

## PRODUCT ADVANTAGE

MIRATECH'S CBS DIESEL PARTICULATE FILTER (DPF) is the ideal PM solution in applications from 150KW to approximately 7MW: power generation, air compression, and pumping. Compare the CBS to other soot filters and you'll agree; the CBS offers a combination of verified performance and user-benefits you simply won't find anywhere else.

## FEATURES AND BENEFITS

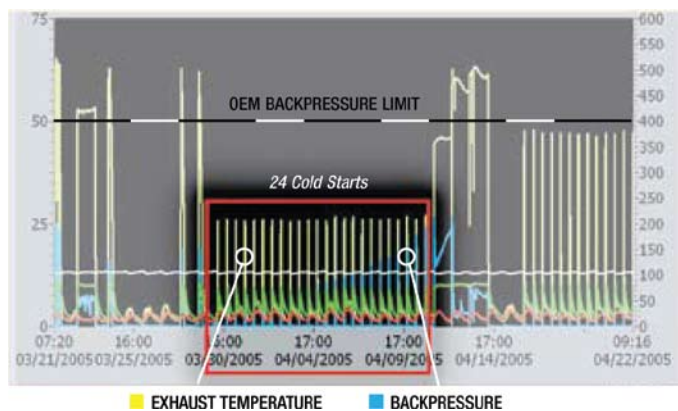
### Carb-Verified Performance

In rigorous testing, the California Air Resources Board (CARB) verified CBS performance exceeding the nation's toughest DPF criteria for diesel-driven emergency power and pumping systems. The CBS proved its ability to reduce PM by at least 85 percent – and stayed within OEM-backpressure limits through 24 successive cold starts with 30-minute idles, without the need to run the engine up to “regeneration” or soot burn-off temperatures. That's equivalent to two years' worth of monthly maintenance runs without having to add a full load to your engine. Plus, the CBS does not require costly low sulfur diesel fuel, which can save you as much as nine percent or more on fuel costs.

The CBS DPF assures fine particle PM 2.5 and PM 10 compliance, meeting the toughest diesel particulate regulations in the U.S. It also reduces diesel smoke and odor. It doesn't require you to switch to costly, ultra-low-sulfur fuel. Our soot filters work with regular No. 2 Diesel, or any other grade you choose.

### Design

The CBS uses modular, thermally durable Silicon Carbide filters coated with a catalyst that resists sulfur poisoning. Filter construction yields a much higher soot trapping and “storage” capacity than you'll find with other filters, which means less maintenance and longer maintenance intervals. And the CBS housing was designed for faster, easier installation and maintenance. Unlike other soot traps, the CBS is equipped with access doors and filter ports, allowing you to service the unit in place, without disassembly.



CARB-VERIFIED: 24 cold starts within OEM backpressure limits. The CBS is the only DPF tested by the California Air Resources Board to perform at this level.

## WHY MIRATECH?

- ▶▶ Advanced Technology
- ▶▶ Cost-Effective, Comprehensive Solutions
- ▶▶ Unsurpassed Experience & Expertise
- ▶▶ Fast, Responsive, Customer-Focused Service & Support
  - Prevent Non-Compliance Fines
  - Improve Engine & Catalyst Performance
  - Cut Maintenance Costs
  - Maximize Catalyst Life

## INDUSTRY SOLUTIONS

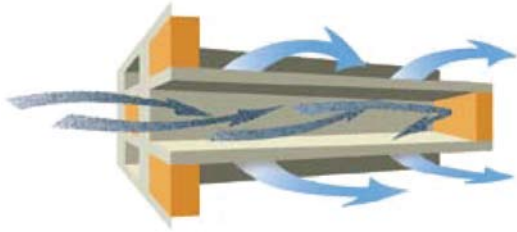
- ▶▶ Gas Compression
- ▶▶ Power Generation
- ▶▶ Rail
- ▶▶ Marine
- ▶▶ Water Pumping
- ▶▶ Air Compression
- ▶▶ Drilling Rigs

# CBS Diesel Particulate Filter

## How It Works

CBS DPF uses porous, wall-flow Silicon Carbide filters, shown to be thermally more durable than cordierite or metal fiber. These modular CBS DPF filters are designed to be stackable, to tailor soot filtering capacity to an engine's specific needs. Filter construction also affords much greater soot trapping and "storage" capacity than other filters. Backpressure is low, and stays well within OEM limits without soot burn-off much longer than with other soot traps.

