



**Explosion
Protection**
oil & gas
mobile vehicles
tunnelling
coal mining

**Environmental
Protection
Systems**

**Over 40 years
dedicated to
the environment
and safety of the workers**

Corporate overview





COMPANY Profile

Miretti has been leader since 1973 in the **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 ISO 14001 certified and is an approved supplier for the most important world producers. Constant research focuses on new technologies and innovative solutions. All explosion proof conversions are developed and implemented in agreement with OEM Original Equipment Manufacturers to maintain original safety levels and ergonomics in conformity with local standards and regulations. Miretti ensures a reliable after-sales service, qualified technicians, quality and fast maintenance.



CUSTOMERS

ABB • Airbus • Air Liquide • Akzo Nobel • Alitalia • Alké • Armed Forces Worldwide • Astaldi • Atlas Copco • Autostade per l'Italia • Baka • Baker Hughes • Bayer/BASF • Becker • Beierdorf • Bobcat • Boeing • Bois • BOSCH • BP • Butangas • Casagrande • Case/New Holland • Caterpillar • Chemion • Chevron Oil • Cifa • Clariant • Clark • CMC • CMM • COCIV • Comac CTI • CTM • Cummins • Deutz • DHM • Dieci • Doosan • Dow Chemical • Dulevo • Elf • Eni • Esercito Italiano • EXO • FAC • Ferrari • Fisher Rosemount • Foster Wheeler • FPT • GE • Genie • Givaudan • GHH • Glaxo • Halliburton • Hammelmann • Haulotte • Henkel • Herrenknecht • Hitachi • Hoechst • Hyundai • Hyster and Yale • IBM • Icem • Impegilo • Isuzu • Iteco • Iveco/Astra • JCB • Jenbacher • JLG • John Deere • Jungheinrich • Lepetit • Lever • Fabergè • Linde • Liquigas • Locatelli • Loc • Lombardini • L'Oreal • Komatsu • Man • Manitou • Marina Militare Italiana • Martini & Rossi • Max Meyer • MCFE • Merck • Merlo • Metalliance • Minemaster • MOD UK • Morello • Mitsubishi • MTU • Naftal • Nato • Nichiyu • Niisk • Nissan • NOV • Novartis • Oil States • Pavimental • Perkins • PPG Paints • Raniero • Renault • Repsol • RFI • Rocla • Rohm & Haas • Rosetti • Sandvik • Schlumberger • Shell • Sherwin Williams • Soilmec • Solvay • Sonatrach • Stewart & Stevenson • Still • Tamrock • Techbild • Terex • Tigieffe • Todini • Total Gas • Toto • Toyota • Ultragas • Volvo • Yanmar • Zephir • 3M

CERTIFICATIONS

Miretti explosion proof conversions are studied and built in full respect of current standards and regulations applicable in every country and certified by Local Notified Bodies.

Miretti holds valid certifications on the main markets, as well as specific certifications for the surface and mining industries.



INTERNATIONAL: IECEx
EU: ATEX
USA: UL - FM - MSHA
RUSSIA: EAC
CINA: NEPSI



SECTORS

Miretti covers several industrial sectors and provides the type of explosion proof protection which best suits the different classified areas.

SURFACE INDUSTRIES:

Chemical industry • pharmaceutical industry • paints-coatings • bio gas • nuclear power stations • ports/airports • armed forces • gas bottling • distilleries • logistics • fireworks/explosives • plastic manufacturing • foodstuff industries • oil platforms.

UNDERGROUND INDUSTRIES:

Tunnels • mines.

MINES • TUNNELS Sector

Miretti explosion protects various types of industrial machines, drilling systems, people transporters and earth moving machines. The production range also includes explosion proof sophisticated lighting systems, electricity sub-stations, data transmission and gas detection/control systems. All products satisfy the requirements for use in environments with presence of gas, flammable powders and coal dusts.

+200 vehicles for mines and tunnels EX annually





INDUSTRIAL Sector

The company, specialized in the Chemical, Pharmaceutical, Petroleum and Gas industry, suggests solutions for the explosion proof protection of forklift trucks, earth moving machinery, tractors, industrial cleaning machines, pumps for liquids etc. All supported by an efficient after sales and spare parts service.

+700 diesel and electric vehicles EX annually

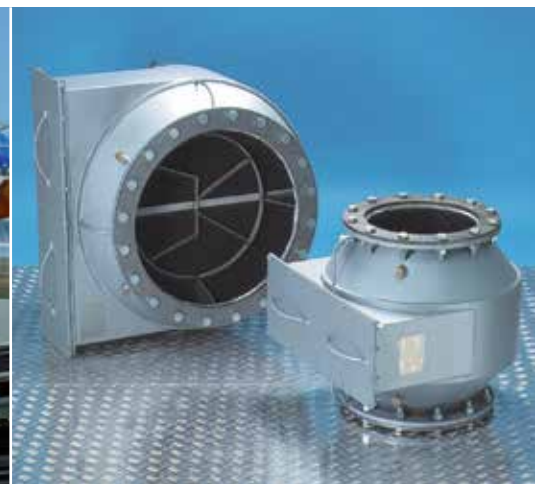
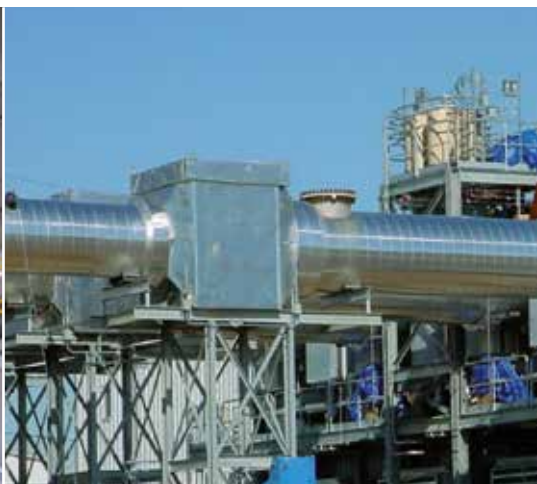


OIL & GAS Sector

The company specializes in the oil and gas industries offering top quality, IP protected, innovative and fully certified systems for diesel engines and all types of oilfield equipment. Zone 2 ATEX kits for local OEM installation is available for Cummins, MTU, Caterpillar, Deutz, Volvo, JCB and other leading engine brands. Complete project builds including Ex testing and third party certification is available through Miretti factories in USA, Europe and China.

+300 engines and enclosures EX annually





FUMES PURIFICATION Systems Cogeneration, Environmental Eco Systems

Systems to check and reduce toxic emissions that can be released into the atmosphere which originated from boilers and internal combustion engines. SCR DeNO_x SYSTEM • FUMES PURIFICATION FOR DIESEL ENGINES • INSULATION • WATER SCRUBBER OXIDATION AND 3-WAY CATALYST (Diesel – Natural Gas – Biogas – Syngas – Vegetable Oil – Animal Fat) • REGENERATIVE AFTER BURNER MIRETTI ANTI – PARTICULATE FILTER – MDPF

EXPLOSION PROOF COMPONENTS



TRUCK Rental

Miretti provides explosion proof forklifts category 2GD T4 for short term rental.

TRAINING and AFTER SALES

The Miretti after-sales service, present in most countries, ensures fast response times, dedicated assistance, telephone and on-site support and the availability of specific spare parts for more than ten years to help maintain constant productivity for customers. Conversions are studied and implemented using solutions that simplify and speed up machinery maintenance. Maintenance interventions are carried out by skilled personnel, authorised and trained for the purpose in our head offices. The Miretti After-Sales Service and the availability of local technical support through training courses for service engineers (carried out at the Milan HQ or locally when available) will support the client step by step in ensuring continuous uptime and protection of their environment. Annual and/or three yearly Safety Audits for the EX protection system are available on request.





Industrial Sector
Pharmaceutical
Gas Industry
Petroleum
Chemical

Oil & Gas
Ex Power System

Mines - Tunnels

Explosion Proof
Components
and Enclosures

Fumes
Purification Systems



www.miretti.org

Reliable
Customized Solutions

Research
and Development

Quality & Innovation

Global Footprint

Certifications & Testing

After Sales Service

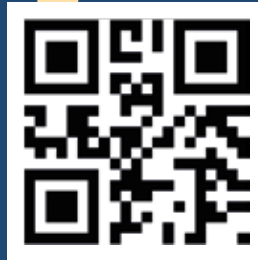
Training
& Product Education

Competitive Pricing





We operate all over the world



Miretti Production Facilities are located in


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www.miretti.org



Miretti DetEx

the “active” core
of Zone 2 Ex-Proof
Conversions

Miretti DetEx enables
your employees
to work in safety





The DetEx System is an **“active” protection** that we can apply for the **Category 3 ex-proof conversion** of **any type of diesel or electric equipment**.

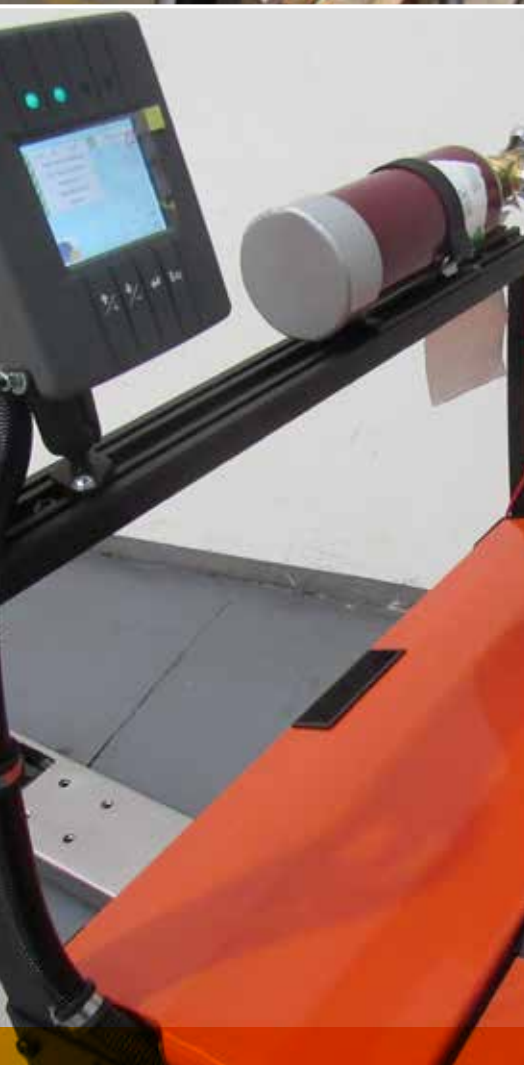
It combines gas detection with various explosion protection methods, including: restricted breathing enclosures for arcing and sparking components, surface temperature and relevant truck parameter control with dedicated stop system, stainless steel sheathed forks.



Miretti Ex Systems enable trucks to be operated in paints / coatings, pharma, foods & flavours, inks, bottled gases, aerosols, oil & gas industries, armed forces.

This system keeps the operator constantly informed about the presence in the operating area of dangerous explosive gasses or vapours.

Our priority is to protect people and the environment by providing safe, affordable and internationally compliant explosion protection systems; a requirement which cannot be compromised.



The system provides an audible and visual warning when it detects the presence of a gas or vapour at 10% Lower Explosive Limit (LEL) propane in air. When at 25% LEL, the protected equipment automatically shuts down, thus eliminating any kind of explosion risk.

Miretti DetEx carries out an automatic self-test at start up and periodic auto calibrations to ensure the gas sensor is fully operative.

The stand by mode minimizes the battery consumption guaranteeing a constant gas detection.

Furthermore, the system receives all the signals coming from temperature, oil pressure, speed sensors, stopping the truck in case of any safety risk, clearly indicating the source of anomaly and recording the event in the log, easily accessible later.



*Reliable
Customized Solutions*



Two different technologies of Gas Sensing Head

There are two different types of sensing options available, to be selected in accordance with the Customer's needs, either pellistor or infrared gas sensors.

- **Pellistor option**

The response to a wide range of combustible gasses makes it suitable for chemicals, paints, pharmaceutical industries. It cannot be used in presence of organic silicon compounds, organo-metallic compounds and organic phosphate esters which poison the sensor.

- **Infrared option**

It presents a lot of advantages in comparison to the pellistor (faster warm up, immunity from poisoning), the sensitivity toward a specific gas makes it suitable for applications like distilleries and oil & gas.

It is also possible to install more than one gas sensor with auto configuration of the system and clear identification of the alarm source.



system provides a univocal warning which minimizes the fault searching time. Furthermore, Miretti's after sales department is available to provide the customer with an immediate assistance.

And if a faulty component needs to be replaced? Easy and fast—simply unscrew four bolts and unplug a connector.

All the components are plug and play and require no additional setting.

Miretti DetEx has been developed to ensure a fast service. In case of a malfunction of any of its components DetEx

Research & Development

Miretti DetEx system features and benefits

- for both Diesel and Electric Battery Trucks
- cost effective Zone 2 ATEX compliant systems designed for almost all 3G applications
- truck operator receives Gas/Vapour audible and visual warnings at 10% LEL Propane in Air

- truck automatically shuts down to safety to prevent an explosion or fire at 25% LEL
- auto-Calibration test at daily start-up
- choice of infrared or pellistor gas sensors to suit virtually any end user application
- simple to operate and cost effective to maintain

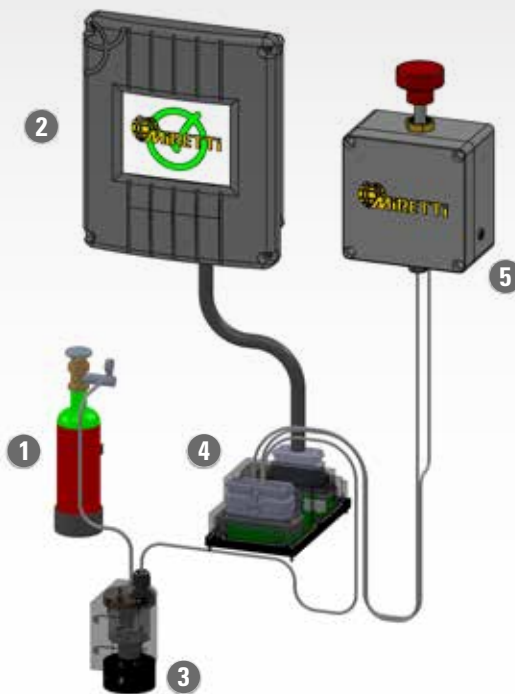


What makes it so smart...

