

DELTA WING® DSI DRY SORBENT INJECTION



Babcock Power
ENVIRONMENTAL

a Babcock Power Inc. company

Babcock Power Environmental Inc., a Babcock Power Inc.® company, has provided both wet and dry desulfurization technology and systems for the power generation and large industrial markets for over 30 years. For applications that require relatively low removal efficiencies (less than 90%), Babcock Power Environmental* now offers its Delta Wing® DSI solution.

WHAT IS DELTA WING® DSI?

Delta Wing® DSI is a lower capital cost system that can be used to remove acid gas constituents including SO_2 , SO_3 , HCl and mercury. Although not a solution for every plant, Delta Wing® DSI provides a useful means to improve opacity and reduce acid gas emissions enough to comply with MATS emission levels.

DSI systems are comprised of three basic components; material handling equipment to unload and store sorbent (lime, trona, sodium bicarbonate or PAC); pneumatic conveying systems to transport the sorbents from storage to ductwork injection points and duct work injection to introduce the sorbent into the flue gas stream. Delta Wing® DSI provides the essential benefit of proactively mixing the sorbent with the flue gas to improve system efficiency and sorbent utilization. Babcock Power Environmental accomplishes this important addition by applying its proprietary Delta Wing® mixing technology to aggressively and evenly mix the sorbent with the flue gas in the ductwork.



Activated Carbon Injection for Mercury Control

BENEFITS

- Enhanced mixing within the duct employing Babcock Power Environmental's Delta-Wing® mixing technology
- Improves overall contact with the flue gas thereby reducing the amount of sorbent needed to meet a removal standard or improves removal for the same amount of sorbent used
- Maintains effective mixing at varying loads with no rebalancing required

FEATURES

- Fewer, larger injection ports are needed to deliver sorbent into the duct. Simplified delivery system ensures sorbent is consistently delivered and evenly distributed
- Larger diameter lances are used which reduces plugging and provides more reliable service
- Capable of furnishing complete system including installation, start-up and commissioning
- Single source of responsibility
- In-house Computational Fluid Dynamics (CFD) modeling capability

SIMPLIFIED INJECTION SYSTEM

Babcock Power Environmental's Delta Wing® DSI system utilizes proven material handling and pneumatic conveying system components along with a simplified injection system that is significantly more reliable than other systems available in the market. Babcock Power Environmental's design eliminates those parts of a pneumatic conveying system that are prone to plugging. This is the same philosophy that has allowed Babcock Power Environmental to become the leading SCR supplier in the U.S.; by using simple direct injection versus a complicated injection grid.

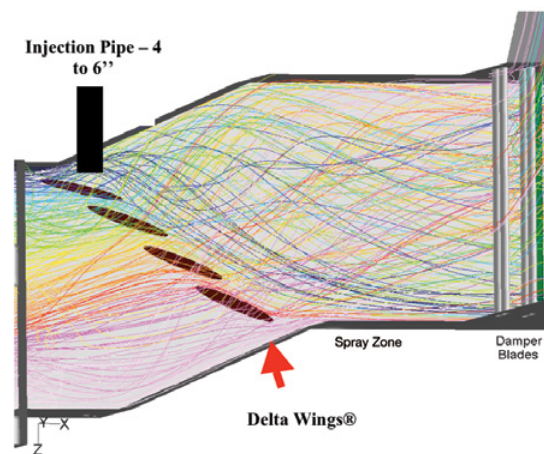
The locations of the Delta Wing® mixers are optimized within the ductwork using a computational flow dynamics and physical flow modeling. As a result, the Babcock Power Environmental system employs a smaller number of much larger injection ports which mitigates potential lance plugging and reduces maintenance requirements.

The Delta Wing® DSI system achieves either a higher removal level for a given sorbent injection or use less sorbent for the same removal level. Existing systems can be retrofitted with paybacks as short as 2 to 3 months.

*Babcock Power Environmental's affiliate, Riley Power Inc., also a Babcock Inc. company, offers the same proprietary-based technology, Delta Wing® DSI system, to its customers.



Simpler Injection System



In Duct Mixing

SAFETY³ PEOPLE. POWER. PROJECTS.

We're giving safety the third degree.

Babcock Power Inc. and its subsidiaries place the safety, health and security of our people at the core of our company values. Our team is our most valuable resource, generating solutions everyday to deliver safe, clean, reliable energy globally. With a keen focus on safety, Babcock Power Inc. conducts business in a manner that protects our people, our customers and the environment. From innovation to generation, we are proud of our award-winning safety record and are committed to operating with integrity and excellence.

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