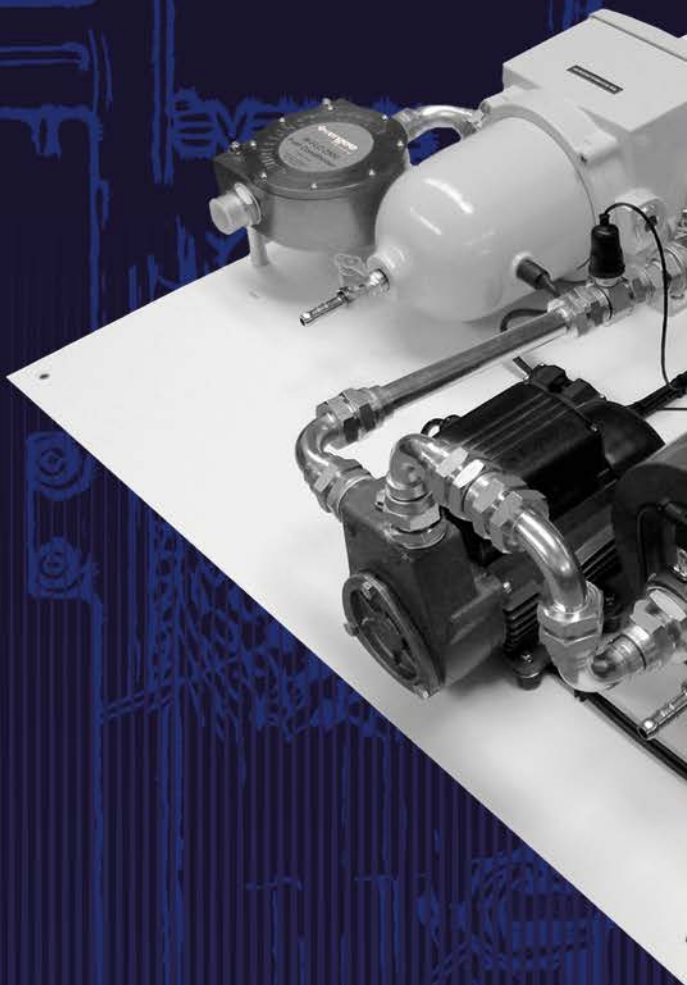


FUEL MAINTENANCE AND PURIFICATION SYSTEMS



WHERE DO YOU START WITH
YOUR MAINTENANCE
PROCESS



FOR YOUR EMERGENCY
POWER SUPPLY



CHANGE YOUR MAINTENANCE PERSPECTIVE:

Facilities are investing a lot of money to install Emergency Power Units for continuity of operation in the event of a total loss of power. Preventive maintenance is an important factor in this process. For this reason, regular periodic maintenance and performance testing takes place. Unfortunately, diesel fuel maintenance is often neglected from the general maintenance process.

Diesel engine and generator manufacturers do not take any responsibility for failure of the units due to out of specification diesel. Therefore, preventive maintenance should begin with stored diesel fuel.

Statistically, 50% of generators fail in their lifetime due to bad quality fuel.

