

## **Diesel Particulate Filter Mufflers**



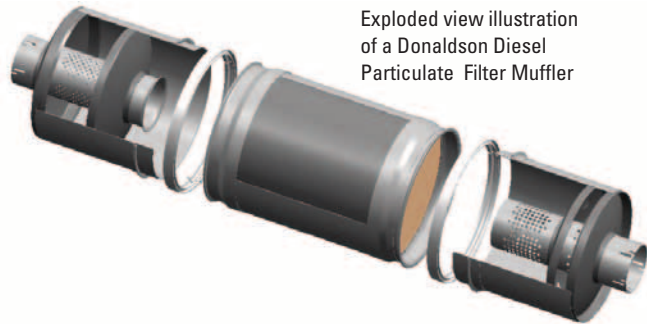
**Donaldson DPF Mufflers offer significant emission reductions for your diesel powered vehicle.**

**Donaldson DPF Mufflers are available for engines that are 1994 and newer, and meet the requirements of the U.S. Environmental Protection Agency (EPA) and California Air Resources Board (CARB) diesel retrofit programs.**

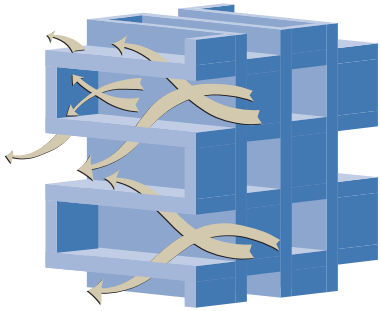
Donaldson®

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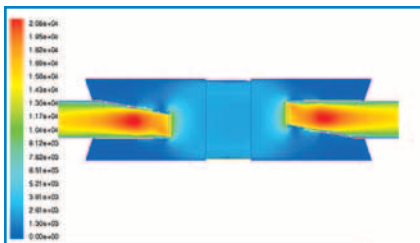
for the **Most Effective Emission**



Exploded view illustration of a Donaldson Diesel Particulate Filter Muffler



A diesel particulate filter has thousands of small channels that are alternately sealed. This close-up illustration shows how exhaust flow enters one channel and is forced to exit out an adjacent channel. The filtering occurs as the flow passes through the wall.



Sophisticated flow analysis tools (Fluent CFD) are used by Donaldson engineers to predict and simulate real-life flow conditions. Flow direction, velocity ranges, recirculation zone identification, and particle tracking and efficiency can be predicted with this analytical tool.

## Compliant

- Removes over 85% of diesel particulate matter (PM).
- Meet U.S. EPA Voluntary Retrofit Program and CARB's Diesel Risk Reduction Program (DRRP) emissions requirements
- Meet U.S. Federal noise regulations

## Durable and Warranted

- Meet warranty requirements defined by the U.S. EPA and CARB DRRP
- Constructed of aluminized-409 grade stainless steel for strength and corrosion resistance

## Engineered for Performance

- Patented flow distribution devices<sup>1</sup>:
  - enhance performance and emission reduction
  - deliver uniform airflow and temperature across the entire catalyst
  - reduce exhaust backpressure
- Backpressure monitor (supplied) signals when filter cleaning is necessary
- Take-apart design enables easy access to the filter for cleaning

## Broad Engine Coverage

- 1994 and newer four-stroke diesel engines (0.10 g/bhp-hr PM or less) used in on-road applications (Classes 5-8) with engine horsepower ranges of 150-600 hp<sup>2</sup>
- Requires ULSD fuel (<15 ppm sulfur)
- Available for most exhaust configurations

## Easy to Install

- Replacement for most OEM mufflers<sup>2</sup>

## Service Requirements

- Under normal operation the filter requires annual cleaning every 50,000 miles. Severe service applications may require more frequent cleaning.
- A cleaning unit is available from Donaldson

1 -Donaldson DPFs and system components are protected internationally by patents, both issued and pending.

2 -Higher horsepower engines (>400 hp) may need larger diameter or dual DPF mufflers to accommodate the higher airflows and backpressure.

# emission Reductions

## Donaldson DPF Mufflers

- A DPF muffler has three separate sections connected by heavy-duty clamps.
- Proper selection is based on engine horsepower and current muffler style.



