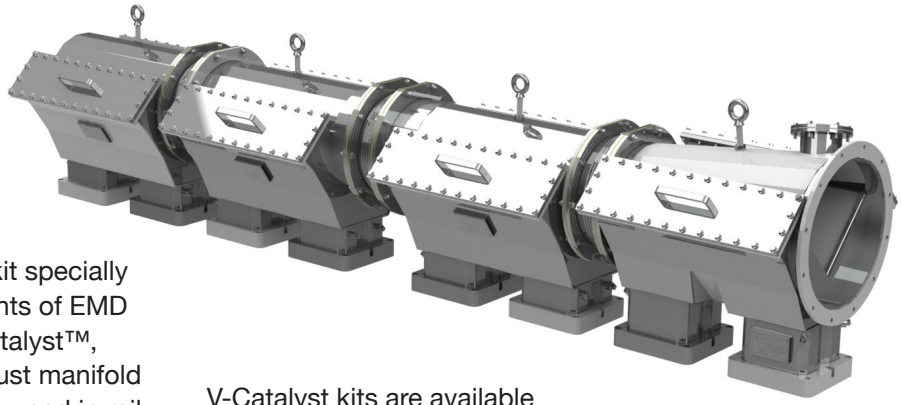
ELECTRO-MOTIVE

EMISSIONS PRODUCTS

New EMD Diesel Oxidation Catalyst Reduces Engine Emissions



Electro-Motive Diesel constantly strives to improve the performance and reliability of its products, and continues this tradition with the introduction of a new diesel oxidation catalyst kit specially designed for the unique requirements of EMD diesel engines. Known as the V-Catalyst™, this kit replaces the standard exhaust manifold on EMD 710, 645, and 567 engines used in rail, marine, and stationary applications.

The V-Catalyst keeps emissions in check – including CO, VOC, aldehydes and other HAPs, soot, and odor – at minimum cost, with minimum space requirements, and with minimum hassle.

V-Catalyst Emissions Reduction

PM	30 - 50%
HC	50 - 60%
CO	80 - 90 %

The proprietary corrugated metal foil construction of the catalyst elements prevents nesting and resists vibration and shock – with the multi-layered honeycomb design adding durability. Chemisorption catalyst impregnation produces a cost-effective, long-lasting element that resists sulfur buildup and catalyst "poisoning". The patented banding and pinning process ensures superior mechanical strength with high temperature tolerance, and wards off backfire damage.

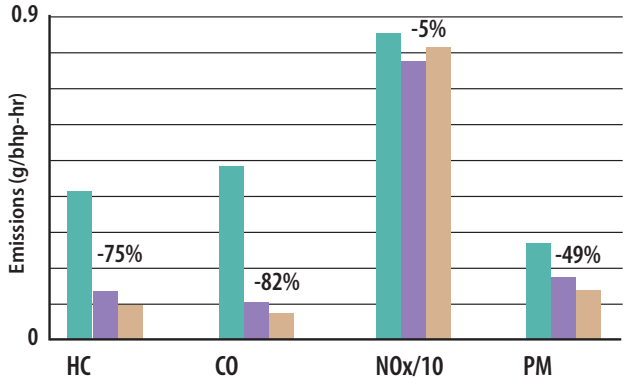
Each element is wrapped in a stainless steel outer band which protects workers from injury and makes element removal and insertion both quick and easy.

V-Catalyst kits are available for EMD 8-, 12-, 16- and 20-cylinder engines — either turbocharged or Roots-blown. Installed within the standard exhaust manifold footprint, it conserves space, maintains engine serviceability and provides sound attenuation and spark arrestor capabilities. The V-Catalyst adds negligible turbo back pressure, preserving horsepower and fuel economy. And its standard-setting design, expert craftsmanship, and top quality fabrication deliver long lasting, problem free performance.

