

HARCO **Manufacturing Co.**



HMC

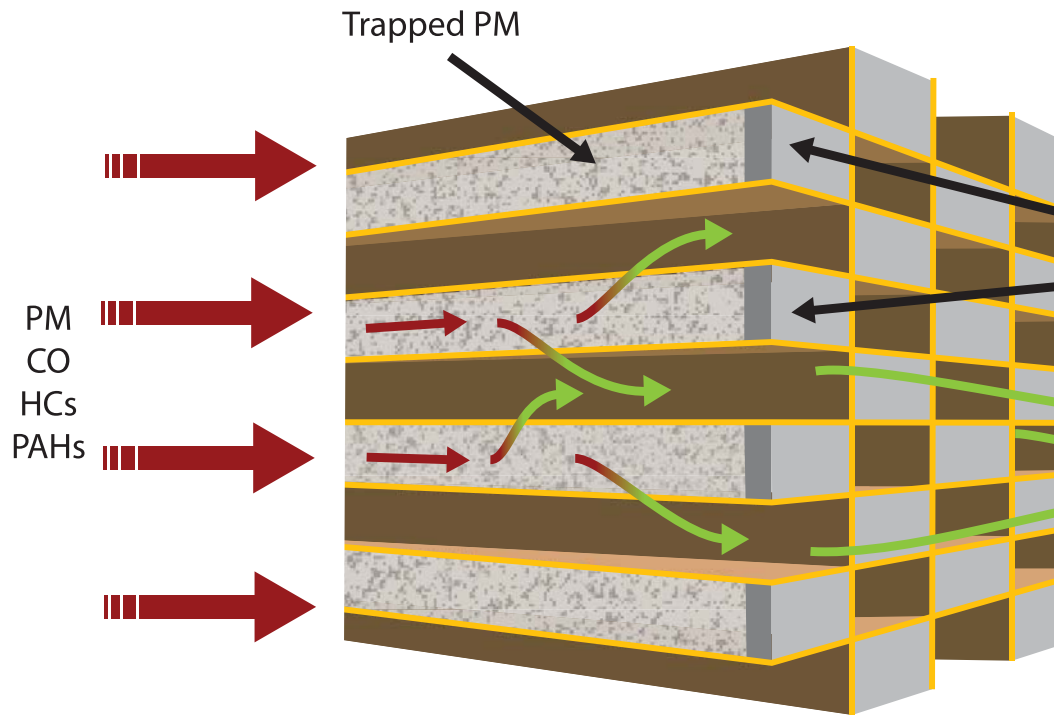
**Emission Control
Products**

Diesel Particulate Filters

To purify exhaust of diesel engines Diesel Particulate filters (DPF) are made of Wall Flow cordierite honeycomb material. This allows the control of particulate matter (PM), carbon monoxide (CO) and hydrocarbons (HC). The filter's catalytic coating dramatically reduces the temperature necessary for oxidation and allows the filter to regenerate.

The DPF is mounted on the engine just after the turbocharger. As the engine runs, the exhaust gases and trapped soot interact with the catalyst to create a complex chemical reaction. Soot is oxidized-burned and Carbon Monoxide and Hydrocarbons are changed into harmless carbon dioxide and water vapor, which then passes through the filter system.

The correct size DPF will vary depending on many factors including engine size, exhaust temperature, allowable pressure drop, required emission reductions and engine duty cycle.



Note:

PM = particulate matter, HCs = hydrocarbons, PAHs = poly-aromatic hydrocarbons

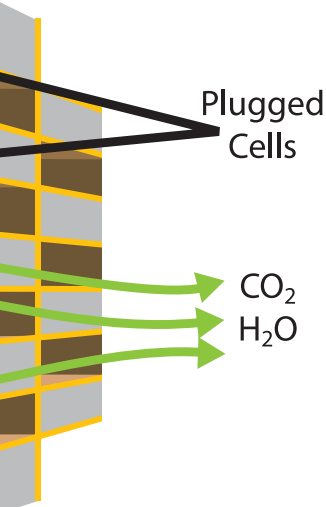
Overall Test summary of Triplicates weighted by ISO 8178 g/(hp*hr)

