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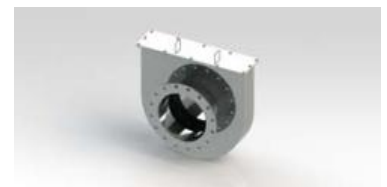
Clean Emissions Products Inc.

“Every Engine Deserves Clean Emissions”

Stationary Engine Catalysts



Prime and Standby Applications



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www.cleanemissions.com



Clean Emissions Products Inc.

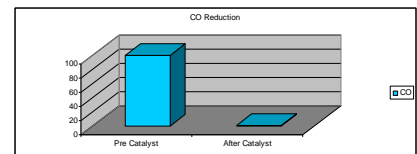
“Every Engine Deserves Clean Emissions”

Exhaust Pollutant Components & Health Risks

CO (Carbon Monoxide):

The deadliest and most regulated of exhaust pollutants, CO, if not removed from the exhaust stream, can be very toxic and lethal. This deadly molecule restricts the red blood cells ability to absorb oxygen molecules thereby causing suffocation. CO is also a cancer causing agent.

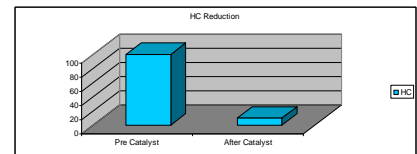
Clean Emissions Products Inc. catalyst will reduce CO by up to 99%



HC (Hydrocarbons):

Very deadly and toxic, HC is responsible for creating small irritants that can easily be absorbed into the lungs causing respiratory infections and shortness of breath. The harsh “rotten egg” smell in diesel engine exhaust is attributed to the presence of HC.

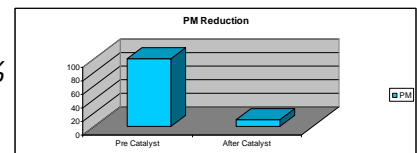
Clean Emissions Products Inc. catalyst will reduce HC by up to 90%



DPM (Diesel Particulate Matter):

Prolonged exposure to particulate matter can cause serious illness including lung infections, cancer and severe respiratory problems. PM is primarily composed of dry carbon (soot), inorganic oxides (present as sulfates) and liquid vapor. Liquids and liquid vapour is a combination of unburned diesel fuel and lubricating oils which as a group are classified as SOF (soluble organic fraction) or VOF (volatile organic fraction).

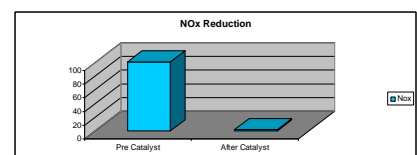
Clean Emissions Products Inc. catalyst will reduce DPM by up to 90%



NOx (Nitrogen Oxide):

Composed of both nitrogen dioxide (NO₂) and nitric oxide (NO) this gas is considered toxic and responsible for eye, nose and throat irritation. Continued exposure may cause impaired lung functions and increase respiratory infections particularly in young children or elderly people. The presence of NOx in exhaust will also contribute to development of acute or chronic bronchitis.

Clean Emissions Products Inc. catalyst will reduce NOx by up to 99% (gas/LPG/NG) and 30% (diesel)





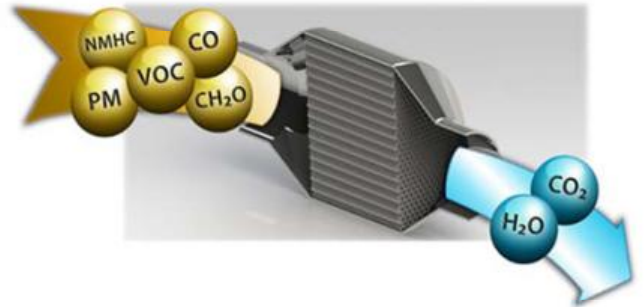
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Catalyst Performance

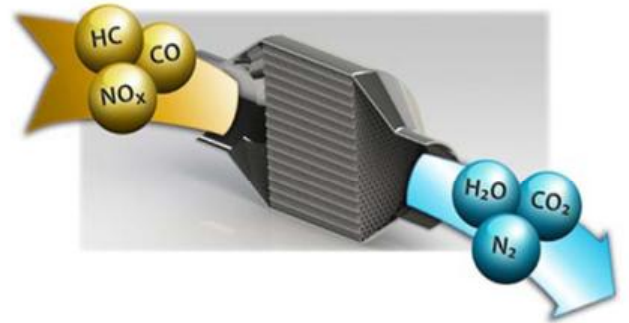
Oxidation Reaction

- CO (carbon monoxide) Reduced by 95-99%
- HC (hydrocarbons) reduced by 80-90%
- PM (particulate) reduced by 70-88%
- NO_x (Oxides of Nitrogen) reduced by 20-30% average in an uncontrolled reaction.



