# **Air and Water Without Diesel Soot**





# Air and water without diesel soot and fumes

The MARINE-X® diesel particulate filter (DPF) leaves the marine experience untouched by diesel fumes. By removing unsightly black soot from on-board diesel exhaust, surrounding waters are improved. And most importantly passengers and crew breathe easier without inhaling the harmful and bad smelling exhaust.

A diesel engine outfitted with a MARINE-X® DPF can operate as normal while heat from the engine exhaust burns off the particulates in a continuous manner.

The MARINE-X® DPF system contains a wall-flow diesel particulate filter, and a backpressure and temperature monitoring system.



DCL's state-of-the-art exhaust monitoring system is a component of the MARINE-X® diesel particulate filter.

- The display face is mounted in the engine room and gives a clear visual status of the DPF.
- · Meets CARB/EPA/VERT data logging standards.
- Contains a large memory for keeping a long-term record of the engine operating conditions.



# HOW It Works

The exhaust gas is forced through a catalytically coated ceramic filter, trapping the particulate matter (soot). At a high exhaust gas temperature, the soot particles burn away and transform into harmless carbon dioxide. The filter also destroys carbon monoxide (CO) by up to 98% and diesel hydrocarbons (HC) by up to 95%.

#### **BASIC REACTIONS**

$$C \text{ (soot)} + O_2 \longrightarrow CO_2$$

$$CO + \frac{1}{2}O_2 \longrightarrow CO_2$$

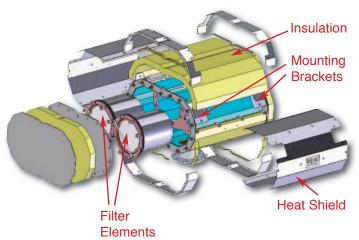
$$C_X H_Y + O_2 \longrightarrow CO_2 + H_2O$$



# Custom Design

For every project, the DPF is custom designed for easy installation and to fit any space. Installation kits include mounting brackets, heat shield, insulation and special pipe connections.





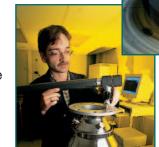
Exploded view of a MARINE-X® DPF and mounting kit

Features	Benefits
CARB Level 3 verified	Meets California Airborne Toxic Control Measure for Stationary CI Engines (>85% PM conversion effeciency; CARB NO <sub>2</sub> compliant).
Passive catalytic regeneration of diesel particulates	<ul> <li>Eliminates unscheduled downtime for DPF regeneration.</li> <li>No external power source required.</li> <li>No burners or electric heaters required.</li> <li>Lower cost of ownership.</li> </ul>
Excellent sound attenuation	Meets or exceeds the sound attenuation of most standard engine mufflers.
Custom engineering	Custom designs and kits available for easy and fast installation.
Modular stainless steel housing with removable filter elements	<ul><li>Designed for the most extreme duty applications.</li><li>Allows easy servicing and ash removal.</li></ul>
State-of-the-art DPF monitoring system and display panel	<ul><li>Provides a clear visual status of the DPF condition.</li><li>Can be tied into generator alarm panel.</li></ul>
Polished stainless steel exterior with insulated shell	Low surface temperature.     Marine grade aesthetics.

## DCL International Inc. – Preserving and Improving the Quality of the Air We Breathe

DCL International Inc. is a global leader in the engineering, manufacturing and supporting of advanced emissions control technology for stationary and mobile industrial engines. Our products – which include oxidation and three-way catalysts, silencers, particulate filters, SCR systems and accessories – are used worldwide in the material handling, construction, mining, gas compression and power generation markets.

DCL's dedicated industrial focus is unique in the emissions control industry. To meet the specialized needs of the industrial market, we adopt an integrated approach, bringing together product development, design, manufacturing and testing all under one roof. This single-source capability enables us to provide better engineered emissions solutions that deliver outstanding performance, longer life and lower cost of ownership. Our superior product quality has made DCL the choice of customers around the world.



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