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Water in diesel fuel



**Sensor for Fuel
Hydraulics Lubrication
Non-conducting liquids
Reliable online monitoring
of Total water!**

Made in Sweden

Clean fuel is essential for efficient, full-power engine performance. Remember, newly refined fuel is clean. Between the time the fuel leaves the refinery and enters the engine's fuel tanks, it should be handled carefully to avoid possible contamination that can prematurely plug fuel filters and cause even further, more serious problems within the engine's fuel system.

The natural properties of diesel fuel make moisture related problems more critical in diesel equipment than gasoline, therefore the volatility (ability to vaporize) of diesel fuel is much lower than gasoline. Lower volatility allows air and moisture to infiltrate the diesel fuel in both vehicle and bulk storage tanks. Water condensation in diesel fuel storage tanks is a routine problem that must be solved for diesel fuels. The longer the fuel is stored, the larger the problems become.

Being less refined than gasoline, diesel fuel will hold a much larger amount of water in suspension. This water can cause severe problems with water separators installed on the vehicle as well as causing the fuel to explode resulting in extensive repair costs.

EESIFLO has developed a device that will measure both "dry" diesel and water contaminated diesel fuel levels or percent water levels. This is important for diesel measurements because previously available sensors were only able to measure ppm values or free water but not both. The EASZ-1 stands out as the device of choice for moisture or water in diesel fuel online instrumentation. The EASZ-1 does not require re-calibration and uses the latest techniques in digital measurements which eliminate electronic drift and inaccurate measurements of older and poorly designed sensors.

Entrained Water

One of diesel fuel's most favorable characteristics is its natural ability to shed water and thus prevent emulsions. Recently, however, many diesel fuels have shown a disastrous tendency to absorb and hold large quantities of water. These fuel/water emulsions greatly reduce the effectiveness of fuel/water separator plug fuel filters. Typical causes of entrained water levels include microbial activity, surfactants, alcohol, particulates, and poorly designed fuel additives. The EASZ-1 is a total water measuring device. The sensor automatically reports the actual entrained water content in the diesel fuel once every second.

Free Water

Poor housekeeping is probably the largest contribution to the free water problem. Water enters bulk fuel through condensation, carry-over from fuel distribution systems, leakage through the fill cap, spill contaminant piping. The fuel water interface can raise to the fuel draw level when water bottoms are allowed to build up. This can allow significant quantities of water to be pumped into vehicle fuel tanks.

In either case, moisture promotes microbial activity, fuel/water emulsions, rust and corrosion. The more water dispersed in fuel or present in the fuel system, the greater the tendency for ice crystals to form and grow. As fuel temperature falls below the freezing point of water.

The EASZ-1 may be measuring water in fuel at different temperatures. Since this may have a slight effect on dielectric constant, the EASZ-1 has been designed with temperature compensation. This enables it to report water values throughout the temperature range.

For more information, contact your nearest EESIFLO dealer or log onto www.eesiflo.com