



# MACRO

# M60 PLUS



**GREATEST EFFICIENCY  
IN INDUSTRIES AND TOWNS**





# MACRO

The **GREAT** road sweepers

What makes our road sweeper really great? Comfort with attention to detail, advanced technology and the ability to offer performance beyond the standards in every respect: efficiency, safety and environmental compliance. All our machines are designed and built in Italy to respond effectively to the most special cleaning needs on large surfaces, in the industrial and urban areas. Discover the model that suits you and you will find the greatest partner for your work.



IT is now well known that fine dust is a problem that cannot be ignored. Until a few years ago, a road cleaning machine was only asked to get rid of the dirt we could see and touch. Today, however, we are all more aware that dirt dangerous for our health is not only visible, but above all invisible. This is why the entire MACROCLEAN range is certified to ensure the cleanliness of roads, and above all, of the air we breathe.



Nowadays, the evolution of media control devices allows the design of highly adaptable and reliable systems. In the case of a road sweeper, thanks to these devices the various on-board devices can now be interfaced, to achieve unprecedented levels of user-friendliness and safety. And there is more: the development of such devices has reached a degree of almost total reliability. This is why MACROCLEAN guarantees all on-board electronic devices for 5 years.

MACRO M60 is the latest generation of road sweeper, conceived to clean and designed for pleasure. It is convincing for its comfort, ease of use, safety and great manoeuvrability. Cabin comfort is ideal for long work shifts. Plus it is powerful and robust. Its solid structure and the filtered suction mechanical sweeping system make it suitable for all cleaning conditions: from tree-lined avenues to cement factories; from ports to deserts; from mines to local markets. The 6-cubic meter hopper and the capacity of 6 tons make it a machine suitable also for collection of very heavy materials.

# M60 PLUS

**MACROCLEAN IS A RCM BRAND, DISTRIBUTED WORLDWIDE.**





# ENHANCED DRIVER COMFORT AND SAFETY

The cabin of M60 is the state of the art for everything related to the well-being of people. Comfortable and spacious, it has been carefully insulated from outside temperature, noise, vibration and dust to make long shifts less tiring. In addition to the roominess, another important aspect is given by the robust and intuitive controls: with a few simple moves you can make the most of the great cleaning performance of M60, without adversely affecting the drive.

## EASY START E JOB SELECTOR

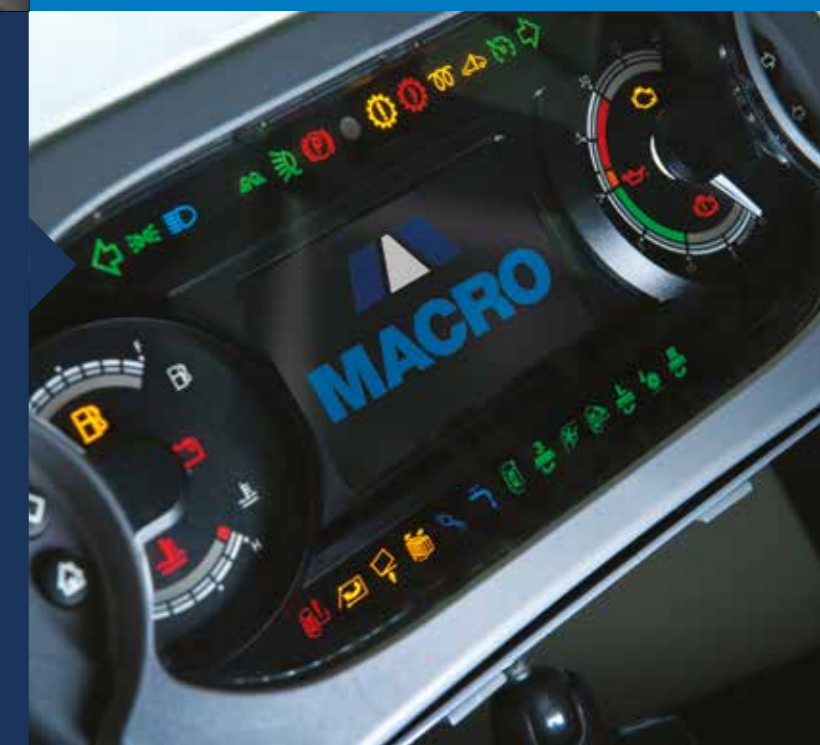
To avoid distractions while driving, the controls of MACRO M60 are made of physical buttons that can be easily located and operated. To make the machine even easier to use, pressing the EASY START button automatically activates all the machine functions. Moreover, thanks to a simple selector, the working parameters can be changed according to working conditions.



