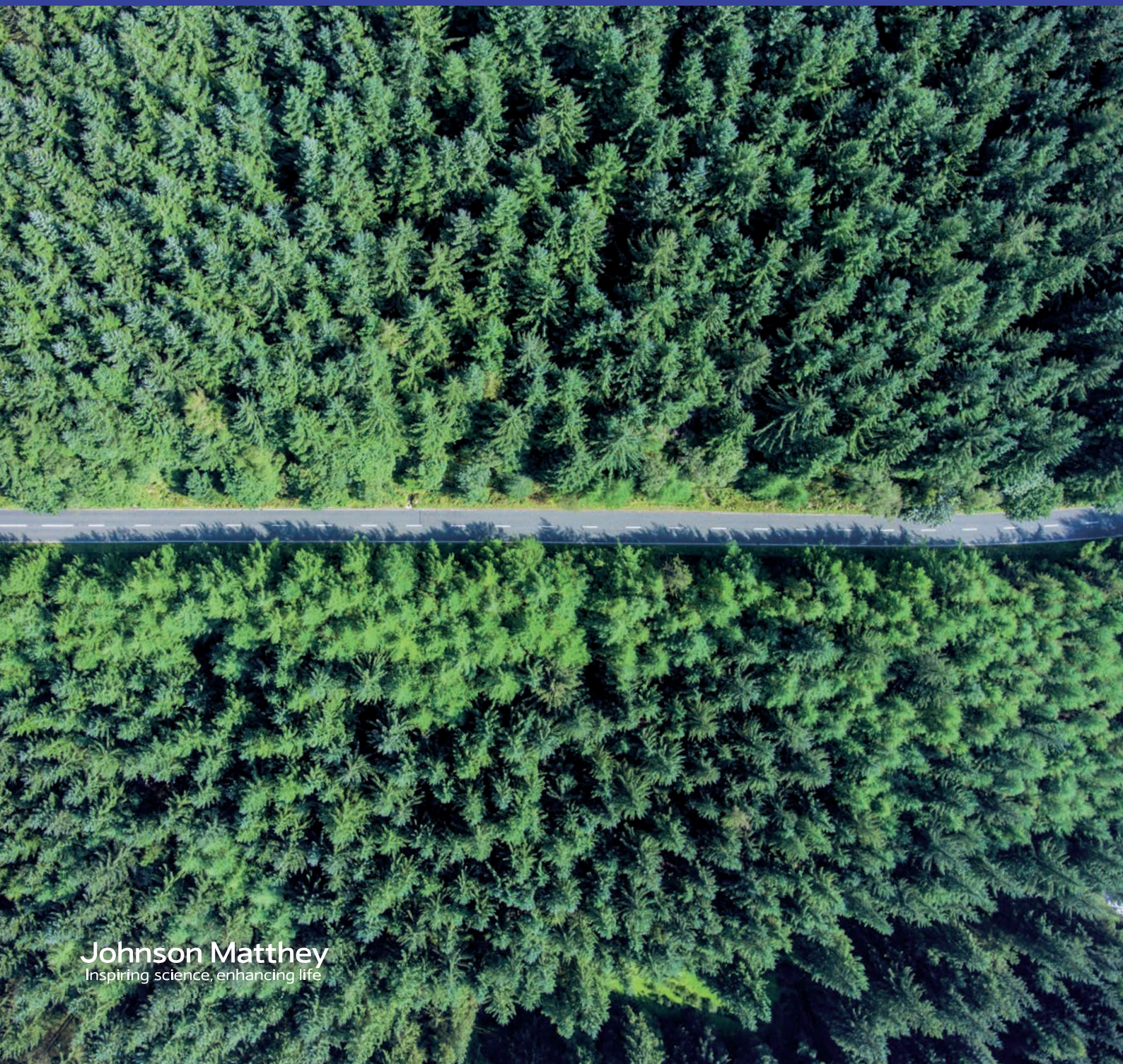
JM

Our vision: clean air. Worldwide

Intelligent DPF solutions for retrofitting mobile machinery and stationary plants.



Johnson Matthey
Inspiring science, enhancing life

Why diesel emissions control?

Diesel engines are a valuable power source but their emissions are known to contribute to air pollution and can cause respiratory health problems.

For machines already in use these emissions are best dealt with through the use of a retrofit exhaust aftertreatment system.

It is a legal requirement in many countries and regions for non-road machines to be fitted with this technology for occupational health reasons and to improve air quality.

Such diesel emission control devices can reduce the particulate number engines emit by over 99%.

How are diesel emissions controlled?

The answer to the problem of diesel pollution is to trap particulates from the exhaust using a diesel particulate filter (DPF).

Particulate matter (PM) inside the DPF must be removed periodically to prevent the filter from blocking. Filter regeneration is essential for an effective emissions control system.

Johnson Matthey has developed a range of approaches to filter regeneration to control the full range of regulated emissions from non-road vehicles.

Johnson Matthey has many years of experience specifying emission control systems for non-road applications, and is able to advise on which system is most suited to individual applications.

10 advantages of Johnson Matthey's DPF technology

01

Johnson Matthey has more than 25 years' experience providing diesel emissions control systems for a variety of non-road applications already in service.

02

This experience enables us to advise which system is most suitable for your specific application.

03

Our systems enable compliance with emissions requirements and greatly improve air quality.

04

Our diesel emission control devices can reduce the mass of harmful particulates emitted by diesel engines by more than 90%, and the number by over 99%.

