

Pentol Technology for Green Energy Boilers



Unique and most cost competitive technology for Slop / Spent Wash / Vinasse / Black Liquor fired Incineration Boilers , Biomass fired Power Plants etc.

WHO WE ARE

Additives & technology for power plant optimization

Founded in

1969, Germany

Fields of activity

Heavy fuel oil fired power plants, ... Coal fired power stations, ... Diesel engines, ... Gas turbines, ... Waste incinerators

Focused on

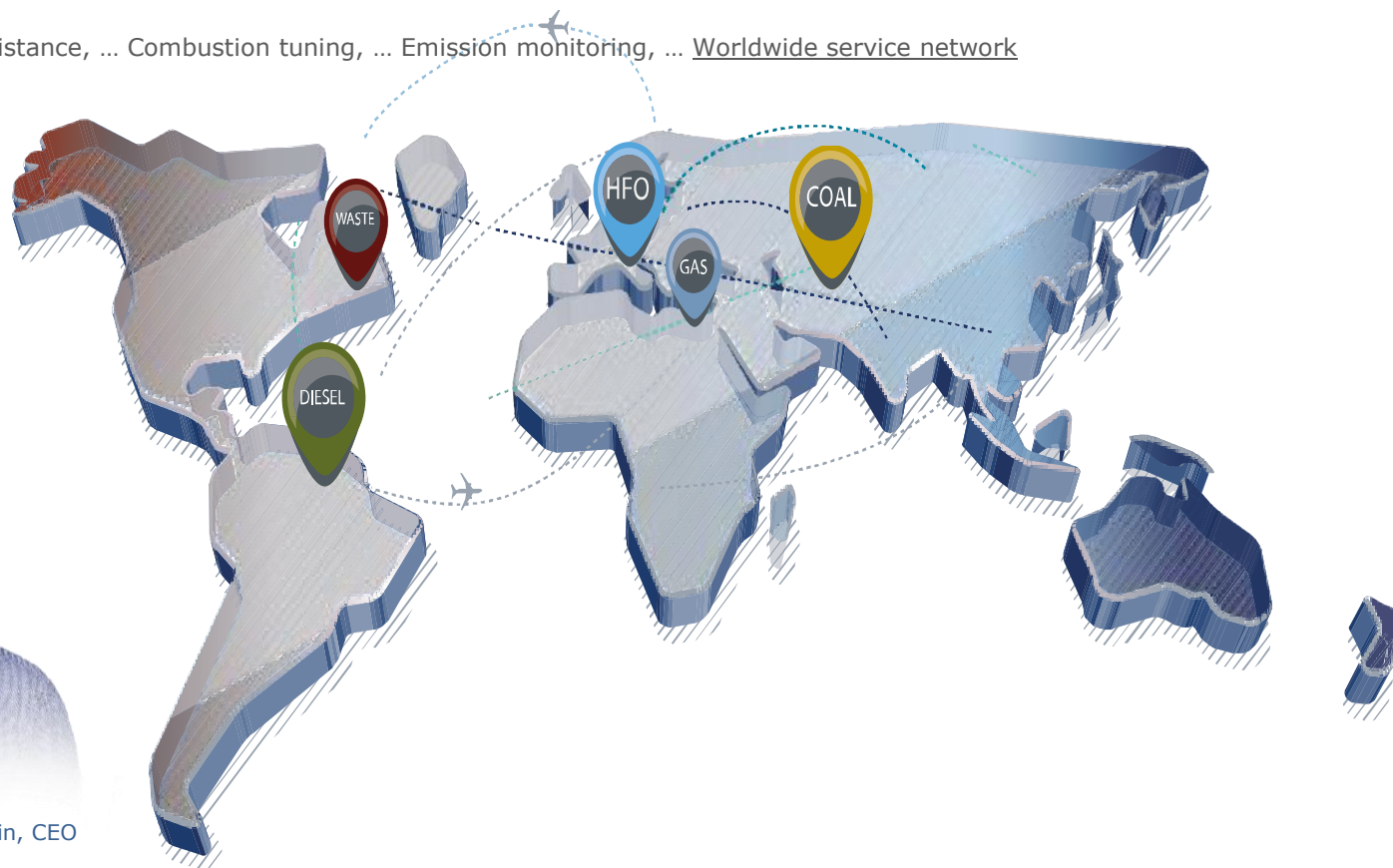
Emission problems, ... Corrosion issues, ... Inefficient heat-transfer

