



Equipment for commercial vehicles
Post-accident street cleaning systems

ROAD CLEANER



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Equipment and post-accident street cleaning systems

The Road Cleaner system helps restore the pavement after accidents or spills of hazardous liquids, as required by the traffic laws.

All our cleaning and suction systems grant a **COMFORTABLE, QUICK** and **SAFE** operation.

The hydraulic operation and the complete absence of a 220/380V power supply ensures the highest safety levels both for operators and for any person near the working area, in addition to policemen, medical or service staff.

The **zone 1 and zone 21 ATEX certification** for the liquid suction systems and the absence of cables and electric motors grant safety conditions at work in the presence of wet pavement and flammable liquids, often resulting from road accidents.



RC-M

ROAD CLEANER hydraulic system for the post-accident pavement restoration featuring a control unit provided with a combustion motor.

USE SWITCHES

Alternating suction system and high-pressure cleaning system



Hydraulic system featuring:

- Gasoline motor with electric starter (supplied without battery and designed for the battery wiring of the vehicle)
- 10-liter oil circuit tank with filter, level, heat exchanger and cooling electric fan
- 300-liter stainless steel water tank with internal anti-shake separators
- 5-liter detergent tank, with a proportional controller
- Liquid suction system with a hydraulic turbine and a 40-liter tank equipped with an overflow float, suction power: 3,000 mm H₂O
- Automatic spring winder for the suction hose (hose length 10 m, internal diameter 38mm)
- Suction brush
- Hydraulic high-pressure cleaning system, flow rate 15 lt/min, pressure 180 BAR
- Automatic spring winder for the hydraulic high-pressure cleaning system hose (hose length 18 meters)
- High-pressure cleaning system high and low pressure lance
- Global assembly EC certification
- **Zone 1 and zone 21 ATEX certification** for the liquid suction system
- Overall dimensions 1,400 x 1,100 h. 1,250 mm

RC-MC

Model with a diesel boiler for the production of hot water for the high-pressure cleaning system lance.

12V voltage operation of the vehicle

USE SWITCHES

Alternating suction system and high-pressure cleaning system



Our **ECO**LOGICAL Choice

With the intention of creating equipment that respects the environment and air quality, the gas supply has proven to be an excellent solution that does not compromise on quality, working well by communicating the positive and eco-friendly image of one's own company with better performance, cost savings, and sustainability in urban areas.

BETTER PERFORMANCE

In terms of performance, gas fueling has no shortcomings to the classic petrol engine. Thanks to the higher octane value, gas combustion is more efficient than traditional petrol or diesel combustion.

REDUCTION OF COSTS

From an economic point of view, the choice of gas is considerably more advantageous; the savings are almost 50%.

With the 15 kg cylinder installed on our module, it is possible to reach 6.5 hours of continuous work operation.



DECREASE IN POLLUTION

Gas fuel drastically reduces CO2 emissions. With the gas system, about 15% of the CO2 particles are removed from the environment compared to a traditional combustion engine.

It is no coincidence that, along with electric and methane, it is the only engine that does not fall within the traffic restrictions during traffic blocks. Furthermore, by using gas the engine vibrates less and is more stable.

SUSTAINABILITY IN URBAN AREAS

It is possible to operate in all urban areas where other equipment powered by diesel or petrol would encounter anti-pollution restrictions (limited traffic area).

RC-M-ECO

Hydraulic system for post-accident street restoration ROAD CLEANER model with gas combustion engine control unit.

