

The logo consists of the word "HUSS" in a bold, white, sans-serif font, centered within a solid teal square.

We care for air.

Making the Right Decision For Your Emission Control Strategy

Peter Bruenke
Director HUSS LLC

FFCA California
March 24, 2009
Long Beach

The logo features the word "HUSS" in a bold, white, sans-serif font, with a teal square to its left. Below "HUSS" is the text "A HUSS GROUP COMPANY" in a smaller, white, sans-serif font.

New CARB On-Road Rule

- On December 12, 2008, the California Air Resources Board adopted two critical regulations directly aimed at cleaning up harmful emissions from the estimated ***one million heavy-duty diesel trucks*** that operate in California. Beginning January 1, 2011, the Statewide Truck and Bus rule will ***require truck owners to install diesel exhaust filters*** on their rigs, with nearly all vehicles upgraded by 2014.

That's the question ...

HUSS

We care for air.

1 What are my options ?



Retrofit Options

HUSS

We care for air.

The three R's of Diesel Emission Reduction

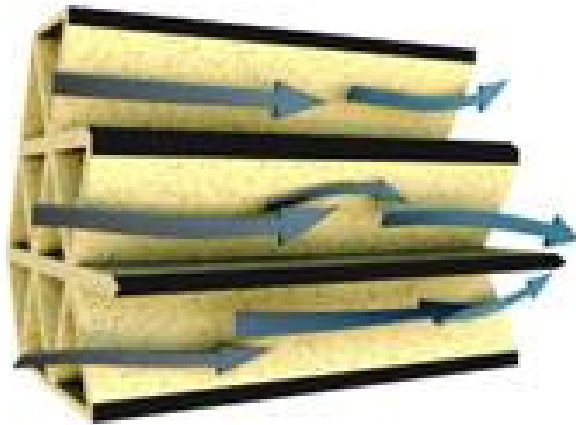


Filter Technology

Flow Filters

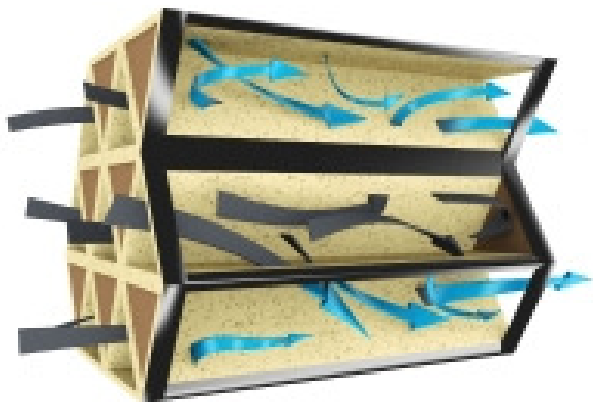
HUSS

We care for air.



Non-wall flow filter

- » Works like a catalytic converter. One advantage is that the filter can not be blocked. But, it offers a bad filtering efficiency of 40%-60%.



Wall flow filter

- » Very high filtering efficiency of 99.9%. To keep from being blocked by soot particles, these filters require a safe regeneration method.

Filter Technologies

Regeneration Types

HUSS

We care for air.



- Active Regeneration

- » In order to burn the soot, the igniting temperature of 550 °C (1022 °F) is reached by adding thermal energy.
e.g. diesel burner or electric heat

Typical Application: Municipal Trucks, Waste Haulers,
any truck in city environment



- Passive Regeneration

- » In order to burn the soot, the igniting temperature of 550 °C (1022 °F) is reduced by adding additives to the fuel or using an oxidation catalyst.