## DIAGNOSTIC SYSTEMS

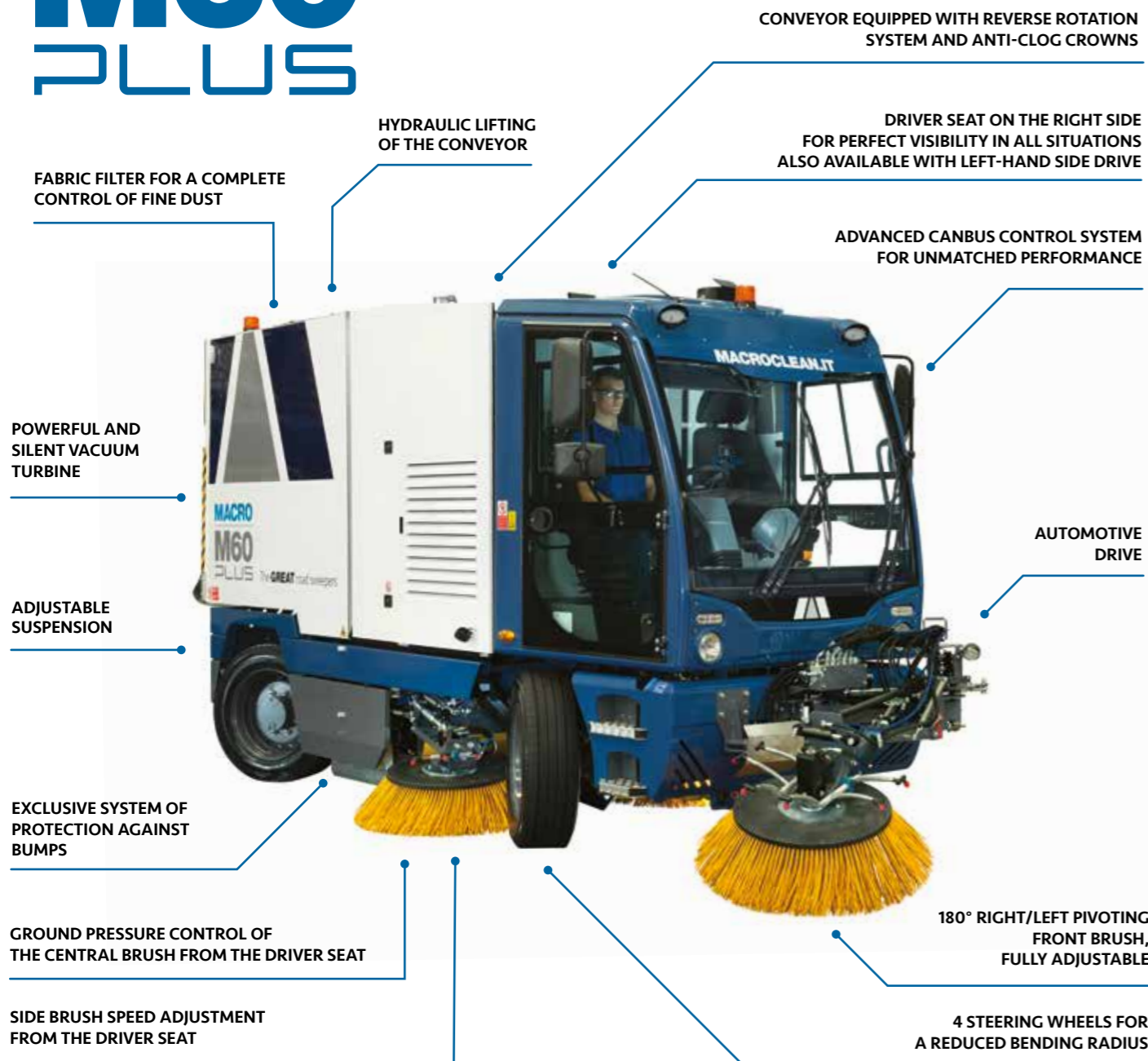
Electronics has undoubtedly made our lives easier in many ways, and MACRO M60 is no exception. The on-board diagnostic system ensures that any failure, even those not perceived by the operator, are promptly reported.

