



Industrial Boiler Dry Bulk Sorbent Injection

SORB-N-JECT[®]

Technology

for

Hg, HCl, HF, Dioxins/Furans, SO₂, SO₃ Emissions Mitigation

Increased legislation and mounting regulations are leading industrial boiler facilities to seek reliable, cost-effective methods of reducing pollutants in stack emissions.

Reducing Emissions Via Chemical Sorbent Injection

Nol-Tec Dry Bulk Sorbent Injection Systems mitigate Hg, HCl, HF, Dioxins/Furans, SO₂ and SO₃ emissions, effectively and efficiently.

Custom-engineered Sorb-N-Ject systems continuously transfer sorbent materials from storage silos to injection ports on boiler flue gas ducts. The injected material reacts with the pollutants in flue gas to reduce emissions. Sorb-N-Ject systems include special features to prevent common problems and maintain continuous production.

A Typical System

Although system configurations vary with each application, a typical installation includes a storage silo sized to hold the appropriate inventory of dry sorbent material. The silo is filled pneumatically from bulk trucks and include attachments such as bin vents and level probes.

Depending upon physical plant layout, pneumatic delivery systems can be used to transfer product from the storage silo directly to the duct injection locations, or to intermediate receiving bins located closer to the duct work.



Typical Sorbent Materials

- Hydrated Lime
- Trona
- Sodium Bicarbonate
- Powdered Activated Carbon

The injection system begins at the discharge of the silo or receiving bin. Aeration promotes material flow. An automatic valve opens to gravity feed the product into a continuous loss-in-weight feeder. This feeder meters sorbent into a positive pressure dilute phase conveying line. The product conveys through a splitter valve to individual duct injection lances. To increase efficiency, an in-line mill may be used to reduce the particle size of certain sorbents.

WHY Use Sorb-N-Ject Technology?

- Low cost, proven technology
- Simple, flexible design
- Continuous, reliable operation
- Compact footprint
- Controlled feed optimizes sorbent use
- Minimal labor to operate
- Automated self-diagnostic controls
- Clean, dust-free operation

At the convey line splitter, an automatic sensing system is employed to detect any plugs in the injection lines. If a plug is detected, the affected injection line is automatically purged to ensure continuous material flow to all injectors.

System design can include redundancy throughout, so product flow remains uninterrupted. Precautions are taken to eliminate potential problems associated with moisture ingress and dust emissions. Where applicable, variable speed controls are used for motors to keep the operation flexible.

System electrical controls include PLCs with operator interfaces (HMIs) as well as DCS interface and motor control centers.



