Rentar Fuel Catalyst

Furnace / Boiler Fuel and Emission Solutions

Reduces Fuel Consumption and Reduces Harmful Emissions

Verified Effective by EPA Recognized Laboratories  *  Sole Source Technology with 33 Issued Patents
Globally, there are more than one half billion diesel engines and oil-fired furnaces burning billions of gallons of fuel per year and emitting millions of tons of greenhouse gases into the atmosphere.

The Rentar Fuel Catalyst is independently proven to reduce fuel consumption and greenhouse gas emissions by EPA and CARB recognized laboratories.

It is the “Mission” of Rentar Environmental Solutions, Inc. to install Rentar Fuel Catalysts on the world's diesel equipment.
Rentar Fuel Catalyst
Independently Verified to:

- Reduce Oil Fired Furnace Fuel Consumption 7.0% To 30.0%
- Reduce Greenhouse Gases (NOx, CO and CO2) Up To 19.2%
- Reduce Particulate Matter (PM) Up To 58.2%
- Reduce Black Smoke (Opacity) Up To 44.8%
- Reduce Organic And Elemental Carbon Up To 35.0%
- Reduce Volatile Organics up to 63.0%

Results vary based on the applications, type of engine and type of fuel utilized
Rentar Is Independently Verified By:

- Southwest Research Institute
- EPA & CARB Recognized Laboratories
- Aberdeen Proving Grounds
- Olson Ecological Laboratories
- Virginia Tech University
- SGS,SA
Benefits of the Rentar Fuel Catalyst

- Reduces Fuel Consumption
- Increases Performance Per Gallon / Liter
- Reduces Greenhouse Gas Emission
- Extends Furnace Life
- Reduces Furnace Maintenance
- 10 Year Warranty
- Easy to Install
- Pays for Itself in Fuel Savings in 3 to 12 Months
The Company’s core product is the Rentar® Fuel Catalyst (“RFC”), which aggressively conditions fuel through a series of complementary processes resulting in a more complete and cleaner burn at combustion. The Rentar technology works with any fossil fuel combustion process.

Fundamentally rooted in “cracking fossil fuels”, a method of altering organic compounds with large molecules, making them more useful compounds with smaller molecules. The RFC enables the clustered molecules in fuel to temporarily repel each other, allowing more surface area of the fuel molecules to be exposed to oxygen at the point of combustion.

The proprietary combination of rare earth elements contained in Rentar's catalyst cause the saturated straight chain aliphatic (paraffin) molecules to convert into unsaturated ring compound aromatics which in turn releases a small amount of hydrogen. The hydrogen interacts with the dispersed fuel molecules to achieve a more complete combustion.
Simple Installation
WEST PALM BEACH, Fla. -- Rentar Environmental Solutions, Inc. in conjunction with Virginia Polytechnic Institute and State University’s Alexandria Research Institute released the effects of the Rentar Fuel Catalyst on emissions, greenhouse gases, CO2 and fuel efficiency on a commercial boiler application. The study showed a reduction of 7.6% in fuel use along with NOx reduction of 13%, CO was reduced 4%, CO2 was reduced 9% and a Total Hydrocarbon reduction of 13% was realized on an Industrial Combustion furnace burner, which has a fuel input rating of 5.8 MBTU/hr (41 gal/hr or 305 lb/hr).

Joel Ratner, a Director at Rentar says, “The Rentar is well suited for furnace / boiler applications for its ability to reduce harmful emissions while paying for itself in a very short period of time. This is proven on more than 250 furnace / boiler installations in the New England area. “The heating oil industry is hungry for an economical / environmental solution to the recent rising prices of heating oil and this study confirms that the Rentar can lower that fixed cost while reducing emissions.

For further information and to view the actual Virginia Tech study, visit Rentar’s website at www.DieselCatalyst.com.

About Rentar Environmental Solutions, Inc.
The first of the Rentar companies were incorporated in 1961. Rentar is a full service environmental solution provider with an A+ rating with the Better Business Bureau. The Rentar Fuel Catalyst has 33 domestic and international patents and is UL listed. Rentar clients enjoy a 3 to 12-month ROI on the cost of the product.
EFFECT OF RENTAR FUEL CATALYST ON EMISSIONS AND EFFICIENCY FROM A COMMERCIAL BOILER FIRING NUMBER 2 HEATING OIL

Virginia Polytechnic Institute / Alexandria Research Institute
Commercial Boiler Firing Number 2 Heating Oil
Furnace Located At the Everett Meredith Middle School – Delaware
Study Paid for by the State of Delaware