Thanks to a coding system, all you have to do is communicate to the service centre the code that appears on the display and the technicians will be ready to solve the problem.





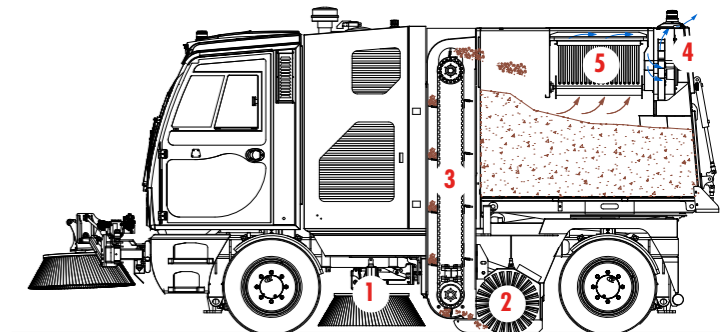
# M60 PLUS



## SIDE BRUSHES

The sweeping system of Macro M60 is designed to ensure ease of use, excellent performance and productivity. The geometry of the side brushes has been carefully studied in order to achieve maximum productivity. Thanks to the four wheels steering, you get a clean track free of dirt lines even when making very tight turns. The protection is ensured by a brush retraction system in case of impact.

# TECHNOLOGY THAT IMPROVES EVERYONE'S WORK



The waste is collected thanks to the mechanical action of the side (1) and central (2) brushes and the vertical conveyor (3). Suction (4) is intended to capture dust as soon as it is raised from the ground. Optimised suction for complete dust suppression thanks to the large surface filter (5).

## PROTECTION AGAINST DUMPS

The cleaning components of a road sweeper are permanently exposed to the obstacles they find on the road. Pavements and bumps in particular are a potential issue as they can damage the slides designed to contain the material collected inside the brush compartment. Thanks to an exclusive system, the central brush compartment and its slides retract when touching obstacles.

## DUMPING DOOR

The waste hopper is designed for the easiest cleaning and sanitising. Utmost care has been taken to avoid creating blind spots where dirt can accumulate. In addition, the opening cylinder keeps the door in horizontal position without the need for props, so that cleaning and inspection work can be carried out easily and away from dirt.



## AUTOMOTIVE DRIVE WITH CRUISE CONTROL

MACRO M60 features an electronically controlled automotive hydrostatic drive. This allows the integration with it of all the systems on the machine so as to avoid as far as possible any operating errors. In addition, the cruise control allows setting a fixed working speed.





# M60 PLUS

## EQUIPMENT AND PERFORMANCE BEYOND STANDARDS



### A FEW AND SIMPLE CONTROLS, NO DISTRACTIONS WHEN DRIVING

Driving a vehicle the size of MACRO M60 in city traffic is a task that requires the utmost attention. For this reason, the control layout has been carefully designed so that the operator does not divert attention from driving. In addition, those measures aimed at limiting the wear of brushes, such as lifting them in reverse or stopping them with the wheels stationary, are managed completely automatically.

Air quality is no longer just the subject of academic discussion, but a reality that both city administrators and safety managers of industrial plants have to face every day. Cleaning machines play a key role in the battle against pollution by removing the notorious fine particles from surfaces. This is where MACRO M60 can step in using the famous certified filters TETRATEx® EXTREME. The result of the most advanced technology in this field, in addition to an exceptional filtering capacity, these filters allow a much greater air flow than standard ones. Therefore, in addition to retaining very fine dust (up to PM1), they significantly increase the productivity of the road sweeper.



### HYDROPNEUMATIC SUSPENSION

One of the solutions that makes MACRO M60 extraordinarily comfortable is the hydropneumatic suspension system by compression of nitrogen that eliminates the annoying rebound effects typical of mechanical springs. The height of the rear suspension is self-leveling but it can also be set by the operator in order to overcome obstacles like bumps, sidewalks, tracks, or to collect easier leaves and bulky debris.

### TILTING CABIN

The machine is completely hydraulic, so the periodic maintenance operations are few and simple. In addition to providing easy access to the engine for routine checks, the tilting cabin ensures a quick and effortless maintenance.