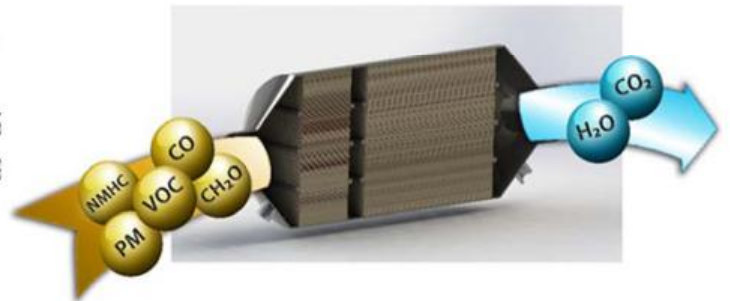
Reduction Reaction (3-Way)

- CO (carbon monoxide) reduced by 95-99%
- HC (hydrocarbons) reduced by 80-90%
- NO_x (Oxides of Nitrogen) reduced by 99%



CRT

- CO (carbon monoxide) reduced by 95-99%
- HC (hydrocarbons) Reduced by 80-90%
- NO_x (Oxides of Nitrogen) Reduced by 30-5
- PM (Particulate Matter) Reduced by 95-99





Clean Emissions Products Inc.

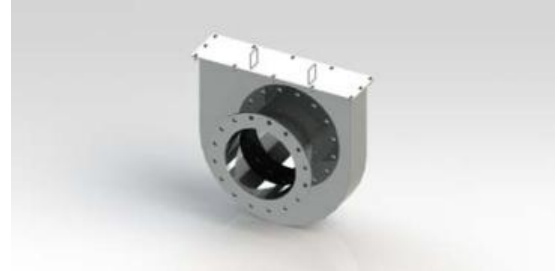
"Every Engine Deserves Clean Emissions"

Oxidation Catalyst for Stationary Engines

Applications: Diesel, Natural Gas Prime & Standby

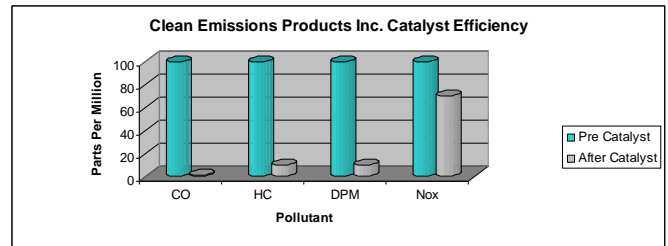
Basic Catalyst & Housing

Stainless Steel Catalyst Core
Stainless Steel Housing (Grade 304) or Carbon Steel
Maximum Pressure Drop of < 3" H₂O
Available in Inline, Muffler and QuickCat Configurations



Effectiveness in Reducing Exhaust Emissions

CO (carbon monoxide) up to 99%
HC (hydrocarbons) up to 90%
DPM (diesel particulate matter) up to 88%
NOx (oxides of nitrogen) up to 30-50%



Lifespan of Catalyst

Stationary Applications (Standby) - 15 years (500 hours annually)
Stationary Applications (Prime) - 5 years (1500 hours annually)

Installation

Installation can be done in less than an hour without the need to install other costly components, our system comes complete.

Maintenance

Designed to be maintenance free when installed on a regularly maintained engine.
If maintenance is required simply remove catalyst and blow out in opposite direction of exhaust flow with high pressure water or air.

Operating Conditions for Successful Catalyst Performance

Exhaust temperature must be at least 250° C (482° F) and not exceed 750° C (1382° F).



Clean Emissions Products Inc.

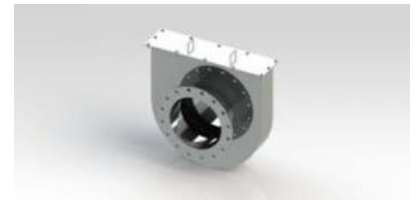
"Every Engine Deserves Clean Emissions"

Catalytic Converters for Stationary Engines

(Diesel / Natural Gas)

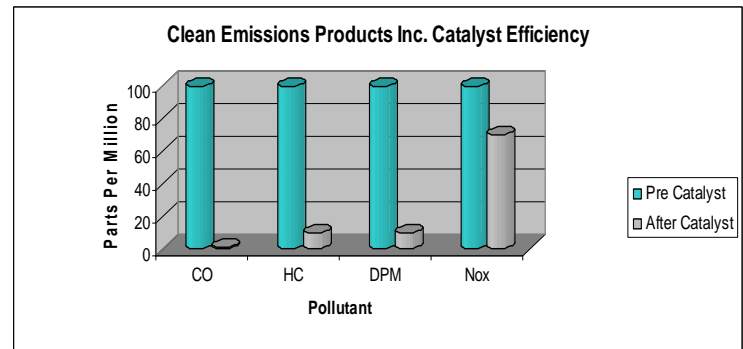
Need to reduce your deadly exhaust pollution?

Equipment failing to meet OSHA/MSHA, RICE NESHAP, EPA, CARB or EURO emission standards?