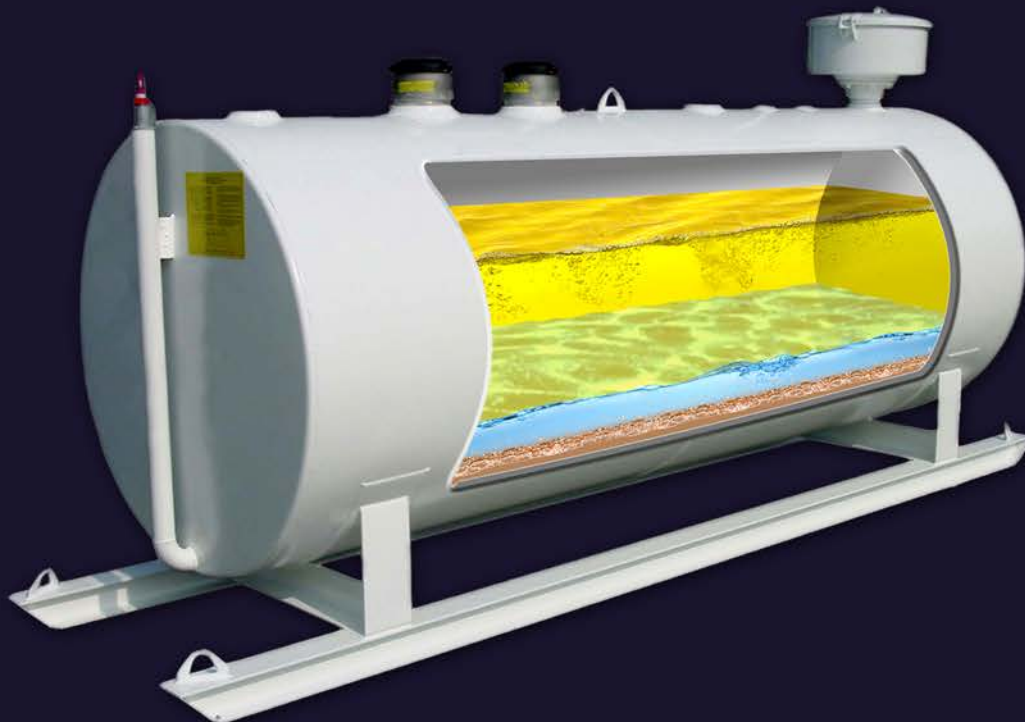


REALITY OF DIESEL

It is a surprising fact that more than 95% of tank sludge and the deposits blocking filter elements are organic material, fuel compounds of mainly waxes, gums and asphaltenes.

The difference between “good and bad fuel” is not always immediately obvious. Diesel is a very complex and inherently unstable organic fluid, consisting of thousands of different combinations of hydrocarbons, varying in size and form. Its constituents are definitely not homogenous, like e.g. water, butane or propane.

Polymerization, the attraction between the complex building blocks of fuel results in cluster of molecules that keep increasing in size and mass. This process results in fuel particles becoming too large to pass through filter elements ultimately forming solids and tank sludge.



ARE YOU AWARE OF THE DANGERS?



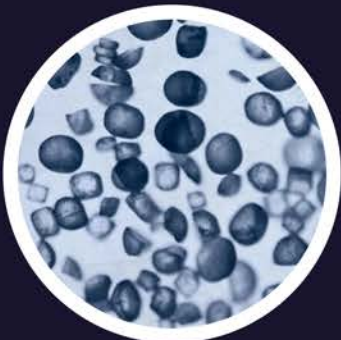
The problem with water is that it accelerates the formation of acids in the fuel, which in turn will degrade any seals or gaskets. Moreover it will destroy the fuel injectors if allowed to reach the engine, which renders the engine useless, and is typically very expensive to repair. Water can be “emulsified” or “free water”.



Many types of bacteria, fungi and yeast can grow in fuel due to the presence of water. The corrosive bacteria and fungi cause filters to block by creating pollution in the fuel-water interface.



Wax is a component in fuel in normal conditions, but at low temperatures it separates from the solution and causes blocked filters. Moreover, chemical reactions cause gum pollution as a result of oxygen and temperature exposure.



Dirt, dust, sand and similar contaminants commonly enter through fill pipes, access hatches and breather pipes. Normally it settles on the bottom of the tank and does not cause a problem unless they are stirred up or held in suspension by some other contaminates.



