



# Fuel ReGen System

FUEL



# The Importance of Fuel Quality

## for Today's High Horsepower Engines



### Diesel Engines Have Changed

Modern diesel engines provide increased performance and greater reliability. However, this advanced technology has created tighter tolerances in high pressure fuel systems which can result in wear with the use of contaminated fuel. Wear to Fuel Injection Equipment (FIE) can decrease engine life and severely damage other engine components.

### Sources of Contamination

Fuel contamination can occur throughout the handling process from several possible sources:

- Fuel suppliers
- Fuel storage facilities
- Internal transport systems
- Poorly maintained equipment



### Fuel Requirements

The standard established by ISO (International Organization for Standardization) provides a common measurement system that engine and fuel system manufacturers use to designate acceptable particle levels in the fuel system. Determining fuel cleanliness requirements includes the measurement of both particle size and count. ISO 4406 utilizes a series of three numbers (18/16/13) to identify the particle count per milliliter at 4, 6 and 14 micron sizes. Engine manufacturers recommend ISO 18/16/13 or better as the cleanliness target in fuel tanks.

### ISO 4406 Definition of Particles

Fuel Status	ISO Code 4406	Particle Counts (per Milliliter Fluid Sample)	Comments
<b>Fuel Supply Unacceptable</b>	22	Up to 40,000 particles > 4µm	Typical levels of incoming fuel (Primary source of fuel contamination)
	20	Up to 10,000 particles > 6µm	
	18	Up to 2,500 particles > 14µm	
<b>Tank Filtration</b>	18	Up to 2,500 particles > 4µm	Maximum recommended by engine manufacturer (Second leading source of contamination)
	16	Up to 2,500 particles > 6µm	
	13	Up to 80 particles > 14µm	
<b>On Board Filtration</b>	15	Up to 320 particles > 4µm	Preferred by engine manufacturer
	13	Up to 80 particles > 6µm	
	10	Up to 10 particles > 14µm	
<b>HPCR Acceptable</b>	12	Up to 40 particles > 4µm	Preferred by fuel injector manufacturer
	9	Up to 5 particles > 6µm	
	6	Up to .64 particles > 14µm	

# Improve Fuel Cleanliness with the Fuel ReGen System



## Protect Your Investment

Because of capital intensive equipment, high horsepower equipment users depend on vehicle uptime for the overall success of their operation. Fuel storage is essential to the business, as is the delivery of clean fuel to prevent premature injector or engine failure. The Cummins® Fuel ReGen System protects against the ongoing issue of fuel cleanliness.



## Unmatched Efficiency

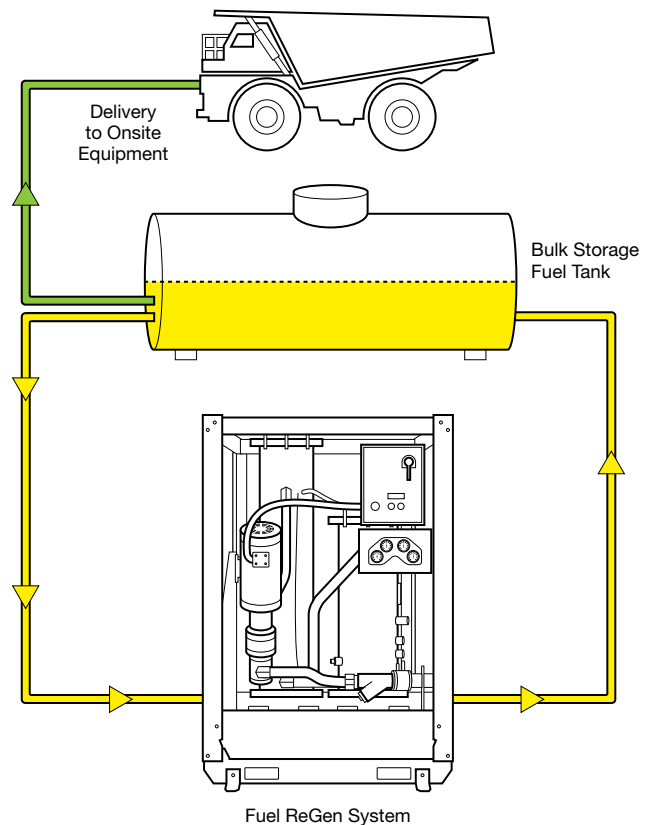
Designed for use on storage tanks of 10,000 gallons and larger,\* the Fuel ReGen system runs 24/7 in a continuous recirculation configuration. Processing 50-100 gpm, the system cleans fuel with unmatched efficiency:

- 99% emulsified water removal per SAE J1488
- 99% free water removal per SAE J1839
- 95% particulate removal @ 4 micron per ISO 19438
- 99% particulate removal @ 6 micron per ISO 19438

## Simple System Integration

The compact Fuel ReGen System fits conveniently in a small footprint, requiring only a standard 2" hose and standard site electrical connections to connect to the bulk storage tank. Controls, pump, Winslow depth filter and coalescing filter are housed in a single durable unit that allows for easy lifting by crane or fork truck. Once installed, monitoring and servicing are simple with integrated features, including:

- Pressure relief and drain valves
- Pressure gauges
- Top-load filter servicing



\* Units can be customized based on site requirements.

# Product Specifications

Characteristic	FK22000	FK22001
<b>Max Flow Rate</b>	50 gpm	100 gpm
<b>Required Power</b>	480V, 3-phase	480V, 3-phase
<b>Motor Rating</b>	3.5 Hp	10 Hp
<b>Current Draw</b>	5 amps	15 amps
<b>Max Pump Speed</b>	1750 rpm	1750 rpm
<b>Max Pump Differential Pressure</b>	125 psi	125 psi
<b>Nominal System Operating Pressure</b>	30-60 psi	30-60 psi
<b>Max System Pressure</b>	75 psi	75 psi
<b>Min Inlet Pressure</b>	Low net positive suction head required	Low net positive suction head required
<b>Inlet/Outlet Fittings</b>	2" cam-and-groove design	2" cam-and-groove design

With our broad experience in integrated solutions for the engine, Cummins Filtration offers the best products to meet the rigorous requirements of modern high pressure fuel systems. State-of-the-art technologies ensure maximum protection and top performance in your fuel system for longer life, optimum fuel efficiency and increased productivity.

Once fuel has been cleaned by the Fuel ReGen System and is ready for delivery to the equipment tank, Cummins Filtration recommends Fleetguard Fuel Island Filtration and On-engine Remote Mount and Spin-on Fuel Processors with patented StrataPore™ media to fully protect fuel injectors.

## Fuel Island Filtration



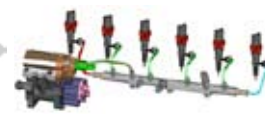
## On Engine – Remote Mount



## On Engine – Spin On Products



## Clean Fuel throughout Fuel Injection System



Note: Individual Fuel ReGen System performance results may vary due to specific operating conditions.

For more detailed information on these and other fuel system products, please refer to the **Fleetguard Technical Information Catalog – LT32599** or visit **Fleetschool** at [cumminsfiltration.com](http://cumminsfiltration.com).

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