

Protect Your Fuel Quality



Diesel Defence Fuel Polishing Systems



Maintain your diesel fuel quality and eliminate damaging fuel contamination with Diesel Defence Fuel Polishing Systems

Contaminated fuel can be incredibly damaging to diesel engines, especially those fitted with the latest generation of common rail fuel injection systems. Solid particle contaminants from a wide variety of sources can cause engine and fuel system wear and can prematurely block engine filters. Water in fuel can cause similar problems as well as leading to corrosion, reduced engine performance and potentially even engine failure. But it doesn't stop there...

Where water is present in diesel storage tanks it will affect the stability of the stored fuel and cause degradation, it will also promote microbial growth, known as Diesel Bug.



Stop the problem before it starts

Good fuel housekeeping is essential to preserve the quality of your fuel, to avoid spoilage due to water ingress and to prevent costly failures to your diesel engine and the equipment it powers.

Preventative measures are more cost effective than corrective measures.

The best way to prevent expensive damage to your engine is to remove contaminants from your fuel before it gets anywhere near your engine. A Diesel Defence Fuel Polishing System fitted to your diesel tank will constantly re-circulate your fuel through a series of filters and a state of the art coalescer 'polishing' it by effectively removing water and solid particulates, ensuring that it remains clean, dry and stays in better condition for longer – ensuring you have power when you need it.

By removing the contamination from your fuel tank, the Diesel Defence IPU Fuel Polishing System will maintain your fuel quality and:

- **Reduce** the possibility of fuel degradation
- **Reduce** the likelihood of engine filters blocking
- **Reduce** engine and fuel injector wear and damage
- **Reduce** the prospect of internal fuel tank corrosion
- **Reduce** the possibility of costly engine failure and down time

What the Fuel Companies say

"What special precautions need to be taken with Diesel fuel that must be stored for a long period of time? ...regularly test the fuel, and, as necessary, polish it – by filtration..."

Texaco

"Establish a system for filtering the contents of the main storage tank through a recirculating filter system. This can be made automatic and will reduce the potential for problems by removing sediments and gums"

BP



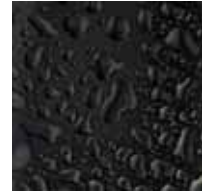
Diesel Bug

A fuel tank containing water provides the perfect breeding ground for diesel bug. Bacteria, moulds and yeasts will happily thrive at the interface between fuel and water – living in the fuel and drawing nutrients from the fuel. As these microbes grow within the fuel tank they can cause a number of problems, the lumps of biomass that they form will easily clog an engine filter, they will degrade fuel quality and the acids they produce will cause corrosion to the fuel tank and beyond.



Water in Fuel

Water in fuel tanks can occur with any type of diesel. It can be introduced at any point of handling and transfer due to bad procedures and, as ambient temperatures rise and fall, it condenses inside fuel tanks from moisture laden air.



With the gradual introduction of bio-diesel into the fuel supply chain the incidence of water in fuel will increase. Bio-diesel contains more water than petro-diesel (it is introduced in the production process), it is also hygroscopic - it absorbs water from the atmosphere. Petro-diesel can only absorb around 50 parts per million (ppm) of water whilst bio-diesel can absorb as much as 1500ppm – pretty much all global fuel standards recommend a maximum water content of 200ppm. Wherever you are storing diesel, especially over long periods of time, there is a strong likelihood you will get water contamination.



Multi-Stage Filtration

All Diesel Defence fuel polishing systems come with multi-stage fuel filtration. Advanced water coalescing filters remove virtually all free and emulsified water with fine particle filtration down to 3 micron to cleanse the diesel of damaging contamination.



Controls, Monitoring and Alarms

Diesel Defence fuel polishing systems come with a variety of alarms and control functions as standard, including alerts for filter blockage, water drain and leak detection. All units come with a 24/7 digital timer and can be connected into building management systems. There is also the option of remote control and monitoring via SMS text message or web based software.

Enclosure

For outdoor installations the entire system is housed in a secure, IP65 sealed cabinet, complete with external alarm beacon.



What the Engine Manufacturers say

“Water in Fuel. Solution – Proper maintenance of fuel tank drains, water separators and/or use of a bulk fuel filter/water coalescer”

Caterpillar

“Effective programs address fuel source, storage and handling issues. Good contamination control practises include: - The use of filters and fuel water separators for storage and day tanks”

Cummins

IPU Fuel Conditioning Solutions

There is a Diesel Defence Fuel Polishing System suitable for any type and size of fuel storage tank. We can offer a variety of filtration levels to suit your specific application. All units are designed to operate on a 'stand alone' basis and are available with basic 7 day digital timers or with advanced remote control and monitoring. A variety of different alarms and automatic functions are available as standard or options, and each model is available either as plate mounted or enclosed in a secure, vented cabinet.

The tank sizes given are for guidance, our fuel conditioning experts will be able to recommend a fuel polishing unit and recommended running cycle that will ensure that your stored fuel remains in optimum condition at all times.

Fuel Polishing System Options

	Model No: DD10	Model No: DD28	Model No: DD90
Flow Rate	600 l/h (10 l/m)	1680 l/h (28 l/m)	5400 l/h (90 l/m)
Suggested Tank Size	2500 to 7500 litre	7500 to 25000 litre	up to 75000 litre
Voltage Options	110 or 240Vac	110, 240 or 415Vac	110, 240 or 415Vac
7 Day Digital Timer	✓	✓	✓
IP65 Vented Enclosure	◆	◆	◆
Filter Change Alarm	✓	✓	✓
Water in Fuel Alarm	✓	✓	✓
Fuel Bund Alarm	✓	✓	✓
Low Pressure Alarm	✓	✓	✓
E-Stop Alarm	✓	✓	✓
System Fail to Start/Stop Alarm	◆2	◆2	◆2
Automatic Drain	◆	◆	◆
Pre Filter Strainer	✓	✓	✓
Particulate Filter	5, 10 or 25 micron	5, 10 or 25 micron	5, 10 or 25 micron
Water Coalescer	✓	✓	✓
Fuel Cut Off Solenoid	✓	✓	✓
Remote Control & Monitoring	◆	◆	◆
ISO Particle Counter	◆	◆	◆
Alarm Beacon	✓	✓	✓

✓ standard ◆ optional ◆2 With remote control and monitoring only

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IPU GROUP Fuel Polishing Systems

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