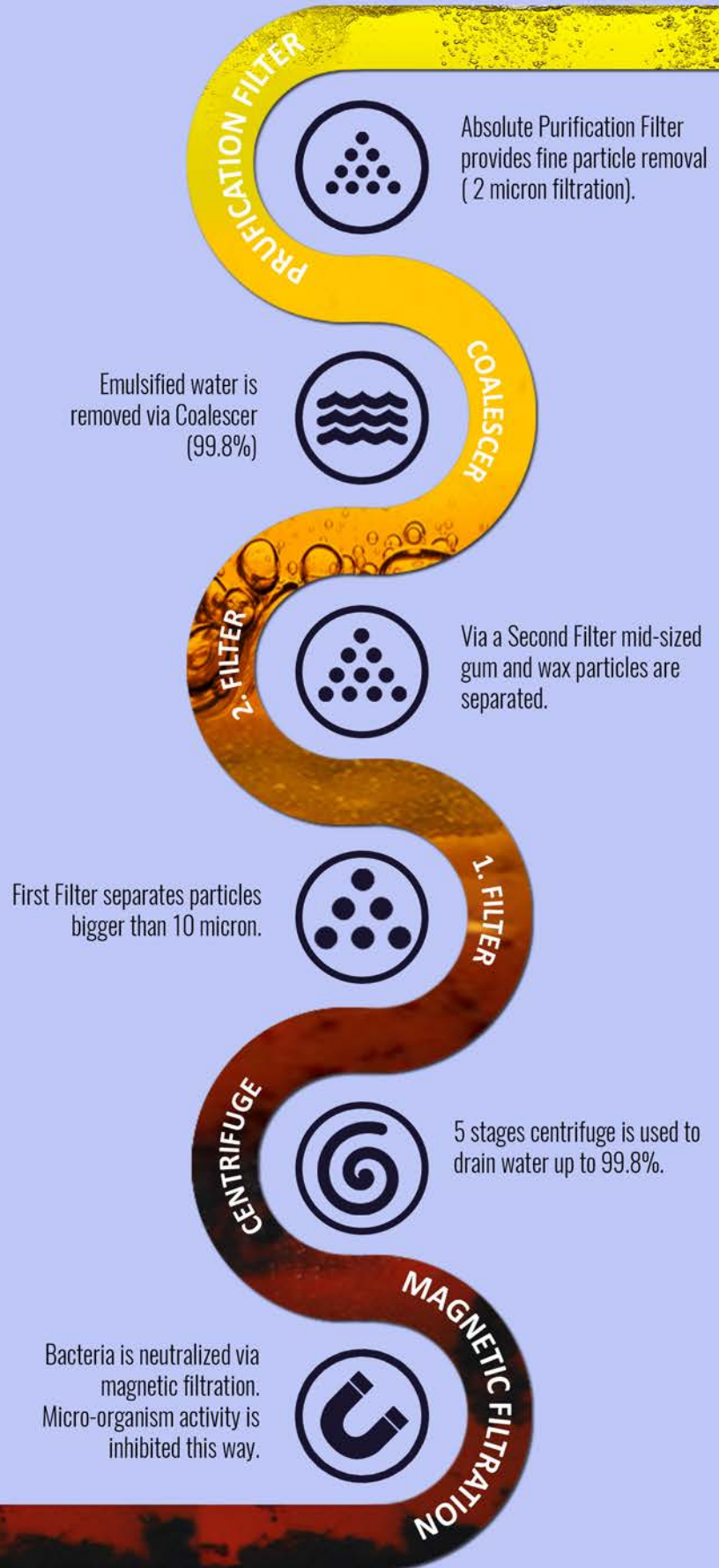
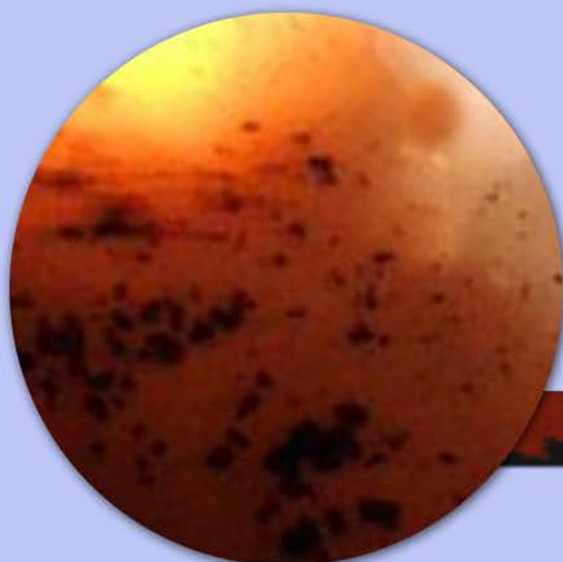
A CLEAN AND SHINY START

