Temporary On-Site Sorbent Injection

The NTE Process portable configuration simulates full sorbent injection system functionality, but is designed on a smaller scale, usually contained in just two units. The first unit holds and feeds the sorbent, the second unit is a semi-trailer housing the components that make the portable system operate.

This system is small but complete enabling on-site testing, fact finding, and adjustment prior to full-scale system design, installation and start-up.

WHY Use a Temporary System?

- Test effectiveness of various sorbents;
- determine proper injection locations;
- verify quantity of chemical required;
- provide temporary sorbent injection while permanent system is being installed;
- provide temporary injection as needed, such as during the ozone season.

NTE SCIENTIFIC HUB
Where innovation meets process

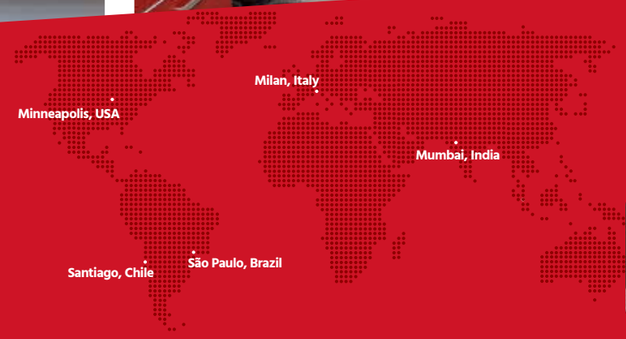
NTE Scientific Hub is an Innovation & Research Centre with a laboratory and a 1:1 scale Pilot Plant where customers can directly test NTE Process' technologies.

Here is where both scientific and full scale test are carried out, such as product's conveyability, degradation, segregation, and many more, in order to prevent issues during the plant start-up.

NTE Scientific Hub has 4 test areas, depending on the type of process to be tested.

Technologies customers can see first-hand:

- low pressure dense phase pneumatic conveying
- vacuum dense and dilute phase pneumatic conveying
- air mixing
- spray drying
- liquid dissolving and concentration
- dosing
- milling
- in-line formulation
- unloading and dosing of mobile container
- bulk bag unloading.



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NTE PROCESS

Powering a Greener World

CONVEYING IDEAS
INSPIRING SOLUTIONS
BUILDING SUCCESS

Air Pollution Control & Ash Handling Solutions

L-I-W dosing system & dense phase conveying

BIOMASS ADDITION
complete package with special burner

The revolutionary system for Biomass Addition is designed to inject sawdust, lignite, palm kernel shell, etc., inside boiler with the NTE Process dense phase continuous technology.

