



**Emission
Solutions**

EVERYTM SOLUTION.

RETROFIT TECHNOLOGY AND SUPPORT

Seeing Clear Into The Future.

Today's diesel engines are designed to produce up to 90% fewer harmful emissions. But there are a large number of older engines still in operation emitting hydrocarbons, particulate matter, oxides of nitrogen and carbon monoxide. This is a significant issue, especially in non-attainment areas where large populations can be exposed to these pollutants.

Government and private industry are taking active steps to remedy the situation. New retrofit technology has been developed, grants are being funded, and assistance is being provided to help put emission-reducing devices onto existing equipment.

As the world's largest and most experienced provider of diesel emissions products (with over 1.5 million units in operation and 30 years in exhaust product development and manufacturing), Cummins Emission Solutions has the expertise to help you choose the right emissions product for your application, based on local laws and regulations. We also help identify funding and incentive opportunities that apply in your region. We have designed, built and installed retrofit emissions products for:

- School buses
- Municipal fleets
- Construction equipment
- Port equipment
- Transit buses
- On-highway trucks
- Mining equipment
- And more

Today, as off-highway equipment comes under greater scrutiny, Cummins Emission Solutions is ready with products that lower harmful emissions without compromising performance or productivity. Plus, every product we sell is backed with a full Cummins Emission Solutions warranty.

Products And Applications.

All Cummins Emission Solutions products are verified by either the Environmental Protection Agency (EPA) or the California Air Resources Board (CARB).

Diesel Oxidation Catalyst (DOC)

The Cummins Emission Solutions retrofit DOC uses Johnson Matthey's platinum-based flow-through catalyst on a cordierite substrate. This product reduces Particulate Matter (PM) by 20% or more, carbon monoxide by 50% or more and hydrocarbons by 50% or more. The Cummins Emission Solutions DOC can be applied to a wide variety of equipment with no application guidelines and with no maintenance required.



Passive Diesel Particulate Filter (DPF)

The Cummins Emission Solutions passive retrofit DPF uses Johnson Matthey's patented continuously regenerating technology, among the first verified by EPA. It combines a highly active platinum catalyst coated on a flow-through substrate upstream from a wall-flow filter for maximum emissions reduction with Ultra-Low Sulfur Diesel (ULSD) fuel. It is also verified for use with biodiesel blends. It is recommended for use on 1991 (CRT) or 1994 (CCRT) or newer engines, including some with Exhaust Gas Recirculation. Data logging is required to qualify applications.

The Cummins Emission Solutions passive DPF is verified to remove 90% of PM, 85% of carbon monoxide and 95% of hydrocarbons. It can be used in a wide variety of applications with a duty cycle which will generate exhaust temperatures between 200°C and 240°C 40% of operating time. Maintenance is required to remove ash periodically.

Active Diesel Particulate Filter (DPF)

Using a non-catalyzed wall-flow filter and an electrical regeneration component supplied by Cleaire, the Cummins Emission Solutions retrofit active DPF reduces Particulate Matter (PM) by 85%. Because the filter regenerates electrically, it will work with virtually all engines regardless of duty cycle, temperature or fuel type. Maintenance is required to remove ash periodically.

Lean-NOx Catalyst

One of only a few products of its type verified by EPA and CARB, the Cummins Emission Solutions retrofit lean-NOx catalyst uses technology developed by Cleaire that combines a lean-NOx catalyst with a wall-flow filter for both particulate matter and NOx reduction. The lean-NOx catalyst reduces particulate matter by 85% and NOx by 25%. It also eliminates 90% of carbon monoxide emissions and 65% of all hydrocarbons. This product will work on 1994 and newer diesel engines with exhaust temperatures of 260°C at least 25% of operating time. Data logging is required to qualify applications. The product is easily installed, and maintenance is needed periodically.

The Right Questions Lead To The Best Solution.

To identify the best product for your situation, your Cummins Emission Solutions representative will help you with answers to the following questions:

- Is PM or NOx reduction required?
- What funding sources are available?
- Is verification (EPA or CARB) required to qualify for funding?
- What type of fuel is required and available?
- What is the duty cycle of the engine, and what are the operating temperatures?
- How old is the engine and to what emissions standard was it built?

Based upon this information, Cummins Emission Solutions can make the appropriate product recommendation.

Products By Emissions Goal.

Our approach to engine aftertreatment is based not only on best-in-class technology and design, but also on providing a product and cost that align with customer requirements. The percentage and type of emissions that you want to reduce determines which Cummins aftertreatment product is best suited for your operation.

EMISSION GOAL	PRODUCT	RESULT
Particulate Matter (PM) Control	Diesel Oxidation Catalyst (DOC)	≥ 20% PM reduction ≥ 50% CO and HC reduction, including toxic HC
	Diesel Particulate Filter – Passive (CRT and CCRT)	90% PM reduction 85% CO reduction 95% HC reduction
Particulate Matter (PM) plus Oxides of Nitrogen (NOx) Control	Lean-NOx Catalyst (Longview)	25% NOx reduction 85% PM reduction 90% CO reduction 65% HC reduction



Our Experts Make Your Job Easier.

Our network of authorized installation and service facilities is capable and close at hand. We provide

the installation and maintenance support you need to handle the retrofit process correctly and efficiently, including:

- Application engineering support
- Installation engineering support
- Maintenance and warranty support within Cummins distributor network

Cummins Emission Solutions products are covered by performance and emissions warranties that meet or exceed both EPA and CARB warranty requirements for retrofit verification coverage.

Clearly The Right Choice.

You can depend on Cummins Emission Solutions to help you every step of the way. Our service providers have the training, experience and local knowledge that make them every bit as reliable as our aftertreatment products.

Helping to clean up the environment is clearly the right thing to do. And Cummins Emission Solutions can help you do it the right way. To learn more, please visit our web site at cummins.com or contact us today to find out what we can do for you.





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