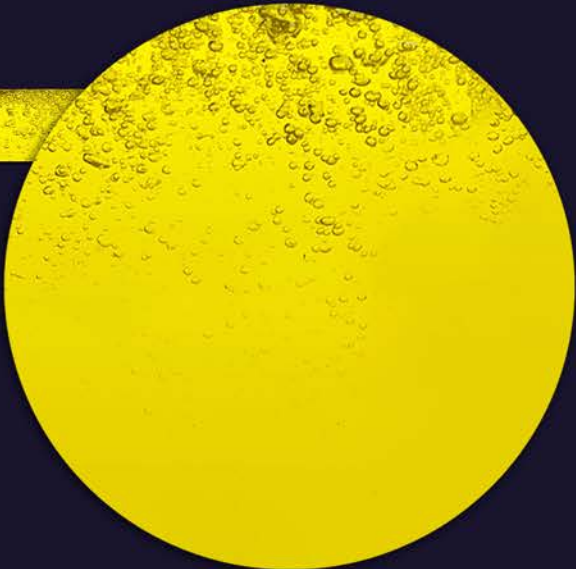
Fuel Maintenance and Purification is a cleaning process which separates bacteria, mud, sediments, wax and water which is stored for the medium to long term.

This process keeps the fuel in optimum condition and helps prevent fuel related engine and generator failures.

Fuel of Unknown Condition

When the tank is filled again in the medium to long term: water, bacterial sludge and solid particles are distributed and spread to the entire tank, causing the contamination rate to increase.





Fuel of Optimum Quality

The cleaning process which separates particles and water results in 2 micron precision. Thus, diesel is preserved in optimum condition.

Future Proof Your Fuel

Fuel maintenance system is a cleaning process which takes place in several stages. Fuel without biodiesel naturally decays, and could be out of specification after 6-12 months. However, bio-diesel causes fuel to decay much faster than natural fuel. It is therefore recommended blended fuels are only stored for up to 6 months to reduce contaminations.

In particular, the hygroscopic nature of bio-diesel significantly increases the saturation level, meaning the water content in fuel is well above the maximum specified level. This causes many concerns, which worsen if the fuel tank is outside or not in a temperature controlled environment. Water in fuel is at the root of microbial growth, waxing, sludge, bacterial infections, sediments and other foreign matter.



DATA CENTERS



INDUSTRIAL PLANTS



POWER PLANTS



HOSPITALS



MARINAS AND HARHOURS



BANKS



MILITARY FACILITIES



MINES



RECEPTION

HOTELS



MALLS AND PLAZAS



AIRPORTS



TV CHANNELS

WHAT HAPPENS WHEN YOUR FACILITY OR BUSINESS ENERGY FAILS FOR **ONE HOUR?**

If the results includes failure of critical services and a large financial impact, then better protection is required.

An uninterrupted service supply is a requirement of today's professional businesses, with many business systems are developed in anticipation of a continuous energy supply. Uninterrupted Power Supplies (UPS) are devices which switch on when the incoming main power supply is lost, typically this is a battery backup system at first until the diesel powered generator takes over.

These diesel generators really totally on clean fuel in their storage tanks. These systems are scaled up to meet the requirement of both small and large facilities to avoid the risk of power deficiency. Despite all these precautions, a risk still exists.

UNMAINTAINED FUEL

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Energy Engineering

BENEFITS OF FUEL MAINTENANCE



Have confidence in your emergency power unit against fuel related failure



Prevents reforming of sediments



Removes bacterial residue and prevents regrowth



Cleaner fuel increases the fuel efficiency of the diesel engine



Avoids the replacement of injections due to acidic bacterial damage



Ensures safe operation of fire pumps



Protects environmental sensitivity with clean fuel



Decreases the operational and maintenance cost of your generator



Prolongs the lifespan of generator, tank and installation



Decreases the black smoke problem



Removes water present in diesel fuel



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AND PURIFICATION



Clean fuel filter



Fuel filter after one hour



Polished fuel filter with magnetic conditioning

The primary difference between fuel maintenance and fuel filtration is that fuel maintenance and purification acknowledges that fuel itself can degrade and cause solids. Fuel filters will remove the solids but because this will block filters it can cause starvation, whereas fuel polishers break down the combustible solids so that the fuel stays within the industry specifications.