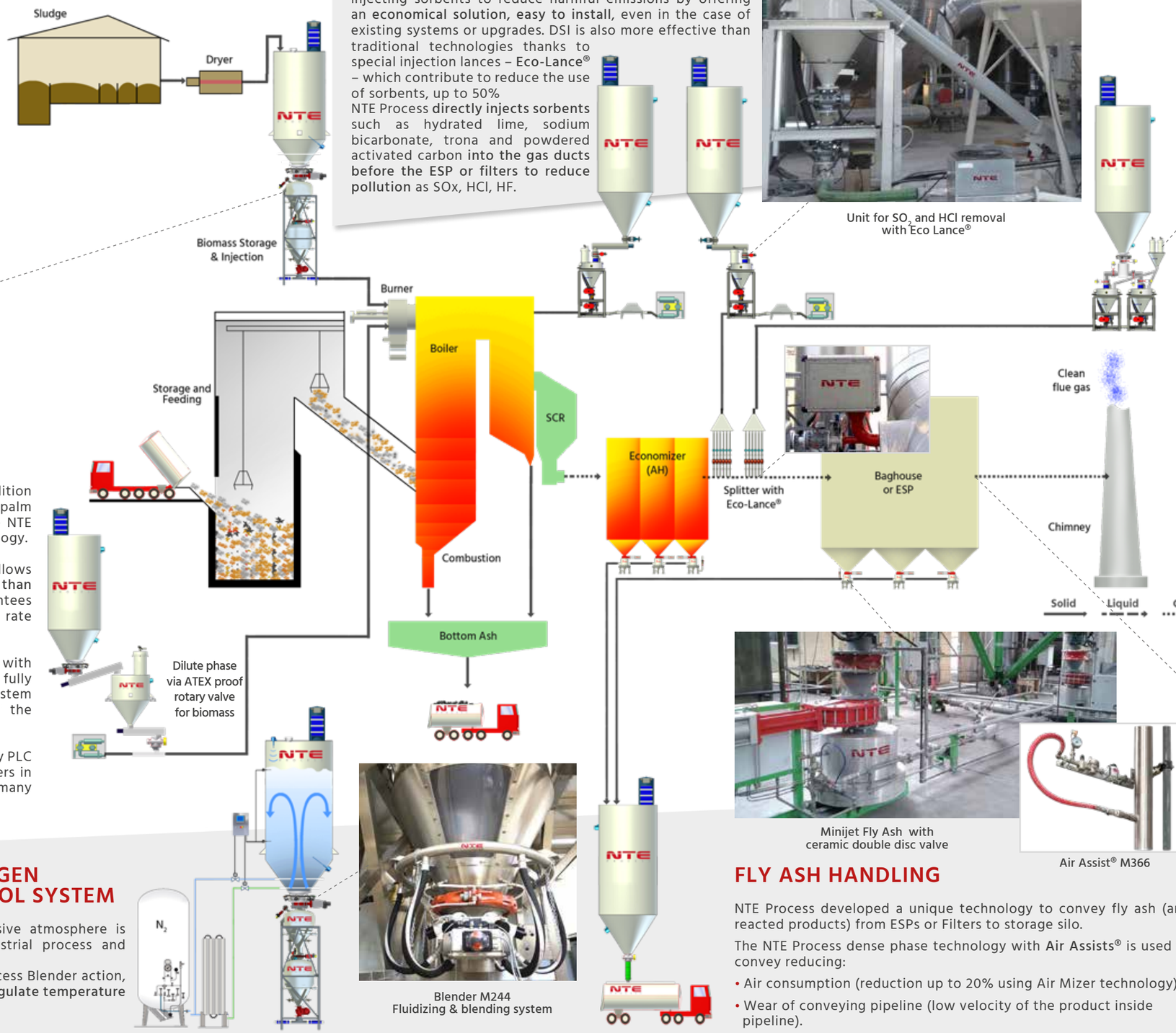
The new flow control rotary valve allows **loss-in-weight feeding (accuracy less than 1%) and dense phase conveying** guarantees constant air to product ratio for all rate ranges.

The system is designed to operate also with combustible and explosive powders in fully safe condition. It is a pressurized system that operates a complete control of the continuous flow rate of the product.

The system is automatically controlled by PLC that can change the operative parameters in order to optimize the performance of many different products.

SORBENT INJECTION FOR ACID GAS CONTROL

The NTE Process systems is based on DSI technology for injecting sorbents to reduce harmful emissions by offering an **economical solution, easy to install**, even in the case of existing systems or upgrades. DSI is also more effective than traditional technologies thanks to special injection lances – **Eco-Lance®** – which contribute to reduce the use of sorbents, up to 50%
NTE Process **directly injects sorbents** such as hydrated lime, sodium bicarbonate, trona and powdered activated carbon **into the gas ducts before the ESP or filters to reduce pollution** as SOx, HCl, HF.



Unit for SO_2 and HCl removal with Eco Lance®

PAC - Unit for Hg & Dioxins Removal

THIRD GENERATION SYSTEMS FOR MERCURY AND DIOXINS CONTROL

NTE Process developed a technology for the control of ercury and Dioxins by a controlled injection of activated carbon (dry system) with innovative third generation **pneumatic conveying technologies** that guarantee the following advantages:

- Convey at pressure higher than 0,5 BAR
- Injection of large amounts of PAC with small diameter pipes
- Convey suitable for long distances
- Layout flexibility
- Use of splitters to improve the material dispersion

1) The dispersion is the key for an effective mitigation.

2) The material dispersion decreases the PAC use, increasing the efficiency of mercury removal.

Baghouse

TEMPERATURE AND OXYGEN CONCENTRATION CONTROL SYSTEM

The Formation of a potentially explosive atmosphere is a natural consequence of many industrial process and activities specially in Biomass.
By using Nitrogen Gas with the NTE Process Blender action, it is possible to **fluidize, homogenize, regulate temperature and inertize biomass silos.**

Blender M244
Fluidizing & blending system

Minijet Fly Ash with ceramic double disc valve

Air Assist® M366

FLY ASH HANDLING

NTE Process developed a unique technology to convey fly ash (and reacted products) from ESPs or Filters to storage silo.

The NTE Process dense phase technology with **Air Assists®** is used to convey reducing:

- Air consumption (reduction up to 20% using Air Mizer technology)
- Wear of conveying pipeline (low velocity of the product inside pipeline).