COMBIFILTER™

Diesel Particulate Filter (DPF)

Engine Control Systems
A World Leader in Clean Air Technology

✓Verified Product

How does the Combifilter™ work?

The Combifilter™ is a non-catalyzed Diesel Particulate Filter (DPF) that is actively regenerated. The soot is collected in the filter and stored until regeneration. Typically, regeneration is done (after continuous use) once a workshift, which is usually eight hours. To further reduce emissions, an AZ Diesel Oxidation Catalyst (DOC) can be incorporated with the Combifilter™.

Types of Combifilter™ Systems

ON-BOARD REGENERATION

The filter is regenerated on the vehicle and must be taken to a set location and plugged into an electrical wall mount unit for regeneration.

OFF-BOARD REGENERATION

The filter is removed from the vehicle for regeneration. A spare filter can be installed to avoid down-time.

Combifilter™	Filter Material	Regeneration Time
Model S	Silicon Carbide DPF	60-90 minutes
Model K	Silicon Carbide DPF	8 hours
Model V	Cordierite DPF	8 hours

Combifilter Installation

Combifilter Components - Vehicle Mounted Assembly

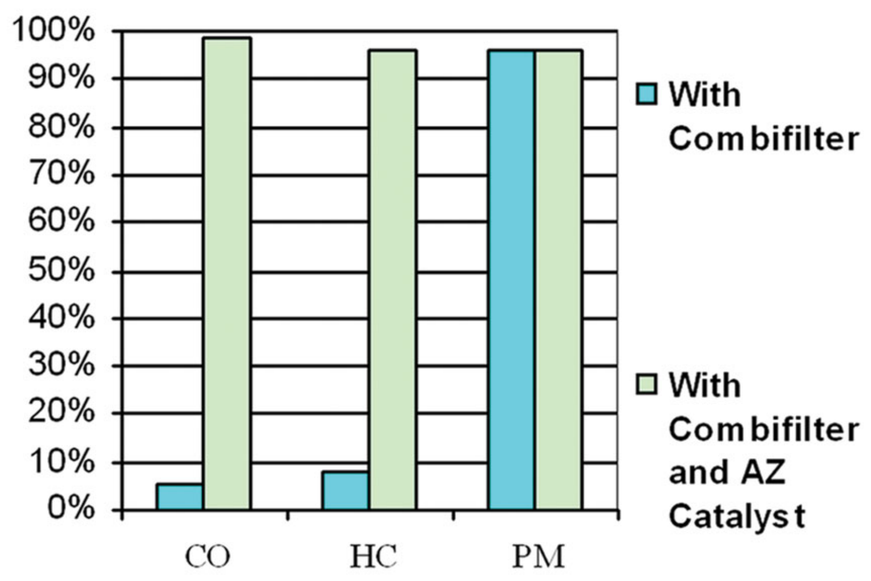
Filter Assembly: Includes the inlet section, filter center body and outlet section. The inlet section refers to the heater base for on-board regeneration. The outlet section can house an optional AZ catalyst.

Backpressure Switch: Exhaust pressure is continuously monitered. A signal light illuminates when the backpressure reaches a pre-determined value alerting the operator that regeneration is required.

Starter Interupt (only for on-board regeneration only): Prevents the vehicle from starting during regeneration. A relay placed within the starter circuit to disrupt the starting of the engine when the vehicle is connected to the regeneration station.

Wall Mounted Control Panel: UL approved, with OSHA safety blue exterior. Houses air blower manages the electronics responsible for the regeneration of the filter center body, by managing the electrical and air supply.

Emissions Reduction Levels



ECS Combifilter™ - ARB Verified!

ECS Combifilter™ is ARB verified to work with non-road 2007 and older Tier 0, 1, 2, 3, engines. Engine families with PM emissions of 0.45 g/hp-hr or less as listed. For a complete list of engines, visit our company website at www.enginecontrolsystems.com. ECS Combifilters™ have also been verified under the MSHA, VERT and also by the Sweden Environmental Zones. Our goal is to ensure your Combifilter™ is right for you!

Combifilter™ is a Verified Emissions Reduction Technology

Organization	Applicability
California Air Resources Board (CARB)	- Off-Road Applications (Level 3)
MSHA	- Table 1 for ZERO INCREASE in NOx
VERT Approved	- Non-Road
Sweden Environmental Zones	- Non-Road

Type S Combifilter™

On-Board Regeneration

For on-board regeneration, the vehicle mounted assembly houses the inlet heater element assembly. The vehicle is parked in a set spot after its shift (usually eight hours) and connected to the wall mounted unit. Regeneration takes place while the vehicle is parked for 60, 90 or 480 minutes. On-board regeneration is intended for fleets that have routine operation and have designated parking spots for each vehicle.

Type K Combifilter™

Off-Board Regeneration

For off-board regeneration, the filter center body is removed from the vehicle assembly and element at the wall-mounted assembly. A spare filter center body replaces the loaded filter center body so there is no down time. Off-Board regeneration is best suited to fleets that don't have set parking spots, where shifts are non-routine and down-time is not possible.

WORLD HEADQUARTERS

Engine Control Systems Limited
83 Commerce Valley Drive East,
Thornhill, ON, L3T 7T3
Phone: 1 (905) 707-7746
Toll Free: 1 (800) 661-9963
Fax: 1 (905) 707-7686
E-Mail: ecs@enginecontrolsystems.com

U.S.A.

Engine Control Systems Limited
4910 Longley Lane, Suite 103,
Reno, NV 89502
Telephone: 1 (775) 827-3400
Toll Free: 1 (800) 331-9247
Fax: 1 (775) 827-1670

enginecontrolsystems.com

Engine Control Systems
A World Leader in Clean Air Technology