



## Cat-trap MF300 Series Diesel Engine Exhaust Filter

A re-usable combined diesel exhaust emission control system, incorporating a diesel catalyst to reduce gaseous emissions and a high efficiency disposable particulate filter - for off-road equipment and machinery applications.



### Typical Applications / Locations

For use on all diesel powered equipment including:

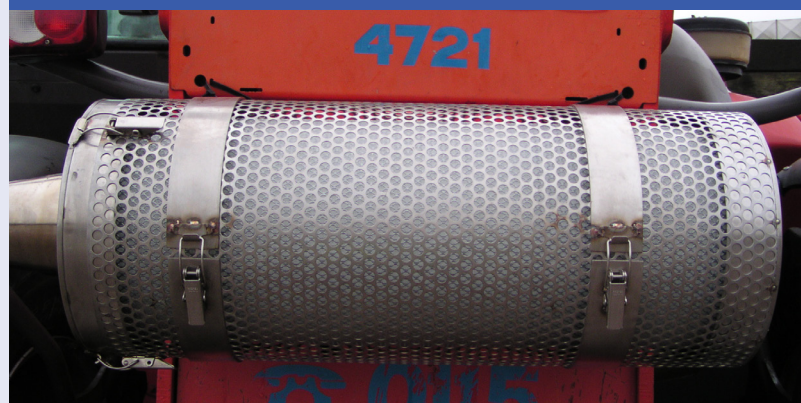
- access platforms
- excavators
- dumpers
- compressors
- forklifts
- generators and all mobile diesel equipment being used in a confined space
- Inside buildings and warehouses, construction sites, building refurbishments, tunnelling, mining – in fact anywhere that diesel engine exhaust emissions pose a hazard, but emission control solutions are only needed for limited periods.

### Features

- Efficient diesel catalyst that operates at exhaust temperatures from as low as 150°C to deliver highly effective gaseous reduction.
- Replaceable exhaust filter element
- Highly efficient particulate filtration - over 95% efficiency at 0.2 micron (ultrafine) and over 99% of all particulates above 0.5 micron.
- Easy to install, compact and re-useable kit that can be fitted to virtually all types of portable plant and equipment.
- Optional back pressure monitor to indicate when filter element should be replaced.



- Works at much lower temperatures than diesel particulate traps
- High efficiency filter removes harmful diesel particulates.
- Low cost solution for short term contracts
- Easy to install



# Background

The Agency for Research on Cancer (part of the World Health Organisation) has reported that particulates in diesel exhaust emissions are directly linked with cancer, focusing attention on the need to assess and control diesel emissions in the workplace.

Certain existing designs of exhaust filtration systems are expensive and may clog at low operating temperatures requiring forced diesel particulate trap regeneration.

As the emissions from diesel engines are a mixture of both gaseous and carbon particles, this demands a combination of technological solutions, as well as specific operating conditions to provide an effective solution.

Unfortunately, construction site operating conditions are not ideal and it is not always possible for these specific requirements to be met – especially concerning the quality of fuel, the use of low-ash engine lubricating oil and the consistently higher exhaust temperatures needed to ensure good diesel particulate trap functionality. This can be resolved through 'forced re-generation' of the diesel particulate trap, but this is not an ideal solution and adds cost to the control system design.

Fortunately, the Metro Equipment Cat-Trap MF300 series combi system resolves these issues in a practical way.

**An efficient diesel catalyst unit that operates at lower exhaust temperatures to deliver highly effective gaseous reduction level control.**

**A high temperature replaceable exhaust filter that filters out over 95% of ultrafine diesel particulates\*.**

**Diesel exhaust emissions contain a mixture of substances which are hazardous, including carbon monoxide, but the most perilous elements are the polycyclic aromatic hydrocarbon particles (PAH's), to which the most aggressive toxins are attached. The most critical particle size is around 10 microns, as these are the most hazardous to human health, so it is reassuring to know that the Metro Equipment Cat-Trap MF300 series combi filter system captures over 99% of particles larger than 0.5 microns.**



Although there are a choice of solutions in the marketplace, some of these are expensive to buy, demand specific fitting requirements and are not interchangeable to other machinery applications for future use, making them an expensive and impractical solution.

Thankfully, Metro Equipment who have over 25 years experience in the exhaust filtration market, have developed the Cat-Trap MF300 series of combi diesel exhaust filtration systems to provide the solution you need, at a cost you can afford. Even better, these filter systems can easily be re-used for different applications in the future.

# Fitting

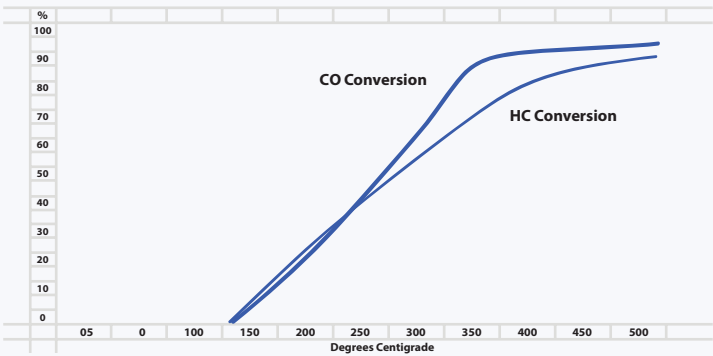
Fitting of the Cat-Trap MF300 series combi filter system couldn't be easier.