### CONVEYOR LIFTING SYSTEM

A typical need for use in the city is to overcome bumps, which is why an accessory may be installed to increase the distance between the conveyor and ground. This also increases the distance from the ground of the sweeping system rubber gaskets. This prevents both accidental dust lifting during transfers and premature wear of the seals. Finally, it is also worth noting that an increased distance between conveyor and ground makes the leaves collection easier.



### RADIATOR ACCESS

Dirt accumulated in vital points can be the worst enemy of a cleaning machine. In particular, when leaves or dust clog the radiators, there are great risks both for the safety and for the reliability of the vehicle. For this reason, MACRO M60 has been designed in such a way that the radiators are positioned far from possible dust emissions and away from dirt accumulations. And most importantly, their position allows a very easy cleaning.







### HIGH DUMP

MACRO M60 can be equipped with a pantograph that allows you to lift the waste hopper up to the height required to unload in most fixed containers, as well as in compactors. Tilting and lifting are separate functions, so dumping is possible at any height between 1100 mm and 2500 mm.

### DEBRIS SUCTION HOSE

Fitted with a powerful turbine, MACRO M60, can be equipped with a vacuum debris hose. 6-meter long and with a diameter of 140 mm, it is a very useful accessory to collect materials accumulated in inaccessible positions. Thanks to its filtering system it can also be used dry for the collection of dusty materials.



### THIRD FRONT BRUSH

The third front brush can be extended beyond the overall dimensions of the machine, widening the cleaning track and increasing the distance from parked cars, walls, guard-rails, protruding branches etc. to reduce the risk of collisions. In addition, it allows the cleaning of the left side of one-way streets. All these actions are performed easily and intuitively through the joystick on the armrest of the driver seat.



### HIGH-PRESSURE HOSE

The large water tank can also feed a high-pressure gun system. The reel installed on the machine is equipped with a 15-meter hose. Thanks to its central and rear position on the machine, the gun can be used on both sides. It is perfect for washing walls, pavements, urban furniture and for cleaning the machine itself.



### DISC BRAKES

MACRO M60 is standard equipped with a multi-disc braking system in oil bath. If necessary, it is possible to equip the machine with axles fitted with external disc brakes and double gripper.

### SIDE BROOMS SKIRTS

Thanks to its filtered mechanical suction sweeping system, MACRO M60 can also be used for cleaning very dusty environments such as cement plants, mines, smelters and construction sites. In many of these environments the use of water is counterproductive, so when the machine has to work completely dry, you can equip it with skirts installed on the side brushes that contain the dust raised. A quick opening system is designed to easily open the covers and inspect the brushes.



### SANIFOG

MACRO M60 can be equipped with SANIFOG atomiser, designed to dispense disinfectants or insecticides homogeneously and without waste. It is made of two swivel turbines located at the rear of the vehicle, in which the product to be sprayed on the road surface and on hedges or guard-rail is injected. SANIFOG can also be equipped with an ozone generator and has a manual spray gun for the treatment of urban furniture.

### GREASING SYSTEM

La MACRO M60 viene utilizzata spesso in ambienti molto difficili, polverosi ed in condizioni climatiche estreme. Inoltre i tecnici non sempre hanno il tempo di effettuare i controlli giornalieri sui mezzi e questo può creare accumuli di polveri abrasive sulle parti in movimento. La soluzione per risolvere questo problema è l'impianto di ingrassaggio centralizzato, che aiuta a mantenere il mezzo sempre in perfetta efficienza.



