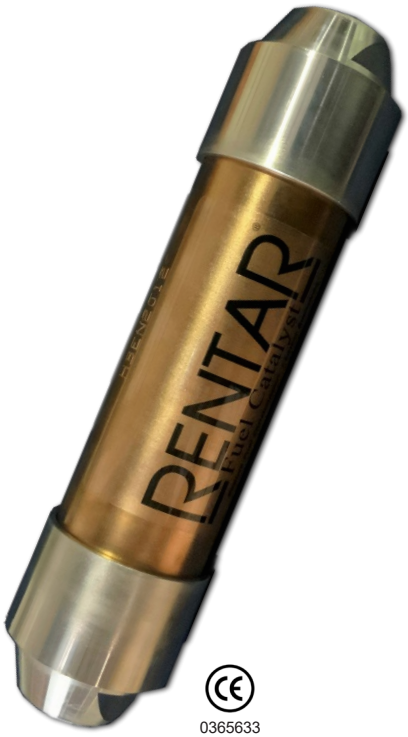
Fuel Optimizer

RENTAR® CATALYST
for emissions and fuel reduction
on diesel-powered engines

- With CE certificate according to Regulation (EU) 2016/426 and Directive 2009/142/EC
- Simple installation thanks to standardized fittings and interconnection
- Maintenance-free operation due to no moving parts
- Verified laboratory and customer-driven field results for safety, fuel and emissions reduction

09CA31397 | 10-HS601716-PDA | PTE/12-13/HBL/R-05 | US-9364809-B2



0365633

NO
NO_2
SO_2
CO
CO_2
O_2

The RENTAR CATALYST technology has effectively reduced exhaust gas emissions, as demonstrated by ARAI report number PTE/12-13/HBL/R-05, a laboratory test on a diesel engine using the ISO 8178 D2-5 Model Cycle. The DECARB CATALYST technology is manufactured in the USA and has patent protection in 31 countries, including in the USA (Patent #9364809).

In addition, the catalyst fulfills the directive on pressurized equipment and has the CE mark of conformity CE-0365633 under Pressure Equipment Directives 2014/68/EU (Article 2(5) and 2014/68/EU (Article 4(1)(d).

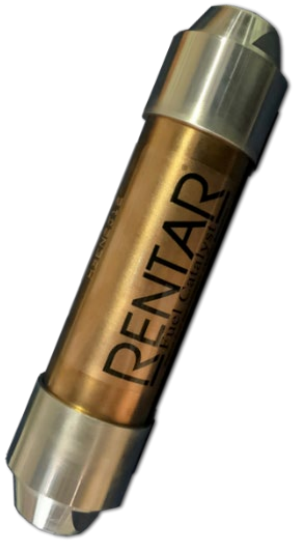
In addition, numerous other tests and analyses have been conducted on the catalyst technology, thereby establishing it as a confirmed solution to decrease the carbon emissions footprint produced by fuel oil-powered equipment such as furnaces, gensets, and mobile equipment.

When fuel oil is exposed to the catalyst, it starts interacting with the complex chains of hydrocarbons present in the fuel. This interaction is called catalysis and it breaks down the long and intricate hydrocarbon chains in the fuel oil into smaller molecules known as "activated complexes".

These activated complexes can release hydrogen from the hydrocarbon chains during the reaction, which results in the creation of lighter hydrocarbons. These lighter hydrocarbons have a lower density when vaporized and a lower boiling point compared to the original fuel. Due to this lower boiling point and decreased vapor density, the treated fuel oil gets better atomized, which means more fuel comes into contact with oxygen. This simplifies the ignition and burning process, leading to more efficient burning of the fuel mixture. The presence of more easily combustible lighter hydrocarbons and the effective atomization leads to increased surface area for oxygen to react, which in turn leads to a better carbon footprint.

US

Fuel Optimizer for Biodiesel



Features

- Optimized for low and high-pressure injection
- Simple installation
- No moving parts or electrical connections
- Works on all biodiesel fuels

The RENTAR fuel catalyst works on diesel engines with 6 to 20 cylinders and over 450 horsepower. It utilizes the same patented technology as our other catalysts and works on any diesel or biodiesel less than B100. Certified alternative fuels, including Hydrotreated Vegetable Oil (HVO), Renewable Diesel (RD), and Hydrotreated Renewable Diesel (HRD) that meet EN 15940 or ASTM D975, can be used or blended with EN 590 diesel. With no moving parts or additives, there is zero maintenance and a long operating life.

Application

High-pressure injection	Common rail injection systems utilize the engine's control module to regulate how much fuel is injected and the amount of pressure created by an external high-pressure fuel pump.
Low-pressure injection	Direct injection utilizes high-pressure fuel injectors to deliver highly pressurized fuel directly into the engine cylinders.
Engine Compatibility	The catalyst is compatible with all makes and models of diesel engines and all fuel injection systems (common and direct)

Physical engine model for fast application

- To track performance, determine the fuel consumption for 250 hours of operation before installation
- Installs on the fuel supply line after the fuel filter housing and before the engine
- Catalyst is secured to the engine by a mounting bracket using a rubberized insert

Continuous flow 	Copper mesh screens with an opening size of 1.52 mm are RoHS 3 (2015/863/EU) Compliant and have nonsparking and nonmagnetic properties

Technical Specifications

Mechanical Data

Copper Type-K and milled aluminum #6061 housing	
Copper mesh screens offer 1.52 mm pathway for easy flow	
Size without fittings:	241 x 57 mm
Weight:	1.09 kg
Connection (female):	½"JIC10 or ¾"BSPP12
Torque:	75N·m

Environmental Data

Temp. range (operating)	-40 to 118°C
Working pressure:	up to 34 bar (internal)
Max. flow rates:	45 liters per minute
Working pressure:	Up to 34 bar (internal)
Fluid Compatibility:	#2 diesel, biodiesel (<B100)