The solids that fuel – particularly diesel, kerosene, home heating oil, and some of the JP (jet propulsion) fuel, creates are exactly the aspects of fuel that add lubricity and BTU value to it. If you cycle the fuel through filters time after time to remove all of those solids, you will eventually knock the fuel out of specification. It simply will not have the power or lubricity your diesel engine needs.

Fuel Maintenance and Purification uses centrifuges, coalescers and magnets to remove combustible particulate matter (sand, dust, wax, bugs) from fuel.

Patented Solution for Fuel Maintenance

Intuitive Functionality

Our systems are built from the ground up to be as simple to use as they are effective. Utilizing the latest touch screen technology, with animation, graphic explanation and BMS control. This unique control system offers instant understanding.

Innovative Process

Employing the technologies unique to us, we are able to offer an unrivalled system. Multiple filter stages provide sensitive cleaning and refinery quality fuel.

Patented Technology

From our magnetic conditioners, which use the latest rare earth high intensity technology and are 10 times more powerful than any other magnetic conditioning system available; to our class leading centrifugal fuel cleaning and water removal stage, currently in use worldwide.



PRODUCT SELECTION TABLE

	EVG-PFS-010-24V DC	EVG-PFS-026-24V DC	EVG-PFS-010-220V AC	EVG-PFS-026-220V AC
FLOW RATE	10 Lit / Min	26 Lit / Min	10 Lit / Min	26 Lit / Min
VOLTAGE	24v dc	24v dc	220v 50hz 1ph	220v 50hz 1ph
CURRENT DRAW	3a	7a	4a	2.5a
CHASSIS	Polymer	Polymer	Polymer	Polymer
DIMENSIONS	700x650x300mm	1080x800x400mm	700x650x300mm	1080x800x400mm
PUMP TYPE	Gear	Gear	Gear	Gear
WEIGHT	25 kg	42 kg	25 kg	42 kg

COMMON FEATURES

Manual, Automatic, BMS

Differential Pressure Sensor

Data Export

10 Language Support

Centrifugal Filter

Magnetic Fuel Conditioning Stage

BMS Input

High Input Restriction

Change Filter Sensor

Emulsified Water in Fuel Sensor

Free Water in Fuel Sensor

Ethernet Remote Monitoring

LCD 7" Touch Screen Control

Trending

High Output Pressure Sensor



Customized solutions available upon request.



PRODUCT SELECTION TABLE

	EVG-PFS-040-220V AC	EVG-PFS-060-220V AC	EVG-PFS-120-220V AC	EVG-PFS-240-220V AC
FLOW RATE	40 Lit / Min	60 Lit / Min	120 Lit / Min	240 Lit / Min
VOLTAGE	220v 50hz 1ph	220v 50hz 1ph	220v 50hz 1ph	220v 50hz 1ph
CURRENT DRAW	5a	6a	12a	13a
CHASSIS	Polymer	Polymer	Stainless Steel Frame	Stainless Steel Frame
DIMENSIONS	1100x1000x400mm	1100x990x400mm	1750x1500x1200mm	2500x1500x1500mm
PUMP TYPE	Vane	Vane	Vane	Vane
WEIGHT	65 kg	65 kg	110 kg	175 kg

OPTIONS

Cabinet Options	Chemical Dosing System	Profibus BMS
2 Tank Cleaning	Particulate Counter	DeviceNet BMS
3 Tank Cleaning	Automatic Water Drain	CanBus BMS
Multi Tank Manifold	Modbus BMS	Flow Switch
Drip Tray		



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Renewable Energy Projects
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