- Compact design
- Minimum power absorption
- Multi-voltage feeding
- Compatible with all forklift truck brands and models
- Stand-by mode guaranteeing constant gas detection
- Operations executable directly on the display without the need for additional devices
- Internal event log
- Gas Sensor auto test at start-up and auto calibration
- Solenoid valve integrated in gas sensor

Training & Product Education

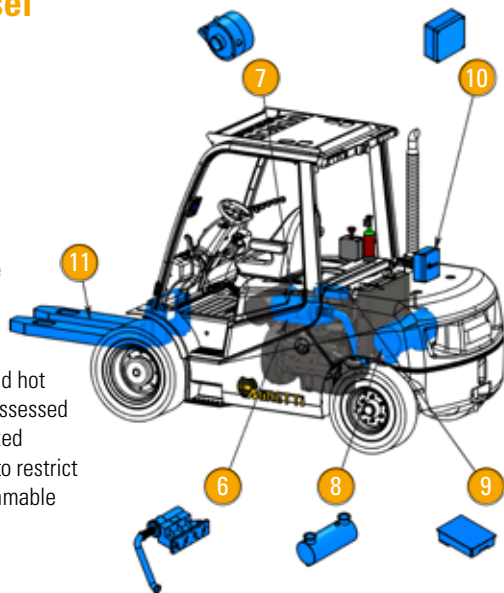
- 1 Gas Bottle for gas sensor test at start up and automatic calibration.
- 2 Control module providing continuous interface to the truck operator confirming whether the area is safe and system is ok.
- 3 Pellistor or Infrared Gas Sensor for use with gas group IIA or IIB.
- 4 Central Unit monitoring surface, exhaust gas, hydraulic fluid temperatures.
- 5 Battery Cut-off switch.



Miretti DetEx System

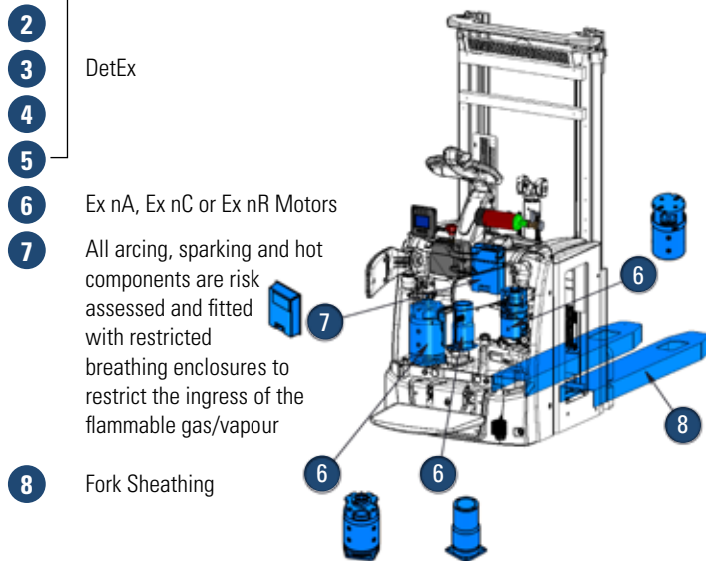
Diesel

- 1
- 2
- 3 DetEx
- 4
- 5
- 6 Exhaust Manifold
- 7 Inlet Shut Down Valve
- 8 Truck FilterEx Cooler
- 9 All arcing, sparking and hot components are risk assessed and fitted with restricted breathing enclosures to restrict the ingress of the flammable gas/vapour
- 10
- 11 Fork Sheathing



Electric

- 1
- 2
- 3 DetEx
- 4
- 5
- 6 Ex nA, Ex nC or Ex nR Motors
- 7 All arcing, sparking and hot components are risk assessed and fitted with restricted breathing enclosures to restrict the ingress of the flammable gas/vapour
- 8 Fork Sheathing



Our Certifications, your Safety

DetEx is compliant with ATEX 2014/34/EU, IECEx schemes and relevant international standards (EN 1755:2015 and IEC 60079 series). The conversion, full testing and certification process is all carried out at Miretti factories.

Miretti can also, if necessary, supply passive solutions for Category 3 (Zone 2) areas.

Why choose Miretti?

Miretti has been leader since 1973 in the 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 9001:2000 certified and is an approved supplier for the most important world producers.

Constant research focuses on new technologies and innovative solutions.

All explosion proof conversions are developed and implemented in agreement with OEM Original Equipment Manufacturers to maintain original safety levels and ergonomics in conformity with local standards and regulations.

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

Leader in the ATEX Explosion Protection of Mobile Vehicles for over 40 years.

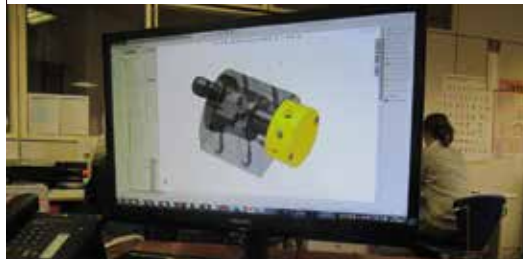
Miretti Explosion Proof +700 Diesel and Battery Electric vehicles annually.

Our Group is an Approved Supplier to all of the leading Material Handling OEM's.

Miretti Ex Solutions are available for OEM's including Still, Toyota, Hyster and Yale, Jungheinrich, Linde, MCFE, Doosan, Alkè, Haulotte, Manitou, Dieci, Hitachi,

Caterpillar, New Holland, Volvo, Merlo, JLG, Terex, Mitsubishi.

Miretti brochure about "Explosion Proof Protection Systems for Mobile Vehicles"



*over 40 years
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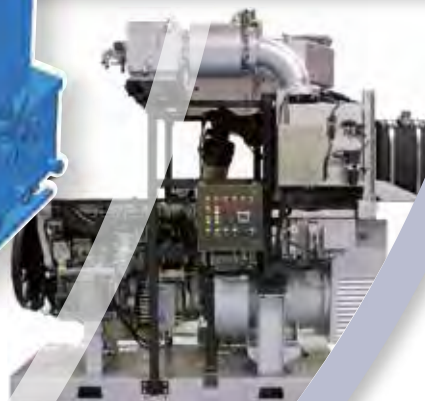
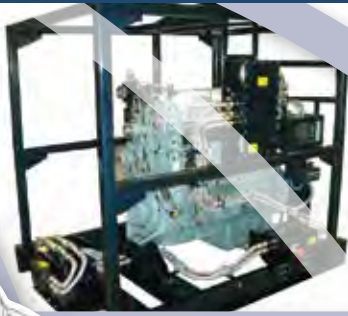
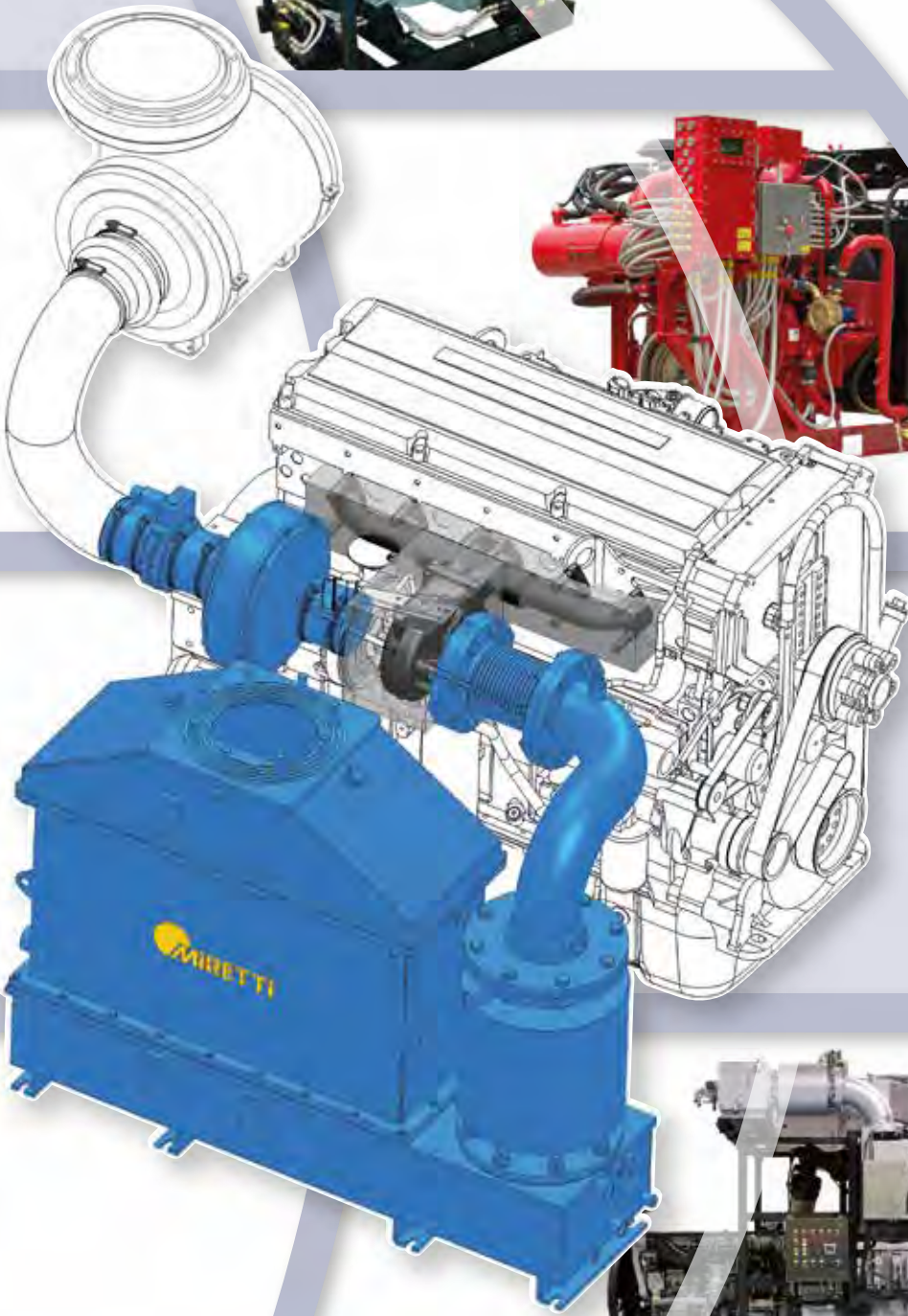
Miretti Engine Explosion Protection Systems

Zone 2 (ATEX) Kits

Class I Div. 1-2 (US)

TIER 4 Engines

IECEX



Explosion Proof Protection

The priority is to ensure safety for the environment and for human beings.

Diesel engines, working in potentially flammable atmospheres, can be an explosive mix that places workers and businesses at serious risk and could result in untold damage to the environment.

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

Our priority is to protect people and the environment by providing safe, affordable and internationally compliant explosion protection systems; a requirement which cannot be compromised.



The PROBLEM...

Dangerous ignition sources of unprotected diesel engines such as: electrical, mechanical, or static sparks, overspeed or flame from inlet or exhaust, and hot surfaces that could cause an auto-ignition of a flammable gas or vapour.

Flammable gases in the atmosphere can be sucked in through the air intake along with air for combustion. This results in backfires in the inlet and exhaust or engine overspeed situation whereby the engine runs out of control. Different surfaces on a diesel engine can become hot and therefore sources of ignition. These surfaces need to be protected to avoid the danger of explosion.

The SOLUTIONS...

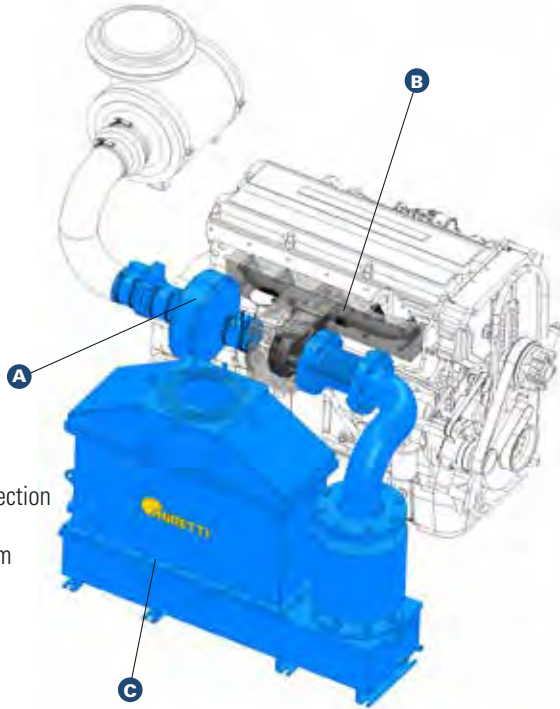
Miretti Engine Explosion Protection Systems

- Zone 2 ATEX compliant kits
- Class I Division 1-2 Explosion Protection Solutions Electrical System
- TIER 4 Engines Explosion Proof Technology
- IECEx



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Miretti Zone 2 (ATEX) Kits include features designed to prevent an ignition source causing an explosion



Miretti Zone 2 (ATEX) Kits also include:
 Battery and electrics Ex Protection
 Charge Air Pipe
 Automated shut-down system
 ECM Ex Protection

Miretti Ex Solutions are available for Atlas Copco, MTU, Cummins, Caterpillar, Volvo, Perkins, JCB, FPT, Deutz, Man, Doosan etc...