Then install our high performance catalyst and ...

- Reduce Carbon Monoxide ^(CO) by up to 99%
- Reduce Hydrocarbons ^(HC) by up to 90%
- Reduce Diesel Particulate Matter ^(DPM) by up to 95%
- Reduce Nitrogen Oxides ^(NOx) by up to 99%



Our Stationary Engine Catalysts Offer These Industry Leading Benefits:

- *All catalysts and housings are manufactured from premium grade 304 stainless steel to prevent corrosion and increase durability (Carbon Steel Housings Available)*
- *Industry Leading Production Lead-Times*
- *Catalyst available in inline, flanged, QuickCat and Muffler configurations.*
- *Catalysts available for all small and large stationary prime or standby applications (25 kW to 4000 kW).*



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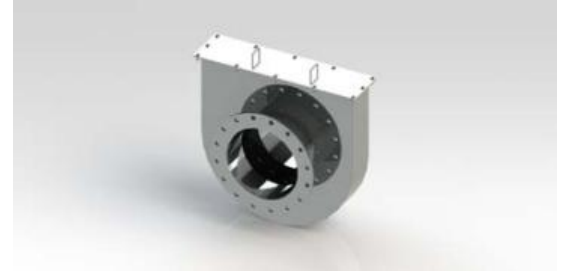
"Every Engine Deserves Clean Emissions"

NSCR (3Way) Catalyst for Stationary Engines

Applications: Gas/Natural Gas Prime & Standby

Basic Catalyst & Housing

Stainless Steel Catalyst Core
Stainless Steel Housing (Grade 304) or Carbon Steel
Maximum Pressure Drop of < 3" H₂O
Available in Inline, Muffler and QuickCat Configurations

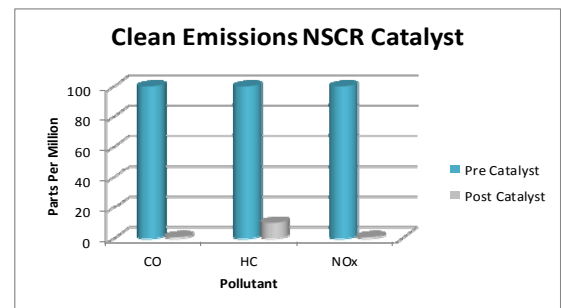


Effectiveness in Reducing Exhaust Emissions

CO (carbon monoxide) up to 99%
HC (hydrocarbons) up to 90%
NOx (oxides of nitrogen) up to 99%

Lifespan of Catalyst

Stationary Applications (Standby) - 15 years (500 hours annually)
Stationary Applications (Prime) - 5 years (1500 hours annually)



Installation

Installation can be done in less than an hour without the need to install other costly components, our system comes complete.

Maintenance

Designed to be maintenance free when installed on a regularly maintained engine.
If maintenance is required simply remove catalyst and blow out in opposite direction of exhaust flow with high pressure water or air.

Operating Conditions for Successful Catalyst Performance

Exhaust temperature must be at least 250° C (482° F) and not exceed 750° C (1382° F).



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Continuous Regenerating Particulate Filter (CRT)

Applications: Diesel Prime & Standby Gensets

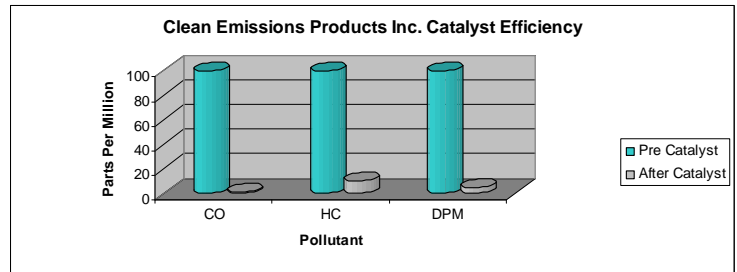
Basic Catalyst/Filter & Housing

Stainless Steel Catalyst Core
Stainless Steel or Carbon Steel Housing
Maximum Pressure Drop of < 8” H₂O
Available in Inline and Muffler Configurations



Effectiveness in Reducing Exhaust Emissions

CO (carbon monoxide) up to 99%
HC (hydrocarbons) up to 90%
DPM (diesel particulate matter) up to 95%



Lifespan of CRT Elements (DOC/DPF)

Stationary Applications (Standby) - 15 years (500 hours annually)
Stationary Applications (Prime) - 5 years (1500 hours annually)

Maintenance

Designed to be maintenance free when installed on a regularly maintained engine. Our CRT catalyst will regenerate and clean itself automatically without need for removal. Should periodic inspection/cleaning be required the elements can easily be accessed due to their modular flanged configuration.

Operating Conditions for Successful Filter Regeneration (Automatic)

Exhaust temperature must be at least 200° C (392 F) and not exceed 400° C (752 F) for at least 40% of duty cycle time.



This Product Line Represented By:

VIKING POWER PRODUCTS CO.

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