FIMAP®

Only one sweeper to collect dirt, shred waste and vacuum dust

Street sweeping machines

HIGH PERFORMANCE MACHINES

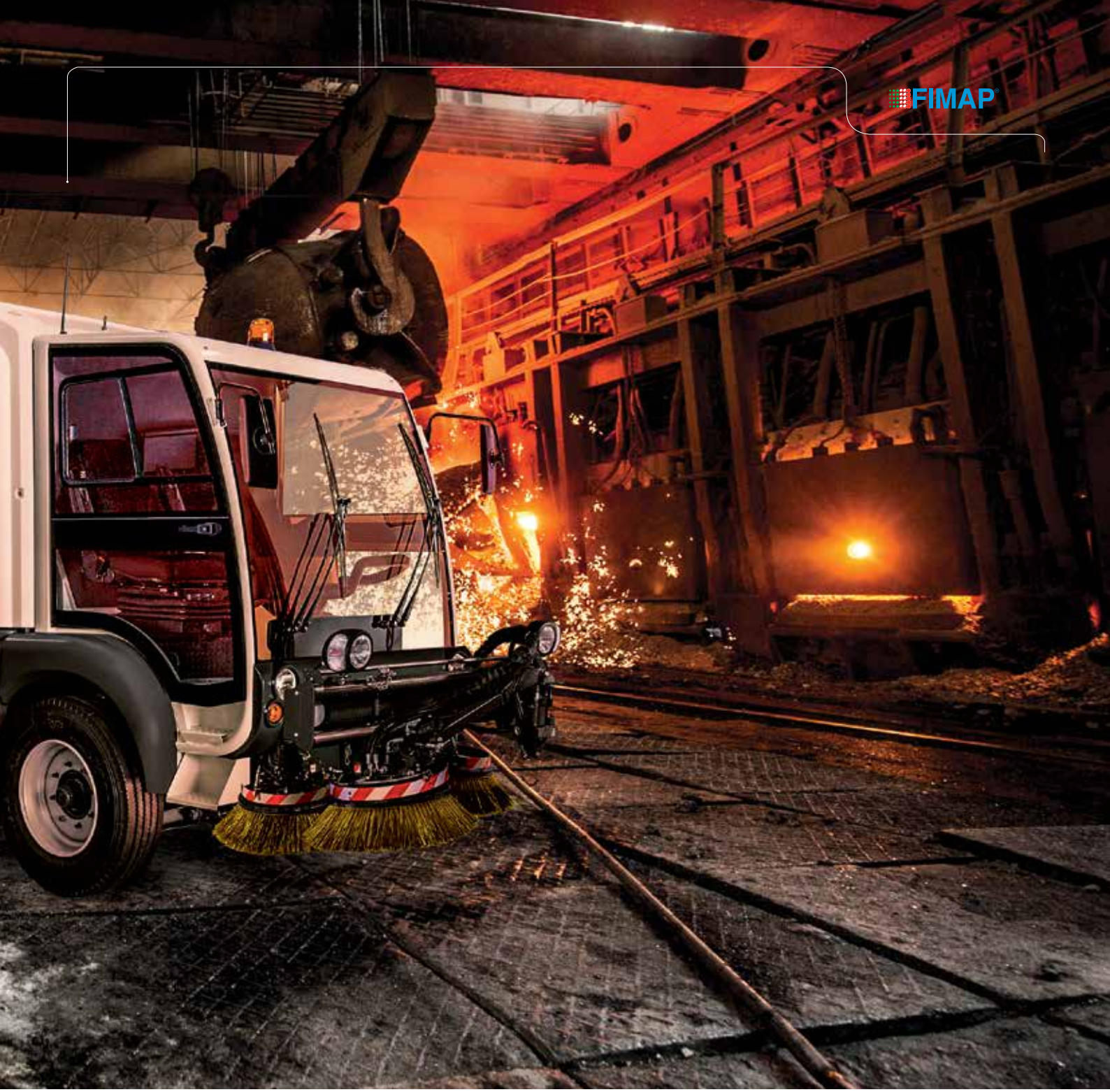
twinaction system

CERTIFIED EUnited Municipal Equipment PM 2.5 PM 10 ★★★★ FOR A CLEAN ENVIRONMENT acc to EN 15429-3

FIMAP 6000, the 6 cu.m sweeping machine developed to clean urban and industrial areas

FIMAP 6000 is a high performance street sweeper which combines in one single machine the performance of two, thus ensuring maximum quality results.
Roads, parking lots and large squares are currently cleaned using mechanical or suction collection machines.