A

Miretti Air Inlet Flame Arrestor and Shut Down Valve

Provides shutdown on overspeed

B

Miretti CoatEx Exhaust Manifold and Turbocharger

Ensures surface temperature is below 200°C (T3)

C

Miretti FilterEx Flame Arrestor, Heat Exchanger and Spark Arrestor

Cools the engine exhaust below 200°C (T3). Ensures that no sparks or not particles escape into the atmosphere

our Certifications, your Safety

All Miretti Ex Solutions Diesel Engine Hazardous Packages are certified, with some having tri-certification to ATEX 2014/34/EU, IECEx and NEC 500.

Miretti Diesel Engine Explosion Protection Systems are designed, tested and certified to support the equipments of our clients, thanks to high quality know-how of our specialist engineers.



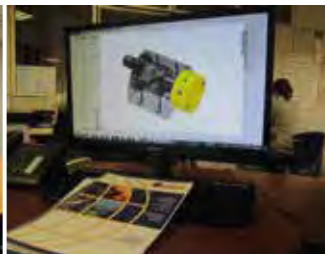
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The Miretti After-Sales Service and the availability of local technical support through training courses for service engineers (carried out at the Milan HQ or locally when available) will support the client step by step in ensuring continuous uptime and protection of their environment.

Annual and/or three yearly Safety Audits for the Ex protection system are available on request.





FilterEx Manicooler

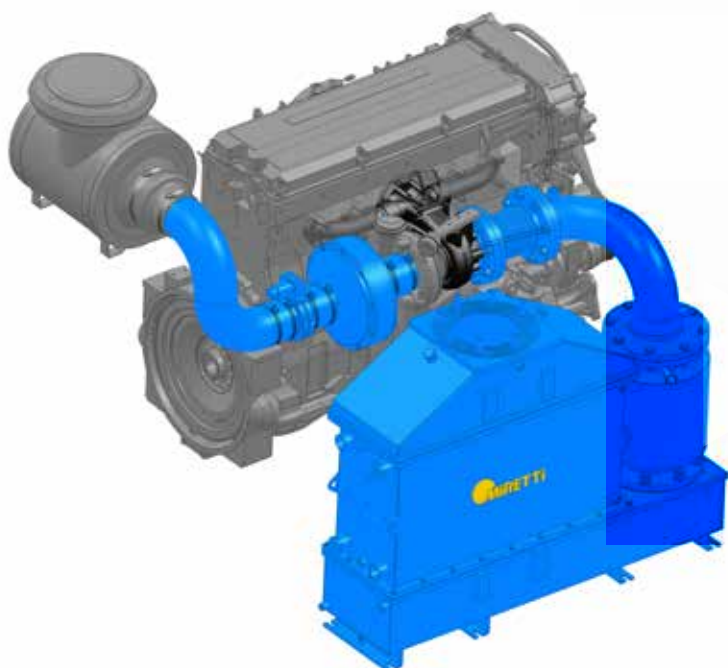
< 110 kw



Miretti Zone 2

FilterEx

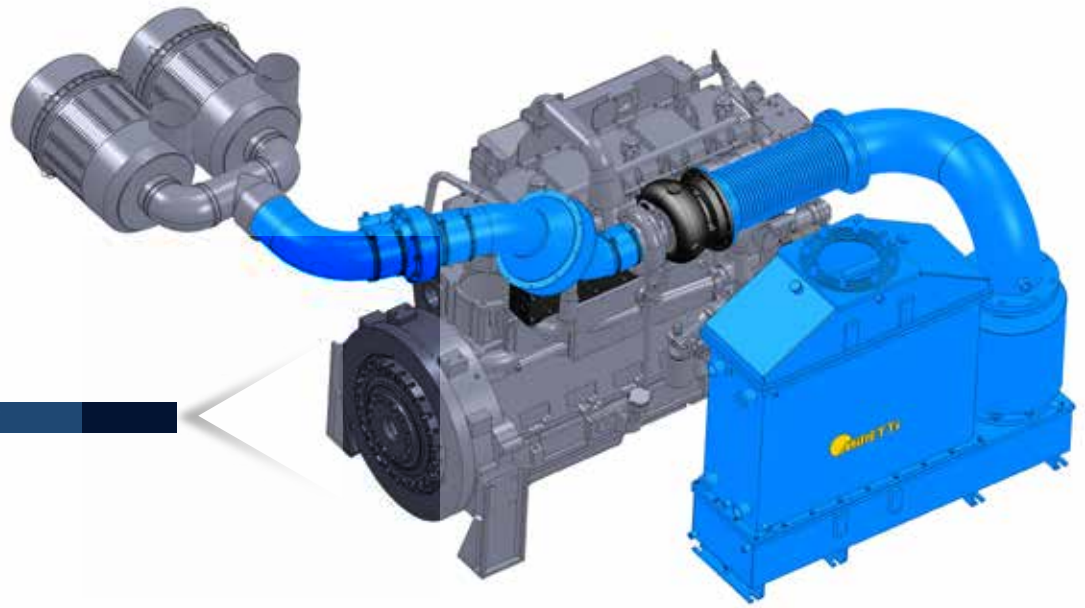
60 - 120 kw



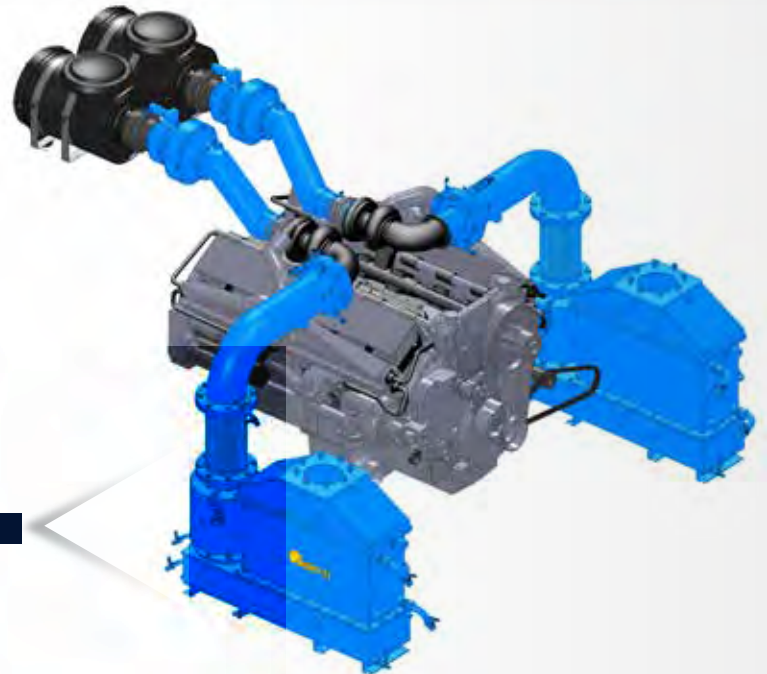
FilterEx

121-250 kw

The images are indicative of a standard engine package.
Options are available .
Please contact us for more information!



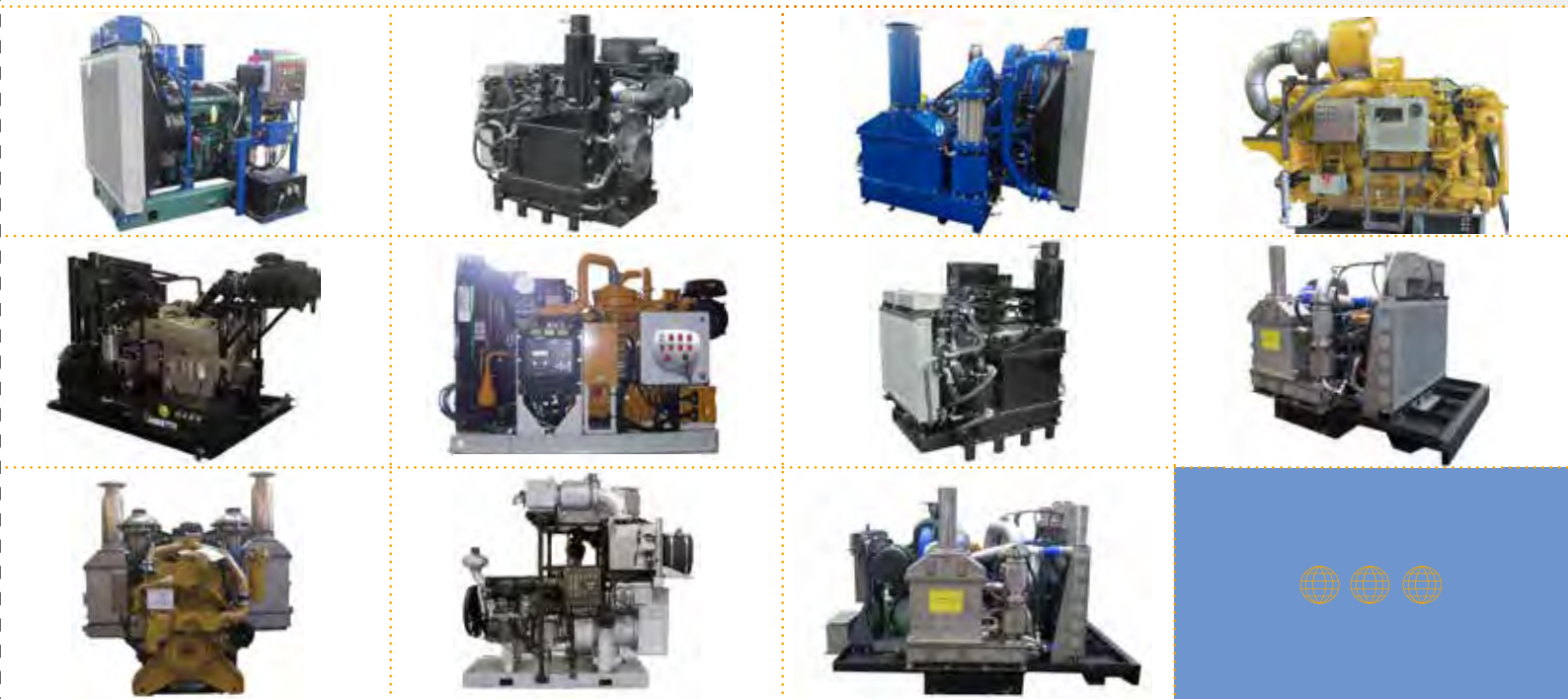
FilterEx
251-500 kw



FilterEx
>500 kw



(ATEX) Kits



Miretti Class I Division 1 Explosion Protection Electrical Only

NTRL certified and labeled electrical components. Complete Electrical System Certification available.



Miretti Class I Division 2 Explosion Protection Electrical Only

NTRL certified and labeled electrical components. Complete Electrical System Certification available.



Miretti Division 2 / Zone 2 Tri-certification Explosion Protection

ATEX Zone 2, IECEx Zone 2, NEC Class I Div. 2 certificates.



Miretti TIER 4 Engines Explosion Protection ATEX Zone 1-2 / Div. 1-2 (US)

Miretti explosion proof diesel conversions are designed not to have an impact on the functionality and compliance standards of the original diesel engine. Here is an example of Tier 4 Explosion Protected Diesel Engine with tri-certification to NEC 500, ATEX 2014/34/EU, IECEx.



Miretti Oil & Gas your ideal Partner able to turn Problems into Solutions

the problem...

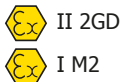
Cost of oilfield equipment "downtime" during operations and the maintenance costs of servicing conventional exhaust flame traps every 20 hours.

the solution...Miretti FilterEx

A 'compact' exhaust cooling system with integral self-cleaning exhaust flame and spark arrestors.

Enables maximum engine 'uptime' as the self-cleaning flame arrestor can operate for approx. 1,000 hours before requiring cleaning.

Reduces costly service maintenance while conventional exhaust flame arrestors need to be changed every 20 hours.



Tamb=20 +130°C

*designed to suit any engine type



the problem...

Cost of replacing "dry" turbocharger and exhaust manifolds of industrial engines with water-cooled versions as part of Zone 2 conversion process.

the solution...Miretti CoatEx

Provides a thermal barrier between hot engine surfaces (e.g. turbochargers and exhaust manifolds) and the external atmosphere.

Enables the OEM "dry" turbocharger and manifold to be retained reducing Zone 2 conversion costs and minimising risk of failure by fitting non OEM turbo and water cooled manifold.



Tamb=-20°C +60°C



Why choose Miretti?

- Expertise of over 40 years
- Quality & Innovation
- Competitive Pricing
- Certifications & Testing
- After Sales Service
- Training & Product Education
- Research & Development
- Reliable Customized Solutions
- Global footprint





the problem...

Cost of "passively" protecting Zone 2 diesel engine oilfield equipment with complex control systems and cost of downtime and service maintenance of cleaning exhaust flame traps every 20 hours.



the solution...Miretti 3GMIR

Provides gas detection and automatic engine/equipment shutdown for almost any Zone 2 application onshore and offshore. 3GMIR uses infrared gas sensors for robust duty and extended life and has self-calibration capability.

Ensures maximum safety and eliminates the need for exhaust flame traps and equipment "down-time" caused when cleaning conventional exhaust flame traps.



II 3G Ex nC IIC T6 resp. T5 resp. T4 Gc



the problem...

Cost and complexity for modification and compliance of oilfield and engine equipment electrics to different global/regional standards of explosion protection.



the solution...Miretti MeecaEx

Unified compact engine control system approved worldwide under ATEX, NEC (FM), IECEx.

Zone 2 electronic controlled system for oilfield equipment ensures simple installation and operation.

It is compact and is approved worldwide.



the problem...