Coated with a sulfur-resistant catalyst to reduce the temperature required for particulate oxidation, CBS DPF filters allow "passive regeneration" or PM burn-off using engine exhaust heat at temperatures as low as 700°F, depending on the engine's soot production. Unlike some soot filters, the CBS does not use nitric oxides as a soot-breakdown agent, which means no concerns over minimum NO/NO<sub>2</sub> or NO<sub>x</sub>/PM ratios – and no worries over highly toxic by-products. PM burn-off leaves a fine ash that can be vacuumed, blown off or washed off the CBS DPF filters.



## Optional Burner For Active Regeneration

An optional, add-on burner system for the CBS DPF allows "active regeneration" to keep your operation in PM compliance at any exhaust temperature or engine load.

## Long-Lasting Performance & Easy Maintenance

The rugged, compact CBS DPF design uses a durable, stainless steel housing and inlet for superior mechanical strength and durability. Side access to soot filters makes maintenance easy, and soot filter ports allow fast, hassle-free on site cleaning.

## Built In Bonus: Noise Reduction

In addition to PM compliance, the CBS DPF provides noise reduction as a built-in bonus. In many applications, this eliminates the need for a silencer or muffler.

## The Perfect CBS Partner: The MIRATECH Oxidation Catalyst

For engines producing exhaust above 620°F, a MIRATECH Diesel Oxidation catalyst can be used to remove the unburned fuel and lube oil that can make up about half of diesel PM. This leaves only lube oil ash to be oxidized by the CBS DPF. In addition to these hydrocarbons, the MIRATECH Diesel Oxidation Catalyst also brings Volatile Organic Compounds (VOCs), EPA-listed Hazardous Air Pollutants (HAPs) and carbon monoxide down to the strictest compliance levels.

## Full Support – Close To Home

Technical services and training provided by MIRATECH, along with field service from MIRATECH distributors, means prompt, reliable product support is only a phone call away.

## WHY MIRATECH'S CBS DPF?

- » The Best-Verified PM Solution For Stationary Diesel Engines
  - CARB-Verified Performance; Level 3+
- » Compliance Assured: PM 10 or PM 2.5 Reduction
- » Reduces Smoke & Odor
- » No Need For Low-Sulfur Fuel
- » Does Not Use Nitric Oxides As Oxidizing Agent
- » No Required NO/NO<sub>2</sub> Or NO<sub>x</sub> / PM Ratios
- » No Toxic By-Products
- » Greater Soot "Storage" Capacity Without Burn-Off Typical: 2000 Hours' Operation Without Need For Regeneration
- » Easy Installation, Operation & Maintenance
- » Long Maintenance Intervals
- » 15 - 25 dBA Sound Attenuation May Replace Silencer / Muffler

## APPLICATIONS

- » 8150KW - approx. 7MW:
  - Power Generation
  - Air Compression
  - Liquid Or Petroleum Pumping
  - Irrigation Pumping

## SUMMARY OF FEATURES & BENEFITS

- » Cost-Effective Passive Regeneration Using Exhaust Heat As Low As 700° F
  - Active Regeneration Via Added Burner Duct: Compliance Independent Of Load Or Exhaust Temperature
- » Silicon Carbide Filters: Resists Thermal Stress Better Than Cordierite Or Metal Fiber
- » Modular Filters: Soot Trapping Capacity Tailored To Specific Needs
- » Low Backpressure - Within OEM Limits After 24 Cold Starts Without Soot Burn Off
- » Pressure-Drop Monitor Included
- » Rugged Stainless Steel Housing
- » Side Access & Filter Ports - Easy Maintenance On Site Without Disassembly

## Contact MIRATECH

To learn more about MIRATECH emissions solutions, simply call us at 1.800.640.3141; email us at [info@miratechcorp.com](mailto:info@miratechcorp.com) or visit our website at [www.miratechcorp.com](http://www.miratechcorp.com).