These two systems are suitable for different types of cleaning: mechanical machines are more suitable for heavier waste and suction machines are more suitable for lighter waste, therefore selection of one or the other inevitably entails a compromise in terms of the resulting quality.



Therefore, Fimap has designed the **Twin Action System,** a **unique technology** which combines the strength of mechanical action to collect larger waste and the efficiency of the suction action for dust, to provide excellent results, with one machine, in a single pass. The powerful **Twin Action System** vacuums also the fine dust **PM10** and reduces water consumption, facilitating use even in the most difficult conditions.

FIMAP 6000: only one machine which combines the action of two, in order to reduce times, consumption and costs

twinaction® system

TWO COMBINED ACTIONS TO ACHIEVE 100% PRODUCTIVITY AND MAXIMUM QUALITY

MECHANICAL ACTION
Waste collection

VACUUM ACTION
Dust capture

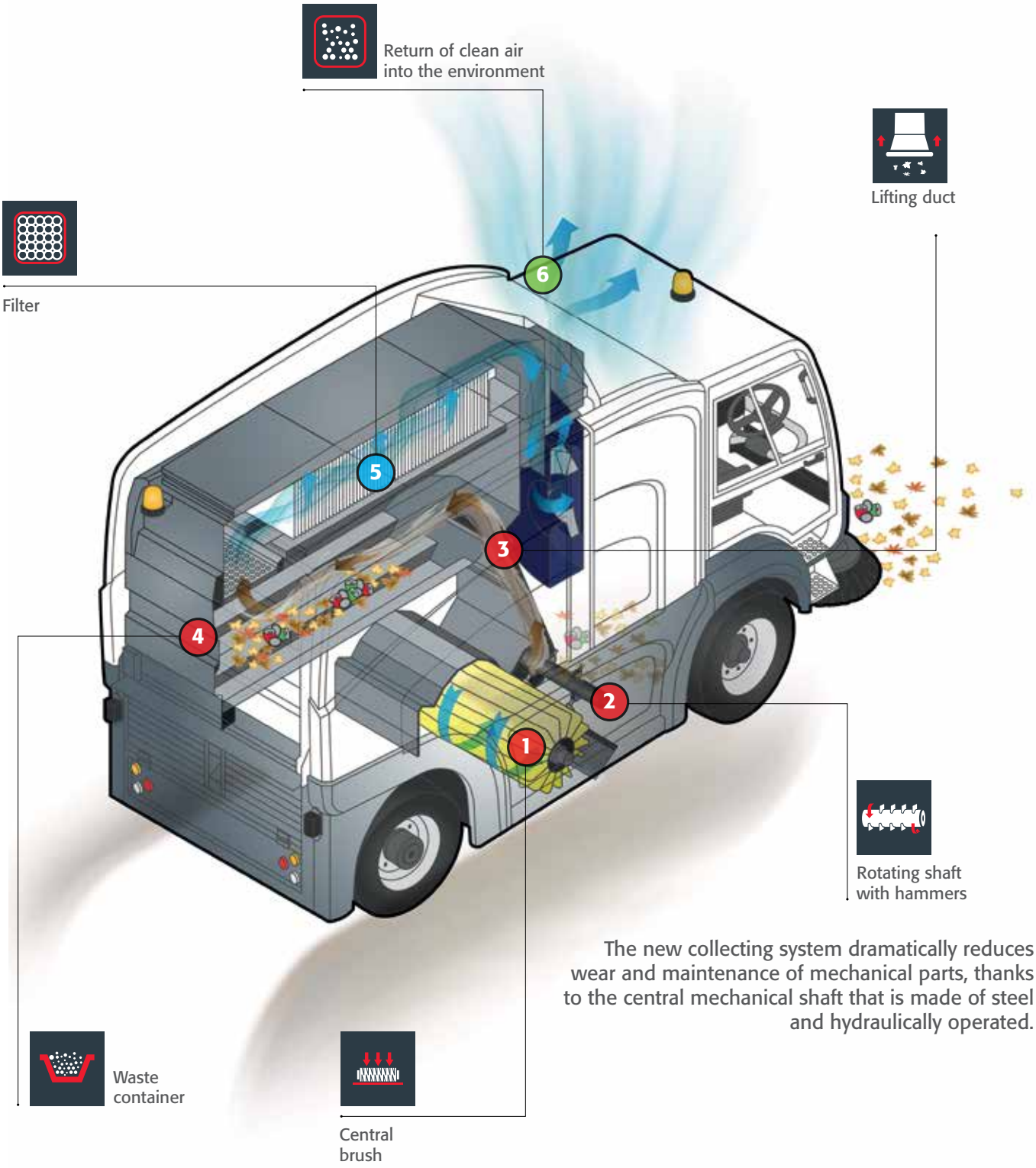
The **mechanical action** consists in the movement of the **central brush (1)** which collects the material from the ground and conveys it to a hopper where is shredded by the **hammers of a rotating shaft (2)**. At this point, by means of the **suction action (3)**, the material is raised to the **collection hopper (4)**, while the **sucked air is filtered (5)** and **returned to the environment perfectly clean (6).**

