

Miretti Emission Control Systems to reduce toxic emissions

- Catalytic Converters
- Water Purifiers
- Mecon Systems
- Soot Filters (DPMF Diesel Particulate Matter Filters)



www.miretti.org

*since 1973 we protect People,
the Environment
and your Business*

Miretti Systems enable trucks to be operated
in **industrial & civil construction,**
building, forklifts & mobile vehicles,
earthmoving machines, mines & tunnels,
railway industries, ect...

Why choose Miretti's Systems?

- 80% HC
hydrocarbons

- 99% particulate
and PM10

- 98% NOx
nitrogen
oxides

- 98% CO
carbon
monoxide

many Companies should...

- **comply with the most important
European Directives about the
reduction of exhaust fumes**
 - **create the conditions
to better work**
- **ensure safety and security
management of the entire
working site, in compliance
with health and
environmental local regulations**

Our priority is to ensure safety
for the environment and for human beings.
A requirement which cannot be compromised!

History has taught us the lesson that such risks
are very real and the impact is often catastrophic.





Catalytic Converters for light and medium power (2 kw – 500 kw)

Miretti Catalyst Converter is the **most technologically advanced device for the exhaust gas cleaning**. Catalyst supports are designed to work many thousand hours and to resist to mechanical and thermal shocks. These Systems are fitted to purify exhaust fumes from natural gas engines (lean burn and rich burn) as well as diesel engines.



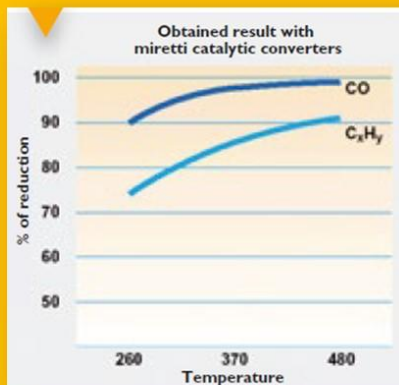
A vast range of dimensions for all types of application and use is available. They can be custom built in accordance with Customer specifications, provided with or without flanges. Are custom made as per customer specification for natural gas, gasoline or diesel engine like every type of forklift, engine for mining and tunneling, machinery for industrial and civil construction, stationary engine for power generation (co-tri-generation).

Required technical data for right sizing of a catalytic converter for light or medium power:

- fuel (gas, diesel or gasoline)
- intake (turbocharged or not)
- mechanical power
- displacement

ADVANTAGES:

- the correct working temperature is rapidly reached due to the high thermal conductivity of the substrate;
- low backpressure
- excellent conversion efficiency





Water Purifiers

The water purifier (M and H series), exclusively applicable to diesel engines, is made of a cylindrical body (the tank containing water) on the higher part of which there is a funnel allowing the emission of the purified gas.

The purifier is entirely stainless steel manufactured in order to withstand corrosion of the pollutants substances.



Advantages:

... very easy to install

... very good efficiency

... very economic
(if correctly maintained the system has life of over 15 years)

In our stock are available water purifiers for power from 15 to 500 kW.

At a visual level, the so-called "black smoke or particulate", relevant odours and the irritant substances (eg. Aldehydes, unburnt materials) are destroyed.

The depuration takes place by the polluting fumes gurgling in water. So the depuration is through water bubbling of the exhaust gas. From laboratory tests carried out, it's noticed that excellent results are achieved from the sulfur dioxide (SO₂) and particles.

The purifier is placed at the end of the exhaust system of explosion proof protected mobile vehicles.

The water purifier (M series), is also used as an explosion proof spark arrestor. The explosion proof protection is guaranteed (see the point one of the note below). In the case of an eventual explosion inside, the gases temperatures are kept below that prescribed for the Class "T5" (100 ° C) (test report Cesi AD 4961/85).





Mecon Systems

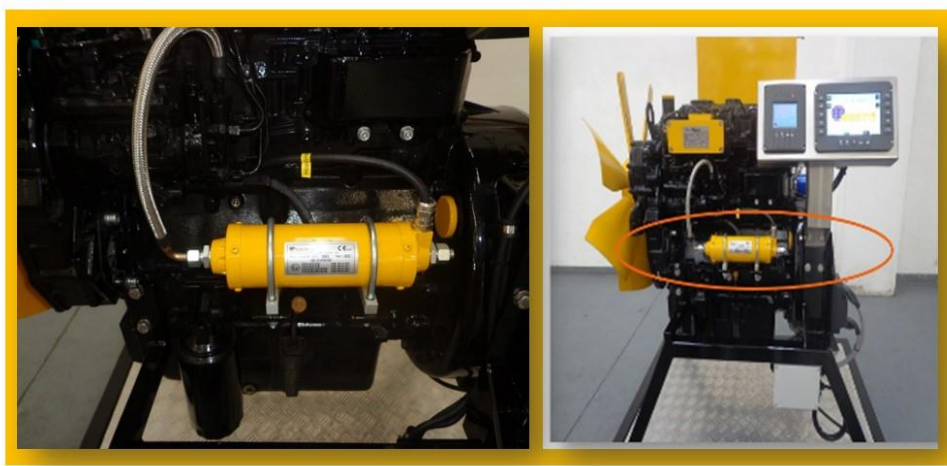
Mecon System is the first **environmentally-friendly Anti-Particle Device** ATEX certified

Many companies have to deal with many serious problem like: cost of frequent flame arrestor and heat exchanger cleaning maintenance, higher fuel consumption and DPF performance compromised when using "dirty" fuel with high sulphur content .

