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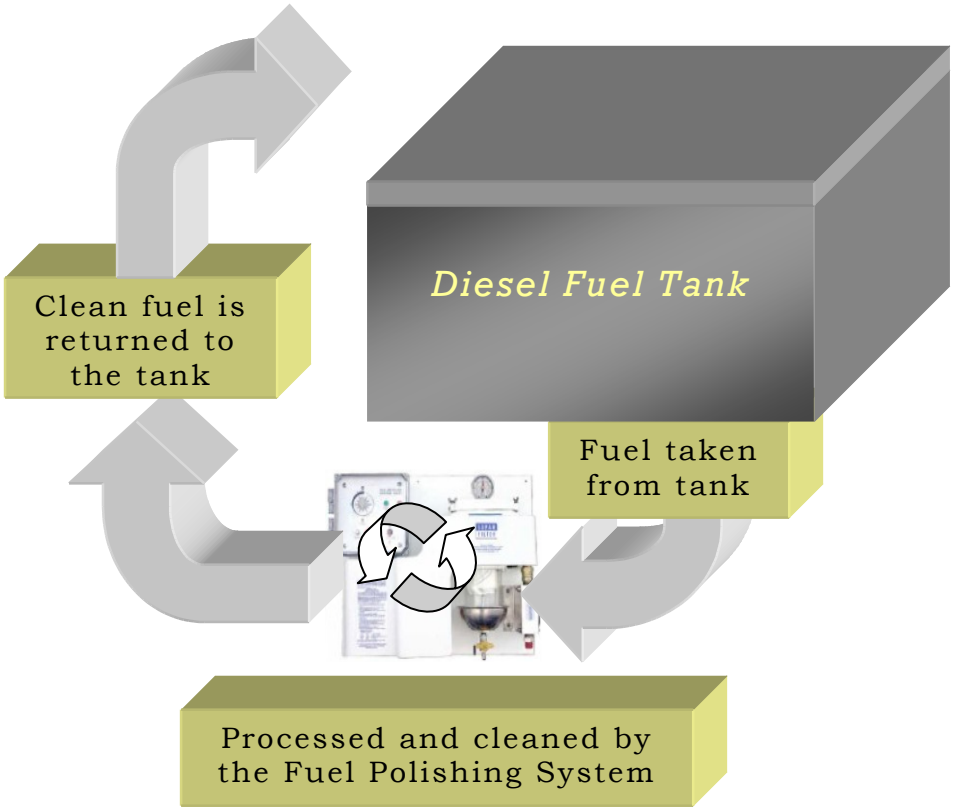
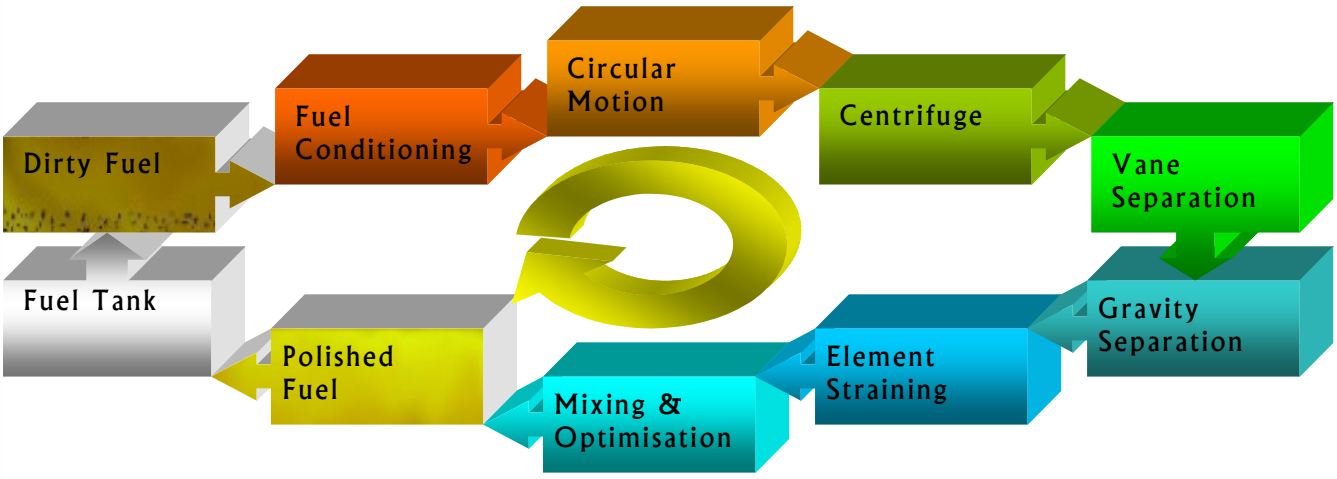
FUEL POLISHING SYSTEMS

How does the Fuel polishing system work?