05

Systems to control emissions of NO_x and/or NO_2 from the engine are also available.

06

Our filter systems fit diesel engines from 10kW to more than 1,000kW and are suitable for engines with low duty cycles.

07

Our Continuously Regenerating Trap (CRT® and CCRT®) technologies are the most widely used DPF systems in the world.

08

Our CRT®, DPF-C, DPF-BU and DPFi systems are verified by the Swiss BAFU/EMPA and VERT Associations.

09

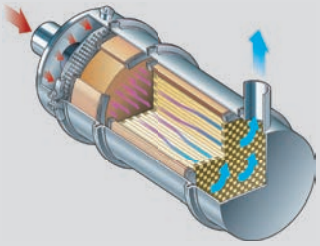
The modular design allows easy servicing and all systems have electronic monitoring capability.

10

Our DPF devices can be easily fitted and are designed to replace the existing muffler/silencer unit in an engine.

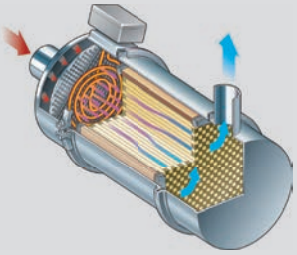
Johnson Matthey's regeneration techniques

The following range of Johnson Matthey DPF systems is available for most makes and models of non-road mobile machinery already in use.



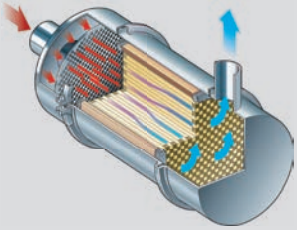
DPF-CRT® & CCRT® Systems

These continuously regenerating systems use a diesel oxidation catalyst (DOC) in front of the filter, which removes carbon monoxide (CO) and hydrocarbons (HC) and oxidises some of the nitric oxide (NO) in the exhaust to nitrogen dioxide (NO_2). The NO_2 then reacts with the trapped PM, producing NO and carbon dioxide (CO_2) and cleans the filter.



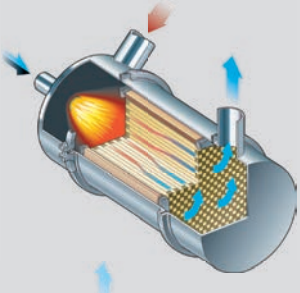
DPFi

An electrical heater is used to raise the temperature inside the filter to burn away the PM. Air from a small pump is heated to more than 600°C and blown through the filter to remove the carbon. These systems use mains electrical power to regenerate the filter at the end of a shift.



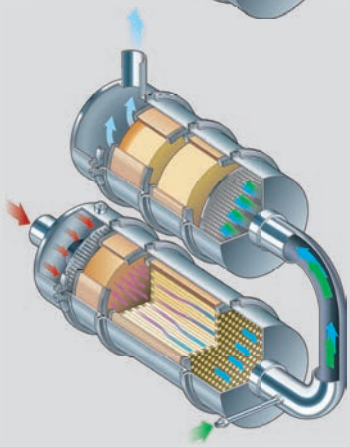
DPFiS

This system uses air to burn the carbon in the filter. An additive in the fuel acts as a catalyst, oxidising the PM trapped in the filter. This additive reduces the temperature at which the carbon will react with the air.



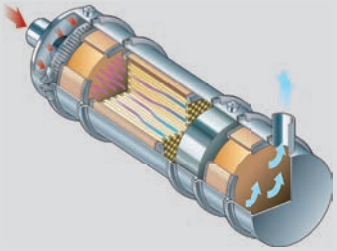
DPF-BU

A fuel burner is used to raise the temperature inside the filter to remove the PM. These systems use diesel fuel from the tank and on-board voltage. The regeneration units are mounted on the machine.



SCRT® Technology

The SCRT® system combines the CRT® system to control CO, HC and PM and a selective catalytic reduction (SCR) catalyst to reduce oxides of nitrogen (NO_x). SCR technology provides the highest NO_x reduction available.
Johnson Matthey's SCRT® system reduces all four regulated exhaust emissions: CO, HC and PM by over 90% and NO_x by over 70%.



Mining-CRT® System

Droplets of diesel fuel are injected between the filter and an additional decomposition catalyst to reduce NO_2 levels. A filter monitor controls the injection rate depending on the exhaust gas temperature and the engine speed. This system reduces 99.8% of the number of particulates, 90% of the CO and HC.

Inspiring science, enhancing life

Johnson Matthey is a Global company with more than 25 years' experience of designing & fabricating retrofit diesel particulate filter systems for many makes of construction machinery already in service, including:

- ABG
- Atlas
- Bauer
- Bergmann
- Bobcat
- BOMAG
- CASE
- Caterpillar
- DIECI
- Doosan
- Hydrema
- Hitachi
- JCB
- Kobelco
- Komatsu
- Kubota
- Liebherr
- Manitou
- New Holland
- Putzmeister
- SDMO
- Sennebogen
- Stauss
- Sumitomo
- Takeuchi
- Terex
- Wirtgen
- Volvo

Johnson Matthey is a UK global speciality chemicals company and world leader in sustainable technologies.
We have over 40 years' experience of producing catalytic systems to on-road and non-road vehicles and have supplied one in three of all catalysts fitted to cars.

The European Non-Road Mobile Machinery Team has over 25 years' experience of engineering retrofit DPF systems for many types of non-road mobile machines.

Find out more details at
www.jmdpf.com
www.matthey.com

If you have any questions please contact us.

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