An on-board backpressure monitor is included with each DPF Muffler

## Total Retrofit Services

### Fleet/Vehicle Assessment

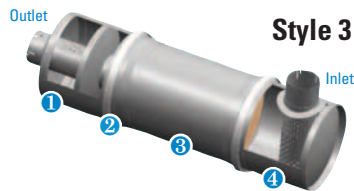
Application assistance is required from Donaldson to select the DPF Muffler to maintain optimum engine performance. Not all diesel engines can be retrofitted with a DPF Muffler.



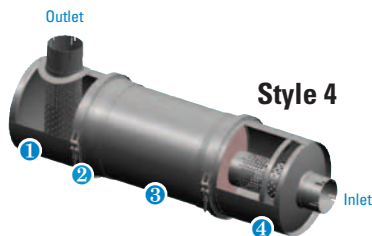
Style 1



Style 2



Style 3



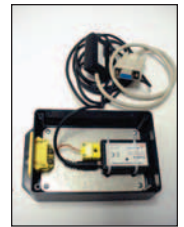
Style 4

- 1 Outlet End Section
- 2 V-band Connecting Clamps (two per DPF Muffler)
- 3 Center Body / Filter Section
- 4 Inlet End Section

<300 HP Engines <sup>3</sup>				
Inlet	Outlet	Overall Length	Body Dia.	Item No
<b>Style 1</b>				
4.0"	4.0"	42.5"	11.0"	X007858
	5.0"	42.5"	11.0"	X007862
5.0"	5.0"	42.5"	11.0"	X007860
		34.4"	11.0"	X007933
<b>Style 2</b>				
3.5"	4.0"	35.0"	11.0"	X007986
4.0"	4.0"	35.0"	11.0"	X007930
<b>Style 3</b>				
3.5"	4.0"	39.5"	11.0"	X007991 <sup>4</sup>
4.0"	4.0"	39.5"	11.0"	X007864
	5.0"	39.5"	11.0"	X007866
<b>Style 4</b>				
4.0"	4.0"	39.5"	11.0"	X007880
<400 HP Engines <sup>5</sup>				
Inlet	Outlet	Overall Length	Body Dia.	Item No
<b>Style 1</b>				
4.0"	4.0"	42.5"	11.0"	X007857
	5.0"	42.5"	11.0"	X007861
5.0"	5.0"	42.5"	11.0"	X007859
<b>Style 3</b>				
4.0"	4.0"	39.5"	11.0"	X007863
	5.0"	39.5"	11.0"	X007865

- 3 - DPF size: 10.5" x 14"  
 4 - Inlet offset from center position  
 5 - DPF size: 11.25" x 14"

Data logging a vehicle under normal operating environments is the key to reliable DPF Muffler operation.



Donaldson data logger (shown with cover removed).

The Donaldson data logger is a device temporarily installed on a vehicle to collect vehicle/engine operating temperature data.

The collected data is reviewed by Donaldson engineers who will determine if a DPF Muffler is the right solution for the vehicle.

### Local Support

When the best solution for your fleet is found, Donaldson will provide installation assistance and local support from authorized dealers.

### **DPF Filter Cleaning Systems**

Donaldson has diesel particulate filter cleaning systems for dealers or large fleets. Our two systems provide optimum filter cleaning. The cleaning unit (shown on right) houses a pneumatic flushing unit that removes ash and unburned soot. The cleaning cycle is typically completed in 15 minutes or less. This one unit accommodates all Donaldson and commercially available DPFs.

Extremely plugged filters will require cleaning in a specially designed oven (not shown). The Donaldson oven removes hydrocarbons and unburned soot that builds up on the filter. The oven cleaning cycle may require up to eight hours. Upon removal from the oven, Donaldson recommends a final pneumatic flushing cycle prior to re-installation.

To maintain the optimum filter performance, use of the two cleaning systems is recommended.



Diesel soot and ash removed by the cleaning process are captured in a servicable filter located in the lower portion of the cabinet.

### **Donaldson Spiracle™ Crankcase Filtration System**

Additional emission reductions can be achieved with a Donaldson Spiracle crankcase filtration system. This system eliminates 100% of engine crankcase emissions.

For more information, contact Donaldson or visit our Exhaust+Emissions web site at [www.donaldsonexhaust.com](http://www.donaldsonexhaust.com)



Donaldson Spiracle™ Crankcase Filtration System is protected internationally by patents, both issued and pending.



# Donaldson®

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