receiving numerous prestigious industry awards for emissions control technology and systems. So no matter the challenges our customers face, ADA will continue to focus its significant expertise and resources to innovating for a cleaner energy future.

Learn more about ADA, our products and services at www.adaes.com. Make us your partner in advancing cleaner energy.



ADA - YOUR TRUSTED PARTNER

ADA understands the many factors that affect performance of sorbent injection for mercury and acid gas removal and can help you determine the optimal control strategy for your plant. We assess and recommend ways to improve performance, reliability, and operational costs. Some of the key factors considered include:

- Coal properties
- APC and Boiler operation
- Injection system design
- Sorbent usage
- Balance of plant impacts
 - Fly ash disposal costs
 - Operating costs
 - Maintenance costs

Our team has supported plants in evaluating pollution control options since 1990, including over 180 ACI and DSI system installations. With our expertise on your side, it's simple to save money and achieve your compliance goals.



WHY ADA?

No one has a better understanding of coal pile-to-stack power plant operations than ADA. As the recognized thought leader in the industry with significant process experience, ADA is the expert in providing unit-specific recommendations that support environmental compliance and reduce costs. ADA offers forward-thinking solutions, products and services driven by the needs of the coal-fired utility industry.

Additional offerings include:

**M-Prove™ Coal Additives | RESPond® Flue Gas Conditioning
ADAir-Mixer™ | ACI | DSI**

