



MADE IN U.K. 

HYDRA

# DIESEL POWER BLAST

REDUCES FUEL CONSUMPTION

## DIESEL ADDITIVE

- ✓ Maximum Fuel Burn Efficiency - More Power
- ✓ Improves Fuel Economy By Up to 10%
- ✓ Reduces Harmful Diesel Engine Exhaust Emissions (DEEE)
- ✓ 1 litre Treats Up to 1500 litres Diesel Fuel
- ✓ Highly Effective in all Diesel Engines including: Cars, Trucks, Vans, Taxis, Earth Moving Plant, Locomotives, Generators, Military Vehicles etc



**HYDRA**®  
(English)

## Features & Advantages

- ✓ Improves Fuel Economy By Up to 10%
- ✓ Cleans & Protects Fuel Injectors
- ✓ Boosts Fuel Cetane by up to 5 Numbers
- ✓ Maximum Fuel Burn Efficiency - More Power
- ✓ Reduces Diesel Engine Exhaust Emissions
- ✓ Reduces Diesel Smoke, Odour & Exhaust Soot
- ✓ Cleans & Protects Against Formation of Gums

- ✓ Prevents water corrosion damage to injectors and metal components in fuel system
- ✓ Reduces All Harmful Emissions Including:
- ✓ Reduces CO<sub>2</sub>, NO<sub>x</sub>, THC, NMHC, CO, PM
- ✓ Immediate Payback from Day 1
- ✓ Dose rate 1 litre Treats 1,500 litres Diesel Fuel

## The Problem

In modern diesel engines the injector orifice size are much smaller and manufactured to tighter tolerances than in the past.

This means that even a small deposit build-up inside the injector can interfere with the correct spray pattern resulting in fuel wastage and higher emissions due to unburnt fuel leaving the engine. These deposits can start as early as 2,000 miles in a new engine.



Also diesel fuels with Cetane numbers lower than minimum engine requirements can cause rough engine operation. They are more difficult to start, especially in cold weather.

Many low Cetane fuels also increase engine deposits resulting in more smoke, increased exhaust emissions and greater engine wear.

Diesel engines can produce black soot or more specifically diesel particulate matter from their exhaust. The black smoke consists of carbon compounds that have not burned because of local low temperatures when the fuel is not fully atomised.

These local low temperatures occur at the cylinder walls, and at the surface of large droplets of fuel. At these areas where it is relatively cold, the mixture is rich (contrary to the overall mixture which is lean).

The rich mixture has less air to burn and some of the fuel turns into a carbon deposit.



The introduction of biodiesel, being more hygroscopic than petroleum based diesel, brings its own instability issues into the fuel mix.

Using fuels which meet engine operating requirements will improve cold starting, reduce smoke during start-up, improve fuel economy, reduce exhaust emissions, improve engine durability, reduce noise and vibration.

The largest environmental aspect and impact that all companies have is the fuel that they use.

Consumption of this fuel leads to harmful emissions such as CO<sub>2</sub>, NO<sub>x</sub>. Within the European Union, road transport is responsible for about 20% of all CO<sub>2</sub> emissions, with passenger cars and vans contributing about 15%.

Emissions of nitrogen oxides (NO<sub>x</sub>), total hydrocarbon (THC), non-methane hydrocarbons (NMHC), carbon monoxide (CO) and particulate matter (PM) are regulated for most vehicle types.

Modern engines are much better but still not perfect.

Many companies have or are trying to achieve the **Environmental ISO14001** accreditation, which once achieved - demands continuing improvement in reducing environmental impacts each year.

This proves to be a constant challenge to many companies, obviously a reduction in fuel consumption readily achieves this environmental impact as well as saving money.

## Description

### POWERFUL DETERGENTS

The powerful detergents in **Hydra Diesel Power Blast** prevents the formation of and also removes existing deposits caused by fuel decomposition and unburnt fuel.

These deposits interfere with the performance of your diesel engine.



### OPTIMAL INJECTOR SPRAY PATTERN

Modern high pressure direct injection engines use precise fuel metering through narrow shaped spray channels.

Injector deposits mean uneven fuel flow. 100% clean injectors give optimal fuel spray pattern, resulting in a very finely atomised spray.