FLEXIBILITY OF USE

The Twin Action system allows operation even on bumpy road surfaces: tree roots or protruding manholes are not a problem. No rigid element (suction outlet support wheel or metallic holding plates) is in contact with the ground, therefore no breakage or excessive wear can occur during work; only the central brush touches the ground and thanks to its characteristics it follows the profile of the ground smoothly.

Besides operating in the urban environment **FIMAP 6000** can also be successfully used in cleaning phases before asphalting, on road work sites, and in industrial environments, including metallurgy plants and cement factories.

FIMAP 6000 ensures excellent results both on streets and in industrial environments



The new collecting system dramatically reduces wear and maintenance of mechanical parts, thanks to the central mechanical shaft that is made of steel and hydraulically operated.

A new cleaning system: the cleaning action is concentrated only on the central brush

SUCTION HOSE (optional)

The operator can use the suction hose to collect material accumulated in areas difficult to be reached with the machine such as benches, grassy areas, or other covered corners. Thanks to the large diameter of the hose, it can suck up waste of various dimensions such as paper, leaves, bottles and cans.

PERFECT CLEANING

FIMAP 6000 uses the central brush continuously, thereby ensuring higher quality cleaning because it is uniform for the entire width of the brush and higher productivity because it can clean more quickly than a conventional vacuum sweeper which has to use the two side brushes.

The technical solutions adopted, such as the hydraulic support and the presence of the flaps, ensure a constant pressure on the ground for the brush independently of wear or the terrain.

The machine can also be positioned at 3 height levels allowing removal of different types of waste: leaves, pine needles, bottles, etc.

FOUR-WHEEL STEERING SYSTEM

The integral steering system on all 4 wheels with symmetrical front and rear angles and the turning circle lower than 5 m provide great manoeuvrability, even near walls or fences, and guarantee the maximum vehicle stability during transfer even at the highest speed.

HIGH PRESSURE WASHER WAND (optional)

The high pressure washer wand cleans hard-to-reach areas, removes dirt from vertical surfaces, from walls and can be used to clean the machine itself.

THE THIRD BRUSH (optional)

It allows to collect debris from areas far from the machine, along walls and on sidewalks.
It is designed for operation on both the sides of the machine. The brush movement, rotation and tilt, are controlled by a convenient joystick. The machine is very effective in one-way streets since it can clean the entire width in a single pass.