Working principle

We work as partner of plant operators (not just a supplier of commodities) – we work closely side by side

Our offer includes

Technical assistance, ... Combustion tuning, ... Emission monitoring, ... Worldwide service network

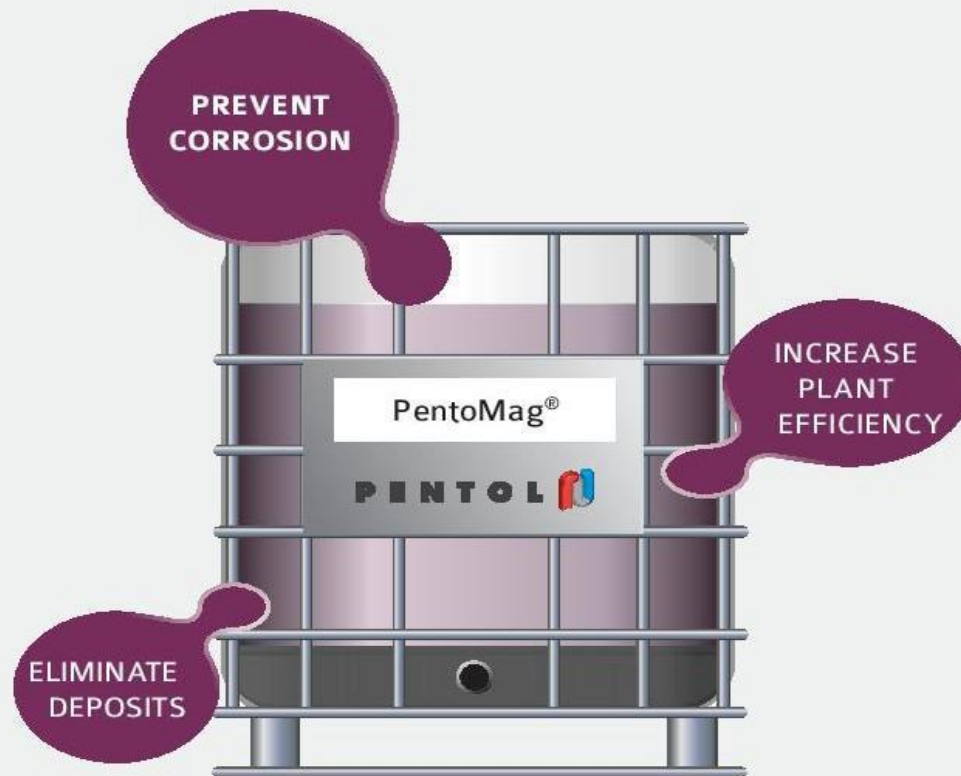


Olivier Blauenstein, CEO

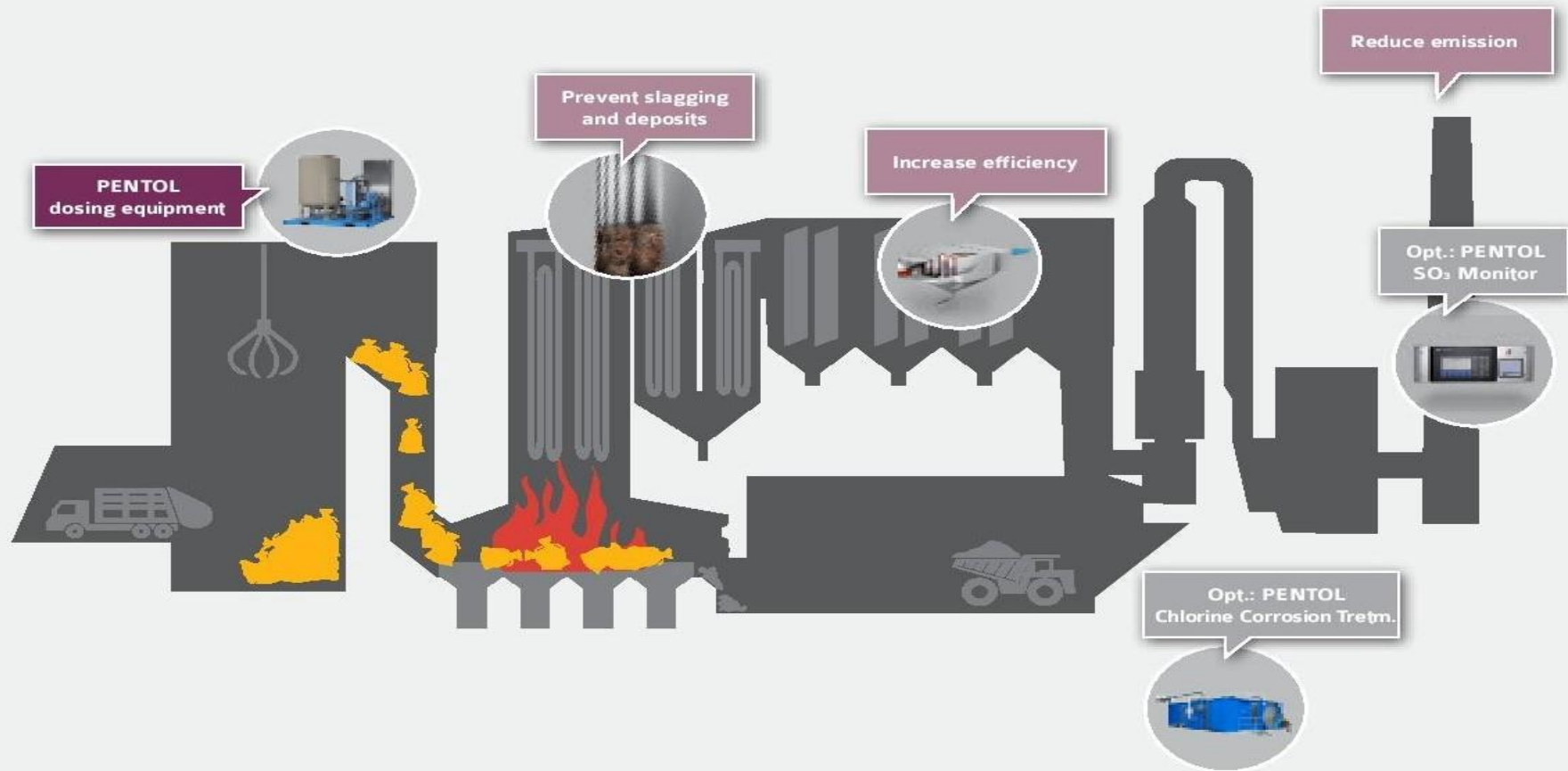
Eric Blauenstein, Founder & President

PentoMag an unique solution for Green Energy Boilers

PentoMag® is designed to avoid corrosions and deposits.



