

clēaire

ADVANCED EMISSION CONTROLS®



DIESEL EMISSIONS. **WHAT'S IN YOUR RETROFIT PLAN?**

DPF Technology | PM Reduction | NOx Reduction | CARB & EPA Verified

HEALTH

Cleaire diesel particulate filters (DPF) help communities meet air quality requirements and reduce health issues associated with diesel particulate emissions.

- Study after study have shown numerous adverse effects of diesel exhaust
- Ultrafine particulate matter (PM) particles are especially harmful to human health
- Black carbon from diesel exhaust contributes to global warming
- DPFs are especially important in areas of high PM exposure and population
- DPFs are filters that eliminate 85%+ of all PM emitted by diesels, including ultrafine particles and black carbon
- DOCs are not filters and do not capture ultrafine particles or black carbon

About Cleaire

Cleaire designs, develops and manufactures retrofit emission control systems for today's existing diesel engines. Our systems have been verified by the California Air Resources Board (CARB) and the EPA* to provide maximum emission reductions for a wide range of diesel applications, both on-road and off-road. Cleaire provides proven solutions to emissions compliance while extending the operating life of existing vehicles and avoiding costly replacement.



With over 10,000 DPF systems in operation, many installed to help regions meet air quality and transportation conformity requirements, Cleaire has established a strong reputation for quality and successful diesel retrofit projects.

Organizations committed to air quality don't waste scarce funding on DOCs, they specify Cleaire DPFs and get serious about improving the health of their community by reducing harmful levels of PM, ultrafine PM, NOx and black carbon.



TECHNOLOGY

Studies consistently show that Diesel Particulate Filter (DPF) technology is far more effective than Diesel Oxidation Catalysts (DOC) at reducing PM emissions. Cleaire DPFs are classified as the “Best Available Control Technology” (BACT), DOCs are not.

- DPFs are filters that eliminate 85%+ of all PM emitted by diesels, including ultrafine particles and black carbon
- Regardless of shape or size, DPFs capture all types of PM, including ultrafine PM, whereas DOCs do not
- DPFs are ideal for highly variable, light and heavy duty cycles
- DOCs are not filters and provide far less PM reduction than DPFs
- DPFs enable diesels to meet CNG grade PM levels
- DPFs can extend the operating life of expensive vehicles and equipment
- Cleaire DPFs are verified by CARB & EPA* to meet stringent requirements



EXPERIENCE

Cleaire DPF systems are running from coast-to-coast in a wide variety of on-road vehicles and off-road equipment. We have years of experience with proven products that have accumulated millions of miles/hours of reliable operation.

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| Transit buses | Loaders |
| School buses | Excavators |
| Motor coaches | Farm equipment |
| Shuttle buses | Cranes |
| Refuse trucks | Dozers |
| Recycling trucks | Graders |
| Utility trucks | Road planers |
| Municipal trucks | Drills |
| Street sweepers | Fork lifts |
| Cranes | Scrapers |
| Port vehicles | Rock crushers |
| Regional delivery | Generators |
| Intermodal trucks | Pumps |
| Cargo handling | Vacuum trucks |

All Cleaire DPF systems are CARB & EPA* verified to meet stringent performance and quality standards.



RETROFIT PROJECTS

With over 10,000 Cleaire DPF systems operating on a wide variety of on-road vehicles and off-road equipment, Cleaire is a proven leader in DPF retrofit technology. Leading government agencies and companies across the U.S. have successfully completed diesel retrofit projects using Cleaire DPF systems. Listed at right, is a short list of some of those organizations.

- City of Charleston – Charleston, SC
- Gulf Winds International – Laporte, TX
- City of Charlotte – Charlotte, NC
- Hampton Roads Transit – Hampton, VA
- University of Georgia – Athens, GA
- New York City Department of Sanitation – New York, NY
- SF International Airport – San Francisco, CA
- Alameda-Contra Costa Transit District – Oakland, CA
- Ocean City Public Works – Ocean City, NJ
- City of Fresno – Fresno, CA
- Waste Management – Orange, CA
- Cherry Hill Public Works – Cherry Hill, NJ
- San Francisco Municipal Railway – San Francisco, CA
- New York City Dept. of Transportation – New York, NY
- Port of Oakland – Oakland, CA
- Sacramento Municipal Utility District – Sacramento, CA
- NY State Dept. of Environmental Conservation – Albany, NY
- Long Beach Unified School District – Long Beach, CA
- City of Los Angeles – Los Angeles, CA
- Pacific Gas & Electric – San Francisco, CA
- Los Angeles International Airport (LAX) – Los Angeles, CA



* EPA recognizes and accepts those retrofit hardware strategies or device-based systems that have been verified by the California Air Resources Board (CARB).

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