Results:
7.6% Fuel Consumption Improvement
13.0% NOx Improvement
4.0% Carbon Monoxide Improvement
13% Total Hydrocarbons
7.6% CO2 Improvement by Carbon Balance Assumption
### Input-Output Efficiency Improvement 14.9%

#### Rentar Furnace Catalyst

<table>
<thead>
<tr>
<th></th>
<th>STD</th>
<th>RENTAR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TEST DURATION, MINUTES</strong></td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td><strong>WATER METER STOP FT3</strong></td>
<td>2,722,928.50</td>
<td>2,723,071.38</td>
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<tr>
<td><strong>WATER METER START FT3</strong></td>
<td>2,722,858.50</td>
<td>2,722,990.00</td>
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<tr>
<td><strong>FUEL STOP, LBS</strong></td>
<td>355.38</td>
<td>360.32</td>
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<tr>
<td><strong>FUEL START, LBS</strong></td>
<td>0.00</td>
<td>0.00</td>
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<tr>
<td><strong>H2O CONSUMED, FT3</strong></td>
<td>70.00</td>
<td>81.38</td>
</tr>
<tr>
<td><strong>#2 OIL CONSUMED, LBS</strong></td>
<td>355.38</td>
<td>360.32</td>
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<tr>
<td><strong>H2O CONSUMED, LBS</strong></td>
<td>4,360.86</td>
<td>5,069.81</td>
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<tr>
<td><strong>DELTA H STEAM &amp; FEED H2O</strong></td>
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<td><strong>OUTPUT, BTU'S</strong></td>
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<td><strong>OUTPUT, AVG BTU/HR</strong></td>
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<tr>
<td><strong>INPUT-OUTPUT EFFICIENCY, %</strong></td>
<td>72.85</td>
<td>83.53</td>
</tr>
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</table>

**Furnace Efficiency Study Performed by Major Furnace Manufacturer**

Input Value BTU

- 19,340 lb
- Oil Specific Gravity: 0.8708

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**Rentar Furnace Catalyst**

![Rentar Furnace Catalyst Image]
FUEL SAVINGS AT A BOSTON AREA REGIONAL HIGH SCHOOL

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<td>BASELINE Nov – Dec 2006</td>
<td>1457</td>
<td>11461</td>
<td>7.87</td>
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<td>$22,807</td>
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<tr>
<td>AFTER INSTALL Jan – Feb 2007</td>
<td>2368</td>
<td>13778</td>
<td>5.82</td>
<td>26%</td>
<td>$27,418</td>
<td>$37,068</td>
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Gallons Used Per HDD

Gallons Used Per Heating Degree Day

60 DAYS SAVINGS $9650

Comparing Cost Of Fuel Used With & Without RENTAR

Jan - Feb Test Period
$9,650 savings was achieved with RENTAR installed in just two months of use.

$27,418

$37,068
Rentar Fuel Catalysts Installed on Four Ship Furnaces

Black Smoke was eliminated from four furnaces that power the ship. Twenty-eight Rentar Fuel Catalyst were installed, the black smoke was eliminated, and the fuel consumption was reduced.
Testimonial Letters

For Tata Motors Ltd.

S. K. Singh
DGM - Parts Service

TO WHOM EVER IT MAY CONCERN

This is to certify that HIL® Retarder Fuel Catalyst has been installed on our generator sets and have adhered saving of 15.57% on specific fuel consumption.

Since installation, fuel catalysts are performing to our satisfaction at above mentioned DG sets. We are pleased to confirm that we have achieved saving of 15.57% on specific fuel consumption.

For Mahindra & Mahindra Ltd.

Ref: MAH/MDP/16/1230/11

TO WHOM EVER IT MAY CONCERN

This is to certify that HIL® Retarder Fuel Catalyst has been installed on our generator sets and have adhered saving of 15.57% on specific fuel consumption.

The performance of HIL® Retarder Fuel Catalyst has been good and about 8.6% HSO saving achieved.

We appreciate the green energy efforts of M/S HIL® Power Systems Ltd. towards reducing the fuel consumption and carbon emission.

For Yamana Gold

March 21st 2019

We at Mineração Maracás Indústria e Comércio, a YAMANAGOLD joint venture, have successfully installed the Retarder fuel catalyst model HBN 2012 on our CAT 789E haul truck with results that surpassed our expectations for fuel efficiency with a payback of less than a year. As a result, we have purchased the Retarder fuel catalyst for installation on our fleet.

We are pleased with the support from ROTRONIC, our Retarder dealer, and from the direct relationship with the manufacturer itself. We are also pleased with the trouble-free performance of the catalyst, to date.