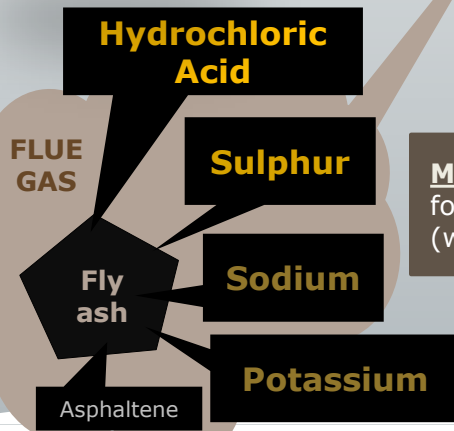
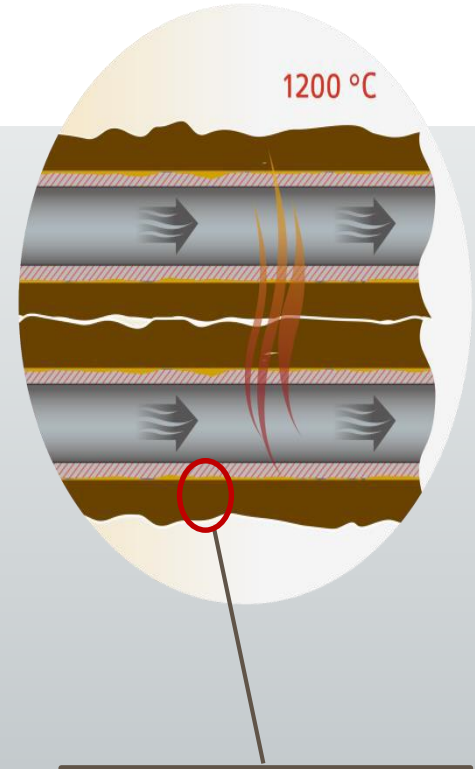
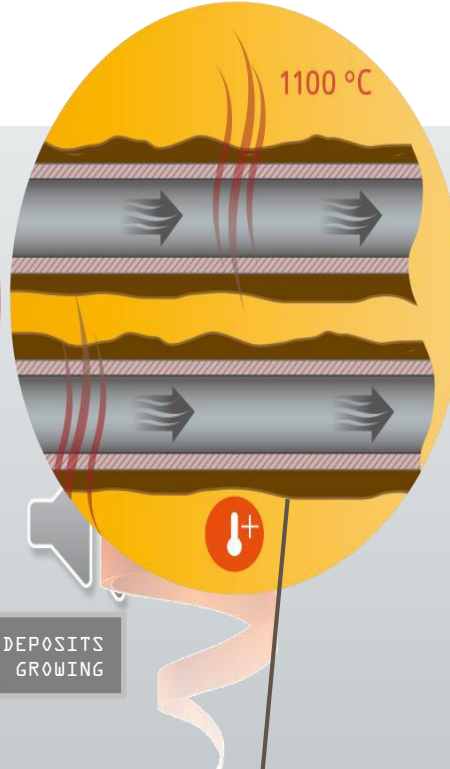
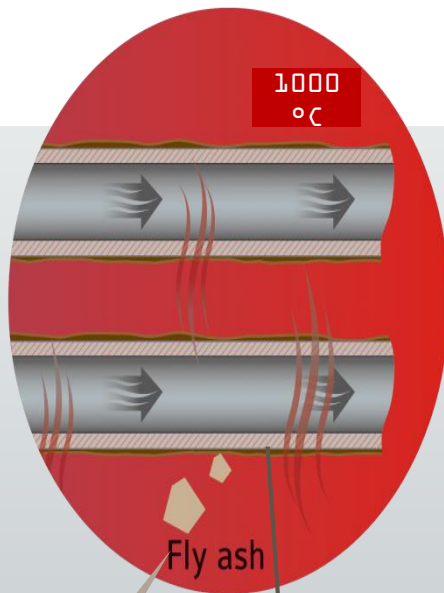
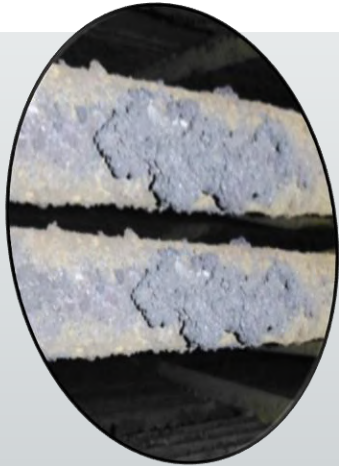
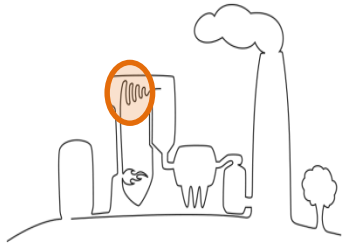
Advantages of PentoMag at a glance



Advantages of PentoMag at a glance

- Extends the time of maximum load of the plant
- Maximizes availability of the plant
- Increases efficiency of the plant
- Prevents corrosion
- Eliminates deposits
- Decreases soot blowing frequency
- Reduces emission
- Reduces maintenance cost
- Increases useful life of the plant

Corrosion and Deposits



Molten deposits
formed by ash components
(with diff. fusion points)

SO₃ formation
(depending on excess air)