Cost of "passive added-safety" for diesel engine and electric battery equipment operating in unclassified areas and risk that equipment continues to operate with explosive atmosphere present.



the solution...Miretti GasChecker

It's a cost effective protection for a multitude of applications.

It's a basic kit of parts that can be installed locally to provide gas detection, visual/audible alarms and automatic equipment shutdown at 25% LEL Propane in Air.

Provides for "added-safety" within areas not formally classified.



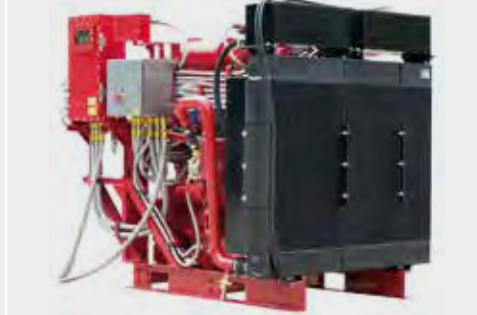
II 3G Ex nC IIC T6 resp. T5 resp. T4 Gc



*Second gas sensor is an option

Miretti is at the forefront of New Technologies & Innovative Solutions

Class I Div. 2 + Zone 2 (ATEX) + Zone 2 (IECEX)



Class I Div. 1



Zone 2 + Class I Div. 2



Zone 2



Zone 2 IECEX



Class I Div. 2



Class I Div. 2



Class I Div. 2



Zone 2



Class I Div. 2



Class I Div. 2



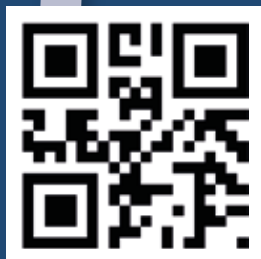
Class I Div. 2



Zone 2 + Class I Div. 2



We operate all over the world



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Fax: 1-973-808-8398

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MIRETTI

ELECTRICAL EX EQUIPMENT in hazardous areas

Enclosures



Reliable Customized Solutions



● CB Control Panel Configuration - Gas group IIB / Dust group IIIC

Ex d enclosures type CB in control panel configuration can be equipped with signalling lamps, intrinsic safety apparatus, push buttons and mechanical operators, windows made of tempered glass.

● Approvals:



II 2G Ex d IIB T3/T4/T5/T6 Gb
II 2D Ex tb IIIC T200°C/T135°C/T100°C/T85°C Db IP65
I M2 Ex d T150°C Mb
Tamb : -20°C ÷ +55°C



Ex d IIB T4/T5/T6 Gb
Ex tb IIIC T135°C/T100°C/T85°C Db IP 65
Tamb : -20°C ÷ +55°C



Ex d IIB T4/T5/T6 Gb
Ex tb IIIC T135°C/T100°C/T85°C Db IP 65
Tamb : -20°C ÷ +55°C



Class I, II, III Division 1 Group C, D, E, F, G T3C
Tamb : -20°C ÷ +55°C



● Available material: iron and stainless steel

● Measures: ex.: 724 x 414 x 325 mm * 275 x 600 x mm*

* dimensions and functions are customizable

● Control Panel Enclosure - Gas group IIB / Dust group IIIB

Customized control panel for a specific engine transformation can be equipped with signalling lamps, push buttons and mechanical operators with auto-switch off function in alarm situation and J1939 display for parameters visualization option.

● Approvals:



II 3G Ex nA IIB T3/T4 Gc
II 3D Ex tc IIIB T200°C/T135°C Dc IP55
Tamb : -20°C ÷ +60°C



Ex nA IIB T3/T4 Gc
Ex tc IIIB T200°C/T135°C Dc IP55
Tamb : -20°C ÷ +60°C



Class I Division 2 Group C, D T3/T4
Tamb : -20°C ÷ +60°C



● Available material: stainless steel Aisi 316L/304

● Measures: ex.: 450 x 450 x h210 mm

● CBH Electronic Enclosure - Gas group IIC / Dust group IIIC

Ex d enclosures type CBH in electronic enclosure configuration can be equipped with intrinsic safety apparatus, push buttons and mechanical operators.

Ex d enclosure type CBH it is available in different configurations and sizes, can be equipped also with signalling lamps, windows made of tempered glass.

Available in the same configurations of enclosures type CB.

● Approvals:



II 2G Ex d IICT4/T5/T6 Gb
II 2D Ex tb IIIC T135°C/T100°C/T85°C Db IP66
Tamb : -20°C ÷ +60°C



● Available material: iron and stainless steel

* dimensions and functions are customizable

● **CB Electronic Enclosure Configuration - Gas group IIB / Dust group IIIC**

Ex d enclosures type CB in electronic enclosure configuration can be equipped with intrinsic safety apparatus, it is used to contain non Ex approved equipment and sparking components in the normal function.



● Approvals:



II 2G Ex d IIB T3/T4/T5/T6 Gb
II 2D Ex tb IIIC T200°C/T135°C/T100°C/T85°C Db IP65
I M2 Ex d T150°C Mb
Tamb : -20°C ÷ +55°C



Ex d IIB T4/T5/T6 Gb
Ex tb IIIC T135°C/T100°C/T85°C Db IP 65
Tamb : -20°C ÷ +55°C



Ex d IIB T4/T5/T6 Gb
Ex tb IIIC T135°C/T100°C/T85°C Db IP 65
Tamb : -20°C ÷ +55°C



Class I, II, III Division 1 Group C, D, E, F, G T3C
Tamb : -20°C ÷ +55°C

- Available material: iron and stainless steel
- Measures: ex.: 640 x min 450 max 530 x h183 mm*

* dimensions and functions are customizable

● **CB Electronic Enclosure Configuration with Glass**
Gas group IIB / Dust group IIIC

Ex d enclosures type CB in electronic enclosure configuration with glass it is used to contain a display and non Ex approved equipment and sparking components in the normal function.

It is equipped with a window made of tempered glass.



● Approvals:



II 2G Ex d IIB T3/T4/T5/T6 Gb
II 2D Ex tb IIIC T200°C/T135°C/T100°C/T85°C Db IP65
I M2 Ex d T150°C Mb
Tamb : -20°C ÷ +55°C



Ex d IIB T4/T5/T6 Gb
Ex tb IIIC T135°C/T100°C/T85°C Db IP 65
Tamb : -20°C ÷ +55°C



Ex d IIB T4/T5/T6 Gb
Ex tb IIIC T135°C/T100°C/T85°C Db IP 65
Tamb : -20°C ÷ +55°C



Class I, II, III Division 1 Group C, D, E, F, G T3C
Tamb : -20°C ÷ +55°C

- Available material: iron and stainless steel
- Measures: ex.: 350 x 210 x h95 mm*

* dimensions and functions are customizable

● **CB Display Configuration - Gas group IIB / Dust group IIIC**

Ex d enclosures type CB in display configuration can be equipped with signalling lamps, push buttons and mechanical operators, it is used to contain a display and non Ex approved equipment and sparking components in the normal function.

It is equipped with a window made of tempered glass.



● Approvals:



II 2G Ex d IIB T3/T4/T5/T6 Gb
II 2D Ex tb IIIC T200°C/T135°C/T100°C/T85°C Db IP65
I M2 Ex d T150°C Mb
Tamb : -20°C ÷ +55°C



Ex d IIB T4/T5/T6 Gb
Ex tb IIIC T135°C/T100°C/T85°C Db IP 65
Tamb : -20°C ÷ +55°C



Ex d IIB T4/T5/T6 Gb
Ex tb IIIC T135°C/T100°C/T85°C Db IP 65
Tamb : -20°C ÷ +55°C



Class I, II, III Division 1 Group C, D, E, F, G T3C
Tamb : -20°C ÷ +55°C

- Available material: iron and stainless steel
- Measures: ex.: 360 x 200 x h147 mm*

* dimensions and functions are customizable

● **CB Display Multiled Configuration - Gas group IIB / Dust group IIIC**

Ex d enclosures type CB in display multiled configuration can be equipped with signalling lamps, Customized multiple led enclosure with hours meter. It is equipped with a window made of tempered glass.



● Approvals:



II 2G Ex d IIB T3/T4/T5/T6 Gb
 II 2D Ex tb IIIC T200°C/T135°C/T100°C/T85°C Db IP65
 I M2 Ex d T150°C Mb
 Tamb : -20°C ÷ +55°C



Ex d IIB T4/T5/T6 Gb
 Ex tb IIIC T135°C/T100°C/T85°C Db IP 65
 Tamb : -20°C ÷ +55°C



Ex d IIB T4/T5/T6 Gb
 Ex tb IIIC T135°C/T100°C/T85°C Db IP 65
 Tamb : -20°C ÷ +55°C



Class I, II, III Division 1 Group C, D, E, F, G T3C
 Tamb : -20°C ÷ +55°C

- Available material: iron and stainless steel
- Measures: ex.: 255 x 145 x h90.5 mm*

* dimensions and functions are customizable

● **EJB Electronic Enclosure Configuration with Glass**
 Gas group IIB / Dust group IIIC

Ex d enclosures type EJB in electronic enclosure configuration with glass it is used with intrinsic safety apparatus, push buttons and mechanical operators contain a display and non Ex approved equipment and sparking components in the normal function. It is equipped with a window made of tempered glass.



● Approvals:



II 2G Ex d IIB T3/T4/T5/T6 Gb
 II 2D Ex tb IIIC T200°C/T135°C/T100°C/T85°C Db IP65
 I M2 Ex d T150°C Mb
 Tamb : -20°C ÷ +55°C



Ex d IIB T3/T4/T5/T6 Gb
 Ex tb IIIC T200°C/T135°C/T100°C/T85°C Db IP 65
 Tamb : -20°C ÷ +55°C

- Available material: aluminium

● **Ex e Terminal Boxes - Gas group IIC / Dust group IIIC**

The Ex e terminal boxes are made of glass-fiber reinforced polyester are used to transfer and distribute electric energy, customizable Ex e enclosure with Ex e terminals.



● Approvals:



II 2G Ex e IICT5/T6 Gb
 II 2D Ex tb IIIC T100°C/T85°C Db IP65
 Tamb : -50°C ÷ +60°C



Ex e IICT5/T6 Gb
 Ex tb IIIC T100°C/T85°C Db IP65
 Tamb : -50°C ÷ +60°C

- Measures: 90 x 90 x 75 mm*

* dimensions and functions are customizable

● **Ex de Alarm Led Enclosure - Gas group IIC / Dust group IIIC**

The Ex de alarm led boxes are made of glass-fiber reinforced polyester are used as signalling alarm device, it is also available with commands and with signaling and commands configuration.



● Approvals:



II 2G Ex ed IICT6 Gb
II 2D Ex tD A2I T85°C Db IP66
Tamb : -50°C ÷ +60°C



Ex ed IICT6 Gb
Ex tD A2I T85°C Db IP66
Tamb : -50°C ÷ +60°C

● Measures: 80 x 139 x 98 mm*

* dimensions and functions are customizable

● **Ex de Cable Glands and Caps - Gas group IIC / Dust group IIIC**

Cable Glands for armoured and unarmoured cables which are able to maintain the explosion protection integrity which will form the means of preventing transmission of explosion from within the equipment. Caps provides means of blanking unused cable entries.



● Approvals:



II 2G Ex d/e IIC Gb
II 2D Ex tb IIIC IP66 Db
I M2 Ex d/e I Mb
Tamb : -50°C ÷ +100°C



Ex d/e IIC Gb
Ex tb IIIC IP66 Db
Ex d/e I Mb
Tamb : -50°C ÷ +100°C



Class I, II, III Division 1 Group C, D, E, F, G T4
Tamb : -20°C ÷ +100°C

● Available material: brass and stainless steel

Miretti has **consolidated experience** in industrial flame proof enclosure technology. We offer a significant range of **certified enclosures** where it is possible to insert mechanical and electrical components, control units and warning lights.

Our enclosures are of **various sizes** and can be made of iron, stainless steel, polycarbonate, polyester.

We guarantee that our enclosures can also be **customized to suit the needs of our clients**.

Miretti is a manufacturer of products that are FM approved for USA & Canada. Our products are also manufactured & certified according to ATEX, CNEx, IECEx schemes

We are at the forefront of New Technologies and Innovative Solutions

Miretti has been leader since 1973 in the **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 ISO 14001 certified and is an approved supplier for the most important world producers. Constant research focuses on new technologies and innovative solutions. All explosion proof conversions are developed and implemented in agreement with OEM Original Equipment Manufacturers to maintain original safety levels and ergonomics in conformity with local standards and regulations. Miretti ensures a reliable after-sales service, qualified technicians, quality and fast maintenance.

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Our products are also manufactured & certified according to ATEX, CNEx, IECEx schemes



Why choose Miretti?

- Expertise of over 40 years
- Quality & Innovation
- Competitive Pricing
- Certifications & Testing
- After Sales Service
- Training & Product Education
- Research & Development
- Reliable Customized Solutions
- Global footprint



Electrical Components

Multifunctional Tail Lights



Working Lights



Flashing Lights



IP67 Working Lights



Turn Signal Lights



DetEx Gas Detector Systems



Miretti's offer regarding "Diesel Ex Equipment"

Alternators



Batteries



Starter Motors



Generators



Spark Arrestors



Shut Down Valves



FilterEx



CoatEx



MeconEx



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**Explosion
Proof
Protection
Systems**



**Mines
and
Tunnels
Environments**



 **Explosion Proof Protection**



Miretti Explosion Proof +200 vehicles for mining and tunnelling sectors annually

- Miretti explosion protects**
- MULTI SERVICE VEHICLES (MSV)
 - DUMPERS – WHEEL LOADERS – EXCAVATORS – MIXERS
 - PERSONNEL CARRIERS
 - DRILLING VEHICLES
 - AMBULANCES
 - CRANES
 - MONORAIL
 - TBM



The production range also includes explosion proof sophisticated lighting systems, electricity sub-stations, data transmission and gas detection/monitoring and control systems.