Fuel Taken from tank
The FPS will draw fuel from the tank. We recommend that the drain is taken from the lowest point to ensure all contaminate is caught and pumped in to the fuel polishing system.

Stage 1.
Fuel conditioning
Magnetic fuel conditioning process to alight and degrade algae and other biological contamination, this makes the water separation section far more efficient.

Stage 2.
Circular motion
From the inlet port, fuel flows through the interior vane system which imparts a circular motion to the fuel.

Stage 3.
Centrifuge
Still in the circular motion fuel reaches the bowl section, where, due to this centrifugal motion water droplets and heavier particles (down to 30 microns in size) are forced to the wall of the bowl, eventually settling in the bottom of the bowl.

Stage 4.
Vane separation
In this stage the fuel has to pass the vane system positioned on the “outside” of the central housing. Due to the differing length of the vanes and the twofold rapid change of fuel flow direction, smaller water droplets and finer particles will settle on the vanes. These settlements will agglomerate and when heavy enough fall to the bottom of the bowl. Already at this point the major portion of any contaminates in the fuel have been separated.

Stage 5.
Gravity and water separation
Just below the filter element the flow area of the filter is increased significantly thus reducing the fuel flow rate. This calming effect allows even smaller water droplets and particulate to fall out settling on the inner surfaces of the housing, forming larger droplets which eventually fall into the bottom of the bowl by gravity. Due to the previous pre-separation process, the major portion of water and particulate present in the fuel will be in the bowl or on the inner surfaces of the filter, thus greatly extending the filter element life.

Stage 6.
Element straining of the fuel
The final filtration of the remaining water and particulate still contained in the fuel will be effected by a replaceable filter element. These filter elements are produced from a special filter media and are available in different pore sizes (10, 30 and 60 micron, where 30 micron is the standard supplied unit).

Stage 7.
Mixing and optimising
The final primary process is the mixing and optimising of the fuel. Here the cleaned fuel is processed to ensure it is returned to the tank in optimum condition. This process also acts as a pumping station to allow the unit to self-propel the fuel back into the storage tank.

Fuel returned to tank
After the fuel has been polished, it is returned to the tank. This continuous process ensures that all the fuel will be optimised, keeping the supply clean and ready for use. Moreover this process avoids the expenditure of a replacement tank of fuel or potentially expensive engine repairs.

Fuel Polishing System Overview

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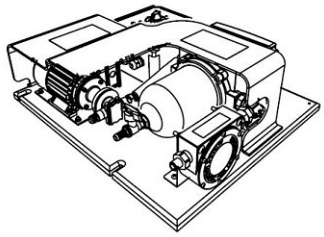


Diesel engines and generators depend on two vital ingredients: air with sufficient oxygen content – and clean, uncontaminated fuel. The first is a given. The second is not.

Today's 'middle distillate' fuels, including modern low sulphur diesel are inherently unstable, which is why fuel companies only guarantee their fuel to remain within the original specification for six months. Fuel in poor condition can cause unreliability, loss of performance, and expensive damage to today's sophisticated diesel fuel injection systems.

Traditionally, engines and generators rely on filter/separators to remove water and contaminants en route from tank to engine. However these are prone to blockage when trouble strikes, staving the system of fuel and shutting it down. Better to ensure the fuel in the tank is kept in pristine condition at all times, thus preventing any fuel starvation issues. This is exactly the function the Fuel Polishing Systems from Separ UK perform.

The FPS combines such specialised fuel processing equipment as a high quality filter/separator to catch water and dirt and fuel conditioner to break down any unstable semisolids. Full technical specifications are available on the Separ UK website, or by contacting Separ directly.

