



of combustion processes

WE ARE NOT DONE YET

Despite the world's effort to limit CO₂ emission, **consumption of fossil fuels is still growing** in the energy market.





But thermal power plants have on important rale to play in the effort to change the world's energy consumption.





Thermal power plants are still the best choice as the backbone of the power supply. That's why environmental protection should not be about shutting down thermal power plants, but improving them.

The way to make energy generation greener is to increase the eco-efficiency of power plants through science and technology. Pentol chemicals offer a cost-effective way to solve emission problems at the source, instead of upgrading thermal power plants with expensive cleaning equipment. Power plant operators can significantly improve performance with technological turnkey solutions.

In addition to providing a healthy return on investment, this is a practical contribution to the long-term preservation of our environment.

THE PENTOL APPROACH

Affordable environmental protection





There is a problem to be solved in the energy industry: Producing green energy that is affordable.

Most people agree that the world needs to reduce the environmental footprint of its energy production, but we have to remember that we also need access to an affordable and continuous supply of electricity.

Unfortunately, it is a fact that not many countries worldwide can afford 100% green energy.

Pentol has a solution:

Reduce the environmental footprint of existing power plants by optimizing their efficiency. We offer a detailed on site evaluation of each power plant, assessing the rentability of available technologies and the implementation of the most promising ones.

MEGA WHAT?

Imagine 450 large wind generators

running 24/7.



Increasing the efficiency of power plants is a thrilling challenge.

Pentol's combustion engineers regularly visit every treated plant to verify the results. Hand in hand with the client, we analyze the situation and take measures to bring the plant up to the most efficient operation. A perfectly tuned boiler, diesel engine, or gas turbine is not only more efficient and cheaper to operate; it is also more reliable and produces fewer outages. This gives our clients flexibility in their operations – and the budget savings to invest in renewable technology.





Eric Blauenstein Founder & President Olivier Blauenstein

We have specialized at increasing combustion efficiency since 1969.

For 50 years, Pentol has produced chemicals and process equipment at its plant in Grenzach-Wyhlen, the southernmost city in Germany.

Since the beginning, our visionary founder and owner has stressed one key value: WE WANT TO CHANGE THE WORLD.

The quality and reliability of our products is the foundation of our success. We continuously work on our processes and products to improve their quality and efficiency.



ABOUT PENTOL

In addition to the 30 employees working in our headquarters, we maintain a network of branches and service companies around the globe.

We are driven by progress

We have a worldwide network of international specialists developing customized solutions for every market, working side by side with our customers.

We are proud of the great number of extraordinary projects we have completed, like the development of emission measuring instruments in Poland, the optimization of diesel engines in Cuba, and the reduction of dust emissions in Europe, to name just a few.

We bring our experts together regularly to exchange ideas and take advantage of synergies at the global level.



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WHAT WE OFFER

The following pages give an overview of the technologies and products currently produced by Pentol.





PentoMag for HFO

prevents corrosion and deposits in the boiler and increases heat transfer efficiency.





PentoMag for Coal

prevents slagging and sintering of ash and increases boiler efficiency.

Diesel Engines & Gas Turbines



Waste & Biomass Incinerators





PentoMag for Diesel

increases diesel engine efficiency and reduces maintenance cost.



PentoMag for Waste

inhibits deposits in waste incinerators.

We continuously adapt them for different markets and opportunities, so make sure to contact your representative to find out how we can partner with you to serve your particular needs.



PentoMuls

is a water-in-oil emulsification technology for complete carbon burnout and fly ash reduction.



Fuel Oil Treatment

The synergy from the combined use of PentoMuls and PentoMag is a multiple efficiency.



Flue Gas Conditioning

increases electrofilter efficiency and the quality of gypsum.



SO₃ Generator

Is based on the same principle used in flue gas conditioning but in micro doses for laboratory use and factory



PentoMag for Turbine

inhibits corrosion and increases efficiency of gas turbines.



PentoSolv3

is our powerful industrial detergent for encrusted deposits.



Sulfur chlorine balance

creates a sulfur/chlorine equilibrium and breaks the circle of chlorine based corrosion.





for online emission measurment.

WHAT DOES **COOPERATION** WITH PENTOL LOOK LIKE?





We examine the whole process to identify parts or equipment where we see optimization potential, and where we can contribute to better fuel combustion. Typically, our products and technologies consist of three parts. First is the protection of your boiler or gas turbine (or diesel engine). Next is environmental protection. Finally, we seek an efficiency increase that will reduce emissions and easily pay for the treatment through cost savings.



www.pentol.net/ power-plant-optimization

Case study





Will it work for you? Ask us for a success plan custom designed for you. Here is an example from a heavy fuel oil fired power plant.



Pentol finds solutions for a large number of well-known companies worldwide.



Find customer cases www.pentol.net/cases

Questions regarding function, support, and sales will be answered promptly via our online chat support or by sending e-mail to sales@pentol.net.

Every power plant is unique. We have learned that no two boilers are alike, and every client has to be treated on an individual basis.

We are thrilled to help you find solutions to your individual challenges, and we look forward to meeting YOU!





Reduced fly ash after a complete carbon burnout is just one example of a positive effect (in addition to fuel savings and reduced emissions, deposits, corrosion, and maintenance). Power plant optimisation made in Germany
label{eq:power plant}





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