All products satisfy the requirements for use in environments with presence of gas, flammable powders and coal dusts.

Miretti also adopts an environmental friendly approach by using gas purification systems for exhaust gases.

With this strategy Miretti can offer: **Design - Customisation - Lead Time - Quality - Safety - Service.**



Mining Industries

Examples of Explosion Proof Protections applied to Mines Vehicles and Equipment



Tunnelling Industries

Examples of Explosion Proof Protections applied to Tunnels Vehicles and Equipment



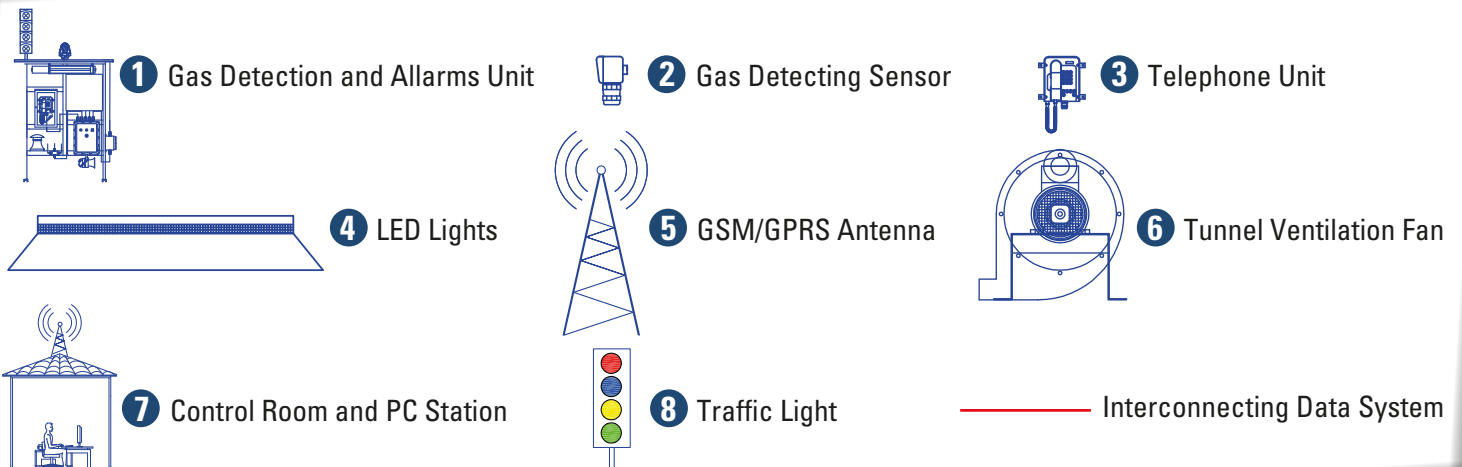
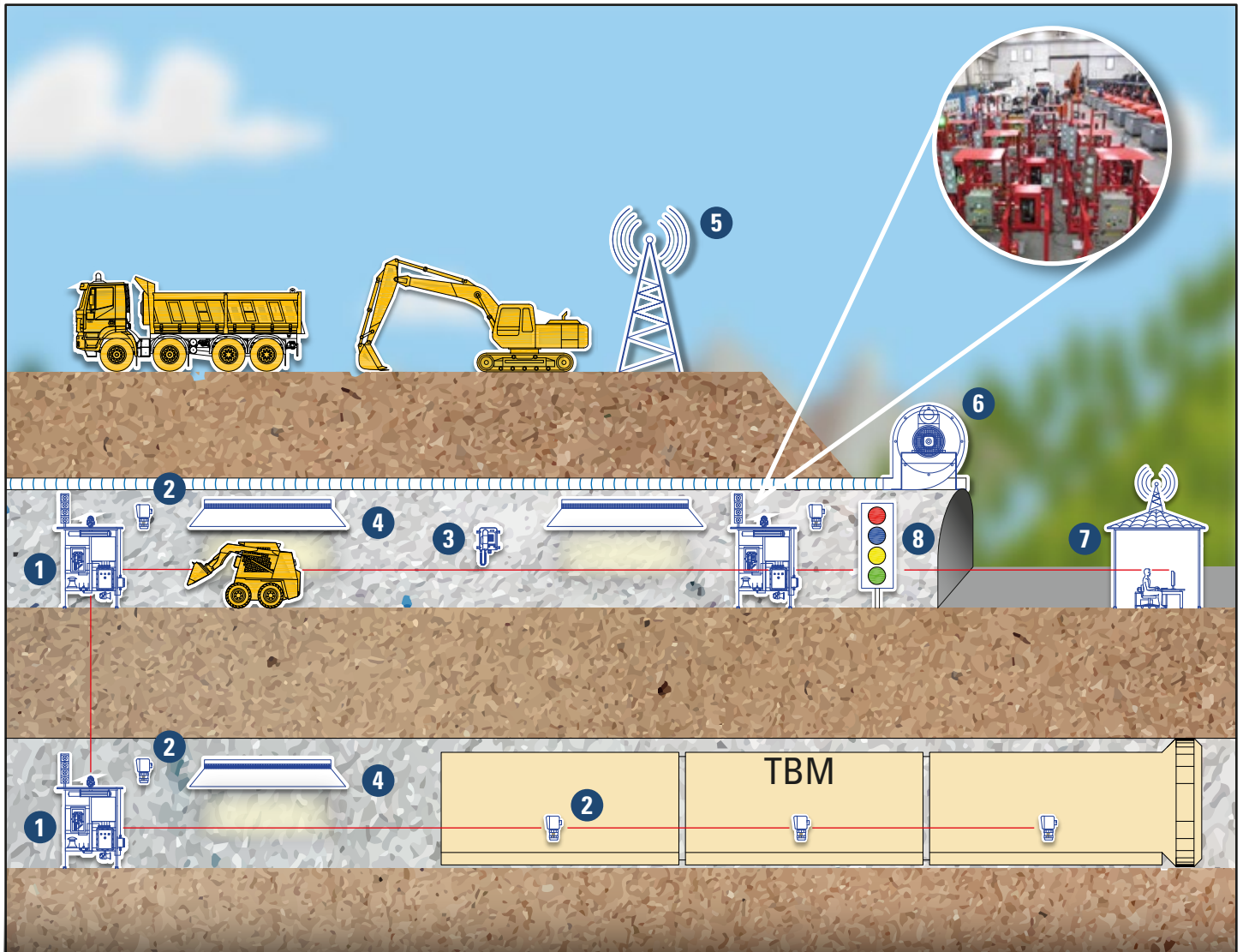
Tunnels and Mines Integrated Gas Monitoring System (IGMS)

Miretti can provide **Integrated Safety and Security Systems** (and not only simple components).

The Miretti Integrated System allows the control and monitoring of the explosive gas in combination with the pollutant substances. Our Systems can control also the tunnel ventilation apparatus.

Miretti can offer the customer a **Complete Solution for the Safety and Security Management of the entire working site.**

Miretti Monitoring System is **supplied, integrated** and **certified** in compliance with the main Worldwide Explosion Proof Regulations such as: ATEX, NEC, MA, MSHA, IECEx, EAC. It is also possible, on request, to have a Notified Body Approval of the entire Miretti System.





Modular Station for Tunnelling / Power & Control Cabin / Enclosed Operator Control Room



6/04 KV – 530 KVA – Ex-p Group I M2, installed on a mobile base for tunneling with presence of explosive gases.

The pressurization and cooling systems are supplied with dry compressed air by means of a standard industrial compressor.

The purge allows a safe functioning in dangerous atmosphere and the air is also used to cool the apparatus.






Tower Lights

Lighting system for Group I, composed of a tower and explosion proof metal halide floodlights.



Enclosures

Material: Carbon Steel or Stainless Steel
 Suitable for Group I M2 - ATEX 2014/34/EU
 for USA & CANADA

Marking:  I M2 Ex d I
 I M2 (M2) Ex d [ia] and/or [ib] I
 I M2 (M1) Ex d [ia] I

Class I Division 1 Group C D T3C -
 Class II,III Division 1 Group E F G T3C

Ambient temperature: -20°C +55°C - Protection degree : IP 65
 Sizes on request



Led Explosion Proof Lights

This new special led light is suitable in any hazardous area, both Group I - mining – and Group II (Zone 1-21 and Zone 2-22) - surface.

Advantages: total respect of environment, high luminous efficiency, low heat, no radiation and low energy consumption. It can work in high vibration conditions. The average working time is about 50.000 hours with a long-term of maintenance-free period.

The LED explosion proof light can be wall and pole mounted, with easy installation and wiring operations. Moreover, the soft light does not cause any glare or any eyestrain to the operating personnel.

Version with emergency unit is available for 60 and 90 minutes.





Focus on... CoatEx

CoatEx provides a thermal barrier between hot engine surfaces (e.g. turbochargers and exhaust manifolds) and the external atmosphere. CoatEx enables the OEM "dry" turbocharger and manifold to be retained reducing M2 conversion costs and minimising risk of failure by fitting non OEM turbo and water cooled manifold. CoatEx Solution is certified for use in M2 environments.



Dry FilterEx Cooler Technology

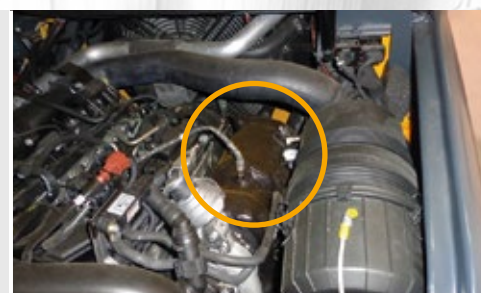
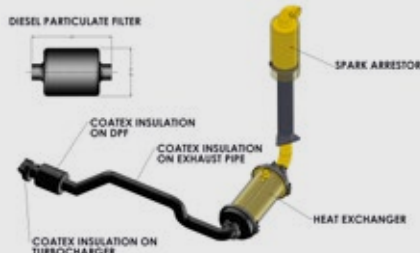
A 'compact' exhaust cooling system with integral self-cleaning exhaust flame arrestor.

Enables maximum engine 'uptime' as the self-cleaning flame arrestor can operate for approx. 1000 hours before requiring cleaning.

Reduces costly service maintenance against option of conventional exhaust flame arrestors that need to be changed every 20 hours.

DPF Systems

Miretti can Explosion Proof Protects different typologies of DPF Systems by CoatEx insulation.



Our Certifications, your Safety

Miretti's products are certified in compliance with current local regulations, collaborating with the most important Notified Body & Testing Laboratories Worldwide: ATEX , NEC (FM), IECEx, EAC, MA, MSHA.

Customers

Miretti Ex Solutions are available for COCIV - Pavimental - Toto - Astaldi - Todini - Impegilo - CMC - Herrenknecht - GHH - Minemaster - Becker - CMM - Techbild - Casagrande - Seko - Case/New Holland - Iveco/Astra - Dieci - Cifa - Sandvik - Soilmec - Atlas Copco - Caterpillar - JCB - Volvo - Perkins - Komatsu - Manitou - Doosan - Deutz - MTU - Cummins - John Deere

After Sales Service

The Miretti after-sales service, present in most countries, ensures fast response times, dedicated assistance, telephone and on-site support and the availability of specific spare parts for more than ten years to help maintain constant productivity for customers.

Why choose Miretti?

Miretti has been leader since 1973 in the 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 ISO 14001 certified and is an approved supplier for the most important world producers.

Constant research focuses on new technologies and innovative solutions. All explosion proof conversions are developed and implemented in agreement with OEM Original Equipment Manufacturers to maintain original safety levels and ergonomics in conformity with local standards and regulations. Miretti ensures a reliable after-sales service, qualified technicians, quality and fast maintenance.

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- Quality & Innovation
- Competitive Pricing
- Certifications & Testing
- After Sales Service
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- Reliable Customized Solutions
- Global footprint





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Explosion Proof Protection Systems for Mobile Vehicles

Miretti Ex Systems enable trucks to be operated in paints / coatings, pharma, foods & flavours, inks, bottled gases, aerosols, army, oil & gas industries



Leader in the ATEX Explosion Protection of Mobile Vehicles for over 40 years
Miretti Explosion Proof +700 Diesel and Battery Electric vehicles annually
Our Group is an Approved Supplier to all of the leading Material Handling OEM's

We operate all over the world: Germany, Italy, UK, France, Benelux, Switzerland, Austria, Scandinavia, Hungary, USA, China, Australia, Singapore.



Miretti Ex Solutions are available for OEM's including Still, Toyota, Hyster and Yale, Jungheinrich, Linde, MCFE, Doosan, Alkè, Haulotte, Manitou, Dieci, Hitachi, Caterpillar, New Holland, Volvo, Merlo, JLG, Terex, Mitsubishi.