Possibility to install hot water boiler,

PATENT APPLICATION FILED

USE SWITCHES

Alternating suction system and high-pressure cleaning system

Hydraulic module with:

- Propane gas engine with electric start (supplied without battery and with provision for connection to the vehicle battery)
- Gas cylinder capacity 15 kg, 6.5 hours of operation, with level indicator and safety solenoid valve (cylinder not included)
- 10-liter oil circuit tank with filter, level, heat exchanger and electric cooling fan
- 300-liter capacity stainless steel water tank with internal anti-shaking separators
- Acoustic alarm for running out of water
- 5-liter detergent tank capacity, with proportional regulator
- Suction of liquids with turbine operated hydraulically, with 40-liter tank capacity, equipped with floating mechanism for tank overflow, suction power 3000 mm H2O
- Automatic spring-loaded suction hose reel (hose length 10 meters, internal diameter 38 mm)
- Suction brush
- Hydraulically operated pressure washer, flow rate 15 liters per minute, pressure 180 bar
- Automatic spring-loaded hose reel for pressure washer (hose length 18 meters)
- Spray lance with high- and low-pressure settings
- Global Assembly EC Certification
- **ATEX Zone 1 and Zone 21 certification** of the wet vacuum cleaner
- Overall dimensions 1400 x 1100 h. 1100. Weight 365 kg.



RC-MC

Model with a diesel boiler for the production of hot water for the high-pressure cleaning system lance.

12V voltage operation of the vehicle

USE SWITCHES

Alternating suction system and high-pressure cleaning system



RC-H

ROAD CLEANER hydraulic system for the post-accident pavement restoration featuring a control unit for the electric clutch connected to the vehicle motor.

USE SWITCHES

Alternating suction system and high-pressure cleaning system



Hydraulic system featuring:

- Supporting frame with a pressurized tank to prevent any cavitation at low temperatures
- Enhanced radiator for an optimal maintenance of the temperature and a high capacity fan
- Oil level with thermometer
- Tank pressurisation cap
- High-efficiency filter
- Oil pressure gauge
- Compact control box with a timer
- Emergency button with accidental recommissioning control system (acting on the electromagnetic clutch release)
- 300-liter stainless steel water tank with internal anti-shake separators
- 5-liter detergent tank, with a proportional controller
- Liquid suction system with a hydraulic turbine and a 40-liter tank equipped with an overflow float, suction power: 3,000 mm H₂O
- Automatic spring winder for the suction hose (hose length 10 meters, internal diameter 38mm)
- Suction brush
- Hydraulic high-pressure cleaning system, flow rate 15 lt/min, pressure 180 BAR
- Automatic spring winder for the hydraulic high-pressure cleaning system hose (hose length 18 meters)
- High-pressure cleaning system high and low pressure lance
- Global assembly EC certification
- **Zone 1 and zone 21 ATEX certification** for the liquid suction system
- Overall dimensions 1,400 x 1,100 h. 1,250 mm

RC-HC

Model with a diesel boiler for the production of hot water for the high-pressure cleaning system lance.

12V voltage operation of the vehicle

USE SWITCHES

Alternating suction system and high-pressure cleaning system



RC-H2

ROAD CLEANER hydraulic system for the post-accident pavement restoration featuring a control unit provided with a power take-off connected to the vehicle gearbox.

SIMULTANEOUS USES

Simultaneous suction and high-pressure cleaning system



Hydraulic system featuring:

- Supporting frame with a pressurized tank to prevent any cavitation at low temperatures
- Enhanced radiator for an optimal maintenance of the temperature and a high-capacity fan
- Oil level with thermometer
- Tank pressurisation cap
- High-efficiency filter
- Oil pressure gauge
- Compact control box with a timer
- Emergency button with accidental recommissioning control system (acting on the electromagnetic clutch release)
- 300-liter stainless steel water tank with internal anti-shake separators
- 5-liter detergent tank, with a proportional controller
- Liquid suction system with a hydraulic turbine and a 40-liter tank equipped with an overflow float, suction power: 3,000 mm H₂O
- Automatic spring winder for the suction hose (hose length 10 meters, internal diameter 38mm)
- Suction brush
- Hydraulic high-pressure cleaning system, flow rate 15 lt/min, pressure 180 BAR
- Automatic spring winder for the hydraulic high-pressure cleaning system hose (hose length 18 meters)
- High-pressure cleaning system high and low pressure lance
- Global assembly EC certification
- **Zone 1 and zone 21 ATEX certification** for the liquid suction system
- Overall dimensions 1,400 x 1,100 h. 1,250 mm

RC-H2C

Model with a diesel boiler for the production of hot water for the high-pressure cleaning system lance.

