

DIESEL RETROFIT EMISSIONS CONTROL SOLUTIONS



The CRT® Filter—Continuously Regenerating Technology—Johnson Matthey’s signature technology has revolutionized modern diesel emissions reduction. The first filter verified for the EPA’s voluntary retrofit program, the CRT filter has become the industry benchmark for Heavy Duty Diesel Retrofit Technology. The CRT system reduces HC, CO, and PM by 90% or more.

Technology Driven

The CRT particulate filter utilizes Johnson Matthey’s patented process which oxidizes soot in the presence of NO₂ at a lower temperature than with oxygen. This lower temperature is compatible with typical diesel exhaust temperatures, so no supplemental heat is required.

The device is made up of two chambers. The first contains a substrate coated with a proprietary, highly-active platinum oxidation catalyst designed to oxidize a portion of the NO in the exhaust to NO₂. NO₂ generation is the key to the oxidation of soot collected by the wall flow filter and the heart of the Johnson Matthey patent. The catalyst also converts CO and HC into CO₂ and H₂O.

In the second chamber, exhaust flows through a wall-flow filter, where gaseous components pass through, but soot is trapped on the walls of the filter. The trapped soot is then destroyed by the NO₂ produced by the catalyst in the first chamber.

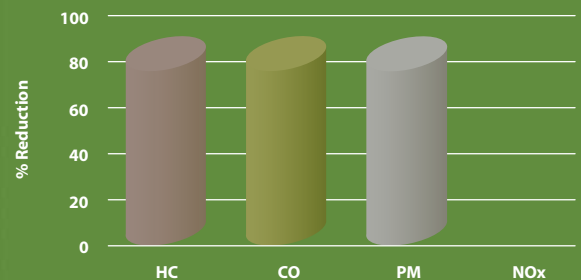
Featuring

- Reduces HC, CO, and PM over 90%.
- Verified by EPA and CARB.
- Also verified for use with up to B20 biodiesel blend.
- Modular design for ease of installation and routine service.
- No supplemental heat or fuel required.
- JM’s NO_x control technology can be easily added to the CRT filter. This allows budget flexibility to phase in your emission control plan.
- Operates with 15ppm or less Ultra Low Sulfur Diesel (ULSD), now widely available nationally.
- Available with the CRTdm diagnostic module, the only device with data-logging and alarm capability.
- Maintenance is minimal. Clean the filter element approximately every 60,000-100,000 miles or as signaled from the CRTdm.

Proven Success

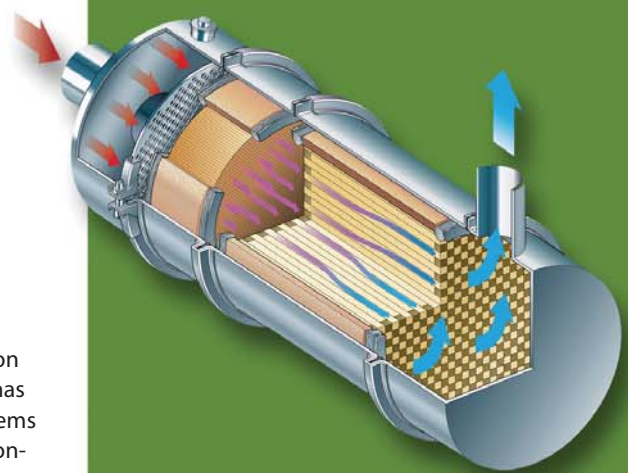
For 40 years, Johnson Matthey has been the global leader in the emission control industry. And when it comes to performance, JM’s CRT System has proven itself where it matters most—on the road. With 300,000 CRT systems worldwide, Johnson Matthey retrofit systems offers performance and confirmed durability.

CRT® TEST RESULTS



**HEAVY DUTY DIESEL TRANSIENT FTP
TYPICAL TEST RESULTS FOR THE CRT® DIESEL
PARTICULATE FILTER**

Test Engine		Emission Reductions (%)		
MY	Make	THC	CO	PM
1999	Caterpillar 3126	88%	99%	88%
1995	Cummins M11	91%	89%	95%
1998	DDC Series 60	95%	94%	87%
1999	DDC Series 50	100%	72%	90%



**CUTAWAY VIEW OF THE CRT®
DIESEL PARTICULATE FILTER**