This means that each finely dispersed particle of fuel is surrounded by many molecules of air (20% oxygen) ensuring a more complete burn.

This in turn gives you much better fuel economy, as all of the fuel is burnt, reducing emissions and improving engine durability.

By reducing soot formation **Hydra Diesel Power Blast** also helps keep the diesel exhaust gas return valves clean.

As supplied in Europe, where many companies are using it daily. Fuel treated with this package still meets the **EN 590:2009** EU specification for diesel fuel.

### INCREASED LUBRICITY



**Hydra Diesel Power Blast** also contains lubricity improvers that decrease fuel pump wear issues. These lubricants work in very cold climates and do not raise the sulphur level of treated fuel.

Test results give HFRR Wear Profile of less than 300. Our lubricants also reduce the friction in the cylinder thereby improving the coefficient of friction helping fuel economy. **Hydra Diesel Power Blast** protects your valuable fuel systems, prevents engine malfunction and engine failures.

All our products are manufactured to the highest International Specifications at our UK plant.

This plant is accredited to **ISO 9001:2008**, **ISO 14001:2004** and **OHSAS 18001:2007** ensuring that **EN 590:2009** fuel quality standard is always adhered to.

Breakeven point on fuel savings against cost of product is less than 1%. This means when your fuel consumption is reduced by more than 1% the product is not an additional cost, but is giving you massive cost savings.

1 litre **Hydra Diesel Power Blast** treats 1,500 litres of diesel fuel, available in different pack sizes for ease of use, simply add to fuel when filling up.

Can be added before or after refueling.



### VEHICLES & THE EMISSIONS THEY PRODUCE The Combustion Process

Most vehicle fuels (petrol, diesel, natural gas, ethanol, etc.) are mixtures of hydrocarbons, compounds that contain hydrogen and carbon atoms. In a “perfect” engine, oxygen in the air would convert all of the hydrogen in fuel to water and all of the carbon in the fuel to carbon dioxide (carbon mixed with oxygen). Nitrogen in the air would remain unaffected. In reality, the combustion process is not “perfect,” and engines emit several types of pollutants:

#### Perfect Combustion Process:

**FUEL** (hydrocarbons) + **AIR** (oxygen and nitrogen) = **CARBON DIOXIDE** (CO<sub>2</sub>) + **Water** (H<sub>2</sub>O) + **Nitrogen**.

#### Typical Real-World Engine Combustion Process:

**FUEL** (hydrocarbons) + **AIR** (oxygen and nitrogen) = **UNBURNED or PARTIALLY BURNED HYDROCARBONS** (VOCs) + **NITROGEN OXIDES** (NO<sub>x</sub>) + **CARBON MONOXIDE** (CO) + **CARBON DIOXIDE** (CO<sub>2</sub>) + **Water** (H<sub>2</sub>O).

#### EXHAUST POLLUTANTS

**HYDROCARBONS (HC):** Hydrocarbon emissions result when fuel molecules in the engine do not burn or burn only partially. Hydrocarbons react in the presence of nitrogen oxides and sunlight to form ground-level ozone, a major component of smog. Ozone can irritate the eyes, damage lungs, and aggravate respiratory problems. It is our most widespread urban air pollution problem. Some kinds of exhaust hydrocarbons are also toxic, with the potential to cause cancer.

**NITROGEN OXIDES (NO<sub>x</sub>):** Under the high pressure and high temperature conditions in an engine, nitrogen and oxygen atoms in the air we breathe react to form various nitrogen oxides, collectively known as NO<sub>x</sub>. Nitrogen oxides, like hydrocarbons, are precursors to the formation of ozone. They also contribute to the formation of acid rain.

**CARBON MONOXIDE (CO):** Carbon monoxide is a product of incomplete combustion and occurs when carbon in the fuel is partially oxidized rather than fully oxidized to carbon dioxide. Carbon monoxide reduces the flow of oxygen in the bloodstream and is particularly dangerous to persons with heart disease.

**CARBON DIOXIDE (CO<sub>2</sub>):** Carbon dioxide does not directly impair human health, but it is considered a “greenhouse gas”. In other words, as it accumulates in the atmosphere, it is believed to trap the earth’s heat and contribute to the potential for climate change.



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