

DiesecraftTM Fuel Purifiers

Diesel Performance Products

Remember all fuels are contaminated – else there will not be any filters in your machines

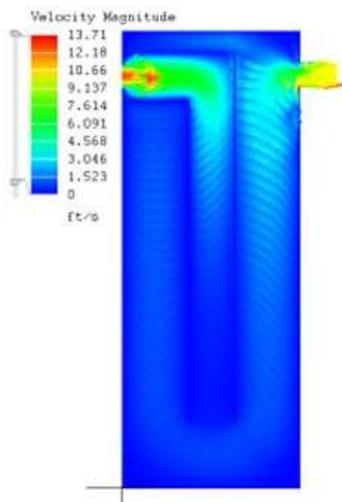
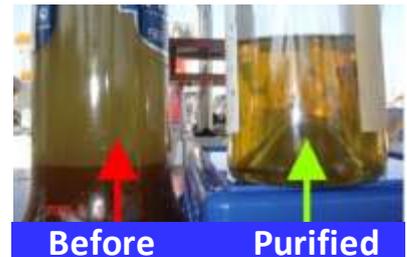
Diesel is a good absorptive and carrier of dirt, rust, sludge, algae, various contaminants. Most of the fuel-tanks are at risk of getting contaminated and its passing to engine. Therefore, we recommend the use of “Best Practices” for fuel receipt, storage, distribution and usage. Ideally, fuel testing should be defined for each stage but most engine users lack in test facility. Even for once in a year sampling, users of large & underground storage tank can't draw samples from walls and layers of sludge-water-fuel. The only risk mitigation is 'suction point being above dead-level' to prevent contamination. Studies suggest that fuel-pump failure is the largest reason of engine down-time and is caused by deposits of contamination or wear & tear aggravated by it.

Diesecraft Fuel Purifiers removes 99.997% of water and 99% of approx. 5 Micron size contaminants (better than normal filter). Diesecraft Purifier is economical due to not using filter element whereas normal filters need frequent inspection and change of filters. Diesecraft Fuel Purifier is a result of lengthy research and use following main principles & technologies:

► Diesecraft Purifier starts with Newton's 1st Law in Physics i.e. the “principle of inertia”. Contaminated fuel enters the Purifier and is directed downward in a straight flow path for a specific period of time and at a predetermined velocity.

► Diesecraft Purifier's heart works on the principle of differential surface tension and density. For example, if a mixture of diesel, water and contamination is spilled and allowed to spread over a large area, oil forms a wide film, water droplets gets formed and large solids get separated because diesel and water have different surface tension as well as density. Therefore, for fuel water separation, the larger the surface areas the better are results.

► Diesecraft Purifiers utilize matched flow rate to surface area and activated oxides to get the water to agglomerate and drop out of fuel. These activated oxides have a very high “surface area to weight ratio” due to presence of a lot of very small pores that run throughout oxides.



► All purifier designs undergo velocity magnitude simulations (as illustrated) to show speed of fluid as it goes through the purifier. Red is fast and blue is slow. This shows how the diesel slows down by the time it goes through the inside tube length Thereby giving enough time for the water to separate from the fuel.

► Diesecraft Purifiers are engineered for maximum "Residence Time (RT)" based on flow rate. Residence time is a broadly useful concept that expresses how fast something moves through a system in equilibrium. The longer the residence time the better is the fuel cleaning.

- ▶ The heavy agglomerated contaminants fall to the bottom and the lighter “clean fuel” rises to the top of the chamber and exits back to the fuel stream. The internal design of Dieselcraft Purifier ensures that any remaining suspended water is forced to the point where drops become large enough to fall out of the fuel and to the bottom of purifier.
- ▶ The clean fuel is drawn out of the unit and moves to primary-filter, fuel-pump. The purification process continues as long as the engine fuel pump is operating. If purifier is installed for Fuel-transfer application i.e. after a Bulk Storage Tank, the clean fuel is delivered by pump to the receiving tank. Water and contamination are periodically drained from the bottom of the unit.

Advantage of Dieselcraft Purifiers over traditional filters

- ◆ There are no replacements, or filter elements, or cartridges in Dieselcraft purifiers
- ◆ Dieselcraft purifier is more efficient than normal filters with maximum 10 Micron elements
- ◆ Most OEM recomand discarding of elements after certain number of hours even if filter is clean because the filter medium itself can get disintegrated
- ◆ No more filter-clogging contaminates that cause performance problems
- ◆ Eliminates human errors & systemic omissions because there is no need of frequently inspecting the filters and clogging due to missed-out maintenance schedules
- ◆ Higher efficiency and productivity
- ◆ Big cost saving due to absence of costly filter elements
- ◆ Big savings by clean fuel and drastically cutting down the risk

Dieselcraft Fuel Purifier Models:

Model	Size	Maximum Fuel Flow	Application
3x8	3"OD x 10"OA x ½" NPT	100 GPH / 378 LPH	Engines less than 175 HP
5x12	5"OD x 14"OA x 1" NPT	400 GPH / 1,512 LPH	Engines 175 to 650 HP
5x16	5"OD x 18"OA x 1" NPT	550 GPH / 2,079 LPH	Engines 400 to 1,200 HP
8x20	8"OD x 22.5"OA x 2" NPT	2,000 GPH / 7,572 LPH	fuel transfer applications
8x47	8"OD x 47"OA x 2" NPT	2,400 GPH / 9,072 LPH	fuel transfer applications
18x54	18"OD x 54"OA x 3" NPT	6,000 GPH / 22,000 LPH	fuel transfer applications

Important Note: Above defined Flow Rates are MAXIMUM for a purifier. **If a purifier is not matched to the fuel flow you get nothing but more bad fuel and the problem is not solved**



The purifiers can be supplied with a **Water Sensor** and the needed mounting hardware.

When water is detected the Red light will come on and the audible buzzer will sound. Drain off the water and the light goes out.

Illustrative Installation of Dieselcraft Fuel Purifiers:

