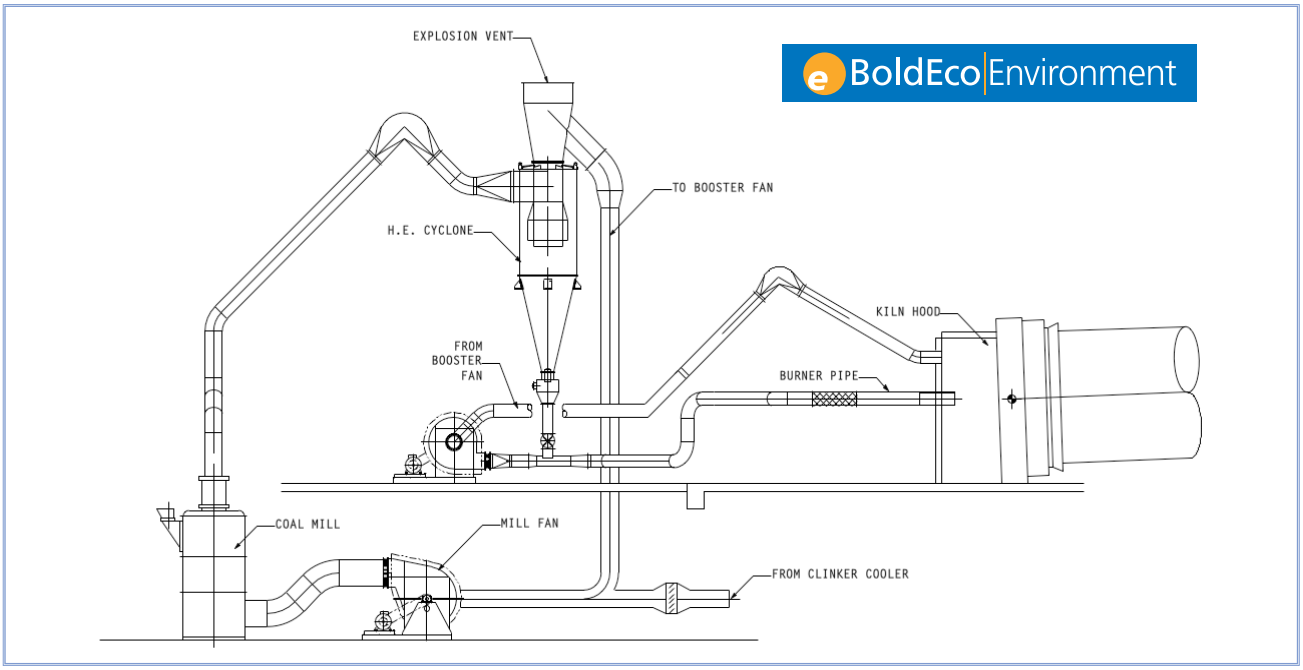
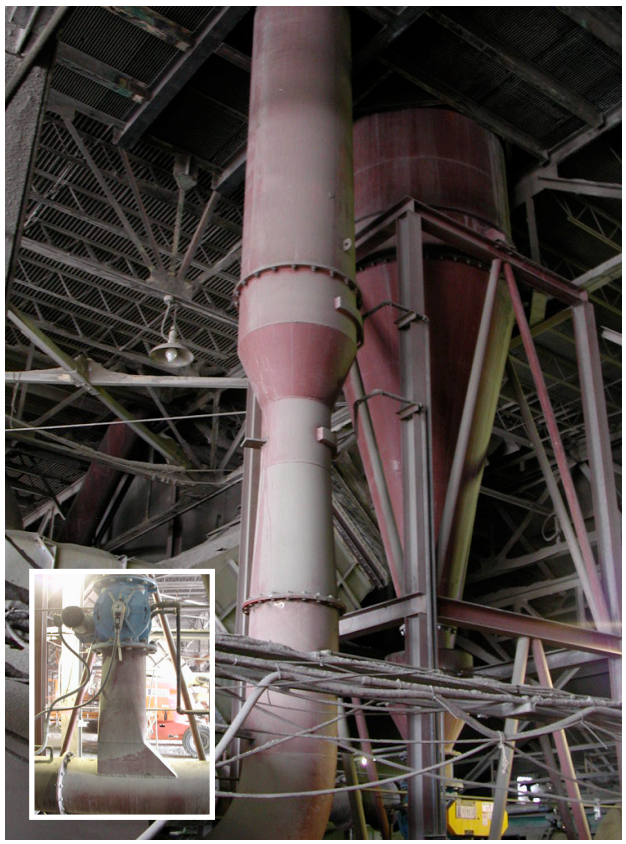
BoldEco SD kiln firing system

Many older kiln systems are coal-fired. The older way of introducing pulverized coal into the kiln burner was to move it directly from the pulverizer, straight to the burner. This causes an excess of NOx due to the high amount of excess cold air, which is not optimal for reduction of NOx in the burning zones of the kiln. This is called direct-firing. Newer systems are able to optimize the amount of combustion air and its temperature by storing the pulverized coal in a silo and metering it into the kiln with just the right amount of hot air, thus reducing the formation of thermal NOx. This system is called an indirect firing system.

BoldEco can take your existing direct-fired system and convert it to a semi-direct firing system (SD). The process is fairly straight forward. We install a high-efficiency cyclone into the milling circuit and carefully meter the collected coal into the burner.





High Efficiency Cyclone w/eductor detail (inset)

how a BoldEco SD system works

The key to the high efficiency and low NOx production of our systems is the specially designed high efficiency OptiVortex Cyclone and our CFD developed skirted vortex finder that can efficiently seperate less than 5 micron coal dust from the recirculated air stream. The outlet of the OptiVortex cyclone is fitted with a specially designed explosion relief elbow that prevents the explosion from propagating to the coal mill.

The coal dust collected by the OptiVortex cyclone, metered into our proprietary venturi feeder and fed into the kiln burner by a high-pressure combustion blower that takes its combustion air from a high temperature source.

In most cases, the scope of supply will be the entire air moving, separation and dosing system, complete of all components, less the piping, burner and coal mill, which are usually existing.

A typical plant with a direct fired system will find that it can reduce its total NOx approximately 50-80% with the installation of a BoldEco SD firing system, without the need for burner replacement.

advantages of BoldEco SD systems

- lowest cost solution for existing direct fired systems
- decreases thermal NOx withour changing burner
- decreases LOI compared to direct firing
- improves flame stability
- provides excellent mill explosion protection
- separate control for mill fluidization

low-cost • guaranteed • retrofits & upgrades • financing

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