



The CARB verified TITAN™ diesel particulate filter for on-road vehicles effectively reduces particulate matter by >85% by mass from diesel engine exhaust.

DCL diesel particulate filters are used to retrofit diesel vehicles to meet EPA or CARB requirements for particulate reduction in diesel vehicles, or simply to improve air quality around diesel engines. A vehicle or engine fitted with a CARB verified TITAN™ diesel particulate filter will operate normally, using only the heat in the exhaust gas to continuously burn off particulates.

## **CARB LEVEL 3 PLUS VERIFICATION**

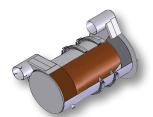
The California Air Resources Board (CARB) has classified the TITAN™ diesel particulate filter as a Level 3 Plus system for heavy-duty on-road vehicles that use certain certified heavy-duty diesel engines. The CARB verification number assigned to the DCL TITAN™ diesel particulate filter is DE-12-002.

## **CUSTOM MUFFLER DESIGNS**

So why are DCL diesel particulate filters the choice of customers worldwide? At DCL, we offer both standard and custom designed exhaust emissions solutions to meet your requirements.

As a customized solution, the TITAN<sup>™</sup> diesel particulate filter directly replaces the original muffler, eliminating the need for exhaust system modification.

The illustrations below are examples of muffler replacements:



Scania Bus



**Thomas Shuttle Bus** 



Volvo B10M Bus





With thousands of installations worldwide, DCL diesel particulate filters are the industry standard for long, reliable operation. Product approvals include VERT, Japan MLIT, Sweden Environmental Zones and Denmark Road Safety & Transportation Agency.



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# How

# **IT WORKS**

The catalytically-coated ceramic monolith contains long narrow channels open at one end and blocked at the other. The exhaust gas is forced to escape by passing through the filter walls, trapping particulate matter (soot) in the filter. At a high exhaust gas temperature, the soot particles burn away and transform into carbon dioxide. The filter also destroys carbon monoxide (CO) and diesel hydrocarbons (HC).

#### **BASIC REACTIONS**

$$C (soot) + O2$$

$$CO + \frac{1}{2} O2$$

$$Cx Hy + O2$$

$$CO2 + H2O$$

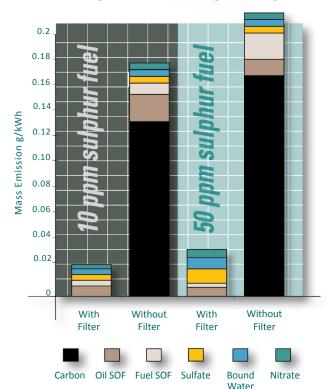
## **EXHAUST TEMPERATURE REQUIREMENTS**

The application must have a duty cycle with a temperature profile that is greater than 280  $^{\circ}$ C for at least 30% of the time.



TITAN $^{\text{m}}$  diesel particulate filters work best on post 1994 trucks and buses. Please contact a DCL representative to determine the suitability of a TITAN $^{\text{m}}$  diesel particulate filter for other applications.

### TYPICAL FILTER PERFORMANCE





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