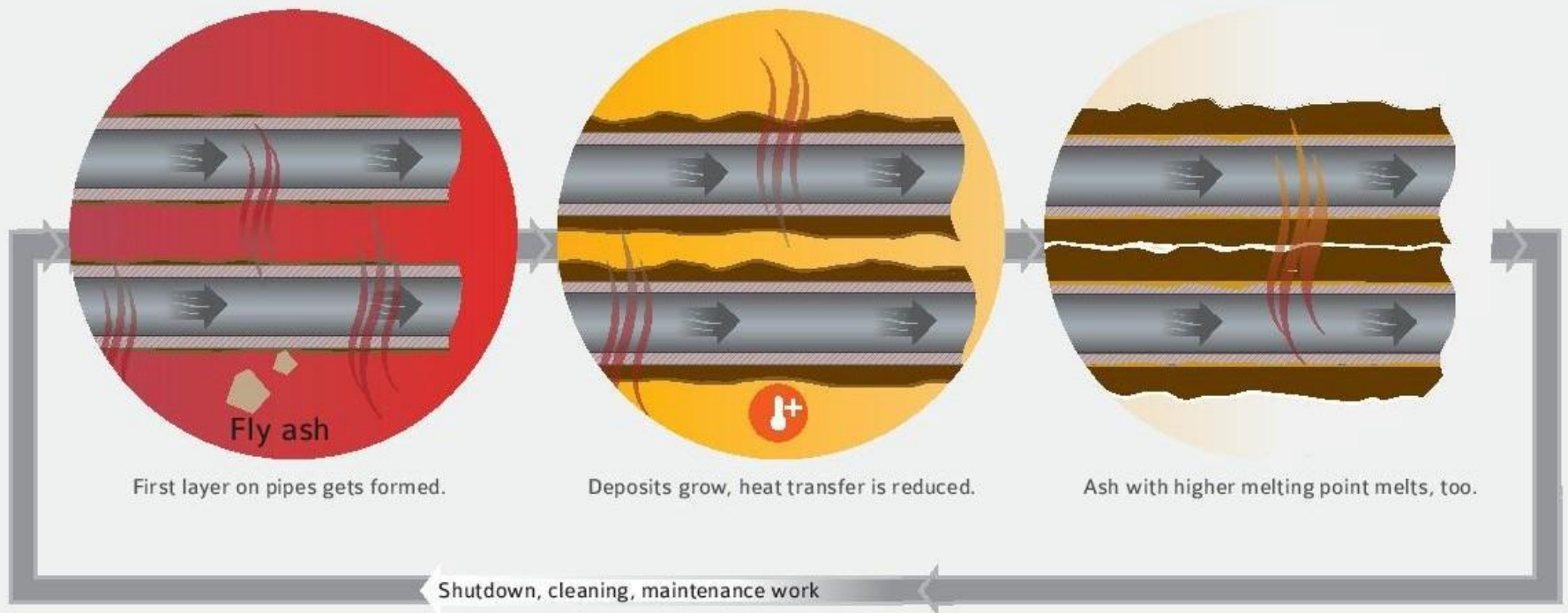
Vanadium pentoxide
serves as catalyst for
SO₂ to SO₃ conversion

