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The technology
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heavy industry

**Fuel supplement system that cuts emissions
and improves fuel efficiency**

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FUEL SUPPLEMENT SYSTEM THAT CUTS EMISSIONS AND IMPROVES FUEL EFFICIENCY

How it works

Mining operations are a major source of Scope 1 fossil fuel emissions for companies. For instance, diesel engines in mining trucks, ancillary equipment or generators contribute to a site's overall emissions output. Naturally, diesel engines become less efficient over time, impacting the fuel economy and overall performance.

This innovative commercial-grade fuel supplement system improves an engine's overall performance by making the combustion process more efficient. It was developed to reduce toxins, harmful gases, and emissions from engines and to provide cleaner air to the environment.

The system uses electrolysis to produce a hydrogen gas mixture on demand for the engine from a liquid electrolyte. The hydrolysed gas is delivered into the engine via the air intake and mixed with the regular fuel.

This new hydrolysed fuel-air mixture burns faster and more thoroughly than traditional combustion. As a result, nearly all carbon particles (DPM), along with other toxins and harmful gases such as carbon monoxide, are burnt off, reducing the emissions output and improving the fuel consumption of an engine.

No hydrogen is stored in the engine, making it safe for open pit and underground environments.

The modular design makes it easily scalable and can operate in a parallel to meet the demands of larger engines. It has no impact on warranty and doesn't require any modifications to the engine itself, making installation minimal, usually less than one hour.

Key facts

70%+

emissions reduction

Up to

18%

improved fuel economy

Up to

10%

drop in fuel costs

TOP BUSINESS BENEFITS

There are six key businesses benefits of this fuel supplement system:

- › Creates a more efficient combustion process producing more power
- › Enhances engine efficiency
- › Proven to reduce emissions by +70%
- › Fuels savings by 4-18%
- › Decreases maintenance costs by reducing downtime
- › Reduces operational costs

The hydrolysed fuel-air mixture enhances the combustion process and turns harmful chemicals and toxins such as carbon monoxide, diesel particulates, sulphur oxides and nitrogen oxides into carbon dioxide. These toxins are not only harmful to the environment but to people as well. Using this cleaner air technology also provides a safer and healthier working environment for on-site.

Simultaneously, operating a more efficient engine means less diesel is consumed overall, reducing the emissions output and fuel costs. Decreased emissions in an underground environment will lead to reduced ventilation costs for operators and better working environments for miners.

A more effective combustion process results in a smoother-running engine, causing less wear and tear and decreased maintenance costs due to less downtime. Less blockage will occur with the DPF filters and EGR valves with a cleaner running engine.

Top benefits

- › Creates a more efficient combustion process producing more power
- › Enhances engine efficiency
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Commercial-grade fuel supplement system

CUSTOMER SUCCESS STORIES

A case study in a major city

Customer challenge

The solution underwent an 18-month study in a global city that an external leading international firm audited. During this period, a total of 33 different engine types were tested.

Solution

The fuel supplement system achieved an average of 72% reduction in harmful emissions and an average fuel savings of 10%.

Parcel service operators

Customer challenge

This parcel service company was keen to try the technology on its own semi-tractor vehicle. The vehicles operate six days a week and incur lots of idle time.

Solution

In just two months, the company reported that the tractor went from doing 5.9 miles per gallon to 6.4 miles per gallon, and the carbon level was zero. A more efficient engine also resulted in saved costs and decreased downtime.

Super Yacht

Customer challenge

This super yacht company installed the solution on two 125KW diesel generators.

Solution

There was an immediate improvement in hydrocarbon deposits on the water's surface and smoother power delivery. The data showed a 10% reduction in fuel savings and no impact on the engine. Further testing showed a significant reduction in carbon deposits in the water and airborne diesel particulates.

FAQ

How is the product installed?

Installation requirements are minimal, and the engine doesn't need to be modified. It takes roughly 45 minutes by a trained professional. The company also provides training for on-site employees on installation. The process is quick and easy and has no impact on the warranty.

Are there any consumables?

It requires refilling of electrolytes every 10k miles. For optimal performance, the company has developed a pre-mixed solution.

What can it be installed on?

It can be used on most vehicle types and generators that rely on fossil fuel engines. Additionally, it has proven effective on new and older engine models.

About Axora

Axora is the global technology **marketplace** for heavy industry. We source the best innovative solutions, to solve the biggest industrial problems.

Our service helps industrial companies to discover, evaluate, procure and deploy technology from all over the world.

Entrusted globally by 100s of industrial leaders and innovative solution providers, we help companies take action to hit their safety and sustainability goals.

Your next steps

→ [Email us](#)

About the solution provider

This clean air technology company is creating an accessible path for companies to decrease their carbon footprint. Working in multiple sectors around the world, they have proven to bring significant results to their clients. The products have been rigorously tested and can be installed on most vehicle types that use diesel engines. The solutions use hydrogen technology to reduce emissions, cut costs and extend the equipment's life.

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