12V voltage operation of the vehicle

SIMULTANEOUS USES

Simultaneous suction and high-pressure cleaning system



RC-DUAL

Hydraulic system for restoring the post-accident road surface ROAD CLEANER model with control unit for mechanical power and for electro-clutch and one-time use.

WITH GENERATOR AND COMPRESSOR



Standard hydraulic module with:

- Supporting frame with pressurized tank that avoids cavitation even at low temperatures
- Oversized radiator for optimal temperature maintenance and high-quality blower fan
- Oil level with thermometer
- Tank pressurization cap
- High filtering power filter
- Oil pressure gauge
- Compact control box complete with hour meter
- Emergency button with control on the accidental reset of the uses
- Manual selector with lever for choosing ROAD CLEANER uses

Hydraulic air compressor with:

- Air intake 650 liters / minute
- Maximum pressure 10 bar
- 25-liter air tank

Hydraulic air compressor with:

- Air intake 650 liters / minute
- Maximum pressure 10 bar
- 25-liter air tank

- Weight 256 Kg
- 300-liter capacity water tank in polyethylene
- 5-liter capacity detergent tank, with proportional regulator

Power generator with hydraulic motor with:

- Three-phase generator power 10 KVA
- Single-phase generator power 4 KVA
- Electrical panel equipped with thermal, voltmeter, a 230V (16A) CEE socket and a 380V (16A) CEE socket

Vacuum liquids with:

- Hydraulically operated turbine
- 450-liter capacity tank
- Floating mechanism for tank overflow
- Suction power 3000 mm H2O
- Automatic spring-loaded suction hose winder (hose length 10 meters)
- Suction brush
- Global assembly CE certification
- **Zone 1 and zone 21 ATEX certification** of the vacuum cleaner



RC-M-ST

ROAD CLEANER hydraulic system for the post-accident pavement restoration featuring a control unit provided with a motor.

USE SWITCHES

Alternating suction system and high-pressure cleaning system

FRAMELESS

More compact, ideal for small vehicles



Hydraulic system featuring:

- Three-element structure which can be assembled according to the space available
- Self-weight 335 kg
- Gasoline motor with electric starter (supplied without battery and designed for the battery wiring of the vehicle)
- 10-liter oil circuit tank with filter, level, heat exchanger and cooling electric fan
- 120-liter vertical cylindrical polyethylene water tank
- 5-liter detergent tank, with a proportional controller
- Liquid suction system with a hydraulic turbine and a 40-liter tank equipped with an overflow float, suction power: 3,000 mm H₂O
- Suction brush with a hose (length 10 meters, internal diameter 38mm)
- Hydraulic high-pressure cleaning system, flow rate 15 lt/min, pressure 180 BAR
- Automatic spring winder for the hydraulic high-pressure cleaning system hose (hose length 18 meters)
- High-pressure cleaning system high and low pressure lance
- Global assembly EC certification
- **Zone 1 and zone 21 ATEX certification** for the liquid suction system

RC-MC-ST

Model with a diesel boiler for the production of hot water for the high-pressure cleaning system lance.

12V voltage operation of the vehicle

USE SWITCHES

Alternating suction system and high-pressure cleaning system

FRAMELESS

More compact, ideal for small vehicles



EASY CLEANER

Mechanical washing unit for post-accident restoration of streets, sidewalks, squares, etc. (without wet vacuum system)

COMPACT



Technical features:

- Petrol engine with electric start (supplied with battery)
- Water tank in polyethylene, resistant to UV rays and atmospheric agents with 100-liter capacity
- Mechanically operated pressure washer, 15 liters per minute capacity with 200 bar pressure
- Pressure washer hose with automatic spring-loaded winder (hose length 18 meters)
- Spray lance with high- and low-pressure settings
- 5-liter capacity detergent tank, with proportional regulator
- Global assembly CE certification
- Overall dimensions 1225 x 540. 980 h. Weight: 130 kg (empty)

ALSO AVAILABLE IN ECO-FRIENDLY VERSION WITH GAS POWER



Hydraulic system operation

The Road Cleaner hydraulic system is powered by three different solutions.