The filter housing includes mounting brackets and a generous 2.0m length of high temperature exhaust hose to connect the filter system to the exhaust outlet. Simply secure the filter housing to a convenient mounting point, carefully route the exhaust hose and slip the flexible sleeve over the exhaust outlet and tighten the ratchet strap.



# Cat-Trap Performance

Catalyst efficiency



# Operation

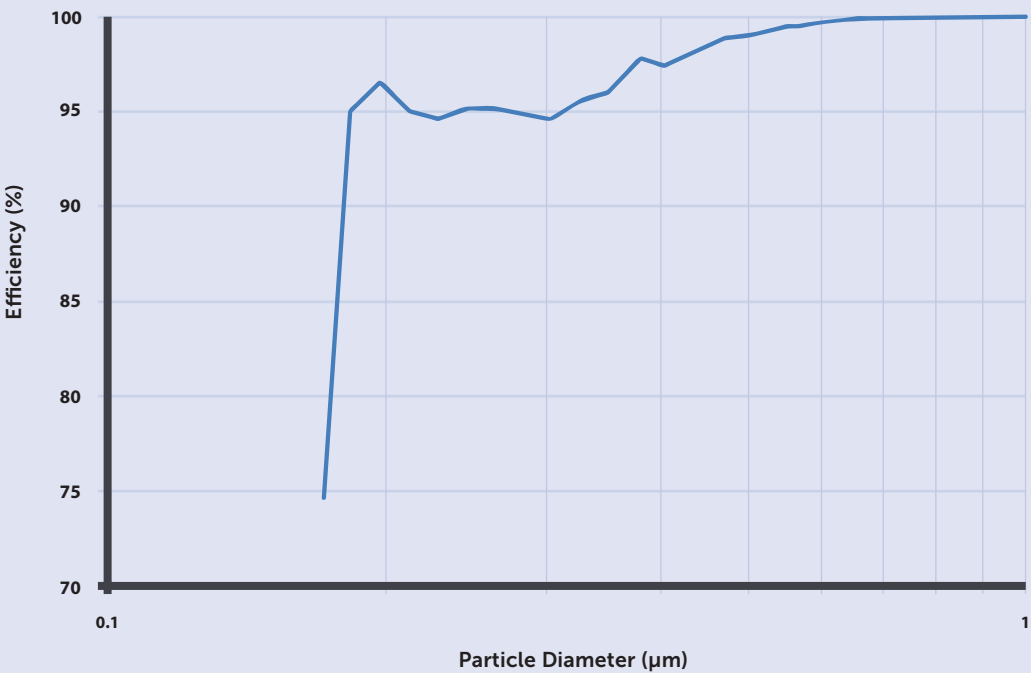
The diesel catalyst will operate from exhaust temperatures as low as 150 C, whilst the exhaust filter element does not require any maintenance or forced regeneration and works immediately the engine is started. The only maintenance required is periodic filter element replacement, which entirely depends on operational use (total period of use, number of stop/starts/, operational cycle, quality of fuel, etc.), but when correctly specified and fitted would be expected to last a normal working week.

**Note**

The Cat-Trap MF300 series combi filter is NOT designed for on-road use applications.

# Filter efficiency

The filter efficiency is highly impressive, trapping over 95% of particles as small as 0.18 micron, over 97% of 0.4 micron and 99% of 0.5 micron or larger (nano-particle range)





# Technical Features

Dimensions are only indicative.

The correct version of filter will depend on whether the vehicle is turbocharged and on the in-use operating cycle of the application.

Application details are available on request.

		L x D x H (cm)	Weight (kg)
<b>MF300</b>	Up to 2.5 litre engine.	60 x 30 x 35	6.0
<b>MF325</b>	2.5 – 4.0 litre engine	90 x 30 x 35	8.5
<b>MF350</b>	4.0 – 7.0 litre engine	100 x 50 x 60	17.0
<b>Operational Temperature Range</b> (diesel catalyst)		150°C to 500°C	

## Standard Specification

Stainless Steel Filter housing complete with diesel catalyst and support brackets

High efficiency particulate filter.

2m length of exhaust hose, flexible connection sleeve, strap and ratchet clamp.

## Optional Back Pressure Indicator

BP Indicator & buzzer kit  
(powered by the vehicle's 12/24 volt power supply)

DUST COLLECTION

ODOUR & FUME EXTRACTION

ACOUSTIC ENCLOSURES

REPLACEMENT CARTRIDGES

LIQUID FILTRATION

WET COLLECTORS & SCRUBBERS



## Metro Equipment

A Division of Health & Safety Engineering Ltd  
Unit 11A Ascot Ind.Estate, Lenton St, Sandiacre, NG10 5DJ

Tel: **0870 421 4206**

Fax: **0870 421 4207**

[sales@hse-ltd.com](mailto:sales@hse-ltd.com)