Miretti MeconEX reduced and normalized flame arrestor maintenance intervals, reduced clogging of exhaust heat exchangers, lower fuel consumption.

An environmentally-friendly system which, by improving combustion offers:

- energy saving
- reduction of emissions (PM 10 - NOx - HC - CO - CO2 - NO2)



It is designed for commercial vehicles, earthmoving machines, generating sets, lift trucks, vehicles with diesel engines (on-road & off-road), stationary diesel engine, mining equipment.

It can be fitted on a wide engine size range displacement (from 1.000 cc to 30.000 cc); either in ATEX version either in standard version.

Miretti Mecon is:

- very low production of pollutant agents
- reduction of Carbon Dioxide (CO2) emission
- high saving of fuel consumption
- no service stop for flame arrestor cleaning in normal operating conditions
- increases the life of Anti-Particulate Filter (DPF)





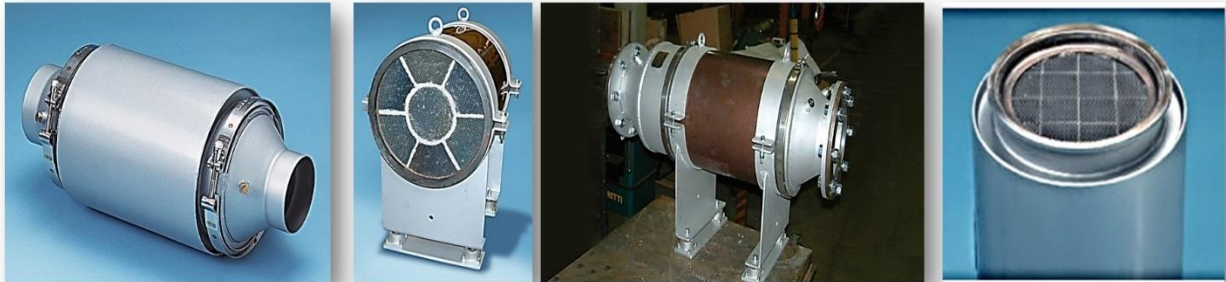
Soot Filters (DPMF Diesel Particulate Matter Filters)

The Miretti Solution reduces particles by 99% from diesel engines.

Power from 35 kw to 300 Kw.

More filters can be installed in case of higher power.

Soot filter is available with additive injection and with an external regeneration (used with exhaust temperature lower than 350°C). The reduction of particles of 98% is obtained with a silicon carbide support.



With additive injection

The auto-regenerating process, begin at temperature of 250°C.

High efficiency level, long-lasting, low running cost, low maintenance, no machine shutdown, excellent environmental and comfort condition for worker, rapid depreciation of costs, no regeneration units, extremely solid and reliable filter, excellent silencer.

Power from 20 to 400 kW; more filter can be installed in case of higher power.

With external regenerator

High efficiency level, long-lasting, low running cost, low maintenance, no machine shutdown with spare filter, excellent environmental and comfort condition for worker, rapid depreciation of costs, no regeneration units, extremely solid and reliable filter, excellent silencer.

Power from 20 to 400 kW; more filter can be installed in case of higher power.

Examples of typical Miretti executions on different types of machines





about Miretti...

Miretti has been leader since 1973 in Emission Control Systems ([brochure](#)) and Explosion Proof Protection of vehicles and boasts impressive experience in the field.

The company operates all over the world with branches in USA, China, Germany, UK, France, Hungary, Benelux, Australia, Singapore.

Miretti is ISO 9001 and 14001 certified and is an approved supplier for the most important World Manufacturers. Miretti's products are also certified according to ATEX, UL, MSHA, FM, CNEx, IECEx, EAC, NEPSI.

Mixing the latest solutions in Research&Development and Innovative Technologies, Miretti boasts an impressive experience in the field and presents its Exhaust Gas Cleaning Applications: **DeNOx SCR Systems, SNCR Systems, OXY and 3 Way Catalysts, OXY Special Substrates for Biogas, Catalytic Converters Purification and Soot Filter (DPMF).**

Miretti Systems are applicable to engines burning: Diesel, Natural Gas, Biogas, Syngas, Vegetal Oil and Animal Fat too.

Miretti Applications: Power Plants, Industrial, Mines, On and Off Road Vehicles, Generators Sets.

All Emission Control Systems and Explosion Proof Conversions are developed and implemented in agreement with local standards and regulations.

Miretti ensures a reliable after-sales service, qualified technicians, quality and fast maintenance.

The Miretti **Corporate Overview**

<http://miretti.org/uploads/files/UploadedFile/BrochureCorporateagg1403.pdf>



Why choose Miretti?
***E**xpertise of over 40 years*
***Q**uality and **I**nnovation*
***C**ompetitive **P**ricing*
***C**ertifications & **T**esting*
***A**fter Sales Service*
***T**raining & **P**roduct **E**ducation*
***E**ngineering **E**xcellence*
***R**esearch & **D**evelopment*
***R**eliable **C**ustomized **S**olutions*
***G**lobal footprint*

For more information:

Miretti head office in Italy:

Via Marconi 29/31 – 20812 Limbiate (MB) Italy

Tel: +39.02.990821.1 - cogeneration@miretti.com