Corrosive deposits

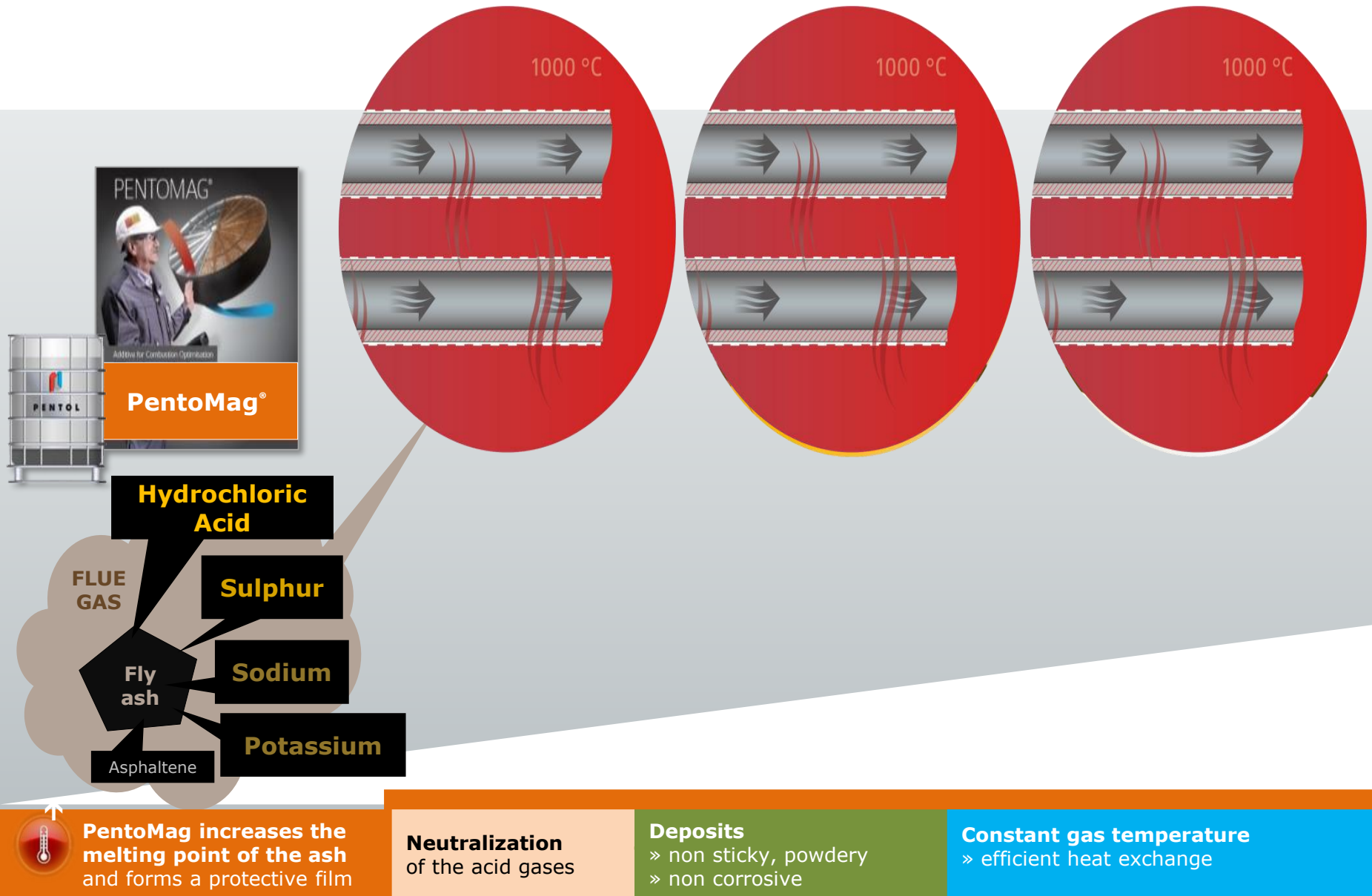


Corrosion and Deposits

The main source of corrosion are acid gases contained in flue gas



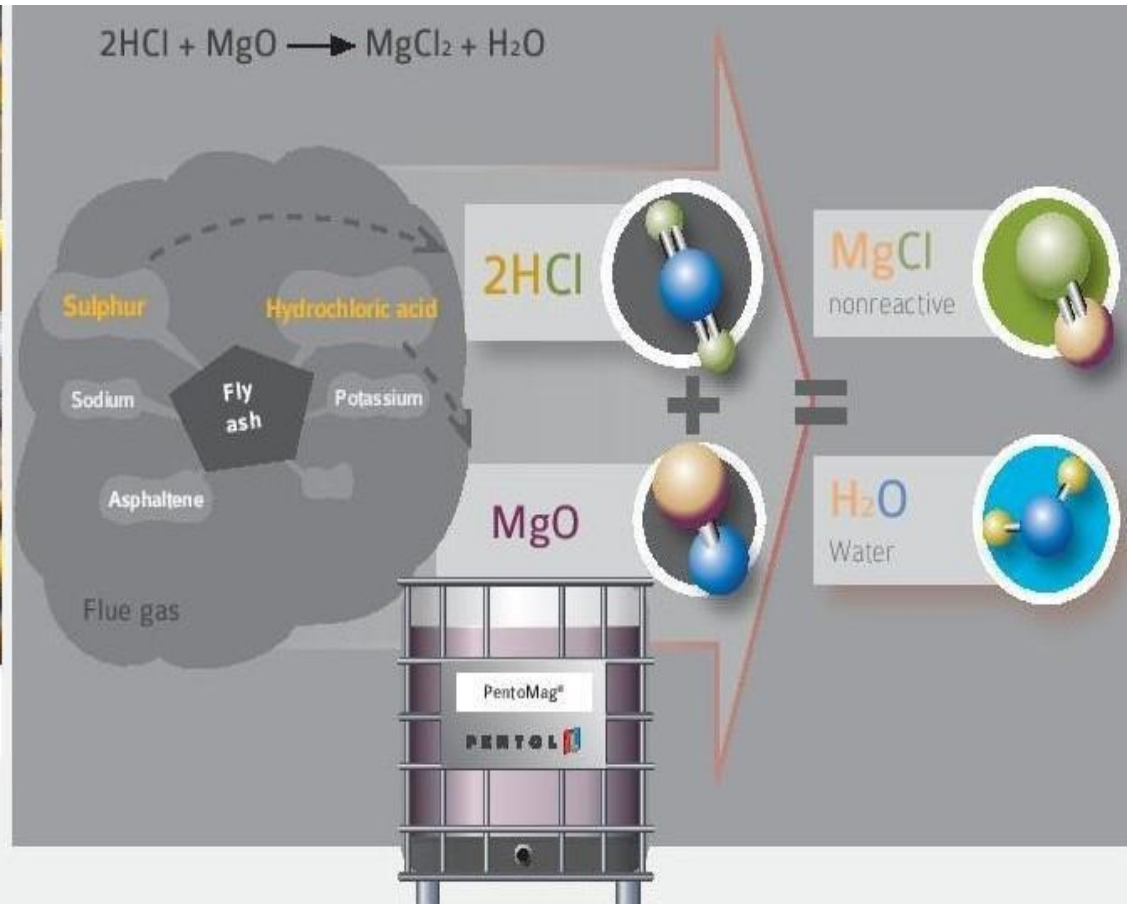
PentoMag neutralizes deposits on pipes



PentoMag increases pH of ash

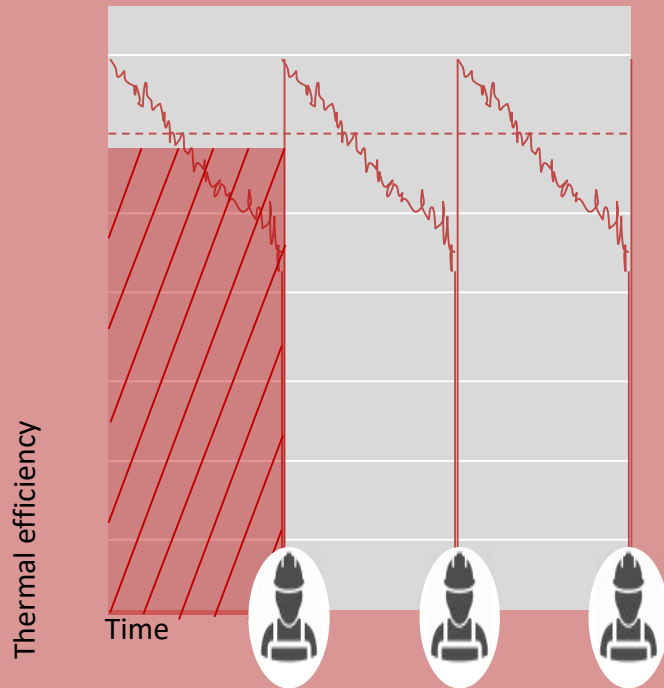


Ash sample collection probe

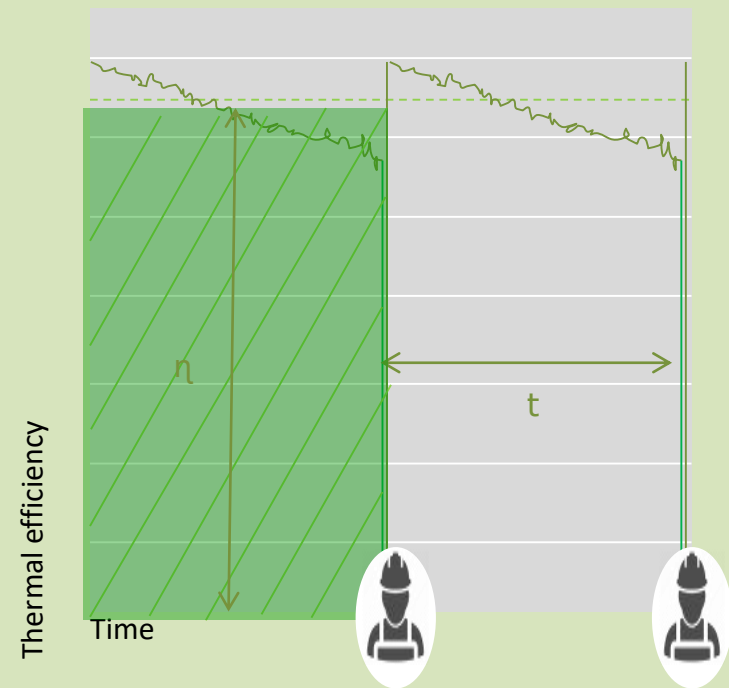


Comparative study of the plant availability

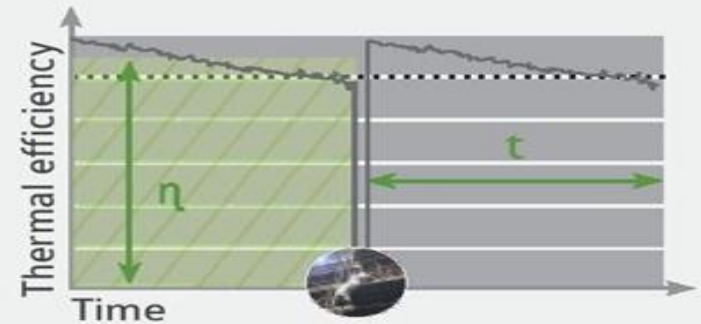