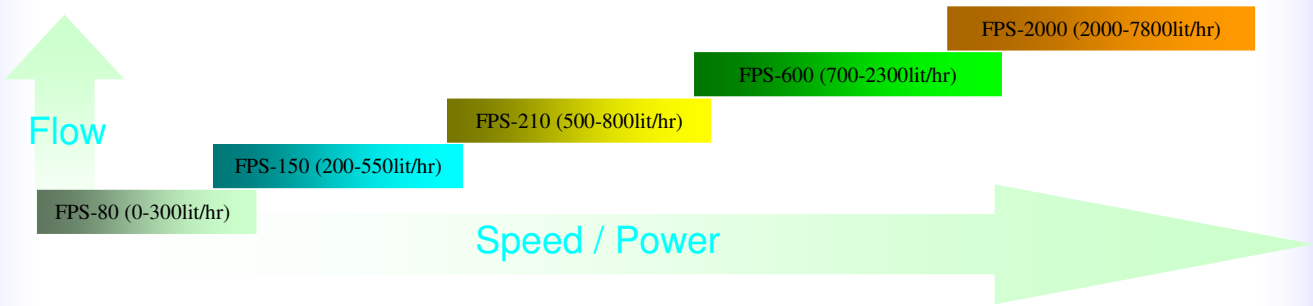
The units can be tank/wall mounted or are available as portable system, and can be set to run periodically for via a simple mechanical or programmable digital timer. The systems collect fuel from the bottom of the tank, condition it, and return it back to the top of the original tank, furthermost from the pick up point.

In the case of filter blockage or other failure, power is automatically switched off and an audio/visual alarm advises you to conduct a simple service before reactivating the unit.

Separ fuel polishing systems give confidence that your fuel is always in perfect condition, totally eliminating one of the most common causes of engine and generator failure and unreliability.

DC versions	
FPS-80-12vdc	12v fuel polishing system, 300 litres / hour
FPS-80-24vdc	24v fuel polishing system, 300 litres / hour
FPS-150-12vdc	12v fuel polishing system, 560 litres / hour
FPS-150-24vdc	24v fuel polishing system, 560 litres / hour
AC versions	
FPS-210-110vac	110v fuel polishing system, 60Hz 800 litres / hour
FPS-210-220vac	220v fuel polishing system, 50Hz / 60Hz up to 800 litres / hour
FPS-600i-220vac	220v industrial protection FPS - variable speed up to 2300 litres / hour
FPS-2000i-220vac	220v industrial protection FPS - variable speed up to 7800 litres / hour
Portable versions	
FPSP-150-24vdc	24v DC portable fuel polishing system, 560 litres / hour
FPSP-210-220vac	220v portable fuel polishing system, 50/60Hz up to 800 litres / hour
FPSP-210-110vac	110v portable fuel polishing system, 60Hz 800 litres / hour
FPSP-600-220vac	220v portable fuel polishing system, 50/60Hz up to 2300 litres / hour
FPSP-600-110vac	110v portable fuel polishing system, 60Hz up to 2300 litres / hour

Other models are available in the range. Please ask for details



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Thinking Centrifuges? Think Separ Fuel Polishing Systems

The Fuel Polishing System (FPS) is a new development in marine fuel cleaning equipment.

Where a centrifuge is designed purely to remove water and solids from fuel, a FPS will condition and pre-clean the fuel, whilst ensuring removal of water, bacterial infection, sludge, solids, sediment and other contaminate. Moreover when installed in the 'offline' configuration, it can independently process and clean your fuel even if the vessel isn't running.

It is designed for marine applications where either the cost or space to install a centrifugal system is not a viable option, or where a simple to operate system is required.

The FPS can act as a fuel transfer and cleaning system - transferring fuel from bunker to day service tanks. Alternatively it can independently clean either the main fuel or day tanks.

One of the main benefits is its simplicity and the fact that it can be mounted on the side of a fuel tank or bulk head. Once the system is installed, it is simply a matter of either switching on or setting the timer for the desired running period, then walk away.

The FPS is electronically monitored via a vacuum sensor, meaning in the event of contamination starting to block the filter element, the system will automatically switch off and an indicator lamp will show that an element change is required. Separated water is also monitored with an indicator lamp advising water drain off. It's the easiest fuel cleaning system to operate and maintain on the market today.

Pre-cleaning your diesel not only makes good economic sense, but can prevent contamination from reaching your fuel system thus becoming a serious and potentially expensive problem.

The Fuel Polishing System range from Separ UK consists of small, economic and easy to operate units. A typical example not only highlights a large weight and space saving, but also gave a system that was as simple to operate as switching it on. Most importantly, it is quarter the price of an equivalent centrifuge. The range can handle flow rates up to 2300 litres per hour and are available in both DC and AC voltage configurations.

So why use a centrifuge? When you consider they are expensive to purchase, difficult to operate and generally large pieces of equipment, it's hard to justify.

Still thinking about centrifuges? Talk to Separ.

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