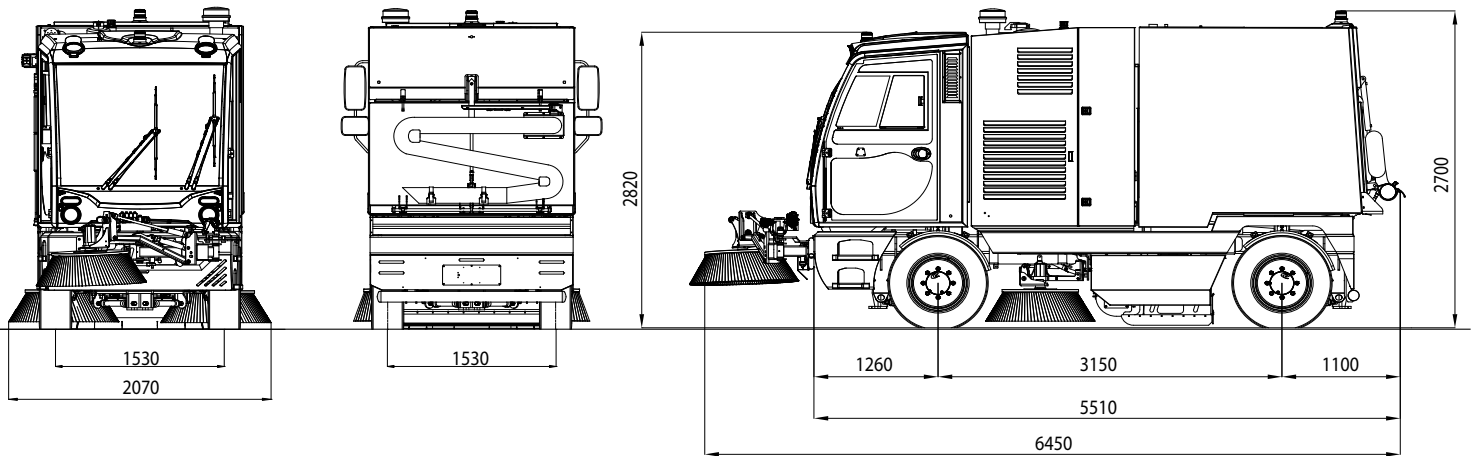
### REAR STEERING WHEEL LOCK

If the machine has to be used for very long transfers, it is possible to equip M60 with a locking system of the rear-wheel drive. This system is managed only by a control in the cabin and it doesn't need any intervention for the application of mechanical blocks.



# M60 PLUS

6,2 M<sup>3</sup> MECHANICAL SUCTION ROAD SWEEPER STAGE V, STAGE IIIA



## VEHICLE CHARACTERISTICS

Engine	Volvo Stage V / Stage IIIA
Power	105 kW / 143 Hp
Displacement / no. of cylinders	5130 cm <sup>3</sup> / 4
Fuel	Diesel
Cooling system	Fluid
Maximum speed	42 Km/h
Max. gradient	20%
Type approved seats	2
Driving side	Right (left-hand side optional)
Brakes	Hydraulic servo brakes
Parking brake	Negative brake
Steering	Hydraulic
Front suspension	Hydropneumatic
Rear suspension	Hydropneumatic
Drive system	Hydrostatic front drive - automotive
Kerb to kerb turning radius	3540 mm
Wheels steering	4
Tyres	295/60 R22.5
Lighting system	Led type road approved
Rotating beacons	Three LED stroboscopes
<b>WEIGHTS</b>	
Unladen weight	7490 kg
Full load weight	13550 kg
Load capacity	6060 kg

## CLEANING TRACK

Cleaning system	Filtered mechanical suction
With central brush	1300 mm
With right-hand side brush	2100 mm
With right and left-hand side brush	2800 mm
With third front brush	3700 mm

## BRUSHES

Central brush	no. 1, made of PPL/Steel
Side brushes	no. 2, made of PPL/Steel
Adjustment of central brush pressure	Hydraulic, in cabin
Adjustment of side brush pressure	Mechanic

## WASTE HOPPER

Volume	6,2 m <sup>3</sup>
Dumping height	1100 mm (2500 opt)
Hopper material	Steel
Hopper door opening	Hydraulic at 90°

## WATERING SYSTEM (OPT)

Water tank capacity	620 l
Tank material	Stainless steel

## SUCTION SYSTEM AND DUST CONTROL

No. of turbines	1
Turbine type	Hydraulic
Dust filter	25 m <sup>2</sup>
Filter shaker	Hydraulic
Length of leaf vacuum hose (opt)	6m/ø140mm

**MACROCLEAN** srl

**Sede operativa** Via Bonati 13, 29017 Fiorenzuola D'Arda - Piacenza - Italy

**Sede legale** Via Tiraboschi 4, 41043 Casinalbo - Modena - Italy

info@macroclean.it | [www.macroclean.it](http://www.macroclean.it)

A group RCM company



# MACRO

The **GREAT** road sweepers