Typical Application: On-Highway / Long Haul Trucks

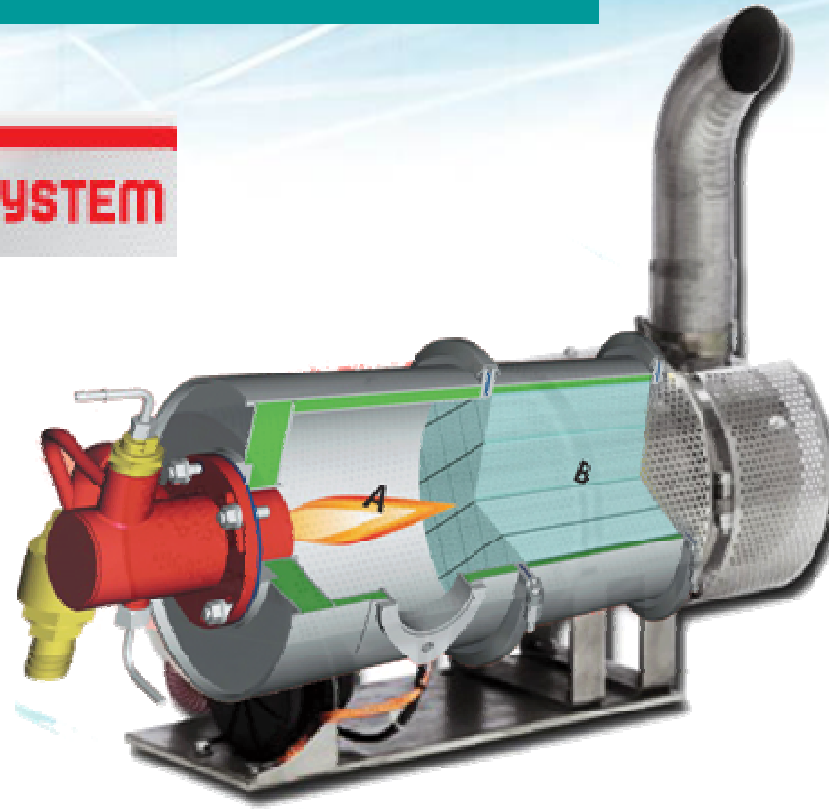


HUSS Products

MK System

HUSS

We care for air.



Module A: Exhaust gas inlet and regeneration unit

Module B: Filter media made of SiC, a high-tech ceramic

Module C: Exhaust outlet with an additional muffler



HUSS Products

MK System

HUSS

We care for air.



- CARB Level 3+ Verified
- 99.9% particle collection
- Active Regeneration with patented diesel burner technology
- Independent of the exhaust gas temperature
- Short regeneration time
 - Between 5 & 35 minutes
- Flexible installation options
 - Horizontal and vertical positions



That's the question ...

HUSS

We care for air.

2 How to get It done ?



Small Fleets (1 – 3 vehicles)

HUSS

We care for air.

Small fleets are exempt from the clean-up requirements until January 1, 2014.

Engine Model Years	Complies Until
2003 - 2004 with PM filter	2016*
2005 - 2006 with PM filter	2017*
2007	2021
2008	2022
2009	2023
2010	Done

* Small fleets may keep one 2004-2006 engine with PM filter until 2019.



On-Road Voucher Incentive Program

HUSS

We care for air.

Goal: Funding for the purchase of a vehicle that has a 2007 or newer diesel engine.

Funding Year 2009:

- Replacing a 1990 and older vehicle will receive \$35,000
- Replacing a 1991-1993 vehicle will receive \$30,000

Funding Year 2010

- Replacing a 1990 and older vehicle will receive \$25,000
- Replacing a 1991-1993 vehicle will receive \$20,000

Minimum Participation Criteria for Small Fleet Owners:

- Owned and operated in California 75% of the time for the previous 2 years
- Small Fleet Owners – 1-3 heavy-duty diesel vehicles
- Old diesel vehicles with a declared Gross/Combined Gross Vehicle Weight range greater than 60,000 lbs. (Based on the filing of DMV REG4008 with the Department of Motor Vehicles)
- Operating a minimum of 30,000 miles per year or consuming 4700 gallons of diesel fuel per year during the previous two years
- Replacement vehicle has a 2007 or newer engine that is at or below 1.20 g/bhp-hr NOx and 0.01 g/bhp-hr PM



Retrofit Program Overview

HUSS

We care for air.

- **Current Stimulus Package**
 - The Stimulus Package has provided \$300 million for clean diesel retrofits under the EPA – DERA (Diesel Emission Reduction Act).
 - The HUSS systems qualify for 100% funding.
 - These funds must be applied for by public agencies. Public agencies, however, need to partner with private firms to support their initiatives of diesel emissions reductions.
 - Administered by the EPA, competitive announcements are due in early March. **Submittal Date: April 28, 2009 !!!**
 - EPA site: <http://www.epa.gov/otaq/diesel/grantfund.htm>
 - Diesel Technology Forum site: <http://www.dieselforum.org/> has a webinar on preparing a competitive application.
 - Government site for recovery: <http://www.recovery.gov/>



Retrofit Program Overview

HUSS

We care for air.

1 DERA funding (stimulus package)

- Submittal Date: April 28, 2009
- Funds to be spent between June 2009 – Sept. 2010
- Public Agency or Non-Profit need to apply

HUSS offer (if needed)

- application paperwork
- HUSS DERA Hotline 877-327-1572



Retrofit Program Overview

HUSS

We care for air.

1 DERA funding (stimulus package)

- available for on-road and off-road diesel projects.
- Eligible entities include: Regional, state, local, tribal or port agencies with jurisdiction over transportation or air quality.

2 3 funding options to reduce diesel emissions

- vehicle replacement (25% funded)
- engine repower (75% funded)
- exhaust retrofit (100% funded)

3 Retrofits are the most cost-effective and viable solution for emission reductions

- Retrofit technologies and engines must be verified and/or certified by US EPA or the California Air Resources Board (CARB).
- HUSS LLC is the leading supplier of diesel particulate filters that qualify for DERA funding. The HUSS MK diesel particulate filter system is verified to meet CARB Level 3 requirements and is capable of collecting up to 99.9% of diesel particulate matter (PM).





www.huss-filters.com