THE TWIN ACTION SYSTEM MAKES YOU SAVE UP TO 150.000 LITERS OF WATER PER YEAR

With the Twin Action system the use of water is limited only to the external part of the side brushes in a nebulized state in order to control flying dust. As a consequence, FIMAP 6000 is equipped with a tank of only 220 litres.

AUXILIARY ACTION OF THE SIDE BRUSHES

The innovative Twin Action system concentrates the sweeping action on the central brush and limits the use of the side brushes.

MORE CONTROL OVER BRUSH PERFORMANCE TO GET ALWAYS THE BEST RESULT

Brush performance and pressure are easy to be adjusted, thanks to the controls placed in the central console with which you can change:

- pressure and rpm of the side brushes
- pressure and rpm of the third brush
- central brush pressure

With FIMAP 6000 suction is even possible in wet road conditions

With “By-pass” system

The “By-pass” system allows deviation of the air flow in order to bypass the filter when working in wet road conditions, for example in the event of rain.

Ultra-reliable top emptying system at heights

The collection hopper is emptied by lifting it on vertical guides up to 182 cm.

The lifting system, similar to that of a forklift, allows significant reduction of stress on the frame and unloading at any intermediate height, according to the characteristics of the unloading area.

FIMAP 6000 has a high capacity collection hopper which guarantees many hours of continuous non-stop operation

The total volume is approximately 6 cu.m, a capacity which reduces the down time required for emptying, and therefore also the total cleaning time.

It is horizontally divided into two parts: the lower part is designed for collection of material while the upper part houses the filter.

3 positions for maximum optimisation of the different working conditions

Fimap has produced a special device which, acting separately on the four wheels, maintains constant the height from the ground, even when the load varies, optimizing work and stability.
The operator can position the machine on three different pre-established levels in order to meet various needs.

1. WORKING POSITION
the machine is in the lowest position with the rubber flap close to the ground in order to avoid dust release.

2. MOVING POSITION
the machine is raised about 35 mm in order to avoid possible contact with the ground and therefore rubber flap wear.

3. MAINTENANCE POSITION
the machine is raised another 70 mm (beyond the moving position height) in order to facilitate replacement of the central brush.

Twin Action: the revolutionary system which protects the environment

IT SAVES UP TO 150.000 LITRES OF WATER PER YEAR

FIMAP 6000:

- REDUCES WATER CONSUMPTION

  unlike traditional sweeping machines, the side brushes have an auxiliary function, since they are used only along edges and pavements, thus reducing the use of water which is employed only in a nebulized state and only to control dust, without wetting the ground.

- REDUCES FUEL CONSUMPTION AND ATMOSPHERIC EMISSIONS

  The EURO VI engine is specific for industrial applications and certified in accordance with the strictest atmospheric emissions standards in its category.

Large filtering surface to guarantee a clean air return into the environment

THE SUCTION SYSTEM

Operated by a hydraulic motor which can reach up to 14,000 cu.m/h.

The air sucked up from the ground and the dirt shredded by the hammers of the rotating shaft are directed into a rectangular duct. The air flow and the material collected follow a path which slows the speed down causing the fall of heavier dirt, reducing the quantity of particles which arrive at the filter.

THE FILTER

The filtering unit has a surface of 50 sq.m and is equipped with 2 filter shaking for cleaning. These characteristics, together with the choice of materials (polyester) and the fact that the filter operates dry, virtually eliminate the need for routine maintenance. They also ensure the return of perfectly clean air into the environment and the removal of PM10 dust.
The large filtering surface and the efficiency of the dusty air intake distribution system over the entire surface ensure continuity of performance over time.
For specific needs (dust with high temperature waste, fine dust) other materials are available.