V-Catalyst Benefits

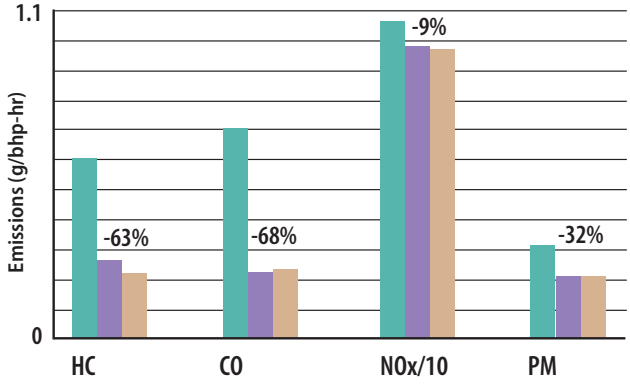
- Simultaneously cuts CO, VOCs, aldehydes & other HAPs, particulates, soot and odor
- Reduces CO over 70% for EPA RICE/NESHAP stationary engine applications
- Low SO_2 - SO_3 conversion requirement minimizes sulfur acids & particulate formation
- Negligible turbo back pressure preserves horsepower and fuel economy
- Maintains engine serviceability
- Durable metal substrates provide long life and maximize catalytic performance
- Unique design resists vibration, shock and backfire damage and eliminates blow-by
- Stainless steel element outer shells are virtually indestructible & safer for workers

RAIL APPLICATION - EPA Line Haul Cycle



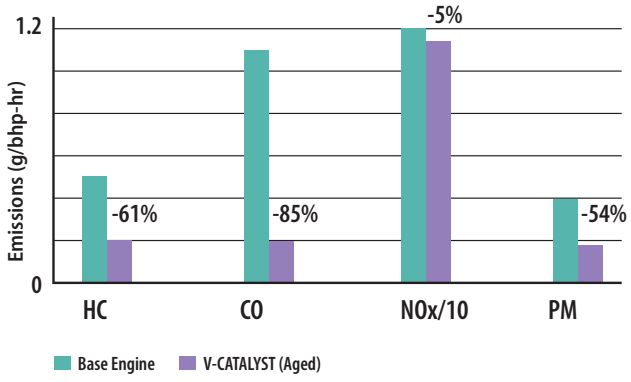
- Base engine EMD Tier 0, 16-710, 4000 hp 2-stroke, turbocharged
- Baseline was conventional EMD exhaust manifold
- Independently verified by SWRI using EPA linehaul and switch test cycles
- Tested using ULSD 15 ppm sulfur fuel
- V-CATALYST can be used with up to 500 ppm

RAIL APPLICATION - EPA Switch Cycle



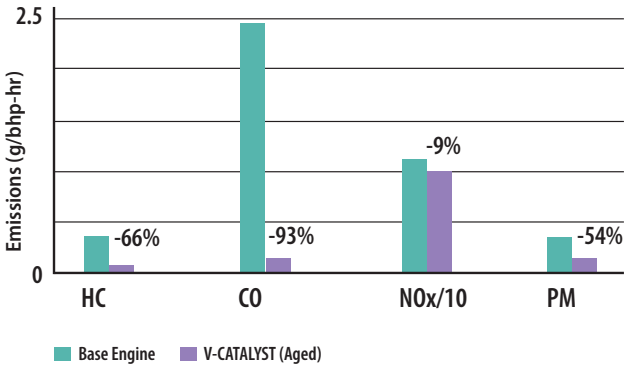
- Base engine EMD Tier 0, 16-710, 4000 hp 2-stroke, turbocharged
- Baseline was conventional EMD exhaust manifold
- Independently verified by SWRI using EPA linehaul and switch test cycles
- Tested using ULSD 15 ppm sulfur fuel
- V-CATALYST can be used with up to 500 ppm

STATIONARY POWER APPLICATION



- Base engine EMD Tier 1, 12-710, 3000 hp 2-stroke, turbocharged
- Baseline was conventional EMD exhaust manifold
- Independently verified by SWRI using EPA D2 test for Stationary Engines
- Tested using ULSD 15 ppm sulfur fuel
- V-CATALYST can be used with up to 500 ppm

MARINE POWER APPLICATION



- Base engine EMD Tier 1, 12-710, 3000 hp 2-stroke, turbocharged
- Baseline was conventional EMD exhaust manifold
- Independently verified by SWRI using EPA IMO E3 test cycles
- Tested using ULSD 15 ppm sulfur fuel
- V-CATALYST can be used with up to 500 ppm

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