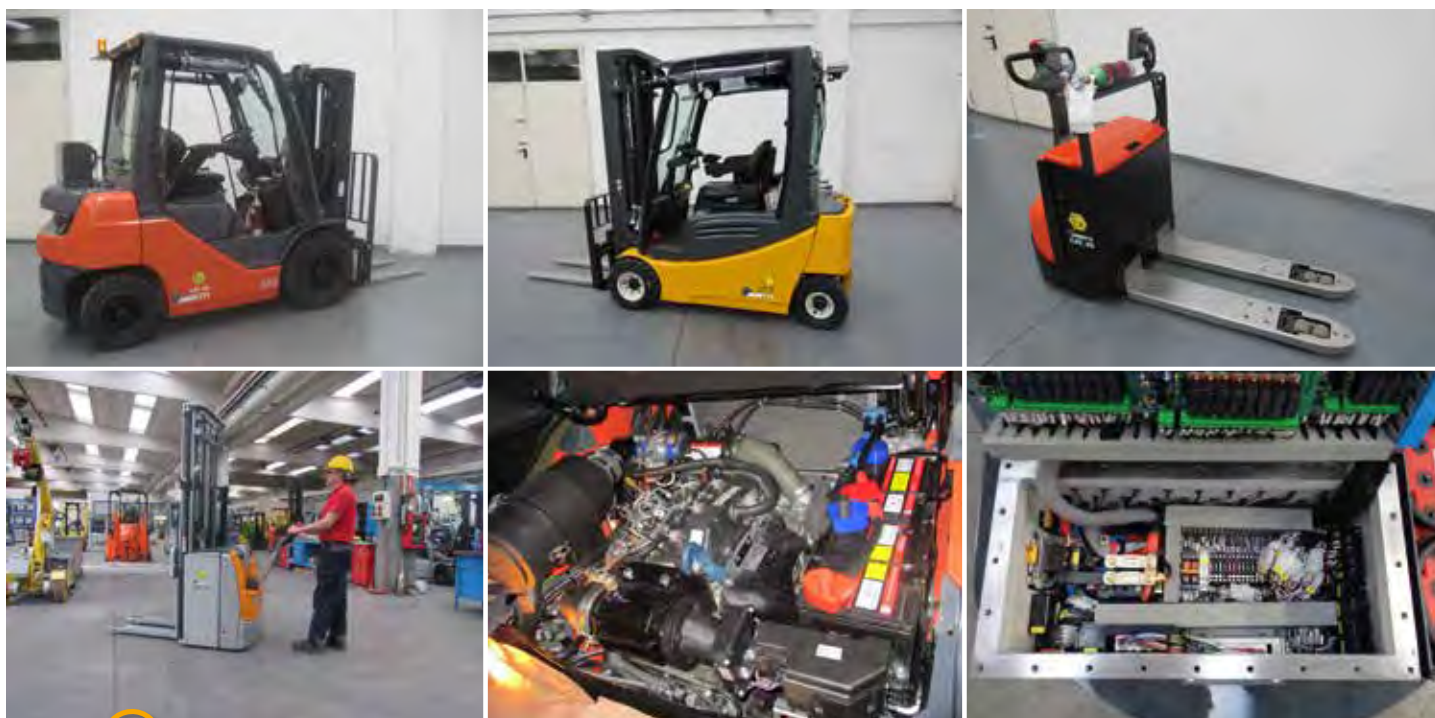
Zone 2 DetEx – Category 3G equipment

DetEx is an 'active' protection system that keeps the operator constantly informed advising if the operating area is safe or if it's hazardous. The most popular 'Zone 2' conversion features DetEx protection compliant with the ATEX directives.

The conversion includes the following: gas detection (infrared or pellistor heads), interface with operator, suitable enclosures for arcing and sparking components, surface temperature control, shutdown system with audible and visible alarms, stainless steel sheathed forks .

Any potential source of ignition (eg. electrical, electrostatic, mechanical, and other) is removed by the explosion protection procedures in order to get a full ATEX industrial vehicle.

Miretti ensures that all converted equipment is compliant to ATEX Directive 2014/34/EU and to relevant local regulations with the Manufacturers approval.



Focus on...DetEx Zone 2 ATEX system

- for both Diesel and Electric Battery Trucks
- cost effective Zone 2 ATEX compliant systems designed for almost all 3G applications
- truck operator receives Gas/Vapour audible and visual warnings at 10% LEL Propane in Air
- auto-Calibration test at daily start-up
- truck automatically shuts down to safety prevent an explosion or fire at 25% LEL
- simple to operate and cost effective to maintain
- choice of infrared or pellistor gas sensors to suit virtually any end user application



Electric / Diesel

Miretti DetEx Systems provide a safe solution for both electric and diesel machines for use in Zone 2 areas (gas groups IIA and IIB; temperature class up to T3 or T4).The technology applies to both AC and DC motors.

Applied to a wide range of vehicles that can include forklift trucks, sweepers, mobile cranes, tow tractors and other industrial machines.

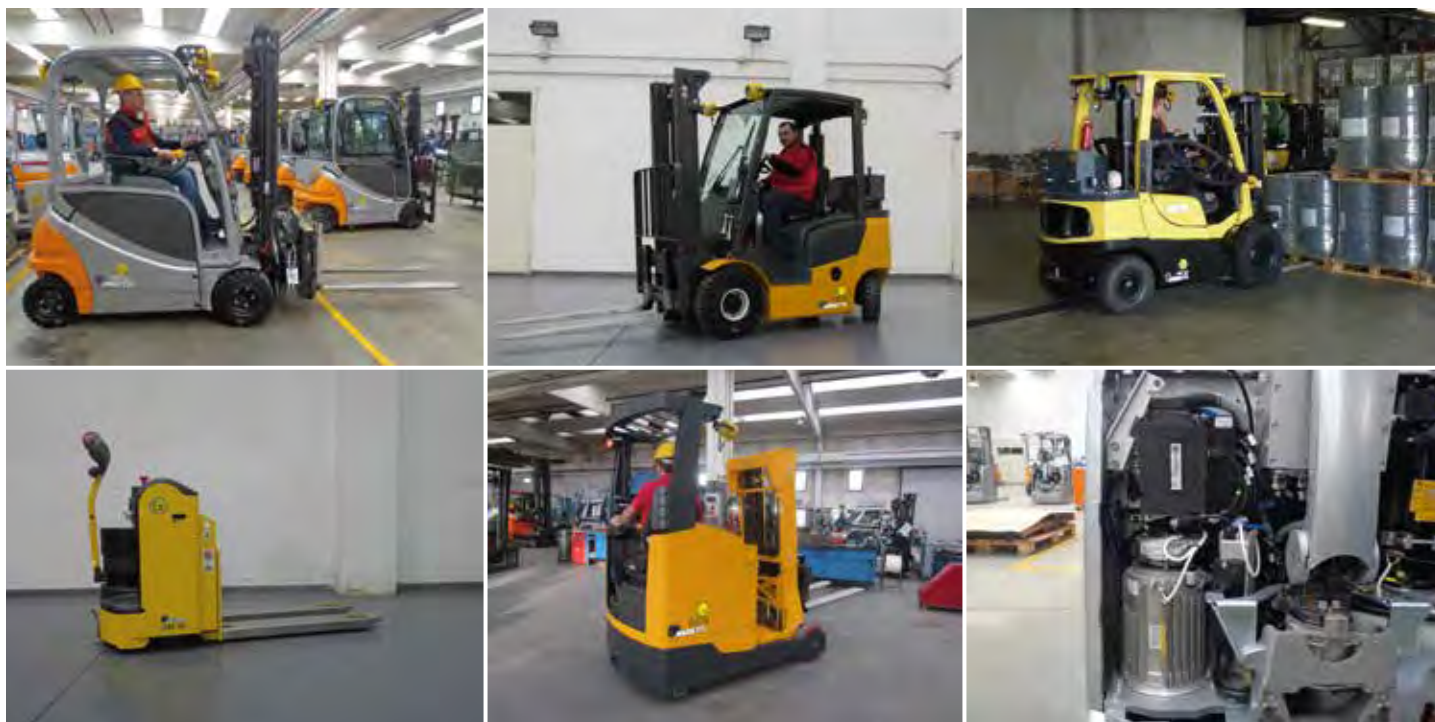
Miretti explosion proof conversions are designed not to have an impact on the functionality and compliance standards of the original equipment.

Zone 1 – Category 2G equipment

Miretti can convert almost all brands of forklift trucks and vehicles for a safe operation in Zone 1 areas; in fact many with standardized designs. All sources of ignition (eg. electrical, static, mechanical, heat sources and other) are protected so that the equipment can operate safely within potentially flammable atmospheres.

Conversions may include explosion proof Ex d enclosures for arcing and sparking components, surface temperature control and limitation, Ex e components, Ex i intrinsically safe circuits, Ex m encapsulation, Ex e battery, stainless steel sheathed forks etc.

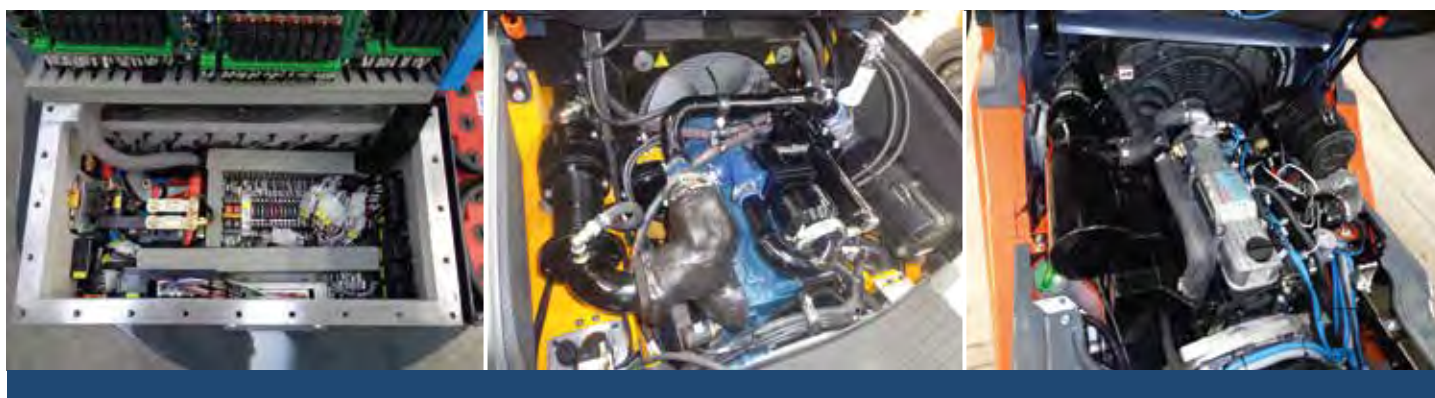
Miretti ensures that converted equipment is fully compliant to ATEX Directive 2014/34/EU and to relevant local regulations with the Manufacturers approval.



Electric / Diesel

Miretti Zone 1 explosion proof protections provide a safe solution for both electric and diesel vehicles for use in Zone 1 and Zone 2 areas (gas groups IIA and IIB; temperature class up to T3 or T4). The technology applies for both AC and DC motors. Applied to a wide range of vehicles that can include forklift trucks, sweepers, mobile cranes, tow tractors and other industrial machines.

Miretti explosion proof diesel conversions are designed not to have an impact on the functionality and compliance standards of the original diesel equipment (eg. Tier 4 engines).



Zone 21/22

Miretti can convert almost all brands of forklift trucks and vehicles for a safe operation in Zone 21 or 22 areas with many standardized designs. Combinations of conversions effective against both explosive gas and dust are available according to the Customer's requirements.

Conversions include explosion proof Ex d enclosures for triggering and sparking components, surface temperature control and limitation, Ex e components, Ex i intrinsically safe circuits, Ex m encapsulation, Ex e battery, IP enclosures, stainless steel sheathed forks etc.

Miretti ensures that converted equipment is fully compliant to ATEX Directive 2014/34/EU and to relevant local regulations with the Manufacturers approval.

Focus on... CoatEx

CoatEx provides a thermal barrier between hot engine surfaces (e.g. turbochargers and exhaust manifolds) and the external atmosphere. CoatEx enables the OEM "dry" turbocharger and manifold to be retained reducing Zone 1 and 2 conversion costs and minimising risk of failure by fitting non OEM turbo and water cooled manifold.



Truck FilterEx Cooler

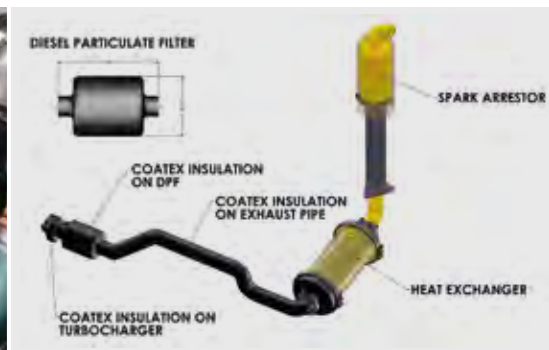
A 'compact' exhaust cooling system with integral self-cleaning exhaust flame arrestor (and spark arrestor subject to test).

Enables maximum engine 'uptime' as the self-cleaning flame arrestor can operate for approx. 1000 hours before requiring cleaning.

Reduces costly service maintenance against option of conventional exhaust flame arrestors that need to be changed every 20 hours.