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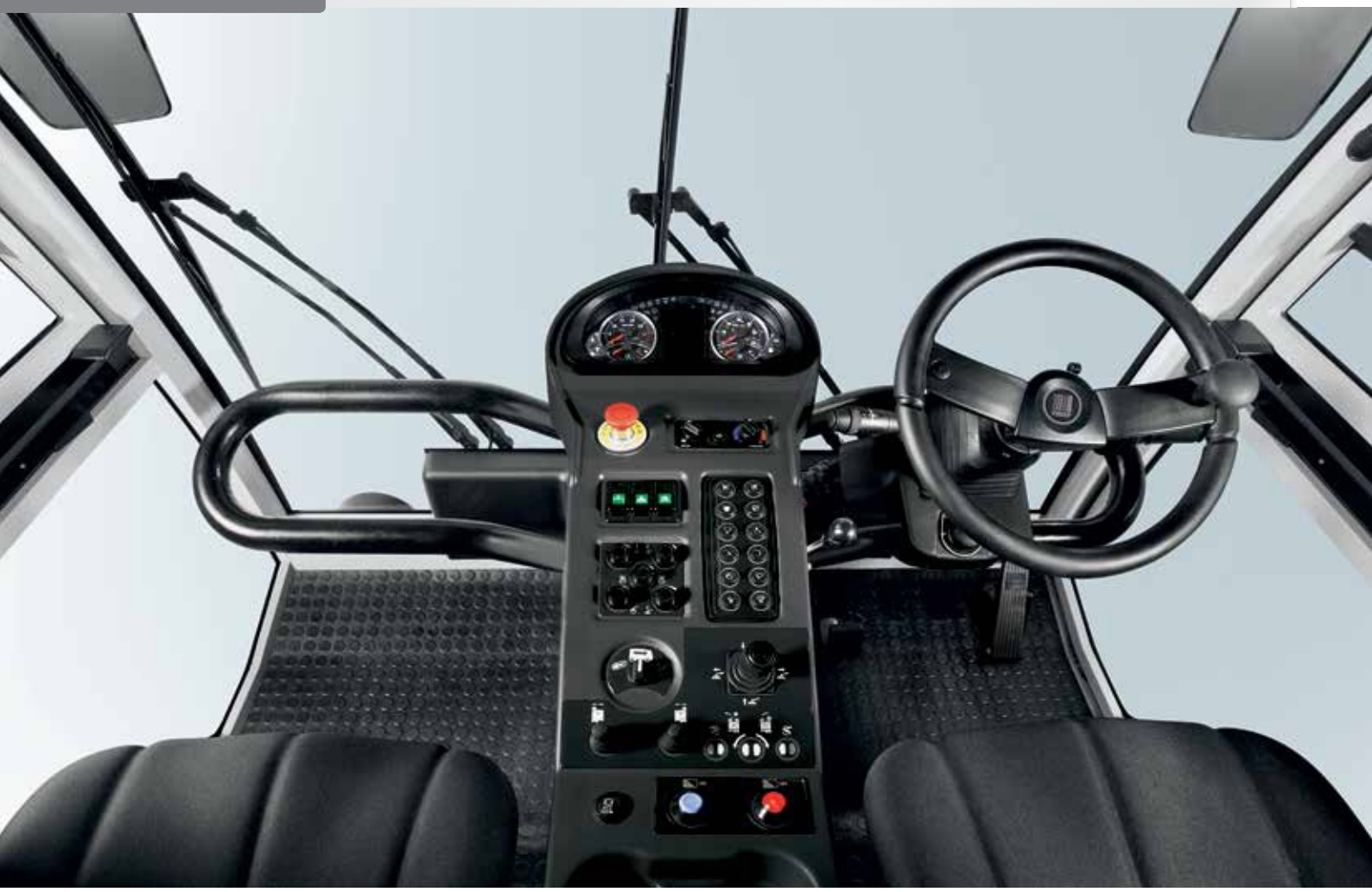
The central console is designed to ensure that all the commands are within easy reach



The cab is comfortable because it is spacious and insulated with anti-vibration supports. **It is comfortable to drive, and the large windscreen provides maximum external visibility for the operator,** making manoeuvring and control over the collection area easier. The activation commands, simple and intuitive, are grouped on a central console. The others are on the front part of the roof, both easily accessible from the working position. On request the machine can be customized with a climate control system, radio and useful colour camera which covers the rear of the machine in order to aid reversing and emptying operations, also allowing constant monitoring of cleaning effectiveness.
The operator can work in maximum safety thanks both to the complete visibility provided by the windows and the possibility of entering the machine from both sides.