We are looking forward to our continued use of the Retarder fuel catalysts.
Hetero Labs Limited
Hyderabad

TO WHOM MAY IT CONCERN

This is to certify that HBL Rentar Fuel Catalyst has been installed with Thermax make 5 T boiler at Hetero Labs Limited, Jadcherla.

The performance of Rentar Fuel Catalyst has been very good and the fuel saving achieved is 20%.

We appreciate the green energy effort of HBL Power System Limited towards reducing the fuel consumption, black smoke and carbon emissions.

For,
Hetero Labs Limited, Jadcherla.

[Signature]

Date: 08-08-2012

Results vary with different applications, fuel and equipment
### HBL Power Systems Limited
Viziyanagaram, A.P

**Rotary Furnace – HFO Fired**

**Fuel Savings:** 22.93%

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**HBL Power Systems Limited**

**BRAU DIVISION**

#### ROTARY FURNACE - 1

<table>
<thead>
<tr>
<th>Date</th>
<th>S No</th>
<th>Burner</th>
<th>Starting Time</th>
<th>Stopping Time</th>
<th>Total Hours</th>
<th>F O Consumption</th>
<th>Avg Per Hour</th>
<th>Production in Kgs</th>
<th>Yield in KGs/Ltr.</th>
<th>Of FG</th>
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#### Operation with RENTAR

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<th>Avg Per Hour</th>
<th>Production in Kgs</th>
<th>Yield in KGs/Ltr.</th>
<th>Of FG</th>
<th>Remarks</th>
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<td>1203</td>
<td>59</td>
<td>19937</td>
<td>16.57</td>
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</table>

**Savings**

- Yield With out RFC: 12.77 Kgs/Ltr
- Yield With RFC: 16.87 Kgs/Ltr

**Calculation**

<table>
<thead>
<tr>
<th></th>
<th>% Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yield With RFC</td>
<td>22.93%</td>
</tr>
</tbody>
</table>

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*Results vary with different applications, fuel and equipment*
Ranbaxy Laboratories Ltd
Baddi, HP

Thermax Make 3 Tons Boiler

Fuel Savings achieved: 4.5%

Date: 23.04.2012

TO WHOM MAY IT CONCERN

This is to certify that HBL Rentar Fuel Catalyst has been installed with Thermax make 3 ton Boiler at Ranbaxy Baddi.

The performance of Rentar Fuel Catalyst has been very good and the fuel saving achieved is 4.5%.

We appreciate the green energy effort of HBL Power System Limited towards reducing the fuel consumption and carbon emission.

For
RANBAXY BADDI

Anil Kumar Sharma

Results vary with different applications, fuel and equipment.
Ameet Industries, Taloja, Maharashtra

Forging Furnace – HFO Fired
2 Number Burners

Fuel Savings : 9.5%

Results vary with different applications, fuel and equipment
Hetero Lab Limited
Hyderabad

TO WHOM MAY IT CONCERN

Date: 08-08-2012

This is to certify that HBL RENTAR FUEL CATALYST has been installed with Thermax make 5 ton Boiler at HETERO LABS LIMITED, Jadcherla.

The performance of Rentar Fuel Catalyst has been very good and the fuel saving achieved is 20%.

We appreciate the green energy effort of HBL POWER SYSTEM LIMITED towards reducing the fuel consumption, black smoke and carbon emissions.

For,
Hetero Labs Limited, Jadcherla.

Results vary with different applications, fuel and equipment
2nd July 2012

Performance Certificate

This is to certify that HBL Rentar Fuel Catalyst has been installed on Thermax make Thermapack at Allied Nippon Ltd, Sahibabad.

The Performance of the Fuel Catalyst has been very good and the fuel saving achieved is more than 10%.

We appreciate the efforts from M/s HBL POWER SYSTEMS LTD towards reducing the fuel consumption and carbon emission.

For M/s Allied Nippon Ltd.

Sanjay Kumar Srivastava
(Manager – Maintenance)
CBS TELEVISION REPORT ON FURNACE FUEL SAVINGS IN PUBLIC SCHOOLS USING THE RENTAR FUEL CATALYST

See CBS Video – Click on https://vimeo.com/268843737
Credentials

United States Department of Commerce

Export Achievement Award

World's 4th Largest Caterpillar Dealer
A Rentar Distributor
400 Offices - 4300 Employees

Export-Import Bank of the United States
Official Export Credit Agency

$2 Million International Product Liability Insurance

Member

Economic Development Organization for the State of Florida

California Resource Board Executive Order (CARB)
Rentar Fuel Catalyst
Purchasers
I like the Rentar Fuel Catalyst

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+1 (561) 345-0359

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Boynton Beach, Florida 33426 USA
Websites: DieselCatalyst.com