DPF Systems

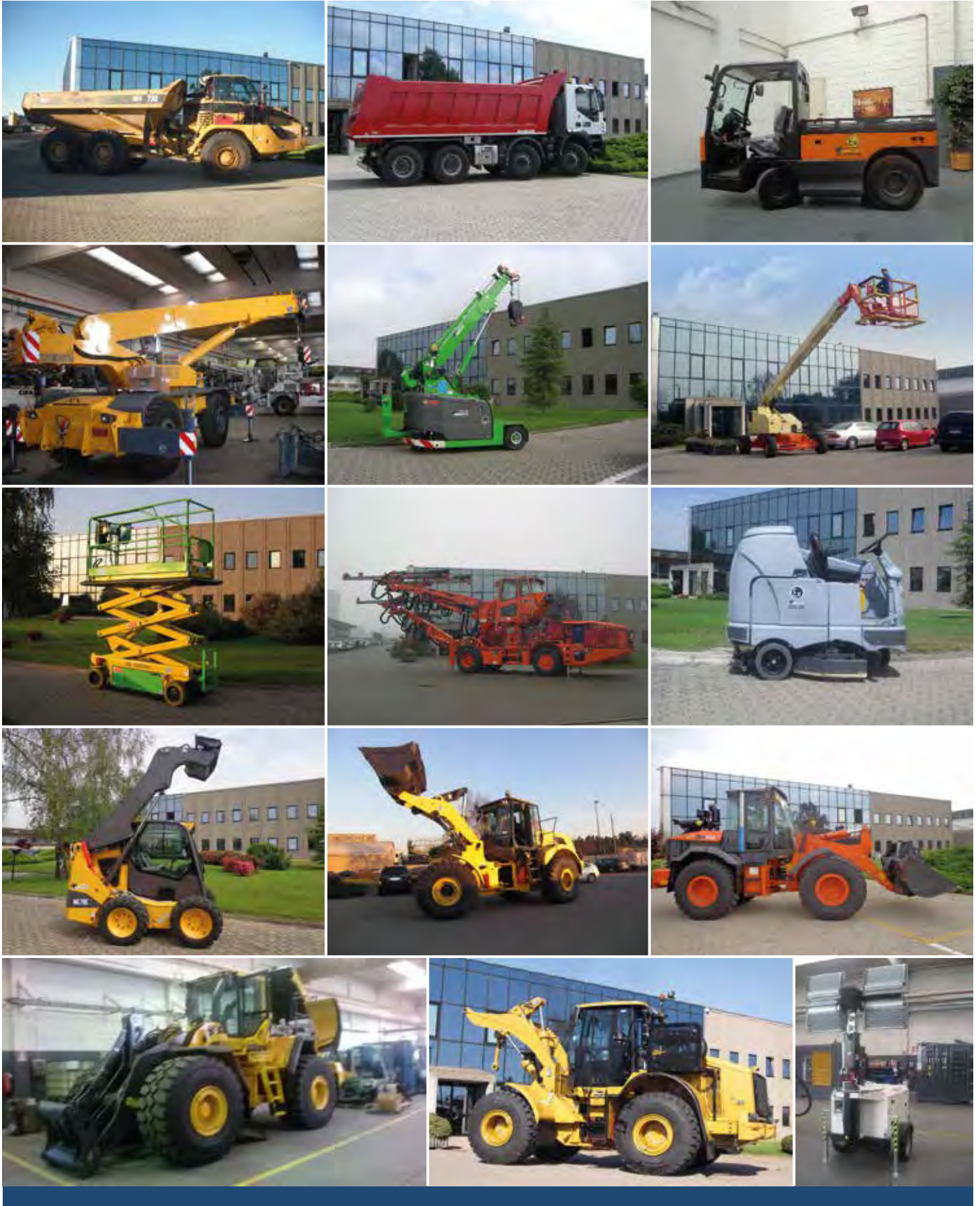
Miretti can Explosion Proof Protects different typologies of DPF Systems by CoatEx insulation.



Our Special Projects

Wheel loaders, tow tractors, mobile cranes, scrubbers, access platforms, dump trucks, cranes, tankers, tower light etc. . .

Miretti also provide Explosion Protections for the Oil & Gas, Coal Mining & Tunnelling industries.

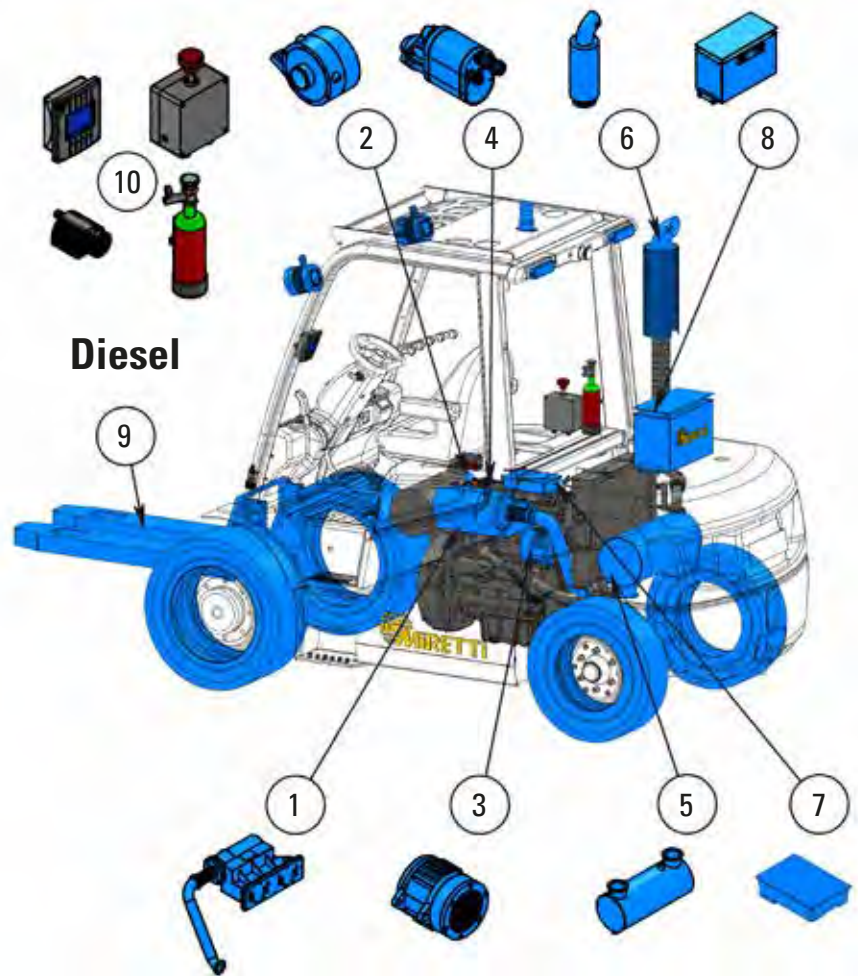


Zone 2 DetEx Category 3G equipment

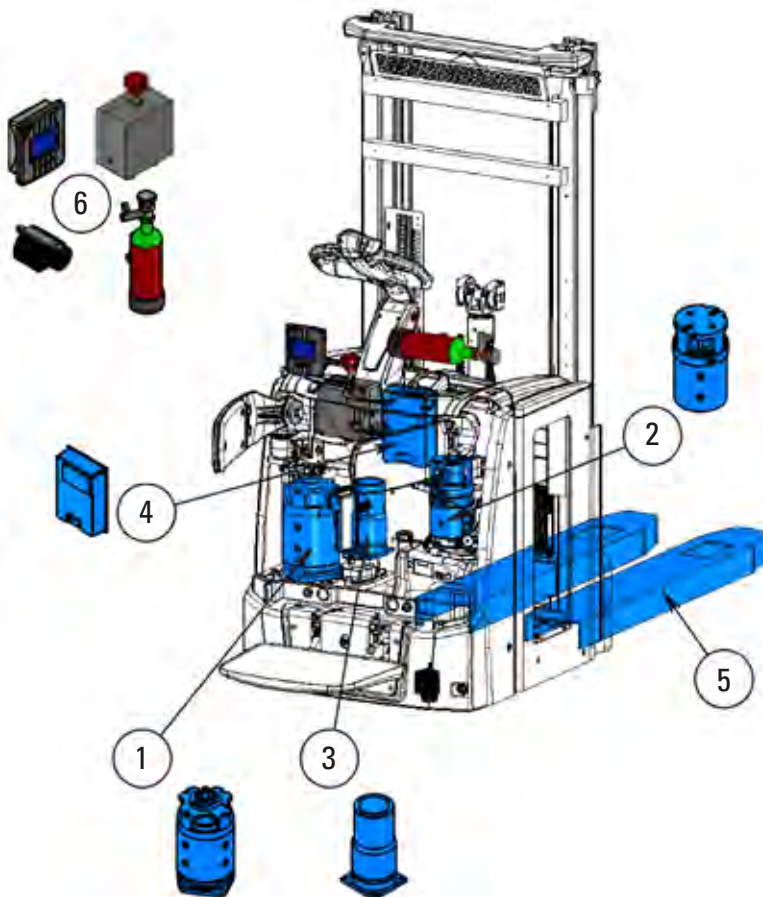
- 1 Exhaust manifold
- 2 Flame arrestor and shut down valve
- 3 Ex d Generator
- 4 Ex d Starter motor
- 5 Truck Filterex Cooler
- 6 Spark arrestor
- 7 Ex nA Electronic ECU
- 8 Ex nA Battery box
- 9 Fork Sheathing
- 10 DetEx

Other parts: Antistatic fan,
Ex Instrumentation and controls,
Horn.

Options: Antistatic wheels, lights,
heating kit, flashing beacon and reverse
gear horn, wipers.



Electric



- 1 Ex nA Traction motor
- 2 Ex nR / Ex nC Pump motor
- 3 Ex nA Steering motor
- 4 Ex nA Inverter
- 5 Fork Sheathing
- 6 DetEx

Other parts: Ex instrumentation
and controls, horn.

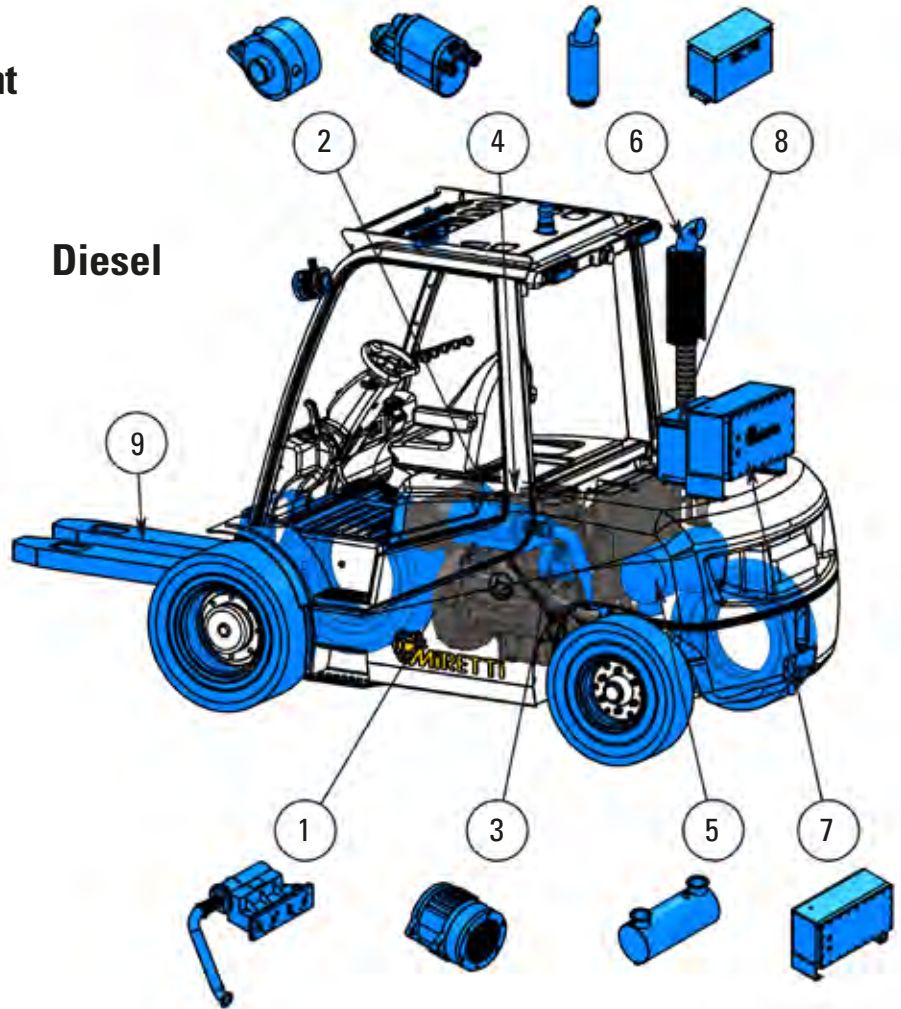
Options: Antistatic wheels, lights,
flashing beacon and reverse gear horn.

Zone 1 Category 2G equipment

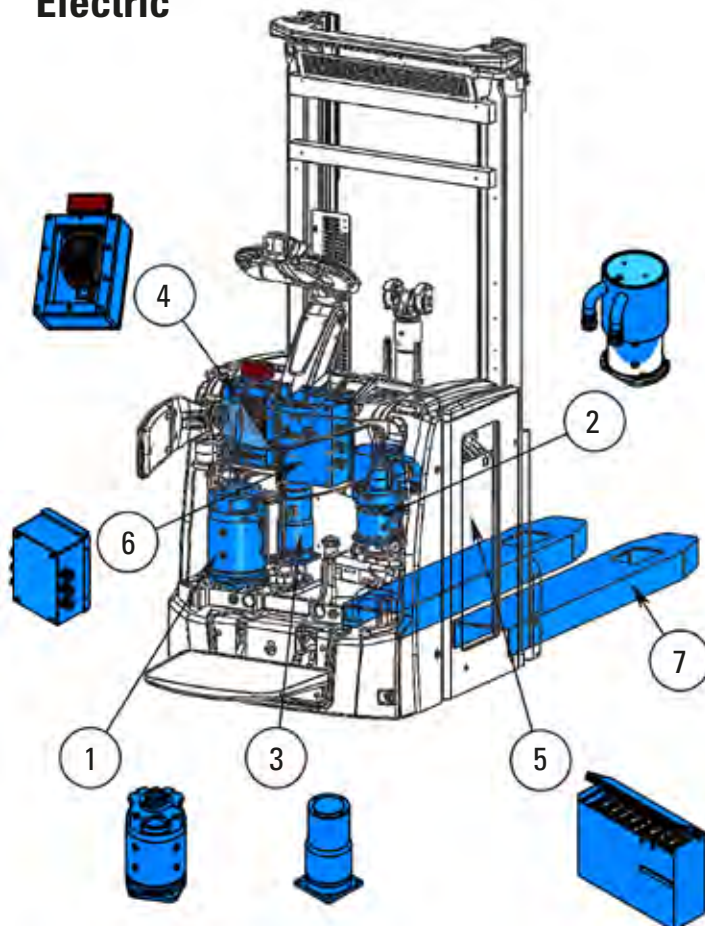
- 1 Exhaust manifold
- 2 Flame arrestor and shut down valve
- 3 Ex d Generator
- 4 Ex d Starter
- 5 Truck Filterex Cooler
- 6 Spark arrestor
- 7 Ex d / Ex q / Ex m Electronic ECU
- 8 Ex e Battery box
- 9 Fork Sheathing

Other parts: Antistatic fan,
Ex Instrumentation and controls,
Horn.