Maximum accessibility for simple quick maintenance operations

For routine and extraordinary maintenance operations, the hopper can be simply raised and locked in its highest position. In this way maintenance operations such as simple oil checks can be performed both on the hydraulic part and the mechanical part.

THE SUCTION FILTER

The filter component materials, the dimensions and the absence of water in the collection **eliminate ordinary maintenance operations.**
However, if the filter material has to be changed, since it is a completely pre-assembled unit,
it can be removed by lifting it out of the upper part of the hopper; a position which significantly simplifies the operation.

The engine air filter and the hydraulic oil radiator are located in the rear of the machine and can be accessed by means of a door which can be opened even with the hopper lowered.

This position has been chosen to keep these parts exposed to a flow of clean air in order to avoid clogging and overheating and to reduce the possibility of damage.

FIMAP 6000 can work even for more consecutive shifts

The VM R756 engine power is 140 hp

THE ENGINE

The designers chose to install a VM R756 engine which is specifically sized for continuous applications at constant speed with reduced consumption.

The sweeping action concentrated on the central brush allows operation with minimum power and the lowest rpm, thus ensuring long engine life and low noise levels.

DRIVE

Traction is completely hydraulic, provided by two motors installed directly on the rear wheels and a variable capacity pump to adjust the speed from 0 to 40 km/h.

Speed control is driven simply by means of one pedal, for both working and moving phases. The automotive traction system optimizes all the parameters of the hydraulic transmission system and of the diesel engine, thus ensuring the best performance according to the task to carry out.

The suspensions and the braking system guarantee excellent road holding, even when fully loaded

THE SUSPENSIONS

The suspensions are hydraulic with MacPherson system on all four wheels.
Each wheel has a hydraulic cylinder and accumulator which **ensure optimal absorption of road surface irregularities without using springs.**

THE BRAKES

FIMAP 6000 has disc brakes on the front and drum brakes in the back. The negative type emergency and parking brakes also operate on the rear wheels: they cut in and block the machine in the event of a breakdown or in the event of lack of pressure to the hydraulic braking system.

CONFIGURATIONS

With 2 side brushes (standard)

With third brush (optional)

Working width:
Central brush 1400 mm
With two side brushes 2260 mm
With third brush 3450 mm

TECHNICAL DESCRIPTION

CLEANING TRACK		
Central brush working width	mm	1400
Working width with 2 side brushes	mm	2260
Working width with side brushes + third brush	mm	3450
Cylindrical central brush diameter	mm	600
Side disc brushes diameter	mm	850
WASTE CONTAINER		
Volume	l	6000
Container lifting maximum height	mm	1820
SUCTION		
Air flow	cu.m/h	14000
Filtering surface	sq.m	50
Suction motor rated power	KW	45
PERFORMANCE		
Maximum speed	Km/h	40
Maximum gradient when empty	%	20
Working speed	Km/h	0÷40
MOTORIZATION		
Engine	-	VM R756 EU VI/Stage 3A
Fuel	-	Diesel
Engine power	HP/KW	143/105
Engine	rpm	2300
DIMENSIONS AND WEIGHTS		
Machine length with side brushes + third brush	mm	6050
Machine length with side brushes	mm	5450
Machine width	mm	1992
Machine height when in operation	mm	2835
Machine height in transfer	mm	2870
Machine weight in running order	Kg	12100
GENERAL SPECIFICATIONS OF THE VEHICLE		
Turning circle	mm	4945
Service brake	-	Hydraulic
Parking and emergency brake	-	Hydraulic-negative
Rear wheel traction	-	Hydraulic - Automotive
Wheels	-	285/70 R19,5
Suspensions	-	Hydraulic and independent
Machine height control	-	on all 4 wheels
Diesel tank capacity	l	160
Water tank capacity	l	220

OPTIONAL ACCESSORIES
Air conditioning
Radio with CD player
Rear colour camera
Third brush
Spray system on the brushes complete with tank
Suction hose
High pressure washer wand

FIMAP®

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