Test	THC	CO	NOx	NO2	CO2	PM2.5 ISO
Baseline	0.053	0.818	6.40	0.194	568	0.1960
0Hr Control	0.010	0.016	6.32	0.264	567	0.0030
167 Hr Control	0.021	0.001	6.41	0.250	578	0.0024
500 Hr Control	0.000	0.059	6.71	0.136	558	0.0012
1000 Hr Control	0.022	0.088	6.74	0.113	564	0.0008

Overall Test summary of % difference from Baseline (weighted ISO 8178)

Test	THC	CO	NOx	NO2*	CO2	PM2.5 ISO
0Hr Control	-81%	-98%	-1.3%	1.1%	-0.2%	-98.5%
167 Hr Control	-61%	-99%	0.2%	0.9%	1.7%	-98.8%
500 Hr Control	-99%	-92%	4.8%	-0.9%	-1.7%	-99.4%
1000 Hr Control	-58%	-89%	5.3%	-1.3%	-0.7%	-99.6%

*NO2 % reduction is a percent of total NOx



Aromatic hydrocarbons

HARCO

Emission Control Products

Designed to reduce toxic levels of particulate matter (PM), carbon monoxide and hydrocarbons without having to purchase the higher priced Ultra Low Sulfur fuel.

Eliminator™

Diesel Oxidation Catalyst

- Reduces CO by more than 90%
- Reduces HC by more than 70%
- Reduces visible smoke by more than 70%
- Does NOT need Ultra Low Sulfur Fuel

Regulator™

Diesel Particulate Filter

- Reduces PM by more than 95%
- Reduces CO & THC by more than 90%
- Self Regenerating
- Does NOT need Ultra Low Sulfur Fuel
- C.A.R.B. Verification in Process

NOTE:

The HARCO Eliminator™ and Regulator™ use Sud-Chemie catalyst products exclusively.

SÜD-CHEMIE
Creating Performance Technology



The HARCO Advantage

Advanced Sizing Technology

Harco Manufacturing's Eliminator™ and Regulator™ are designed in such a manner as to meet customer specifications with the smallest overall package size possible. Taking advantage of our unique and proprietary internal designs, all Harco's DOCs and DPFs are guaranteed to meet or exceed customer's expectations for quality, longevity and performance. We back up our commitment to performance with hard data as well as a thorough user manual and warranty.

Personalized Customer Support: Customer Satisfaction is "The" Priority!

- Sales and Engineering are one department creating what we believe is the best combination for technical expertise and excellent customer service
- Quotes can be emailed or faxed in 24 hours or less, complete with pricing, drawings and sound data sheets
- Application or enclosure drawings can be emailed to Harco and we can import our products into the layout and return for complete fit up review by the customer
- Factory direct access
- Complete service network in place for your service needs
- Complete one stop source for all silencer, routing and accessory needs
- Very competitive shipping rates while maintaining maximum flexibility and options

Simple Installation/Service

With Harco's thorough Installation and Service Manual, the installation and service of the Harco Emission Control products are simple and quick.

Quality Equals Value

Eliminator™ Diesel Oxidation Catalyst

- Reduces CO by more than 90%
- Reduces HC by more than 70%
- Also reduces PM
- Does NOT need Ultra Low Sulfur Fuel

Regulator™ Diesel Particulate Filter

- Reduces PM by more than 95%
- Reduces CO & THC by more than 90%
- Self Regenerating
- Does NOT need Ultra Low Sulfur Fuel
- C.A.R.B. Verification in Process

Workmanship

- All materials and finished products are inspected at each stage of production to ensure quality of workmanship (we meet all State and Federal requirements)
- High Heat Black paint and primer as standard finish or Zinc based High Heat and High Corrosion resistant paint optional (factory standard in certain extreme applications)
- Harco uses only premium materials and construction methods for superior strength and durability

Low Pressure Drop

Very low back pressure is maintained without sacrificing performance. All applications are guaranteed to have pressure drops well within the engines allowable limits. A low-pressure drop reduces engine strain and restriction resulting in a long lasting and top performing engine and exhaust package.

Serving Industry With Quality Products Since 1948

HARCO MANUFACTURING COMPANY

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