Options: Antistatic wheels, lights,
heating kit, flashing beacon and reverse
gear horn, wipers.



Electric



- 1 Ex e Traction motor
- 2 Ex d Pump motor
- 3 Ex e Steering motor
- 4 Ex d Battery cutoff enclosure
- 5 Ex e Battery box
- 6 Ex e / Ex q / Ex m Inverter
- 7 Fork sheathing

Other parts: Ex instrumentation
and controls, horn.

Options: Antistatic wheels, lights,
flashing beacon and reverse gear horn.

our Certifications, your Safety

Our products are certified according to ATEX, CNEEx, IECEx, NEC and other national standards.

In line with ISO 3691.1. requirements. We work in close collaboration with Truck Manufacturers and with their written approval of our systems the explosion proof modifications are compliant with applicable regulations.

All industrial trucks made Explosion Proof by Miretti satisfy the requirements of ATEX Directive 2014/34/EU (replacing 94/9/EC) with reference to the new European standard EN 1755:2015.

Truck Rental

Miretti provides explosion proof forklifts category 2 GD T4 for short term rental.



After Sales Service and Training

The Miretti after-sales service, present in most countries, ensures fast response times, dedicated assistance, telephone and on-site support and the availability of specific spare parts for more than ten years to help maintain constant productivity for customers.

Conversions are studied and implemented using solutions that simplify and speed up machinery maintenance. Maintenance interventions are carried out by skilled personnel, authorised and trained for the purpose in our head offices.

The Miretti After-Sales Service and the availability of local technical support through training courses for service engineers (carried out at the Milan HQ or locally when available) will support the client step by step in ensuring continuous uptime and protection of their environment.

Annual and/or three yearly Safety Audits for the Ex protection system are available on request.



Why choose Miretti?

Miretti has been leader since 1973 in the 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 ISO 14001 certified and is an approved supplier for the most important world producers. Constant research focuses on new technologies and innovative solutions. All explosion proof conversions are developed and implemented in agreement with OEM Original Equipment Manufacturers to maintain original safety levels and ergonomics in conformity with local standards and regulations.

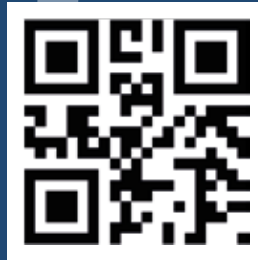
Miretti ensures a reliable after-sales service, qualified technicians, quality and fast maintenance.

Expertise of over 40 years
Quality & Innovation
Competitive Pricing
Certifications & Testing
After Sales Service
Training & Product Education
Research & Development
Reliable Customized Solutions
Global footprint





We operate all over the world



Miretti Production Facilities are located in


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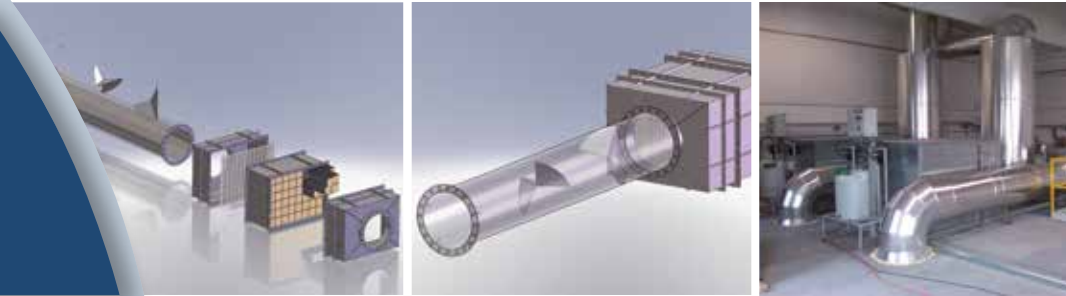
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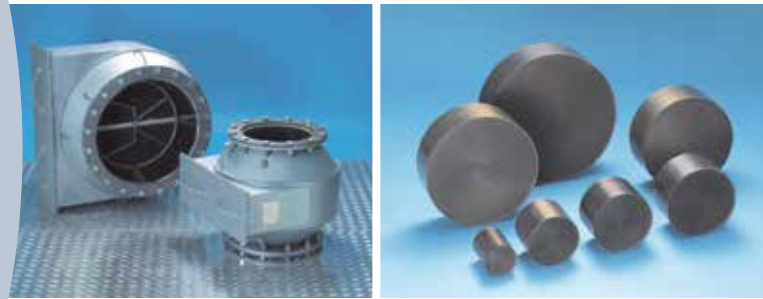
Miretti Emission Control Systems



DeNOx SCR

- 80% HC
hydrocarbons

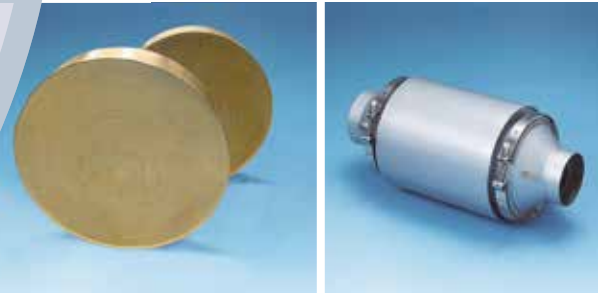
- 99% particulate
and PM10



Oxy & 3 Way Catalysts

- 98% NOx
nitrogen
oxides

- 98% CO
carbon
monoxide



Oxy Special Substrates for Biogas
Soot Filter (DPMF)

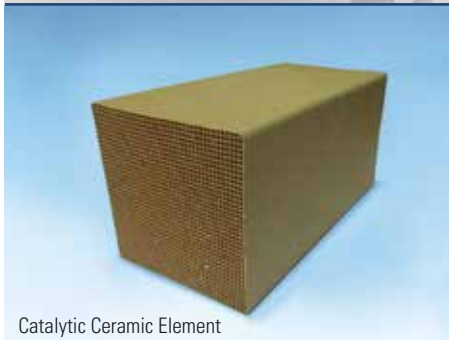
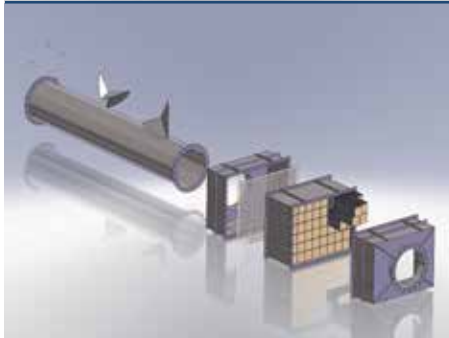
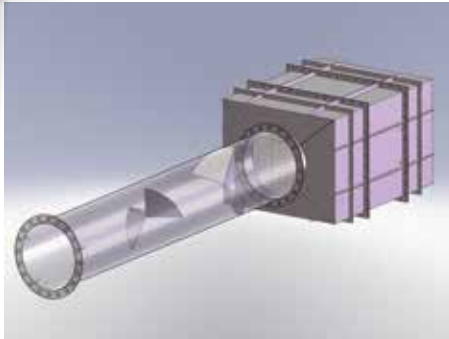
over 40 years
dedicated to the environment and safety of the workers



Miretti is also leader in Explosion Proof Protections

Miretti DeNOx SCR System

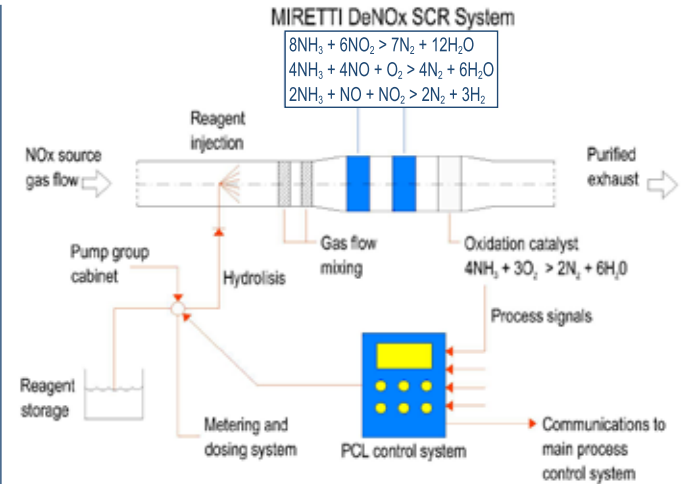
SCR DeNOx is designed for reducing Nitrogen oxides (NOx) in exhaust gas through conversion in Nitrogen (N₂) and water (H₂O). This process is named Selective Catalytic Reaction (SCR). The reaction needs ammonia (NH₃) as a reducing agent, a temperature high enough and a catalytic brick wall.



Catalytic Ceramic Element

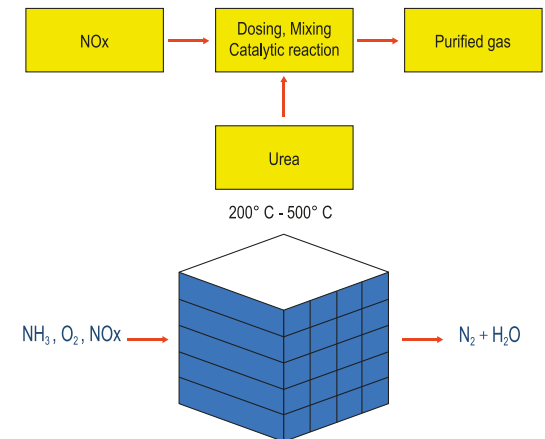
ADVANTAGES:

- 98% performance
- highly efficient
- low operating costs



SCR Selective Catalytic Reaction

Real time NOx Value measurement ensure an automatic dosing control for to feed

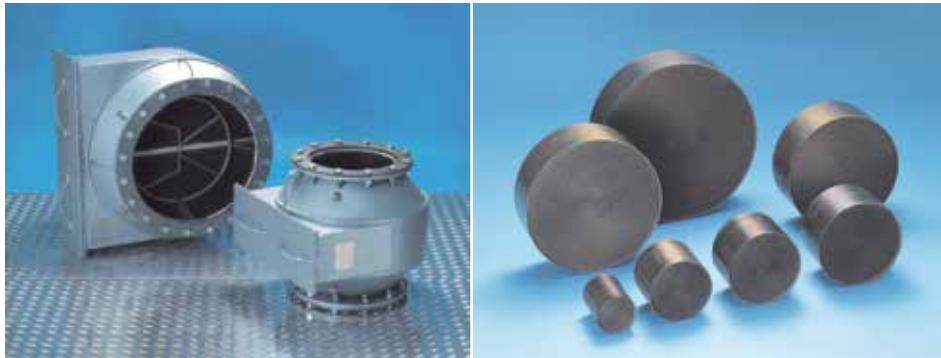


Miretti also has the expertise for SNCR Selective NON Catalytic Reduction System

OXY Metallic Catalytic Converters for heavy and medium power (400 kw-4300 kw)

Miretti oxidative catalytic converters 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. The "Quick Lid" type is equipped with an extractable box for rapid inspection and maintenance.

The catalytic converter is sized in relation to the engine data, type of exhaust gas and the maximum allowable back pressure, all specifically calculated. Qualified Technical Assistance is available to aid Customers both in the initial phase of design as well as during the subsequent assembly phase and operational functioning. Emissions Measurement Service is available.



ADVANTAGES:

- reliability and durability
- a wide variety of sizes
- very rapid delivery times

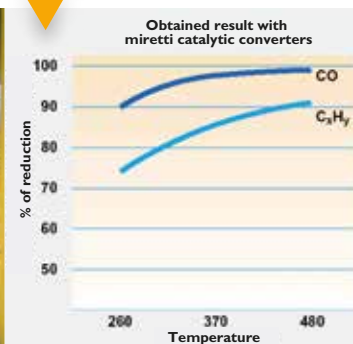
OXY Metallic Catalytic Converters for light power (2 kw – 400 kw)

They are the standard products for power ranges from 2 kw to 400 kw.

Moreover they can be also customized for natural gas, gasoline or diesel engines, forklifts, engines for mining, machinery for industrial and civil construction, stationary engines for power generation (co-tri-generation)



Miretti Oxy Catalyst Performance related to exhaust gas temperature



ADVANTAGES:

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

Oxy Special Substrates for Biogas

Oxidation Catalyst Substrates with Special Coating for Biogas Application. They assure lower back pressure, increased durability, quickest maintenance process. The Catalytic Converter Unit is a quick lid type of enclosure.



Substrates with different precious metals coatings



Soot Filter (Diesel Particulate Matter Filter - DPMF)

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 in two versions:

- Non Catalyzed: reduction of particulate (99% Buwal/Vert test I) and of PM10.
- Catalyzed: reduction of particulate (99% Buwal/Vert test I), PM 10, CO and HC when the exhaust temperature reaches 200° C.

It self regenerates during the normal functional cycle.



Since 1973 Miretti is leader in Emission Control Systems to reduce:

- 98% CO carbon monoxide
- 80% HC hydrocarbons
- 98% NOx nitrogen oxides
- 99% particulate and PM10



Miretti in house assembled substrates



The high quality know-how of our specialized engineers

Miretti Systems

reduce toxic emissions from combustion engines: DeNOx SCR, Catalytic Converters Purification, Regenerative after burner Miretti Anti-Particulate Filter.

Miretti Systems are applicable to engines burning:

Diesel, Natural Gas, Biogas, Syngas, Vegetal Oil, Animal Fat.

Miretti Applications:

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

Miretti has been leader since 1973 in Emission Control Systems 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 9001:2000 certified and is an approved supplier for the most important World Manufacturers.

Constant research focuses on new technologies and innovative solutions.

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

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