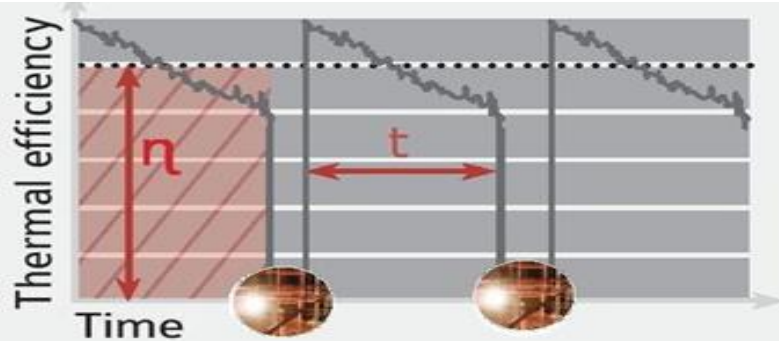
Without treatment



With treatment



Conclusions



Formation of friable deposits light and easy to remove with soot blowers



Drastic reduction in cases of corrosion and perforation of the recovery boiler pipes in the areas most subject to stress, such as superheater pipes, and complete protection of the whole metal frame in the cold part of ash collection from the electro filters



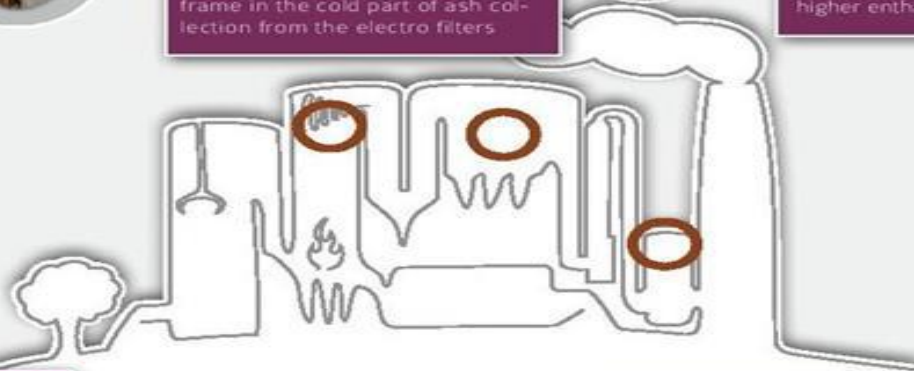
More efficient recovery boiler thanks to an improved heat exchange and therefore to greater use of the steam produced with a higher enthalpy value



Reduction in the scrubbing times of the flue gas thanks to the high friability of the deposits present.



Greater efficiency and cleaning of the electrodes of the electro filters and the sleeve filters



Fully automatic dosing systems



Dosing pumps / dosing units.
Precise, protected and easy to use.

THANK YOU