Combustion motor



A control unit, provided with a 14 hp gasoline internal combustion motor, applies pressure to the hydraulic circuit, thus allowing the system to operate.

Power take-off with electric clutch



The pressurisation of the system is carried through a hydraulic pump connected to the vehicle motor through an electric clutch and a belt.

Power take-off connected to the vehicle gearbox



The pressure of the hydraulic system is generated by a pump mounted on a power take-off connected to the vehicle gearbox, if available for this system.

Compatible vehicles: **IVECO DAILY, MERCEDES SPRINTER, VOLKSWAGEN CRAFTER...**

Assembly mode

Our systems can be mounted on the vehicle in various ways, thus optimizing the use of the space and adapting to any operation requirement.

Rear



The installation of the system on the rear part helps approach the restoration site with the rear of the vehicle, thus letting enough space in the front of the loading compartment for equipment and various accessories.

Side



The lateral installation of the system helps approach the restoration site with the side of the vehicle, besides centrally distributing the weight of the system. Thus, there is enough space in the rear part of the loading compartment for the transport of equipment and various accessories.

Accessories

Hydraulic cleaning system



- High-pressure cleaning pump provided with a hydraulic motor, flow rate: 15 lt/min, pressure: 200 BAR
- Automatic hose spring winder (hose length 18 meters)
- High-pressure cleaning system high and low pressure lance
- Detergent mixing system with proportional controller and 5-liter detergent tank
- Powder-coated iron structure - size 445 x 720 h. 500 mm
- It can be equipped with a diesel and 12/24 V power supply boiler to heat the water for the high-pressure cleaning system, maximum temperature 80 °
- EC Certificate

Hydraulic suction system



- Liquid suction system provided with a turbine, a 40-liter collection tank and an overflow float, suction power 3,000 mm H₂O
- Suction brush
- EC and **Zone 1 and zone 21 ATEX certification**

The use of 220/380V power supply is not allowed during the cleaning operations

As for the use of Road-Cleaner, it is worth pointing out that:

- The equipment is powered by LOW voltage 12 V DC power supply and therefore does not require any earthing system;
- The traction energy is provided by the hydraulic motor through the power take-off of the van or by any other combustion motor.

These criteria have led to the design and manufacture of an intrinsically safe machine under all the usage conditions. In particular, it would have been easier and cheaper to use an electric generator with industrial equipment.

Considering the specific features of the machine and its application, it is not possible to provide a fixed system, but rather just a temporary one; however these systems must comply with the safety requirements introduced initially by Ministerial Decree 46/1990 and then integrated by Ministerial Decree 37/2008 on the installation of differential protection devices requiring a low-impedance grounding connection.

The correct dimensioning of a grounding system pursuant to the CEI 64/8 standard includes a proper definition of the following factors:

1. Length of the earth cable;
2. Section of the earth cable;
3. Number of pile shoes to be used;
4. Pile shoe penetration depth;
5. Characteristics of the soil.

Each installation requires with an accurate calculation of the grounding conditions to determine the minimum number of the pile shoes to be used and their minimum depth, in function of the characteristics of the soil, which could not be performed without a predetermined project. Therefore, the use of a current source implies significant risks for the operators and the employers, since it is impossible to eliminate the risk of electrocution resulting from the use of an electrical wiring without an earth connection.

Moreover, considering the need to operate in specific environments, it is impossible to grant the ground connection in the following cases:

- Inside tunnels;
- On viaducts and overpasses;
- In rocky areas where it is impossible to drive the pile shoe into the ground.

For these reasons, Road Cleaner is the perfect technical solution to always work in the highest safety conditions, eliminating the risks both for the operators and the employers.

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Ing. Stefano Chiese





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